



CALL NO. 404

CONTRACT ID. 192605

OHIO COUNTY

FED/STATE PROJECT NUMBER 092GR19M050 - FE02

DESCRIPTION WESTERN KY PKWY BRIDGE REPAIR AND SUPER REPLACEMENT

WORK TYPE BRIDGE REPAIRS

PRIMARY COMPLETION DATE 8/30/2020

LETTING DATE: June 21,2019

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME June 21,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

REQUIRED BID PROPOSAL GUARANTY: Not less than 5% of the total bid.

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 02

CONTRACT ID - 192605

092GR19M050 - FE02

COUNTY - OHIO

PCN - MB09290011903

FE02 092 9001 B00072L

WK 9001 WB (MP 76.74). BRIDGE OVER NATCHER PKWYBRIDGE DECK RESTORATION & WATERPROOFING
GEOGRAPHIC COORDINATES LATITUDE 37:23:05.00 LONGITUDE 86:48:33.00

PCN - MB09290011904

FE02 092 9001 B00072R

WK 9001 EB (MP 76.74). BRIDGE OVER NATCHER PKWYBRIDGE DECK RESTORATION & WATERPROOFING
GEOGRAPHIC COORDINATES LATITUDE 37:23:04.00 LONGITUDE 86:48:33.00

PCN - MB09290011905

FE02 092 9001 B00130L

WK 9001 WB (MP 85.76). BRIDGE OVER KY-2713BRIDGE DECK RESTORATION & WATERPROOFING
GEOGRAPHIC COORDINATES LATITUDE 37:23:05.00 LONGITUDE 86:39:02.00

PCN - MB09290011906

FE02 092 9001 B00130R

WK 9001 EB (MP 85.76). BRIDGE OVER KY-2713BRIDGE DECK RESTORATION & WATERPROOFING
GEOGRAPHIC COORDINATES LATITUDE 37:23:04.00 LONGITUDE 86:39:01.00

PCN - MB09290011907

FE02 092 9001 B00132L

WK 9001 WB (MP 74.59). BRIDGE OVER US 231BRIDGE SUPERSTRUCTURE REPLACEMENT
GEOGRAPHIC COORDINATES LATITUDE 37:22:03.00 LONGITUDE 86:50:34.00

PCN - MB09290011908

FE02 092 9001 B00132R

WK 9001 EB (MP 74.59). BRIDGE OVER US231BRIDGE SUPERSTRUCTURE REPLACEMENT
GEOGRAPHIC COORDINATES LATITUDE 37:22:03.00 LONGITUDE 86:50:33.00

PCN - MB09290011909

FE02 092 9001 B00133L

WK 9001 WB (MP 72.42). BRIDGE OVER KY-369BRIDGE DECK RESTORATION & WATERPROOFING
GEOGRAPHIC COORDINATES LATITUDE 37:21:22.00 LONGITUDE 86:52:41.00

PCN - MB09290011910

FE02 092 9001 B00133R

WK 9001 EB (MP 72.42). BRIDGE OVER KY-369BRIDGE DECK RESTORATION & WATERPROOFING
GEOGRAPHIC COORDINATES LATITUDE 37:21:21.00 LONGITUDE 86:52:41.00

PCN - MB09290011911

FE02 092 9001 B00134L

WK 9001 WB (MP 69.73). BRIDGE OVER LEWIS CREEKBRIDGE DECK RESTORATION & WATERPROOFING
GEOGRAPHIC COORDINATES LATITUDE 37:20:59.00 LONGITUDE 86:55:31.00

PCN - MB09290011912

FE02 092 9001 B00134R

WK 9001 EB (MP 69.73). BRIDGE OVER LEWIS CREEKBRIDGE DECK RESTORATION & WATERPROOFING
GEOGRAPHIC COORDINATES LATITUDE 37:20:59.00 LONGITUDE 86:55:30.00

COMPLETION DATE(S):

COMPLETED BY 08/30/2020

APPLIES TO ENTIRE CONTRACT

30 CALENDAR Days

APPLIES TO 092B72L,R;
092B130L,R; 092B133L,R;
092B134L,R

120 CALENDAR Days

APPLIES TO 092B00132L,R

CONTRACT NOTES

PROPOSAL ADDENDA

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

BID SUBMITTAL

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website (www.bidx.com) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

JOINT VENTURE BIDDING

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

UNDERGROUND FACILITY DAMAGE PROTECTION

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. When prescribed in said directives, the contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom shall be contacted through their individual Protection Notification Center. Non-compliance with these directives can result in the enforcement of penalties.

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.

Businesses can register with the Secretary of State at <https://secure.kentucky.gov/sos/ftbr/welcome.aspx>.

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to kytc.projectquestions@ky.gov. The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website (www.transportation.ky.gov/contract). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

HARDWOOD REMOVAL RESTRICTIONS

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

ACCESS TO RECORDS

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially

disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004.

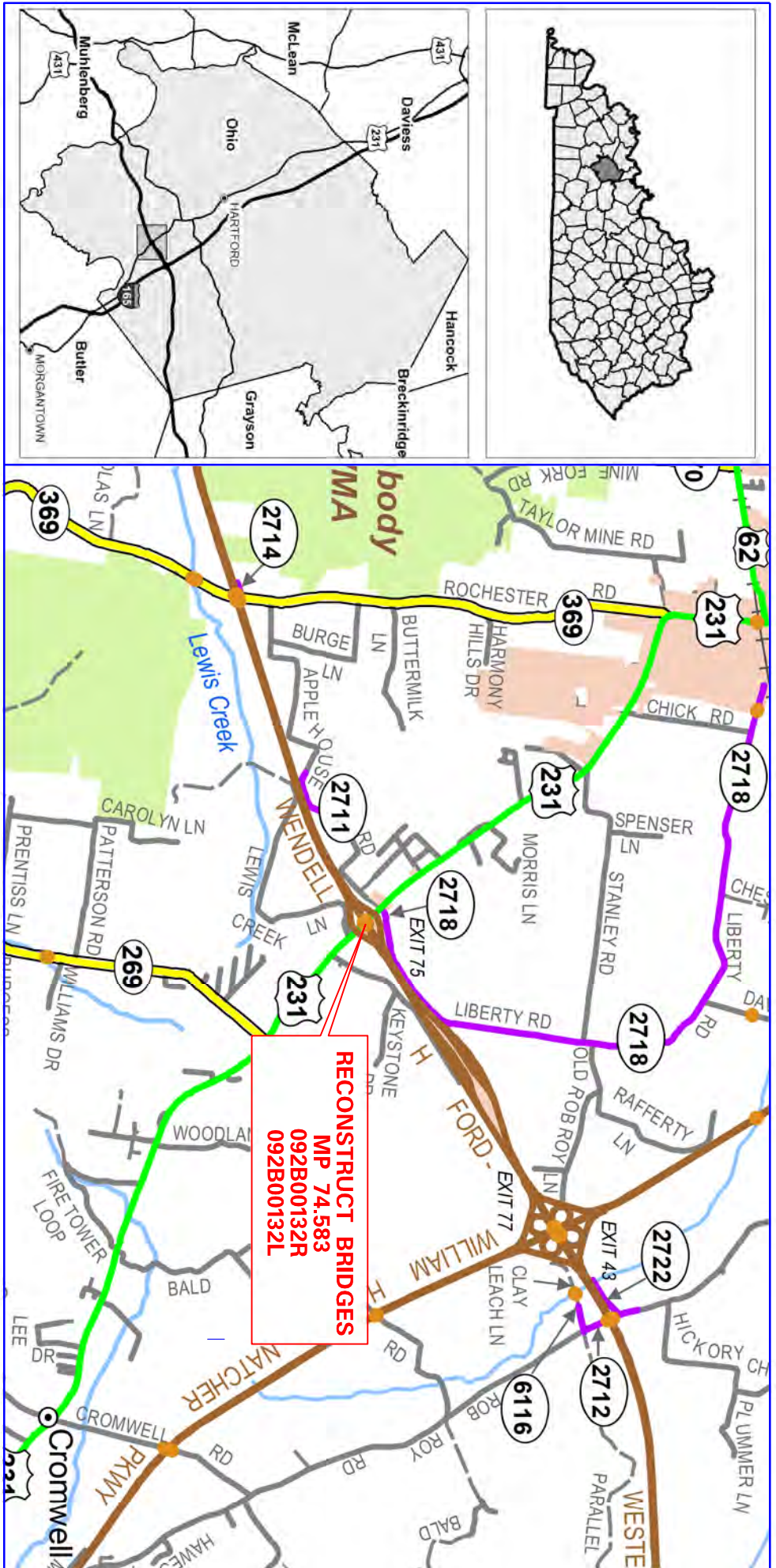
April 30, 2018

SPECIAL NOTE FOR RECIPROCAL PREFERENCE

RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS

By reference, KRS 45A.490 to 45A.494 are incorporated herein and in compliance regarding the bidders residency. Bidders who want to claim resident bidder status should complete the Affidavit for Claiming Resident Bidder Status along with their bid in the electronic bidding software. Submittal of the Affidavit should be done along the bid in Bid Express.

April 30, 2018



PROJECT NUMBER: WK - 9001 BRIDGE REPLACEMENTS

ITEM NUMBER: 6-20002.00 **LETTING DATE:** JUNE 21, 2019

RECOMMENDED BY: - **DATE:** _____

PLAN APPROVED BY: _____ **DATE:** _____

FHWA APPROVED BY: _____ **DATE:** _____

Project Manager

State Highway Engineer



1 HARRIS CREEK, U.S. 460
 FARMERSVILLE, OHIO 43081
 614.885.5800



MP 74.7

W. KY. PARKWAY
W. KY. PARKWAY

REMOVE 250 LF OF GUARDRAIL
PLACE 100 LF OF GUARDRAIL
PLACE 137.5 LF OF DBL FACE GR
PLACE CC TY IX-A

REMOVE 50 LF OF GUARDRAIL
PLACE 50 LF OF GUARDRAIL
PLACE THRIE BM GR TRANS TL-3

REMOVE 112.5 LF OF GUARDRAIL
PLACE 112.5 LF OF GUARDRAIL
PLACE BR END CONN TY A
PLACE GR END TY 1

PLACE THRIE BM GR TRANS TL-3

REMOVE 50 LF OF GUARDRAIL
PLACE 50 LF OF GUARDRAIL
PLACE THRIE BM GR TRANS TL-3

REMOVE 87.5 LF OF GUARDRAIL
PLACE 87.5 LF OF GUARDRAIL
PLACE BR END CONN TY A
PLACE GR END TY 1

MP 74.6

CONCRETE PAVEMENT REPAIR
AREAS, LOCATIONS TO BE
DETERMINED

REMOVE 87.5 LF OF GUARDRAIL
PLACE 87.5 LF OF GUARDRAIL
PLACE BR END CONN TY A
PLACE GR END TY 1

REMOVE 87.5 LF OF GUARDRAIL
PLACE 87.5 LF OF GUARDRAIL
PLACE BR END CONN TY A
PLACE GR END TY 1

REMOVE 50 LF OF GUARDRAIL
PLACE 50 LF OF GUARDRAIL
PLACE THRIE BM GR TRANS TL-3
PLACE 17 LF ISLAND C & G

REMOVE 50 LF OF GUARDRAIL
PLACE 50 LF OF GUARDRAIL
PLACE THRIE BM GR TRANS TL-3
PLACE 17 LF ISLAND C & G

REMOVE FLUME
PLACE TY 2 FLUME
PLACE 52 TON CL III

MP 74.5





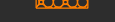

PLACE THRIE BM GR TRANS TL-3
PLACE 25 LF ISLAND C & G

REMOVE 83 LF OF PAVED DITCH
REMOVE FLUME
PLACE TY 2 FLUME
PLACE 62 TON CL III

REMOVE 250 LF OF GUARDRAIL
PLACE 100 LF OF GUARDRAIL
PLACE 137.5 LF OF DBL FACE GR
PLACE CC TY IX-A

MP 74.4

LEGEND

-  REMOVE PAVED DITCH
-  PROPOSED GUARDRAIL
-  EXISTING GUARDRAIL
-  CHANNEL LINING
-  ISLAND HEADER CURB
-  FLUME INLET

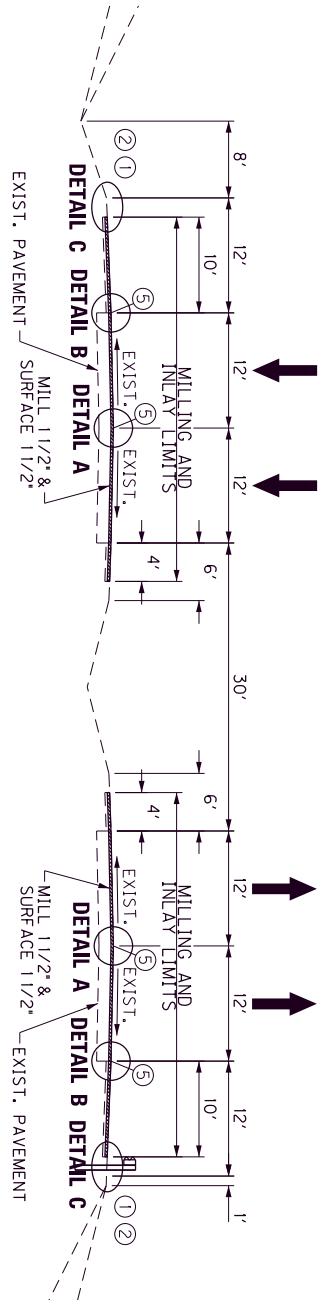
SCALE 1"=200'

NOTE: SEE STD DRW RBB-002-09 FOR DETAILS PERTAINING TO GUARDRAIL, BRIDGE END DRAINAGE, OR FILL AND GRADE MEDIAN.

PROPOSED TYPICAL SECTIONS

WESTERN KENTUCKY PARKWAY

County	Item No.	Sheet
OH10	-	



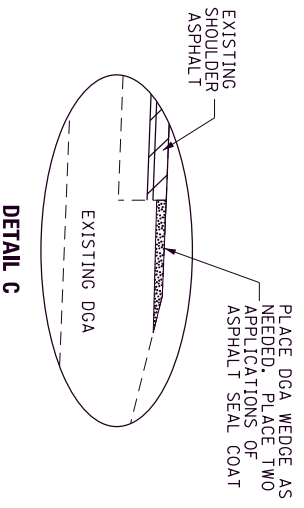
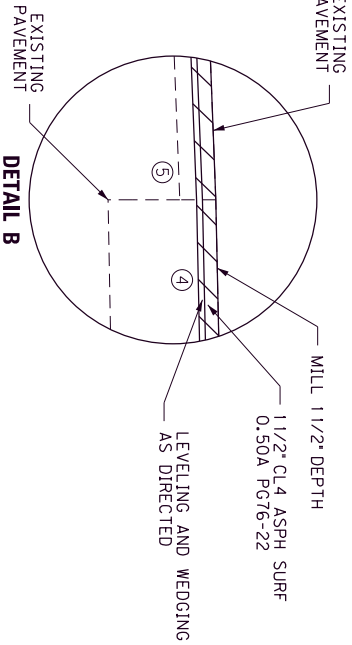
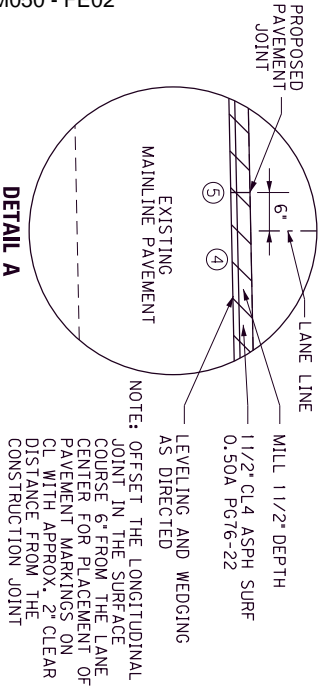
MAINLINE NORMAL SECTION

SURFACING SCHEDULE

MAINLINE & SHOULDERS

- ① ASPHALT PAVEMENT MILLING AND TEXTURING.....1 1/2" DEPTH
- ② LEVELING AND WEDGING PGT6-22.....AS DIRECTED
- ③ CL4 ASPH SURFACE 0.50A PGT6-22.....1 1/2" DEPTH

- ④ ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FOOT DOWN THE DITCH OR FILL SLOPE (where applicable). TWO APPLICATIONS OF THE FOLLOWING: ASPHALT SEAL COAT 2.4 lbs. / S.Y. ASPHALT SEAL AGGREGATE 20 lbs. / S.Y.
- ⑤ JOINT ADHESIVE
- ③ TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES.
- ② SHOULDER WIDENED 2' WHERE GUARDRAIL IS PRESENT



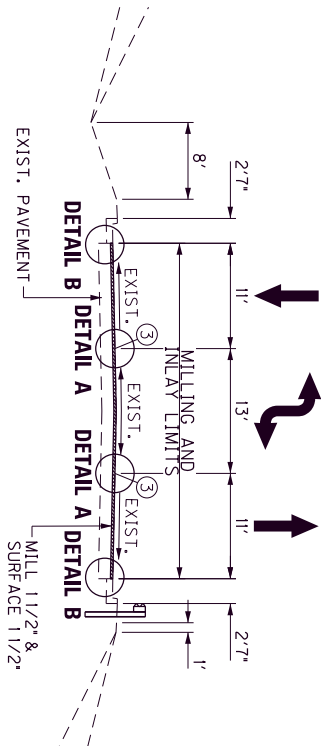
WK 9001
TYPICAL SECTIONS

NOT TO SCALE

PROPOSED TYPICAL SECTIONS

US 231

County	Item No.	Sheet
OH10	-	

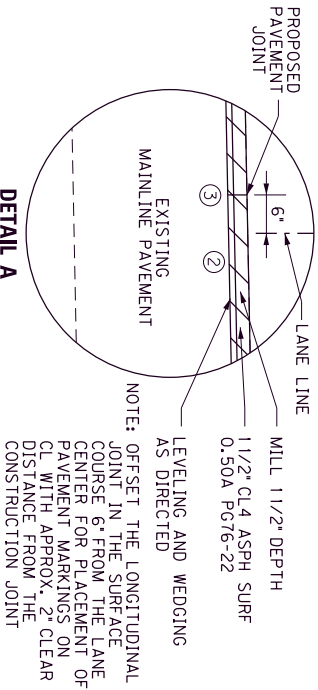


MAINLINE NORMAL SECTION

SURFACING SCHEDULE

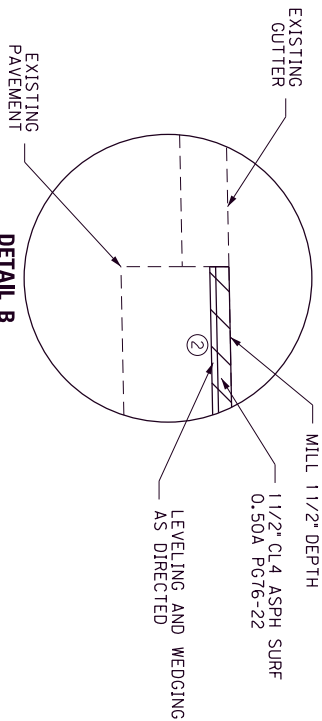
MAINLINE & SHOULDERS

- ① ASPHALT PAVEMENT MILLING AND TEXTURING.....1 1/2" DEPTH
- ② LEVELING AND WEDGING PGT6-22.....AS DIRECTED
- ③ CL4 ASPH SURFACE 0.50A PGT6-22.....1 1/2" DEPTH



NOTE: OFFSET THE LONGITUDINAL JOINT IN THE SURFACE COURSE 6" FROM THE LANE CENTER FOR PLACEMENT OF PAVEMENT MARKINGS ON CL WITH APPROX. 2" CLEAR DISTANCE FROM THE CONSTRUCTION JOINT

- ① TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES.
- ② APPLY ASPHALT MATERIAL FOR NON-TRACKING TACK AT A RATE OF 0.5LBS/SY BETWEEN EACH LAYER OF ASPH. CONCRETE.
- ③ JOINT ADHESIVE



NOT TO SCALE

US 231
TYPICAL SECTIONS

WKP - KY 9001
OHIO COUNTY
BRIDGE OVER US 231 - REPAIR
MILEPOINT 74.528 TO 74.641
GENERAL SUMMARY

ITEM NUMBER	ITEM		UNIT	QUANTITY
00001	DGA BASE	①	TON	200
00100	ASPHALT SEAL AGGREGATE	①	TON	15
00103	ASPHALT SEAL COAT	①	TON	2
00194	LEVELING & WEDGING PG76-22	①	TON	75
00219	CL4 ASPH BASE 1.00D PG76-22	①	TON	220
00335	CL4 ASPH SURF 0.50A PG76-22	①	TON	596
02677	ASPHALT PAVE MILLING & TEXTURING	①	TON	596
20071EC	JOINT ADHESIVE	①	LF	3,332
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	①	TON	3
01691	FLUME INLET TYPE 2	②	EACH	2
01890	ISLAND HEADER CURB TYPE 1	②	LF	34
02165	REMOVE PAVED DITCH	②	SQYD	83
02484	CHANNEL LINING CLASS III	②	TON	114
24894EC	REMOVE FLUME	②	EACH	2
01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	③	EACH	14
01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	③	EACH	9
02351	GUARDRAIL-STEEL W BEAM-S FACE	③	LF	775
02352	GUARDRAIL-STEEL W BEAM-D FACE	③	LF	275
02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	③	EACH	4
02365	CRASH CUSHION TYPE IX-A	③	EACH	2
02367	GUARDRAIL END TREATMENT TYPE 1	③	EACH	4
02381	REMOVE GUARDRAIL	③	LF	1,075
25025ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	③	EACH	6
02360	GUARDRAIL TERMINAL SECTION NO 1	③	EACH	2
02159	TEMP DITCH		LF	675
02160	CLEAN TEMP DITCH		LF	337.5
02703	SILT TRAP TYPE A		EACH	6
02704	SILT TRAP TYPE B		EACH	1
02705	SILT TRAP TYPE C		EACH	1
02706	CLEAN SILT TRAP TYPE A		EACH	6
02707	CLEAN SILT TRAP TYPE B		EACH	1
02708	CLEAN SILT TRAP TYPE C		EACH	1
05950	EROSION CONTROL BLANKET		SQYD	2,420
05952	TEMP MULCH		SQYD	1,613
05953	TEMP SEEDING AND PROTECTION		SQYD	1,210

- ① Carried Over from Paving Sum
- ② Carried Over from Pipe Sum
- ③ Carried Over from Guardrail Sum

**WKP - KY 9001
OHIO COUNTY
BRIDGE OVER US 231 - REPAIR
MILEPOINT 74.528 TO 74.641
GENERAL SUMMARY**

ITEM NUMBER	ITEM	UNIT	QUANTITY
05963	INITIAL FERTILIZER	TON	0.3
05964	FERTILIZER 20-10-10	TON	0.2
05989	SPECIAL SEEDING CROWN VETCH	SQYD	290
05992	AGRICULTURAL LIMESTONE	TON	0.1
40030	TEMPORARY SILT FENCE	LF	1,210
02562	TEMPORARY SIGNS	SQFT	1,000
02650	MAINTAIN & CONTROL TRAFFIC	LS	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	6
02676	MOBILIZATION FOR MILL & TEXT	LS	1
02775	ARROW PANEL	EACH	2
23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	LF	72
04933	TEMP SIGNAL 2 PHASE	EACH	2
06511	PAVE STRIPING-TEMP PAINT-6 IN	LF	15,500
06542	PAVE STRIPING-THERMO-6 IN W	LF	3,023
06543	PAVE STRIPING-THERMO-6 IN Y	LF	2,181
06556	PAVE STRIPING-DUR TY 1-6 IN W	LF	400
06557	PAVE STRIPING-DUR TY 1-6 IN Y	LF	300
24489EC	INLAID PAVEMENT MARKER	EACH	42
06568	PAVE MARKING-THERMO STOP BAR-24IN	LF	51
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	LF	69
06574	PAVE MARKING-THERMO CURV ARROW	EACH	8
02545	CLEARING AND GRUBBING	④ LS	1
02726	STAKING	LS	1
02696	SHOULDER RUMBLE STRIPS	LF	1,632
21451ED	FILL AND GRADE MEDIAN	LF	500
20191ED	OBJECT MARKER TY 3	EACH	4
02091	REMOVE PAVEMENT	SQYD	250
02023	JPC PAVEMENT-9 IN/24	SQYD	250
01984	DELINEATOR FOR BARRIER - WHITE	EACH	16
01985	DELINEATOR FOR BARRIER - YELLOW	EACH	8

④ APPROXIMATELY .5 ACRES

**WKP - KY 9001
OHIO COUNTY
BRIDGE OVER US 231 - REPAIR
MILEPOINT 74.528 TO 74.641
PAVING SUMMARY**

PAVING AREAS		PAVING AREAS	
ITEM	TOTAL	ITEM	TOTAL
MAINLINE (TRAVEL LANES & SHOULDERS)			
1 1/2" CL4 ASPH SURF 0.50A PG76-22	7,229		
1 1/2" ASPHALT PAVE MILLING & TEXTURING	7,229		
BRIDGE APPROACHES			
4" CL4 ASPH BASE 1.00D PG76-22 (3 COURSE)	1,008		
4" DGA BASE	336		
SHOULDERS			
ASPHALT SEAL AGGREGATE	729		
ASPHALT SEAL COAT	729		

PAVING SUMMARY

ITEM NUMBER	ITEM	UNIT	QUANTITY
00001	DGA BASE (2)	TON	200
00100	ASPHALT SEAL AGGREGATE (3)	TON	15
00103	ASPHALT SEAL COAT (4)	TON	2
00194	LEVELING & WEDGING PG76-22 (1)	TON	75
00219	CL4 ASPH BASE 1.00D PG76-22	TON	220
00335	CL4 ASPH SURF 0.50A PG76-22	TON	596
02677	ASPHALT PAVE MILLING & TEXTURING	TON	596
20071EC	JOINT ADHESIVE	LF	3,332
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING (5)	TON	3

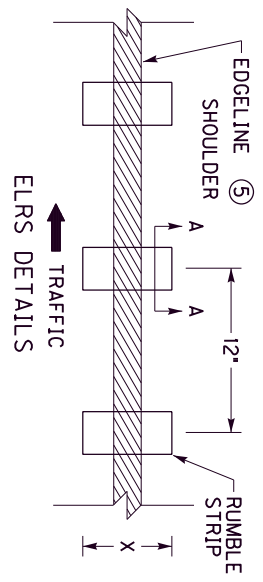
- ① TO BE USED AS DIRECTED BY ENGINEER
 - ② 50 TONS ADDED FOR SHOULDER DROPOFF
 - ③ BASED ON 2 APPLICATIONS OF 20 LBS/SY
 - ④ BASED ON 2 APPLICATIONS OF 2.4 LBS/SY
 - ⑤ BASED ON 0.5 LBS/SY PER APPLICATION
- ALL ASPHALT MIXES BASED ON 110 LBS/SY AND ALL STONE
BASE BASED ON 115 LBS/SY OR 2.07 TONS PER CY

MicroStation v8.11.9.459

E-SHEET NAME:

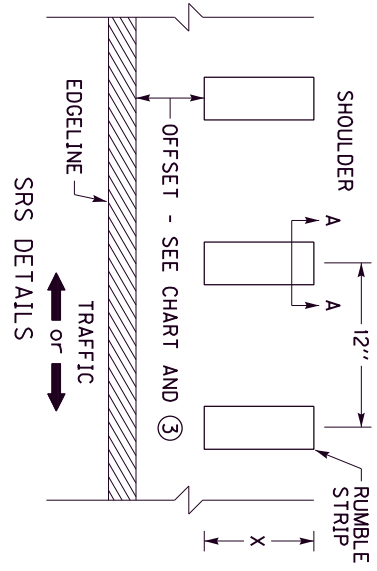
USER: mspbes
DATE PLOTTED: May 17, 2019

FILE NAME: G:\ENGR\HD1332.01\BRIDGES\CAD\PLAN\SEPIA\SEPIA_006.DGN



SECTION A-A

SHOULDER WIDTH (Z) ②	RUMBLE TYPE ①	RUMBLE LENGTH (X) ③	OFFSET ③
>=1'	ELRS	8"	N/A
2'	ELRS or SRS	8"	ELRS-N/A SRS-6"
3'	ELRS or SRS	8"	ELRS-N/A SRS-6"
4'	ELRS or SRS	8"	ELRS-N/A SRS-6"
5'	SRS ⑥	8"	6"
6'	SRS ⑥	8"	6"
7'	SRS ⑥	12"	12"
>=8'	SRS ⑥	16"	12"



~ NOTES ~

- FOR MULTI-LANE ROADWAYS, THE RUMBLE TYPE TO BE INSTALLED IS BASED ON SHOULDER WIDTH (Z), FOR SHOULDER WIDTHS OF 2', 3', AND 4' THE RUMBLE TYPE MAY BE SPECIFIED AS EITHER EDGELINE RUMBLE STRIPS (ELRS) OR SHOULDER RUMBLE STRIPS (SRS). IN THESE SITUATIONS, THE RUMBLE TYPE TO BE INSTALLED WILL BE SPECIFIED IN THE PLANS, PROPOSAL, AND/OR BID ITEMS, OR AS DIRECTED BY THE ENGINEER.
- WHEN SRS ARE SPECIFIED, SHOULDER WIDTH (Z) IS FROM LANE SIDE EDGE OF RUMBLE STRIP TO OUTSIDE EDGE OF TRAVERSABLE PAVEMENT.
- RUMBLE LENGTH (X) AND/OR OFFSET DISTANCE MAY BE MODIFIED AS THE ENGINEER DIRECTS, IF THE SHOULDER WIDTH (Z) IS EQUAL TO OR LESS THAN THE COMBINED WIDTH OF THE PROPOSED RUMBLE LENGTH (X) AND OFFSET DISTANCE.
- DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE.
- WHEN ELRS ARE SPECIFIED, THE EDGELINE MARKING SHALL BE PLACED IN THE CENTER OF THE RUMBLE STRIP.
- SHOULDER RUMBLE STRIPS (SRS) ALONG OUTSIDE (RIGHT) SHOULDERS THAT ARE 5' OR WIDER SHOULD INCLUDE BICYCLE GAPS AS DETAILED. BICYCLE GAPS ARE NOT REQUIRED ON INSIDE (LEFT) SHOULDERS. BICYCLE GAPS SHALL NOT BE USED ON INTERSTATES AND PARKWAYS.
- RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS, OR WHEN THE SHOULDER WIDTH IS LESS THAN 1FT.

DRAWING NOT TO SCALE

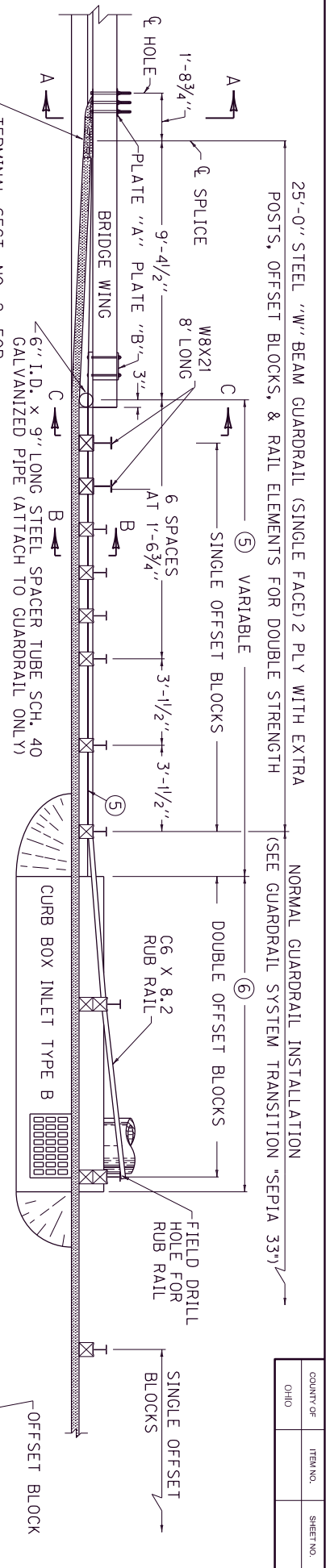
USE WITH SEPIA 005

KENTUCKY
DEPARTMENT OF HIGHWAYS
RUMBLE STRIP DETAILS
MULTI-LANE ROADWAYS
AND RAMPS

SUBMITTED: *B. Gifford* 11-23-16
DATE

008

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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25'-0" STEEL "W" BEAM GUARDRAIL (SINGLE FACE) 2 PLY WITH EXTRA POSTS, OFFSET BLOCKS, & RAIL ELEMENTS FOR DOUBLE STRENGTH

⑤ VARIABLE SINGLE OFFSET BLOCKS

⑥ DOUBLE OFFSET BLOCKS

NORMAL GUARDRAIL INSTALLATION (SEE GUARDRAIL SYSTEM TRANSITION "SEPIA 33")

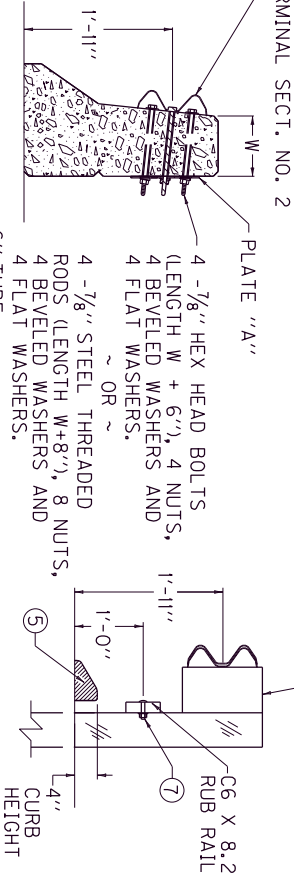
PLAN VIEW

NOTES

1. GENERAL
 - a. SEE CUR. STD. DWGS. IN THE RBB, RBI, RBR, AND RPM-SERIES FOR OTHER RELATED GUARDRAIL DETAILS AND BRIDGE PLANS FOR BRIDGE WING DETAIL.
 - b. SEE CUR. STD. DWG. RDB-SERIES FOR CURB BOX INLET TYPE B.
 - c. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A IS FOR USE ON BOTH BRIDGE ENDS OF AN UNDIVIDED HIGHWAY AND ON THE APPROACH BRIDGE ENDS OF A DIVIDED HIGHWAY.
2. MATERIAL REQUIREMENTS
 - a. ALL HARDWARE SHALL BE GALVANIZED. (AASHTO M-232)
 - b. 5/8" STEEL PLATE "A" AND "B" (AASHTO M-270)
 - c. 7/8" HEX HEAD BOLTS OR STEEL THREADED RODS (LENGTH AS SHOWN)
 - d. 7/8" HEAVY HEX NUTS (7/8" THICK) (AASHTO M-291)
 - e. 7/8" FLAT WASHERS (3/16" THICK) (AASHTO M-293)
 - f. 7/8" BEVELED WASHERS (5/16" MEAN THICKNESS) (AASHTO M-293)

BOTH THE BOLT AND THREADED ROD SHALL HAVE A MINIMUM OF 50,000 LBS. TENSILE STRENGTH AT THE NARROWEST POINT.
3. CONSTRUCTION METHODS
 - a. ELIMINATE EXTRA OFFSET BLOCKS WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
 - b. HOLES TO BE FORMED THROUGH BRIDGE WING WITH 1" I.D. PLASTIC PIPE FOR 7/8" BOLTS AND 5/8" I.D. PLASTIC PIPE FOR 5/8" BOLTS. PIPE SHALL REMAIN IN PLACE.
 - c. METHOD OF MEASUREMENT AND BASIS OF PAYMENT
 - d. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES: TERMINAL SECTION NO. 2; ALL ITEMS WHICH ARE IN ADDITION TO THE NORMAL INSTALLATION OF STEEL BEAM GUARDRAIL (EXTRA POSTS, OFFSET BLOCKS, RAIL ELEMENTS, SPACER TUBE, HARDWARE, RUB RAIL, ETC.), AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AS DETAILED. STEEL "W" BEAM GUARDRAIL (SINGLE FACE) AND ISLAND HEADER CURB ARE SEPARATE BID ITEMS WHICH ARE ALWAYS REQUIRED. CURB BOX INLET TYPE B IS A SEPARATE BID ITEM THAT WILL BE USED WHEN REQUIRED FOR BRIDGE END DRAINAGE.
 - e. BID ITEMS AND UNIT TO BID

GUARDRAIL CONNECTOR TO BRIDGE END TY A	EACH
GUARDRAIL-STEEL "W" BEAM-S FACE	LF
ISLAND HEADER CURB TYPE 1 OR 2	LF
CURB BOX INLET TYPE B (AS REQUIRED)	EACH
 - f. THE PLASTIC PIPE AND COST OF FORMING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BRIDGE SUPERSTRUCTURE CONCRETE.



SECTION A-A

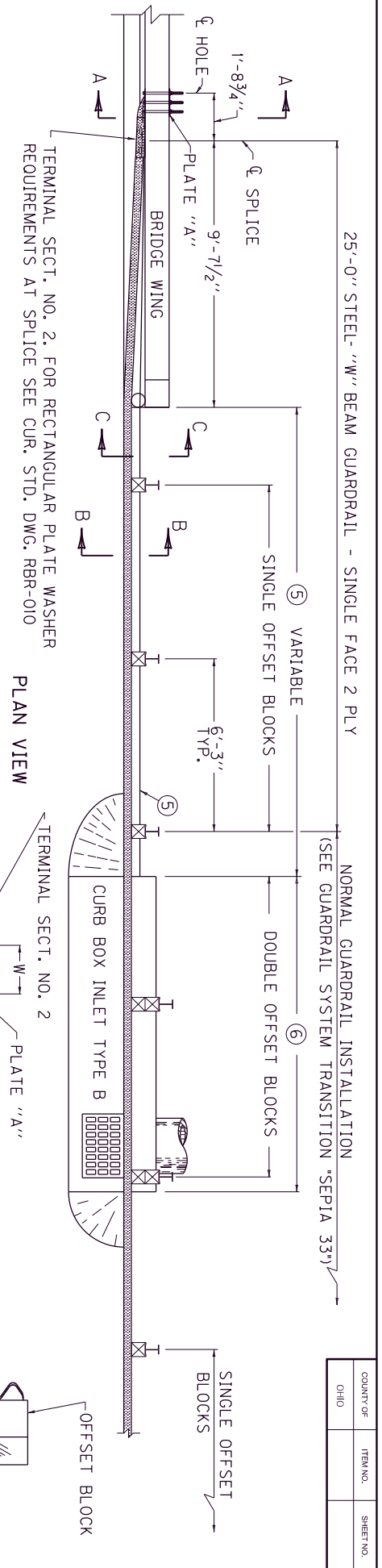
SECTION B-B

SECTION C-C

- ⑥ 6'-4" WHEN L=5'-0"
 - ⑦ 11'-4" WHEN L=10'-0"
 - ⑧ 21'-4" WHEN L=20'-0"
 - ⑨ 5/8" X 3/2" BUTTON HEAD BOLT, HEX HEAD NUT.
 - ⑩ CURB BOX NOT REQUIRED UNLESS NEEDED FOR DRAINAGE.
 - ⑪ 10'-0" LENGTH IS REQUIRED UNLESS OTHERWISE NOTED.
 - ⑫ L EQUALS THROAT LENGTH OF BOX.
- ISLAND HEADER CURB. TRANSITION FROM ISLAND CURB SHAPE TO SHAPE ON BRIDGE WING WITHIN 7'-3", LENGTH OF CURB VARIABLE (22'-3" WHEN L=5'-0") (17'-3" WHEN L=10'-0") (12'-3" WHEN L=15'-0") (7'-3" WHEN L=20'-0"), ON APPROACH END CONSTRUCT 25'-0" OF ISLAND HEADER CURB EVEN WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
- USE WITH CUR. STD. DWGS.
BHS-008, RBC-002, RBC-003
RBR-010
- KENTUCKY**
DEPARTMENT OF HIGHWAYS
- GUARDRAIL CONNECTOR TO BRIDGE END TYPE A**

COUNTY OF	ITEM NO.	SHEET NO.
OHIO		

SUBMITTED: *[Signature]* 4-04-18
DIRECTOR DIVISION OF DESIGN DATE
015

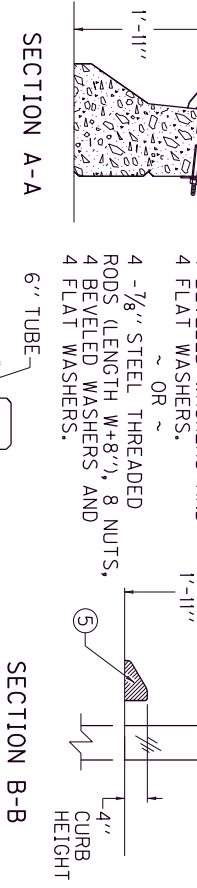


TERMINAL SECT. NO. 2, FOR RECTANGULAR PLATE WASHER REQUIREMENTS AT SPLICE SEE CUR. STD. DWG. RBR-010

PLAN VIEW

TERMINAL SECT. NO. 2

1. GENERAL
 - a. SEE CUR. STD. DWGS. IN THE RBB, RBI, RBR, AND RPM-SERIES FOR OTHER RELATED GUARDRAIL DETAILS AND BRIDGE PLANS FOR BRIDGE WING DETAIL.
 - b. SEE CUR. STD. DWG. RDB-SERIES FOR CURB BOX INLET TYPE B.
 - c. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1 IS FOR USE ON THE EXIT END OF A DIVIDED HIGHWAY.
2. MATERIAL REQUIREMENTS
 - a. ALL HARDWARE SHALL BE GALVANIZED. (AASHTO M-232)
 - b. 5/8" STEEL PLATE "A" (AASHTO M-270)
 - c. 7/8" HEX HEAD BOLTS OR STEEL THREADED RODS (LENGTH AS SHOWN)
 - d. 7/8" HEAVY HEX NUTS (7/8" THICK) (AASHTO M-291)
 - e. 7/8" FLAT WASHERS (3/16" THICK) (AASHTO M-293)
 - f. 7/8" BEVELED WASHERS (3/16" MEAN THICKNESS) (AASHTO M-293)
3. CONSTRUCTION METHODS
 - a. BOTH THE BOLT AND THREADED ROD SHALL HAVE A MINIMUM OF 50,000 LBS. TENSILE STRENGTH AT THE NARROWEST POINT.



4. METHOD OF MEASUREMENT AND BASIS OF PAYMENT
 - a. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH INCLUDES TERMINAL SECT. NO. 2, RAIL ELEMENTS, SPACER TUBE, HARDWARE AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION.
 - b. STEEL "W" BEAM GUARDRAIL (SINGLE FACE) AND ISLAND HEADER CURB ARE SEPARATE BID ITEMS WHICH ARE ALWAYS REQUIRED. CURB BOX INLET TYPE B IS A SEPARATE BID ITEM THAT WILL BE USED WHEN REQUIRED FOR BRIDGE END DRAINAGE.
 - c. BID ITEMS AND UNIT TO BID

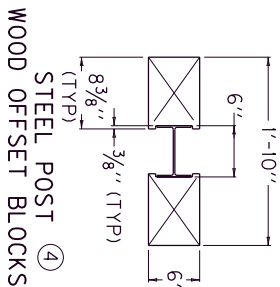
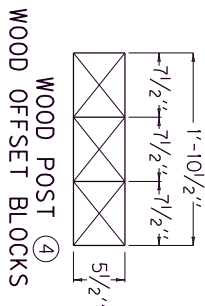
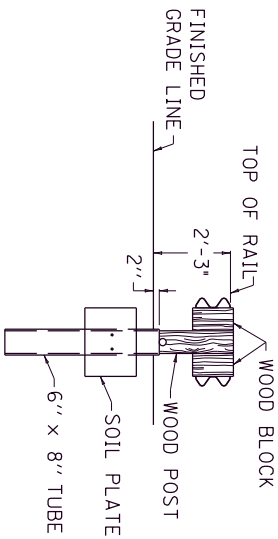
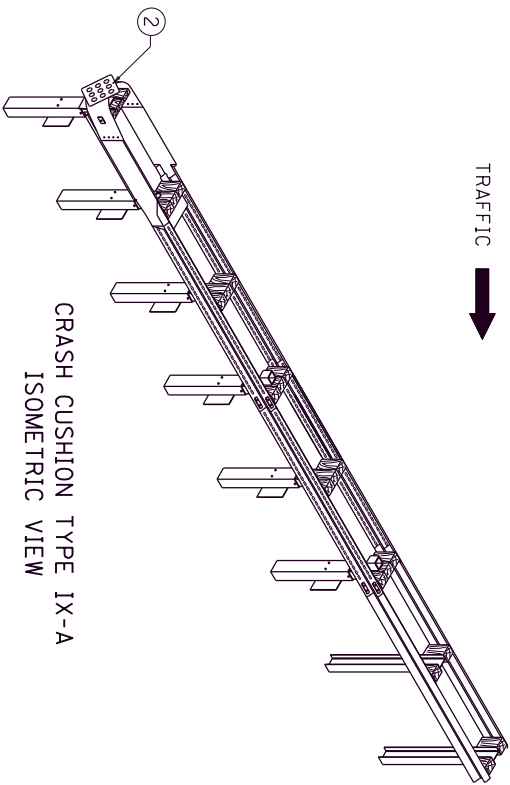
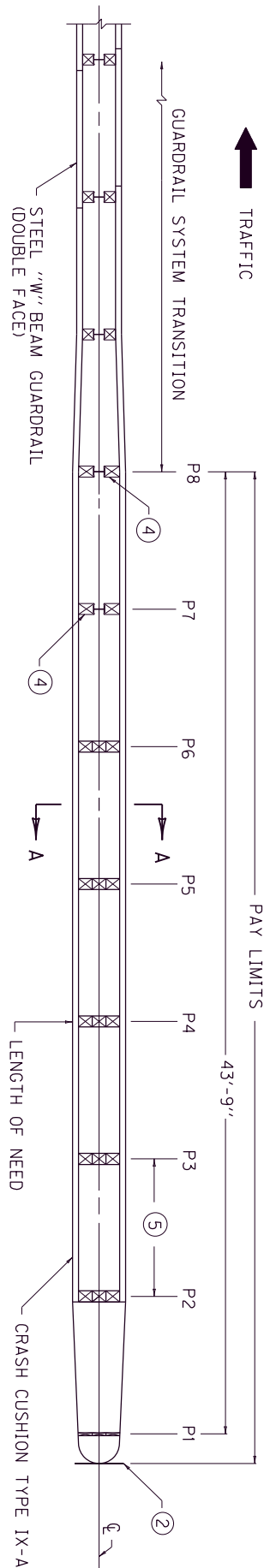
GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	EACH
GUARDRAIL-STEEL "W" BEAM-S FACE	LF
ISLAND HEADER CURB TYPE 1 OR 2	LF
CURB BOX INLET TYPE B (AS REQUIRED)	EACH
 - d. THE PLASTIC PIPE AND COST OF FORMING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BRIDGE SUPERSTRUCTURE CONCRETE.

5. VARIABLE SINGLE OFFSET BLOCKS
6. DOUBLE OFFSET BLOCKS
7. CURB BOX NOT REQUIRED UNLESS NEEDED FOR DRAINAGE.
 - ☆ 10'-0" LENGTH IS REQUIRED UNLESS OTHERWISE NOTED.
 - L EQUALS THROAT LENGTH OF BOX.
8. ISLAND HEADER CURB. TRANSITION FROM ISLAND CURB SHAPE TO SHAPE ON BRIDGE WING WITHIN 7'-3", LENGTH OF CURB VARIABLE (22'-3" WHEN L=5'-0") (17'-3" WHEN L=10'-0") (12'-3" WHEN L=15'-0") (7'-3" WHEN L=20'-0"), ON THE APPROACH END CONSTRUCT 25'-0" OF ISLAND HEADER CURB EVEN WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
 - ☆ 6'-4" WHEN L=5'-0"
 - 11'-4" WHEN L=10'-0"
 - 16'-4" WHEN L=15'-0"
 - 21'-4" WHEN L=20'-0"
9. USE WITH CUR. STD. DWGS. BHS-008, RBC-002, RBC-003, RBR-010

KENTUCKY
DEPARTMENT OF HIGHWAYS
GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1

SUBMITTED: *Michael P. Blalock*
DIRECTOR DIVISION OF DESIGN
DATE: 4-04-18
016

COUNTY OF	ITEM NO.	SHEET NO.
OHIO		



~ NOTES ~

1. CRASH CUSHION TYPE IX-A SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES POSTS, RAIL ELEMENTS, OBJECT MARKER TYPE 1, HARDWARE, AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AS DETAILED.
2. OBJECT MARKER TYPE 1, (SEE CURRENT MUTCD MANUAL FOR DETAILS) CENTER HORIZ. AND VERT. CRASH CUSHION TYPE IX-A IS A PATENTED (ONE SOURCE) PRODUCT MANUFACTURED BY TRINITY INDUSTRIES, INC. OF DALLAS, TX.
3. AT POST P7 AND P8 THE POSTS AND OFFSET BLOCKS MAY BE WOOD OR STEEL POST AND WOOD OFFSET BLOCKS.
4. POST P1 THROUGH P8 ARE SPACED 6'-3" ON CENTER.
5. BACK-UP PLATES REQUIRED AT POST P7.
6. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP PLANS TO THE CONTRACTOR WITH EACH INSTALLATION.
7. FOR NON-PAVEMENT APPLICATIONS SEE ROADWAY PLANS FOR GRADING DETAILS.
8. BID ITEM AND UNIT TO BID
CRASH CUSHION TYPE IX-A
EACH
9. NCHRP-350-COMPLIANT CRASH CUSHIONS WILL BE ACCEPTED IN INSTANCES WHERE MASH-COMPLIANT DEVICES ARE NOT YET AVAILABLE.

COUNTY OF	ITEM NO.	SHEET NO.
OHIO		

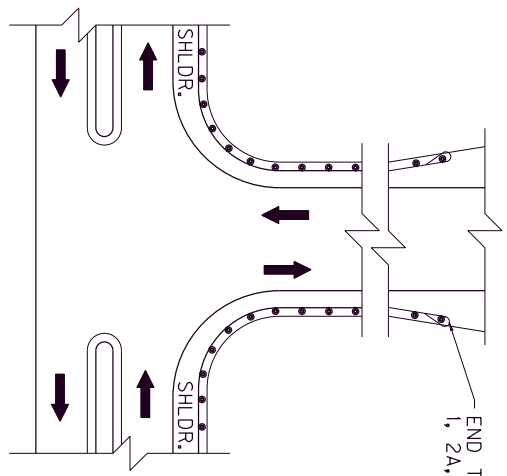
KENTUCKY
DEPARTMENT OF HIGHWAYS

CRASH CUSHION
TYPE IX-A

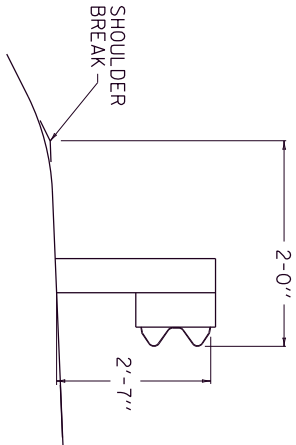
SUBMITTED: *[Signature]* 1-02-19
ACTIVE DIRECTOR DIVISION OF HIGHWAY DESIGN DATE
023

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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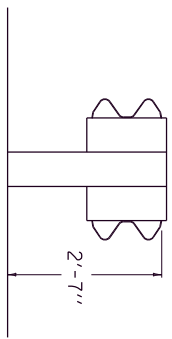
- ~ NOTES ~
1. FOR END TREATMENT TYPE 4A USE CUR. STD. DWG. RBR-035 FOR OFFSETS.
 2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET: (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).



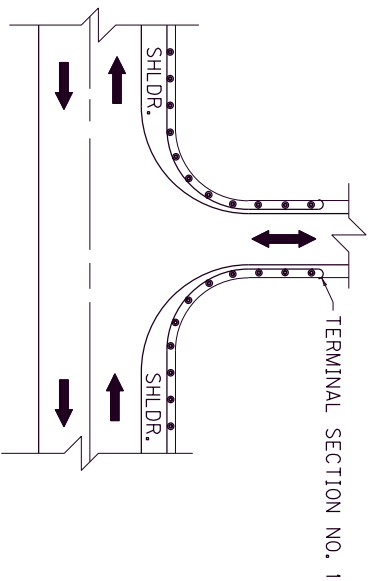
APPROACH ROADS



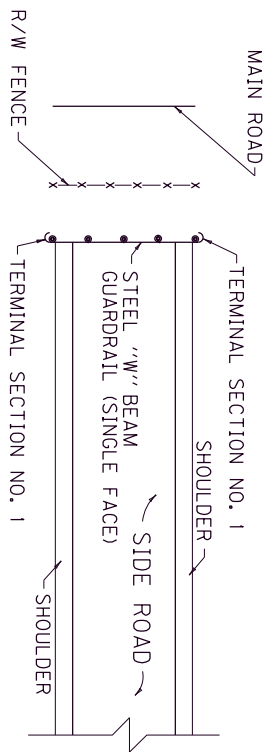
NORMAL GUARDRAIL INSTALLATION



TYPICAL DOUBLE FACE GUARDRAIL INSTALLATION



ENTRANCES



GUARDRAIL USED AS A BARRICADE

USE WITH CUR. STD. DWG.
RBI-002, RBR-035

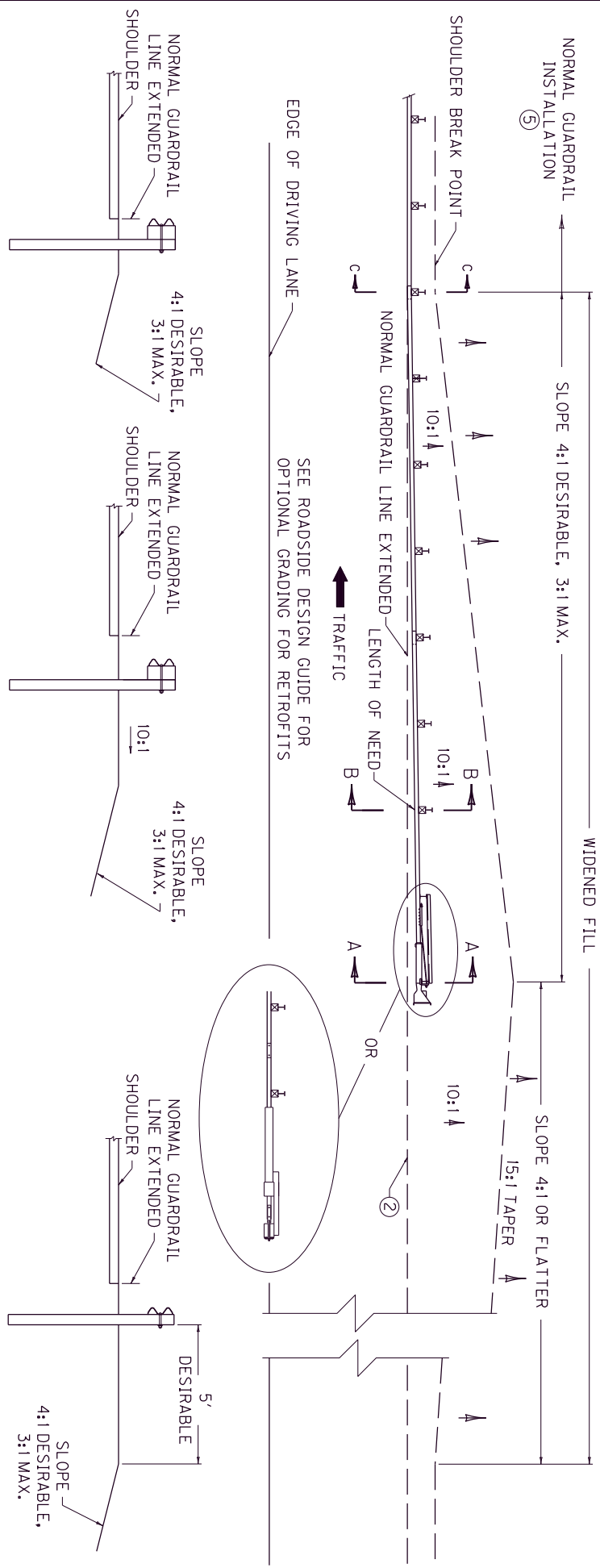
KENTUCKY
DEPARTMENT OF HIGHWAYS

TYPICAL GUARDRAIL
INSTALLATIONS

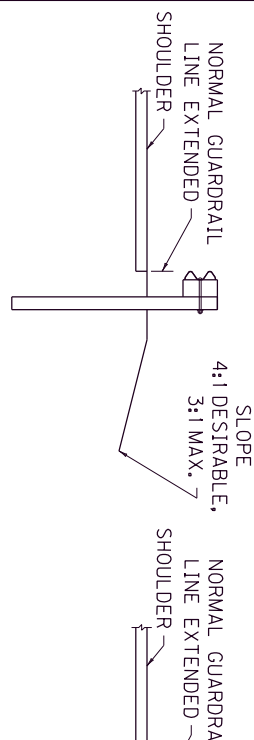
SUBMITTED: *Matthew P. Blalock* 11-17-17
DIRECTOR DIVISION OF DESIGN DATE

024

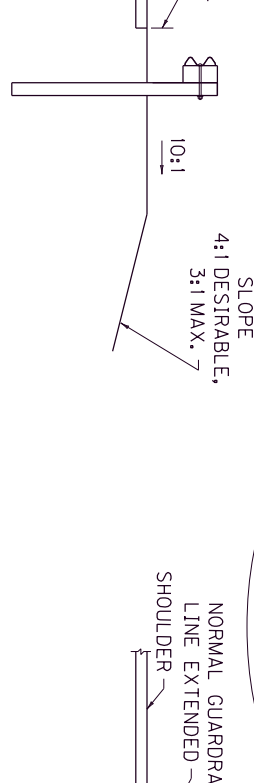
COUNTY OF OHIO	ITEM NO.	SHEET NO.
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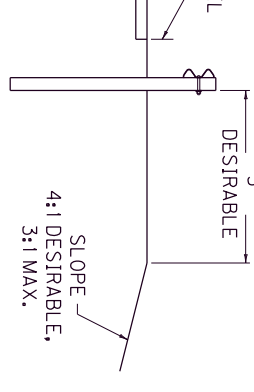
SECTION C-C



SECTION B-B

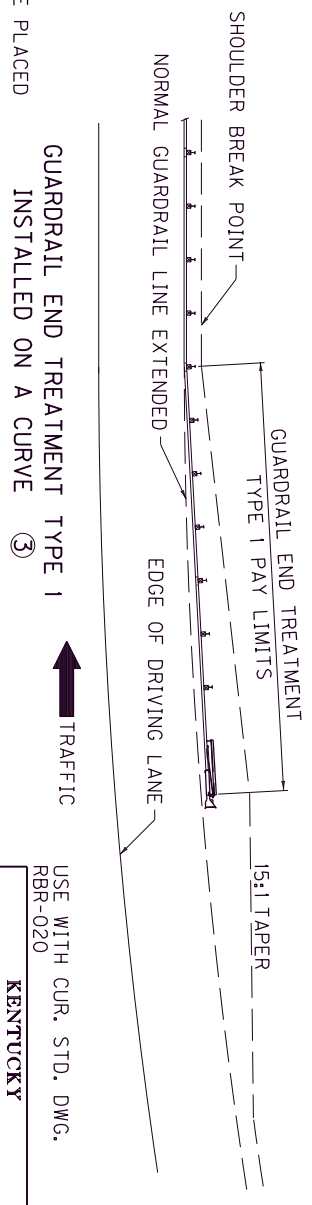


SECTION A-A



~ NOTES ~

1. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).
2. GUARDRAIL EXTRUDER EDGE CLOSEST TO TRAFFIC SHALL BE PLACED ON NORMAL GUARDRAIL LINE EXTENDED.
3. END TREATMENT TYPE 1 MAY BE ATTACHED TO CURVED GUARDRAIL PROVIDED CURVE IS A 550' RADIUS OR MORE. END TREATMENT TYPE 1 SHALL BE INSTALLED ON A STRAIGHT LINE TAPER WITHIN THE PAY LIMITS.
4. INTENDED USE: FILLS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL.
5. FOR MAINTENANCE AND REPAIR PROJECTS, USE "GUARDRAIL SYSTEM TRANSITION "SEPIA 33", TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF ONLY THE TERMINAL IS PROPOSED TO BE REPLACED.

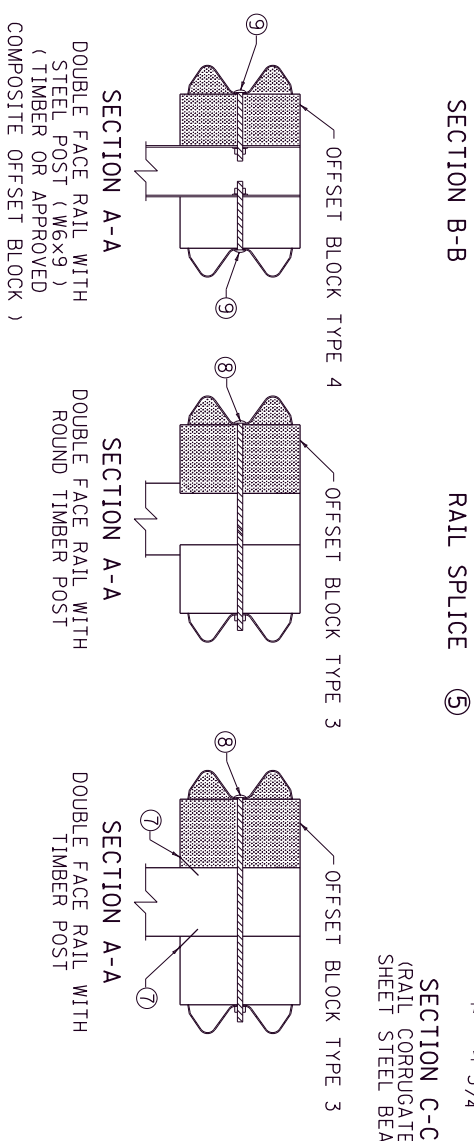
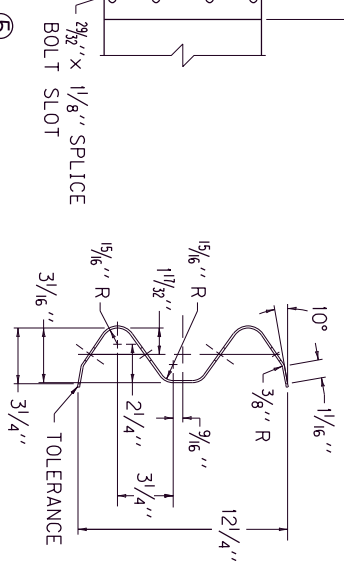
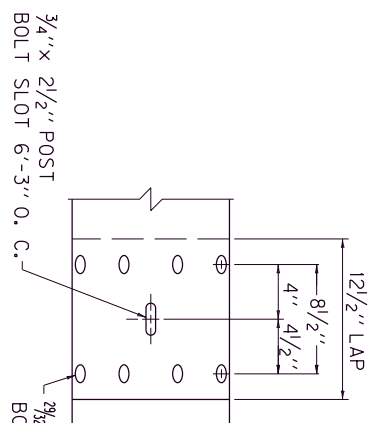
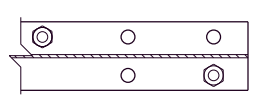
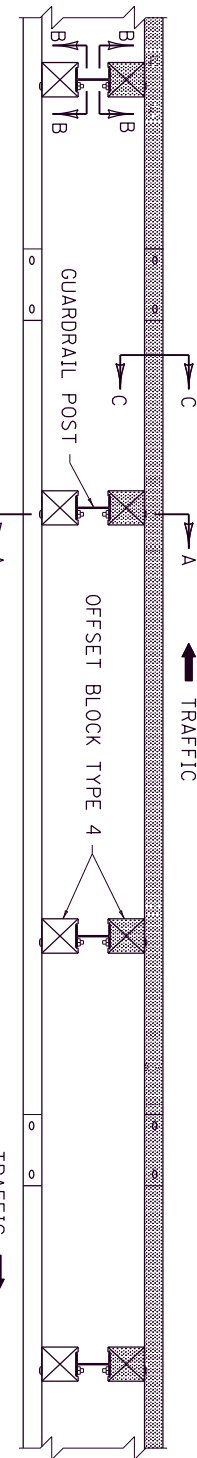
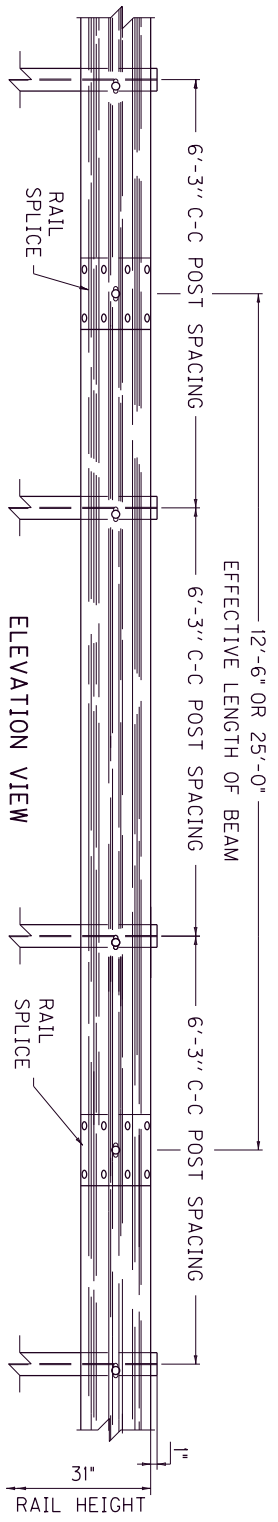


USE WITH CUR. STD. DWG.
RBR-020

KENTUCKY
DEPARTMENT OF HIGHWAYS
INSTALLATION OF
GUARDRAIL
END TREATMENT
TYPE 1

SUBMITTED: *Mark P. Baker* 11-17-17
DIRECTOR DIVISION OF DESIGN DATE

025



~ NOTES ~

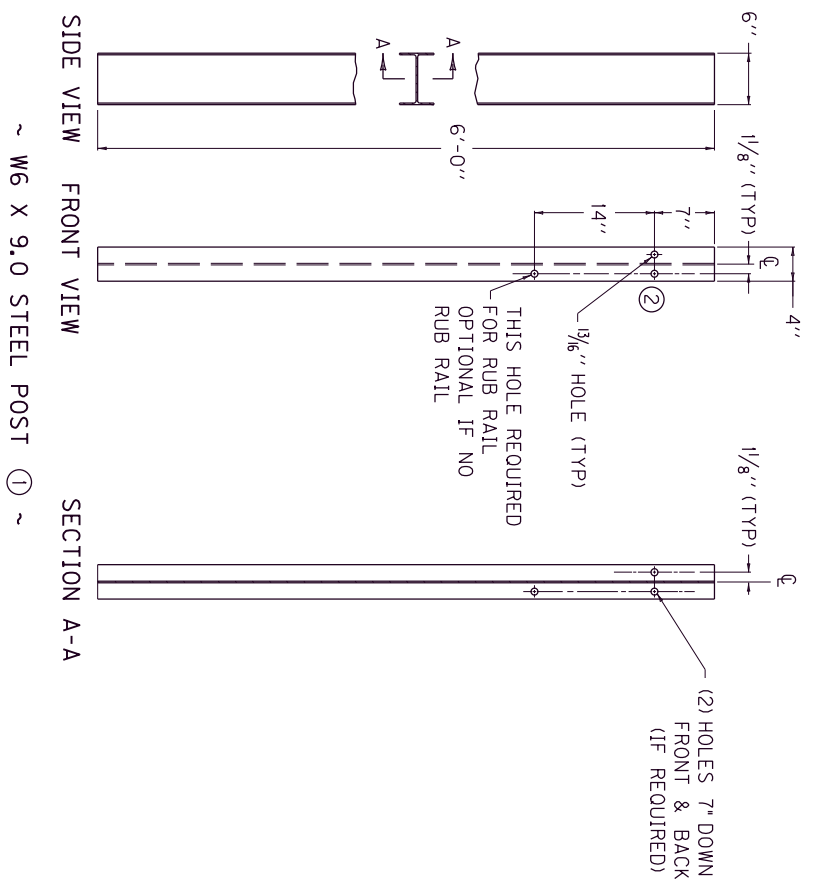
1. BID ITEM AND UNIT TO BID GUARDRAIL-STEEL W BEAM-D FACE OR GUARDRAIL-STEEL W BEAM-S FACE LF
2. DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
3. THE RAIL ELEMENT SHALL COMPLY WITH AASHTO M-180 -CLASS A, TYPE II.
4. ALL LAPS SHALL BE PLACED IN THE DIRECTION OF TRAFFIC FLOW.
5. TOLERANCE + 1/4", -1/4"
6. 8-5/8" x 1/4" LONG BUTTON HEAD BOLTS AND HEX HEAD RECESS NUTS REQUIRED FOR EACH RAIL SPLICE.
7. LENGTH EQUALS POST AND BLOCK WIDTH PLUS 2" FOR BOLT OR 2 1/4" FOR THREADED ROD.
8. GALVANIZED STEEL 10d COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
9. 5/8" x 8" STEEL THREADED ROD AND TWO (2) HEX HEAD NUTS OR 3/8" x 6" BUTTON OR HEX HEAD BOLT AND HEX HEAD NUT.
10. 5/8" x 8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE 3/8" ROUND WASHER (TYP.), BOLT SHALL HAVE A MINIMUM THREAD LENGTH OF 2".
11. REQUIRED FOR DOUBLE RAIL
12. BOTH 12'-6" AND 25'-LENGTHS OF "W" BEAM GUARDRAIL SECTIONS WILL BE PERMITTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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KENTUCKY
DEPARTMENT OF HIGHWAYS
STEEL BEAM
GUARDRAIL
("W" BEAM)

SUBMITTED: *[Signature]* 11-17-17
DIRECTOR DIVISION OF DESIGN DATE
027

COUNTY OF	ITEM NO.	SHEET NO.
OHIO		



- ~ NOTES ~
- ① W6 X 8.5 IS AN ACCEPTABLE ALTERNATE.
 - ② THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.
 - ③ TIMBER OR COMPOSITE BLOCKOUTS MAY BE USED WITH STEEL POST.

REAR ELEVATION

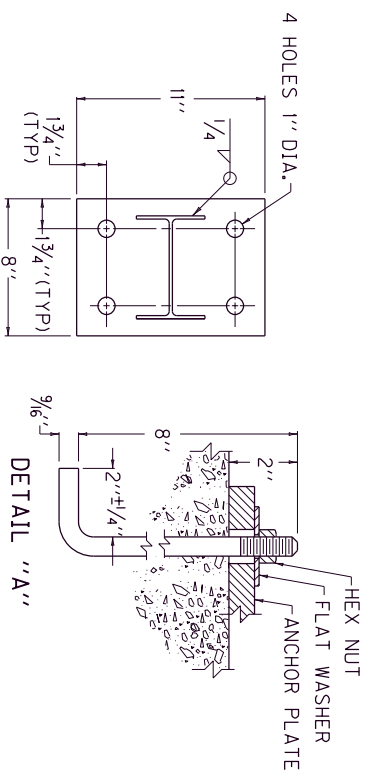
PLAN VIEW

OFFSET BLOCK TYPE 4
6" X 8" (Nominal Size)
(TIMBER OR APPROVED COMPOSITE)
(FOR USE WITH STEEL POST ONLY)

PLAN VIEW

SIDE VIEW

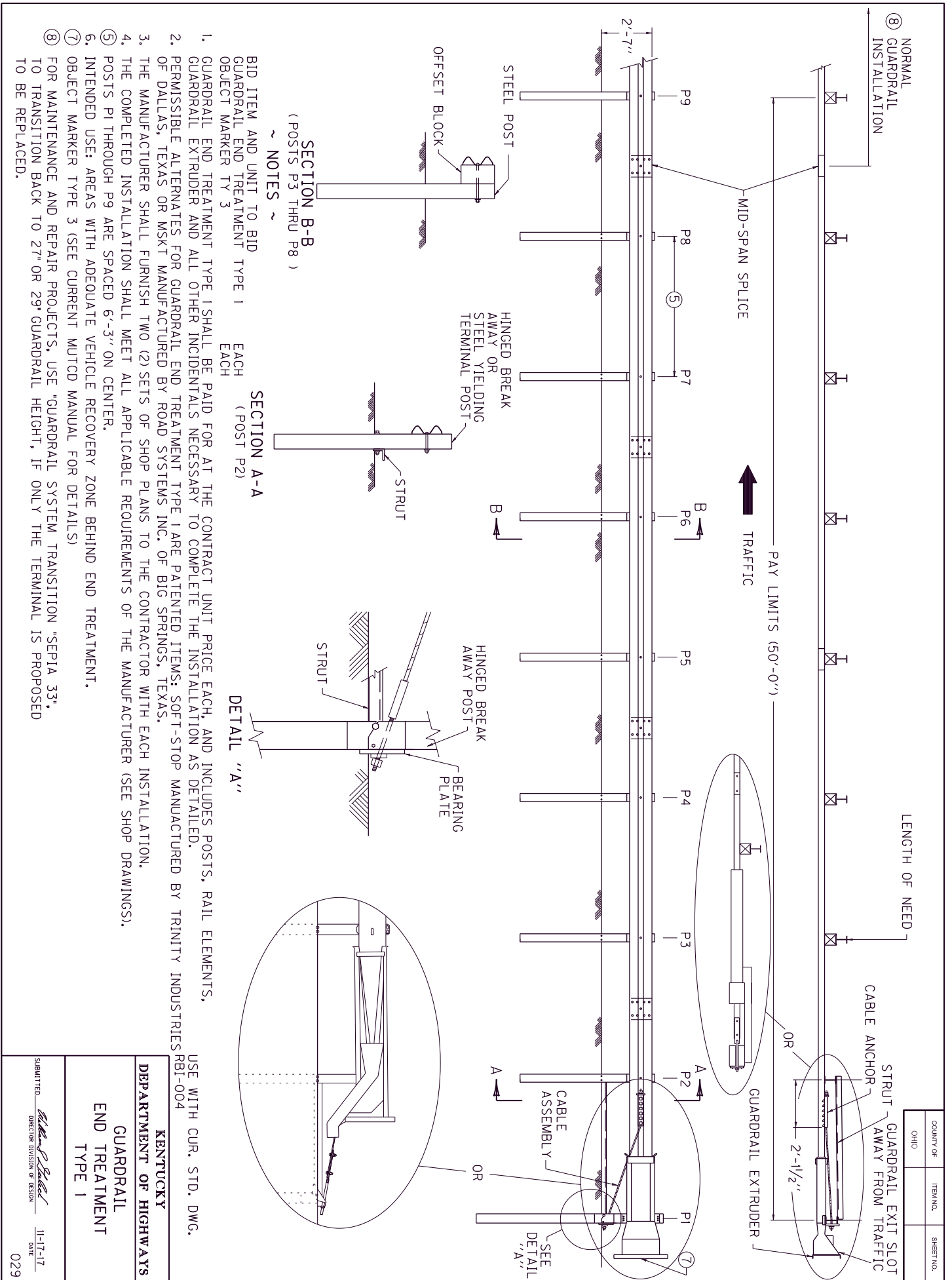
ANCHOR PLATE



KENTUCKY
DEPARTMENT OF HIGHWAYS

STEEL
GUARDRAIL POSTS

SUBMITTED: *Walter P. Blalock* 3-06-18
DIRECTOR DIVISION OF DESIGN DATE
028



COUNTY OF OHIO	ITEM NO.	SHEET NO.
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SECTION B-B
(POSTS P3 THRU P8)
~ NOTES ~

SECTION A-A
(POST P2)

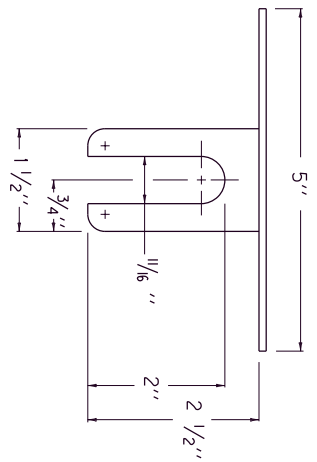
DETAIL "A"

1. GUARDRAIL END TREATMENT TYPE 1 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES POSTS, RAIL ELEMENTS, GUARDRAIL END TREATMENT TYPE 1 EACH (POST P2) EACH (POST P2)
2. PERMISSIBLE ALTERNATES FOR GUARDRAIL END TREATMENT TYPE 1 ARE PATENTED ITEMS: SOFT-STOP MANUFACTURED BY TRINITY INDUSTRIES RBI-004 OF DALLAS, TEXAS OR MSKT MANUFACTURED BY ROAD SYSTEMS INC. OF BIG SPRINGS, TEXAS.
3. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP PLANS TO THE CONTRACTOR WITH EACH INSTALLATION.
4. THE COMPLETED INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE MANUFACTURER (SEE SHOP DRAWINGS).
5. POSTS P1 THROUGH P9 ARE SPACED 6'-3" ON CENTER.
6. INTENDED USE: AREAS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND END TREATMENT.
7. OBJECT MARKER TYPE 3 (SEE CURRENT MUTCD MANUAL FOR DETAILS)
8. FOR MAINTENANCE AND REPAIR PROJECTS, USE "GUARDRAIL SYSTEM TRANSITION "SEPIA 33" TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF ONLY THE TERMINAL IS PROPOSED TO BE REPLACED.

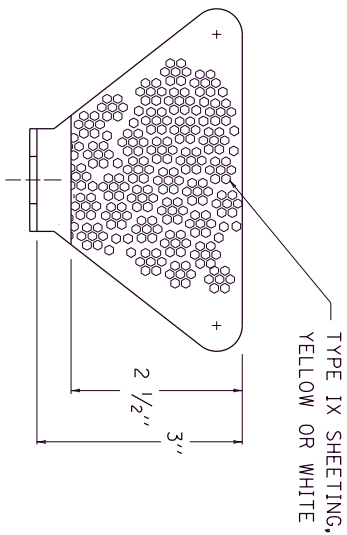
USE WITH CUR. STD. DWG.
RBI-004

KENTUCKY
DEPARTMENT OF HIGHWAYS
GUARDRAIL
END TREATMENT
TYPE 1

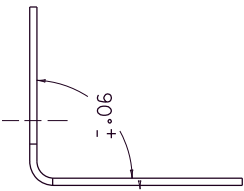
SUBMITTED: *Mark P. Stadel*
DIRECTOR DIVISION OF DESIGN
DATE: 11-17-17
029



PLAN VIEW



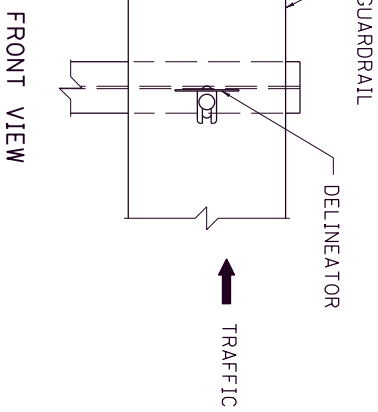
FRONT VIEW



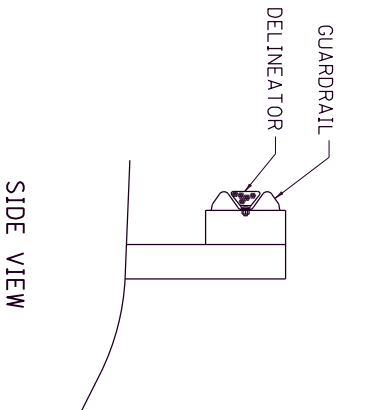
SIDE VIEW

- ~ NOTES ~**
- BID ITEMS AND UNIT TO BID
 DELINEATOR FOR GUARDRAIL B/W
 DELINEATOR FOR GUARDRAIL M/W
 DELINEATOR FOR GUARDRAIL M/Y
 EACH
 EACH
 EACH
1. DELINEATORS SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE EACH AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR ONE COMPLETE INSTALLATION.
 2. DELINEATOR SHAPE AND DIMENSIONS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY.
 3. TYPES OF DELINEATORS PERMITTED SHALL BE FROM THE LIST OF APPROVED MATERIALS.
 4. GUARDRAIL DELINEATORS SHALL BE REQUIRED ON ALL GUARDRAIL.
 5. DELINEATORS SHALL NOT BE INSTALLED WITHIN THE PAY LIMITS OF THE END TREATMENT.
 6. DELINEATORS SHALL BE MANUFACTURED FROM 12 GA. GALVANIZED STEEL.
 7. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MANUFACTURER'S TOLERANCES.
 8. WHEN CONCRETE BARRIERS EXTEND ACROSS BRIDGE STRUCTURES IN LIEU OF STEEL BEAM GUARDRAIL, DELINEATORS SHALL BE INSTALLED AT SAME VERTICAL ALIGNMENT AS ON THE GUARDRAIL, AND DELINEATORS SHALL COMPLY WITH CURRENT STANDARD DRAWING RBM-020.
 9. DELINEATORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

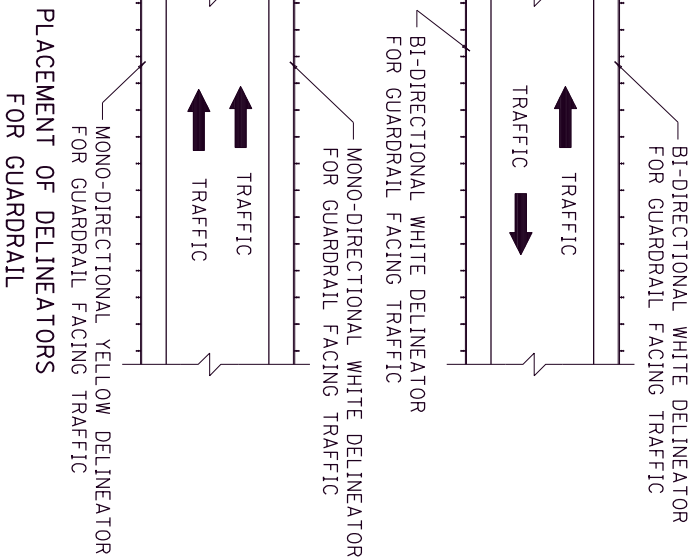
DIMENSIONS SHOWN ARE FOR ONE VERSION OF A WEB-MOUNTED GUARDRAIL DELINEATOR. DELINEATORS WITH ALTERNATE DIMENSIONS MAY BE CONSIDERED FOR INCLUSION ON THE APPROVED PRODUCTS LIST.



FRONT VIEW



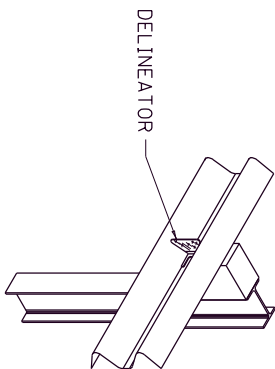
SIDE VIEW



PLACEMENT OF DELINEATORS FOR GUARDRAIL

APPROXIMATE DELINEATOR SPACING	
TANGENT	100'
CURVE	50'

SPACING SHOULD BE ADJUSTED IN CURVES SO THAT SEVERAL DELINEATORS ARE ALWAYS SIMULTANEOUSLY VISIBLE TO THE ROAD USER.



ISOMETRIC VIEW

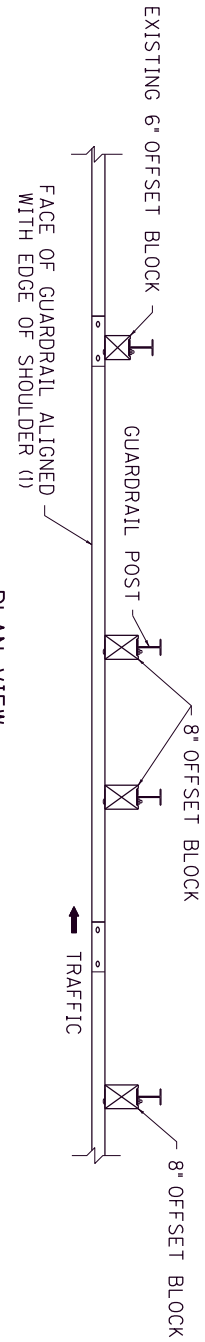
USE WITH CUR. STD. DWGS.
RBM-020, RBR-060

KENTUCKY
DEPARTMENT OF HIGHWAYS
 DELINEATORS
 FOR GUARDRAIL

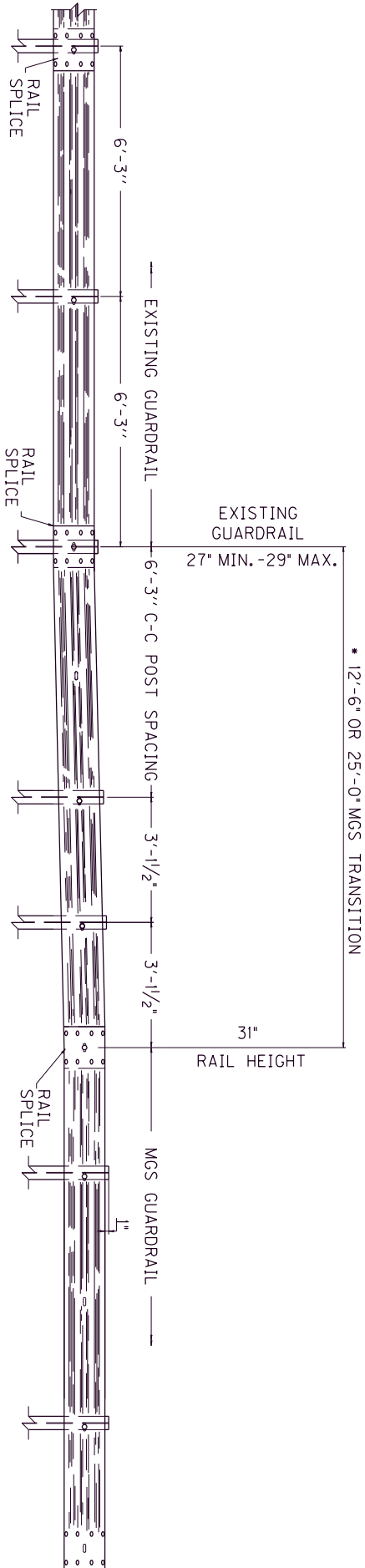
SUBMITTED *William P. Seibel* 11-17-17
 DIRECTOR DIVISION OF DESIGN DATE

032

COUNTY OF	ITEM NO.	SHEET NO.
OHIO		



* 12'-6" TRANSITION FROM 29" TO 31" SHOWN,
25'-0" REQUIRED FOR 27" TO 31" TRANSITION.



ELEVATION VIEW

~ NOTES ~

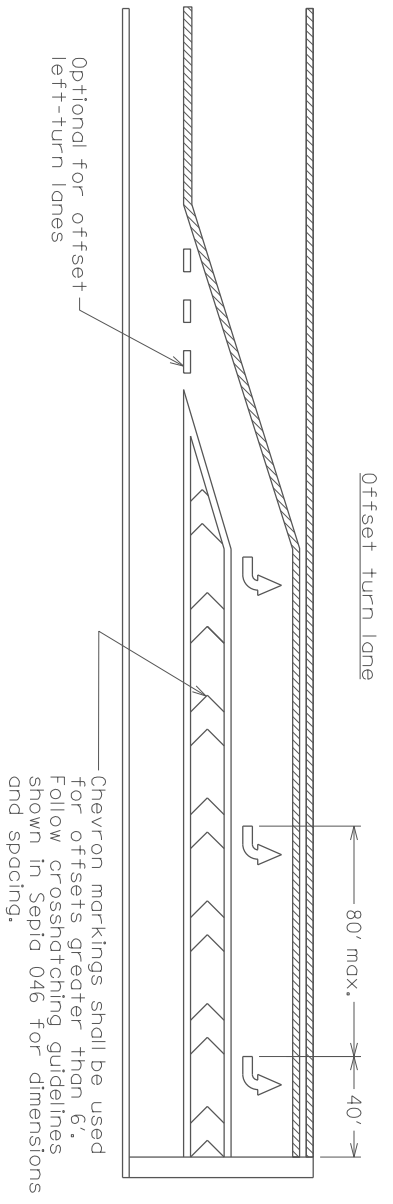
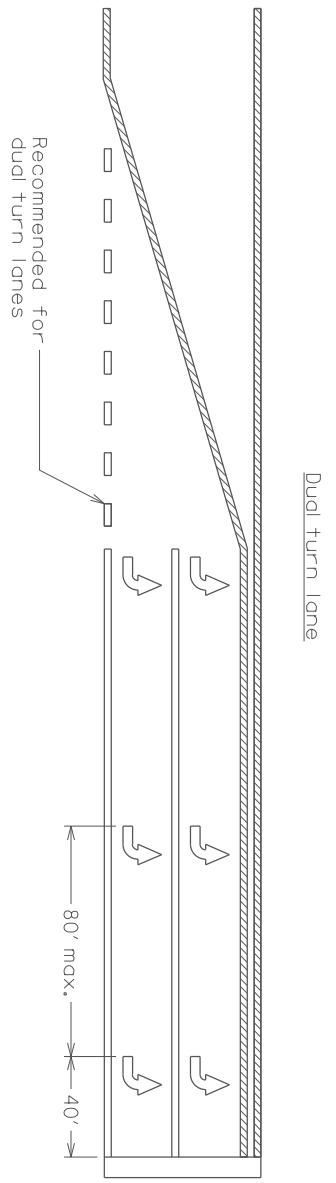
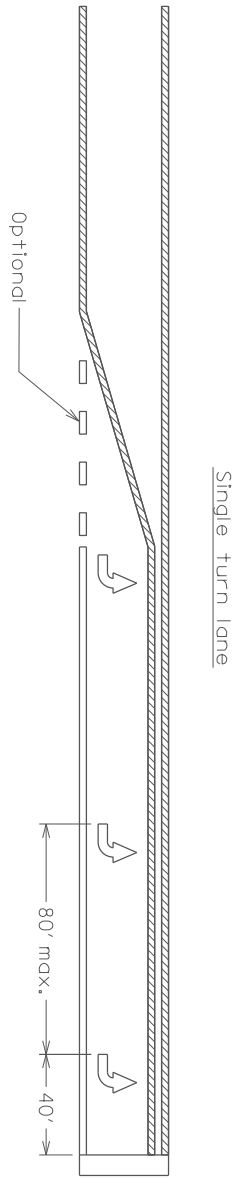
- 1) WHERE POST OFFSET IS CONSTRAINED, AND WHEN THE EXISTING SHOULDER IS WIDER THAN 4 FEET, THE EXISTING SHOULDER MAY BE REDUCED UP TO 2 INCHES TO ACCOMMODATE THE 8 INCH BLOCKS OF THE MGS GUARDRAIL. WHERE SITE CONSTRAINTS PROHIBIT THE POST FROM BEING PLACED AT LEAST 6 INCHES IN FRONT OF THE SLOPE BREAK POINT, USE 7 FOOT POSTS.
- 2) MGS TRANSITION FROM EXISTING GUARDRAIL SHALL BE COMPLETED OUTSIDE THE 50 FEET MGS END TERMINAL LIMITS.

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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KENTUCKY
DEPARTMENT OF HIGHWAYS
GUARDRAIL SYSTEM
TRANSITION

SUBMITTED: *[Signature]* 4-04-18
DIRECTOR DIVISION OF DESIGN DATE
033

COUNTY OF	ITEM NO.	SHEET NO.
OHIO		



STRIPING NOTES:

- ARROWS SHALL BE USED IN ANY EXCLUSIVE TURN LANES.
- IN A SINGLE TURN LANE, DOTTED WHITE LANE LINE EXTENSIONS MAY BE USED THROUGH THE TAPER OF THE TURN LANE.
- IF USED, DOTTED WHITE LANE LINE EXTENSIONS SHALL BE NORMAL WIDTH, AND SHOULD BE 2' LONG, WITH A GAP OF 2-6' BETWEEN EACH LINE.
- IN DUAL TURN LANES, DOTTED WHITE LANE LINE EXTENSIONS SHOULD BE USED THROUGH THE TAPER OF THE TURN LANE. BOTH SOLID LINES FORMING THE TURN LANES SHALL BEGIN AT THE DOWNSTREAM END OF THE TAPER.

ARROW SPACING NOTES:

- IN SINGLE-DIRECTION TURN LANES, ARROWS SHOULD BE SPACED AS FOLLOWS:
- AT LEAST TWO ARROWS SHOULD BE USED IN EACH TURN LANE. HOWEVER, IF A TURN LANE IS LESS THAN 80' IN LENGTH, THE DOWNSTREAM ARROW MAY BE ELIMINATED.
- THE FIRST UPSTREAM ARROW SHALL BE PLACED AT THE BEGINNING OF THE SOLID LINE FOR THE TURN LANE.
- THE LAST DOWNSTREAM ARROW SHOULD BE PLACED 40' FROM THE STOP BAR.
- ANY ADDITIONAL ARROWS SHOULD BE EVENLY SPACED. SPACING SHOULD NOT EXCEED 80'.
- ARROW SPACING AND NUMBER OF ARROWS MAY VARY BASED ON SITE CONDITIONS.

DOTTED EXTENSION DIMENSIONS:



Dotted extensions shall be normal width.

DRAWING NOT TO SCALE

LEGEND

	WHITE
	YELLOW

KENTUCKY
DEPARTMENT OF HIGHWAYS
TYPICAL MARKINGS
FOR TURN LANES

SUBMITTED: *R. Allen*
DATE: 11-30-18

**TRAFFIC CONTROL PLAN
OHIO COUNTY
WK - 9001**

**THIS PROJECT IS A FULLY
CONTROLLED ACCESS HIGHWAY**

TRAFFIC CONTROL GENERAL

Except as provided herein, "Maintain and Control Traffic" shall be in accordance with the 2019 Standard Specifications and the Standard Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic". All lane closures used on the Project will be in compliance with the appropriate Standard Drawings. Do NOT use cones for lane closures or shoulder closures.

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition at the beginning of the work and maintained in like new condition until completion of the work. Traffic control devices will conform to current MUTCD.

Reduce the speed limit in work areas to 55 miles per hour (35 miles per hour for or US 231) and establish double fines for work zone speeding violations. The extent of these areas within the project limits will be restricted to the proximity of actual work areas as determined by the Engineer. Notify the Engineer a minimum of 12 hours prior to using the double fine signs. At the beginning of the work zone, the "WARNING FINE DOUBLED IN WORK ZONE" signs will be dual mounted. At the end of the work zone, the "END DOUBLE FINE" signs will be dual mounted as well. Remove or cover the signs when the highway work zone does not have workers present for more than a two-hour period of time. Payment for the signs will be at the unit bid price for Temporary Signs. Any relocation or covering of the signs will be incidental to "Maintain and Control Traffic", lump sum.

Night work will be allowed on this project. Obtain approval from the Engineer for the method of lighting prior to its use.

MAINTENANCE OF TRAFFIC OVERVIEW

Demolition of the existing structures will be achieved by routing traffic down the exit ramps diverting traffic from the mainline structures, one direction at a time. The westbound structure is considered to be in the worse condition and is to be reconstructed first.

TIMES OF PROHIBITED LANE CLOSURES AND DIVERSIONS

No lane closures or diversions will be allowed on the project during the following days unless otherwise approved by the Engineer:

December 15, 2019 – January 15, 2020.

Project Phasing:

PHASE I

Install a temporary signal system and all required striping, signage, temporary lighting, etc. at the termini of the westbound ramps of Exit 75 and US 231.

Close the left lane of mainline WK – 9001 approximately ½ mile in advance of the exit ramp taper. Use a series of 2 message boards indicating “TRAFFIC MUST EXIT” within the lane closure and in advance of the exit ramp taper. Place two Type 3 barricades near the exit gore on mainline with road closed signs. Place drums on 20’ spacing routing traffic into the exit gore and down the ramps. Maintain drums on 40’ spacing on the ramps. Allow service area traffic to enter the one lane traffic flow by placement of additional merge signs. Place signs to reduce speed limit to 35 mph for travel approaching the exit ramp and within the ramp travel limits.

Use an additional message board as needed to warn of possible stopped traffic and advance warning of lane closures. Use a message board in advance of the project in each direction to provide messages to US 231 traffic. Reduce speed limits on US 231 to 35 mph.

Remove the existing westbound mainline WK - 9001 structure and reconstruct the new westbound WK – 9001 structure. Complete westbound bridge approach pavement as detailed, complete guardrail, and pavement markings, and restore traffic to WK – 9001 in its original configuration. Remove the temporary signal at the westbound ramp termini.

Attention: See Special Note for Fixed Completion Date and Liquidated Damages for duration limits on ramp diversion and required completion date for Phase I work.

PHASE II

Install a temporary signal system and all required striping, signage, temporary lighting, etc. at the termini of the eastbound ramps of Exit 75 and US 231.

Close the left lane of mainline WK – 9001 approximately ½ mile in advance of the exit ramp taper. Use a series of 2 message boards indicating “TRAFFIC MUST EXIT” within the lane closure and in advance of the exit ramp taper. Place two Type 3 barricades near the exit gore on mainline with road closed signs. Place drums on 20’ spacing routing traffic into the exit gore and down the ramps. Maintain drums on 40’ spacing on the ramps. Place signs to reduce speed limit to 35 mph for travel approaching the exit ramp and within the ramp travel limits.

Use an additional message board as needed to warn of possible stopped traffic and advance warning of lane closures. Use a message board in advance of the project in each direction to provide messages to US 231 traffic. Reduce speed limits on US 231 to 35 mph.

Remove the existing eastbound mainline WK - 9001 structure and reconstruct the new eastbound WK – 9001 structure. Complete eastbound bridge approach pavement as detailed, complete guardrail, and pavement markings, and restore traffic to WK – 9001 in its original configuration. Remove the temporary signal at the eastbound ramp termini.

Attention: See Special Note for Fixed Completion Date and Liquidated Damages for duration limits on ramp diversion for Phase II work.

PHASE III

Using alternating lane closures on US 231 complete all items of cleanup, permanent erosion control etc. Complete concrete repairs, final surfacing, guardrail, final pavement markings and all other uncompleted items of work on US 231.

Using alternating lane closures, complete final cleanup, permanent erosion control, rumble strips, and all remaining items of work on mainline WK – 9001.

MINIMUM LANE AND MINIMUM LANE WIDTH REQUIREMENTS

Maintain a minimum 12’ lane width on WK – 9001 at all times. Traffic may be reduced to one lane per direction in accordance with phasing requirements and lane closure requirements.

On US 231, traffic may be reduced to two 10’ through lanes while work is active in the vicinity of the bridge construction work by shifting traffic into the center turn lane. If traffic is diverted to the center turn lane, limit the lane reduction area in length to maintain all three existing lanes within 200 feet of the ramp termini to maintain two through lanes and a left turn lane at the ramp intersections a minimum distance of 200 feet. Restore US 231 traffic to three lanes any time workers are not present.

LANE CLOSURES

Contrary to Section 112.04.17, Lane closures, whether long term or short term, will not be measured for payment and will be incidental to the bid item "Maintain and Control Traffic". Lane closures must be installed on both inside lanes while work is being performed in the median.

Remove lane closures and restore traffic to two lanes on the mainline for any period of time more than 3 days that no work will be performed requiring a lane closure.

SIGNS

Additional traffic control signs in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILE, LEFT/RIGHT LANE CLOSED 3 MILE, SLOWED/STOPPED TRAFFIC AHEAD, KEEP LEFT/RIGHT. Signage for reduced speed limits and double fine work zones will be furnished, relocated, and maintained by the Contractor.

Contrary to section 112, individual signs will be measured only once for payment, regardless of how many times they are set, reset, removed and relocated during the duration of the project. Replacements for damaged signs or signs directed to be replaced by the Engineer due to poor legibility or reflectivity will not be measured for payment.

A quantity of signs has been included for "Roadwork Ahead" signs on entrance ramps, extra double fine signs, keep left/keep right and speed limit signs. These are to be paid for only once regardless of how many times they are moved or relocated.

FLASHING ARROWS

Flashing arrows will be paid for once, regardless of how many times they are moved or relocated. The Department **WILL NOT** take possession of the flashing arrows upon completion of the work.

PORTABLE CHANGEABLE MESSAGE SIGNS

Provide portable changeable message signs (PCMS) in advance of and within the project at locations to be determined by the Engineer. If work is in progress concurrently in both directions, or if more than one lane closure is in place in the same direction of travel, provide additional PCMS. Place PCMS one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens relocate or provide additional PCMS so that traffic has warning of slowed or stopped traffic at least one mile but not more than two miles before reaching the end of the actual queue. The locations designated may vary as the work progresses. The messages required to be provided will be designated by the Engineer. The PCMS will be in operation at all times. In the event of damage or mechanical/electrical failure, the contractor will repair or replace the PCMS immediately. PCMS will be paid for once, no matter how many times they are moved or relocated. The Department **WILL NOT** take possession of the signs upon completion of the work.

TRUCK MOUNTED ATTENUATORS

Furnish and install MUTCD approved truck mounted attenuators (TMA) in advance of work areas when workers are present less than 12 feet from traffic. If there is less than 500 feet between work sites, only a single TMA will be required at a location directed by the Engineer. Locate the TMAs at the individual work sites and move them as the work zone moves within the project limits. All details of the TMA installations shall be approved by the Engineer. TMA will not be measured for payment, but are incidental to "Maintain and Control Traffic," Lump Sum. The Department **WILL NOT** take possession of the TMAs upon completion of the work.

PAVEMENT MARKINGS

Remove or cover the lenses of raised pavement markers that do not conform to the traffic control scheme in use, or as directed by the Engineer. Replace or uncover lenses before a closed lane is reopened to traffic. No direct payment will be made for removing or covering and uncovering the lenses, but will be incidental to "Maintain and Control Traffic," lump sum.

Place temporary and permanent striping in accordance with Section 112, and Section 714 for Thermoplastic Markings and Section 714 for Durable Type I Tape and:

1. Temporary striping will be 6" in width.
2. Edge lines will be required for temporary striping during the lane closures.
3. Existing, temporary, or permanent striping will be in place before a lane is opened to traffic
4. Place permanent striping on bridge decks and pavement within the project limits.
5. Permanent striping will be Durable Type I Tape Markings on bridge decks or other concrete, and will be 6" Thermoplastic on asphalt paving.

Should the Contractor change the existing striping pattern, the Contractor is to restripe the roadway back to its original configuration if no work is anticipated for a period of time (i.e. Winter shutdown).

PAVEMENT EDGE DROP-OFFS

Pavement edge drop-offs will be protected by a lane or shoulder closure. Lane closures will be protected with plastic drums, vertical panels, or barricades as shown on the Standard Drawings.

Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

Less than 2" – Protect with a lane closure.

2" to 4" – Protect with a lane closure. Place plastic drums, vertical panels, or barricades every 50 feet. Cones may not be used in place of plastic drums, panels, and barricades at any time. Construct a wedge with compacted cuttings from milling, trenching, or asphalt mixtures with a 3:1 or flatter slope, when work is not active in the drop-off area. Place Type III Barricades at the beginning of the lane closures, and place additional Type III Barricades

spaced at 2,500 feet during the time the lane closure is in place.

Greater than 4" – Pavement Repair areas – In areas where pavement is to be removed, work should proceed continuously so that traffic is exposed to a drop-off for the minimum amount of time necessary to bring the pavement back up to existing grade. Barrel spacing should be 20 feet and appropriate lighting should be utilized to illuminate the area during nighttime operations.

TRAFFIC COORDINATOR

Designate an employee to be traffic coordinator. The designated Traffic Coordinator must meet the requirements of section 112.03.12 of the Standard Specifications. The Traffic Coordinator will inspect the project maintenance of traffic once every two hours during the Contractor's operations and at any time a lane closure is in place. The Traffic Coordinator will report all incidents throughout the work zone to the Engineer on the project. The Contractor will furnish the name and telephone number where the Traffic Coordinator can be contacted at all times.

During any period when a lane closure is in place, the Traffic Coordinator will arrange for personnel to be present on the project at all times to inspect the traffic control, maintain the signing and devices, and relocate portable changeable message boards as queue lengths change. The personnel will have access on the project to a radio or telephone to be used in case of emergencies or accidents.

COORDINATION OF WORK

The Contractor is advised that other projects may be in progress within or in the near vicinity of this project. The traffic control of those projects may affect this project and the traffic control of this project may affect those projects. The Contractor will coordinate the work on this project with the work of the other contractors. In case of conflict, the Engineer will determine the relative priority to give to work phasing on the various projects.

CONTRACTOR'S AND CONTRACTOR'S EMPLOYEES' VEHICLES

Do not use or allow employees to use median crossovers at any time except when inside lanes are closed for construction. In all other phases of construction, change vehicular direction of travel only at interchanges.

WIDE LOADS

Wide load detours will not be established on this project. Provide for passage of wide loads up to 16 feet. Wide loads may use a portion of the shoulder to allow for passage. Temporarily shift traffic drums to allow for passage of wide loads when necessary.

ROAD CLOSURES

US 231 may be closed up to 3 nights per structure to facilitate the removal of the existing bridge superstructure only. All other work must be accomplished by maintaining at least two lanes of traffic on US 231. Partial demolition of structures may be accomplished while maintaining traffic on US 231 as approved by the engineer, provided the demolition activities can be achieved safely. An approved demolition plan must be in place prior to any demolition activities and prior to road closures for demolition purposes. Allowable times of closure are as follows:

Nightly from 8:00 PM to 6:00 AM.

Provide a minimum of two weeks notice to the engineer prior to US 231 road closures. Place messages on message boards on US 231 notifying times and dates of road closures a minimum of 7 days prior to closures.

**WK-9001
Ohio County
Bridge Replacement over US 231**

**THIS PROJECT IS A FULLY
CONTROLLED ACCESS HIGHWAY**

I. DESCRIPTION

Perform all work in accordance with the Department's 2019 Standard Specifications, Supplemental Specifications, Applicable Special Provisions, and Applicable Standard and Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Maintain and Control Traffic; (2) Drainage structure work; (3) Concrete Pavement Repairs; (4) Remove and replace Guardrail and Guardrail End treatments; (5) Asphalt Pavement and Milling and Texturing; (6) Pavement markers and markings; (7) Erosion Control (8) Bridge Reconstruction Work (9) All other work specified as part of this contract.

II. MATERIALS

Except as specified in these notes or on the drawings, all materials will be according to the Standard Specifications and applicable Special Provisions and Special Notes. The Department will sample and test all materials according to Department's Sampling Manual and the Contractor will have the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Pavement Markings -6 inch.** Use Thermoplastic Pavement Markings for permanent striping on asphalt pavement. Use Durable Type I Tape for all concrete surfaces requiring striping.
- C. **Channel Lining Class III.** Channel lining will be limestone and is to be placed in ditches as directed by the engineer.
- D. **Inlaid Pavement Markers.** Furnish and install markers in accordance with the "Special Note for Inlaid Pavement Markers".

- E. **Asphalt Material for Tack Non-Tracking.** See Special Note for Non Tracking Tack Coat.
- F. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”

III. CONSTRUCTION METHODS

- A. **Maintain and Control Traffic.** See Traffic Control Plan. Use waterblasting methods only for striping removal when necessary in lieu of abrasive or other methods.
- B. **Site Preparation.** Be responsible for all site preparation. Do not disturb existing signs. This item will include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; shoulder preparation and restoration, temporary and permanent erosion and pollution control; and all incidentals. Site preparation will be only as approved or directed by the Engineer.
- C. **Disposal of Waste.** Dispose of all cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor. The contractor will be responsible for obtaining any necessary permits for this work. Temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads will not be allowed. No separate payment will be made for obtaining the necessary permits, but will be incidental to the other items of the work. Disposal of existing cuttings and brush shall adhere to Section 202 of the current Standard Drawings.
- D. **Final Dressing, Clean Up, and Seeding and Protection.** After all work is completed, completely remove all debris from the job site. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I and use erosion control blanket in lieu of “Seeding and Protection” in all seeding applications. Install erosion control blanket in all ditching areas not receiving aggregate channel lining.

Additional borrow material may be needed for regrading slopes in pipe extension locations that are intended for elimination of guardrail. The Contractor may suggest potential borrow locations from the right of way to be approved by the engineer. Use only soil material suitable for sustaining vegetation.

- E. **Guardrail.** Remove guardrail where necessary to perform work at designated locations. Replace guardrail as soon as practical at the conclusion of the work requiring the removal of the guardrail.

- F. **Pavement Striping and Inlaid Pavement Markers.** Permanent striping will be in accordance with Section 112 for temporary striping, 714 for Durable Type I Tape, and Section 714 for Thermoplastic Markings, except that:
- (1). Striping will be 6" in width.
 - (2). Permanent striping or temporary striping will be in place before a lane is opened to traffic.
 - (3). Pavement Markers shall be installed per Standard Drawings TPM-105-02 (Arrangement C), TPM-125-02, TPM-130-02 and TPM-135-02, and Special Note for Inlaid Pavement Markers.
- G. **On-Site Inspection.** In accordance with section 102.06, each Contractor submitting a bid for this work will make a thorough inspection of the site prior to submitting a bid and will thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.
- H. **Caution:** Information shown on the drawings and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusions as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information above.
- I. **Utility Clearance.** It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities.
- J. **Joint Adhesive.** See "Special Note for Longitudinal Pavement Joint Adhesive".
- K. **Roadway Excavation, Embankment in Place, or Borrow Excavation.** Perform any necessary excavation or embankment required to complete any and all items of work in the contract.
- L. **Remove Paved Ditch.** Completely remove the existing flumes and paved ditch on the west side of WK – 9001 mainline bridges and completely dispose of the rubble and debris.
- M. **Fill and Grade Median.** Grade bridge approach medians in accordance with RBB-002-09.

IV. METHOD OF MEASUREMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan. Only the bid items listed will be measured for payment. No measurement or payment for striping removal or removal or covering of existing pavement marker lenses will be made and will be considered incidental to “Maintain and Control Traffic”. No measurement or payment will be made for removal of existing striping and will be considered incidental to “Maintain and Control Traffic”. Maintenance and repairs of damages to shoulders used as temporary travel lanes caused by the application of traffic, will be considered incidental to “Maintain and Control Traffic” with no separate measurement or payment.
- B. **Site Preparation.** Other than the bid items listed, site preparation will not be measured for payment, but will be incidental to the other items of work.
- C. **Erosion Control.** Erosion control items will be measured and paid in accordance with the Standard Specifications for Road and Bridge Construction. No direct measurement for seeding will be made as the seeding is incidental to the erosion control blanket in accordance with the specifications.
- D. **Concrete Pavement Repair.** See Special Note for Concrete Pavement Repair.
- E. **Remove Existing Paved Ditch.** Removal of paved ditches will be measured by the square yard.
- F. **Temporary Signal 2-Phase.** See Special Note for Temporary Traffic Signals.
- G. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”.
- H. **Roadway Excavation, Embankment in Place, or Borrow Excavation.** No direct measurement will be made for Roadway Excavation, Embankment in Place or Borrow Excavation as these items will be considered incidental to the specific item requiring the excavation or embankment work.
- I. **Inlaid Pavement Markers.** Inlaid pavement markers are to be measured in accordance with the “Special Note for Inlaid Pavement Markers”. No direct payment will be made for the removal of the existing pavement markers prior to the milling operation and shall be considered incidental to milling and texturing.
- J. **Fill and grade Median.** The bid item “Regrade Median” will be measured longitudinally along the centerline of WK – 9001 for the required length of median reshaping.

V. BASIS OF PAYMENT

No direct payment will be made other than for the bid items listed. All other items required to complete the construction will be incidental to the bid items listed. Existing signs damaged by the Contractor will be replaced by the Contractor at his expense. Payment will be made in accordance with the KYTC Standard Specifications, current edition with supplemental specifications and current Standard Drawings unless otherwise specified herein.

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Site Preparation.** Other than the bid items listed, no direct payment will be allowed for site preparation, but will be incidental to the other items of work.
- C. **Pavement Markers and Permanent Striping.** See Traffic Control Plan, Standard Specifications and “Special Note for Inlaid Pavement Markers”.
- D. **Temporary Striping.** Contrary to Section 714.04.01, the Department **WILL** measure temporary paint used for interim markings for Thermoplastic Paint applications.
- E. **Lane Closures.** Contrary to Section 112, lane closures will not be measured for payment but will be incidental to the bid item “Maintain and Control Traffic”. Arrow boards, portable message boards, Type III barricades, and signs shall be paid for one time regardless of how many times they are moved.
- F. **Remove Existing Paved Ditch.** The removal of the existing paved ditch shall be paid for as “square yards” and shall include the removal and disposal of all existing paved ditch materials.
- G. **Milling and Texturing.** Milling and texturing will be paid for per section 408.05 of the 2019 Standard Specifications. No direct payment will be made for disposal of millings or for removal of existing pavement markers.
- H. **Waterblasting Striping Removal.** Waterblasting Striping Removal will be required for all striping removal applications and will be considered incidental to “Maintain and Control Traffic”.
- I. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”
- J. **Asphalt Material for Tack Non-Tracking.** See Special Note for Non Tracking Tack Coat.
- K. **Roadway Excavation, Embankment in Place, or Borrow Excavation.** No direct measurement will be made for Roadway Excavation, Embankment in Place or Borrow Excavation as these items will be considered incidental to the specific item requiring the excavation or embankment work.

- L. **Temporary Signal 2-Phase.** See Special Note for Temporary Traffic Signals.
- M. **Concrete Pavement Repair.** See Special Note for Concrete Pavement Repair.
- N. **Fill andgrade Median.** The item “Regrade Median” will be considered full compensation for all labor, materials and equipment required to reshape the median in accordance with RBB-002-09. Excavate as necessary and provide soil embankment materials capable of sustaining vegetation if additional material is needed, incidental to this item of work.

WK - 9001
Ohio County
BRIDGE RECONSTRUCTION

1. This project is intended to replace the superstructure and portions of the substructure of both twin bridges of the WK – 9001 Parkway over US 231. Incidental paving and other removal and replacement items are required.
2. The dimensions shown on the typical section for pavement and shoulder widths and thickness are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened unless otherwise specified in the Proposal.
3. The contractor is to be advised of the locations of overhead utility wires on the project. The following locations are approximate:

WK 9001 Mainline
MP 74.50
MP 74.61
MP 74.74
E.B. on Ramp
MP 74.61
W.B. off Ramp
MP 74.60
W.B. on Ramp
MP 74.47
US 231
MP 6.81
MP 6.65

CAUTION: Other overhead utility locations may exist. These and all other utilities should be avoided on this project. If any utility is impacted, it will be the contractor's responsibility to contact the affected utility and cover any costs associated with the impact. The Cabinet is currently in discussions with the overhead power company concerning the viability of a temporary relocation of the overhead power on the east end of the bridges. No commitment to move this utility has currently been reached and the Contractor is to consider in his bid the impacts of this utility in its existing location in the event it cannot or will not be moved. No claim for failure to relocate this or any utility will be entertained as by submittal of his bid the contractor agrees that he can perform this work with the utilities in their current configuration.

4. The contractor is advised that the planned locations of work established by milepoints are referenced from the Kentucky Transportation Cabinet's Official Route Log. The existing reference markers may not correspond to the established work locations.

5. Quantities of guardrail removal and installation of new guardrail have been established. The contractor will place traffic drums on 20' spacing in the areas and pin down exposed blunt ends until such time that guardrail is re-established. Either a lane closure or shoulder closure shall be in place at any time that a section of guardrail is not in place.
6. The Contractor shall deliver existing salvaged guardrail system materials to the Central Sign Shop and Recycle center at 1224 Wilkinson Blvd in Frankfort, KY. Contact Section Supervisor at (502) 564-8187 to schedule the delivery of material. Deliver the material between the hours of 8:00AM and 3:30PM, Monday through Friday. There is a Guardrail Delivery Verification Sheet which must be completed and signed by the Contractor, Engineer and a representative of the Central Sign Shop and Recycle Center. A copy of this sheet is included elsewhere in the proposal.
7. The speed limit on the project will be reduced to 55 mph (35 mph for ramps and US 231) while lane closures are in place. Any time work is suspended the speed limit will revert back to the original speed limit. Also, double fine signs are set up in the project to be installed while workers are present in the work zone.
8. The contractor will be allowed to access median U-turns and cross the median provided proper lane closures of the inside lanes are utilized at the entry and exit locations at the contractor's expense. Use only short duration lane closures and remove lane closures when median U-turn access is not needed.
9. Quantities of Channel Lining Class III have been included to be used in eroded areas as directed and/or approved by the Engineer. The actual limits of the channel lining will be as directed and/or approved by the Engineer. Geotextile Fabric Type I, as outlined in Section 214 of the Standard Specifications, will not be measured for payment and will be considered incidental to channel lining.
10. The contractor is to take care not to damage any existing roadway signs. Any roadway signs that are damaged during construction are to be replaced at the contractor's expense in accordance with section 105.08 of the standard specifications. Remove any roadway signs that are in conflict with the work and either temporarily install at a location outside the work area or store in a controlled environment. Reinstall all signs that require removal at the conclusion of the work. Removal, temporary installation, removal and storage and reinstalling signs will be considered incidental to "Maintain and Control Traffic". Reinstall signs by methods approved by District 2 Traffic.
11. The contractor is to take care not to damage any existing light poles and wiring. Any light poles or wiring that is damaged during construction is to be replaced at the contractor's expense in accordance with section 105.08 of the standard specifications. Contact District 2 Traffic for locations or as-built drawings for existing lighting.

12. Areas established as concrete pavement repair locations will be replaced as directed by the Engineer. After the contractor has closed the roadway the Engineer will mark the areas to be repaired. The engineer reserves the right to increase, decrease, or eliminate this item of work based on the field conditions encountered.

13. Coordinate activities of any adjacent contracts with this contract. This project is to be combined and bid with other maintenance bridge restoration projects. The engineer will determine the relative priority of the work and traffic control if conflicts exist.

REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2019.
2. FHWA Manual on Uniform Traffic Control Devices – 2009 Edition.
3. Kentucky Department of Highways Standard Drawings, Current Edition, as applicable:

RBB-002-09	GUARDRAIL AND BRIDGE END DRAINAGE FOR TWIN STRUCTURES
RBB-003-03	LAYOUT OF GUARDRAIL AT TWIN STRUCTURES (DEPRESSED MEDIAN)
RBC-002-03	GUARDRAIL TO BRIDGE END TYPE A COMPONENTS
RBI-002-07	TYPICAL GUARDRAIL INSTALLATIONS
RBM-020-09	DELINEATORS FOR CONCRETE BARRIERS
RBR-005-11	GUARDRAIL COMPONENTS
RBR-010-06	GUARDRAIL TERMINAL SECTIONS
RDD-040-05	CHANNEL LINING CLASS II AND III
RDD-021-07	FLUME INLET TYPE 2
RDI-040-01	EROSION CONTROL BLANKET SLOPE INSTALLATION
RDI-041-01	EROSION CONTROL BLANKET CHANNEL INSTALLATION
RDP-001-06	PERFORATED PIPE TYPES AND COVER HEIGHTS
RDP-010-09	PERFORATED PIPE HEADWALLS
RDX-160-06	SECURITY DEVICES FOR FRAMES, GRATES AND LIDS
RDX-210-03	TEMPORARY SILT FENCE
RDX-220-05	SILT TRAP - TYPE A
RDX-225-01	SILT TRAP - TYPE B
RDX-230-01	SILT TRAP - TYPE C
RGX-001-06	MISCELLANEOUS STANDARDS
RPX-015-04	HOT POURED ELASTIC JOINT SEALS FOR CONCRETE PAVEMENT
TPM-105-03	PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS
TPM-110-03	PAVEMENT MARKER ARRANGEMENTS FOR MULTI-LANE ROADWAYS
TTC-100-04	LANE CLOSURE TWO LANE HIGHWAY
TTC-110-03	LANE CLOSURE USING TRAFFIC SIGNALS
TTC-115-03	LANE CLOSURE MULTI-LANE HIGHWAY CASE I
TTC-120-03	LANE CLOSURE MULTI-LANE HIGHWAY CASE II
TTC-135-02	SHOULDER CLOSURE
TTD-120-02	WORK ZONE SPEED LIMIT AND DOUBLE FINE SIGNS
TTD-125-02	PAVEMENT CONDITION WARNING SIGNS
TTS-110-01	MOBILE OPERATION FOR PAINT STRIPING CASE III
TTS-115-02	MOBILE OPERATION FOR PAINT STRIPING CASE IV
TTS-120-02	MOBILE OPERATION FOR DURABLE STRIPING CASE 1

4. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2019, Appendix B - Supplemental Specifications, as applicable:

Special Note	Typical Section Dimensions <i>attached</i>
Special Note	Portable Changeable Message Signs <i>attached</i>
Special Note	Before You Dig <i>attached</i>
Special Note	Fixed Completion Date and Liquidated Damages <i>attached</i>
General Note	Asphalt Pavement Ride Quality <i>attached</i>
General Note	Compaction of Asphalt Mixtures <i>attached</i>
Special Note	Asphalt Milling and Texturing <i>attached</i>
Special Note	Special Note for Significant Project <i>attached</i>
Special Note	Special Note for Demolition <i>attached</i>
Special Note	Special Note for Temporary Traffic Signals <i>attached</i>
Special Note	Special Note for Concrete Pavement Repairs <i>attached</i>
Special Note	Guardrail Delivery Verification Sheet <i>attached</i>
Special Note	Special Note for Inlaid Pavement Markers <i>attached</i>
Special Note	Special Note for Longitudinal Pavement Joint Adhesive <i>attached</i>
Special Note	Special Note for Non-Tracking Tack Coat <i>attached</i>
Special Note	1-122 Special Note for Expedite Work Order

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS
WK-9001
OHIO COUNTY

The dimensions shown on the typical sections for pavement and shoulder widths are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened or narrowed **EXCEPT** where specified elsewhere in the Proposal.

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

WK-9001 OHIO COUNTY

1.0 DESCRIPTION. Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

2.0 MATERIALS.

2.1 General. Use LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

2.2 Sign and Controls. All signs must:

- 1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
- 2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
- 3) Provide a controller consisting of:
 - a) Keyboard or keypad.
 - b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
 - c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
 - d) Logic circuitry to control the sequence of messages and flash rate.
- 4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
- 5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
- 6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
- 8) Provide the driver board as part of a module. All modules are interchangeable, and have

plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.

- 9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
- 10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 11) Provide a photocell control to provide automatic dimming.
- 12) Allow an on-off flashing sequence at an adjustable rate.
- 13) Provide a sight to aim the message.
- 14) Provide a LED display color of approximately 590 nm amber.
- 15) Provide a controller that is password protected.
- 16) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

/KEEP/RIGHT/⇒⇒⇒/	/MIN/SPEED/**MPH/
/KEEP/LEFT/⇐⇐⇐/	/ICY/BRIDGE/AHEAD/ /ONE
/LOOSE/GRAVEL/AHEAD/	LANE/BRIDGE/AHEAD/
/RD WORK/NEXT/**MILES/	/ROUGH/ROAD/AHEAD/
/TWO WAY/TRAFFIC/AHEAD/	/MERGING/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/	/NEXT/***/MILES/
/REDUCE/SPEED/**MPH/	/HEAVY/TRAFFIC/AHEAD/
/BRIDGE/WORK/**0 FT/	/SPEED/LIMIT/**MPH/
/MAX/SPEED/**MPH/	/BUMP/AHEAD/
/SURVEY/PARTY/AHEAD/	/TWO/WAY/TRAFFIC/

*Insert numerals as directed by the Engineer.

Add other messages during the project when required by the Engineer.

2.3 Power.

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

3.0 CONSTRUCTION. Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will **NOT** assume ownership of these signs.

4.0 MEASUREMENT. The final quantity of Variable Message Sign will be the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

5.0 PAYMENT. The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02671	Portable Changeable Message Sign	Each

SPECIAL NOTE FOR BEFORE YOU DIG

**WK-9001
OHIO COUNTY**

Call 1-800-752-6007 toll free a minimum of two and no more than ten business days prior to excavation for information on the location of existing under-ground utilities which subscribe to the before-u-dig (BUD) service. Coordinate excavation with all utility owners, including those who do not subscribe to BUD.

Special Note for Fixed Completion Date and

Liquidated Damages

WK-9001 OHIO COUNTY

Contrary to Section 108.09, Liquidated Damages of \$5,000 per calendar day will be assessed for each day work remains incomplete beyond the Specified Project Completion Date. This project has a Fixed Project Completion Date of August 30th 2020.

Westbound Bridge over US 231

Additionally, the contractor will be required to complete the bridge demolition and reconstruction of the westbound bridge over US 231 and restoration of traffic to its original mainline WK-9001 configuration within 120 Calendar Days from the time that traffic is diverted onto the ramps. The contractor may choose the starting date for this work. Additionally, the contractor will be required to complete the bridge demolition and reconstruction of the westbound bridge over US 231 and restore traffic to its original mainline WK-9001 configuration by December 15, 2019.

Calendar Days will be tracked and charged from the time that traffic is diverted onto the ramps until such time that the contractor completes all items of work associated with the westbound bridge removal and replacement, approach paving, installation of guardrail, striping and safety appurtenances, and restores westbound mainline traffic to its original configuration.

Liquidated Damages in the amount of \$5,000 per day will be assessed for each day or portion of a day that either work remains incomplete on the westbound bridge and mainline westbound WK-9001 traffic remains diverted onto the exit ramps in excess of 120 Calendar Days, or for any day or portion of a day that work remains incomplete on the westbound bridge and mainline westbound WK-9001 traffic remains diverted onto the exit ramps beyond December 15, 2019. Liquidated Damages will be assessed if either the Calendar Day requirement or the specified date requirement is not met.

Traffic must be restored to its original mainline WK-9001 configuration from December 15, 2019 to January 15, 2020. No work may begin on the eastbound structure until after January 15, 2020.

Eastbound Bridge over US 231

Additionally, the contractor will be required to complete the bridge demolition and reconstruction of the eastbound bridge over US 231 and restoration of traffic to its original mainline WK-9001 configuration within 120 Calendar Days from the time that traffic is diverted onto the ramps. The contractor may choose the starting date for this work (after January 15, 2020).

Calendar Days will be tracked and charged from the time that traffic is diverted onto the ramps until such time that the contractor completes all items of work associated with the eastbound bridge removal and replacement, approach paving, installation of guardrail, striping and safety appurtenances, and restores westbound mainline traffic to its original configuration.

Liquidated Damages in the amount of \$5,000 per day will be assessed for each day or portion of a day that work remains incomplete on the eastbound bridge and mainline eastbound WK-9001 traffic remains diverted onto the exit ramps in excess of 120 Calendar Days.

All penalties or Liquidated Damages will be assessed cumulatively, and charged concurrently when applicable.

Also contrary to Section 108, liquidated damages will be charged during the months of December through March.

**Asphalt Pavement Ride Quality
WK-9001
OHIO COUNTY**

Pavement Rideability Requirements will not apply on this project.

General Note 448

**Compaction of Asphalt Mixtures
WK - 9001
OHIO COUNTY**

Will accept the compaction of asphalt mixtures furnished for the driving lanes and ramps by option B.

**SPECIAL NOTE FOR
ASPHALT MILLING AND TEXTURING
WK - 9001
OHIO COUNTY**

The Contractor will take possession of the millings. Do not allow traffic to drive on the milled surface on mainline WK – 9001. Traffic may run on the milled surface up to 3 days on US 231.

Removal of the existing pavement markers prior to the milling operation is considered incidental to the bid item “Asphalt Pavement Milling and Texturing”.

Significant Project- Project Traffic Coordinator (PTC)

Be advised this project is a significant project pursuant to section 112.03.12.

**SPECIAL NOTE FOR
BRIDGE DEMOLITION
WK - 9001
OHIO COUNTY**

Conduct all bridge demolition activities and masonry removal activities in accordance with the structure plans, the Maintenance of Traffic Plans, and in accordance with the approved Demolition Plan.

Prior to initiation of bridge demolition activities, the contractor will be required to submit a Demolition Plan for the engineer's approval. The Demolition Plan shall be of sufficient detail to prove that the demolition activities can be both carried out in a manner that poses no threat of falling debris to the traveling public and must prove that any demolition and cleanup activities requiring road closures can be completed within the time frame allowed in the Maintenance of Traffic plans.

In order to limit the duration of road closures, the contractor is encouraged to conduct as much demolition as safely possible without a full roadway closure to traffic. The contractor will be required to demonstrate, in his Demolition Plan, a complete understanding of the mechanics of the existing bridge design and demonstrate a complete understanding of the effects of the removal sequence and methods to the stability of the overall structure stability. The Demolition Plan shall be stamped by a registered professional engineer in the state of Kentucky and will be required to have a background in structural engineering.

Remove the structure in a manner to protect the existing roadway features and protect portions of the existing structure designated to remain in place. This may include installation of measures to cushion or protect the existing features. Any damage to existing roadway features not intended to be replaced in these plans shall be repaired or replaced, at the discretion of the engineer and as directed by the engineer, and at the contractor's expense, including but not limited to existing bridge substructure designated to remain, existing crash walls, existing curbs, existing US 231 pavement base, etc. Minor damage to the US 231 pavement surface is to be expected and minor cosmetic damage will be remedied by milling and inlaying as part of this contract.

**SPECIAL NOTE FOR
TEMPORARY TRAFFIC SIGNALS
WK - 9001
OHIO COUNTY**

Temporary signals will be used for Maintenance of Traffic to use the existing interchange ramps as a through route to divert mainline WK – 9001 traffic away from the mainline structures. A temporary signal system will be installed at the termini of the westbound ramps at the intersection with US 231 first. At the conclusion of the bridge reconstruction westbound, the temporary signal will be removed and taken out of service and a temporary signal system installed for the east ramp termini at the intersection with US 231 for the eastbound bridge reconstruction. Traffic will only be diverted to ramps, one ramp at a time, employing the use of only one temporary signal at a time. Construct and maintain temporary signals in accordance with section 112 of the Specifications with the following additions/clarifications.

Each of the required temporary signal systems will be required to meet all characteristics of and employ typical features used for the ramp termini of a typical diamond interchange. The contractor will be required to maintain all existing lanes a minimum distance of 200’ from the ramp termini in order to maintain a left turn lane onto the ramps.

This project location contains existing roadway lighting, thus temporary luminaires required by TTC-110-03 will not be required. Install temporary stop bars on US 231. Install “STOP HERE ON RED” signs in accordance with TTC-110-03. Maintain existing striping pattern in the intersection vicinity, contrary to TTC-110-03. Install sign no 4, signal symbol, per TTC-110-03 for each of the three approaching legs, and install an additional “Signal Ahead” sign each approach direction. Maintain other signs and pavement markings as construction sequence dictate.

Signal system will be required to provide signal heads that are overhead and shall not be post mounted beside the roadway. Signal heads will be required to be located over the through lanes and will be dual 3 section heads per each approach. The signal systems will be 2 phase. Actuation will be required for all through lanes and all turn lanes. Use camera actuation only. Maintain a minimum 17’ clearance for all signal heads. Install signs indicating “LEFT TURN YIELD ON GREEN” R10-12, where applicable.

The contractor will be required to obtain a typical temporary signal design, to be approved by District 2 Traffic, from a licensed professional engineer with a background in traffic engineering and signal design. Use a signal controller approved by District 2 Traffic.

The contractor, at his option, may use carriage mounted temporary signals with mast arms capable of projecting signals over the through lanes, temporary ground mounted mast arms, or temporary wooden poles with a diagonal messenger span for signal placement. Wiring for temporary signals should be installed in a manner to limit exposure to the traveling public.

District 2 will provide signal timing. Contact Kenny Potts, TEEM, District 2, 1840 N. Main St., Madisonville, KY 42431, (270) 824-7080.

Measurement and Payment

Measurement and payment will be made in accordance with Section 112.04.10 and Section 112.05 of the Specifications for each installation of item:

<u>Code</u>	<u>Pay Item</u>	<u>Unit</u>
04933	Temporary Signal – Two Phase	Each

**SPECIAL NOTE FOR
CONCRETE PAVEMENT REPAIRS
WK - 9001
OHIO COUNTY**

Existing “White Topping” concrete pavement is located at the intersection of US 231 and the westbound ramp termini. At or near the conclusion of the project, remove and replace existing damaged concrete and any damaged concrete locations, and underlying asphalt pavement as directed by the engineer.

The engineer will determine locations to be patched in the field prior to the repairs. Contact the engineer 1 week prior to beginning this operation. Saw cut the perimeter of the repair to a depth of 9 inches. Remove the existing concrete overlay in a manner that is non-destructive to the surrounding concrete intended to remain in place. Remove existing underlying asphalt concrete to a depth of 9 inches below the surface by methods approved by the engineer and in a manner that is non-destructive to the surrounding asphalt and concrete pavements designated to remain in place. The contractor may choose his removal methods as approved by the engineer, however, the contractor shall modify his methods if suitable removal results cannot be obtained. The resulting trench will be replaced with JPC Pavement-9 In/24. Construct JPC Pavement in accordance with Section 501 of the Specifications.

Tie bars and load transfer assemblies will not be required for this operation. Restore saw cuts at the original pattern for the proposed JPC Pavement at the depth required for 9” JPC specified in the Standard Drawings. Seal the resulting joints with Hot Pour Elastic sealant only.

Measurement and Payment

The pay item 02091 Remove Pavement (SY) will be considered full compensation for all labor, materials and equipment required to saw cut, remove existing concrete and asphalt pavement to a depth of 9”, conduct any remedial or preparatory work prior to placement of JPC Pavement, and any other items of work necessary to remove the required pavement. Any over-excavation of pavement will not be considered for payment.

The pay item 2023 JPC Pavement-9 In/24 (SY) will be considered full compensation for all labor, materials and equipment to construct concrete pavement in the removal areas in accordance with section 501 of the Specifications. This item will include all curing, saw cutting of joints and sealing of joints and all other items of work required. The contractor will be required to place replacement of the full depth of pavement removal regardless of irregularities or depth. No direct payment will be made for over-excavation of existing pavement.

GUARDRAIL DELIVERY VERIFICATION SHEET

Contract Id: _____

Contractor: _____

Section Engineer: _____

District & County: _____

<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QTY LEAVING PROJECT</u>	<u>QTY RECEIVED@BB YARD</u>
GUARDRAIL (Includes End treatments & crash cushions)	LF	_____	_____
STEEL POSTS	EACH	_____	_____
STEEL BLOCKS	EACH	_____	_____
WOOD OFFSET BLOCKS	EACH	_____	_____
BACK UP PLATES	EACH	_____	_____
CRASH CUSHION	EACH	_____	_____
NUTS, BOLTS, WASHERS	BAG/BCKT	_____	_____
DAMAGED RAIL TO MAINT. FACILITY	LF	_____	_____
DAMAGED POSTS TO MAINT. FACILITY	EACH	_____	_____

***Required Signatures before Leaving Project Site**

Printed Section Engineer's Representative _____ & Date _____

Signature Section Engineer's Representative _____ & Date _____

Printed Contractor's Representative _____ & Date _____

Signature Contractor's Representative _____ & Date _____

***Required Signatures after Arrival at Bailey Bridge Yard (All material on truck must be counted & the quantity received column completed before signatures)**

Printed Bailey Bridge Yard Representative _____ & Date _____

Signature Bailey Bridge Yard Representative _____ & Date _____

Printed Contractor's Representative _____ & Date _____

Signature Contractor's Representative _____ & Date _____

**Payment for the bid item remove guardrail will be based upon the quantities shown in the Bailey Bridge Yard received column. Payment will not be made for guardrail removal until the guardrail verification sheets are electronically submitted to the Section Engineer by the Bailey Bridge Yard Representative.

Completed Form Submitted to Section Engineer Date: _____ By: _____

SPECIAL NOTE FOR INLAID PAVEMENT MARKERS

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's Standard and Supplemental Specifications and applicable Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications. This work shall consist of:

- (1) Maintain and Control Traffic; and (2) furnish and install Inlaid Pavement Markers (IPMs) in recessed grooves; and (3) any other work as specified by these notes and the Contract.

II. MATERIALS

The Department will sample all materials in accordance with the Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these Notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Markers. Provide reflective lenses with depth control breakaway positioning tabs. Before furnishing the markers, provide to the Engineer the manufacturer's current recommendations for adhesives and installation procedures. Use one brand and design throughout the project. Use markers meeting the specifications in the table below.

SPECIFICATIONS FOR HOUSING AND REFLECTOR	
Material:	Polycarbonate Plastic
Weight:	Housing 2.00 oz.
	Reflector 2.00oz.
Housing Size:	5.00" x 3.00" x 0.70" high
Specific Intensity of Reflectivity at 0.2° Observation Angle	
White:	3.0 at 0°entrance angle
	1.2 at 20°entrance angle
Yellow:	60% of white values
Red:	25% of white values

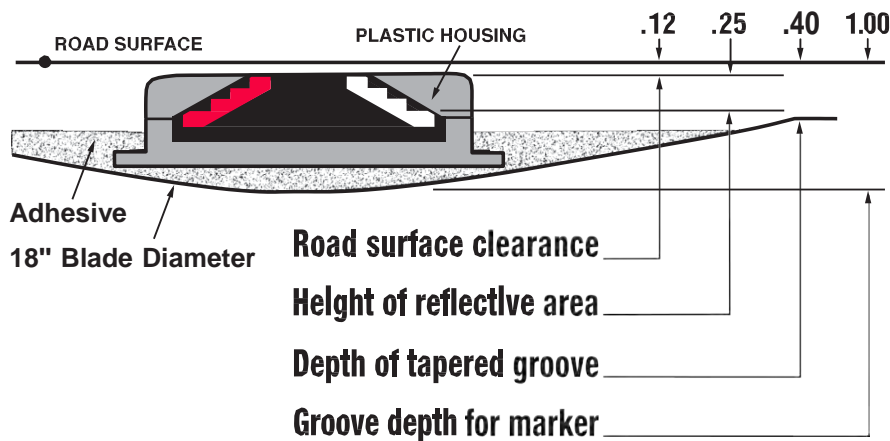
C. Adhesives. Use adhesives that conform to the manufacturer's recommendations.

III. CONSTRUCTION

A. Maintain and Control Traffic. See Traffic Control Plan.

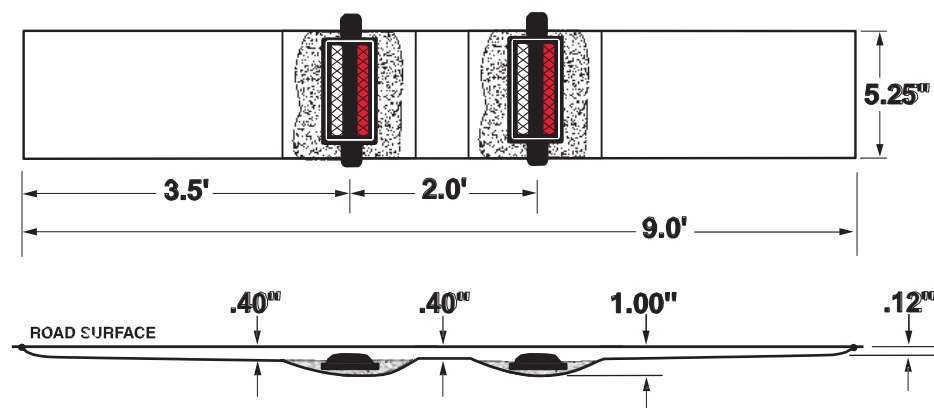
B. Installation. Install IPMs in recessed grooves cut into the final course of pavement according to the manufacturer's recommendations. Do not cut the grooves until the pavement has cured sufficiently to prevent damaging the pavement. Cut installation grooves using diamond blades on saws that accurately control groove dimensions. Remove all dirt, grease, oil, loose or unsound layers, and any other material from the marker area which would reduce the bond of the adhesive. Maintain pavement surfaces in a clean condition until placing markers.

Prepare the pavement surfaces, and install the markers in the recessed groove according to the drawing below. Use an approved snowplowable epoxy adhesive. Ensure that the adhesive bed area is equal to the bottom area of the marker, and apply adhesive in sufficient quantity to force excess out around the entire perimeter of the marker. Use materials, equipment, and construction procedures that ensure proper adhesion of the markers to the pavement surface according to the manufacturer's recommendations. Remove all excess adhesive from in front of the reflective faces. If any adhesive or foreign matter cannot be removed from the reflective faces, or if any marker fails to properly adhere to the pavement surface, remove and replace the marker at no additional cost to the Department.



Inlaid Pavement Markers
Page 3 of 4

C. Location and Spacing. Install the markers in the pattern for high reflectivity with two (2) IPMs per groove. Locate and space markers as shown in the current standard drawings or sepias (note: use Inlaid Pavement Markers wherever Type V Pavement Markers are called for). Do not install markers on bridge decks. Do not install a marker on top of a pavement joint or crack. Offset the recessed groove a minimum of **3** inches from any longitudinal pavement joint or crack and at least one inch from the painted stripe, ensuring that the finished line of markers is straight with minimal lateral deviation. Give preference to maintaining the **3**-inch offset between recessed groove and joint as opposed to keeping the line of markers straight.



Place inlaid markers as much in line with existing pavement striping as possible. Place markers installed along an edge line or channelizing line so that the near edge of the plastic housing is no more than one inch from the near edge of the line. Place markers installed along a lane line between and in line with the dashes. Do not place markers over the lines except where the lines deviate visibly from their correct alignment, and then only after obtaining the Engineer's prior approval of the location.

If conflicts between recessed groove placement in relation to pavement joint and striping cannot be resolved, obtain the Engineer's approval to eliminate the marker or revise the alignment.

D. Disposal of Waste. Dispose of all removed pavement, debris, and other waste at sites off the right of way obtained by the Contractor at no additional cost to the Department. See Special Note for waste and Borrow.

E. Restoration. Be responsible for all damage to public and/or private property resulting from the work. Restore all damaged features in like kind materials and design at no additional cost to the Department.

Inlaid Pavement Markers

Page 4 of 4

F. On-Site Inspection. Make a thorough inspection of the site prior to submitting a bid and be thoroughly familiar with existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid as evidence of this inspection having been made and will not honor any claims for money or grant Contract time extensions resulting from site conditions.

G. Caution. Do not take information shown on the drawings and in this proposal and the types and quantities of work listed as an accurate or complete evaluation of the material and conditions to be encountered during construction, but consider the types and quantities of work listed as approximate only. The bidder must draw his own conclusion as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation or extension of Contract time if the conditions encountered are not in accordance with the information shown.

IV. MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. "INLAID PAYMENT MARKER" shall be measured as each. One (1) installation of "INLAID PAVEMENT MARKER" will consist of grooving the pavement, removing cuttings and debris, preheating pavement to remove moisture, adhesives, and installation of two (2) markers with all lenses in accordance with this note.

Note: Each pay item of Inlaid Pavement Marker will require two markers.

V. PAYMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Inlaid Pavement Markers. The Department will make payment for the completed and accepted quantity of completely installed "INLAID PAVEMENT MARKERS" at the Contract unit price, each. Accept payment as full compensation for all labor, equipment, materials, and incidentals to accomplish this work to the satisfaction of the Engineer. A system of one (1) groove and two (2) markers shall be paid as one "INLAID PAVEMENT MARKER". The bid item "INLAID PAVEMENT MARKER" shall be used regardless of the color and type of lenses required.

December 5, 2018

SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE

1. DESCRIPTION. This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joint between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.
2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Viscosity, 400 ° F (Pa·s)	4.0 – 10.0	ASTM D 4402
Cone Penetration, 77 ° F	60 – 100	ASTM D 5329
Flow, 140 ° F (mm)	5.0 max.	ASTM D 5329
Resilience, 77 ° F (%)	30 min.	ASTM D 5329
Ductility, 77 ° F (cm)	30.0 min.	ASTM D 113
Ductility, 39 ° F (cm)	30.0 min.	ASTM D 113
Tensile Adhesion, 77 ° F (%)	500 min.	ASTM D 5329, Type II
Softening Point, ° F	171 min.	AASHTO T 53
Asphalt Compatibility	Pass	ASTM D 5329

Ensure the temperature of the pavement joint adhesive is between 380 and 410 °F when the material is extruded in a 0.125-inch-thick band over the entire face of the longitudinal joint.

2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.

2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.

2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air.

11N

Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.

3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of 40 ° F during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude two 5 lb. samples of the heated material and forward the sample to the Division of Materials for testing. Reynolds oven bags, turkey size, placed inside small cardboard boxes or cement cylinder molds have been found suitable. Ensure the product temperature is 400°F or below at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.
5. PAYMENT. The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

11N

Pavement Joint Adhesive Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Joint Adhesive Referenced in Subsection 2.1.1						
Viscosity, 400 ° F (Pa•s) ASTM D 3236	4.0-10.0	3.5-10.5	3.0-3.4 10.6-11.0	2.5-2.9 11.1-11.5	2.0-2.4 11.6-12.0	≤1.9 ≥ 12.1
Cone Penetration, 77 ° F ASTM D 5329	60-100	57-103	54-56 104-106	51-53 107-109	48-50 110-112	≤ 47 ≥ 113
Flow, 140 ° F (mm) ASTM D 5329	≤ 5.0	≤ 5.5	5.6-6.0	6.1-6.5	6.6-7.0	≥ 7.1
Resilience, 77 ° F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 ° F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, ° F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9
Ductility, 39 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9

Code
20071EC

Pay Item
Joint Adhesive

Pay Unit
Linear Foot

May 7, 2014

SPECIAL NOTE FOR NON-TRACKING TACK COAT

1. DESCRIPTION AND USEAGE. This specification covers the requirements and practices for applying a non-tracking tack asphalt coating. Place this material on the existing pavement course, prior to placement of a new asphalt pavement layer. Use when expedited paving is necessary or when asphalt tracking would negatively impact the surrounding area. This material is not suitable for other uses. Ensure material can “break” within 15 minutes under conditions listed in 3.2.

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Non-Tracking Tack. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide a tack conforming to the following material requirements:

Property	Specification	Test Procedure
Viscosity, SFS, 77 ° F	20 – 100	AASHTO T 72
Sieve, %	0.3 max.	AASHTO T 59
Asphalt Residue ¹ , %	50 min.	AASHTO T 59
Oil Distillate, %	1.0 max.	AASHTO T 59
Residue Penetration, 77 ° F	20 max.	AASHTO T 49
Original Dynamic Shear (G*/sin δ), 82 ° C	1.0 min.	AASHTO T 315
Softening Point, ° F	149 min.	AASHTO T 53
Solubility, %	97.5 min.	AASHTO T 44

¹ Bring sample to 212 °F over a 10-15 minute period. Maintain 212 °F for 15-20 minutes or until 30-40 mL of water has distilled. Continue distillation as specified in T59.

2.2. Equipment. Provide a distributor truck capable of heating, circulating, and spraying the tack between 170 °F and 180 °F. Do not exceed 180 °F. Circulate the material while heating. As required by the manufacturer, ensure the spray bar is equipped with #1 or #2 ¼” V-slot Etnyre nozzles. Other nozzles are not acceptable. Arrange the nozzles in the following patterns from left to right:

Nozzle number(s)	Activity	Orientation
1	On	Vertical
2	Off	-
3	On	Horizontal
4 & 5	Off	-
6	On	Horizontal
Continue 2 off and 1 on pattern through rest of spray bar system.		

Ensure the bar can be raised to between 14 and 18” from the roadway.

2.3 Personnel. Ensure the tack supplier has provided training to the contractor on the installation procedures for this product. Make a technical representative from the supplier available at the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the non-tracking tack, ensure the pavement surface is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the surface by scraping, sweeping, and the use of compressed air. Ensure this preparation process occurs shortly before application to prevent the return of debris pavement. If rain is expected within one hour after application, do not apply material. Apply material only when the surface is dry, and no precipitation is expected.

3.2 Non-tracking Tack Application. Ensure the roadway temperature is a minimum of 40 °F and rising during the application of the tack. This material is not suitable for use in colder temperatures. Prior to applying the tack, demonstrate competence in applying the tack according to this note to the satisfaction of the Engineer. Heat the tack in the distributor to between 170 – 180 °F. After initial heating to between 170 – 180 °F, the material may be sprayed between 165 °F and 180 °F. Do not apply outside this temperature range. Apply material at a rate of 0.50 pounds (0.06 gallons) per square yard. Ensure full coverage of the material on the pavement surface. Full coverage of this material is critical. If full coverage is not achieved, material application rate may be increased to ensure full coverage. Do not heat material more than twice in one day.

3.3 Non-tracking Tack Certification. Furnish the tacks certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a sample of non-tracking tack be taken from the distributor at a rate of one sample per 15,000 tons of mix. Take two 1 gallon samples of the heated material and forward the sample to the Division of Materials for testing within 7 days. Ensure the product temperature is between 170 and 180 °F at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of non-tracking tack in tons. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of non-tracking tack, the cleaning of the pavement surface, or furnishing and placing the adhesive. The Department will consider all such items incidental to the non-tracking tack.

5. PAYMENT. The Department will pay for the non-tracking tack at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

Non-Tracking Tack Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Viscosity, SFS, 77 ° F	20 – 100	19 - 102	17 - 18	15 - 16	14	≤13
			103 - 105	106 - 107	108 - 109	≥ 110
Sieve, %	0.30 max.	≤ 0.40	0.41 - 0.50	0.51 - 0.60	0.61 - 0.70	≥ 0.71
Asphalt Residue, %	50 min.	≥49.0	48.5 – 48.9	48.0 – 48.4	47.5-47.9	≤ 47.4
Oil Distillate, %	1.0 max.	≤1.0	1.1-1.5	1.6 - 1.7	1.8-1.9	>2.0
Residue Penetration, 77 ° F	20 max.	≤ 21	22 - 23	24 - 25	26 - 27	≥ 28
Original Dynamic Shear (G*/sin δ), 82 ° C	1.0 min.	≥0.95	0.92 – 0.94	0.90 – 0.91	0.85 - 0.89	≤ 0.84
Softening Point, ° F	149 min.	≥145	142 - 144	140 - 141	138 - 139	≤ 137
Solubility, %	97.5 min.	≥ 97.0	96.8 – 96.9	96.6 – 96.7	96.4 – 96.5	≤ 96.3

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24970EC	Asphalt Material for Tack Non-Tracking	Ton

April 30, 2018



The results of the samples collected were negative for the presence of asbestos above 1%. No abatement is required at this time.
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

Results and Recommendations

Inspection Date: May 1, 2019

Sample Description: The samples collected were negative for asbestos.

Structure Location: Wendell Ford Parkway over Natcher Parkway

Structure ID: 092B00072L

Project Number: Ohio Bridge Maintenance

Project and Structure Identification

Report Prepared By: O'Dail Lawson

Conducted By: O'Dail Lawson

Date: May 22, 2019

District: Central Office

To: Andre Johannes

Asbestos Inspection Report

Matthew G. Bevin
Governor

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Greg Thomas
Secretary



AJHA #1 02459

AIHA # 102459

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By:

Winterford Mensah
Signature

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.	
# 72 - 1	Gray	Yes	No				None				100%	
# 72 - 2	Gray	Yes	No				None				100%	
			% FIBROUS ASBESTOS					% NON-ASBESTOS FIBERS				

Sampled By:

O'Dail Lawson

Client Name:

K Y T C

Analysis #

905165 A

Address: Ohio 092800072L

BULK SAMPLE ASBESTOS ANALYSIS

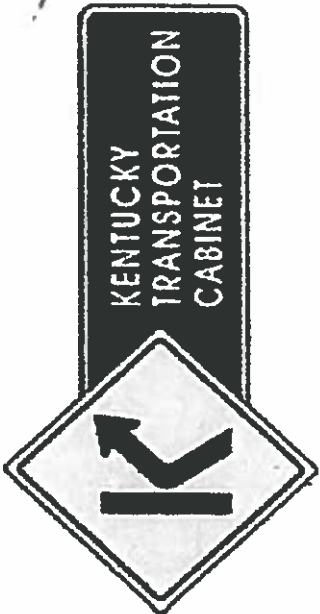
332 West Broadway / Suite # 902
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(502) 495-1212
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MRS, INC.
MRS, Inc. Analytical Laboratory Division

Chain of Custody Record

Kentucky Transportation Cabinet

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Frankfort, Kentucky 40622
(502) 564-7250 fax (502) 564-5655



O'Dail Lawson odail.lawson@ky.gov
KYTC
Address: 200 Mero Street Frankfort KY
Phone: 502-564-7250 Fax: 502-564-5655
PO#:
Project or Subject Reference: **OHio 092B0072L**

Client Information: KY TRANS CABINET
Results Code: ND = None Detected
FTD = Filter Tampering or Damaged
N/A = Not Applicable
Analysis Requested: *Asbest bulk*

Wenell food why. over Marcher Akly (165)

Samplers (signature): *[Signature]*

Sample ID	Sample Description	Collected		Grab/Comp.	No. of Cont.	Cont. Type	Preservative
		Date	Time				
72-1	Joint Compound	5/1/19	14:20	grey			N/A
72-2	Gravel from MASTR			grey			

Relinquished By: _____ Date/Time: _____
 Received By: *[Signature]* Date/Time: *5/13/19*
 Relinquished By: _____ Date/Time: _____
 Received at Lab By: _____ Date/Time: _____



The results of the samples collected were negative for the presence of asbestos above 1%.
No abatement is required at this time.
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

Results and Recommendations

Inspection Date: May 1, 2019
Sample Description: The samples collected were negative for asbestos.
Structure Location: Wendell Ford Parkway over Arnold Butler Road
Structure ID: 092B00130L
Project Number: Ohio Bridge Maintenance

Project and Structure Identification

To: Andre Johannes
District: Central Office
Date: May 22, 2019
Conducted By: O'Dail Lawson
Report Prepared By: O'Dail Lawson

Asbestos Inspection Report

Matthew G. Bevin
Governor

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Greg Thomas
Secretary



AJHA #1 02459

AJHA # 102459

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By:

Winterford Mensah
Signature

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.	
#130-1	Black	Yes	No				None				100%	
#130-2	Gray	Yes	No				None	2%			98%	
			% FIBROUS ASBESTOS					% NON-ASBESTOS FIBERS				

Analysis N #
Client Name:
Sampled By:

905165 B

K Y T C

O'Dail Lawson

Address: Ohio 092B00130L

BULK SAMPLE ASBESTOS ANALYSIS

MRS, Inc. Analytical Laboratory Division

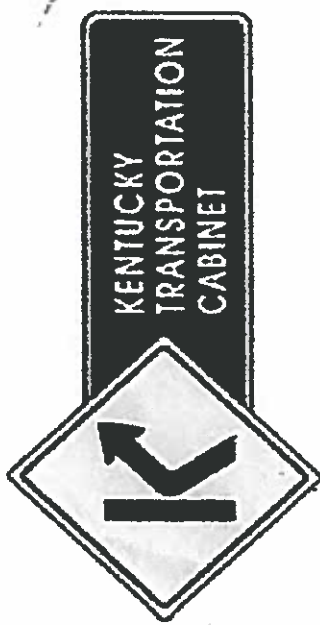
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Chain of Custody Record

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 KYTC
 Address: 200 Mero Street
 Frankfort KY
 Phone: 502-564-7250 Fax: 502-564-5655
 PO#:

Client Information KY TRANS CABINET
 Results Code: ND = None Detected
 FTD = Filter Tampering or Damaged
 N/A = Not Applicable

Project or Subject Reference Ohio 092B00130L

Wenell Fore Wky over Arnold Barber Road

Samplers (signature): *[Signature]*

Sample ID	Sample Description	Collected		Analysis Requested	Grab/Comp.	No. of Cont.	Cont. Type	Preservative
		Date	Time					
130-1	Joint Compound	5/1/19	14:03	Asbestos Bulk	black			N/A
130-2	Gravel Rail Mast				grey			

Relinquished By: _____ Date/Time: _____

Received By: *[Signature]* Date/Time: 5/03/19

Relinquished By: _____ Date/Time: _____

Received at Lab By: _____ Date/Time: _____



The results of the samples collected were negative for the presence of asbestos above 1%. No abatement is required at this time.
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

Results and Recommendations

Inspection Date: May 1, 2019

Sample Description: The samples collected were negative for asbestos.

Structure Location: Wendell Ford Parkway over US 231

Structure ID: 092B00132L

Project Number: Ohio Bridge Maintenance

Project and Structure Identification

Report Prepared By: O'Dail Lawson

Conducted By: O'Dail Lawson

Date: May 22, 2019

District: Central Office

To: Andre Johannes

Asbestos Inspection Report

Matthew G. Bevin
Governor

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Greg Thomas
Secretary



AJHA #1 02459

AJHA # 102459

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By: *Winterford Mensah*

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.								
# 132-1	Black	Yes	No				None					100%							
# 132-2	Gray	Yes	No				None					100%							
												% FIBROUS ASBESTOS				% NON-ASBESTOS FIBERS			

Analysis N # # 905165 C
Client Name: K Y T C
Sampled By: O'Dail Lawson

Address: Ohio 092800132L

BULK SAMPLE ASBESTOS ANALYSIS

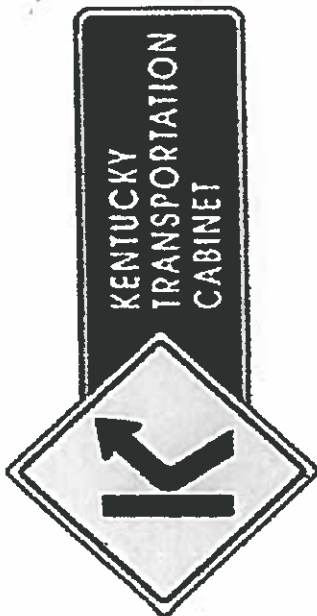
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Fax: (502) 491-7111

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MRS, Inc. Analytical Laboratory Division

Chain of Custody Record

Kentucky Transportation Cabinet

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Frankfort, Kentucky 40622
(502) 564-7250 fax (502) 564-5655



Wendell Ford wky usa US 231

Client Information KY TRANS CABINET
Results Code:
ND = None Detected
FTD = Filter Tampering or Damaged
N/A = Not Applicable

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KYTC
Address: 200 Mero Street
Frankfort KY
Phone: 502-564-7250 Fax: 502-564-5655
PO#:

Samplers (signature): *[Signature]*

Project or Subject Reference OHIO 09A800132L

Sample ID	Sample Description	Collected		Analysis Requested	Grab/Comp.	No. of Cont.	Cont. Type	Preservative
		Date	Time					
132-1	Joint Compound	5/1/19	14:30	Asbestos bulk	Black			N/A
132-2	Gypsum Nail Matrix	↓	↓		gray			

Relinquished By: _____ Date/Time: _____
 Received By: *[Signature]* Date/Time: 5/22/19
 Relinquished By: _____ Date/Time: _____
 Received at Lab By: _____ Date/Time: _____



The results of the samples collected were negative for the presence of asbestos above 1%.
No abatement is required at this time.
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

Results and Recommendations

Inspection Date: May 1, 2019
Sample Description: The samples collected were negative for asbestos.
Structure Location: Wendell Ford Parkway over KY 369
Structure ID: 092B00133L
Project Number: Ohio Bridge Maintenance

Project and Structure Identification

To: Andre Johannes
District: Central Office
Date: May 22, 2019
Conducted By: O'Dail Lawson
Report Prepared By: O'Dail Lawson

Asbestos Inspection Report

Matthew G. Bevin
Governor

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Greg Thomas
Secretary



AJHA #1 02459

AJHA # 102459

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Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By:

Winterford Mensah
Signature

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.
# 133-1	Black	Yes	No				None				100%
# 133-2	Gray	Yes	No				None				100%
			% FIBROUS ASBESTOS					% NON-ASBESTOS FIBERS			

Analysis N #
Client Name:
Sampled By:

905165 D

K Y T C

O'Dail Lawson

Address: Ohio 092800133L

BULK SAMPLE ASBESTOS ANALYSIS

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Louisville, Kentucky - 40202 - 2133
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Chain of Custody Record

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O'Dail Lawson o'dail.lawson@ky.gov
KYTC

Address: 200 Mero Street
Frankfort KY

Phone: 502-564-7250 Fax: 502-564-5655

Samplers (signature):

Project or Subject Reference: OHIO 092B00133L *Wenell Report wks over KY 369*

Client Information KY TRANS CABINET

Results Code:

ND = None Detected
FTD = Filter Tampering or Damaged
N/A = Not Applicable

Sample ID	Sample Description	Collected		Analysis Requested	Grab/Comp.	No. of Cont.	Cont. Type	Preservative
		Date	Time					
133-1	Joint Compound	5/1/19	14:45	Asbestos bulk	Black			N/A
133-2	Guano Rail MASHZ				gray			

Relinquished By: _____ Date/Time: _____

Received By: *Wenell Lawson* Date/Time: *5/2/19*

Relinquished By: _____ Date/Time: _____

Received at Lab By: _____ Date/Time: _____



The results of the samples collected were negative for the presence of asbestos above 1%.
No abatement is required at this time.
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

Results and Recommendations

Inspection Date: May 1, 2019

Sample Description: The samples collected were negative for asbestos.

Structure Location: Wendell Ford Parkway over Lewis Creek

Structure ID: 092B00134L

Project Number: Ohio Bridge Maintenance

Project and Structure Identification

Report Prepared By: O'Dall Lawson

Conducted By: O'Dall Lawson

Date: May 22, 2019

District: Central Office

To: Andre Johannes

Asbestos Inspection Report

Matthew G. Bevin
Governor

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Greg Thomas
Secretary



AJHA #1 02459

AJHA # 102459

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By:

Winterford Mensah
Signature

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. fiber	Other/Mat.
# 134 - 1 Black	Yes	No	< 1 %					2%			98%
% FIBROUS ASBESTOS			% NON-ASBESTOS FIBERS								

Analysis # :
Client Name:
Sampled By:

905165 E
K Y T C
O'Dail Lawson

Address: Ohio 092B00134L

BULK SAMPLE ASBESTOS ANALYSIS

332 West Broadway / Suite # 902
Louisville, Kentucky - 40202 - 2133
(502) 495-1212
Fax: (502) 491-7111

MRS, INC.
MRS, Inc. Analytical Laboratory Division

ENVIRONMENTAL TRAINING CONCEPTS, INC
P.O. Box 99603 Louisville, KY 40269
(502)640-2951

Certification Number: ETC-AIR-041619-00415

O'Dail Lawson

has on 04-16-2019, attended and successfully completed the requirements and passed the examination with a score of 70% of better on the entitled course.

ASBESTOS INSPECTOR REFRESHER

Training was in accordance with 40 CFR Part 763 (AHERA) approved by the Commonwealth of Kentucky, the Indiana Department of Environmental Management and Tennessee Department of Environment & Conservation The above student received requisite training for Asbestos Accreditation under Title II of the Toxic Substance Act (TSCA).

Conducted at: 1520 Alliant Ave., Louisville, KY

Expiration Date: 04-16-2020


Name - Training Manager


Name - Instructor

MATERIAL SUMMARY

CONTRACT ID: 192605092GR19M050 - FE02MB09290011903

WK 9001 WB (MP 76.74). BRIDGE OVER NATCHER PKWY BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	24094EC	PARTIAL DEPTH PATCHING	1.90	CUYD
0010	02569	DEMOBILIZATION	1.00	LS
0015	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0020	02372	REMOVE GUARDRAIL CON TO BR END	3.00	EACH
0025	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	1.00	EACH
0030	02998	MASONRY COATING	260.00	SQYD
0035	03294	EXPAN JOINT REPLACE 1 1/2 IN	85.00	LF
0040	03299	ARMORED EDGE FOR CONCRETE	85.00	LF
0045	06556	PAVE STRIPING-DUR TY 1-6 IN W	312.50	LF
0050	06557	PAVE STRIPING-DUR TY 1-6 IN Y	250.00	LF
0055	08504	EPOXY SAND SLURRY	100.00	SQYD
0060	08510	REM EPOXY BIT FOREIGN OVERLAY	1,147.00	SQYD
0065	08526	CONC CLASS M FULL DEPTH PATCH	2.80	CUYD
0070	08549	BLAST CLEANING	1,247.00	SQYD
0075	08551	MACHINE PREP OF SLAB	1,147.00	SQYD
0080	23032EN	BRIDGE BARRIER RETROFIT	542.00	LF
0085	23331EC	EPOXY-URETHANE WATERPROOFING	10,322.00	SQFT
0090	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - APPLIES TO 092B00072L	1.00	LS
0095	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO 092B00072L	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 192605

092GR19M050 - FE02

MB09290011904

WK 9001 EB (MP 76.74). BRIDGE OVER NATCHER PKWY BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0100	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0105	02372	REMOVE GUARDRAIL CON TO BR END	3.00	EACH
0110	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	1.00	EACH
0115	02998	MASONRY COATING	260.00	SQYD
0120	03294	EXPAN JOINT REPLACE 1 1/2 IN	85.00	LF
0125	03299	ARMORED EDGE FOR CONCRETE	85.00	LF
0130	06556	PAVE STRIPING-DUR TY 1-6 IN W	312.50	LF
0135	06557	PAVE STRIPING-DUR TY 1-6 IN Y	250.00	LF
0140	08504	EPOXY SAND SLURRY	100.00	SQYD
0145	08510	REM EPOXY BIT FOREIGN OVERLAY	1,147.00	SQYD
0150	08526	CONC CLASS M FULL DEPTH PATCH	5.60	CUYD
0155	08549	BLAST CLEANING	1,247.00	SQYD
0160	08551	MACHINE PREP OF SLAB	1,147.00	SQYD
0165	23032EN	BRIDGE BARRIER RETROFIT	542.00	LF
0170	23331EC	EPOXY-URETHANE WATERPROOFING	10,322.00	SQFT
0175	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - APPLIES TO 092B00072R	1.00	LS
0180	24094EC	PARTIAL DEPTH PATCHING	1.90	CUYD
0185	02569	DEMOBILIZATION	1.00	LS
0190	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO 092B00072R	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 192605**092GR19M050 - FE02****MB09290011905**

WK 9001 WB (MP 85.76). BRIDGE OVER KY-2713 BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0195	03299	ARMORED EDGE FOR CONCRETE	86.00	LF
0200	06556	PAVE STRIPING-DUR TY 1-6 IN W	150.00	LF
0205	06557	PAVE STRIPING-DUR TY 1-6 IN Y	120.00	LF
0210	08504	EPOXY SAND SLURRY	58.00	SQYD
0215	08510	REM EPOXY BIT FOREIGN OVERLAY	490.00	SQYD
0220	08526	CONC CLASS M FULL DEPTH PATCH	3.80	CUYD
0225	08549	BLAST CLEANING	548.00	SQYD
0230	08551	MACHINE PREP OF SLAB	490.00	SQYD
0235	24094EC	PARTIAL DEPTH PATCHING	.80	CUYD
0240	02569	DEMOBILIZATION	1.00	LS
0245	03293	EXPAN JOINT REPLACE 1 IN	86.00	LF
0250	08534	CONCRETE OVERLAY-LATEX	20.40	CUYD
0255	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000130L	1.00	LS

CONTRACT ID: 192605**092GR19M050 - FE02****MB09290011906**

WK 9001 EB (MP 85.76). BRIDGE OVER KY-2713 BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0260	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000130R	1.00	LS
0265	03293	EXPAN JOINT REPLACE 1 IN	86.00	LF
0270	03299	ARMORED EDGE FOR CONCRETE	86.00	LF
0275	06556	PAVE STRIPING-DUR TY 1-6 IN W	150.00	LF
0280	06557	PAVE STRIPING-DUR TY 1-6 IN Y	120.00	LF
0285	08504	EPOXY SAND SLURRY	58.00	SQYD
0290	08510	REM EPOXY BIT FOREIGN OVERLAY	490.00	SQYD
0295	08526	CONC CLASS M FULL DEPTH PATCH	4.40	CUYD
0300	08534	CONCRETE OVERLAY-LATEX	20.40	CUYD
0305	08549	BLAST CLEANING	548.00	SQYD
0310	08551	MACHINE PREP OF SLAB	490.00	SQYD
0315	24094EC	PARTIAL DEPTH PATCHING	.80	CUYD
0320	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 192605**092GR19M050 - FE02****MB09290011907**

MATERIAL SUMMARY

WK 9001 WB (MP 74.59). BRIDGE OVER US 231 BRIDGE SUPERSTRUCTURE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0325	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000132L	1.00	LS
0330	03299	ARMORED EDGE FOR CONCRETE	77.80	LF
0335	02569	DEMOBILIZATION	1.00	LS
0340	08100	CONCRETE-CLASS A	93.50	CUYD
0345	08104	CONCRETE-CLASS AA	169.00	CUYD
0350	08150	STEEL REINFORCEMENT	15,656.00	LB
0355	08151	STEEL REINFORCEMENT-EPOXY COATED	51,489.50	LB
0360	08020	CRUSHED AGGREGATE SLOPE PROT	130.50	TON
0365	02231	STRUCTURE GRANULAR BACKFILL	102.00	CUYD
0370	02998	MASONRY COATING	739.50	SQYD
0375	08669	PRECAST PC BOX BEAM SB21	507.25	LF
0380	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	259.00	LF
0385	02403	REMOVE CONCRETE MASONRY	67.00	CUYD
0390	00001	DGA BASE	100.00	TON
0395	00100	ASPHALT SEAL AGGREGATE	7.50	TON
0400	00103	ASPHALT SEAL COAT	1.00	TON
0405	00194	LEVELING & WEDGING PG76-22	37.50	TON
0410	00219	CL4 ASPH BASE 1.00D PG76-22	110.00	TON
0415	00335	CL4 ASPH SURF 0.50A PG76-22	298.00	TON
0420	02677	ASPHALT PAVE MILLING & TEXTURING	298.00	TON
0425	20071EC	JOINT ADHESIVE	1,666.00	LF
0430	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	1.50	TON
0435	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	7.00	EACH
0440	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	4.50	EACH
0445	02351	GUARDRAIL-STEEL W BEAM-S FACE	387.50	LF
0450	02352	GUARDRAIL-STEEL W BEAM-D FACE	137.50	LF
0455	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0460	02365	CRASH CUSHION TYPE IX-A	1.00	EACH
0465	02367	GUARDRAIL END TREATMENT TYPE 1	2.00	EACH
0470	02381	REMOVE GUARDRAIL	537.50	LF
0475	25025ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	3.00	LF
0480	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0485	02159	TEMP DITCH	337.50	LF
0490	02160	CLEAN TEMP DITCH	168.75	LF
0495	02703	SILT TRAP TYPE A	3.00	EACH
0500	02704	SILT TRAP TYPE B	1.00	EACH
0505	02705	SILT TRAP TYPE C	1.00	EACH
0510	02706	CLEAN SILT TRAP TYPE A	3.00	EACH
0515	02707	CLEAN SILT TRAP TYPE B	1.00	EACH
0520	02708	CLEAN SILT TRAP TYPE C	1.00	EACH
0525	05950	EROSION CONTROL BLANKET	1,210.00	SQYD
0530	05952	TEMP MULCH	806.50	SQYD
0535	05953	TEMP SEEDING AND PROTECTION	605.00	SQYD
0540	05963	INITIAL FERTILIZER	.15	TON
0545	05964	MAINTENANCE FERTILIZER	.10	TON
0550	05989	SPECIAL SEEDING CROWN VETCH	145.00	SQYD

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0555	05992	AGRICULTURAL LIMESTONE	.05	TON
0560	40030	TEMPORARY SILT FENCE	605.00	LF
0565	02562	TEMPORARY SIGNS	500.00	SQFT
0570	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0575	02676	MOBILIZATION FOR MILL & TEXT	1.00	LS
0580	02775	ARROW PANEL	1.00	EACH
0585	23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	38.00	LF
0590	04933	TEMP SIGNAL 2 PHASE	1.00	EACH
0595	06511	PAVE STRIPING-TEMP PAINT-6 IN	7,750.00	LF
0600	06542	PAVE STRIPING-THERMO-6 IN W	1,511.50	LF
0605	06543	PAVE STRIPING-THERMO-6 IN Y	1,090.50	LF
0610	06556	PAVE STRIPING-DUR TY 1-6 IN W	200.00	LF
0615	06557	PAVE STRIPING-DUR TY 1-6 IN Y	150.00	LF
0620	24489EC	INLAID PAVEMENT MARKER	21.00	EACH
0625	06568	PAVE MARKING-THERMO STOP BAR-24IN	25.50	LF
0630	23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	34.50	LF
0635	06574	PAVE MARKING-THERMO CURV ARROW	4.00	EACH
0640	02545	CLEARING AND GRUBBING - APPLIES TO 092B00132L	1.00	LS
0645	02726	STAKING	1.00	LS
0650	02696	SHOULDER RUMBLE STRIPS	816.00	LF
0655	21451ED	FILL AND GRADE MEDIAN	250.00	LF
0660	20191ED	OBJECT MARKER TY 3	2.00	EACH
0665	02091	REMOVE PAVEMENT	125.00	SQYD
0670	02023	JPC PAVEMENT-9 IN/24	125.00	SQYD
0675	01984	DELINEATOR FOR BARRIER - WHITE	8.00	EACH
0680	01985	DELINEATOR FOR BARRIER - YELLOW	4.00	EACH
0685	01691	FLUME INLET TYPE 2	1.00	EACH
0690	01890	ISLAND HEADER CURB TYPE 1	17.00	LF
0695	02165	REMOVE PAVED DITCH	41.50	SQYD
0700	02484	CHANNEL LINING CLASS III	57.00	TON
0705	24894EC	REMOVE - REMOVE FLUME - APPLIES TO 092B00132L	1.00	EACH
0710	08301	REMOVE SUPERSTRUCTURE - APPLIES TO 092B00132L	1.00	LS

CONTRACT ID: 192605**092GR19M050 - FE02****MB09290011908**

WK 9001 EB (MP 74.59). BRIDGE OVER US231 BRIDGE SUPERSTRUCTURE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0715	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000132R	1.00	LS
0720	03299	ARMORED EDGE FOR CONCRETE	77.80	LF
0725	02569	DEMOBILIZATION	1.00	LS
0730	08100	CONCRETE-CLASS A	93.50	CUYD
0735	08104	CONCRETE-CLASS AA	169.00	CUYD
0740	08150	STEEL REINFORCEMENT	15,656.00	LB

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0745	08151	STEEL REINFORCEMENT-EPOXY COATED	51,489.50	LB
0750	02998	MASONRY COATING	739.50	SQYD
0755	08020	CRUSHED AGGREGATE SLOPE PROT	130.50	TON
0760	02231	STRUCTURE GRANULAR BACKFILL	102.00	CUYD
0765	08669	PRECAST PC BOX BEAM SB21	507.25	LF
0770	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	259.00	LF
0775	02403	REMOVE CONCRETE MASONRY	67.00	CUYD
0780	00001	DGA BASE	100.00	TON
0785	00103	ASPHALT SEAL COAT	1.00	TON
0790	00194	LEVELING & WEDGING PG76-22	37.50	TON
0795	00219	CL4 ASPH BASE 1.00D PG76-22	110.00	TON
0800	00335	CL4 ASPH SURF 0.50A PG76-22	298.00	TON
0805	02677	ASPHALT PAVE MILLING & TEXTURING	298.00	TON
0810	20071EC	JOINT ADHESIVE	1,666.00	LF
0815	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	1.50	TON
0820	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	7.00	EACH
0825	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	4.50	EACH
0830	02351	GUARDRAIL-STEEL W BEAM-S FACE	387.50	LF
0835	02352	GUARDRAIL-STEEL W BEAM-D FACE	137.50	LF
0840	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0845	02365	CRASH CUSHION TYPE IX-A	1.00	EACH
0850	02367	GUARDRAIL END TREATMENT TYPE 1	2.00	EACH
0855	02381	REMOVE GUARDRAIL	537.50	LF
0860	25025ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	3.00	LF
0865	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0870	02159	TEMP DITCH	337.50	LF
0875	02703	SILT TRAP TYPE A	3.00	EACH
0880	02704	SILT TRAP TYPE B	1.00	EACH
0885	02705	SILT TRAP TYPE C	1.00	EACH
0890	02706	CLEAN SILT TRAP TYPE A	3.00	EACH
0895	02707	CLEAN SILT TRAP TYPE B	1.00	EACH
0900	02708	CLEAN SILT TRAP TYPE C	1.00	EACH
0905	05950	EROSION CONTROL BLANKET	1,210.00	SQYD
0910	05952	TEMP MULCH	806.50	SQYD
0915	05953	TEMP SEEDING AND PROTECTION	605.00	SQYD
0920	05963	INITIAL FERTILIZER	.15	TON
0925	05964	MAINTENANCE FERTILIZER	.10	TON
0930	05989	SPECIAL SEEDING CROWN VETCH	145.00	SQYD
0935	05992	AGRICULTURAL LIMESTONE	.05	TON
0940	40030	TEMPORARY SILT FENCE	605.00	LF
0945	02562	TEMPORARY SIGNS	500.00	SQFT
0950	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0955	02676	MOBILIZATION FOR MILL & TEXT	1.00	LS
0960	02775	ARROW PANEL	1.00	EACH
0965	23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	38.00	LF
0970	04933	TEMP SIGNAL 2 PHASE	1.00	EACH
0975	06511	PAVE STRIPING-TEMP PAINT-6 IN	7,750.00	LF
0980	06542	PAVE STRIPING-THERMO-6 IN W	1,511.50	LF
0985	06543	PAVE STRIPING-THERMO-6 IN Y	1,090.50	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0990	06556	PAVE STRIPING-DUR TY 1-6 IN W	200.00	LF
0995	06557	PAVE STRIPING-DUR TY 1-6 IN Y	150.00	LF
1000	24489EC	INLAID PAVEMENT MARKER	21.00	EACH
1005	06568	PAVE MARKING-THERMO STOP BAR-24IN	25.50	LF
1010	23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	34.50	LF
1015	06574	PAVE MARKING-THERMO CURV ARROW	4.00	EACH
1020	02545	CLEARING AND GRUBBING - APPLIES TO 092B00132R	1.00	LS
1025	02726	STAKING	1.00	LS
1030	02696	SHOULDER RUMBLE STRIPS	816.00	LF
1035	21451ED	FILL AND GRADE MEDIAN	250.00	LF
1040	20191ED	OBJECT MARKER TY 3	2.00	EACH
1045	02091	REMOVE PAVEMENT	125.00	SQYD
1050	02023	JPC PAVEMENT-9 IN/24	125.00	SQYD
1055	01984	DELINEATOR FOR BARRIER - WHITE	8.00	EACH
1060	01985	DELINEATOR FOR BARRIER - YELLOW	4.00	EACH
1065	01691	FLUME INLET TYPE 2	1.00	EACH
1070	01890	ISLAND HEADER CURB TYPE 1	17.00	LF
1075	02165	REMOVE PAVED DITCH	41.50	SQYD
1080	02484	CHANNEL LINING CLASS III	57.00	TON
1085	24894EC	REMOVE - REMOVE FLUME - APPLIES TO 092B00132R	1.00	EACH
1090	08301	REMOVE SUPERSTRUCTURE - APPLIES TO 092B00132R	1.00	LS

CONTRACT ID: 192605**092GR19M050 - FE02****MB09290011909**

WK 9001 WB (MP 72.42). BRIDGE OVER KY-369 BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1095	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000133L	1.00	LS
1100	03299	ARMORED EDGE FOR CONCRETE	67.00	LF
1105	06556	PAVE STRIPING-DUR TY 1-6 IN W	232.50	LF
1110	06557	PAVE STRIPING-DUR TY 1-6 IN Y	186.00	LF
1115	08504	EPOXY SAND SLURRY	249.00	SQYD
1120	08534	CONCRETE OVERLAY-LATEX	34.40	CUYD
1125	02569	DEMOBILIZATION	1.00	LS
1130	03293	EXPAN JOINT REPLACE 1 IN	34.00	LF
1135	03298	EXPAN JOINT REPLACE 4 IN	34.00	LF
1140	08510	REM EPOXY BIT FOREIGN OVERLAY	619.00	SQYD
1145	08526	CONC CLASS M FULL DEPTH PATCH	2.80	CUYD
1150	08549	BLAST CLEANING	868.00	SQYD
1155	08551	MACHINE PREP OF SLAB	619.00	SQYD
1160	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - APPLIES TO 093B00133L	1.00	LS
1165	24094EC	PARTIAL DEPTH PATCHING	1.00	CUYD

MATERIAL SUMMARY**CONTRACT ID: 192605****092GR19M050 - FE02****MB09290011910**

WK 9001 EB (MP 72.42). BRIDGE OVER KY-369 BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1170	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000133R	1.00	LS
1175	03293	EXPAN JOINT REPLACE 1 IN	34.00	LF
1180	03298	EXPAN JOINT REPLACE 4 IN	34.00	LF
1185	03299	ARMORED EDGE FOR CONCRETE	67.00	LF
1190	06556	PAVE STRIPING-DUR TY 1-6 IN W	232.50	LF
1195	06557	PAVE STRIPING-DUR TY 1-6 IN Y	186.00	LF
1200	08504	EPOXY SAND SLURRY	249.00	SQYD
1205	08510	REM EPOXY BIT FOREIGN OVERLAY	619.00	SQYD
1210	08526	CONC CLASS M FULL DEPTH PATCH	6.30	CUYD
1215	08534	CONCRETE OVERLAY-LATEX	34.40	CUYD
1220	08549	BLAST CLEANING	868.00	SQYD
1225	08551	MACHINE PREP OF SLAB	619.00	SQYD
1230	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - APPLIES TO 093B00133R	1.00	LS
1235	24094EC	PARTIAL DEPTH PATCHING	1.00	CUYD
1240	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 192605**092GR19M050 - FE02****MB09290011911**

WK 9001 WB (MP 69.73). BRIDGE OVER LEWIS CREEK BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1245	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000134L	1.00	LS
1250	03293	EXPAN JOINT REPLACE 1 IN	92.00	LF
1255	03299	ARMORED EDGE FOR CONCRETE	92.00	LF
1260	06556	PAVE STRIPING-DUR TY 1-6 IN W	162.50	LF
1265	06557	PAVE STRIPING-DUR TY 1-6 IN Y	130.00	LF
1270	08504	EPOXY SAND SLURRY	60.00	SQYD
1275	08510	REM EPOXY BIT FOREIGN OVERLAY	507.00	SQYD
1280	08526	CONC CLASS M FULL DEPTH PATCH	2.80	CUYD
1285	08534	CONCRETE OVERLAY-LATEX	28.20	CUYD
1290	08549	BLAST CLEANING	567.00	SQYD
1295	08551	MACHINE PREP OF SLAB	507.00	SQYD
1300	24094EC	PARTIAL DEPTH PATCHING	.80	CUYD
1305	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 192605092GR19M050 - FE02MB09290011912

WK 9001 EB (MP 69.73). BRIDGE OVER LEWIS CREEK BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1310	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000134R	1.00	LS
1315	03293	EXPAN JOINT REPLACE 1 IN	92.00	LF
1320	03299	ARMORED EDGE FOR CONCRETE	92.00	LF
1325	06556	PAVE STRIPING-DUR TY 1-6 IN W	162.50	LF
1330	06557	PAVE STRIPING-DUR TY 1-6 IN Y	130.00	LF
1335	08504	EPOXY SAND SLURRY	60.00	SQYD
1340	08510	REM EPOXY BIT FOREIGN OVERLAY	507.00	SQYD
1345	08526	CONC CLASS M FULL DEPTH PATCH	2.80	CUYD
1350	08534	CONCRETE OVERLAY-LATEX	28.20	CUYD
1355	08549	BLAST CLEANING	567.00	SQYD
1360	08551	MACHINE PREP OF SLAB	507.00	SQYD
1365	24094EC	PARTIAL DEPTH PATCHING	.80	CUYD
1370	02569	DEMOBILIZATION	1.00	LS

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS

OHIO COUNTY WESTERN KENTUCKY PARKWAY OVER US 231 STA. 5300 + 98.88

Sheet No.	Title Sheet	Description
S1	General Notes	
S2	Layout	
S3	Removal Limits	
S4	Abutment Details	
S5	Pier Details	
S6	Joint Details	
S7	Cast In-Place Concrete	
S8	Precast PC Box Beam SB 17-48	
S9-S11	Superstructure	
S12-S13	Construction Elevations	
S14	Rolling System 40 Inch Single Slope	

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

EX-206-10 Stencils for Structures
 BIF-201-13 Neoprene Expansion Joints and Ankered Edges
 BIF-203-02 Expansion Bearing Pads for Box Beams
 BIF-202-04 Bearing Details

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction.

8th Edition AASHTO LRFD Bridge Design Specifications

DATE	REVISION	CHECKED BY
APRIL, 2019		
DESIGNED BY:	DKK	HMM
DETAILED BY:	BTP	DKK

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
OHIO COUNTY

ROUTE
WPK
CROSSING
US 231
TITLE AND QUANTITIES

PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

SHEET NO.
S1
OF
28038

BID ITEM CODE	CONCRETE CLASS "A"	CONCRETE CLASS "A"	CONCRETE CLASS "A"	ARMORED EDGE FOR CONCRETE	CRUSHED AGGREGATE	STRUCTURE SLOPE PROTECTION	STRUCTURE GRANULAR BACKFILL	MASONRY COATING	PRECAST PC BOX BEAM SB21-48	RAIL SYSTEM SINGLE SLOPE 40 INCH	CONCRETE MASONRY	ESTIMATED QUANTITIES
ABUTMENT #1	33.0	4724	32	108	102	218	218	218	218	218	218	
PIER #1	60.5	15656	96	102	102	218	218	218	218	218	218	
PIER #2	60.5	15656	96	102	102	218	218	218	218	218	218	
ABUTMENT #2	33.0	4724	32	108	102	218	218	218	218	218	218	
Substructure												
BRIDGE TOTALS	187.0	338.0	3132	102979	155.6	261	204	1479	1014.5	518	134.0	

① NOTE: SEE ROADWAY PLANS FOR SUPERSTRUCTURE REMOVAL ITEM LUMP SUM.

Digitally signed by David Kitby
Date: 2019.05.21 11:39:09 -0400



PLANS PREPARED BY:
David Kitby, P.E.
KY No. 11693

ITEM NUMBER

GENERAL NOTES

SPECIFICATIONS
ALL REFERENCES TO THE STANDARD SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR BRIDGES AND STRUCTURES FOR ROADWAYS AND AIRPORTS. CONSTRUCTION WITH CURRENT SUPPLEMENTAL SPECIFICATIONS ARE REFERENCED TO THE AASHTO SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH INTERIMS.

DESIGN LOAD
THIS BRIDGE IS DESIGNED FOR A MODIFIED HL-93 (K1 HL-93) LIVE LOAD OBTAINED BY INCREASING THE AASHTO LOADING BY 25%. SEE EXISTING PLANS FOR THE DESIGN LOAD USED FOR THE SUBSTRUCTURE THAT WILL REMAIN IN-PLACE.

FUTURE WEARING SURFACE
THIS BRIDGE IS DESIGNED FOR A 15 PSF FUTURE WEARING SURFACE LOAD.

DESIGN METHOD
ALL REINFORCED CONCRETE MEMBERS ARE DESIGNED BY THE LOAD AND RESISTANCE FACTOR METHOD. ALL STEEL MEMBERS ARE DESIGNED BY THE ALLOWABLE STRESS DESIGN METHOD. FOR THE DESIGN METHOD USED FOR THE SUBSTRUCTURE THAT WILL REMAIN IN-PLACE.

MATERIALS DESIGN SPECIFICATIONS
F_c = 3500 PSI FOR CLASS 'A' REINFORCED CONCRETE
F_c = 4000 PSI FOR CLASS 'A1' REINFORCED CONCRETE
F_y = 60000 PSI FOR STEEL REINFORCEMENT

FOR PRESTRESSED BEAM MATERIAL SPECIFICATIONS, SEE BEAM SHEET.

MATERIAL SPECIFICATIONS
ASTM OR AASHTO SPECIFICATIONS, CURRENT EDITION, AS DESIGNATED BELOW SHALL GOVERN THE MATERIALS FURNISHED.

STRUCTURAL STEEL, 36,000 PSI MIN. YIELD
UNCOATED SEVEN-WIRE LOW-RELAXATION STRAND
STEEL REINFORCEMENT, GRADE 60

CONCRETE
CLASS 'A1' CONCRETE IS TO BE USED IN THE SUPERSTRUCTURE. CLASS 'A' CONCRETE IS TO BE USED IN THE SUBSTRUCTURE. ALL BEAM CONCRETE SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

ABUTMENT CONSTRUCTION
THE PIPE UNDERDRAIN AND GEOTEXTILE FABRIC SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR STRUCTURE GRANULAR BACKFILL.

MASONRY COATING
THE SUPER EXPOSED SUBSTRUCTURE SHALL BE ACCORDANCE WITH THE SPECIFICATIONS. THE CRASHWALL AND ABUTMENTS SHALL RECEIVE MASONRY COATING TO 6" BELOW THE FINISHED GROUND LINE.

ON-SITE INSPECTION
EACH CONTRACTOR SUBMITTING A BID FOR THIS WORK SHALL MAKE A THOROUGH INSPECTION OF THE PROJECT SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS SO THAT WORK CAN BE EXPEDITIOUSLY PERFORMED AFTER A CONTRACT IS AWARDED. SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE OF THIS INSPECTION HAVING BEEN MADE. ANY DISCREPANCIES RESULTING FROM SITE CONDITIONS WILL NOT BE HONORED BY THE DEPARTMENT OF HIGHWAYS.

DAMAGE TO THE SUBSTRUCTURES
THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES TO THE EXISTING SUBSTRUCTURES DURING RECONSTRUCTION EVEN TO THE REPLACEMENT OF THE ENTIRE SUBSTRUCTURE, SHOULD THEY BE DAMAGED DUE TO HIS ACTIONS.

SLOPE PROTECTION
SLOPE PROTECTION SHALL BE CRUSHED AGGREGATE SLOPE PROTECTION IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. GEOTEXTILE FABRIC UNDER THE SLOPE PROTECTION SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR CRUSHED AGGREGATE SLOPE PROTECTION.

REINFORCEMENT
DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN OR NOTED. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. THE CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED. ANY REINFORCING BARS DESIGNATED BY THE SUFFIX 'W' IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. ALL REINFORCING BARS SHALL BE BY THE SUFFIX 'S' IN THE BENDING DIAGRAM SHALL BE CONSIDERED A STIRRUP FOR PURPOSES OF BEND DIAMETERS.

CONTRACTOR VERIFY DIMENSIONS
CONTRACTOR SHALL VERIFY DIMENSION AND ELEVATIONS SHOWN IN THE PLANS BEFORE AND DURING CONSTRUCTION AND ADJUST BAR LENGTHS AND OR BEAM LENGTHS TO ENSURE PROPER FIT AND FINISH IN THE FINAL PRODUCT. DIMENSIONS ARE FOR HORIZONTAL DIMENSIONS ARE TO FACE OF 60 DEGREES FAHRENHEIT. LAYOUT DIMENSIONS ARE HORIZONTAL DIMENSIONS.

BEVELED EDGES
ALL EXPOSED EDGES SHALL BE BEVELED 3/4" UNLESS OTHERWISE NOTED.

COMPLETION OF THE STRUCTURE
THE CONTRACTOR IS REQUIRED TO COMPLETE THE STRUCTURE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. MATERIAL LABOR OR CONSTRUCTION OPERATIONS, NOT OTHERWISE SPECIFIED, ARE TO BE INCLUDED IN THE BID ITEM MOST APPROPRIATE TO THE WORK INVOLVED. THIS MAY INCLUDE COFFERDAMS, SHORING, EXCAVATIONS, BACKFILLING, REMOVAL OF ALL OR PARTS OF EXISTING STRUCTURE, INCIDENTAL MATERIALS, LABOR, OR ANYTHING ELSE REQUIRED TO COMPLETE THE STRUCTURE.

BEFORE YOU DIG
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIREMENTS AND CONFORMANCE WITH THE UNDERGROUND FACILITY DAMAGE PREVENTION ACT OF 1994. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS ADVISED TO CALL (800) 752-6007 A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION FOR INFORMATION ON THE LOCATION OF SOME BUT NOT NECESSARILY ALL UNDERGROUND UTILITIES.

STAY-IN-PLACE METAL FORMS
THE USE OF STAY-IN-PLACE FORMWORK FOR THE BRIDGE DECK IS PERMITTED PROVIDED THE CORRUGATIONS ARE FILLED WITH EXPANDED POLYSTYRENE.

SAW CUTTING EXISTING CONCRETE
PRIOR TO REMOVAL OF THE EXISTING CONCRETE MASONRY CUT THE SURFACE WITH A CONCRETE SAW TO A DEPTH OF 1" TO FACILITATE A NEAT LINE. THE COST OF CUTTING CONCRETE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REMOVE CONCRETE MASONRY.

EXISTING REINFORCING STEEL
THE COST OF CUTTING, BENDING AND CLEANING EXISTING REINFORCING STEEL IS TO BE INCIDENTAL TO THE LUMP SUM BID FOR REMOVE EXISTING SUPERSTRUCTURE.

TEMPORARY SUPPORTS
TEMPORARY SUPPORTS OR SHORING WILL NOT BE PERMITTED UNDER THE BEAMS WHEN POURING THE CONCRETE DECK SLAB OR WHEN TAKING "TOP OF BEAM ELEVATIONS."

STRUCTURE EXCAVATION
SHEETING OR SHORING MAY BE NECESSARY FOR CONSTRUCTION. THE COST OF ANY SUCH WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REMOVE EXISTING SUPERSTRUCTURE, LUMP SUM OR REMOVE CONCRETE MASONRY, CY, AS APPROPRIATE.

CONSTRUCTION IDENTIFICATION
THE DESIGNER, PRIME CONTRACTOR AND THE SUBCONTRACTOR SHALL BE IDENTIFIED IN THE SHOP DRAWINGS WITH CONCISE LETTERING. THE CONTRACTOR SHALL DESIGNATE BY THE LETTER 'C' THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

DISCLAIMER
ACCEPTANCE OF ANY CONTRACTOR'S SUBMISSION REQUIRED ON THIS PROJECT DOES NOT CONSTITUTE ENDORSEMENT OR APPROVAL. THE ACCEPTANCE IS ACKNOWLEDGEMENT OF THE CONTRACTOR'S RESPONSIBILITY TO THE CLIENT. THE CONTRACTOR'S SUBMISSION IS NOT BOUND BY ACCEPTANCE OF ANY SUBMISSIONS REQUIRED. FINAL ACCEPTANCE OR APPROVAL WILL BE CONTINGENT ON THE SATISFACTORY COMPLETION OF THE PROJECT.

SHOP DRAWINGS
WHEN CHANGES IN THE SHOP DRAWINGS ARE PROPOSED BY THE FABRICATOR OR SUPPLIER, THE SHOP DRAWINGS REFLECTING THESE CHANGES SHALL BE SUBMITTED TO THE CONSULTANT THROUGH THE CONTRACTOR. THE CONSULTANT SHALL PROVIDE THE DIVISION OF STRUCTURAL DESIGN ONE COPY OF THE FINAL APPROVED SHOP PLANS.

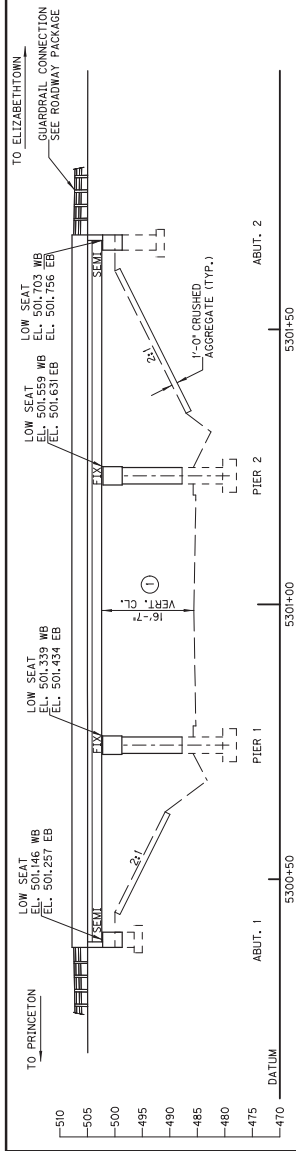
SLAB POURING SEQUENCE
SLAB SHALL BE POURED CONTINUOUSLY OUT TO OUT.

EXISTING PLANS
EXISTING PLANS CAN BE FOUND UNDER DRAWING NUMBER 15027.

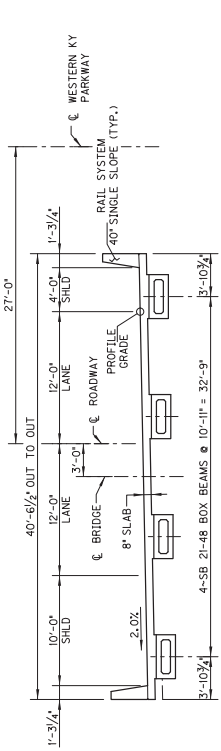
DATE:	APRIL 2019	CHECKED BY:	
DESIGNED BY:	DKK	IN CHARGE:	MM
DETAILED BY:	BTP	DATE:	DKK
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY: OHIO			
ROUTE:	WKPK	CROSSING:	US 231
GENERAL NOTES			
PREPARED BY:			
HIMB PROFESSIONAL ENGINEERS, INC.			
SHEET NO. S2			
CONTRACT NO. 28038			



ITEM NUMBER	
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PROFILE GRADE



TYPICAL SECTION
(W.B. STRUCTURE SHOWN, E.B. SIMILAR)
(LOOKING AHEAD)

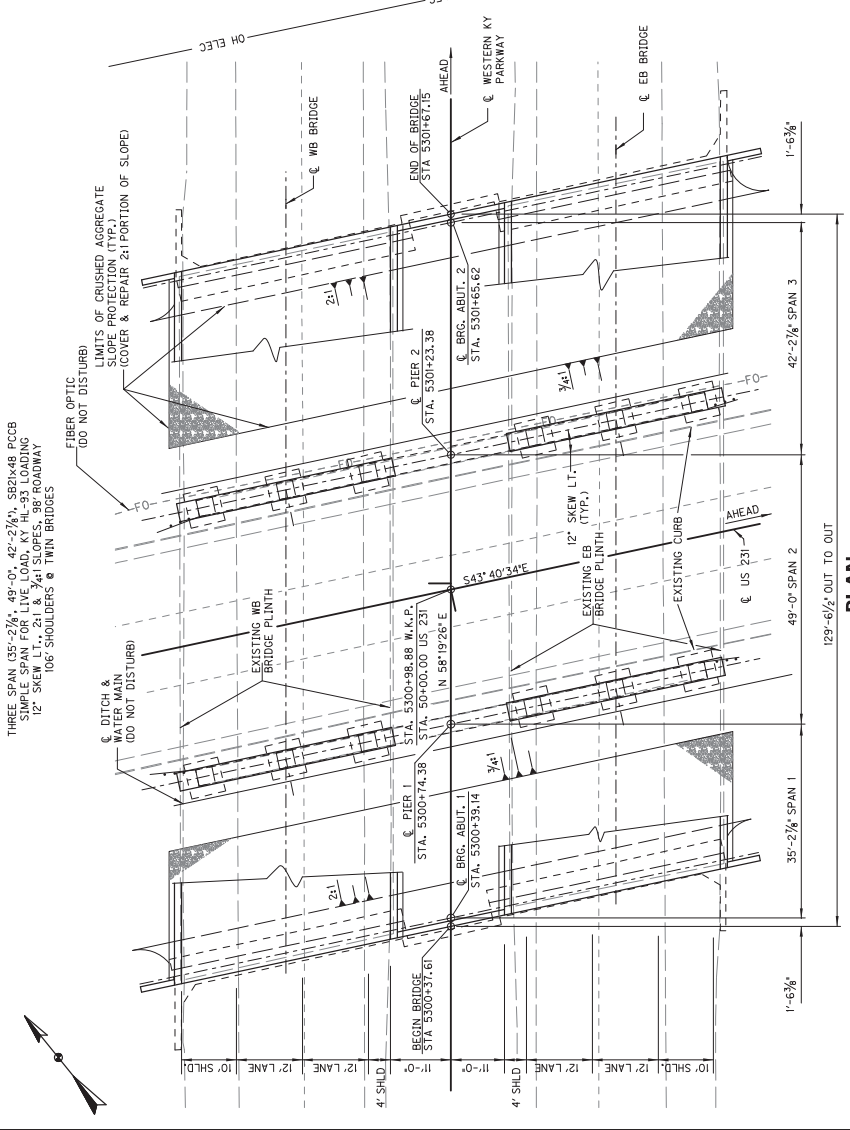
NOTE: SEE EXISTING PLANS: DWG. NO. 15027.

DATE	REVISION	DATE
APRIL, 2019	DESIGNED BY: DCK	CHECKED BY: HMM
	DETAILED BY: BTP	DCK

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
 COUNTY: **OHIO**
 ROUTE: **WKP**
 CROSSING: **US 231**
 LAYOUT: **LAYOUT**

PREPARED BY: HMM PROFESSIONAL ENGINEERS, INC.	SHEET NO.: S3
CONTRACT NO.: 28038	

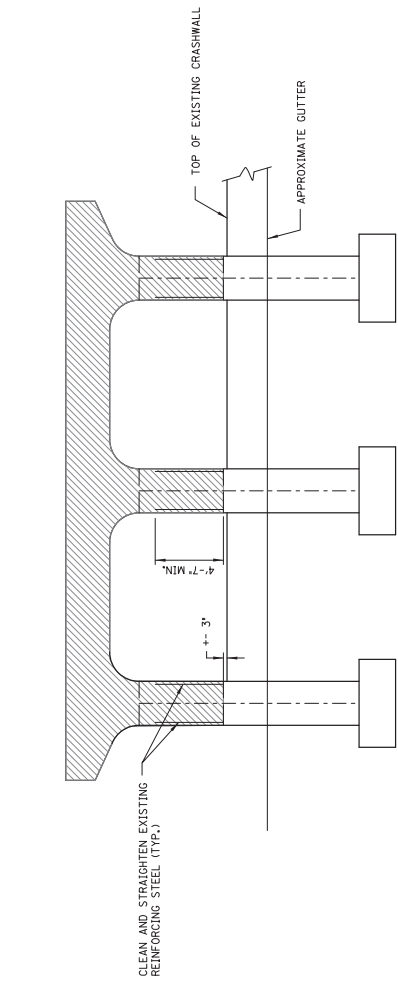
ELEVATION



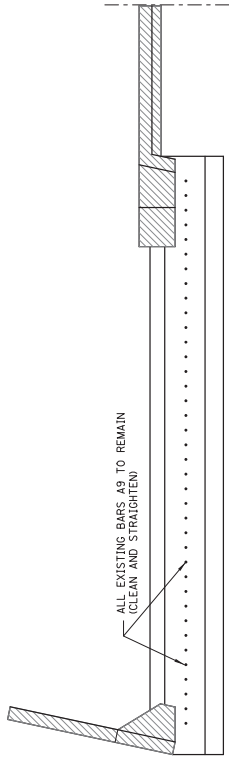
PLAN

(SUPERSTRUCTURE REMOVED)

ITEM NUMBER

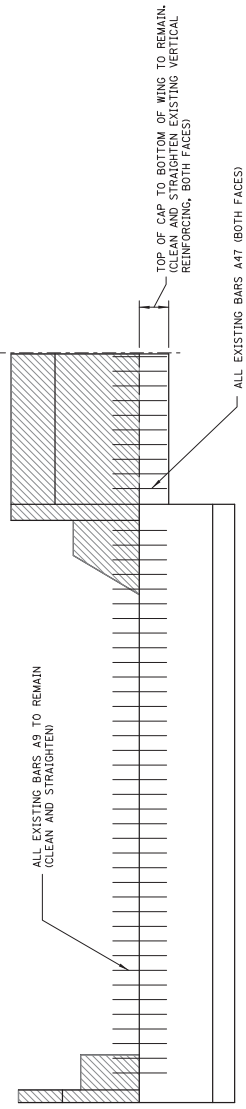


PIER ELEVATION



ABUTMENT PLAN

NOTE: REMOVE ENTIRE SUPERSTRUCTURE. TAKE CARE TO REMOVE EXISTING END DIAPHRAGM SO THAT EXISTING BARS A9 (EXISTING PLANS) CAN BE CLEANED AND STRAIGHTENED. THESE BARS GET REMOVED OR DAMAGED. THEN CONTRACTOR MUST DRILL AND GROUT THESE BARS. CONTRACTOR SHALL REMOVE ALL EXISTING REINFORCING STEEL FROM THE NEW TOP PORTION OF THE ABUTMENT CAP. IF DRILLING AND GROUTING ANCHORS IS REQUIRED, IT SHALL BE DONE IN ACCORDANCE WITH SPECIAL NOTE 6-J, NON-EPOXY ADHESIVES.



ABUTMENT ELEVATION



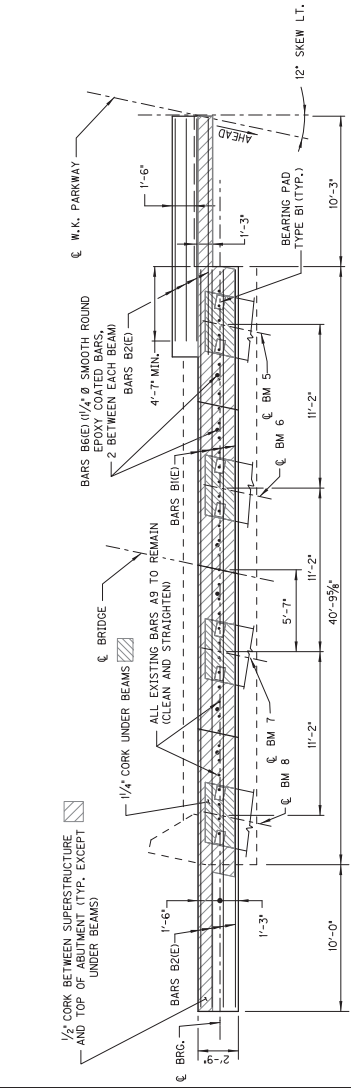
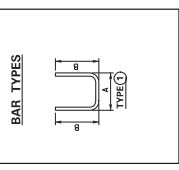
DATE:	APRIL, 2019	REVISION	DATE
DESIGNED BY:	DKP	CHECKED BY:	MM
DETAILED BY:	DKP	ROUTE:	WKP
Commonwealth of Kentucky		CROSSING:	US 231
DEPARTMENT OF HIGHWAYS		REMOVAL LIMITS	
OHIO COUNTY		PREPARED BY:	HMB PROFESSIONAL ENGINEERS, INC.
SHEET NO. SA		CONTRACT NO. 28038	

ITEM NUMBER	
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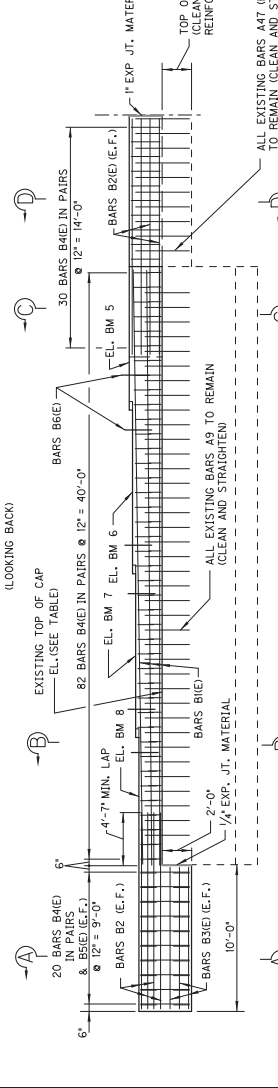
ABUTMENT BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH		LOCATION		A		B		C		D	
				FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
B1(E)	STR	8	#6	40	5	CAP									
B2(E)	STR	20	#8	14	7	WING									
B3(E)	STR	6	#5	9	8	WING									
B4(E)	STR	132	#5	5	5	CAP			2	5	1	6			
B5(E)	STR	20	#5	3	0	WING									
B6(E)	STR	6	D	2	0	CAP									

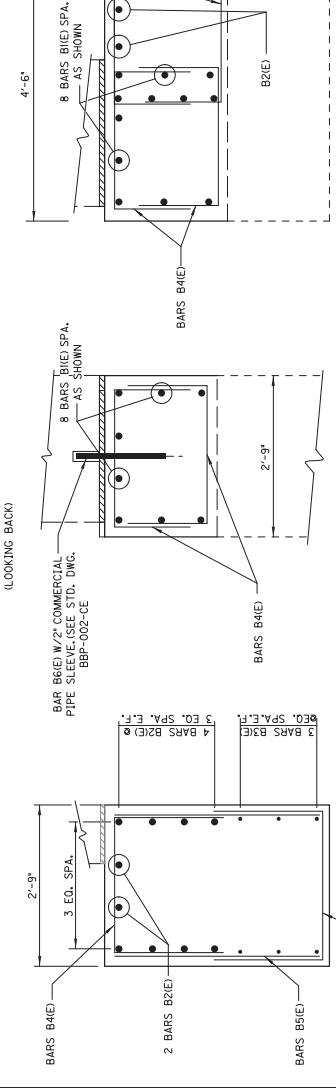
NOTE: D INDICATES A 1/4" DIAMETER SMOOTH ROUND EPOXY COATED BAR
 NOTE: BILL OF REINFORCEMENT SHOWS REBAR FOR SINGLE ABUTMENT



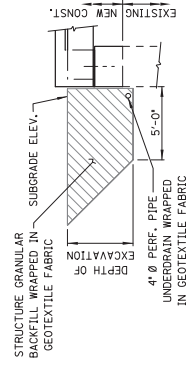
ABUTMENT PLAN
 (ABUTMENT 1 EB SHOWN, OTHERS SIMILAR)
 (LOOKING BACK)



ABUTMENT ELEVATION
 (ABUTMENT 1 EB SHOWN, OTHERS SIMILAR)
 (LOOKING BACK)



STRUCTURE GRANULAR BACKFILL
 NOTE: ANY EXCAVATION REQUIRED IS INCIDENTAL TO REMOVE EXISTING STRUCTURE OR REMOVE CONCRETE MASONRY.



BRIDGE SEAT ELEVATIONS

ABUTMENT 1	ABUTMENT 2
BEAM 1 501.146	BEAM 1 501.703
BEAM 2 501.377	BEAM 2 501.928
BEAM 3 501.609	BEAM 3 502.153
BEAM 4 501.841	BEAM 4 502.378
BEAM 5 501.874	BEAM 5 502.393
BEAM 6 501.668	BEAM 6 502.181
BEAM 7 501.463	BEAM 7 501.969
BEAM 8 501.257	BEAM 8 501.756

APPROX. TOP OF EXISTING ABUT. CAP ELEV.

ABUT. 1 EB	499.40
ABUT. 2 EB	499.89
ABUT. 1 WB	499.33
ABUT. 2 WB	499.88

DATE: APRIL 2019	CHECKED BY:
DESIGNED BY: DCK	WMM
DETAILED BY: STP	DCK
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
OHIO COUNTY	
ROUTE: WKPK	CRSISING: US 231
ABUTMENT DETAILS	
PREPARED BY:	SHEET NO.:
HMB PROFESSIONAL ENGINEERS, INC.	SS
CREATING NO.:	28038



ITEM NUMBER: _____

SECTION D-D

SECTION C-C

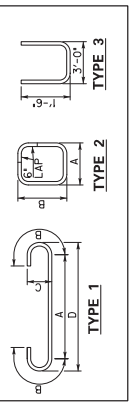
SECTION B-B

SECTION A-A

PIER BILL OF REINFORCEMENT

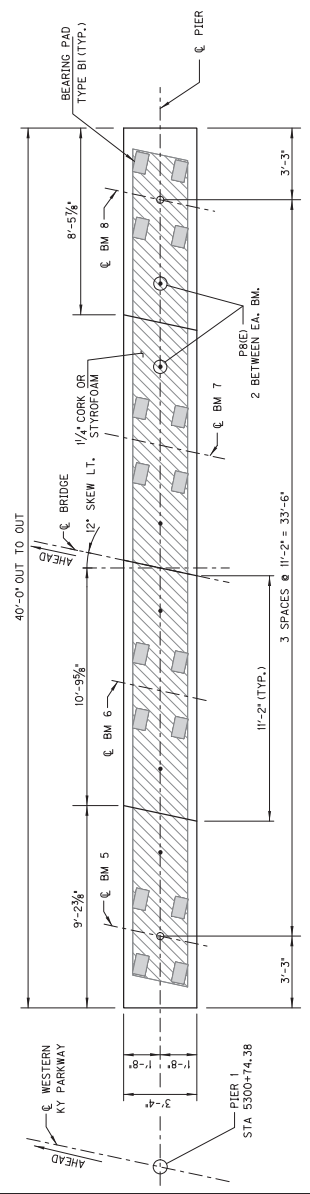
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				FT	IN		FT	IN	FT	IN	FT	IN	FT	IN
P1	②	104	#4	11	4	CAP	2	0	3	2				
P2	③	36	#4	11	8	COLUMN	2	8	2	8				
P3	①	6	#8	41	10	CAP	39	0	1	5	0	8	39	8
P4	STR	6	#8	39	8	CAP								
P5	STR	10	#5	39	8	CAP								
P6	STR	4	#5	19	4	CAP								
P7	③	20	#4	6	0	CAP								
P8 (E)	STR	6	D	2	0	CAP								
P9	STR	54	#8	14	0	COLUMN								

NOTE: D INDICATES 1/2" DIAMETER SMOOTH ROUND EPOXY COATED BAR.
 NOTE: BILL OF REINFORCEMENT SHOWS REBAR FOR SINGLE PIER.



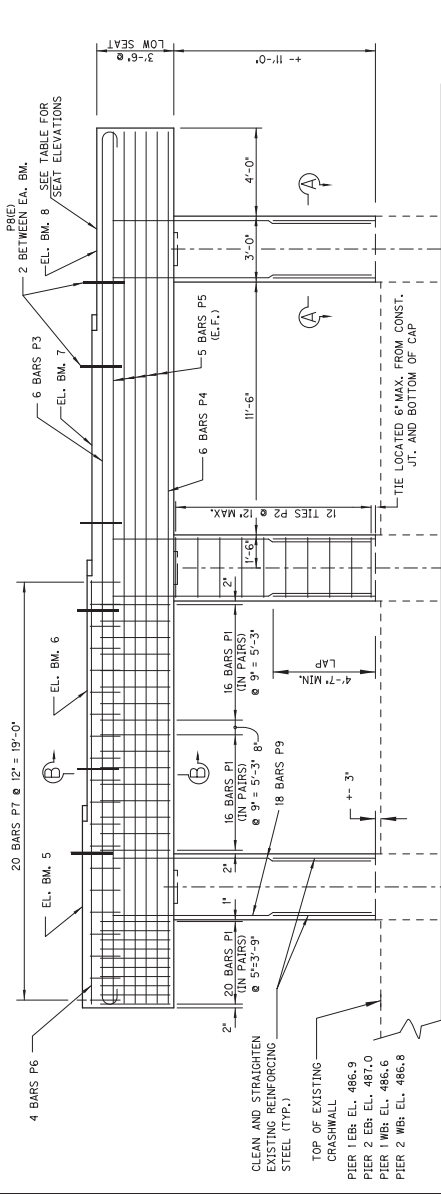
BRIDGE SEAT ELEVATIONS

PIER	SEAT	BEAM	NO.	SIZE	LENGTH
PIER 1	SEAT	BEAM 1	501.339	#4	11
		BEAM 2	501.569	#4	11
		BEAM 3	501.799	#4	11
		BEAM 4	502.029	#4	11
		BEAM 5	502.051	#4	11
PIER 2	SEAT	BEAM 6	501.849	#4	11
		BEAM 7	501.642	#4	11
		BEAM 8	501.434	#4	11
		BEAM 9	501.226	#4	11



PLAN

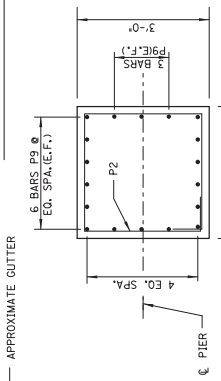
(PIER 1 EB SHOWN, OTHERS SIMILAR)
(LOOKING AHEAD)



PIER ELEVATION

(PIER 1 EB SHOWN, OTHERS SIMILAR)
(LOOKING AHEAD)

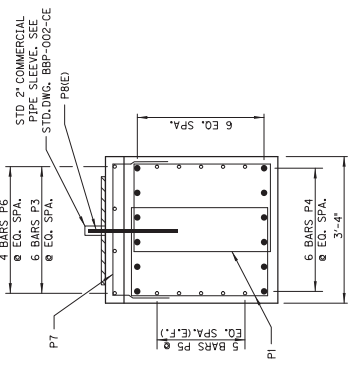
END ELEVATION



SECTION A-A

NOTE: NON-CONTACT LAP SPLICES ARE ACCEPTABLE AS THERE ARE ONLY 12 BARS IN THE EXISTING COLUMN.

SECTION B-B



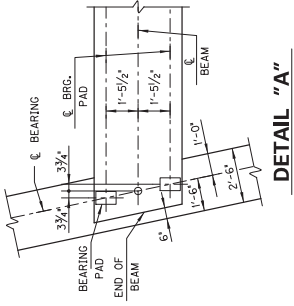
REVISION	DATE	CHECKED BY
APRIL 2019		
DESIGNED BY:	DKK	MM
DETAILED BY:	STP	DKK

COMMUNICABLE OF KENTUCKY
DEPARTMENT OF HIGHWAYS
COUNTY: OHIO

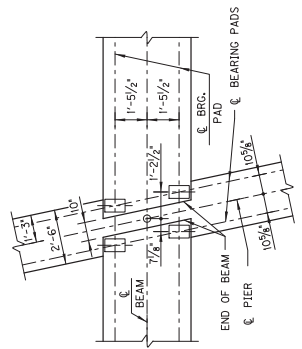
ROUTE: WKP CROSSING: US 231

PIER DETAILS
PREPARED BY: HMB PROFESSIONAL ENGINEERS, INC.
SHEET NO. S6
DRAWING NO. 28038

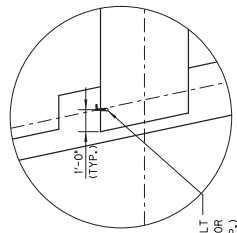
ITEM NUMBER



DETAIL "A"

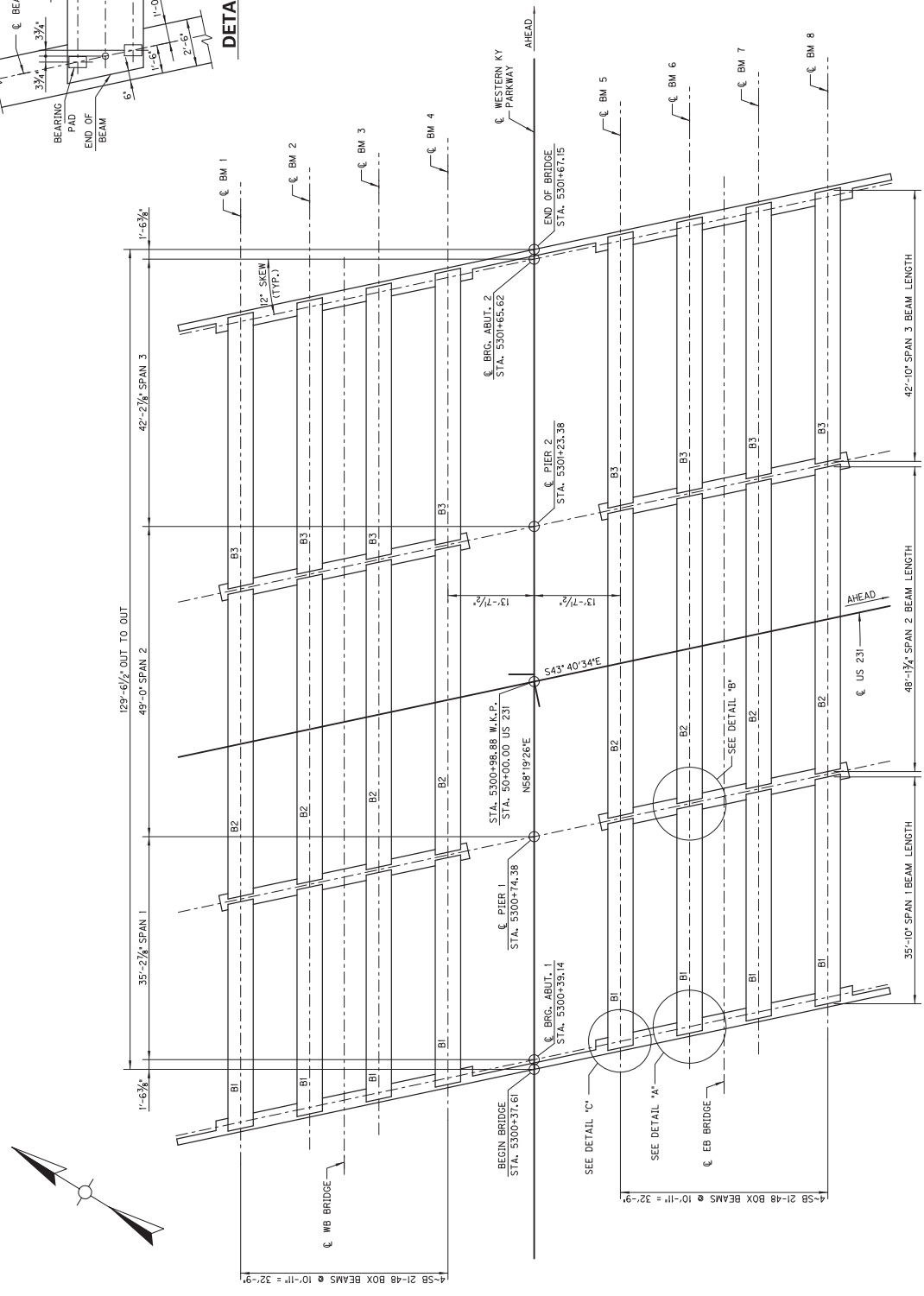


DETAIL "B"



DETAIL "C"

◊ INSERT AND 1/2 Ø HOOK BOLT
IN EXTERIOR FACE OF EXTERIOR
BEAM AT ABUTMENTS (TYP.)



FRAMING PLAN

DATE: APRIL 2019	CHECKED BY:
DESIGNED BY: HMM	DATE:
DETAILED BY: BTP	DATE:
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY OHIO	
ROUTE WKPK	CROSSING US 231
FRAMING PLAN	
PREPARED BY: HMB PROFESSIONAL ENGINEERS, INC.	SHEET NO. S7
	CONTRACT NO. 28038



ITEM NUMBER _____

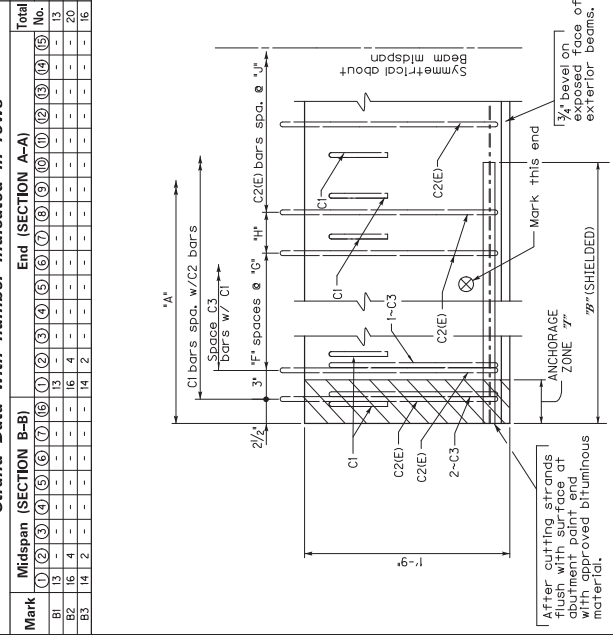
General Notes

CONCRETE: Ensure prestressed girder concrete is in accordance with these plans and specifications.
MATERIALS DESIGN SPECIFICATIONS: For prestressed beams:
f'_c = 60,000 psi f'_s = 270,000 psi
PRESTRESSING REINFORCEMENT: Ensure that strands are 0.6 nominal diameter, low relaxation, low relaxation stress relieved, low relaxation, conforming to ASTM A 270, in accordance with the specifications for alternate strand type or arrangement. The designer of the original plans is responsible for the billing and work.
CONSTRUCTION METHOD: Prestension all beams. Ensure concrete has attained f'ci (shown in the table) in standard test cylinders that are made and cured identically with the beams, without bond stresses being transferred to the concrete or releasing the strands. Prestressing strands shall be honeycombed to develop a stress of 202,500 psi. Initial force of 43,943 lbs. per low-relaxation strand to develop a stress of 202,500 psi. No beam will be accepted that is honeycombed to the extent that a strength of the beam or resistance to deterioration has been affected. An allowance of 0.0005L is considered incidental to the completion of the structure and have the approval of the Engineer.
LIFTING DEVICES: Derrill lifting devices on the shop plans. Loads are to be distributed evenly to each device.
BEARING DEVICES: Include the price for lead plates and/or bearing pads in the bid for precast beams.
FABRICATION: The "Maximum Allowable Camber" shown on the beam sheet is the amount of camber measured prior to casting the deck, above which the beam will begin to deflect downward after curing. The contractor will be responsible for any necessary adjustments to assure a minimum slab thickness of eight (8) inches as shown in the plans. This work will be considered incidental to the completion of the structure and have the approval of the Engineer.

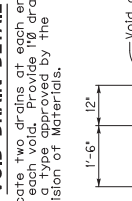
Beam Data (measured along centerline)

Mark	Midspan (SECTION B-B)															Total	No. of S Bars	Hold-Down Capacity (k/strand)	Total No.								
	End (SECTION A-A)					Dimensions																					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	A	B	C	D	E	F	G	H	I	J	M	
B1	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	35'-10"	20	5'-6"	15'-9"	17'-6"	17'-6"	17'-6"	17'-6"	17'-6"	17'-6"	17'-6"	25'62
B2	16	16	16	16	16	16	16	16	16	16	16	16	16	16	48'-11 1/4"	4'-0"	20	5'-1 1/8"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	3485	
B3	14	12	14	12	14	12	14	12	14	12	14	12	14	12	42'-10"	0	8	42'-10"	0	8	42'-10"	0	8	42'-10"	0	3516	

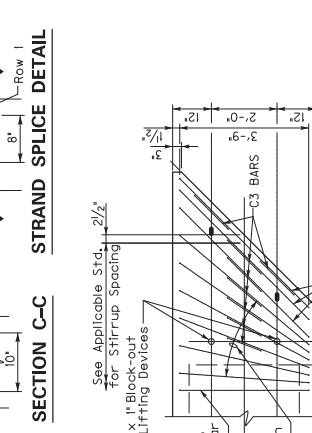
Strand Data with number indicated in rows



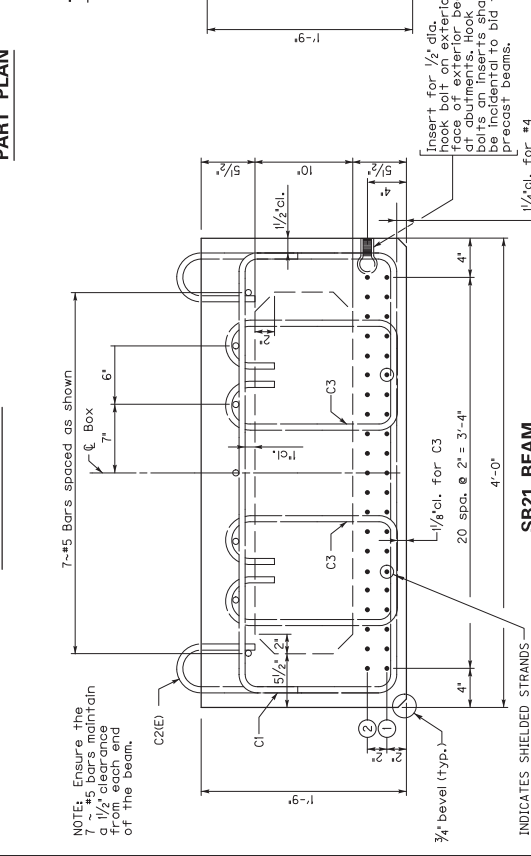
VOID DRAIN DETAIL



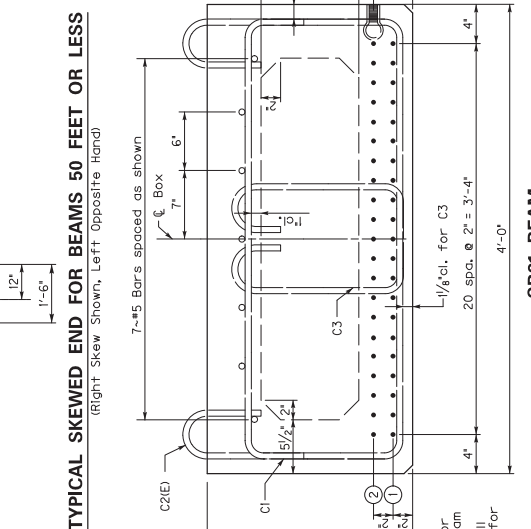
STRAND SPLICE DETAIL



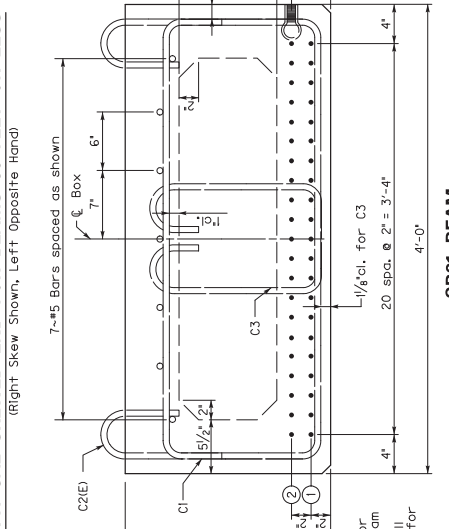
SB21 ELEVATION



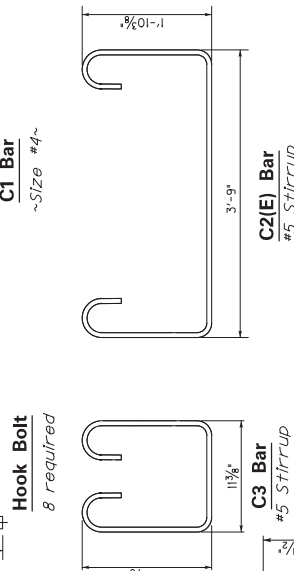
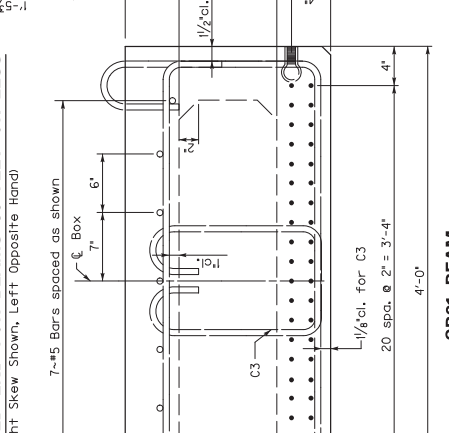
PART PLAN



TYPICAL SKEWED END FOR BEAMS 50 FEET OR LESS



SECTION C-C

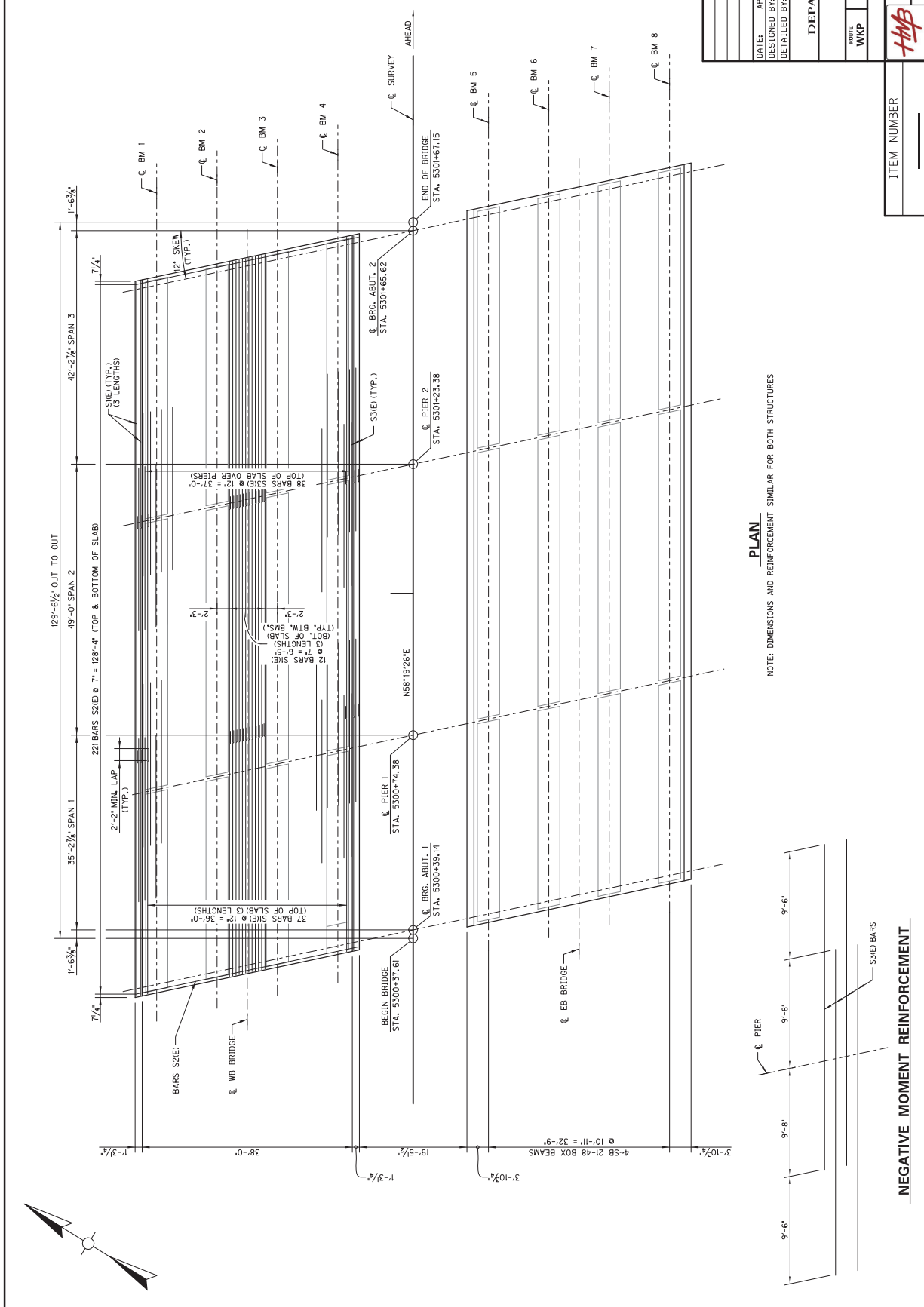


REVISION TABLE

DATE	REVISION	CHECKED BY	DATE
APRIL 2019	DESIGNED BY: DCK	HMM	
	DETAILED BY: BTP	DCK	

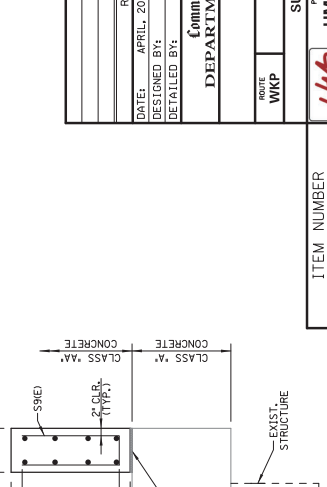
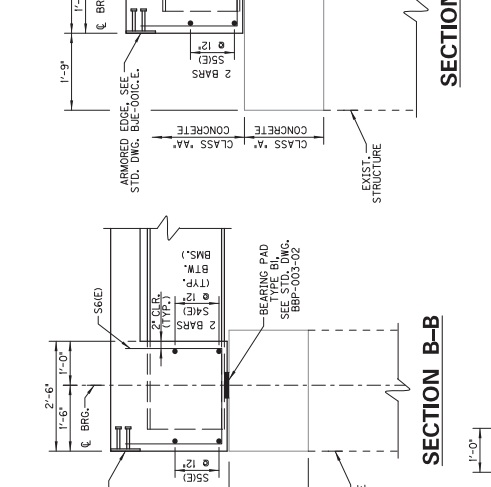
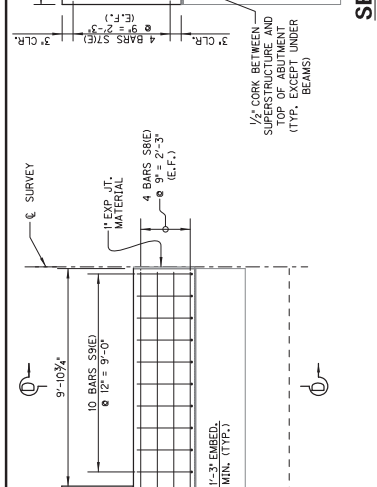
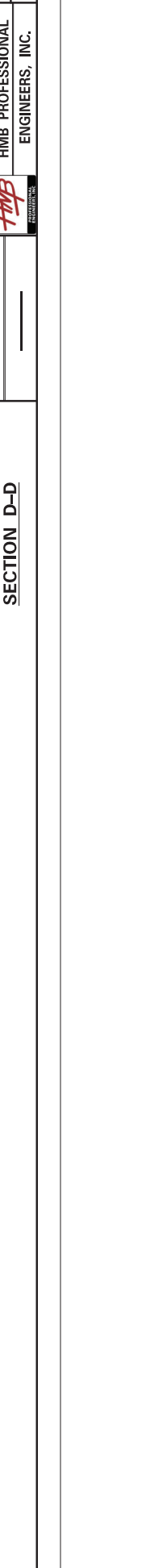
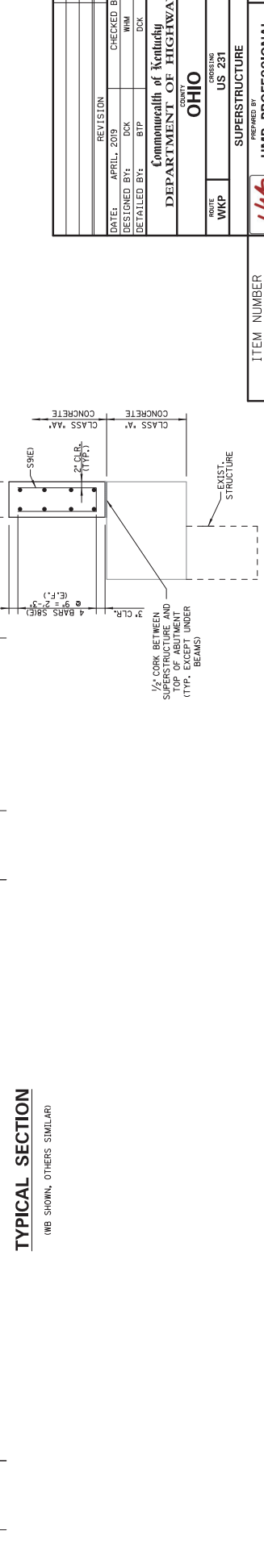
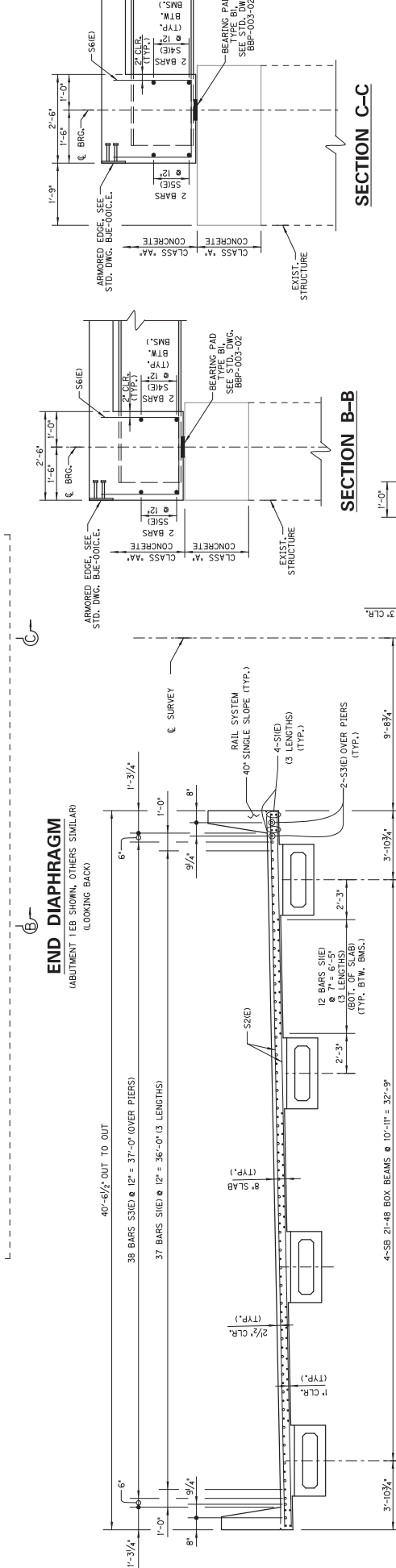
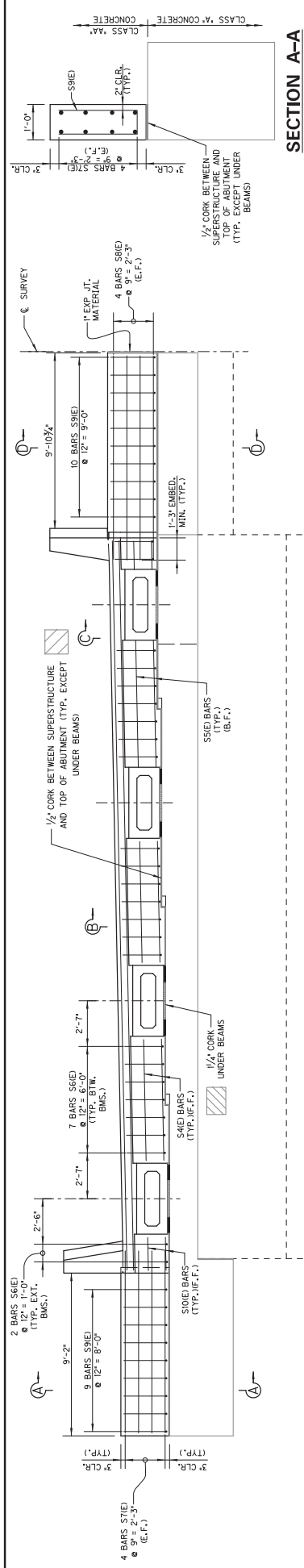
OHIO COUNTY
COMMUNWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

PROJECT: 21x48 BEAM DETAILS
SHEET NO. SB 28038
DATE: 9/5/2019
DRAWN: JPM



REVISION	DATE	CHECKED BY
	APRIL 2019	
DESIGNED BY:	DKP	MM
DETAILED BY:	BTP	DCK
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY: OHIO ROUTE: WKP CROSSING: US 231 SUPERSTRUCTURE:		
PREPARED BY:	HMB PROFESSIONAL ENGINEERS, INC.	
SHEET NO.:	S9	
CONTRACT NO.:	28038	

ITEM NUMBER _____



SECTION A-A

SECTION C-C

SECTION B-B

SECTION D-D

END DIAPHRAGM
(ABUTMENT 1 EB SHOWN, OTHERS SIMILAR)
(LOOKING BACK)

TYPICAL SECTION
(WB SHOWN, OTHERS SIMILAR)

DATE: APRIL, 2019	CHECKED BY: HMM
DESIGNED BY: DCK	DATE: HMM
DETAILED BY: BTP	DATE: DCK
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
OHIO COUNTY	
ROUTE: WKP	CROSSING: US 281
SUPERSTRUCTURE	
PREPARED BY: HMM PROFESSIONAL ENGINEERS, INC.	SHEET NO.: S10
CONTRACT NO.: 092GR19M050	DATE PLOTTED: 5/16/2019 12:58:03 PM
PROJECT NO.: 28038	FILE NAME: C:\Eng\19\092GR19M050\WKP-SuperStructure.dgn

REVISION	DATE

ITEM NUMBER	
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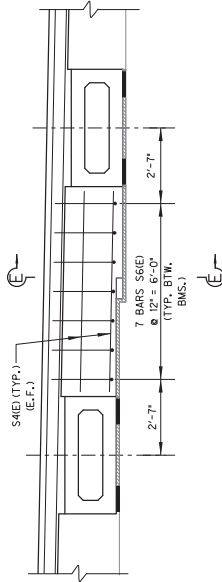
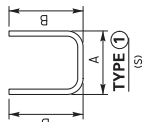
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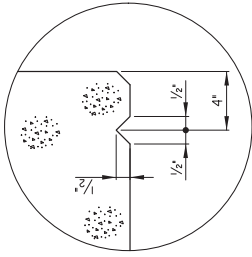
SUPERSTRUCTURE BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH		A		B		C		D	
				FT	IN	FT	IN	FT	IN	FT	IN	FT	IN
S1(E)	STR	486	#5	44	7								
S2(E)	STR	884	#5	41	1								
S3(E)	STR	188	#6	28	10								
S4(E)	STR	72	#5	6	9								
S5(E)	STR	8	#5	41	1								
S6(E)	STR	184	#5	6	4			2	2	1			
S7(E)	STR	32	#5	10	9								
S8(E)	STR	32	#5	11	6								
S9(E)	STR	76	#6	5	4								
S10(E)	STR	16	#5	1	7			0	8	2	4		

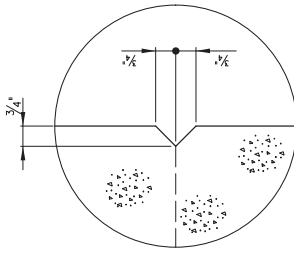
BAR TYPES



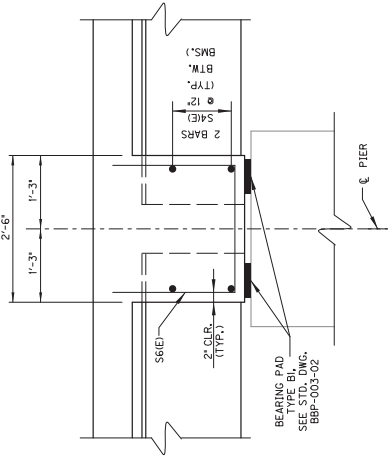
PIER DIAPHRAGM



DRIP NOTCH DETAIL



RUSTICATION GROOVE DETAIL

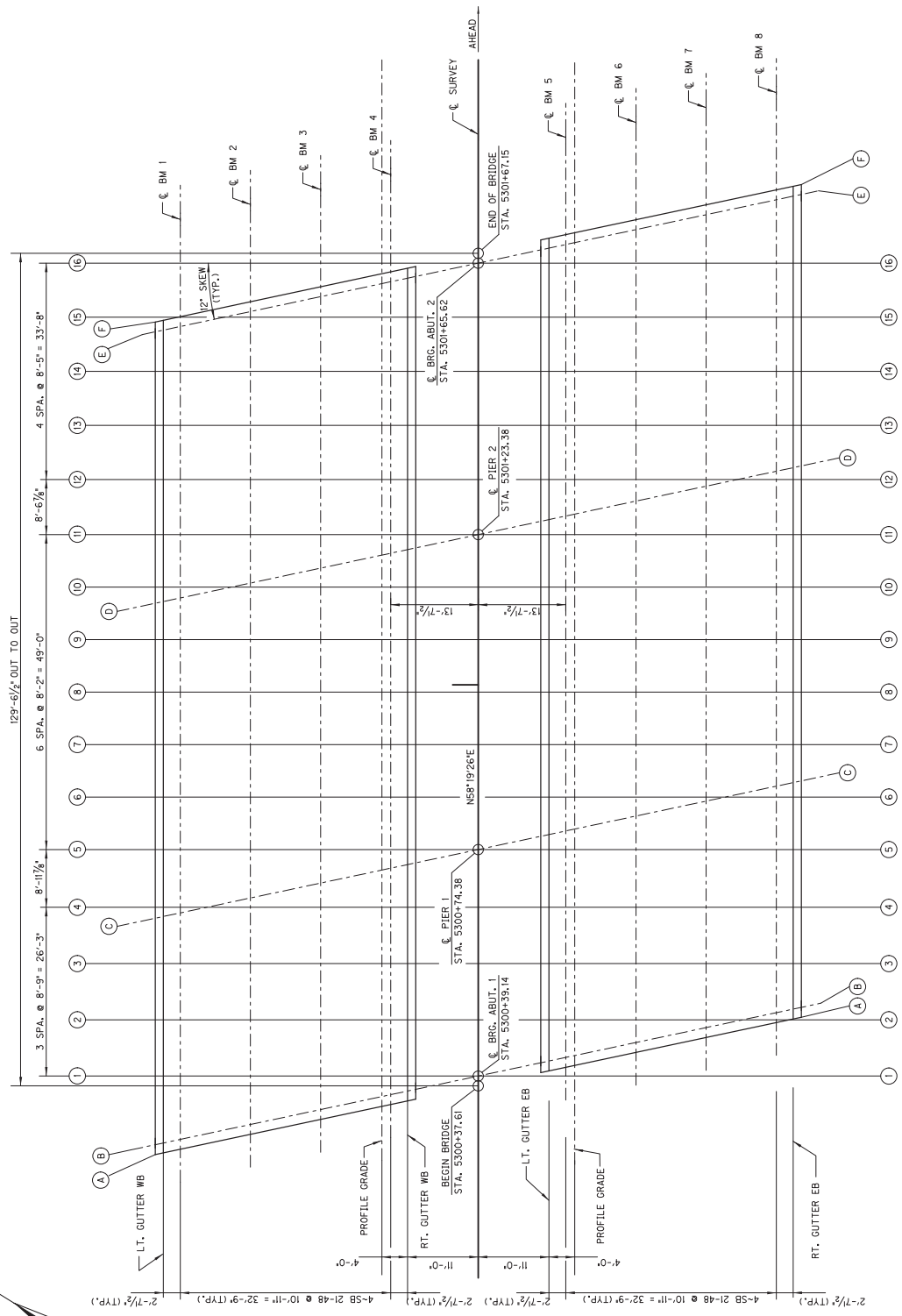
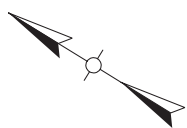


SECTION E-E

DATE	REVISION	DATE
APRIL, 2019		
DESIGNED BY:	CHKD BY:	CHECKED BY:
DCK	MM	
DETAILED BY:	SIP	DCK
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
OHIO		
ROUTE	CROSSING	
WKP	US 281	
SUPERSTRUCTURE		
PREPARED BY:		
HMB PROFESSIONAL ENGINEERS, INC.		
SHEET NO. S11		
CONTRACT NO. 28038		



ITEM NUMBER	
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GRID LAYOUT

DATE:	APRIL 2019	CHECKED BY:	
DESIGNED BY:	DCK	INCH:	MM
DETAILED BY:	STP	SCALE:	DCK
PREPARED BY HMB PROFESSIONAL ENGINEERS, INC. COUNTY OHIO			
CONSTRUCTION ELEVATIONS ROUTE WKFP CROSSING US 281			
SHEET NO. S12 CONTRACT NO. 28038			

ITEM NUMBER	
-------------	--

EASTBOUND CONSTRUCTION ELEVATIONS

LOCATION	L.T. GUTTER	BEAM 5 CONST. TOP OF DIM ELEV. BEAM "A"	PROFILE GRADE	BEAM 6 CONST. TOP OF DIM ELEV. BEAM "A"	BEAM 7 CONST. TOP OF DIM ELEV. BEAM "A"	BEAM 8 CONST. TOP OF DIM ELEV. BEAM "A"	RT. GUTTER
AA	505.655	504.660	504.587	504.384	504.162	504.001	503.888
AB	505.655	504.716	504.635	504.443	504.222	504.001	503.888
BB	504.816	504.706	504.671	504.489	504.272	504.053	503.941
CC	504.786	504.747	504.720	504.539	504.332	504.124	504.074
DD	505.002	504.852	504.825	504.742	504.532	504.321	504.271
EE	505.134	505.083	505.057	504.871	504.659	504.446	504.395
FF	505.138	505.087	505.061	504.875	504.662	504.450	504.399
1							
2							
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16							

WESTBOUND CONSTRUCTION ELEVATIONS

LOCATION	L.T. GUTTER	BEAM 1 CONST. TOP OF DIM ELEV. BEAM "A"	BEAM 2 CONST. TOP OF DIM ELEV. BEAM "A"	BEAM 3 CONST. TOP OF DIM ELEV. BEAM "A"	PROFILE GRADE	BEAM 4 CONST. TOP OF DIM ELEV. BEAM "A"	RT. GUTTER
AA	503.771	504.397	504.186	504.614	504.528	504.553	504.634
AB	503.788	504.443	504.222	504.635	504.587	504.614	504.686
BB	503.969	504.477	504.255	504.655	504.635	504.663	504.716
CC	503.974	504.489	504.255	504.655	504.671	504.695	504.752
DD	504.194	504.249	504.476	504.811	504.719	504.719	504.774
EE	504.339	504.383	504.618	504.843	504.825	504.852	504.885
FF	504.344	504.386	504.622	504.847	504.825	504.852	504.885
1							
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16							

NOTE: CONSTRUCTION ELEVATIONS INCLUDE CAMBER TO ACCOUNT FOR DEAD LOAD DEFLECTION.

NOTES:

ELEVATIONS TAKEN ON PRESTRESSED CONCRETE SPANS

TAKE ELEVATIONS ON TOP OF BEAM AT POINTS INDICATED BY THE GRID LAYOUT. THE BEAM ELEVATIONS ARE TO BE READ TO THREE DECIMALS AND ENTERED IN TABLES UNDER "TOP OF BEAM ELEVATIONS."

COMPLETE DIMENSION "X" AS FOLLOWS:

"CONSTRUCTION ELEVATION MINUS TOP OF BEAM ELEVATION EQUALS DIMENSION "X". CONSTRUCTION ELEVATIONS INCLUDE CAMBER DUE TO WEIGHT OF CONCRETE SLAB AND BARRIER. MEASURING OF DIMENSION "X" GIVES THE FINAL CHECK ON BEAM TOLERANCES FOR CAMBER. BEAM DIMENSIONS MUST BE CHECKED TO PREVENT PRODUCE REVERSE CAMBERS, SAGS AND UNSIGHTLY FASCIA BEAMS.

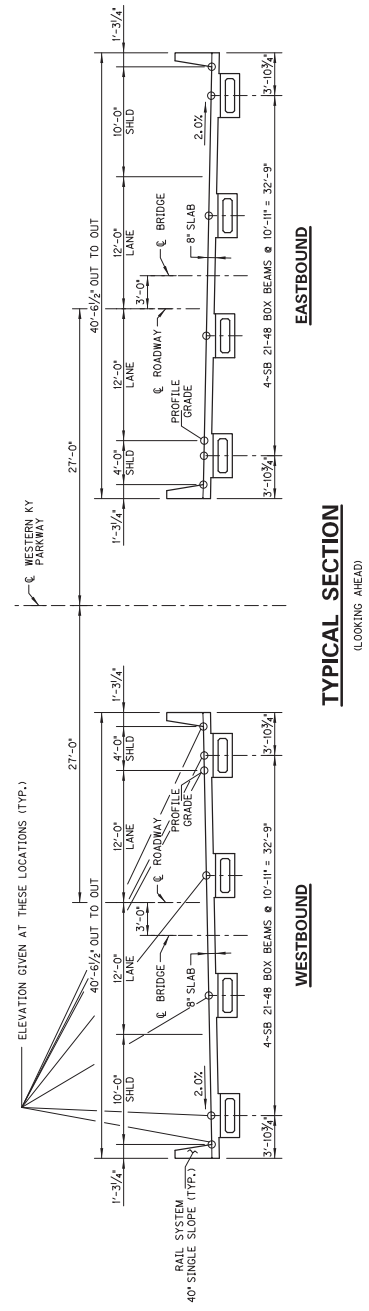
FOR SETTING TEMPLATES MEASURE DIMENSION "X" ABOVE TOP OF BEAMS FOR TOP OF TEMPLATE. DO NOT SET TEMPLATE BY ELEVATIONS.

TEMPORARY SUPPORTS OR SHORING WILL NOT BE PERMITTED UNDER THE BRIDGE FLOOR SLAB. THE CONCRETE FLOOR SLAB OR WHEN TAKING "TOP OF BEAM ELEVATIONS."

CONSTRUCT BARRIER TO ROADWAY GRADE.

NOTE TO RESIDENT: THE "MAXIMUM ALLOWABLE CAMBER" SHOWN ON THE BEAM SHEET IS THE AMOUNT OF CAMBER, MEASURED PRIOR TO CASTING THE SLAB, IF THE MEASURED CAMBER IS GREATER THAN THE "MAXIMUM ALLOWABLE CAMBER" THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY NECESSARY ADJUSTMENTS TO ASSURE A MINIMUM SLAB THICKNESS OF 4 INCHES THROUGHOUT THE ENTIRE BRIDGE. THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF THE STRUCTURE AND HAVE THE APPROVAL OF THE ENGINEER.

DATE: APRIL, 2019	REVISION	CHECKED BY
DESIGNED BY: HMM	DATE	DATE
DETAILED BY: HMM	DATE	DATE
COMMUNWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS COUNTY: OHIO		
ROUTE: WPKP	CROSSING: US 231	PROJECT NO.: 28038
PREPARED BY: HMB PROFESSIONAL ENGINEERS, INC.		
SHEET NO.: S13 CONTRACT NO.: 28038		



TYPICAL SECTION
(LOOKING AHEAD)

SHEET	TERMIN.	COUNTY OF
S14		

General Notes

This rail system has been structurally evaluated to be equivalent or greater in strength to other single slope railings which have been crash tested to MASH TL-4 Criteria. This rail system can be used for speeds of 50 mph or greater when a TL-3 rated transition is used. When a TL-2 transition is used, this railing can only be used for 45 mph or less.

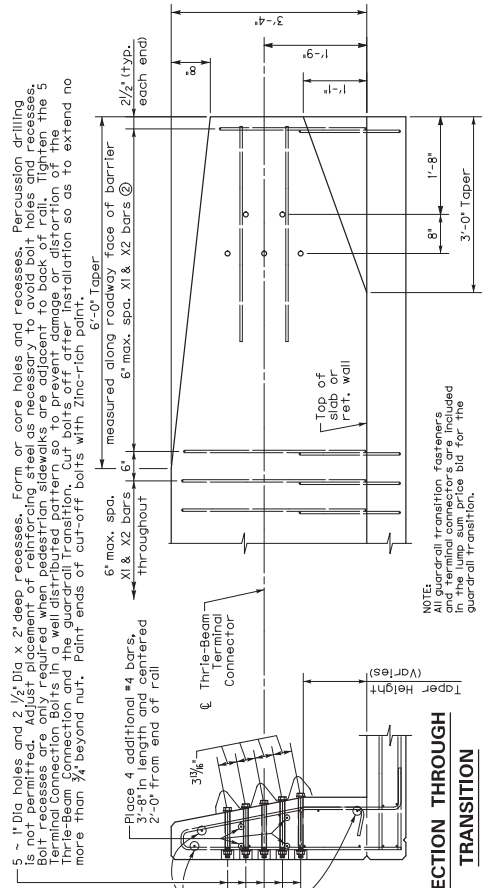
CONCRETE: Use Class AA Concrete throughout.

SHOP DRAWINGS: Are not required for this rail.

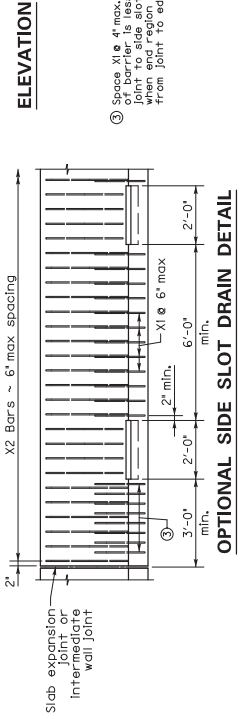
OPTIONAL WELDED WIRE REINFORCEMENT: At the contractor's option, deformed welded wire reinforcement (WWR) in accordance with ASTM A1064 and epoxy coated in accordance with ASTM A884 may be used in place of stirrup bars X1, X2 and X3 as well as the straight or longitudinal reinforcement attached to these stirrups. Use size D20 wire for both stirrups and straight reinforcement. Locate and space the wire reinforcement the same as the conventional reinforcement. Use a minimum 1-lap for the straight reinforcement between sheets of WWR.

MEASUREMENT: The linear foot for the barrier is measured along the roadway cut/terline. Include all reinforcement shown and all concrete above the top of slab in the bid item for Rail System, 40" Inch Single Slope.

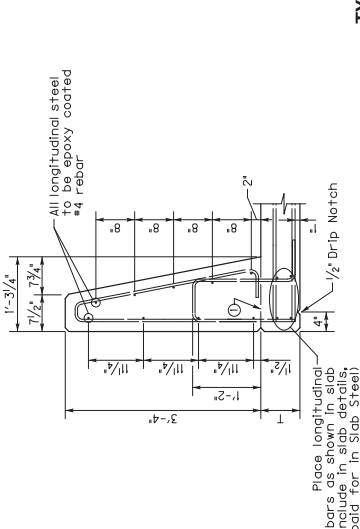
REINFORCEMENT: All reinforcement shown on this sheet is to be epoxy coated Grade 60. Use stirrup bend diameters for all bent bars. Straight reinforcement is to be Size #4 and lapped 1'-11" when necessary. Average weight of rail is 474 lb/ft.



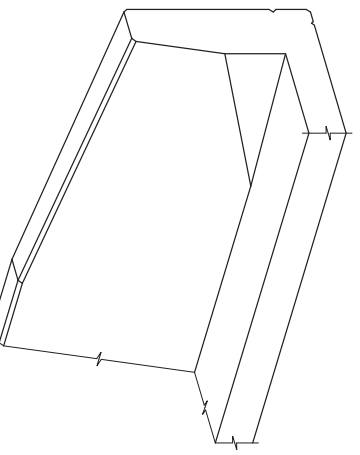
SECTION THROUGH TRANSITION



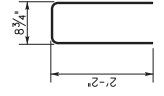
ELEVATION



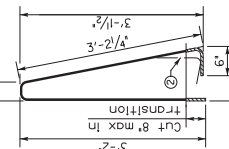
OPTIONAL SIDE SLOT DRAIN DETAIL



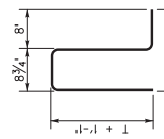
OBLIQUE VIEW



X3(e) Bars
#4 Bar



X2(e) Bars
#4 Bar



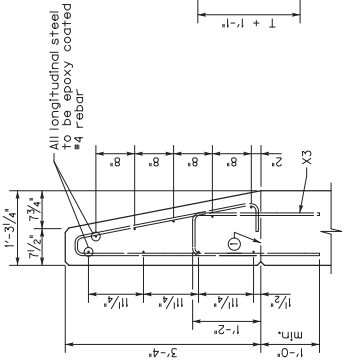
X1(e) Bars
#4 Bar



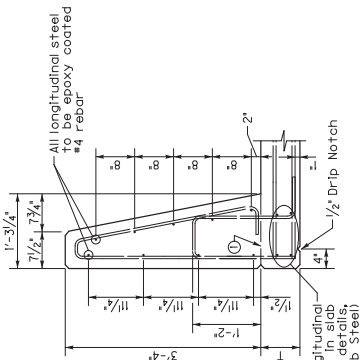
"V-Groove" Rustication

Note: Open joints are not required.

Space X1 is 4" max. when end region of barrier is less than 6'-0" from edge of side slot. When end region is greater than 6'-0" from joint to edge of side slot.



TYPICAL 40" BARRIER SECTION ON RETAINING WALL



TYPICAL 40" BARRIER SECTION

① Mandatory roughened construction joint. Concrete above this joint is to be placed after slab has been cast for Rail System, 40" Inch Single Slope.

② Bend and field cut X2 bar as necessary to maintain 2" min. clearance to sides of taper and 2" to top of barrier.

KENTUCKY DEPARTMENT OF HIGHWAYS
RAILING SYSTEM
40 INCH SINGLE SLOPE

SUBMITTED: *[Signature]* 5-15-19
DATE: _____
ACTING DEPUTY DIVISION OF HIGHWAY DESIGN

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2016*.

SUPPLEMENTAL SPECIFICATIONS

The contractor shall use the Supplemental Specifications that are effective at the time of letting.
The Supplemental Specifications can be found at the following link:

<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

**TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS**

**LABOR AND WAGE REQUIREMENTS
APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS**

- I. Application
- II. Nondiscrimination of Employees (KRS 344)

I. APPLICATION

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

3. A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

II. NONDISCRIMINATION OF EMPLOYEES

**AN ACT OF THE KENTUCKY
GENERAL ASSEMBLY TO PREVENT
DISCRIMINATION IN EMPLOYMENT
KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

Kentucky Equal Employment Opportunity Act of 1978

The requirements of the Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) shall apply to this Contract. The apparent low Bidder will be required to submit EEO forms to the Division of Construction Procurement, which will then forward to the Finance and Administration Cabinet for review and approval. No award will become effective until all forms are submitted and EEO/CC has certified compliance. The required EEO forms are as follows:

- EEO-1: Employer Information Report
- Affidavit of Intent to Comply
- Employee Data Sheet
- Subcontractor Report

These forms are available on the Finance and Administration's web page under ***Vendor Information, Standard Attachments and General Terms*** at the following address:
<https://www.eProcurement.ky.gov>.

Bidders currently certified as being in compliance by the Finance and Administration Cabinet may submit a copy of their approval letter in lieu of the referenced EEO forms.

For questions or assistance please contact the Finance and Administration Cabinet by email at **finance.contractcompliance@ky.gov** or by phone at 502-564-2874.

EMPLOYEE RIGHTS UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

FEDERAL MINIMUM WAGE

\$7.25 PER HOUR

BEGINNING JULY 24, 2009

OVERTIME PAY At least 1½ times your regular rate of pay for all hours worked over 40 in a workweek.

CHILD LABOR An employee must be at least **16** years old to work in most non-farm jobs and at least **18** to work in non-farm jobs declared hazardous by the Secretary of Labor.

Youths **14** and **15** years old may work outside school hours in various non-manufacturing, non-mining, non-hazardous jobs under the following conditions:

No more than

- **3** hours on a school day or **18** hours in a school week;
- **8** hours on a non-school day or **40** hours in a non-school week.

Also, work may not begin before **7 a.m.** or end after **7 p.m.**, except from June 1 through Labor Day, when evening hours are extended to **9 p.m.** Different rules apply in agricultural employment.

TIP CREDIT Employers of “tipped employees” must pay a cash wage of at least \$2.13 per hour if they claim a tip credit against their minimum wage obligation. If an employee’s tips combined with the employer’s cash wage of at least \$2.13 per hour do not equal the minimum hourly wage, the employer must make up the difference. Certain other conditions must also be met.

ENFORCEMENT The Department of Labor may recover back wages either administratively or through court action, for the employees that have been underpaid in violation of the law. Violations may result in civil or criminal action.

Employers may be assessed civil money penalties of up to \$1,100 for each willful or repeated violation of the minimum wage or overtime pay provisions of the law and up to \$11,000 for each employee who is the subject of a violation of the Act’s child labor provisions. In addition, a civil money penalty of up to \$50,000 may be assessed for each child labor violation that causes the death or serious injury of any minor employee, and such assessments may be doubled, up to \$100,000, when the violations are determined to be willful or repeated. The law also prohibits discriminating against or discharging workers who file a complaint or participate in any proceeding under the Act.

ADDITIONAL INFORMATION

- Certain occupations and establishments are exempt from the minimum wage and/or overtime pay provisions.
- Special provisions apply to workers in American Samoa and the Commonwealth of the Northern Mariana Islands.
- Some state laws provide greater employee protections; employers must comply with both.
- The law requires employers to display this poster where employees can readily see it.
- Employees under 20 years of age may be paid \$4.25 per hour during their first 90 consecutive calendar days of employment with an employer.
- Certain full-time students, student learners, apprentices, and workers with disabilities may be paid less than the minimum wage under special certificates issued by the Department of Labor.

For additional information:



1-866-4-USWAGE

(1-866-487-9243)

TTY: 1-877-889-5627



WWW.WAGEHOUR.DOL.GOV

PART IV
INSURANCE

INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

- 1) Commercial General Liability-Occurrence form – not less than \$2,000,000 General aggregate, \$2,000,000 Products & Completed Aggregate, \$1,000,000 Personal & Advertising, \$1,000,000 each occurrence.
- 2) Automobile Liability- \$1,000,000 per accident
- 3) Employers Liability:
 - a) \$100,000 Each Accident Bodily Injury
 - b) \$500,000 Policy limit Bodily Injury by Disease
 - c) \$100,000 Each Employee Bodily Injury by Disease
- 4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
 - a) "policy contains no deductible clauses."
 - b) "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."
- 5) KENTUCKY WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART V
BID ITEMS

PROPOSAL BID ITEMS

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Section: 0001 - BRIDGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	200.00	TON		\$	
0020	00100		ASPHALT SEAL AGGREGATE	7.50	TON		\$	
0030	00103		ASPHALT SEAL COAT	2.00	TON		\$	
0040	00194		LEVELING & WEDGING PG76-22	75.00	TON		\$	
0050	00219		CL4 ASPH BASE 1.00D PG76-22	220.00	TON		\$	
0060	00335		CL4 ASPH SURF 0.50A PG76-22	596.00	TON		\$	
0070	01691		FLUME INLET TYPE 2	2.00	EACH		\$	
0080	01890		ISLAND HEADER CURB TYPE 1	34.00	LF		\$	
0090	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	14.00	EACH		\$	
0100	01984		DELINEATOR FOR BARRIER - WHITE	16.00	EACH		\$	
0110	01985		DELINEATOR FOR BARRIER - YELLOW	8.00	EACH		\$	
0120	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	9.00	EACH		\$	
0130	02023		JPC PAVEMENT-9 IN/24	250.00	SQYD		\$	
0140	02091		REMOVE PAVEMENT	250.00	SQYD		\$	
0150	02159		TEMP DITCH	675.00	LF		\$	
0160	02160		CLEAN TEMP DITCH	168.75	LF		\$	
0170	02165		REMOVE PAVED DITCH	83.00	SQYD		\$	
0180	02231		STRUCTURE GRANULAR BACKFILL	204.00	CUYD		\$	
0190	02351		GUARDRAIL-STEEL W BEAM-S FACE	775.00	LF		\$	
0200	02352		GUARDRAIL-STEEL W BEAM-D FACE	275.00	LF		\$	
0210	02360		GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH		\$	
0220	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	8.00	EACH		\$	
0230	02365		CRASH CUSHION TYPE IX-A	2.00	EACH		\$	
0240	02367		GUARDRAIL END TREATMENT TYPE 1	4.00	EACH		\$	
0250	02372		REMOVE GUARDRAIL CON TO BR END	6.00	EACH		\$	
0260	02381		REMOVE GUARDRAIL	1,075.00	LF		\$	
0270	02387		GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	2.00	EACH		\$	
0280	02403		REMOVE CONCRETE MASONRY	134.00	CUYD		\$	
0290	02484		CHANNEL LINING CLASS III	114.00	TON		\$	
0300	02545		CLEARING AND GRUBBING APPLIES TO 092B00132L	1.00	LS		\$	
0310	02545		CLEARING AND GRUBBING APPLIES TO 092B00132R	1.00	LS		\$	
0320	02562		TEMPORARY SIGNS	1,000.00	SQFT		\$	
0330	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO 092B00072L	1.00	LS		\$	
0340	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO 092B00072R	1.00	LS		\$	
0350	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000130L	1.00	LS		\$	
0360	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000130R	1.00	LS		\$	
0370	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000132L	1.00	LS		\$	
0380	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000132R	1.00	LS		\$	

PROPOSAL BID ITEMS

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000133L	1.00	LS		\$	
0400	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000133R	1.00	LS		\$	
0410	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000134L	1.00	LS		\$	
0420	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000134R	1.00	LS		\$	
0430	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		\$	
0440	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0450	02677		ASPHALT PAVE MILLING & TEXTURING	596.00	TON		\$	
0460	02696		SHOULDER RUMBLE STRIPS	1,632.00	LF		\$	
0470	02703		SILT TRAP TYPE A	6.00	EACH		\$	
0480	02704		SILT TRAP TYPE B	2.00	EACH		\$	
0490	02705		SILT TRAP TYPE C	2.00	EACH		\$	
0500	02706		CLEAN SILT TRAP TYPE A	6.00	EACH		\$	
0510	02707		CLEAN SILT TRAP TYPE B	2.00	EACH		\$	
0520	02708		CLEAN SILT TRAP TYPE C	2.00	EACH		\$	
0530	02726		STAKING	1.00	LS		\$	
0540	02775		ARROW PANEL	2.00	EACH		\$	
0550	02998		MASONRY COATING	1,999.00	SQYD		\$	
0560	03293		EXPAN JOINT REPLACE 1 IN	424.00	LF		\$	
0570	03294		EXPAN JOINT REPLACE 1 1/2 IN	170.00	LF		\$	
0580	03298		EXPAN JOINT REPLACE 4 IN	68.00	LF		\$	
0590	03299		ARMORED EDGE FOR CONCRETE	815.60	LF		\$	
0600	04933		TEMP SIGNAL 2 PHASE	2.00	EACH		\$	
0610	05950		EROSION CONTROL BLANKET	2,420.00	SQYD		\$	
0620	05952		TEMP MULCH	1,613.00	SQYD		\$	
0630	05953		TEMP SEEDING AND PROTECTION	1,210.00	SQYD		\$	
0640	05963		INITIAL FERTILIZER	.30	TON		\$	
0650	05964		MAINTENANCE FERTILIZER	.20	TON		\$	
0660	05989		SPECIAL SEEDING CROWN VETCH	290.00	SQYD		\$	
0670	05992		AGRICULTURAL LIMESTONE	.10	TON		\$	
0680	06511		PAVE STRIPING-TEMP PAINT-6 IN	15,500.00	LF		\$	
0690	06542		PAVE STRIPING-THERMO-6 IN W	3,023.00	LF		\$	
0700	06543		PAVE STRIPING-THERMO-6 IN Y	2,181.00	LF		\$	
0710	06556		PAVE STRIPING-DUR TY 1-6 IN W	2,115.00	LF		\$	
0720	06557		PAVE STRIPING-DUR TY 1-6 IN Y	1,672.00	LF		\$	
0730	06568		PAVE MARKING-THERMO STOP BAR-24IN	51.00	LF		\$	
0740	06574		PAVE MARKING-THERMO CURV ARROW	8.00	EACH		\$	
0750	08020		CRUSHED AGGREGATE SLOPE PROT	261.00	TON		\$	
0760	08100		CONCRETE-CLASS A	187.00	CUYD		\$	
0770	08104		CONCRETE-CLASS AA	338.00	CUYD		\$	
0780	08150		STEEL REINFORCEMENT	31,312.00	LB		\$	
0790	08151		STEEL REINFORCEMENT-EPOXY COATED	102,979.00	LB		\$	
0800	08301		REMOVE SUPERSTRUCTURE APPLIES TO 092B00132L	1.00	LS		\$	
0810	08301		REMOVE SUPERSTRUCTURE APPLIES TO 092B00132R	1.00	LS		\$	
0820	08504		EPOXY SAND SLURRY	934.00	SQYD		\$	
0830	08510		REM EPOXY BIT FOREIGN OVERLAY	5,526.00	SQYD		\$	

PROPOSAL BID ITEMS

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0840	08526		CONC CLASS M FULL DEPTH PATCH	31.30	CUYD		\$	
0850	08534		CONCRETE OVERLAY-LATEX	166.00	CUYD		\$	
0860	08549		BLAST CLEANING	6,460.00	SQYD		\$	
0870	08551		MACHINE PREP OF SLAB	5,526.00	SQYD		\$	
0880	08669		PRECAST PC BOX BEAM SB21	1,014.50	LF		\$	
0890	20071EC		JOINT ADHESIVE	3,332.00	LF		\$	
0900	20191ED		OBJECT MARKER TY 3	4.00	EACH		\$	
0910	21451ED		FILL AND GRADE MEDIAN	500.00	LF		\$	
0920	23010EN		PAVE MARK TEMP PAINT STOP BAR-24 IN	76.00	LF		\$	
0930	23032EN		BRIDGE BARRIER RETROFIT	1,084.00	LF		\$	
0940	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	69.00	LF		\$	
0950	23331EC		EPOXY-URETHANE WATERPROOFING	20,644.00	SQFT		\$	
0960	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE APPLIES TO 092B00072L	1.00	LS		\$	
0970	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE APPLIES TO 092B00072R	1.00	LS		\$	
0980	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE APPLIES TO 093B00133L	1.00	LS		\$	
0990	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE APPLIES TO 093B00133R	1.00	LS		\$	
1000	24094EC		PARTIAL DEPTH PATCHING	9.00	CUYD		\$	
1010	24489EC		INLAID PAVEMENT MARKER	42.00	EACH		\$	
1020	24894EC		REMOVE REMOVE FLUME - APPLIES TO 092B00132L	1.00	EACH		\$	
1030	24894EC		REMOVE REMOVE FLUME - APPLIES TO 092B00132R	1.00	EACH		\$	
1040	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	3.00	TON		\$	
1050	25025ED		THRIE BEAM GUARDRAIL TRANSITION TL-3	6.00	LF		\$	
1060	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	518.00	LF		\$	
1070	40030		TEMPORARY SILT FENCE	1,210.00	LF		\$	

Section: 0002 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1080	02569		DEMOBILIZATION	1.00	LS		\$	