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DETAILS

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BRIDGE CONTRACT  
B-13218

STATE OF INDIANA  
INDIANA STATE HIGHWAY COMMISSION

Sheet: 1 of 69

PLAN AND PROFILE OF PROPOSED  
STATE HIGHWAY

NOTE: NO ADDITIONAL R/W  
REQ'D. FOR THIS PROJECT

PROJECT No. I-FRI-465-4 (217)129

DESIGN BY 8-10-81  
SENIOR DESIGNER

RECOMMENDED FOR APPROVAL 6-23-81  
ASST. ENGINEER OF BRIDGE DESIGN

RECOMMENDED FOR APPROVAL 4-30-81  
ENGINEER OF BRIDGE DESIGN

APPROVED 7-2-81  
CHIEF HIGHWAY ENGINEER

FEDERAL HIGHWAY ADMINISTRATION  
DEPARTMENT OF TRANSPORTATION  
APPROVED

DIVISION ADMINISTRATOR

INDIANA STATE HIGHWAY COMMISSION  
STANDARD SPECIFICATIONS DATED 1978  
TO BE USED WITH THESE PLANS

DECK RECONSTRUCTION AND OVERLAY  
FOR

BRIDGE FILE	CROSSING	C. STATION	SECTION	TOWNSHIP	RANGE	COUNTY
I-465-129-5277A	Under Westfield Blvd.	771+87.4 (Line A) 50+00 (Line S-SR-431A)	13	17N	3E	Marion
I-465-129-2378A	Over L & N R.R.	743+24.2	12	17N	3E	Hamilton
I-465-130-5279A	Over College Ave.	715+46.9	12	17N	3E	Hamilton

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GENERAL NOTES

- Standards under dates as listed in the index on Sheet No. 4 to be used on this project.
- All guard rail removed will become property of the contractor.
- Unless otherwise specified, the contractor shall have the option of using either Hot Asphaltic Concrete (HAC) or Hot Asphaltic Emulsion (HAE) on all bituminous items.
- All bituminous material required for this contract to be paid for as "Bituminous Mixture for Approaches", unless noted.
- Tack coat to be paid for as "Bituminous Material for Tack Coat" in square yards.
- Plans for these structures are on file in the central office and are available upon request.
- Where new work is to be fitted to old work, the contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the Engineer and assume responsibility for their correctness and the fit of new parts to the old.
- The handchipping and cleaning of deteriorated deck areas shall be as directed by the Engineer. It is the intent of these plans that all such deteriorated concrete be removed and should there be any doubts as to the quality of the concrete, removal shall continue until PERFECTLY SOUND CONCRETE is exposed. All existing non-full depth patches shall be removed.
- Concrete in patches for deteriorated concrete areas of slab to be Modified Portland Cement Concrete or Special Class "A" Concrete. See the Special Provisions.
- All quantities shown on the plans are based on the 1-3/4" Modified Portland Cement Concrete Overlay. See the special provisions for necessary adjustment if 2-1/2" Dense Portland Cement Concrete Overlay is used.
- See the Special Provisions for composition of concrete in overlay dams.
- Seal all joints and cracks in the approach pavement with a hot poured joint sealer before placing the bituminous wedge. The cost of sealing to be included in the cost of other items.
- Care must be taken so as not to damage existing 2" diameter steel conduits in the copings during the construction.

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INDEX - STANDARD DRAWINGS

Bridge	Road	Description	Purpose	FHWA Approval	R-Revised A-Adopted
44.	BR 1	Aluminum Bridge Railing	Bridge Railing	12-16-80	R-11-3-80
45.	BR 2	Aluminum Bridge Railing Detail	Bridge Railing	5-10-79	R-12-1-78
46.	R-1C	Aluminum Railing Type S (obsolete)	Bridge Railing		R-4-22-66
47.	R-1E	Aluminum Railing Details (obsolete)	Bridge Railing		R-4-27-65
48.	C 1	Standard Miscellaneous Detail	Reinforcing Bar	6-13-77	R-6-1-77
49.	C 3	Standard Miscellaneous Detail	Notes, Bar Bending Type 1A Joint, Constr. Joint Type 'A'		R-11-15-77
50.	GR2	Guard Rail, Class B <sub>2</sub> , E <sub>2</sub> , F <sub>2</sub> (obsolete)	Guard Rail		R-5-1-78
51.	GR2	Guard Rail, Class B <sub>2</sub> , E <sub>2</sub>	Guard Rail	10-24-80	R-8-1-80
52.	GR4	Guard Rail, Class C <sub>2</sub> , G <sub>2</sub>	Guard Rail, Curb Turnout Type 'A'	5-17-79	R-2-1-79
53.	GR5	Aluminum Guard Rail Details	Guard Rail	12-6-76	R-9-1-76
54.	GR6	Steel Tube Guard Rail Details	Guard Rail	11-2-78	R-2-1-78
55.	GR7	Guard Rail Pier Connection	Guard Rail	10-24-80	R-2-1-80
56.	GR8	Steel Beam Guard Rail Class D <sub>2</sub>	Guard Rail	3-25-80	R-1-2-80
57.	GR9	Aluminum Beam Guard Rail Class D <sub>2</sub>	Guard Rail	5-17-79	R-2-1-79
58.	GR10	Guard Rail, Buried End	Guard Rail	6-6-80	R-4-1-80
59.	GR10	Guard Rail, Buried End (obsolete)	Guard Rail		R-1-1-77
60.	GR10A	Guard Rail, Breakaway Cable Terminal	Guard Rail	5-15-81	R-2-2-81
61.	CB2	Temporary Concrete Barrier	Temporary Concrete Barrier		R-4-1-81
62.	Sh. 1 Det.	Standard Detour Signs	Traffic Maintenance		R-4-1-81
63.	Sh. 1B Det.	Standard Detour Signs	Traffic Maintenance	11-20-80	R-10-1-80
64.	Sh. 2A Det.	Standard Detour Signs	Traffic Maintenance	11-15-79	R-2-1-79
65.	Sh. 3 Det.	Standard Detour Signs	Traffic Maintenance	10-20-80	R-9-1-80
66.	Sh. 3A Det.	Standard Detour Signs	Traffic Maintenance	5-18-77	R-4-1-77
67.	Sh. 4 Det.	Standard Detour Signs	Traffic Maintenance	5-18-77	R-4-1-77
68.	Sh. 5A Det.	Standard Detour Signs	Traffic Maintenance		R-4-1-81
69.	Sheet 9	Traffic Sign Details	Traffic Maintenance		R-4-1-79

GENERAL NOTES (cont.)

- All removal equipment used for partial concrete removals of bridge structures shall be hand held. Pneumatic hammers, 30 lbs. maximum weight shall be used for all removal areas to be patched and all areas within 24 inches of full depth removal lines. Pneumatic hammers up to 90 lbs. maximum weight may be used for all other removals outside these limits. Deck areas that are to be removed full depth shall be completely separated from adjacent concrete before hammers heavier than 30 lbs. may be used.
- See Guard Rail Revision sheets for orientation of structures.
- See sheets 33 thru 38 for Estimate of Quantities.
- See sheets 39 thru 40 for Traffic Maintenance Details.

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**MATERIAL NOTES**

**BRIDGE DECK OVERLAY**

1-3/4" Modified Portland Cement Concrete Overlay GR  
2-1/2" Dense Portland Cement Concrete Overlay

**\* BITUMINOUS WEDGE & LEVELING**

110 lbs/sy Bituminous Surface Type 11B over  
Variable depth Bituminous Binder or Base

**TERMINAL JOINT RECONSTRUCTION**

220 lbs/sy Bituminous Binder

**BITUMINOUS WIDENING**

990 #/sy Bituminous Base Type 5D

\* The maximum depth of bituminous surface Type 11B shall not exceed 1 1/2". All locations where total wedge thickness will exceed 1 1/2", a bituminous binder or base shall be placed as a first course to within one inch of the finished grade.

**CONSTRUCTION PROCEDURE FOR PLACING  
BRIDGE DECK OVERLAY**

1. Scarify the bridge floor to a depth of 1/4 inch. Scarify additional areas of bridge floor an additional 1/4 inch as directed by the Engineer.
2. Remove scarifying dust.
3. Remove all existing non-full depth deck patches and all deteriorated concrete below the level of scarification and remove concrete around reinforcing and along curbs inaccessible to scarifying equipment by handchipping and cleaning in accordance with the Special Provisions.
4. Reconstruct all full depth portions of the slab and other members as required for the installation of Class S-S Expansion Joints.
5. Construct overlay dams.
6. Blast and clean all removal and scarified areas.
7. Place the bridge deck patching and bridge deck overlay as shown on the plans and in accordance with the special provisions.
8. Install BS expansion joints.

**STRUCTURE DATA:**

Type: Continuous Composite Steel Beam  
Spans: 32'-0, 69'-6, 69'-6, 32'-0  
Slew: 20° 24' 40" Right  
O-O Bridge Floor: 205.94'  
Clear Roadway: 32'-6  
O-O Coping: 36'-6  
Curb Width: 9"  
Deck Area: 743.7 sqs.  
Expansion Joint: Existing: Open at Bent #1 Proposed: BS 11  
Open at Bent #5 BS 11  
ADT (1980): 9920 V.P.D. Approach: 26'0 Bituminous Pmt.

**CONSTRUCTION PROCEDURE:**

Place concrete overlay according to sheet 8.

Clean and seal the roadway face and top of the curbs, face of the deck copings, underside of the deck from copings to the drip bead, all exposed faces of wings and top of the overlay dam on approaches.

Construct bituminous wedges.

Update Guard Rail according to sheets 10 & 11.

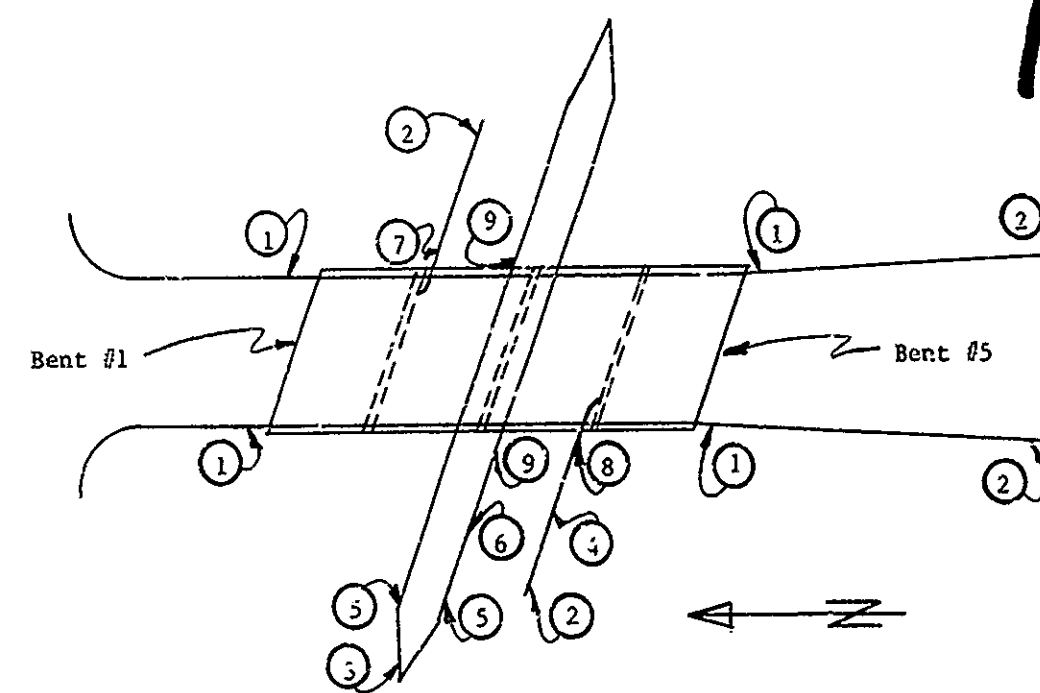
Mudjack the south approach.

Patch west coping as directed by the Engineer using concrete Class 'A' Patching. (Estimated Quantity: 5 sft.)

Remove and replace West steel beam in span 'C' according to details on sheets 41 thru 43. (Plan Sheets)

**NOTES:**

See sheet 25 for longitudinal section.  
See sheet 29 for expansion joint details.  
See sheet 28 for section at end bents.  
See sheet 30 for joint installation at curbs.



**GUARD RAIL REVISION**

I-465-129-5277A  
(Westfield Blvd. over I-465)

1. Connect existing guard rail to the concrete wingwall with bolted thru connection in accordance with Road Standard GR 8. Add second rail section as shown on the standard to provide "Double Rail Section" at the structure. Add 3 posts and brackets Class 'D<sub>s</sub>' (To be paid for as 12.5 ft. of "Reset Guard Rail").
2. Remove 40 ft. of guard rail buried end, install "Guard Rail End Treatment".
3. Remove 80 ft. of existing guard rail buried end (double faced) and install 80 ft. of Guard Rail Class 'F<sub>s</sub>' in accordance with obsolete Road Standards GR 2 (dated R-5-1-78) and GR 10 (dated R-3-1-77).
4. Remove 12.5 ft. of existing guard rail (damaged), install 12.5 ft. of "Guard Rail Class 'E<sub>s</sub>'".
5. Remove 25 ft. of existing guard rail (damaged), install 25 ft. of "Guard Rail Class 'F<sub>s</sub>'".
6. Remove 19 ft. of existing guard rail (damaged), install 19 ft. of "Guard Rail Class 'F<sub>s</sub>'".
7. Reset 25 ft. of Guard Rail Class 'E<sub>s</sub>'. Include installation of 4 addition posts and brackets and 12'-6 Rail length for Double Rail Section. Install 12.5 ft. of Guard Rail Class 'E<sub>s</sub>' (Terminal End Pier Connection) according to Road Standard GR 7.
8. Remove 12.5 ft. of damaged Guard Rail. Reset 12.5 ft. of Guard Rail Class 'E<sub>s</sub>'. Install 25 ft. of Guard Rail Class 'E<sub>s</sub>' (Terminal End Pier Connection) according to Road Standard GR 7. Includes installation of 4 additional posts and brackets and 12'-6 Rail length for Double Rail Section.
9. Add 4 Posts and Brackets Class 'D<sub>s</sub>'.

\* In accordance with obsolete Road Standard GR 2 (dated R-5-1-78).

**SUMMARY:**

Removal of Guard Rail	335 lft.
Guard Rail Type 'E'	50 lft.
Guard Rail Type 'F'	150 lft.
Reset Guard Rail	88 lft.
Guard Rail Posts and Brackets Type 'D'	8 each
Guard Rail End Treatment	4 each

**STRUCTURE DATA:**

Type: Continuous Steel Beam Bridges  
Spans: 44', 55', 44'  
Slew: 20° 50' 20" Left  
O-O Bridge Floor: 146.13'  
Clear Roadway: 50'-6  
O-O Coping: 54'-6  
Curb Width: 9"  
Deck Area: 820.0 sqs.  
Expansion Joint: Existing: Preformed Joint at Bent #1 Proposed: BS 11  
Preformed Joint at Bent #4 BS 8  
ADT: 41,600 V.P.D.  
Approach: 36'-0 R.C. Pavement

**CONSTRUCTION PROCEDURE:**

Place concrete overlay according to sheet 8.

Clean and seal the roadway face and top of the curbs, face of the deck copings, underside of the deck from copings to the drip bead and top of the overlay dam on approaches.

Remove top 2" of existing bituminous material from the terminal joints. Clean out the joint and place new bituminous material.

Construct bituminous wedges.

Update the guard rail according to sheet 18.

Remove and reconstruct 3'-0 long sections of the bridge slab, full width (includes removal of concrete end posts) at both ends of both structures. Extend bridge railing to connect with approach guard rail. See sheet 13 thru 17 for details.

Mudjack all approaches.

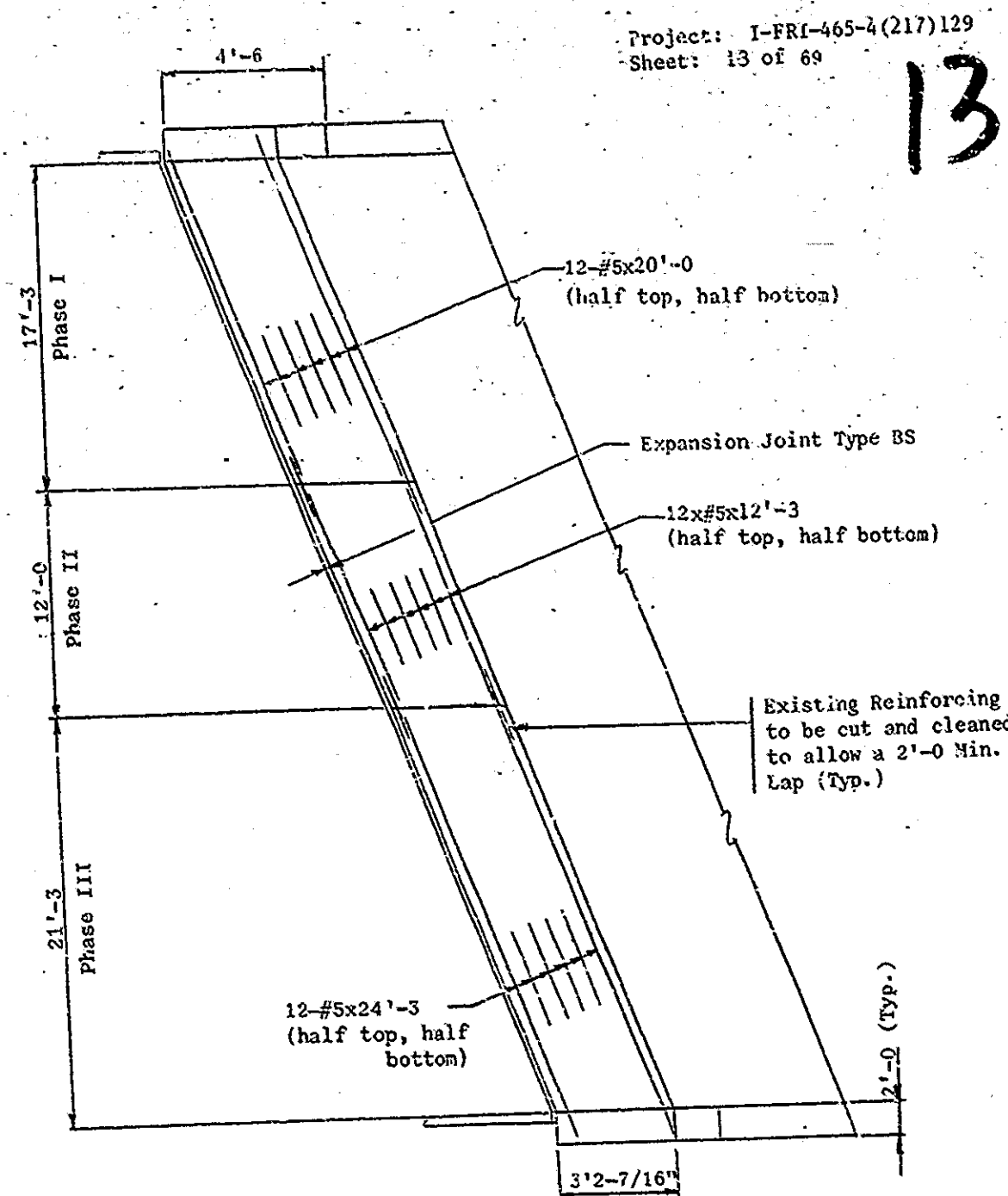
Adjust Castings to Grade on approaches.

Remove damaged portion of the slopewall (Estimated Quantity: 10 sqs) on east slopewall of the eastbound structure. Fill the voids using Special Concrete. Rebuild removed portions of the slopewall.

Install "Curb Turnout Type 'A'" at N.W. corner of the E.B. structure.

**NOTES:**

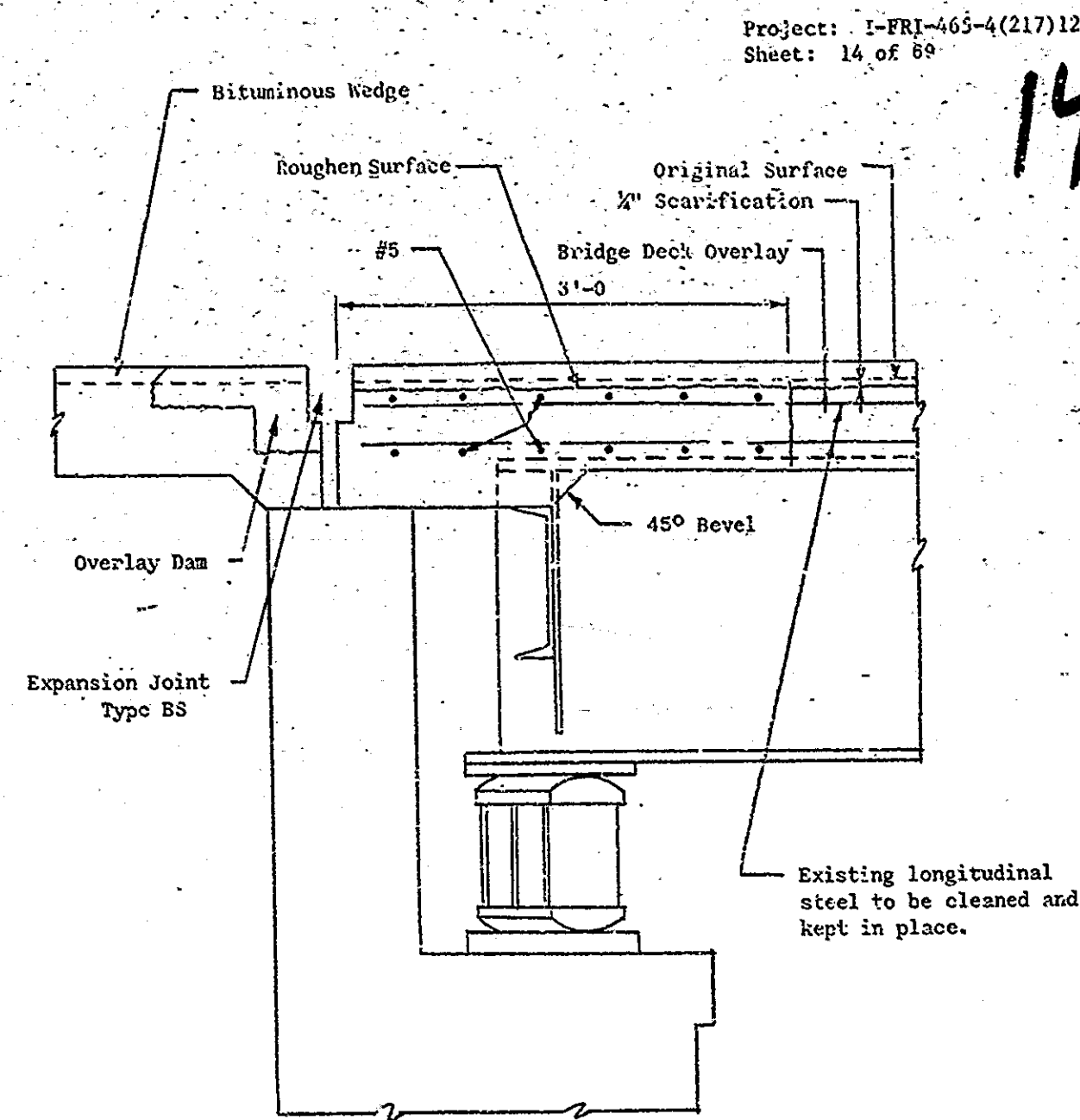
See sheet 26 for longitudinal section.  
See sheet 29 for expansion joint details.  
See sheet 30 & 31 for joint installation at curbs.  
See sheet 27 for Section at end Bent.  
See sheet 32 for Approach Section.



PLAN VIEW AT BENT No. 1  
(BENT No. 6 SIMILAR BY 180° ROTATION)

Note: See sheet 15616 for Railing Details  
See sheet 16 for Corner Details  
See sheet 16 for Section at End Bent

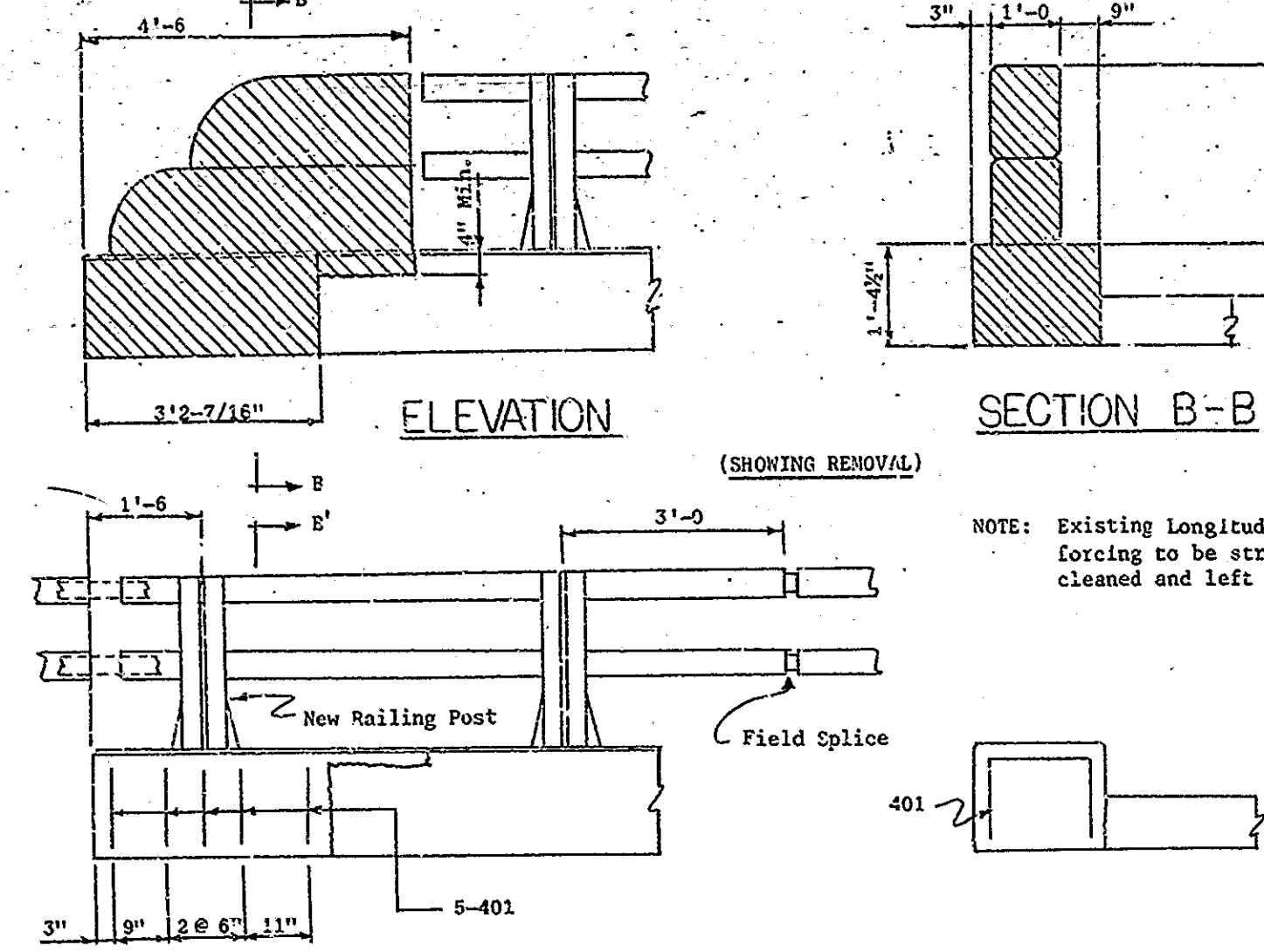
I-465-129-2378A



SECTION AT END BENT

I-465-129-2378A

See sheet 27 for additional details.

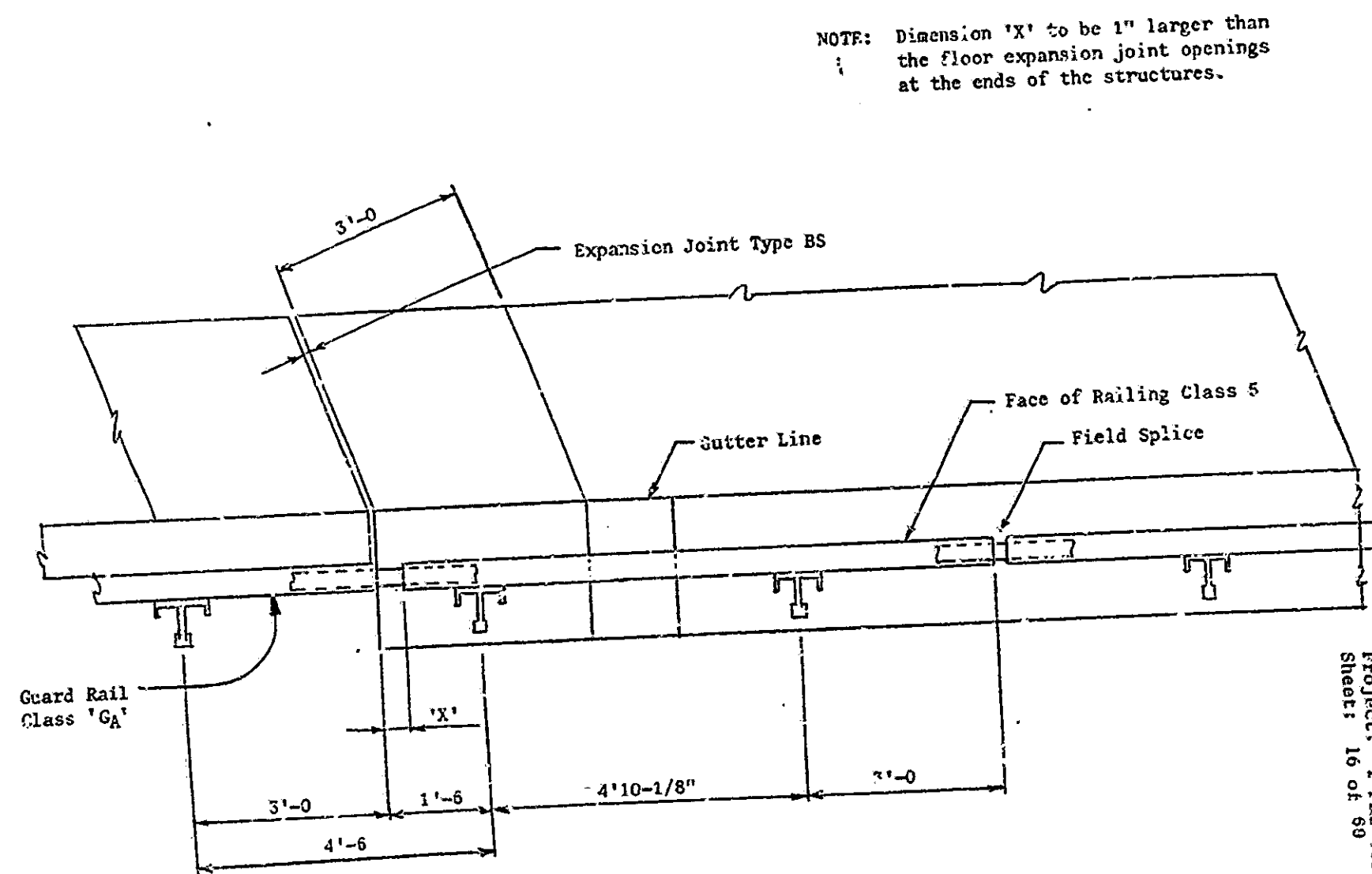


ELEVATION

SECTION B-B

RAILING DETAILS

I-465-129-2378A



APPROACH DETAIL

(SHOWING RAILING INSTALLATION)  
I-465-129-2378A

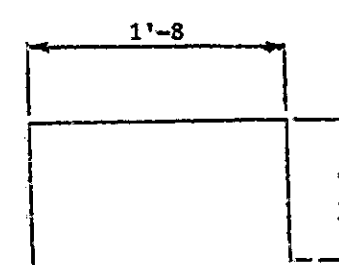
BILL OF MATERIALS

I-465-129-2378A

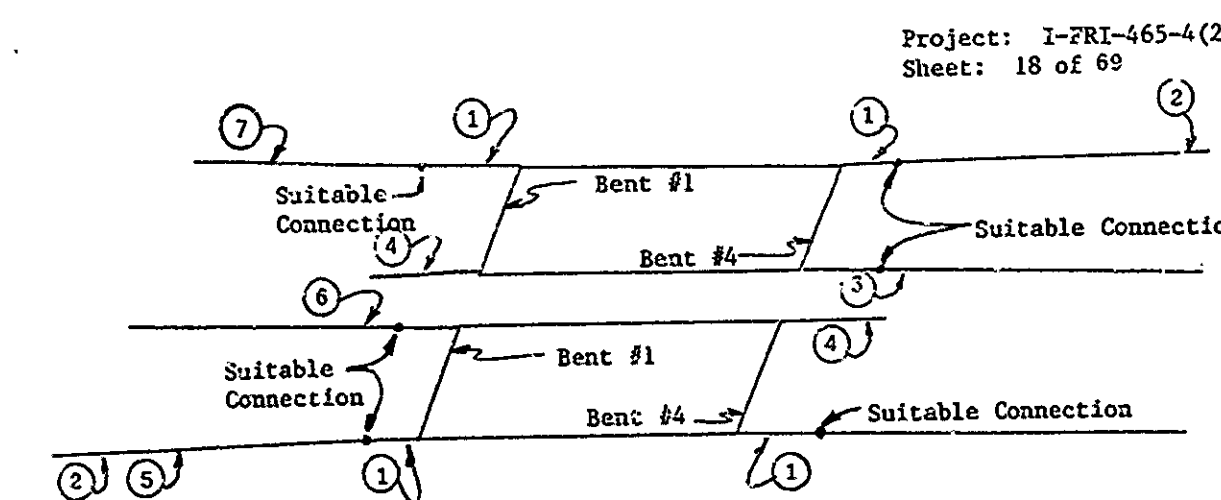
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REINFORCING STEEL				
Mark or Size	Number	Length	Weight	
5	48	24'-3		
5	48	20'-0		
5	48	12'-3		
Total #5			2829#	
401	40	3'-8		
Total #4			98 #	
Total Reinforcing Steel			2927#	

CONCRETE	
Concrete Class 'A'	
in Superstructure	20.5 cu
MISCELLANEOUS	
Railing Type 'G'	74 lft.



401x3'-8



GUARD RAIL REVISION

I-465-129-2378A  
I-465 over L & N R.R.

- Remove 28 ft. of steel beam guard rail; Install 28 ft. of Guard Rail Class 'G<sub>A</sub>'; Connect to existing guard rail with Suitable Connection.
- Remove 40 lft. of guard rail buried End; Install "Guard Rail End Treatment".
- Install 28 ft. of Guard Rail Class 'G<sub>A</sub>'; Reset 164 lft. of Guard Rail; Connect to Guard Rail Class 'G<sub>A</sub>' with Suitable Connection; Install 177 lft. of Guard Rail Class 'D<sub>B</sub>'; Remove 40 lft. of Guard Rail Buried End; Install Guard Rail End Treatment.
- Install 28 lft. of Guard Rail Class 'G<sub>A</sub>'.
- Remove 12.5 lft. of damaged Guard Rail; Install 12.5 lft. of Guard Rail Class 'D<sub>B</sub>'.
- Remove 40 lft. of Guard Rail Buried End; Remove 56 lft. of damaged Guard Rail; Install 28 lft. of Guard Rail Class 'G<sub>A</sub>' at structure; Reset 108 lft. of existing Guard Rail; Connect to Guard Rail Class 'G<sub>A</sub>' with Suitable Connection; Install 233 lft. of Guard Rail Class 'D<sub>B</sub>'; Install Guard Rail End Treatment.
- Remove 25 lft. of damaged Guard Rail, Install 25 lft. of Guard Rail Class 'D<sub>B</sub>'

SUMMARY

Removal of Guard Rail	366 ft.
Reset Guard Rail	272 ft.
Guard Rail Type 'G'	224 ft.
Guard Rail Type 'D'	448 ft.
Guard Rail End Treatment	4 each

I-465-130-5279A  
I-465 Over College Avenue

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STRUCTURE DATA:

Type: Continuous Composite Steel Beam Bridges  
Spans: 30', 70'-9, 30'  
Skew: 3° 07' 47" Left  
O-O Bridge Floor: 133.33'  
Clear Roadway: 51'-0"  
O-O Coping: 55'-0"  
Curb Width: 9"  
Deck Area: 755.5 sq. yds.  
Expansion Joint: Existing: Performed at Bent #1 Proposed: BS 11  
Existing: Performed at Bent #4 BS 6  
ADT: 41,600 V.P.D. Approach: 36'-0 R.C. Pavement

CONSTRUCTION PROCEDURE:

Place concrete overlay according to sheet 8.

Clean and seal the roadway face and top of the curbs, face of the deck copings, underside of the deck from copings to the drip bead, and top of the overlay dam on approaches.

Remove top 2" of existing bituminous material from the terminal joints. Clean out the joint and place new bituminous material.

Construct bituminous wedges.

Update the guard rail according to sheet 24.

Remove existing concrete end posts and extend bridge railing to connect with approach guard rail according to details on sheets 20 thru 23.

Mudjack the west approach of both structures.

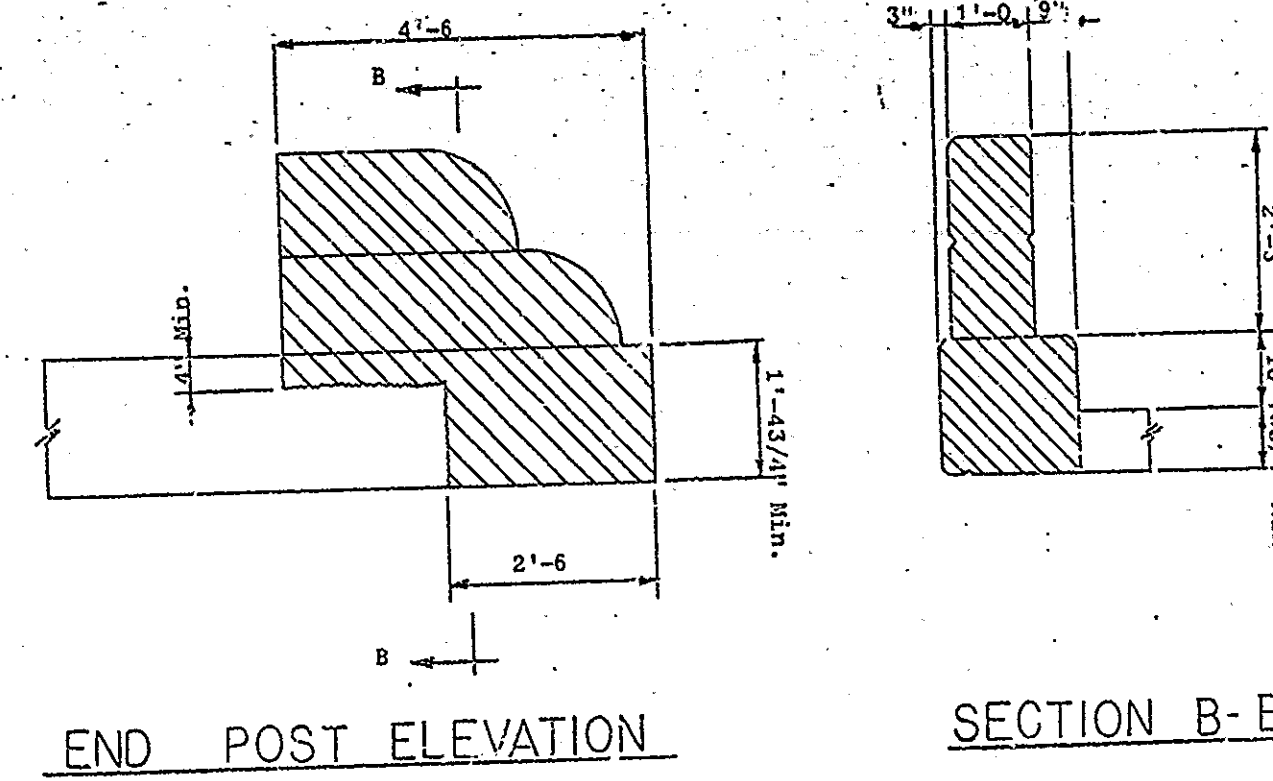
Fill and reshape the shoulder on College Avenue at the west pier. (Estimated Borrow quantity 100 cys.)

Install "Curb Turnout Type 'A'" at southeast corner of westbound structure and northwest corner of the eastbound structure.

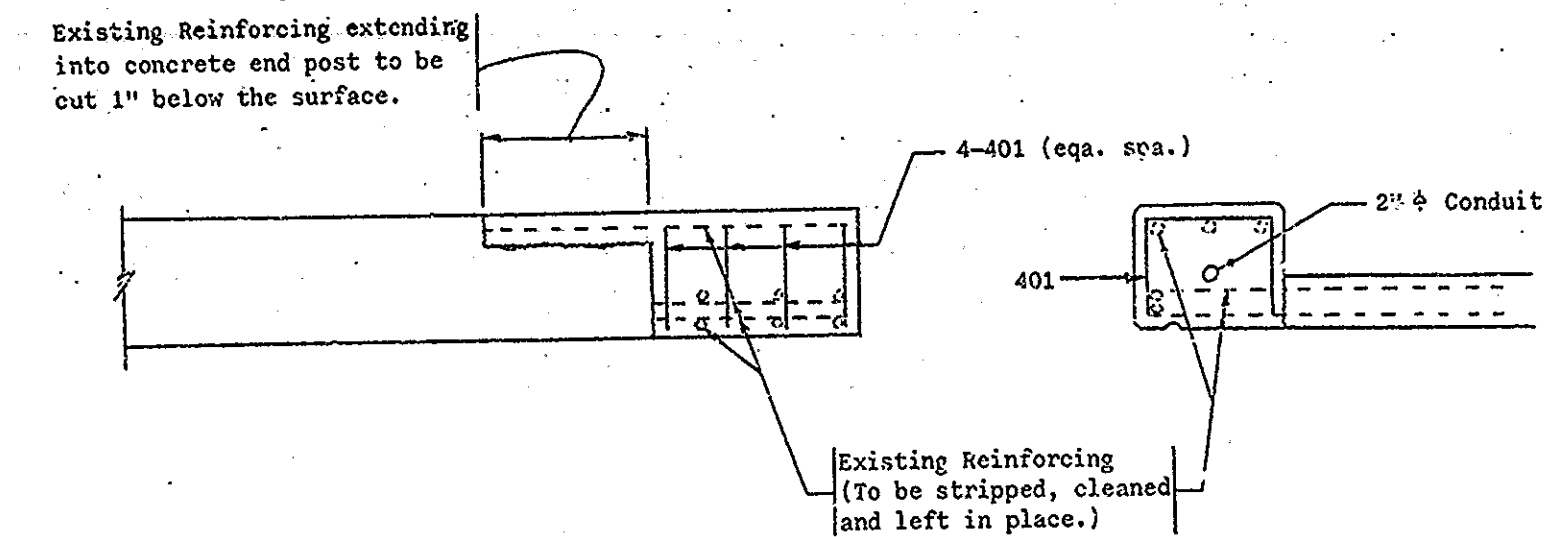
Adjust Castings to Grade on approaches.

NOTES:

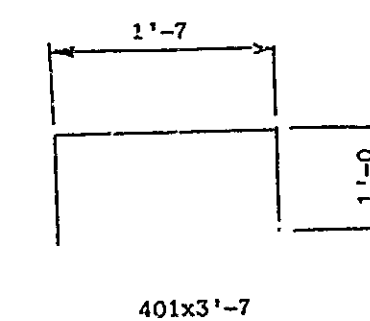
See sheet 25 for longitudinal section.  
See sheet 29 for expansion joint details.  
See sheet 28 for section at end bents.  
See sheet 30 & 31 for joint installation at curbs.  
See sheet 32 for Approach Section.



RAILING DETAILS  
(SHOWING LIMITS OF REMOVAL)  
I-465-130-5279A



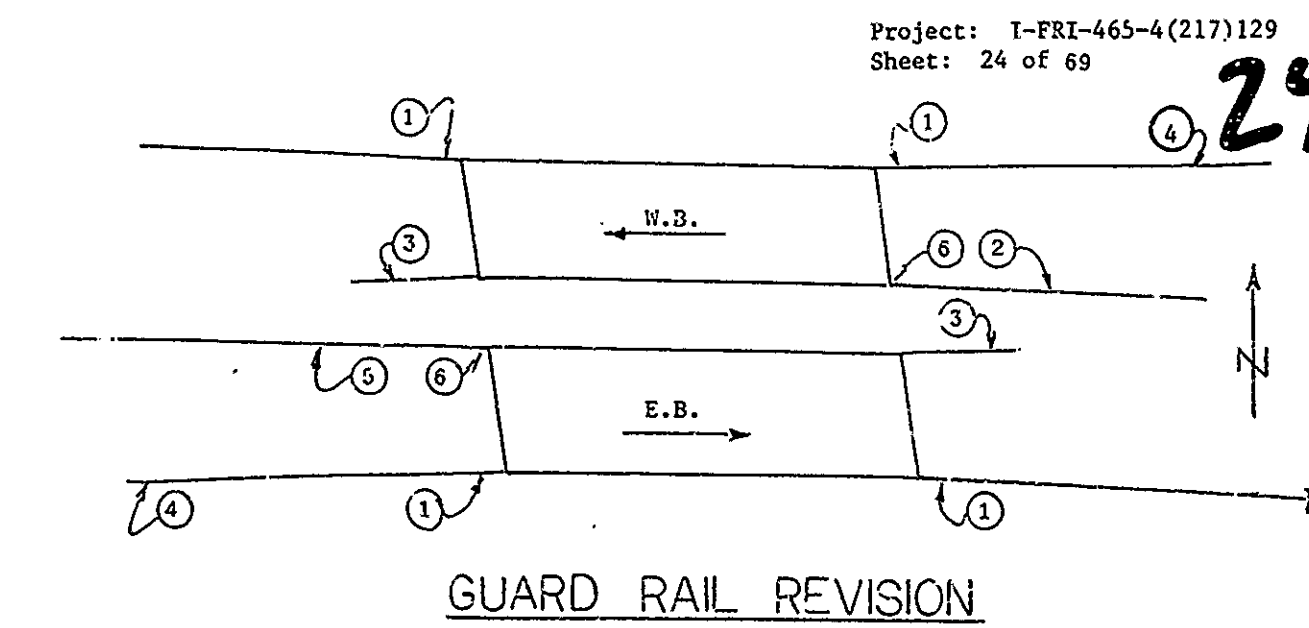
SECTION AT CURB  
(Showing Reconstruction)  
RAILING DETAILS  
I-465-130-5279A



BAR BENDING DIAGRAMS

BILL OF MATERIALS

REINFORCING STEEL				CONCRETE	
Mark or Size	Number	Length	Weight		
401	32	3'-7	77#	Concrete Class 'A' in Superstructure	2.2 cys.
				MISCELLANEOUS	
				Railing Type '5'	76 lft.

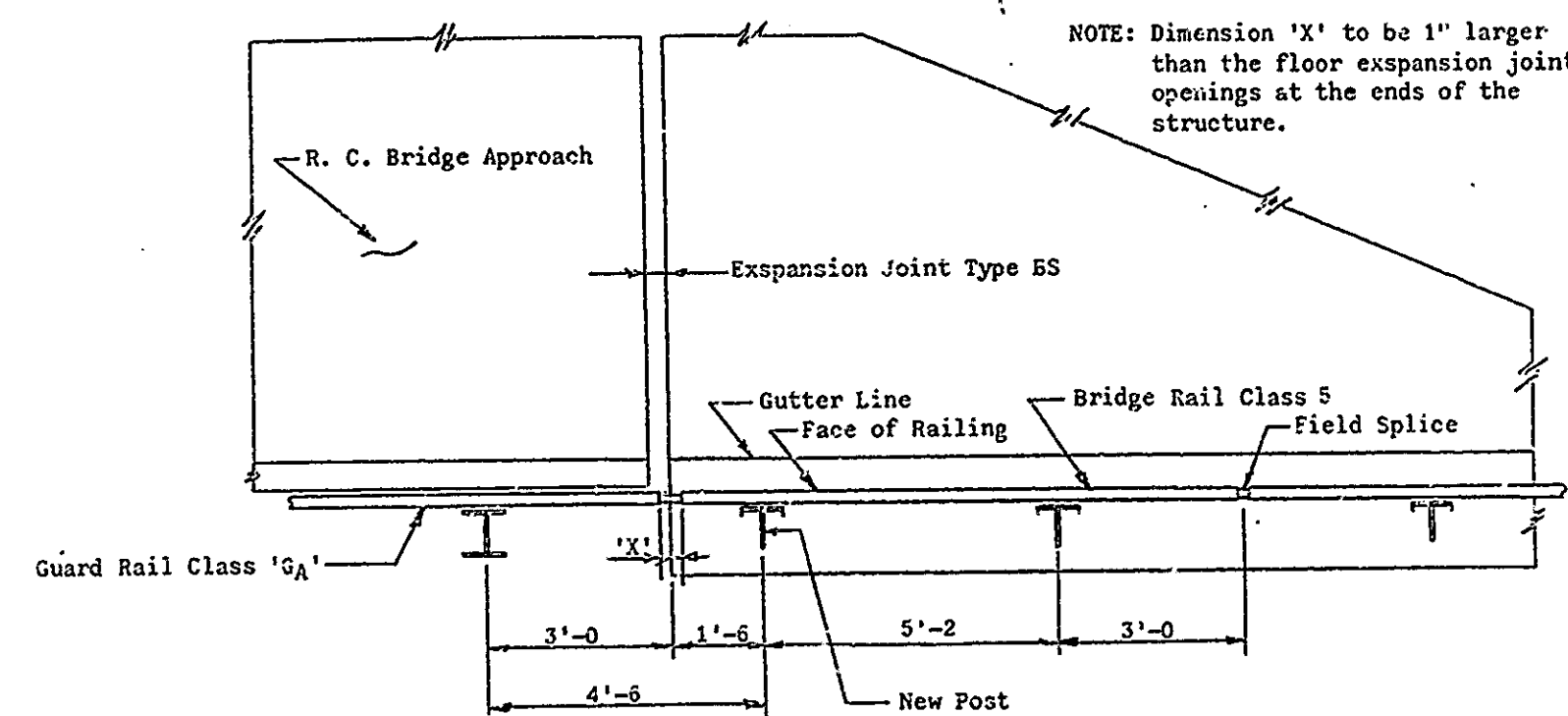


GUARD RAIL REVISION  
I-465-130-5279A  
I-465 Over College Avenue

- Remove 28 ft. of Steel Beam Guard Rail; Install 28 ft. of Guard Rail Class 'G<sub>A</sub>'; Connect to existing Guard Rail with Suitable Connection.
- Install 28 ft. of Guard Rail Class 'G<sub>A</sub>' at structure; Remove 40 ft. of Guard Rail Buried End; Remove 12.5 ft. of Damaged Guard Rail; Reset 150 ft. of existing Guard Rail; Connect to Guard Rail Class 'G<sub>A</sub>' with Suitable Connection; Install 191 ft. of Guard Rail Class 'D<sub>B</sub>'; Install Guard Rail End Treatment.
- Install 28 ft. of Guard Rail Class 'G<sub>A</sub>'; Remove 40 ft. of Guard Rail Buried End; Install "Guard Rail End Treatment".
- Install 28 ft. of Guard Rail Class 'G<sub>A</sub>' at structure; Remove 40 ft. of Guard Rail Buried End; Remove 25 ft. of damaged Guard Rail; Reset 141 ft. of existing Guard Rail; Connect to Guard Rail Class 'G<sub>A</sub>' with Suitable Connection; Install 200 ft. of Guard Rail Class 'D<sub>B</sub>'; Install Guard Rail End Treatment.
- Install Curb Turnout Type 'A'.

SUMMARY

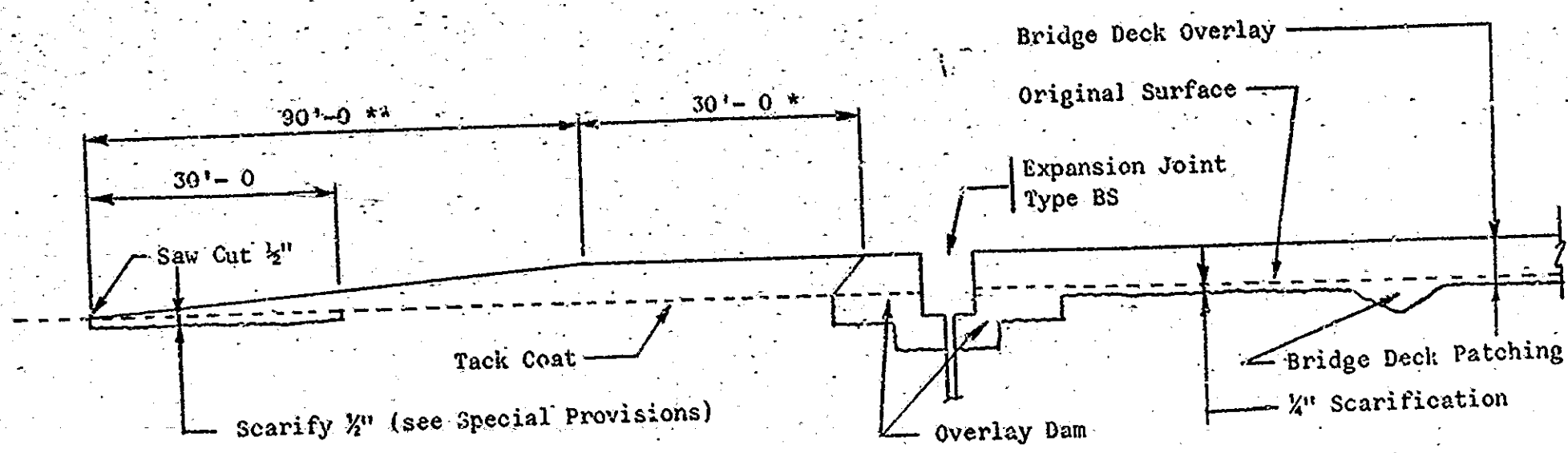
Removal of Guard Rail	310 ft.
Reset Guard Rail	291 ft.
Guard Rail Type 'G'	224 ft.
Guard Rail Type 'D'	391 ft.
Guard Rail End Treatment	4 each
Curb Turnout Type 'A'	2 each



APPROACH DETAIL  
(SHOWING RAILING INSTALLATION)

I-465-130-5279A

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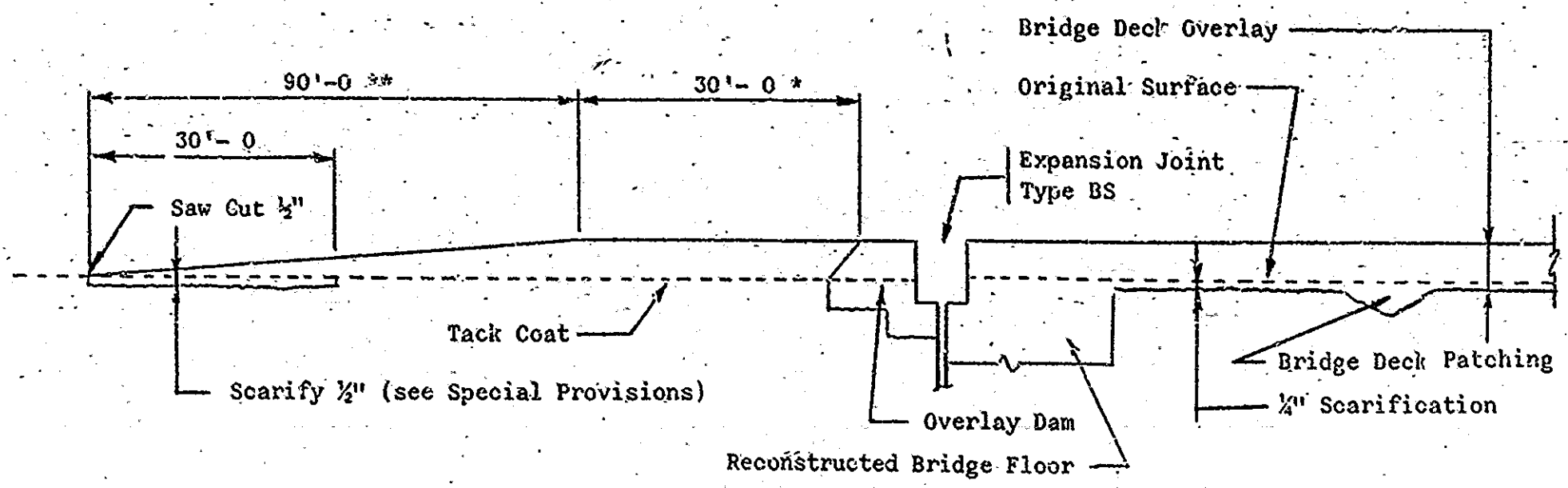
\* Wedge to be continuation of the bridge profile  
 \*\* Taper wedge uniformly to meet existing roadway

**LONGITUDINAL SECTION**

I-465-129-5277A  
 I-465-130-5279A

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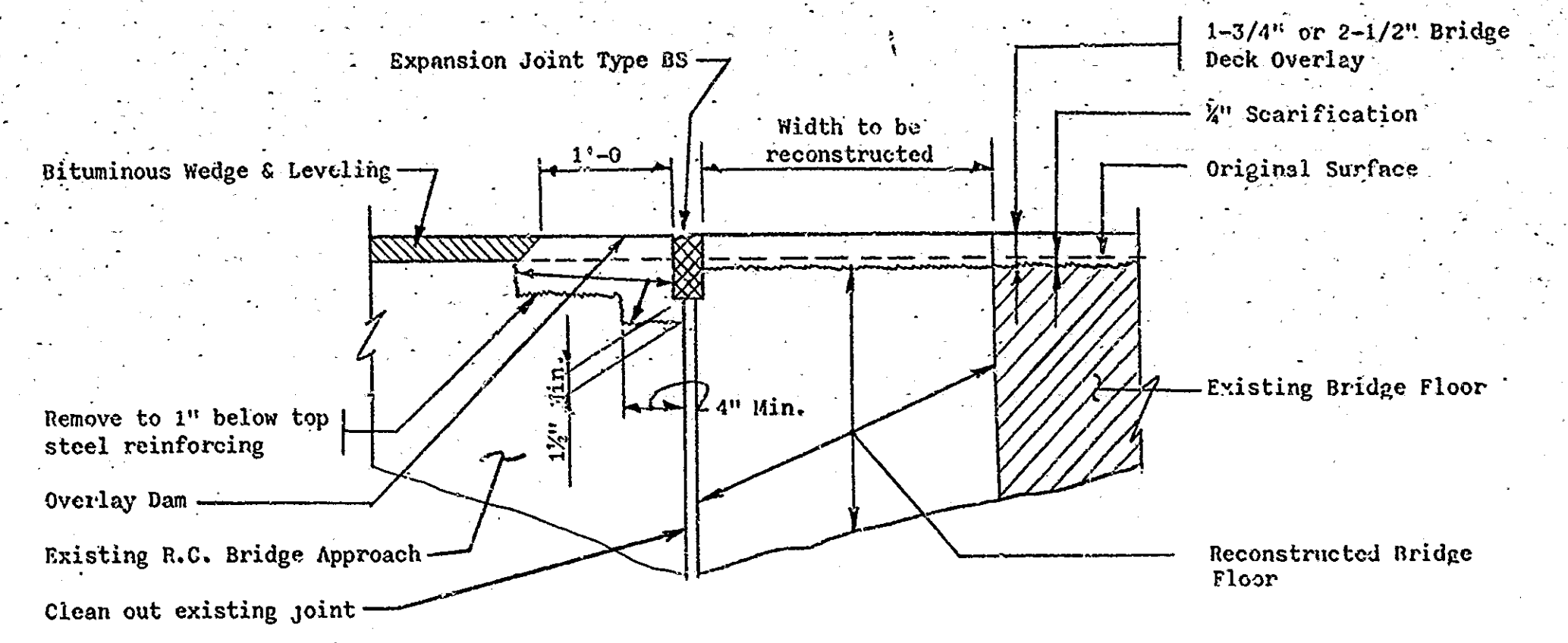
\* Wedge to be continuation of the bridge profile  
 \*\* Taper wedge uniformly to meet existing roadway

**LONGITUDINAL SECTION**

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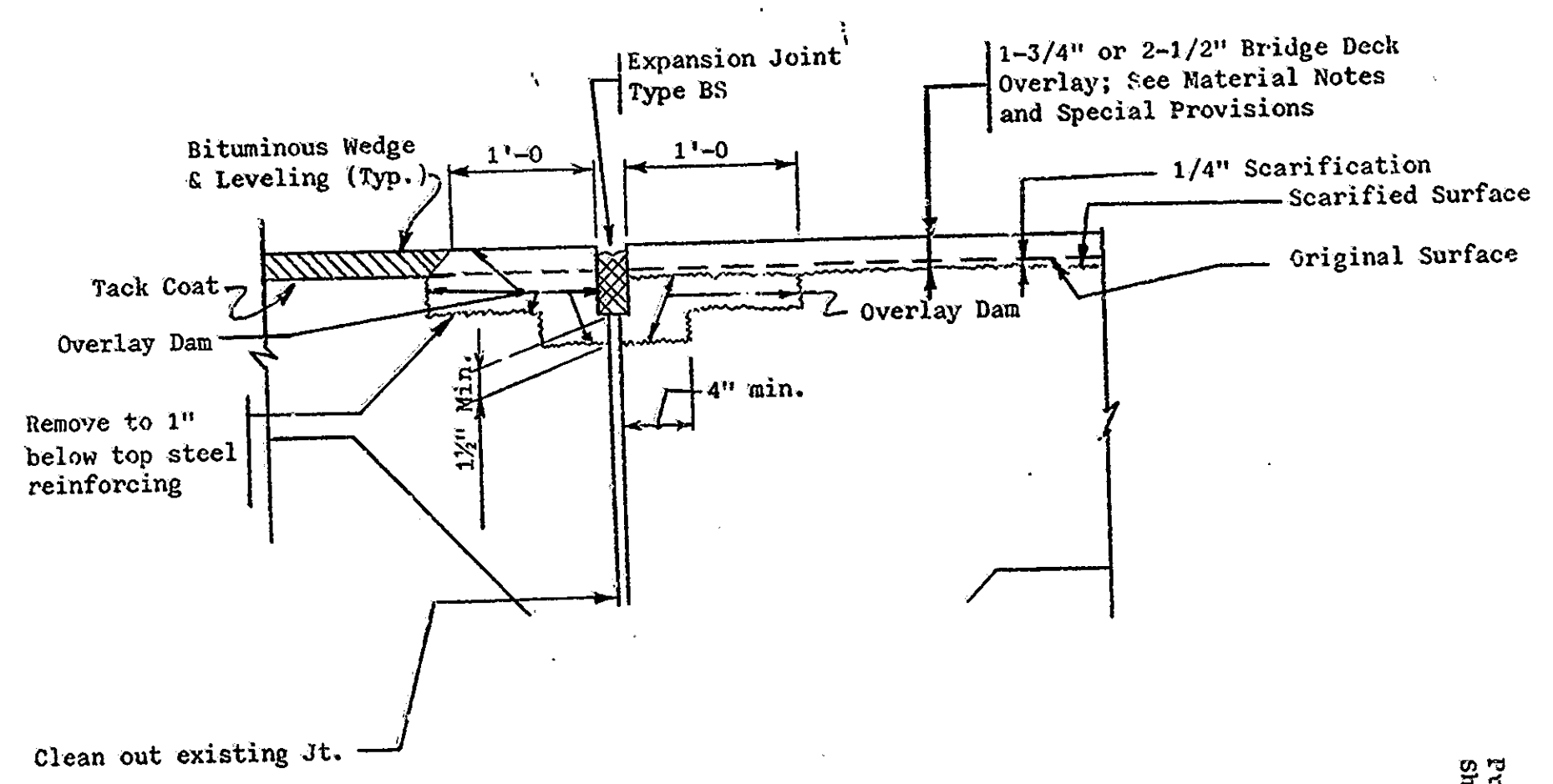


**SECTION AT END BENT**

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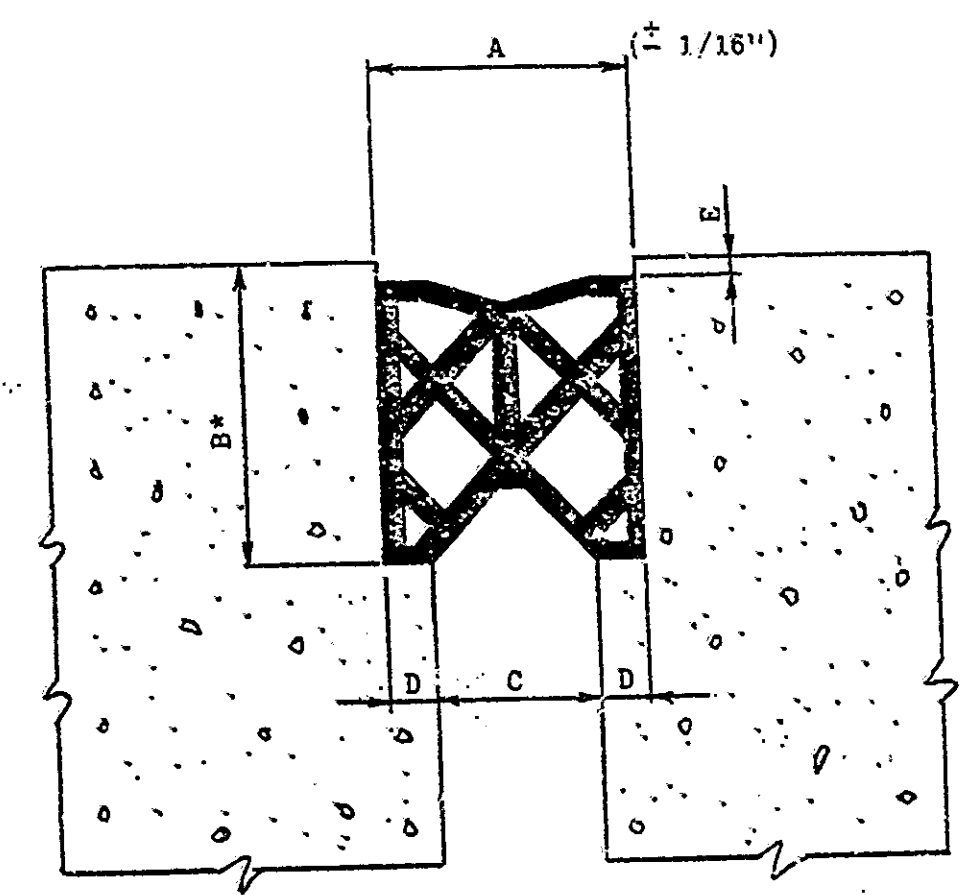
**SECTION AT END BENT**

I-465-129-5277A  
 I-465-130-5279A

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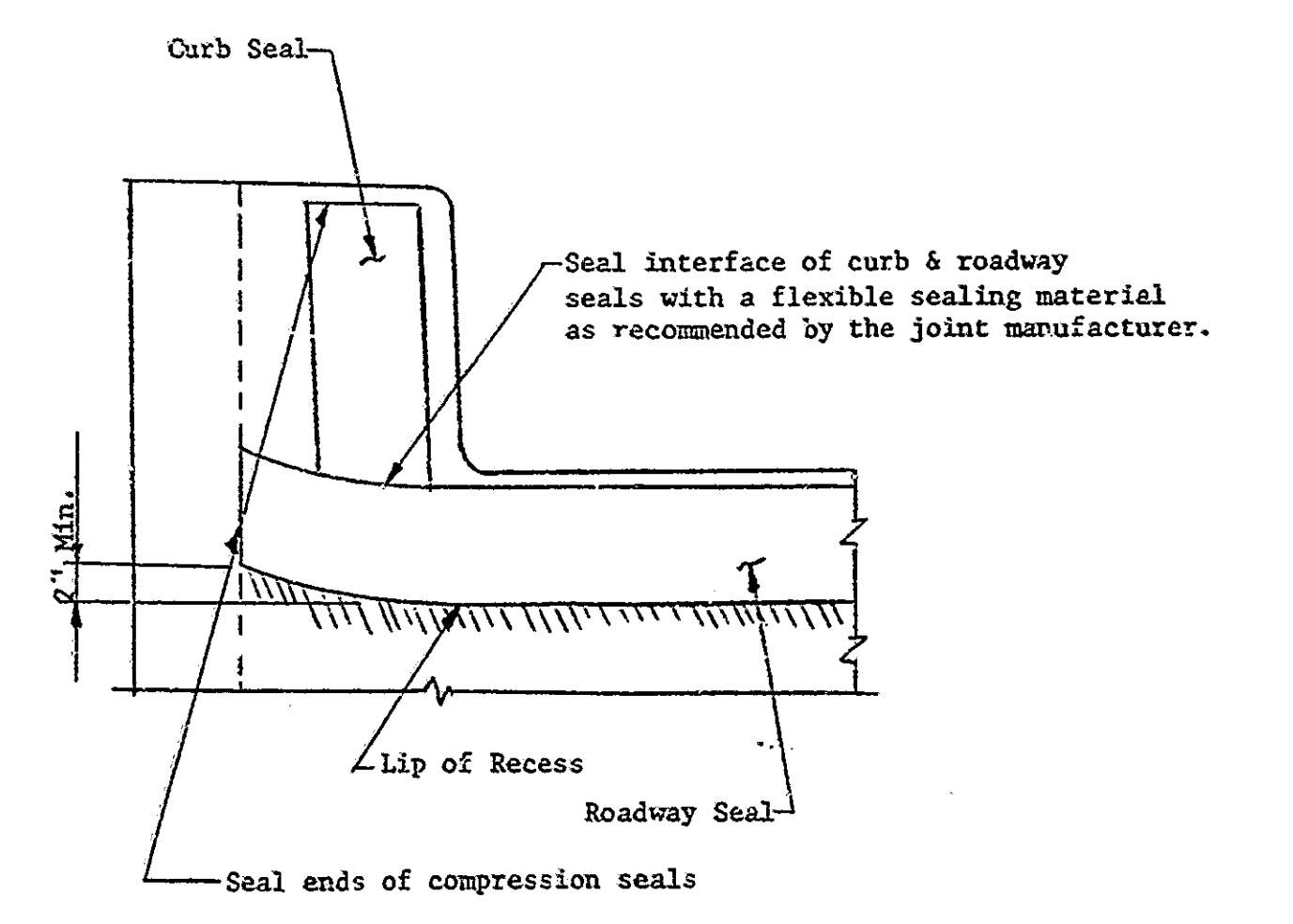


\* To be determined in the field, see the Special Provisions.

Bridge Seal	A	B	C	D	E
BS 2	1"	*	0"	1/2"	1/2"
BS 6	1-5/8"	*	7/8" ±	3/8"	1/2"
BS 8	2"	*	1-1/4" ±	3/8"	1/2"
BS 9	2-5/8"	*	1-5/8" ±	1/2"	3/4"
BS 11	3-1/8"	*	2-1/8" ±	1/2"	3/4"

**EXPANSION JOINT TYPE BS**

30

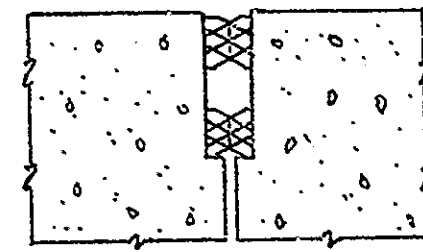
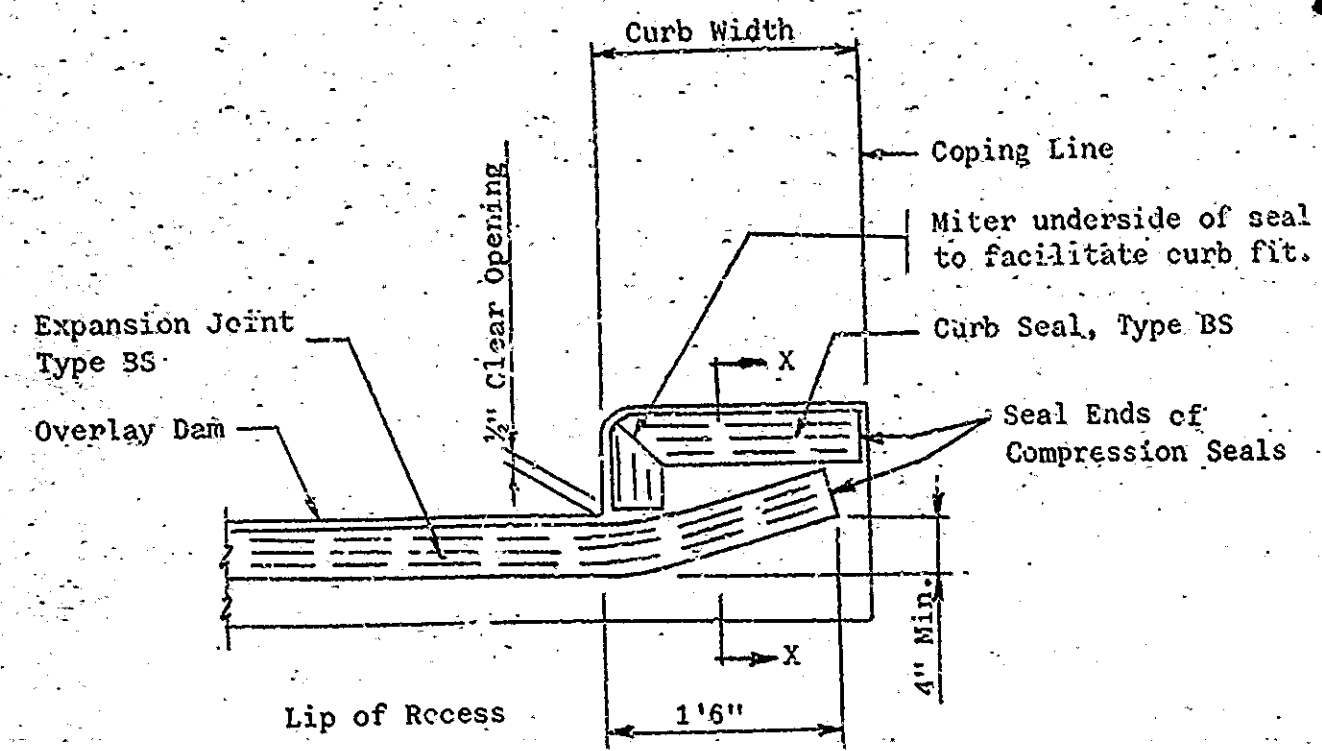


**TYPICAL BS JOINT INSTALLATION AT CURB**

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 I-465-129-2378A  
 I-465-130-5279A

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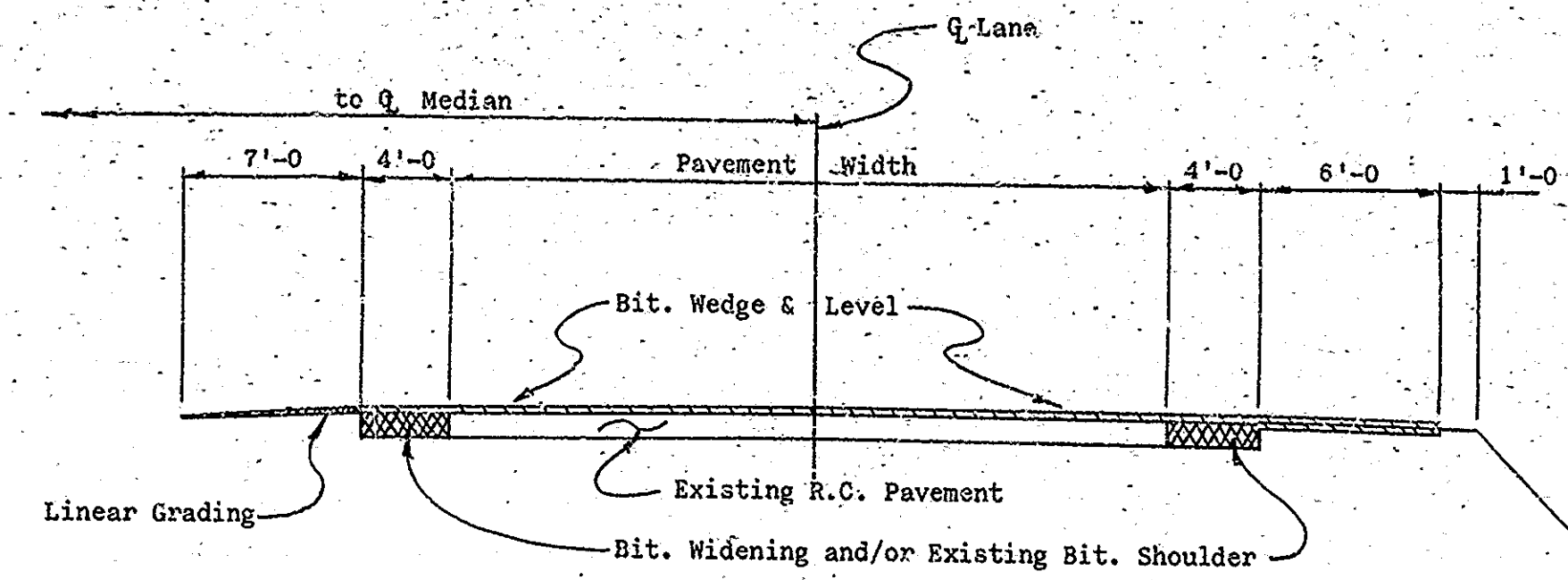


SECTION "X-X"

BS JOINT INSTALLATION AT CURBS

I-465-129-2378A  
I-465-130-5279A

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TYP. HALF APPROACH SECTION

I-465-129-2378A  
I-465-130-5279A

NOTE: The cost of stripping and borrow for Linear Grading shall be included in the cost of other items in the Contract.

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SUMMARY

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CODE#	ITEM	UNIT	FUND-ING	5277A	2378A	5279A	TOTAL
51845	BRIDGE DECK SURFACE	SYS.					
51842	BRIDGE DECK OVERLAY	SYS.	A	744	1640	1512	3896
51843	BRIDGE DECK PATCHING	SFT.	B	1005	3690	2050	6745
51835	CONCRETE SCARIFYING*	SYS.	B	871	2533	2472	5876
51840	ADDITIONAL CONCRETE SCARIFYING	SYS.	B	150	330	305	785
51837	BLASTING AND CLEANING	SYS.	B	744	1640	1512	3896
51838	FINISHING AND CURING	SYS.	A	744	1640	1512	3896
51874	OVERLAY DAMS	SFT.	A	139	216	409	764
51826	SURFACE SEAL	SFT.	B	2500	2970	2770	8240
	FULL DEPTH PATCHING	SFT.	B		20	40	60
51881	EXPANSION JOINT TYPE BS 2	LFT.					
51885	EXPANSION JOINT TYPE BS 6	LFT.	A			105	105
51887	EXPANSION JOINT TYPE BS 8	LFT.	A		111		111
51888	EXPANSION JOINT TYPE BS 9	LFT.					
51890	EXPANSION JOINT TYPE BS 11	LFT.	A	73	111	105	289
51925	EXPANSION JOINT CLASS S-5	LFT.					
	*Includes Approach Scarification	SYS.		174	960	960	2094

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SUMMARY

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CODE#	ITEM	UNIT	FUND-ING	5277A	2378A	5279A	TOTAL
51005	CONCRETE CLASS 'A' IN SUBSTRUCTURE	CYS.					
51039	REINFORCING STEEL	LBS.		3806(C)	2927(B)	77(A)	6810
51875	SPECIAL CLASS 'A' CONCRETE	SFT.	C				15**
51870	REPOINTING MASONRY IN STRUCTURES	SFT.	C				20**
52831	DRILLED HOLES FOR MUD-JACKING	EACH	C	2	16	8	26
52830	MATERIALS FOR MUDJACKING	CYS.	C	4	32	16	52
51038	STRUCTURAL STEEL	LS.	C	1			1
51866	RIVETS REMOVED	EACH	C	270			270
	BORROW	CYS.	C			100	100
	*Bituminous Mixture for Approaches - Quantity Breakdown						352
	Bituminous Wedge			46	152	154	
	Terminal Jt. Reconst.			0	7	7	
	Bituminous Widening				607	607	
	Total			46	766	768	1580
	** Undistributed Quantity						

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SUMMARY

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CODE#	ITEM	UNIT	FUND-ING	5277A	2378A	5279A	TOTAL
52535	REMOVAL OF GUARD RAIL	LFT.	A	335*	366	267	968
52505	GUARD RAIL TYPE 'B'	LFT.					
52510	GUARD RAIL TYPE 'C'	LFT.					
52515	GUARD RAIL TYPE 'D'	LFT.	A		448	391	839
52520	GUARD RAIL TYPE 'E'	LFT.	A	50			50
52525	GUARD RAIL TYPE 'F'	LFT.	C	150			150
52530	GUARD RAIL TYPE 'G'	LFT.	A		224	224	448
06035	RESET GUARD RAIL	LFT.	A	88	272	291	651
	GUARD RAIL END TREATMENT	EACH	A	4	4	3	11
	GUARD RAIL POST AND BRACKET TYPE 'D'	EACH	A	8			8
	GUARD RAIL POST AND BRACKET TYPE 'E'	EACH					
51134	REMOVAL OF PRESENT RAILING	LFT.					
	RAILING TYPE '5'	LFT.	A		74	76	150
	RAILING TYPE	LFT.					
	ALUMINUM TYPE '5' POST	EACH					
	SPECIAL BRIDGE RAILING CONNECTION	EACH					
51132	RAILING RESET	LFT.	C	76			76
	BARRIER RAIL (ALUMINUM)	LFT.					
	CURB TURNOUT TYPE 'A'	EACH	A		1	2	3
	*Includes 150 lft. for replacement of damaged Guard Rail (All State Funds)						

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SUMMARY

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CODE#	ITEM	UNIT	FUND-ING	5277A	2378A	5279A	TOTAL
	RESHAPING SPILL SLOPES	LS.					
51375	REVEINMENT RIPRAP, 18"	TONS					
51365	SLOPEWALL	SYS.	C		10		10
51210	PLASTIC FILTER CLOTH	SYS.					
	REMOVAL OF PAVED SIDE DITCH	LFT.					
	PAVED SIDE DITCH TYPE 'A'	LFT.					
	PAVED SIDE DITCH TYPE 'B'	LFT.					
51368	REMOVAL OF SLOPEWALL	SYS.	C		10		10
	SPECIAL CONCRETE	CYS.	C		5		5
51300	CONCRETE PAVEMENT REINFORCED (10")	SYS.					
52303	REMOVAL OF PAVEMENT	SYS.					
52470	BITUMINOUS MIXTURE FOR APPROACHES *	TON	A	46	766	768	1580
57273	BITUMINOUS BASE #5D	TON					
52456	BITUMINOUS MATERIAL FOR TACK COAT	SYS.	A	800	2700	2720	6220
51001	CONCRETE CLASS 'A' IN SUBSTRUCTURE	CYS.		15.8(C)	20.5(B)	2.2(A)	38.5

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\*See sheet 35

SUMMARY

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CODE#	ITEM	UNIT	FUND- ING	5277A	2378A	5279A	TOTAL
52640	MAINTAINING TRAFFIC	LS.	A				1
52340	CONSTRUCTION SIGN TYPE 'A'	EACH	A	10	17	17	44
52345	CONSTRUCTION SIGN TYPE 'B'	EACH	A	4	4	4	12
52350	STANDARD BARRICADES TYPE III	EACH	A	2			2
	TEMPORARY STOP SIGN TYPE R-1 A	EACH					
	TEMPORARY YIELD SIGN TYPE R-301	EACH					
52366	TEMPORARY PAVEMENT MARK- ING TAPE	LFT.	A		12,420	12,360	28,780
52821	FLASHING ARROW SIGN	WKS.	A		13	13	26
	TEMPORARY CONCRETE BARRIER	LFT.	A		1880	1840	3,720
06717	REMOVAL OF LINE - SOLID, YELLOW, 4"	LFT.	A		900	900	1800
06716	REMOVAL OF LINE - SOLID, WHITE, 4"	LFT.	A		1680	1650	3330
06718	REMOVAL OF LINE - SKIP, WHITE, 4"	LFT.	A		1980	1970	3950
06714	LINE, SOLID, YELLOW 4"	LFT.	A	2640	1880	1650	5970
06713	LINE, SOLID, WHITE 4"	LFT.	A	2640	1680	1650	5970
	LINE, SKIP, WHITE 4"	LFT.	A		1515	1500	3015
	TEMPORARY IMPACT ATTENU- ATION DEVICE	EACH	A		1	1	2

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SUMMARY

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CODE#	ITEM	UNIT	FUND- ING	5277A	2378A	5279A	TOTAL
4-700	CASTING ADJUSTED TO GRADE	EACH	A		4	4	8
51110	CAST IRON GRATES, BASINS AND FITTINGS	LBS.					
51092	STEEL PIPE CONDUIT 2"	LFT.					
51328	REMOVAL OF PRESENT STRUC- TURE (PORTIONS) (5277A)	LSUM	C	1			1
51328	REMOVAL OF PRESENT STRUC- TURE (PORTIONS) (2378A)	LSUM	B		1		1
51328	REMOVAL OF PRESENT STRUC- TURE (PORTIONS) (5279A)	LSUM	A			1	1
	FUNDING CODE						
	A - 90% Federal						
	B - 75% Federal						
	C - All State Funds						

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