

5-31-02  
Carter\25282.dan

PCN 02-0292

**FILE NAME:** D:\bridges\projects\Dale-Carpenter\_Section\25282-Carter\25282.dgn

**USERNAME: PYOST**

**DATE:** 16-APR-2002

**SHEET LOCATION:** TIT

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Sheet No.	Description
1	Title Sheet
2	General Notes
3	Layout
4	Phase Construction
5	Superstructure
6	Superstructure Details
7	Barrier & Long Wing Details
8	Superstructure Barbill

ADDITIONAL NOTES	

<b>SPECIAL NOTES</b>	

SPECIAL PROVISIONS	

[illegible]

SPECIFICATIONS	
2000	Standard Specifications for Road and Bridge Construction
1996	AASHTO Standard Specifications for Highway Bridges Including Interlms through 2002.

REVISION		DATE
DATE: February 2002	CHECKED BY	
DESIGNED BY: R. Finley	D. Carpenter	
DETAILED BY: P. Yost	R. Finley	

# CARTER

<b><i>TITLE</i></b>
---------------------

PREPARED BY <b>Division of Bridge Design</b> <i>D. Carpenter Section</i>	SHEET NO. <b>1</b>
	DRAWING NO. <b>25282</b>

ITEM NUMBER
<b>9-2009.00</b>

HEET NO.  
1  
AWING NO.  
5282

FILE NAME: D:\bridges\projects\dale.Carpenter\_Section\25282-Carter\25282.dgn

USERNAME: PYOST

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# 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 Standard Specifications for Highway Bridges, with Interims.

**LIVE LOAD:** This bridge superstructure is designed for HS25 live load or alternate military loading, whichever produces the greater stress. The HS25 live load is arrived at by increasing the standard HS20-44 truck and lane loads as specified in the AASHTO Specifications by 25%.

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

**CONCRETE:** Class 'AA' is to be used throughout the new slab and barriers.

**BEVELED EDGES:** All exposed edges shall be beveled  $\frac{3}{8}$ " unless otherwise shown.

**BILL OF INCIDENTAL MATERIAL:** The Contractor is responsible for furnishing enough material to complete the work in accordance with the Plans and Specifications. The cost of these items is to be included in the unit price bid for Class AA Concrete.

**DIMENSIONS:** Dimensions are for a normal temperature of 60° F Layout dimensions are horizontal measurements.

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

**ON-SITE INSPECTION:** Each contractor submitting a bid for this work shall make a thorough inspection of the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions so that work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department of Highway.

**EXISTING REINFORCING STEEL:** The cost of cutting, bending and cleaning existing reinforcing steel is to be incidental to the unit price bid for Removing Concrete Masonry.

**MASONRY SURFACE FINISH:** Only areas detailed in the plans shall receive masonry coating. All coating shall be applied in accordance with the specifications.

**REMOVAL OF EXISTING REINFORCED CONCRETE:** This work shall include removal of existing expansion dams and armored edges at each end of the bridge for both structures, the reinforced concrete curbs and handrails for the entire length of each bridge structure plus other concrete noted on the plans and depositing of this material away from each bridge site. Proper care shall be taken to protect the concrete beams and substructure from damage during each 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 Removing Concrete Masonry for Eastbound and Westbound bridge.

**TEXTURING:** Texture the surface of the new slab in accordance with Section 609 of the specifications. Cost to texture the surface is included in the unit price bid for 'Concrete Class AA'

**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.

**PREWETTING THE DECK:** The contractor shall use a high pressure washer (minimum 1200 PSI @ 2 gal./min.) to wash the deck of any loose material and dirt prior to placing the reinforcement steel. The contractor shall also continuously water the deck for 2 hours before placing the new concrete and maintain visible moisture on the deck without standing water while the new slab is being poured. 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 the Carter County Maintenance Garage. This material shall remain the property of the department. All costs is incidental to Removing Concrete Masonry

**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 deck. The deck should have a  $\frac{1}{4}$ " amplitude roughness after the overlay removal. All cost associated with removing the existing overlay and removing all bad deck material is included in the unit price bid for 'Removal of Epoxy, Bituminous Foreign Overlays'.

**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 the bridge.

**ORIGINAL DRAWING NUMBER:** The original drawing number for this structure is 16374.

**ARMORED EDGES:** Contrary to the Standard Drawing BJE-001, c.e. cost to fabricate and install the steel Armored Edge is included in the unit price bid for 'Armored Edge'.

**NEOPRENE EXPANSION JOINTS:** The costs for armored edges used in the expansion dams shall be included in the cost of the Expansion Dam.

ITEM NUMBER

9-2009.00

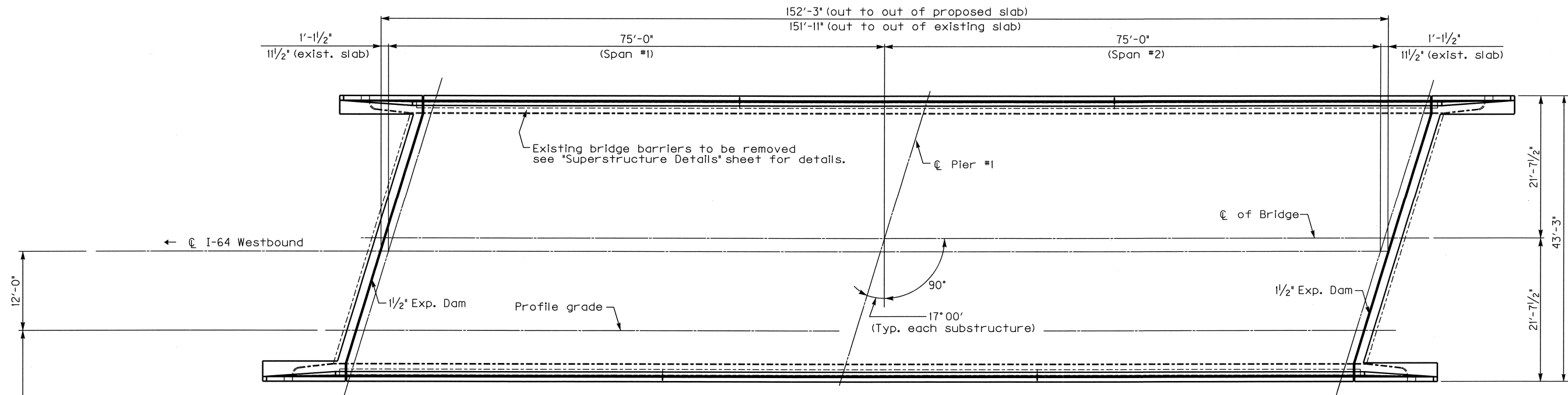
REVISION		DATE
DATE:	February 2001	CHECKED BY
DESIGNED BY:	R. Finley	D. Carpenter
DETAILED BY:	P. Yost	R. Finley
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CARTER		
ROUTE I-64	CROSSING I-64 over Ky. 1704	
GENERAL NOTES		
PREPARED BY Division of Bridge Design D. Carpenter Section		SHEET NO. 2 DRAWING NO. 25282

FILE NAME: D:\briges\projects\Date\_Carpenter\_Section\25282\_Carter\25282.dgn

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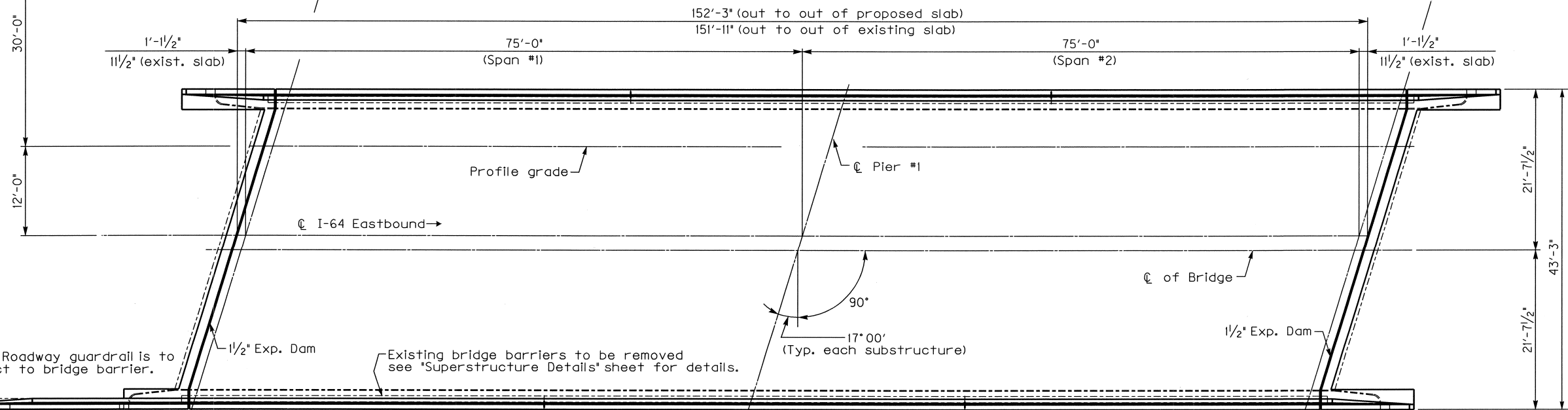
DATE: 16-APR-2002

SHEET LOCATION: LAY



**PLAN (WESTBOUND)**

~Superstructure over existing slab and substructures~



**PLAN (EASTBOUND)**

~Superstructure over existing slab and substructures~

NOTE: Roadway guardrail is to connect to bridge barrier.

Existing long wing barrier & backwalls to be modified see "Barrier & Long Wing Details" sheet.

Existing bridge barriers to be removed see "Superstructure Details" sheet for details.

Short wing barriers to be modified see Superstructure Barbill sheet.

REVISION		DATE
DATE:	February 2002	CHECKED BY
DESIGNED BY: R. Finley	D. Carpenter	
DETAILED BY: P. Yost	R. Finley	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CARTER		
ROUTE I-64	CROSSING I-64 over Ky. 1704	
LAYOUT		
PREPARED BY Division of Bridge Design D. Carpenter Section		SHEET NO. 3 DRAWING NO. 25282

ITEM NUMBER

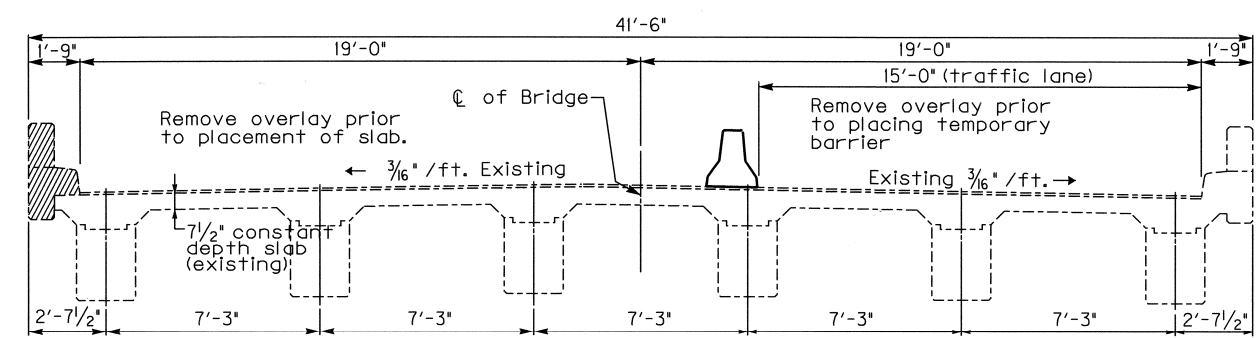
**9-2009.00**

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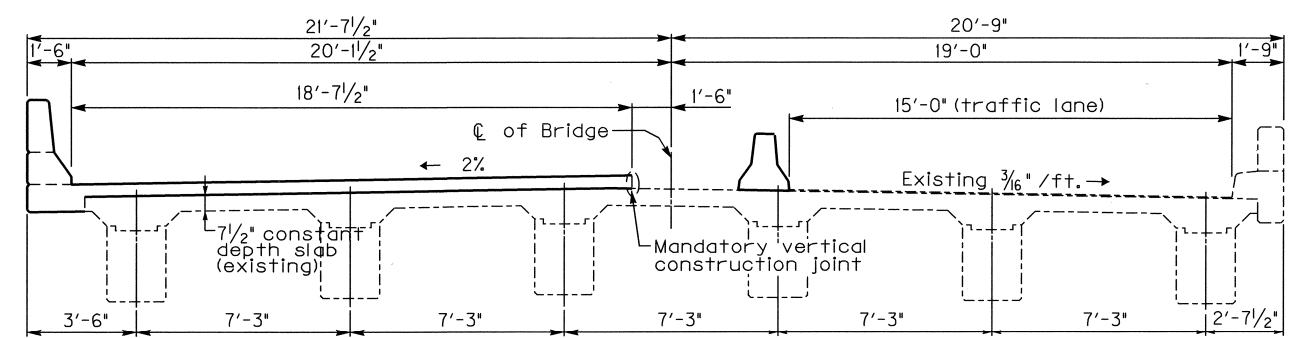
DATE: 16-APR-2002

SHEET LOCATION: PCI



TYPICAL SECTION

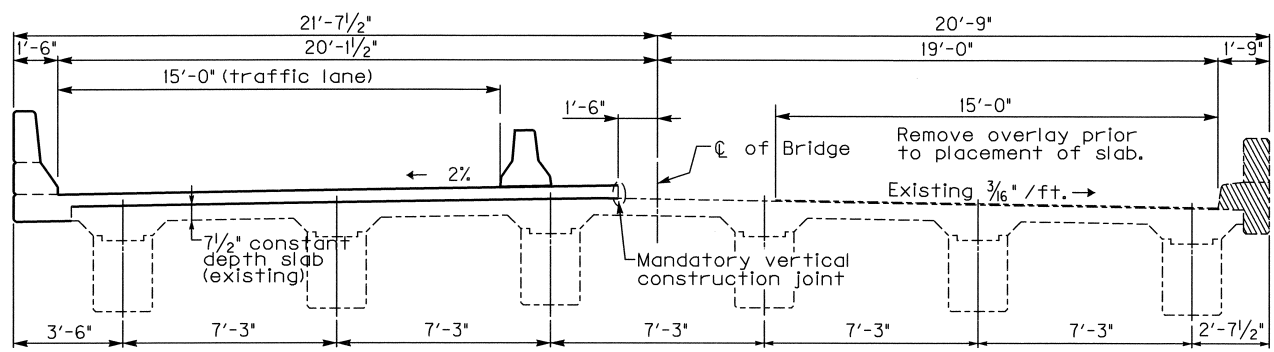
~Showing Phase I Removal~



TYPICAL SECTION

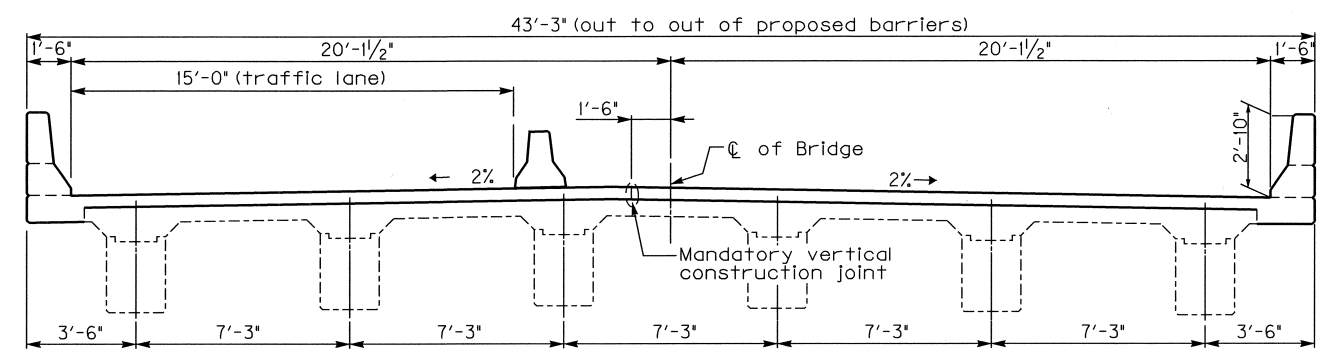
~Showing Phase I Construction~

Construction and removal for Eastbound bridge is shown Westbound bridge is opposite hand



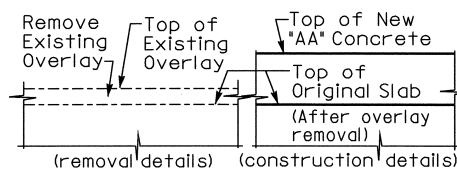
TYPICAL SECTION

~Showing Phase II Removal~

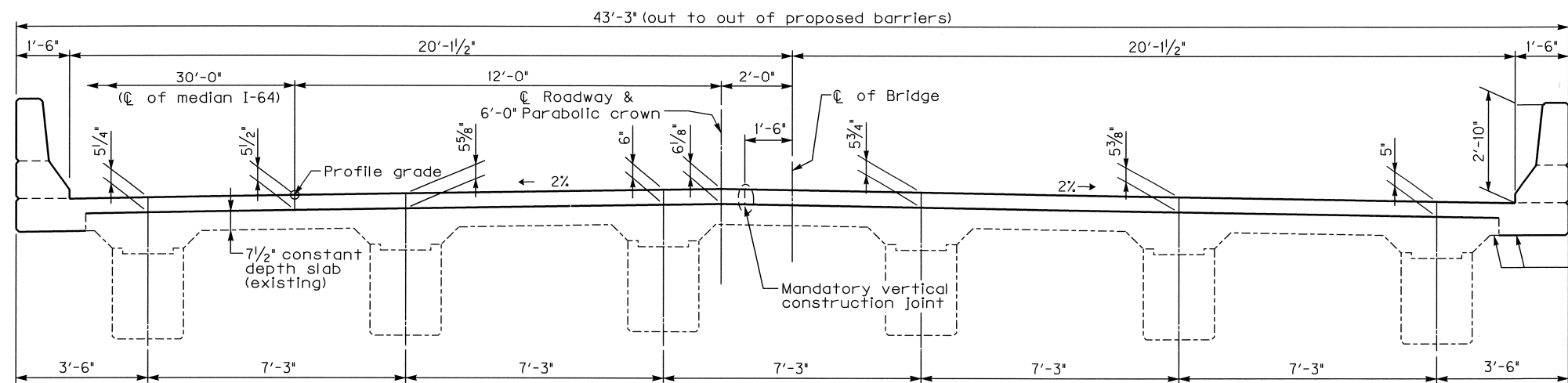


TYPICAL SECTION

~Showing Phase II Construction~

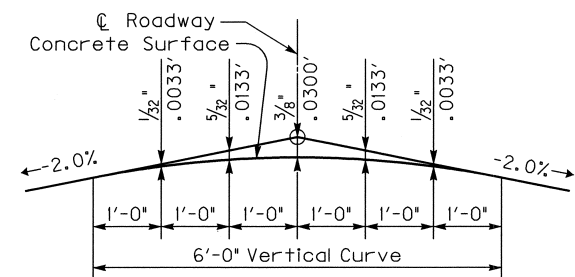


TYPICAL SLAB SECTION



TYPICAL SECTION

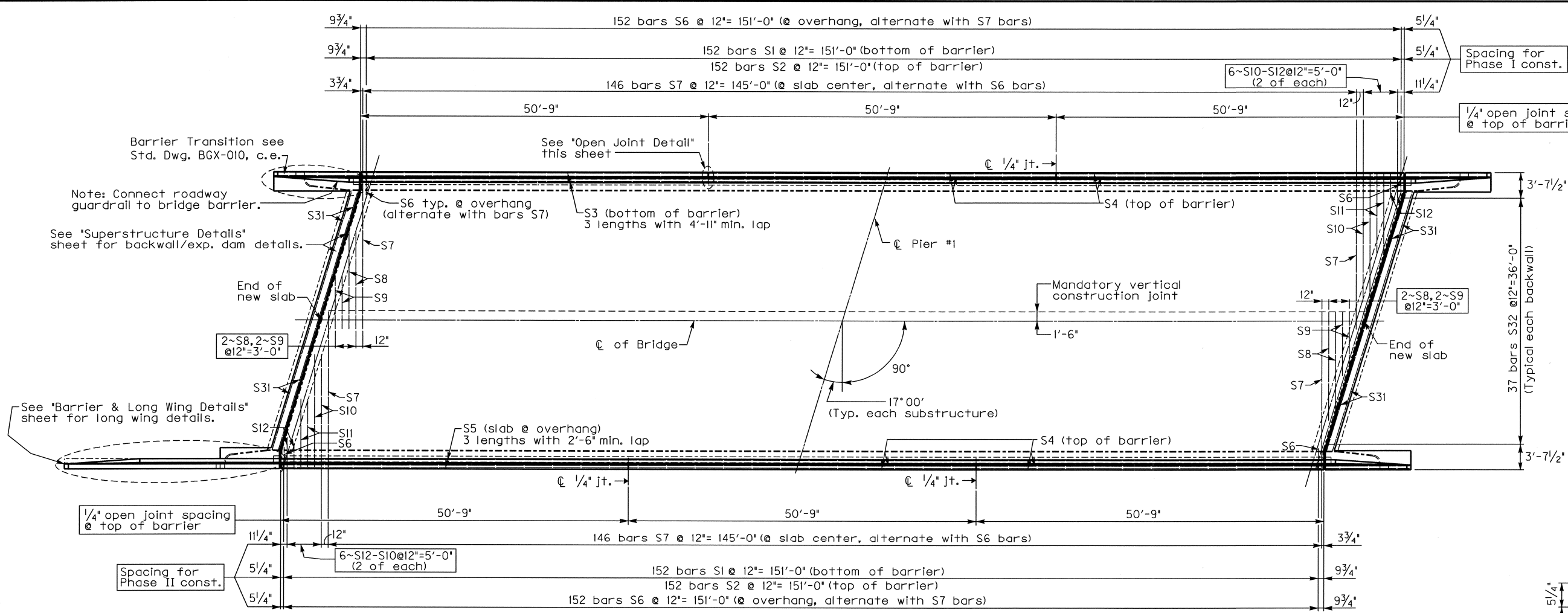
~Showing completed superstructure~



PARABOLIC CROWN

REVISION		DATE
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DETAILED BY: P. Yost	R. Finley	
Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
CARTER		
ROUTE	CROSSING	
I-64	I-64 over Ky. 1704	
PHASE CONSTRUCTION		
PREPARED BY		SHEET NO.
Division of Bridge Design		4
D. Carpenter Section		DRAWING NO.
		25282

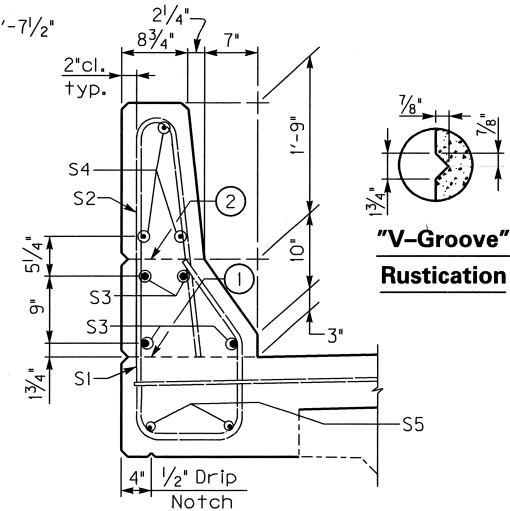
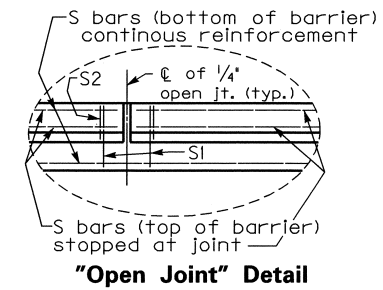
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**\*PLAN**

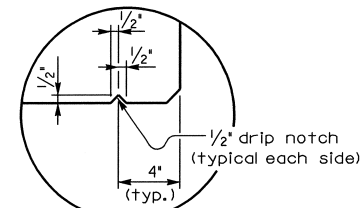
\*Substructure removal and construction to be performed in synchronization with Phase work of superstructure  
 Note: Eastbound bridge with single 32' wing shown Westbound bridge is same by 180° rotation with exception of long wing.

Note: For details of armored edges (each bridge end) See "Superstructure Details" sheet.

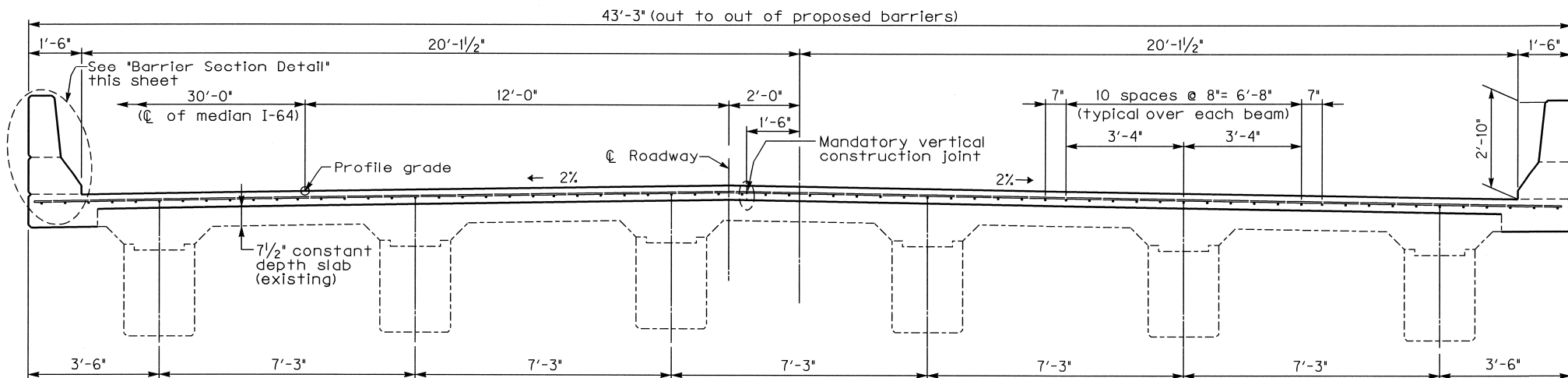


**BARRIER SECTION**

- Level mandatory roughened construction joint. Concrete above this joint to be placed after the slab has been properly cured.
- Permissible construction joint. "V-Groove" rustication joint is required if construction joint is used.



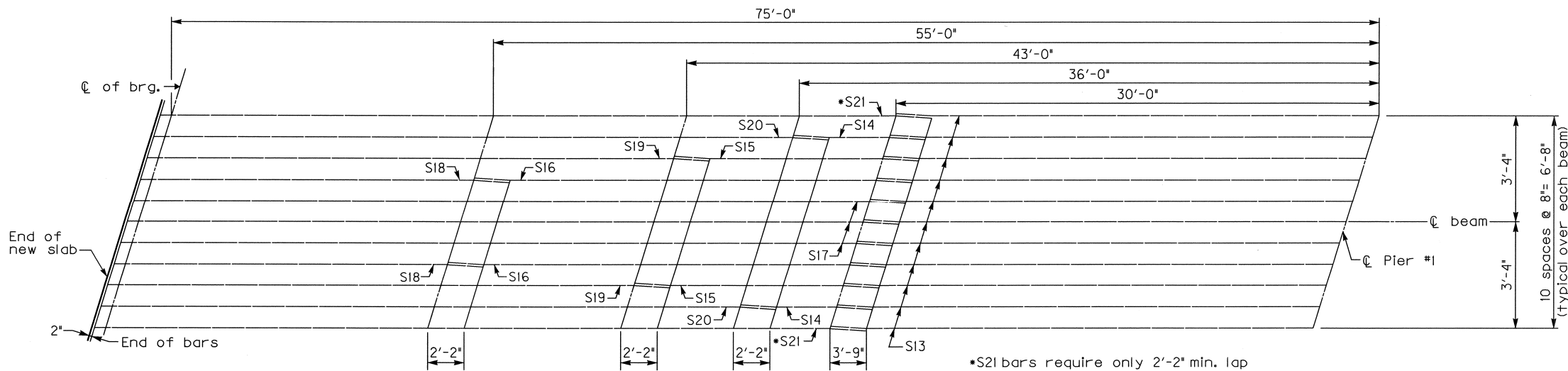
**DRIP NOTCH DETAIL**



**PROPOSED TYPICAL SECTION**

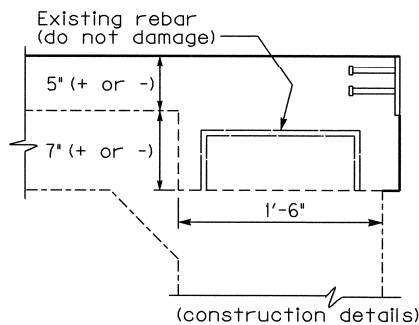
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DATE: February 2002	CHECKED BY: D. Carpenter
DESIGNED BY: R. Finley	DETAILED BY: P. Yost
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY <b>CARTER</b>	
ROUTE <b>I-64</b>	CROSSING <b>I-64 over Ky. 1704</b>
<b>SUPERSTRUCTURE</b>	
PREPARED BY <b>D. Carpenter Section</b>	SHEET NO. <b>5</b>
DRAWING NO. <b>25282</b>	



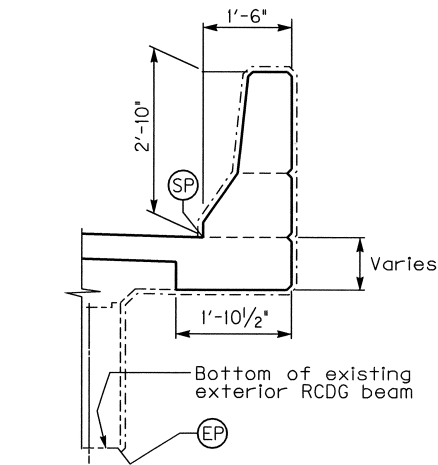
**LONGITUDINAL REINFORCEMENT LAYOUT**

Note: Placement, termination and reinforcement laps are symmetrical about Pier centerline by 180° rotation and typical over each beam except as noted.



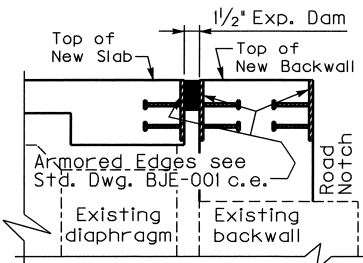
**SLAB END DETAILS @ SUBSTRUCTURE**

(typical each end of bridge)



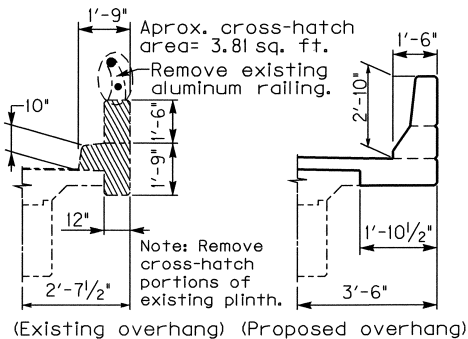
**MASONRY COATING DETAIL**

(typical each overhang)



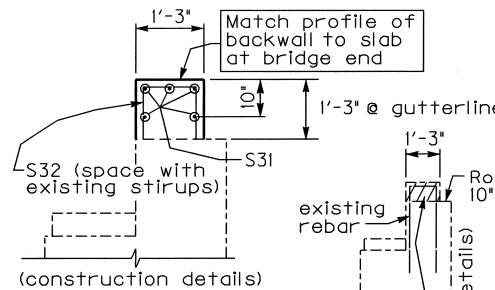
**ARMORED EDGE DETAILS**

(typical each end of bridge)

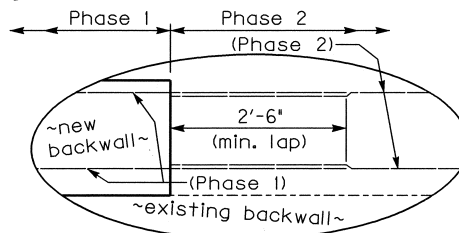


**BARRIER DETAILS**

~typical details at RCDG exterior beams~



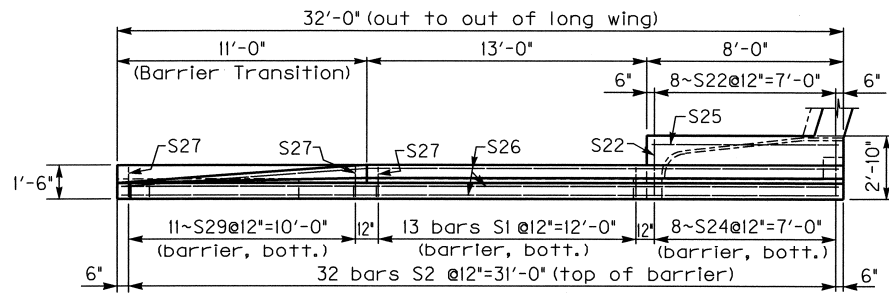
**BACKWALL DETAILS @ SUBSTRUCTURE**



**CONSTRUCTION JOINT DETAIL**

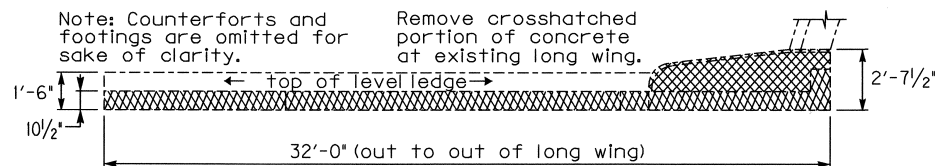
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Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
CARTER		
ROUTE	CROSSING	
I-64	I-64 over Ky. 1704	
SUPERSTRUCTURE DETAILS		
PREPARED BY		SHEET NO.
Division of Bridge Design		6
D. Carpenter Section		DRAWING NO.
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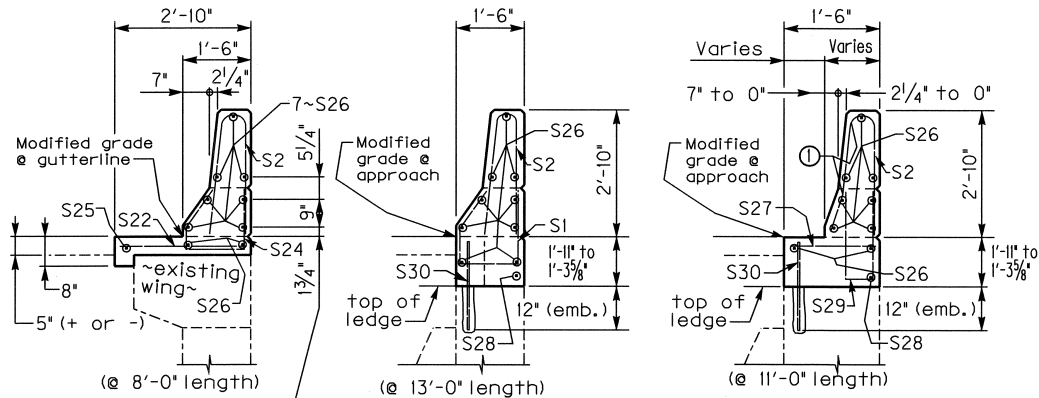
**PLAN @ LONG WING**

(Construction details @ eastbound bridge)



**PLAN @ LONG WING**

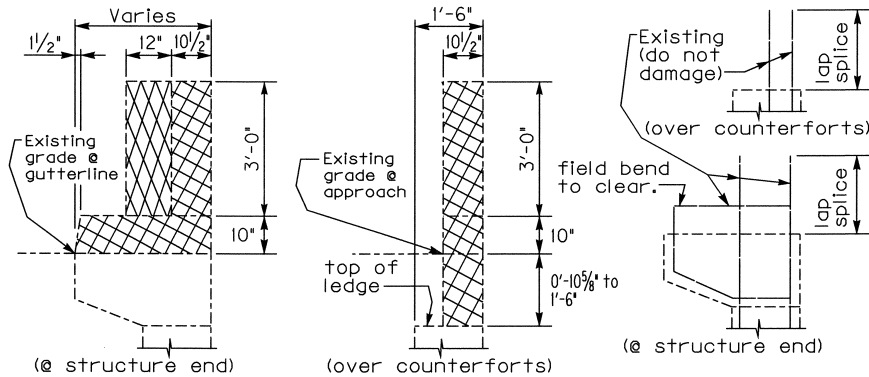
(Removal details @ eastbound bridge)



**SECTIONS THROUGH EXISTING LONG WING**

(Construction details @ eastbound bridge)

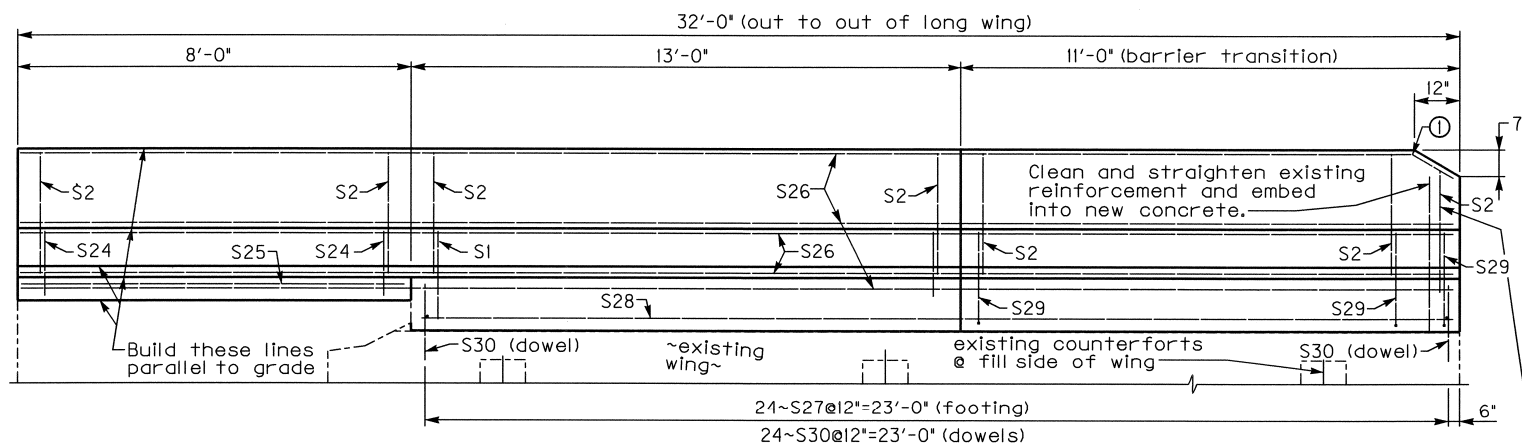
① Field bending may be required at these points.



**SECTIONS THROUGH EXISTING LONG WING**

(Removal details @ eastbound bridge)

Note: Preserve existing reinforcement and incorporate into new concrete.

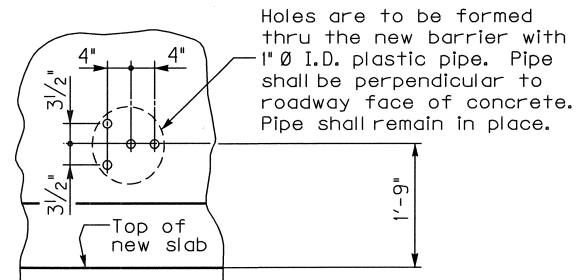


**ELEVATION @ LONG WING (FILL SIDE)**

(Construction details @ eastbound bridge)

Note: Dowel locations may be shifted to avoid existing wing reinforcement.

Note: Cost to drill and grout S30 dowel bars is incidental to the bid item "Remove Concrete Masonry"

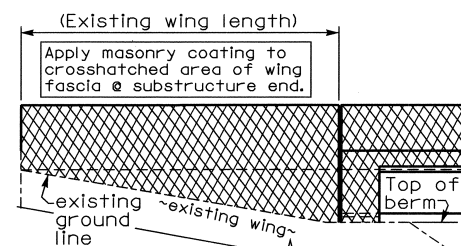


**BARRIER / GUARDRAIL**

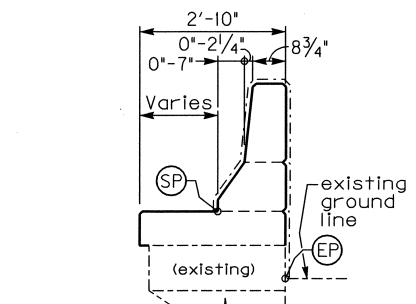
**ATTACHMENT DETAIL**

NOTE: Remove cross-hatched area of the existing wing parapet. Clean and straighten protruding reinforcement to allow proper bonding to new concrete. Include all cost associated with this work in the bid for Replace Wing Barrier.

Embed, field cut and/or bend this bar.



**BARRIER WING ELEVATION @ FASCIA**



**SECTION THROUGH WING**

SP Start Point EP End Point

Denotes perimeter area of required masonry coating.

**SECTION THROUGH WING**

**MASONRY COATING DETAILS**

(typical each wing, 11 long, 7 short, 8 total)

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Commonwealth of Kentucky		
DEPARTMENT OF HIGHWAYS		
COUNTY		
CARTER		
ROUTE	CROSSING	
I-64	I-64 over Ky. 1704	
Barrier & Long Wing Details		
PREPARED BY		SHEET NO.
Division of Bridge Design		7
D. Carpenter Section		DRAWING NO.
		25282

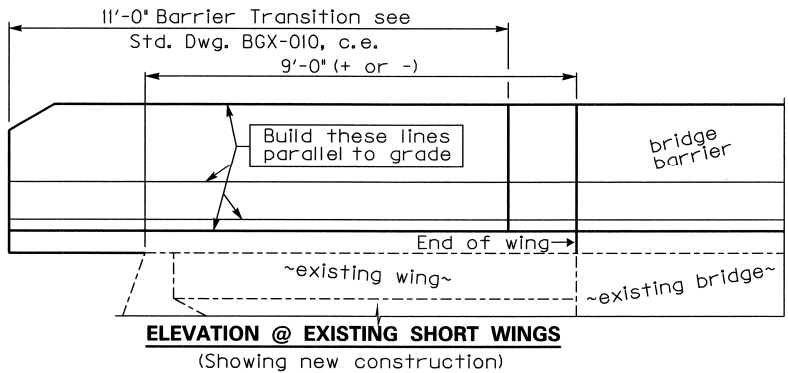
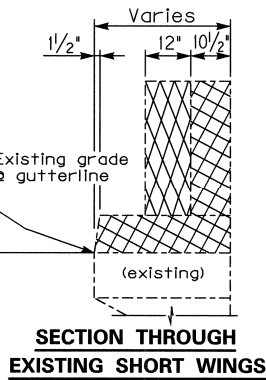
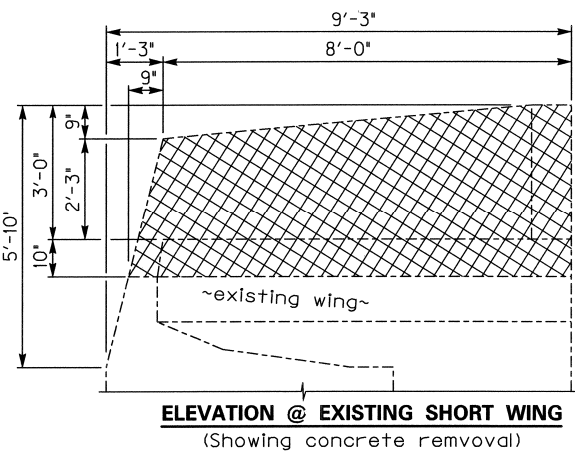
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USERNAME: PYOST

DATE: 16-APR-2002

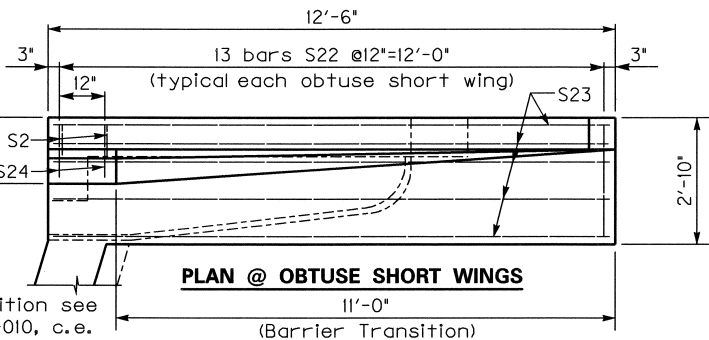
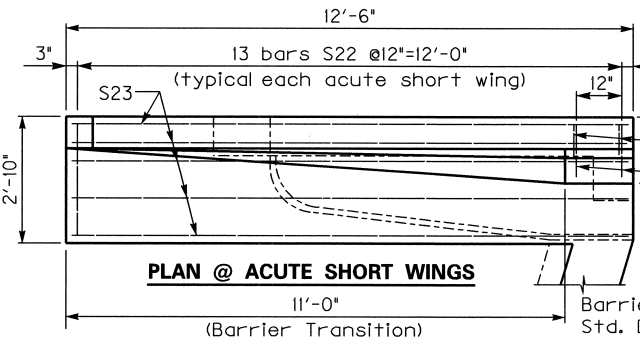
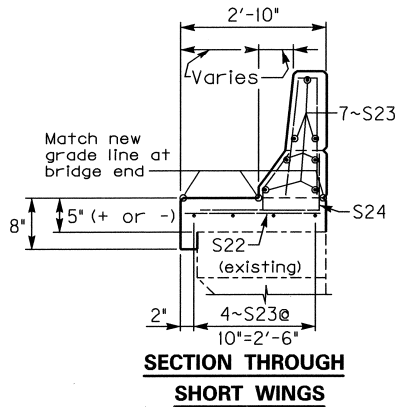
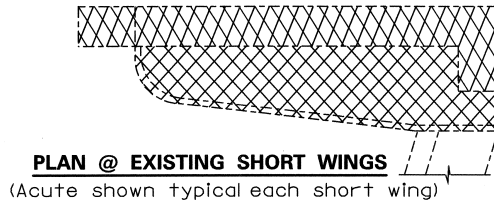
SHEET LOCATION: 3SS



### SHORT WING DETAILS

Details typical for each existing short wing. (3 wings total)

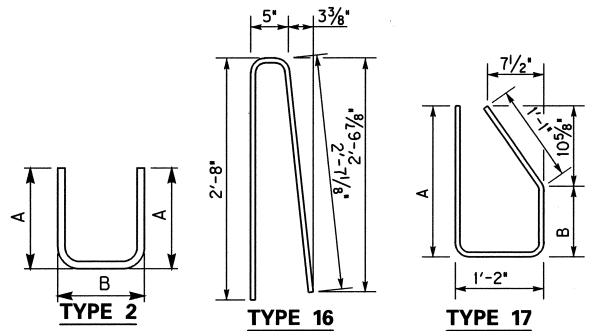
NOTE: Remove cross-hatched area of the existing structure. Clean and straighten protruding reinforcement to allow proper bonding to new concrete. Include all cost associated with this work in the bid for Remove Concrete Masonry.



## BILL OF REINFORCEMENT FOR EAST & WESTBOUND BRIDGES

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
S1e	I7	621	5	5- 1	Barriers & Long Wing	1-11 1/8	1- 1 3/8		
S2e	I6	654	5	5- 7	Barriers & Wings				
S3e	Str.	48	8	53-11	Barriers				
S4e	Str.	36	5	50- 5	Barriers				
S5e	Str.	24	5	52- 3	Barriers				
S6e	Str.	608	5	3- 0	Slab @ overhangs				
S7e	Str.	584	5	22- 9	Slab center				
S8e	Str.	8	5	13-10	Slab @ skew ends				
S9e	Str.	8	5	7- 4	Slab @ skew ends				
S10e	Str.	8	5	17- 9	Slab @ skew ends				
S11e	Str.	8	5	11- 2	Slab @ skew ends				
S12e	Str.	8	5	4- 8	Slab @ skew ends				
S13e	Str.	132	7	60- 0	Slab over beams				
S14e	Str.	48	7	9- 9	Slab over beams				
S15e	Str.	48	7	16- 9	Slab over beams				
S16e	Str.	48	7	28- 9	Slab over beams				
S17e	Str.	72	7	49- 5	Slab over beams				
S18e	Str.	48	4	23- 2	Slab over beams				
S19e	Str.	48	4	35- 2	Slab over beams				
S20e	Str.	48	4	42- 2	Slab over beams				
S21e	Str.	48	4	48- 2	Slab over beams				
S22e	Str.	99	5	2- 6	Short Wings				
S23e	Str.	77	5	12- 2	Short Wings				
S24e	I7	22	5	3-11	Short & Long Wings	1- 4 1/8	0- 6 3/8		
S25e	Str.	1	5	7- 8	Long Wing				
S26e	Str.	9	5	31- 8	Long Wing				
S27e	Str.	24	5	1- 2	Long Wing				
S28e	Str.	1	5	23- 8	Long Wing				
S29e	2	11	5	4- 5	Long Wing	2- 0	0- 8		
S30e	Str.	24	6	2- 0	Long Wing (dowels)				
S31e	Str.	40	5	21- 2	Backwall				
S32e	2	148	5	2-11	Backwall	1- 2	0-10		

Note: Quantities shown in this barbill include the required reinforcement for both Eastbound & Westbound structures as detailed in these plans.



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Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY <b>CARTER</b>	
ROUTE <b>I-64</b>	CROSSING <b>I-64 over Ky. 1704</b>
<b>SUPERSTRUCTURE BARBILL</b>	
ITEM NUMBER <b>9-2009.00</b>	PREPARED BY <b>Division of Bridge Design D. Carpenter Section</b>
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