

General Notes

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, 8th 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 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. 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 abutments shall be dry cyclopean stone riprap in accordance with the plans and specifications. Geotextile Fabric, Class I shall be placed between the embankment and the slope protection in accordance with Standard Specifications 214 and 843. Payment for Geotextile Fabric, Class I, 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 Drawings: The fabricator shall submit all required shop plans, by email to SHOP_006B00043N@docs.e-Builder.net, 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, if required, shall return them to the fabricator for corrections and resubmittal. Upon acceptable reconciliation of all comments, files shall be sent to the Bridging Kentucky Shop Plan Coordinator for distribution. Only plans submitted directly to the Shop Plan Coordinator will be distributed. Additionally, only plans electronically stamped "Distributed by The Bridging Kentucky Program Team" are to be used for fabrication. While this process does not require the submission of paper copies, the Engineer of Record reserves the right to require such copies on a case by case basis. When any changes to the design plans are proposed, the shop drawings reflecting these changes shall be submitted through the process above.

Note: The designation in the email 006B00043N refers to the Bridge ID number which is located on the Title Sheet, RI of the Bridge Plans. Example: SHOP_006B00043N@docs.e-Builder.net

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, or 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,
Seal Wrap by Mar Mac Manufacturing Co. Inc.,
Cadilloc by The UP Rubber Co. Inc.
or approved equal.

Mastic Tape shall 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.

Elastomeric Bearing Pads: Elastomeric Bearing Pads shall conform to the AASHTO Standard Specifications for Highway Bridges, Division II, Section 18.

Bearings shall be Low Temperature Grade 3 with a shear modulus between 95 psi and 130 psi and shall be subjected to the load testing requirements corresponding to Design Method B. The cost of bearing pads is to be included in the unit price per linear feet for Precast Beams.

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.

Structural Granular Backfill: Materials for Structural Granular Backfill shall be in accordance with Section 805 of the Specifications.

Contrary to the Specifications, Structural 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 and to the limits as indicated in the plans.


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.

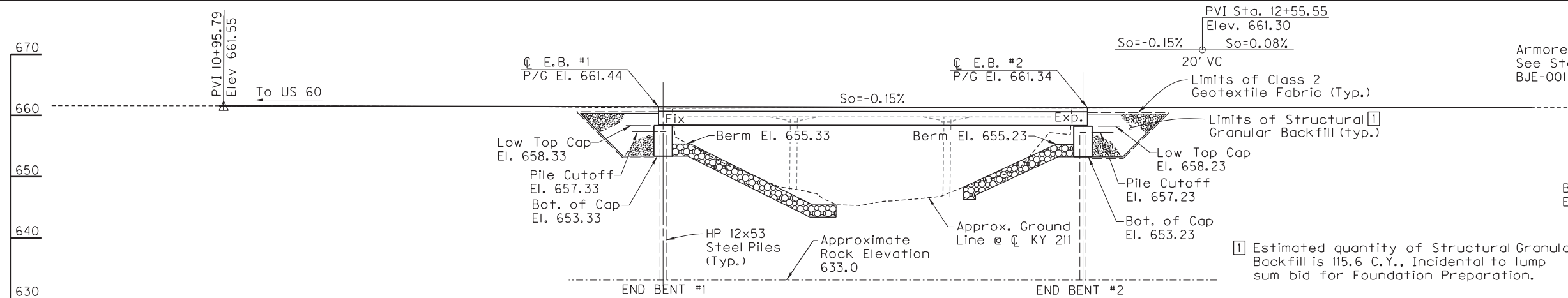
All test piles shall be accurately located so that they may be used in the finished structure.

Contrary to the standard drawings for steel piling, mill test reports are not required to be notarized.

Pile Points: Provide pile points for all piles. Pile points shall be in accordance with Section 604 of the specifications and of the type shown on the pile record sheet.

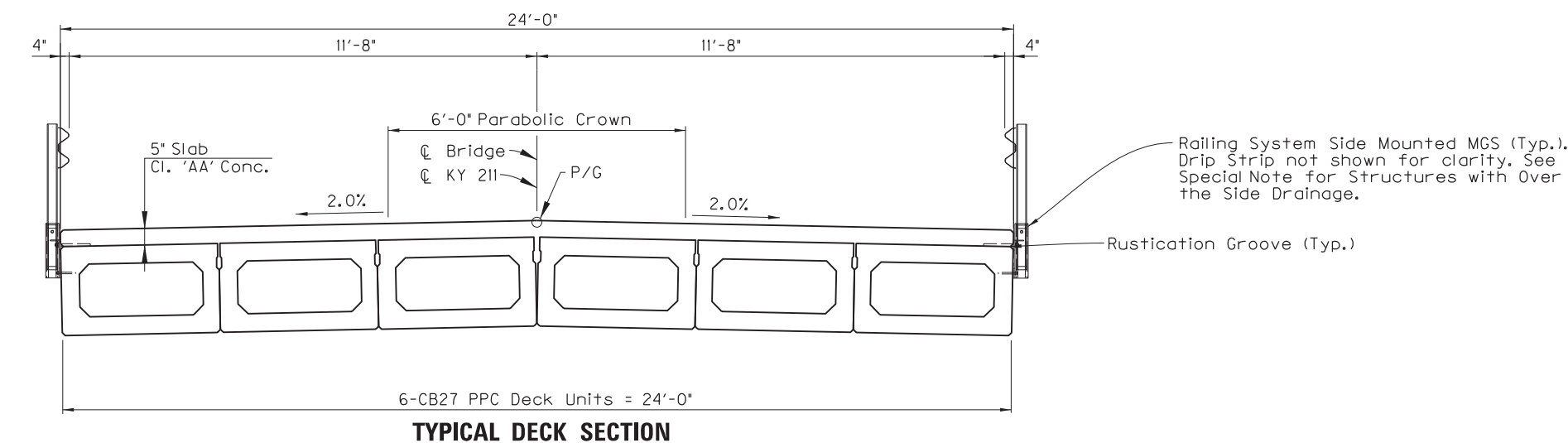
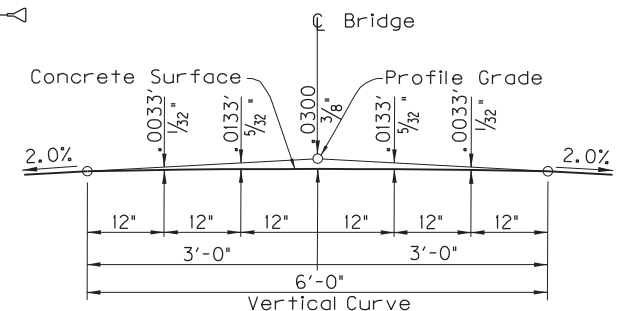
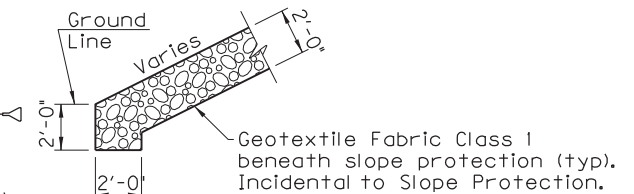
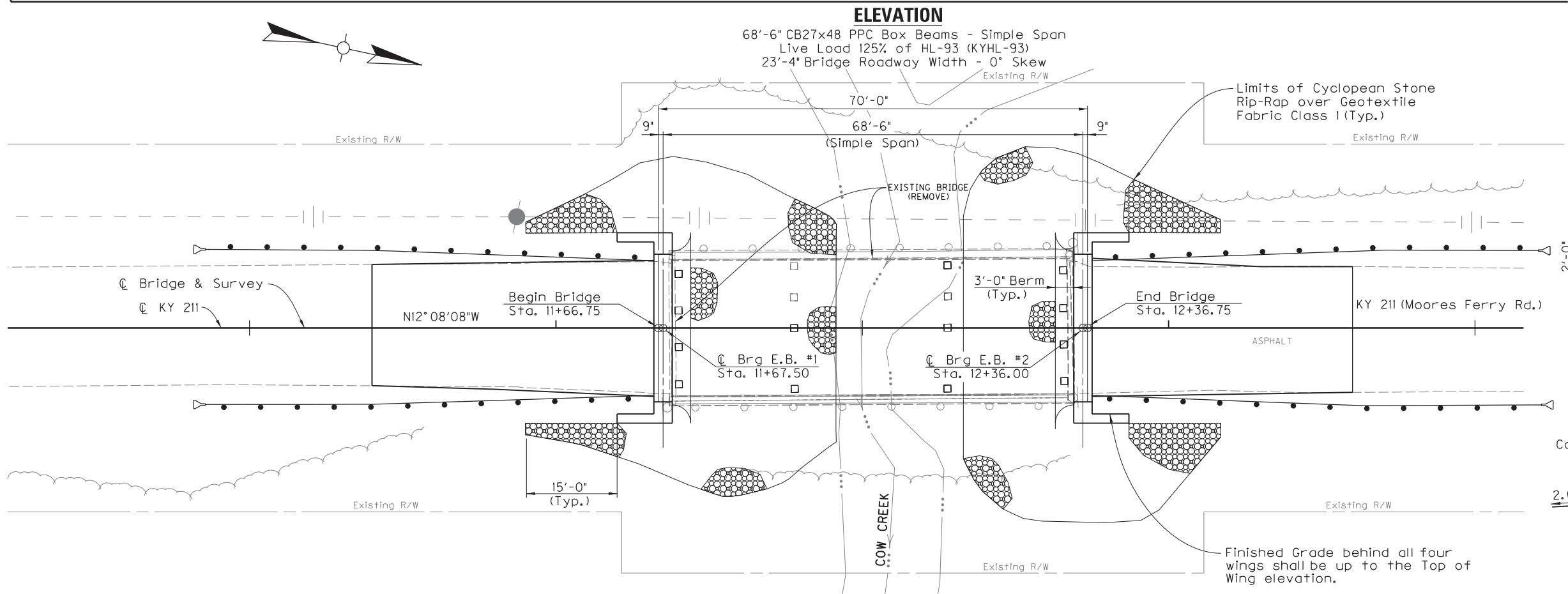
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DESIGNED BY: L. Carlisle		S. McIntosh	
DETAILED BY: J. Vinson		L. Carlisle	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BATH			
ROUTE KY 211	CROSSING COW CREEK		
GENERAL NOTES			
ITEM NUMBER	PREPARED BY		SHEET NO.
	JMC J.M. Crawford & Associates Consulting Engineers		S1
	BRIDGING KENTUCKY  Restores Renew Replace		DRAWING NO. 27954


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USER: gacrank
DATE PLOTTED: 8/22/2019 9:01:02 AM
E-SHEET NAME:
Power InRoads v8.11.9.337



END OF BRIDGE DETAIL

Note: Contractor shall provide 12" wide Mastic Tape to water-proof the joint between beam ends and End Bents. Tape shall be looped as shown to prevent damage to tape. See General Notes for Mastic Tape.



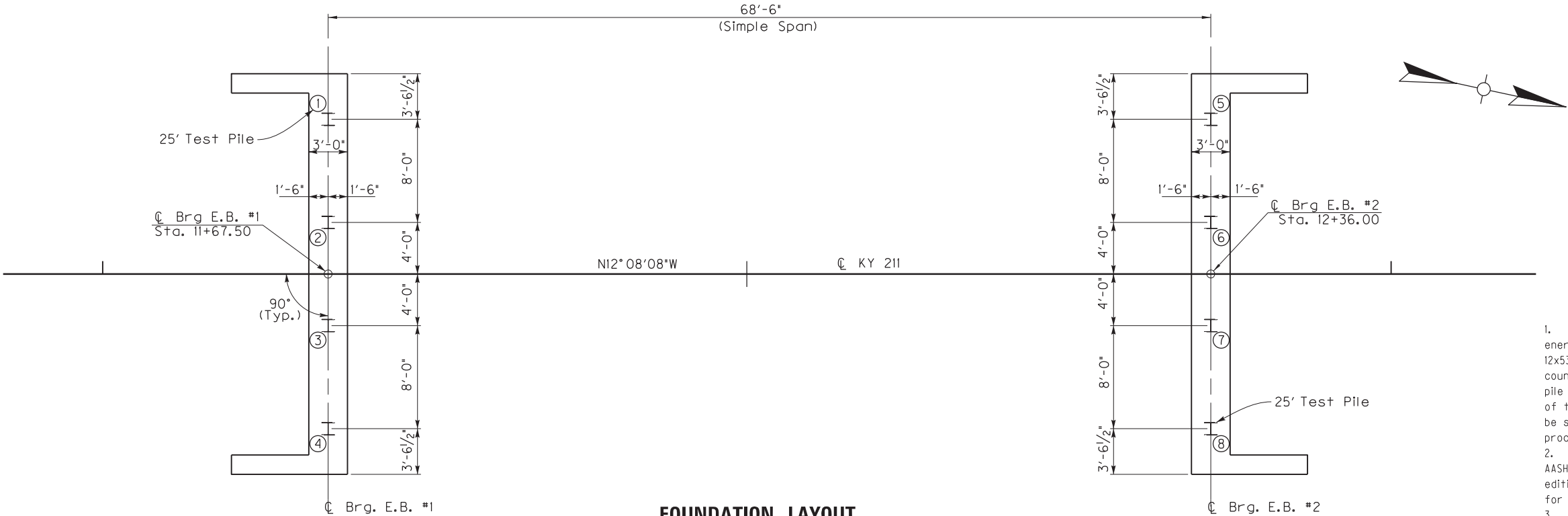
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DESIGNED BY: L. Carlisle	S. McIntosh	
DETAILED BY: J. Vinson	L. Carlisle	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BATH		
ROUTE KY 211	CROSSING COW CREEK	
LAYOUT		
PREPARED BY		SHEET NO.
JMC J.M. Crawford & Associates Consulting Engineers		S2
BRIDGING KENTUCKY  Restoring Renewing Replacing		DRAWING NO. 27954

FILE NAME: ... \006B00043N_Pile_Record.dgn

USER: aacrank
DATE PLOTTED: 8/22/2019 8:46:52 AM

E-SHEET NAME:

Power InRoads v8.11.9.397



FOUNDATION LAYOUT

I Denotes HP12x53 Vertical Piles

Notes

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	657.33			-
2	657.33			-
3	657.33			-
4	657.33			-
END BENT #2				
5	657.23			-
6	657.23			-
7	657.23			-
8	657.23			-

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" 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" 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.

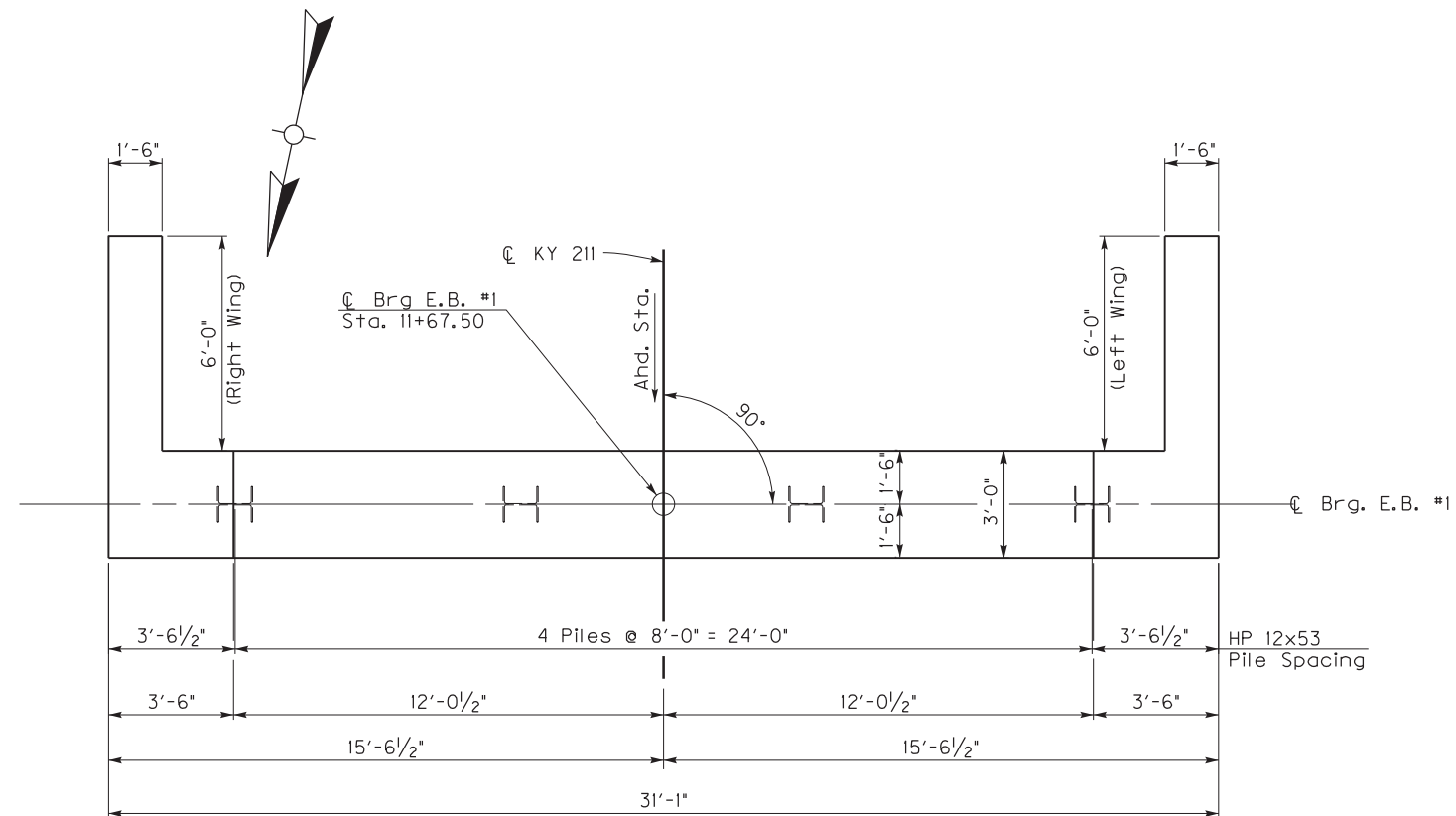
Submit this record to:

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

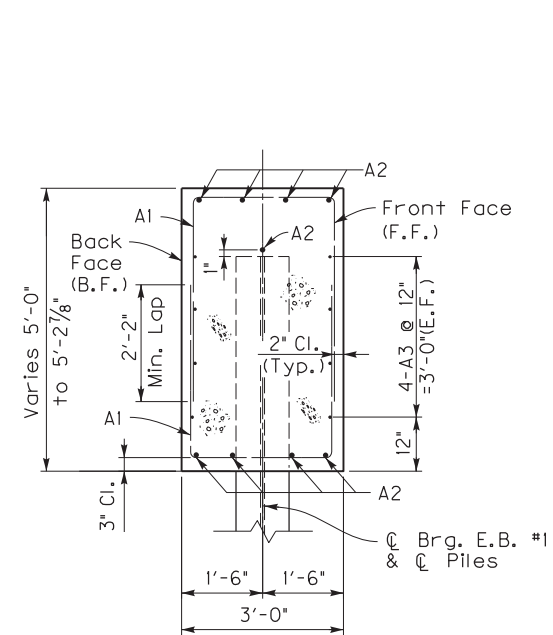
This pile record does not replace other pile records the Project Engineer is required to keep and submit.

Use HP 12x53 in accordance with BPS-003, c.e.

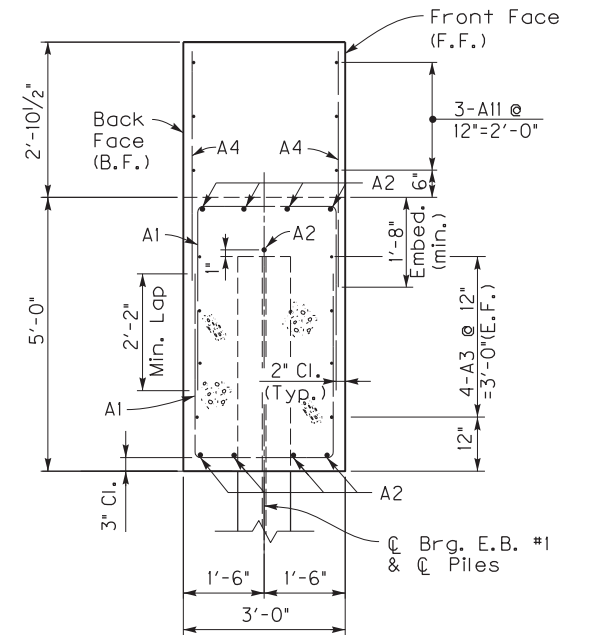
REVISION		DATE	
DATE: 10/25/19		CHECKED BY	
DESIGNED BY: L. Carlisle		S. McIntosh	
DETAILED BY: J. Vinson		L. Carlisle	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY BATH			
ROUTE KY 211		CROSSING COW CREEK	
FOUNDATION LAYOUT			
PREPARED BY		SHEET NO.	
JMC J.M. Crawford & Associates Consulting Engineers		S3	
		DRAWING NO.	
		27954	



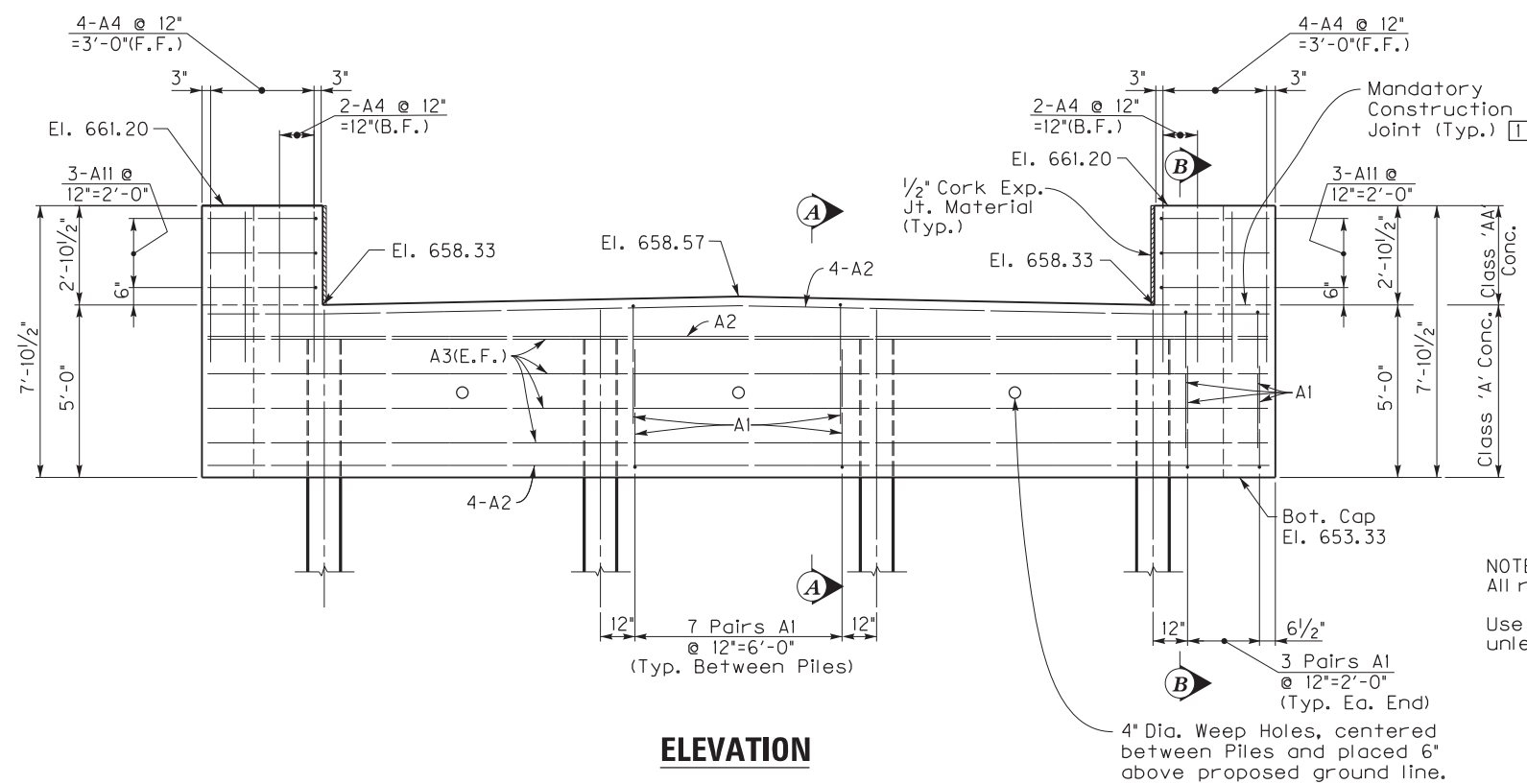
CAP PLAN



SECTION A-A




SECTION B-B

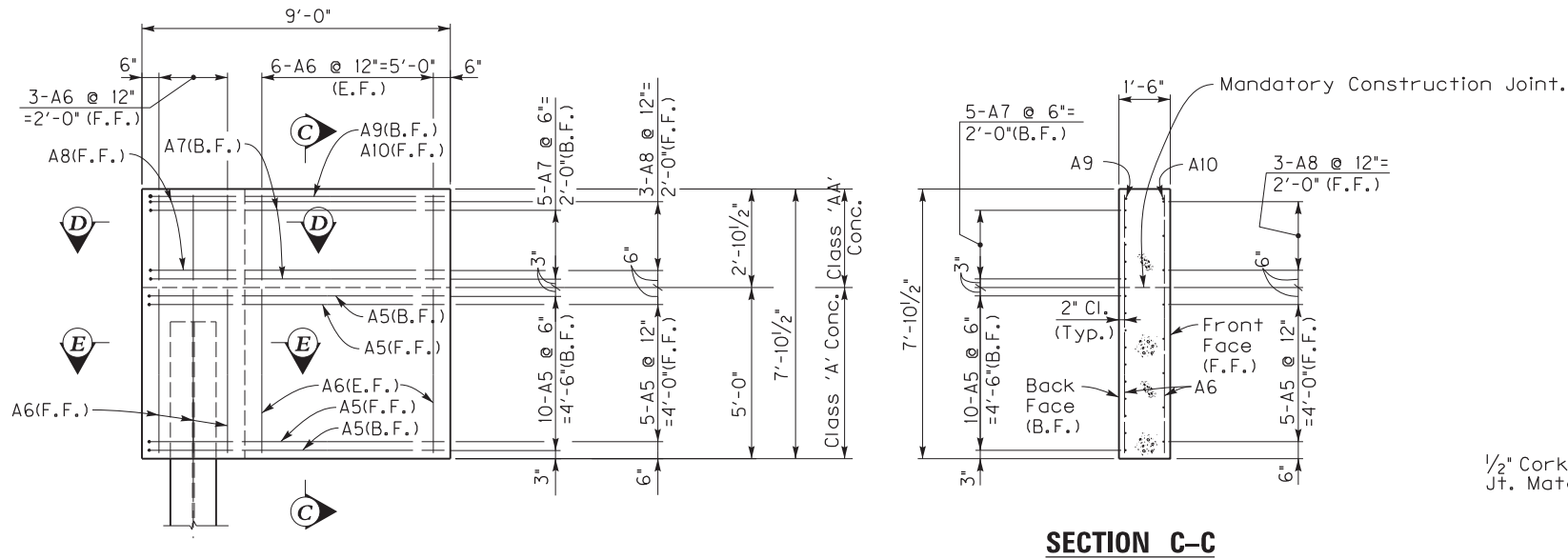


NOTE:
All reinforcement shall be epoxy coated.

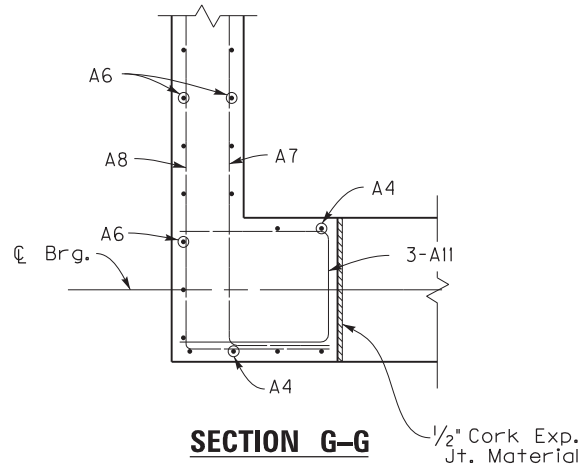
Use 2" min. clearance for all reinforcement
unless noted otherwise.

1 Construct wings to Mandatory Construction Joint Elevation. Remainder of wings shall be poured after beams are set and tensioning rods are tightened (typ. each wing)

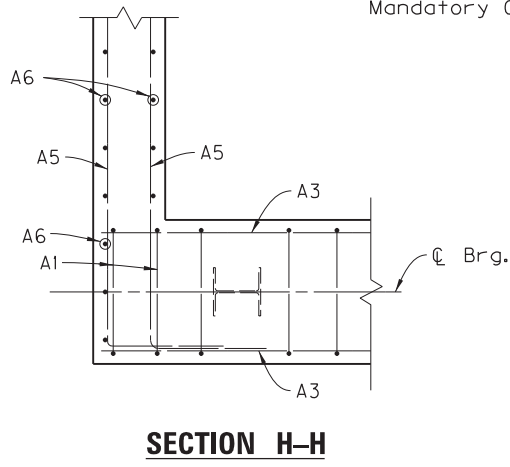
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DATE: 10/25/19		CHECKED BY	
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DETAILED BY: J. Vinson		L. Carlisle	
<p align="center">Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS</p>			
<p align="center">COUNTY BATH</p>			
ROUTE KY 211	CROSSING COW CREEK		
<p align="center">END BENT #1</p>			
<p align="center">PREPARED BY</p> <p>JMC J.M. Crawford & Associates Consulting Engineers</p>		<p align="center">BRIDGING KENTUCKY</p>  <p align="center">Restore Renew Replace</p>	<p align="center">SHEET NO. S4</p> <p align="center">DRAWING NO. 27954</p>



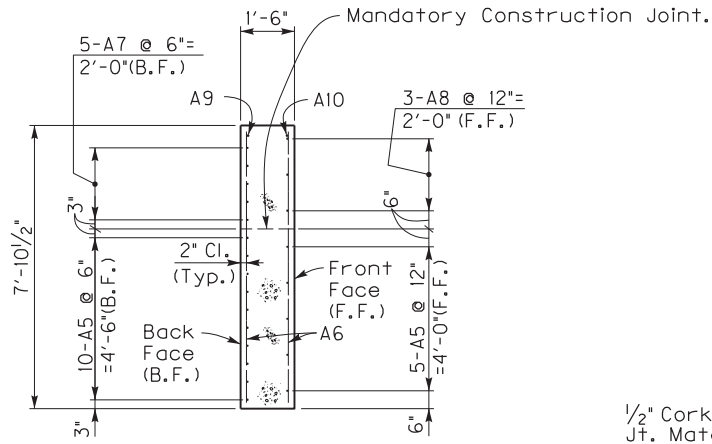
LEFT WING



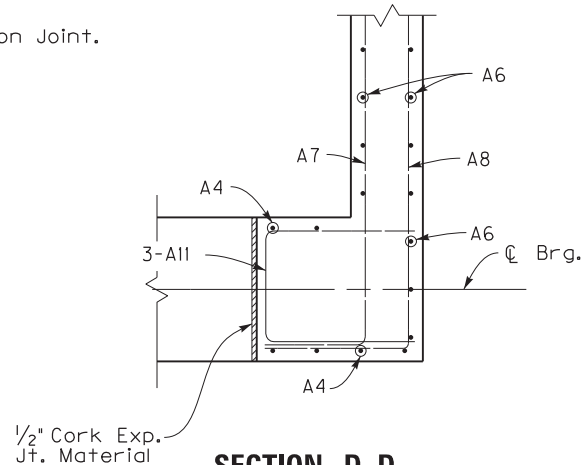
SECTION G-G



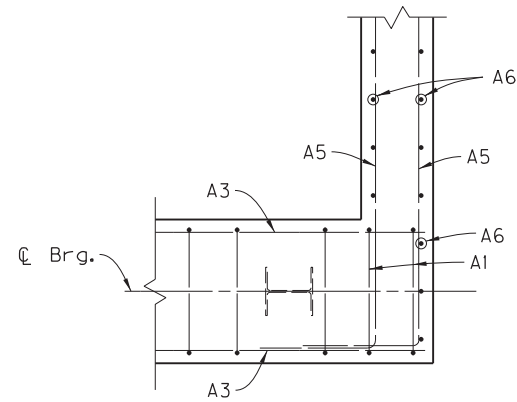
SECTION H-H



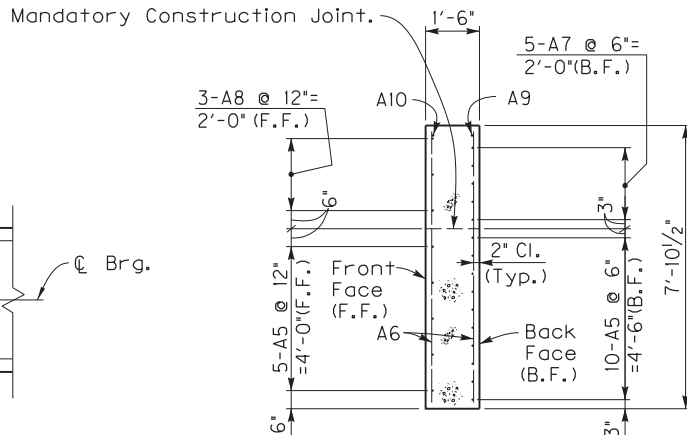
SECTION C-C



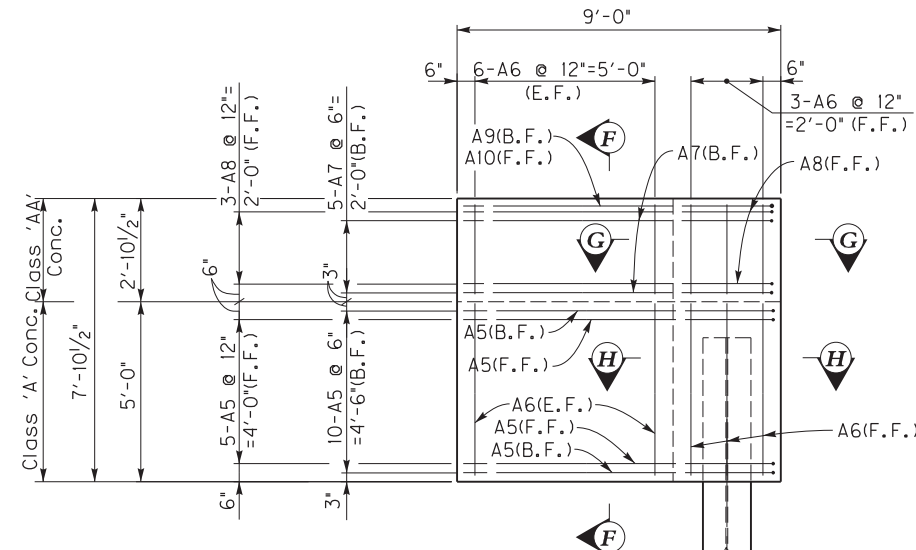
SECTION D-D



SECTION E-E

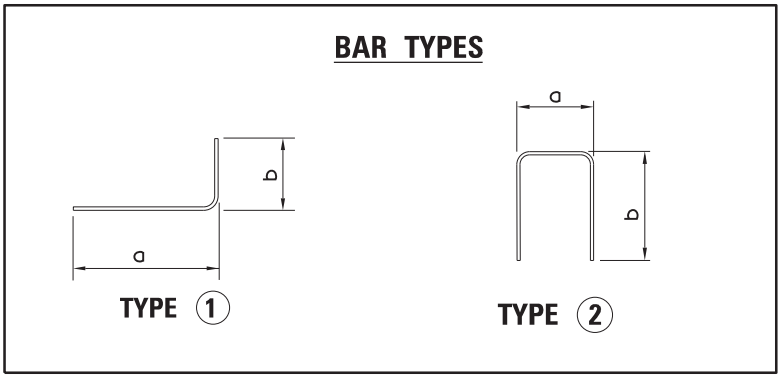


SECTION F-F



RIGHT WING

BILL OF REINFORCEMENT, END BENT #1														
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				FT.	IN.		FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
A1ES	②	#5	54	9	7	CAP	2	8	3	6				
A2E	Str	#8	9	30	9	CAP								
A3E	Str	#5	8	30	9	CAP								
A4E	Str	#5	12	4	5	CAP								
A5E	①	#5	30	11	0	WINGS	8	7	2	5				
A6E	Str	#5	30	7	6	↓								
A7E	①	#5	10	10	7		8	7	2	0				
A8E	①	#5	6	11	8		8	7	3	1				
A9E	①	#6	2	8	11		7	0	2	0				
A10E	①	#6	2	11	7		8	7	3	1				
A11ES	②	#5	6	8	9	WINGS	2	6	3	2				




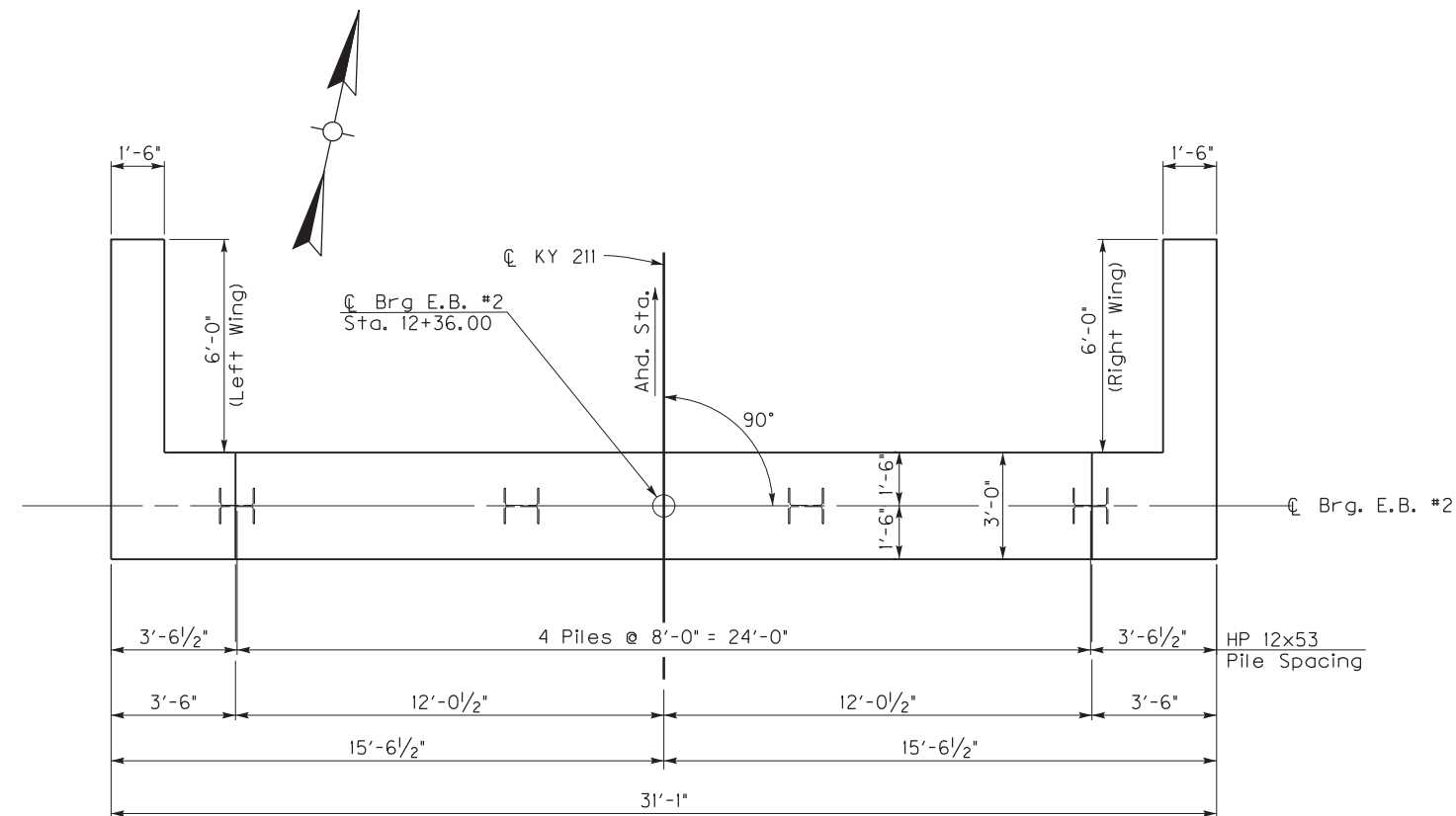
Note:
Use 2" min. clearance for all reinforcement
unless noted otherwise.

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

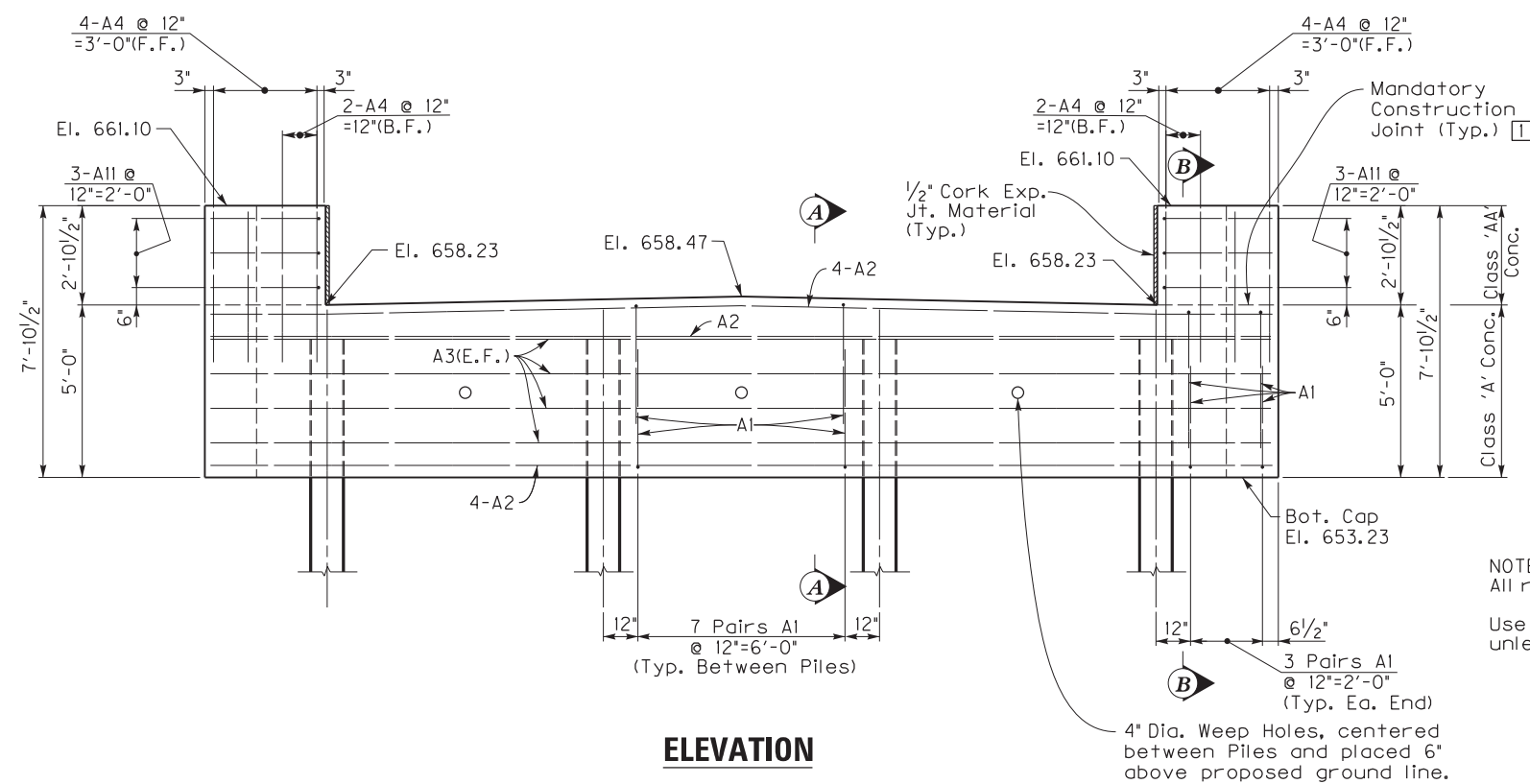
"S" denotes bars to have stirrup bend
dimensions.

ITEM NUMBER
9-10017

REVISION		DATE
DATE: 10/25/19	CHECKED BY	
DESIGNED BY: L. Carlisle	S. McIntosh	
DETAILED BY: J. Vinson	L. Carlisle	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BATH		
ROUTE KY 211	CROSSING COW CREEK	
END BENT #1		
PREPARED BY		SHEET NO.
JMC J.M. Crawford & Associates Consulting Engineers		S5
BRIDGING KENTUCKY 		DRAWING NO.
		27954



CAP PLAN

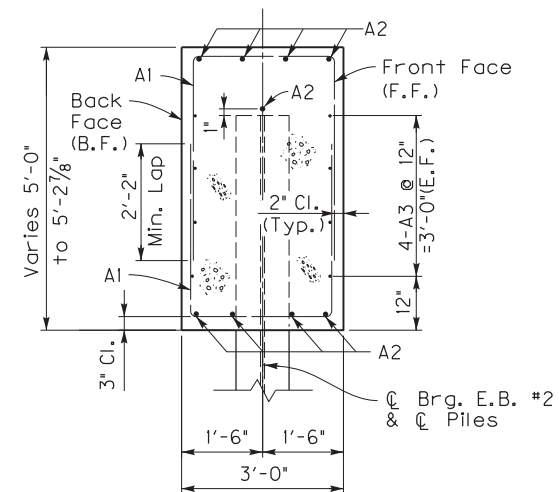


ELEVATION

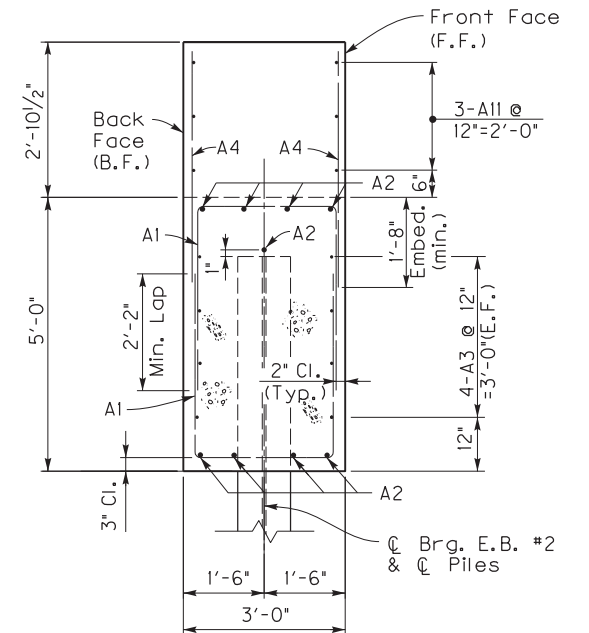
NOTE:
All reinforcement shall be epoxy coated.

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



1 Construct wings to Mandatory Construction Joint Elevation. Remainder of wings shall be poured after beams are set and tensioning rods are tightened (typ. each wing)

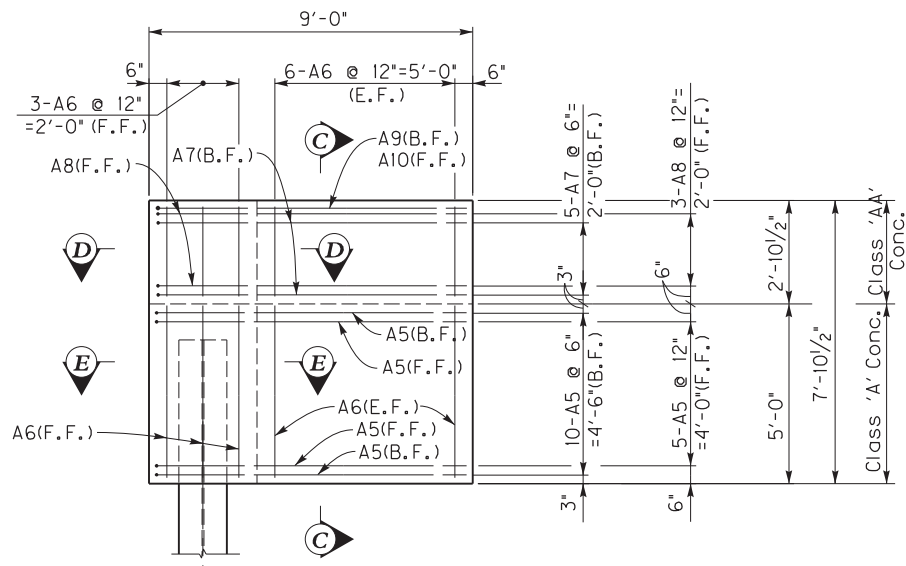


SECTION A-A

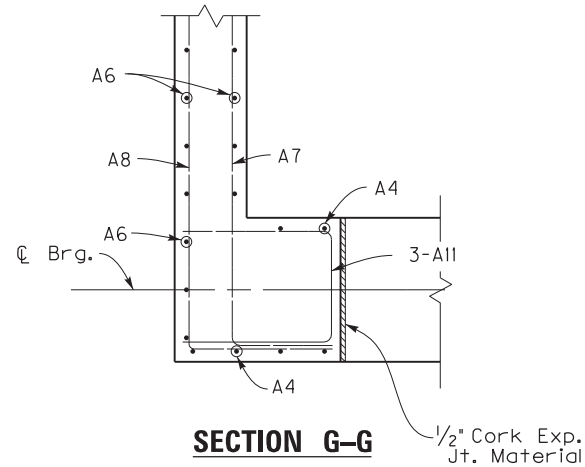


SECTION B-B

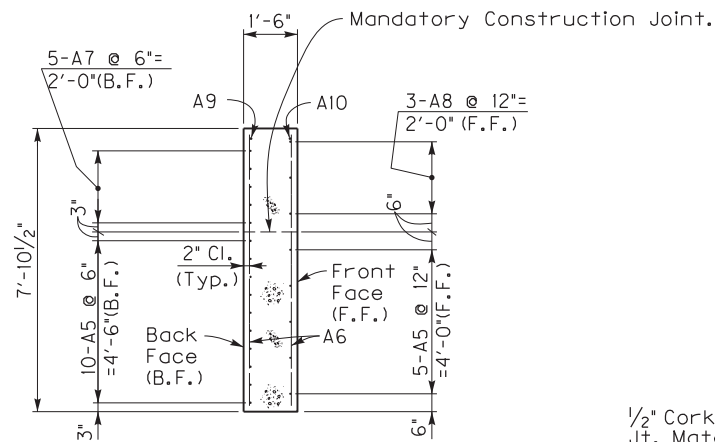
REVISION		DATE	
DATE: 10/25/19		CHECKED BY	
DESIGNED BY: L. Carlisle		S. McIntosh	
DETAILED BY: J. Vinson		L. Carlisle	
<p align="center">Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS</p>			
<p align="center">COUNTY BATH</p>			
ROUTE KY 211	CROSSING COW CREEK		
END BENT #2			
PREPARED BY  J.M. Crawford & Associates Consulting Engineers			SHEET NO. S6 DRAWING NO. 27954



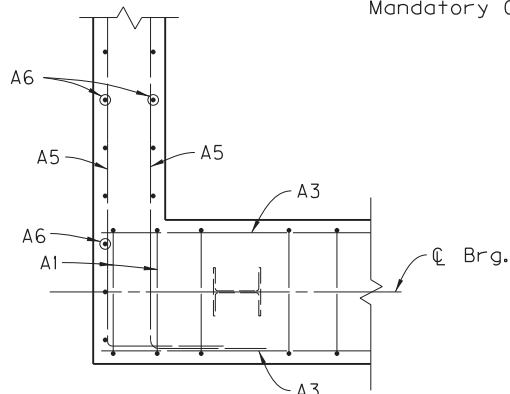
RIGHT WING



SECTION G-G

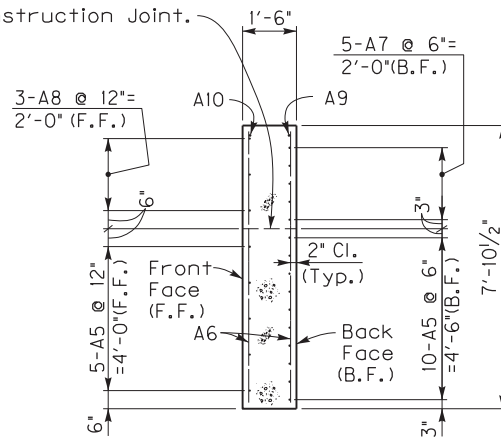
1/2" Cork Exp.
Jt. Material

SECTION C-C

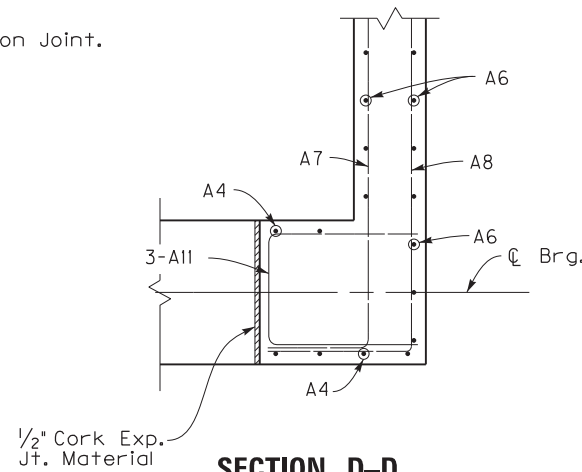


SECTION H-H

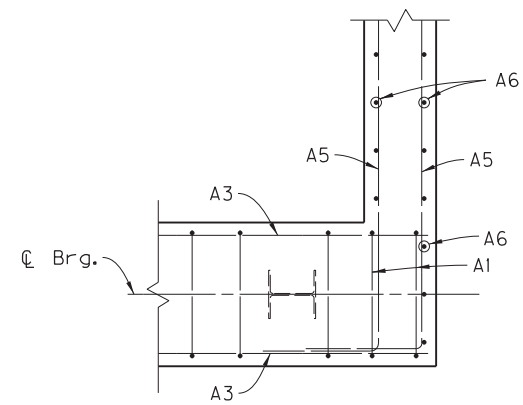
Mandatory Construction Joint.



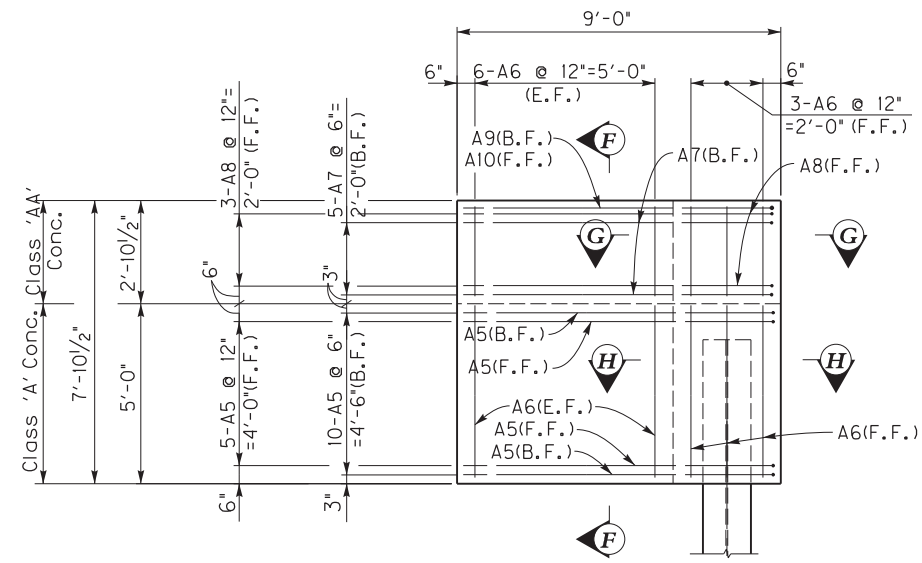
SECTION F-F



SECTION D-D

1/2" Cork Exp.
Jt. Material

SECTION E-E

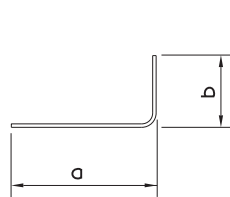


LEFT WING

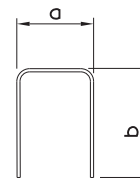
BILL OF REINFORCEMENT, END BENT #2

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A2E	Str	#8	9	30	9	CAP								
A3E	Str	#5	8	30	9	CAP								
A4E	Str	#5	12	4	5	CAP								
A5E	①	#5	30	11	0	WINGS	8	7	2	5				
A6E	Str	#5	30	7	6									
A7E	①	#5	10	10	7		8	7	2	0				
A8E	①	#5	6	11	8		8	7	3	1				
A9E	①	#6	2	8	11		7	0	2	0				
A10E	①	#6	2	11	7		8	7	3	1				
A11ES	②	#5	6	8	9	WINGS	2	6	3	2				

BAR TYPES



TYPE ①



TYPE ②


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

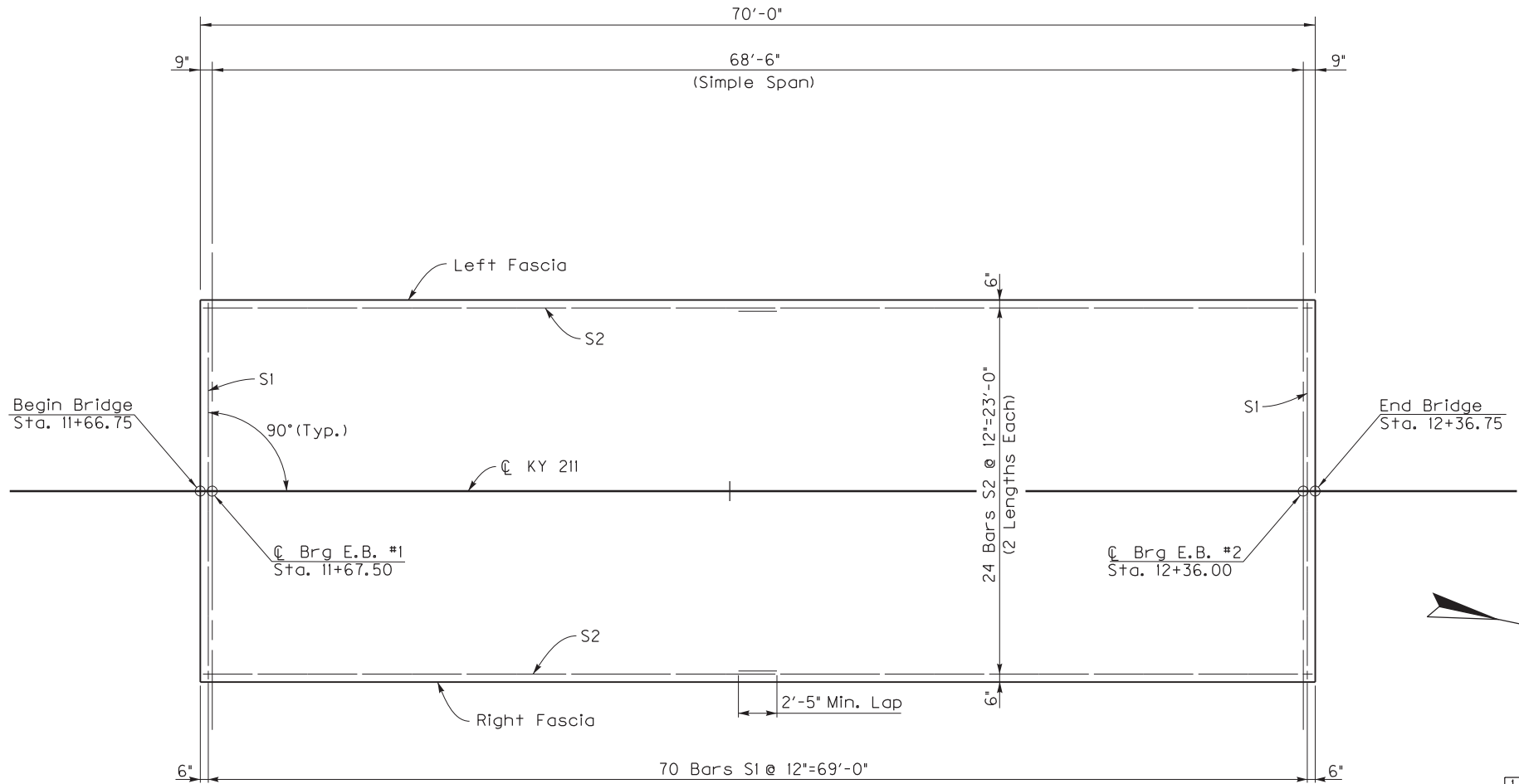
All reinforcement designated with suffix "E"
shall be epoxy coated.

"S" denotes bars to have stirrup bend
dimensions.

ITEM NUMBER

9-10017

REVISION		DATE
DATE: 10/25/19	CHECKED BY	
DESIGNED BY: L. Carlisle	S. McIntosh	
DETAILED BY: J. Vinson	L. Carlisle	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BATH		
ROUTE KY 211	CROSSING COW CREEK	
END BENT #2		
PREPARED BY		SHEET NO.
JMC J.M. Crawford & Associates Consulting Engineers		S7
BRIDGING KENTUCKY 		DRAWING NO.
		27954

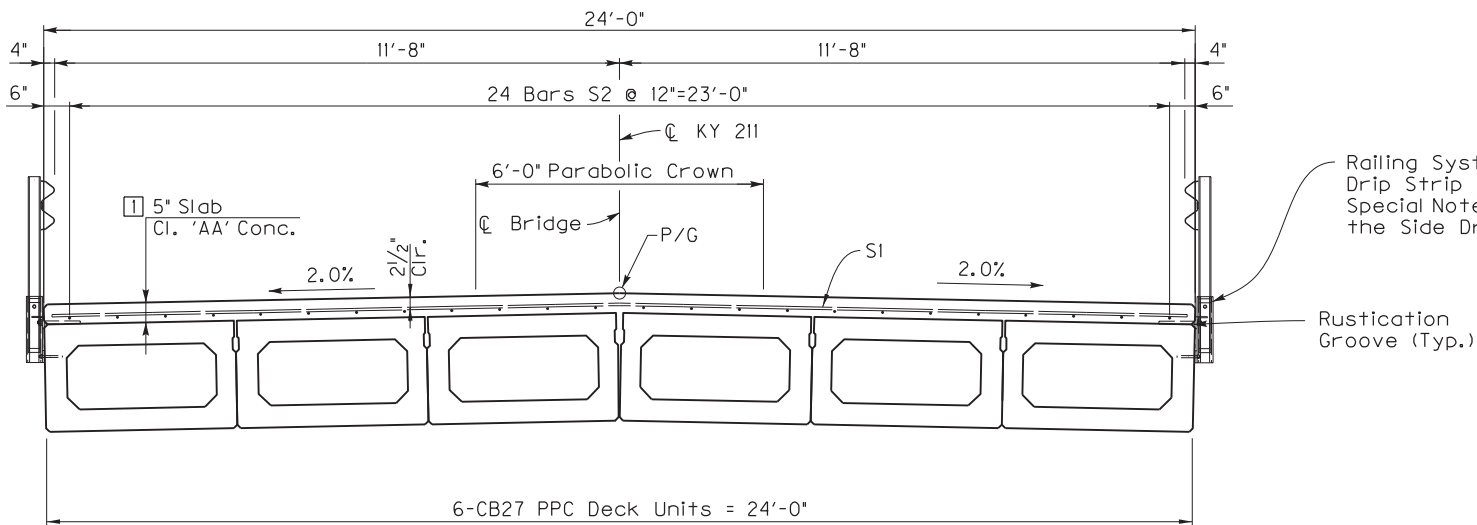


PLAN

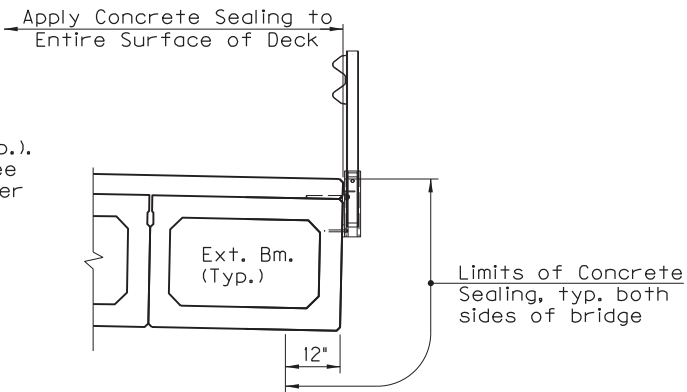
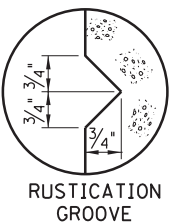
BILL OF REINFORCEMENT						
MARK	TYPE	SIZE	NO.	LENGTH		LOCATION
				FT.	IN.	
S1E	Str	#5	70	23	8	SLAB
S2E	Str	#5	48	36	1	SLAB

All reinforcement designated with Suffix "E" shall be Epoxy Coated.

1 Note: Contrary to the Standard Drawings (5" thickness), the construction elevations will cause the slab to be approximately 6.2" 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.



TYPICAL DECK SECTION



CONCRETE SEALING DETAIL

Applied in the field. See General Notes.

ITEM NUMBER		PREPARED BY		SHEET NO.	
9-10017		J.M. Crawford & Associates Consulting Engineers		S8	

ROUTE KY 211		CROSSING COW CREEK	
SUPERSTRUCTURE			
DRAWING NO.		BRIDGING KENTUCKY Restore Renew Replace	
27954			

CONSTRUCTION ELEVATIONS									
LOCATION	LEFT FASCIA			CENTER LINE			RIGHT FASCIA		
	CONSTR. ELEV.	TOP OF BEAM	DIM "X"	CONSTR. ELEV.	TOP OF BEAM	DIM "X"	CONSTR. ELEV.	TOP OF BEAM	DIM "X"
GRID LINE A-A	661.204			661.414			661.204		
GRID LINE B-B	661.202			661.412			661.202		
GRID LINE C-C	661.100			661.310			661.100		
GRID LINE D-D	661.099			661.309			661.099		
GRID LINE 1	661.201			661.411			661.201		
GRID LINE 2	661.198			661.408			661.198		
GRID LINE 3	661.196			661.406			661.196		
GRID LINE 4	661.194			661.404			661.194		
GRID LINE 5	661.182			661.392			661.182		
GRID LINE 6	661.160			661.370			661.160		
GRID LINE 7	661.138			661.348			661.138		
GRID LINE 8	661.117			661.327			661.117		

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.

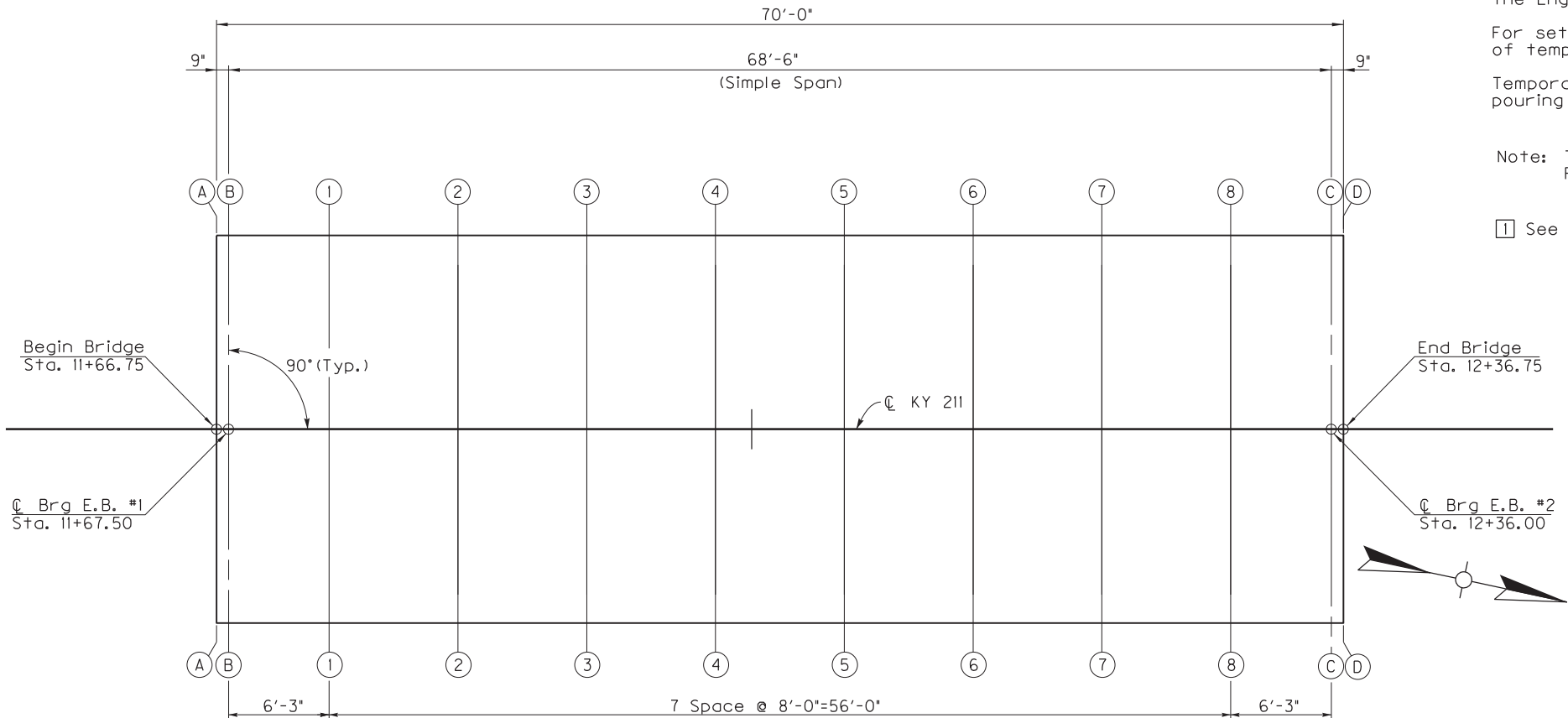
Compute dimension "X" as follows: "Construction Elevation" minus "Top of Beam" elevation equals dimension "X". Construction Elevations include camber due to weight of the concrete slab and barrier. Measuring of dimension "X" gives the final check on beam tolerances for camber, beam damage, and errors 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 1/4" (0.521'). 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.

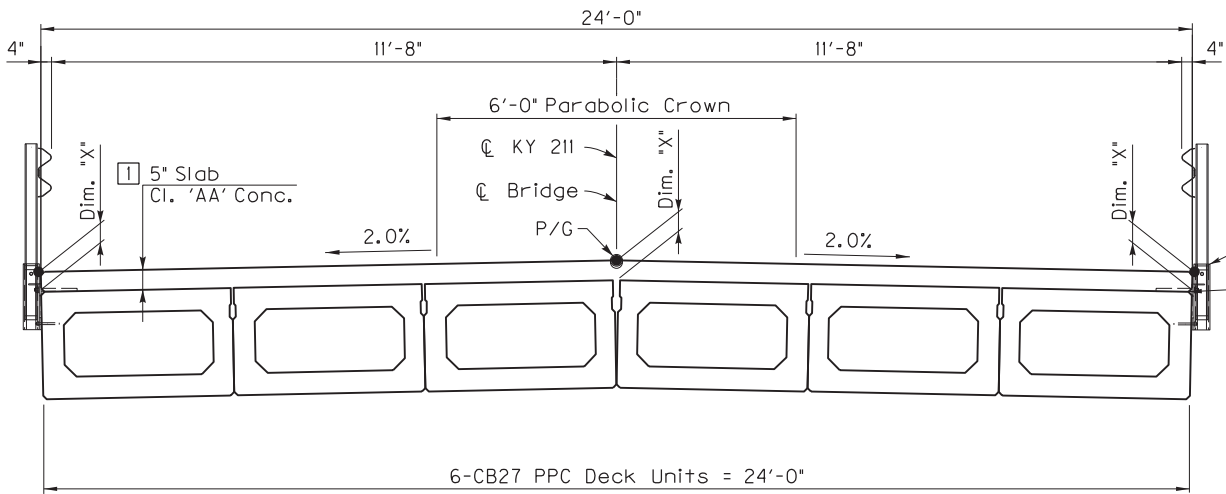
Temporary supports or shoring will not be permitted under the girders when pouring the concrete floor slab or when taking "Top of Beam" elevations.

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

1 See Note 1 on sheet S8.



GRID LAYOUT

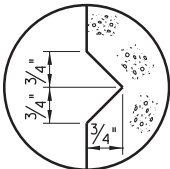


TYPICAL DECK SECTION

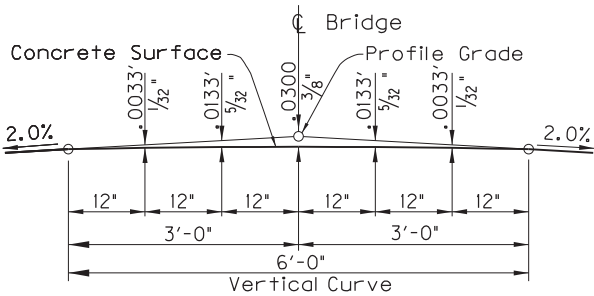
Construction Elevations given at these points.

Railing System Side Mounted MGS (Typ.)
Drip Strip not shown for clarity. See Special Note for Structures with Over the Side Drainage.

Rustication Groove (Typ.)



RUSTICATION GROOVE



PARABOLIC CROWN DETAIL

ITEM NUMBER
9-10017

REVISION		DATE
DATE: 10/25/19	CHECKED BY	
DESIGNED BY: L. Carlisle	S. McIntosh	
DETAILED BY: J. Vinson	L. Carlisle	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY BATH		
ROUTE KY 211	CROSSING COW CREEK	
CONSTRUCTION ELEVATIONS		
PREPARED BY JMC J.M. Crawford & Associates Consulting Engineers		SHEET NO. S9
BRIDGING KENTUCKY Restore Renew Replace		DRAWING NO. 27954