

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

CARTER COUNTY

LEXINGTON - CATTLETTSBURG ROAD

FD52 022 0064 166-171

I-64 OVER BARRETT CREEK

ESTIMATE OF QUANTITIES

LOCATION	REMOVAL OF EPOXY BIT. FOREIGN OVERLAY	REMOVE CONCRETE MASONRY	CONCRETE CLASS "AA"	EPOXY COATED STEEL REINFORCEMENT	STRUCTURAL STEEL	EXPANSION DAM 2" NEOPRENE	EXPANSION DAM 1 1/2" NEOPRENE	CLEARING THE BRIDGE SITE	MASONRY COATING	SYNTHETIC FIBERS								
	S.Y.	C.Y.	C.Y.	LBS.	L.S.	L.F.	L.F.	L.S.	S.Y.	LBS.								
Superstructure East Bound Bridge	686.5	59	309.3	27716		56	56		374	64								
Superstructure West Bound Bridge	686.5	59	309.3	27716		56	56		374	64								
BRIDGE TOTALS	1373	118	618.6	55432	1	112	112	1	748	128								

② Approximate Weight of Structural Steel Is 4624 lbs.

STANDARD DRAWINGS

BJE-001-10

SPECIAL NOTES

7S - STRUCTURAL ADHESIVES WITH EXTENDED CONTACT TIME

INDEX OF SHEETS

Sheet No.	Description
1	Title Sheet
2	General Notes
3	Layout
4	Phase Constr. & Removal Plans
5-6	Slab Details
7	Wing Details
8	Barbill & Deck Drain Details

REVISION		DATE
DATE: APRIL, 2000	CHECKED BY	
DESIGNED BY: D. Carpenter		
DETAILED BY: G.S. Newton		D. Carpenter
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CARTER		
ROUTE I-64	CROSSING BARRETT CREEK	
TITLE SHEET		
PREPARED BY Division of Bridge Design		SHEET NO. 1
D. CARPENTER SECTION		DRAWING NO. 24832

5-26-00

DATE: 11-MAY-2000

FILE NAME: D:\bridges\ dgn\Projects\24832\24832.dwg USERNAME: gnewton

SHEET LOCATION:

GENERAL NOTES

SPECIFICATIONS

ALL REFERENCES TO THE STANDARD SPECIFICATIONS ARE TO THE 2000 EDITION OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SUPPLEMENTAL SPECIFICATIONS.

ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE 1996 EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES WITH INTERIMS THRU 1998.

DESIGN LOAD

THIS SLAB REPLACEMENT IS DESIGNED FOR HS25 LIVE LOAD OR ALTERNATE LOADING OF TWO 24-KIP AXLES SPACED FOUR FEET APART, WHICHEVER PRODUCES THE GREATER STRESS.

DESIGN METHOD

THE REINFORCED CONCRETE SLAB IS DESIGNED BY THE LOAD FACTOR DESIGN METHOD AS SPECIFIED IN THE CURRENT AASHTO SPECIFICATIONS.

CONCRETE

CLASS 'AA' CONCRETE IS TO BE USED THROUGHOUT.

MATERIALS DESIGN SPECIFICATIONS

FOR CLASS 'AA' REINFORCED CONCRETE
F' C = 4000 PSI

FOR STEEL REINFORCEMENT
FY = 60000 PSI

REINFORCEMENT

DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE CLEAR DISTANCES UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. ALL BARS WHICH REQUIRE FIELD BENDING SHALL BE THERMEX TREATED REINFORCING STEEL. OTHER BARS SHALL GRADE 60. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A METHOD FOR STRAIGHTENING THE SLAB BARS IN THE FIELD (WITHOUT HEAT) THAT WILL NOT KINK OR OTHERWISE DAMAGE THE BARS.

EPOXY COATED REINFORCING STEEL

ALL REINFORCING BARS DESIGNATED BY SUFFIX (E) IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE STANDARD SPECIFICATIONS.

BEVELED EDGES

ALL EXPOSED EDGES SHALL BE BEVELED 7/8" UNLESS OTHERWISE SHOWN.

EXISTING REINFORCING STEEL

THE COST OF CUTTING, BENDING AND CLEANING EXISTING REINFORCING STEEL IS TO BE INCIDENTAL TO THE UNIT PRICE BID FOR REMOVE CONCRETE MASONRY.

SUPERSTRUCTURE SLAB

THE SUPERSTRUCTURE SLAB SHALL BE Poured CONTINUOUSLY FROM OUT TO OUT BEFORE THE CONCRETE IS ALLOWED TO SET.

DAMAGE TO THE STRUCTURE

THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES TO THE STRUCTURE DURING RECONSTRUCTION, EVEN TO THE REPLACEMENT OF ENTIRE SPANS AND REMOVAL OF THE FALLEN SPANS AT HIS EXPENSE, SHOULD THEY BE ALLOWED TO FALL DUE TO HIS ACTIONS.

WASHING THE DECK

THE CONTRACTOR SHALL USE A HIGH PRESSURE WASHER (MIN. 1200 PSI @ 2 GAL./MIN.) TO WASH THE DECK OF ANY LOOSE MATTER AND DIRT PRIOR TO PLACING THE REINFORCING STEEL. THE CONTRACTOR SHALL ALSO PREWET THE DECK IN ACCORDANCE WITH SECTION 606.03.17(A)1 BEFORE PLACING THE NEW CONCRETE.
ALL COST OF THIS WORK IS INCIDENTAL TO CLASS 'AA' CONCRETE.

EXISTING ALUMINUM HANDRAIL

THE EXISTING ALUMINUM HANDRAIL, INCLUDING POSTS, SHALL BE CAREFULLY REMOVED AND TRANSPORTED TO CARTER CO. MAINTENANCE GARAGE. THIS MATERIAL SHALL REMAIN THE PROPERTY OF THE DEPARTMENT. ALL COST IS INCIDENTAL TO THE CONTRACT.

REMOVAL OF EXISTING REINFORCED CONCRETE

THIS WORK SHALL INCLUDE REMOVING THE REINFORCED CONCRETE AS DETAILED AND HANDRAILS FOR THE ENTIRE LENGTH OF THE BRIDGE PLUS OTHER CONCRETE NOTED ON THE PLANS AND DISPOSING OF THIS MATERIAL AWAY FROM THE BRIDGE SITE. PROPER CARE SHALL BE TAKEN TO PROTECT THE CONCRETE BEAMS AND SUBSTRUCTURE FROM DAMAGE DURING THIS OPERATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY FALLING PARTICLES. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REMOVE CONCRETE MASONRY.

PAYMENT FOR STRUCTURAL STEEL

THE LUMP SUM BID FOR STRUCTURAL STEEL SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, WELDING, WELDING MATERIALS, PAINT, GALVANIZING AND ALL LABOR AND MATERIALS NECESSARY TO ERECT THE STEEL DRAINS AND ARMORED EDGES IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE APPROXIMATE WEIGHT OF STRUCTURAL STEEL SHOWN IN THE ESTIMATE OF QUANTITIES DOES NOT INCLUDE OVERRUN OR WELD MATERIAL.

REMOVAL EXISTING OVERLAY

THE EXISTING OVERLAY SHALL BE REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS. THE CONTRACTOR SHALL ALSO REMOVE ANY DELAMINATIONS AND ANY BITUMINOUS MATERIAL ON THE EXISTING BRIDGE DECK. THIS BID ALSO INCLUDES REMOVING 1 1/4" TO 1 1/2" OF THE ORIGINAL SLAB. ALL COST ASSOCIATED WITH REMOVING THE EXISTING OVERLAY, ORIGINAL SLAB SURFACE AND REMOVING ALL BAD DECK MATERIAL IS INCLUDED IN THE UNIT PRICE BID FOR 'REMOVAL OF EPOXY, BITUMINOUS AND FOREIGN OVERLAYS'.

ON-SITE INSPECTION

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

DIMENSIONS

DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60° F LAYOUT DIMENSIONS ARE HORIZONTAL MEASUREMENTS.

GRADE ELEVATIONS

THE ENGINEER SHALL CHECK THE ALIGNMENT OF THE FINISHING MACHINE RAILS TO VERIFY THAT THE NEW SLAB WILL HAVE A SMOOTH DRIVING SURFACE. DEAD LOAD CAMBER IS INSIGNIFICANT ON THIS BRIDGE.

SYNTHETIC FIBERS

SYNTHETIC FIBERS SHALL BE ADDED TO THE CONCRETE FOR THE BRIDGE BARRIERS. THE FIBERS SHALL BE GRADED, FIBRILLATED, POLYPROPYLENE FIBERS AND SHALL BE ADDED TO THE FRESH CONCRETE AT THE RATE OF 1.5 LBS. PER CUBIC YARD. THE FIBERS SHALL BE ADDED TO THE CONCRETE AT THE PLANT AS RECOMMENDED BY THE MANUFACTURER. ALL COST TO PROVIDE THE FIBERS FOR THE BARRIERS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 'SYNTHETIC FIBERS'.

NEOPRENE EXPANSION JOINTS AND/OR ARMORED EDGES

CONTRARY TO STANDARD DRAWING BJE-001-09 AND THE SPECIFICATIONS, ALL METAL SURFACES SHALL HAVE ONE SHOP COAT OF ORGANIC ZINC PRIMER APPLIED PRIOR TO SHIPPING THE STEEL FROM THE THE PLANT. NO FIELD COATING WILL BE REQUIRED.

ORIGINAL PLANS

REFER TO DRAWING NUMBER 17169 FOR ORIGINAL PLANS.

MASONRY SURFACE FINISH

ONLY AREAS MENTIONED IN SECT 601.03.18 (B)3 OF THE SPECIFICATIONS SHALL RECEIVE A MASONRY COATING. ALL COATING SHALL BE APPLIED IN ACCORDANCE WITH THE SPECIFICATIONS.

BONDING NEW CONCRETE TO OLD CONCRETE

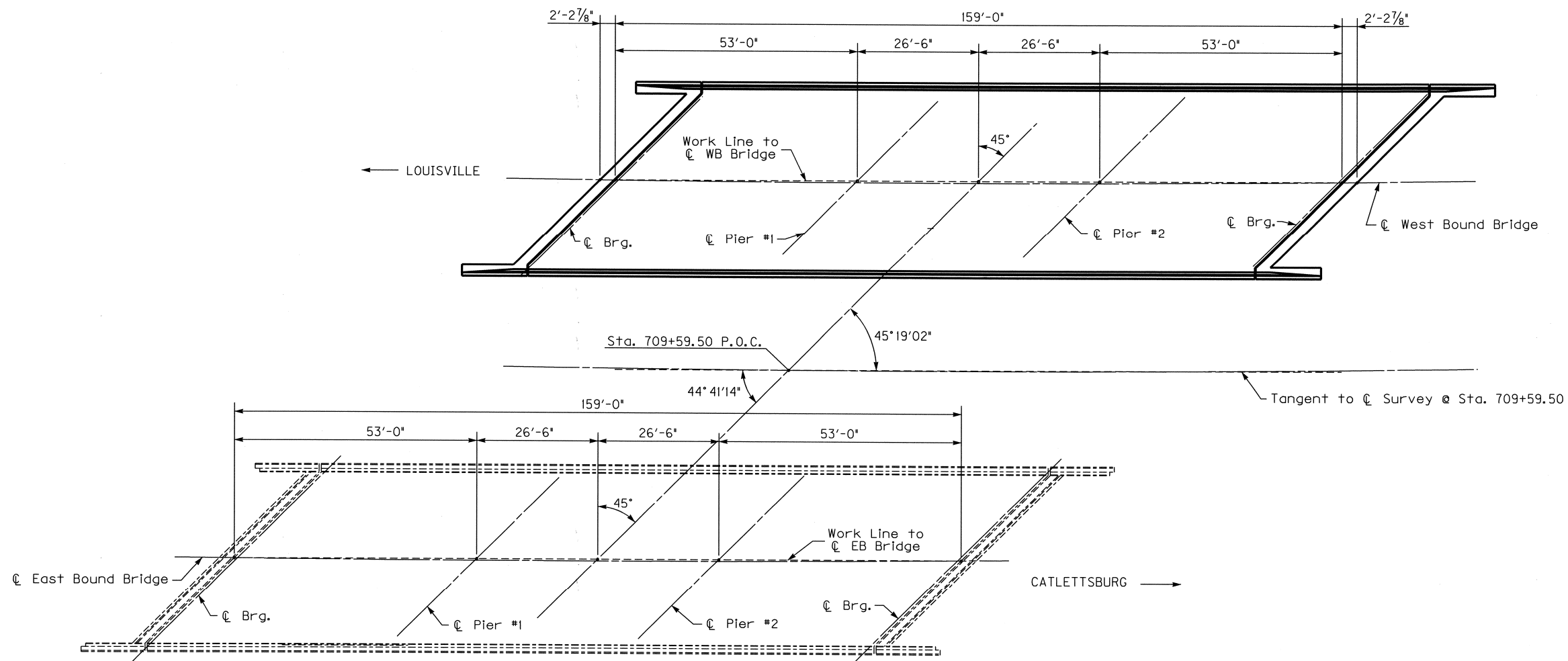
NEW CONCRETE SHALL BE BONDED TO OLD CONCRETE WHERE SHOWN ON PLANS WITH A TWO COMPONENT EPOXY RESIN SYSTEM COMFORMING TO SECTIONS 511 & 826 OF THE SPECIFICATIONS, (SEE ALSO SPECIAL NOTE 7S).

CLEARING THE BRIDGE SITE

THE LUMP SUM BID FOR 'CLEARING THE BRIDGE SITE' SHALL BE FULL COMPENSATION FOR FURNISHING ALL LABOR, MATERIALS, CLEARING EQUIPMENT OR INCIDENTAL ITEMS NECESSARY TO COMPLETE THE WORK. CONTRARY TO SECTION 202, THE CONTRACTOR SHALL CUT ALL TREES, BRUSH AND OTHER WOODY VINES AND PLANTS LOCATED WITHIN THE SPECIFIED CLEARING LIMITS. THE SPECIFIED CLEARING LIMITS SHALL BE DEFINED AS THE ENTIRE AREA BENEATH AND BETWEEN THE BRIDGES EXTENDING TEN FEET (10') BEYOND THE DRIPLINE OF THE BRIDGE FASCIA OR TO THE RIGHT-OF-WAY LINE, WHICHEVER IS ENCOUNTERED FIRST. ALL VINES OR OTHER VEGETATION GROWING ON OR ATTACHED TO ANY OF THE BRIDGE ELEMENTS SHALL BE REMOVED. THE TREES, BRUSH, ETC., SHALL BE CUT AT OR NEAR THE GROUNDLINE AND THE THE RESULTING STUBS SHALL BE SPRAYED OR DAUBED WITH HERBICIDE TO KILL THE ROOT SYSTEM. DEBRIS FROM THE CLEARING SHALL BE DISPOSED OF IN A MANNER ACCEPTABLE TO THE ENGINEER, WHICH MAY REQUIRE DISPOSAL AWAY FROM THE SITE SHOULD BURNING AT THE SITE NOTE BE ALLOWED AS DETERMINED BY THE ENGINEER. THE HERBICIDE USED SHALL BE UNDILUTED 'ROUNDUP' MANUFACTURED BY THE MONSANTO COMPANY, OR AN APPROVED EQUAL.

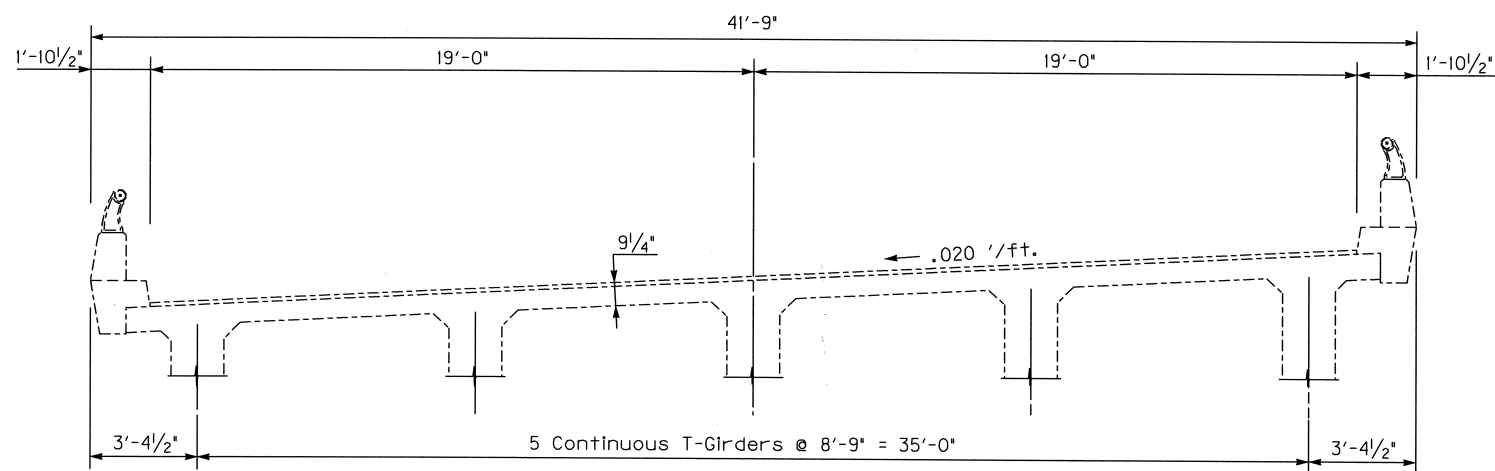
REVISION		DATE
DATE:	APRIL, 2000	CHECKED BY
DESIGNED BY:	D. CARPENTER	
DETAILED BY:	G.S. NEWTON	D. CARPENTER
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
CARTER		
ROUTE	CROSSING	
1-64	BARRETT CREEK	
GENERAL NOTES		
PREPARED BY		SHEET NO.
Division of Bridge Design		2
D. CARPENTER SECTION		DRAWING NO.
		24832

DATE: 10-MAY-2000
 FILE NAME: D:\bridges\dgm\Projects\24832\24832.dwg USERNAME: gnewton
 SHEET LOCATION: V



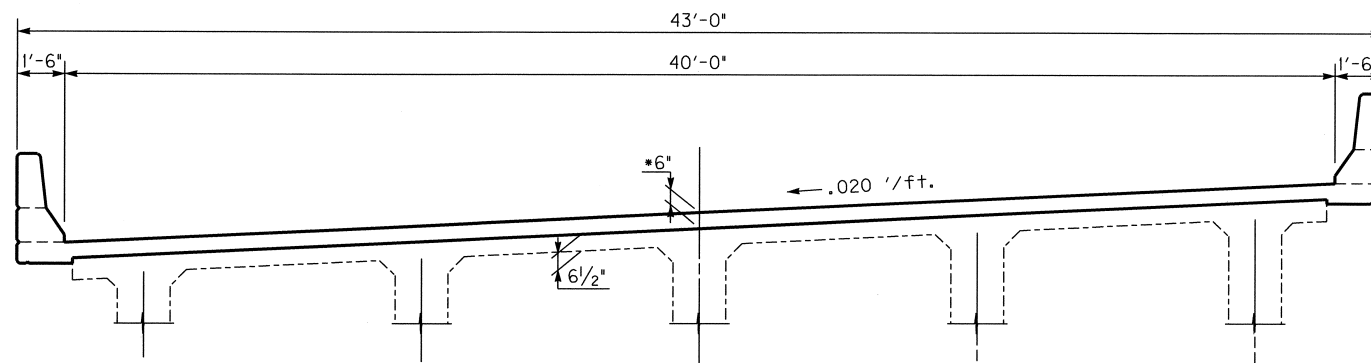
PLAN

(Showing Existing East Bound Bridge & Proposed West Bound Bridge)



TYPICAL SECTION

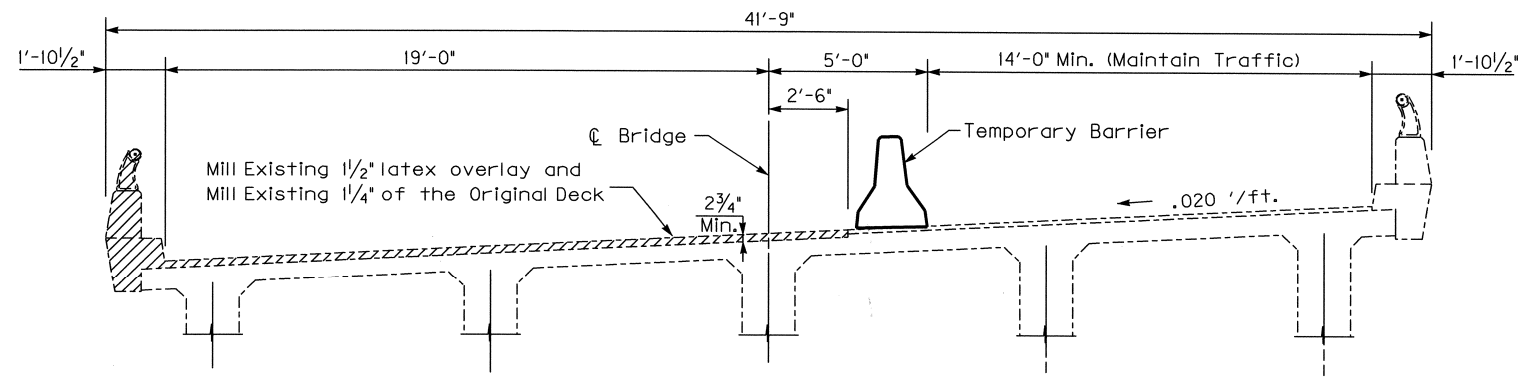
(Existing Bridge)



TYPICAL SECTION

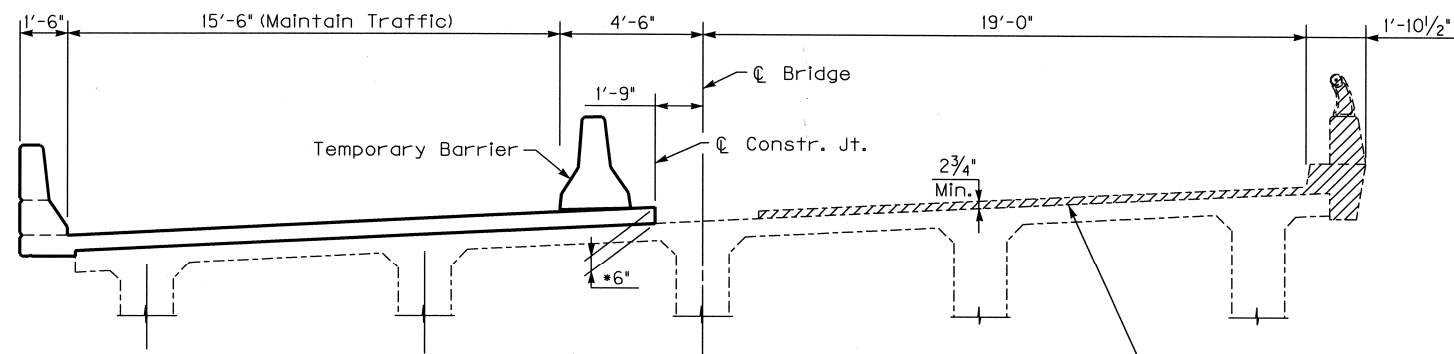
(Proposed Bridge)

REVISION		DATE
DATE:	APRIL, 2000	CHECKED BY
DESIGNED BY:	D. CARPENTER	DETAILED BY:
G. S. NEWTON		D. CARPENTER
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
CARTER		
ROUTE	CROSSING	
I-64	BARRETT CREEK	
LAYOUT		
PREPARED BY		SHEET NO.
Division of Bridge Design		3
D. CARPENTER SECTION		DRAWING NO.
		24832

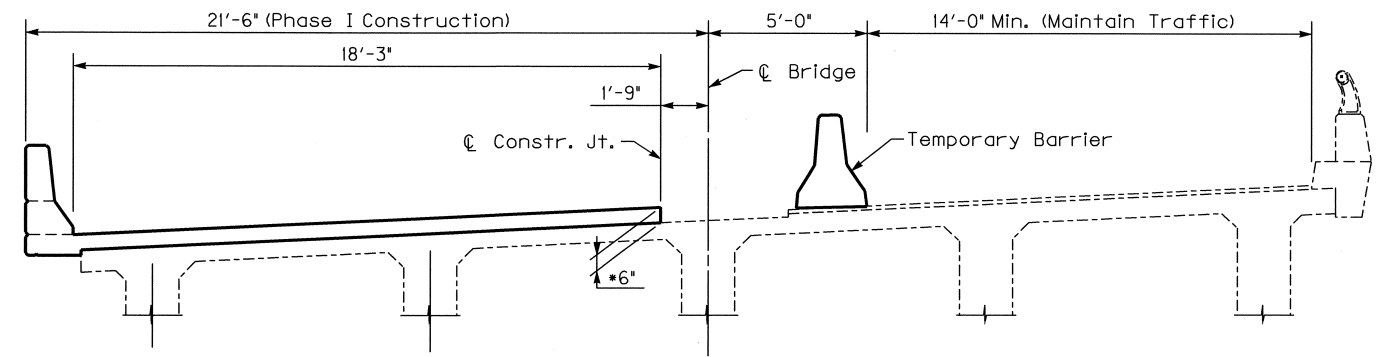


PHASE I REMOVAL (SHOWING EAST BOUND)

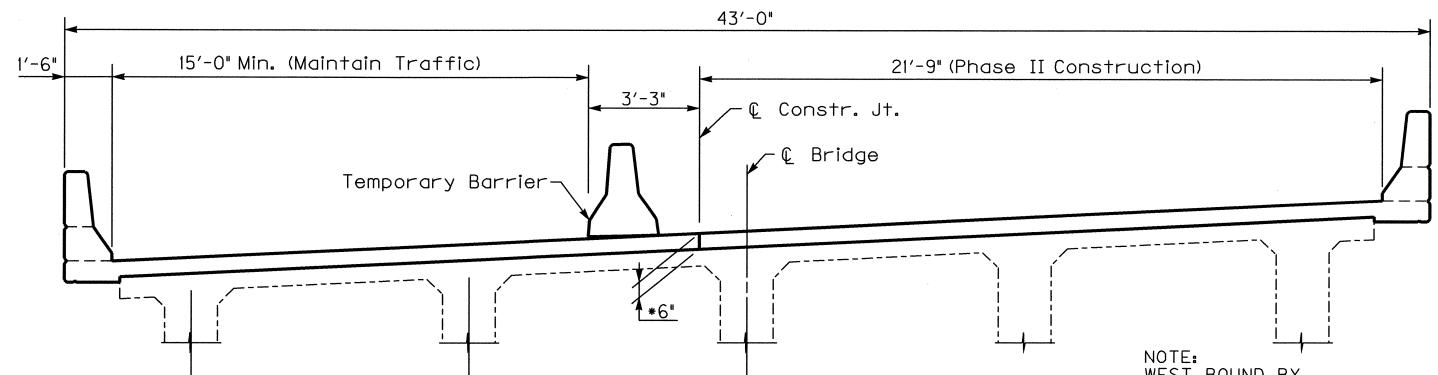
Note: Remove crosshatched portions of existing deck, plinth, curb and handrail, entire length of bridge.



PHASE II REMOVAL (SHOWING EAST BOUND)

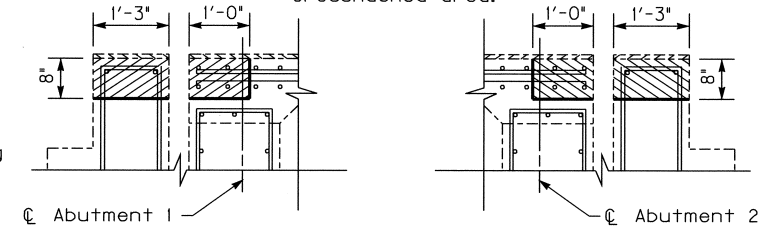


PHASE I CONSTRUCTION (SHOWING EAST BOUND)



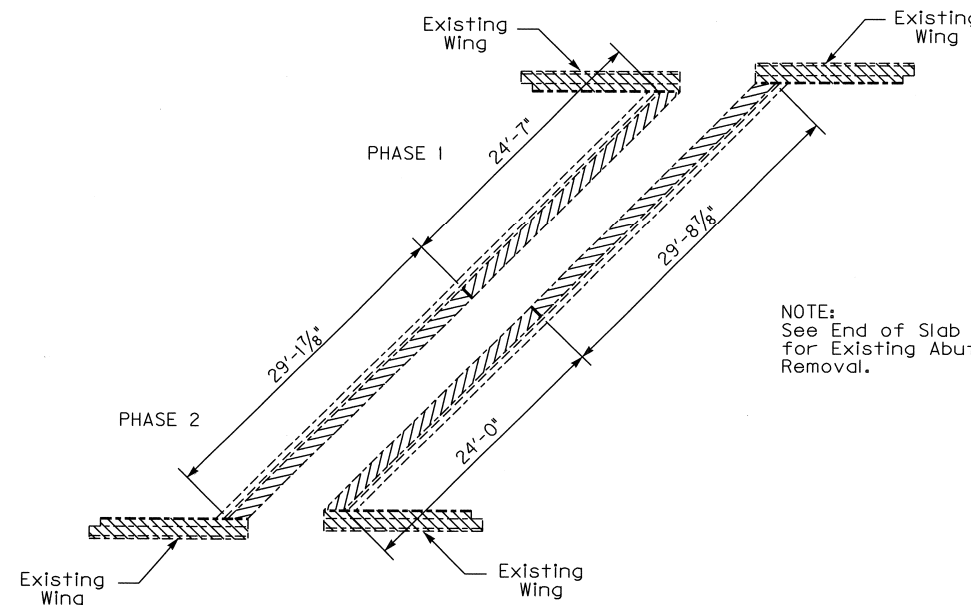
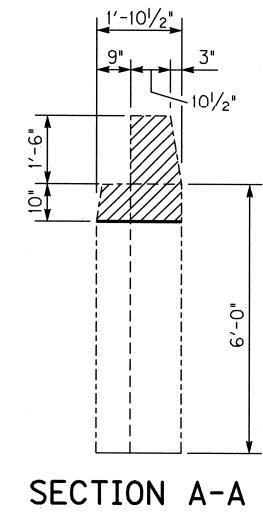
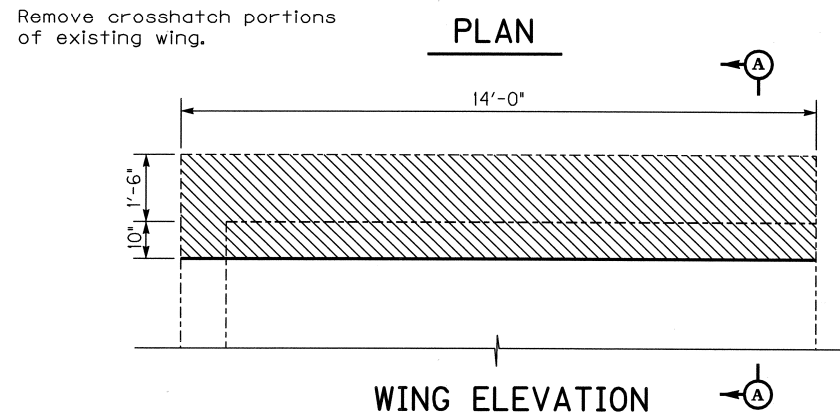
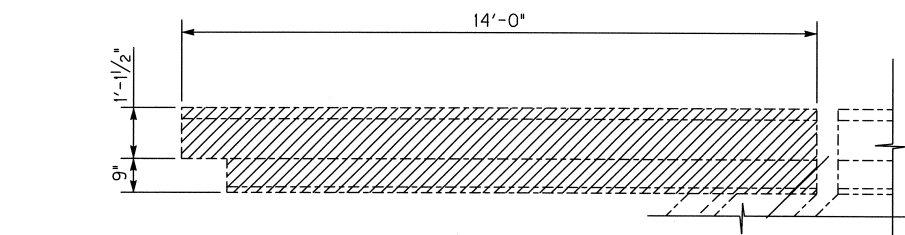
PHASE II CONSTRUCTION (SHOWING EAST BOUND)

NOTE: Clean and Rebend Existing Reinforcement within the Crosshatched area.



SECTION @ END OF SLAB

Remove crosshatched portions of existing slab and existing expansion joints.



NOTE: See End of Slab Detail for Existing Abutment Removal.

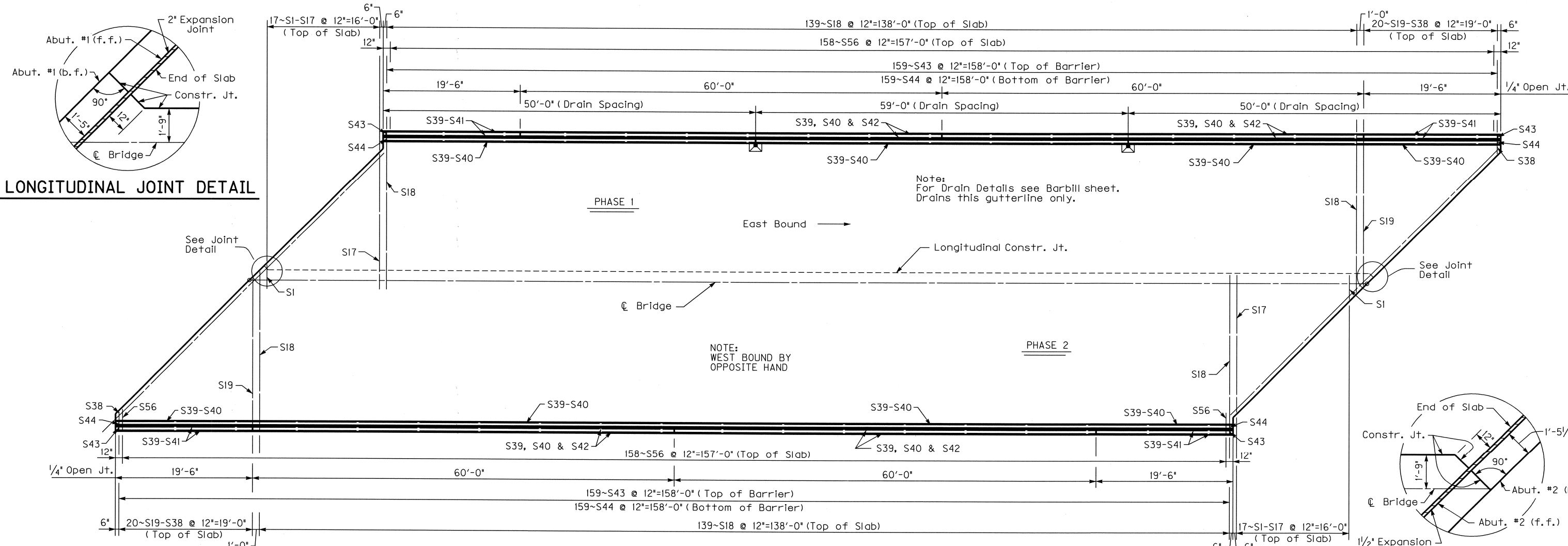
REVISION		DATE
DATE:	APRIL, 2000	CHECKED BY
DESIGNED BY:	D. CARPENTER	
DETAILED BY:	G.S. NEWTON	D. CARPENTER
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CARTER		
ROUTE I-64	CROSSING BARRETT CREEK	
REMOVAL DETAILS		
PREPARED BY Division of Bridge Design		SHEET NO. 4
D. CARPENTER SECTION		DRAWING NO. 24832

DATE: 10-MAY-2000

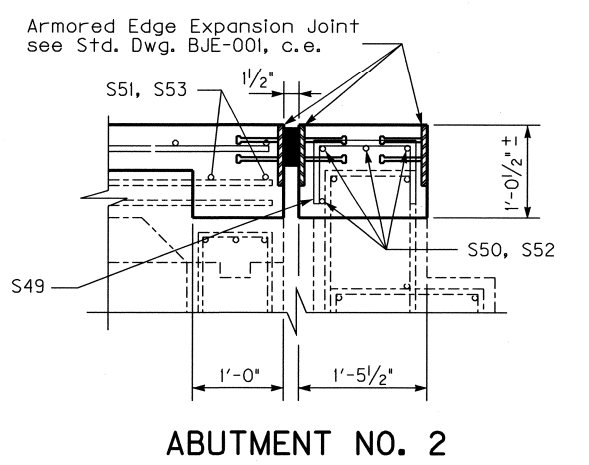
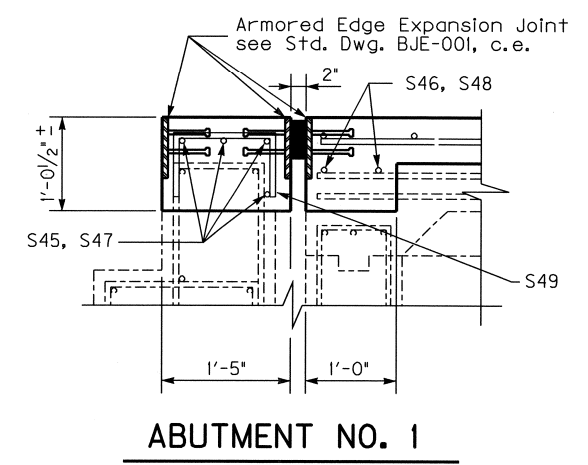
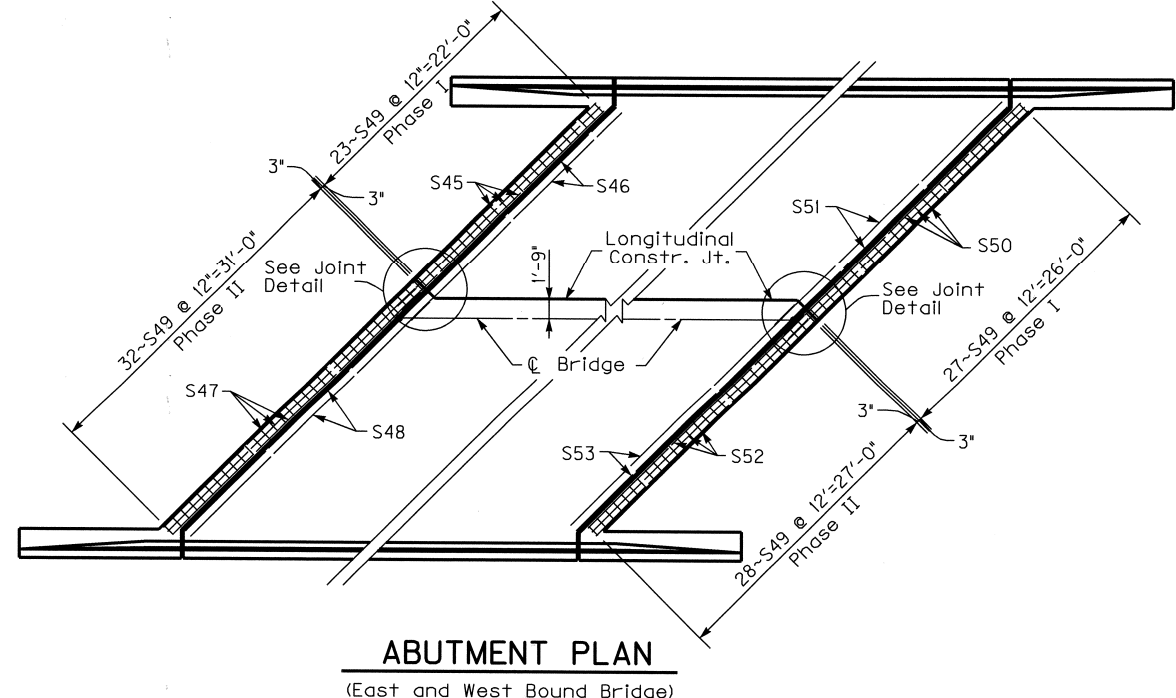
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SHEET LOCATION: A

FILE NAME: D:\bridges\dgn\Projects\24832\24832.dwg USERNAME: gnewton DATE: 10-MAY-2000 SHEET LOCATION:



PLAN
(East Bound Bridge Shown)



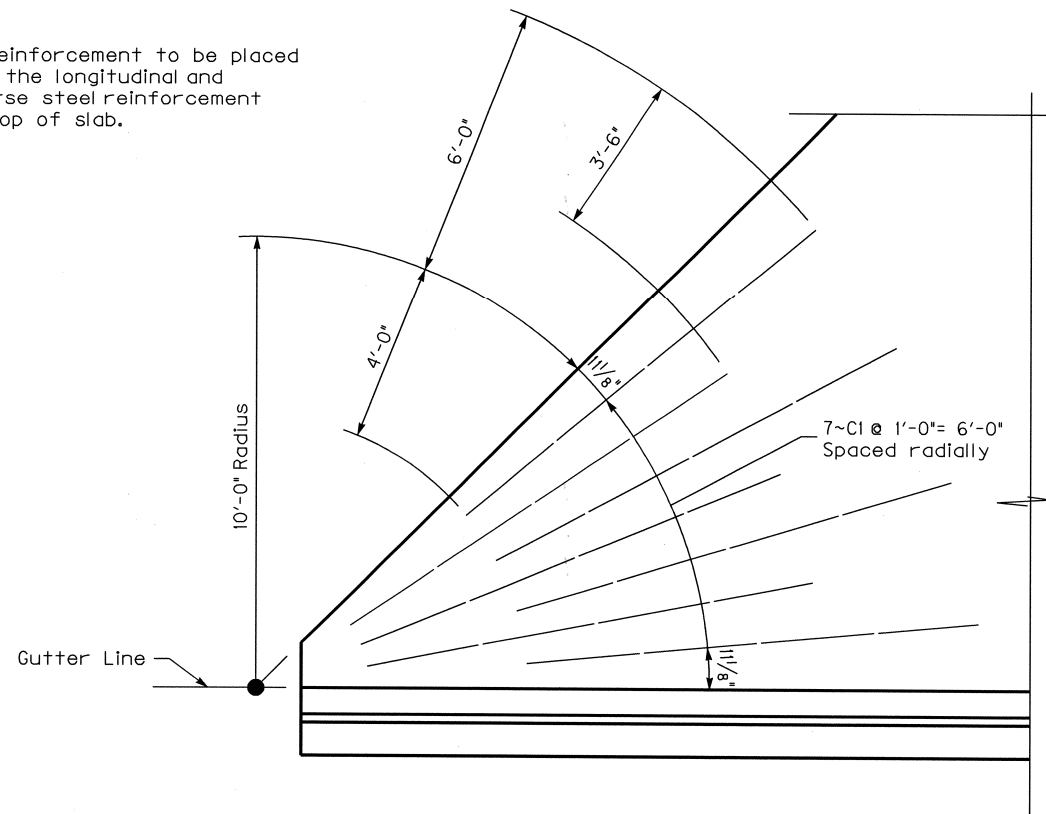
LONGITUDINAL JOINT DETAIL

NOTE: MINIMUM LAP

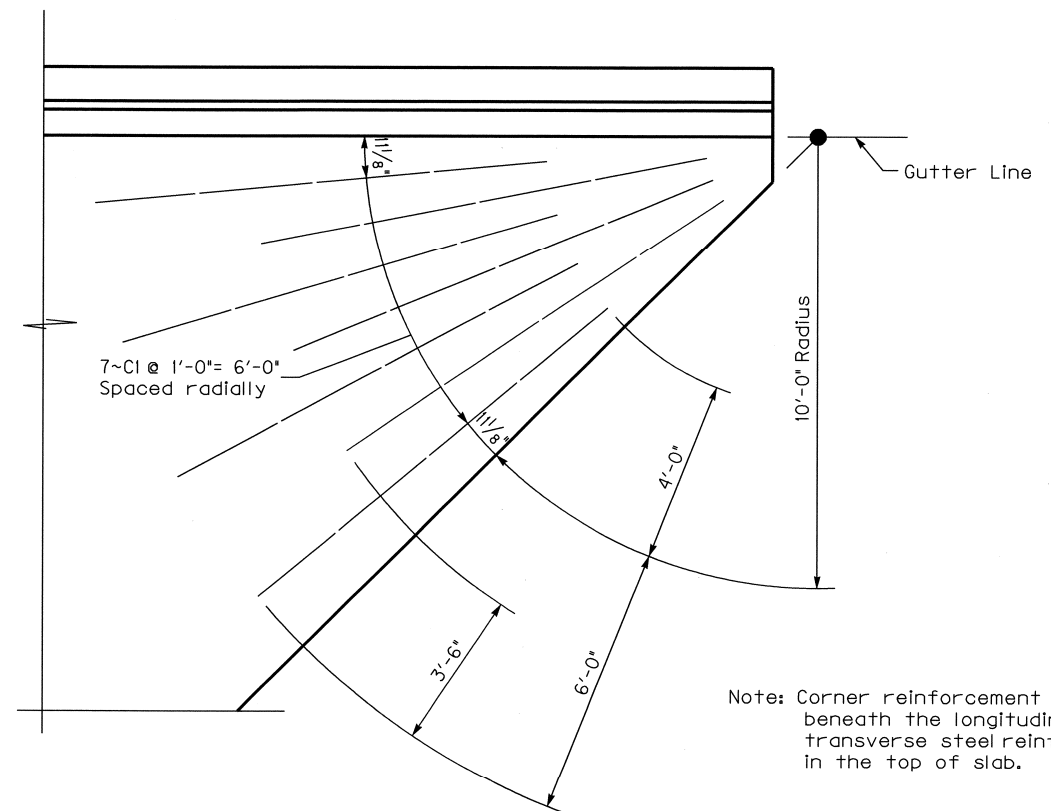
S1-S18 (2'-6")
 S39 (2'-6")
 S40 (4'-10")

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DETAILED BY:	G.S. NEWTON	D. CARPENTER
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
CARTER		
ROUTE	CROSSING	
I-64	BARRETT CREEK	
SLAB DETAILS		
PREPARED BY		
Division of Bridge Design		
D. CARPENTER SECTION		
SHEET NO.		
5		
DRAWING NO.		
24832		

Note: Corner reinforcement to be placed beneath the longitudinal and transverse steel reinforcement in the top of slab.

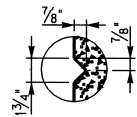


CORNER REINFORCEMENT

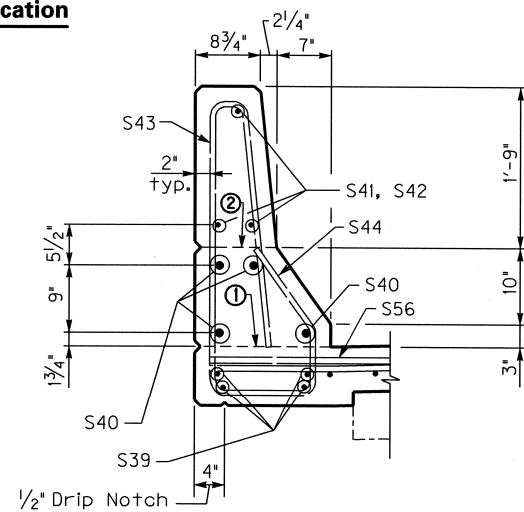


Note: Corner reinforcement to be placed beneath the longitudinal and transverse steel reinforcement in the top of slab.

CORNER REINFORCEMENT

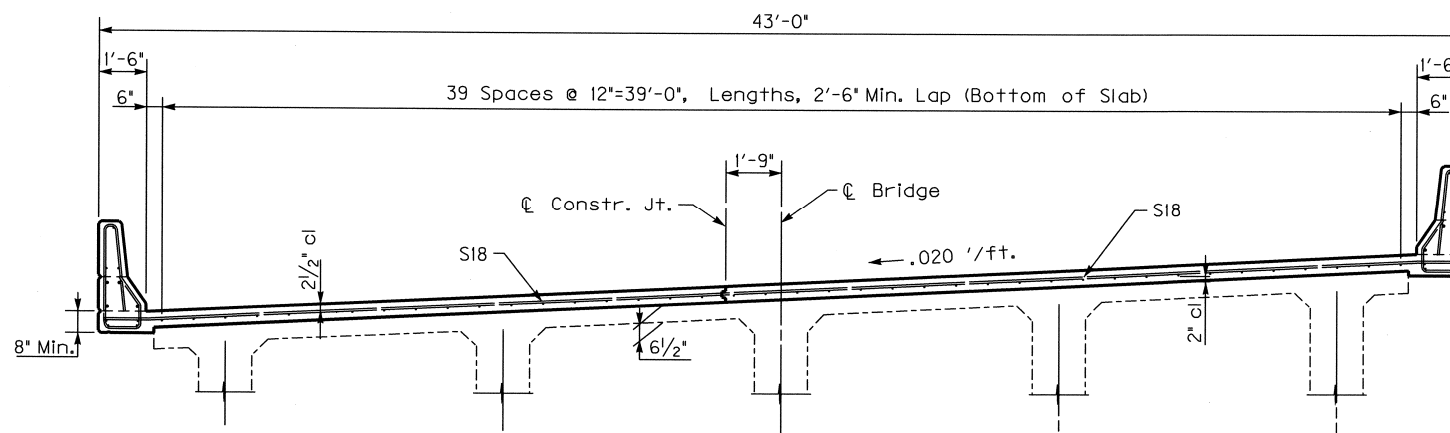


"V-Groove" Rustication



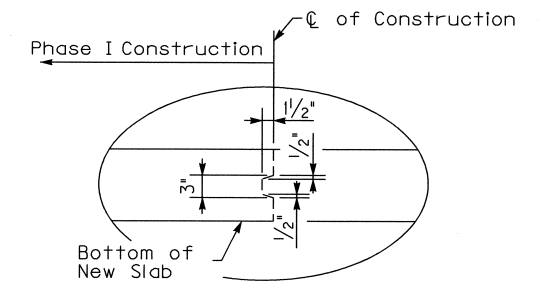
BARRIER SECTION

- ① Mandatory roughened construction joint. Concrete above this joint is to be placed after slab has been properly cured.
- ② Permissible construction joint and bottom of 1/4" open joint in top of barrier. "V-Groove" rustication joint is required if construction joint is used.



TYPICAL SECTION

(Proposed Bridge)

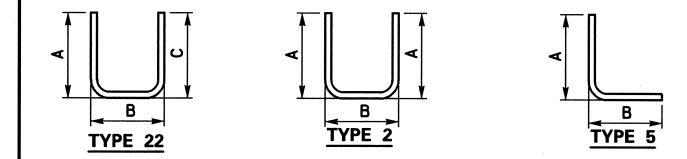


CONSTRUCTION KEY DETAIL

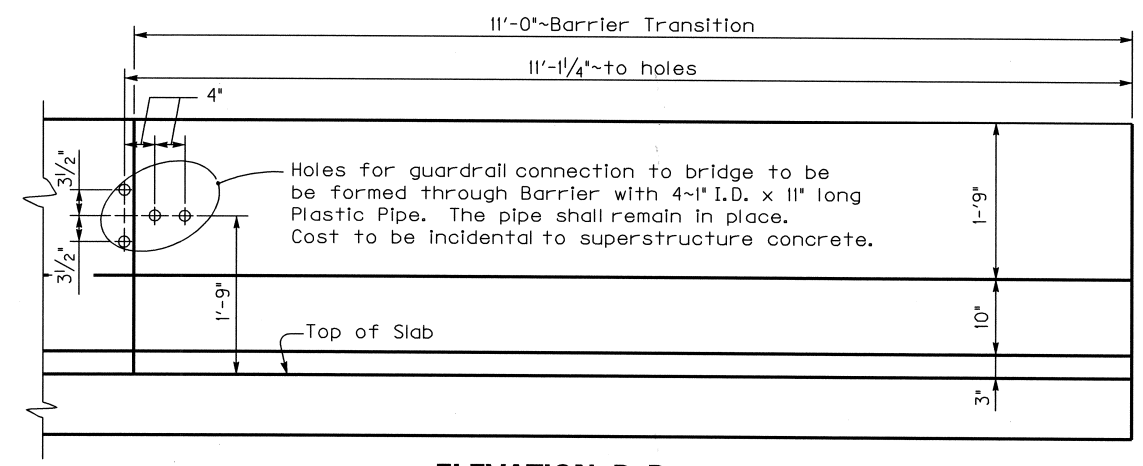
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DESIGNED BY:	D. CARPENTER	
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Commonwealth of Kentucky		
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SLAB DETAILS		
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Division of Bridge Design		
D. CARPENTER SECTION		
		SHEET NO.
		6
		DRAWING NO.
		24832

BILL OF REINFORCEMENT

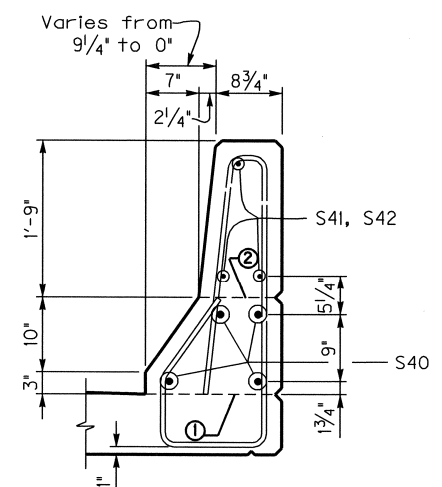
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				FT.	IN.		FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	
D1e	5s	88	5	2	11	Slab into Barrier	1	8	1	4					
D2e	2s	44	5	5	7	Barrier	2	8	0	5					
D3e	22	60	5	4	5	Slab under Barrier	0	9	2	2	1	1			
D5e	Str.	16	5	14	0	Slab under Barrier									



NOTE: This Bill of Reinforcement is for one Bridge only, double quantity for both Bridges.

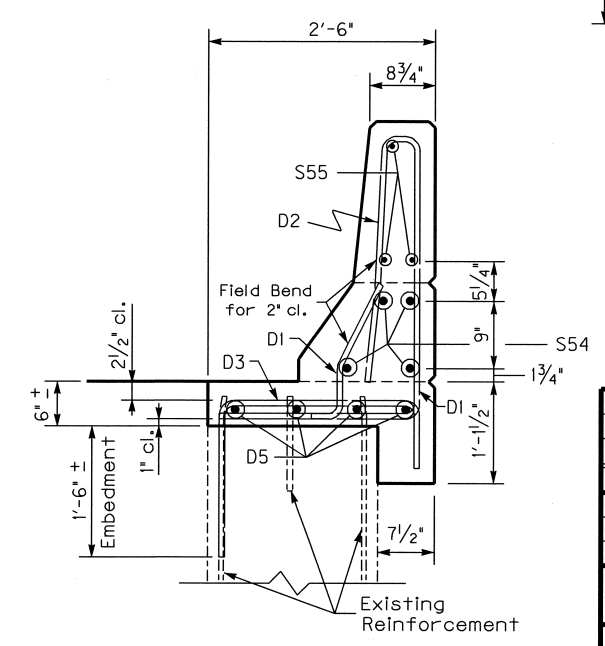
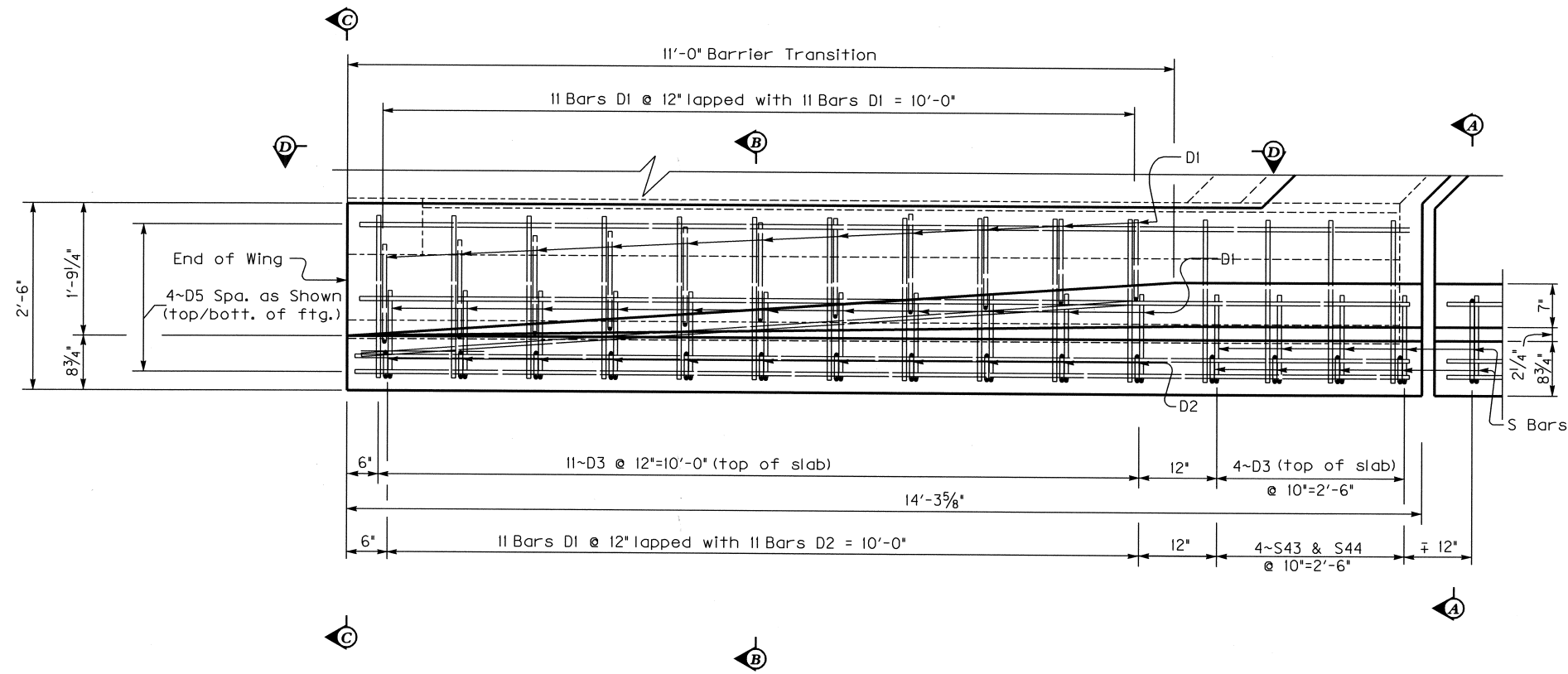


ELEVATION D-D

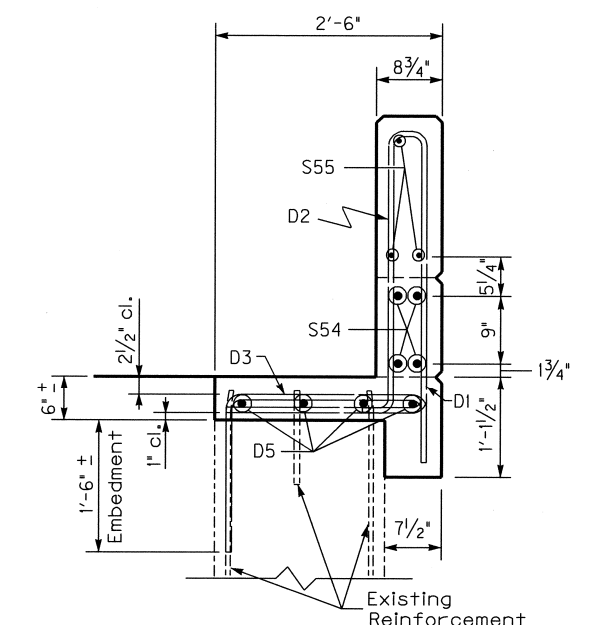


SECTION A-A

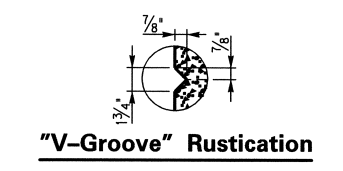
- ① Mandatory roughened construction joint. Concrete above this joint is to be placed after slab has been properly cured.
- ② Permissible construction joint and bottom of 1/4" open joint in top of barrier. "V-Groove" rustication joint is required if construction joint is used.



SECTION B-B



SECTION C-C



NOTE: Drill and Grout D3 Bars.

REVISION		DATE
DATE:	APRIL, 2000	CHECKED BY
DESIGNED BY:	D. CARPENTER	
DETAILED BY:	G.S. NEWTON	D. CARPENTER
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
CARTER		
ROUTE	CROSSING	
I-64	BARRETT CREEK	
WING		
PREPARED BY		SHEET NO.
Division of Bridge Design		7
D. CARPENTER SECTION		DRAWING NO.
		24832

DATE: 10-MAY-2000
D:\bridges\ogn\Projects\24832\24832.dgn USERNAME: gnewton
SHEET LOCATION

