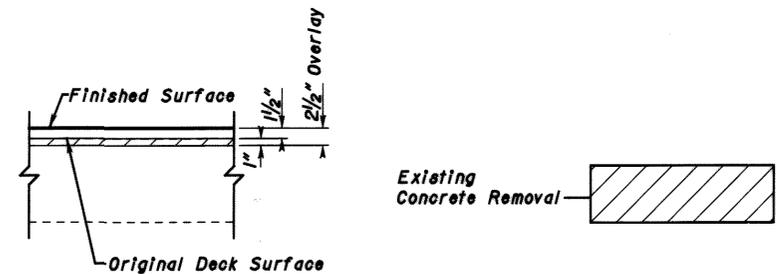
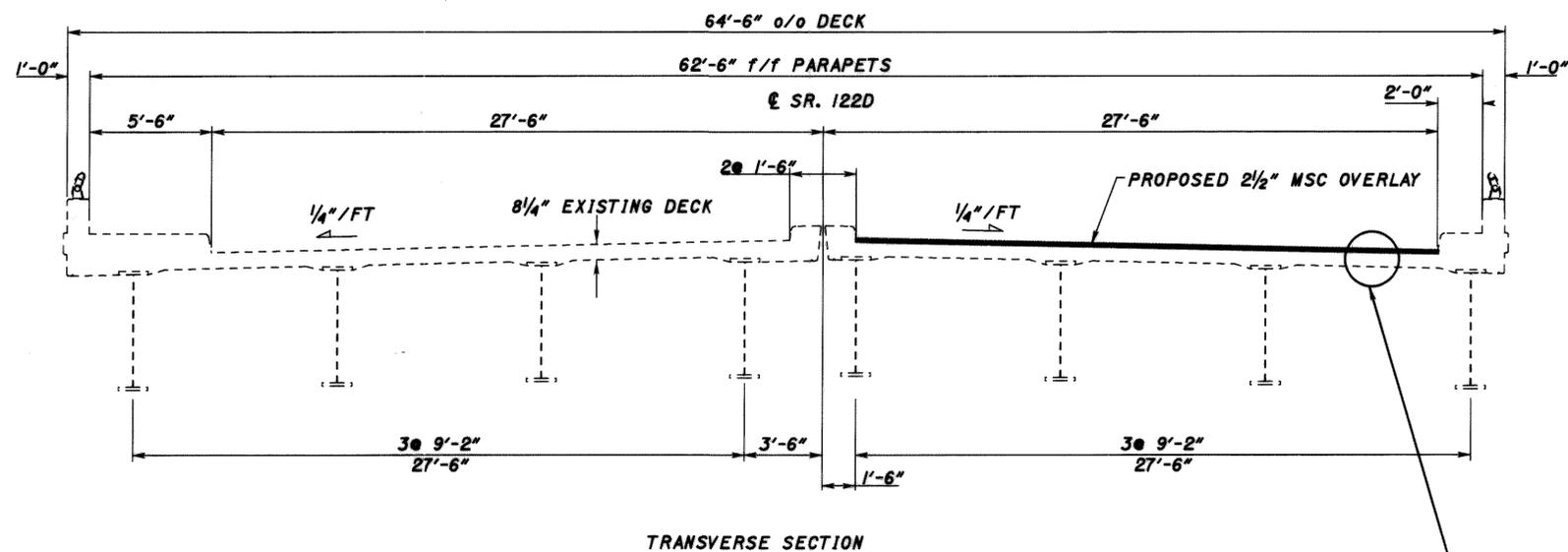
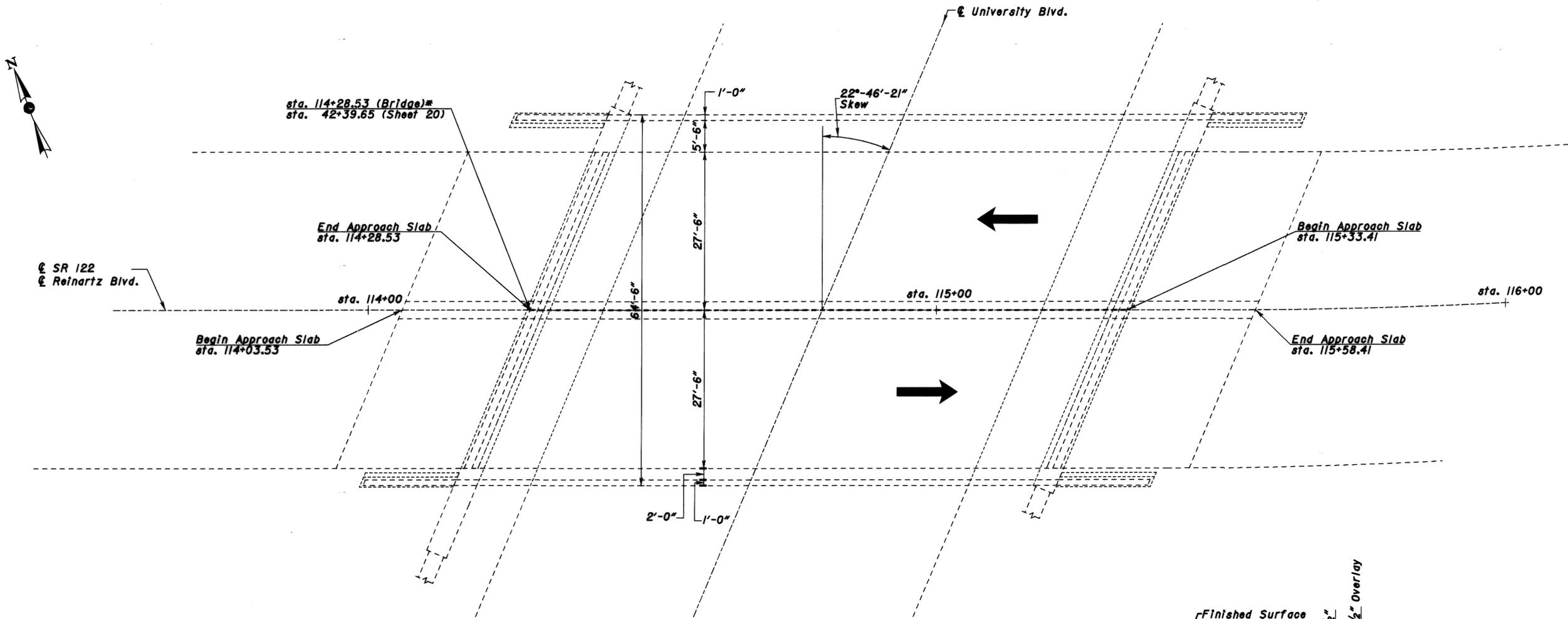


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DETAIL A
 New Overlay and Existing Deck Removal

* Approximate Station Equation Only
 Used to locate Bridge on Roadway Sheets

EXISTING STRUCTURE DATA

SFN: 0902365
 TYPE: Single span steel girder, with reinforced concrete deck and concrete substructure.
 SPANS: 100' o/c bearings
 ROADWAY: 62'-6" f/f curbs
 SKEW: 22°-46'-21" L.F.
 LOADING: HS 20-44
 WEARING SURFACE: 1" Monolithic concrete
 APPR. SLABS: AS-1-67 (25' long)
 ALIGNMENT: Tangent
 DATE BUILT: 1971
 LATITUDE: 39°-31'-00"
 LONGITUDE: 84°-23'-12"

DESIGN AGENCY: DISTRICT 8 PRODUCTION BRIDGE OFFICE
 DATE: 2/12/03
 REVIEWED: MLM
 DRAWN: JFE
 DESIGNED: JFE
 CHECKED: RSK
 STRUCTURE FILE NUMBER: 0902365
 STA. 113+55
 STA. 116+00
 SITE PLAN
 BRIDGE: BUT-122D-0059L
 OVER UNIVERSITY BLVD.
 BUT-122-6.55
 1/7
 180
 190

REFERENCE:

Reference shall be made to Standard Drawing(s)
EXJ-4-87 Revised 7-19-02
and to Supplemental Specification(s):
842 Dated 1-6-99
843 Dated 5-8-98
848 Dated 6-30-98
864 Dated 7-11-00
899 Dated 10-21-98
954 Dated 9-9-97

DECK PROTECTION METHOD:

Sealing of concrete surfaces
Micro-silica modified concrete overlay

PROPOSED WORK

BUT-122D-0059L

- 1) Remove 1" of existing deck surface with hydrodemolition.
- 2) Install new expansion joint retainers on deck and safety curb.
- 3) Patch spalled areas under the rear abutment with trowelable mortar or Item 519.
- 4) Patch the tops of the backwalls.
- 5) Place micro silica concrete overlay.
- 6) Install new expansion joint glands.
- 7) Sound and patch the abutments and wingwalls with trowelable mortar or Item 519 as directed by the Engineer.
- 8) Seal curb, sidewalks, railings, and backwalls with silane.

ITEM 516 - STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN

This item shall include the cost of all labor, material and equipment necessary to remove or grind portion of existing plates, trim existing angle if necessary, installation of all anchor plates, studs, steel plates, bars, steel retainers, elastomeric strip seal glands, painting of new steel at expansion joint as per std. dwg. EXJ-4-87, removal and replacement of a portion of the sidewalk, safety curb, and median for joint placement with class S concrete, and any other incidentals as per details shown on the standard drawing or as detailed in the plan. The proposed steel structural expansion joints shall be ASTM A36 material.

For information about the expansion joints, refer to Standard Drawings EXJ-4-87 Sheets 1 thru 5 and sheets 183/190 thru 186/190 of the plan. Payment for all the above including all labor, material and equipment shall be made at the unit price bid per Lin. Ft. for Item 516 - Structural Expansion Joints, Including Elastomeric Strip Seals, As Per Plan.

NON-USE OF ASBESTOS-CONTAINING MATERIALS

The Contractor shall at no time incorporate any materials which are composed of or contain any amounts of asbestos. The substitution of materials which contain any amounts of asbestos will in no circumstances be acceptable. Upon completion of the Project, the Contractor shall submit a written statement of Certification asserting that no asbestos containing materials were used in any portion of the construction.

CONCRETE REMOVAL NOTE

Removal shall include the elements indicated in the plans and general notes and are not separately listed for payment, except for wearing course removal. Items to be removed include all existing materials being replaced by new construction and miscellaneous items that are not shown to be incorporated in the final construction and are directed to be removed by the Engineer. The use of explosives, headache balls and/or hoe-rams will not be permitted. The method of removal and the weight of hammer shall be approved by the Engineer. All work shall be done in a manner that will not cut, elongate or damage the existing reinforcing steel to be preserved. Chipping hammers shall not be heavier than the nominal 90 pound class. Pneumatic hammers shall not be placed in direct contact with reinforcing steel that is to be retained in the rebuilt structure.

CUT LINE CONSTRUCTION JOINT PREPARATION:

Saw cut boundaries of proposed concrete removals 1" deep. Remove concrete to a rough surface. Where practicable, the existing reinforcing steel where required in the plans shall be left in place. Install dowel bars if specified. Prior to concrete placement, abrasively clean joint surface and exposed reinforcement to remove loose and disintegrated concrete and loose rust. The joint surface and exposed reinforcement shall be thoroughly cleaned of all dirt, dust, and other foreign material by the use of waterblast, air under pressure, and other methods that produce satisfactory results. Concrete bonding surfaces shall be wet without free water as concrete is placed.

EXISTING STRUCTURE VERIFICATION:

Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure and from field observations and measurements. Consequently, they are indicative of the existing structure and the proposed work but they shall be considered tentative and approximate. The Contractor is referred to CMS Sections 102.05 and 105.02 and 513.02/863.07.

Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field. Plans of the existing bridge are available for reference at the District 8 Office of the Ohio Department of Transportation, Lebanon, Ohio.

ITEM 509 REINFORCING STEEL REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by the Contractor's concrete removal operations shall be replaced with new steel at the Contractor's cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. The number of pounds of reinforcing steel paid for at contract prices shall be the actual pounds of reinforcing steel specified by the Engineer as unusable due to corrosion and shall include placement, doweling, bending, supporting, tie wires and tying of that specified reinforcing steel.

An allowance of 10 pounds is included in REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, for this purpose.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURE WITH TROWELABLE MORTAR:

This item is to be used to patch areas of deteriorated concrete less than 3" thick. The following quantities are provided and shall be directed by the engineer:

Bridge No. BUT-122D-0059L

1) forward abutments & wingwalls	5 s.f.
2) rear abutments & wingwalls	5 s.f.
3) tops of backwalls	62 s.f.
4) spalled area under rear bearings	10 s.f.

Areas of deteriorated concrete to be repaired shall be marked by the project engineer. Materials should not be ordered until the areas for repair have been marked. Only epoxy based materials listed in the proposal note can be used.

ITEM 519: PATCHING CONCRETE STRUCTURE:

This item is to be used to patch areas of deteriorated concrete 3" thick or greater. The following quantities are provided and shall be directed by the engineer where patches exceed 3" in depth:

Bridge No. BUT-122-0059L

1) forward abutments & wingwalls	5 s.f.
2) rear abutments & wingwalls	5 s.f.
3) tops of backwalls	62 s.f.
4) spalled area under rear bearings	10 s.f.

Areas of deteriorated concrete to be repaired shall be marked by the project engineer. Materials should not be ordered until the areas for repair have been marked. This item shall not be used to patch the underside of decks.

CLEANING STEEL IN PATCHES

All surfaces to be patched and the exposed reinforcing steel within shall be thoroughly cleaned by abrasive blasting prior to the cleaning specified by 519.04. Cleaning shall precede application of the patching material or erection of the forms by not more than 24 hours. Payment for this work is included in the concrete patching item.

SEALING OF CONCRETE SURFACES (SILANE):

The following concrete surfaces shall be sealed:

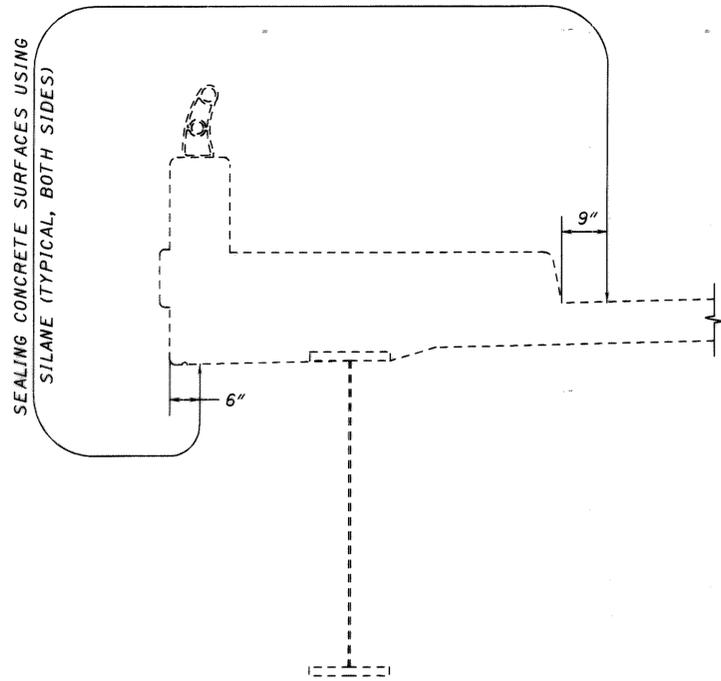
- BRIDGE No. BUT-122D-0059L
- 1) The concrete superstructure as shown on the plan details.
 - 2) The tops of the wingwalls, median curb, sidewalks, backwalls, and railing.
 - 3) The abutments and wingwall faces shall not be sealed.

The coating shall be silane.

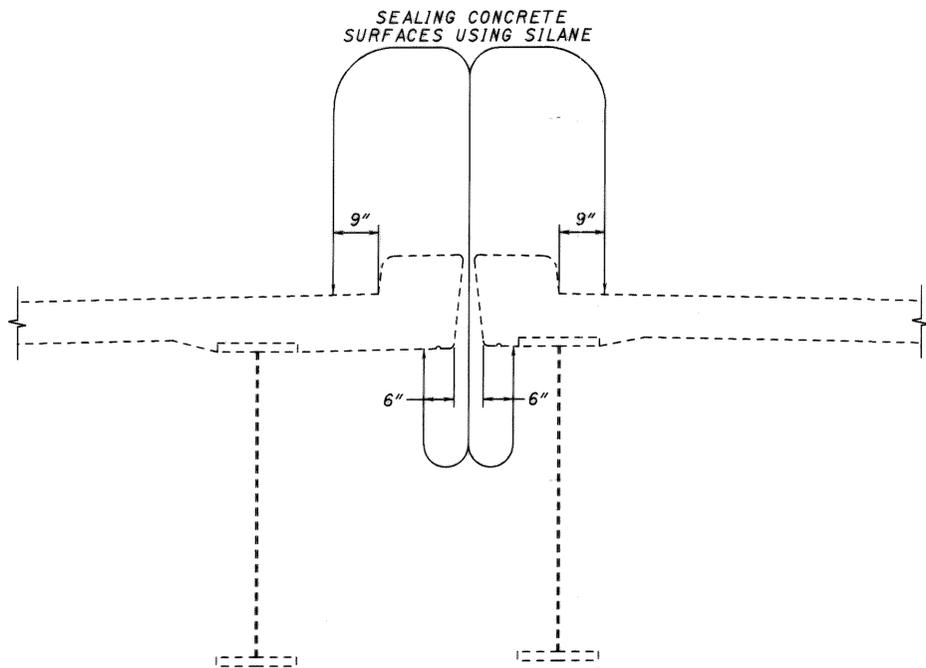
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DESIGN AGENCY
DISTRICT 8 PRODUCTION
BRIDGE OFFICE
DATE 2/12/03
REVISED MLM
STRUCTURE FILE NUMBER 0902365
DESIGNED JFE
CHECKED RSK
BRIDGE NOTES
BRIDGE NO. BUT-122D-0059L
OVER UNIVERSITY BLVD.
BUT-122-6.55
2 / 7
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SEALING OF CONCRETE PARAPETS

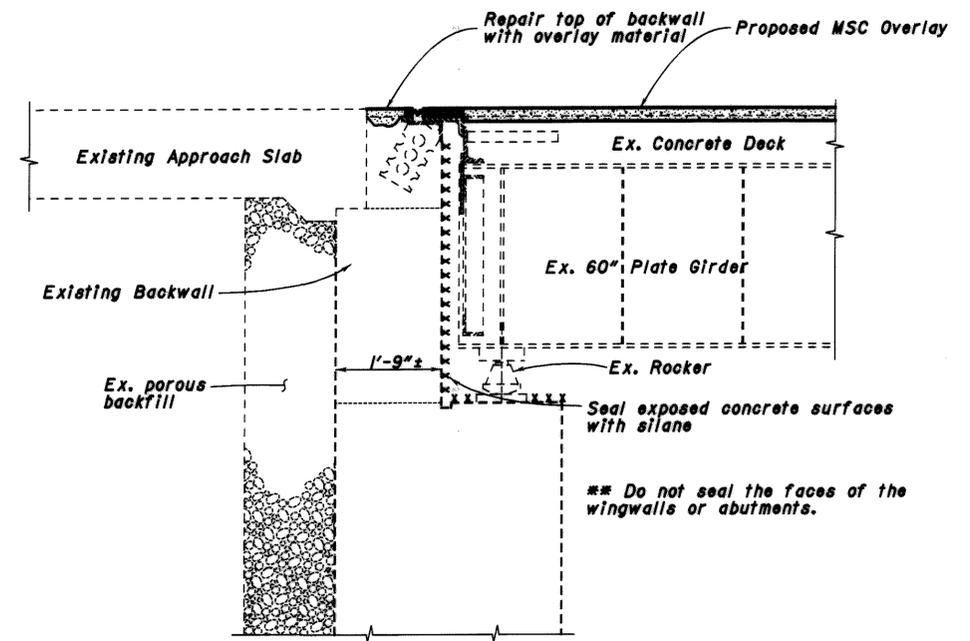


SEALING OF MEDIAN CURBS

ESTIMATED QUANTITIES								
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.
509	20000	10	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL			10	
516	11211	123.333	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			123.333	
519	11100	82	SQ FT	PATCHING CONCRETE STRUCTURE	82			
843	50000	82	SQ FT	PATCHING CONCRETE STRUCTURE WITH TROWELABLE MORTAR	82			
848	10000	578	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION 2 1/2" THICK			578	
848	20000	578	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			578	
848	30000	8	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			8	
848	50000	15	SQ YD	HAND CHIPPING			15	
848	50100	LUMP		TEST SLAB			LUMP	
848	50200	4	CU YD	FULL-DEPTH REPAIR			4	
864	10050	534	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)	158		376	

SEALING NOTES

1. Seal only the tops of the wingwalls.



ABUTMENT SEALING DETAIL

DESIGN AGENCY
 DISTRICT & PRODUCTION
 BRIDGE OFFICE

DESIGNED
 JFE
 CHECKED
 RSK

DRAWN
 JFE
 REVISED

REVIEWED
 MLM
 DATE
 2/12/03

STRUCTURE FILE NUMBER
 0902365

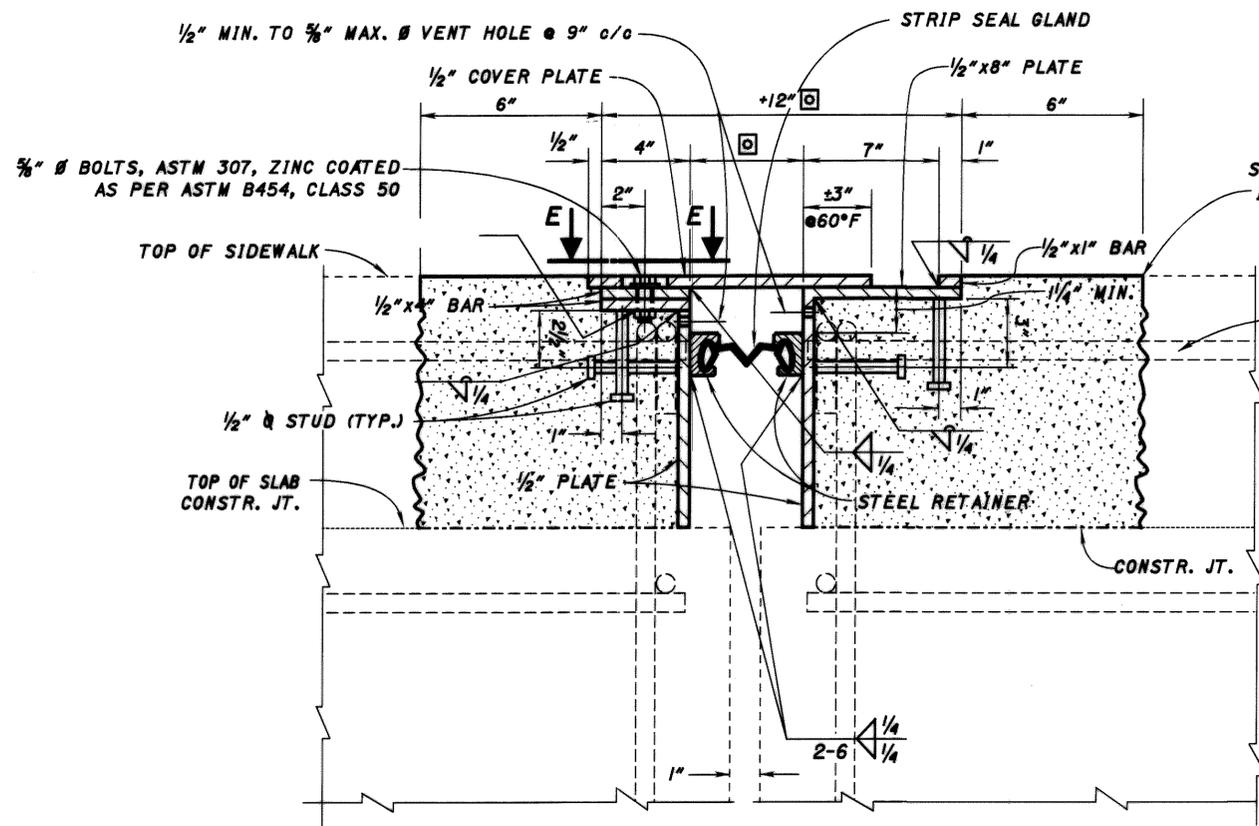
BRIDGE GENERAL SUMMARY
 BRIDGE: BUT-122D-0059L
 OVER UNIVERSITY BLVD.

BUT-122-6.55

3/7

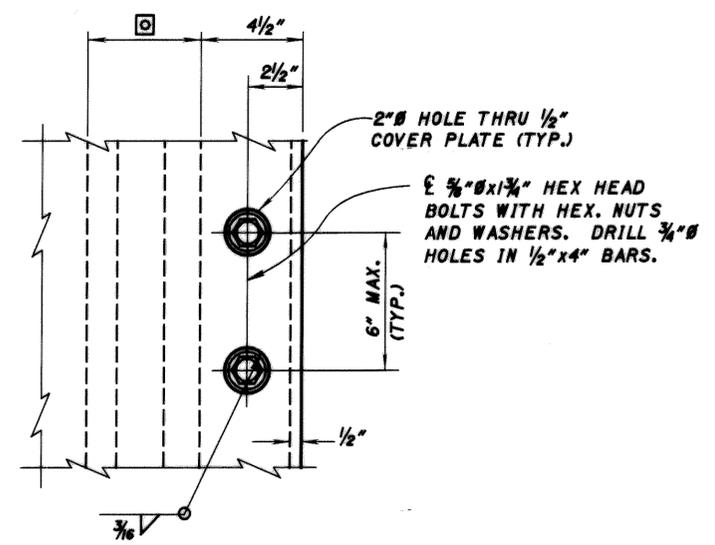
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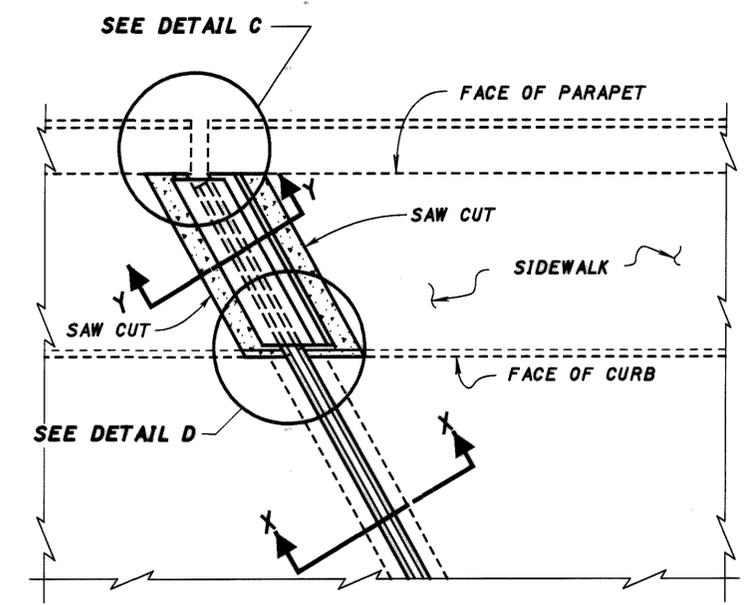
⊠ - THIS DIMENSION IS THE SUM OF DIM. "A" FOR THE ABUTMENT JOINT + (2 x STEEL RETAINER WIDTH)

SECTION Y-Y
SIDEWALK SECTION

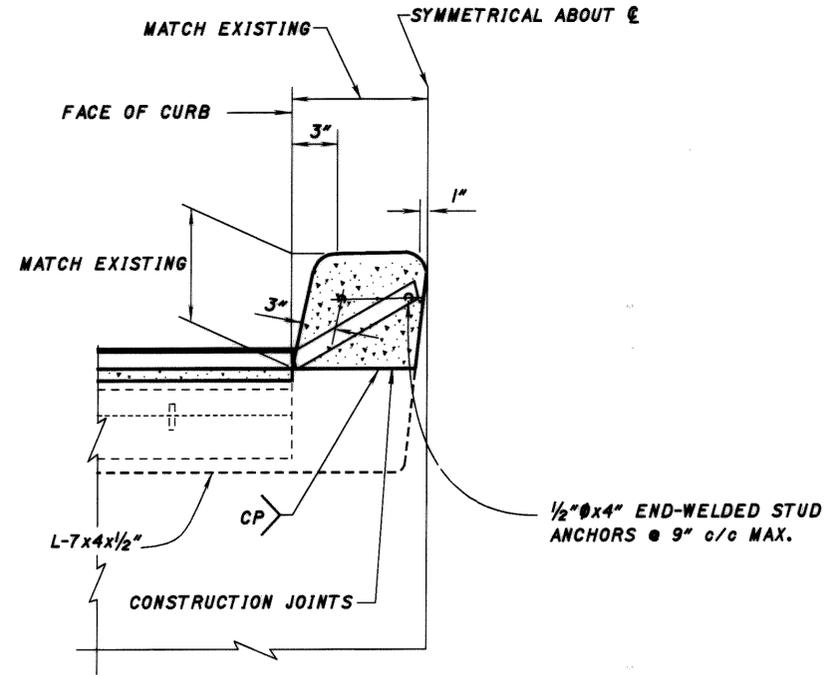


VIEW E-E

SAW CUT 1" IN DEPTH (TYP.)
 SALVAGE ALL EXISTING REINFORCING STEEL AND TRIM ALL LONGITUDINAL BARS TO FIT AS NEEDED. (TYP.)



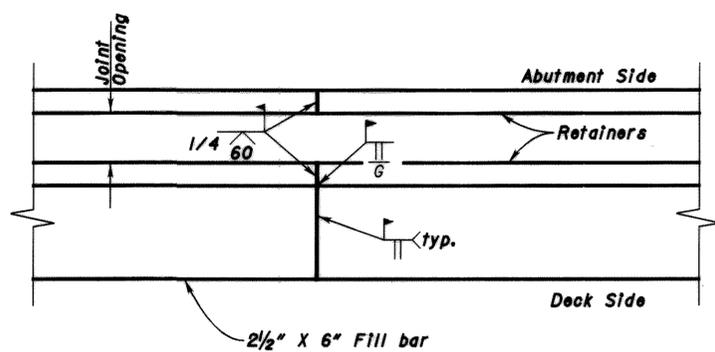
SIDEWALK PLAN VIEW DETAIL



MEDIAN CURB SECTION
(MATCH EXISTING PROFILE)

FOR SECTION X-X SEE SHEET 5 / 7
 FOR DETAIL C SEE SHEET 6 / 7
 FOR DETAIL D SEE SHEET 6 / 7

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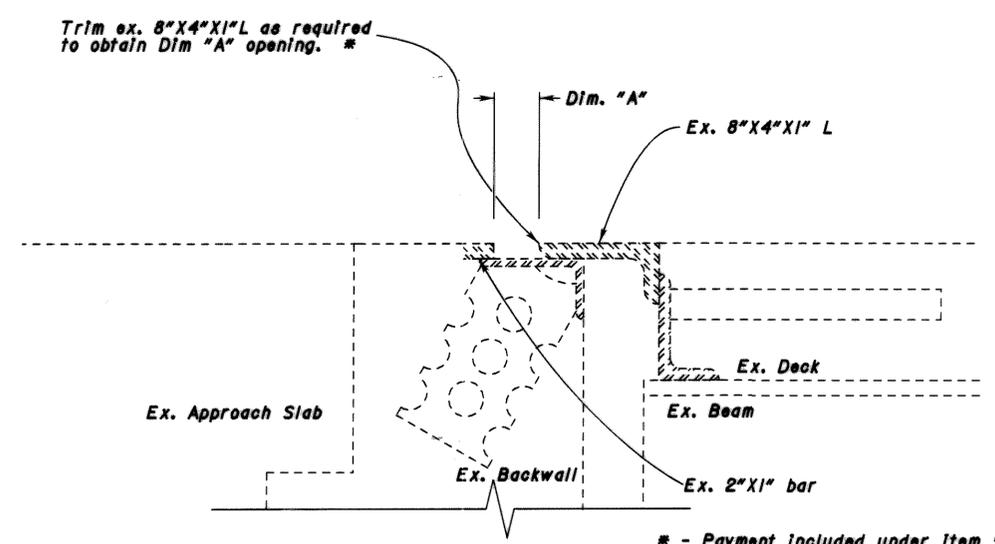


WELDED BUTT JOINT IN END FINISH
 (To be used at Phase Joints)

BRIDGE: BUT-122-0059L

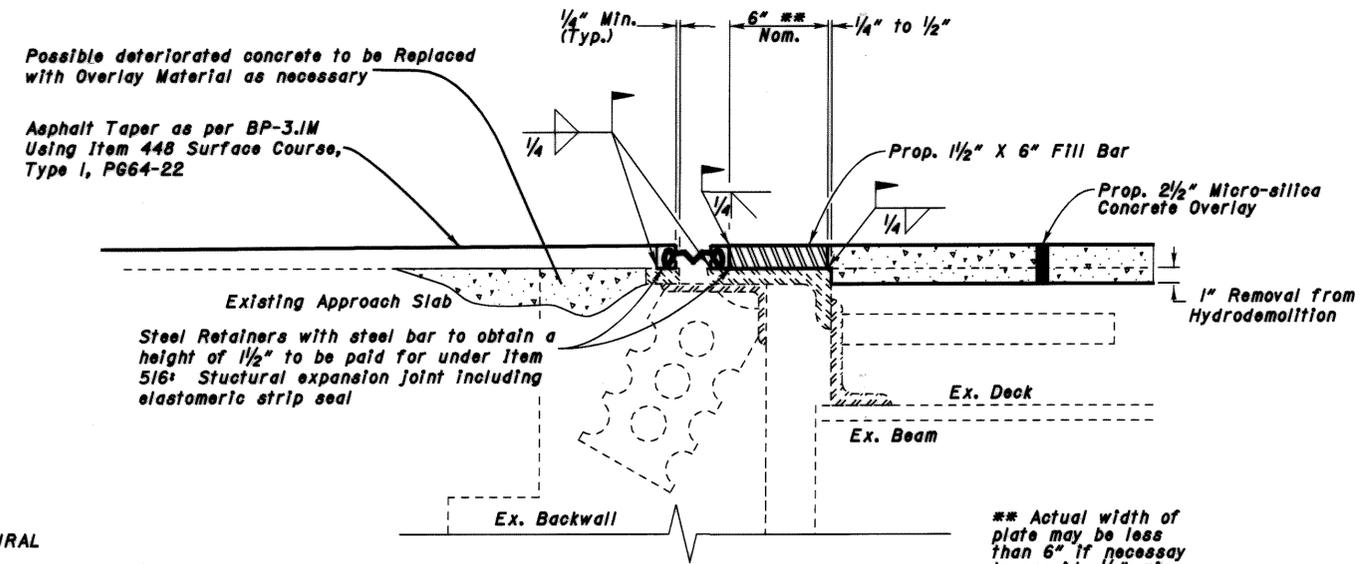
AMBIENT TEMPERATURE F°	DIMENSION "A"
30°	1.50"
40°	1.27"
50°	1.23"
60°	1.20"
70°	1.16"
80°	1.12"
90°	1.08"

GLAND SIZE: 2 IN
 EXPANSION LENGTH: 48 FT
 SEE NOTE ON SHEET 6/7



EXISTING EXPANSION JOINT DETAIL

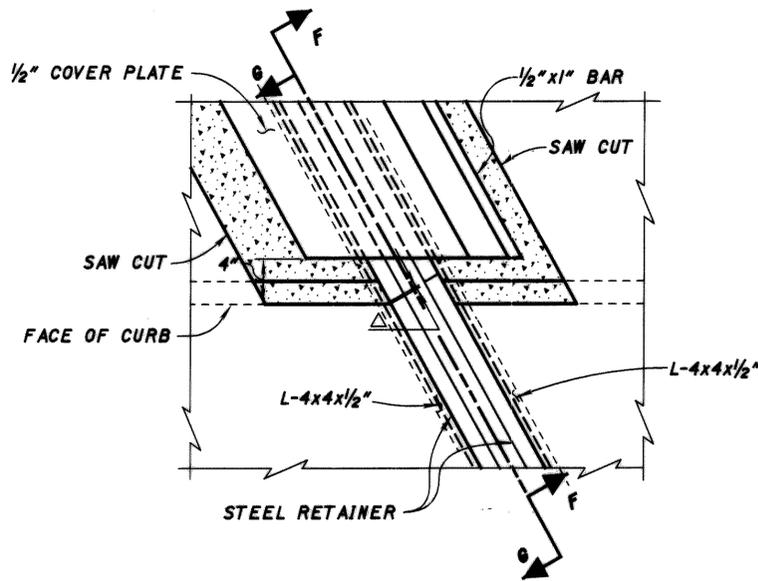
* - Payment included under Item 516: STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN



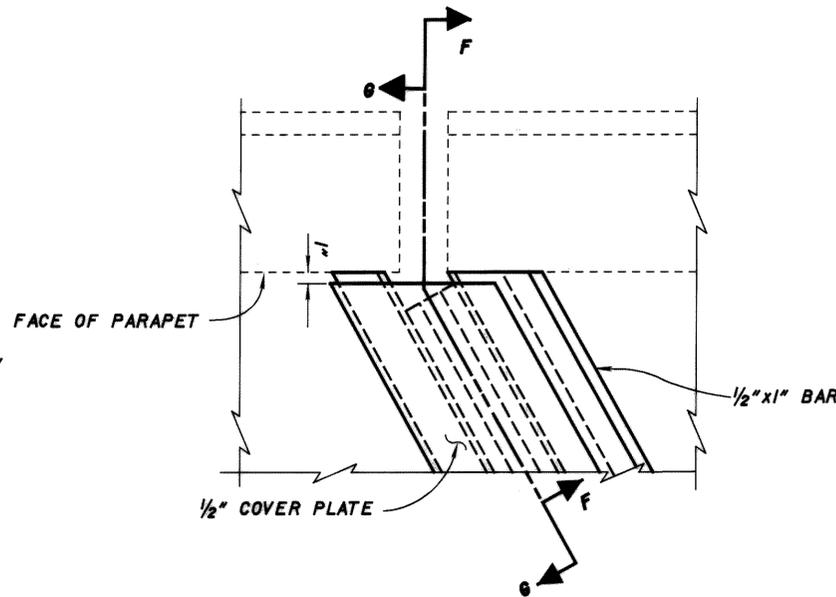
PROPOSED STRIP SEAL EXPANSION JOINT DETAIL
SECTION X-X

** Actual width of plate may be less than 6" if necessary to provide 1/4" min. clearance for weld and Dim. A.

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DETAIL D



DETAIL C

NOTES:

1. STEEL RETAINERS

THE STEEL RETAINERS SHALL BE CONSTRUCTED SO THAT THEIR TOP SURFACES ARE EVEN. FOLLOWING COMPLETION OF THIS WORK THE PROJECT ENGINEER SHALL CONDUCT A VISUAL INSPECTION OF THE RETAINERS TO ENSURE THAT THEIR TOP SURFACES ARE LEVEL WITH EACH OTHER. IF THEY ARE FOUND TO BE UNEVEN, THE PROJECT ENGINEER SHALL DIRECT THE CONTRACTOR TO RECONSTRUCT OR REPLACE THE RETAINERS AT NO ADDITIONAL COST TO THE STATE.

2. STRIP SEAL GLAND

STRIP SEAL GLAND SIZE SHALL BE 2".

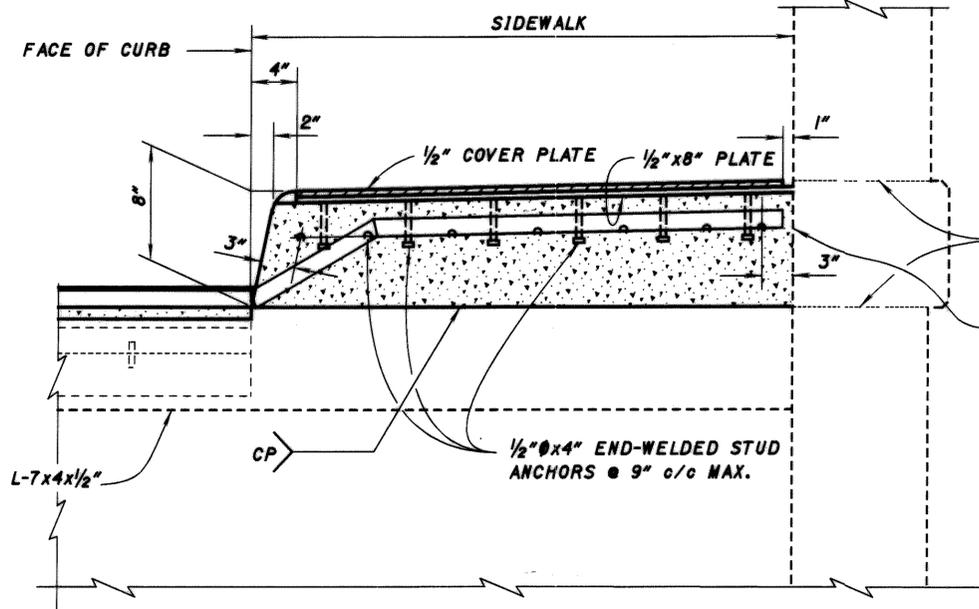
MINIMUM JOINT OPENING (DIMENSION "A") AT TIME OF SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1/2". IF THE JOINT OPENING IS LESS, INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE MINIMUM 1/2" OPENING. THE STRIP SEAL SHALL BE ONE CONTINUOUS PIECE THE FULL WIDTH OF THE DECK.

3. FOR ADDITIONAL NOTES & DETAILS SEE STD. DWG. EXJ-4-87.

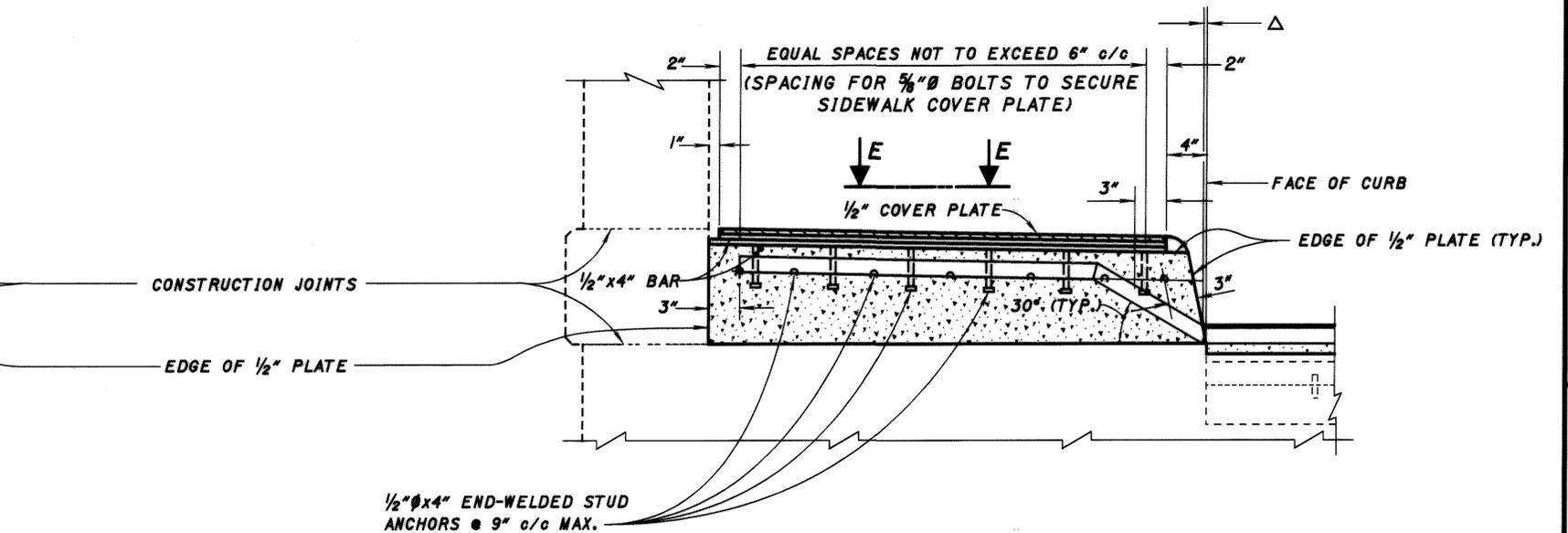
4. THE STEEL RETAINERS AND ELASTOMERIC SEAL GLAND SHALL BE AS SUPPLIED BY:

- A) D.S. BROWN CO. RETAINER, TYPE SSE2
 300 E. CHERRY ST. GLAND, A2R-200
 NORTH BALTIMORE, OHIO 45872
- B) EQUAL APPROVED BY THE DIRECTOR.

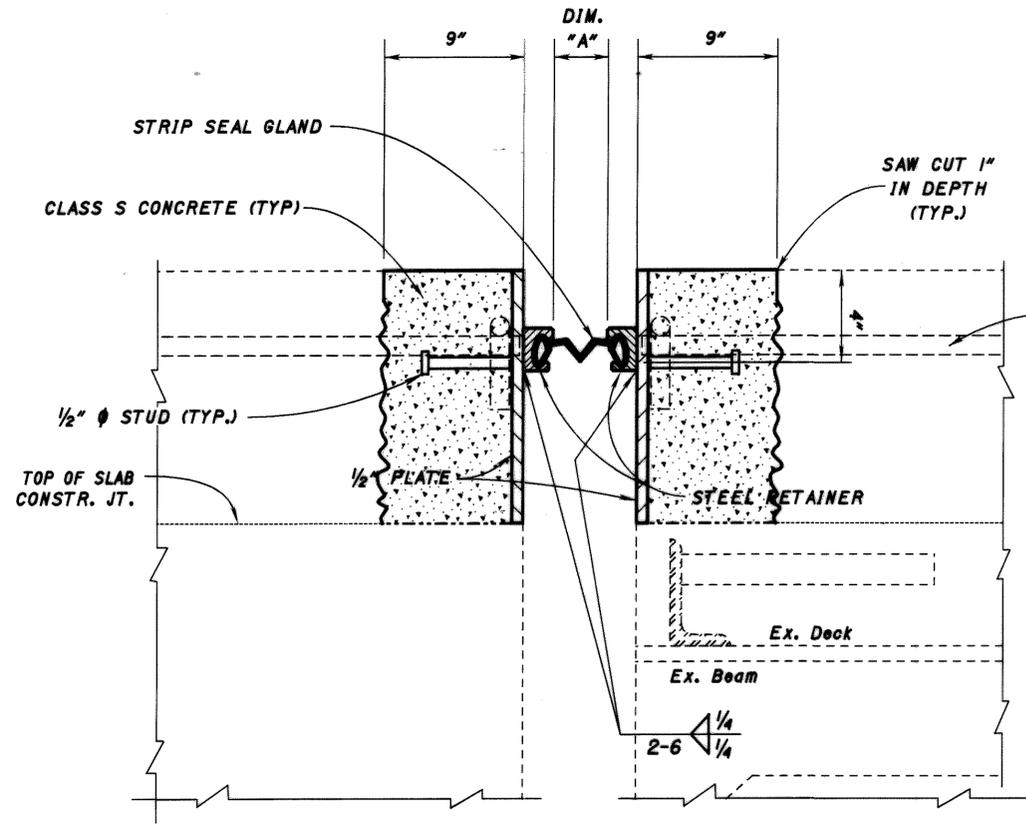
Δ - 0" MIN. TO 1/2" MAX. AT BREAKPOINT IN RETAINER FOR SQUARE BRIDGES. ON SKEWED BRIDGES THIS DIMENSION WILL ONLY APPLY TO THE SIDE OF JOINT ASSEMBLY WHICH IS NEAREST TO THE CURB LINE (SEE DETAIL "D" ABOVE).



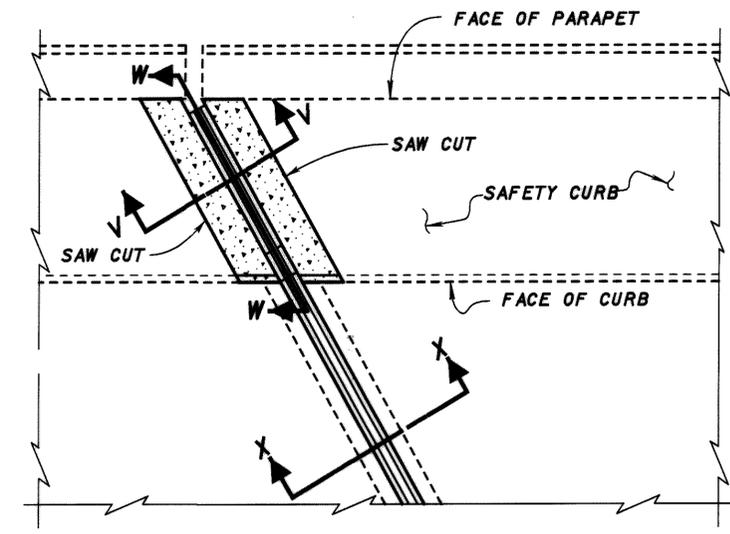
SECTION F-F



SECTION G-G



SALVAGE ALL EXISTING REINFORCING STEEL AND TRIM ALL LONGITUDINAL BARS TO FIT AS NEEDED. (TYP.)

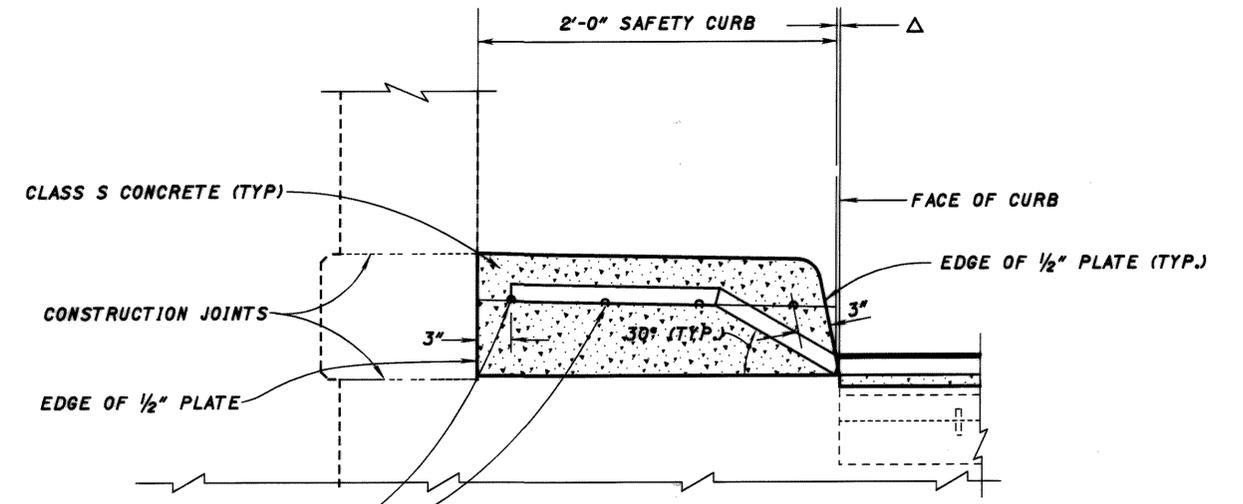


SAFETY CURB PLAN VIEW DETAIL

ⓐ - THIS DIMENSION IS THE SUM OF (2 X STEEL RETAINER WIDTH + DIM. "A").

SECTION V-V

ABUTMENT SAFETY CURB SECTION
USE SAME SECTION DETAIL FOR MEDIAN CURB SECTION



1/2" x 4" END-WELDED STUD ANCHORS @ 9" c/c MAX.

Δ - 0" MIN. TO 1/2" MAX. AT BREAKPOINT IN RETAINER FOR SQUARE BRIDGES. ON SKEWED BRIDGES THIS DIMENSION WILL ONLY APPLY TO THE SIDE OF JOINT ASSEMBLY WHICH IS NEAREST TO THE CURB LINE (SEE DETAIL "D" ABOVE).

SECTION W-W

FOR MEDIAN CURB SECTION SEE SHEET 4/7.

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