COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	R1

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

PLANS OF
PROPOSED PROJECT

KNOTT COUNTY
GRADE, DRAIN & SURFACE WITH STRUCTURE PLANS
HOLLYBUSH ROAD CR 1108
OVER HOLLYBUSH CREEK
060C00022N

INDEX OF SHEETS

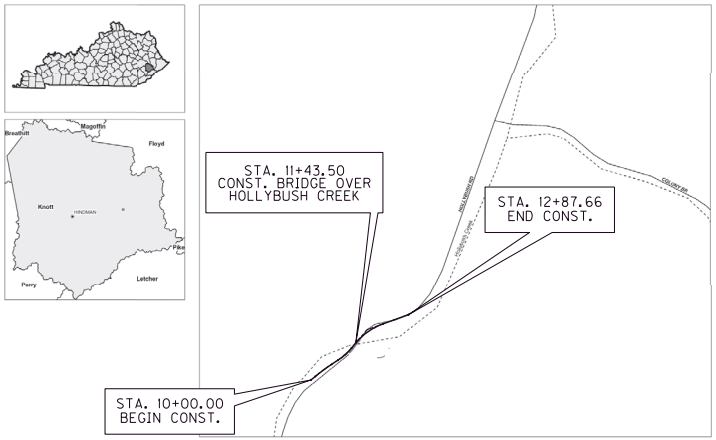
SHEETS NOT INCLUDED IN TOTAL SHEETS

U2A

STANDARD DRAWINGS

NUMBER

RBE-060-15
RBI-001-12
RBI-002-07
RBR-001-13
RBR-005-11
RBR-010-06
RBR-015-06
RBR-016-05
RBR-050-08
RBR-051-01
RBR-055-01
RBR-060
RDD-040-05
RDI-004-04
RDI-040-01
RDX-210-03
RDX-220-05
RDX-225-01
RGX-001-06
RGX-100-07
RGX-105-09
RGX-200-01
TTC-150-04
TTC-155-02
BGX-006-10



THIS PROJECT IS OFF THE NH SYSTEM

THE CONTROL OF ACCESS ON THIS PROJECT SHALL BE BY PERMIT

LAYOUT MAP

DESIGN CRITERIA

CLASS OF HIGHWAY: RURAL LOCAL ROAD
TYPE OF TERRAIN: ROLLING
DESIGN SPEED: NO POSTED SPEED
REQUIRED NPSD:
REQUIRED PSD:
LEVEL OF SERVICE:
ADT PRESENT (-):
ADT FUTURE (-):
DHV:
D %:
T %:

GEOGRAPHIC COORDINATES

LATITUDE 37 DEGREES 20 MINUTES 46 SECONDS NORTH
LONGITUDE 82 DEGREES 51 MINUTES 29 SECONDS WEST

DESIGNED

% RESTRICTED SD:
LEVEL OF SERVICE:
MAX. DISTANCE W/O PASSING:

HOLLYBUSH ROAD

LENGTH 287.66 LIN. FT. 0.054 MILES	LENGTH ___ LIN. FT. ___ MILES	LENGTH ___ LIN. FT. ___ MILES	LENGTH ___ LIN. FT. ___ MILES
ADDED / DEDUCTED — FOR EQUALITIES ___ LIN. FT. NOT INCLUDED	ADDED / DEDUCTED — FOR EQUALITIES ___ LIN. FT. NOT INCLUDED	ADDED / DEDUCTED — FOR EQUALITIES ___ LIN. FT. NOT INCLUDED	ADDED / DEDUCTED — FOR EQUALITIES ___ LIN. FT. NOT INCLUDED
RAILROAD CROSSINGS NO. ___ LIN. FT.	RAILROAD CROSSINGS NO. ___ LIN. FT.	RAILROAD CROSSINGS NO. ___ LIN. FT.	RAILROAD CROSSINGS NO. ___ LIN. FT.
BRIDGES ___ LIN. FT.	BRIDGES ___ LIN. FT.	BRIDGES ___ LIN. FT.	BRIDGES ___ LIN. FT.

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF

KNOTT

ITEM NO. 12-0243.0TH
PROJECT NUMBER: 060C00022N
D23A 4663-DR
LETTING DATE:

RECOMMENDED BY: _____ PROJECT MANAGER DATE:

PLAN APPROVED BY: _____ STATE HIGHWAY ENGINEER DATE:

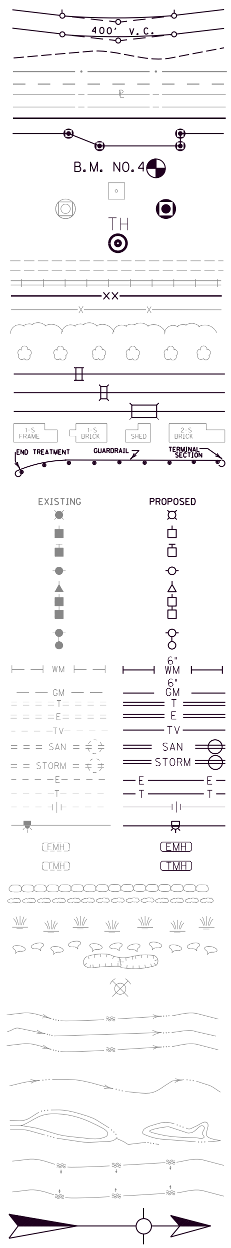
STATE OF KENTUCKY
LORA N. BOLLER
27316
LICENSED
PROFESSIONAL ENGINEER

Lora Boller, PE
2022.11.21
22:31:49 -05'00'

HMB Professional Engineers, Inc.
3 HMB Circle
Frankfort, KY 40601
(502) 695-9800
(502) 695-9810 FAX

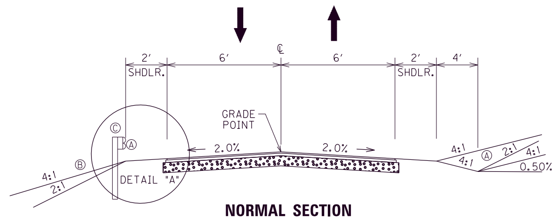
COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	R2

CONVENTIONAL SIGNS



SURVEY LINE
GRADE LINE
GROUND LINE
COUNTY LINE
CORPORATE LIMITS
EXIST. PROPERTY LINE
EXIST. RIGHT OF WAY & PROPERTY LINE
PROPOSED RIGHT OF WAY
RIGHT OF WAY MONUMENT
BENCH MARK
EXISTING R/W MARKER
RIGHT OF WAY MONUMENT
EXISTING/PROPOSED
UTILITY TEST HOLE
EXISTING ROAD
RAILROAD
FENCE (CONTROLLED ACCESS)
FENCE (EXCEPT STONE AND HEDGE)
TREE LINE
TREES
PIPE CULVERT
CULVERT
BRIDGE
BUILDINGS
GUARDRAIL
LIGHTING POLE
POWER POLE
JOINT POWER & TELEPHONE POLE
TELEPHONE & TELEGRAPH POLE
ANCHOR, POWER OR TELEPHONE
STUB POWER
STUB TELEPHONE
WATER MAIN
GAS MAIN
TELEPHONE DUCT
ELECTRIC DUCT
DIRECT BURIAL TV CABLE
SANITARY SEWER (WITH MANHOLE)
STORM SEWER (WITH MANHOLE)
DIRECT BURIAL ELECTRIC CABLE
DIRECT BURIAL TELEPHONE CABLE
OVERHEAD WIRE
TRAFFIC LIGHTS
ELECTRIC MANHOLE
TELEPHONE MANHOLE
STONE FENCE
HEDGE FENCE
SWAMP OR MARSH
SPRINGS
SINKHOLE
QUARRY SITE
BLUE LINE STREAM
INTERMITTENT STREAM OR DITCH
LAKES OR PONDS
REGULATED FLOODWAY
NORTH POINT

TYPICAL SECTIONS



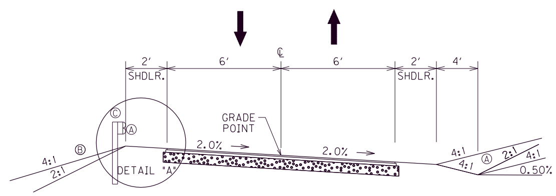
NORMAL SECTION
HOLLYBUSH ROAD

Ⓐ 7 FT Post

Ⓑ See Cross Sections for Slopes Outside the Limits of the Shoulders.

Ⓒ When guardrail is used, pave shoulder to face of rail.

TYPICAL SECTIONS



SUPERELEVATED SECTION
HOLLYBUSH ROAD

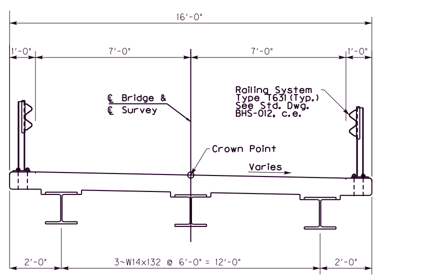
Ⓐ 7 FT Post

Ⓑ See Cross Sections for Slopes Outside the Limits of the Shoulders.

Ⓒ When guardrail is used, pave shoulder to face of rail.

TRAFFIC LANE & SHOULDER PAVEMENT

DGA Base — 4" Depth
Asphalt Base — 3" Depth Cl. 2 Asphalt Base 1.00D PG64-22
Asphalt Surface — 1½" Depth Cl. 2 Asphalt Surface 0.38D PG64-22

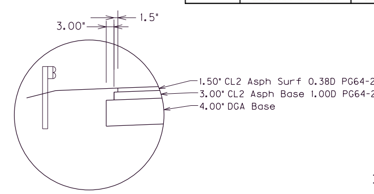


NOTE: Roadway Guardrail Is Attached to Bridge Barriers. See Roadway Plans.

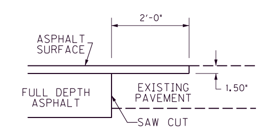
BRIDGE TYPICAL SECTION

COORDINATE CONTROL POINTS						
POINT	DESCRIPTION	State Plane Coordinates			STATION	OFFSET
		NORTH (Y)	EAST (X)	ELEV. (Z)		
CP 1	PK NAIL/WASHER	3662687.2010	5761879.8540	894.142	12+55.06	-5.42
CP 2	PK NAIL/WASHER	3662531.5140	5761664.7560	895.295	9+88.13	-4.65
CP 3	PK NAIL/WASHER	3662530.3520	5761686.4210	896.044	10+04.15	9.98

CENTERLINE CONTROL POINTS							
POINT	State Plane Coordinates		RADIUS	LENGTH	TANGENT	STATION	OFFSET
	NORTHING (Y)	EASTING (X)					
POB	3662535.4395	5761676.8865				10+00.00	0.00
PC	3662544.0233	5761687.3746				10+13.55	0.00
PI	3662559.7755	5761706.6213	500	49.7	24.87	10+38.42	-0.78
PT	3662573.5400	5761727.3362				10+63.25	0.00
PC	3662583.3479	5761742.0969				10+80.98	0.00
PI	3662595.6549	5761760.6184	154	44.17	22.24	11+03.21	1.60
PT	3662612.6990	5761774.9017				11+25.15	0.00
PC	3662625.1264	5761785.3162				11+41.36	0.00
PI	3662656.9945	5761812.0223	154	81.22	41.58	11+82.94	-5.51
PT	3662671.0910	5761851.1385				12+22.58	0.00
POE	3662693.1555	5761912.3645				12+87.66	0.00



DETAIL "A"



EDGE KEY DETAIL

UTILITY OWNERS

ELECTRIC SERVICES:
KY Power Company
1400 East Main St
Hazard, KY 41701
Contact Ellis McKnight 606-436-1329

TV SERVICES:
TV Services
60 Communications Lane P.O. Box 789
Hindman, KY 41822
Contact Freddy Williams 606-785-9500

TELEPHONE SERVICES:
Thacker Grigsby Telephone Co.
60 Communications Lane P.O. Box 789
Hindman, KY 41822
Contact Freddy Williams 606-785-9500

Datum Reference and Final Coordinates
All new horizontal GNSS control is based on the Kentucky State Plane Coordinate System (Single Zone), referenced to North American Datum 1983, 2011 adjustment, expressed in U.S. Survey Feet. All vertical control is based on the North American Vertical Datum of 1988 (NAVD88) with GEOID18 (CONUS) applied to model the elevations, also expressed in U.S. Survey Feet.

SCALE: N.T.S

TYPICAL SECTIONS, COORD. CONTROL, AND LEGEND

FILE NAME: F:\ENGR\EASTERN KY FLOOD WORK\KNOTT COUNTY\HOLLYBUSH ROAD\CAD\PLAN\R002_TYPICALS_COORDCONTROL_LEGEND.DGN
USER: wmattingly
DATE PLOTTED: October 19, 2022
E-SHEET NAME:
MicroStation v8.11.7.443

GENERAL SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	R2A

ITEM	DESCRIPTION	UNIT	PROJECT TOTAL
00001	DGA BASE (1)	TON	348
00020	TRAFFIC BOUND BASE (1)(7)	TON	50
00078	CRUSHED AGGREGATE SIZE NO 2 (9)(10)	TON	97
00212	CL2 ASPH BASE 1.00D PG64-22	TON	247
00301	CL2 ASPH SURF 0.38D PG64-22	TON	29
02014	BARRICADE - TYPE III	EA	2
02159	TEMP DITCH	LF	144
02160	CLEAN TEMP DITCH	LF	72
02200	ROADWAY EXCAVATION	CUYD	161
02242	WATER (2)	MGAL	100
21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	LF	250
02360	GUARDRAIL TERMINAL SECTION NO 1	EACH	2
02371	GUARDRAIL END TREATMENT TYPE 7	EACH	2
02484	CHANNEL LINING CLASS III (6)	TON	630
02545	CLEARING AND GRUBBING (3)	LS	1
02562	TEMPORARY SIGNS	SQFT	300
02565	OBJECT MARKER TYPE 2 (8)	EACH	4
02585	EDGE KEY	LF	27
02569	DEMOBILIZATION	LS	1
02603	FABRIC - GEOTEXTILE CLASS 2 (9)	SQYD	225
02650	MAINTAIN & CONTROL TRAFFIC (4)	LS	1
02651	DIVERSIONS (BY-PASS DETOURS)	LS	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2
02726	STAKING	LS	1
02731	REMOVE STRUCTURE	LS	1
02701	TEMPORARY SILT FENCE	LF	576
02703	SILT TRAP TYPE "A"	EACH	1
02704	SILT TRAP TYPE "B"	EACH	1
02706	CLEAN SILT TRAP TYPE "A"	EACH	1
02707	CLEAN SILT TRAP TYPE "B"	EACH	1
03171	CONCRETE BARRIER WALL TYPE 9T	LF	60
01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	EACH	5
04933	TEMP SIGNAL 2 PHASE (11)	EA	2
05950	EROSION CONTROL BLANKET	SQYD	2100
05952	TEMP MULCH	SQYD	1400
05953	TEMP SEEDING AND PROTECTION	SQYD	1050
05985	SEEDING AND PROTECTION	SQYD	2100
05963	INITIAL FERTILIZER	TON	0.3
05964	MAINTENANCE FERTILIZER	TON	0.2
05992	AGRICULTURAL LIMESTONE	TON	1
06514	PAVE STRIPING - PERM PAINT - 4 IN	LF	576
06587	PAVEMENT MARKER TY IVA-BW TEMP	EA	20
06510	PAVE STRIPING - TEMP PAINT - 4 IN	LF	612
08901	CRASH CUSHION TY VI CLASS BT TL2	EA	1
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING (5)	TON	0.6
20430ED	SAW CUT	LF	27
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	LF	24

NOTES:

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 110 LBS. PER SQ. YD. PER INCH OF DEPTH, UNLESS NOTED OTHERWISE.

(1) ESTIMATED AT 115 LBS. PER SQ. YD. PER INCH OF DEPTH

(2) FOR CONTROLLING DUST CAUSED BY MAINTAINING TRAFFIC ONLY.

(3) APPROXIMATELY 0.43 ACRES

(4) LANE & ROAD CLOSURES ARE INCIDENTAL TO MAINTAIN AND CONTROL TRAFFIC

(5) ESTIMATED AT 0.70 LBS. PER SQ. YD.

(6) 530 TONS FOR STREAM BANK STABILIZATION 100 TONS TO BE USED AS DIRECTED BY THE ENGINEER TO STABILIZE OTHER STREAM BANKS

(7) TO BE USED AS DIRECTED BY THE ENGINEER TO MAINTAIN ACCESS

(8) TO BE INSTALLED AT LOCATIONS IDENTIFIED IN STANDARD DRAWING NO. RBR-060

(9) FOR CONSTRUCTION ENTRANCES

(10) ESTIMATED AT 1.3 TONS PER CU. YD.

(11) TEMPORARY SIGNAL IS FULL COMPENSATION FOR EACH PHASE OF MOT

SCALE: N.T.S

GENERAL SUMMARY

GENERAL & SPECIAL NOTES

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	R2B

PROPOSAL ATTACHMENTS

SPECIAL NOTE FOR FOR NON-TRACKING TACK COAT

SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES

SPECIAL NOTE FOR CONCRETE SEALING

160 N.G.S. (U.S.G.S.) BENCH MARKS

DO NOT DISTURB N.G.S. (U.S.G.S.) BENCH MARKS IN ANY MANNER UNLESS DIRECTED BY THE ENGINEER.

165 BEFORE YOU DIG

THE CONTRACTOR IS INSTRUCTED TO CALL 1-800-752-6007 TO REACH KY 811, THE ONE-CALL SYSTEM FOR INFORMATION ON THE LOCATION OF EXISTING UNDERGROUND UTILITIES. THE CALL IS TO BE PLACED A MINIMUM OF TWO (2) AND NO MORE THAN TEN (10) BUSINESS DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHOULD BE AWARE THAT OWNERS OF UNDERGROUND FACILITIES ARE NOT REQUIRED TO BE MEMBERS OF THE KY 811 ONE-CALL BEFORE-U-DIG (BUD) SERVICE. THE CONTRACTOR MUST COORDINATE EXCAVATION WITH THE UTILITY OWNERS, INCLUDING THOSE WHOM DO NOT SUBSCRIBE TO KY 811. IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTACT THE COUNTY COURT CLERK TO DETERMINE WHAT UTILITY COMPANIES HAVE FACILITIES IN THE AREA.

429 WINTER CLOSEDOWN

ANY ASPHALT CONCRETE BASE AND/OR SURFACE COURSE USED AS A RIDING SURFACE EXPOSED TO TRAFFIC DURING WINTER CLOSEDOWN PERIODS SHALL CONTAIN NATURAL, CONGLOMERATE, CRUSHED SLAG, CRUSHED GRANITE OR CRUSHED SANDSTONE SAND IN THE PROPORTION OF NO LESS THAN 25% OF THE TOTAL COMBINED COARSE AND FINE AGGREGATE.

448 COMPACTION OF ASPHALT MIXTURES

WILL ACCEPT THE COMPACTION OF ASPHALT MIXTURES FURNISHED ON THIS PROJECT BY OPTION B ACCORDING TO SUBSECTIONS 402.03.02 AND 403.03.10 OF THE STANDARD SPECIFICATIONS.

445 EDGE KEY

THIS WORK INCLUDES CUTTING OUT THE EXISTING ASPHALT SURFACE TO A MINIMUM DEPTH AND WIDTH AS DETAILED ELSEWHERE IN THE PLANS SO THAT THE NEW SURFACE MAY HEEL INTO THE EXISTING SURFACE. THE CONTRACT UNIT PRICE BID LINEAR FOOT FOR "EDGE KEY" INCLUDES ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND DISPOSE OF THE REMOVED ASPHALT MATERIAL.

650 STANDARD DRAWINGS

STANDARD DRAWINGS ARE NOT ATTACHED TO THESE PLANS. A STANDARD DRAWING BOOK AND THE HEADWALL SUPPLEMENTAL BOOK MAY BE OBTAINED FROM THE POLICY SUPPORT BRANCH OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES IN FRANKFORT, KY. AT (502) 564-3670

CONSTRUCTION ENTRANCES

THE CONTRACTOR SHALL CONSTRUCT TEMPORARY CONSTRUCTION VEHICLE ACCESS ENTRANCES INTENDED TO REDUCE OFF- SITE TRACKING / WASHING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY. THESE ENTRANCES SHALL BE CONSTRUCTED AT LOCATIONS APPROVED BY THE ENGINEER AND CONSISTING OF A MINIMUM OF 50 FEET IN LENGTH, 20 FEET IN WIDTH, AND 1 FOOT DEPTH OF CRUSHED AGGREGATE SIZE NO. 2 AND UNDERLAID WITH GEOTEXTILE FABRIC CLASS 2. QUANTITIES HAVE BEEN INCLUDED FOR TWO TEMPORARY CONSTRUCTION ENTRANCES.

TYPICAL SECTION

DIMENSIONS SHOWN ON THE TYPICAL SECTIONS FOR PAVEMENT WIDTH 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.

SPECIAL NOTE FOR EROSION PREVENTION AND SEDIMENT CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING THE KENTUCKY POLLUTION DISCHARGE ELIMINATION SYSTEM (KPDES) KYR10 PERMIT NOTICE OF INTENT (NOI) WITH THE KENTUCKY DIVISION OF WATER (DOW) AND ANY KPDES LOCAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PROGRAM THAT HAS JURISDICTION. THE NOI SHALL NAME THE CONTRACTOR AS THE FACILITY OPERATOR AND INCLUDE THE KYTC CONTRACT ID NUMBER (CID) FOR REFERENCE.

THE CONTRACTOR SHALL PERFORM ALL TEMPORARY EROSION/SEDIMENT CONTROL FUNCTIONS INCLUDING: PROVIDING A BEST MANAGEMENT PRACTICE (BMP) PLAN, CONDUCTING REQUIRED INSPECTIONS, MODIFYING THE BMP PLAN DOCUMENTS AS CONSTRUCTION PROGRESSES AND DOCUMENTING THE INSTALLATION AND MAINTENANCE OF BMPS IN CONFORMANCE WITH THE KPDES KYR10 PERMIT DATED SEPTEMBER 30, 2003 OR A PERMIT RE-ISSUED TO REPLACE THE KYR10 PERMIT. THIS WORK SHALL BE CONDUCTED IN CONFORMANCE WITH THE REQUIREMENTS OF SECTION 213 OF KYTC 2008 DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

CONTRARY TO SECTION 213.03.03, PARAGRAPH 2, THE ENGINEER SHALL CONDUCT INSPECTIONS AS NEEDED TO VERIFY COMPLIANCE WITH SECTION 213 OF KYTC 2012 DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE ENGINEER'S INSPECTIONS SHALL BE PERFORMED A MINIMUM OF ONCE PER MONTH AND WITHIN SEVEN DAYS AFTER A STORM OF 1/2" INCH OR GREATER. COPIES OF THE ENGINEER'S INSPECTIONS SHALL NOT BE PROVIDED TO THE CONTRACTOR UNLESS IMPROVEMENTS TO THE BMP'S ARE REQUIRED. THE CONTRACTOR SHALL INITIATE CORRECTIVE ACTION WITHIN 24 HOURS OF ANY REPORTED DEFICIENCY AND COMPLETE THE WORK WITHIN 5 DAYS. THE ENGINEER SHALL USE FORM TC 63-61 A FOR THIS REPORT. INSPECTIONS PERFORMED BY THE ENGINEER DO NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY FOR COMPLIANCE WITH THE KPDES PERMIT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING "GOOD ENGINEERING PRACTICES" AS REQUIRED BY THE KPDES PERMIT. THE CONTRACTOR MAY USE ANY TEMPORARY BMPS WITH THE APPROVAL OF THE KYTC ENGINEER.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER COPIES OF ALL DOCUMENTS REQUIRED BY THE KPDES PERMIT AT THE TIME THEY ARE PREPARED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXAMINATION OF THE SOILS TO BE ENCOUNTERED AND MAKE HIS OWN INDEPENDENT DETERMINATION OF THE TEMPORARY BMPS THAT WILL BE REQUIRED TO ACCOMPLISH EFFECTIVE EROSION PREVENTION AND SEDIMENT CONTROL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING THE KPDES PERMIT NOTICE OF TERMINATION (NOT) WITH THE KENTUCKY DOW AND ANY LOCAL MS4 PROGRAM THAT HAS JURISDICTION. THE NOT SHALL BE FILED AFTER THE ENGINEER AGREES THAT THE PROJECT IS STABILIZED OR THE PROJECT HAS BEEN FORMALLY ACCEPTED.

SPECIAL NOTE FOR OVERHEAD UTILITIES

THE CONTRACTOR MUST WORK SAFELY AROUND THE POWERLINES TO COMPLETE THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL COORDINATE WITH THE KY POWER COMPANY AND TV SERVICES PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES. CONTACT TV SERVICES IF THEIR LINE NEEDS TO BE RELOCATED. RELOCATION OF THE POWER LINE IS NOT AN OPTION. THE CONTRACTOR SHALL CONTACT KY POWER 10 DAYS PRIOR TO PERFORMING CONSTRUCTION ACTIVITIES THAT REQUIRE KY POWER TO DEENERGIZE ELECTRICAL LINES. THE CONTRACTOR SHALL ORGANIZE CONSTRUCTION ACTIVITIES TO MINIMIZE THE TIME REQUIRED FOR DEENERGIZED LINES. THE CONTRACTOR MUST TAKE CARE TO NOT DAMAGE ANY OVERHEAD UTILITIY LINES. THE KY POWER COMPANY WILL PLACE A SHIELD AROUND THE POWER LINE UPON CONSTRACTORS REQUEST.

THE CONTRACTOR SHALL CONTACT KY POWER 10 DAYS PRIOR TO PERFORMING CONSTRUCTION ACTIVITIES THAT REQUIRE KY POWER TO DEENERGIZE ELECTRICAL LINES. THE CONTRACTOR SHALL ORGANIZE CONSTRUCTION ACTIVITIES TO MINIMIZE THE TIME REQUIRED FOR DEENERGIZED LINES. THE CONTRACTOR MUST TAKE CARE TO NOT DAMAGE ANY OVERHEAD UTILITIY LINES.

WORKING WITH OR NEAR POWER LINES CAN EXPOSE WORKERS TO ELECTRICAL HAZARDS, BUT THESE DANGERS CAN BE AVOIDED THROUGH SAFE WORK PRACTICES. THESE PRACTICAL STEPS CAN PREVENT INJURIES FROM CONTACT WITH POWER LINES.
- CONDUCT A HAZARD ASSESSMENT TO IDENTIFY AND ADDRESS POTENTIAL SAFETY HAZARDS BEFORE WORK BEGINS.
- ASK THE ELECTRIC COMPANY TO DE-ENERGIZE AND GROUND OVERHEAD POWER LINES.
- EDUCATE WORKERS ON SAFETY PROCEDURES AND REQUIREMENTS.
- KNOW THE SAFE WORKING DISTANCE FOR WORKERS AND EQUIPMENT.
- USE NON-CONDUCTIVE WOOD OR FIBERGLASS LADDERS.
- WEAR PERSONAL PROTECTIVE EQUIPMENT, SUCH AS RUBBER INSULATING GLOVES AND INSULATING SLEEVES, AND INDUSTRIAL PROTECTIVE HELMETS. FOR MORE INFORMATION ON RECOGNIZING HAZARDS FROM ENERGIZED POWER LINES, VISIT OSHA'S ELECTRICAL SAFETY AND HEALTH TOPICS PAGE.

GENERAL NOTES

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	R3

BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

R/W & EASEMENT TRACT AREAS

P 1	Tract 1 R/W 0.016 AC. 688.44 SF
P 2	Tract 1 R/W 0.024 AC. 1,065.13 SF
P 2	Tract 2 Easement 0.084 AC. 3,652.93 SF
P 3	Tract 1 R/W 0.015 AC. 660.49 SF
P 3	Tract 2 Easement 0.243 AC. 10,568.17 SF
P 4	Tract 1 R/W 0.016 AC. 709.19 SF

CONSTRUCT STEEL "W" BEAM GUARDRAIL

LOCATION	L.F.	END TREATMENT
RT. STA. 11+24.50 TO STA. 11+29.79	12.5'	TERM SEC NO. 1
LT. STA. 10+00.00 TO STA. 11+22.07	100'	TYPE 7
RT. STA. 11+65.90 TO STA. 12+87.66	100'	TERM SEC NO. 1
LT. STA. 11+56.56 TO STA. 11+80.12	37.5'	TYPE 7

NOTES:

1. ABSOLUTELY NO CONSTRUCTION EQUIPMENT IS ALLOWED IN THE STREAM. CONTRACTOR MUST TAKE SPECIAL CARE TO NOT DROP ANY MATERIAL IN THE STREAM.
2. PROPERTY AND EXISTING RIGHT OF WAY LINES ARE FOR REFERENCE ONLY. THESE LINES ARE APPROXIMATE LOCATIONS BASED ON AVAILABLE PVA DATA.

GENERAL LEE SLONE CEMETERY

GENERAL LEE & JEANETTE SLONE

PI 10+38.42
Delta = 5° 41' 43.17"
T = 24.87'
L = 49.70'
R = 500.00'
E = 0.62'

PI 11+03.21
Delta = 16° 26' 00.39"
T = 22.24'
L = 44.17'
R = 154.00'
E = 1.60'

OVERHEAD POWER AND TELEPHONE WILL NOT BE RELOCATED. THE CONTRACTOR SHALL WORK AROUND THE LINES. THE TELEPHONE MAY BE TEMPORARILY RELOCATED DURING CONSTRUCTION WITH COORDINATION WITH THE OWNER. SEE SPECIAL NOTE FOR OVERHEAD UTLITIES.

PI 11+82.94
Delta = 30° 13' 05.66"
T = 41.58'
L = 81.22'
R = 154.00'
E = 5.51'

PHILLIP L & JANE SLONE

BEGIN CONST.
STA. 10+00.00
N 3662535.4395
E 5761676.8865

12' EDGE KEY
12' SAW CUT

HOLLYBUSH ROAD (CR 1108)

TO HOLLYBUSH

EXIST. R/W

C.P. 2

C.P. 3

PROP. R/W

CONST. LIMIT

DIVERSION CONST. LIMIT

DIVERSION ℄

TEMP. ESMNT. FOR BRIDGE REPLACEMENT

SEE WATERLINE RELOCATION PLANS

GATE

PC 10+80.98

PT 11+25.15

PC 11+41.36

PC 10+13.55

PT 10+63.25

PT 12+22.58

10+00

11+00

12+00

12+88

12+68

N 70° 10' 55" E

HOLLYBUSH ROAD (CR 1108) ℄

HOLLYBUSH CREEK

TO PIPPA PASSES

BRYAN & NATA SWAFFORD

END CONST.
STA. 12+87.66
N 3662693.1555
E 5761912.3645

BETTY SUE & JOHN MAYS

PHILLIP L & JANE SLONE

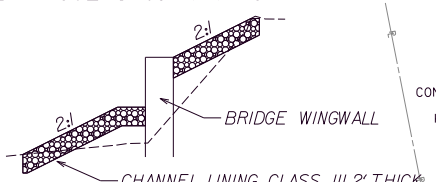
GENERAL LEE & JEANETTE SLONE

COMMONWEALTH OF KY TRANSPORTATION CABINET

CONSTRUCT CHANNEL LINING

LOCATION	TYPE	LINING TY.	A	T	QUANT.
North Bank	Bank Prot.	CL. III	240 SQ YD	2'	240 TONS
South Bank	Bank Prot.	CL. III	290 SQ YD	2'	290 TONS

CONST. PROPOSED BRIDGE STA. 11+43.50
~ 35'-0" W14x176, Simple Span
KYHL-93 LIVE LOAD~ 35° SKEW LT
16'-0" BRIDGE ROADWAY
WIDTH ~ 2:1 FILL SLOPES



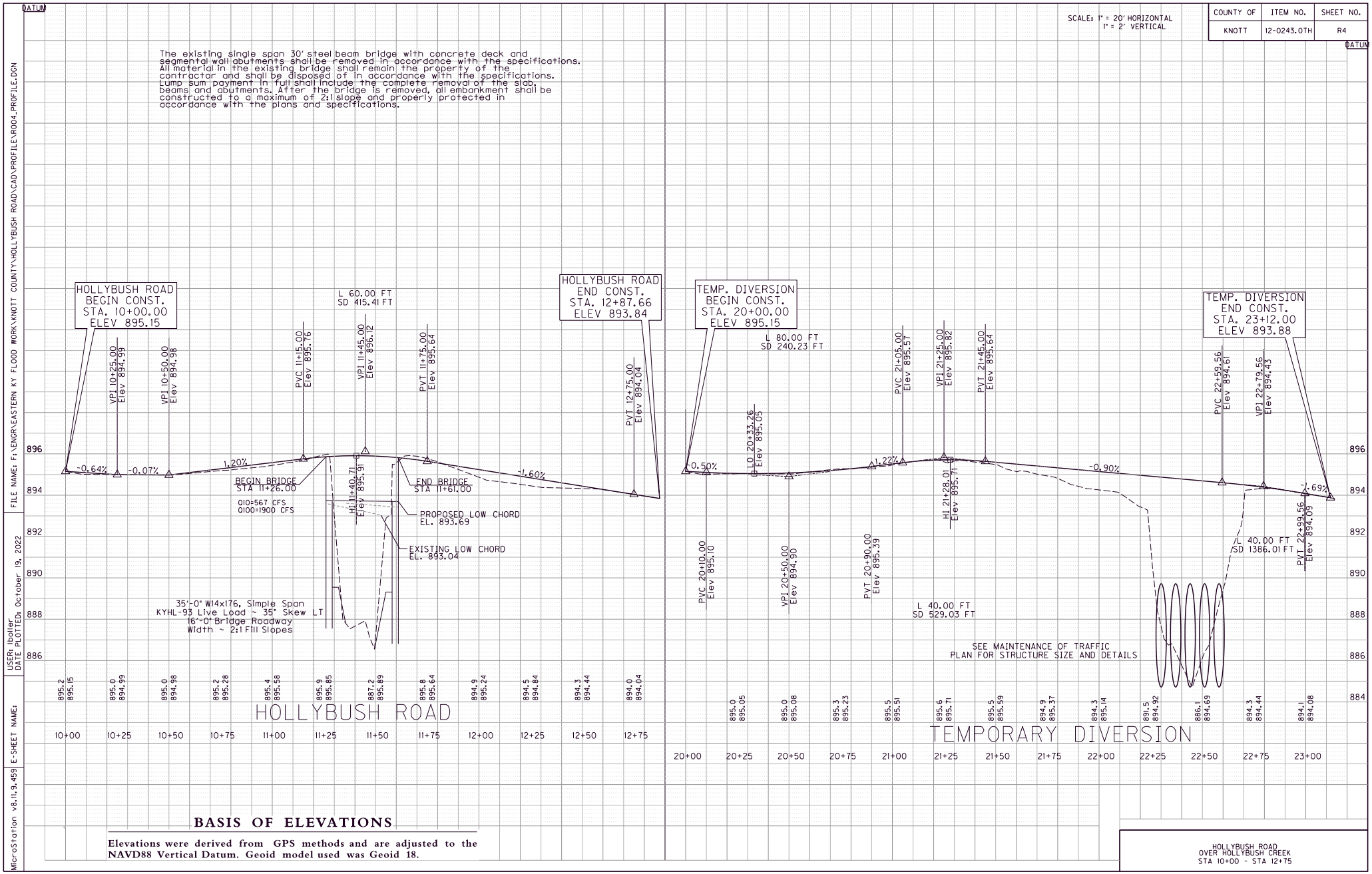
SECTION A-A
BANK REPAIR DETAIL

SCALE: 1"=20'

0' 20' 40' 80'

PLAN
HOLLYBUSH ROAD
OVER HOLLYBUSH CREEK

FILE NAME: F:\ENGR\EASTERN KY FLOOD WORK\KNOTT COUNTY\HOLLYBUSH ROAD\CAD\PLAN\R003_PLAN.DGN
USER: lholler
DATE PLOTTED: June 14, 2022
E-SHEET NAME:
MicroStation v8.11.9.459



BASIS OF ELEVATIONS

Elevations were derived from GPS methods and are adjusted to the NAVD88 Vertical Datum. Geoid model used was Geoid 18.

HOLLYBUSH ROAD
OVER HOLLYBUSH CREEK
STA 10+00 - STA 12+75

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	R5

MAINTENANCE OF TRAFFIC GENERAL NOTES:

A) EXCEPT AS PROVIDED HEREIN, "MAINTAIN AND CONTROL TRAFFIC" SHALL BE IN ACCORDANCE WITH THE 2019 STANDARD SPECIFICATIONS, STANDARD DRAWINGS, CURRENT EDITION AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, EXCEPT FOR THE ROADWAY AND TRAFFIC CONTROL BID ITEMS LISTED IN THE GENERAL SUMMARY, ALL ITEMS OF WORK NECESSARY TO MAINTAIN AND CONTROL TRAFFIC WILL PAID AT THE LUMP SUM BID PRICE TO "MAINTAIN AND CONTROL TRAFFIC." ALL SHIFTS IN TRAFFIC PATTERNS THROUGHOUT THE DURATION OF THE PROJECT SHALL BE IN COMPLIANCE WITH THE APPROPRIATE STANDARD DRAWINGS. CONES WILL NOT BE PERMITTED FOR LANE AND OR SHOULDER CLOSURES.
B) THE "DIVERSIONS (BYPASS DETOURS)" BID ITEM WILL INCLUDE EARTHWORK AND TEMPORARY DRAINAGE STRUCTURE FOR THE DIVERSION.
C) PAVING AND STONE MATERIALS FOR THE DIVERSION WILL BE PAID FOR EACH INDIVIDUAL ITEM AT THE UNIT PRICES ESTABLISHED FOR THE CONTRACT.
D) THE ENGINEER AND THE CONTRACTOR, OR THEIR AUTHORIZED REPRESENTATIVES, SHALL REVIEW THE SIGNING BEFORE TRAFFIC IS ALLOWED TO USE ANY LANE CLOSURES, TEMPORARY PAVEMENT, OR DETOURS. ALL SIGNING SHALL BE APPROVED BY THE ENGINEER BEFORE WORK CAN BE STARTED BY THE CONTRACTOR.
E) IF THE CONTRACTOR DESIRES TO DEVIATE FROM THE TRAFFIC CONTROL SCHEME AND CONSTRUCTION PHASES OUTLINED IN THESE PLANS AND THIS PROPOSAL, HE SHALL PREPARE AN ALTERNATE PLAN AND PRESENT IT IN WRITING TO THE ENGINEER. THIS ALTERNATE PLAN MAY BE USED ONLY AFTER REVIEW AND APPROVAL OF THE DIVISIONS OF TRAFFIC, DESIGN AND CONSTRUCTION.
F) ROAD CLOSURES: LIMIT THE DURATION OF ROAD CLOSURES TO THE MINIMUM REQUIRED TO ACCOMPLISH THE COMPLETION OF THE PHASE REQUIRING CLOSURE. CONTINUOUSLY PURSUE WORK UNTIL COMPLETE TO MINIMIZE DURATIONS OF CLOSURES. THE CONTRACTOR SHALL NOTIFY THE KNOTT COUNTY SHERIFF'S OFFICE, EMERGENCY SERVICES AND BOARD OF EDUCATION PRIOR TO ANY CHANGES IN TRAFFIC PATTERNS ALONG STATE AND COUNTY ROUTES.
G) SCHOOL BUSES AND EMERGENCY VEHICLES: IF TRAFFIC IS STOPPED DUE TO CONSTRUCTION AND AN EMERGENCY VEHICLE ON AN EMERGENCY RUN OR A SCHOOL BUS ARRIVES AT THE PROJECT SITE, THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE PASSAGE OF THAT VEHICLE AS QUICKLY AS POSSIBLE.
H) REASONABLE MEANS OF INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. ALL TEMPORARY ENTRANCE WORK AND REMOVAL IS INCIDENTAL TO LUMP SUM BID TO "MAINTAIN AND CONTROL TRAFFIC".
I) SPEED LIMIT: THE SPEED LIMIT WILL BE REDUCED TO 15 MPH IN THE WORK ZONE.
J) PAVEMENT MARKING REMOVAL - REMOVAL OF EXISTING PAVEMENT MARKINGS OR TEMPORARY MARKINGS DUE TO TRAFFIC PHASE CHANGES IS CONSIDERED INCIDENTAL TO "MAINTAIN AND CONTROL TRAFFIC."

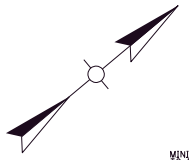
MOT PHASING NOTES:

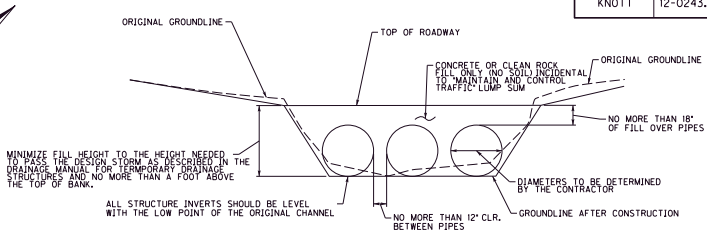
PHASE 1:
MAINTAIN TRAFFIC ON EXISTING CR 1108 HOLLYBUSH ROAD. INSTALL STEEL PLATES AND CONSTRUCT TEMPORARY DIVERSION, INSTALL TEMPORARY BARRIER WALL TYPE 9T, INSTALL TEMPORARY TRAFFIC SIGNAL AT BOTH ENDS, INSTALL PAVEMENT MARKINGS AND STRIPING AND INSTALL TEMPORARY DRAINAGE STRUCTURE. TEMPORARY DRAINAGE STRUCTURE OPENING SHALL BE A MINIMUM OF 100 SQ FT AND 2-YEAR HEADWATER ELEVATION LESS THAN OR EQUAL TO 890.90.

PHASE 2:
SHIFT TRAFFIC ONTO DIVERSION. REMOVE THE EXISTING STRUCTURE AND CONSTRUCT THE NEW BRIDGE. RECONSTRUCT THE PROPOSED CR 1108 HOLLYBUSH ROAD BASE STONE AND UP THROUGH THE ASPHALT BASE LAYER. INSTALL GUARDRAIL AND END TREATMENTS.

PHASE 3:
CONSTRUCT ASPHALT SURFACING, PERMANENT PAVEMENT MARKINGS AND FINAL CLEANUP UNDER TRAFFIC.

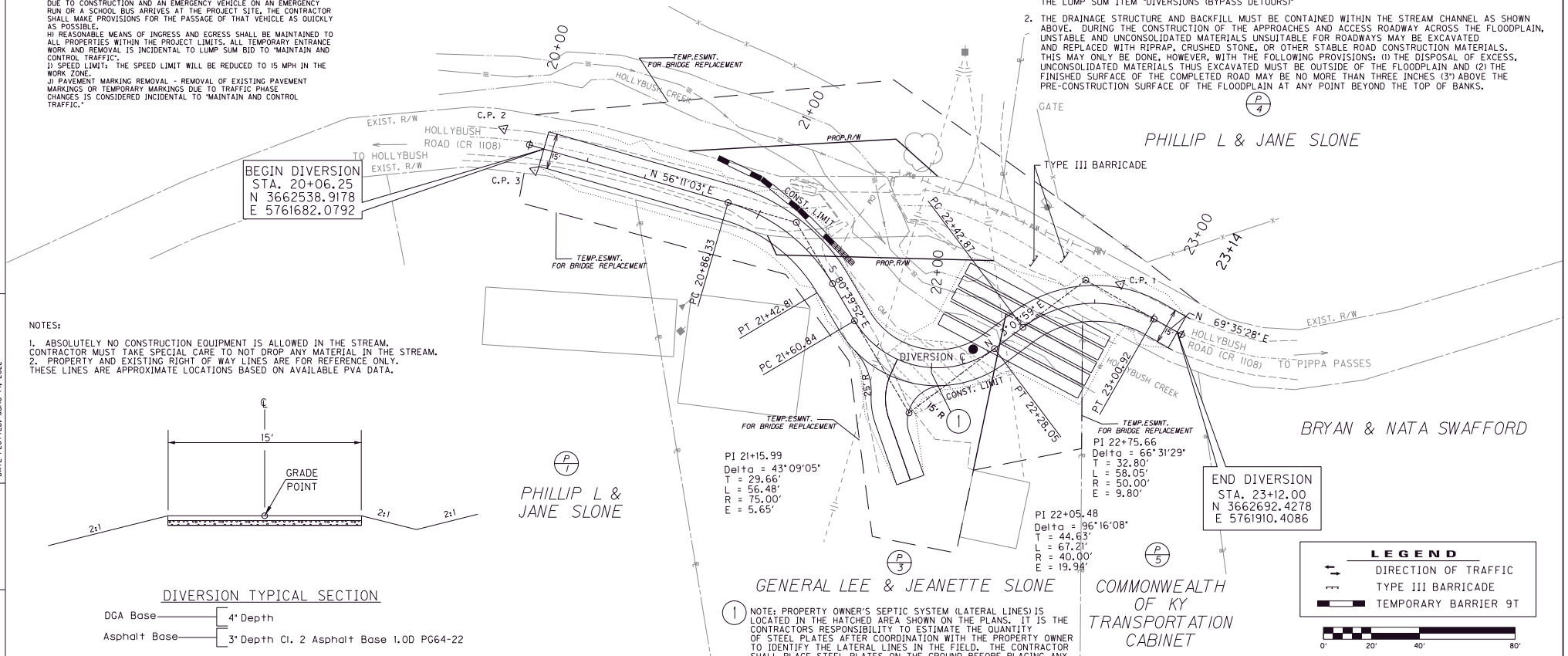
NOTE:
CONTRACTOR SHALL MAINTAIN ACCESS TO LOCAL PROPERTIES AND APPROACH ROADS AT ALL TIMES.





LOW-WATER CROSSING
NOT TO SCALE

NOTES:
1. THIS CONCEPTUAL DRAWING ASSUMES THE USE OF 5-60" PIPE CULVERTS AS THE TEMPORARY DRAINAGE STRUCTURE. ALTERNATE SIZES OR STRUCTURES WILL BE CONSIDERED, AS LONG AS THE OPENING IS GREATER THAN OR EQUAL TO A 100 SQ FT FLOW AREA AND 2 YEAR HEADWATER ELEVATION IS LESS THAN OR EQUAL TO 890.90. TEMPORARY DRAINAGE STRUCTURE WILL BE CONSIDERED INCIDENTAL TO THE LUMP SUM ITEM "DIVERSIONS (BYPASS DETOURS)"
2. THE DRAINAGE STRUCTURE AND BACKFILL MUST BE CONTAINED WITHIN THE STREAM CHANNEL AS SHOWN ABOVE. DURING THE CONSTRUCTION OF THE APPROACHES AND ACCESS ROADWAY ACROSS THE FLOODPLAIN, UNSTABLE AND UNCONSOLIDATED MATERIALS UNSUITABLE FOR ROADWAYS MAY BE EXCAVATED AND REPLACED WITH RIPRAP, CRUSHED STONE, OR OTHER STABLE ROAD CONSTRUCTION MATERIALS. THIS MAY ONLY BE DONE, HOWEVER, WITH THE FOLLOWING PROVISIONS: (1) THE DISPOSAL OF EXCESS, UNCONSOLIDATED MATERIALS THUS EXCAVATED MUST BE OUTSIDE OF THE FLOODPLAIN AND (2) THE FINISHED SURFACE OF THE COMPLETED ROAD MAY BE NO MORE THAN THREE INCHES (3") ABOVE THE PRE-CONSTRUCTION SURFACE OF THE FLOODPLAIN AT ANY POINT BEYOND THE TOP OF BANKS.



NOTES:
1. ABSOLUTELY NO CONSTRUCTION EQUIPMENT IS ALLOWED IN THE STREAM. CONTRACTOR MUST TAKE SPECIAL CARE TO NOT DROP ANY MATERIAL IN THE STREAM.
2. PROPERTY AND EXISTING RIGHT OF WAY LINES ARE FOR REFERENCE ONLY. THESE LINES ARE APPROXIMATE LOCATIONS BASED ON AVAILABLE PVA DATA.

DIVERSION TYPICAL SECTION

DGA Base — 4" Depth
Asphalt Base — 3" Depth Cl. 2 Asphalt Base 1.0D PG64-22

(1) NOTE: PROPERTY OWNER'S SEPTIC SYSTEM (LATERAL LINES) IS LOCATED IN THE HATCHED AREA SHOWN ON THE PLANS. IT IS THE CONTRACTORS RESPONSIBILITY TO ESTIMATE THE QUANTITY OF STEEL PLATES AFTER COORDINATION WITH THE PROPERTY OWNER TO IDENTIFY THE LATERAL LINES IN THE FIELD. THE CONTRACTOR SHALL PLACE STEEL PLATES ON THE GROUND BEFORE PLACING ANY FILL MATERIAL OR DRIVING ACROSS. THE AREA HATCHED IS APPROXIMATELY 900 SF. STEEL PLATES INSTALLED AND REMOVED WILL BE CONSIDERED INCIDENTAL TO THE "DIVERSIONS (BYPASS DETOURS)" BID ITEM.

LEGEND
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TEMPORARY BARRIER 9T

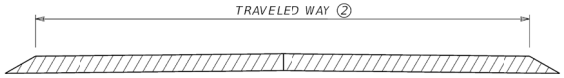
0' 20' 40' 80'

SCALE: 1"=20'

PLAN
HOLLYBUSH ROAD
OVER HOLLYBUSH CREEK

FILE NAME: F:\ENGR\EASTERN KY FLOOD WORK\KNOTT COUNTY\HOLLYBUSH ROAD\CAD\PLAN\R005_MOT PLAN.DGN
USER: wmottingly
DATE PLOTTED: June 14, 2022
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	R6



TWO LANE ROADWAY
PAVEMENT CROSS-SECTION

TRAVELED WAY (2)	TYPE OF PAVEMENT STRIPING	NON-STATE PRIMARY ROUTES				STATE PRIMARY ROUTES	
		< 1000 ADT		>= 1000 ADT		ANY ADT	
		WIDTH	MATERIAL	WIDTH	MATERIAL	WIDTH	MATERIAL*
< 16' (4)	EDGELINE STRIPES ONLY	4"	PAINT	4"	PAINT	6"	THERMO (ASHPALT) TYPE I TAPE (CONCRETE)
16' TO < 20'	EDGELINE STRIPES ONLY OR CENTERLINE STRIPE ONLY	4"	PAINT	4"	PAINT	6"	THERMO (ASHPALT) TYPE I TAPE (CONCRETE)
>=20' (3)	CENTERLINE AND EDGELINE STRIPES	4" (5)	PAINT	6"	PAINT	6"	THERMO (ASHPALT) TYPE I TAPE (CONCRETE)

*OTHER DURABLE NON-WATERBORNE MARKINGS MAY BE USED WITH APPROVAL FROM THE DIVISION OF TRAFFIC OPERATIONS.

~ NOTES ~

1. INSTALL PAVEMENT STRIPING ON TWO LANE, TWO WAY ROADWAYS AS DETAILED IN THE ABOVE TABLE AND IN ACCORDANCE WITH THE PAVEMENT MARKINGS AND DELINEATION CHAPTER OF THE TRAFFIC OPERATIONS GUIDANCE MANUAL. CONTACT THE DIVISION OF TRAFFIC OPERATIONS FOR ADDITIONAL GUIDANCE IF NECESSARY.

(2) THE TRAVELED WAY IS THE PORTION OF ROADWAY FOR THE MOVEMENT OF VEHICLES, EXCLUSIVE OF THE SHOULDERS.

(3) ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 20 FT OR GREATER, BUT LESS THAN 22 FT, EDGELINE RUMBLE STRIPS ARE NOT A STANDARD APPLICATION, BUT THEY MAY BE INSTALLED. THE DIVISION OF TRAFFIC OPERATIONS IS AVAILABLE TO ASSIST WITH THE DETERMINATION OF WHETHER OR NOT TO INSTALL EDGELINE RUMBLE STRIPS ON PAVEMENT WIDTHS LESS THAN 22 FT, AS WELL AS THE DIMENSION AND PLACEMENT DETAILS OF THE RUMBLE STRIPS AND PAVEMENT STRIPING.

ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 22 FT OR GREATER, BUT LESS THAN 34 FT, INSTALL PAVEMENT STRIPING AS DETAILED IN THE ABOVE TABLE AND IN CONJUNCTION WITH CENTERLINE AND EDGELINE RUMBLE STRIPS AS DETAILED ON TPR-120 .

ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 34 FT OR GREATER, INSTALL PAVEMENT STRIPING AS DETAILED IN THE ABOVE TABLE AND IN CONJUCTION WITH CENTERLINE AND SHOULDER RUMBLE STRIPS AS DETAILED ON TPR-125.

(4) EDGELINES MAY BE OMITTED FROM ROADWAYS WITH A TRAVELED WAY WIDTH LESS THAN 16 FEET WITH THE APPROVAL OF THE DIVISION OF TRAFFIC OPERATIONS.

(5) EDGELINES MAY BE OMITTED ON NON-STATE PRIMARY ROUTES WITH A TRAVELED WAY WIDTH GREATER THAN OR EQUAL TO 20 FEET AND AN ADT LESS THAN 1,000.

6. EDGELINES MAY BE OMITTED, BASED ON ENGINEERING JUDGMENT, IN AREAS WHERE THE PAVEMENT EDGE IS DELINEATED BY PHYSICAL OBJECTS SUCH AS CURBS, PARKING SPACES, OR OTHER MARKINGS. EDGELINES SHOULD BE INSTALLED ON ROADWAYS WITH CURB AND GUTTER IF THE POSTED SPEED LIMIT IS 45 MPH OR GREATER.

DRAWING NOT TO SCALE

USE WITH CUR. STD. DWGS. TPR-120 & TPR-125

SUBMITTED _____ DIVISION DIRECTOR 06-09-21 DATE

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: SEPIA 017 - PAVEMENT STRIPING DETAILS FOR TWO LANE TWO WAY ROADWAYS

ITEM NO.	COUNTY OF
XX-XXXXX.XX	XXXXXXXXXX
SHEET NO.	
RXXX	

OpenRoads Designer v10.16.0.80 USER: cwillmerdinger DATE PLOTTED: 8/7/2015 9:53:17 AM FILE NAME: C:\PWWORK\KYTC_CWILLMEDINGER\D1859968\SEPIA017.DGN

SCALE: N.T.S

HOLLYBUSH ROAD OVER
HOLLYBUSH CREEK
SEPIA 017

FILE NAME: F:\ENGR\EASTERN KY FLOOD WORK\KNOTT COUNTY\HOLLYBUSH ROAD\CAD\PLAN\R006_DETAIL.DGN
USER: wmattingly
DATE PLOTTED: October 19, 2022
E-SHEET NAME:
MicroStation v8.11.7.443

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

KNOTT COUNTY
CR-1108 (HOLLYBUSH ROAD)
OVER HOLLYBUSH CREEK
STA. 11+43.50

ESTIMATE OF QUANTITIES

	BID ITEM CODE	08100	08104	08150	08151	08003	08033	08046	08039	08160	02231	03299	23378EC	23539EC
	BID ITEM	CONCRETE-CLASS A	CONCRETE-CLASS AA	STEEL REINFORCEMENT	STEEL REINFORCEMENT EPOXY COATED	FOUNDATION PREPARATION	TEST PILES	PILES-STEEL HP12X53	PRE-DRILLING FOR PILES	STRUCTURAL STEEL	STRUCTURE GRANULAR BACKFILL	ARMORED EDGE FOR CONCRETE	CONCRETE SEALING	BRIDGE RAIL
	UNIT	CUYD	CUYD	LB	LB	LS	LF	LF	LF	LS	CUYD	LF	SQFT	LF
SUBSTRUCTURE	END BENT #1	29.4		2432			19	57	20		76.4	19	407	
SUBSTRUCTURE	END BENT #2	47.3		3740			19	95	30		110.0	19	526	
	SUPERSTRUCTURE		30.7		5212					1			1089	
	BRIDGE TOTALS	76.7	30.7	6172	5212	1	38	152	50	1	186.4	28	2022	70

NOTE: The total estimated weight for structural steel is 14,171 LB.

INDEX OF SHEETS

SPECIAL NOTES

Special Note for Concrete Sealing

Special Note for Hot-Dip Galvanizing Steel

SPECIAL PROVISIONS

69 Embankment at Bridge End Bent Structures, c.e.

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures
BGX-012-02	Geotechnical Legend
BGX-022	Joint Waterproofing
BHS-012	Railing System Type T631 Details
BJE-001-14	Armored Edges
BPS-003-09	HP12x53 Steel Pile
BSB-101	Composite Steel Beam Superstructures General Notes
BSB-102	Composite Steel Beam Superstructures Beam Tables
BSB-103	Composite Steel Beam Superstructures Slab Details
BSB-104	Composite Steel Beam Superstructures Framing Plan / Diaphragms

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction.

AASHTO LRFD Bridge Design Specifications, 9th Edition, 2020

FEMA Bridge: D023A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/22 — CHECKED BY
DESIGNED BY: L. BOLLER — B. REID
DETAILED BY: L. BOLLER — B. REID

TITLE AND ESTIMATE OF QUANTITIES
CROSSING: HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO.	DRAWING NUMBER
	S1	28598

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$

GENERAL NOTES

SPECIFICATIONS: All references to the Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specs, with interims.

DESIGN LOAD: This bridge is designed for a KYHL-93 live load. The KYHL-93 live load is arrived at by increasing the standard HL-93 truck and lane loads as specified in the AASHTO Specifications by 25%.

FUTURE WEARING SURFACE: This Structure is designed for a 15 PSF future wearing surface load.

DESIGN STRESSES: Concrete Class "A" ~ f'c = 3500 psi
Concrete Class "AA" ~ f'c = 4000 psi
Steel Reinforcement ~ Fy = 60,000 psi

DESIGN METHOD: All reinforced concrete members are designed by the load and resistance factor method as specified in the current AASHTO Specifications.

MATERIAL SPECIFICATIONS: AASHTO Specifications or ASTM, current edition, as designated below shall govern the materials furnished.

STEEL REINFORCEMENT, GRADE 60	AASHTO M-203, GRADE 270
STRUCTURAL STEEL, 36,000 PSI MIN. YIELD	AASHTO M-270, GRADE 36

PREFORMED EXPANSION JOINT MATERIAL: Preformed Cork Expansion Joint Material shall conform to subsection 807.04.02 (Type II) of the Kentucky Department of Highways Standard Specifications.

CONCRETE: Class "AA" Concrete is to be used throughout the superstructure and in the portions of the substructure above the tops of caps. Class "A" Concrete is to be used in the substructure below the caps. Prestressed beam concrete shall be in accordance with the plans and specifications.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2", unless otherwise noted. Any reinforcing bars designated by suffix (e) in the plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a bill of reinforcement shall be considered a stirrup for purposes of bend diameters.

CONSTRUCTION IDENTIFICATION: The names of the Prime Contractor and the Sub-Contractor shall be imprinted in the concrete with 1-inch letters at a location designated by the engineer. The Contractor shall furnish all plans, equipment, and labor necessary to do the work for which no direct payment will be made.

BEVELED EDGES: Bevel all exposed edges ¾", unless otherwise noted.

SITE INSPECTION: The contractor shall familiarize themselves with all conditions at the bridge site. Submission of a bid shall be considered evidence that the contractor has performed a site visit and is familiar with all aspects of the existing bridge and requirements in these plans. The cabinet will not consider any claims due to changed site conditons.

DAMAGE TO STRUCTURE: The contractor shall bear all responsibility and expense for any and all damage to the structure during repair work, even to the removal and replacement of the entire structure, should it be damaged by the contractors actions or inaction.

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 structures, phase construction, incidental materials, labor or anything else required to complete the structure.

SHOP DRAWINGS: Fabricators shall submit all required shop plans by e-mail to the design engineer for review (xxx@docs.e-builder.net). These submissions shall depict the shop plans in PDF format as either 11" x 17" or 22" x 36" sheets. Designers will make review comments on these electronic submissions as needed and return them to the fabricator. Upon reconciliation of the designer's comments, files shall be returned to the designer. Each sheet will be electronically stamped by the designer and plans will be forwarded to the Construction Management Team for distribution. Only plans submitted directly to the Construction Management Team will be distributed, and only plans electronically stamped "Distributed by Construction Managment Team" are to be used for fabrication. While this process does not require the submission of paper copies, Construction Management Team reserves the right to require such copies on a case by case basis.

When any changes in the design plans are proposed by the fabricator or supplier, the shop drawings reflecting these changes shall be submitted to the consultant through the contractor.

UTILITIES: The contractor shall be responsible for locating any and all existing utilities prior to excavation of material or installation of guardrail or other construction activities that may involve utilities (overhead or underground).

VERIFYING FIELD CONDITIONS: The contractor shall field verify all dimensions before ordering material. New material that is unsuitable because of variations in the existing structure shall be replaced at the contractor's expense.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal dimensions.

SUPERSTRUCTURE SLAB: The superstructure slab shall be poured continuously from end to end of slab before the concrete is allowed to set.

MASTIC TAPE: Mastic Tape used to seal joints is to meet the requirements of ASTM C-877 Type I, II, and III. The joint is to be covered with 12" wide mastic tape. Prior to application, the joint surface shall be clean and free of dirt, debris, or deleterious material. Primer, if required by the tape manufacturer, shall be applied for a minimum width of 9" on each side of the joint.

Mastic Tape shall be either:
EZ-Wrap Rubber by Press-seal Casket Corporation,
SealWrap by Mar Mac Manufacturing Co. Inc.,
Cadilloc by The UP Rubber Co. Inc.,
or approved equal.

Mastic tape shal cover the joint continuously unless otherwise shown in the plans. Mastic Tape shall be spliced by taping a minimum of 6" and in accordance with the manufacturer's recommendations with the overlap running downhill.

The cost of labor, materials, and incidental items for furnishing and installing Mastic Tape shall be considered incidental to the unit price bid for Concrete Class "AA" and no separate measurement of payment shall be made.

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.

ARMORED EDGE: Fabricate armored edge to match cross slope and parabolic crown at each end of bridge.

FOUNDATION PREPARATION: Foundation Preparation shall be in accordance with Section 603 of the Specifications.

CONCRETE SEALER: Apply concrete sealer in accordance with the Special Note for Concrete Sealing to the superstructure limits shown on the superstructure detail sheet and all exposed surfaces of the end bents to 6" below finished ground line.

PILING: Piling shall be driven to practical refusal as defined on the pile record sheet. Test piles shall be driven where designated on the plans to determine the length of pile required. All test piles shall be accurately located so that they may be used in the finished structure. Contrary to the standard drawings for steel piling, mill test reports are not required to be notarized.

JOINT WATERPROOFING: In addition to the standard drawing, all joints are to be sealed including those between beams.

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

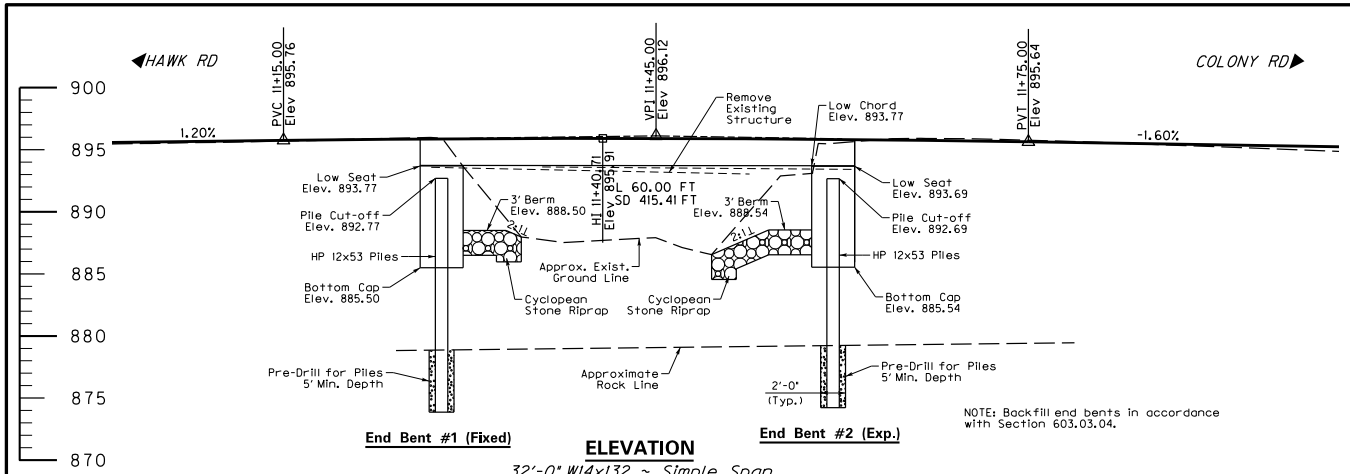
PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

GENERAL NOTES
CROSSING: HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO. S2	DRAWING NUMBER 28598

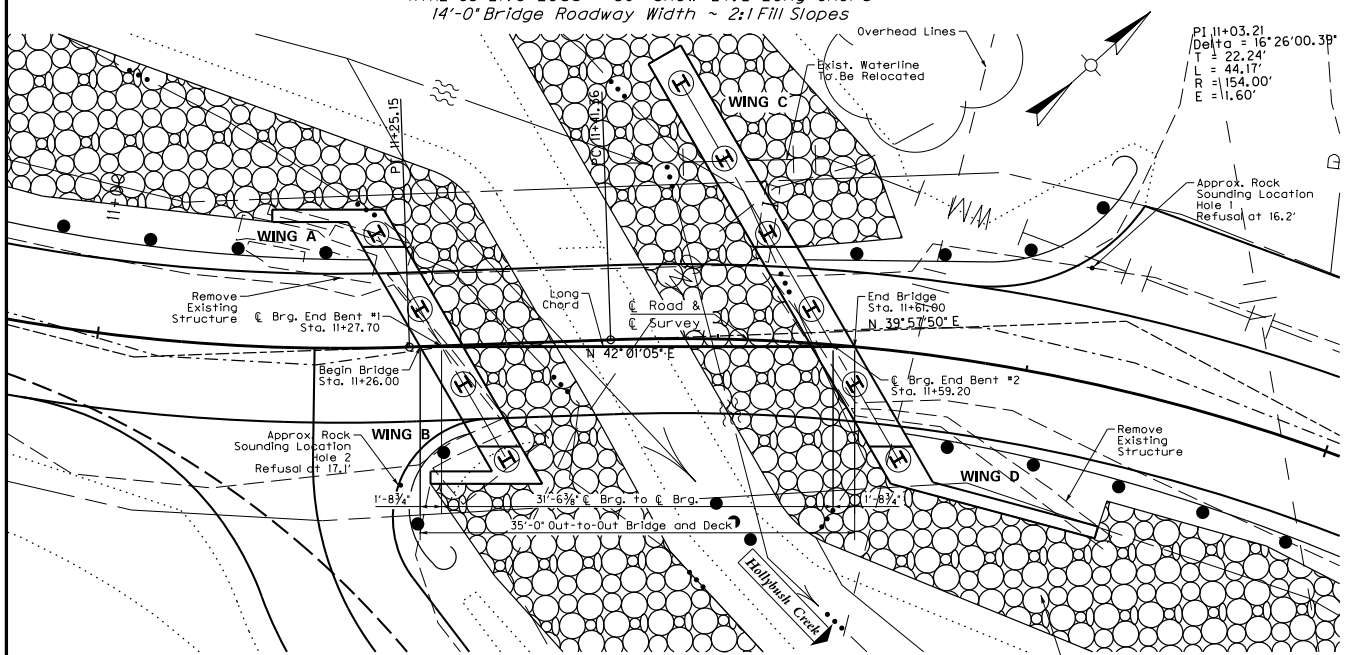
MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$



NOTE: Backfill end bents in accordance with Section 603.03.04.

ELEVATION

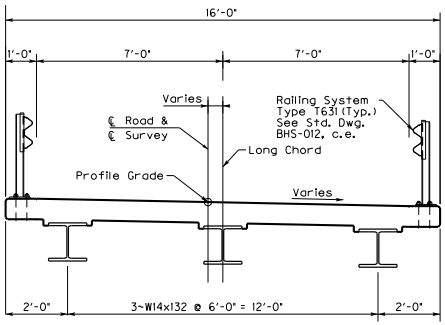
32'-0" WI4x132 ~ Simple Span
KYHL-93 Live Load ~ 30° Skew Lt.@ Long Chord
14'-0" Bridge Roadway Width ~ 2:1 Fill Slopes



PLAN

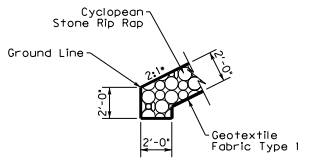
~Superstructure not shown~

Cyclopean Stone RipRap See Roadway sheets for details and quantities



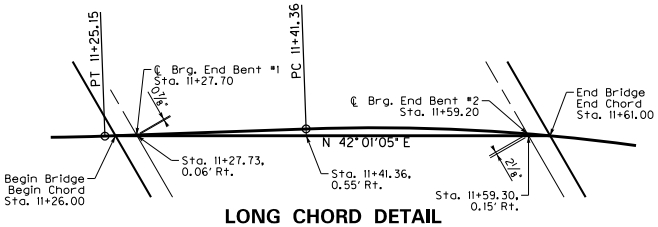
NOTE: Roadway Guardrail is Attached to Bridge Barriers. See Roadway Plans.

TYPICAL SECTION



• Normal to Face of Bent

TOE OF SLOPE DETAIL



LONG CHORD DETAIL

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	REVISION	DATE	PREPARED BY HMB PROFESSIONAL ENGINEERS, INC.	DATE: 10/15/2022	CHECKED BY	LAYOUT	ROUTE CR-1108	ITEM NO. 12-0243.OTH	COUNTY OF KNOTT
				DESIGNED BY: L. BOLLER	B. REID	CROSSING HOLLYBUSH CREEK		SHEET NO. S3	DRAWING NUMBER 28598
				DETAILED BY: L. BOLLER	B. REID				

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Printed: 8/22/22

Page 1 of 1

Project ID: 060C00022N Item Number:	Knott - HOLLYBUSH RD HOLLYBUSH CREEK	Project Type: Structure Bridge Project Manager: _

Hole Number 1 Surface Elevation ' Total Depth 16.2' Location + 'Lt.	Immediate Water Depth NA Static Water Depth NA Driller James Roark	Start Date 08/20/2022 End Date 08/20/2022 Latitude(83) 37.346094 Longitude(83) -82.857996	Hole Type sounding Rig_Number

Lithology Elevation	Depth	Description (Overburden / Rock Core)	Sample No. Std/Ky RQD	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks
	0.4	Blacktop.						
5		Brown, moist, silty clay with sandstone boulders.						5
10	10.0							10
		Gray, wet, sandy clay with rock fragments.						
15	14.6							15
	16.2	Gray, sandstone. (Refusal)						
20		(Bottom of Hole 16.2') (Refusal @ 16.2)						20
25								25
30								30
35								35
40								40
45								45
50								50

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Printed: 8/22/22

Page 1 of 1

Project ID: 060C00022N Item Number:	Knott - HOLLYBUSH RD HOLLYBUSH CREEK	Project Type: Structure Bridge Project Manager: _

Hole Number 2 Surface Elevation ' Total Depth 17.1' Location + 'Lt.	Immediate Water Depth NA Static Water Depth NA Driller James Roark	Start Date 08/20/2022 End Date 08/20/2022 Latitude(83) 37.346094 Longitude(83) -82.857996	Hole Type sounding Rig_Number

Lithology Elevation	Depth	Description (Overburden / Rock Core)	Sample No. Std/Ky RQD	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks
5		Medium stiff, brown, clay with boulders.						5
10	10.0							10
		Gray, wet, sand with rock fragments.						
	14.1							
15		Gray, sandstone. (Refusal)						15
	17.1							
20		(Bottom of Hole 17.1') (Refusal @ 17.1)						20
25								25
30								30
35								35
40								40
45								45
50								50

SUBSURFACE DATA

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

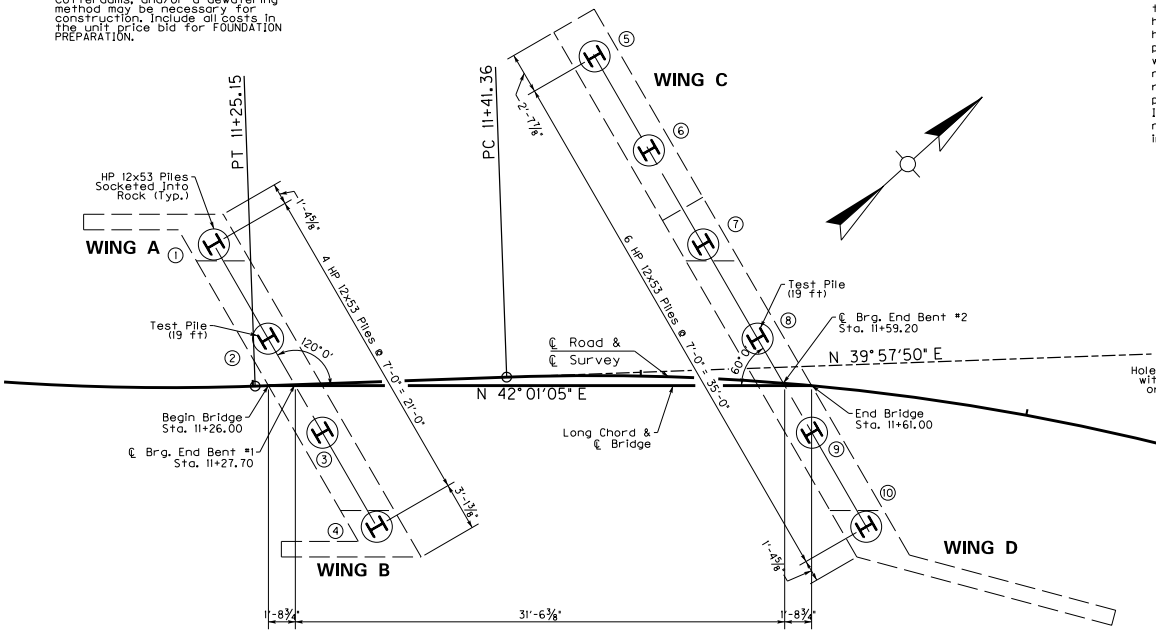
SUBSURFACE DATA

CROSSING
HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO.	DRAWING NUMBER
	S4	28598

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$

NOTE: Temporary shoring, sheeting, cofferdams, and/or a dewatering method may be necessary for construction. Include all costs in the unit price bid for FOUNDATION PREPARATION.

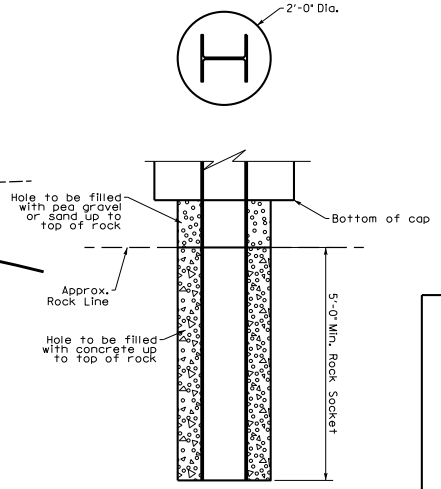


End Bent #1 **End Bent #2**

FOUNDATION PLAN

PRE-DRILLING PILES

PRE-DRILLING END BENT PILES: All piles at both End Bents shall be pre-drilled through solid rock in order to obtain the required embedment of piles. Use 24-inch diameter holes drilled a minimum of 5 feet into rock. Backfill the holes with concrete up to the rock line after the pile is placed in the hole. Backfill the hole above the rock line with sand or pea gravel. A temporary casing may be necessary to prevent collapse of the hole. If used, remove the casing as the hole is being backfilled. Drive piles to refusal after backfill operations are complete. Include the cost of all materials, labor, and equipment needed to pre-drill, backfill, and drive the piles to refusal in the price per linear foot for PRE-DRILLING FOR PILES.



PRE-DRILLING DETAIL

PILE STRIKE ALTERNATE

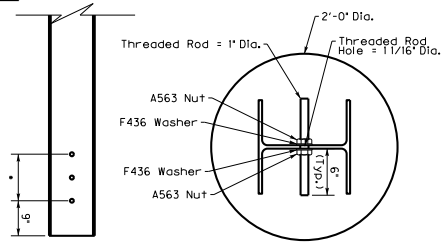
As an alternate to striking the pile once placed inside the pre-drilled hole, the contractor may include shear resisting devices on the pile. Place pile in hole and use excavator to apply full hydraulic load to top of pile before filling hole with concrete. Use ASTM F1554 Grade 36 threaded rods with a minimum tensile strength of 58 ksi. The cost of all materials needed is incidental to PRE-DRILLING FOR PILES.

This alternate was designed to withstand 125% of the pile's design axial load shown on the pile record.

Notes:
Provide an excavator with sufficient capacity and reach to lift and place piles without contacting the ground or sides of the boring and to pull casing as the hole is being backfilled.

Contractor is to ensure hole is cleaned during and after excavation. The portion of the pre-drilled bore hole above the rock socket shall be excavated using casing to prevent excavated walls from collapsing. The rock socket shall be visually inspected. The bottom of hole shall be visible to the inspector by normal means from the surface elevation. If not adequately cleared of debris or water the contractor may be required to clean out the holes using vacuum excavator and/or a pump. After the pile and concrete are placed, the casing shall be backfilled with sand or pea gravel. Remove the casing as the hole above the rock socket is backfilled.

Measure final excavation depths with a weighted tape or other approved methods after final cleaning. Ensure the base of excavation has less than ½ inch of sediment at the time of pile and concrete placement. Do not allow the depth of water to exceed 3 inches during concrete placement.



SHEAR RESISTANT DEVICE DETAIL **PLAN VIEW OF PILE WITH THREADED ROD DETAIL**

PILE RECORD FOR POINT BEARING PILES

PILE NO.	PILE CUT-OFF ELEVATION (FEET)	TIP OF PILE ELEVATION AS DRIVEN (FEET)	LENGTH OF PILE IN PLACE (FEET)	DESIGN AXIAL LOAD (TONS)
1	892.77			73
2	892.77			73
3	892.77			73
4	892.77			73
5	892.69			73
6	892.69			73
7	892.69			73
8	892.69			73
9	892.69			73
10	892.69			73

FIELD DATA

FOR EACH PILE, THE PROJECT ENGINEER SHALL RECORD THE FOLLOWING ON THIS SHEET: PILE LENGTH IN PLACE AND POINT OF PILE ELEVATION AS DRIVEN. SUBMIT THIS RECORD TO:

DIRECTOR, DIVISION OF STRUCTURAL DESIGN
ROOM #322
200 MERO STREET
FRANKFORT, KY. 40622-0001

THIS PILE RECORD DOES NOT REPLACE OTHER PILE RECORDS THE PROJECT ENGINEER IS REQUIRED TO KEEP AND SUBMIT.

USE HP 12X53 IN ACCORDANCE WITH BPS-003, C.E.
USE GRADE 50 STEEL H-PILES WITH PILE POINTS FOR END BEARING PILES.

DEFINITIONS OF TERMS

PILE CUT-OFF ELEVATION: Elevation of the top of pile in the finished structure.

PILE LENGTH IN PLACE: Actual pile length below the Pile Cut-Off Elevation in the finished structure.

POINT OF PILE ELEVATION AS DRIVEN: Actual point of pile elevation in the finished structure.

DESIGN AXIAL LOAD: Load carried by each pile as estimated from structural design calculations for Factored LRFD Loadings.

CALCULATED FIELD BEARING: Contrary to Section 604.03.07 of the Standard Specifications, in place bearing values are not required for piles bearing on rock when driven to practical refusal.

DRIVING CRITERIA: Drive point bearing piles to practical refusal.

PRACTICAL REFUSAL: FOR THIS PROJECT MINIMUM BLOW REQUIREMENTS ARE REACHED AFTER TOTAL PENETRATION BECOMES ½" OR LESS FOR 10 CONSECUTIVE BLOWS. PRACTICAL REFUSAL IS OBTAINED AFTER THE PILE IS STRUCK AN ADDITIONAL 10 BLOWS WITH TOTAL PENETRATION OF ½" OR LESS. IMMEDIATELY CEASE DRIVING OPERATIONS IF THE PILE VISIBLY YIELDS OR BECOMES DAMAGED DURING DRIVING. DRIVE ADDITIONAL PRODUCTION AND TEST PILES IF DIRECTED BY THE ENGINEER.

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

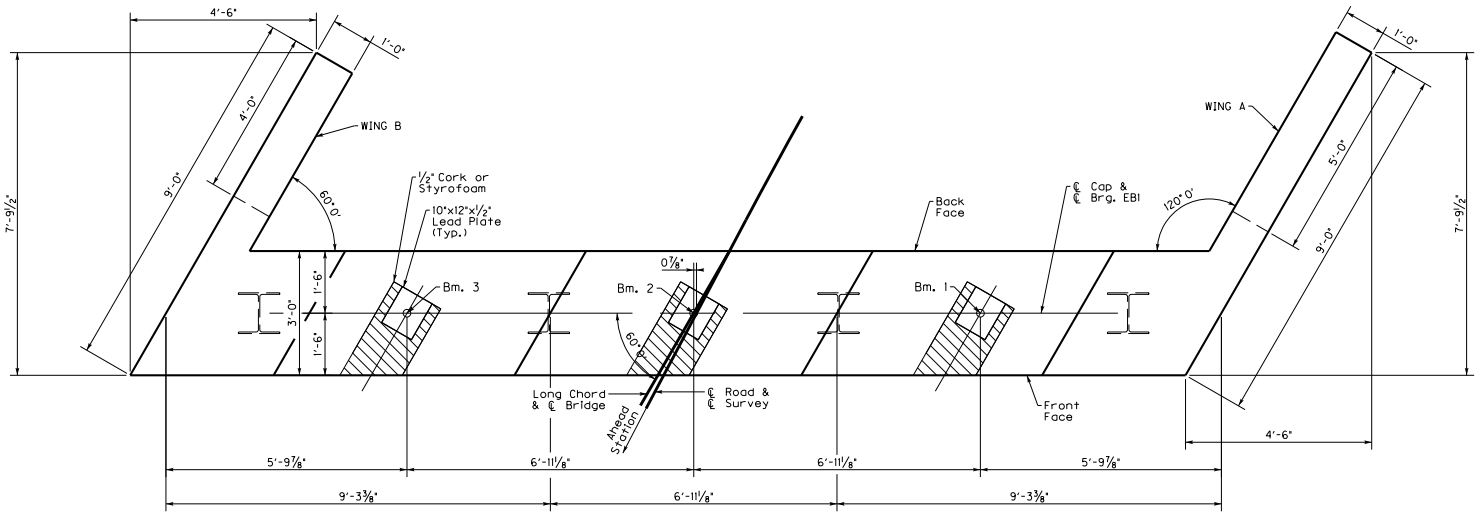
PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

FOUNDATION LAYOUT
CROSSING
HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO. S5	DRAWING NUMBER 28598

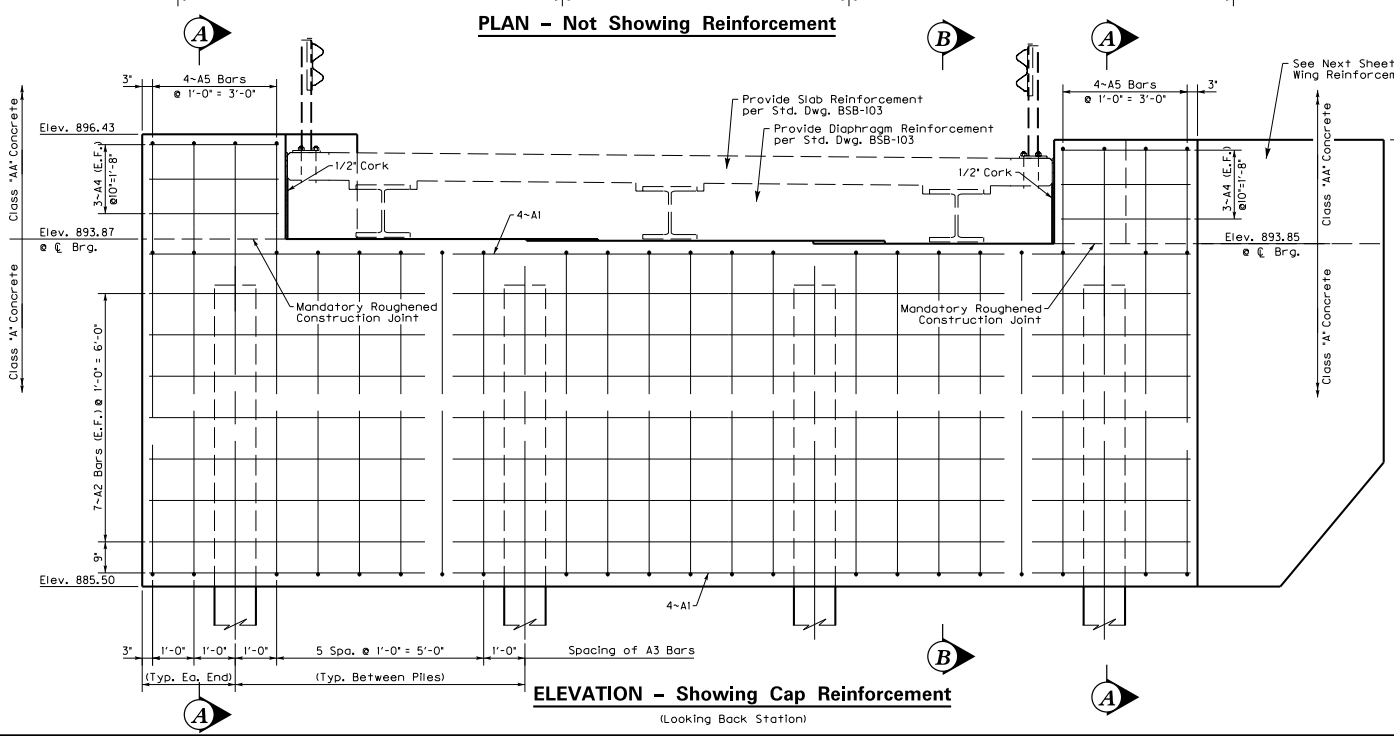
MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$



PLAN – Not Showing Reinforcement

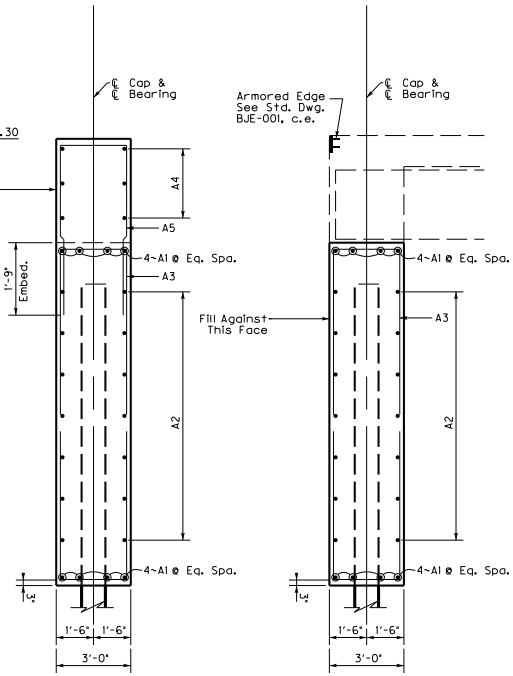
Table of Beam Seat Elevations			
Beam	Back Face	Centerline Brg.	Front Face
1	893.769	893.789	893.809
2	893.847	893.859	893.870
3	893.900	893.903	893.907

Note: Seat Elevations given at Top of Concrete
Note: For Pile Location, See Foundation Layout



ELEVATION – Showing Cap Reinforcement

(Looking Back Station)



SECTION A–A

SECTION B–B

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

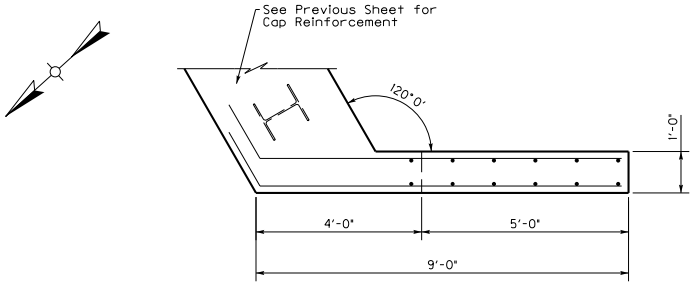
PREPARED BY: HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

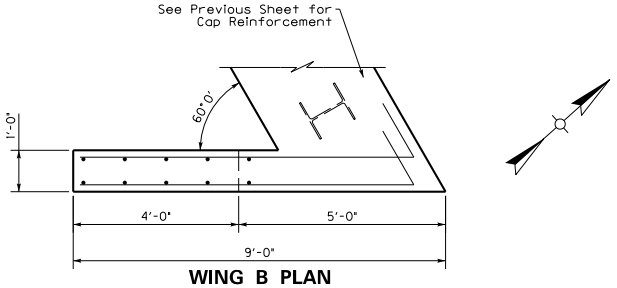
END BENT #1 (1 OF 2)
CROSSING: HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO. S6	DRAWING NUMBER 28598

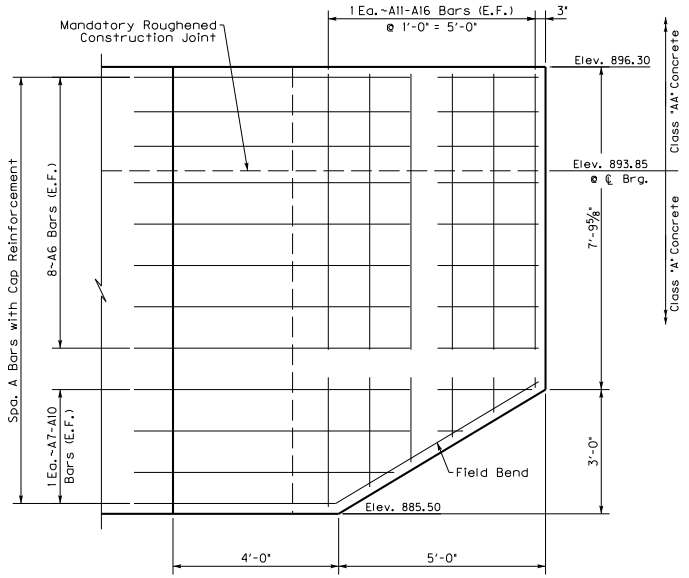
MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$



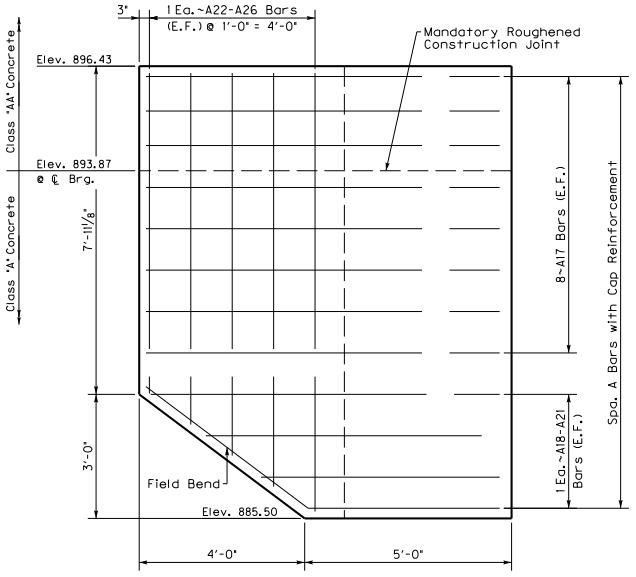
WING A PLAN



WING B PLAN



WING A ELEVATION

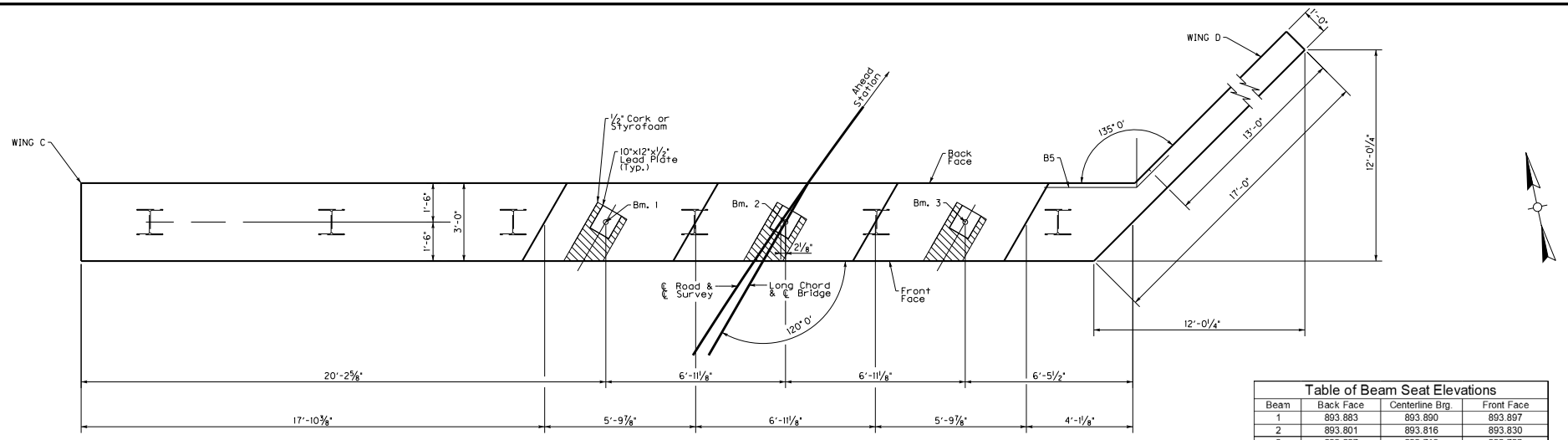


WING B ELEVATION

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	REVISION / DATE	PREPARED BY HMB PROFESSIONAL ENGINEERS, INC.	DATE: 10/15/2022	CHECKED BY	END BENT #1 (2 OF 2)	ROUTE CR-1108	ITEM NO. 12-0243.OTH	COUNTY OF KNOTT
			DESIGNED BY: L. BOLLER	B. REID	CROSSING HOLLYBUSH CREEK		SHEET NO. S7	DRAWING NUMBER 28598
			DETAILED BY: L. BOLLER	B. REID				

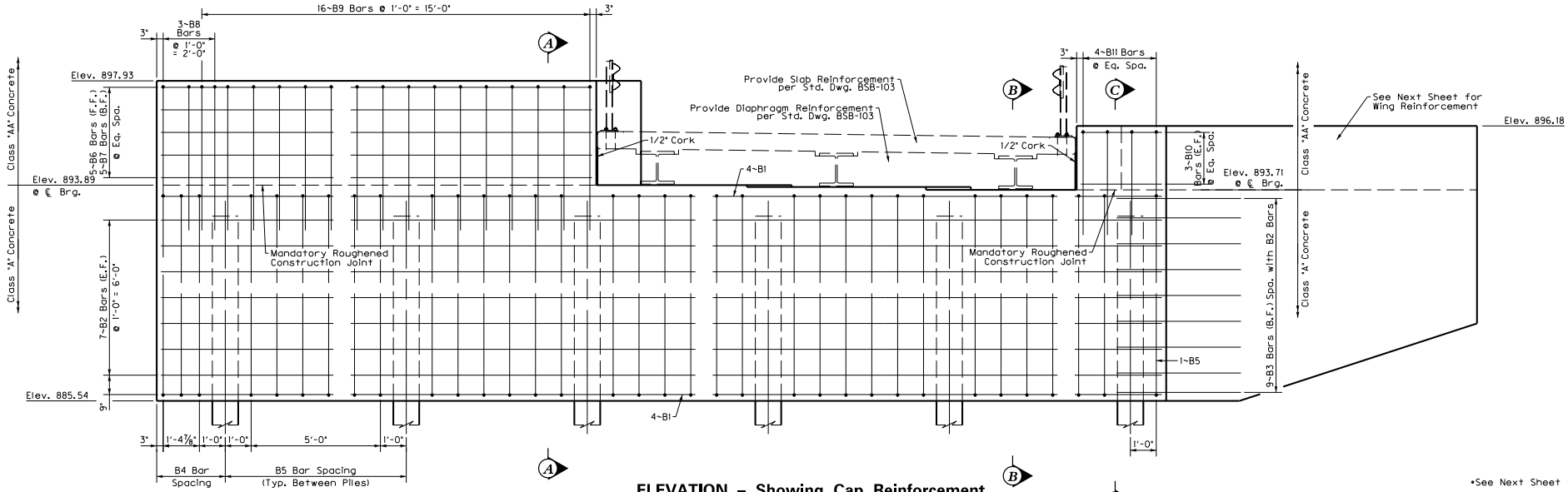
MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$



PLAN – Not Showing Reinforcement

Table of Beam Seat Elevations			
Beam	Back Face	Centerline Brg.	Front Face
1	893.883	893.890	893.897
2	893.801	893.816	893.830
3	893.687	893.710	893.732

Note: Seat Elevations given at Top of Concrete
Note: For Pile Location, See Foundation Layout



ELEVATION – Showing Cap Reinforcement

(Looking Ahead Station)

•See Next Sheet for Sections

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

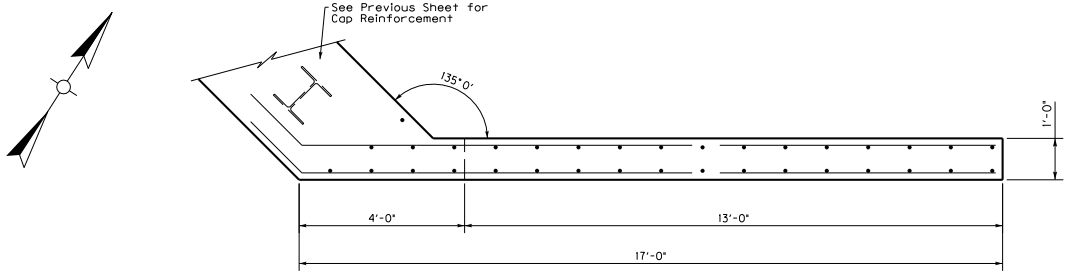
PREPARED BY: HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

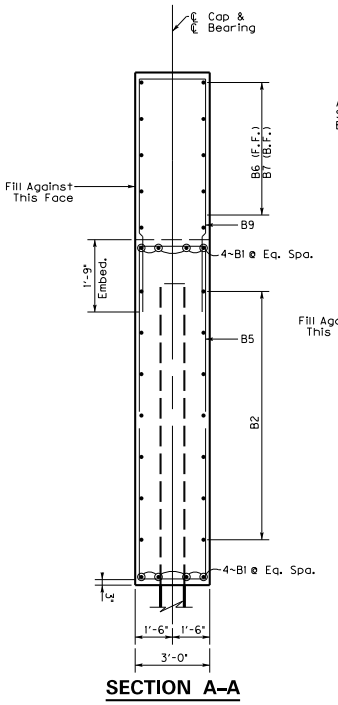
END BENT #2 (1 OF 2)
CROSSING: HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO. S8	DRAWING NUMBER 28598

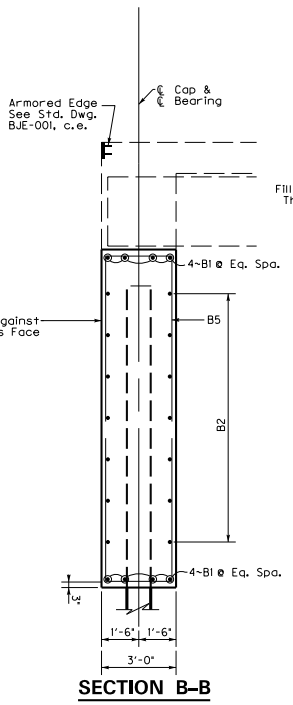
MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$



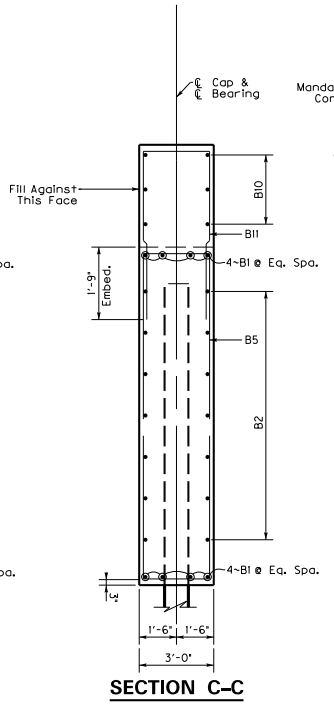
WING D PLAN



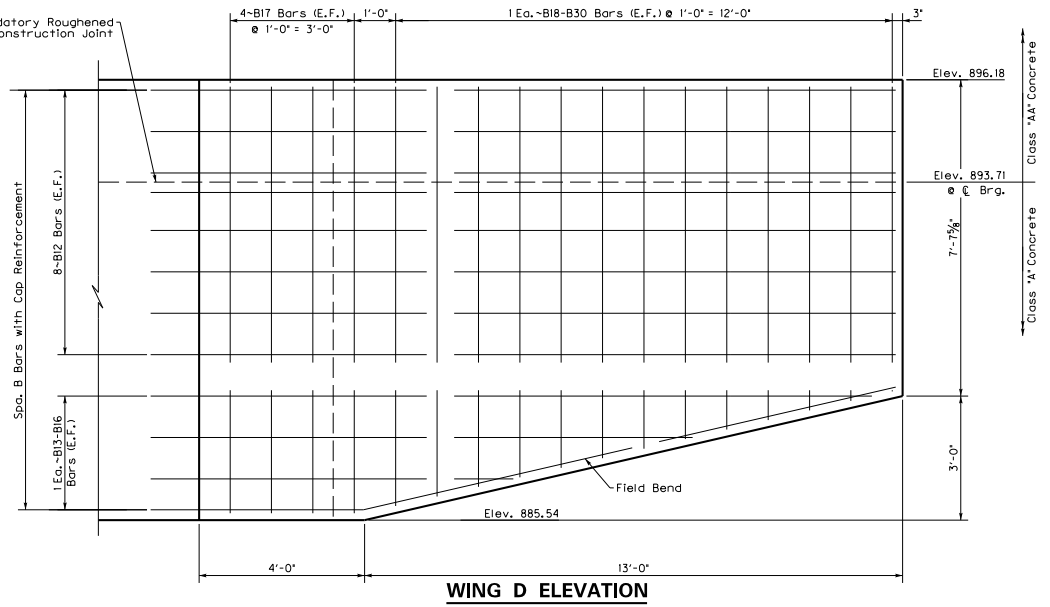
SECTION A–A



SECTION B–B



SECTION C–C



WING D ELEVATION

FEMA Bridge: D23A 4663-DR

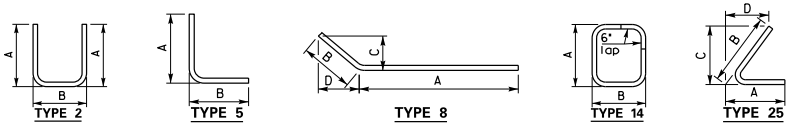
COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	REVISION / DATE	PREPARED BY HMB PROFESSIONAL ENGINEERS, INC.	DATE: 10/15/2022	CHECKED BY	END BENT #2 (2 OF 2)	ROUTE CR-1108	ITEM NO. 12-0243.OTH	COUNTY OF KNOTT
			DESIGNED BY: L. BOLLER	B. REID	CROSSING HOLLYBUSH CREEK		SHEET NO. S9	DRAWING NUMBER 28598
			DETAILED BY: L. BOLLER	B. REID				

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$

END BENT BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH		LOCATION	A		B		C		D	
				FT	IN		FT	IN	FT	IN	FT	IN	FT	IN
A1	STR	8	#6	25	2	EB1 CAP HORIZONTAL								
A2	STR	14	#5	25	2	EB1 CAP FACES								
A3	14	22	#6	22	10	EB1 CAP STIRRUP	7	10	3	1				
A4	STR	12	#5	3	1	EB1 CAP WING HORIZ								
A5	2	8	#6	11	7	EB1 CAP WING STIRRUP	4	2	3	1				
A6	8	16	#6	10	2	WING A HORIZONTAL	8	8	1	6	1	4	0	9
A7	8	2	#5	10	0	WING A HORIZONTAL	8	6	1	6	1	4	0	9
A8	8	2	#5	8	6	WING A HORIZONTAL	7	0	1	6	1	4	0	9
A9	8	2	#5	6	9	WING A HORIZONTAL	5	3	1	6	1	4	0	9
A10	8	2	#5	11	0	WING A HORIZONTAL	9	6	1	6	1	4	0	9
A11	STR	2	#5	10	5	WING A VERTICAL								
A12	STR	2	#5	9	11	WING A VERTICAL								
A13	STR	2	#5	9	4	WING A VERTICAL								
A14	STR	2	#5	8	9	WING A VERTICAL								
A15	STR	2	#5	8	2	WING A VERTICAL								
A16	STR	2	#5	7	7	WING A VERTICAL								
A17	25	16	#6	9	6	WING B HORIZONTAL	8	0	1	6	1	3	0	9
A18	25	2	#5	9	5	WING B HORIZONTAL	7	11	1	6	1	3	0	9
A19	25	2	#5	8	1	WING B HORIZONTAL	6	7	1	6	1	3	0	9
A20	25	2	#5	6	9	WING B HORIZONTAL	5	3	1	6	1	3	0	9
A21	25	2	#5	10	6	WING B HORIZONTAL	9	0	1	6	1	3	0	9
A22	STR	2	#5	10	7	WING B VERTICAL								
A23	STR	2	#5	10	0	WING B VERTICAL								
A24	STR	2	#5	9	3	WING B VERTICAL								
A25	STR	2	#5	8	6	WING B VERTICAL								
A26	STR	2	#5	7	9	WING B VERTICAL								
B1	STR	8	#6	38	8	EB2 CAP HORIZONTAL								
B2	STR	14	#5	38	8	EB2 CAP FACES								
B3	8	9	#5	5	5	EB2 CAP BEND HORIZ	3	8	1	9	1	3	1	3
B4	14	3	#6	21	10	EB2 CAP STIRRUP	7	9	2	8				
B5	14	31	#6	22	8	EB2 CAP STIRRUP	7	9	3	1				
B6	STR	5	#5	16	8	WING C HORIZONTAL								
B7	STR	5	#5	18	3	WING C HORIZONTAL								
B8	2	3	#6	14	0	WING C STIRRUP	5	8	2	8				
B9	2	16	#6	14	5	WING C STIRRUP	5	8	3	1				
B10	STR	6	#5	3	1	EB2 CAP WING HORIZ								
B11	2	4	#6	11	5	EB2 CAP WING STIRRUP	4	2	3	1				
B12	8	16	#6	18	6	WING D HORIZONTAL	16	9	1	9	1	3	1	3
B13	8	2	#5	17	11	WING D HORIZONTAL	16	2	1	9	1	3	1	3
B14	8	2	#5	13	7	WING D HORIZONTAL	11	10	1	9	1	3	1	3
B15	8	2	#5	9	3	WING D HORIZONTAL	7	6	1	9	1	3	1	3
B16	8	2	#5	18	9	WING D HORIZONTAL	17	0	1	9	1	3	1	3
B17	STR	2	#5	10	3	WING D VERTICAL								
B18	STR	2	#5	10	1	WING D VERTICAL								
B19	STR	2	#5	9	10	WING D VERTICAL								
B20	STR	2	#5	9	8	WING D VERTICAL								
B21	STR	2	#5	9	5	WING D VERTICAL								
B22	STR	2	#5	9	2	WING D VERTICAL								
B23	STR	2	#5	8	11	WING D VERTICAL								
B24	STR	2	#5	8	9	WING D VERTICAL								
B25	STR	2	#5	8	6	WING D VERTICAL								
B26	STR	2	#5	8	3	WING D VERTICAL								
B27	STR	2	#5	8	0	WING D VERTICAL								
B28	STR	2	#5	7	10	WING D VERTICAL								
B29	STR	2	#5	7	6	WING D VERTICAL								
B30	STR	2	#5	7	4	WING D VERTICAL								

NOTE: Bar marks designated as 'e' should be epoxy coated.



FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
KENTUCKY TRANSPORTATION CABINET

REVISION	DATE

PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

END BENT BILL OF REINFORCEMENT
CROSSING: HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO.	DRAWING NUMBER
	S10	28598

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$

General Notes

SPECIFICATIONS : All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, with current supplemental specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOADS : Beam & Slab sections are designed for 1.25*HL93 (KYHL93) Live Load.

DESIGN LOAD DISTRIBUTION : Beams are designed according to the AASHTO LRFD Bridge Design Specifications for beam spacings up to 6ft and overhangs up to 3'-0" with a 9" wide barrier.

FUTURE WEARING SURFACE : These beams are designed for a 15 PSF future wearing surface load.

SUBSTRUCTURE DESIGN LOADS : Unfactored design reaction forces per beam end.

DC (kips): Beam, Slab, Diaphragms, SIP Forms, and assumed railing dead loads of 533 lbs/ft.
DW (kips): Future wearing surface.
LL+I (kips): LL with Dynamic load allowance.

MATERIAL DESIGN SPECIFICATIONS:

for Beam Steel	FY = 50000 PSI
for Steel Reinforcement	FY = 60000 PSI
for Class "AA" Deck Concrete	FY = 4000 PSI

MATERIAL STEEL	A.S.T.M	AASHTO	
High Strength Low Alloy Structural Steel		A709 GR 50	M270 GR 50
Shear Stud Connectors		UNS G 1018	M-169
Sheet lead and Pig Lead	B29-79		
High strength bolts, nuts, and washers	F3125 Grade A325		M-164 Type 1

All steel in longitudinal rolled wide flange beams shall meet the longitudinal Charpy V-Notch toughness test for non-fracture critical components Zone 2 in accordance with the following:

M270 GR 50 (up to 2" thickness) of 15 ft-lbs at 40°F.

Sampling and testing procedures shall be in accordance with AASHTO T243 current edition, utilizing (H) frequency testing. When plate thickness exceeds 1 ½" frequency of testing shall be (P).

HIGH STRENGTH BOLT CONNECTIONS : Unless otherwise specified on the plans, all bolted connnections shall be ASTM F3125 Grade A325 ¾" diameter high strength bolts, nuts, and washers. Open holes shall be $^{13}/_{16}$" diameter. Type 1 galvanized bolts shall be used as described in AASHTO M164. All high strength bolted field connections are to be installed with "direct tension indicators" (DTI's) in accordance with the Standard Specifications and ASTM F959. All DTI's shall be manufactured from a steel conforming to the chemical requirements of ASTM A325 for Type 1 galvanized steel. DTI's shall be installed under the bolt head with the bumps facing the underside of the bolt head. Put a hardened washer under the nut and tension from the nut.

BEVELED EDGES : Bevel all exposed edges ¾".

REINFORCEMENT : Dimensions shown from the face of concrete to reinforcement are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Epoxy coat all bars. Use stirrup bend diameters for all bent bars.

CORROSION PROTECTION : These beams and all steel components are to be hot dip galvanized according to ASTM A123. Weathering Steel is not allowed.

SHEAR CONNECTORS : The minimum length of studs is 6". Provide the necessary length to penetrate at least 2" above bottom of slab.

Include all costs for shear connectors with the price of the steel beams. Including shear connectors, welding and welding material, and materials necessary to field weld or shop weld the shear connectors in place according to the plans and specifications.

If the Contractor wishes to use something other than the stud shear connectors shown on the plans, the proposed arrangement shall be submitted for approval with the shop plans.

Studs shall be welded in accordance with AWS Specifications.

MILL TEST REPORTS : Notarized mill test reports shall be furnished in triplicate to the Department, showing that all material used in the structural steel conform to the requirements of the specifications.

PROHIBITED WELDING : No welding of any nature, other than indicated on the plans, is to be performed without the written consent of the designer, and then only in the manner and at the locations designated in the authorization.

SLAB: Ensure the entire superstructure slab and diaphragms are poured continuously, out to out, before allowing any concrete to set.

SHOP DRAWINGS: The fabricator shall submit all required shop plans, by email, to the design engineer for review. These submissions shall depict the shop plans in .pdf format. As either 11"x17" or 22"x36" sheets. Designers will make review comments on these electronic submissions as needed and shall return them to the fabricator. Upon reconciliation of the designers comments, files shall be returned to the designer and plans will be forwarded to the Division of Structural Designs Shop Plan coordinator for distribution. Only plans submitted directly to the shop plan coordinator will be distributed and only plans electronically stamped "Distributed by The Division of Structural Design" are to be used for fabrication. While this process does not require the submission of paper copies, The Division of Structural Design reserves the right to require such copies on a case by case basis.

When any changes to the design plans are proposed by the Fabricator or Supplier, the shop drawings reflecting these changes shall be submitted to the Design Engineer through the contractor.

Note:
This plan sheet has been adapted from Standard Drawing BSB-101. Shaded regions on this plan sheet do not apply to this project.

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

COMPOSITE STEEL BEAM SUPERSTRUCTURE
GENERAL NOTES

CROSSING
HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO.	DRAWING NUMBER
	S11	28598

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$

TABLE OF BEAM SIZES AND DESIGN DATA (6 FT. MAX. BEAM SPACING WITH 3 FT. MAX. OVERHANG)

BEAM SPAN	ROLLED BEAM		DEFLECTION IN INCHES		SHEAR CONNECTORS				UNFACTORED BEAM END REACTION			LL DIST. FACT. (LANES)	
	BEAM MEMBER	BEAM DEPTH (IN.)	STEEL ONLY	TOTAL DL	#Per Row	Spa. @ Ea. End of Beam	Middle Spacing	ADTT	DC (kips)	DW (kips)	LL+I (kips)	LLDFM	LLDFV
20' Max.	W18x55	18.1	0.00	0.11	2	10 Spa. @ 5 ¼"	5¾" Spa.	300	11.85	0.90	72.65		.877
	W16x77	16.5	0.00	0.09	3	5 Spa. @ 5 ¾"	6" Spa.	Inf.	12.10		71.61		.865
	W14x82	14.3	0.00	0.11	3	14 Spa. @ 5 ¼"	6" Spa.	450	12.14		72.36		.874
	W12x106	12.9	0.00	0.11	3	14 Spa. @ 5 ¼"	6" Spa.	400	12.40		71.78		.867
25' Max.	W24x62	23.7	0.02	0.17	2	23 Spa. @ 5 ¼"	6" Spa.	400	14.75	1.13	74.47		.860
	W21x62	21.0	0.03	0.21	2	23 Spa. @ 5 ¼"	6" Spa.	350	14.75		75.31		.870
	W18x71	18.5	0.03	0.24	2	23 Spa. @ 5 ¼"	6" Spa.	290	14.86		75.67		.874
	W16x77	16.5	0.04	0.25	3	11 Spa. @ 5 ½"	6" Spa.	Inf.	14.96		76.05		.878
	W14x82	14.3	0.05	0.31	3	23 Spa. @ 5 ¼"	6" Spa.	425	15.01		76.89		.888
	W12x106	12.9	0.05	0.31	3	23 Spa. @ 5 ¼"	6" Spa.	385	15.33		76.25		.880
30' Max.	W24x76	23.9	0.04	0.28	2	28 Spa. @ 5 ¼"	6" Spa.	415	17.78	1.35	80.90		.856
	W21x83	21.4	0.05	0.32	2	28 Spa. @ 5 ¼"	6" Spa.	350	17.89		81.41		.862
	W18x86	18.4	0.06	0.39	3	7 Spa. @ 5 ¾"	6" Spa.	Inf.	17.94		82.40		.872
	W16x100	17.0	0.06	0.40	3	14 Spa. @ 5 ½"	6" Spa.	Inf.	18.18		82.26		.871
	W14x120	14.5	0.08	0.45	3	28 Spa. @ 5 ¼"	6" Spa.	440	18.48		82.48		.873
	W12x120	13.1	0.10	0.57	3	28 Spa. @ 5 ¼"	6" Spa.	375	18.48		83.41		.883
35' Max.	W27x84	26.7	0.06	0.39	3	6 Spa. @ 7 ⅜"	8" Spa.	Inf.	20.79	1.58	86.49		.850
	W24x94	24.3	0.06	0.41	2	24 Spa. @ 5 ¼"	6" Spa.	420	20.97		86.69		.852
	W21x101	21.4	0.07	0.47	3	7 Spa. @ 6 ½"	7" Spa.	Inf.	21.10		87.33		.858
	W18x119	19.0	0.09	0.52	3	7 Spa. @ 6"	6½" Spa.	Inf.	21.43		87.50		.860
	W14x132	14.7	0.14	0.76	3	24 Spa. @ 5 ¼"	6" Spa.	425	21.66		89.15		.876
	W12x152	13.7	0.17	0.82	3	24 Spa. @ 5 ⅜"	6" Spa.	375	22.03		89.00		.874
40' Max.	W30x99	29.7	0.07	0.48	3	12 Spa. @ 8"	9" Spa.	Inf.	23.97	1.80	90.47		.840
	W27x102	27.1	0.08	0.53	3	20 Spa. @ 7 ½"	9" Spa.	Inf.	24.03		91.07		.845
	W24x117	24.3	0.09	0.56	3	14 Spa. @ 7"	8" Spa.	Inf.	24.35		91.22		.846
	W21x122	21.7	0.12	0.67	3	16 Spa. @ 6"	7" Spa.	Inf.	24.45		92.04	0.65	.854
	W18x130	19.3	0.15	0.81	3	9 Spa. @ 5 ½"	6" Spa.	Inf.	24.62		92.79		.861
	W14x176	15.2	0.21	0.98	3	19 Spa. @ 5 ¼"	6" Spa.	425	25.58		93.11		.864
	W12x190	14.4	0.25	1.12	3	19 Spa. @ 5 ¼"	6" Spa.	375	25.86		93.25		.865
45' Max.	W33x118	32.9	0.09	0.54	3	12 Spa. @ 9"	10" Spa.	Inf.	27.33	2.03	93.45		.828
	W30x116	30.0	0.11	0.64	3	21 Spa. @ 8"	10" Spa.	Inf.	27.29		94.36		.836
	W27x129	27.6	0.12	0.68	3	15 Spa. @ 7 ½"	9" Spa.	Inf.	27.57		94.53		.838
	W24x131	24.5	0.14	0.80	3	16 Spa. @ 7"	8" Spa.	Inf.	27.63		95.48		.846
	W21x147	22.1	0.17	0.91	3	17 Spa. @ 6 ½"	7" Spa.	Inf.	28.00		95.83		.849
	W18x158	19.7	0.22	1.08	3	10 Spa. @ 5 ½"	6" Spa.	Inf.	28.25		96.54		.855
50' Max.	W33x130	33.1	0.13	0.74	3	23 Spa. @ 8"	10" Spa.	Inf.	30.60	2.25	97.11		.828
	W30x132	30.3	0.15	0.86	3	24 Spa. @ 7 ½"	9" Spa.	Inf.	30.65		97.86		.834
	W27x146	27.4	0.17	0.89	3	18 Spa. @ 7"	8" Spa.	Inf.	31.02		98.11		.836
	W24x162	25.0	0.20	0.99	3	28 Spa. @ 6 ½"	8" Spa.	Inf.	31.43		98.43		.839
	W21x182	22.7	0.24	1.11	3	20 Spa. @ 6"	7" Spa.	Inf.	31.95		98.70		.841
	W18x192	20.4	0.30	1.36	3	35 Spa. @ 5 ¼"	7" Spa.	Inf.	32.19		99.51		.848
55' Max.	W36x135	35.6	0.17	0.93	3	16 Spa. @ 8 ¼"	10" Spa.	Inf.	33.73	2.48	100.10		.825
	W33x141	33.3	0.18	0.99	3	25 Spa. @ 8"	10" Spa.	Inf.	33.91		100.45		.828
	W30x148	30.7	0.21	1.11	3	28 Spa. @ 7 ¼"	9" Spa.	Inf.	34.09		100.97		.832
	W27x178	27.8	0.23	1.10	3	19 Spa. @ 7"	8" Spa.	Inf.	34.96		100.75		.830
	W24x192	25.5	0.27	1.25	3	31 Spa. @ 6 ½"	8" Spa.	Inf.	35.33		101.20		.834
	W21x223	23.4	0.33	1.35	3	33 Spa. @ 6"	8" Spa.	Inf.	36.21		101.10		.833
	W18x258	21.5	0.40	1.51	3	35 Spa. @ 5 ⅜"	7" Spa.	Inf.	37.22		101.21		.834
60' Max.	W36x150	35.9	0.22	1.17	3	27 Spa. @ 8 ¼"	10" Spa.	Inf.	37.20	2.70	102.92		.823
	W33x169	33.8	0.24	1.16	3	18 Spa. @ 8"	9" Spa.	Inf.	37.76		102.82		.822

← USE W14x132

Note:
This plan sheet has been adapted from Standard Drawing BSB-102. Shaded regions on this plan sheet do not apply to this project.

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

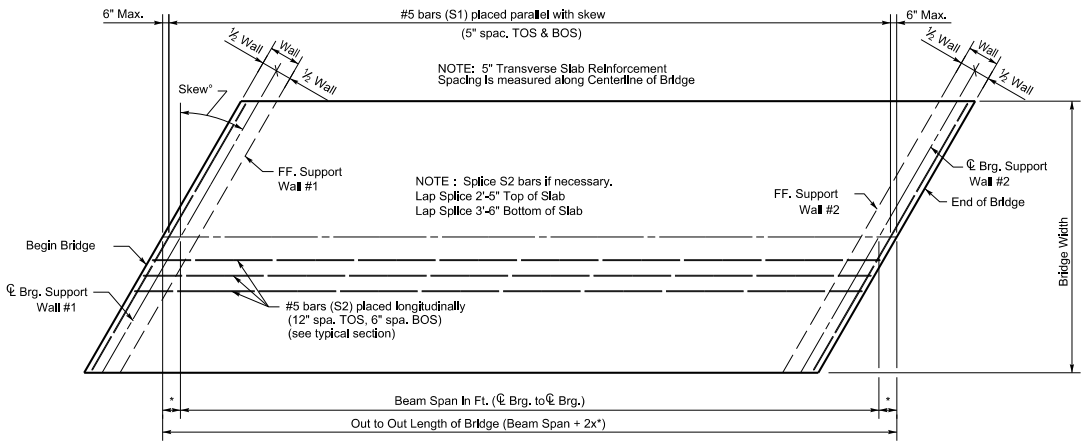
DATE: 10/15/2022 CHECKED BY
DESIGNED BY: L. BOLLER B. REID
DETAILED BY: L. BOLLER B. REID

COMPOSITE STEEL BEAM SUPERSTRUCTURE
BEAM TABLES

CROSSING
HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO.	DRAWING NUMBER
	S12	28598

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$



PLAN OF SLAB

NOTE : All reinforcing steel shall be epoxy coated.

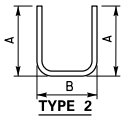
* = ½ Wall / SF

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT	LENGTH IN	LOCATION	A FT	A IN	B FT	B IN
S1e	STR	174	#5	18	1	SLAB TRANSVERSE				
S2e	STR	47	#5	34	8	SLAB LONGITUDINAL				
D3e	2	32	#5	6	3	DIAPHRAGM STIRRUPS	1	7	3	1
D4e	STR	4	#8	2	0	DIAPHRAGM DOWELS				

NOTES:
Bar marks designated as "e" should be epoxy coated.

Deck and Diaphragm Reinforcement Based on
Std. Dwg. BSB-103, Included In This Plan Set.



TYPE 2

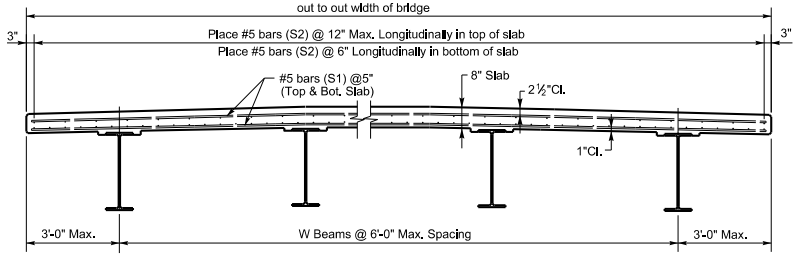
Skew Factors	
Skew	SF
0°	1.000
5°	0.996
10°	0.985
15°	0.966
20°	0.940
25°	0.906
30°	0.866
35°	0.819
40°	0.766
45°	0.707

Estimate of Steel Quantities = (Bridge Length-4in)*(Bridge Width-4in) * (3.129 lb/sq. ft. + 5.006 lb/sq. ft.) / SF

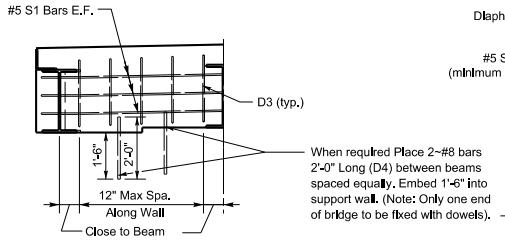
NOTE: Provide Railing System T631 at each overhang.
See Railing System Details sheet.

NOTES : 1.) Diaphragm stirrups are to project into the slab regardless of slab forming method.

2.) Place stirrup bars parallel to face of beams.

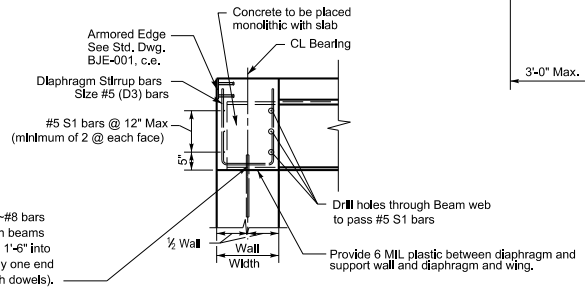


TYPICAL SECTION



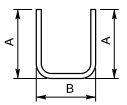
DIAPHRAGM

NOTE : End Diaphragms are required on both ends of Slabs.



DIAPHRAGM X-SECTION

(Perpendicular to Diaphragm)



D3 BARS

Dim. "A" = Beam Depth + 4"

Dim. "B" = (Wall Width - 4") / SF

Note:
This plan sheet has been adapted from Standard Drawing BSB-103. Shaded regions on this plan sheet do not apply to this project.

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022 | CHECKED BY
DESIGNED BY: L. BOLLER | B. REID
DETAILED BY: L. BOLLER | B. REID

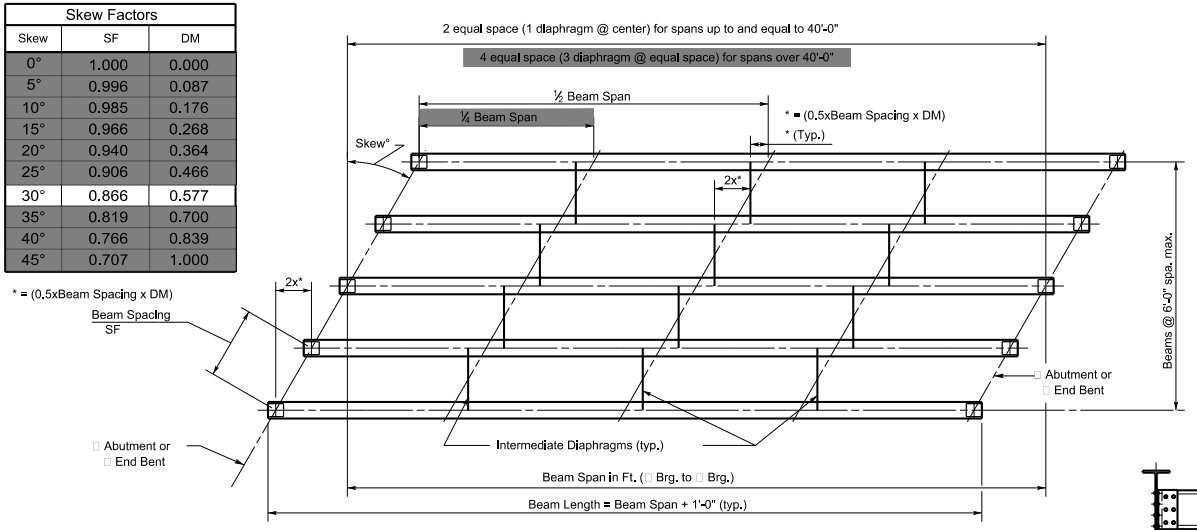
COMPOSITE STEEL BEAM SUPERSTRUCTURE
SLAB DETAILS

CROSSING
HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO.	DRAWING NUMBER
	S13	28598

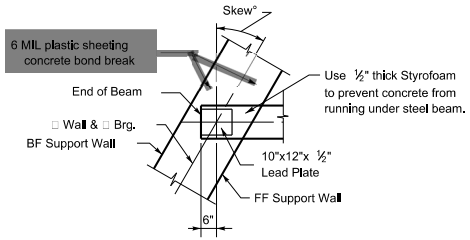
MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$

Skew Factors		
Skew	SF	DM
0°	1.000	0.000
5°	0.996	0.087
10°	0.985	0.176
15°	0.966	0.268
20°	0.940	0.364
25°	0.906	0.466
30°	0.866	0.577
35°	0.819	0.700
40°	0.766	0.839
45°	0.707	1.000

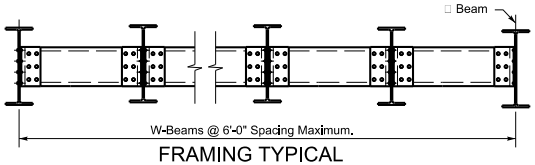


FRAMING PLAN

NOTE: Place girders with any mill or shop camber bowed up in the middle. Heat cambering is not required.

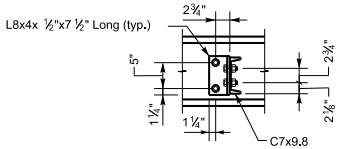


END OF BEAM DETAIL
@ SUPPORTS

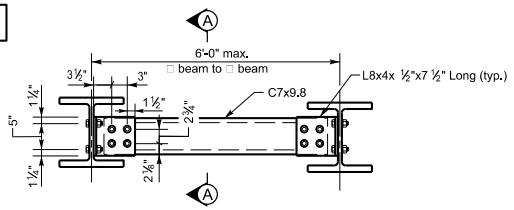


FRAMING TYPICAL

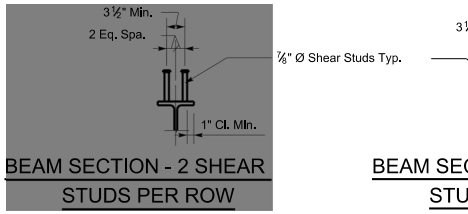
NOTE : Use ¾" Ø Bolts with 13/16" Ø Holes Throughout.



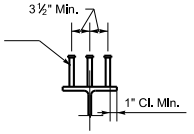
SECTION A-A



INTERMEDIATE DIAPHRAGM
(for up to 14" beam depth)

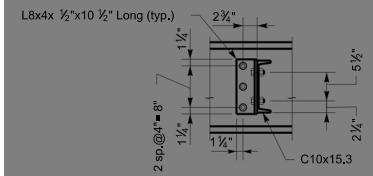


BEAM SECTION - 2 SHEAR
STUDS PER ROW

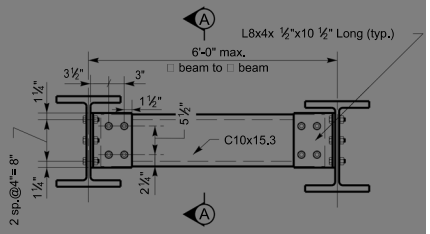


BEAM SECTION - 3 SHEAR
STUDS PER ROW

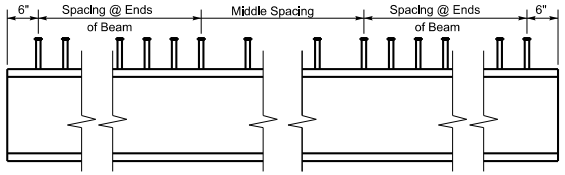
NOTE : Use ¾" Ø Bolts with 13/16" Ø Holes Throughout.



SECTION A-A



INTERMEDIATE DIAPHRAGM
(for up to 20" beam depth)



SHEAR CONNECTOR LAYOUT
(See Beam Tables for Spacings required and number of shear connectors per row)

Note:
This plan sheet has been adapted from Standard Drawing BSB-104. Shaded regions on this plan sheet do not apply to this project.

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

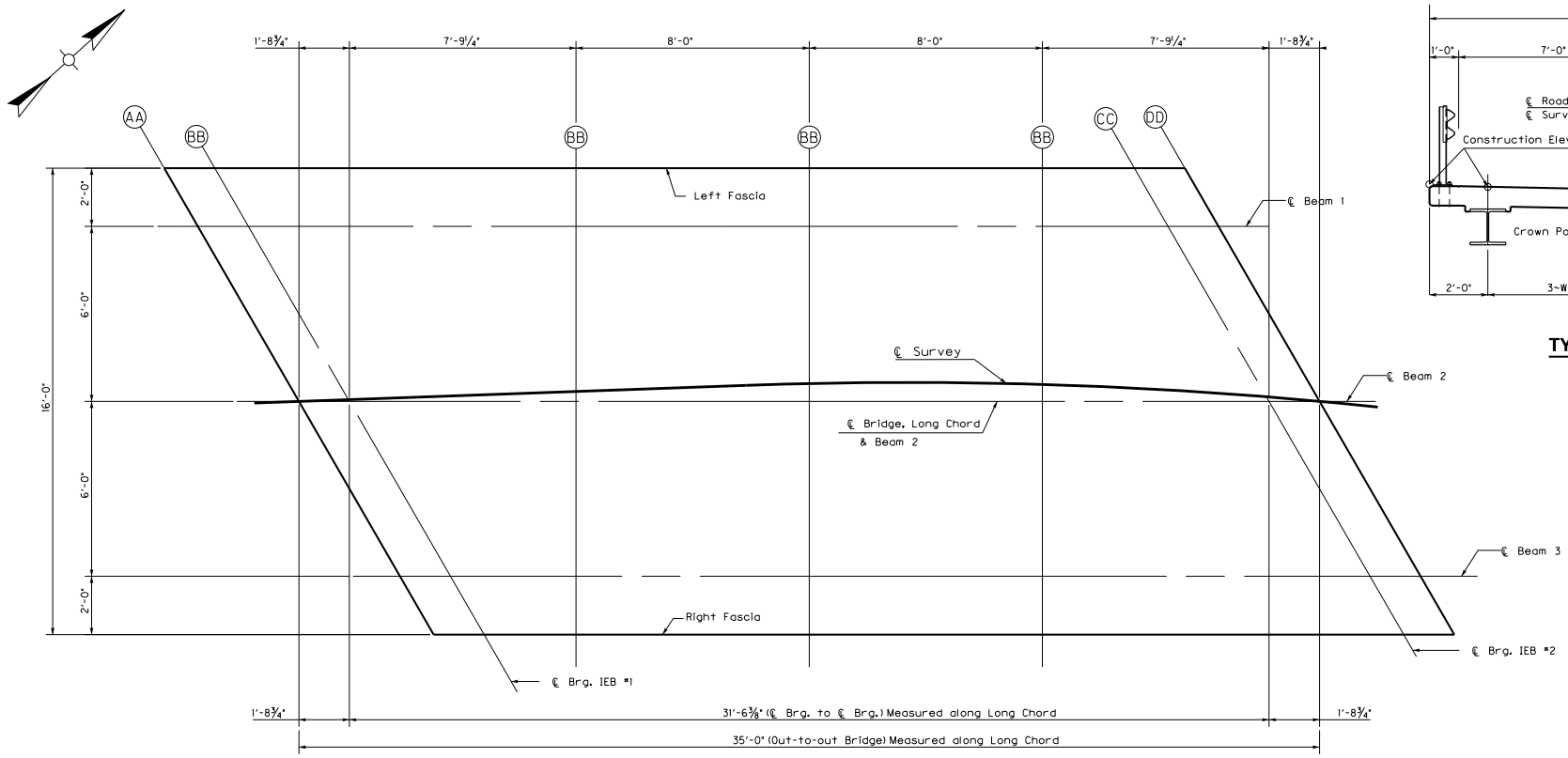
PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

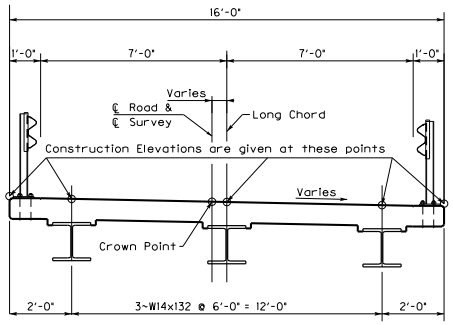
DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

COMPOSITE STEEL BEAM SUPERSTRUCTURE
FRAMING PLAN / DIAPHRAGMS
CROSSING
HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO.	DRAWING NUMBER
	S14	28598

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$





TYPICAL SECTION

NOTES FOR ELEVATIONS TAKEN ON STEEL BEAMS

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.

Compute dimension "X" as follows: "Construction Elevation" minus "Top of Beam" elevation equals dimension "X". Construction Elevations include camber due to weight of the concrete slab and barrier. Measuring of dimension "X" gives the final check on beam tolerances for camber, beam damage, and errors in erection that 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 girders when pouring the concrete floor slab or when taking "Top of Beam" elevations.

Construct rail to roadway grade. Do not add camber to the rail.

CONSTRUCTION ELEVATIONS

LOCATION	LEFT FASCIA	BEAM 1			BEAM 2 & LONG CHORD			BEAM 3			RIGHT FASCIA
		CONSTR. ELEV.	TOP OF BEAM	DIM. "X"	CONSTR. ELEV.	TOP OF BEAM	DIM. "X"	CONSTR. ELEV.	TOP OF BEAM	DIM. "X"	
SKEW LN AA	895.753	895.785			895.864			895.917			895.929
SKEW LN BB	895.776	895.806			895.875			895.920			895.929
SKEW LN CC	895.925	895.907			895.832			895.726			895.684
SKEW LN DD	895.921	895.900			895.818			895.704			895.658
GRID LN 01	896.285	896.289			896.238			896.186			896.191
GRID LN 02	896.338	896.335			896.308			896.325			896.322
GRID LN 03	896.148	896.137			896.132			896.216			896.204

FEMA Bridge: D23A 4663-DR

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

PREPARED BY
HMB PROFESSIONAL ENGINEERS, INC.

DATE: 10/15/2022	CHECKED BY
DESIGNED BY: L. BOLLER	B. REID
DETAILED BY: L. BOLLER	B. REID

CONSTRUCTION ELEVATIONS
CROSSING
HOLLYBUSH CREEK

ROUTE	ITEM NO.	COUNTY OF
CR-1108	12-0243.OTH	KNOTT
	SHEET NO.	DRAWING NUMBER
	S15	28598

MicroStation v8.11.9.459 USER: $USER$ DATE PLOTTED: $DATE$ $TIME$ FILE: $FILE$

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	U1

UTILITY SUMMARY

ITEM	DESCRIPTION	UNIT	SHEET U3			PROJECT TOTALS
WATER LINE SUMMARY						
14000	W AIR RELEASE VALVE 1 INCH	EA	1			1
14003	W CAP EXISTING MAIN	EA	2			2
14004	W DIRECTIONAL BORE	LF	160			160
14059	W PIPE PVC 06	LF	86			86
14089	W TAPPING SLEEVE AND VALVE SIZE 1	EA	2			2
21233ED	ASPHALT PAVING REPLACEMENT	LF	85			85

UTILITY CONSTRUCTION TO BE COMPLETED BY OTHER PRIOR TO CONSTRUCTION. UTILITY PLANS ARE FOR INFORMATION ONLY.

UTILITY SUMMARY
HOLLYBUSH ROAD
AT HOLLYBUSH CREEK

P:\engrenv\Hollybush Road Bridge Relocation\CAD\Hollybush Creek Crossing WL update.dwg

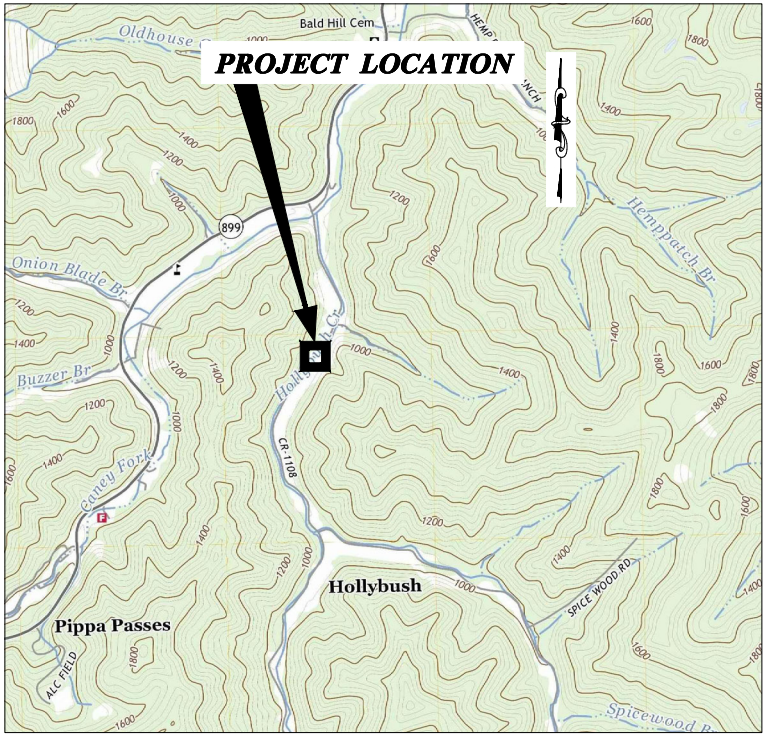
COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	U2

GENERAL NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR IS TO VERIFY ALL FINISHED GRADES AND DIMENSIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
2. EFFORTS HAVE BEEN MADE TO INDICATE THE MOST ACCURATE LOCATION OF EXIST. STRUCTURES, PIPING AND UTILITIES. HOWEVER, THE CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING STRUCTURES, PIPING AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK. REPORT ANY DISCREPANCIES TO THE ENGINEER. TAKE CARE TO PROTECT ALL PIPING AND UTILITIES THAT ARE TO REMAIN. REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE EXPENSE OF THE CONTRACTOR. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
3. DIMENSIONS OF EXIST. STRUCTURES AND/OR SIZE RESTRICTIONS ARE APPROXIMATE. ALL NECESSARY DIMENSIONS AND ELEVATIONS OF EXIST. STRUCTURES & TOPOGRAPHY SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO HIS CONSTRUCTION OPERATIONS.
4. THE CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND GIVE ALL NOTICES REQUIRED FOR EXECUTION OF THE WORK. THE CONTRACTOR SHALL PAY FOR ALL PERMITS AND ANY APPLICABLE SERVICES INSPECTION FEES.
5. THE CONTRACTOR'S WORK AND OPERATIONS SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL CODES AND RECEIVE APPROVAL WHERE NECESSARY PRIOR TO COMMENCEMENT OF THE WORK.
6. ALL MATERIALS BEING REMOVED AND NOT RE-USED IN THE NEW CONSTRUCTION SHALL BE FIRST OFFERED TO THE OWNER. ALL MATERIALS NOT ACCEPTED SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
7. ALL BURIED PIPES SHALL HAVE A MINIMUM OF 3'-6" COVER AS MEASURED VERTICALLY FROM FINISHED GRADE TO THE TOP OF PIPE, UNLESS OTHERWISE NOTED.
8. ALL REQUIRED PIPING BENDS MAY NOT BE SHOWN ON THE DRAWINGS. ADDITIONAL BENDS MAY BE NECESSARY TO CONFORM WITH ELEVATIONS SHOWN AND TO MAINTAIN ADEQUATE GROUND COVER. THE COST OF ANY ADDITIONAL BENDS REQUIRED SHALL BE INCLUDED IN THE LUMP SUM OR UNIT BID PRICE.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR THE PROTECTION OF LIFE DURING CONSTRUCTION. SLOPED SIDES OF EXCAVATIONS SHALL COMPLY WITH FEDERAL, STATE AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED. TRENCH SHORING AND BRACING SHALL COMPLY WITH FEDERAL, STATE AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
10. THE PROPERTY LINES OR EASEMENTS SHOWN ON THE DRAWINGS SHALL BE THE LIMITS OF CONSTRUCTION. ANY ADDITIONAL EASEMENTS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER BY SUBMITTING A REQUEST FOR SUCH TO THE OWNER.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO WORK ALL APPLICABLE DRAWINGS AND SPECIFICATIONS AS A UNIT. ANY OMISSIONS, DELETIONS AND/OR CONFLICTS ARISING AS A RESULT OF FAILURE TO INCORPORATE ALL DRAWINGS AND SPECIFICATIONS WHICH APPLY SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
12. ALL PIPING SUPPORTS MAY NOT BE SHOWN ON THE DRAWINGS. HOWEVER, ALL PIPING, INSIDE AND OUTSIDE, SHALL BE ADEQUATELY SUPPORTED TO PREVENT UNDUE STRAIN OR VIBRATION ON PIPE JOINTS OR EQUIPMENT. ANY ADDITIONAL PIPING SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE.
13. ALL CONCRETE THRUST BLOCKS MAY NOT BE SHOWN ON THE DRAWINGS. HOWEVER, CONCRETE THRUST BLOCKS SHALL BE INSTALLED AT ALL BENDS, TEES, CROSSES, DEAD ENDS, ETC. THRUST BLOCKS SHALL BE SIZED ACCORDINGLY AS SHOWN ON THE CONCRETE THRUST BLOCK DETAIL. ALL NECESSARY THRUST BLOCKS REQUIRED SHALL BE INCLUDED IN THE LUMP SUM OR UNIT BID PRICE.
14. BOLD STRENGTH LINES REPRESENT PROPOSED WORK. LIGHT/SHADED LINES REPRESENT EXIST. FACILITIES.
15. THE ENGINEER RESERVES THE RIGHT TO MAKE MINOR ADJUSTMENTS IN THE WORK IN ORDER TO ACCOMPLISH THE INTENT OF THE DESIGN
16. THE CONTRACTOR SHALL PLACE TEMPORARY STORM WATER CONTROL STRUCTURES AND TAKE ALL NECESSARY PRECAUTIONS TO CONTROL STORM WATER RUNOFF AND EROSION. DO NOT CLOG, BLOCK OR OTHERWISE INTERFERE WITH THE EXISTING STORM WATER SYSTEM. PLACE HAY BALES AND SILT DAMS AS NECESSARY TO CONTROL EROSION.
17. GENERALLY SLOPE GRADES UNIFORMLY BETWEEN NOTED GRADE POINTS.
18. ALL EARTH FILL TO BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS.
19. CONTRACTOR SHALL CLEAN SITE/ROADS WEEKLY, UNLESS REQUESTED MORE FREQUENTLY.
20. CONTRACTOR SHALL COORDINATE ANY TIE-INS/SHUT DOWNS WITH OWNERS PERSONNEL WITH A MINIMUM NOTIFICATION OF 7 DAYS.
21. ALL PIPE JOINTS AND FITTINGS BELOW STRUCTURES SHALL BE RESTRAINED JOINTS.
22. COATING SYSTEMS REQUIRED ON ALL EXPOSED STEEL, DIP VALVES, FITTINGS AND MISC METALS PER SECTION 09900 OF THE SPECIFICATIONS.
23. ALL FLANGED PIPE/FITTING CONNECTIONS SHALL BE PROVIDED WITH TYPE 304 STAINLESS STEEL NUTS AND BOLTS/HARDWARE.
24. ALL DUCTILE IRON PIPE AND FITTINGS FOR AIR PIPING SHALL BE UNLINED INCLUDING CEMENT LINING.
25. ALL ANCHOR BOLTS AND HARDWARE SHALL BE TYPE 304 STAINLESS STEEL UNLESS OTHERWISE INDICATED.
26. INSTALL VALVE BOXES, TRACER WIRE, AND LINE MARKERS PER SPECIFICATIONS.

BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.



LOCATION MAP
SCALE : N.T.S.

LEGEND: EXISTING: PROPOSED:

WATER — W — ▬▬

CONTACT INFORMATION

WATER
KNOTT CO WATER & SEWER DISTRICT
JARED SALMONS, GENERAL MANAGER
777 BIG BRANCH ROAD
VICCO, KY, 41773
(606) 645-3582

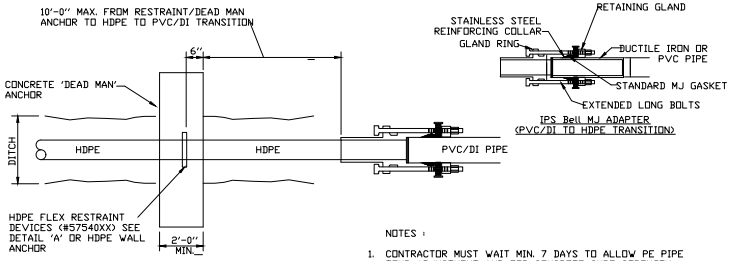
INDEX OF SHEETS

UTILITY CONSTRUCTION TO BE COMPLETED BY OTHER PRIOR TO CONSTRUCTION. UTILITY PLANS ARE FOR INFORMATION ONLY.

NOTES, INDEX AND MAP
HOLLYBUSH ROAD
AT HOLLYBUSH CREEK

P:\engrenv\Hollybush Road Bridge Relocation\CAD\Hollybush Creek Crossing WL update.dwg

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	U2A

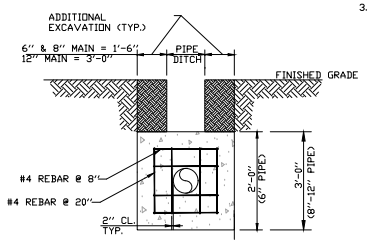


HDPE CONNECTION TO PVC/DI PLAN VIEW

SCALE : N.T.S.

NOTES :

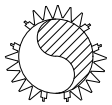
1. CONTRACTOR MUST WAIT MIN. 7 DAYS TO ALLOW PE PIPE TEMP ADJUSTMENT AND FOR CONCRETE CURE STRENGTH BEFORE MAKING TIE IN CONNECTION.
2. ON INITIAL FILL OF NEW PE PIPE, FILL AT AN EXTREME LOW FLOW RATE TO AVOID CENTRALIZER EFFECT (PIPE SHIFT).
3. THIS HDPE CONNECTION REQUIRED ON BOTH SIDES OF HDPE.



NOTE: CENTER BLOCK ON PIPE

SECTION A-A

SCALE : N.T.S.

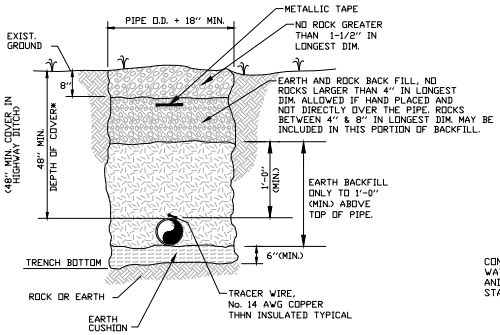


DETAIL 'A'

SCALE : N.T.S.

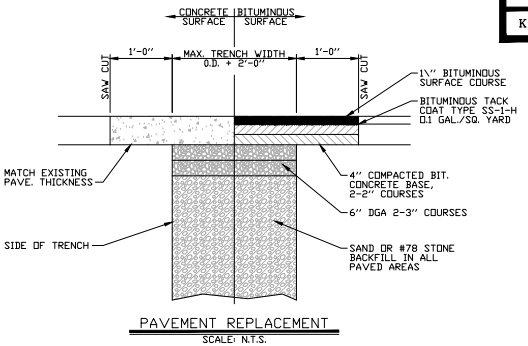
NOTE :
6"-8" 2-HDPE FLEX RESTRAINTS
12"-16" 3-HDPE FLEX RESTRAINTS
16"+ AT ENG. DISCRETION

NOTE :
TRACER WIRE SHALL BE SPLICED WITH GEL FILLED WIRE CONNECTORS.



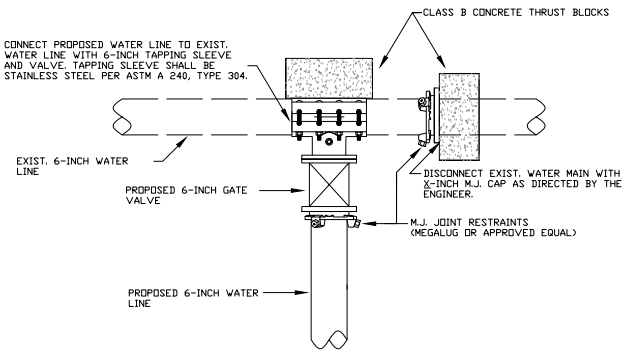
BEDDING/BACKFILL

SCALE : N.T.S.



PAVEMENT REPLACEMENT

SCALE: N.T.S.

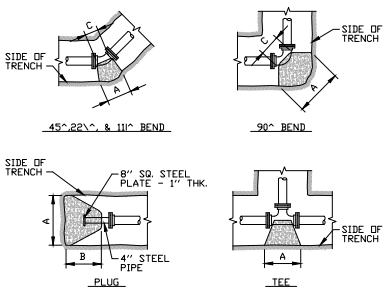


TAPPING SLEEVE CONNECTION - TYPE I

SCALE : N.T.S.

HDPE CONNECTION TO PVC/DI

SCALE : N.T.S.



NOTES:

1. THRUST BLOCKS DESIGNED FOR 100 PSI PRESSURE AND 1000 PSF SOIL BEARING. FOR GREATER PRESSURE OR LESS SOIL BEARING, QUANTITIES WILL HAVE TO BE RECALCULATED.
2. THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
3. IF EXACT SIZE PIPE BLOCKING IS NOT SHOWN, USE NEXT LARGER SIZE.
4. THRUST BLOCKING TO BE POURED IN PLACE CLASS B CONCRETE.

THRUST BLOCKS

SCALE : N.T.S.

90° BEND							
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	72	64	50	40	33	26	16	16
B	72	64	50	40	33	24	16	16
C	32	30	16	15	12	12	9	9
D	36	32	25	20	16	12	8	9

45° BEND							
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	54	48	37	31	24	18	12	12
B	54	48	37	31	24	18	12	12
C	16	18	16	14	12	12	8	8
D	25	22	18	15	12	9	6	6

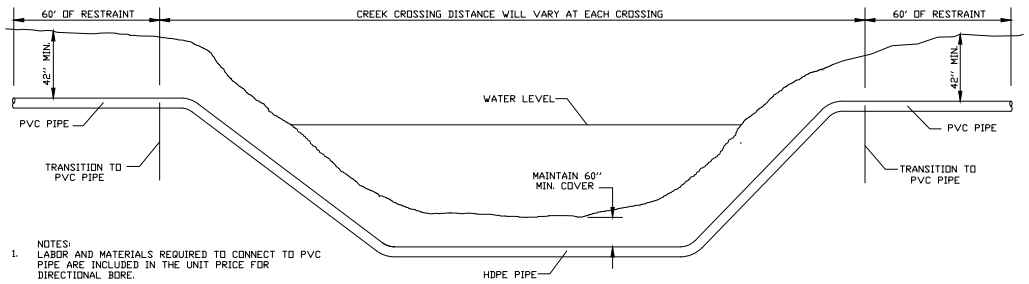
22 1/2° BEND							
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	38	34	26	23	18	13	9	9
B	38	34	26	23	18	13	9	9
C	16	18	16	14	12	10	8	8
D	18	16	13	11	9	6	4	4

11 1/4° BEND							
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	27	24	18	16	13	11	9	9
B	27	24	18	16	13	11	9	9
C	16	18	16	14	12	10	8	8
D	14	12	9	8	6	5	4	4

PLUG							
SIZE	18"	16"	12"	10"	8"	6"	4"	2"
A	60	54	52	43	34	26	26	26
B	60	54	52	43	34	26	26	26
C	12	12	12	12	12	12	12	12
D	54	44	32	22	15	11	11	11

TEE										
SIZE	MAIN / BRANCH	18" / 18"	16" / 16"	12" / 12"	10" / 10"	8" / 8"	6" / 6"	4" / 4"	2" / 2"	4" / 6"	6" / 8"
	A	60	54	52	42	26	43	26	26		
	B	60	54	52	43	26	43	26	26		
	C	32	30	12	12	12	12	12	12		
	D	36	30	26	21	13	21	13	13		

DIMENSIONS ARE IN INCHES



ELEVATION

NOTES:

1. LABOR AND MATERIALS REQUIRED TO CONNECT TO PVC PIPE ARE INCLUDED IN THE UNIT PRICE FOR DIRECTIONAL BORE.
2. DIRECTIONAL BORE SHALL BE ACCOMPLISHED SUCH THAT MANUFACTURER'S RECOMMENDATIONS FOR PIPE DEFLECTION ARE NOT EXCEEDED. COMPLIANCE AND VERIFICATION ARE CONTRACTORS RESPONSIBILITY.
3. M.J. ADAPTOR SHALL BE USED TO TRANSITION FROM HDPE PIPE TO PVC OR D.I. PIPE.
4. COST OF RESTRAINTS SHALL BE INCLUDED IN THE LUMP SUM FOR CREEK CROSSING.
5. ALL JOINTS AND FITTINGS WITHIN 60 FEET OF THE TRANSITION FROM HDPE TO PVC OR DI SHALL BE RESTRAINED.
6. TRACER WIRE SHALL BE INSTALLED WITH DIRECTIONAL BORE, REFER TO SPECS FOR TRACER WIRE WITH DIRECTIONAL BORE.

DIRECTIONAL BORE CREEK CROSSING

SCALE : N.T.S.

STANDARD DETAILS HOLLYBUSH ROAD AT HOLLYBUSH CREEK

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COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	U3

BEFORE YOU DIG

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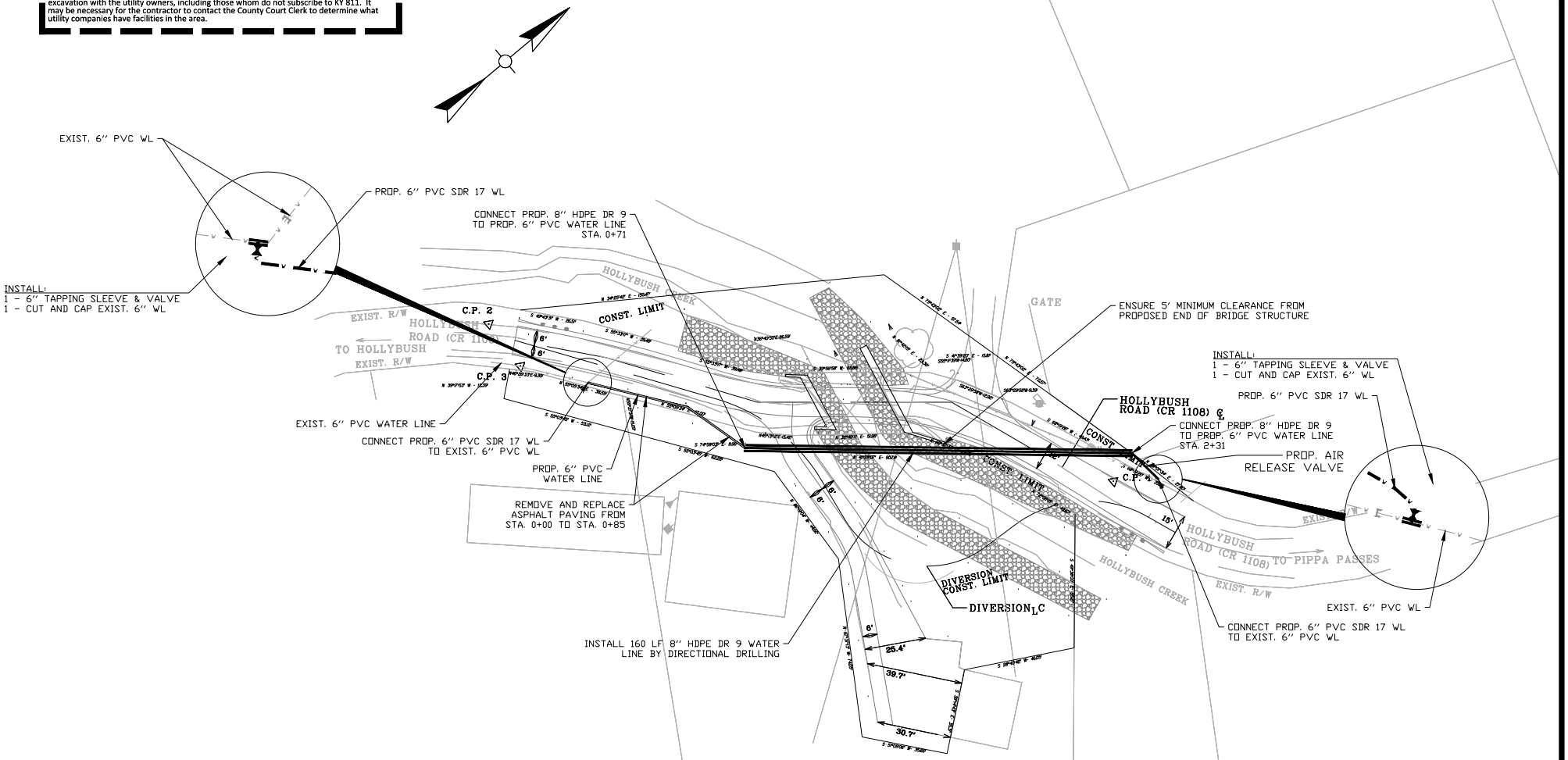

UTILITY CONSTRUCTION TO BE COMPLETED BY OTHER PRIOR TO CONSTRUCTION. UTILITY PLANS ARE FOR INFORMATION ONLY.

0' 20' 40' 80'

SCALE: 1"=40'

WL PLAN
HOLLYBUSH ROAD
AT HOLLYBUSH CREEK

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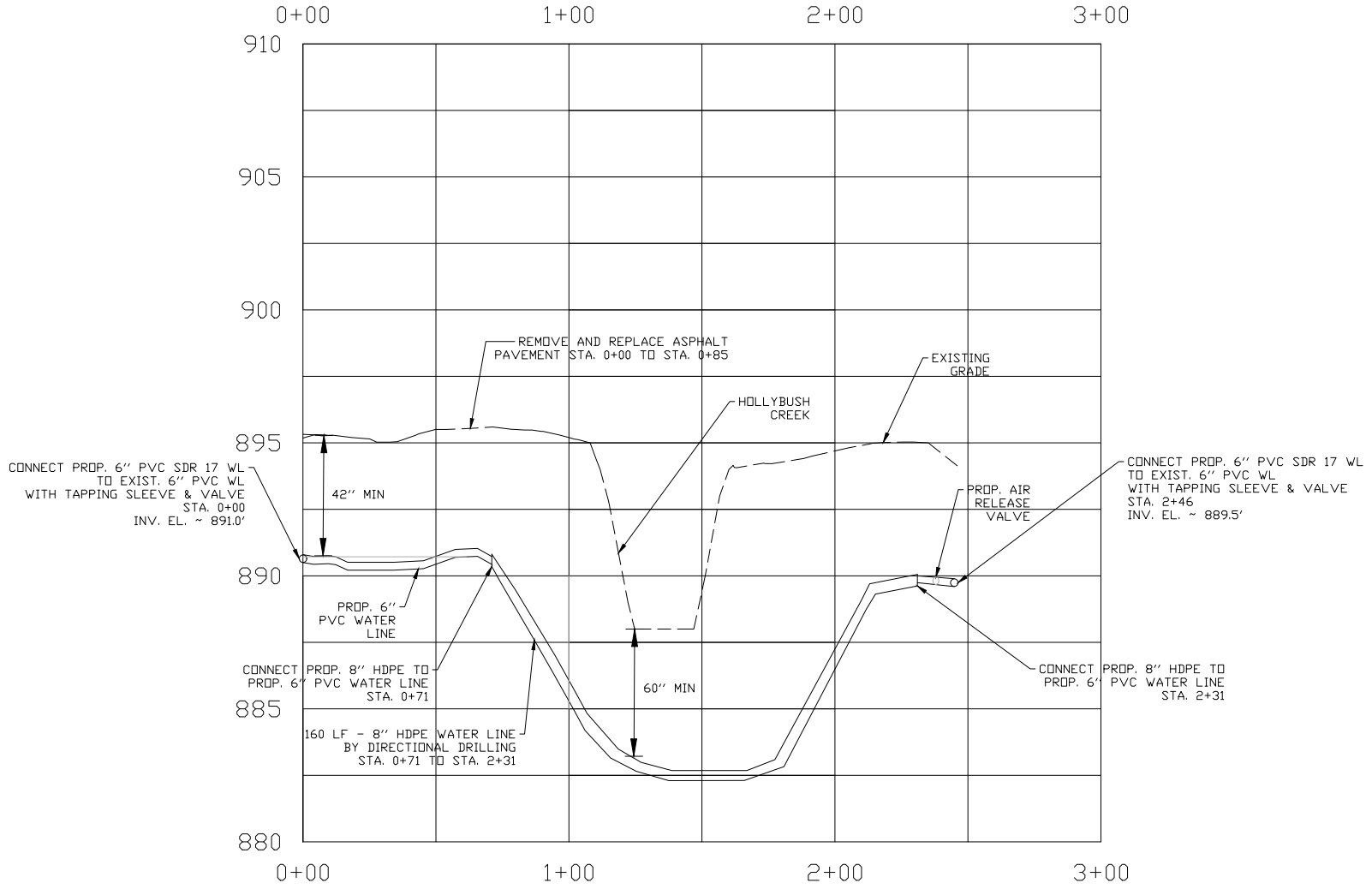
COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	U4



SCALE: 1"=4' VERT.
1"=40' HORIZ.

WL PROFILE
HOLLYBUSH ROAD
AT HOLLYBUSH CREEK

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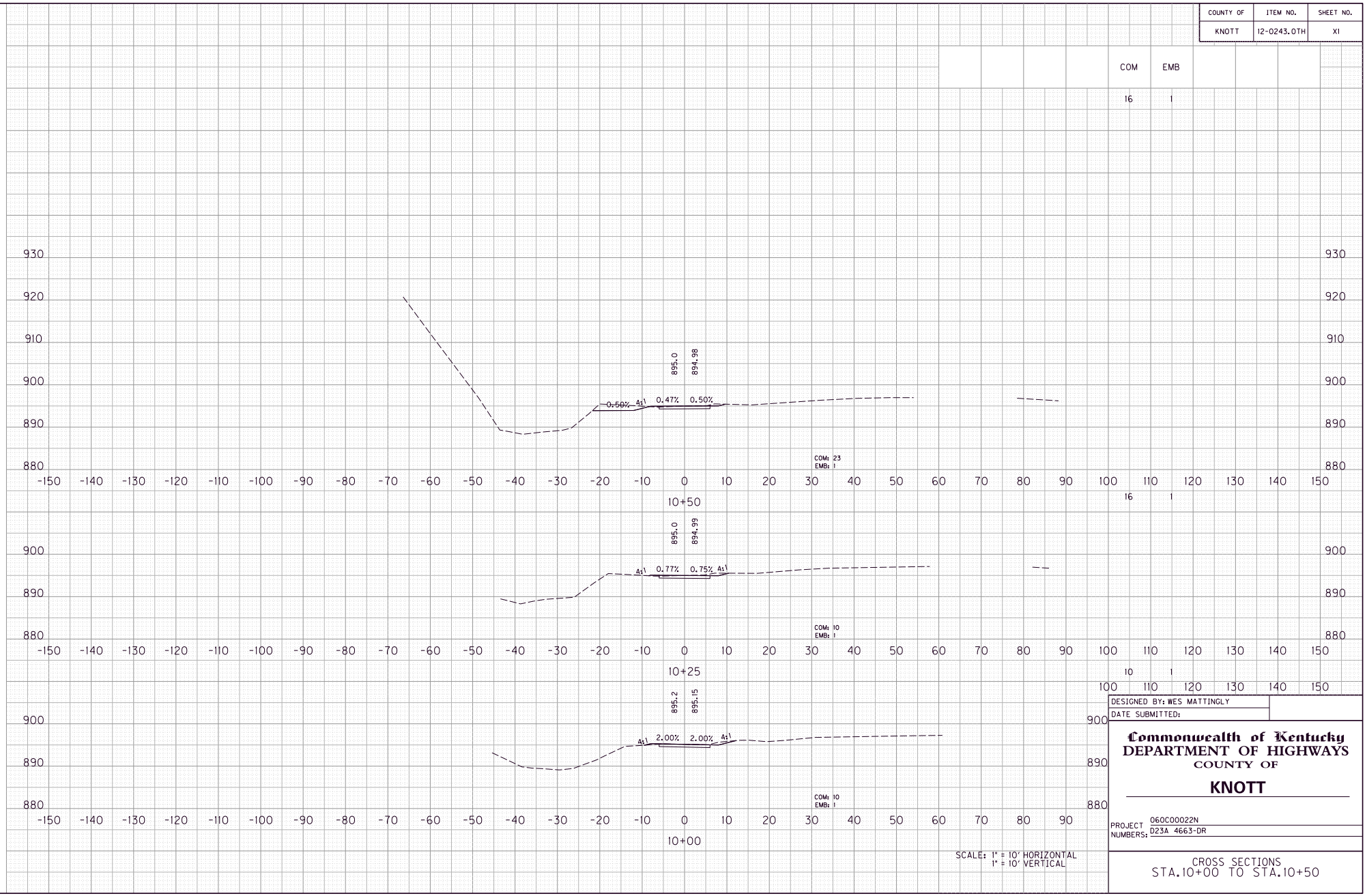
COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.0TH	X1



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

DESIGNED BY: WES MATTINGLY
DATE SUBMITTED:

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF

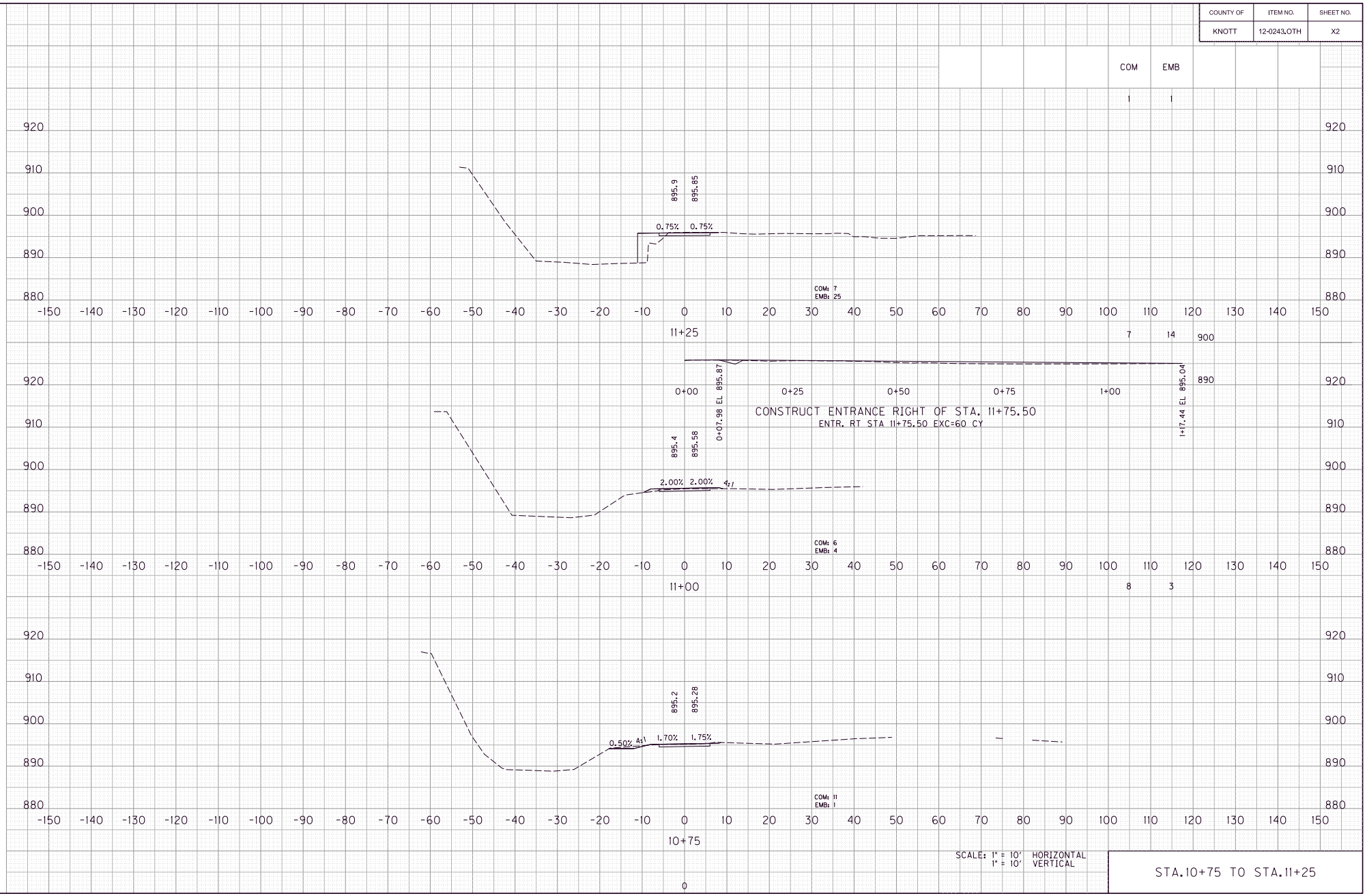
KNOTT

PROJECT NUMBERS: 060C00022N
D23A 4663-DR

CROSS SECTIONS
STA.10+00 TO STA.10+50

FILE NAME: F:\ENGR\EASTERN KY FLOOD WORK\KNOTT COUNTY\HOLLYBUSH ROAD\CAD\XSECXS.DGN
USER: wmattingly
DATE PLOTTED: October 19, 2022
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.OTH	X2

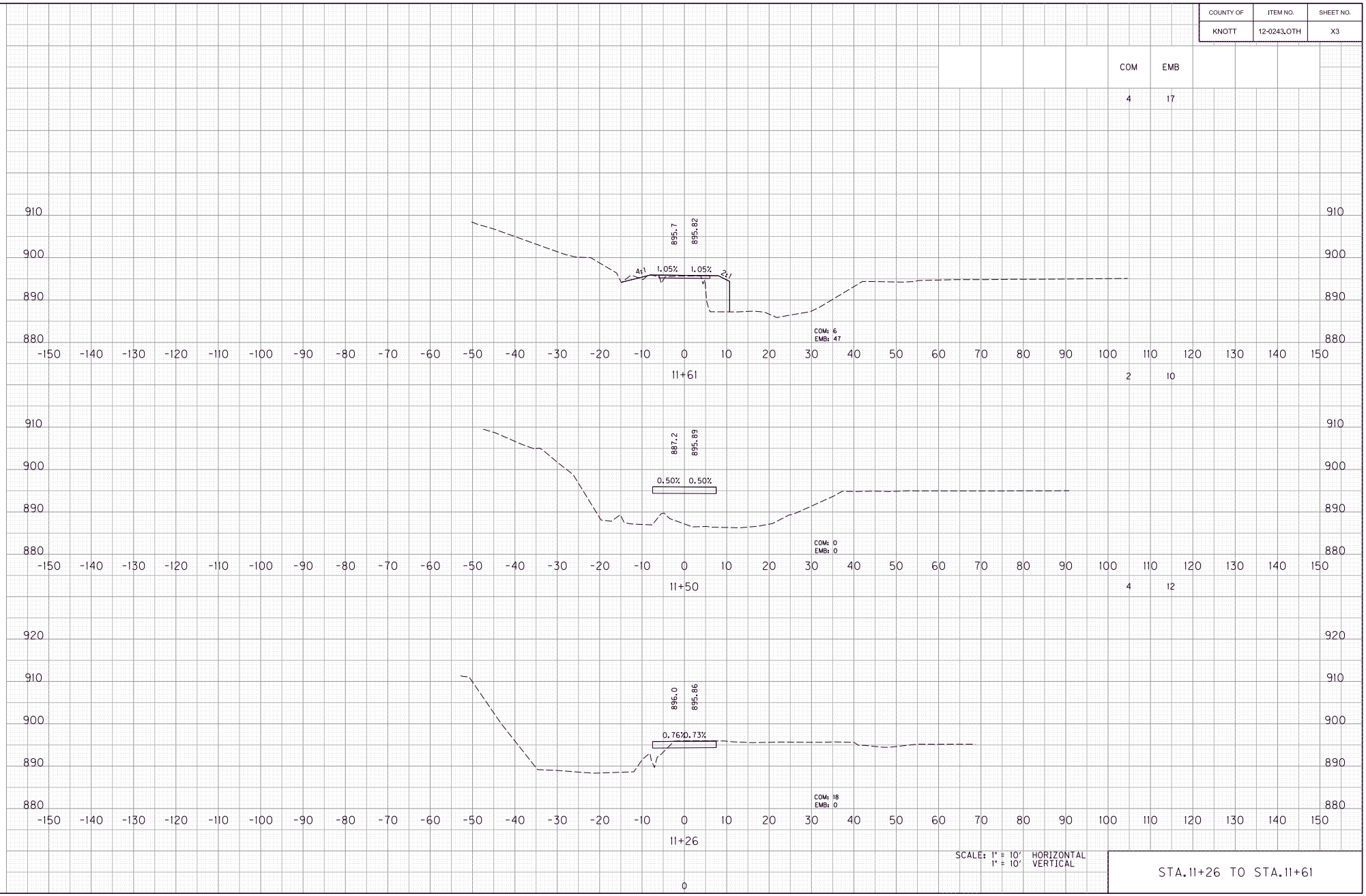


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

STA.10+75 TO STA.11+25

FILE NAME: F:\ENGR\EASTERN KY FLOOD WORK\KNOTT COUNTY\HOLLYBUSH ROAD\CADD\XSECXS.DGN
USER: smatthijs
DATE PLOTTED: October 19, 2022
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.OTH	X3

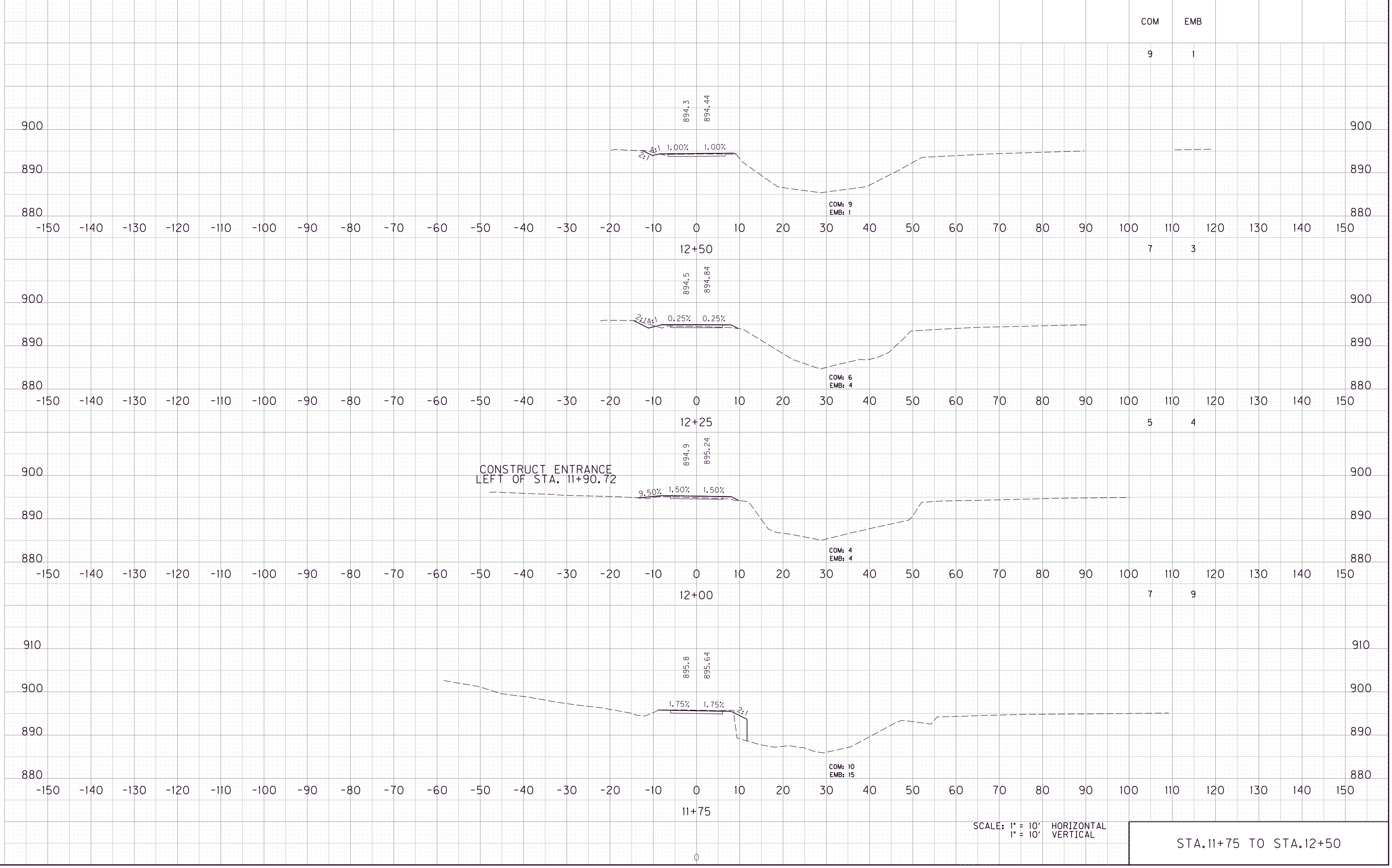


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

STA. 11+26 TO STA. 11+61

FILE NAME: F:\ENGR\EASTERN KY FLOOD WORK\KNOTT COUNTY\HOLLYBUSH ROAD\CADD\XSECXS.DGN
USER: smatthijs
DATE PLOTTED: October 19, 2022
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.OTH	X4



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

STA.11+75 TO STA.12+50

FILE NAME: F:\ENGR\EASTERN KY FLOOD WORK\KNOTT COUNTY\HOLLYBUSH ROAD\CAD\XSECXS.DGN

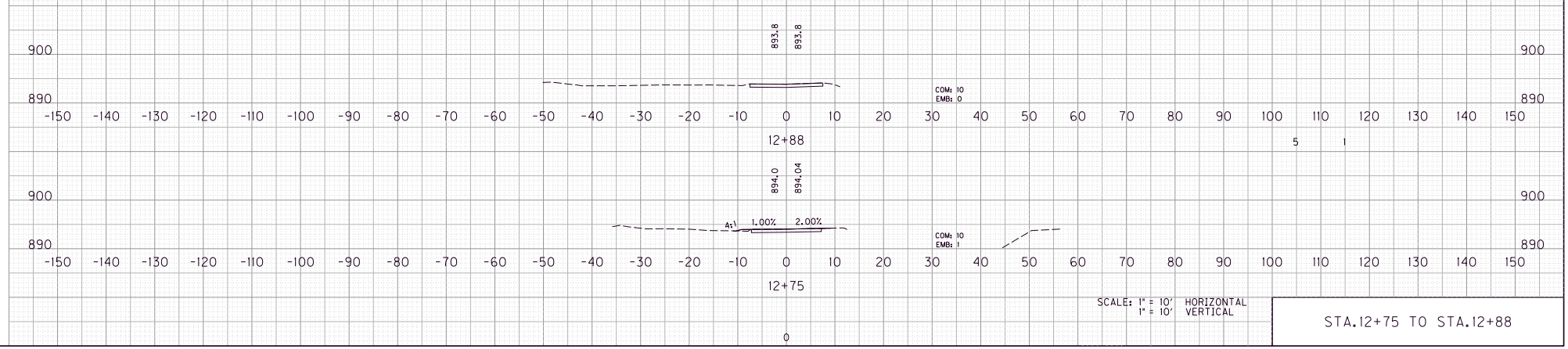
USER: wmattingly
DATE PLOTTED: October 19, 2022

E-SHEET NAME:

MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	12-0243.OTH	X5

	COM	EMB
PROJECT TOTALS	161	78



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

STA.12+75 TO STA.12+88

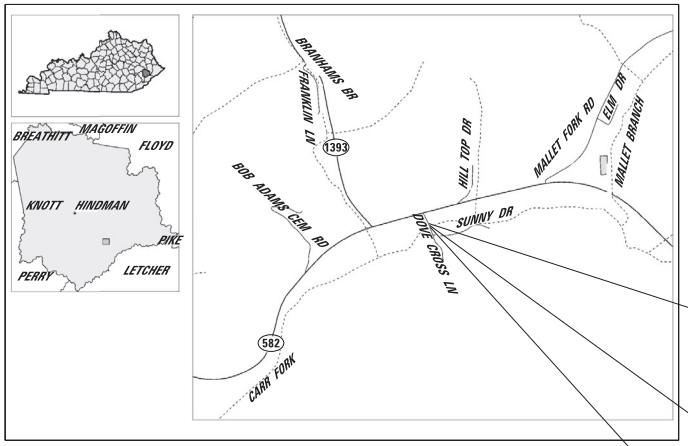
COUNTY OF	ITEM NO.	SHEET NO.
KNOTT	N/A	R1

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
KNOTT COUNTY
DOVE CROSS LANE (CR 1538) OVER CARR FORK
FEMA BRIDGE: 4663-DR
STA. 6+27.75

STANDARD DRAWINGS

BDP-001-06	BOX BEAM GENERAL NOTES AND REFERENCES
BDP-002-03	BOX BEAM BEARING DETAILS
BDP-003-03	BOX BEAM MISCELLANEOUS DETAILS
BDP-004-04	BOX BEAM TENSION ROD DETAILS
BDP-008-04	BOX BEAM CB21 DETAILS
BGX-006-10	STENCILS FOR STRUCTURES
BHS-011	RAILING SYSTEM SIDE MOUNTED MGS DETAILS
BJE-001-14	ARMORED EDGES
BPS-011-04	HP 14X89 STEEL PILE
RBR-010-06	GUARDRAIL TERMINAL SECTIONS
RBR-055-01	DELINEATORS FOR GUARDRAIL
RDI-040-01	EROSION CONTROL BLANKET SLOPE INSTALLATION
RDX-210-03	TEMPORARY SILT FENCE
RDX-220-05	SILT TRAP TYPE A
RDX-225-01	SILT TRAP TYPE B
RDX-230-1	SILT TRAP TYPE C
RGX-001-06	MISCELLANEOUS STANDARDS
RGX-100-07	TREATMENT OF EMBANKMENTS AT END-BENTS
RGX-105-09	TREATMENT OF EMBANKMENTS AT END-BENTS - DETAILS
RPM-110-07	APPROACHES, ENTRANCES AND MAIL BOX TURNOUT
TTC150-04	ROAD CLOSURE WITH DIVERSON
TTC155-02	TEMP. PAVEMENT MARKER ARRANGEMENTS FOR CONST. ZONES

ACTIVE SEPIAS



BEGIN CONSTRUCTION STA.5+85.00

STA. 6+27.75 CONST. 1 SPAN (56.0') CB 21x48 BOX BEAM BRIDGE @ 0°SKEW

END CONSTRUCTION STA. 6+75.00

LOCATION MAP

GRAPHIC SCALE

0' 4000' 8000'

BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

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SPECIAL NOTES

CONCRETE SEALING
PLACING BRIDGE OVERLAY APPROACH PAVEMENT
EROSION PREVENTION AND SEDIMENT CONTROL
TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS

SPECIAL PROVISIONS

69 EMBANKMENT AT BRIDGE END BENT STRUCTURES

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction.

2020 AASHTO LRFD Bridge Design Specifications with Current Interims.

REVISION	DATE

DESIGN CRITERIA

CLASS OF HIGHWAY: RURAL LOCAL
TYPE OF TERRAIN: MOUNTAIN
DESIGN SPEED
REQUIRED NPSD
REQUIRED PSD
LEVEL OF SERVICE
ADT PRESENT ( )
ADT FUTURE ( )
DHV
D %
T %

GEOGRAPHIC COORDINATES

LATITUDE 37 DEGREES 27 MINUTES 00 SECONDS NORTH
LONGITUDE 82 DEGREES 82 MINUTES 00 SECONDS WEST

DESIGNED

% RESTRICTED SD
LEVEL OF SERVICE
MAX. DISTANCE W/O PASSING

REV. NO.	SHEETS REVISED	DATE

TABLE OF REVISIONS

EX BRIDGE ID 060C001

PREPARED BY
JMC J.M. Crawford & Associates Consulting Engineers

STATE OF KENTUCKY
P. STUART MCINTOSH
19302
LICENSED PROFESSIONAL ENGINEER

Philip S. McIntosh
Digitally signed by Philip S. McIntosh
Date: 2022.12.16 14:57:29 -05'00'

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF
KNOTT
DOVE CROSS LANE OVER CARR FORK

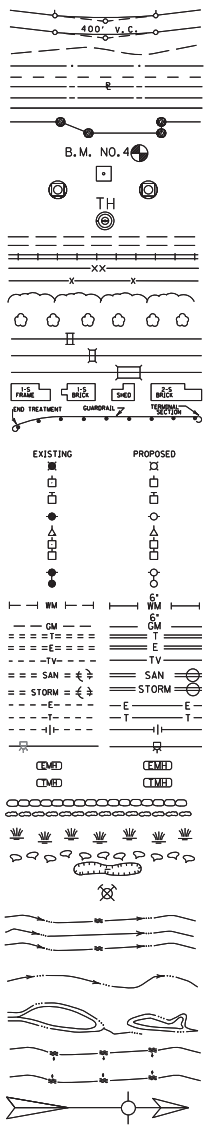
ITEM NO. N/A
DRAWING NO. 28541
PROJECT NUMBER:
LETTING DATE:

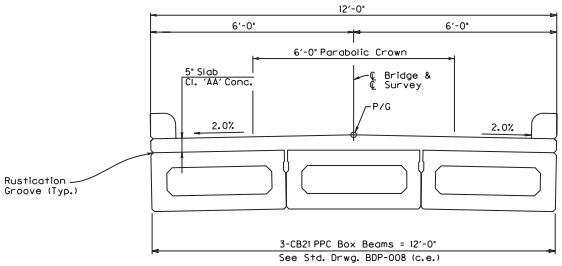
RECOMMENDED BY: _____ PROJECT MANAGER DATE:
PLAN APPROVED BY: _____ STATE HIGHWAY ENGINEER DATE:

FILE NAME: $DGNSPEC$
USER: $USER$ DATE PLOTTED: $DATE$ $TIME$
E-SHEET NAME:
MicroStation v8.11.9.919

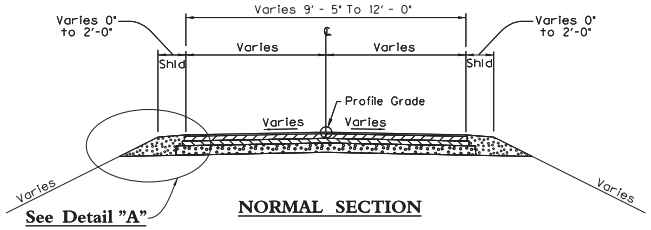
TYPICAL SECTIONS

CONVENTIONAL SIGNS





BRIDGE DECK SECTION



NORMAL SECTION

Traffic Lane Pavement

Asphalt Surface	1¼" Depth Cl. 2 Asphalt Surface 0.38D PG64-22
Asphalt Base	8" Depth (4"+4") Cl. 2 Asphalt Base 1.00D PG 64-22
DGA Base	8" Depth (4"+4")

Shoulders

DGA Base	Full Depth

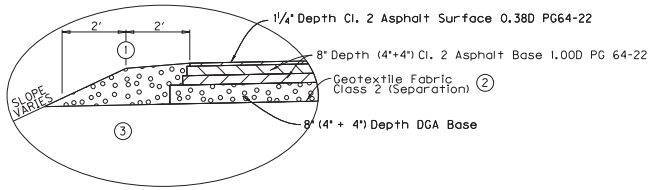
NOTES:

1. ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVEMENT TO A POINT 2' DOWN THE DITCH OR FILL SLOPE. TWO APPLICATIONS OF THE FOLLOWING:

ASPHALT SEAL COAT	2.40 LBS/SY
ASPHALT SEAL AGGREGATE	20 LBS/SY (SIZE NO. 8 OR 9M)

2. GEOTEXTILE FABRIC CLASS 2 (SEPARATION SHALL BE INCIDENTAL TO DGA.
3. GRANULAR EMBANKMENT FOR NECESSARY WIDENING LOCATIONS AS APPROVED BY ENGINEER

NOTES:
MATERIAL NEEDED FOR SHOULDERS OUTSIDE OF PAVED AREA WILL BE MEASURED AND PAID AS GRANULAR EMBANKMENT. GEOTEXTILE FABRIC CLASS II (SEPARATION) SHALL BE INCIDENTAL TO GRANULAR EMBANKMENT.

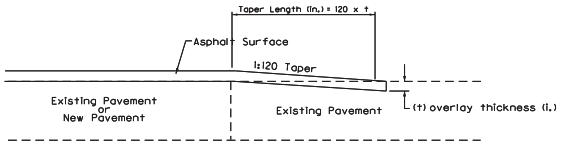


Detail "A"

FULL-DEPTH MAINLINE & SHOULDER PAVEMENT RECONSTRUCTION

NOT TO SCALE

TAPERING OF OVERLAYS ON LOW SPEED FACILITIES < (45mph)



EDGE KEY

Work under this item shall include cutting out the existing asphalt surface to a minimum depth and width as shown, so the new surface may heel into the existing surface. The contract unit price bid per linear foot for EDGE KEY shall include all necessary materials, labor, equipment, etc. to perform the work and dispose of the bituminous material removed.

KNOTT COUNTY
BRIDGE# 060C001
DOVE CROSS LN OVER CARR FORK

Point	Description	Northing	Easting	Elevation	Station	Offset
CP #1	MAG NAIL	3636600.961	5751142.06	1096.494	4+79.43	15.54' RT
CP #2	MAG NAIL	3636372.153	5751270.82	1098.245	7+41.83	9.59' LT

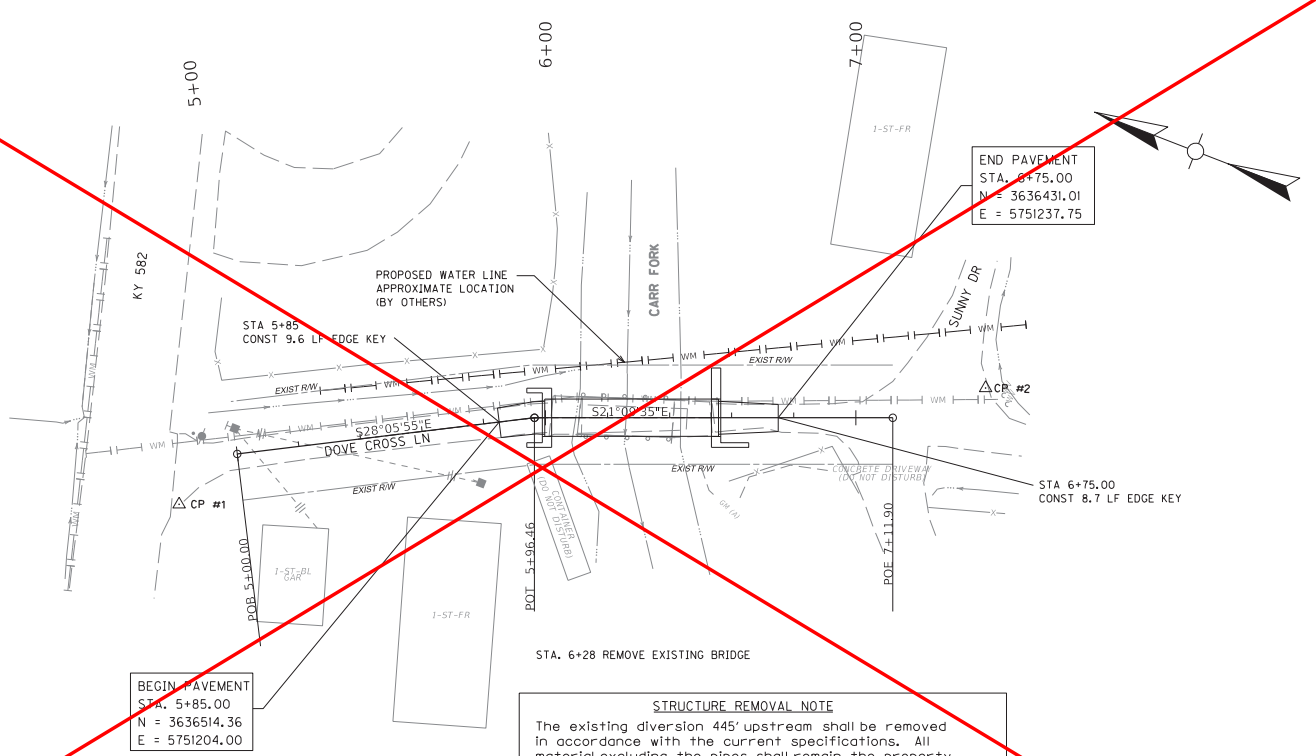
Project Control
Coordinates for horizontal control were established using the KY CORS Network NAD 83 using Trimble R12's on the Kentucky Single Zone Network, US Survey Feet on August 15th, 2022. Values are expressed in US Survey Feet. No project datum factor was calculated for this project.

Basis of Elevations
The elevations were established using GPS.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: TYPICAL SECTIONS AND LEGEND
DOVE CROSS LANE (CR 1538) OVER CARR FORK

ITEM NO. N/A
COUNTY OF KNOTT
SHEET NO. R2



STRUCTURE REMOVAL NOTE

The existing diversion 445' upstream shall be removed in accordance with the current specifications. All material excluding the pipes shall remain the property of the contractor and shall be disposed of in accordance with the current specifications. Lump sum payment in full shall include the complete removal of all material. The contractor shall final dress all slopes.

Pipes will be delivered to:

KYTC Department of Highways
Knott County Maintenance
1894 Highway 160 South
Hindman, KY 41822

SEE REVISED SHEET R3

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: ROADWAY PLAN
DOVE CROSS LANE (CR 1538) OVER CARR FORK

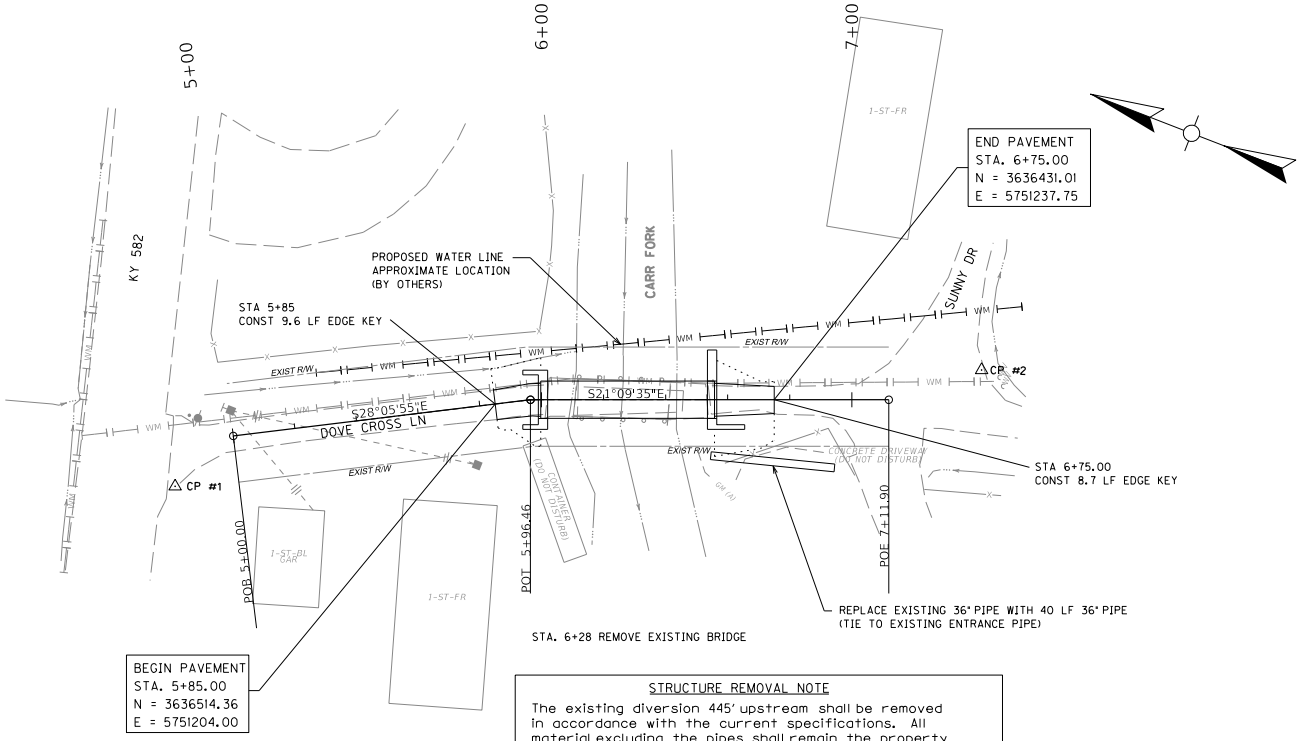
HORIZONTAL SCALE
SCALE: 1" = 20'

0' 20' 40' 80'

STA 5+85.00 TO 6+75

ITEM NO. N/A
COUNTY OF KNOTT
SHEET NO. R3

OpenRoads Designer v10.16.0.80 USER: gdchilders DATE PLOTTED: 9/7/2005 7:08:02 PM FILE NAME: G:\KY\KNOTT\DOVE CROSS LANE (CR 1538)\ROADWAY\DOVE_CROSS_MAINLINE_PLAN_PROFILE.DGN



STRUCTURE REMOVAL NOTE

The existing diversion 445' upstream shall be removed in accordance with the current specifications. All material excluding the pipes shall remain the property of the contractor and shall be disposed of in accordance with the current specifications. Lump sum payment in full shall include the complete removal of all material. The contractor shall final dress all slopes.

Pipes will be delivered to:

KYTC Department of Highways
Knott County Maintenance
1894 Highway 160 South
Hindman, KY 41822

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

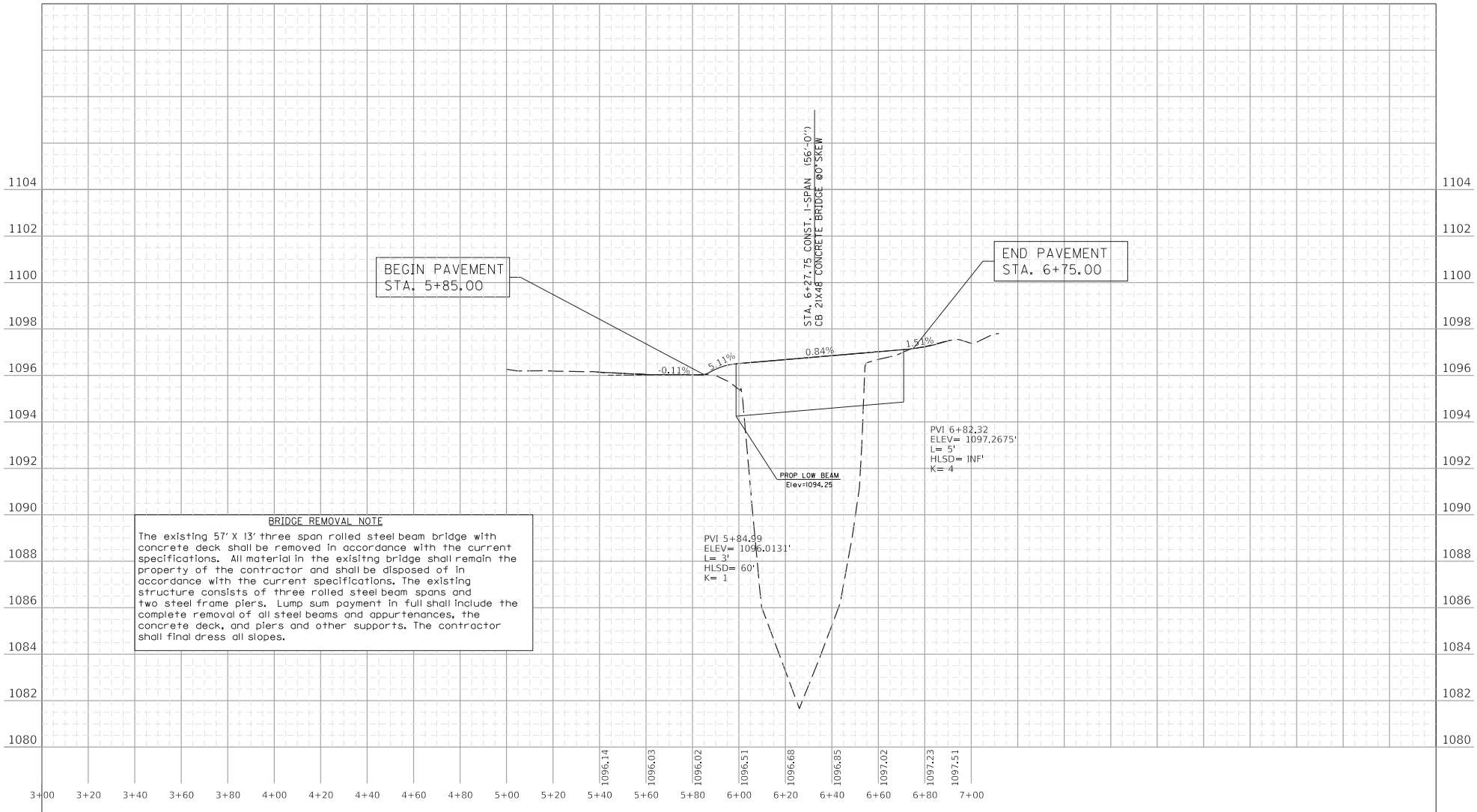
DRAWING TITLE: ROADWAY PLAN
DOVE CROSS LANE (CR 1538) OVER CARR FORK

HORIZONTAL SCALE
SCALE: 1" = 20'

0' 20' 40' 80'

STA 5+85.00 TO 6+75

ITEM NO. N/A
COUNTY OF KNOTT
SHEET NO. R3



BRIDGE REMOVAL NOTE

The existing 57' X 13' three span rolled steel beam bridge with concrete deck shall be removed in accordance with the current specifications. All material in the exisitng bridge shall remain the property of the contractor and shall be disposed of in accordance with the current specifications. The existing structure consists of three rolled steel beam spans and two steel frame piers. Lump sum payment in full shall include the complete removal of all steel beams and appurtenances, the concrete deck, and piers and other supports. The contractor shall final dress all slopes.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: ROADWAY PROFILE
DOVE CROSS LANE (CR 1538)
OVER CARR FORK

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=2'

STA 5+85 TO 6+75

ITEM NO. N/A
COUNTY OF KNOTT
SHEET NO. R4

OpenRoads Designer v10.16.0.80 USER: gdchilders DATE PLOTTED: 9/7/2005 7:08:02 PM
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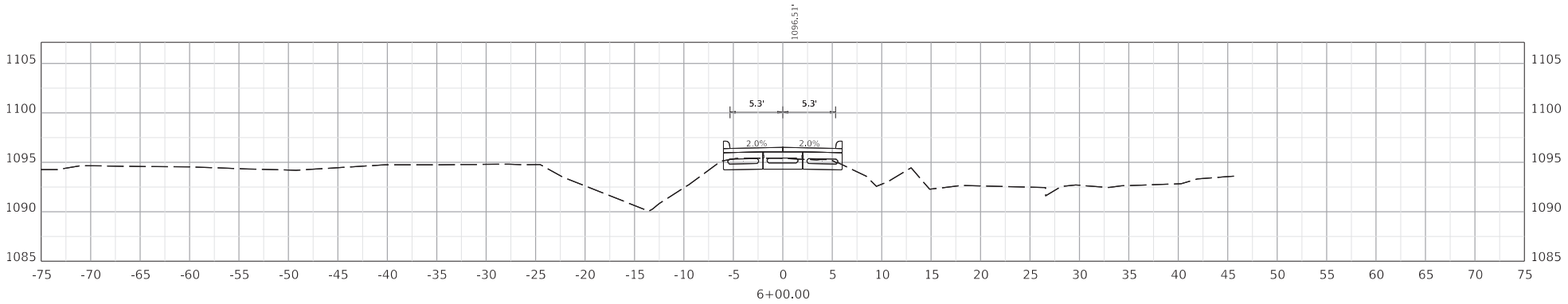
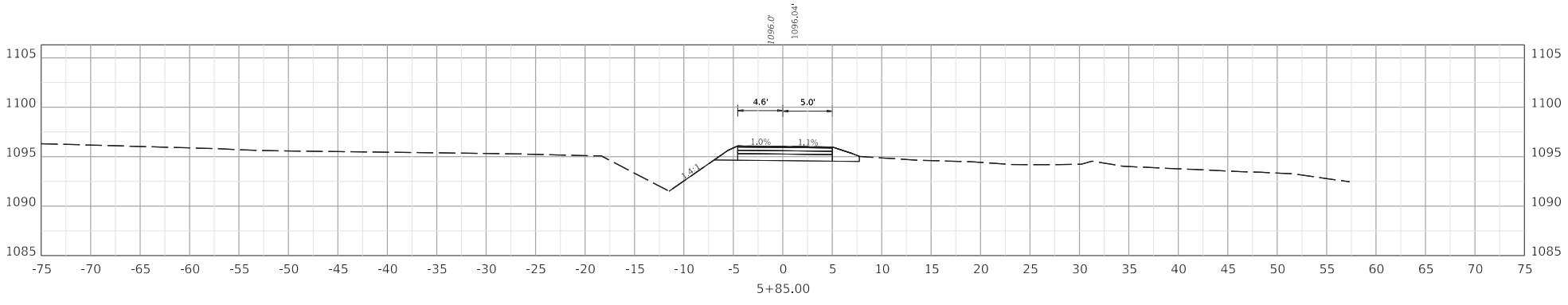
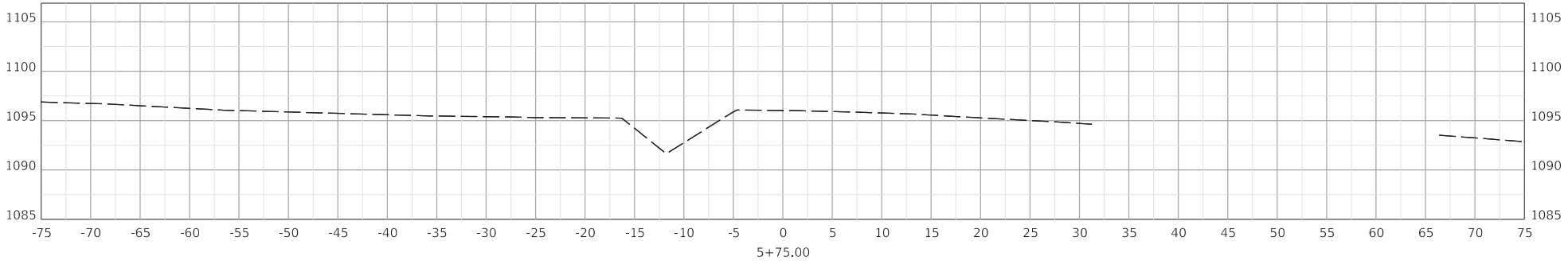


6+00.00



5+85.00



5+75.00

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: CROSS SECTIONS
DOVE CROSS LANE (CR 1538) OVER CARR FORK

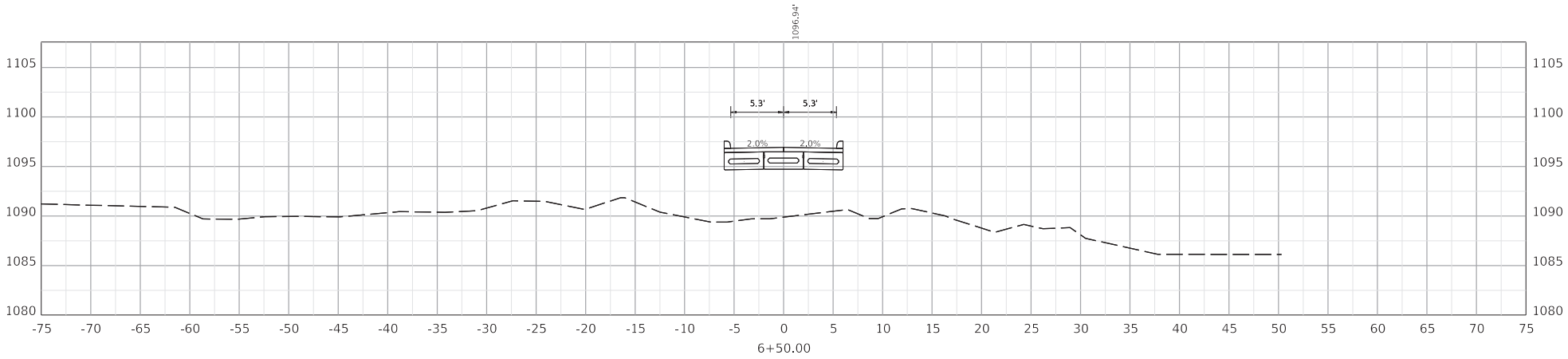
HORIZONTAL SCALE
SCALE: 1" = 5'

0' 5' 10' 20'

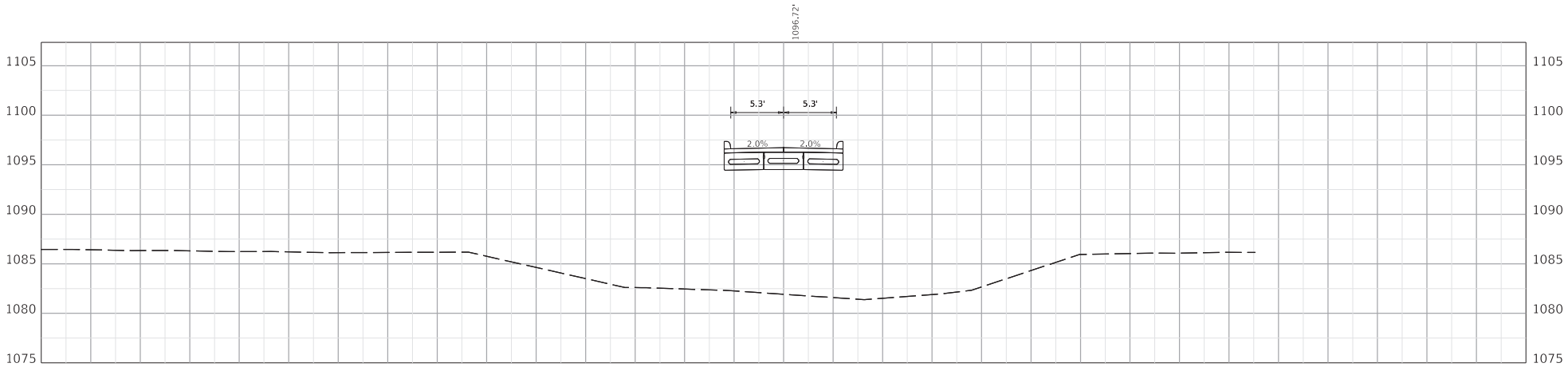
STA 5+75 TO 6+00

ITEM NO. N/A
COUNTY OF KNOTT
SHEET NO. X1

OpenRoads Designer v10.16.0.80 USER: gdchilders DATE PLOTTED: 9/7/2005 7:08:02 PM FILE NAME: G:\KY\KNOTT\DOVE CROSS LANE (CR 1538)\ROADWAY\DOVE_CROSS_MAINLINE_XS.DGN



6+50.00



6+25.00

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: CROSS SECTIONS
DOVE CROSS LANE (CR 1538) OVER CARR FORK

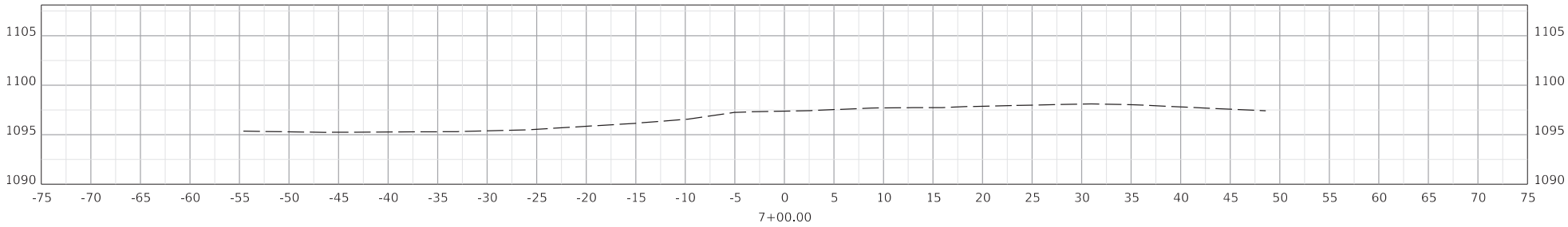
HORIZONTAL SCALE
SCALE: 1" = 5'

0' 5' 10' 20'

STA 6+25 TO 6+50

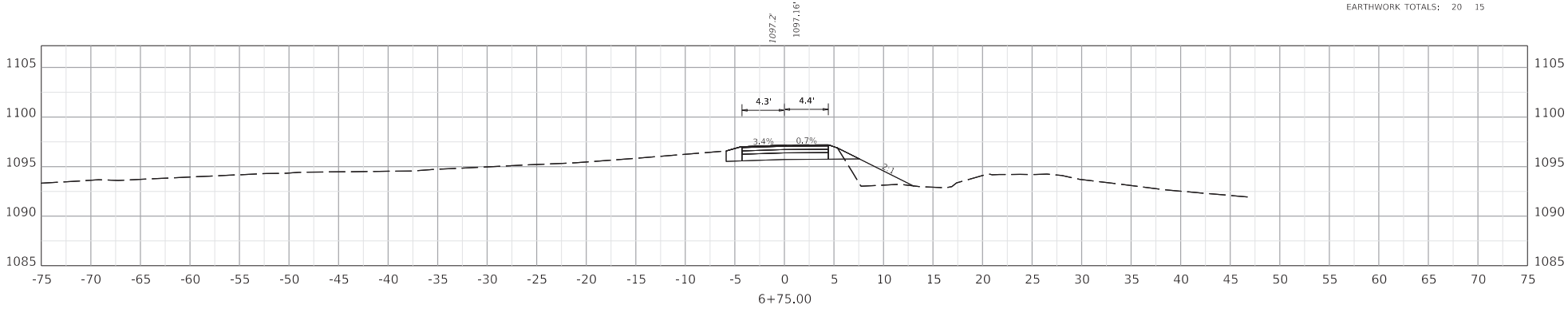
ITEM NO. N/A
COUNTY OF KNOTT
SHEET NO. X2

OpenRoads Designer v10.16.0.80 USER: gdchilders DATE PLOTTED: 9/7/2005 7:08:02 PM FILE NAME: G:\KY\KNOTT\DOVE CROSS LANE (CR 1538)\ROADWAY\DOVE_CROSS_MAINLINE_XS.DGN



CUT FILL

EARTHWORK TOTALS: 20 15



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

DRAWING TITLE: CROSS SECTIONS
DOVE CROSS LANE (CR 1538) OVER CARR FORK

HORIZONTAL SCALE
SCALE: 1" = 5'

0' 5' 10' 20'

STA 6+75 TO 7+00

ITEM NO. N/A
COUNTY OF KNOTT
SHEET NO. X3

OpenRoads Designer v10.16.0.80 USER: gdchilders DATE PLOTTED: 9/7/2005 7:08:02 PM FILE NAME: G:\KY\KNOTT\DOVE CROSS LANE (CR 1538)\ROADWAY\DOVE_CROSS_MAINLINE_XS.DGN

LETTING DATE

CONSTRUCTION PROJECT NO.

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

KNOTT COUNTY
DOVE CROSS LANE (CR 1538)
OVER CARR FORK
STA. 6+27.75

ESTIMATE OF QUANTITIES

BID ITEM CODE		08100	08104	08151	08019	08051	08039	08033	03299	08663	08003	23378EC
BID ITEM		Concrete Class "A"	Concrete Class "AA"	Steel Reinforcement, Epoxy Coated	Cyclopean Stone Rip-Rap	Piles - Steel HP 14 x 89	Pre-Drilling for Piles	Test Piles	Armored Edge for Concrete	Precast PC Box Beam CB21-48	Foundation Preparation	Concrete Sealing
UNIT		C.Y.	C.Y.	LBS.	TON	L.F.	L.F.	L.F.	L.F.	L.F.	L.S.	S.F.
Substructure	End Bent #1	24.9		2136	42	40.2	39.3	25				308
	End Bent #2	31.9		2453	53	59.6	51.5	25				366
Superstructure			13.3	1558					24	168		1152
BRIDGE TOTALS		56.8	13.3	6147	95	99.8	90.8	50	24	168	1	1826

NOTE: Per the General Notes, Structure Granular Backfill and Geotextile Fabric Class 2 shall be incidental to Foundation Preparation. Geotextile Fabric Class 1 shall be incidental to Cyclopean Stone Rip-rap.

REPLACEMENT OF EXISTING
BRIDGE NO. 060C001

DEPARTMENT OBJECT CODE: D23A
SYP FOR UTILITIES: 12-0262.OTH
FEMA CODE: 4663-DR

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SPECIAL NOTES

Concrete Sealing

SPECIAL PROVISIONS

69 Embankment at Bridge End Bent Structures

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BDP-002-03	Box Beam Bearing Details
BDP-003-03	Box Beam Miscellaneous Details
BDP-004-04	Box Beam Tension Rod Details
BDP-008-04	Box Beam B21 & CB21 Details
BGX-006-10	Stencils for Structures
BGX-022	Joint Waterproofing
BJE-001-14	Armored Edges
BPS-011-04	HP14x89 Steel Pile
RGX-100-07	Treatment of Embankments at End Bents
RGX-105-09	Treatment of Embankments at End Bents-Details
RPM-100-11	Curb and Gutter Curbs and Valley Gutter

Plans Prepared By
J.M. CRAWFORD & ASSOC.
Consulting Engineers

STATE OF KENTUCKY
LEE A. CARLISLE
25709
LICENSED PROFESSIONAL ENGINEER

Lee A. Carlisle

Lee A. Carlisle

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction.

9th Edition AASHTO LRFD Bridge Design Specifications (2020)

COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	REVISION	DATE	PREPARED BY JMC J.M. Crawford & Associates Consulting Engineers	DATE: 9/30/2022	CHECKED BY	TITLE SHEET
				DESIGNED BY: Lee Carlisle	Stuart McIntosh	CROSSING CARR FORK
				DETAILED BY: Greg Crank	Lee Carlisle	

ROUTE	ITEM NO.	COUNTY OF
CR 1538		KNOTT
	SHEET NO.	DRAWING NUMBER
	S1	28541

SPECIFICATIONS

REFERENCES TO THE SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION INCLUDING ANY CURRENT SUPPLEMENTAL SPECIFICATIONS. ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION WITH INTERIMS.

DESIGN LOAD

THIS BRIDGE IS DESIGNED FOR KYHL-93 LIVE LOAD, (I.E. 1.25XAASHTO HL93 LIVE LOAD).
THIS BRIDGE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 15 PSF.

DESIGN METHOD

ALL REINFORCED CONCRETE MEMBERS ARE DESIGNED TO BE EQUIVALENT OR GREATER THAN THE LOAD AND RESISTANCE FACTOR DESIGN METHOD AS SPECIFIED IN THE CURRENT AASHTO SPECIFICATIONS.

MATERIALS DESIGN SPECIFICATIONS

FOR CLASS "A" REINFORCED CONCRETE	F'C = 3500 PSI
FOR CLASS "AA" REINFORCED CONCRETE	F'C = 4000 PSI
FOR STEEL REINFORCEMENT	FY = 60000 PSI

MATERIAL SPECIFICATIONS

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

AASHTO M153	PREMOLDED CORK FILLER, TYPE II
AASHTO M-31	DEFORMED AND PLAIN BILLET-STEEL FOR CONCRETE REINFORCEMENT, GRADE 60

PREFORMED CORK EXPANSION JOINT MATERIAL

PREFORMED CORK EXPANSION JOINT MATERIAL SHALL CONFORM TO SUBSECTION 807.04.02 (TYPE II) OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS.

CONCRETE

CLASS "AA" CONCRETE IS TO BE USED THROUGHOUT THE SUPERSTRUCTURE. CLASS "A" CONCRETE IS TO BE USED THROUGHOUT THE SUBSTRUCTURE, PRESTRESSED BEAM CONCRETE SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

REINFORCEMENT

DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. ANY REINFORCING BARS DESIGNATED BY SUFFIX "E" IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE STANDARD SPECIFICATIONS. ANY REINFORCING BARS DESIGNATED BY SUFFIX "S" IN A BILL OF REINFORCEMENT SHALL BE CONSIDERED A STIRRUP FOR PURPOSES OF BEND DIAMETERS.

CONSTRUCTION IDENTIFICATION

THE NAMES OF THE PRIME CONTRACTOR AND THE SUB-CONTRACTOR SHALL BE IMPRINTED IN THE CONCRETE WITH 1 INCH LETTERS AT A LOCATION DESIGNATED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

BEVELED EDGES

ALL EXPOSED EDGES SHALL BE BEVELED ¾", UNLESS OTHERWISE SHOWN.

PAYMENT FOR PRECAST CONCRETE BEAMS

THE BASIS OF PAYMENT FOR THE PRESTRESSED CONCRETE BEAMS SHALL BE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF BEAM, IN ACCORDANCE WITH THE SPECIFICATIONS.

SLOPE PROTECTION

SLOPE PROTECTION AT END BENTS SHALL BE DRY CYCLOPEAN STONE RIPRAP MEETING THE REQUIREMENTS OF SECTIONS 703 AND 805 OF THE SPECIFICATIONS. GEOTEXTILE FABRIC, CLASS 1 SHALL BE PLACED BETWEEN THE EMBANKMENT AND THE SLOPE PROTECTION IN ACCORDANCE WITH STANDARD SPECIFICATIONS 214 AND 843. PAYMENT FOR GEOTEXTILE FABRIC, CLASS 1, SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR DRY CYCLOPEAN STONE RIPRAP.

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 STRUCTURES, PHASE CONSTRUCTION, INCIDENTAL MATERIALS, LABOR, OR ANYTHING ELSE REQUIRED TO COMPLETE THE STRUCTURE.

SHOP DRAWING PROCEDURE

1. FABRICATORS SHALL SUBMIT ALL REQUIRED SHOP PLANS, BY E-MAIL, TO THE DESIGN CONSULTANT FOR REVIEW.
2. DESIGNERS WILL MAKE REVIEW COMMENTS ON THESE ELECTRONIC SUBMISSIONS AS NEEDED AND RETURN THEM TO THE FABRICATOR.
3. UPON RECONCILIATION OF THE DESIGNER'S COMMENTS, FILES SHALL BE RETURNED TO THE DESIGNER,
4. EACH SHEET WILL BE ELECTRONICALLY STAMPED BY THE DESIGNER AND PLANS WILL BE FORWARDED BY EMAIL TO THE KYTC DIVISION OF STRUCTURAL DESIGN'S SHOP PLAN COORDINATOR FOR DISTRIBUTION.
5. ONLY PLANS SUBMITTED DIRECTLY TO THE SHOP PLAN COORDINATOR WILL BE DISTRIBUTED AND ONLY PLANS CONTAINING BOTH THE "DISTRIBUTED BY THE DIVISION OF STRUCTURAL DESIGN" AND THE DESIGNER REVIEW STAMP ARE TO BE USED FOR FABRICATION.

UTILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ANY AND ALL EXISTING UTILITIES PRIOR TO EXCAVATION OF MATERIAL OR INSTALLATION OF GUARDRAIL OR OTHER CONSTRUCTION ACTIVITIES THAT MAY INVOLVE UTILITIES (OVERHEAD OR UNDERGROUND).

VERIFYING FIELD CONDITIONS

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE ORDERING MATERIAL. NEW MATERIAL THAT IS UNSUITABLE BECAUSE OF VARIATIONS IN THE EXISTING STRUCTURE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

DIMENSIONS

DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60 DEGREES FAHRENHEIT. LAYOUT DIMENSIONS ARE HORIZONTAL DIMENSIONS.

SUPERSTRUCTURE SLAB

THE SUPERSTRUCTURE SLAB SHALL BE POURED CONTINUOUSLY FROM END TO END OF SLAB BEFORE THE CONCRETE IS ALLOWED TO SET.

MASTIC TAPE

APPLY MASTIC TAPE AT BRIDGE IN ACCORDANCE WITH STANDARD DRAWING BGX-022, C,E, THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT, AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

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.

ARMORED EDGE

FABRICATE ARMORED EDGE TO MATCH CROSS SLOPE AND PARABOLIC CROWN AT EACH END OF BRIDGE.

FOUNDATION PREPARATION

FOUNDATION PREPARATION SHALL BE IN ACCORDANCE WITH SECTION 603 OF THE SPECIFICATIONS.

FOUNDATION EXCAVATIONS SHOULD BE PROPERLY BRACED/SHORED TO PROVIDE ADEQUATE SAFETY TO PERSONS WORKING IN OR AROUND EXCAVATIONS, BRACING SHOULD BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL GUIDELINES.

TEMPORARY SHORING, SHEETING, COFFERDAMS, AND/OR DEWATERING METHODS MAY BE REQUIRED TO FACILITATE FOUNDATION CONSTRUCTION, IT SHOULD BE ANTICIPATED THAT GROUNDWATER WILL BE ENCOUNTERED AT FOUNDATION LOCATIONS WITHIN THE FLOOD PLAIN.

TEMPORARY SHORING, BRACING, SHEETING, COFFERDAMS AND DEWATERING SHALL BE INCLUDED IN THE LUMP SUM BID FOR FOUNDATION PREPARATION.

STRUCTURE GRANULAR BACKFILL

THE ESTIMATED QUANTITY OF STRUCTURE GRANULAR BACKFILL IS 123.7 C.Y., AND MATERIALS FOR STRUCTURE GRANULAR BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 805 OF THE SPECIFICATIONS.

CONTRARY TO THE SPECIFICATIONS, STRUCTURE GRANULAR BACKFILL WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE LUMP SUM BID FOR FOUNDATION PREPARATION.

CONCRETE SEALER

APPLY CONCRETE SEALER IN ACCORDANCE WITH THE SPECIAL NOTE FOR CONCRETE SEALING. SEE SHEET S7 FOR LIMITS OF SEALING ON THE SUPERSTRUCTURE.

GEOTEXTILE FABRIC

GEOTEXTILE FABRIC SHALL CONFORM TO THE STANDARD SPECIFICATIONS.

GEOTEXTILE FABRIC CLASS 1 IS TO BE PLACED BETWEEN THE EMBANKMENT AND SLOPE PROTECTION AT LOCATIONS WHERE CYCLOPEAN STONE RIP-RAP IS SPECIFIED. PAYMENT FOR FABRIC IS TO BE INCIDENTAL TO THE SLOPE PROTECTION.

GEOTEXTILE FABRIC CLASS 2 IS TO BE PLACED AROUND THE STRUCTURE GRANULAR BACKFILL AS SHOWN ON STANDARD DRAWING RGX-105 AND IN ACCORDANCE WITH SPECIAL PROVISION 69. PAYMENT FOR FABRIC IS TO BE INCIDENTAL TO THE LUMP SUM BID FOR FOUNDATION PREPARATION.

PRE-DRILLING FOR PILES AT END BENTS

PRE-DRILLING FOR PILES IS REQUIRED. SEE THE FOUNDATION LAYOUT, SHEET S4, FOR DETAILS.

PILE POINTS

PILE POINTS ARE NOT REQUIRED FOR THIS BRIDGE, PER THE KYTC DIVISION OF STRUCTUAL DESIGN, 2022 INTERIM GUIDANCE, PILE POINTS MAY BE LEFT OFF WHERE PILES ARE FULLY PRE-DRILLED INTO SOLID ROCK.

PILING

PILING SHALL BE PRE-DRILLED AND DRIVEN TO SATISFY THE DRIVING CRITERIA DEFINED 1N THE PILE RECORD ON SHEET S4.

TEST PILES SHALL BE PRE-DRILLED AND DRIVEN WHERE DESIGNATED ON THE PLANS TO DETERMINE THE LENGTH OF PILE REQUIRED.

ALL TEST PILES SHALL BE ACCURATELY LOCATED SO THAT THEY MAY BE USED IN THE FINISHED STRUCTURE.

CONTRARY TO THE STANDARD DRAWINGS FOR STEEL PILING, MILL TEST REPORTS ARE NOT REQUIRED TO BE NOTARIZED.

EMBANKMENTS

CONSTRUCT THE EMBANKMENTS IN ACCORDANCE WITH SPECIAL PROVISION 69.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

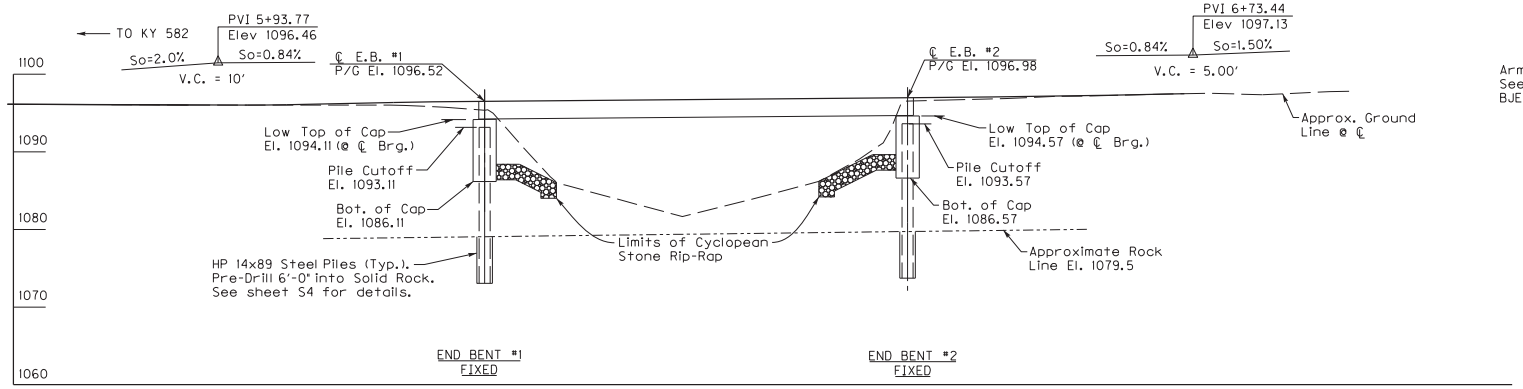
PREPARED BY: JM Crawford & Associates Consulting Engineers

DATE: 9/30/2022	CHECKED BY
DESIGNED BY: Lee Carlisle	Stuart McIntosh
DETAILED BY: Greg Crank	Lee Carlisle

GENERAL NOTES

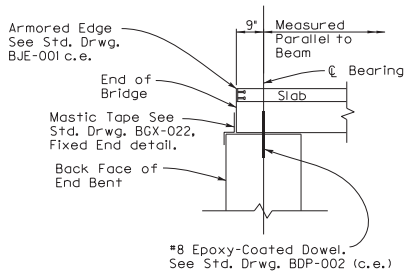
CROSSING: CARR FORK

ROUTE	ITEM NO.	COUNTY OF
CR 1538		KNOTT
	SHEET NO. S2	DRAWING NUMBER 28541

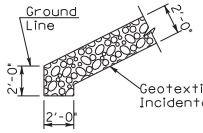


ELEVATION

54'-6" CB21x48 PPC Box Beam - Simple Span
Live Load 125% of HL-93 (KYHL-93)
10'-8" Bridge Roadway Width - 0° Skew

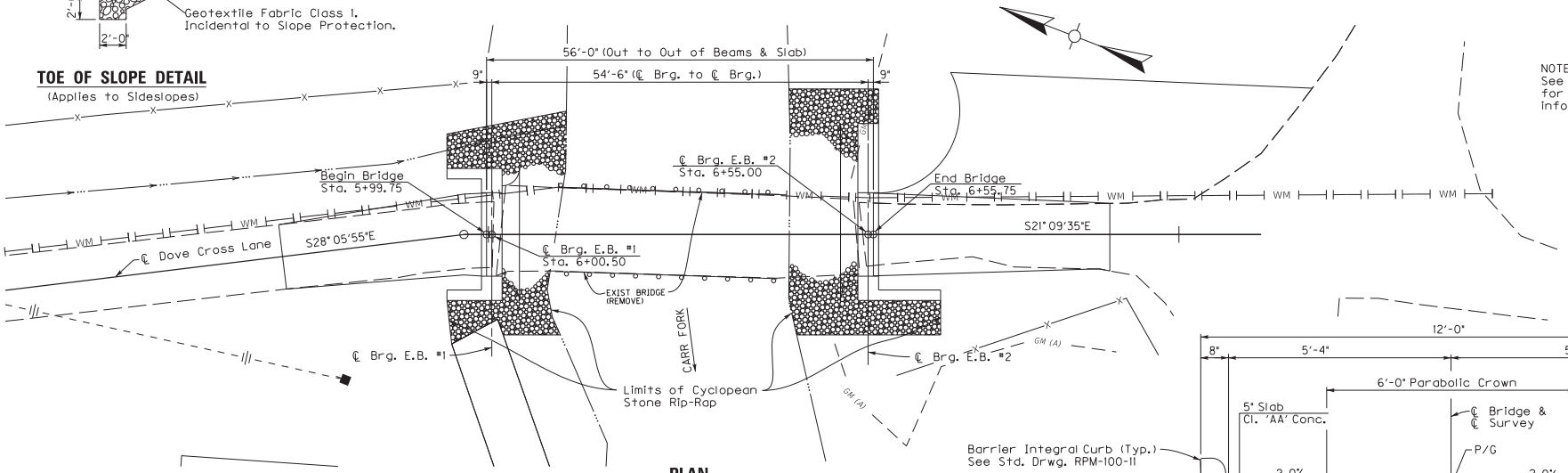


END OF BRIDGE DETAIL



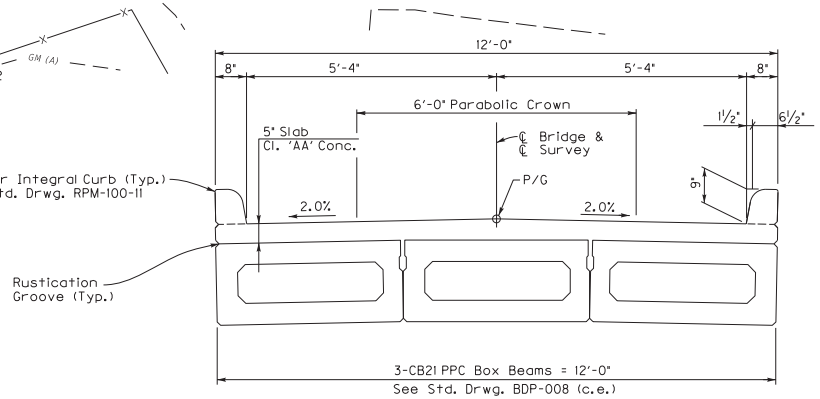
TOE OF SLOPE DETAIL

(Applies to Sideslopes)



PLAN

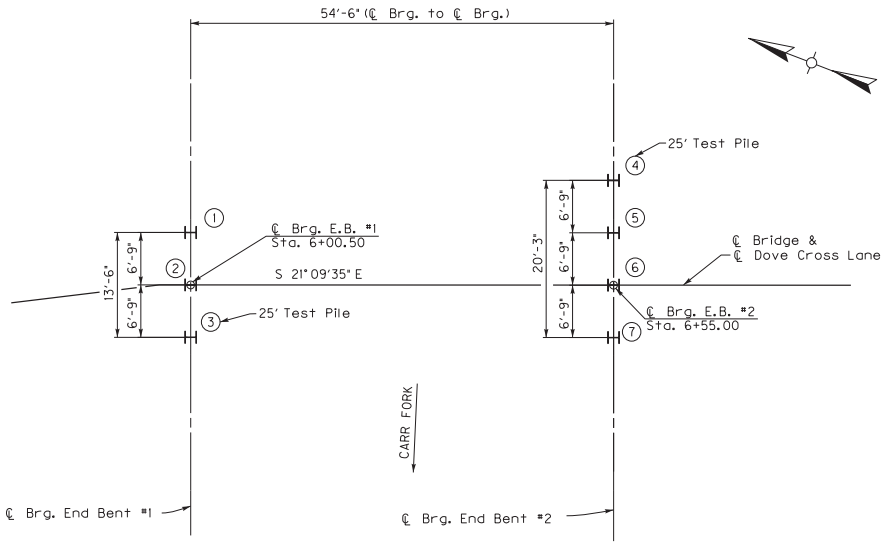
(Superstructure Not Shown)



TYPICAL SECTION

COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	REVISION	DATE	PREPARED BY JM Crawford & Associates Consulting Engineers	DATE: 9/30/2022	CHECKED BY	LAYOUT	ROUTE	ITEM NO.	COUNTY OF
				DESIGNED BY: Lee Carlisle	Stuart McIntosh				KNOTT
				DETAILED BY: Greg Crank	Lee Carlisle	CROSSING CARR FORK	CR 1538	SHEET NO. S3	DRAWING NUMBER 28541

OpenRoads Designer v10.16.2.267 USER: $$$$USER$$$$ DATE PLOTTED: $$$$DATE$$$$ FILE NAME: $$$$designs\file$$spec\fication$$$$



FOUNDATION LAYOUT

H Denotes HP14x89 Vertical Piles

Notes

HAMMER CRITERIA: A hammer with a rated energy of between 20 and 30 kip-ft will be required to drive the H-piles to practical refusal without encountering excessive blow counts or damaging the pile. The contractor shall submit the proposed pile driving system to the Department for approval prior to the installation of the first pile. Approval of the pile driving system by the Engineer will be subject to satisfactory field performance of the pile driving procedures.

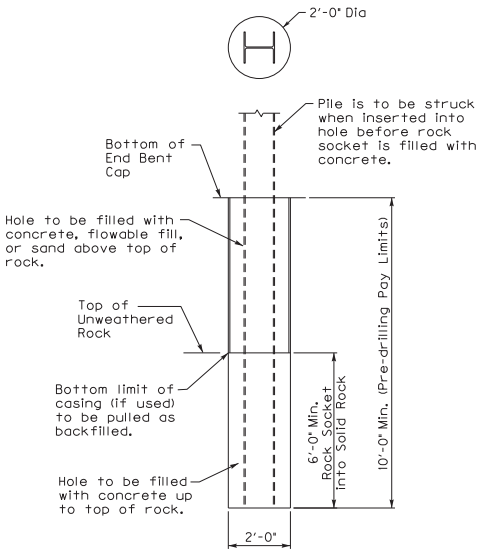
PRE-DRILLING PILES: Pre-drilling will be required at End Bents 1 & 2. Use 24-inch diameter holes with a minimum embedment of 6 feet into sound bedrock and a mimimum of 10 feet total embedment below the cap. The pile must be struck with a pile hammer once in place to ensure that adequate capacity and refusal has been achieved. The rock socket shall then be filled with Class B concrete conforming to Section 601 of the Standard Specifications; however, provide a mix with a 6 to 10 inch slump at the time of placement. High range water reducing and retarding admixtures and Class F flyash may be used to obtain this slump. Casing or some other method of maintaining an open hole above the rock socket may be needed for installation of the piles and concrete. If casing is used, it must be removed, as the hole above the rock socket is backfilled with concrete, flowable fill, or sand. Care must be taken that the piling is located correctly since the piling is an integral part of the structure and protrudes up into the cap. The cost of all materials, labor, and equipment required to pre-drill, drive piles to refusal, place concrete, and backfill the holes shall be included in the price per linear foot for Pre-Drilling Piles.

Orient Piles as shown in the Foundation Plan.

Cofferdams and/or dewatering methods may be required to facilitate foundation construction of pile caps.

Temporary sheeting and/or shoring may be required for installation of pile caps. The contractor shall be responsible for the stability and safety of all excavations.

PILE RECORD FOR POINT BEARING PILES				
Pile No.	Pile Cut-off Elevation	Pile Length In Place	Point of Pile Elevation As Driven	Design Axial Load
	FEET	FEET	FEET	TONS
END BENT #1				
1	1093.11			90
2	1093.11			90
3	1093.11			90
END BENT #2				
4	1093.57			90
5	1093.57			90
6	1093.57			90
7	1093.57			90



PRE-DRILLING DETAIL

NOTE: Maintain 6'-0" Min. rock socket into solid unweathered bedrock.

Definitions of Terms

PILE CUT-OFF ELEVATION: Elevation of the top of pile in the finished structure.

PILE LENGTH IN PLACE: Actual pile length below the Pile Cut-Off Elevation in the finished structure.

POINT OF PILE ELEVATION AS DRIVEN: Actual point of pile elevation in the finished structure.

DESIGN AXIAL LOAD: Load carried by each pile as estimated from structural design calculations for Factored LRFD Loadings.

CALCULATED FIELD BEARING: Contrary to Section 604.03.07 of the Standard Specifications, in place bearing values are not required for piles bearing on rock when driven to practical refusal.

Driving Criteria

DRIVING CRITERIA: Drive point bearing piles to practical refusal.

PRACTICAL REFUSAL (Case 2): For this project minimum blow requirements are reached after total penetration becomes 1/2 inch or less for 10 consecutive blows, practical refusal is obtained after the pile is struck an additional 10 blows with total penetration of 1/2 inch or less. Advance the production piling to the driving resistances specified above and to depths determined by test pile(s) and subsurface data sheet(s). Immediately cease driving operations if the pile visibly yields or becomes damaged during driving. If hard driving is encountered because of dense strata or an obstruction, such as a boulder before the pile is advanced to the depth anticipated, the Engineer will determine if more blows than the average driving resistance specified for practical refusal is required to further advance the pile. Drive additional production and test piles if directed by the Engineer.

Field Data

For each pile, the Project Engineer shall record the following on this sheet: Pile Length in Place and Point of Pile Elevation as Driven.

Submit this record to:

Kentucky Transportation Cabinet
Director, Division of Structural Design
3rd Floor East
200 Mero Street
Frankfort, KY 40622

This pile record does not replace other pile records the Project Engineer is required to keep and submit.

Use HP 14x89 in accordance with BPS-011, c.e.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

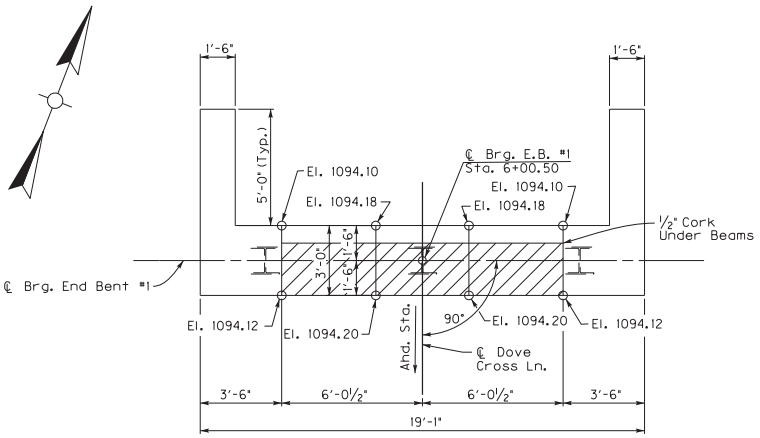
PREPARED BY: JM Crawford & Associates Consulting Engineers

DATE: 9/30/2022	CHECKED BY
DESIGNED BY: Lee Carlisle	Stuart McIntosh
DETAILED BY: Greg Crank	Lee Carlisle

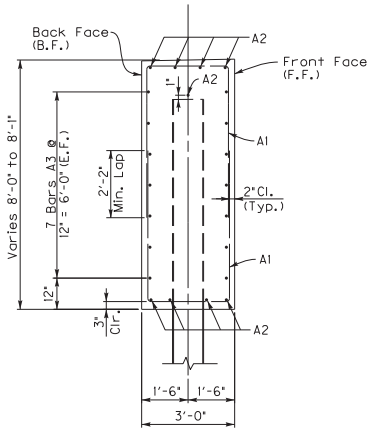
FOUNDATION LAYOUT

CROSSING: CARR FORK

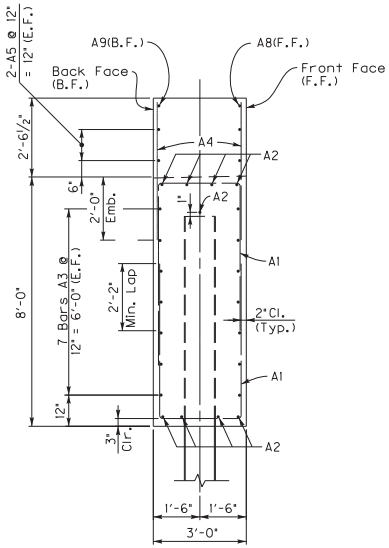
ROUTE	ITEM NO.	COUNTY OF
CR 1538		KNOTT
	SHEET NO.	DRAWING NUMBER
	S4	28541



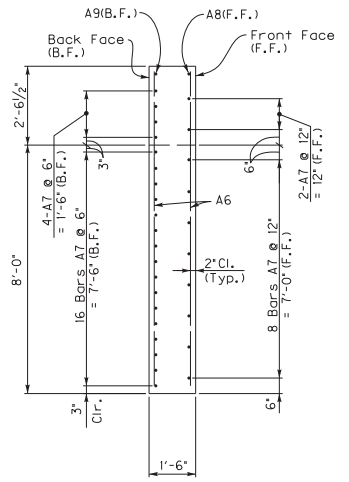
PLAN



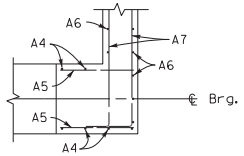
SECTION A–A



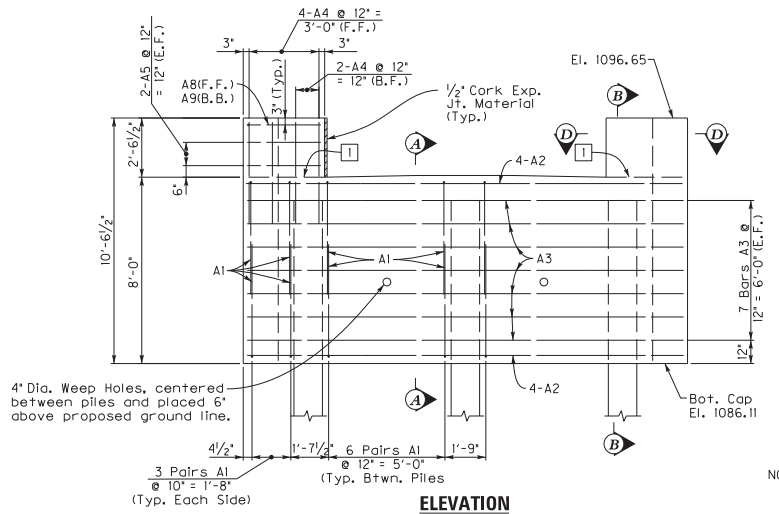
SECTION B–B



SECTION C–C



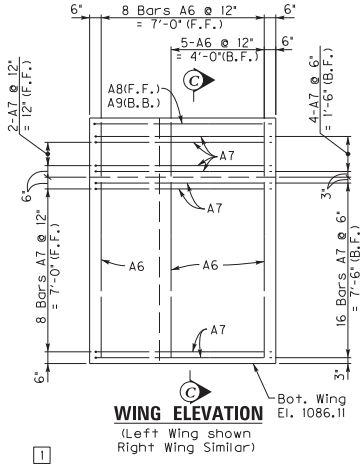
SECTION D–D



ELEVATION

(Looking at Front Face)

NOTE: Dimensions are measured at ℄ Brg. of the End Bent.



WING ELEVATION

(Left Wing shown
Right Wing Similar)

1 NOTE: Mandatory Construction joint for side by side box beams. Concrete above bridge seat shall be poured after beams are set and tensioning rods are tightened (typ. each side).

NOTE: Dowel Box Beams in accordance with Std. Drwg. BDP-002, (c.e.).

NOTE: For Pile Location see Foundation Layout.

NOTE: Seat Elevations are given on top of concrete.

BILL OF REINFORCEMENT

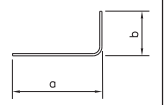
MARK	TYPE	SIZE	NO.	LENGTH FT.	LENGTH IN.	LOCATION	a FT.	a IN.	b FT.	b IN.
A1ES	②	#5	36	12	5	CAP	2	8	4	11
A2E	Str	#8	9	18	9					
A3E	Str	#5	14	18	9					
A4E	Str	#5	12	4	5					
A5E	Str	#5	8	3	2	CAP				
A6E	Str	#5	26	10	1	WINGS				
A7E	①	#5	60	8	7		7	7	1	0
A8E	①	#6	2	10	7		7	7	3	1
A9E	①	#6	2	7	1	WINGS	5	1	2	1

Note:
Use 2" min. clearance for all reinforcement unless noted otherwise.

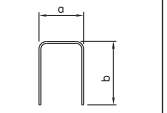
All reinforcement designated with suffix "E" shall be epoxy coated.

"S" denotes bars to have stirrup bend dimensions.

BAR TYPES



TYPE ①



TYPE ②

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

PREPARED BY: JM Crawford & Associates Consulting Engineers

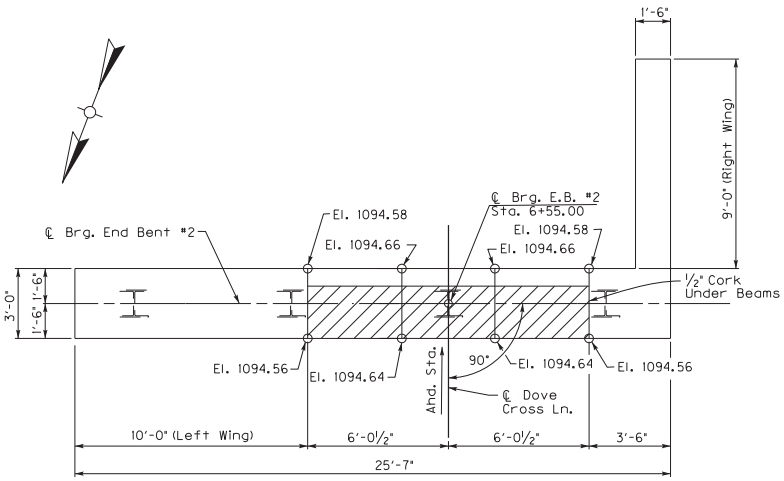
DATE: 9/30/2022	CHECKED BY
DESIGNED BY: Lee Carlisle	Stuart McIntosh
DETAILED BY: Greg Crank	Lee Carlisle

END BENT #1

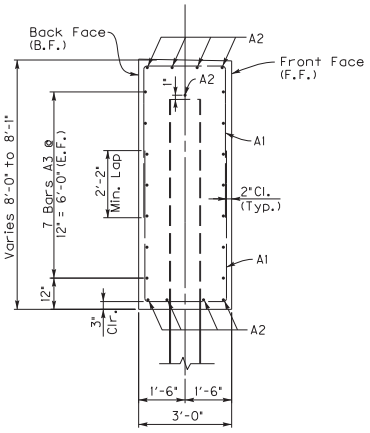
CROSSING: CARR FORK

ROUTE	ITEM NO.	COUNTY OF
CR 1538		KNOTT
	SHEET NO.	DRAWING NUMBER
	S5	28541

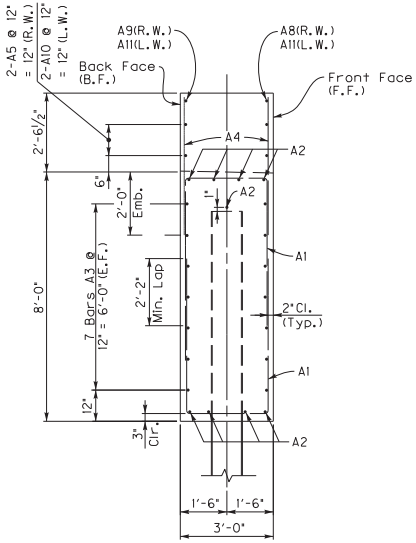
OpenRoads Designer v10.16.2.267 USER: $$$$USER$$$$ DATE PLOTTED: $$$$DATE$$$$ FILE NAME: $$$$designs\files$specification$$$$



PLAN



SECTION A–A



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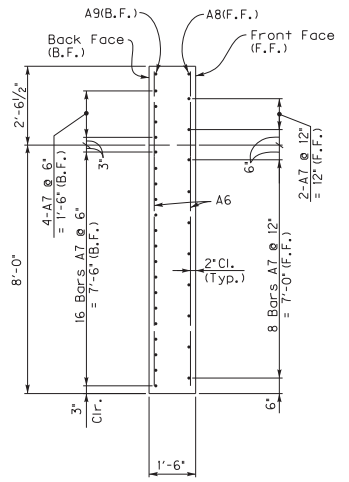

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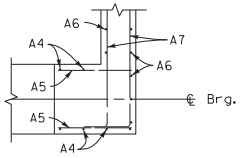

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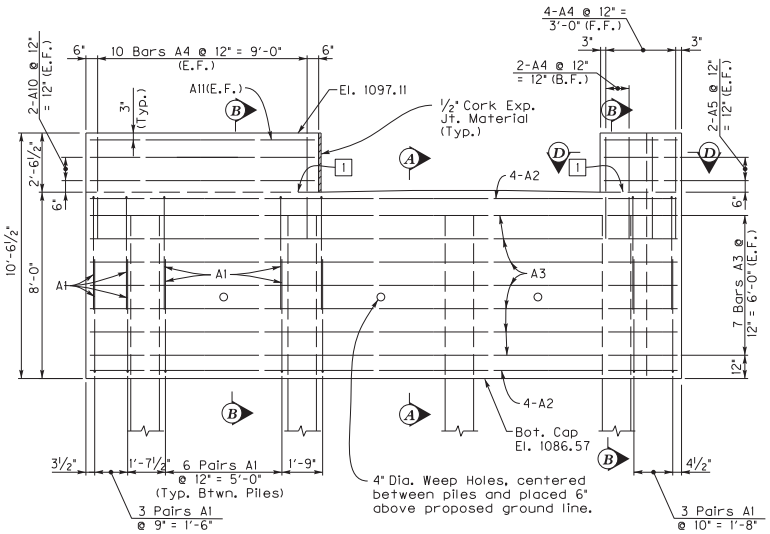
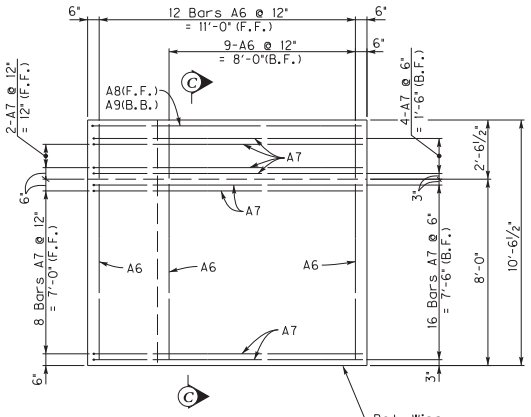


ELEVATION

(Looking at Front Face)

NOTE: Dimensions are measured at ℄ Brg. of the End Bent.



RIGHT WING ELEVATION

[1] NOTE: Mandatory Construction joint for side by side box beams. Concrete above bridge seat shall be poured after beams are set and tensioning rods are tightened (typ. each side).

NOTE: Dowel Box Beams in accordance with Std. Drwg. BDP-002, (c.e.).

NOTE: For Pile Location see Foundation Layout.

NOTE: Seat Elevations are given on top of concrete.

BILL OF REINFORCEMENT

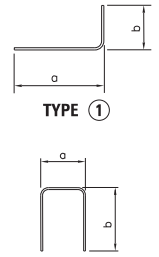
MARK	TYPE	SIZE	NO.	LENGTH FT.	LENGTH IN.	LOCATION	a FT.	a IN.	b FT.	b IN.
A1ES	②	#5	48	12	5	CAP	2	8	4	11
A2E	Str	#8	9	25	3					
A3E	Str	#5	14	25	3					
A4E	Str	#5	26	4	5					
A5E	Str	#5	4	3	2	CAP				
A6E	Str	#5	21	10	1	WINGS				
A7E	①	#5	30	12	7		11	7	1	0
A8E	①	#6	1	14	7		11	7	3	1
A9E	①	#6	1	11	1		9	1	2	1
A10E	Str	#5	4	9	8					
A11E	Str	#6	2	9	8	WINGS				

Note:
Use 2" min. clearance for all reinforcement unless noted otherwise.

All reinforcement designated with suffix "E" shall be epoxy coated.

"S" denotes bars to have stirrup bend dimensions.

BAR TYPES



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

REVISION	DATE

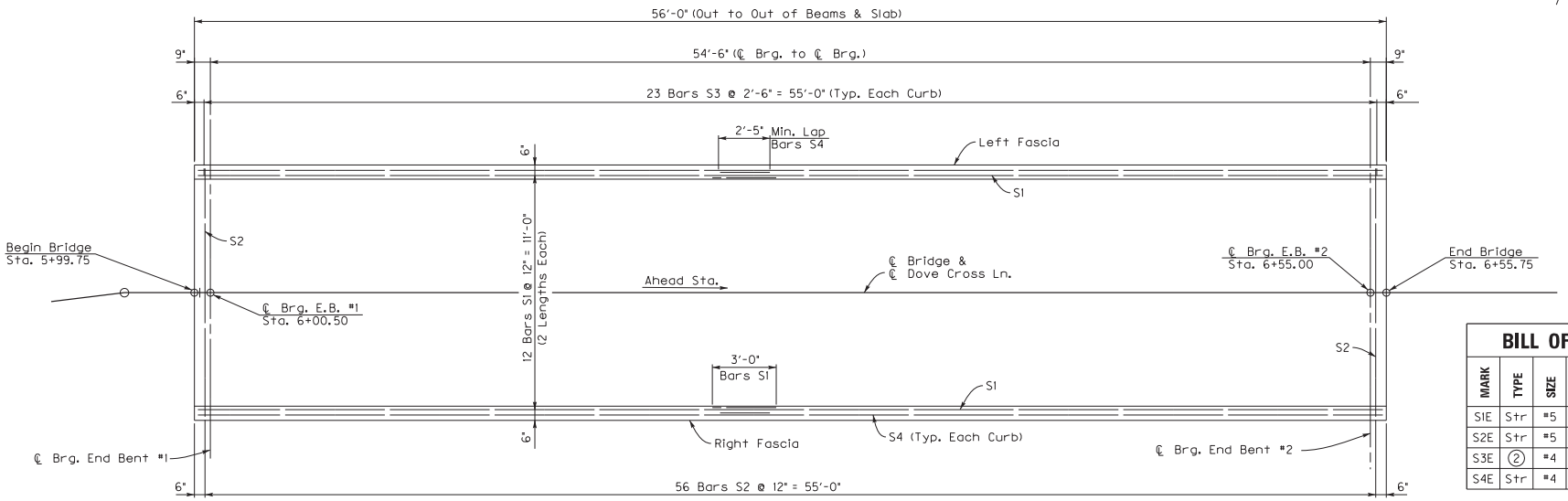
PREPARED BY: JM Crawford & Associates Consulting Engineers

DATE: 9/30/2022	CHECKED BY
DESIGNED BY: Lee Carlisle	Stuart McIntosh
DETAILED BY: Greg Crank	Lee Carlisle

END BENT #2

CROSSING: CARR FORK

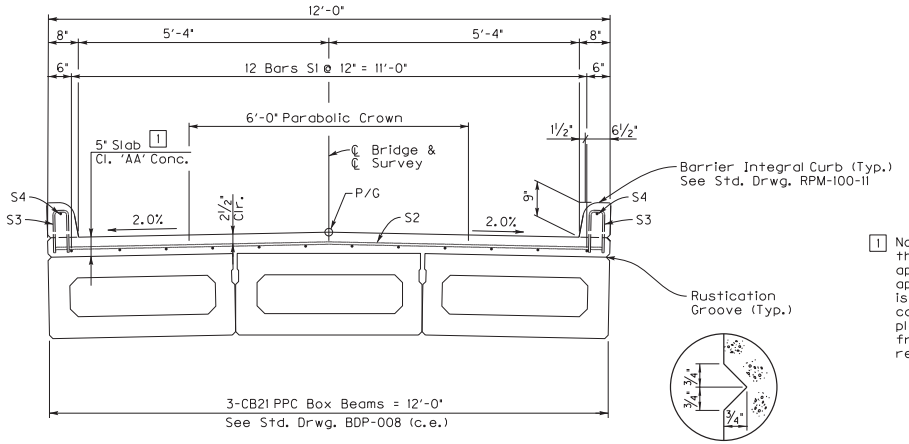
ROUTE	ITEM NO.	COUNTY OF
CR 1538		KNOTT
	SHEET NO. S6	DRAWING NUMBER 28541



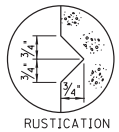
SLAB PLAN

BILL OF REINFORCEMENT

MARK	TYPE	SIZE	NO.	LENGTH FT.	LENGTH IN.	LOCATION
S1E	Str	#5	24	29	4	SLAB
S2E	Str	#5	56	11	8	SLAB
S3E	②	#4	46	2	1	CURB
S4E	Str	#4	4	29	1	CURB



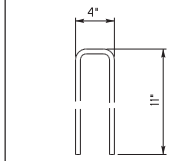
TYPICAL DECK SECTION



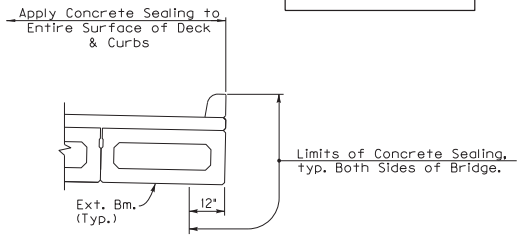
RUSTICATION GROOVE

[1] Note: Contrary to the Standard Drawings (5" thickness), the construction elevations will cause the slab to be approximately 6" thick at each end and go to approximately 5" thick at the center of the span. This is how the quantity of class 'AA' concrete was calculated. Any additional concrete required above the plan quantity, due to beam camber being different from the designer's assumptions, is the contractor's responsibility and at no cost to the department.

BAR TYPES



TYPE ②



CONCRETE SEALING DETAIL

Applied in the field. See General Notes.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

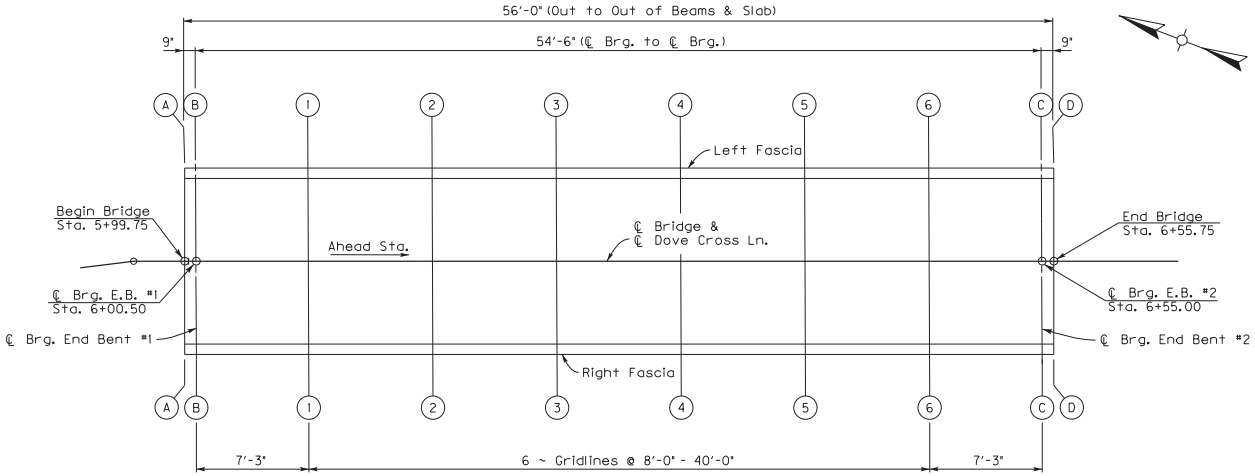
REVISION	DATE

PREPARED BY
JM Crawford & Associates
Consulting Engineers

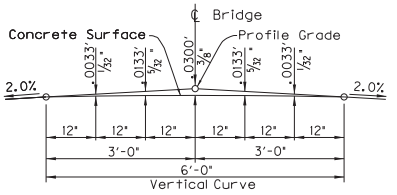
DATE: 9/30/2022	CHECKED BY
DESIGNED BY: Lee Carlisle	Stuart McIntosh
DETAILED BY: Greg Crank	Lee Carlisle

SUPERSTRUCTURE
CROSSING
CARR FORK

ROUTE	ITEM NO.	COUNTY OF
CR 1538		KNOTT
	SHEET NO.	DRAWING NUMBER
	S7	28541



GRID LAYOUT



PARABOLIC CROWN DETAIL

NOTES FOR ELEVATIONS TAKEN ON PRESTRESSED CONCRETE BEAMS

Take elevations on top of beam at points indicated after the beams have been laterally tensioned and grouted. The beam elevations are to be read to three decimal places and entered in tables under "Top of Beam" elevations.

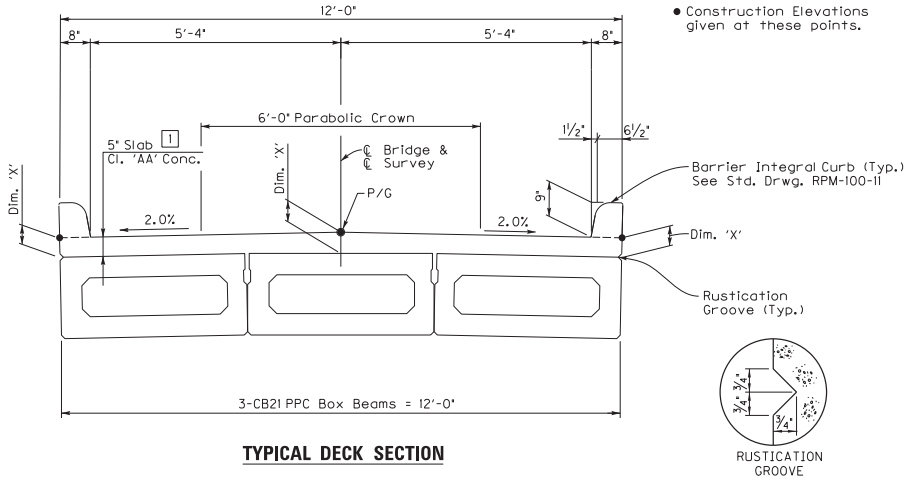
Compute dimension "X" as follows: "Construction Elevation" minus "Top of Beam" elevation equals dimension "X". Construction Elevations include camber due to weight of the concrete slab and barrier. Measuring of dimension "X" gives the final check on beam tolerances for camber, beam damage, and errors in erection that produce reverse cambers, sags, and unsightly fascia beams.
The minimum allowable dimension "X" or slab thickness is 4 3/4" (0. 395').
The maximum allowable dimension "X" or slab thickness is 6" (0.500').
If any computed dimension "X" is outside limits, adjustments need to be made to the dimensions "X" on one or more gridlines at the discretion of the Engineer.

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 girders when pouring the concrete floor slab or when taking "Top of Beam" elevations.

Note: The Table of Elevations at Centerline includes the 3/8" deduction for Parabolic Crown.

[1] See Note 1 on sheet S7.



TYPICAL DECK SECTION

CONSTRUCTION ELEVATIONS

LOCATION	LEFT FASCIA			PROFILE GRADE & CENTER LINE OF BRIDGE			RIGHT FASCIA		
	CONSTR. ELEV.	TOP OF BEAM	DIM "X"	CONSTR. ELEV.	TOP OF BEAM	DIM "X"	CONSTR. ELEV.	TOP OF BEAM	DIM "X"
SKEW LINE A-A	1096.390			1096.480			1096.390		
SKEW LINE B-B	1096.397			1096.487			1096.397		
SKEW LINE C-C	1096.857			1096.947			1096.857		
SKEW LINE D-D	1096.863			1096.953			1096.863		
GRID LINE 1	1096.467			1096.557			1096.467		
GRID LINE 2	1096.544			1096.634			1096.544		
GRID LINE 3	1096.621			1096.711			1096.621		
GRID LINE 4	1096.689			1096.779			1096.689		
GRID LINE 5	1096.747			1096.837			1096.747		
GRID LINE 6	1096.804			1096.894			1096.804		

COMMONWEALTH OF KENTUCKY
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CONSTRUCTION ELEVATIONS

CROSSING
CARR FORK

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