

KENTUCKY TRANSPORTATION CABINET

DEPARTMENT OF HIGHWAYS

BRIDGE REHABILITATION PLANS



LOCATION MAP

STATE OF KENTUCKY

TRAVIS M. BAKER

27019

LICENSED PROFESSIONAL ENGINEER

BRIDGE NUMBER

029B00005N

REVISION

DATE: 8-26-2019

DESIGNED BY: D. Hively

DETAILED BY: J. Corley

CHECKED BY

T. Baker

D. Hively

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
CUMBERLAND

ROUTE
KY 379

CROSSING
BIG WILLIS CREEK

TITLE & LOCATION MAP

PREPARED BY
AECOM

BRIDGING KENTUCKY

SHEET NO.
S1

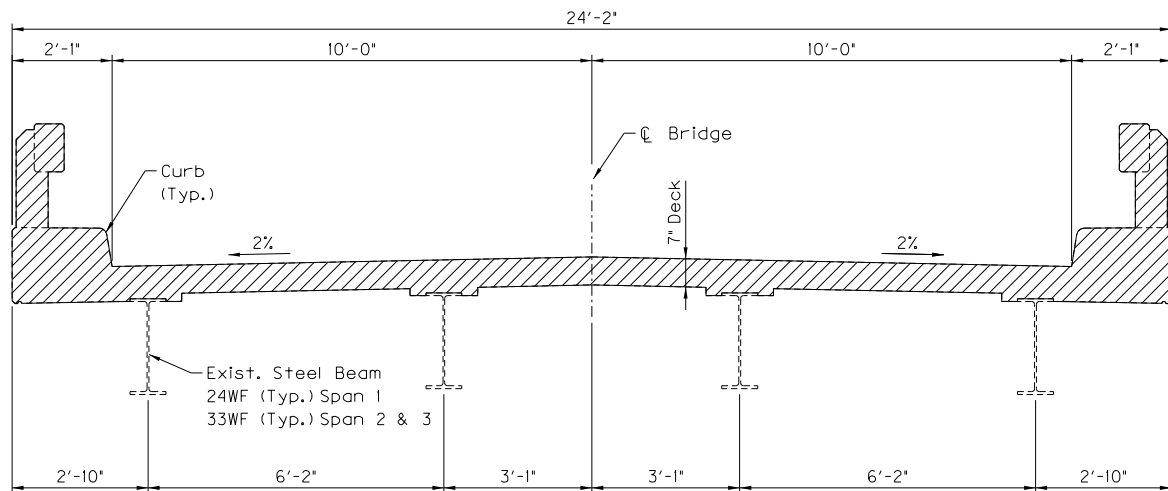
DRAWING NO.
28076

INDEX OF SHEETS	
Sheet No.	Description
S1	TITLE & LOCATION MAP
S2	GENERAL NOTES
S3	LAYOUT
S4	TYPICAL SECTION
S5,S6	PHASED CONSTRUCTION
S7	END BENT 1
S8	PIER 1
S9	PIER 2
S10	ABUTMENT 2
S11	STEEL DETAILS
S12	TEMPORARY DECK DETAILS
S13	DIAPHRAGM DETAILS
S14	DECK DETAILS
S15,S16	CONSTRUCTION ELEVATIONS
S17	BILL OF REINFORCEMENT

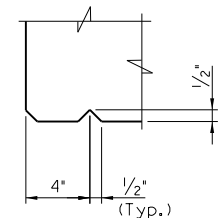
SPECIAL NOTES	
Bridge Overlay Approach Pavement	
Cleaning and Painting	
Concrete Sealing	
Concrete Patching	
Epoxy Injection Crack Repair	
Erosion Prevention and Sediment Control	
Foundation Preparation	
Liquidated Damages	
Traffic Control on Bridge Repair Contracts	
Structures With Over The Side Drainage	
Utilities and Rail Certification	

STANDARD DRAWINGS	
RBI-001-12	Typical Guardrail Installations
RBR-001-13	Steel Beam Guardrail ("W" Beam)
RBR-015-06	Steel Guardrail Posts
RBR-055-01	Delineators for Guardrail
RBR-018	Guardrail System Transition
RBR-050-08	Guardrail End Treatment Type 7
BHS-011	Railing System Side Mounted MGS Details
BBP-001-12	Elastomeric Bearings Pads for Prestressed Box Beams
BGX-006-10	Stencils for Structures
BJE-001-13	Neoprene Expansion Dams and Armor Edges
RBW-120-01	Box Beam Stiffening of Temporary Concrete Barrier
RBR-005-11	Guardrail Components
RBR-010-06	Guardrail Terminal Sections
RBR-016-05	Timber Guardrail Posts

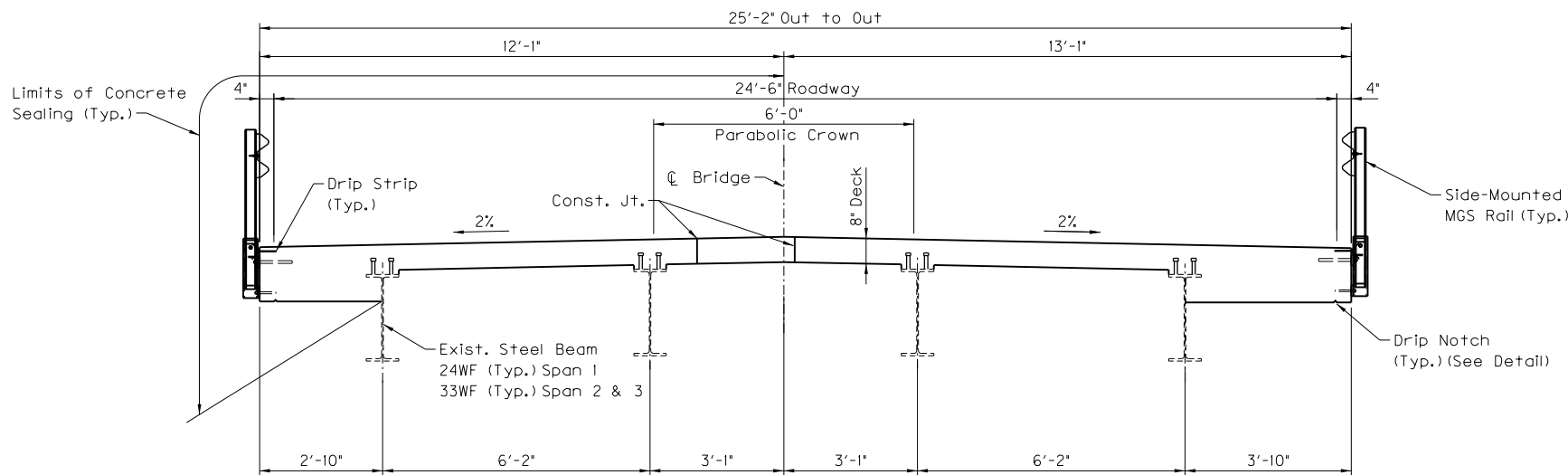
SPECIFICATIONS	
Standard Specifications for Road and Bridge Construction (Current Editions).	
AASHTO LRFD Bridge Construction Specifications with Current Interims.	



EXISTING TYPICAL SECTION

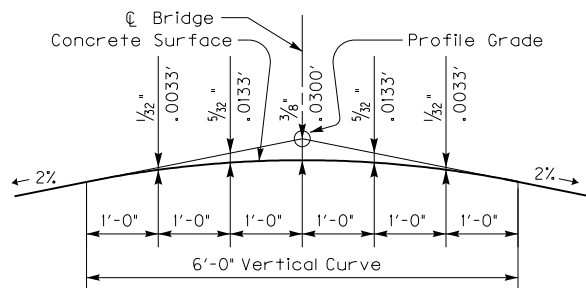


DRIP NOTCH DETAIL



PROPOSED TYPICAL SECTION


Deck Reinforcement not Shown, See Notes.

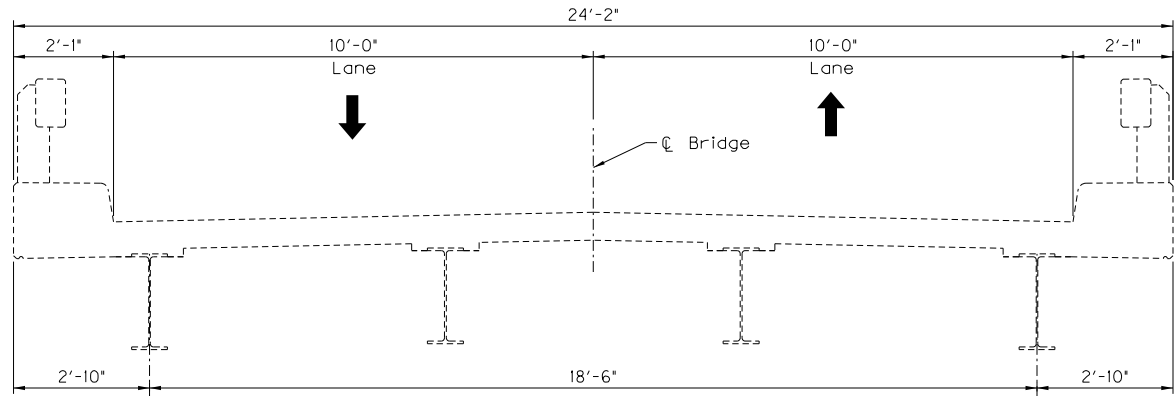


PARABOLIC CROWN

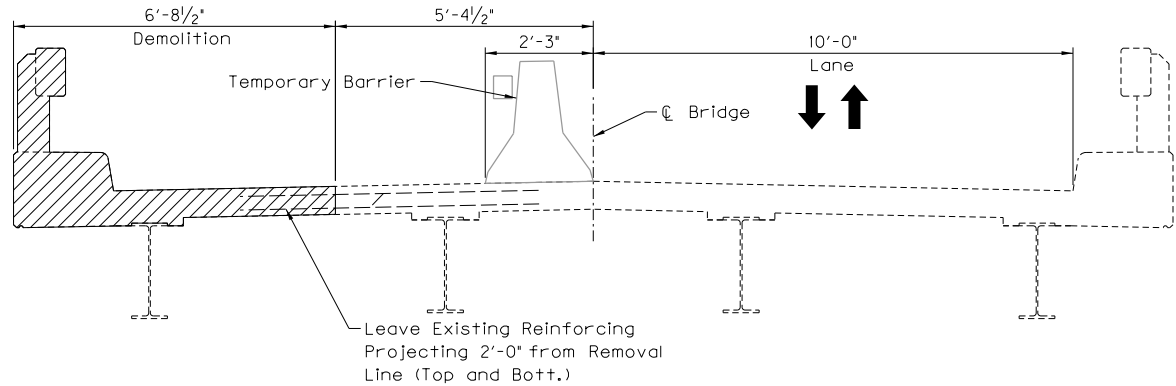
NOTES:

- For Deck Reinforcement, See Sheets S12 and S14.
- For Phase Construction, See Sheets S5 and S6.
- The Top of all Existing Beams and Other Steel to be in Contact with the New Concrete are to be Cleaned of all Rust and Foreign Matter Before Pouring the Concrete Deck. The Cost of Material and Labor is to be Incidental to "Remove Superstructure".

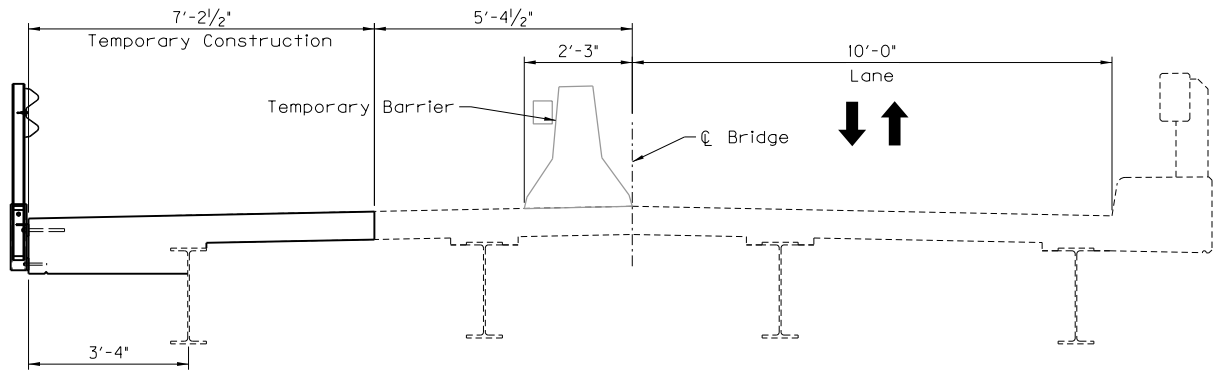
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DATE: 8-26-2019	CHECKED BY	
DESIGNED BY: D. Hively	T. Baker	
DETAILED BY: J. Corley	D. Hively	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CUMBERLAND		
ROUTE KY 379	CROSSING BIG WILLIS CREEK	
TYPICAL SECTION		
PREPARED BY AECOM	BRIDGING KENTUCKY  Restore Renew Replace	SHEET NO. S4 DRAWING NO. 28076



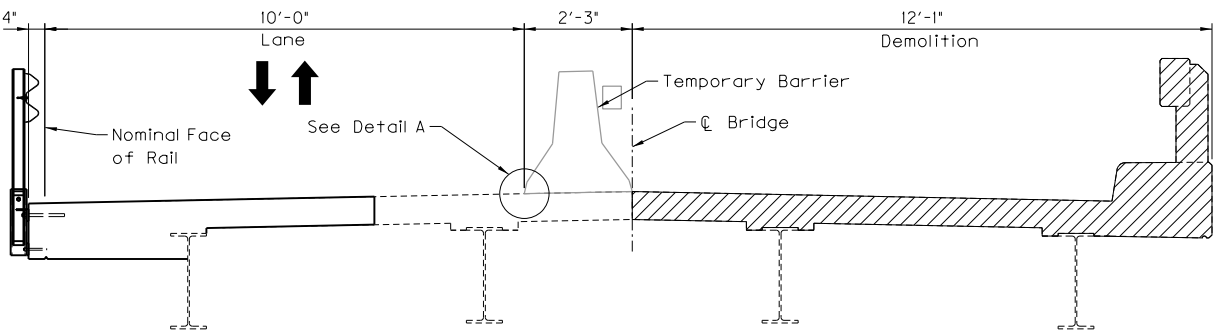
EXISTING SECTION



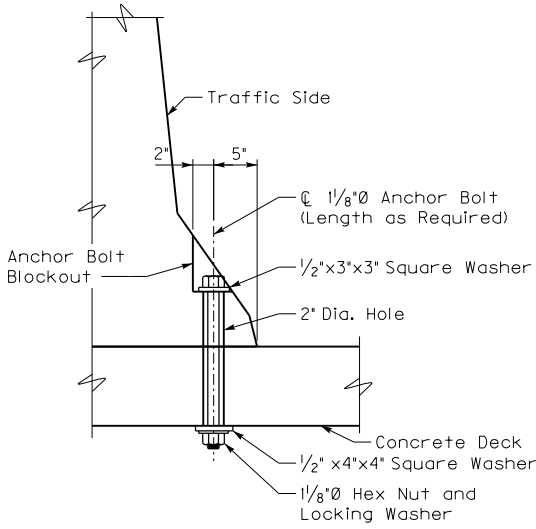
PHASE 1 DEMOLITION



PHASE 1 CONSTRUCTION



PHASE 2 DEMOLITION



DETAIL A

(See Barrier Notes 1-4)


- Barrier Notes:
- 1) All bolts, nuts and washers shall conform to Section 813. Nuts must be fully engaged with the anchor bolt.
 - 2) Locate anchorage points every 4 feet along the temporary barrier.
 - 3) Remove anchors and fill holes prior to opening to traffic with non-shrink grout in accordance with Section 601.03.03.
 - 4) The cost of all labor, equipment and materials for the temporary barriers and its anchors shall be incidental to item Maintain & Control Traffic.

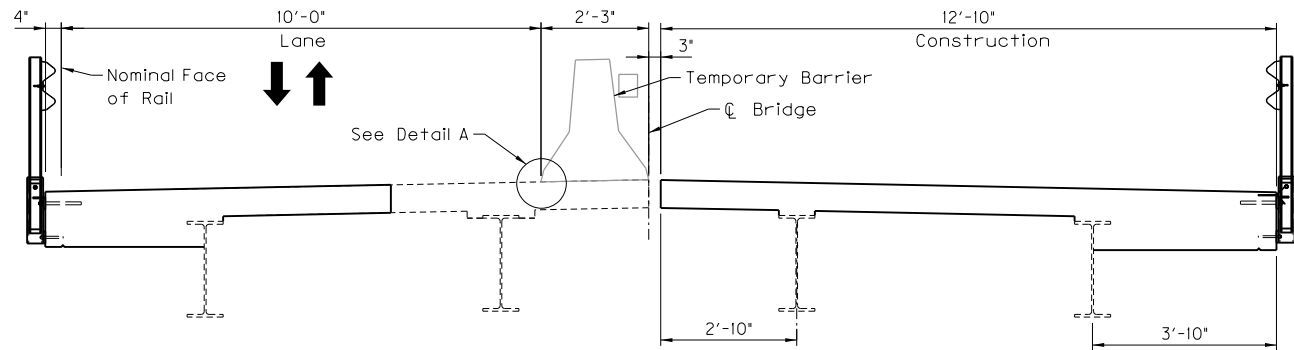
NOTES:

1. Temporary Barrier in all Phases Shall be Per Standard Drawing RBM-120-01.
2. Existing Beams to Remain in all Phases of Construction.

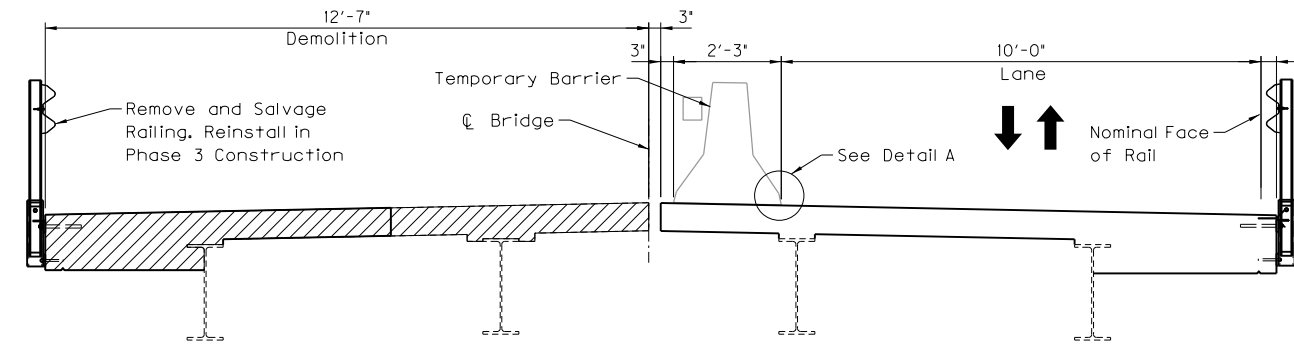
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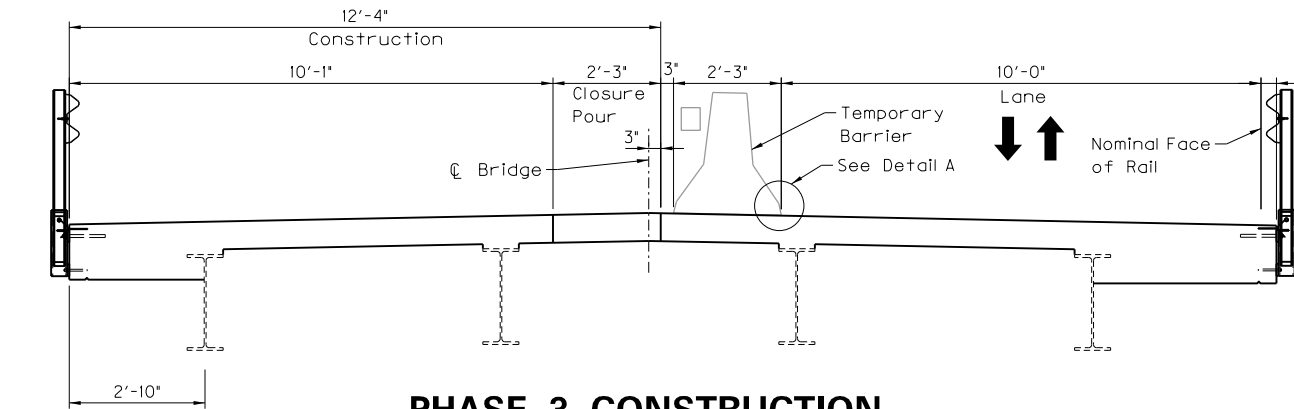
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Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CUMBERLAND		
ROUTE KY 379	CROSSING BIG WILLIS CREEK	
PHASED CONSTRUCTION		
PREPARED BY AECOM	BRIDGING KENTUCKY  Restore Renew Replace	SHEET NO. S5 DRAWING NO. 28076



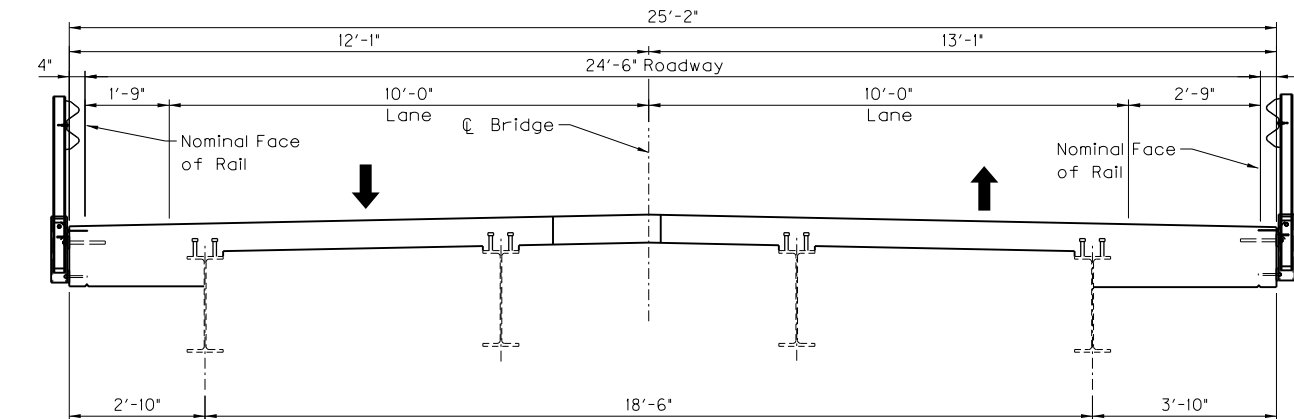
PHASE 2 CONSTRUCTION



PHASE 3 DEMOLITION



PHASE 3 CONSTRUCTION




FINAL TYPICAL SECTION

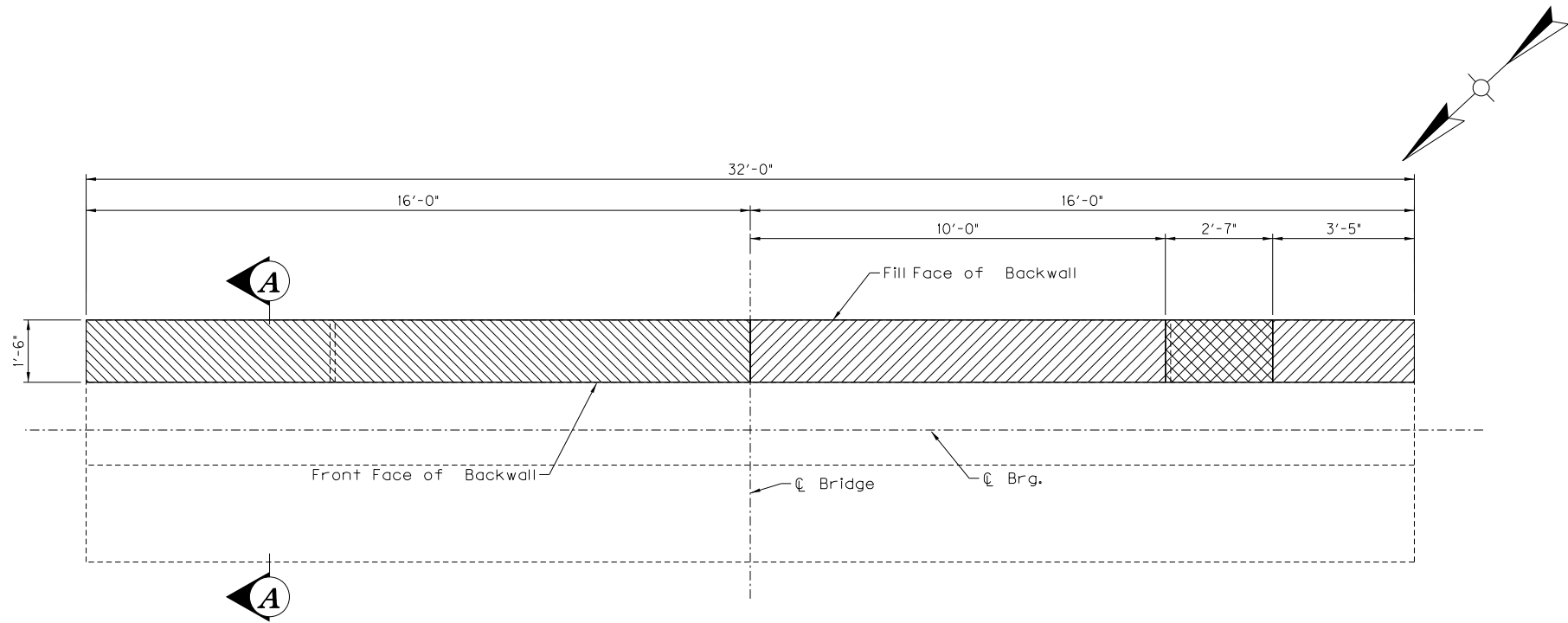
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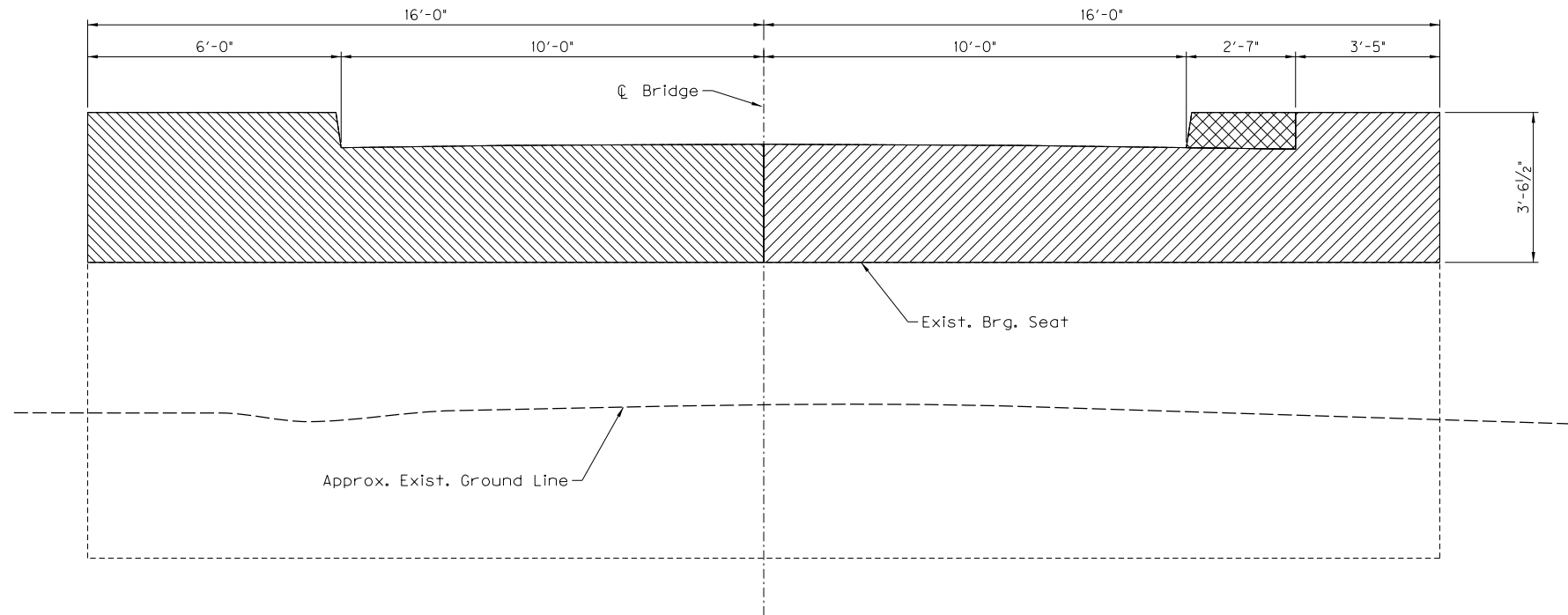
NOTES:

1. Temporary Barrier in all Phases Shall be Per Standard Drawing RBM-120-01.
2. Existing Beams to Remain in all Phases of Construction.
3. For Detail A, See Sheet S5.
4. Cost of Removing and Salvaging Railing shall be Incidental to Cost of MGS Rail.

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Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CUMBERLAND		
ROUTE KY 379	CROSSING BIG WILLIS CREEK	
PHASED CONSTRUCTION		
PREPARED BY AECOM	BRIDGING KENTUCKY  Restore Renew Replace	SHEET NO. S6 DRAWING NO. 28076



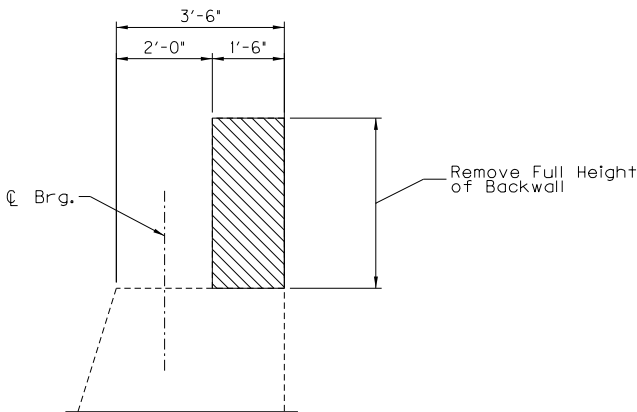
PLAN



ELEVATION
(Looking Back)

LEGEND


- Indicates Phase 1 Removal
- Indicates Phase 2 Removal
- Indicates Phase 3 Removal

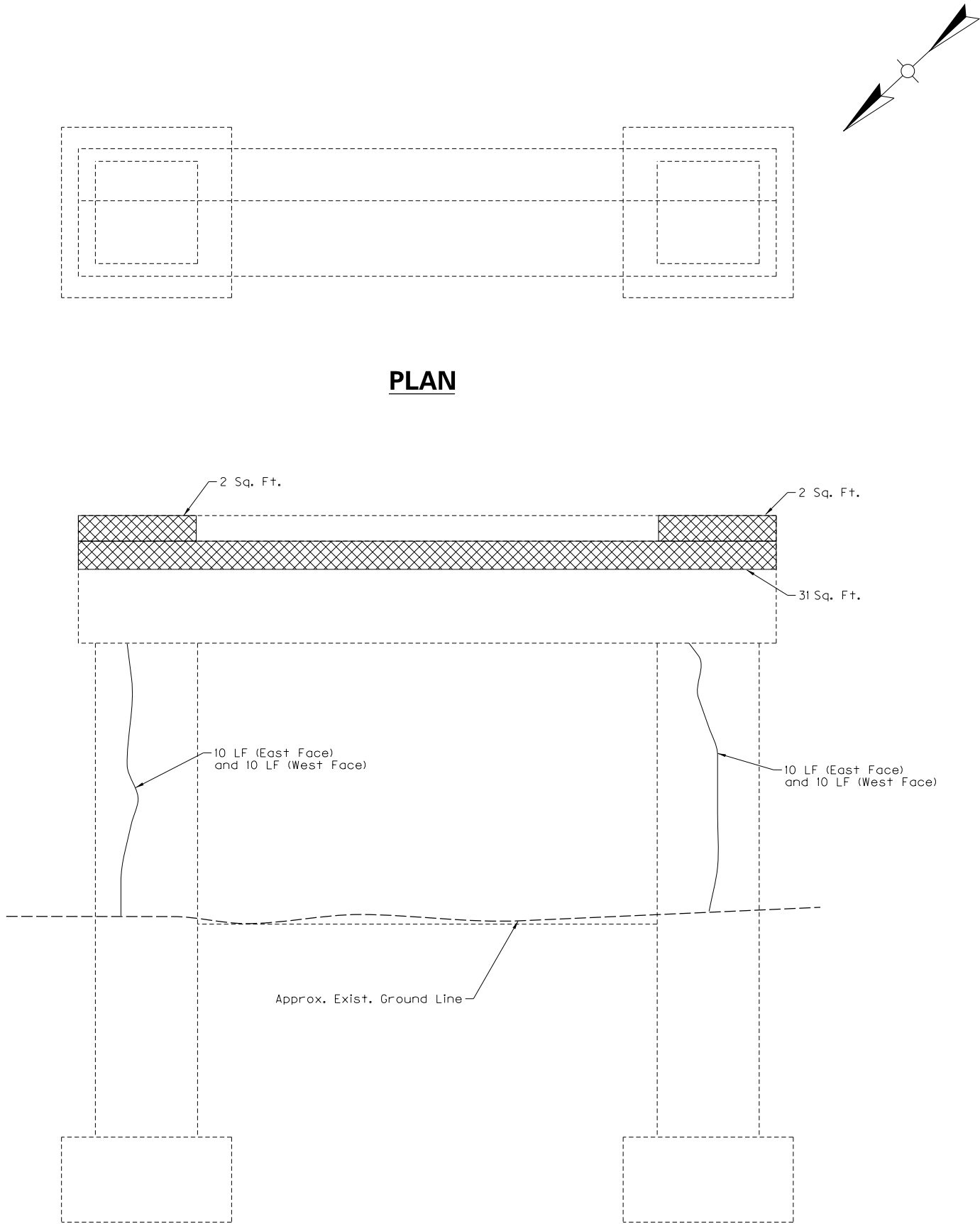


SECTION A-A

NOTES:

- Seal According to the Special Note for Concrete Sealing.

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Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CUMBERLAND		
ROUTE KY 379	CROSSING BIG WILLIS CREEK	
END BENT 1		
PREPARED BY AECOM	BRIDGING KENTUCKY  Restore Renew Replace	SHEET NO. S7 DRAWING NO. 28076



PLAN

NOTES:

- Epoxy Injection Limits and Locations shown are Approximate. Contractor shall attempt to Complete the Epoxy Injection when the Water Level is low such that the Majority of the Piers are Exposed.
- All cracks shall be Repaired in Accordance with the Special Note for Epoxy Injection Crack Repair.
- Seal Pier According to the Special Note for Concrete Sealing.

LEGEND




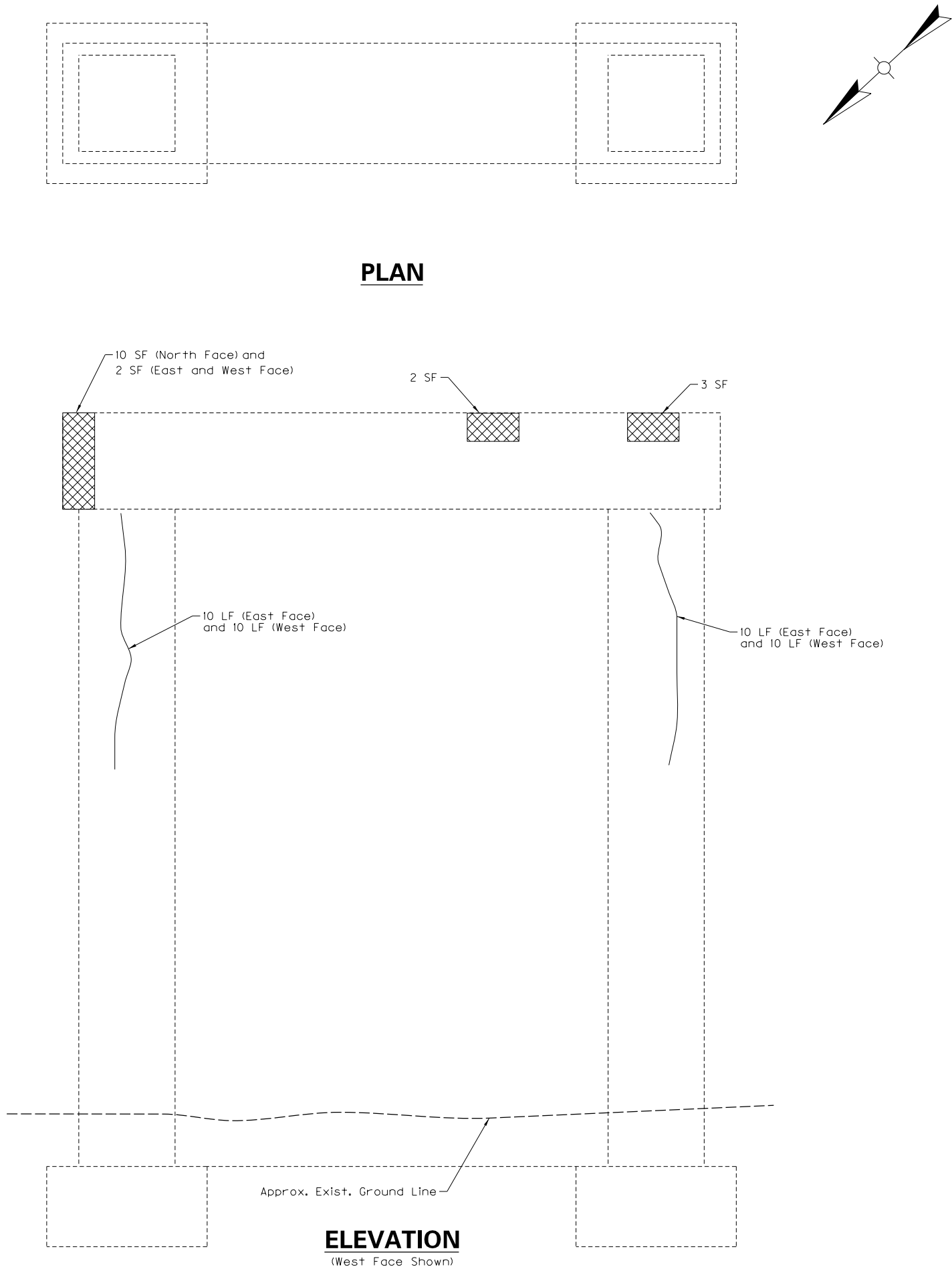
Indicates Concrete Patching Repair



Indicates Epoxy Injection Crack Repair

BRIDGE NUMBER
029B00005N

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DETAILED BY: J. Corley	D. Hively	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CUMBERLAND		
ROUTE KY 379	CROSSING BIG WILLIS CREEK	
PIER 1		
PREPARED BY AECOM		SHEET NO. S8
BRIDGING KENTUCKY  Restore Renew Replace		DRAWING NO. 28076




NOTES:

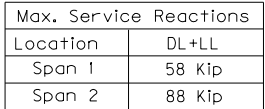
- 1. Epoxy injection limits and locations shown are approximate. Contractor shall attempt to complete the epoxy injection when the water level is low such that the majority of the piers are exposed.
- 2. All cracks shall be repaired in accordance with the Special Note for Epoxy Injection Crack Repair.
- 3. Seal Pier According to the Special Note for Concrete Sealing.

LEGEND

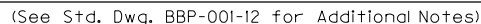
- Indicates Concrete Patching Repair
- Indicates Epoxy Injection Crack Repair

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DETAILED BY: J. Corley		D. Hively	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS			
COUNTY CUMBERLAND			
ROUTE KY 379		CROSSING BIG WILLIS CREEK	
PIER 2			
PREPARED BY			SHEET NO. S9
AECOM			DRAWING NO. 28076

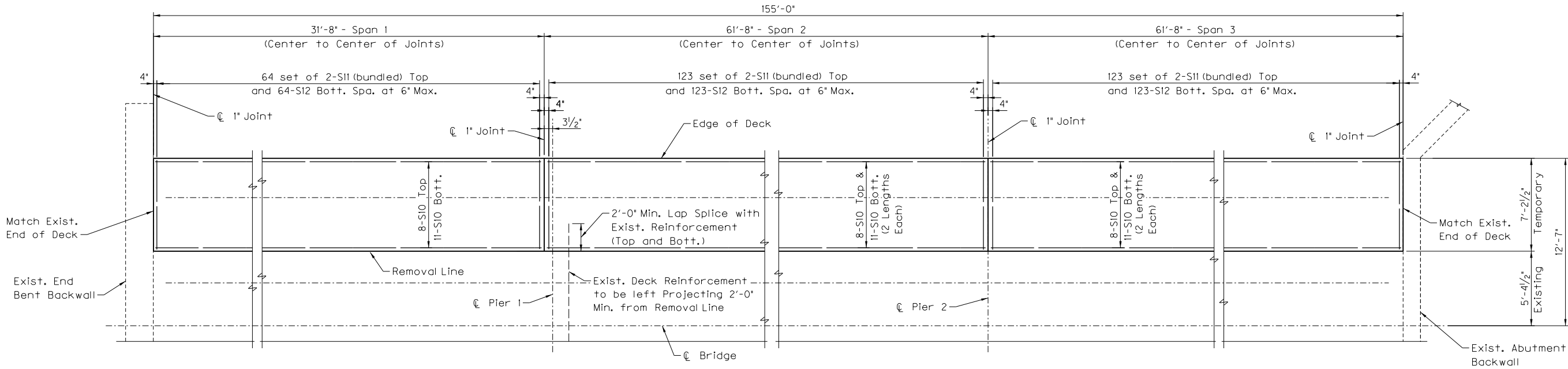
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029B00005N	AECOM		S10
			DRAWING NO.
			28076



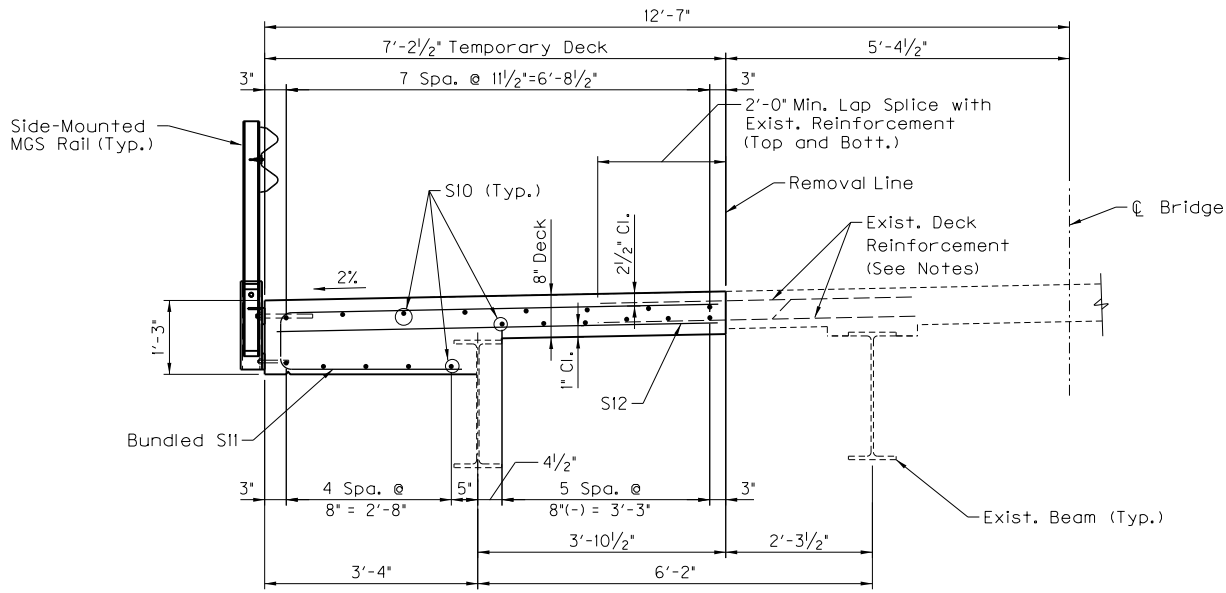
(Showing Shear Connector Spacing for All Beams)



BRIDGE NUMBER	PREPARED BY		SHEET NO. S11
029B00005N			DRAWING NO. 28076




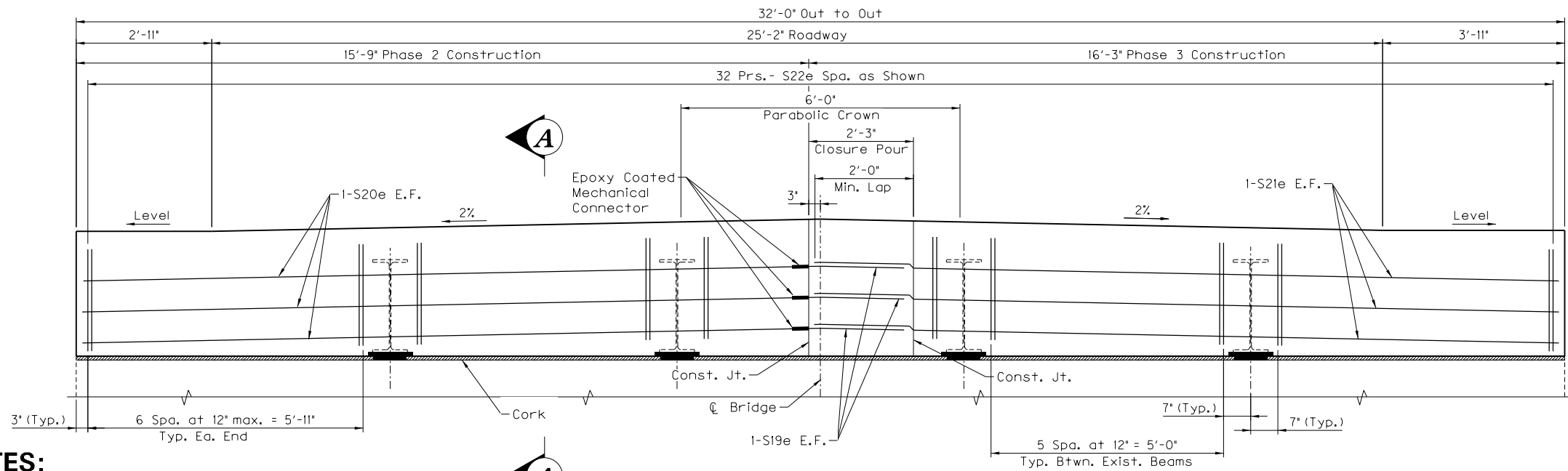
TEMPORARY DECK PLAN
(Phase I Construction)
2'-0" Min. Lap for S10 bars Top and Bott.



TYPICAL SECTION

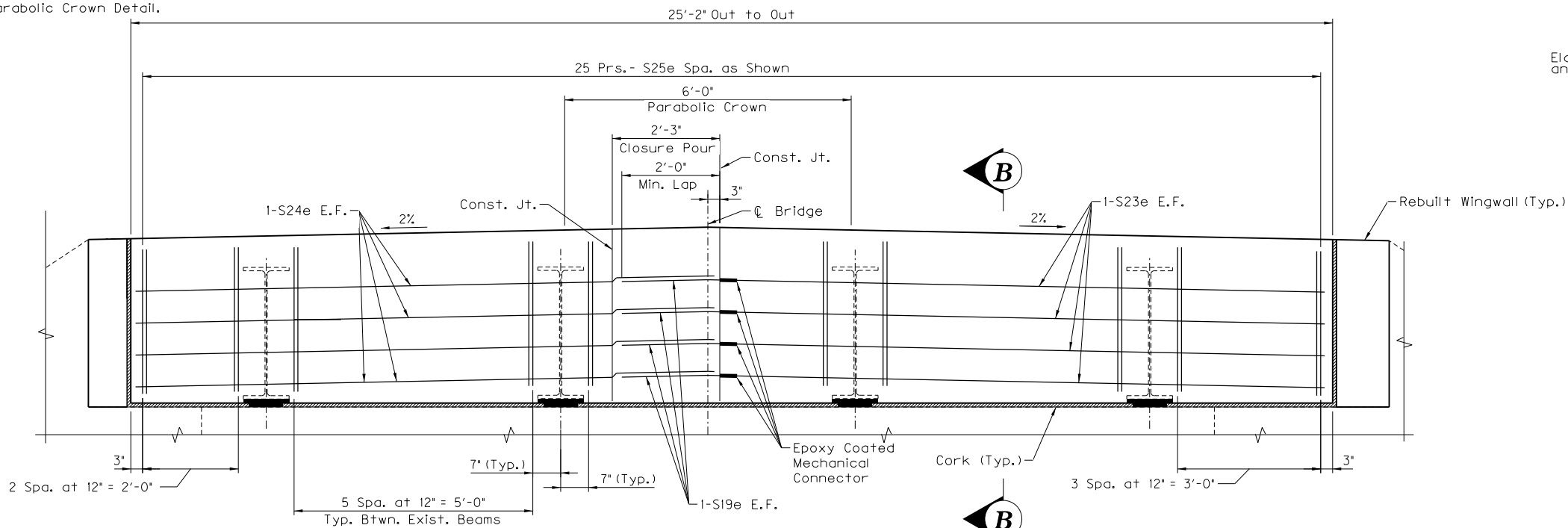
- NOTES:**
1. Temporary Deck Width Shall Be Constructed To Accommodate Traffic During Phase 2 Construction. Temporary Deck Will Be Demolished In Phase 3 Construction. Removal cost shall be Incidental to Removal Super Structure.
 2. Splice Top And Bottom Transverse Reinforcing With Projecting Existing Deck Reinforcing.
 3. Top S11 Bars Shall Be Placed In 2 Bar Bundles.
 4. See Sheet S17 for Bill of Reinforcement.

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COUNTY		
CUMBERLAND		
ROUTE	CROSSING	
KY 379	BIG WILLIS CREEK	
TEMPORARY DECK DETAILS		
PREPARED BY		SHEET NO. S12
AECOM		DRAWING NO. 28076

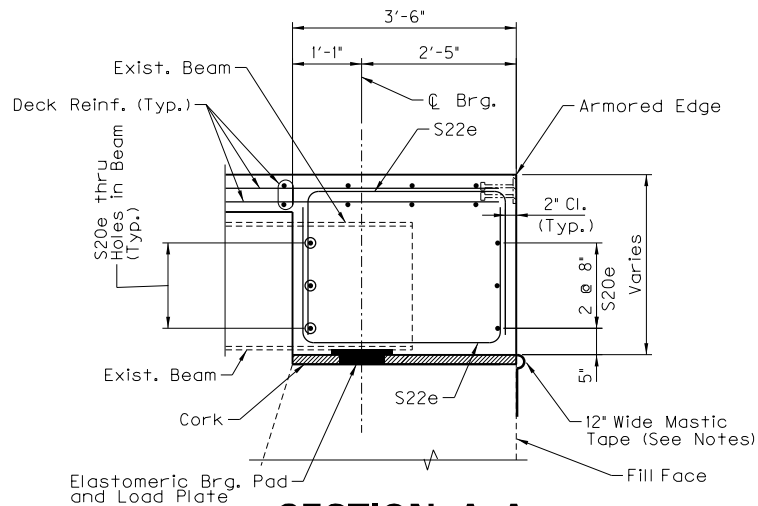


DIAPHRAGM AT END BENT 1
(Looking Back)

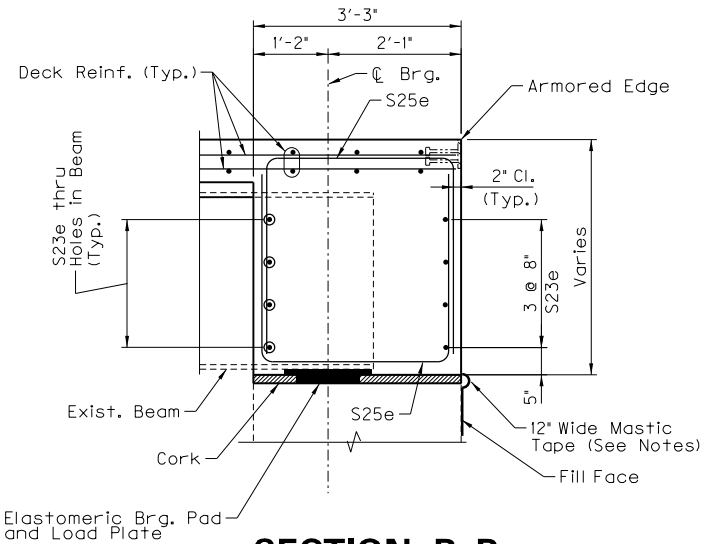
- NOTES:**
1. 12" Wide Mastic Tape to Waterproof the Joint Between the Abutment and Beam End/Diaphragm. The Tape shall be Looped as shown to Allow for Movement Without Damage to the Tape. (See General Notes)
 2. Existing Steel Diaphragms to be Removed Prior to Pouring Proposed End Diaphragm Concrete. See Sheet S11 for Details.
 3. Place S22e and S25e bars Parallel to Beams.
 4. Place the Diaphragm Concrete Encasing the Beam Ends of an Individual Phase after the Slab Placement in the Adjacent Span is Complete. Procedures that Place the End Diaphragm with the Slab Concrete May be Approved by the Engineer if the Slab Concrete in the Adjacent Span will be Placed Before Concrete in the Diaphragm has Reached its Initial Set. Place Closure Pour Concrete in the Diaphragm and Deck Concurrently.
 5. Cleaning and Painting of shall occur after Existing Steel End Diaphragms are Removed and Before Proposed Concrete End Diaphragms are Built.
 6. See Sheet S4 For Parabolic Crown Detail.




DIAPHRAGM AT ABUTMENT 2
(Looking Forward)

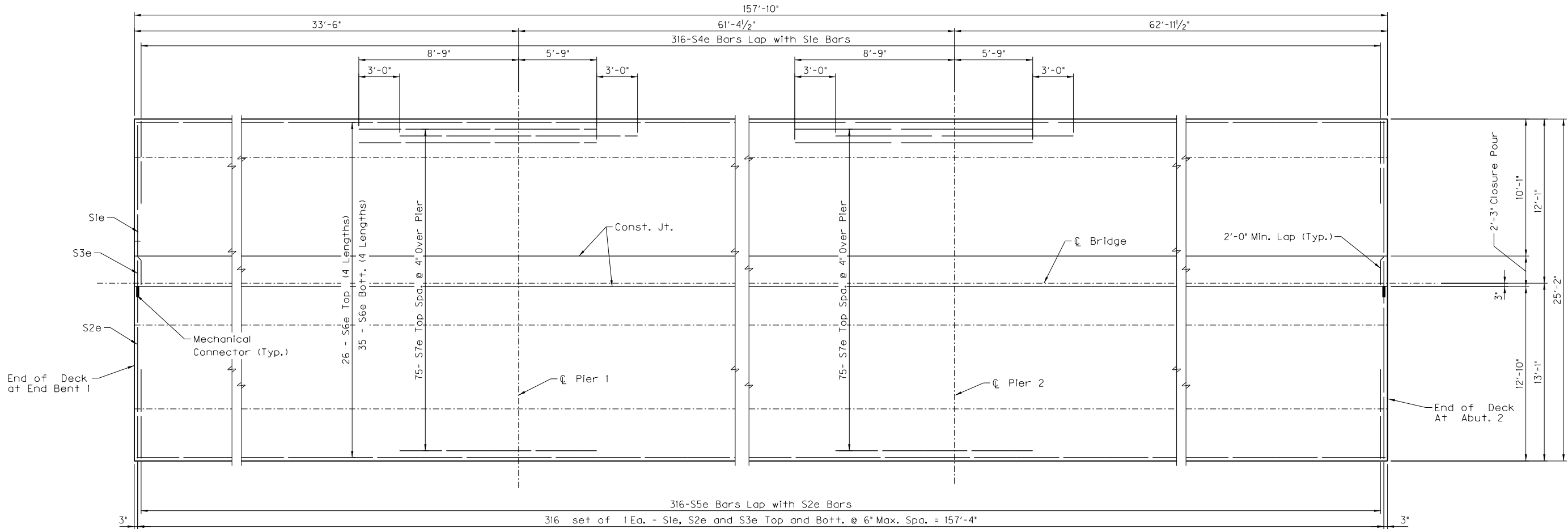


SECTION A-A

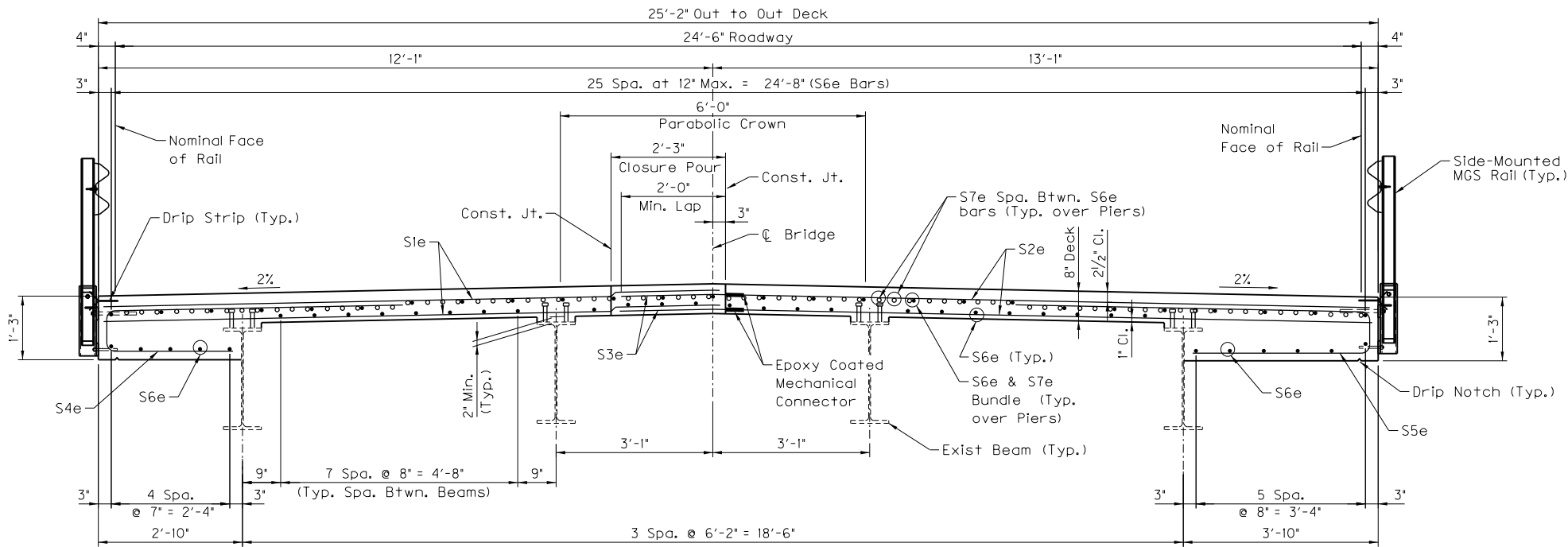


SECTION B-B

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COUNTY CUMBERLAND		
ROUTE KY 379	CROSSING BIG WILLIS CREEK	
DIAPHRAGM DETAILS		
PREPARED BY AECOM		BRIDGING KENTUCKY  Restore Renew Replace
		SHEET NO. S13 DRAWING NO. 28076




PLAN

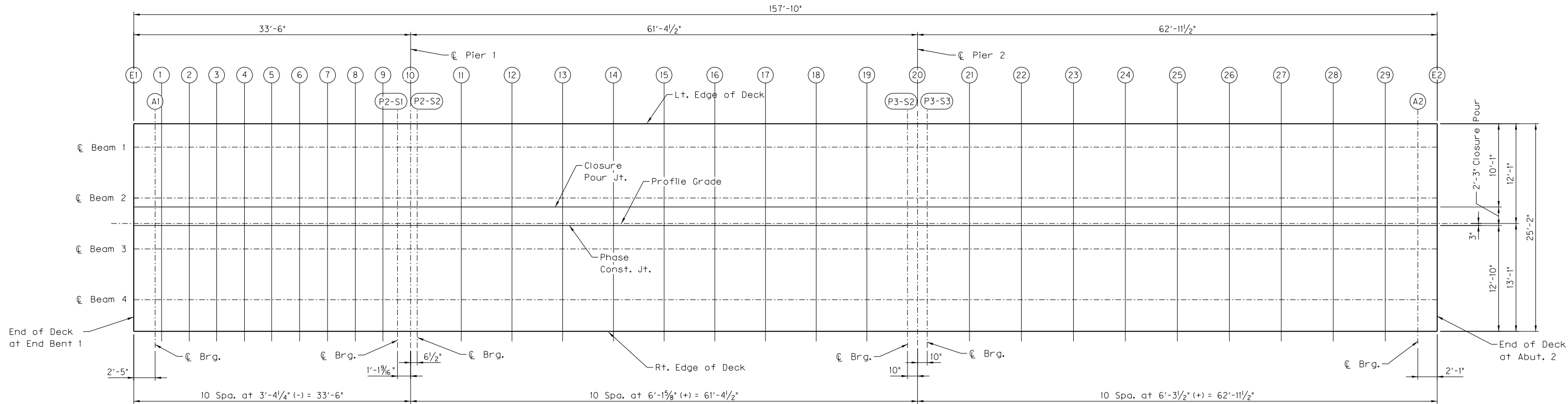


FINAL TYPICAL SECTION

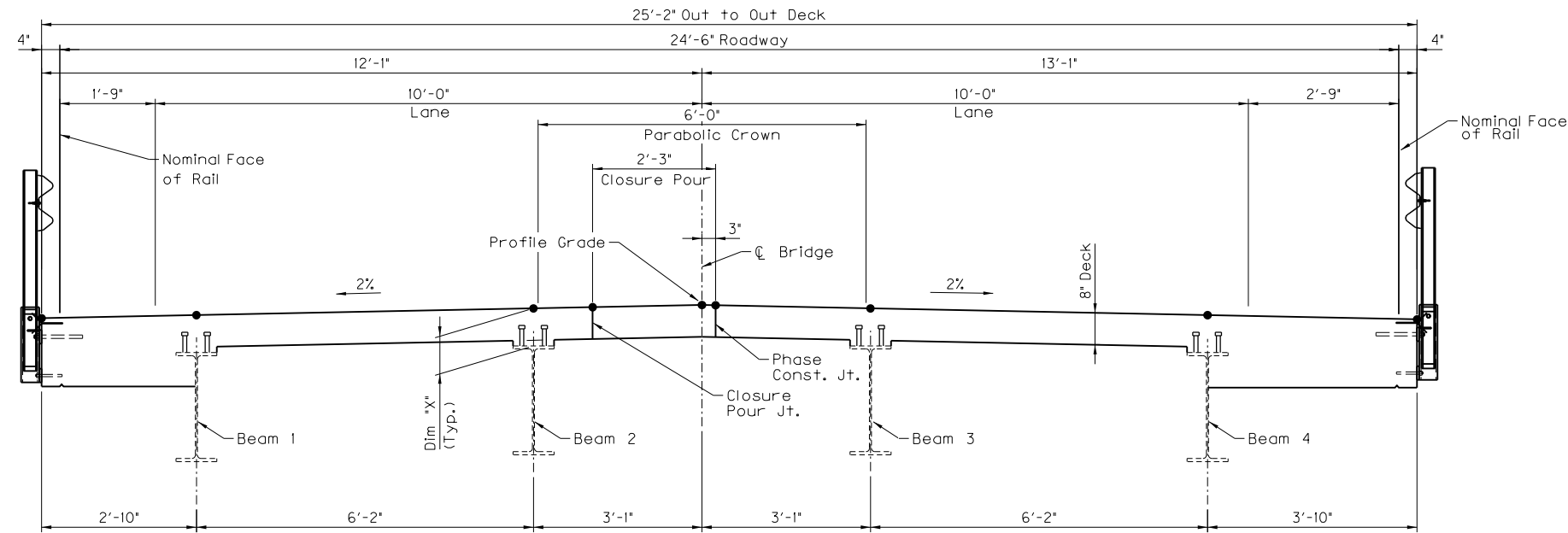
NOTES:

1. See Sheet S18 for Bill of Reinforcement.
2. 2'-0" Min. Lap for S6e Top and Bott.
3. See Sheet S4 for Parabolic Crown and Drip Notch Detail.

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COUNTY CUMBERLAND			
ROUTE KY 379		CROSSING BIG WILLIS CREEK	
DECK DETAILS			
PREPARED BY AECOM		BRIDGING KENTUCKY  SHEET NO. S14	
		DRAWING NO. 28076	



CONSTRUCTION ELEVATION PLAN



TYPICAL SECTION

- Indicates Points Where Elevations are Given.

NOTES:

1. For Construction Elevation Table, See Sheet S16.
2. See Sheet S4 for Parabolic Crown Detail.


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COUNTY CUMBERLAND		
ROUTE KY 379	CROSSING BIG WILLIS CREEK	
CONSTRUCTION ELEVATIONS		
PREPARED BY AECOM		SHEET NO. S15
BRIDGING KENTUCKY  Restore Renew Replace		DRAWING NO. 28076

Table of Elevations																		
Line	Station	Edge of Deck	Girder 1			Girder 2			Closure Pour Jt	Profile Grade Line	Ph Const Jt	Girder 3			Girder 4			Edge of Deck
			Const. Elev.	Top of Beam	Dim "X"	Const. Elev.	Top of Beam	Dim "X"				Const. Elev.	Top of Beam	Dim "X"	Const. Elev.	Top of Beam	Dim "X"	
E1	21+15.85	568.550	568.607			568.730			568.749	568.762	568.762	568.730			568.607			568.530
A1	21+18.26	568.575	568.632			568.755			568.774	568.787	568.787	568.755			568.632			568.555
1	21+19.20	568.585	568.642			568.765			568.783	568.797	568.797	568.765			568.642			568.565
2	21+22.55	568.619	568.676			568.799			568.818	568.831	568.831	568.799			568.676			568.599
3	21+25.90	568.654	568.711			568.834			568.852	568.866	568.866	568.834			568.711			568.634
4	21+29.25	568.688	568.745			568.868			568.887	568.900	568.900	568.868			568.745			568.668
5	21+32.60	568.723	568.780			568.903			568.921	568.935	568.935	568.903			568.780			568.703
6	21+35.95	568.757	568.814			568.937			568.956	568.969	568.969	568.937			568.814			568.737
7	21+39.30	568.792	568.849			568.972			568.990	569.004	569.004	568.972			568.849			568.772
8	21+42.65	568.826	568.883			569.006			569.025	569.038	569.038	569.006			568.883			568.806
9	21+46.00	568.861	568.918			569.041			569.059	569.073	569.073	569.041			568.918			568.841
P2-S1	21+48.22	568.884	568.940			569.064			569.082	569.095	569.095	569.064			568.940			568.864
10	21+49.35	568.895	568.952			569.075			569.094	569.107	569.107	569.075			568.952			568.875
P2-S2	21+49.89	568.901	568.958			569.081			569.099	569.113	569.113	569.081			568.958			568.881
11	21+55.49	568.959	569.015			569.139			569.157	569.170	569.170	569.139			569.015			568.939
12	21+61.63	569.022	569.079			569.202			569.220	569.234	569.234	569.202			569.079			569.002
13	21+67.76	569.085	569.142			569.265			569.283	569.297	569.297	569.265			569.142			569.065
14	21+73.90	569.148	569.205			569.328			569.347	569.360	569.360	569.328			569.205			569.128
15	21+80.04	569.212	569.268			569.392			569.410	569.423	569.423	569.392			569.268			569.192
16	21+86.18	569.275	569.331			569.455			569.473	569.486	569.486	569.455			569.331			569.255
17	21+92.32	569.338	569.395			569.518			569.536	569.550	569.550	569.518			569.395			569.318
18	21+98.45	569.401	569.458			569.581			569.600	569.613	569.613	569.581			569.458			569.381
19	22+04.59	569.464	569.521			569.644			569.663	569.676	569.676	569.644			569.521			569.444
P3-S2	22+09.90	569.519	569.576			569.699			569.717	569.731	569.731	569.699			569.576			569.499
20	22+10.73	569.528	569.584			569.708			569.726	569.739	569.739	569.708			569.584			569.508
P3-S3	22+11.56	569.536	569.593			569.716			569.735	569.748	569.748	569.716			569.593			569.516
21	22+17.03	569.592	569.649			569.772			569.791	569.804	569.804	569.772			569.649			569.572
22	22+23.32	569.657	569.714			569.837			569.856	569.869	569.869	569.837			569.714			569.637
23	22+29.62	569.722	569.779			569.902			569.921	569.934	569.934	569.902			569.779			569.702
24	22+35.91	569.787	569.844			569.967			569.985	569.999	569.999	569.967			569.844			569.767
25	22+42.21	569.852	569.909			570.032			570.050	570.064	570.064	570.032			569.909			569.832
26	22+48.51	569.917	569.973			570.097			570.115	570.128	570.128	570.097			569.973			569.897
27	22+54.80	569.982	570.038			570.162			570.180	570.193	570.193	570.162			570.038			569.962
28	22+61.10	570.046	570.103			570.226			570.245	570.258	570.258	570.226			570.103			570.026
29	22+67.39	570.111	570.168			570.291			570.310	570.323	570.323	570.291			570.168			570.091
A2	22+71.61	570.155	570.211			570.335			570.353	570.366	570.366	570.335			570.211			570.135
E2	22+73.69	570.176	570.233			570.356			570.374	570.388	570.388	570.356			570.233			570.156

NOTES FOR ELEVATIONS TAKEN ON 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 deflection due to weight of concrete slab and barrier. In no case shall dimension "X" values be less than 8" or more than 10". If the elevations of the existing bridge are such that these criteria cannot be obtained, the profile grade shall be adjusted. Coordinate adjustment with the Engineer.

For setting templates, measure Dimension "X" above top of beams for top of template. Do not set template by elevations.

All of the existing concrete for any given phase must be removed before elevations can be taken at the tops of beams.

Phase 3 construction joint elevation shall match the constructed Phase 2 construction joint elevation. The adjustment to the construction joint elevation shall also be applied to other lines in Phase 3 to maintain a constant cross slope.

REVISION		DATE
DATE: 8-26-2019		CHECKED BY
DESIGNED BY: D. Hively		T. Baker
DETAILED BY: J. Corley		D. Hively
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CUMBERLAND		
ROUTE KY 379	CROSSING BIG WILLIS CREEK	
CONSTRUCTION ELEVATIONS		
PREPARED BY		SHEET NO.
AECOM		S16
BRIDGING KENTUCKY		DRAWING NO.
Restore Renew Replace		28076

BRIDGE NUMBER
029B00005N

FILE NAME: ...Drawing\Working\S018.Bars.dgn

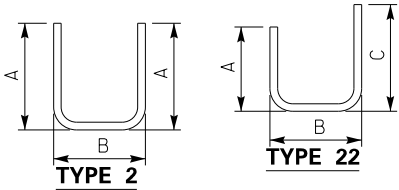
USER: Kyle.s.compton
DATE PLOTTED: 3:45:21 PM

E-SHEET NAME:

MicroStation v8.11.9.867

BILL OF REINFORCEMENT

MARK	TYPE	SIZE	NO.	LENGTH FT-IN	LOCATION	a		b		c		d		e	
						FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN
					DECK										
S1e	Str.	5	632	12-2	Deck										
S2e	Str.	5	632	12-8	Deck										
S3e	Str.	5	632	2-0	Deck										
S4e	22	5	316	11-3	Deck	2-6		0-10		7-11					
S5e	22	5	316	13-2	Deck	3-6		0-10		8-10					
S6e	Str.	5	244	41-0	Deck										
S7e	Str.	6	150	14-6	Deck										
					TEMPORARY DECK										
S10	Str.	5	95	31-8	Deck										
S11	22	5	620	10-10	Deck	3-0		0-10		7-0					
S12	Str.	5	310	6-11	Deck										
					DIAPHRAGMS										
S19e	Str.	5	6	2-0	END BENT 1										
S20e	Str.	5	6	15-7	END BENT 1										
S21e	Str.	5	6	16-1	END BENT 1										
S22e	2	5	64	8-0	END BENT 1	2-5		3-2							
S19e	Str.	5	8	2-0	ABUTMENT 2										
S23e	Str.	5	8	12-8	ABUTMENT 2										
S24e	Str.	5	8	12-2	ABUTMENT 2										
S25e	2	5	50	9-5	ABUTMENT 2	3-3		2-11							



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