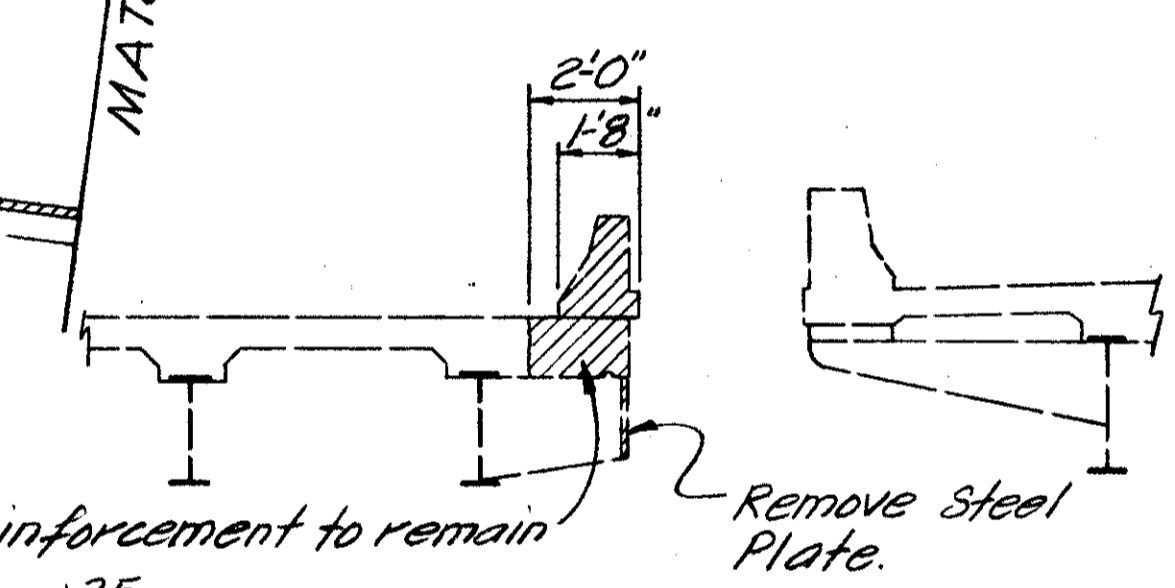


\* Plane concrete as necessary so that overlay meets existing top of backwall at joint. Minimum overlay thickness of 1 1/4" to be maintained. For detail see Sheet 92/255

Denotes portion of existing structure to be removed.

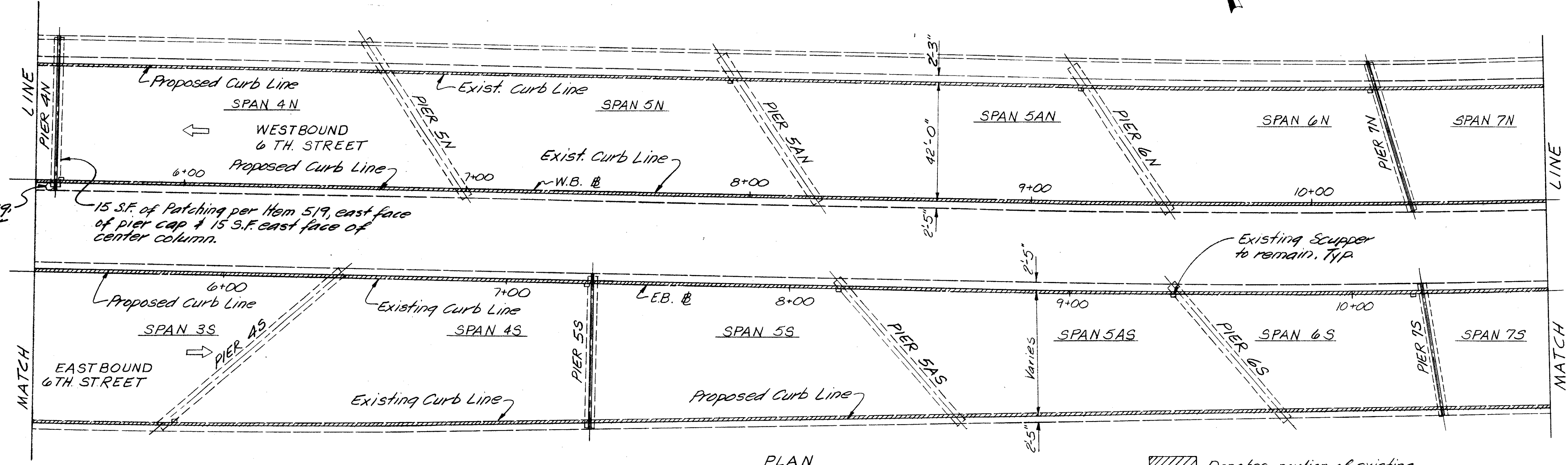
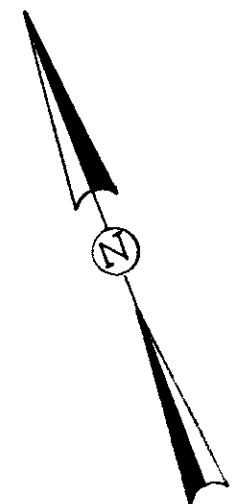


Station	Westbound Profile Grade	Eastbound Profile Grade
+25	506.05 505.97	506.51 506.43
+50	507.30 507.22	507.76 507.68
+75	508.55 508.47	509.01 508.93
2+00	507.80 509.72	510.26 510.18
+25	511.05 510.97	511.51 511.43
+50	512.30 512.22	512.75 512.67
+75	513.51 513.43	513.92 513.84
3+00	514.66 514.58	515.02 514.94
+25	515.73 515.65	516.05 515.97
+50	516.74 516.66	517.02 516.94
+75	517.67 517.59	517.91 517.83
4+00	518.53 518.45	518.73 518.65
+25	519.33 519.25	519.48 519.40
+50	520.05 519.97	520.16 520.08
+75	520.70 520.62	520.77 520.69
5+00	521.28 521.20	521.31 521.23
+25	521.80 521.72	521.78 521.70

\*\* Elevations are provided for information only. The 1 1/4" micro-silica modified concrete overlay shall be of uniform thickness & the final deck elevations will not necessarily conform to these profile elevations.

ELEVATION

BALKE ENGINEERS 1/30 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
<b>GENERAL PLAN</b>					
BRIDGE NO. HAM-50-1936 LT. & RT. SIXTH ST. EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	



5 S.F. Patching, corner of pier cap.

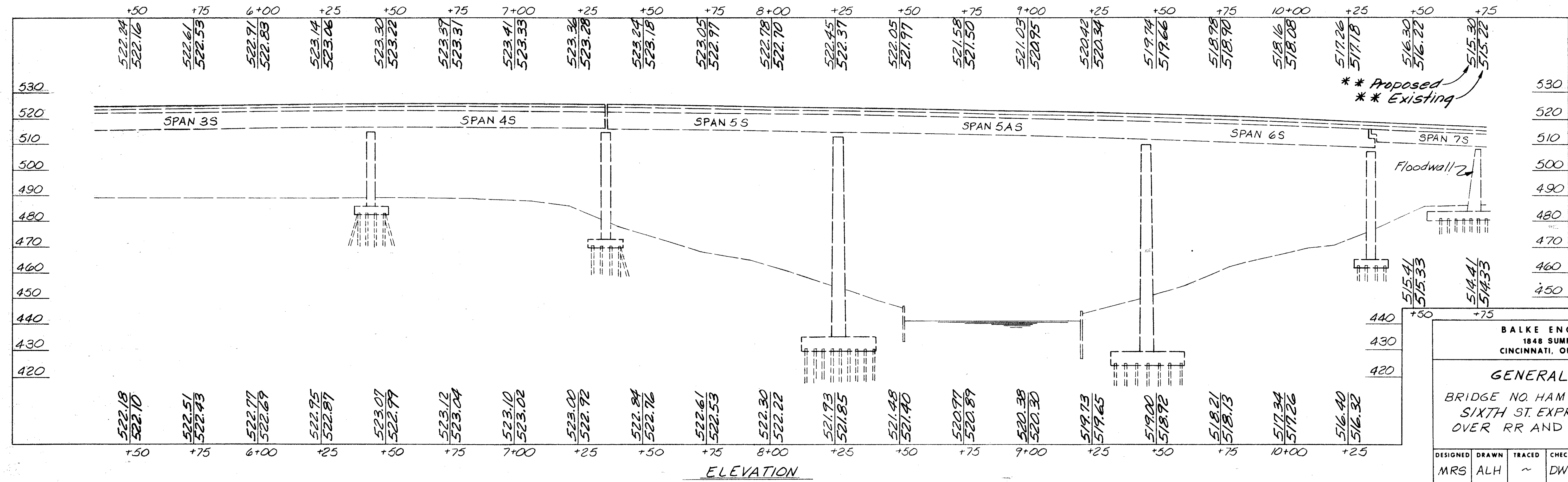
15 S.F. of Patching per Item 519, east face of pier cap & 15 S.F. east face of center column.

Existing SCUPPER to remain. TYP

\*\* See note sheet 1/30.

Denotes portion of existing structure to be removed.

PLAN



\*\* Proposed  
\*\* Existing

Floodwall

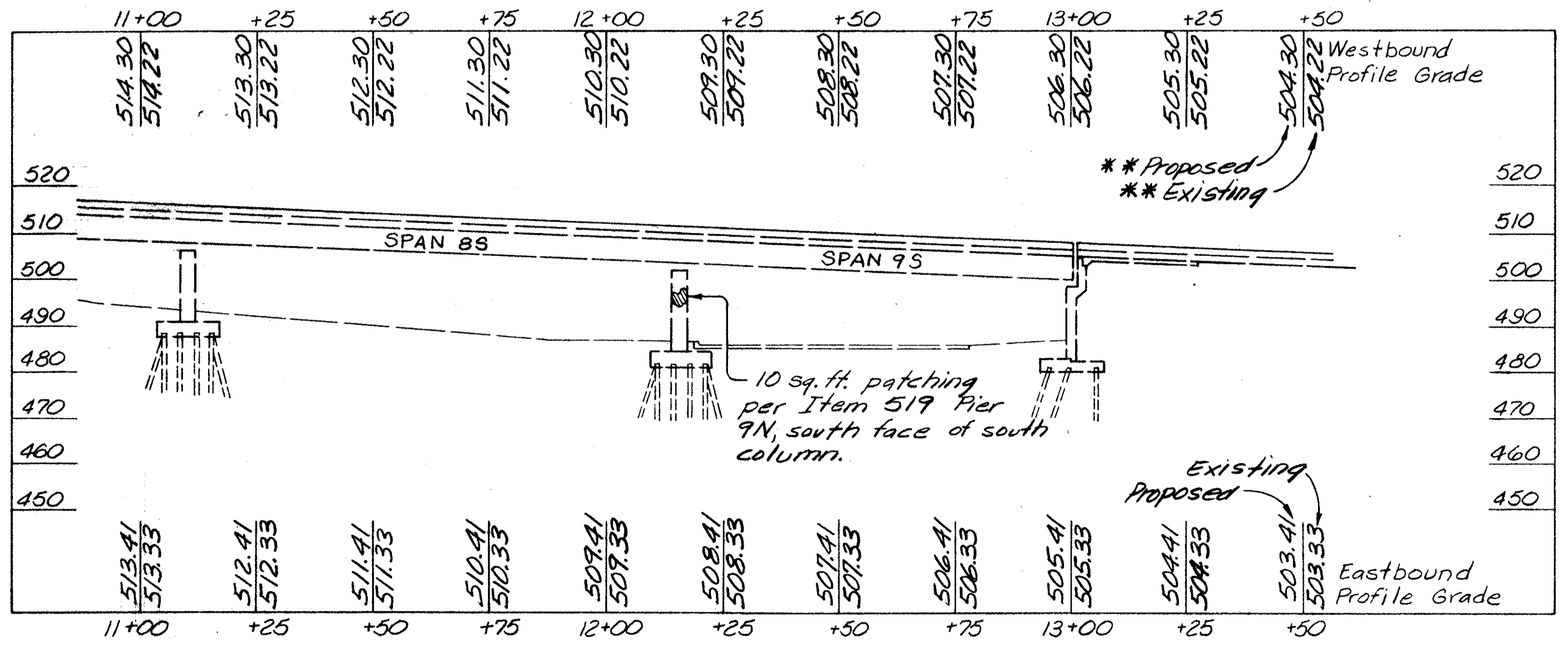
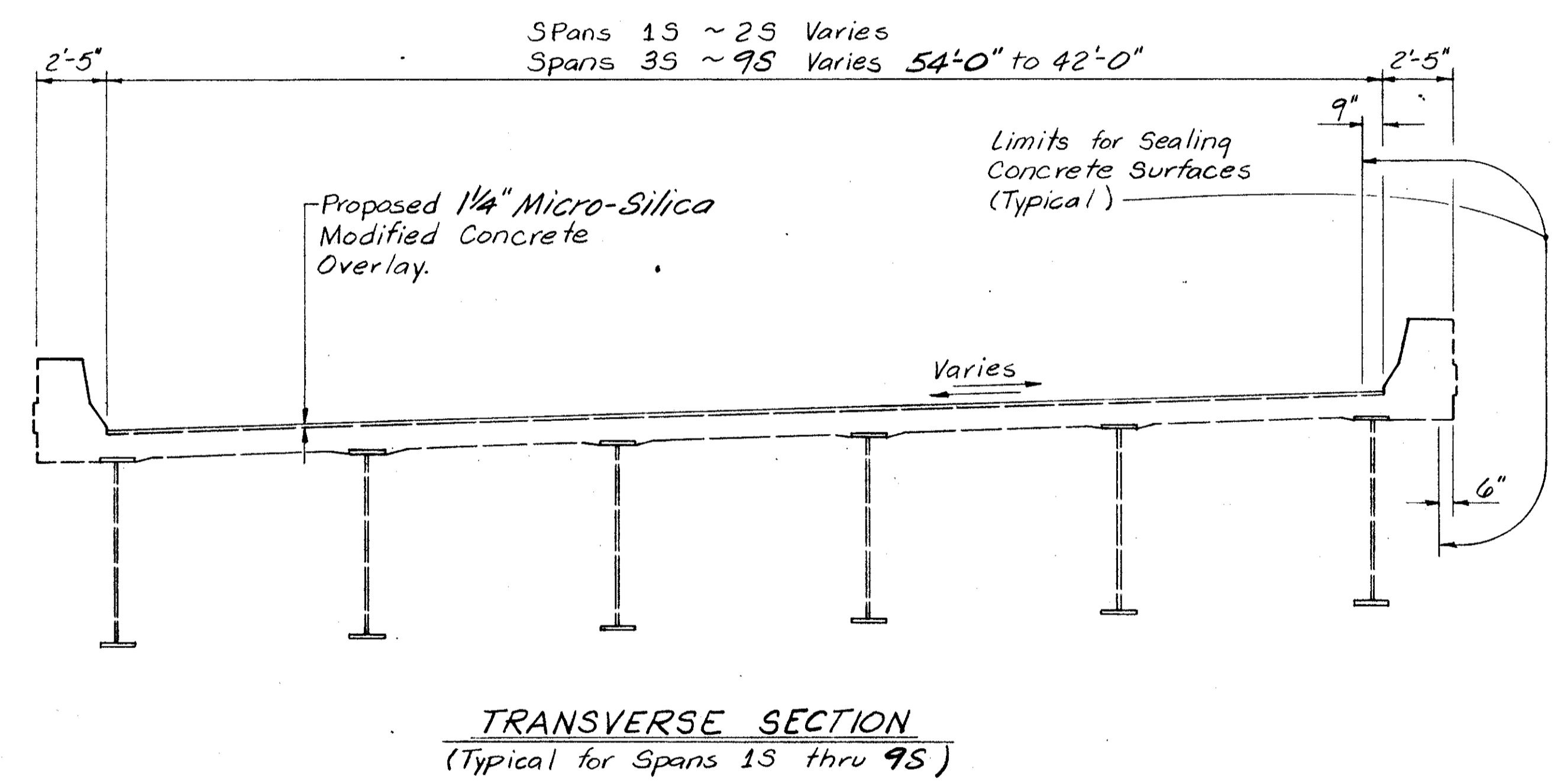
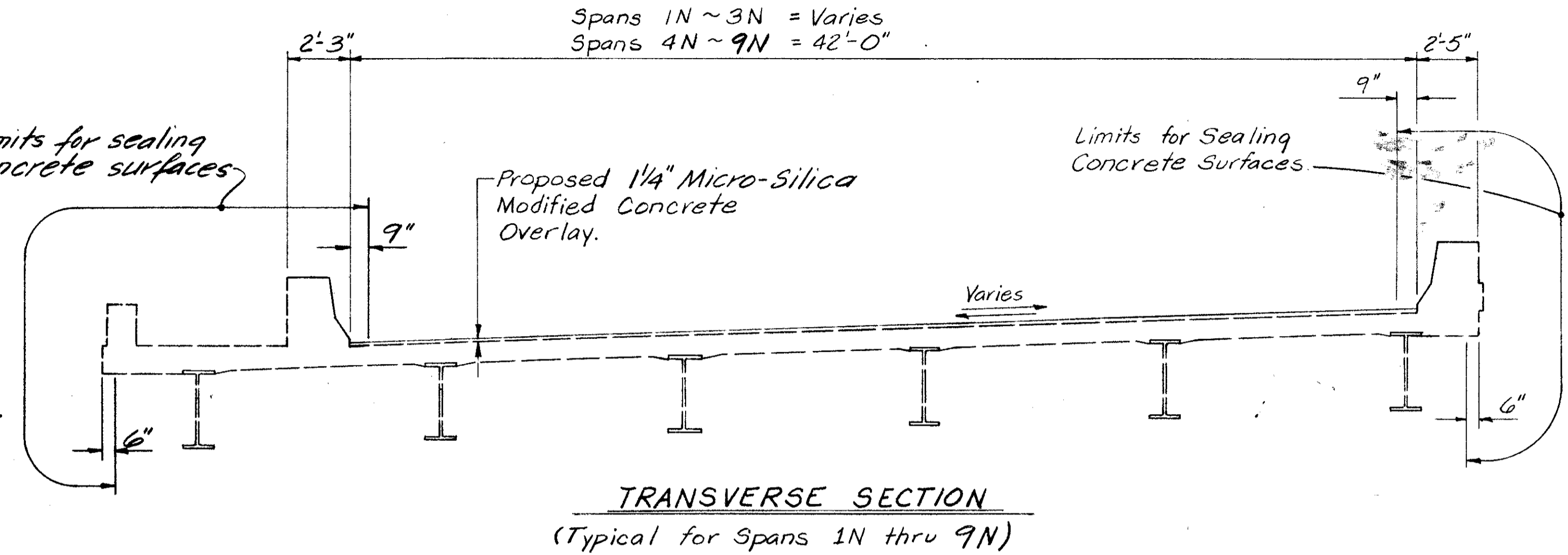
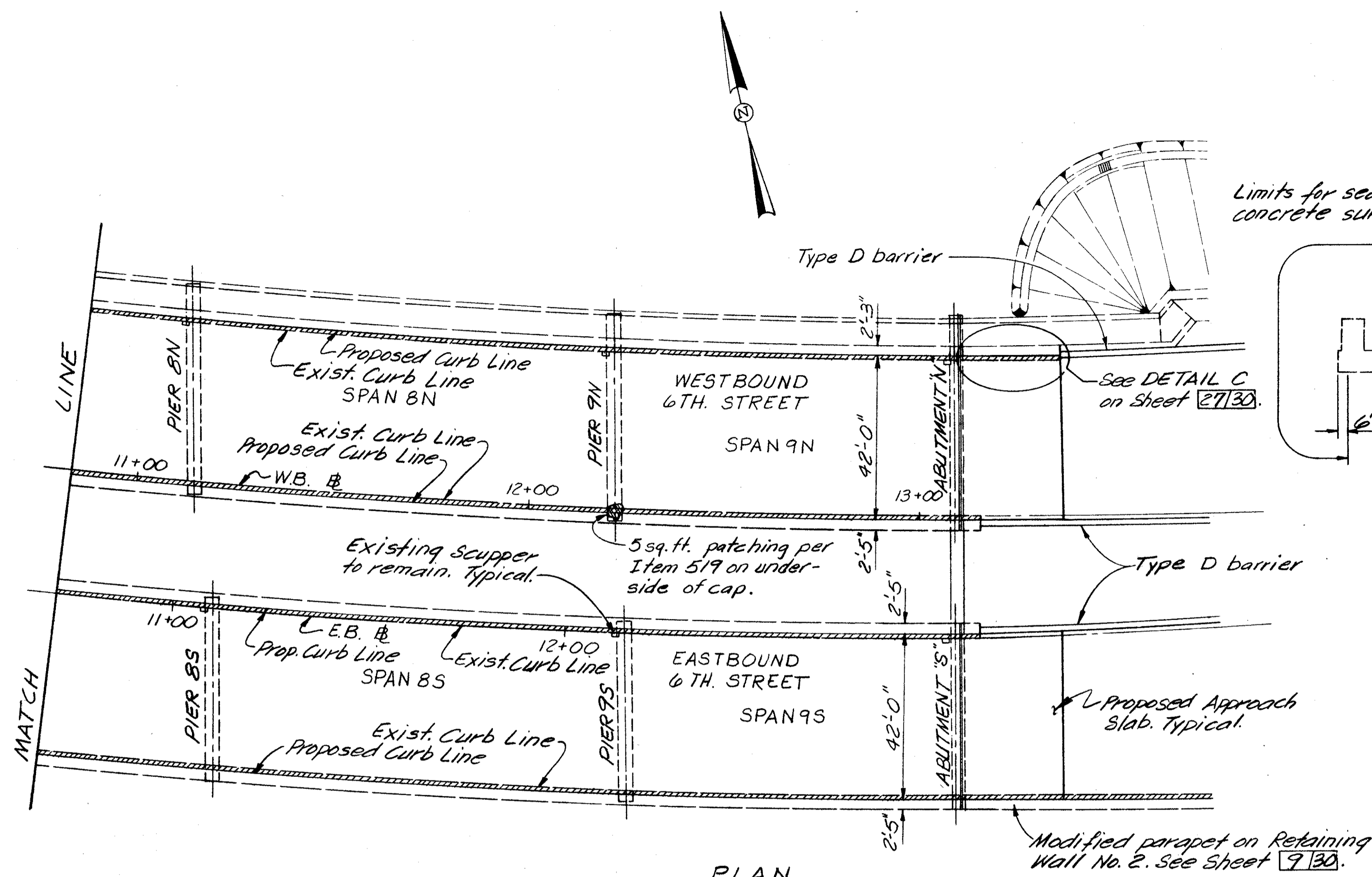
BALKE ENGINEERS  
1848 SUMMIT RD.  
CINCINNATI, OHIO 45237

2/30

**GENERAL PLAN**  
BRIDGE NO. HAM-50-1936 LT.#RT  
SIXTH ST. EXPRESSWAY  
OVER RR AND MILL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	

CHINA BLUE PRINT



Denotes portion of existing structure to be removed.

\*\* See note sheet 17/30.

BALKE ENGINEERS 3/30 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
GENERAL PLAN BRIDGE NO. HAM-50-1936 LT&RT. SIXTH ST. EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	

## GENERAL NOTES

### STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

Reference shall be made to standard drawings:

- AS-1-81 Dated 11-27-81
- EXJ-4-87 Dated 1-5-89

Reference shall be made to supplemental specifications:

- 836 Dated 11-12-85
- 852 Dated 12-14-88

### DESIGN STRESSES

Concrete compressive strength-  
Class S - 4500 PSI  
Class C - 4000 PSI

Reinforcing steel - ASTM A615, A616, A617

Minimum yield strength  
Grade 60 - 60,000 PSI

### SCOPE OF WORK

The scope of work to be performed shall be executed in stages as shown and includes:

1. Add strip seals.
2. Refurbish and reset abutment bearings.
3. Replace sliding bearings as indicated on plans.
4. Refurbish drains.
5. Trim beam ends at east abutment to clear backwall.
6. Replace deteriorated portions of backwalls, as indicated on plans.
7. Seal cracks in east abutments with epoxy injection.
8. Retrofit railings, as indicated on plans.
9. Seal parapets, abutments and piers as shown.
10. Overlay deck with 1 1/4" micro-silica modified concrete.
11. Patch abutments and piers as shown, and seal vertical joint between abutment and retaining wall.
12. Replace approach slabs.
13. Drill hole at end of crack in steel girder as shown on plan.
14. Rehab box girder @ Pier 5N as shown.

### 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/or 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. It is the intent of these plans that the proposed additions to these structures match existing conditions. The Contractor is referred to CMS sections 102.05 and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described in the preceding paragraph 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.

### ITEM 202 - PORTIONS OF STRUCTURES REMOVED

Removal of portions of existing structure shall be performed in such a manner as to prevent debris from falling onto the road, railroad, or into the creek below. All debris shall be removed from the site and disposed of by the Contractor.

### REPLACEMENT OF EXISTING REINFORCING

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 his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in Item 509 for this purpose.

### ITEM SPECIAL - MICRO-SILICA MODIFIED CONCRETE OVERLAY

Longitudinal joints in the concrete overlay are permitted but only to the extent necessary to accommodate the width of the finishing machine, to facilitate changes in the roadway crown, and to permit maintenance of vehicular traffic. See proposal note for details.

### MAINTENANCE OF TRAFFIC

For maintenance of traffic on Sixth Street Expressway, see highway drawings.

### PLANS FOR EXISTING BRIDGE

Plans of the existing structure are available for reference at the City of Cincinnati Engineer's Office and at the ODOT District Eight office.

### ITEM 516 - REFURBISH BEARING DEVICE

This Item shall include all work necessary to clean and paint rocker bearings at east abutment and piers 1N, 1S, 2N, 4N, 5S, 7N & 7S. Included shall be:

1. Disassembly of rockers.
2. Hand cleaning (grinding if required.)
3. Sandblasting and painting as required by field painting of existing steel, System OZEU, proposal note.
4. Replacement of any damaged sheet lead (711.19). Preformed bearing pads 1/8" thick, meeting the requirements of 711.21, may be substituted for the sheet lead.
5. Installation of any necessary 1/8" thick steel shims of the same size as the bearings to provide a snug fit.
6. Reassembly of the rockers.

At the option of the Contractor and at no additional cost to the state, new bearings of the same type as the existing may be installed in place of the refurbished bearings. All work shall be to the satisfaction of the Project Engineer. Payment for all the above described labor and materials will be made at the contract price bid for Item 516 - REFURBISH BEARING DEVICE.

### ITEM 516 - JACKING & TEMPORARY SUPPORT OF SUPERSTRUCTURE

The ends of the beams at each location where bearings are to be refurbished shall be jacked and the beams supported so bearing may be removed. Prior to jacking, the Contractor shall submit his jacking plan to the Engineer for approval.

### ITEM 516 - RESET BEARINGS

Refurbished bearings shall be reset to be vertical at 60° F. Masonry plates shall be adjusted to be centered under bearing.

### ITEM 513 - TRIMMING OF BEAM ENDS

The ends of the beams at the east abutment shall be trimmed by removing 1". Care shall be taken not to damage the crossframe while trimming the end of the beam.

### ITEM SPECIAL - EPOXY INJECTION

The cracks in the east abutment shall be sealed by epoxy injection.

### SEALING OF CONCRETE SURFACES

Portions of the structure shall be sealed as noted below. See the proposal note for application procedures & materials. City of Cincinnati Principal Structural Design Engineer shall be contacted to determine color of sealer to be used.

1. Parapets shall be sealed as shown on sheet 3/30 with an epoxy or non-epoxy sealer. Walk surfaces shall be sealed with a non-epoxy sealer.
2. Abutment backwalls, beam seats, and the face of the breastwall and wingwalls to the ground line shall be sealed with an epoxy sealer.
3. The total surface of all piers shall be sealed with an non-epoxy sealer.

### REFURBISH DRAINS

This item shall include the cleaning and flushing out of the scupper inlet and downspout. The downspout shall be thoroughly cleaned so that water flows freely. All exposed pipes and supports shall be cleaned and painted as required by field painting of existing steel, system OZEU proposal note. Payment for all the above described labor and materials will be made at the contract price bid for Item 518 - structural drainage, misc: refurbish drains.

### ITEM 510 - DOWEL HOLES

Dowel holes shall be drilled and grouted per Supplemental Specification 852 and CMS 705.20.

### PAINTING OF STRUCTURAL STEEL

All steel from the west limits of work to piers 1N and 1S shall be painted. In addition, all steel within 6 feet of an expansion joint shall be painted. Painting shall be in accordance with field painting of existing steel, system OZEU proposal note.

See plans for additional areas to be painted per proposal note for Field Painting of Existing Steel, Using Epoxy and Urethane (EEU). See sh. 163 of 255.

BALKE ENGINEERS 4/30  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

**GENERAL NOTES**  
BRIDGE NO. HAM-50-1936 R & L  
SIXTH STREET EXPRESSWAY  
OVER RR AND MILL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

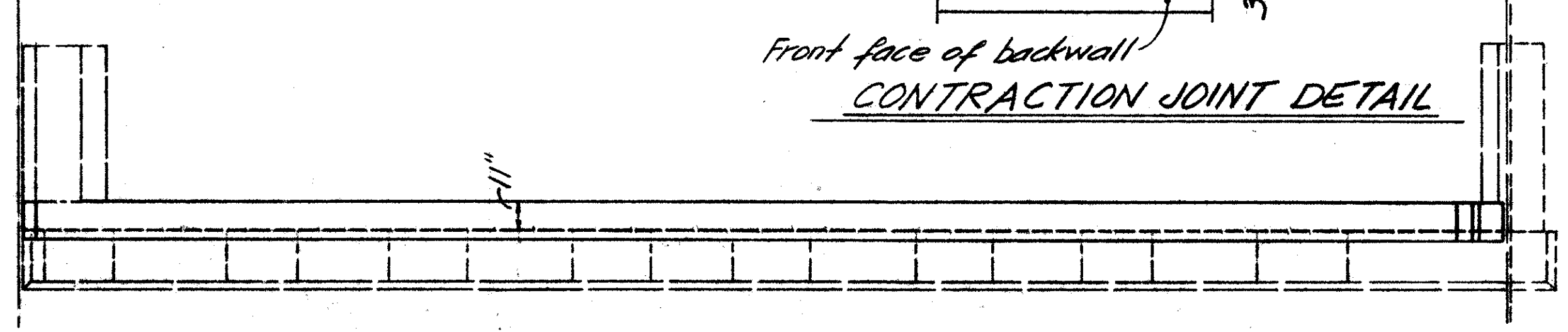
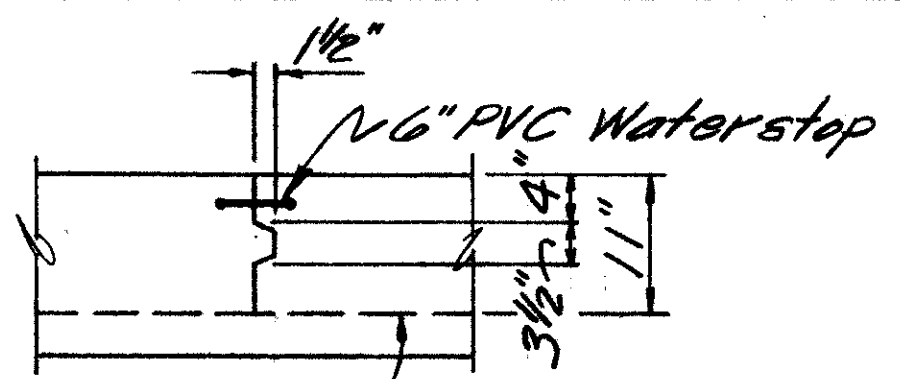
ESTIMATED QUANTITIES										
ITEM	CODE	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE			RIGHT BRIDGE		
					ABUTMENTS	SUPERST.	GENERAL	ABUTMENTS	SUPERST.	GENERAL
202	11202	L.S.	Lump sum	Portions of structures removed, Over 20 foot span	-	-	L.S.	-	-	L.S.
509	15800	77,491	Lbs.	Epoxy coated reinforcing steel, grade 60	3917	35,185	50	2617	33,534	2188
510	12200	3809	Lin. Ft.	Dowel hole	110	1459	-	99	1853	288
511	34400	470	Cu. Yd.	Class S concrete, superstructure (repair or reconstruction)	-	233	-	-	237	-
511	45700	76	Cu. Yd.	Class C concrete, abutment (repair or reconstruction)	29	-	-	30	-	17
SPECIAL	51267500	6439	Sq. Yd.	Sealing of concrete surfaces *	-	3826	-	-	2613	-
SPECIAL	51267502	244	Sq. Yd.	Sealing of concrete surfaces (epoxy) *	130	-	-	114	-	-
SPECIAL	51267504	4835	Sq. Yd.	Sealing of concrete surfaces (non-epoxy) *	-	-	2364	-	-	2471
513	16600	L.S.	Lump sum	Structural steel, misc.: repair of fracture critical box girder pier cap	-	L.S.	-	-	-	-
513	16600	L.S.	Lump Sum	Structural steel, misc.: crack repair	-	-	-	-	L.S.	-
513	16800	6	Each	Structural steel misc.: splice plate replacement	-	6	-	-	-	-
513	16800	10	Each	Structural steel misc.: removal of backing-bar stitch weld including N.D.T.	-	10	-	-	-	-
513	21000	12	Each	Trimming of beam end	-	6	-	-	6	-
SPECIAL	51400100	L.S.	Lump Sum	Surface preparation of existing steel, system OZEU * ∞	-	-	L.S.	-	-	L.S.
SPECIAL	51400200	L.S.	Lump Sum	Field painting of existing steel, prime coat, system OZEU * ∞	-	-	L.S.	-	-	L.S.
SPECIAL	51400300	L.S.	Lump Sum	Field painting of existing steel, intermediate coat, system OZEU * ∞	-	-	L.S.	-	-	L.S.
SPECIAL	51400400	L.S.	Lump Sum	Field painting of existing steel, finish coat, system OZEU * ∞	-	-	L.S.	-	-	L.S.
514	27704	L.S.	Lump Sum	Field painting, misc.: Surface preparation (EEU) * ∞	-	-	L.S.	-	-	L.S.
514	27704	L.S.	Lump Sum	Field painting, misc.: Spot prime (Epoxy mastic) * ∞	-	-	L.S.	-	-	L.S.
514	27704	L.S.	Lump Sum	Field painting, misc.: Full prime (Epoxy mastic) * ∞	-	-	L.S.	-	-	L.S.
514	27704	L.S.	Lump Sum	Field painting, misc.: Complete coat finish (Urethane) * ∞	-	-	L.S.	-	-	L.S.
516	10901	109	Lin. Ft.	Elastomeric compression seal, as per plan	-	109	-	-	-	-
516	11210	542	Lin. Ft.	Structural expansion joint including elastomeric strip seal	-	320	-	-	222	-
516	11800	172	Lin. Ft.	Vertical extension of structural expansion joint	-	86	-	-	86	-
516	44000	25	Each	Elastomeric brg. w/ internal laminates & load plate (neoprene) 1 3/8" thick x5"x10"	-	12	-	-	13	-
516	45304	105	Each	Refurbish bearing device	-	62	-	-	43	-
516	46700	105	Each	Reset bearing	-	62	-	-	43	-
516	47000	L.S.	Lump Sum	Jacking and temporary support of superstructure	-	L.S.	-	-	L.S.	-
518	21200	38	Cu. Yd.	Porous backfill with filter fabric	20	-	-	18	-	-
518	63300	L.S.	Lump Sum	Structure drainage misc.: refurbish drains	-	-	L.S.	-	-	L.S.
SPECIAL	51911600	90	Sq. Ft.	Patching concrete structure	25	-	30	25	-	10
SPECIAL	51912600	24	Lin. Ft.	Concrete repair by epoxy injection*	12	-	-	12	-	-
SPECIAL	51922000	12,083	Sq. Yd.	Micro-silica modified concrete overlay (1 1/4" thick)*	-	5598	-	-	6485	-
SPECIAL	51922100	387	Cu. Yd.	Micro-silica modified concrete overlay (variable thickness)*	-	155	-	-	232	-
SPECIAL	51922200	3	Cu. Yd.	Full depth repair (micro-silica)*	-	1	-	-	2	-
SPECIAL	51922300	L.S.	Lump sum	Test slab*	-	-	-	-	-	-
SPECIAL	51614600	36	Lin. Ft.	Precompressed joint filler	-	-	18	-	-	18

ESTIMATED QUANTITIES CALCULATED BY : WJH DATE : 12/91  
 CHECKED BY : EHC DATE : 1/92

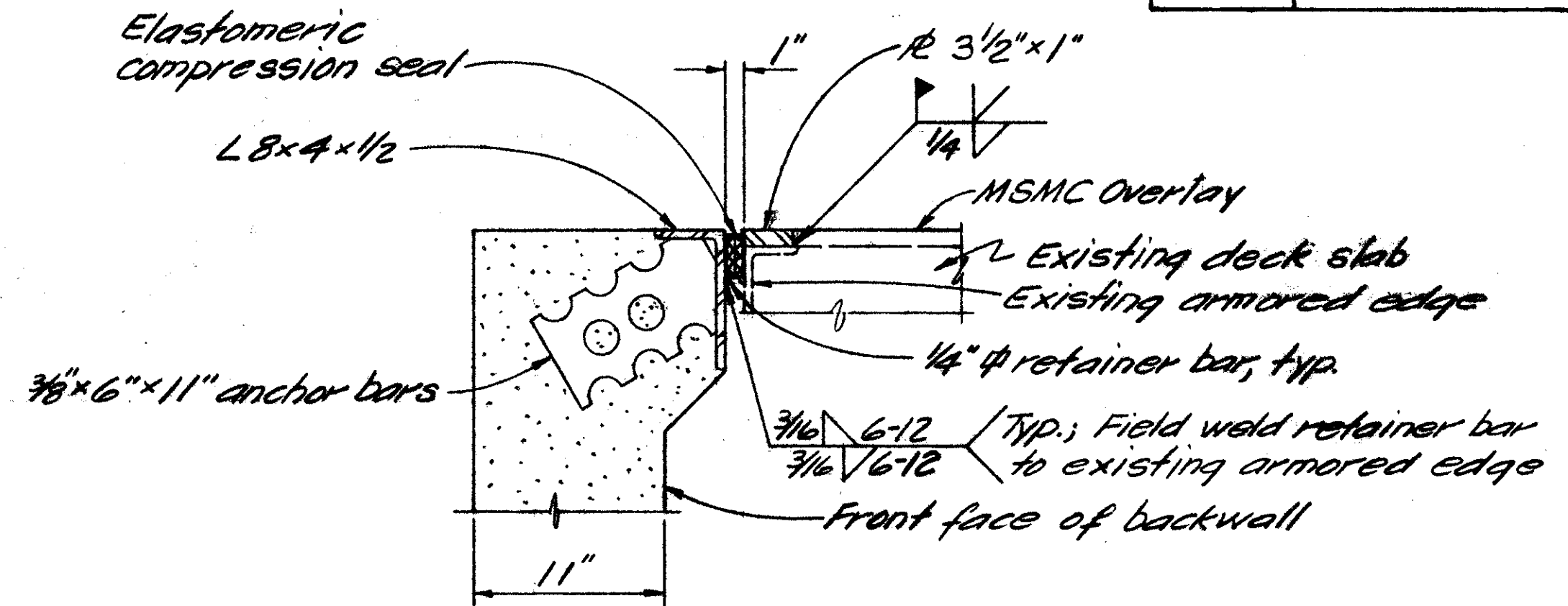
\* See proposal note  
 ∞ See also note on sheet 153 of 255

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237						5/30
ESTIMATED QUANTITIES BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DWI	CRS 4/92		

Water-stop to be Vinyllex RA-316, Green-streak 781 or approved equal. Water-stop to be securely held in place in approved manner to ensure correct positioning of water-stop is maintained.

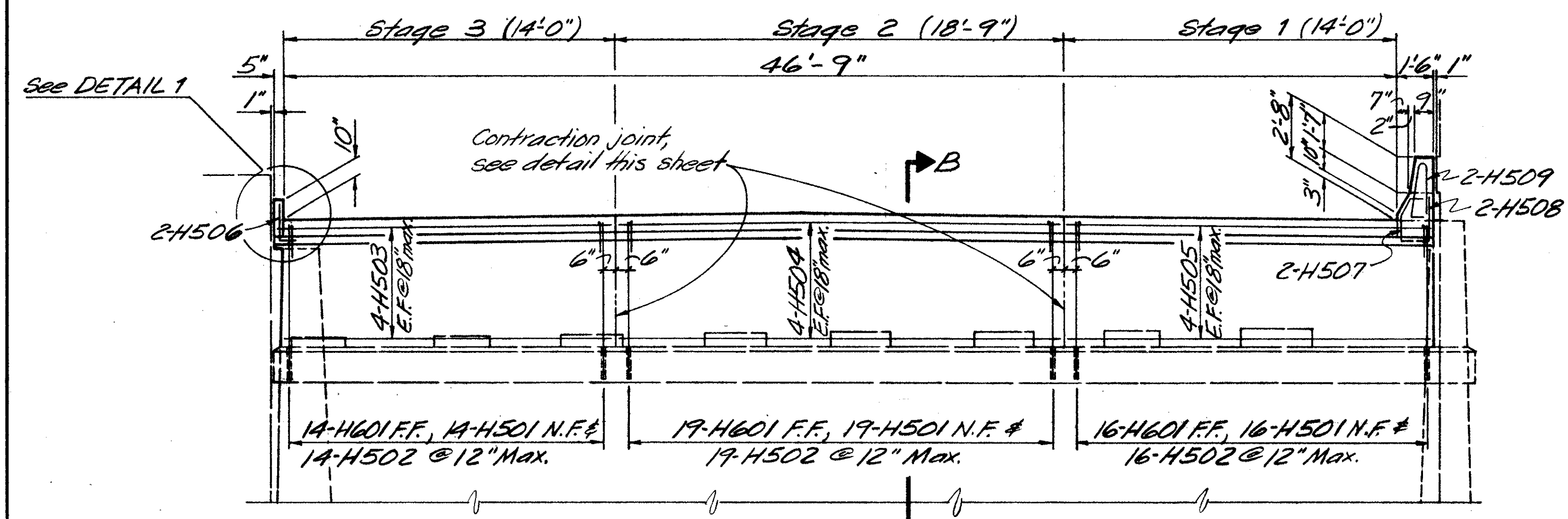


PLAN

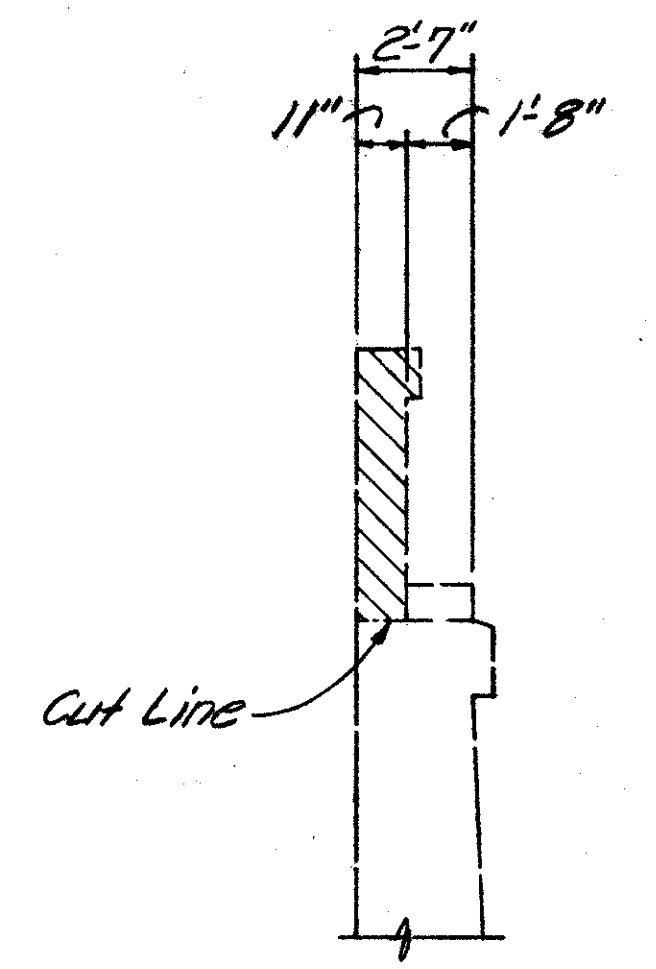


EXPANSION JOINT DETAIL

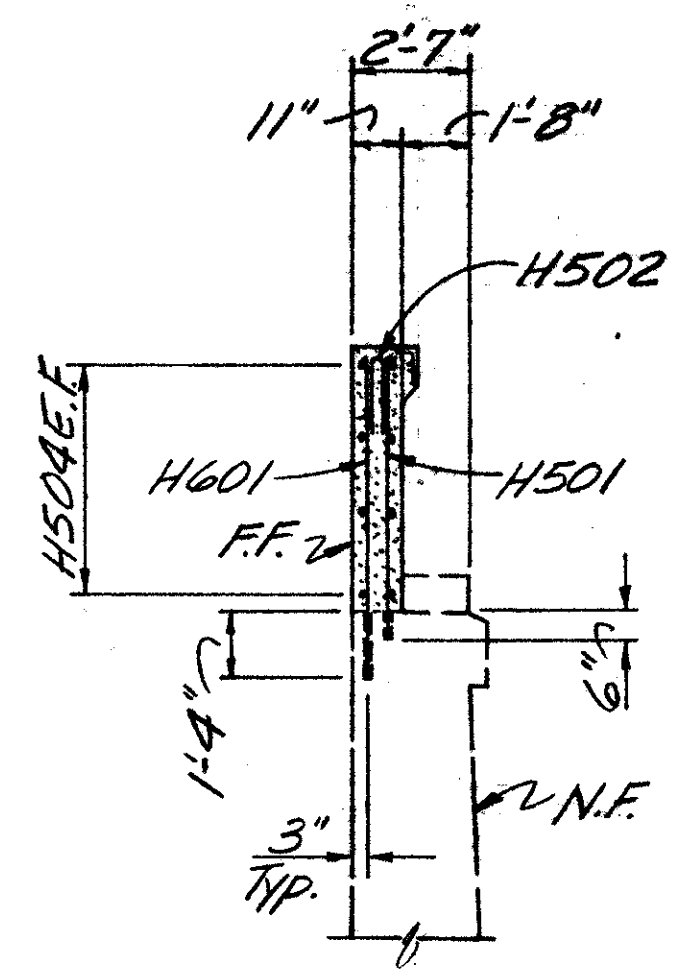
For additional information refer to Std. Dwg. EXJ-2-81



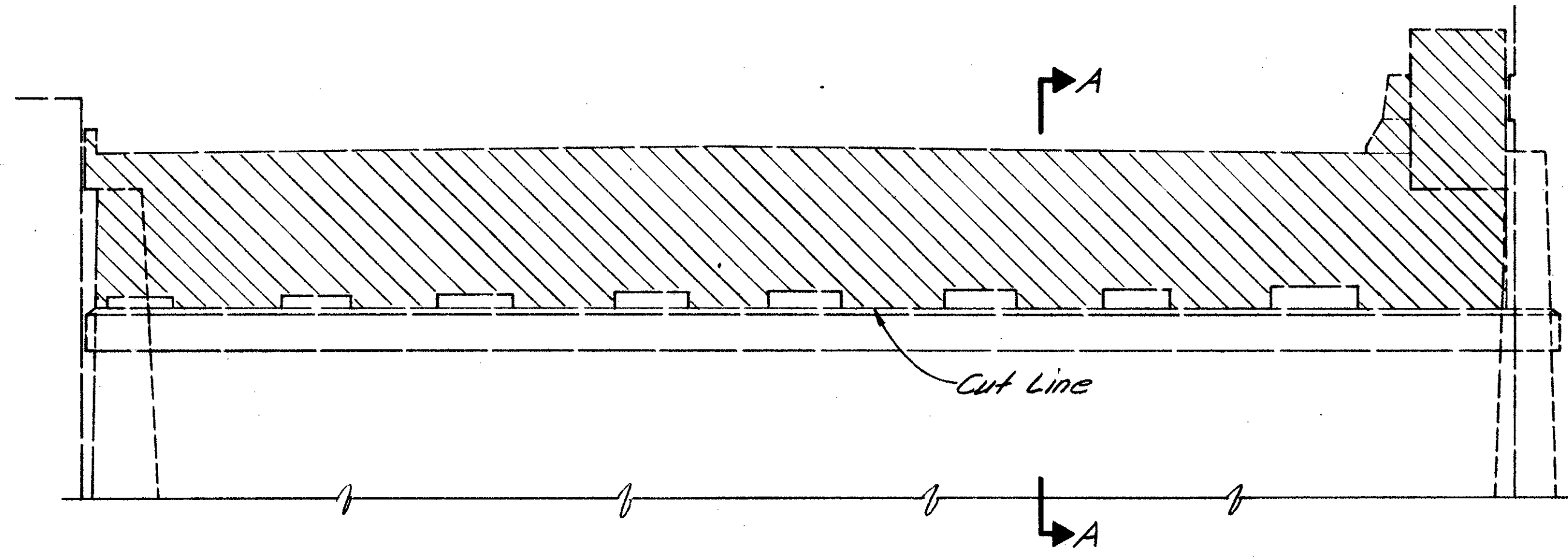
ELEVATION



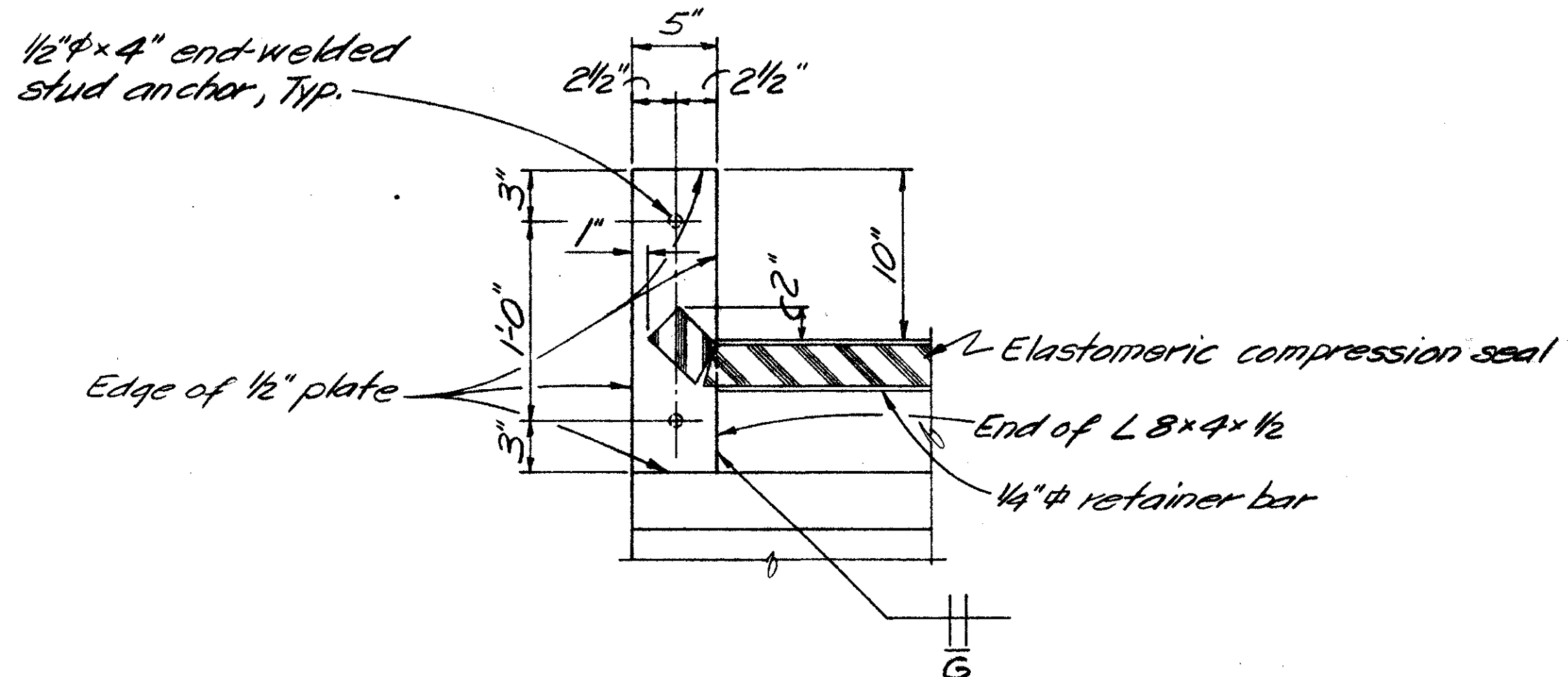
SECTION A-A  
(Showing Removal)



SECTION B-B



ELEVATION  
(Showing Removal)

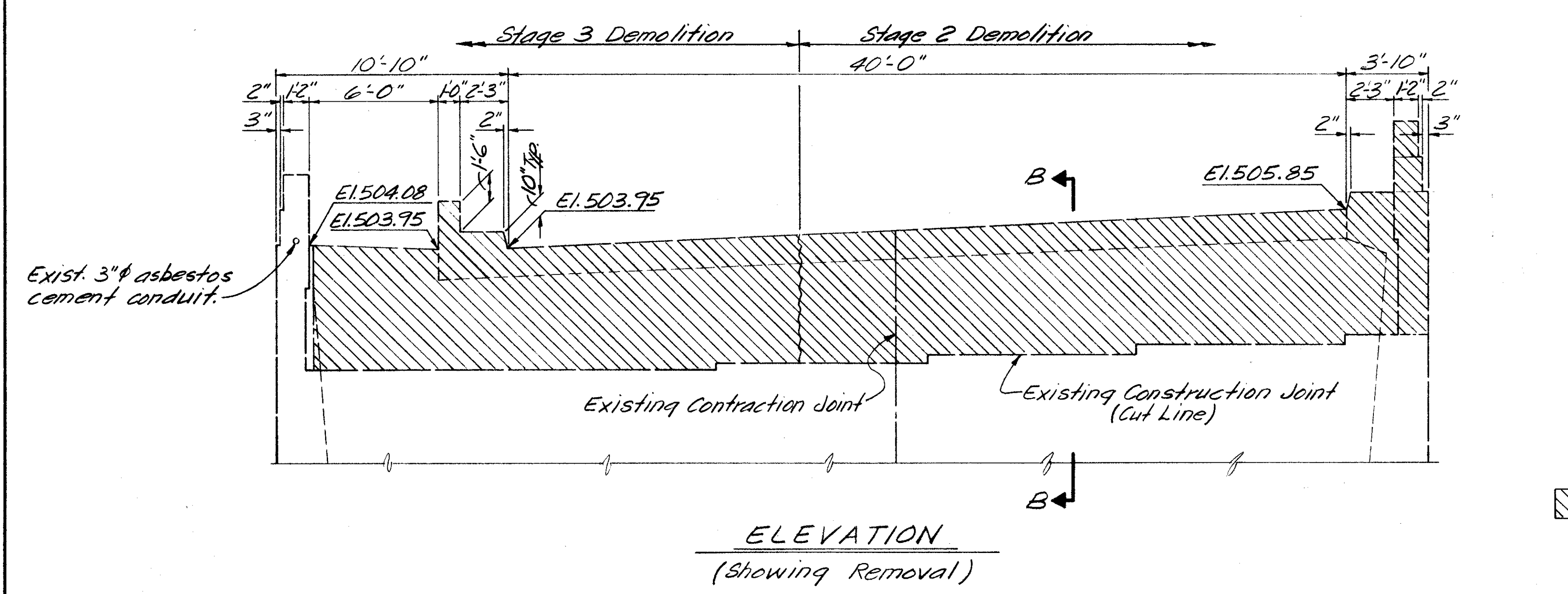
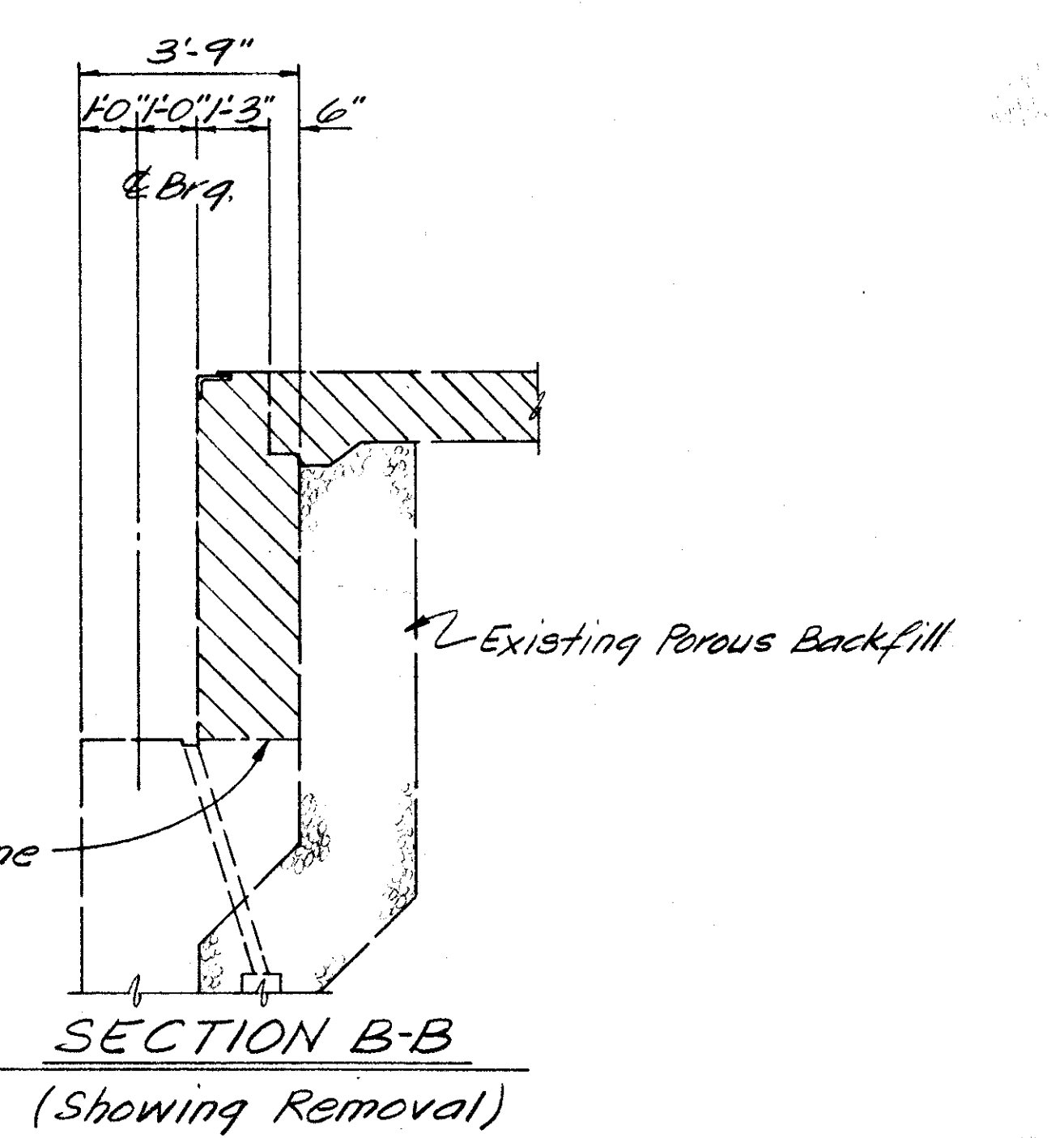
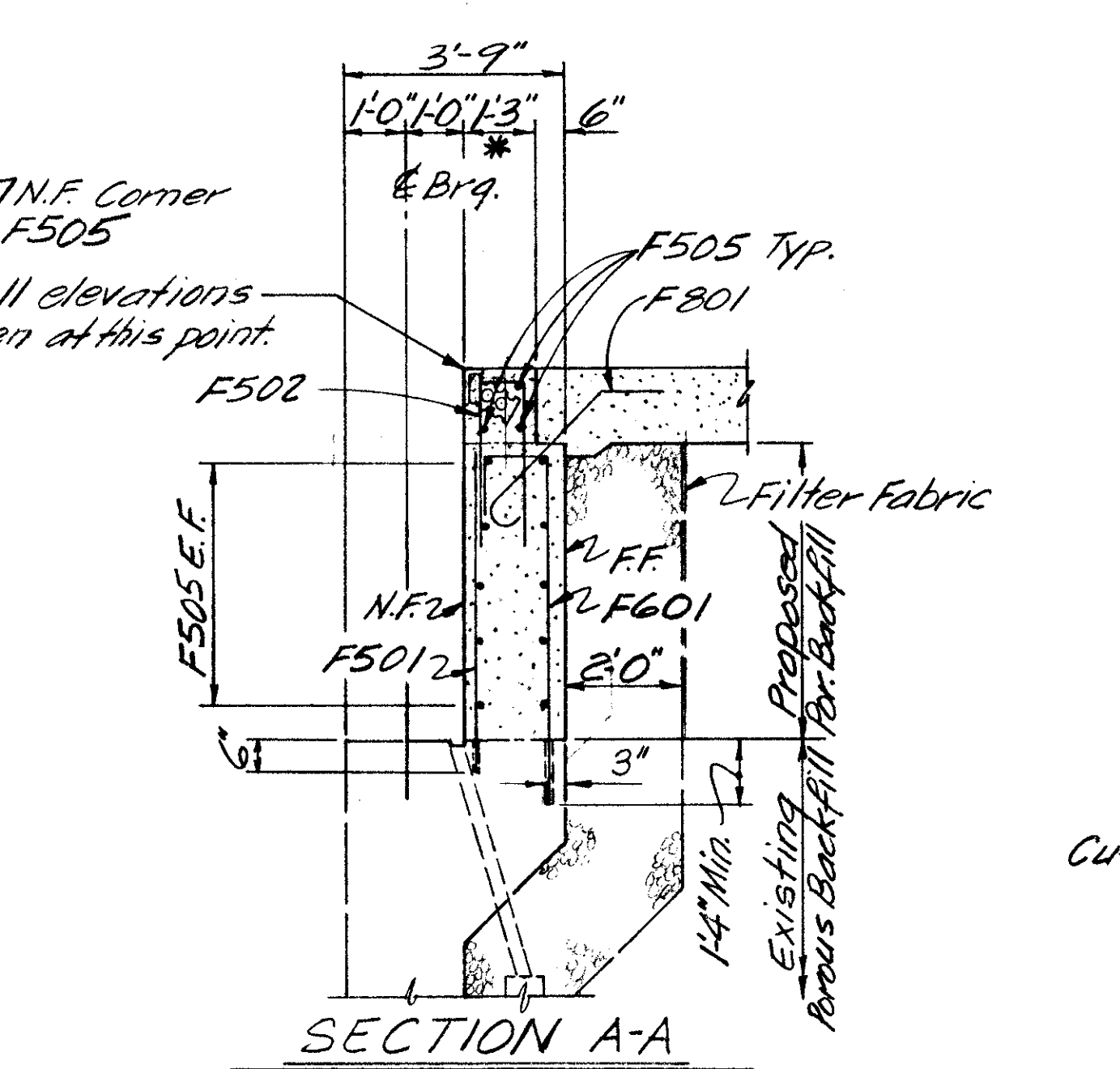
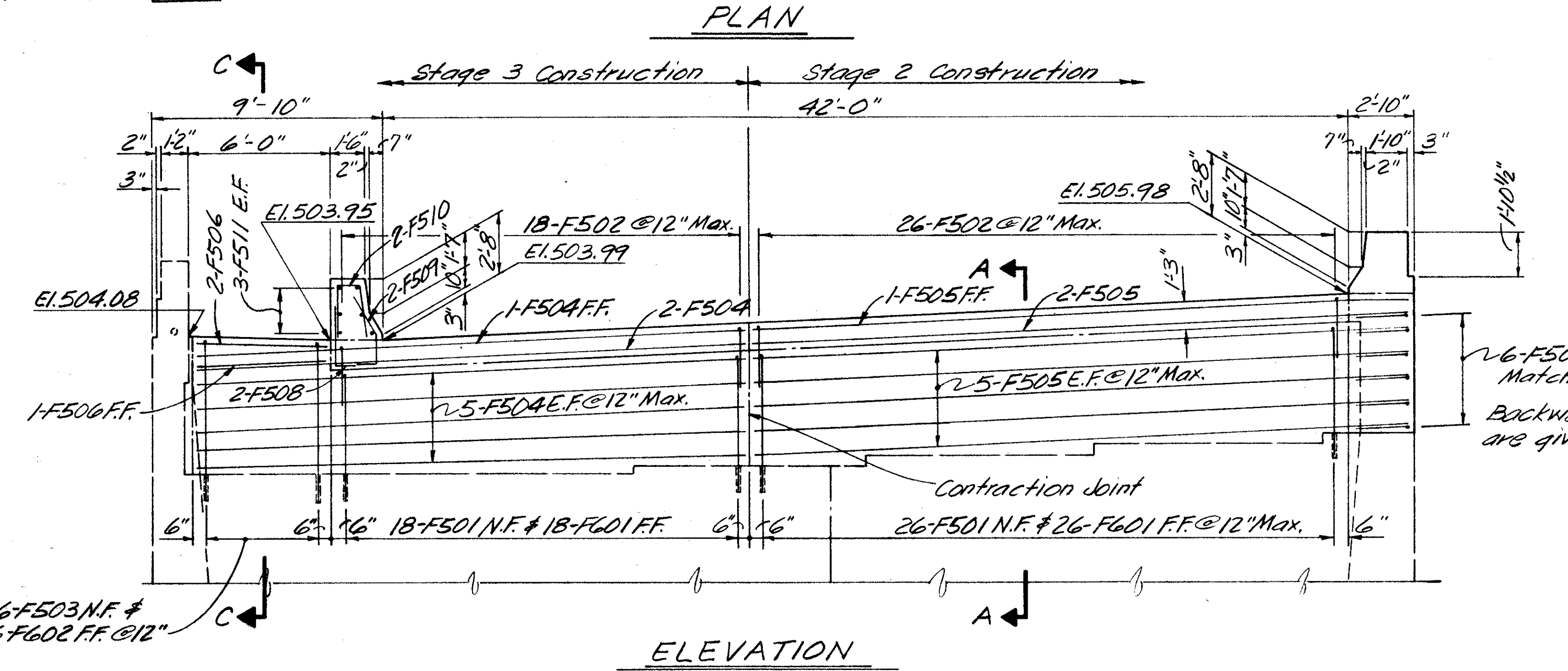
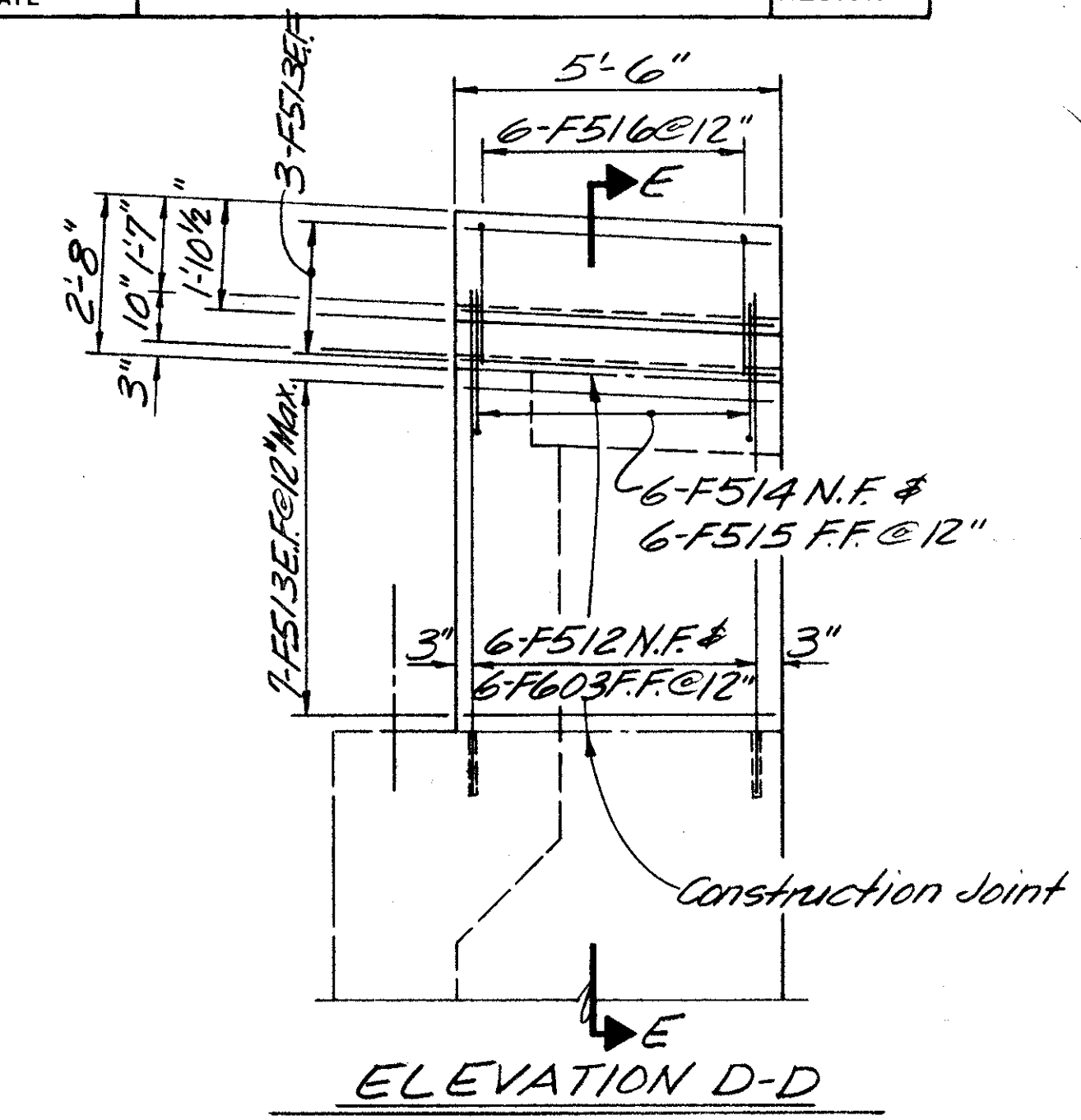
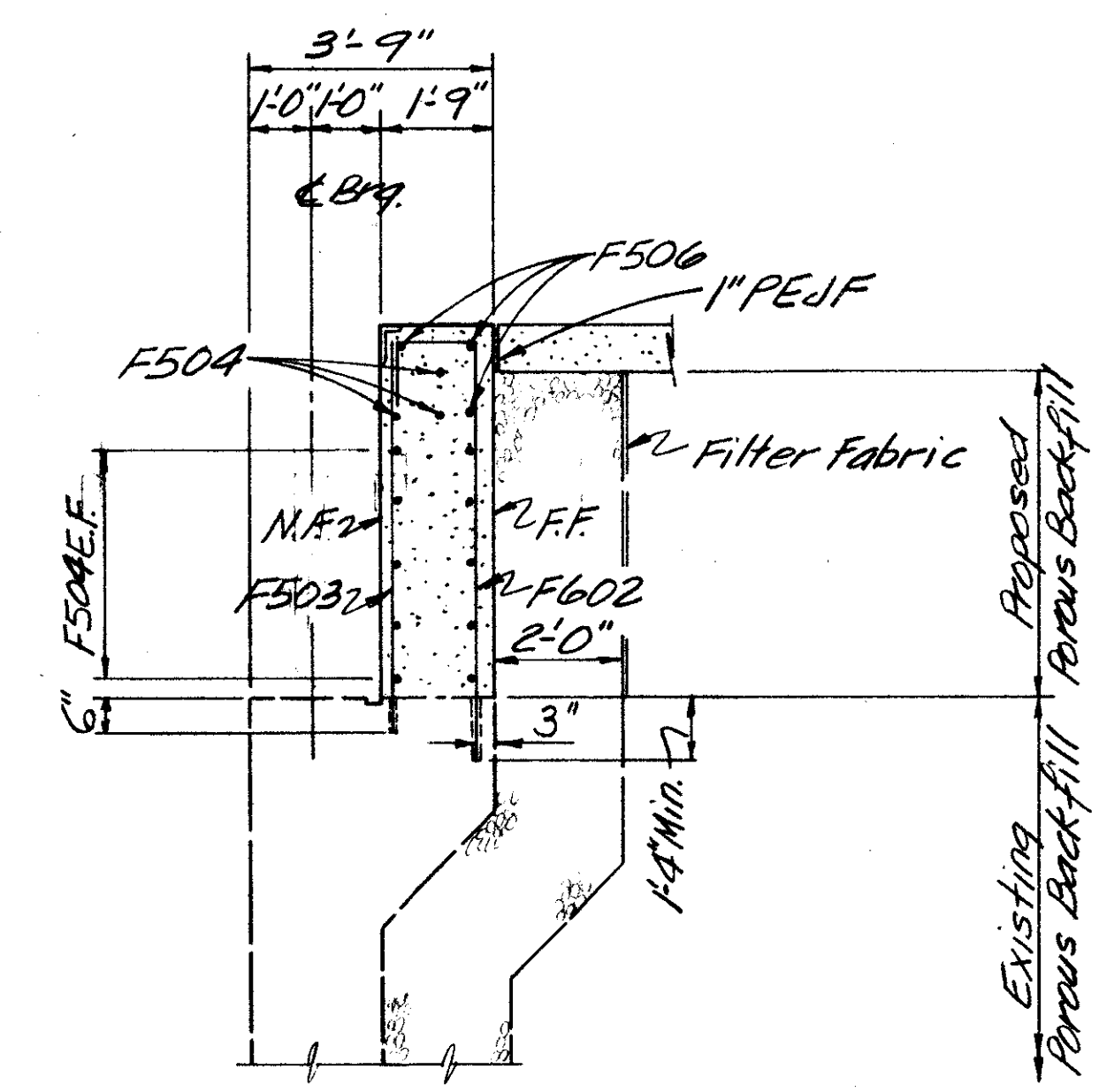
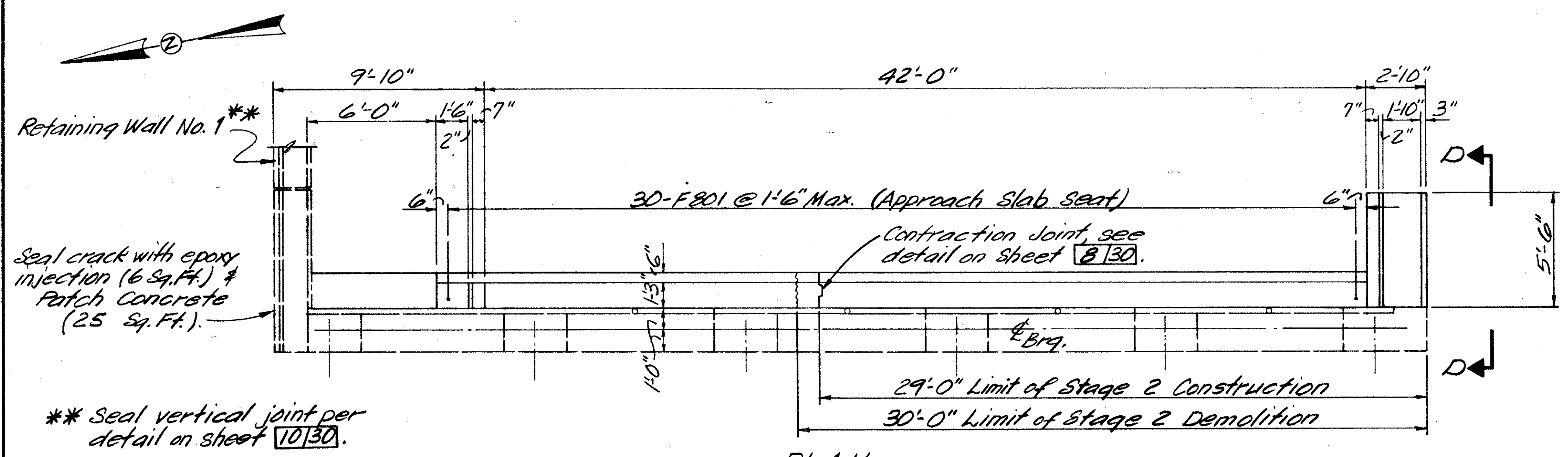


DETAIL 1

Denotes portion of existing structure to be removed.

Notes:  
1. E.F. = Each Face  
F.F. = Far Face  
N.F. = Near Face

BALKE ENGINEERS 6/30 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
ABUTMENT W BRIDGE NO. HAM-50-1936 R. & L. SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	

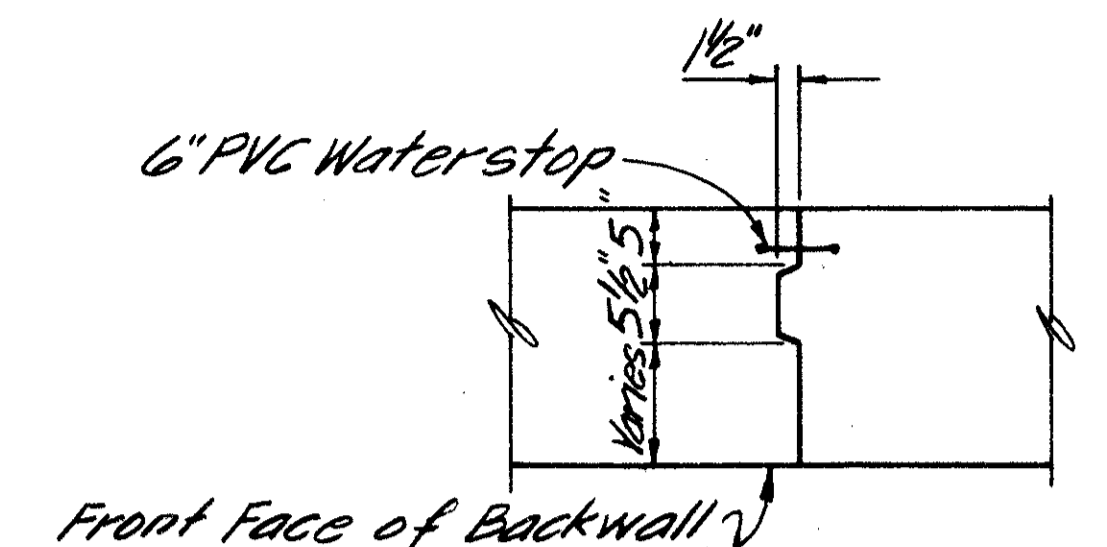
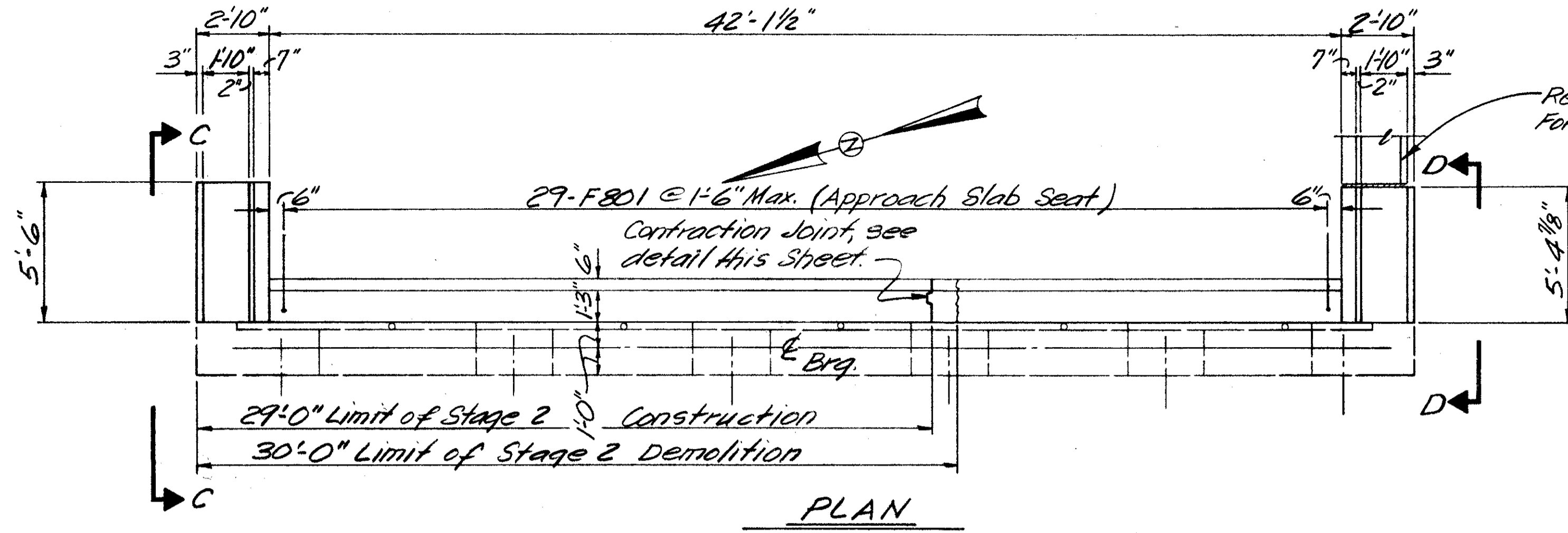


\* This dimension based on opening required for expansion joint.

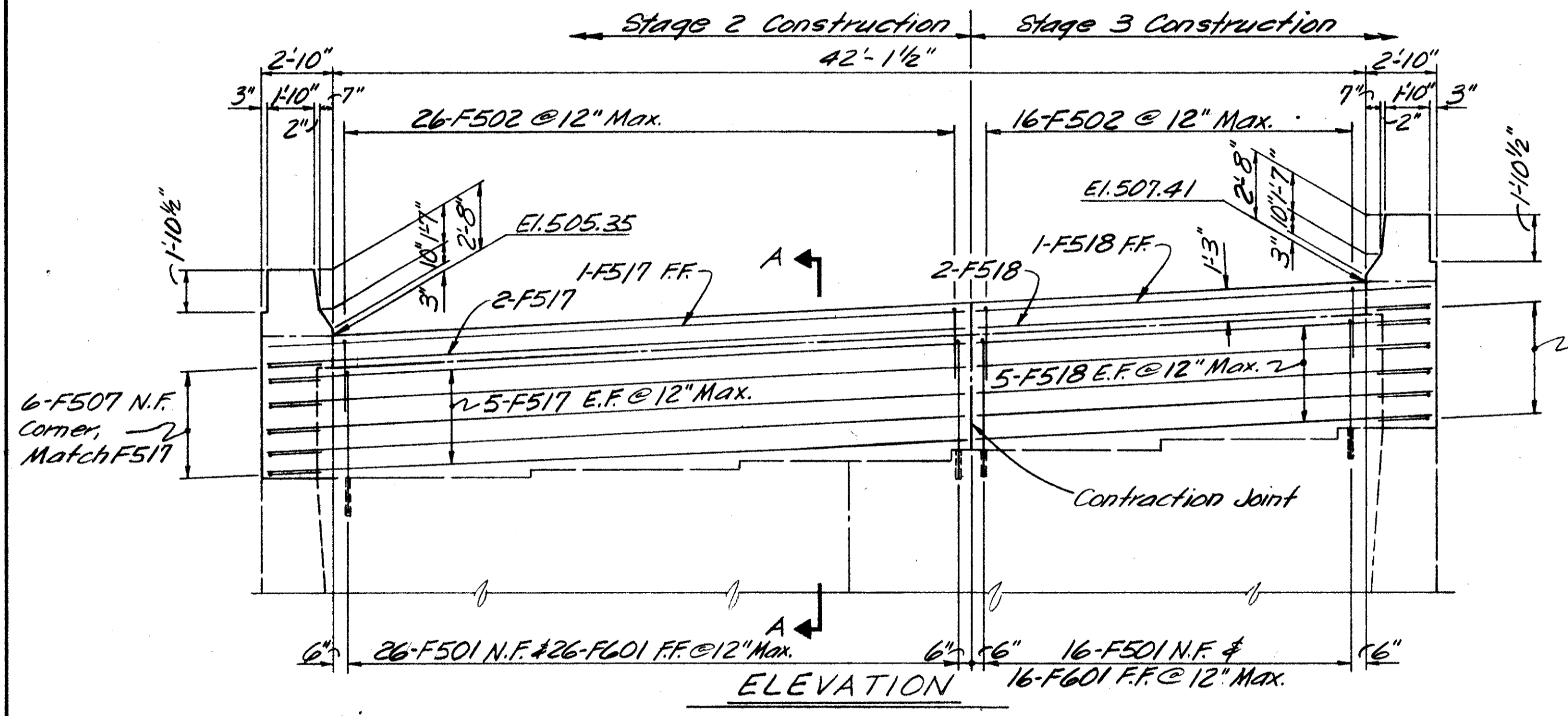
Note:  
 1. E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face  
 2. For Section E-E see sheet 9/30.

Denotes portion of existing structure to be removed.

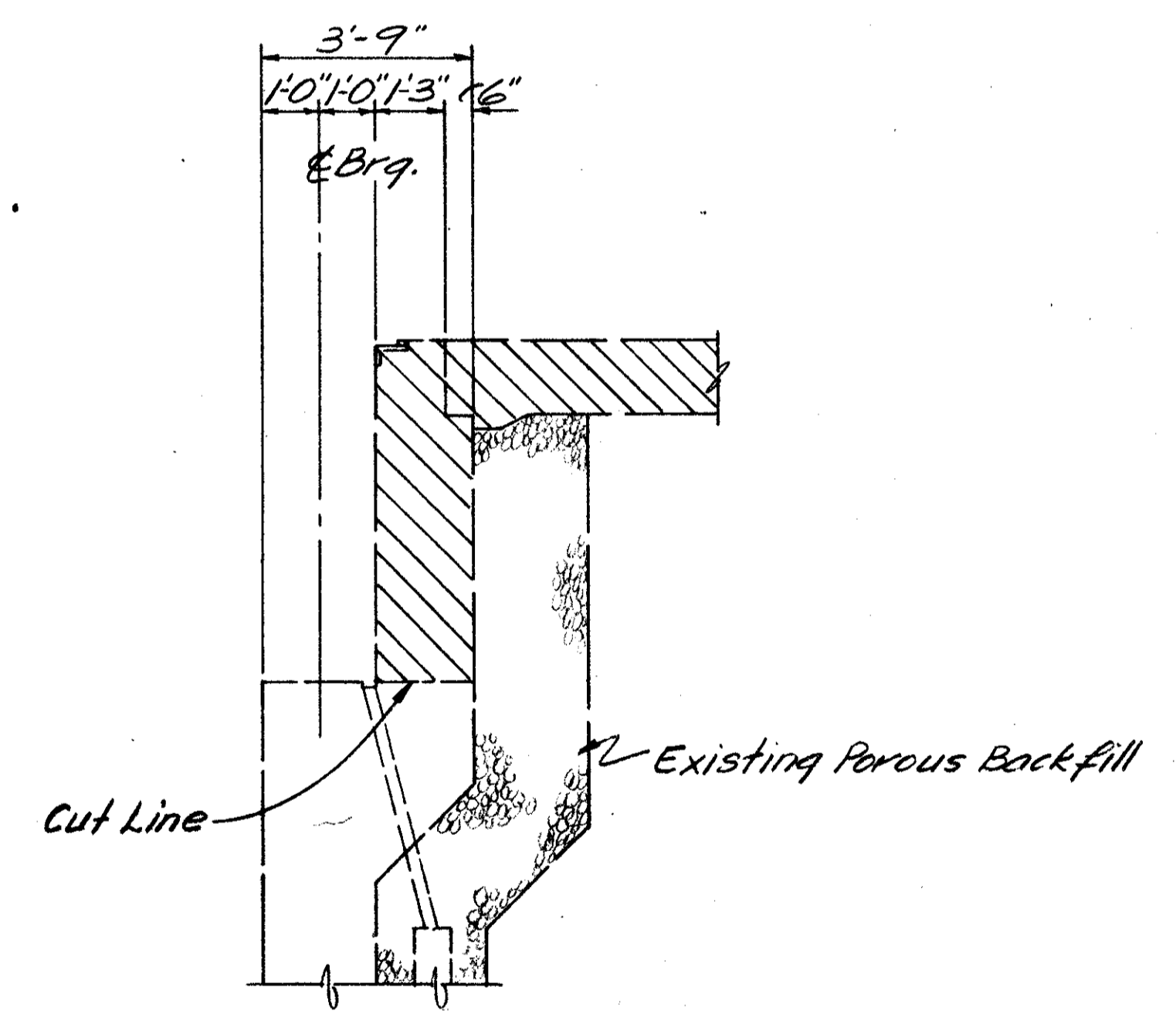
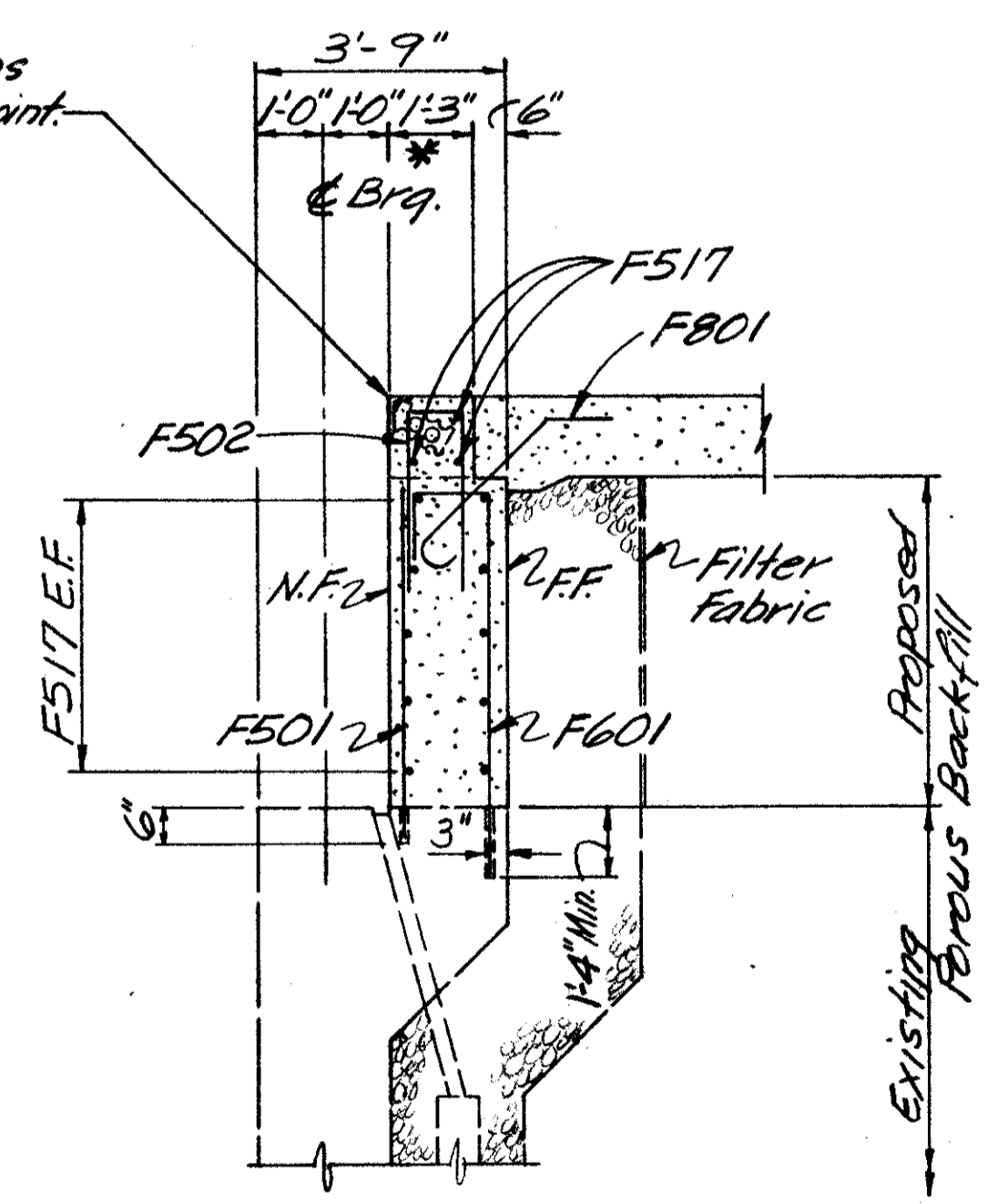
BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237					7/30
ABUTMENT N BRIDGE NO. HAM-50-1936 R#L SIXTH STREET EXPRESSWAY OVER R.R. AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	



Waterstop to be Vinylex RA-316, Greenstreak 781 or approved equal. Waterstop to be securely held in place in approved manner to ensure correct positioning of waterstop is maintained.



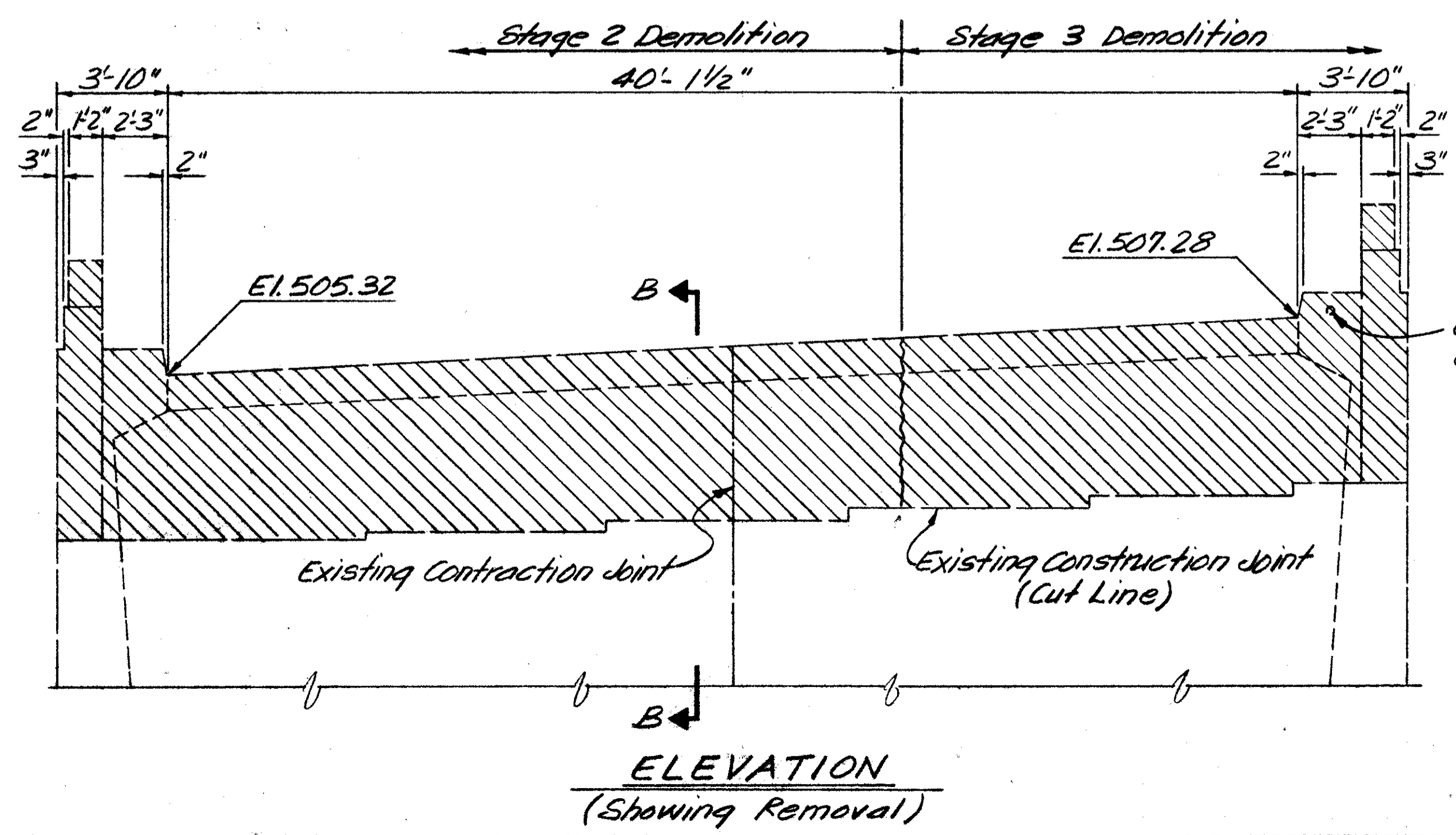
Backwall elevations are given at this point.



\* This dimension based on opening required for expansion joint.

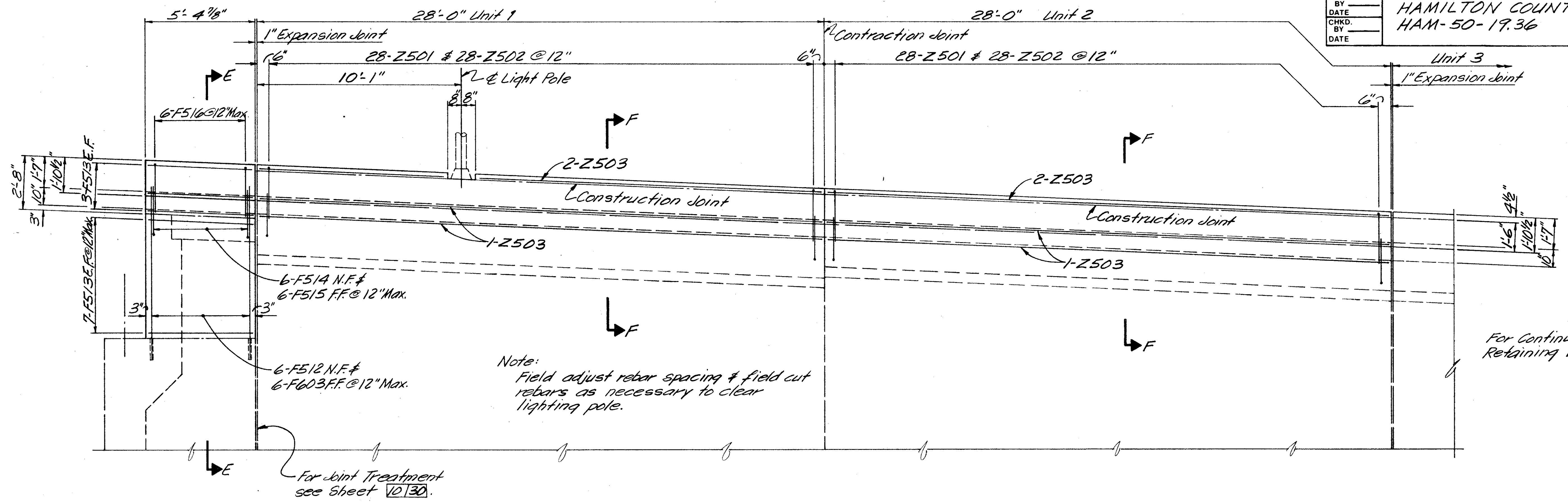
- Notes:
- E.F. = Each Face
  - FF. = Far Face
  - N.F. = Near Face
2. For Elevation C-C & D-D see Sheet 9130.

Denotes portion of existing structure to be removed.



BALKE ENGINEERS 8/30 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
ABUTMENT S BRIDGE NO. HAM-50-1936 R. #L. SIXTH STREET EXPRESSWAY OVER R.R. AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	



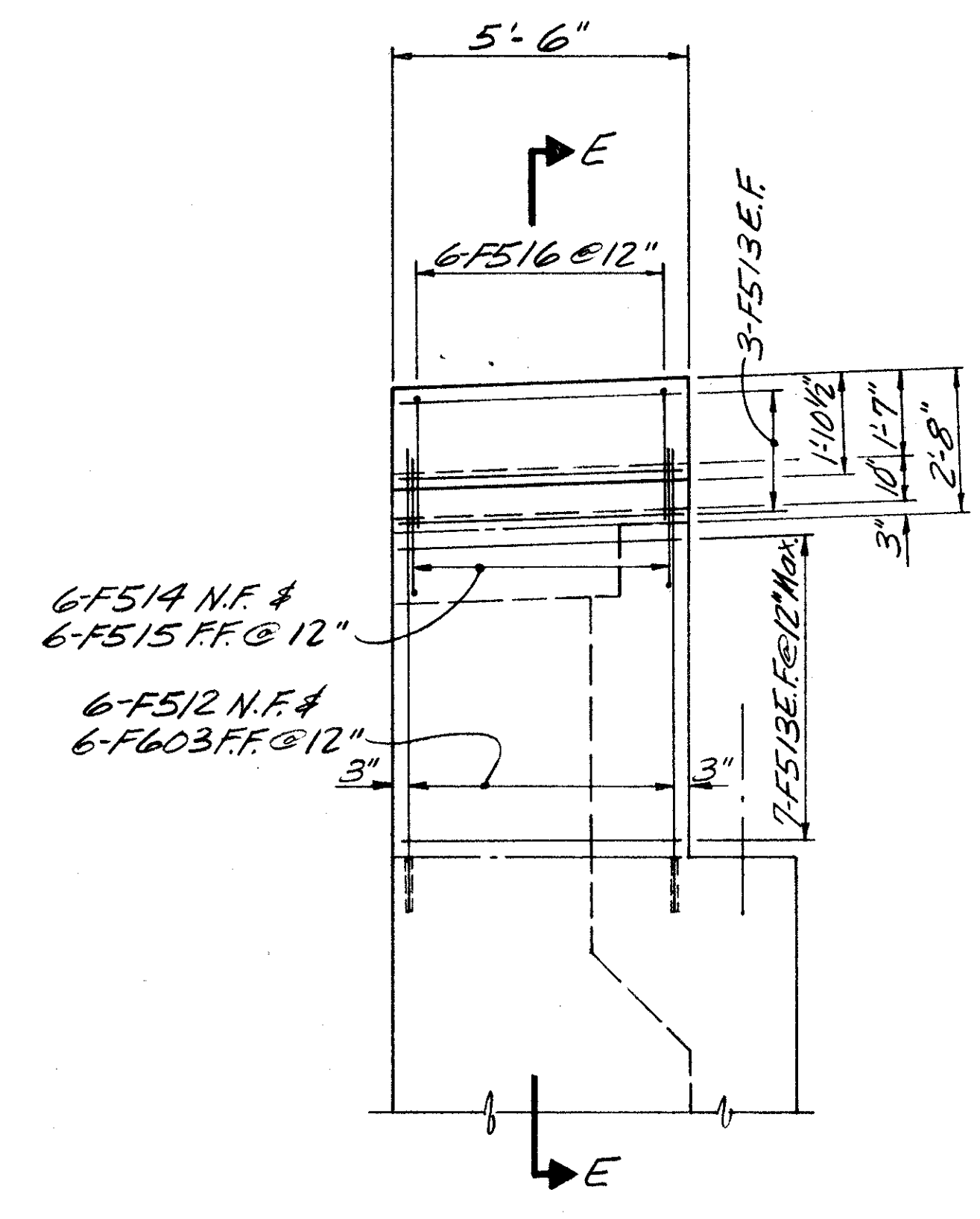


Note:  
 Field adjust rebar spacing & field cut rebar as necessary to clear lighting pole.

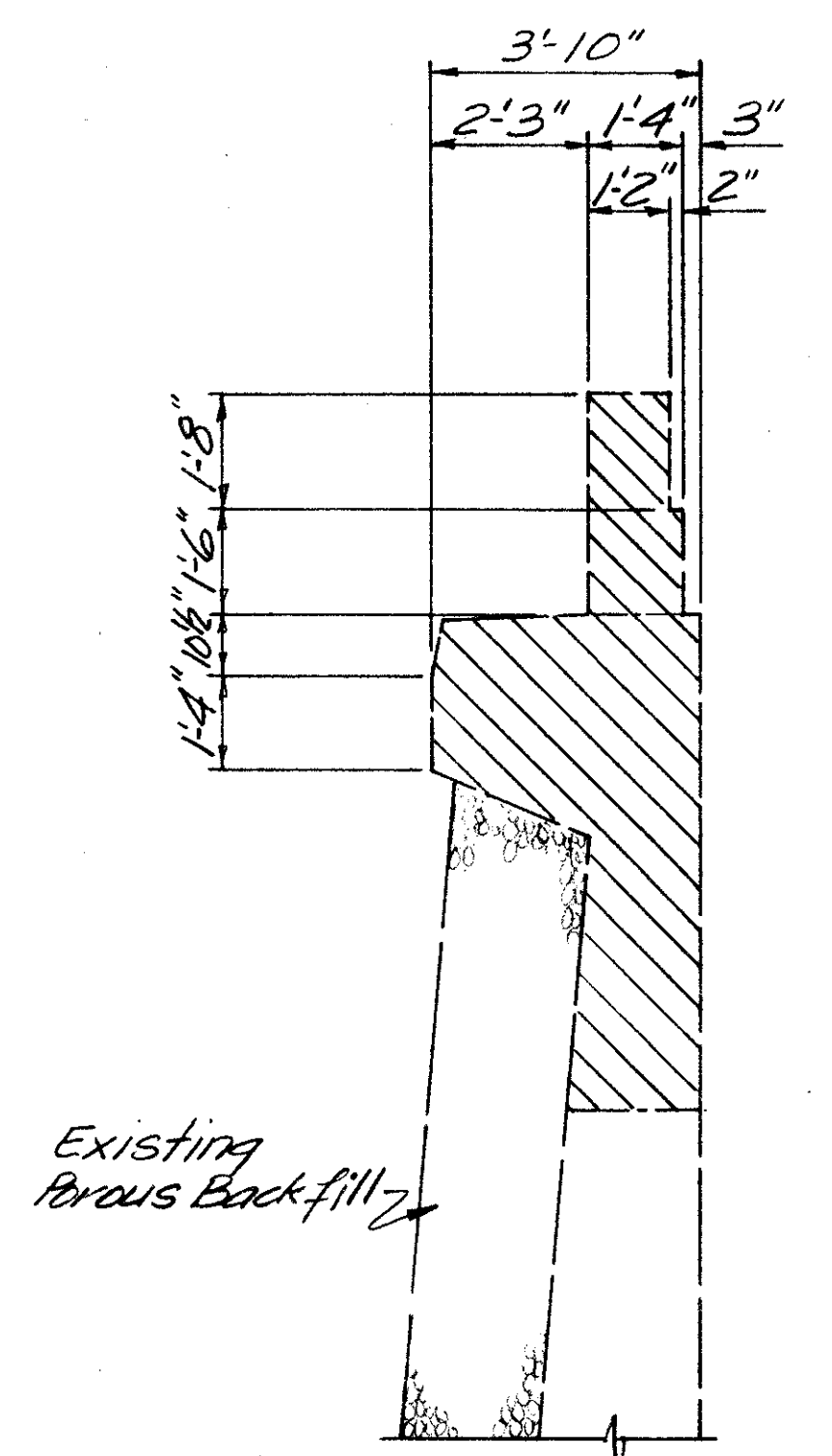
For Continuation of Retaining Wall, see Sht. 10/30.

ELEVATION D-D

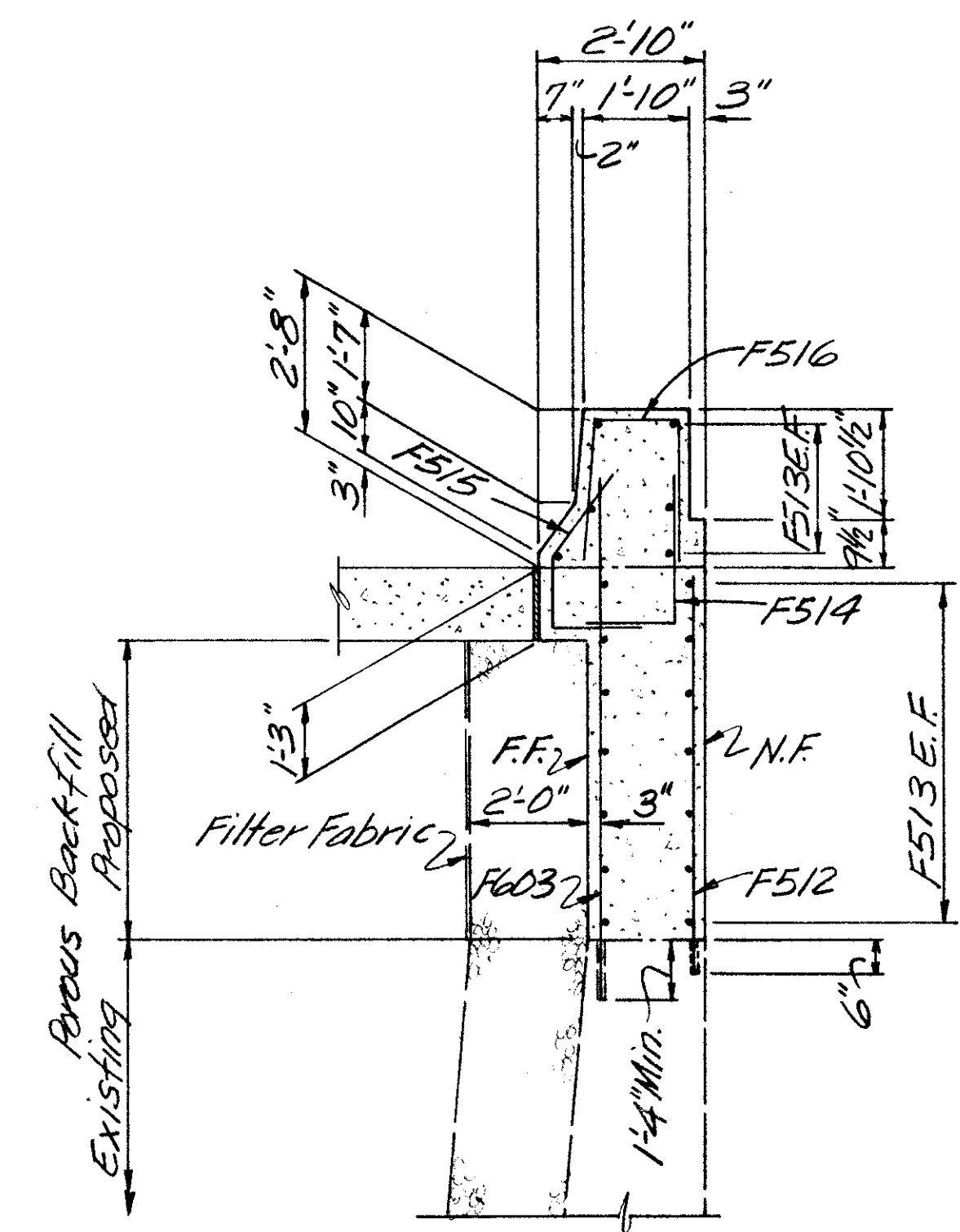
ELEVATION RETAINING WALL NO. 2



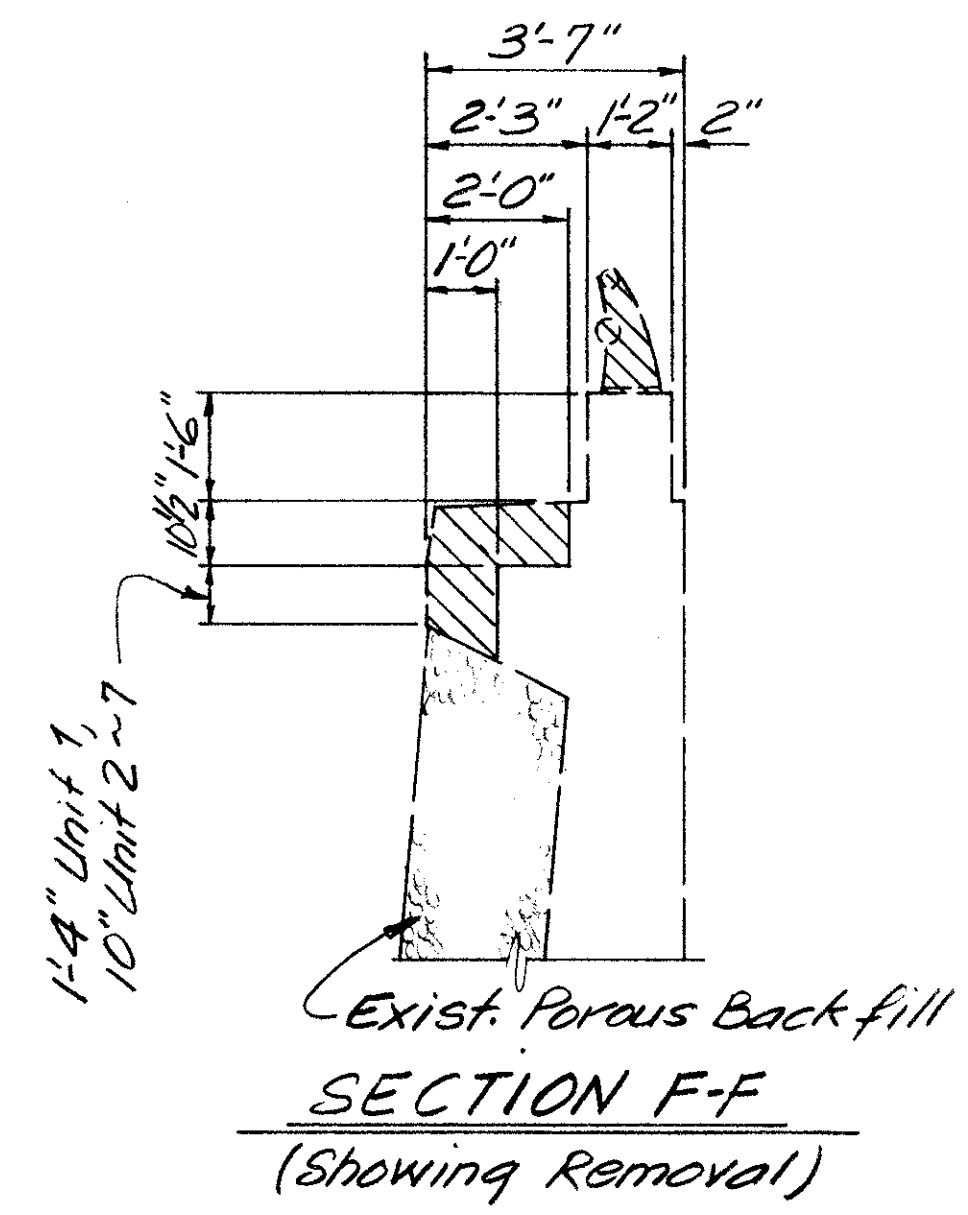
ELEVATION C-C



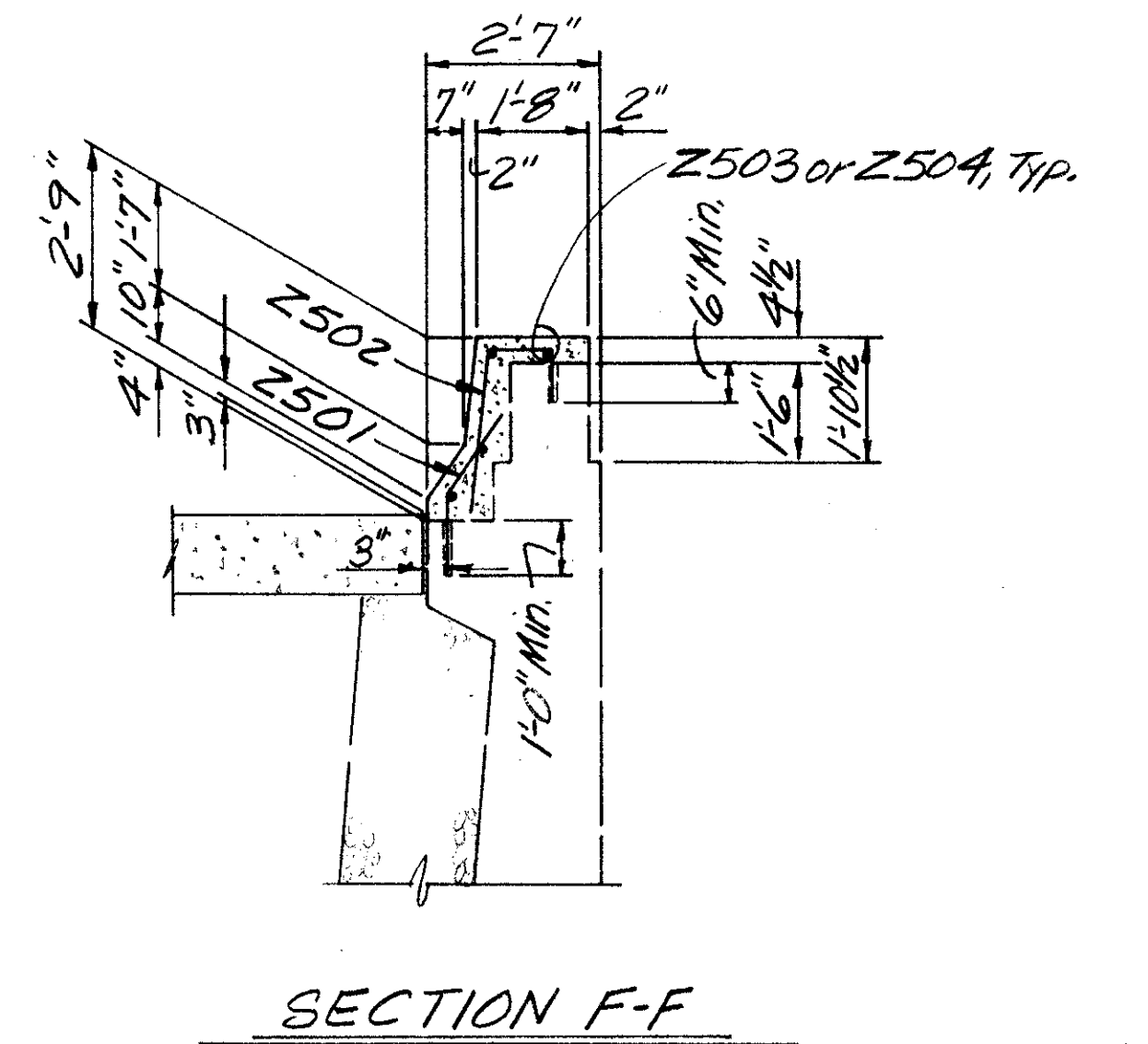
SECTION E-E  
 (Showing Removal)



SECTION E-E



SECTION F-F  
 (Showing Removal)

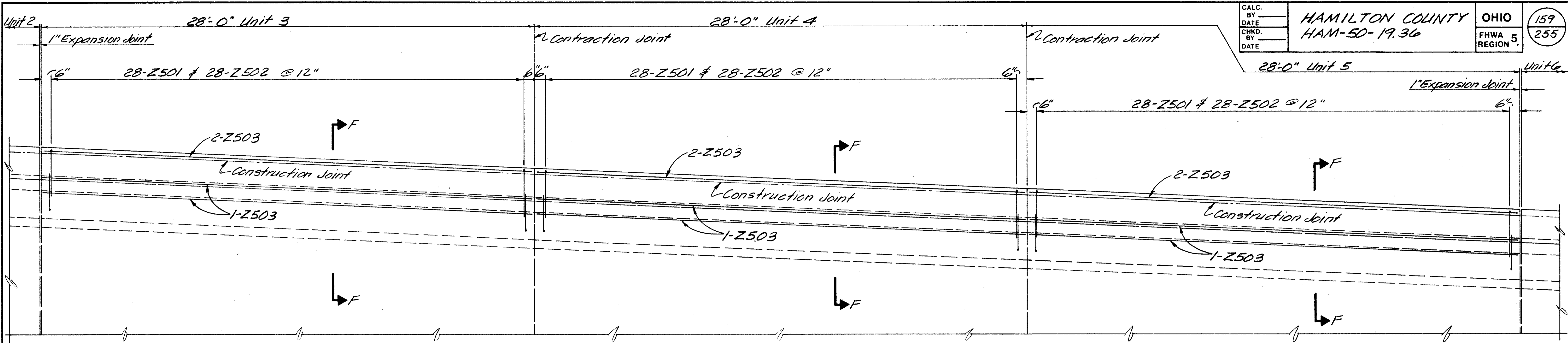


SECTION F-F

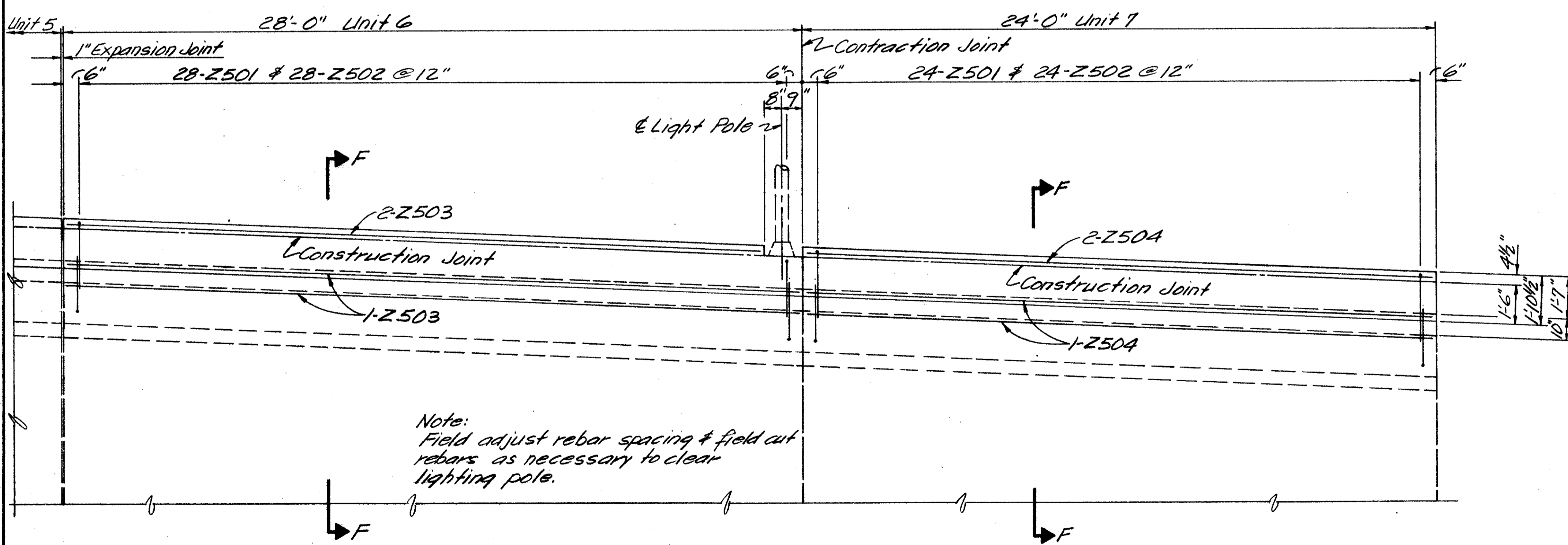
Notes:  
 1. E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face

Denotes portion of existing structure to be removed.

BALKE ENGINEERS 9/30 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
ABUTMENT DETAILS & RETAINING WALL NO. 2 BRIDGE NO. HAM-50-19.36 R. & L. SIXTH STREET EXPRESSWAY OVER R.R. AND MILL CREEK				
DESIGNED MRS	DRAWN WUH	TRACED ~	CHECKED DWI	REVIEWED DATE CRS 4/92

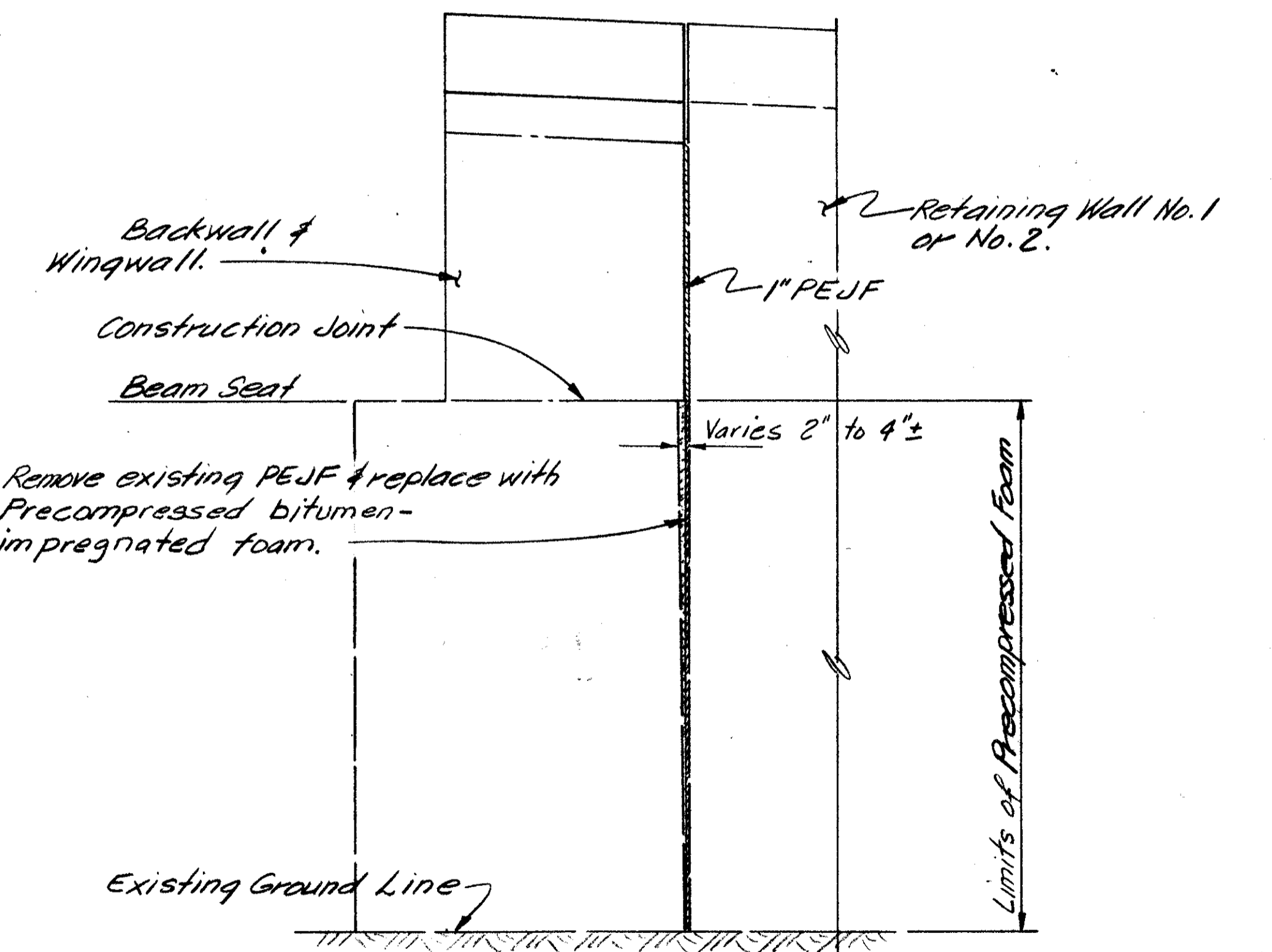


ELEVATION RETAINING WALL NO. 2



Note:  
 Field adjust rebar spacing & field cut  
 rebars as necessary to clear  
 lighting pole.

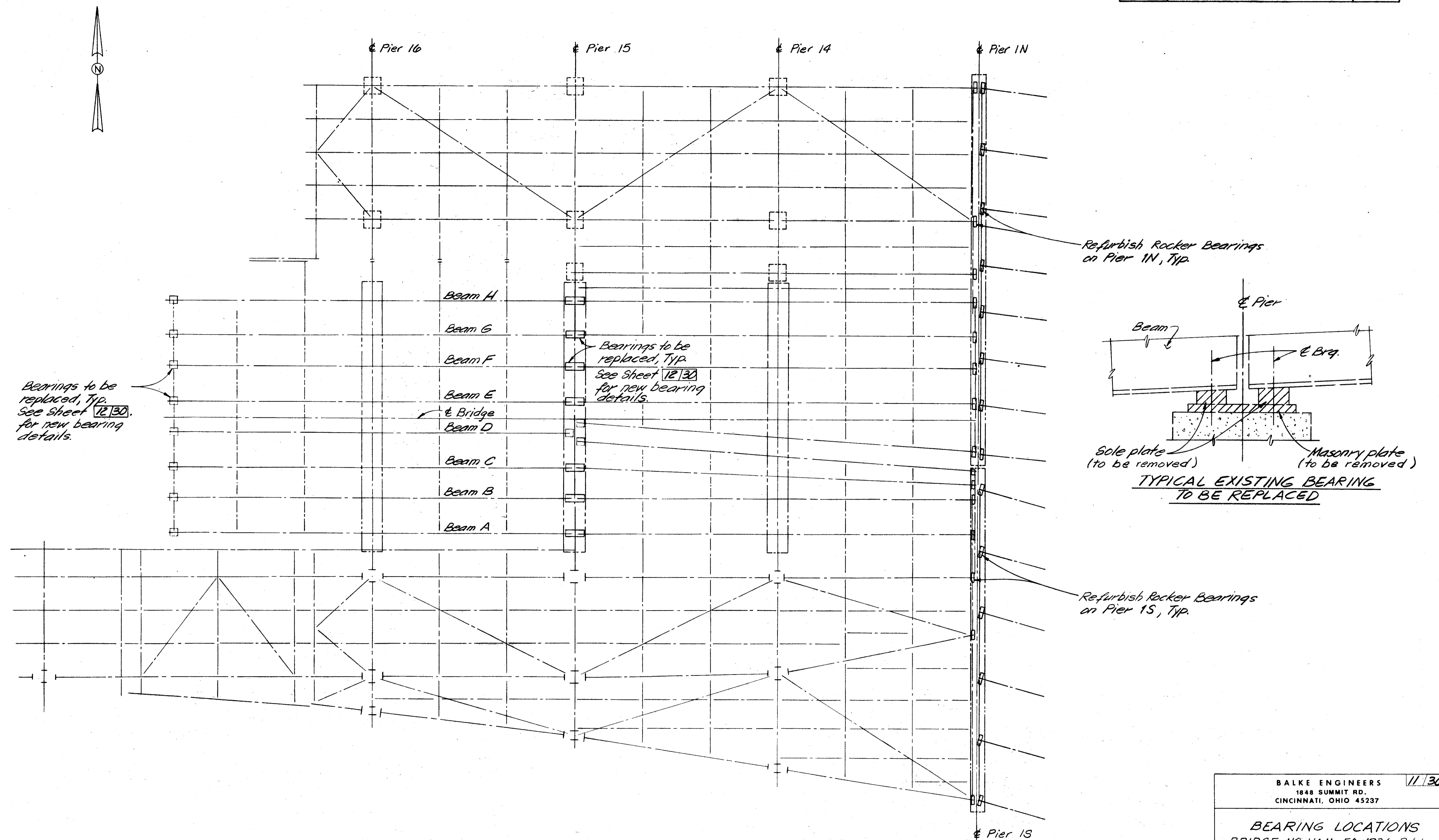
ELEVATION



VERTICAL EXPANSION JOINT  
 TREATMENT  
 (East & West bound abutment)

Notes:  
 1. For Section F-F, see Sheet 9/30.  
 2. PEJF = Preformed Expansion Joint Filler

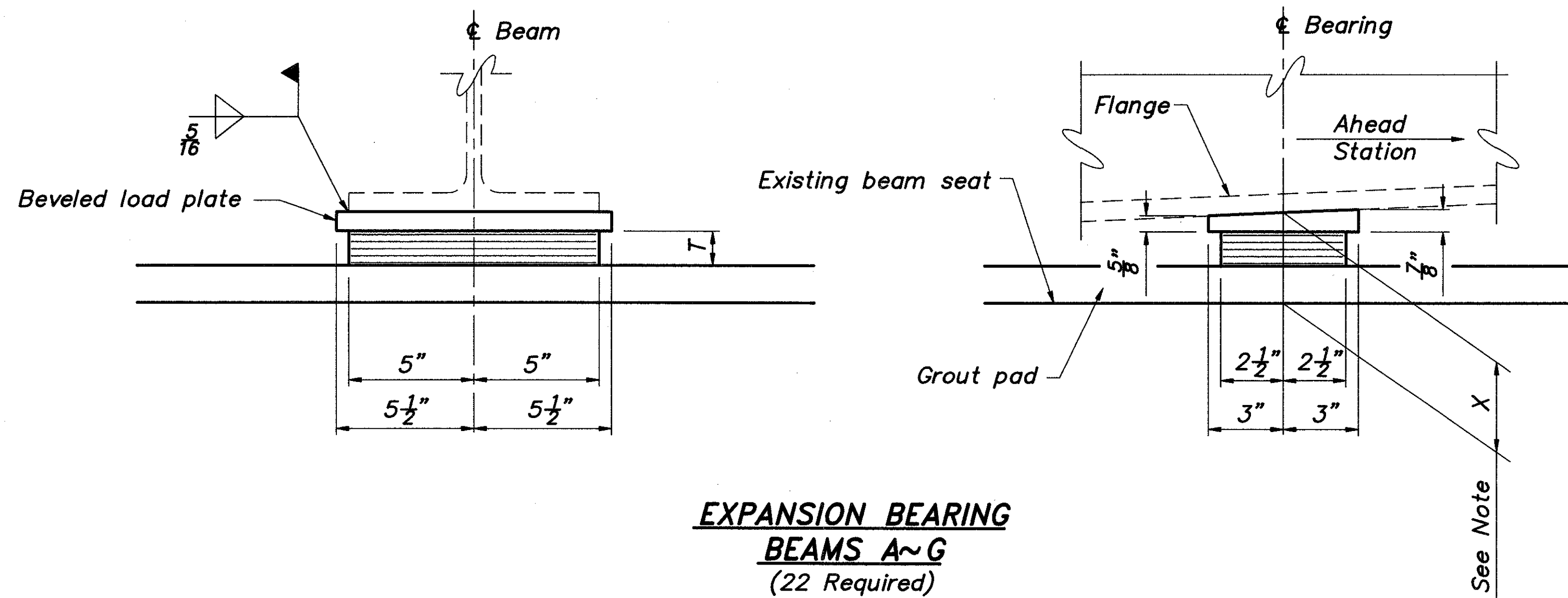
BALKE ENGINEERS 10/30 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
RETAINING WALL NO. 2 BRIDGE NO. HAM-50-1936 R.#L. SIXTH STREET EXPRESSWAY OVER R.R. AND MILL CREEK				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WUH	~	DWI	CRS 4/92



PLAN OF BEARING LOCATIONS

BALKE ENGINEERS 11/30 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
BEARING LOCATIONS BRIDGE NO. HAM-50-1936 R&L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	

DRAWN: ALH



**EXPANSION BEARING  
BEAMS A~G**  
(22 Required)

Thickness of external elastomer = .125"  
(2 required)

Thickness of internal elastomer = .1875"  
(4 required)

$T = 1\frac{3}{8}"$

Internal steel laminate  
Thickness = .0747" (14 gage)  
(5 required)

D.L. = 11.7 K  
L.L. = 28.5 K

Durometer 50

Steel load plate A36

Tolerances:

Individual elastomer layer thickness: = 20% of design value  
(not to exceed  $\pm\frac{1}{8}"$ )

Plan dimensions -0, + $\frac{1}{4}"$

Design thickness  $\leq 1\frac{1}{4}"$  -0, + $\frac{1}{8}"$

Design thickness  $> 1\frac{1}{4}"$  -0, + $\frac{1}{4}"$

Edge cover of embedded laminates -0, + $\frac{1}{8}"$

Load plate

The steel load plate shall be bonded by vulcanization to the elastomer during the molding process.

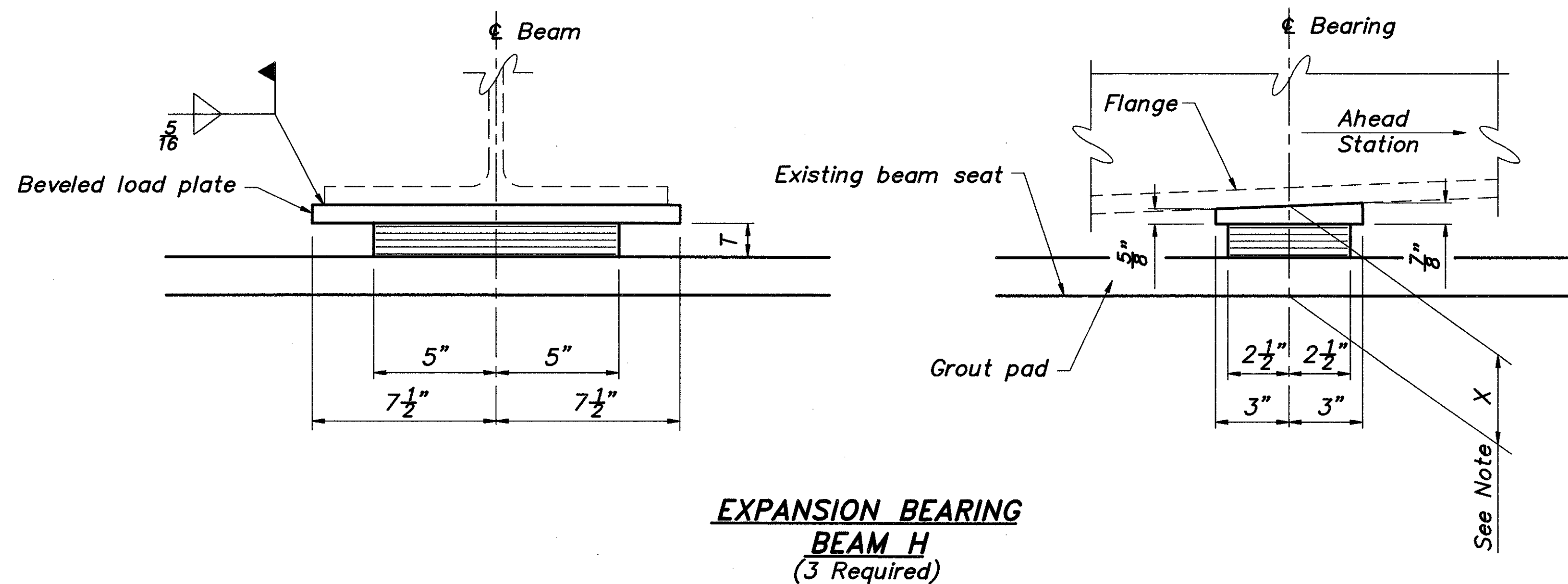
Welding of the load plate to the superstructure shall be controlled so that the plate temperature at the elastomer bonded surface shall not exceed 400°F as determined by the use of pyrometric sticks or other monitoring devices.

Basis of payment

The unit bid price shall include all materials, labor and incidentals necessary to furnish and install laminated elastomeric expansion bearings. Payment will be made at the contract price for Item 516, each, elastomeric bearing with internal laminates and load plate (neoprene) (less than 2" thick x 5 x 10).

Elastomeric test pad

The elastomeric bearing manufacturer shall supply a plain elastomeric pad for testing purposes. The pad shall be furnished from the same batch of neoprene that is used in the fabrication of the laminated elastomeric bearings and the fabricator shall certify the identity of the elastomer. The pad shall have a  $\frac{1}{2}$  inch thickness, and shall have minimum length and width dimensions of 6 inches. Payment for the test pad will be included in the price bid for the bearings.



**EXPANSION BEARING  
BEAM H**  
(3 Required)

Thickness of external elastomer = .125"  
(2 required)

Thickness of internal elastomer = .1875"  
(4 required)

$T = 1\frac{3}{8}"$

Internal steel laminate  
Thickness = .0747" (14 gage)  
(5 required)

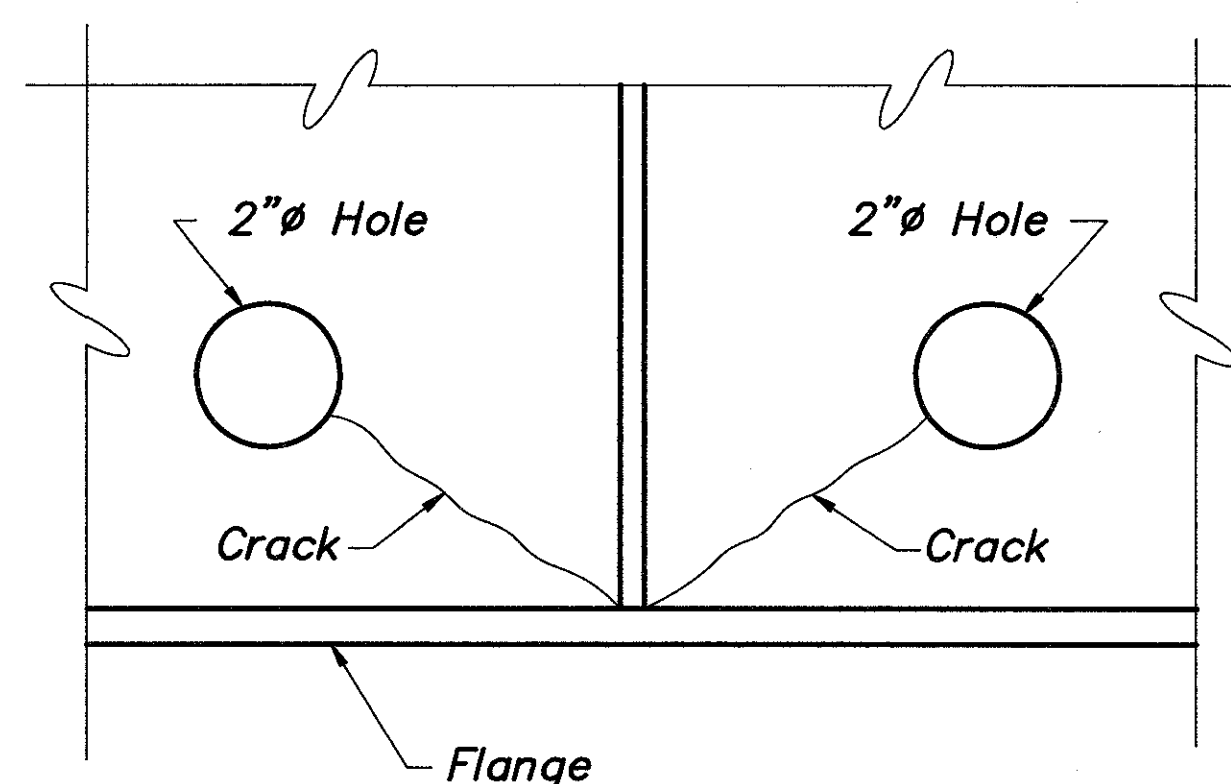
D.L. = 13.5 K  
L.L. = 28.5 K

Durometer 50

Steel load plate A36

NOTE:

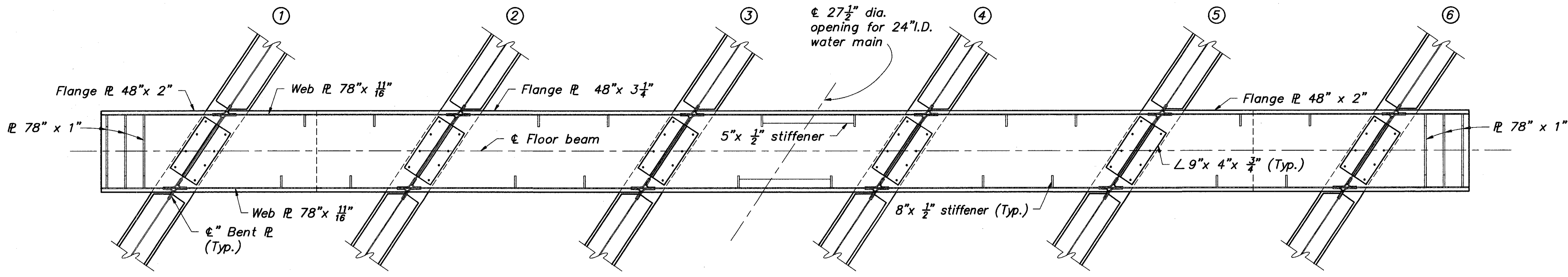
The existing dimension (X) from beam seat to bottom flange of beam shall be maintained. Contractor shall field measure this dimension prior to jacking. Thickness of grout pad shall be the measured dimension minus the thickness of the bearing and the load plate ( $X - 2\frac{1}{8}"$ ).



**CRACK REPAIR DETAIL**

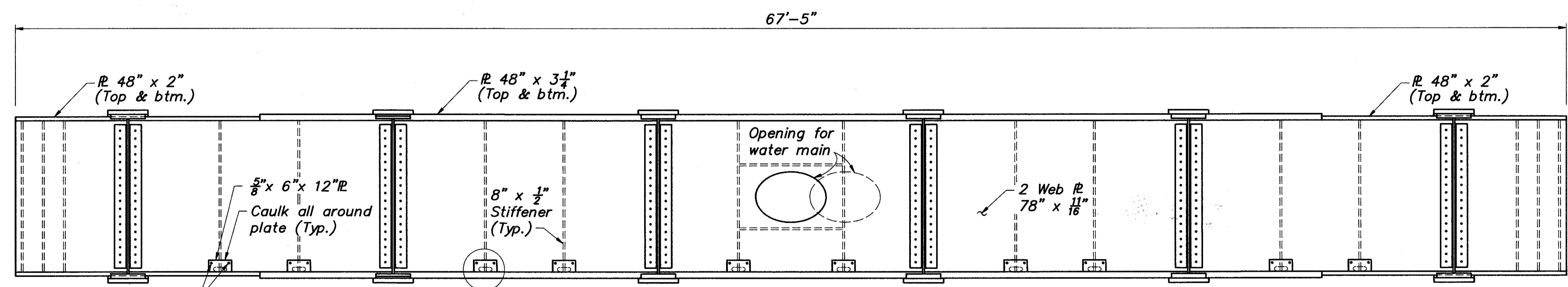
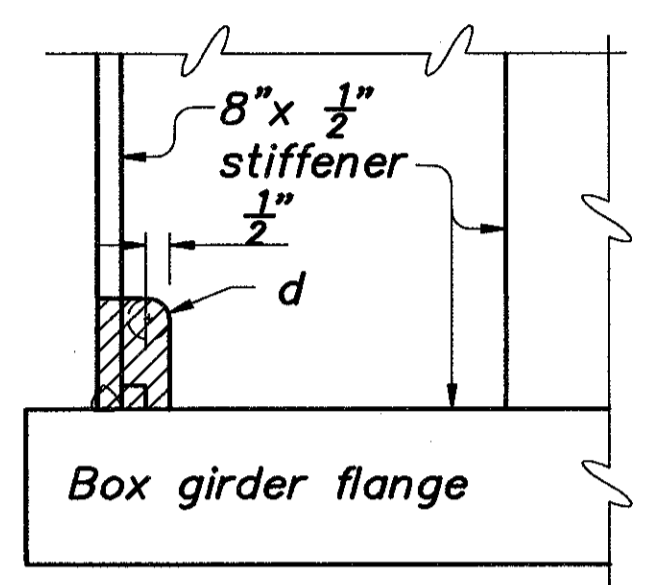
Cracks are located at Pier 3S in the web of the 4th girder from the south on the eastbound structure. Contractor shall locate end of cracks by use of dye penetrant. A 2" diameter hole shall be drilled at the end of crack such that end of crack is removed. Area around repair shall be painted per proposal note for Field Painting of Existing Steel, Using Epoxy and Urethane (EEU). All labor, materials and equipment necessary to complete this work are included for payment with Item 513 Structural Steel, Misc: Crack Repair.

BALKE ENGINEERS 1848 Summit Road Cincinnati, Ohio 45237						12/30
<b>BEARING DETAILS</b> BRIDGE NO. HAM-50-1936 R. & L. SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KS	WJH	~	MRS	CRS	4/92	



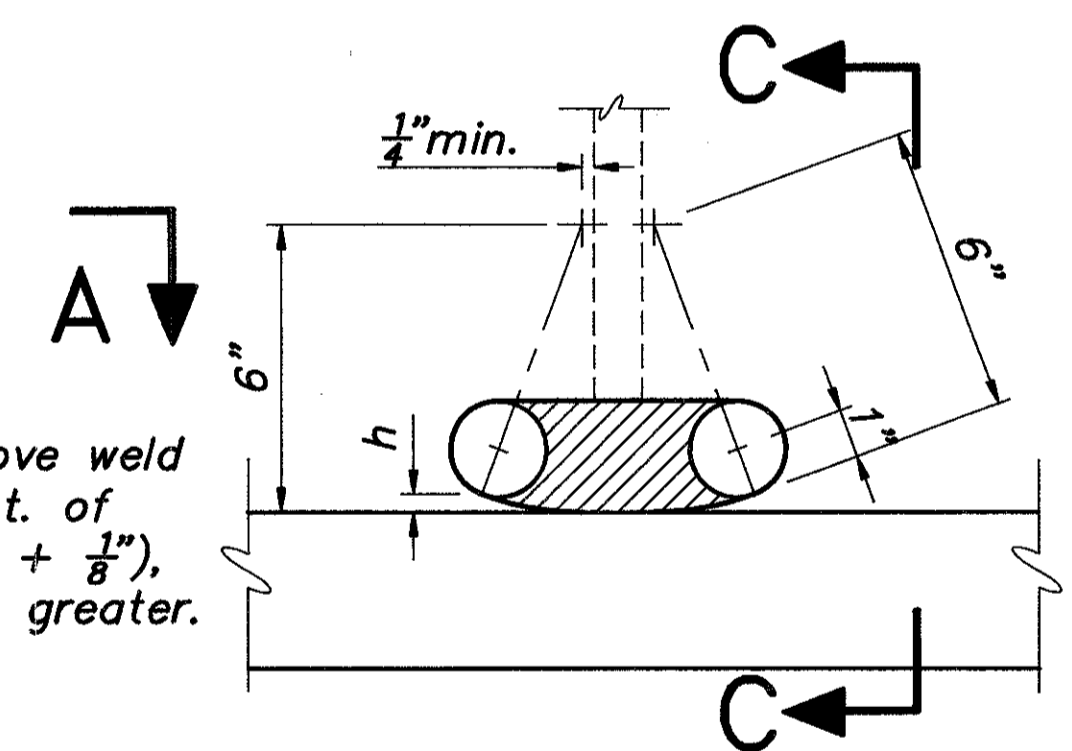
**SECTION A-A**

d = diameter of hole =  $\frac{3}{8}$ " + width of backing bar.



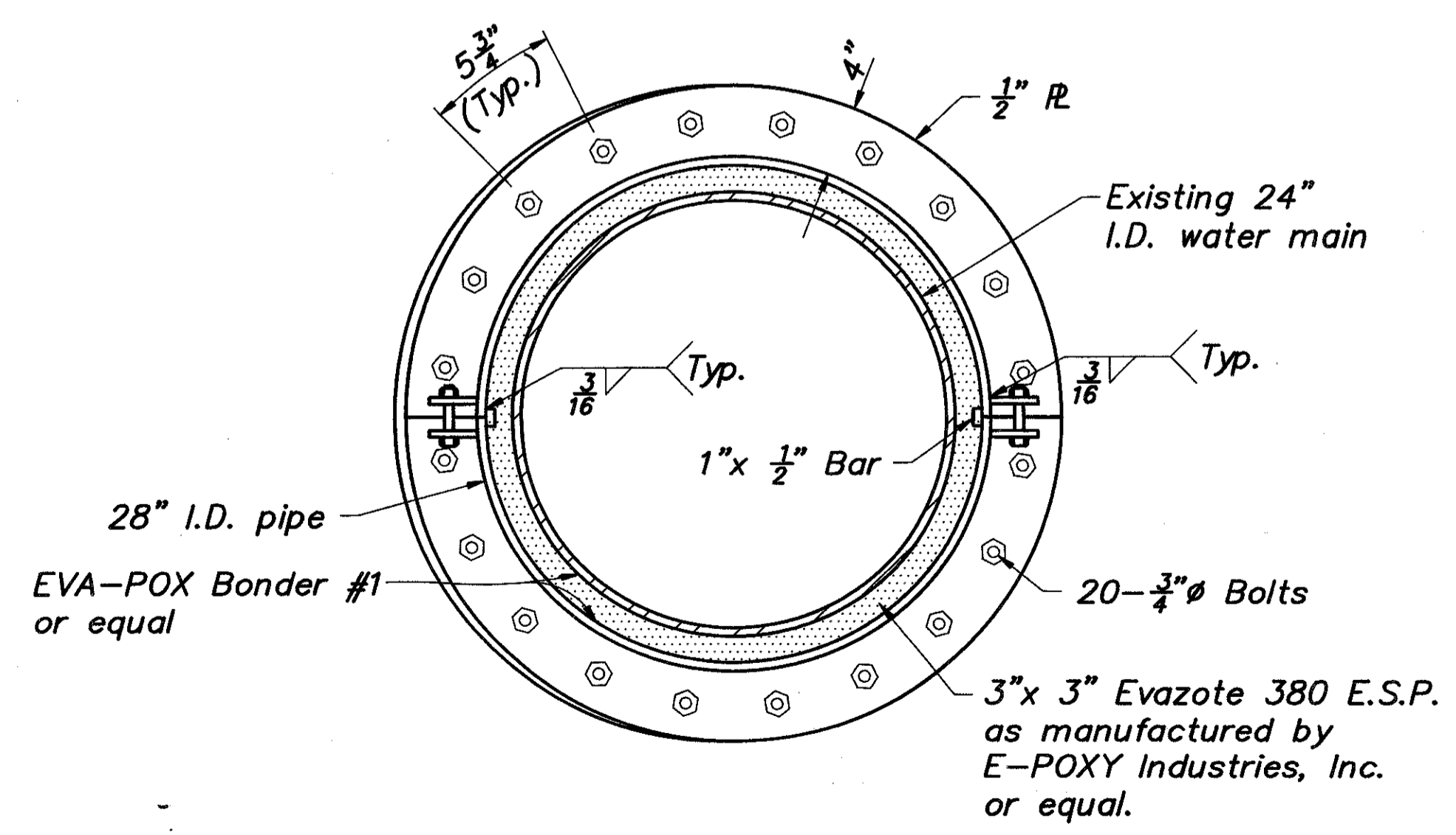
**ELEVATION**

**SECTION C-C**

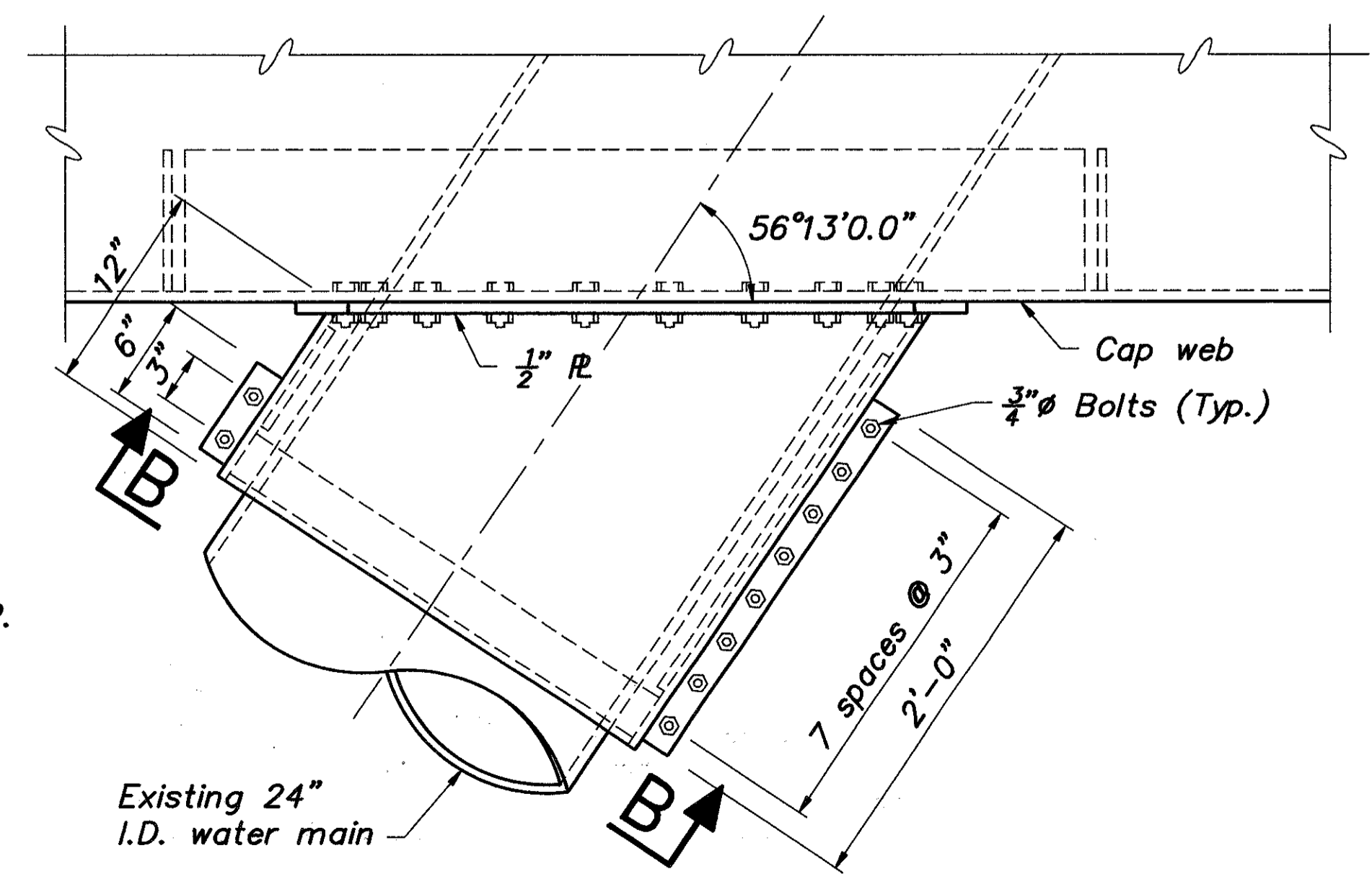


**DETAIL A**

(Showing removal)  
See Procedure Notes this Sheet.



**SECTION B-B**



**PLAN OF CAP**

Retrofit detail to seal cap around watermain

**PROCEDURE**

1. Drill hole in stiffener.
2. Drill twin 2" holes through web and backing bar.
3. Remove crosshatched areas by grinding. Preliminary removals may be by other methods as approved by the Engineer, provided NO DAMAGE is done to the metal which is to remain. Grinding shall be used to make all surfaces smooth and according to plan contours.
4. Perform magnetic particle and/or dye penetrant tests of the remaining metal in the presence of the Engineer.

**NOTES:**

1. See sheet 14/30 for description of required work.

BALKE ENGINEERS 13/30 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					
PIER 5N DETAILS BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

**SCOPE OF WORK:**

The following work is required at the box girder floorbeam at Pier 5N.

1. Remove bird droppings & nests from bottom flanges of girders.
2. Remove bird & wasp nests & trash from interior of box girder.
3. Retrofit backing bars at stiffeners inside box girder as noted on plans.
4. Excess weld material is present on underside of bottom flange near girder #5. Grind excess material flush with bottom flange.
5. Clean & prime corroded and repaired areas on the interior of the box girder. Apply final coat of paint to entire inside of box girder. Final coat to be silver or white in color. Cleaning & painting to be per System EEU.
6. Seal opening around water main. See Sheet 13/30 for details.
7. Provide 1/8" neoprene gasket for each access hatch cover. Gasket to be same dimensions as cover. Provide additional bolts as indicated.

All labor, material, & equipment necessary to execute items 1 thru 7 shall be included for payment in the unit price bid for Item 513, Structural steel, misc.: repair fracture critical box girder pier cap.

8. Replace the bottom splice plates connecting the longitudinal girders.

All labor, material, & equipment necessary to execute item 8 shall be included for payment in the unit price bid for Item 513, Structural steel, misc.: splice plate replacement.

9. Remove stitch welds along backing bars as noted with the following restrictions: Stitch welds 2" or less in length shall not be removed; stitch welds from 2" to 4" in length shall not be removed between girders 1 & 2 and 5 & 6. After stitch welds have been removed, the web-to-flange groove weld adjacent to removal areas shall be examined by the use of dye penetrant or magnetic particle testing to check for damage. The Engineer shall approve the welds to be removed.

All labor, material, & equipment necessary to execute item 9 shall be included for payment in the unit price bid for Item 513, Structural steel, misc.: removal of backing bar stitch weld including NDT.

**NOTES:**

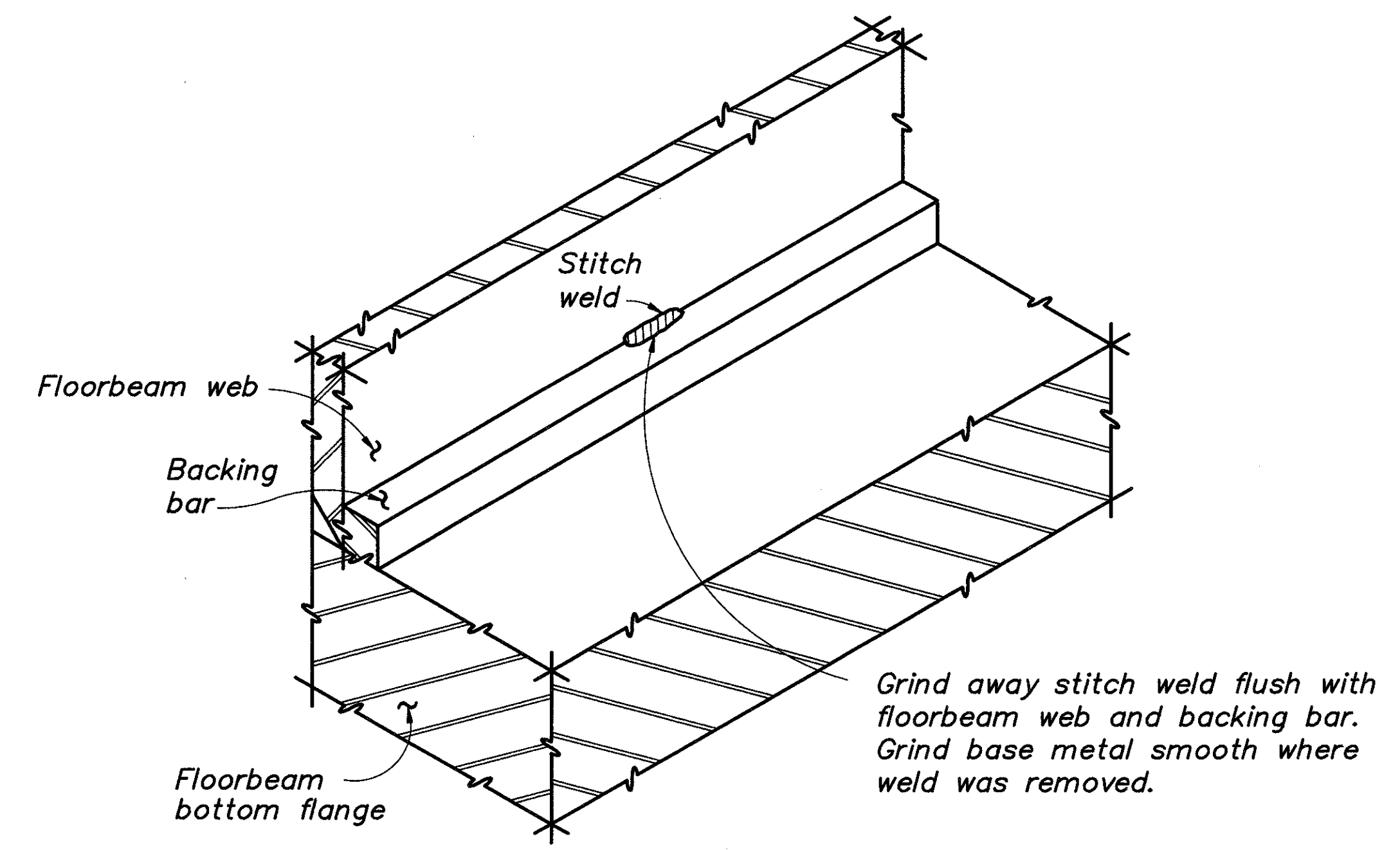
The box girder pier cap is a fracture critical member and as such, requires high quality work be performed in a careful manner which will not damage the member.

**SPLICE PLATE REPLACEMENT:**

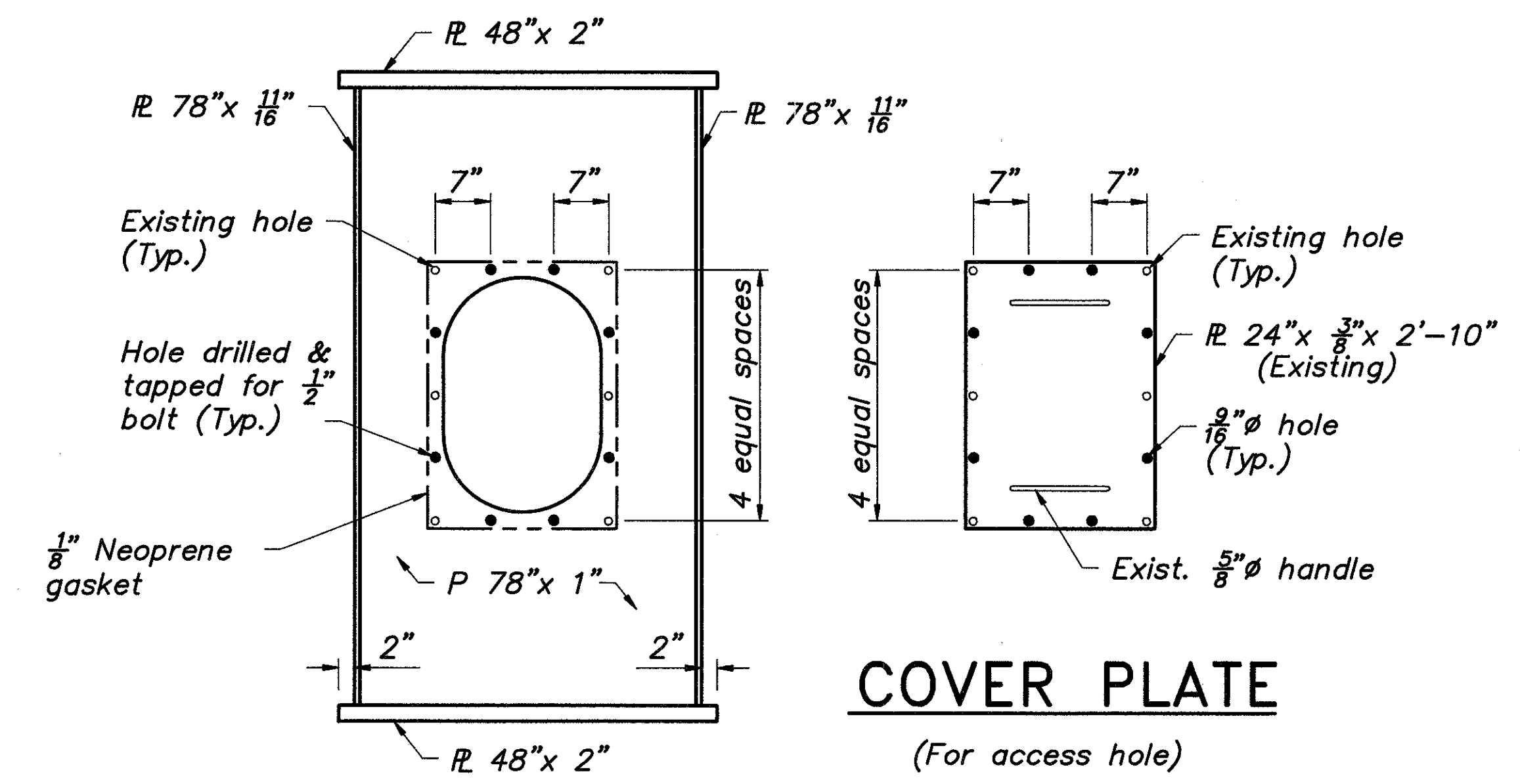
Suggested procedure is as follows:

- a. Shore girders on each side of the box girder pier cap to relieve dead load.
- b. Remove the bottom splice plate and, where present, the fill plate from the bottom flange of the box girder pier cap by removing the bolts and chipping through the welds. Care shall be taken not to gouge or remove any portion of the flange of the box girder.
- c. Remove the splice plate and fill plates from the bottom flange of the longitudinal girders.
- d. Grind flush remaining weld material on bottom flange of box girder.
- e. Reassemble new splice plates and fill plates to the girders and box girder with new 1" dia. ASTM A325 bolts and nuts.
- f. Clean and paint repaired areas per OZEU except that faying surfaces shall be coated with primer only.
- g. Tighten all existing bolts in web connection angles to proper torque.

The Contractor shall submit his shoring plan to the Engineer for approval. Alternate construction methods may be submitted by the Contractor for approval.



**STITCH WELD REMOVAL ON BACKING BAR**

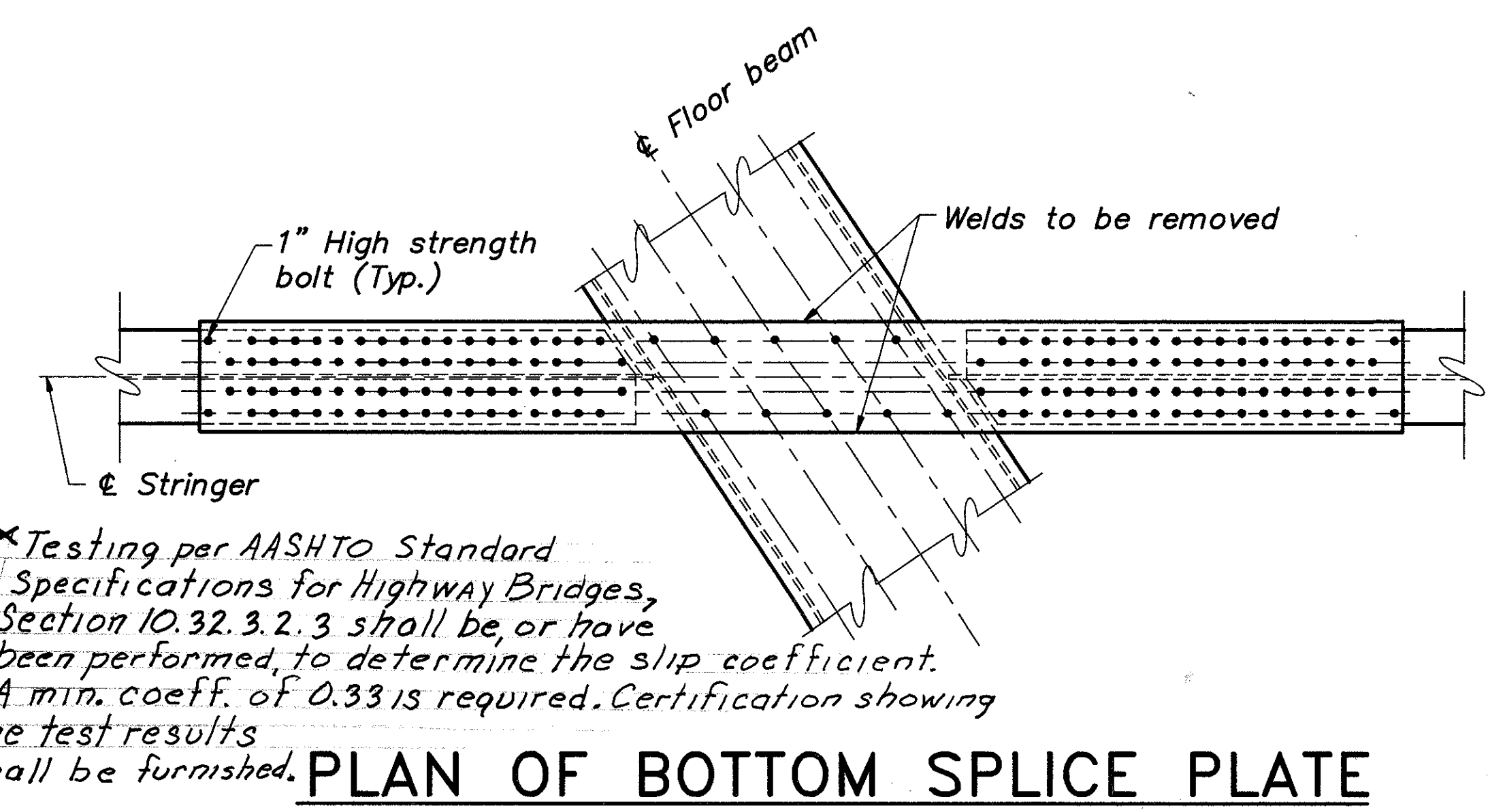


**END VIEW**

(For each end of floor beam)

**COVER PLATE**

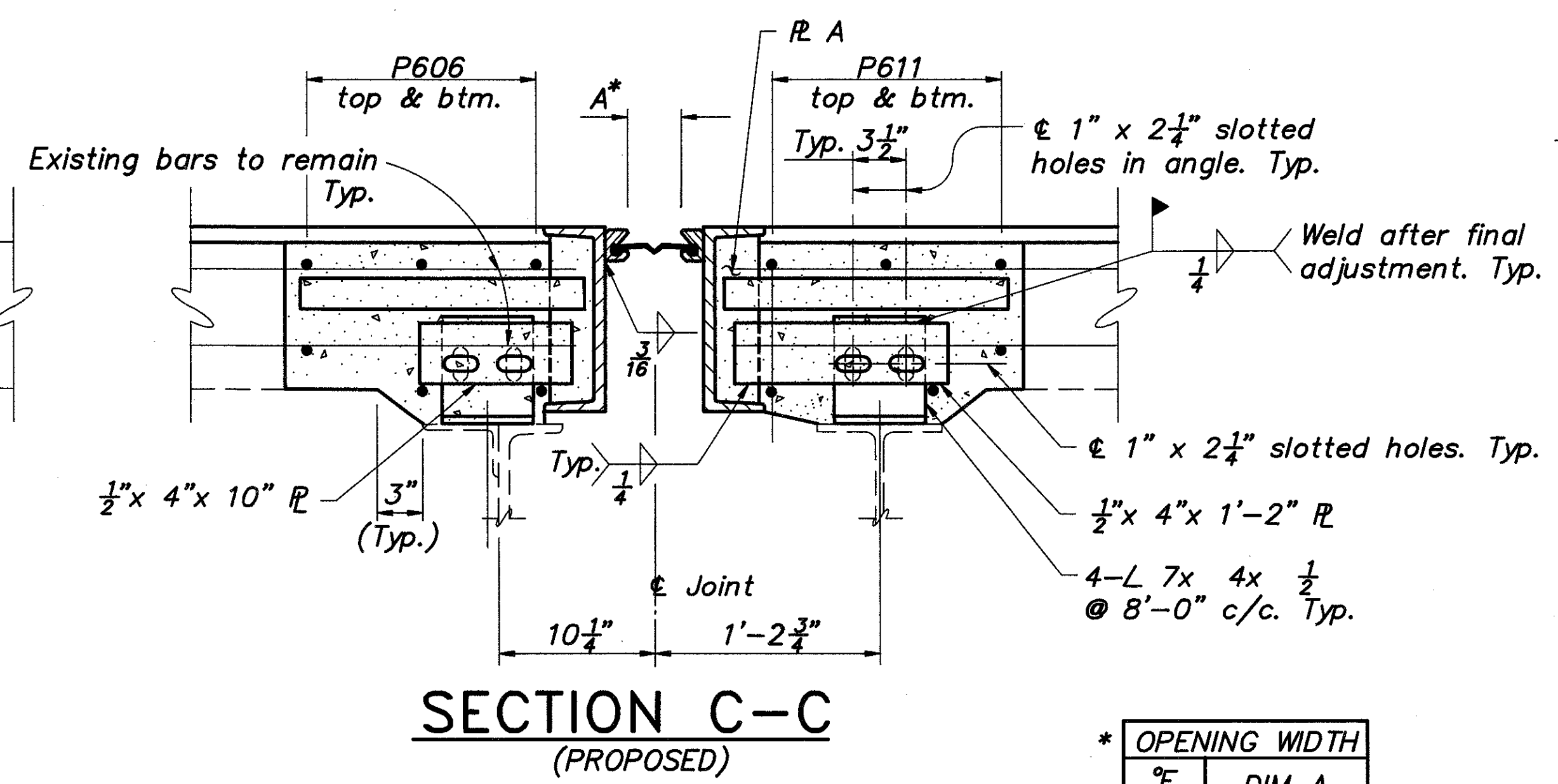
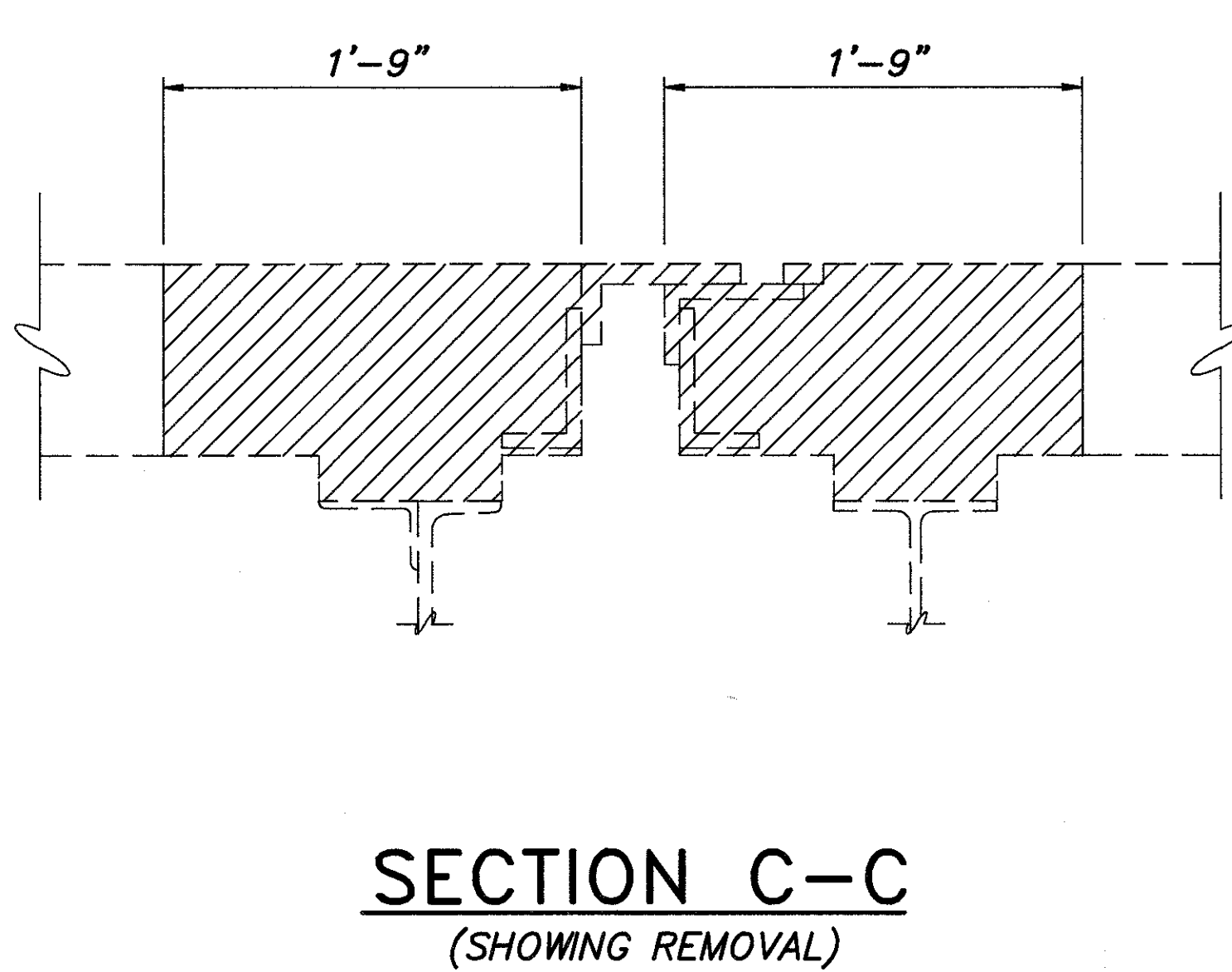
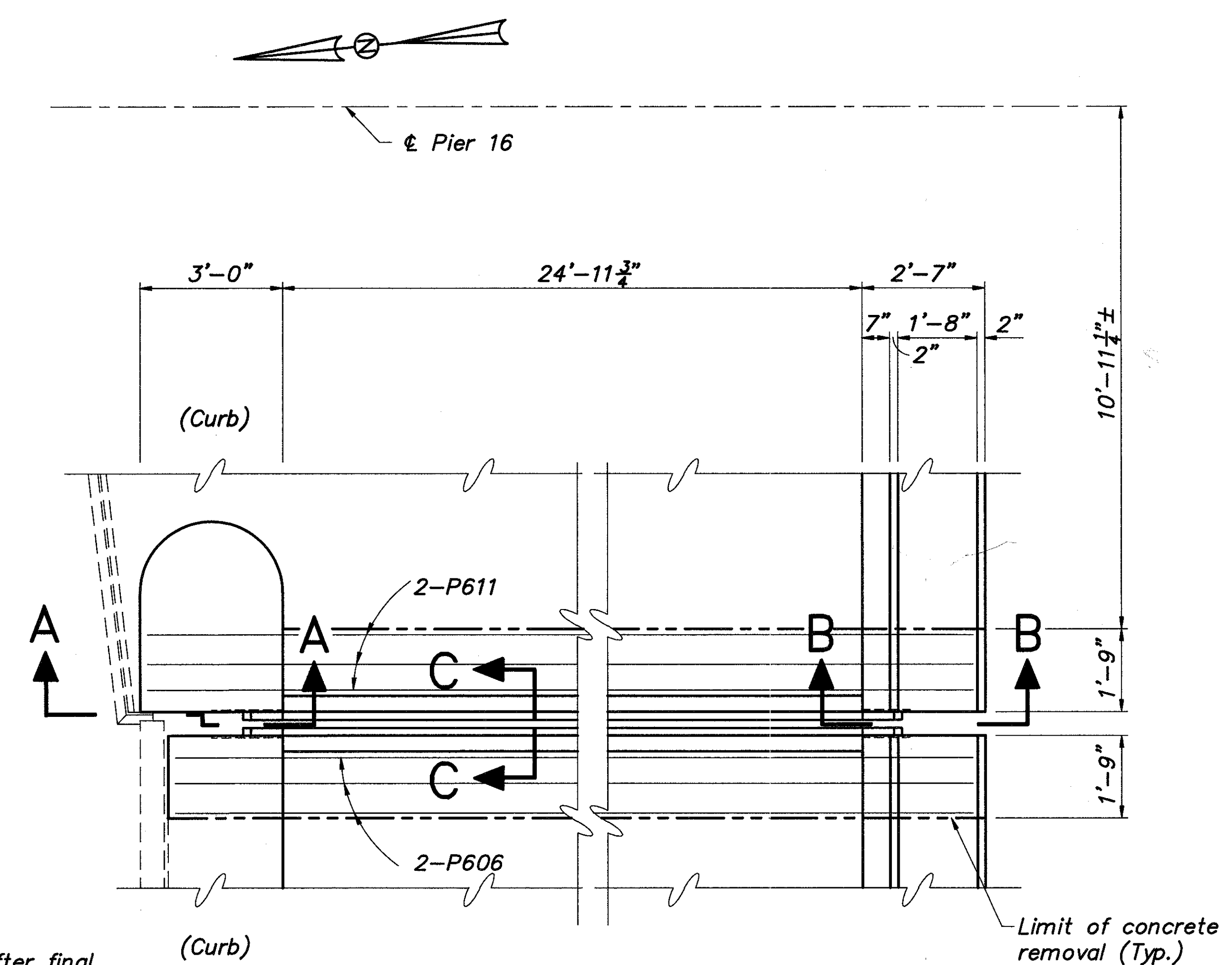
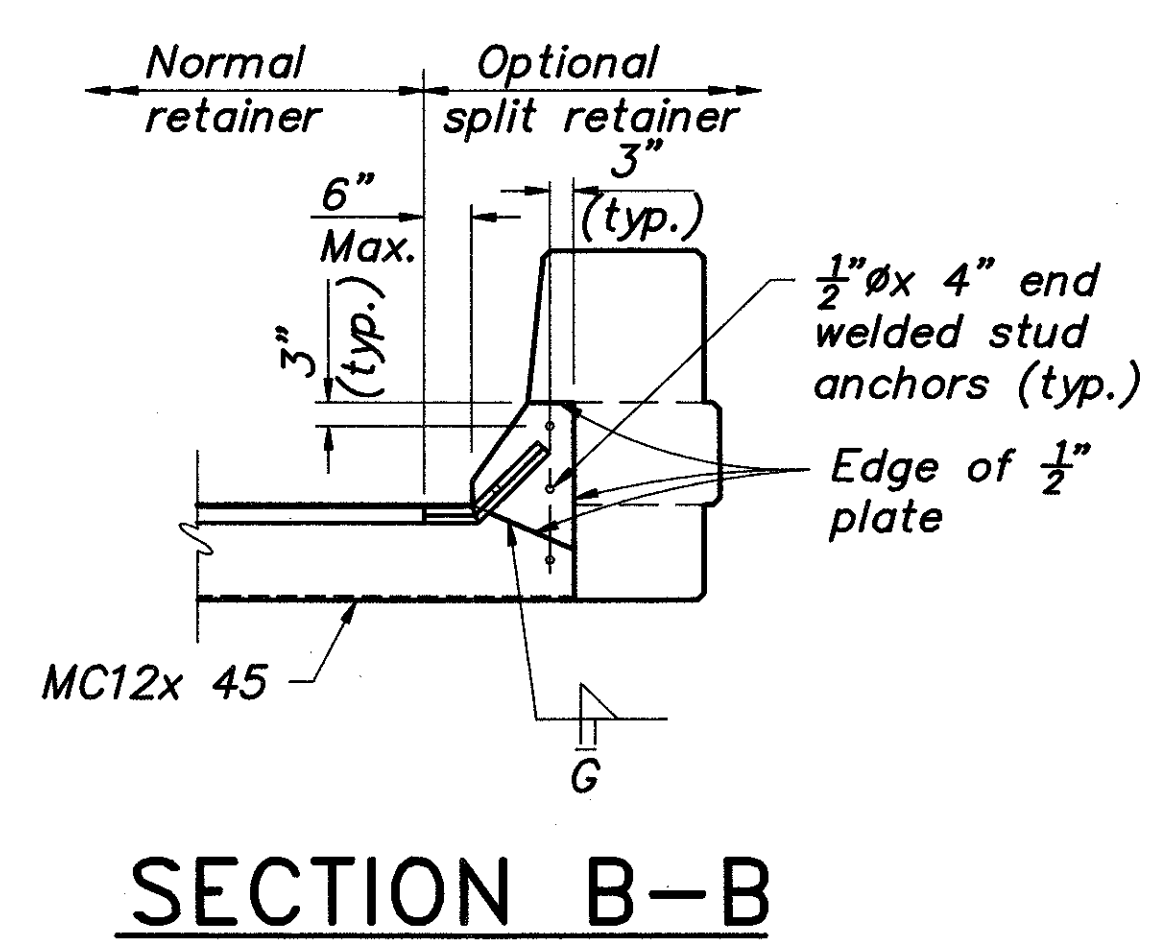
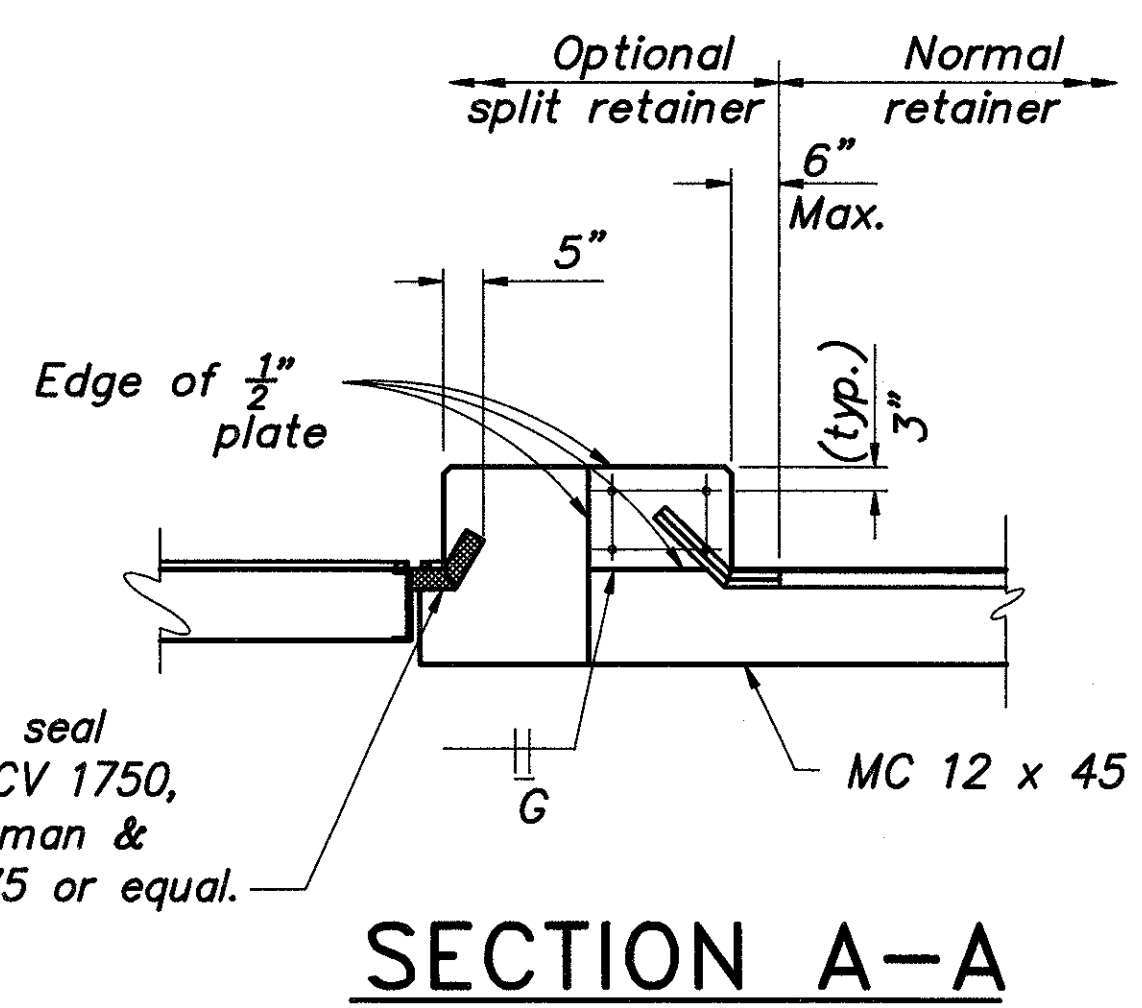
(For access hole)



**PLAN OF BOTTOM SPLICE PLATE**

**ACCESS COVER DETAIL**

BALKE ENGINEERS 14/30 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					
PIER 5N DETAILS BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	



\* OPENING WIDTH

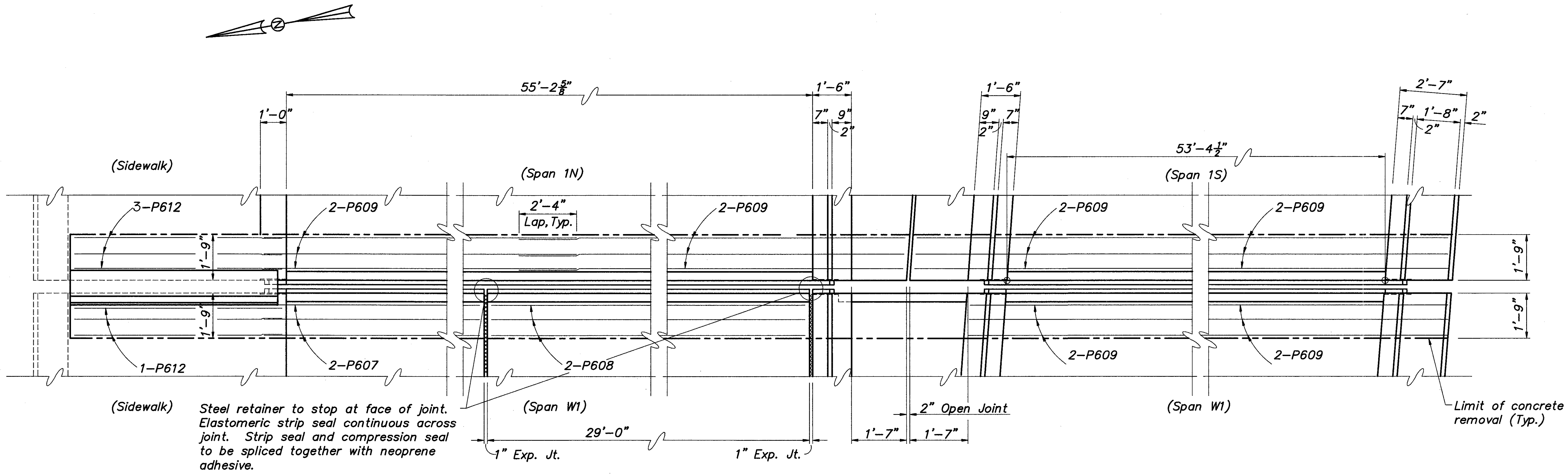
7"	DIM A
90	1 5/8"
80	1 5/8"
70	1 3/4"
60	1 3/4"
50	1 3/4"
40	1 5/8"
30	1 5/8"

Strip seal gland shall be D.S. Brown 300L, Watson-Bowman & Acme SE-300, or equal.

**NOTE:**  
For additional details on expansion joint, see Std. Drawing EXJ-4-87.  
See Sheet 23/30 for location of joint.

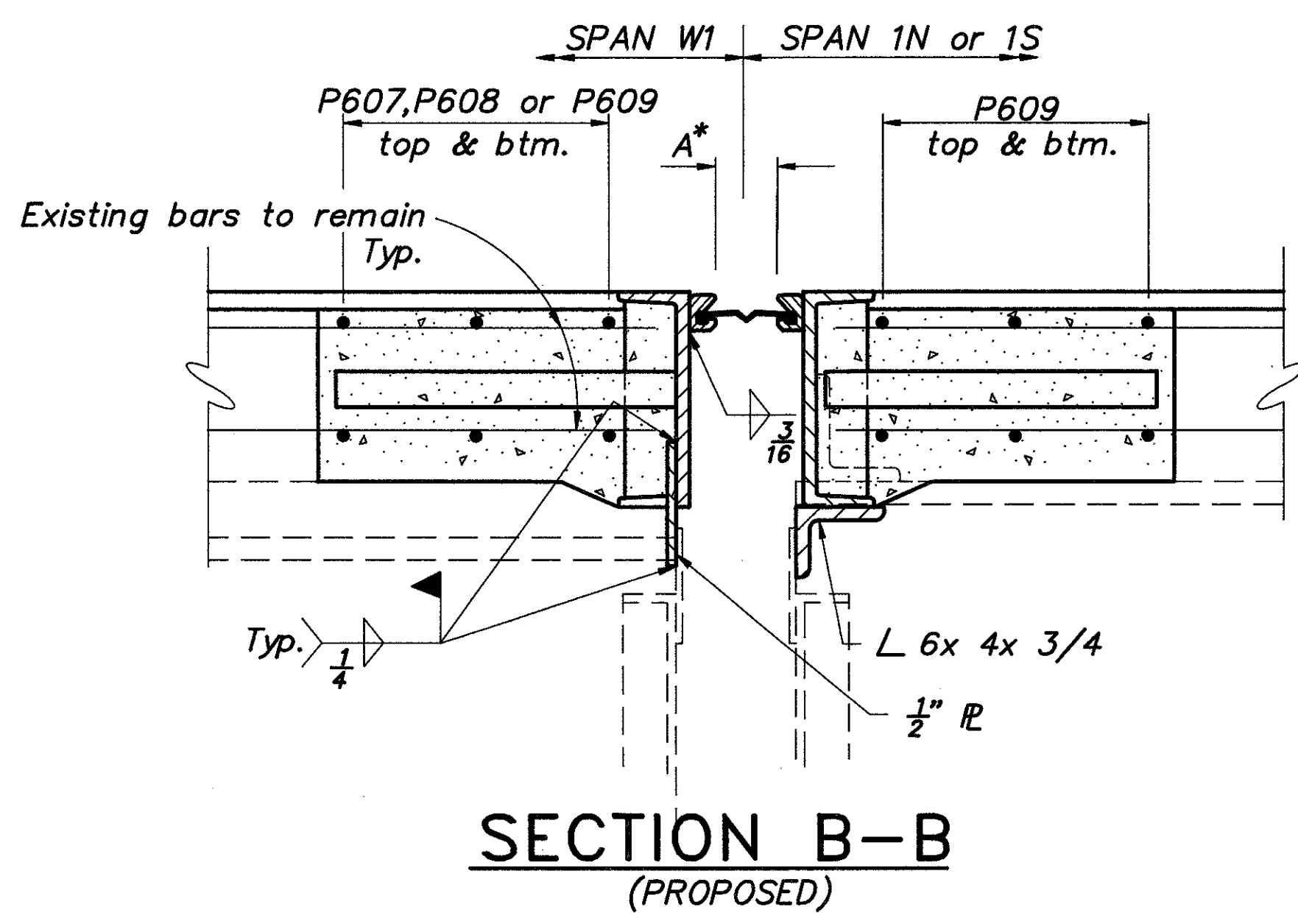
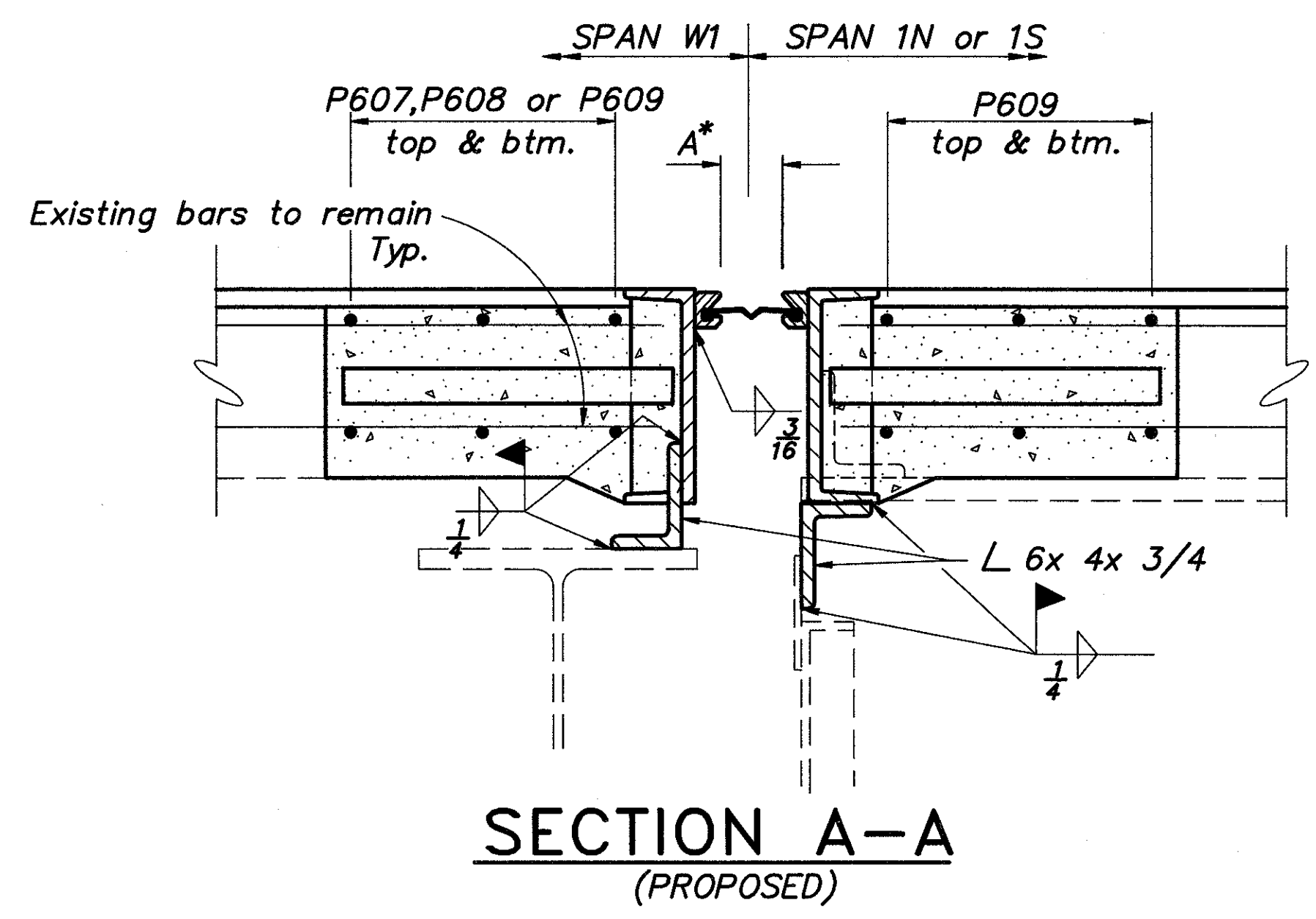
BALKE ENGINEERS		15/30
1848 SUMMIT ROAD CINCINNATI, OHIO 45237		
<b>EXPANSION JOINT DETAILS</b>		
BRIDGE NO. HAM-50-1936 R & L		
SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK		
DESIGNED	DRAWN	TRACED
MRS	ALH	~
CHECKED	REVIEWED DATE	REVISION
DWI	CRS 4/92	

Denotes portion of structure to be removed.



**PARTIAL PLAN AT PIER 1N**

**PARTIAL PLAN AT PIER 1S**



Strip seal gland shall be D.S. Brown 300L, Watson-Bowman & Acme SE-300, or equal.

\* OPENING WIDTH

°F	DIM A
90	1 1/2"
80	1 1/2"
70	1 1/2"
60	1 5/8"
50	1 3/4"
40	1 7/8"
30	2"

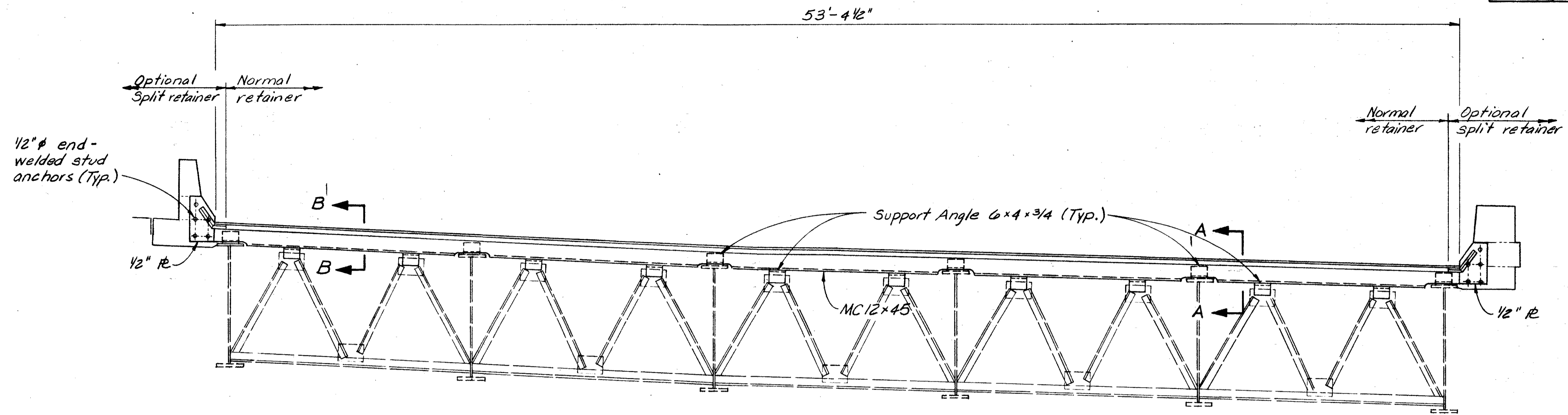
**NOTE:**  
For additional details on expansion joint, see Std. Drawing EXJ-4-87.  
For location of sections A-A & B-B, see sheet 17/30.

BALKE ENGINEERS 16/30  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

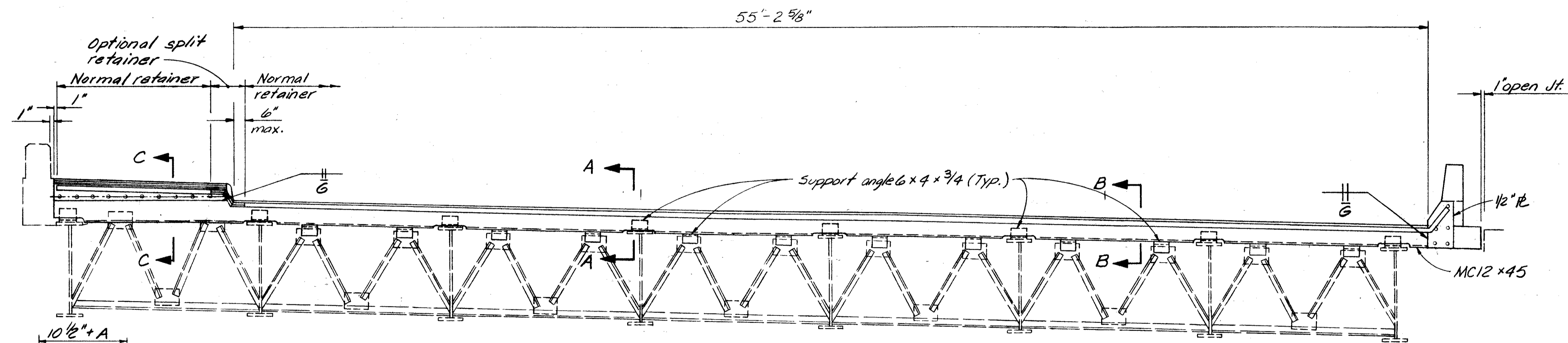
**EXPANSION JOINT DETAILS**  
BRIDGE NO. HAM-50-1936 R & L  
SIXTH STREET EXPRESSWAY  
OVER RR AND MILL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

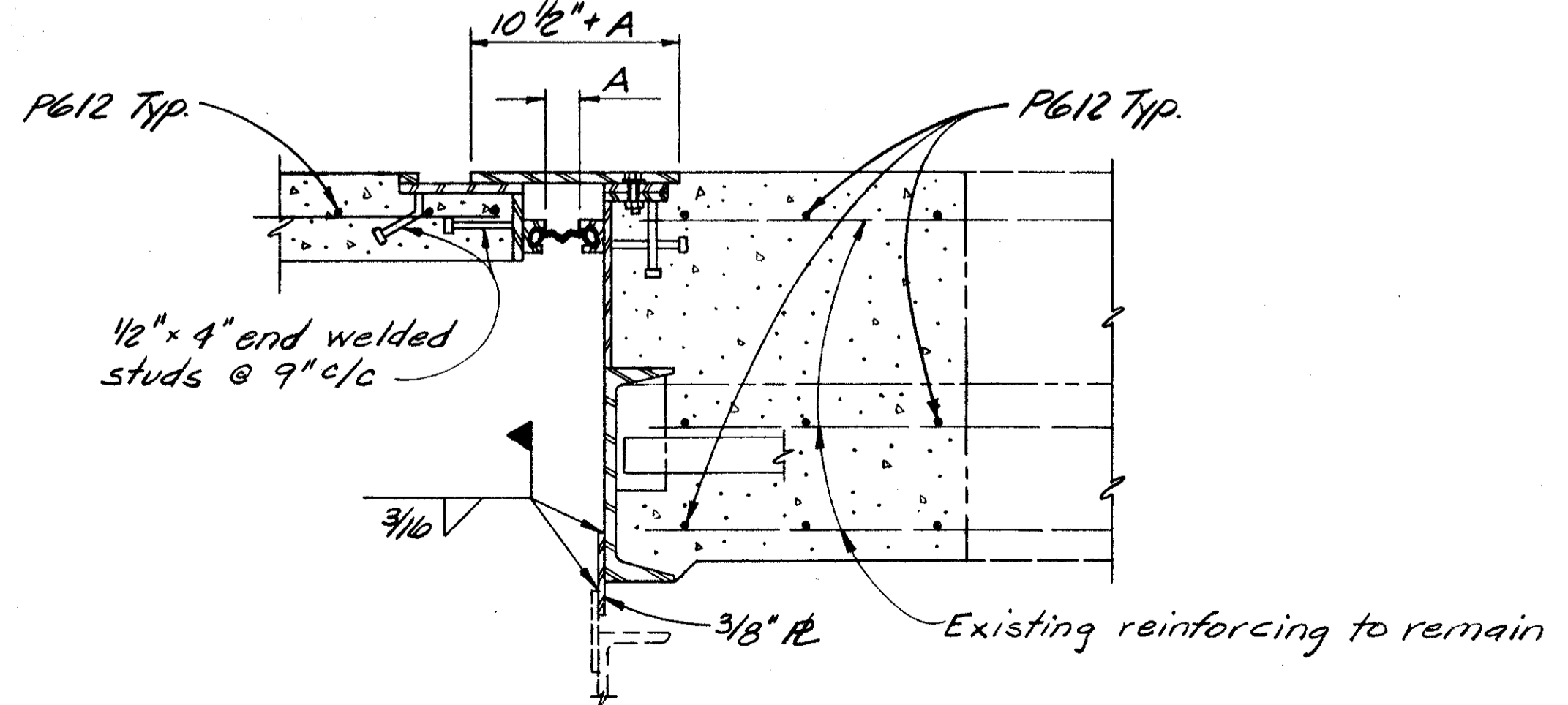




CROSS SECTION @ PIER 15 LOOKING EAST



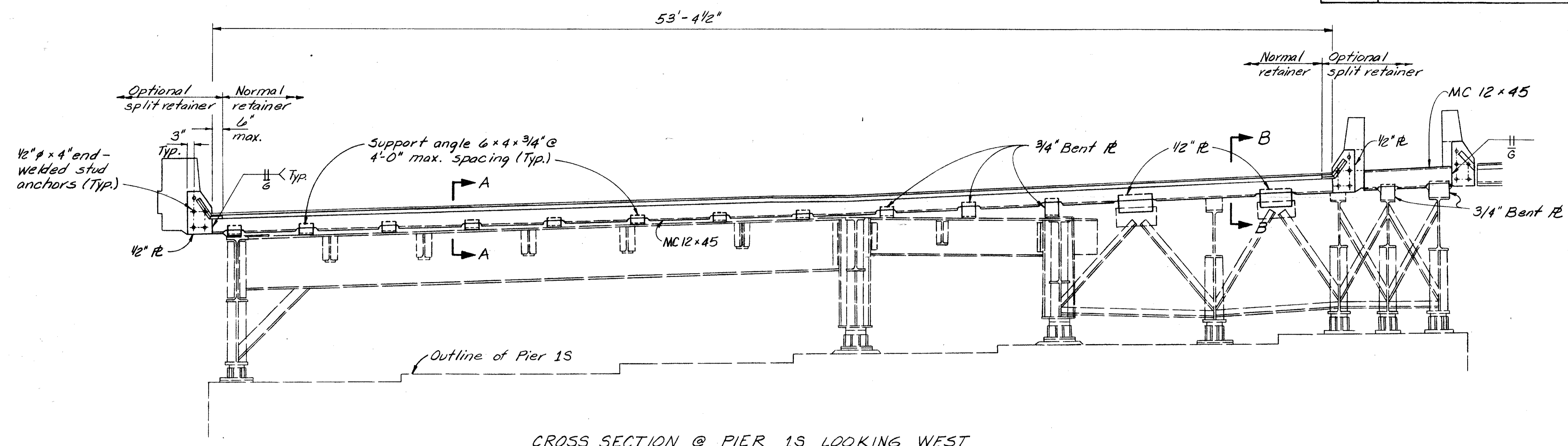
CROSS SECTION @ PIER 1N LOOKING EAST



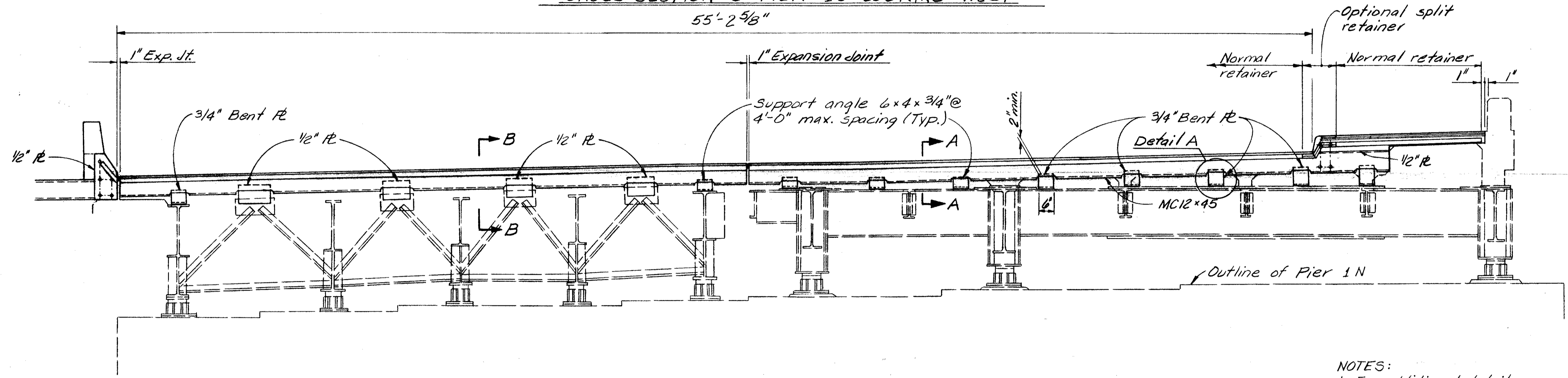
SECTION C-C

- NOTES:
1. For additional details on expansion jt, see Standard Dwg. EXJ-4-87.
  2. For Section A-A and B-B, see sheet 16/30.

BALKE ENGINEERS		17/30
1848 SUMMIT RD.		
CINCINNATI, OHIO 45237		
EXPANSION JOINT DETAILS		
BRIDGE NO. HAM-50-1936 R & L		
SIXTH STREET EXPRESSWAY		
OVER RR AND MILL CREEK		
DESIGNED	DRAWN	TRACED
MRS ALH	~	DWI
CHECKED	REVIEWED DATE	REVISED
	CRS 4/92	

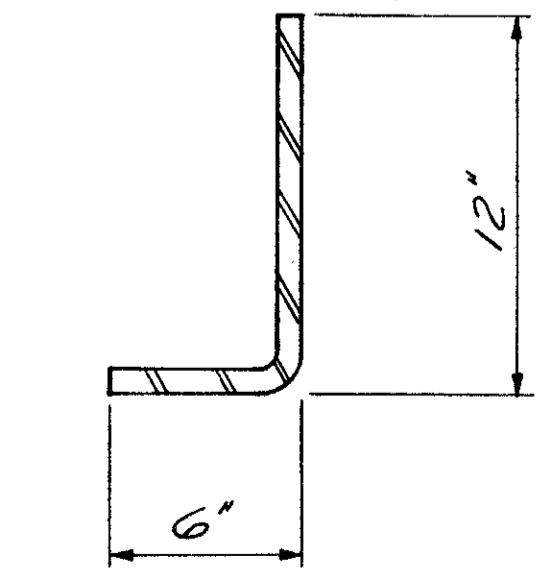


CROSS SECTION @ PIER 1S LOOKING WEST



CROSS SECTION @ PIER 1N LOOKING WEST

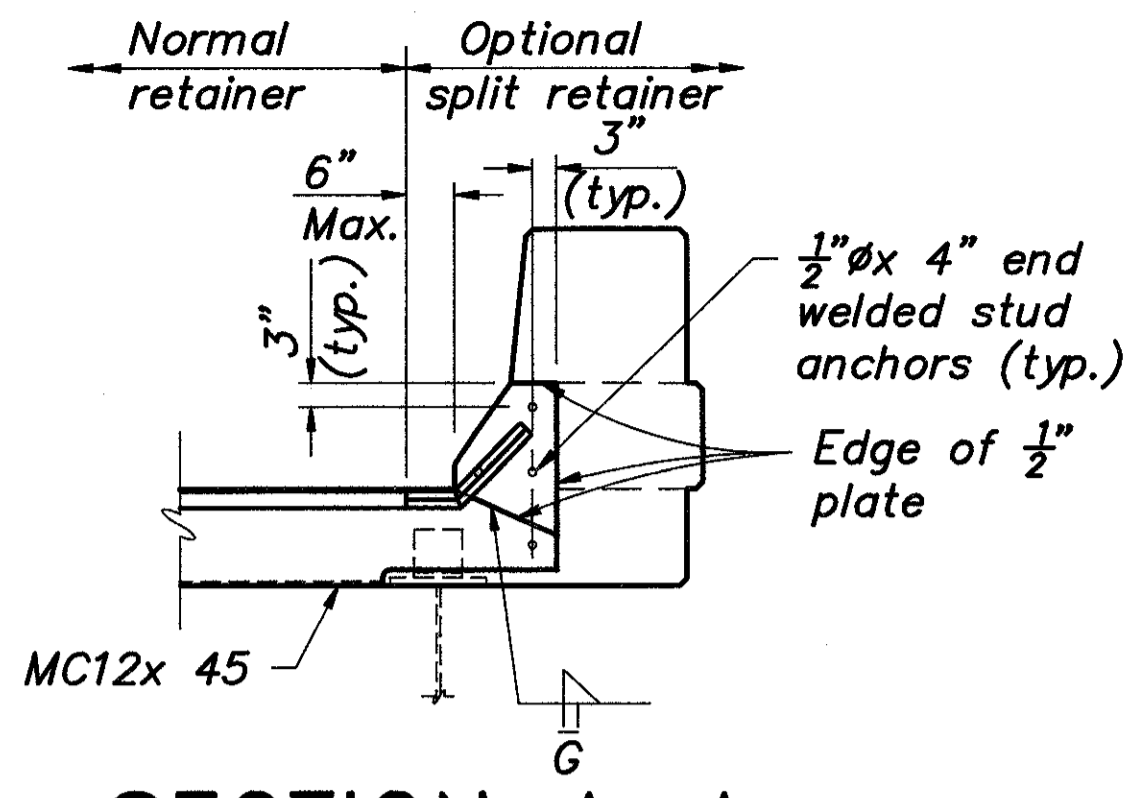
- NOTES:
1. For additional details on expansion joint, see Std. Dwg. EXJ-4-87.
  2. For Section A-A and B-B, see sheet 16130.



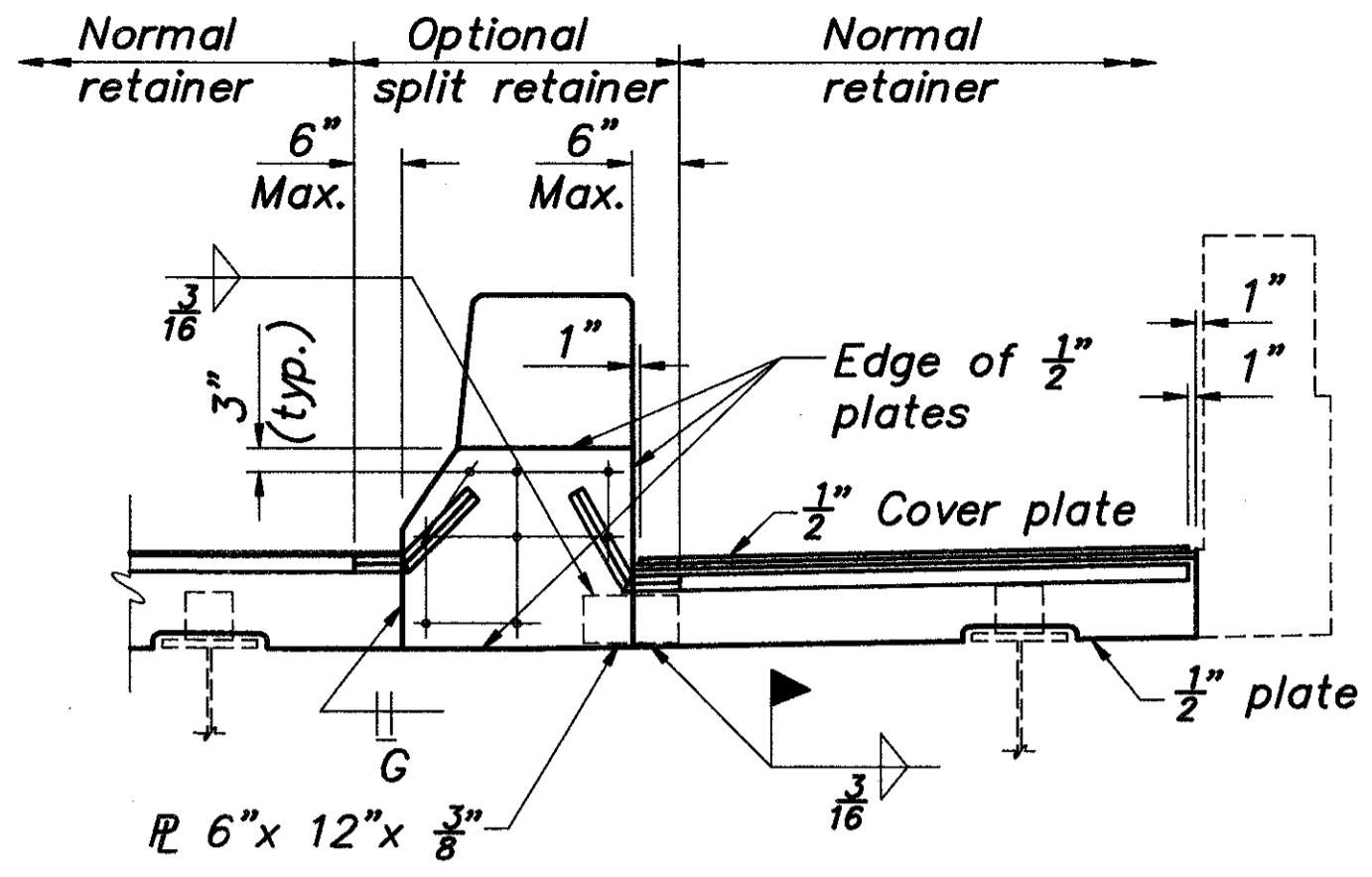
DETAIL A

BALKE ENGINEERS 18/30 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
EXPANSION JOINT DETAILS BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/72	

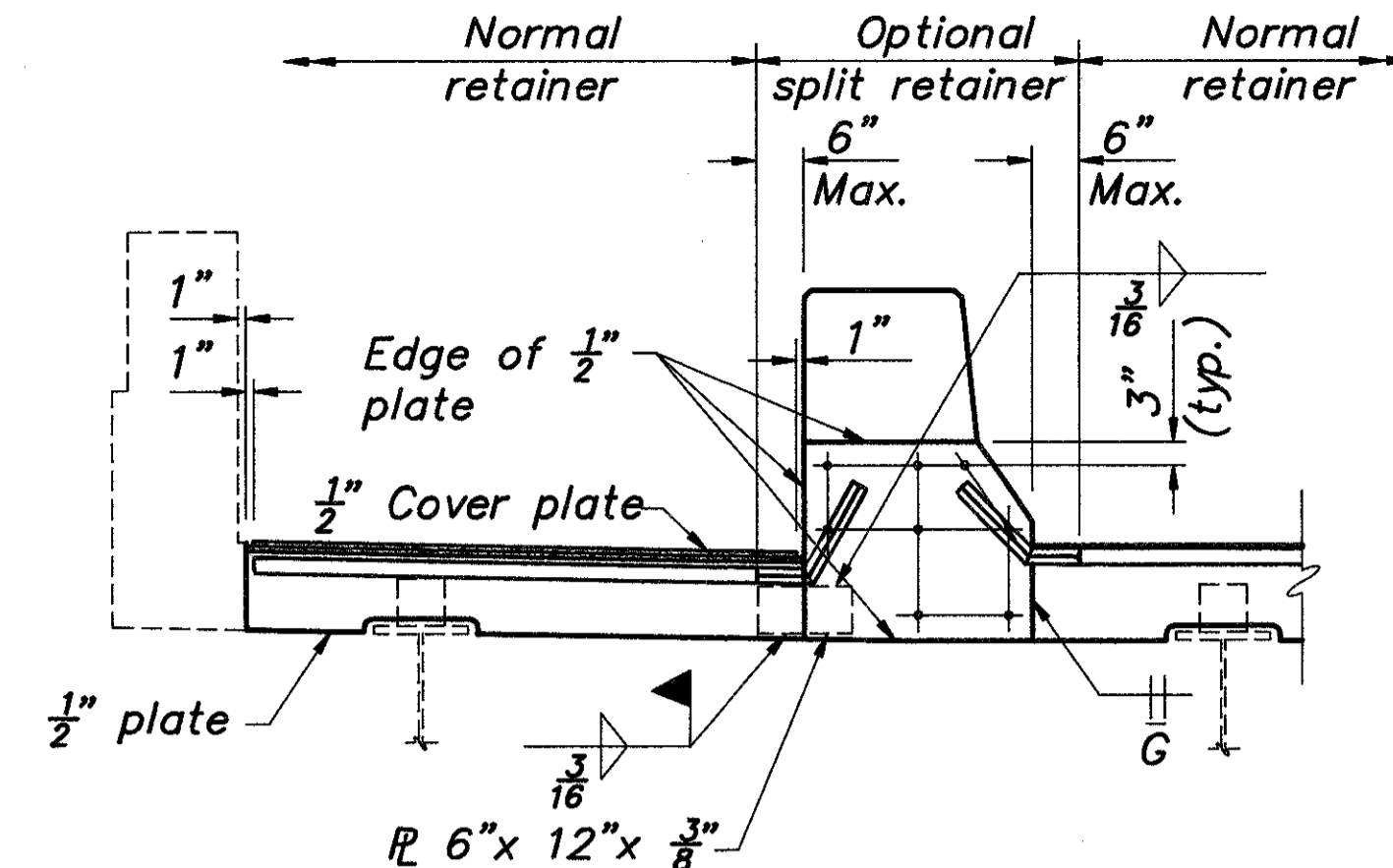
OHIO BLUE PRINT 18792



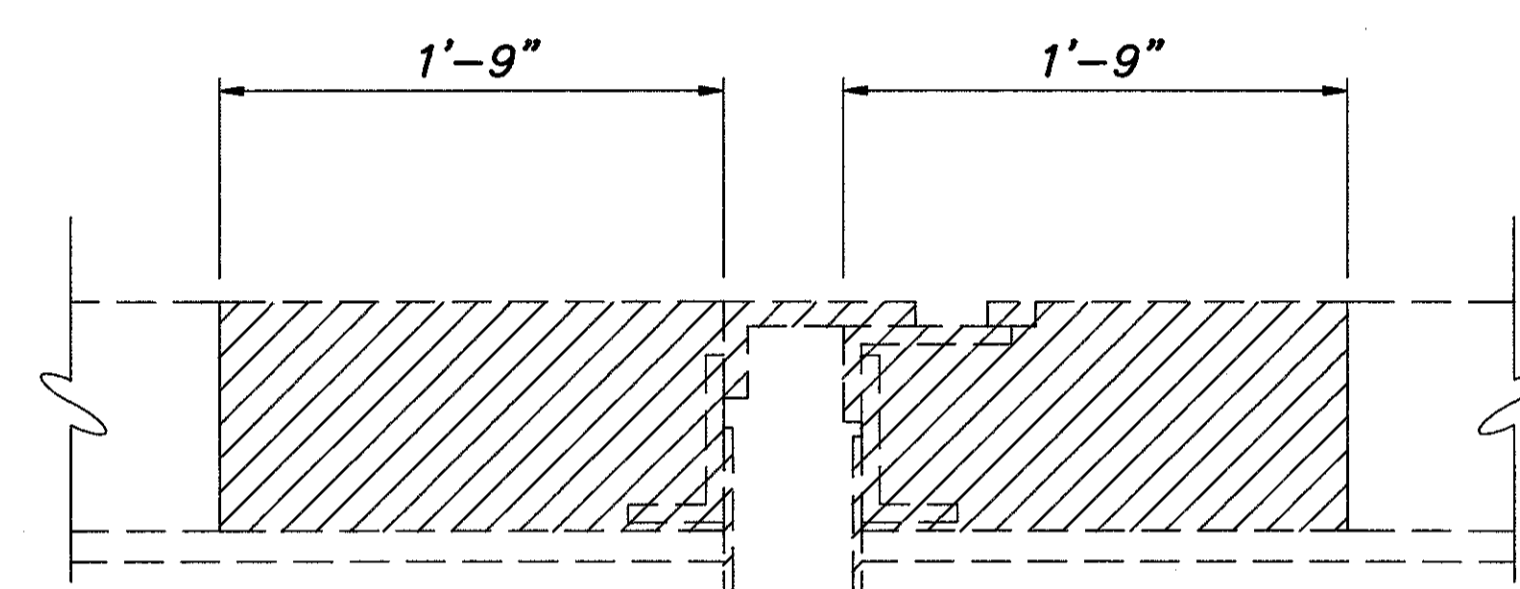
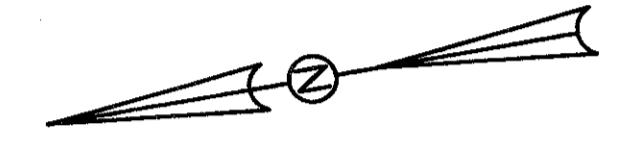
**SECTION A-A**



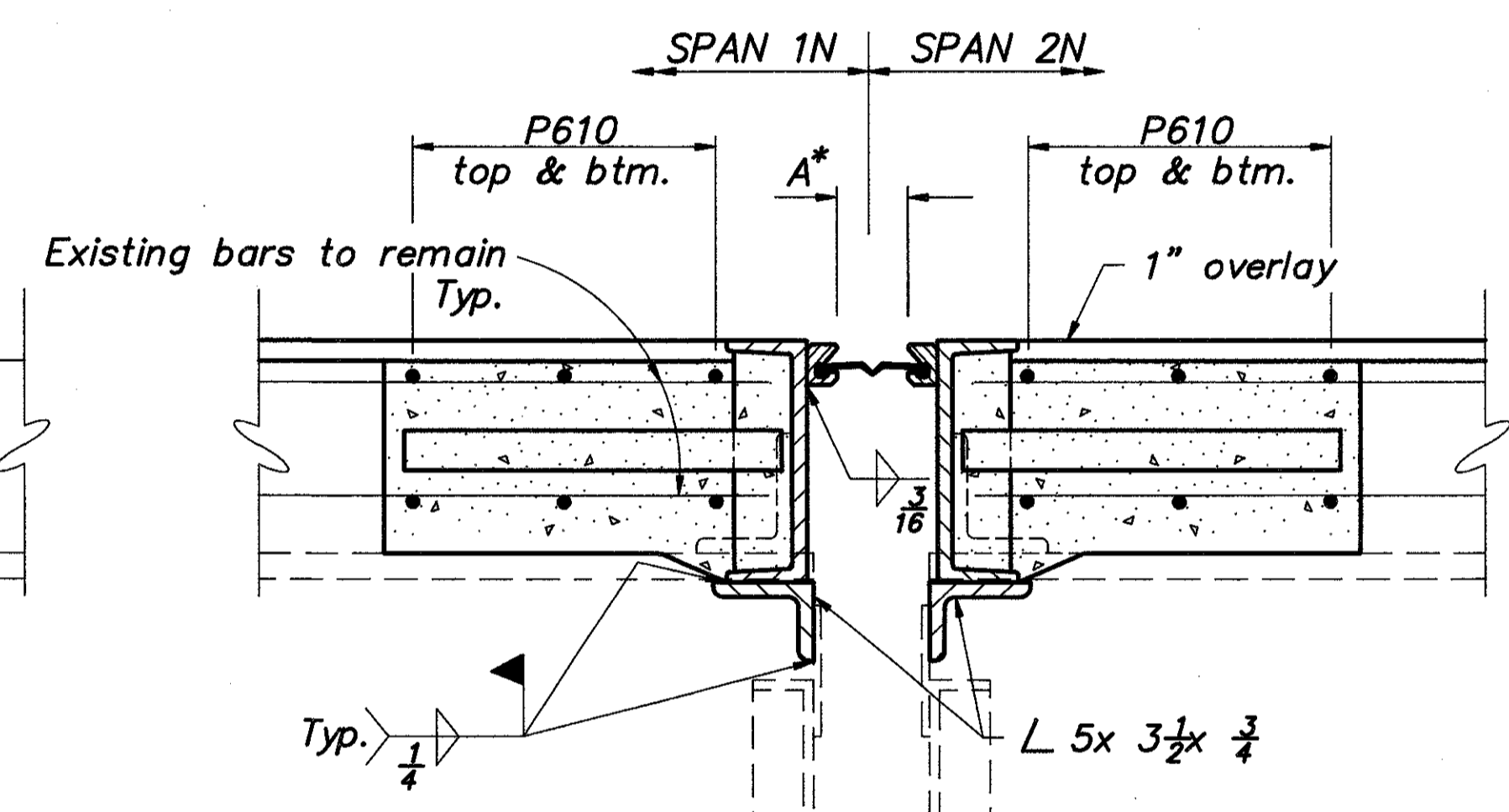
**SECTION B-B**



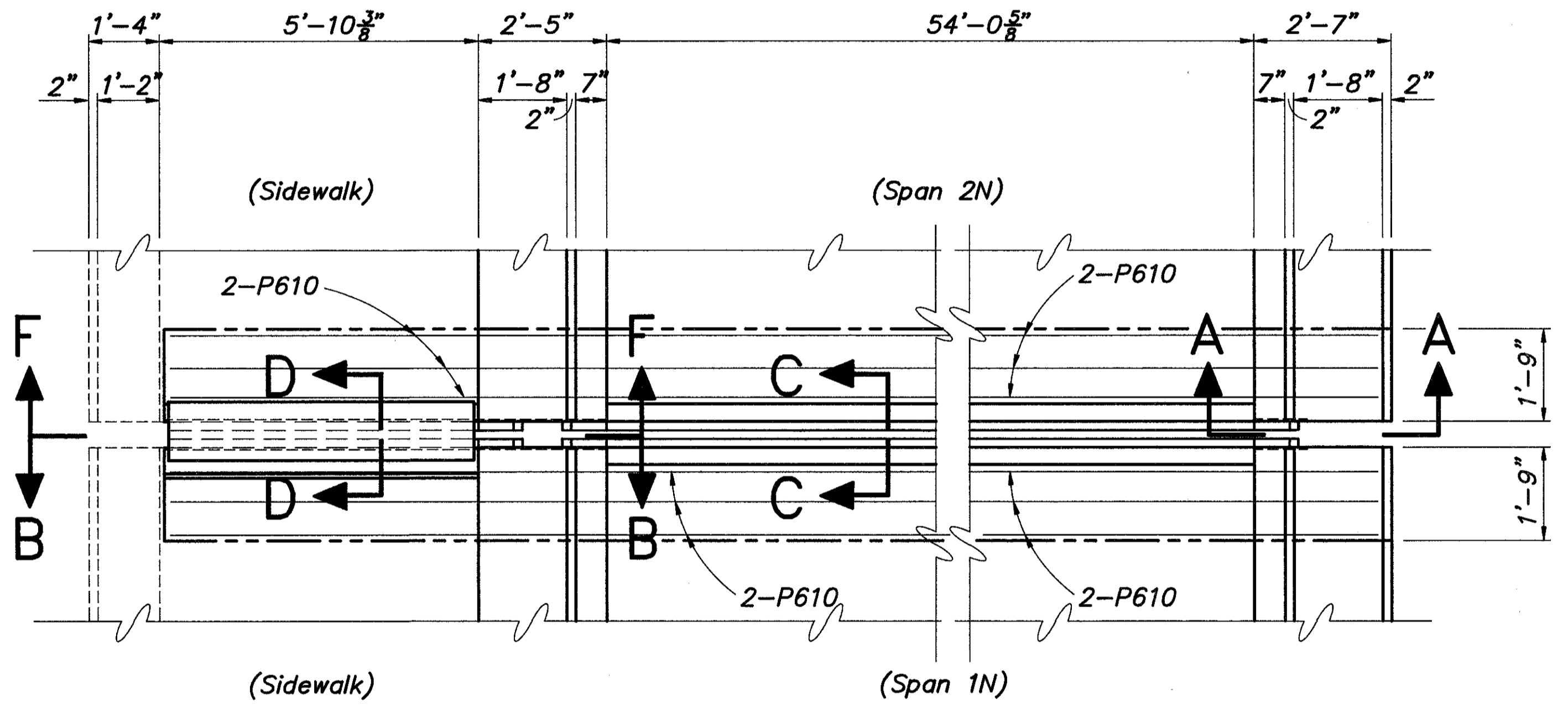
**SECTION F-F**



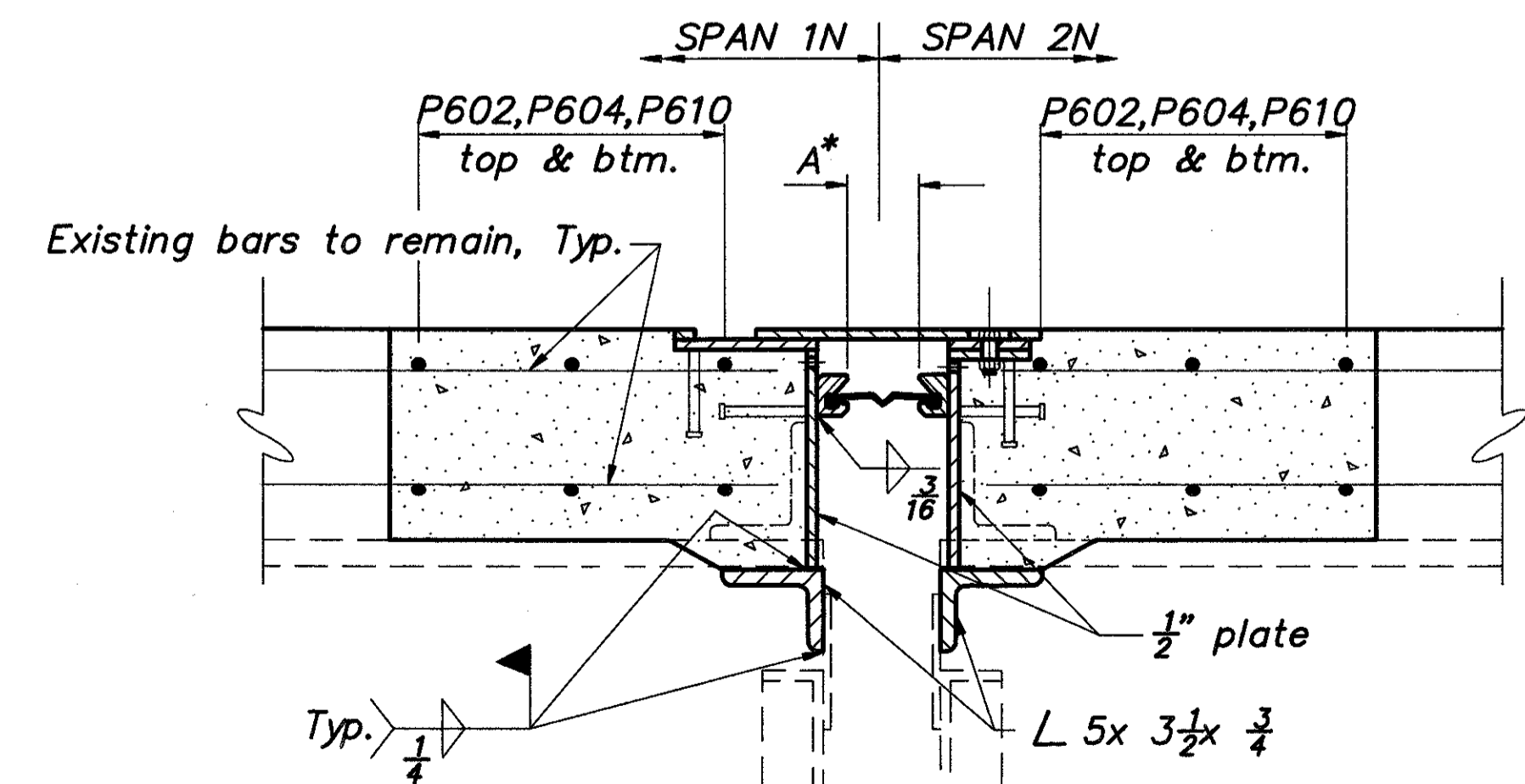
**SECTION C-C  
(SHOWING REMOVAL)**



**SECTION C-C  
(PROPOSED)**



**PARTIAL PLAN AT  
PIER 2N**



**SECTION D-D  
(PROPOSED)**

Denotes portion of structure to be removed.

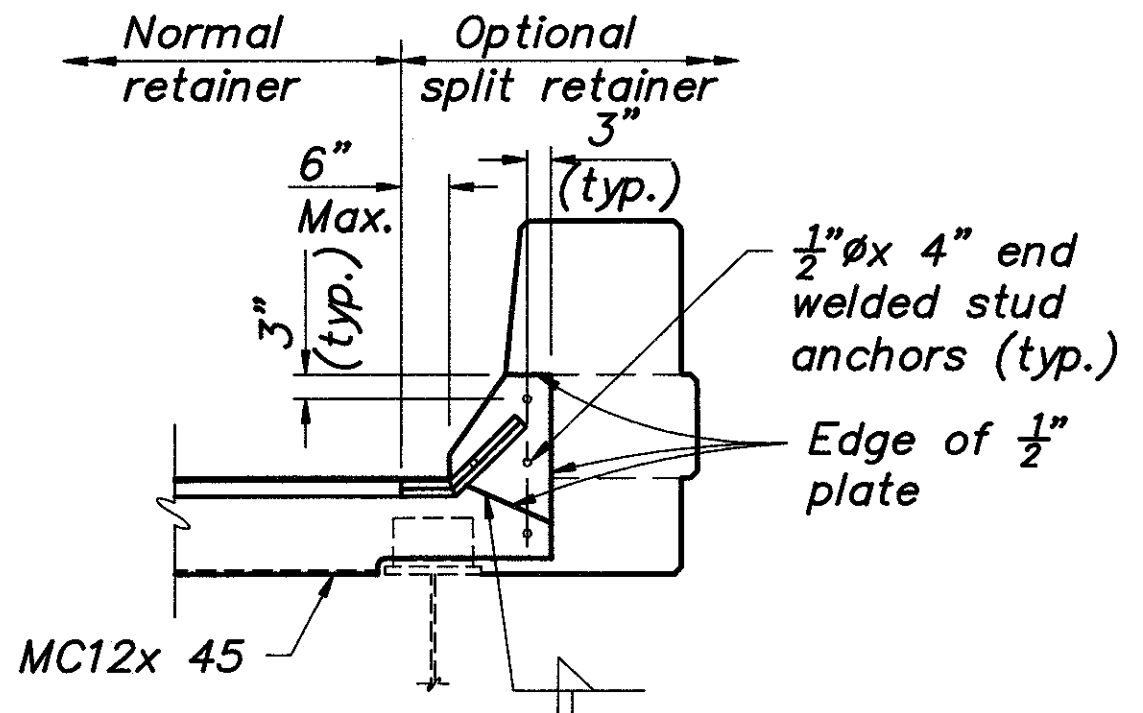
* OPENING WIDTH	
°F	DIM A
90	1 1/2"
80	1 5/8"
70	1 3/4"
60	1 3/8"
50	1 1/4"
40	1 1/8"
30	2"

**NOTE:**  
Lap P610 bars 2'-4" minimum.  
Strip seal gland shall be D.S. Brown 300L, Watson-Bowman & Acme SE-300, or equal.

**NOTE:**  
For additional details on expansion joint, see Std. Drawing EXJ-4-87.

BALKE ENGINEERS 19/30  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237  
**EXPANSION JOINT DETAILS**  
BRIDGE NO. HAM-50-1936 R & L  
SIXTH STREET EXPRESSWAY  
OVER RR AND MILL CREEK

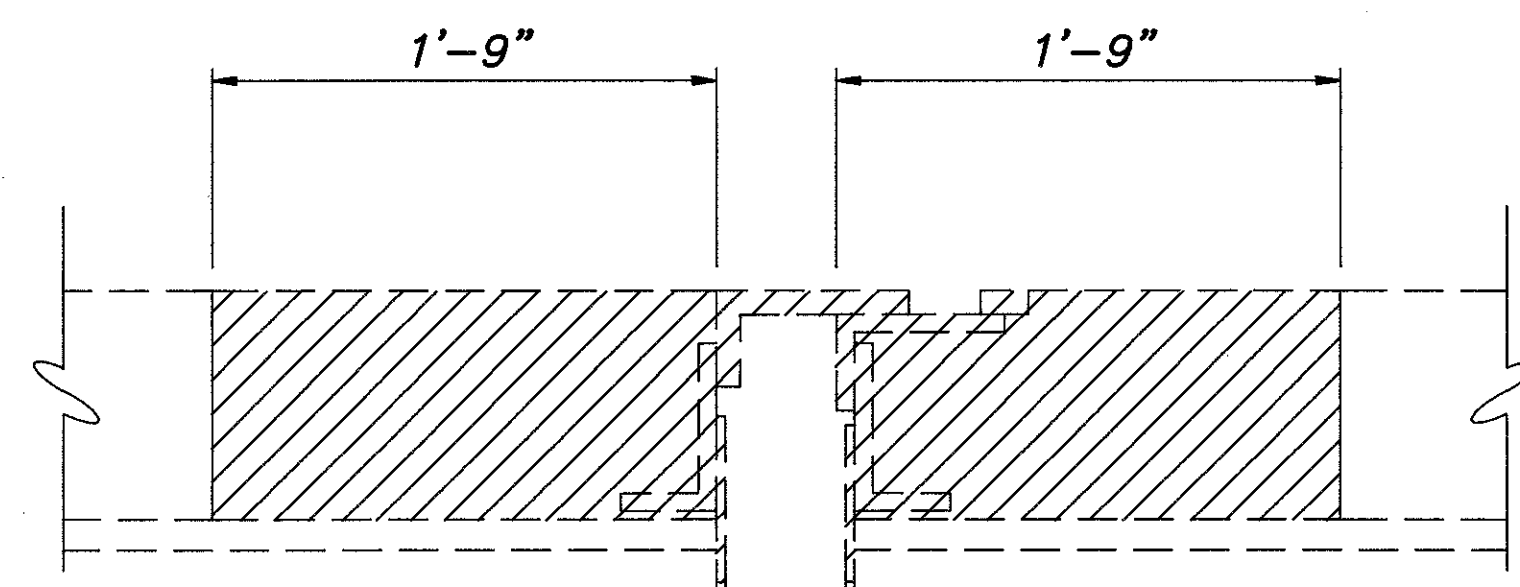
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	



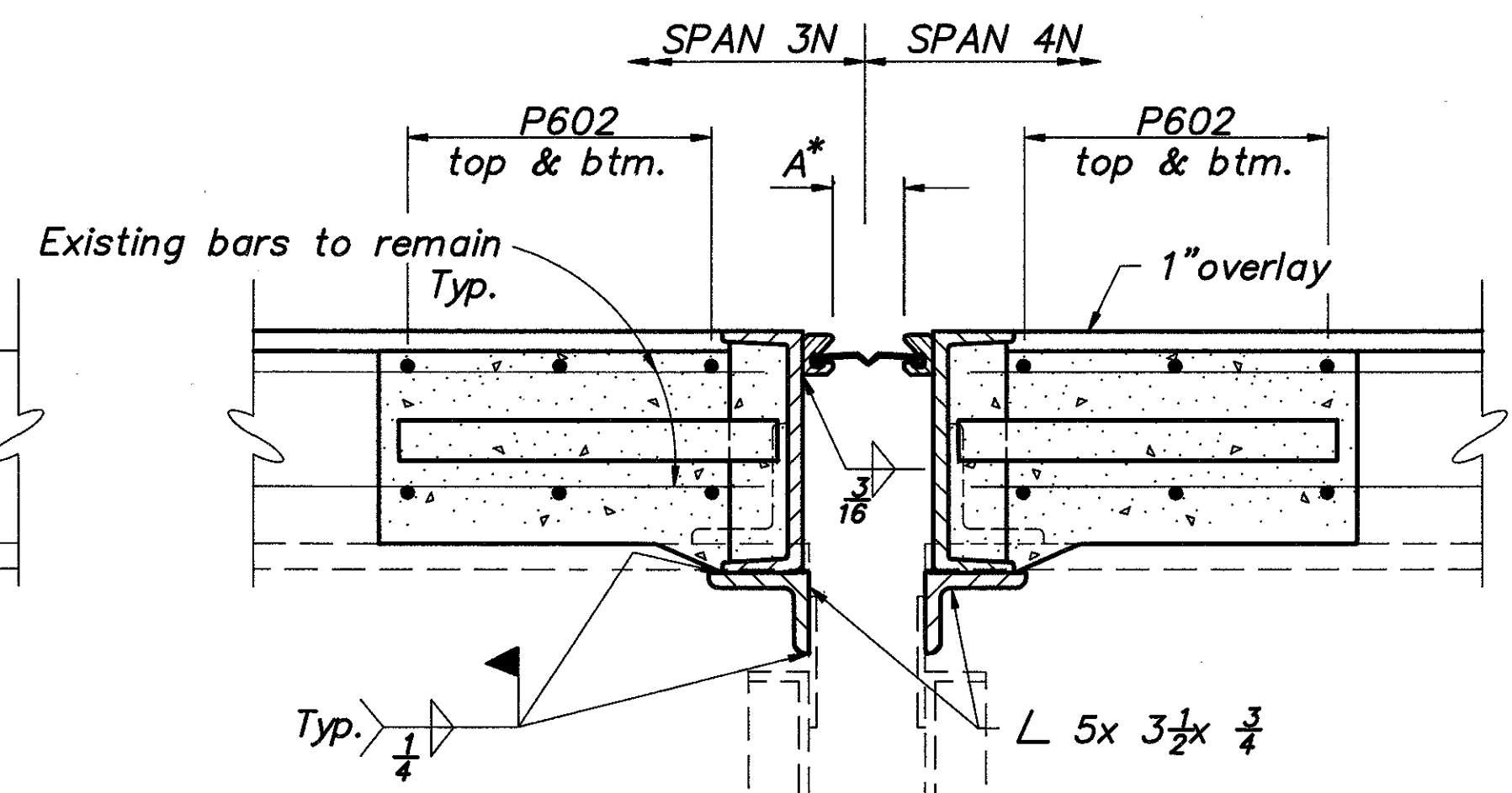
**SECTION A-A**

\* OPENING WIDTH

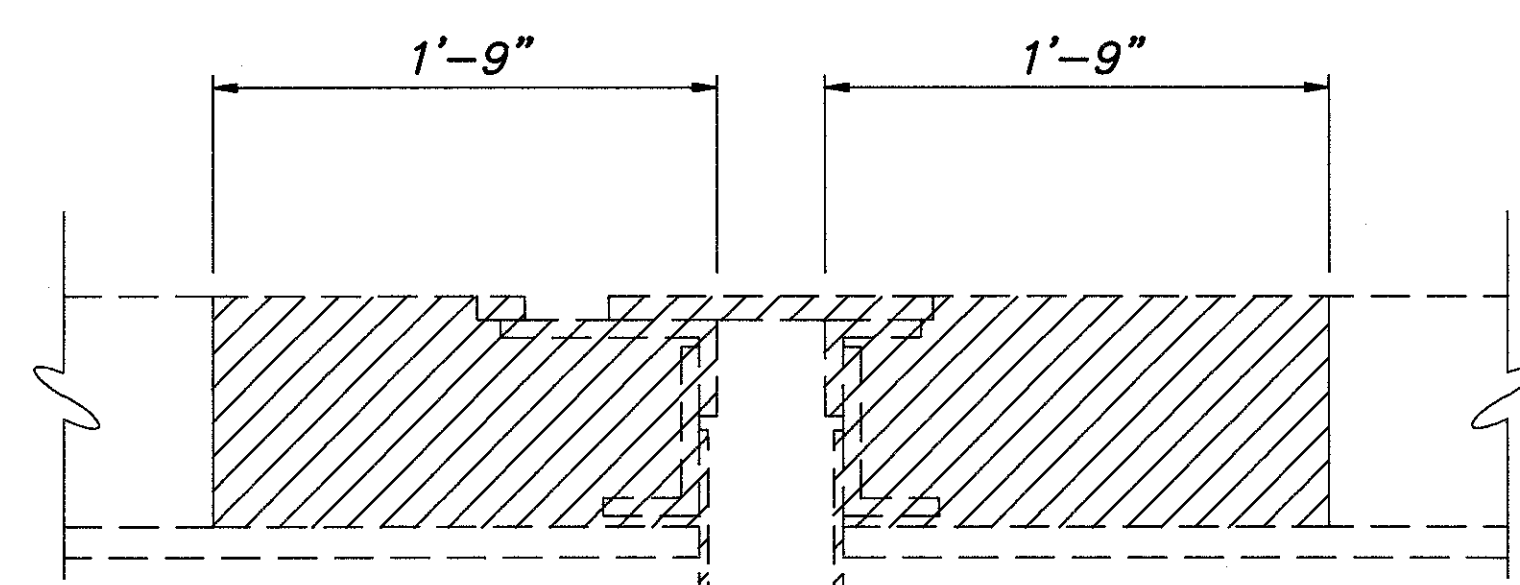
%	Pier 4N DIM A	Pier 5S DIM A
90	-	1 1/2"
80	-	1 3/4"
70	-	2 1/8"
60	1 1/2"	2 3/8"
50	1 3/4"	2 5/8"
40	1 7/8"	3"
30	2"	3 1/4"



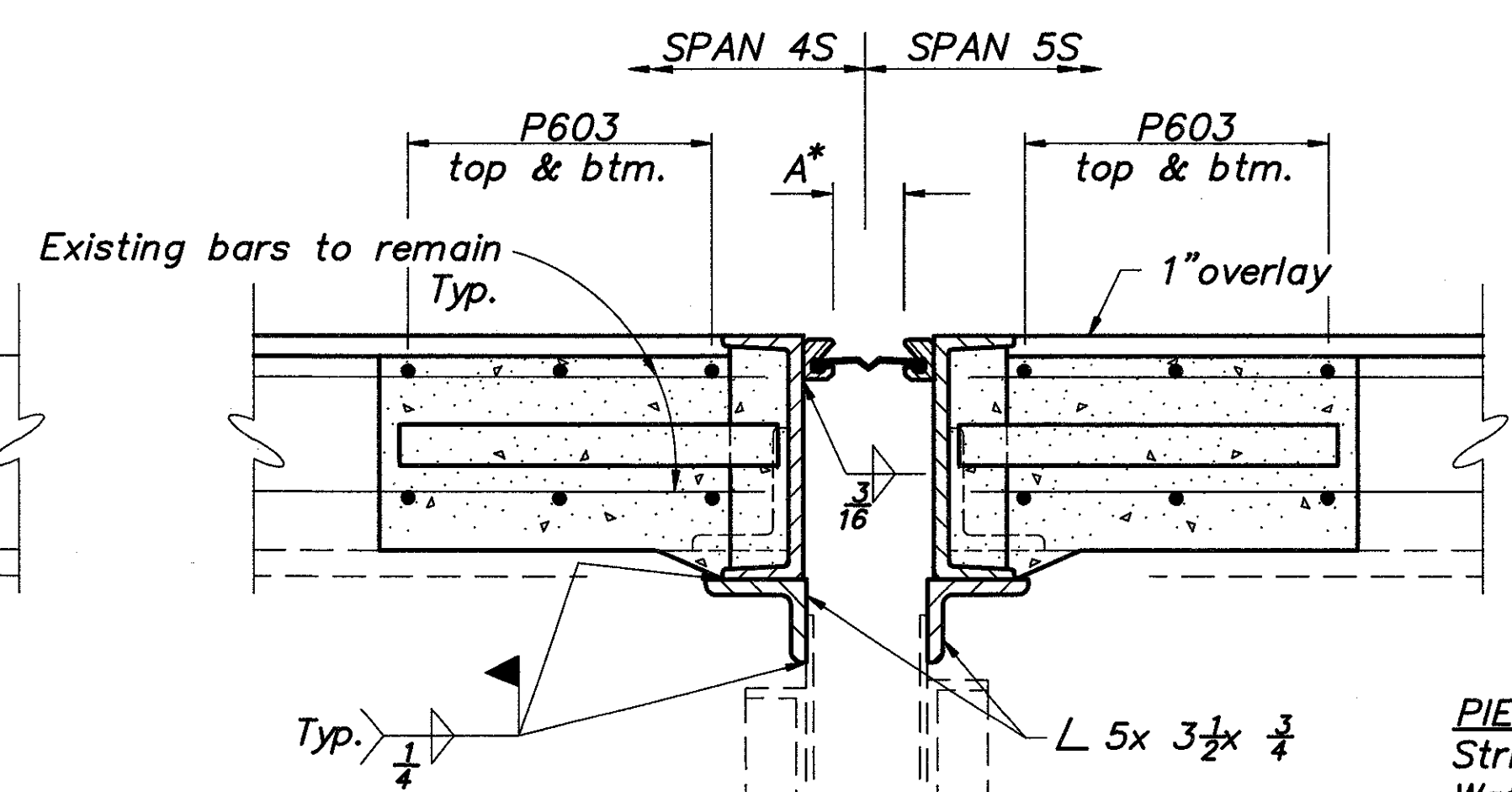
**SECTION C-C**  
(SHOWING REMOVAL)



**SECTION C-C**  
(PROPOSED)

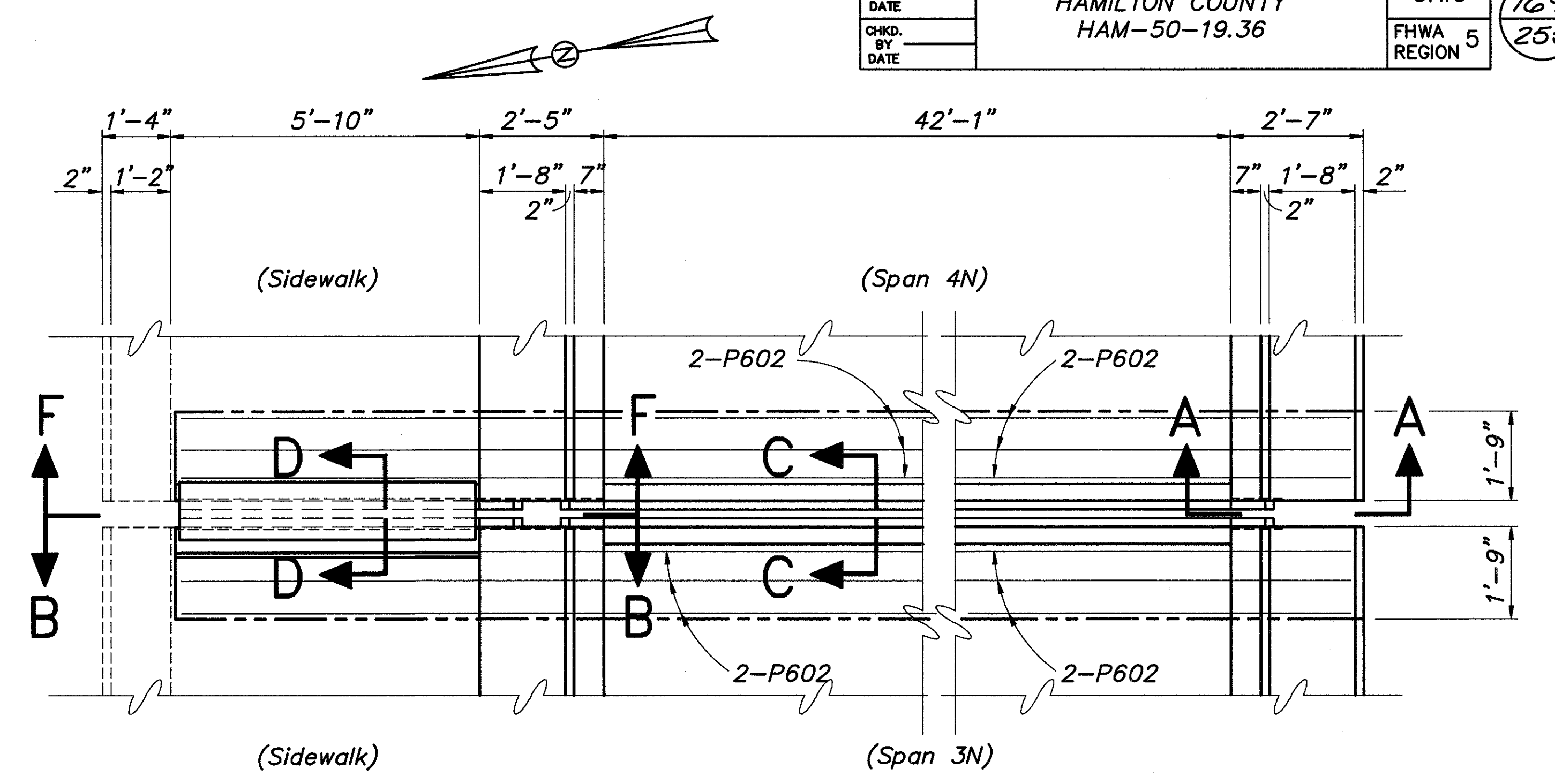


**SECTION E-E**  
(SHOWING REMOVAL)



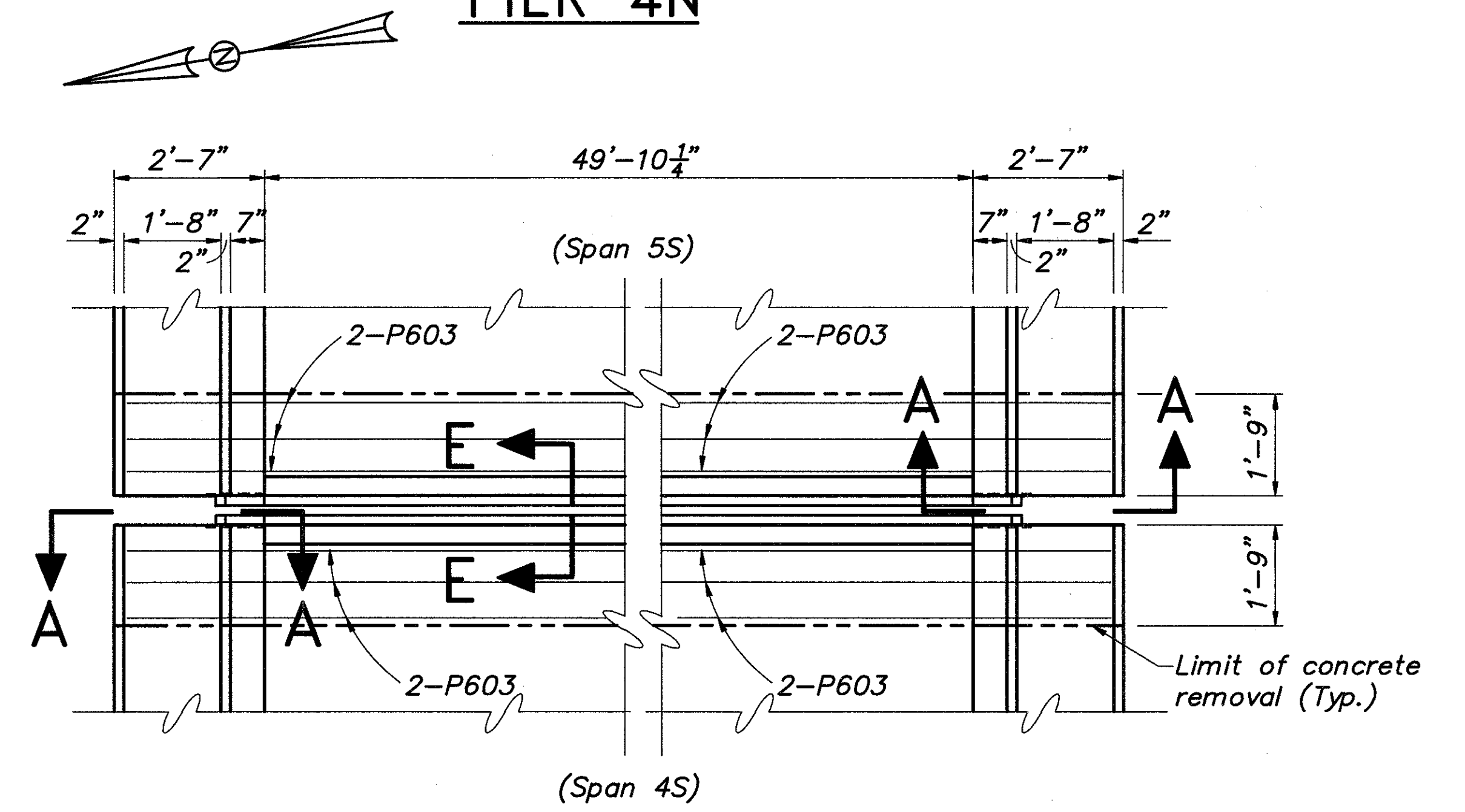
**SECTION E-E**  
(PROPOSED)

Denotes portion of structure to be removed.



**PARTIAL PLAN AT PIER 4N**

NOTE:  
Lap P602 bars 2'-4" minimum.



**PARTIAL PLAN AT PIER 5S**

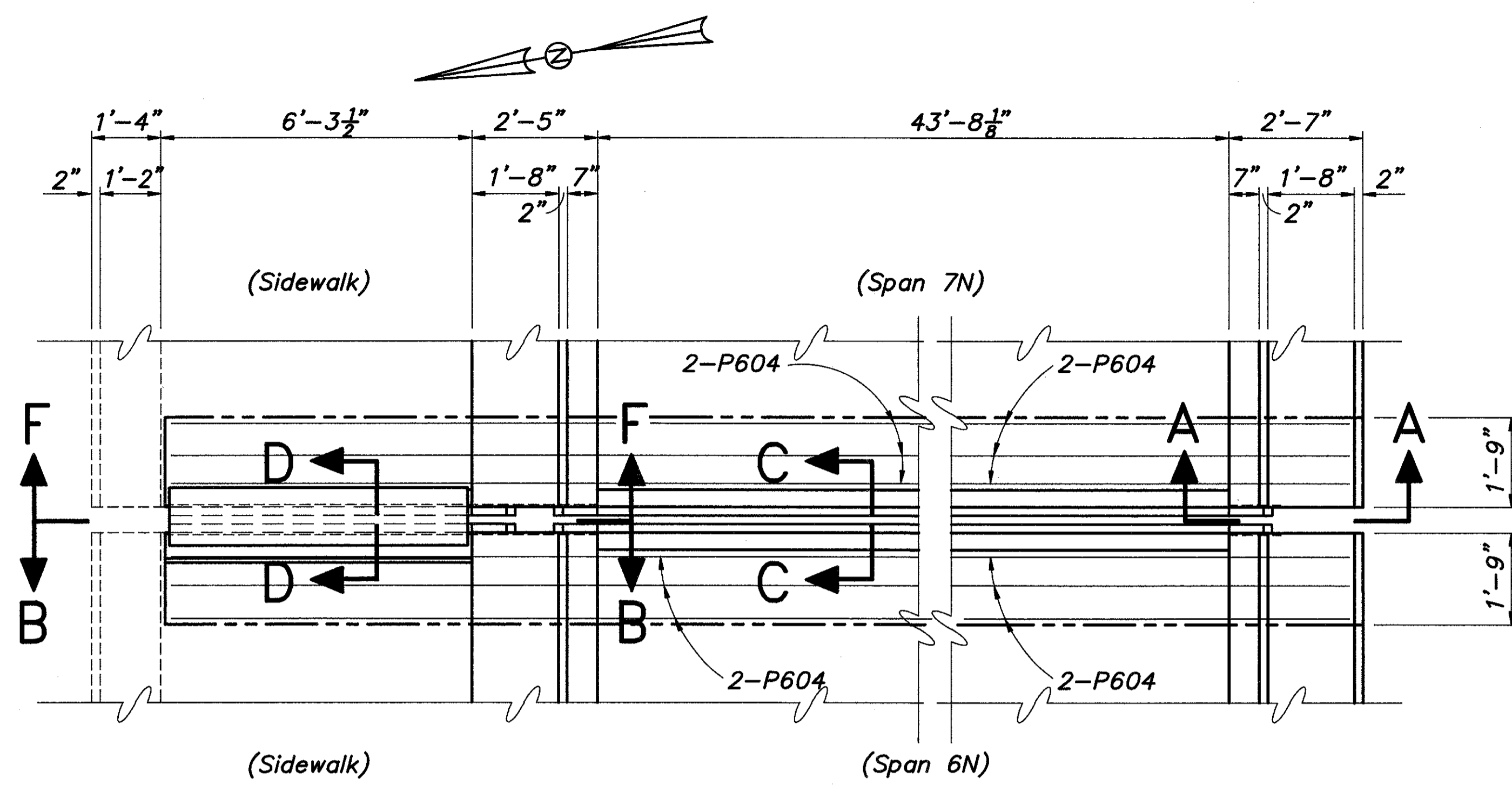
NOTE:  
Lap P603 bars 2'-4" minimum.

**PIER 4N**  
Strip seal gland shall be D.S. Brown 300L, Watson-Bowman & Acme SE-300, or equal.

**PIER 5S**  
Strip seal gland shall be D.S. Brown 500L, Watson-Bowman & Acme SE-500, Structural Accessories 50SEQ, or equal.

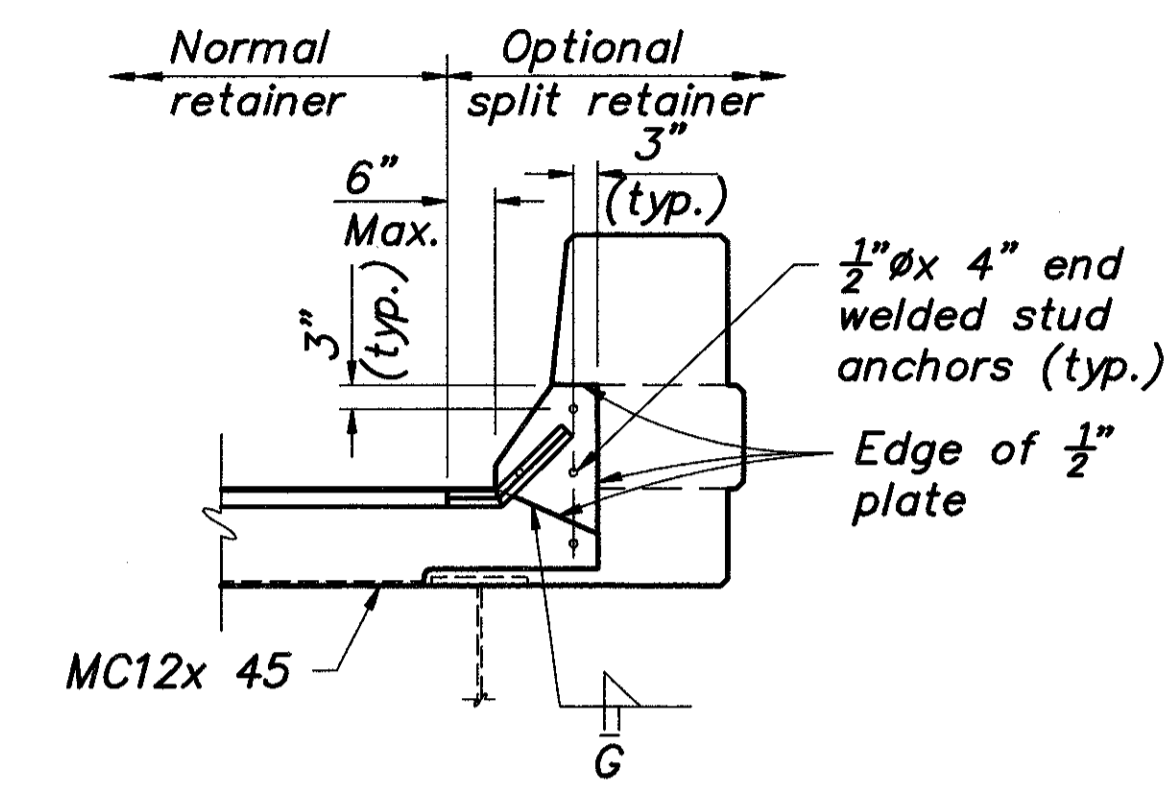
NOTE:  
For additional details on expansion joint, see Std. Drawing EXJ-4-87.  
For Section B-B, D-D & F-F, see sheet 19/30.

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237						20/30
EXPANSION JOINT DETAILS BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DWI	CRS 4/92		



**PARTIAL PLAN AT PIER 7N**

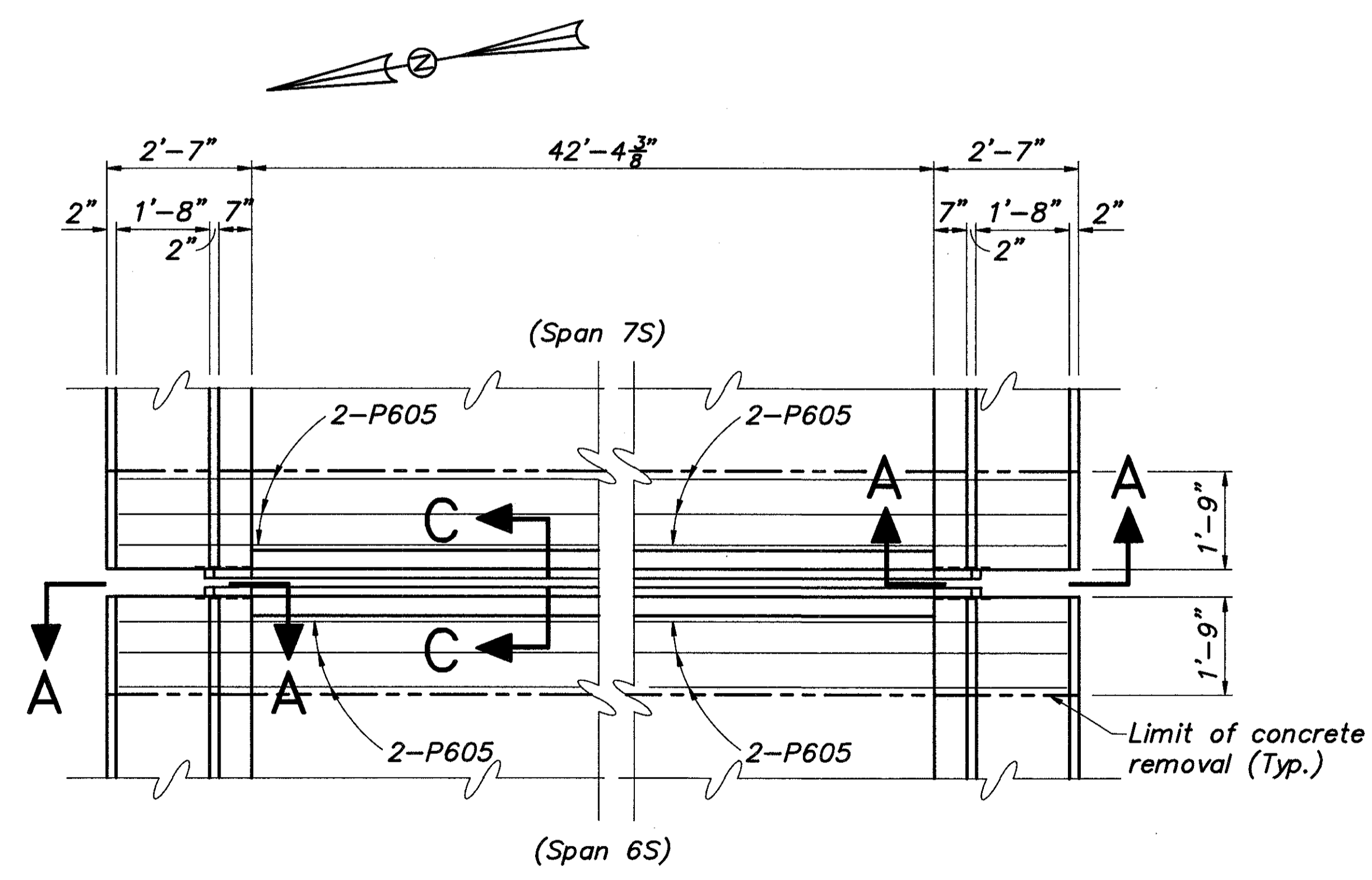
NOTE:  
Lap P604 bars 2'-4" minimum.



**SECTION A-A**

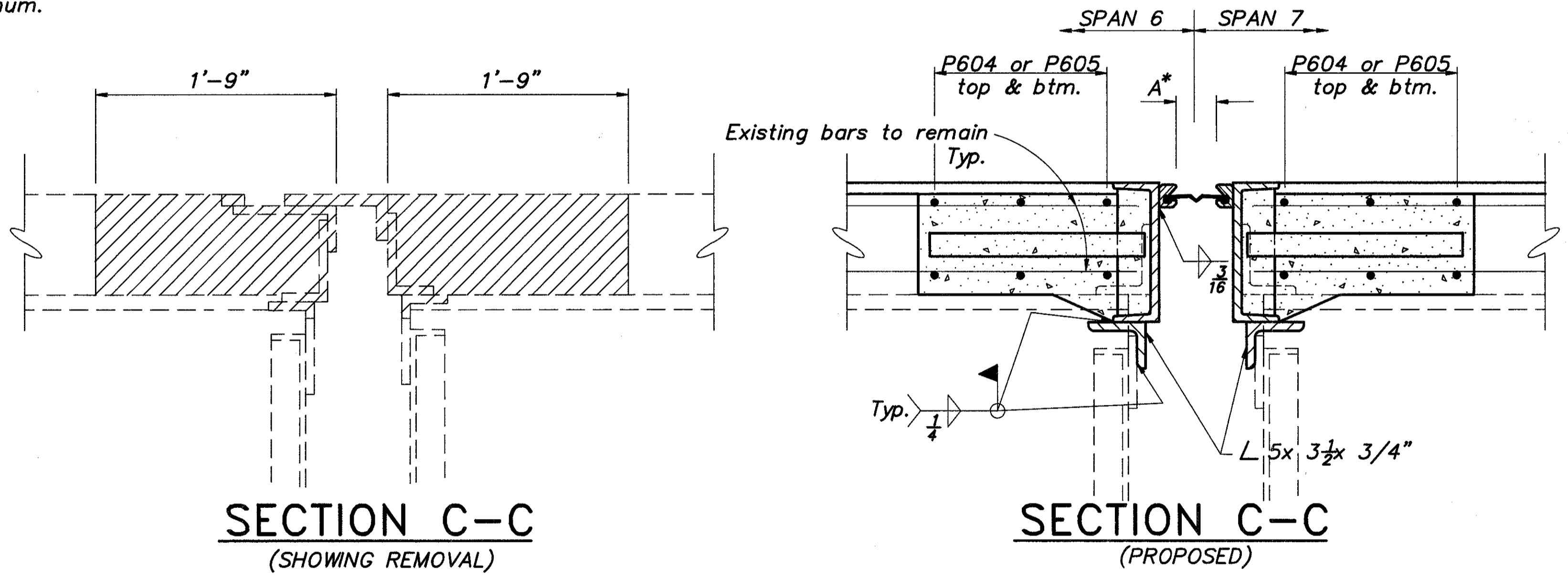
\* OPENING WIDTH

øF	Pier 7N DIM A	Pier 7S DIM A
90	-	-
80	1 5/8"	1 5/8"
70	1 7/8"	1 3/4"
60	2 1/4"	2"
50	2 5/8"	2 1/4"
40	2 7/8"	2 1/2"
30	3 1/4"	2 5/8"



**PARTIAL PLAN AT PIER 7S**

NOTE:  
Lap P605 bars 2'-4" minimum.



**SECTION C-C (SHOWING REMOVAL)**

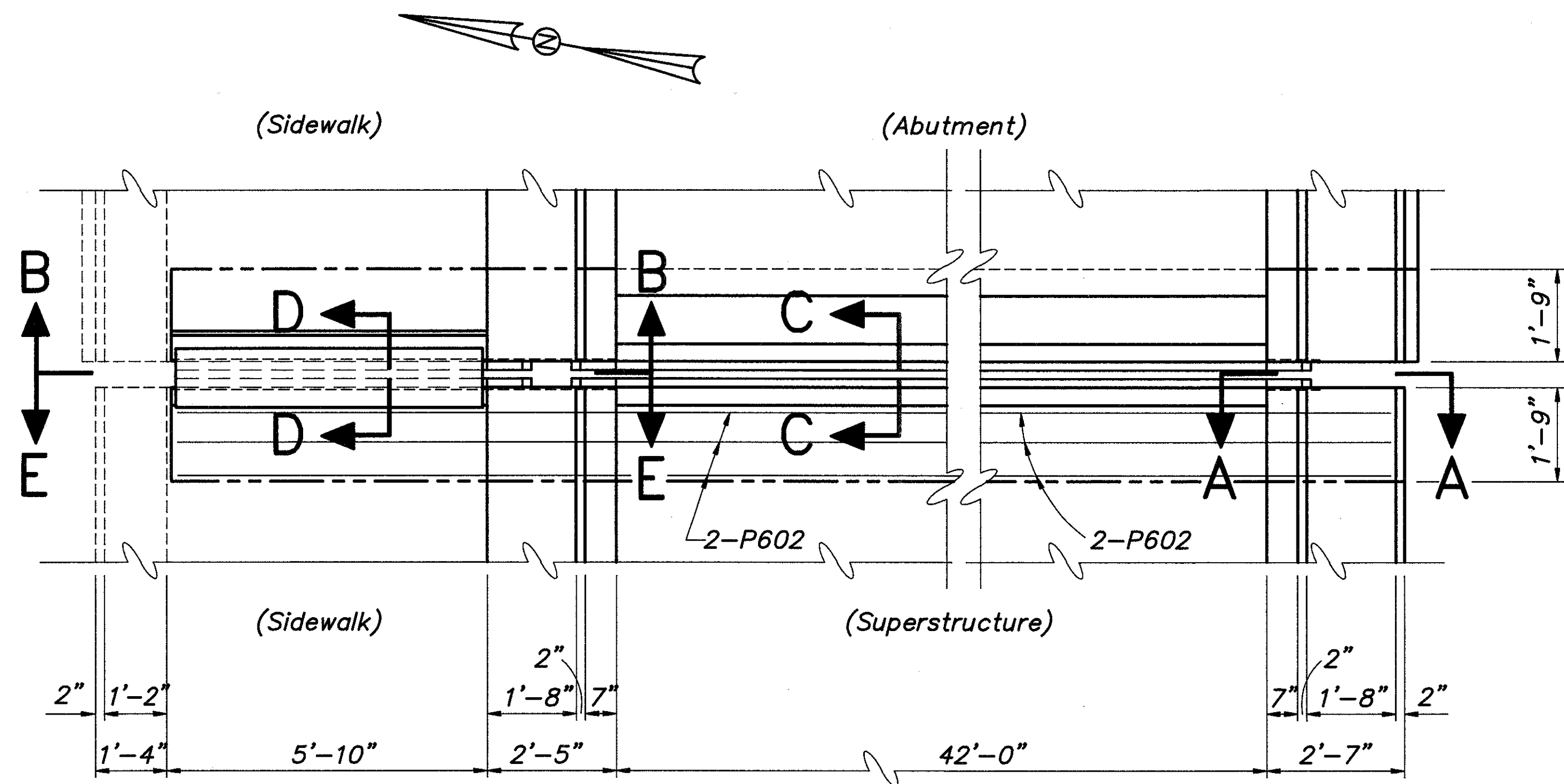
**SECTION C-C (PROPOSED)**

Denotes portion of structure to be removed.

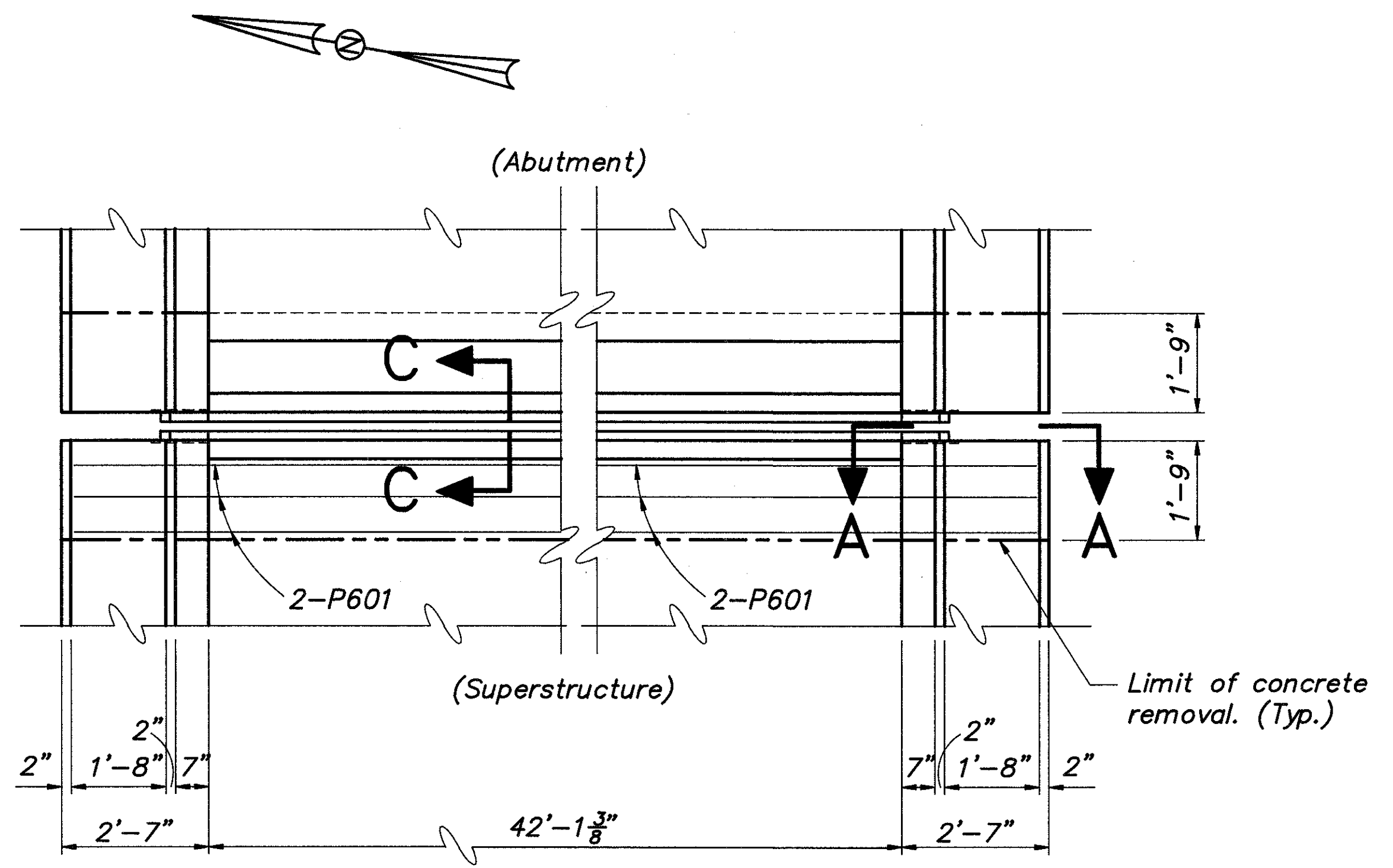
NOTE:  
For additional details on expansion joint, see Std. Drawing EXJ-4-87.  
For Section B-B, D-D & F-F, see sheet 19/30.

**PIER 7N**  
Strip seal gland shall be D.S. Brown 500L, Watson-Bowman & Acme SE-500, Structural Accessories 50SEQ, or equal.  
**PIER 7S**  
Strip seal gland shall be D.S. Brown 400L, Watson-Bowman & Acme SE-400, Structural Accessories 40SEQ, or equal.

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237		21/30
<b>EXPANSION JOINT DETAILS</b> BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK		
DESIGNED	DRAWN	TRACED
MRS	ALH	~
CHECKED	REVIEWED DATE	REVISION
DWI	CRS 4/92	

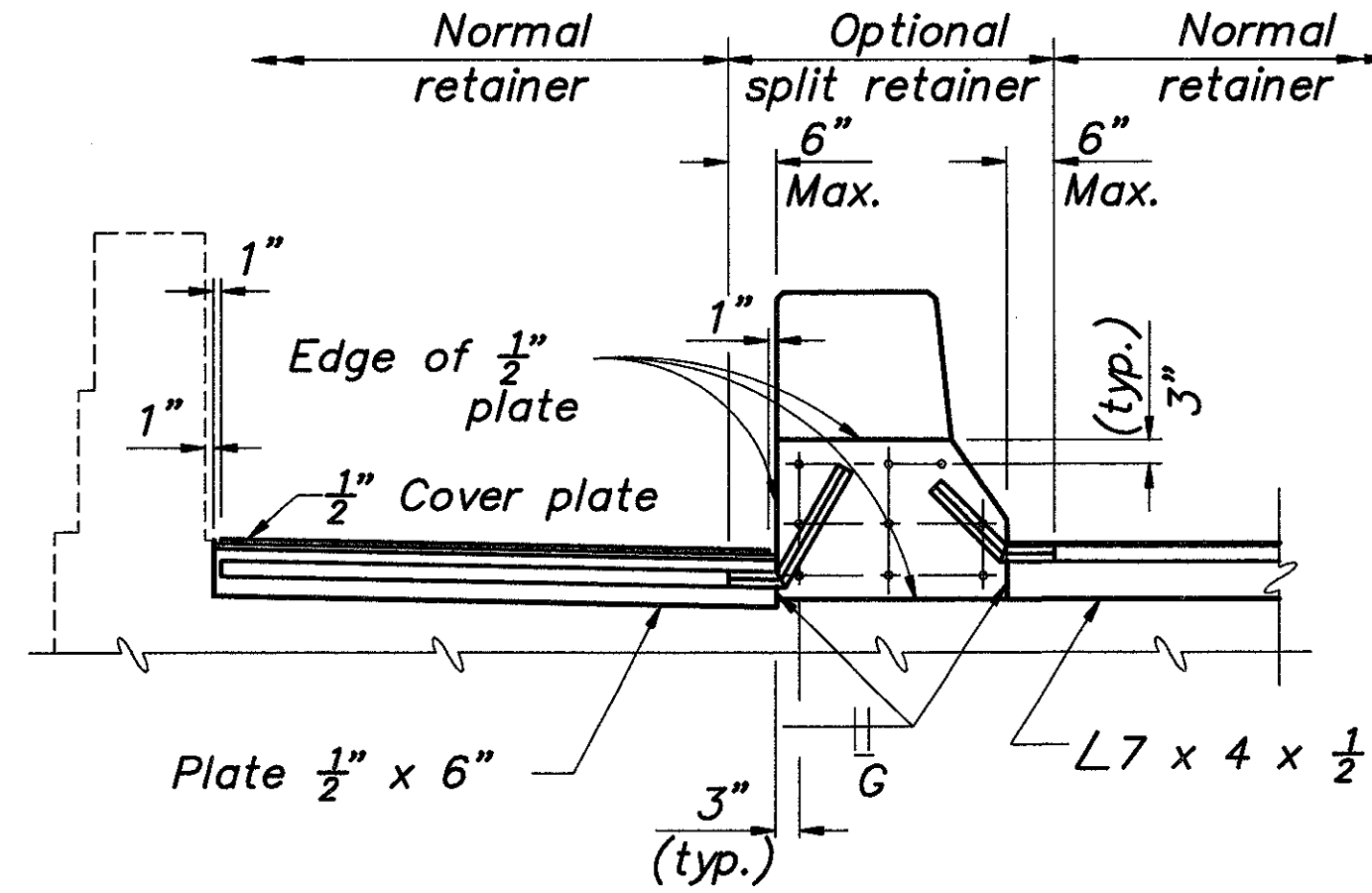


**PARTIAL PLAN AT ABUTMENT N** Lap P602 bars 2'-4" minimum.

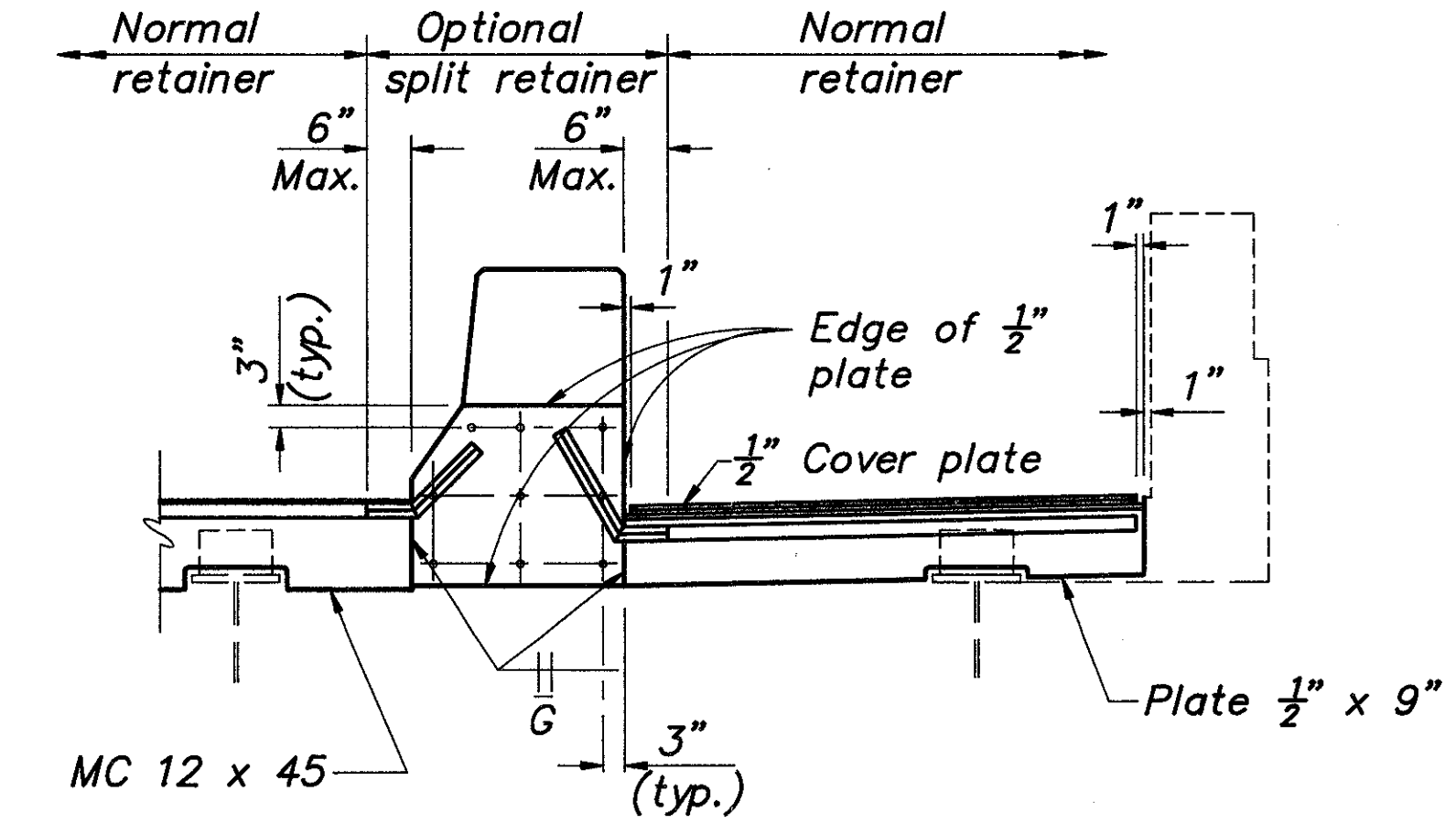


**PARTIAL PLAN AT ABUTMENT S** Lap P601 bars 2'-4" minimum.

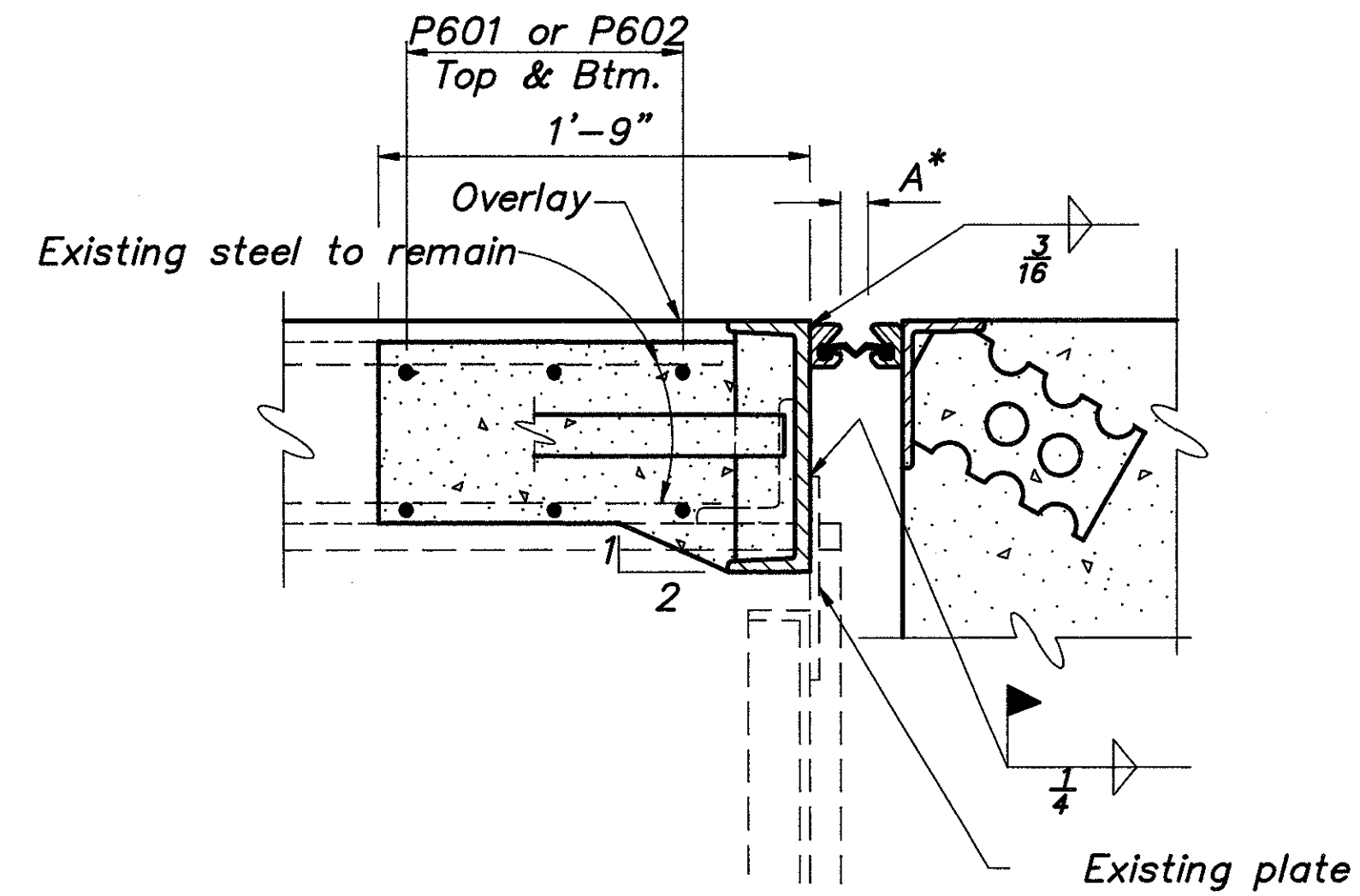
Strip seal gland shall be D.S. Brown 300L, Watson-Bowman & Acme SE-300, or equal.



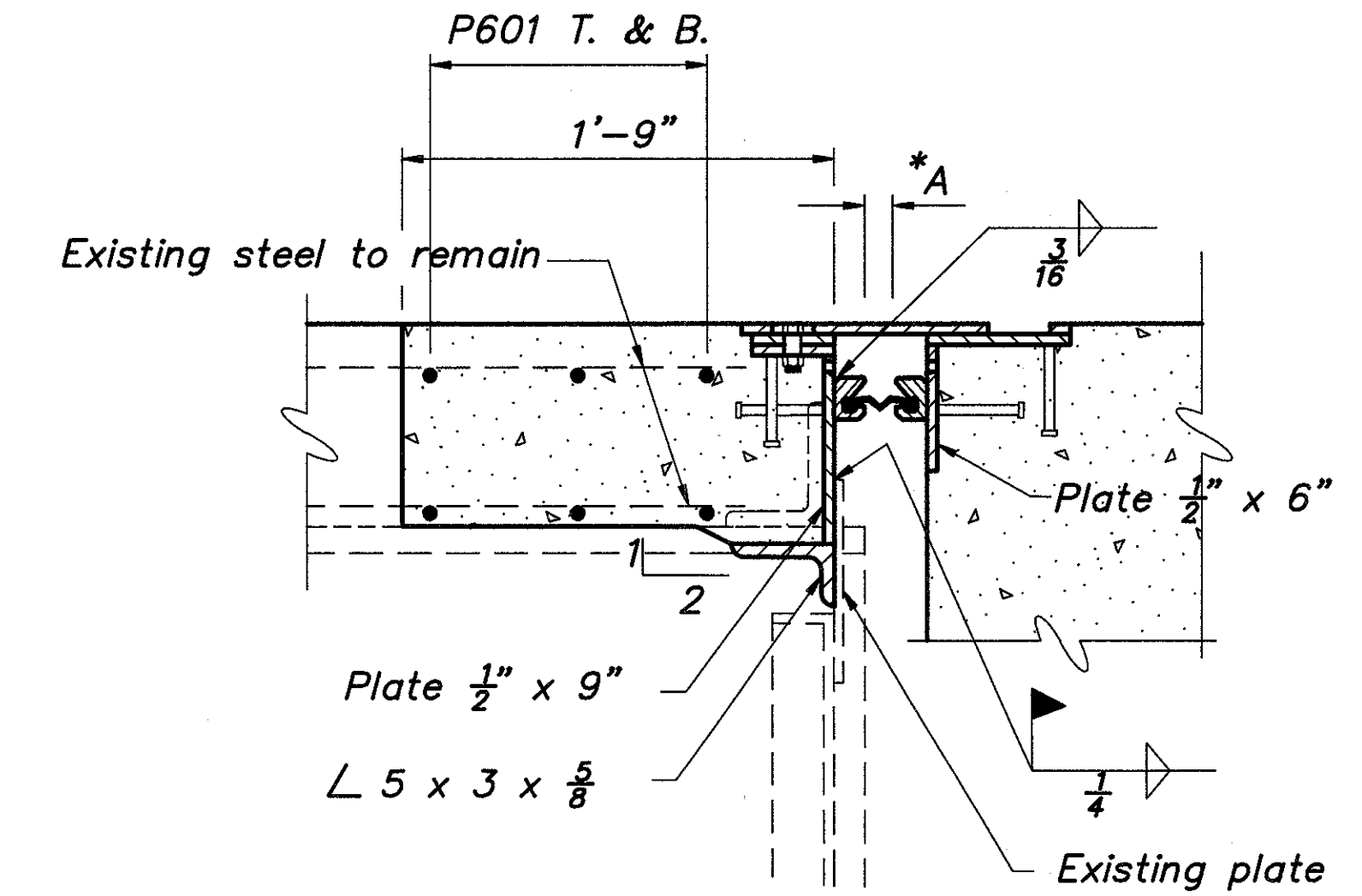
**SECTION B-B**



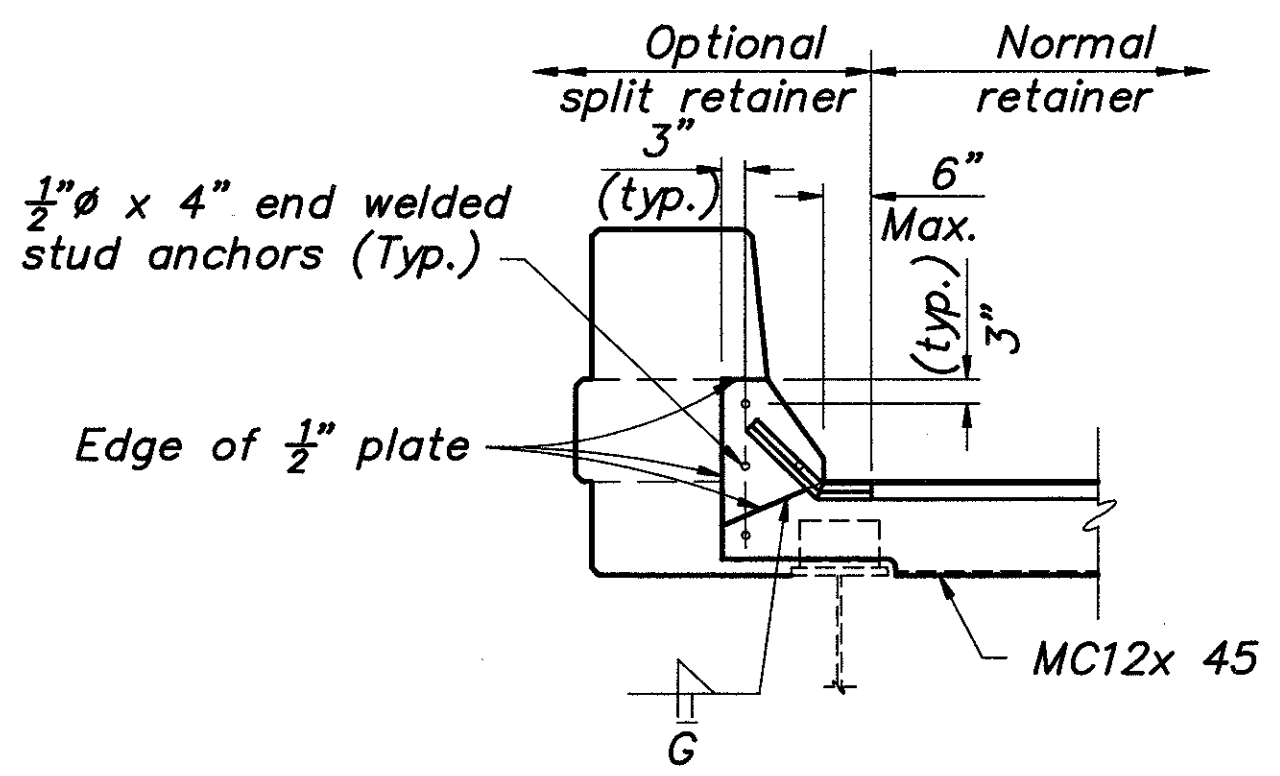
**SECTION E-E**



**SECTION C-C**



**SECTION D-D**



**SECTION A-A**

\* OPENING WIDTH

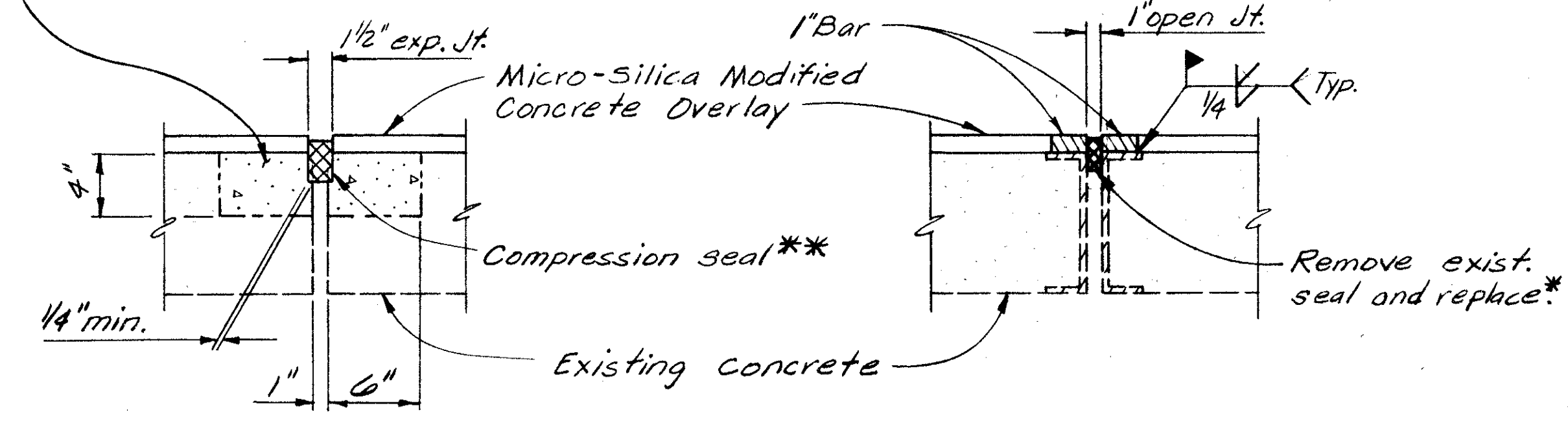
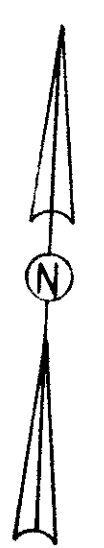
°F	DIM A
90	-
80	-
70	-
60	1 1/2"
50	1 5/8"
40	1 3/4"
30	2"

**NOTE:**  
For additional details on expansion joint, see Std. Drawing EXJ-4-87.

BALKE ENGINEERS 22/30  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237  
**EXPANSION JOINT DETAILS**  
BRIDGE NO. HAM-50-1936 R & L  
SIXTH STREET EXPRESSWAY  
OVER RR AND MILL CREEK

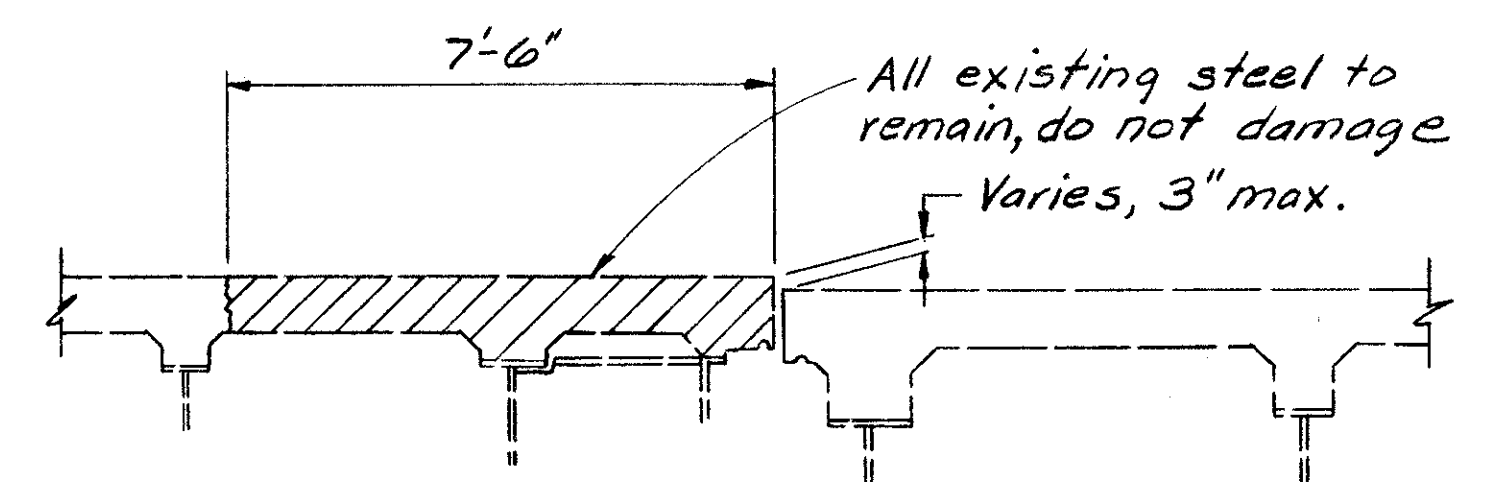
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

Include with micro-silica modified concrete overlay, variable thickness for payment.

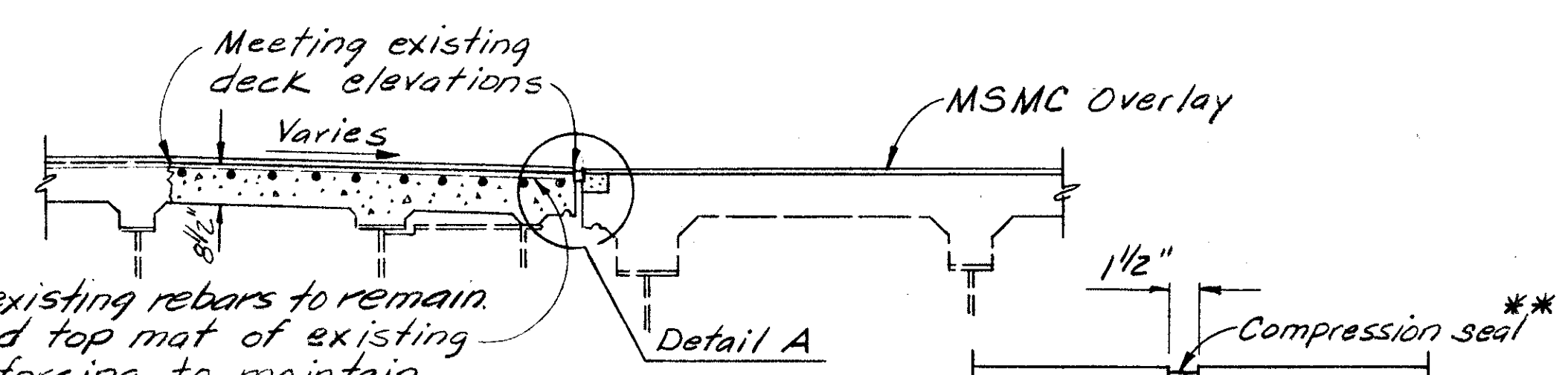


**SECTION A-A**  
 \*\* Compression seal shall be D.S. Brown CV2250, Watson-Bowman & Acme WJ225 or equal.

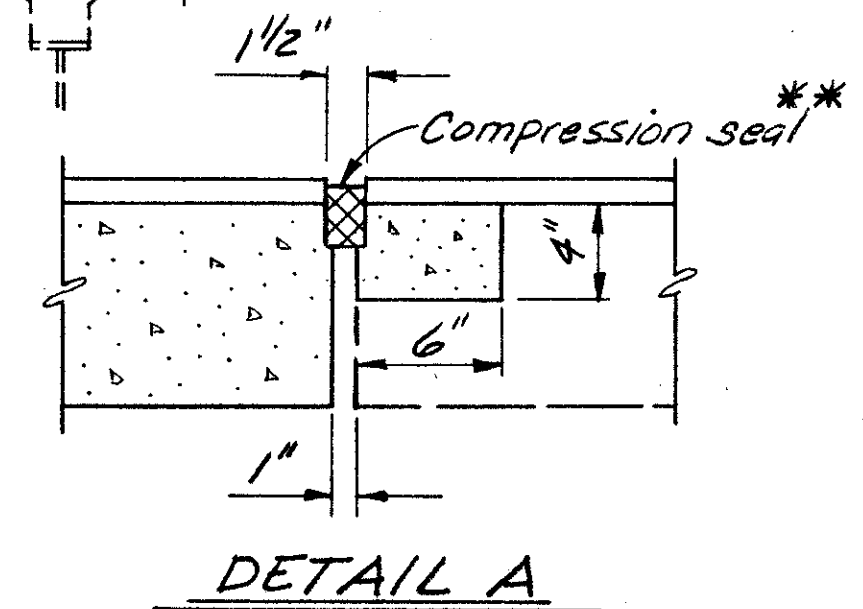
**SECTION B-B**  
 \* Included for payment in price bid for Item 516, Vertical extension of structural expansion joint. Compression seal shall be D.S. Brown CV-1750, Watson-Bowman WJ-175 or equal.



**SECTION E-E (Showing Removal)**

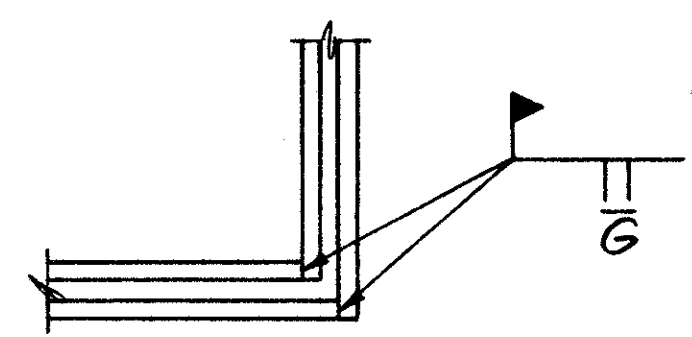


**SECTION E-E (Proposed)**

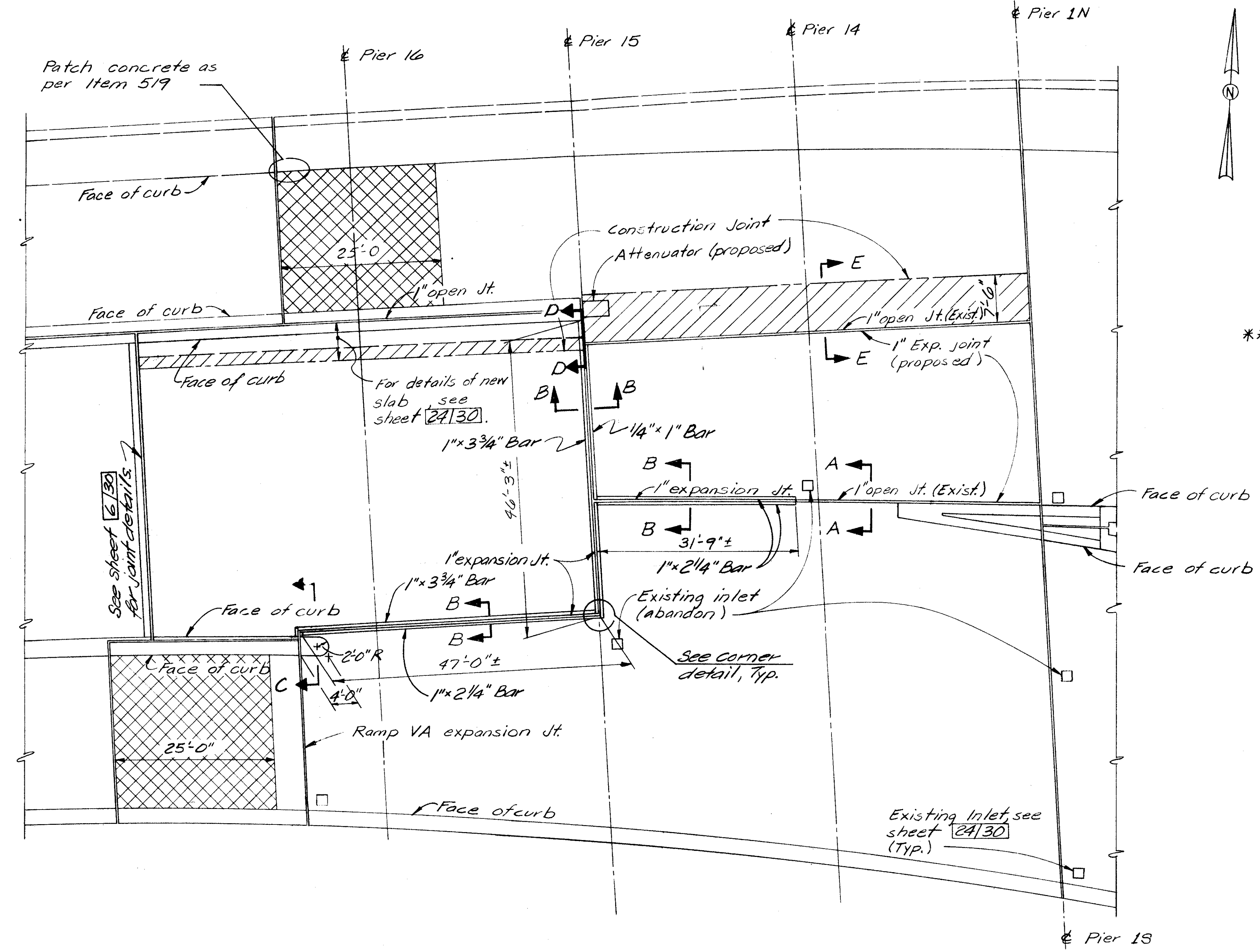


**DETAIL A**

All existing rebars to remain. Bend top mat of existing reinforcing to maintain 2" clearance.



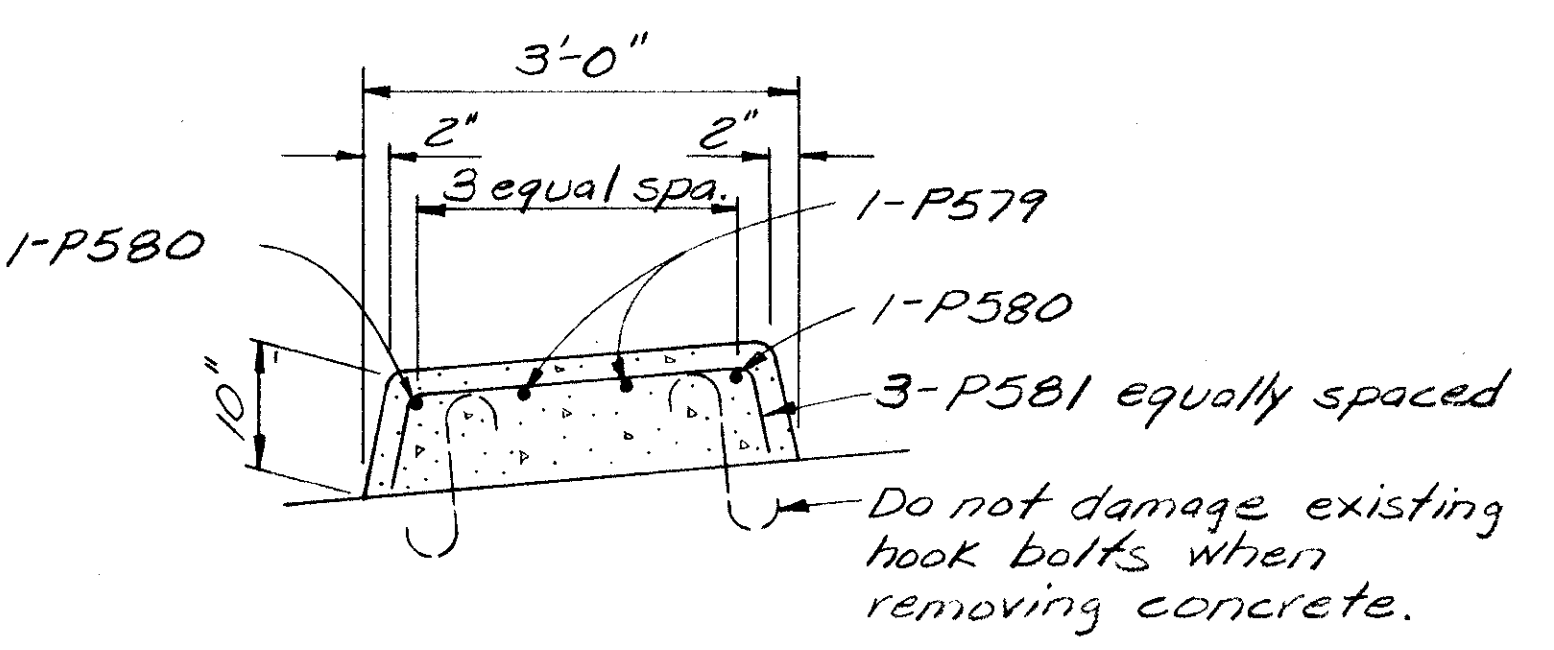
**CORNER DETAIL TYPICAL**



**PARTIAL PLAN**

To be removed  
 Pavement planing Portland cement concrete. Include with Item special-Micro-Silica modified overlay (1 1/4" thick)

- NOTES:**
1. For details of joint 1N and 1S, see sheet 16/30.
  2. For details of Ramp VA expansion Jt., see sheet 15/30.
  3. At intersections of joints & at changes in width of joints, elastomeric compression seals shall be spliced with neoprene adhesive approved by manufacturer.
  4. For Section D-D, see sheet 24/30.

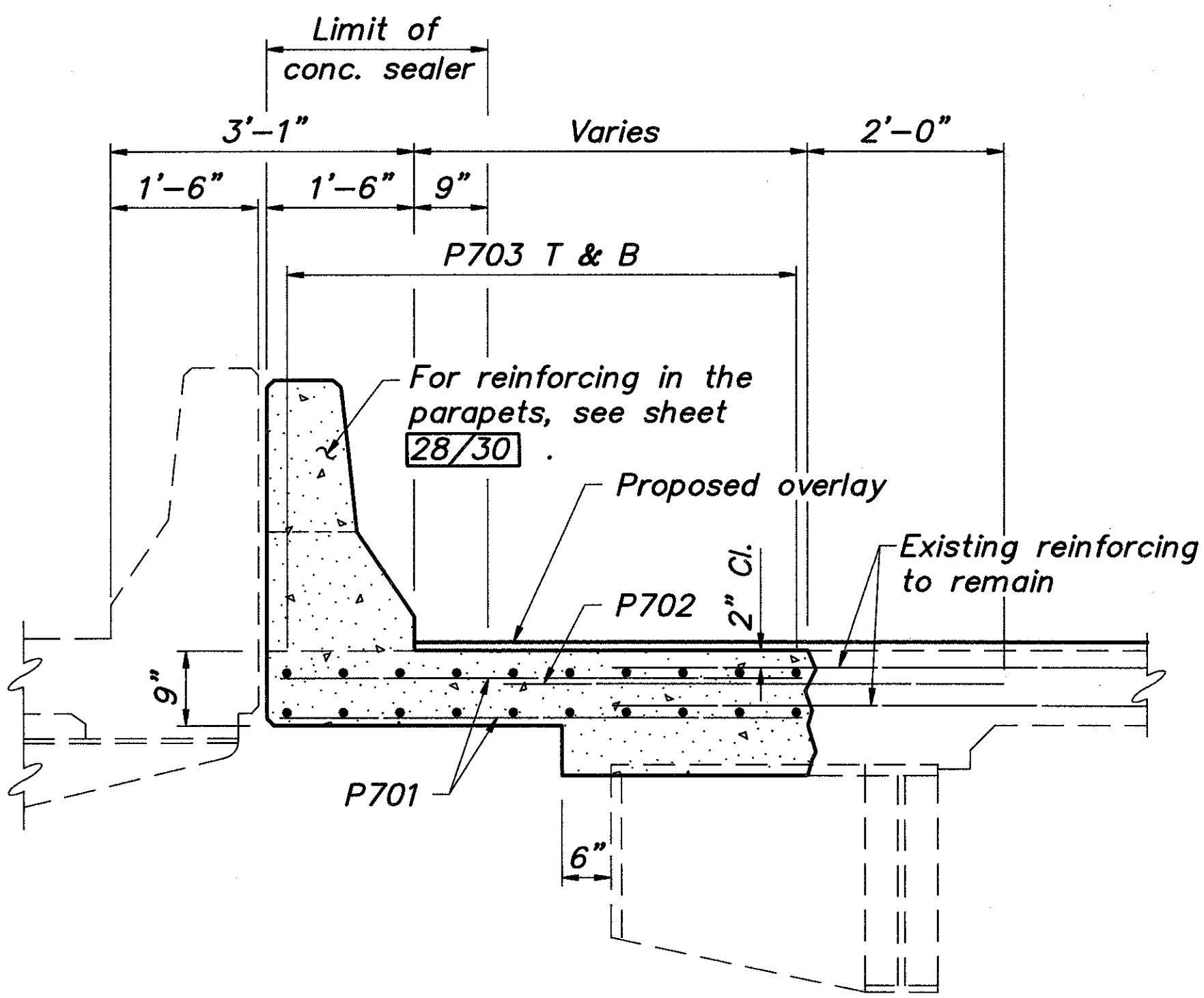
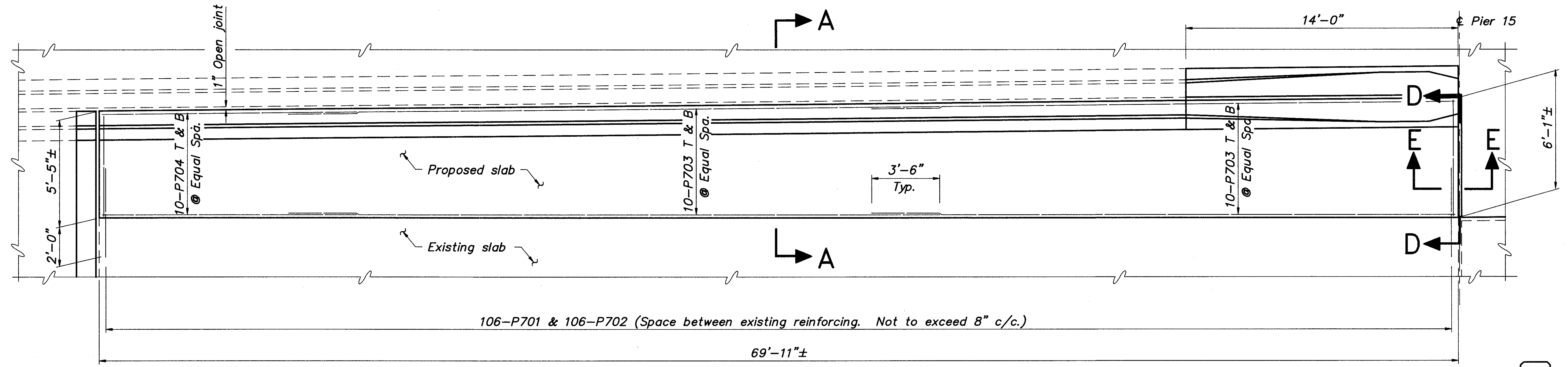


**SECTION C-C**

BALKE ENGINEERS 23/30  
 1848 SUMMIT RD.  
 CINCINNATI, OHIO 45237

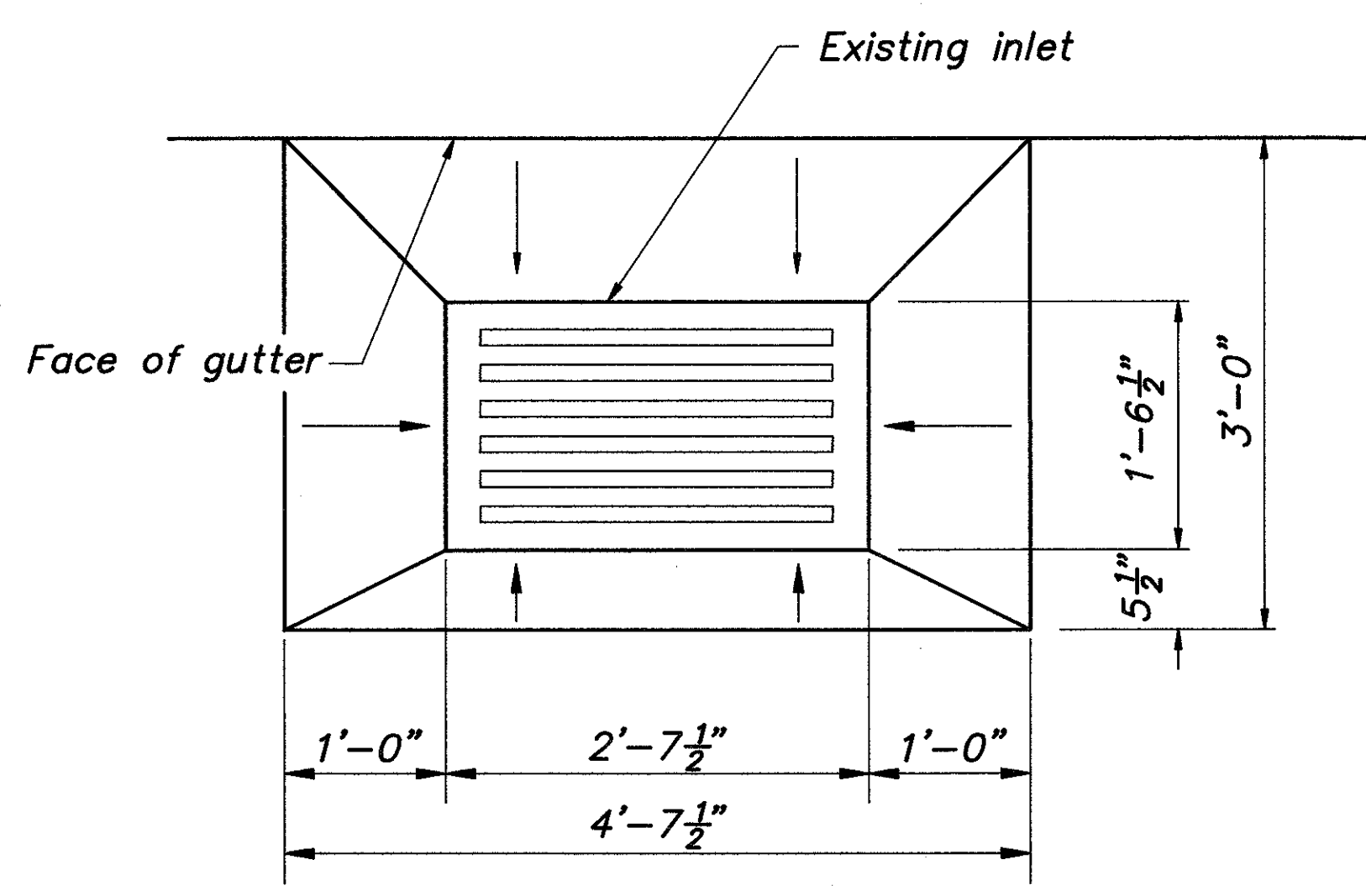
**EXPANSION JOINT DETAILS**  
 BRIDGE NO. HAM-50-1936 R&L  
 SIXTH STREET EXPRESSWAY  
 OVER RR AND MILL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	

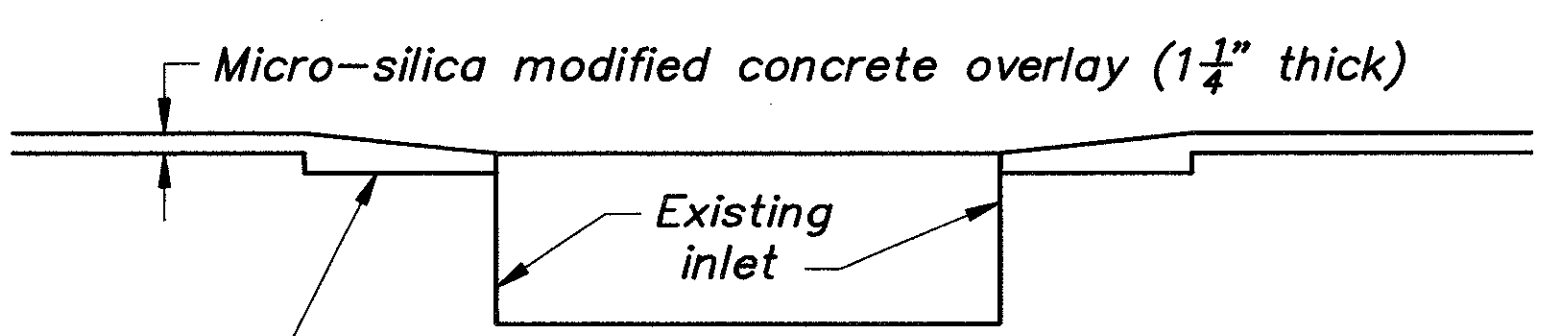


**SECTION A-A**

(See sheet 1/30 for removal detail)

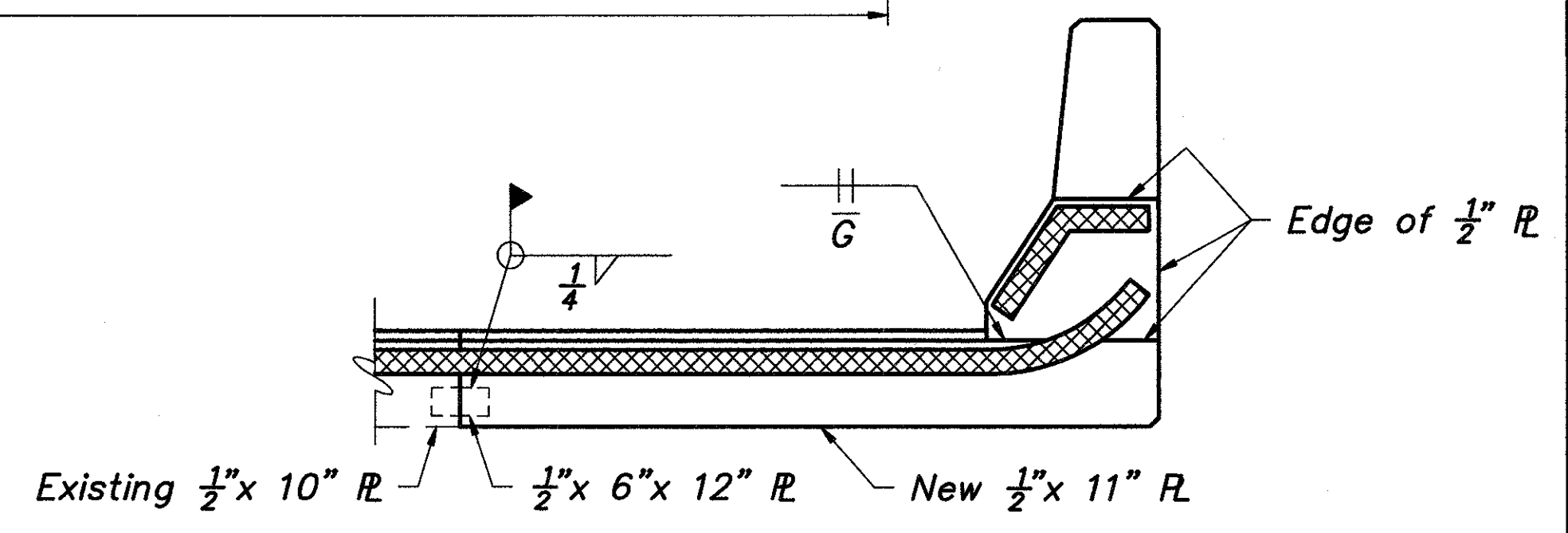


**PLAN AT INLET\***

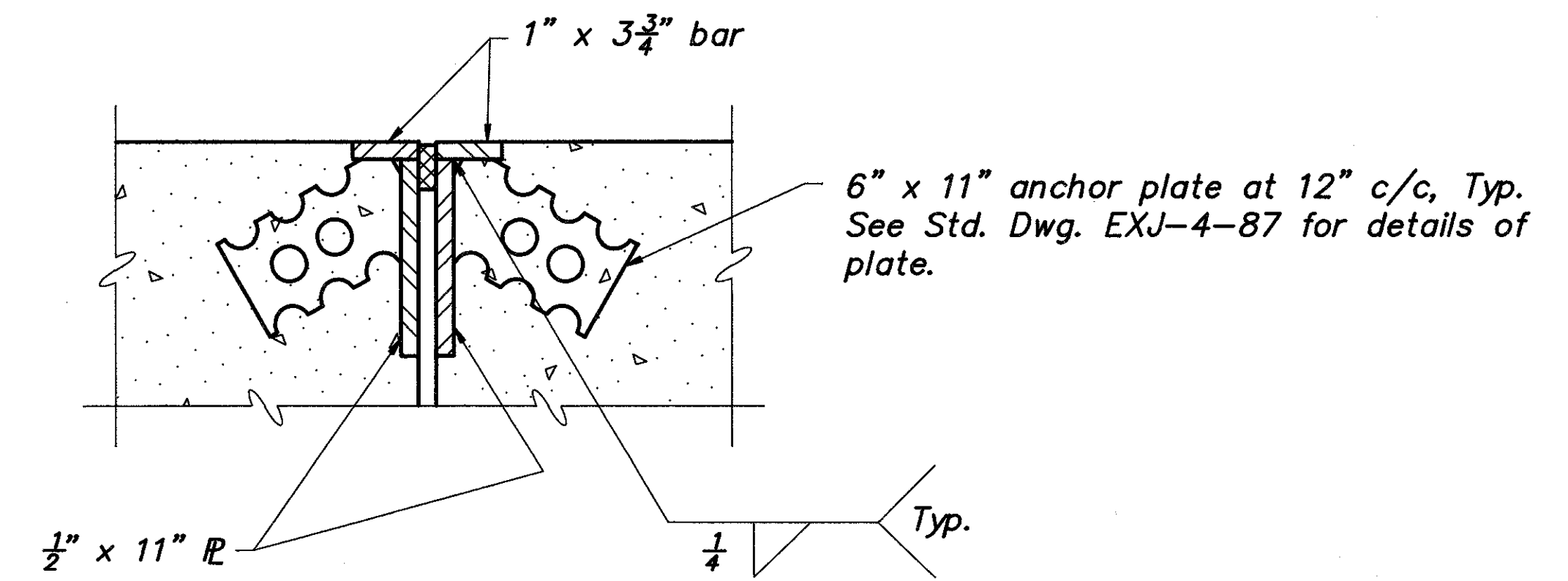


**SECTION THRU INLET**

\* At inlets to be abandoned, see sheet 23/30 for location, remove top of grating, plug drain pipe, and fill inlet with micro-silica modified concrete to surface of existing deck.



**SECTION D-D**

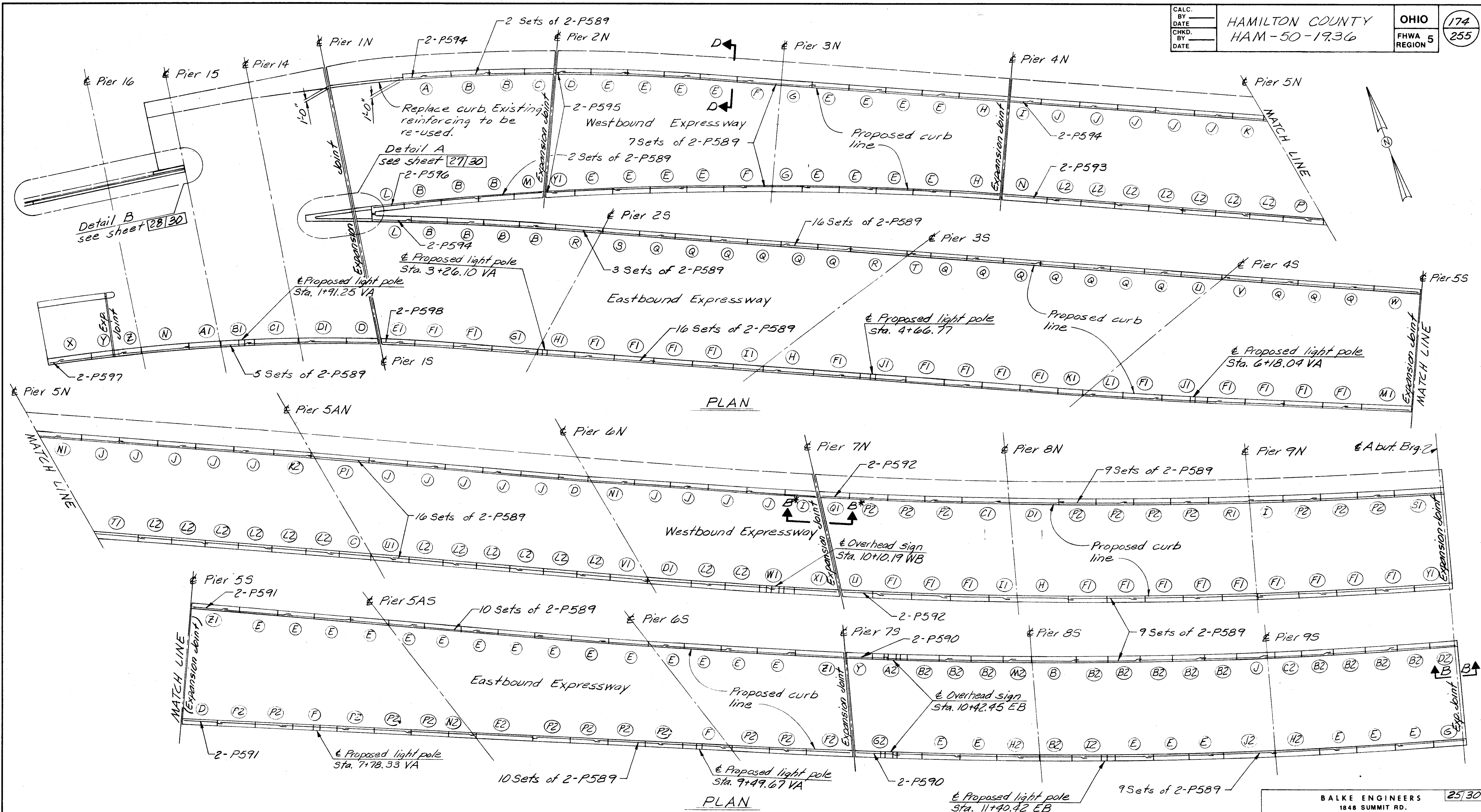


**SECTION E-E**

- NOTES:**
- For location of slab, see sheet 23/30.
  - Work this sheet together with sheet 28/30.

BALKE ENGINEERS 24/30 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					
SUPERSTRUCTURE DETAILS BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	





PLAN

PLAN

- NOTES:
1. For typical panel details, sections of parapets, proposed light pole detail and overhead sign detail, see sheet 26/30.
  - \* 2. Section B-B typical for all parapets at expansion joints, see sheet 26/30.
  3. For section D-D, see sheet 26/30.

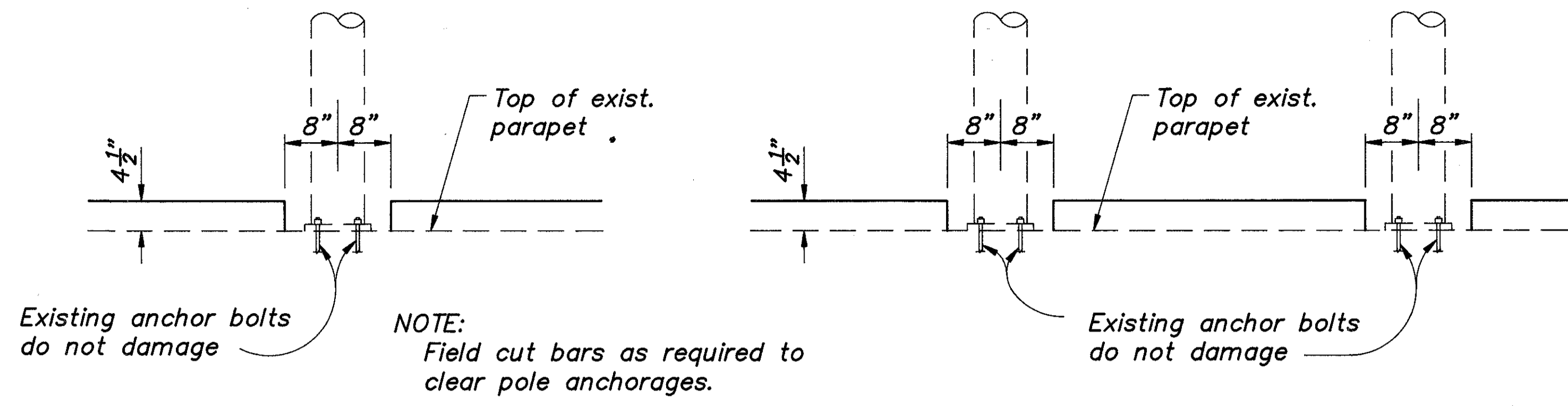
BALKE ENGINEERS 25/30  
1848 SUMMIT RD.  
CINCINNATI, OHIO 45237

PARAPET DETAILS  
BRIDGE NO. HAM-50-1936 R&L  
SIXTH STREET EXPRESSWAY  
OVER RR AND MILL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	

OHIO BLUE PRINT

PARAPET PANELS			
MARK	NO.	PANEL LENGTH	BARS NEEDED
(A)	1	21'-4 1/2"	2 1/4 15-P501, 15-P502, 5-P503
(B)	10	16'-2"	2 12-P501, 12-P502, 5-P504
(C)	2	13'-5"	2 10-P501, 10-P502, 5-P505
(D)	5	13'-10"	2 10-P501, 10-P502, 5-P506
(E)	39	16'-8"	2 12-P501, 12-P502, 5-P507
(F)	4	19'-10"	2 14-P501, 14-P502, 5-P508
(G)	3	13'-6"	2 10-P501, 10-P502, 5-P509
(H)	4	22'-8"	2 16-P501, 16-P502, 5-P510
(I)	3	14'-8"	2 11-P501, 11-P502, 5-P511
(J)	20	17'-2"	4 12-P501, 12-P502, 5-P512
(K)	1	13'-10 1/2"	2 1/4 10-P501, 10-P502, 5-P506
(L)	2	13'-1 1/2"	2 10-P501, 10-P502, 5-P514
(M)	1	13'-8"	2 8-P501, 8-P502, 5-P515
(N)	2	20'-10"	2 15-P501, 15-P502, 5-P516
(O)		Not Used	
(P)	1	17'-11 1/2"	2 13-P501, 13-P502, 5-P518
(Q)	16	16'-4"	2 12-P501, 12-P502, 5-P519
(R)	2	21'-5"	2 1/2 15-P501, 15-P502, 5-P520
(S)	1	19'-5"	2 14-P501, 14-P502, 5-P521
(T)	1	11'-3"	4 1/2 8-P501, 8-P502, 5-P522
(U)	2	14'-3"	4 1/2 10-P501, 10-P502, 5-P523
(V)	1	18'-5"	2 1/2 13-P501, 13-P502, 5-P524
(W)	1	21'-9 1/2"	4 3/4 13-P501, 13-P502, 5-P525
(X)	1	19'-2 1/2"	2 14-P501, 14-P502, 5-P526
(Y)	2	12'-1 1/2"	2 7-P501, 7-P502, 5-P527
(Z)	1	11'-0"	3 6-P501, 6-P502, 5-P528
(AA)	1	14'-1 1/2"	3 3/4 10-P501, 10-P502, 5-P529
(AB)	1	14'-11 1/2"	2 11-P501, 11-P502, 5-P530
(AC)	2	20'-0 1/2"	3 1/4 14-P501, 14-P502, 5-P531
(AD)	3	22'-0"	6 15-P501, 15-P502, 5-P532
(AE)	1	14'-10"	2 9-P501, 9-P502, 5-P533
(AF)	28	17'-4"	2 13-P501, 13-P502, 5-P534
(AG)	1	20'-8"	2 15-P501, 15-P502, 5-P535
(AH)	1	17'-0"	3 12-P501, 12-P502, 5-P536
(AI)	2	12'-0"	2 9-P501, 9-P502, 5-P537
(AJ)	2	20'-4"	5 14-P501, 14-P502, 5-P538
(AK)	1	11'-0"	3 8-P501, 8-P502, 5-P539
(AL)	1	23'-8"	2 17-P501, 17-P502, 5-P540
(AM)	1	23'-3"	4 1/2 14-P501, 14-P502, 5-P541
(AN)	2	20'-5 1/2"	5 3/4 14-P501, 14-P502, 5-P542
(AO)		Not Used	
(AP)	1	27'-0 1/2"	2 19-P501, 19-P502, 5-P544
(AQ)	1	13'-7 1/2"	2 8-P501, 8-P502, 5-P545
(AR)	1	19'-0 1/2"	6 13-P501, 13-P502, 5-P546
(AS)	1	22'-0 1/2"	6 13-P501, 13-P502, 5-P547
(AT)	1	19'-11 1/2"	2 3/4 14-P501, 14-P502, 5-P548
(AU)	1	16'-11 1/2"	2 3/4 12-P501, 12-P502, 5-P549
(AV)	1	15'-11 1/2"	5 3/4 11-P501, 11-P502, 5-P550
(AW)	1	15'-10"	5 11-P501, 11-P502, 5-P551
(AX)	1	20'-3"	4 1/2 12-P501, 12-P502, 5-P552
(AY)	2	14'-4"	5 8-P501, 8-P502, 5-P553
(AZ)	2	22'-4 1/2"	2 16-P501, 16-P502, 5-P554
(BA)	1	15'-6"	3 11-P501, 11-P502, 5-P555
(BB)	13	14'-6"	6 10-P501, 10-P502, 5-P556
(BC)	1	11'-10 1/2"	2 9-P501, 9-P502, 5-P557
(BD)	1	12'-8"	4 7-P501, 7-P502, 5-P558
(BE)	1	26'-5 1/2"	5 3/4 18-P501, 18-P502, 5-P559
(BF)	1	22'-3"	2 14-P501, 14-P502, 5-P560
(BG)	1	30'-8 1/2"	4 1/4 19-P501, 19-P502, 5-P561
(BH)	2	18'-10"	5 13-P501, 13-P502, 5-P562
(BI)	1	19'-8"	2 14-P501, 14-P502, 5-P563
(BJ)	1	22'-10"	2 16-P501, 16-P502, 5-P564
(BK)	1	15'-10 1/2"	5 1/4 11-P501, 11-P502, 5-P551
(BL)	21	15'-2"	2 11-P501, 11-P502, 5-P517
(BM)	1	12'-10 1/2"	5 1/4 9-P501, 9-P502, 5-P513
(BN)	1	15'-7 1/2"	3 3/4 11-P501, 11-P502, 5-P555
(BO)		Not Used	
(BP)	21	16'-10"	2 12-P501, 12-P502, 5-P543

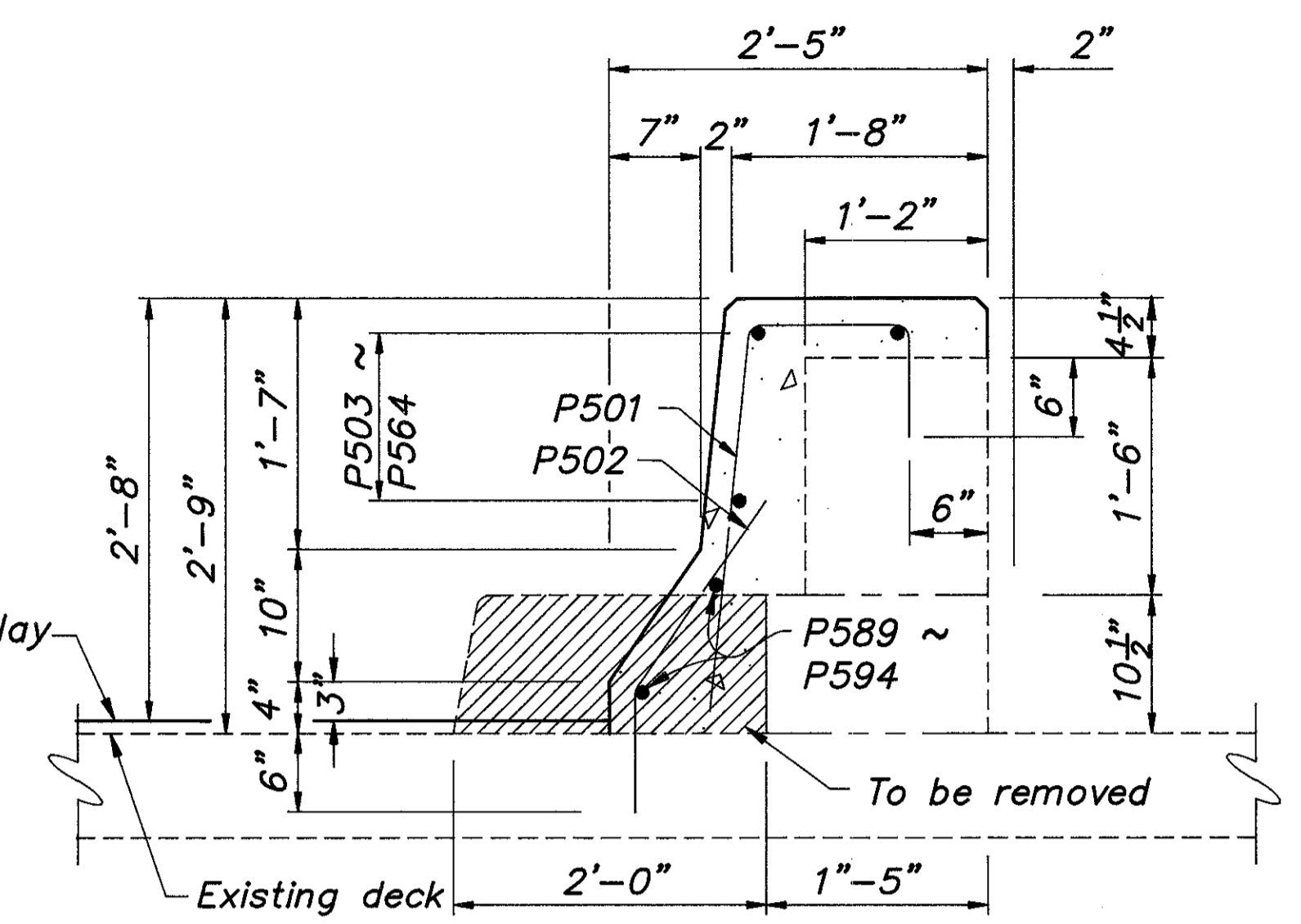


### LIGHT POLE SUPPORT DETAIL

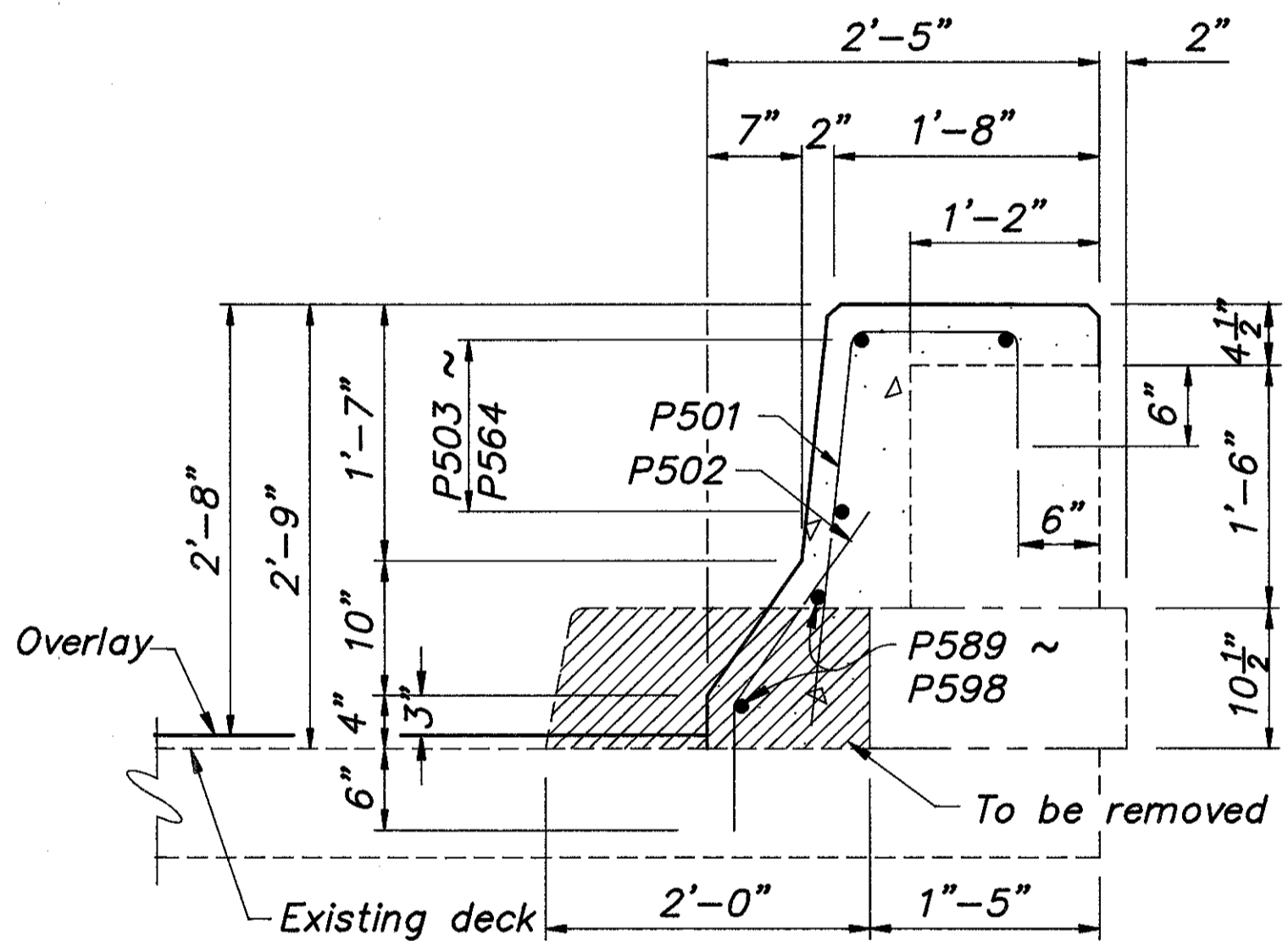
NOTE: Light pole locations match existing pole locations.

### OVERHEAD SIGN SUPPORT DETAIL

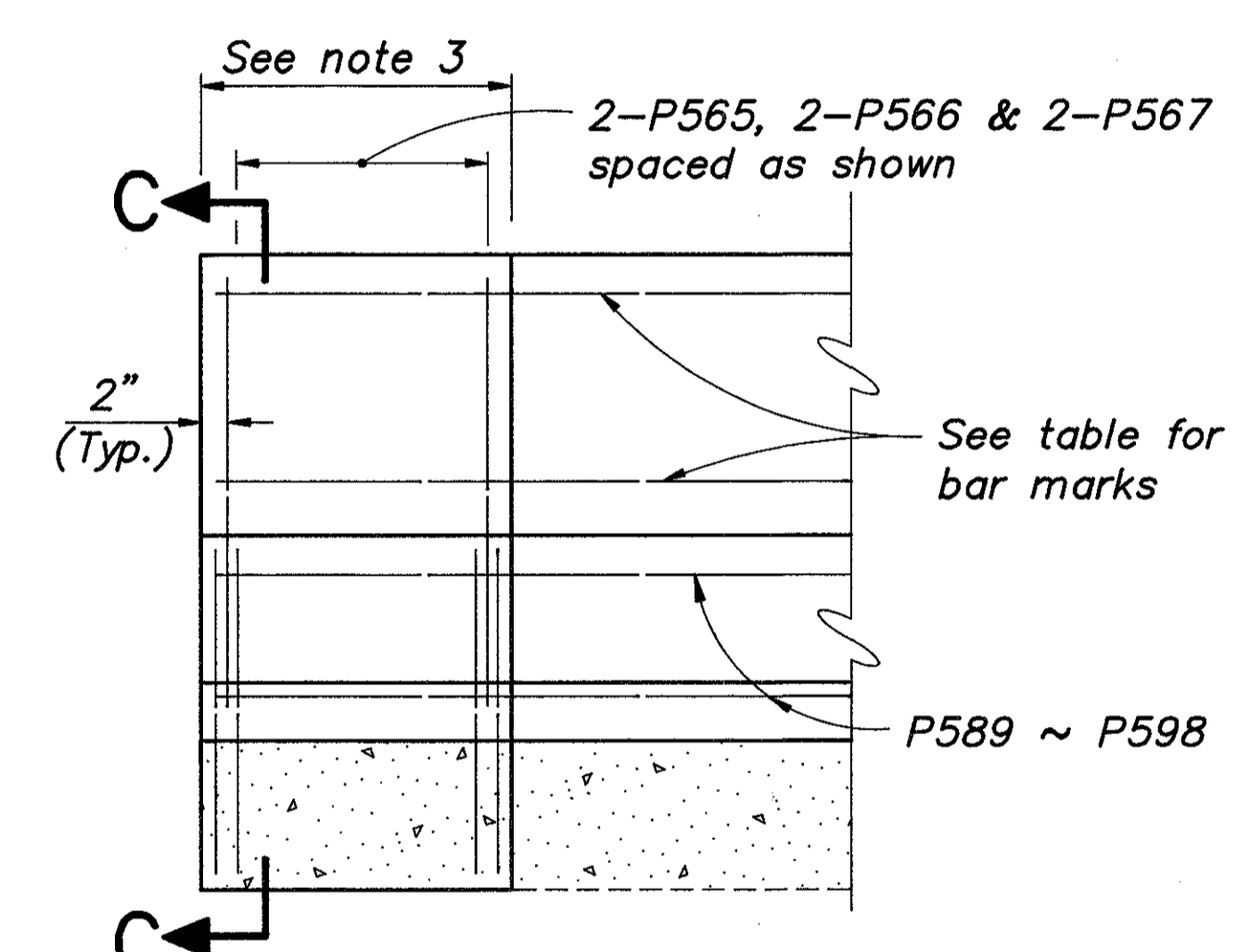
NOTE: Sign pole locations match existing pole locations.



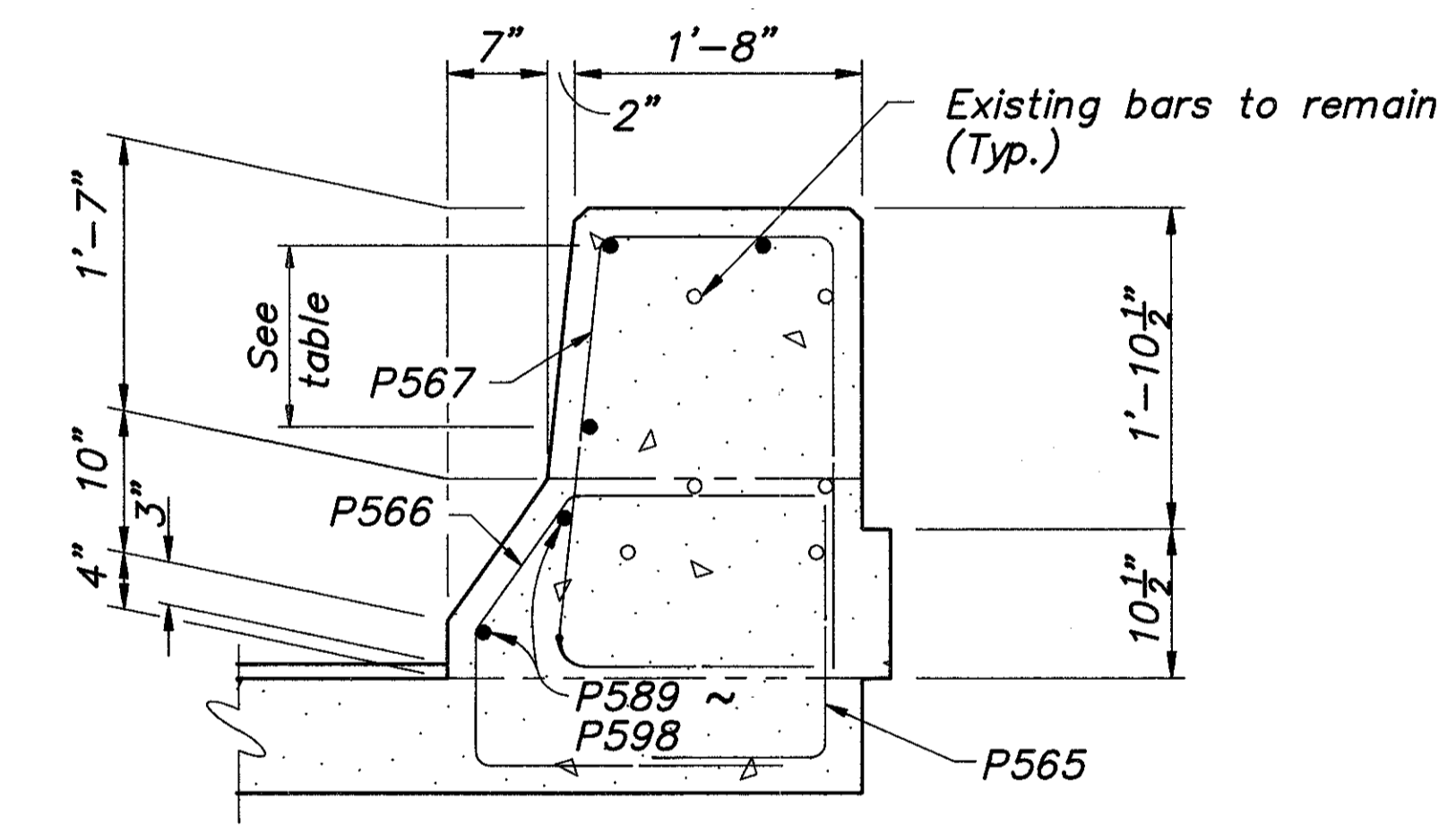
### SECTION D-D



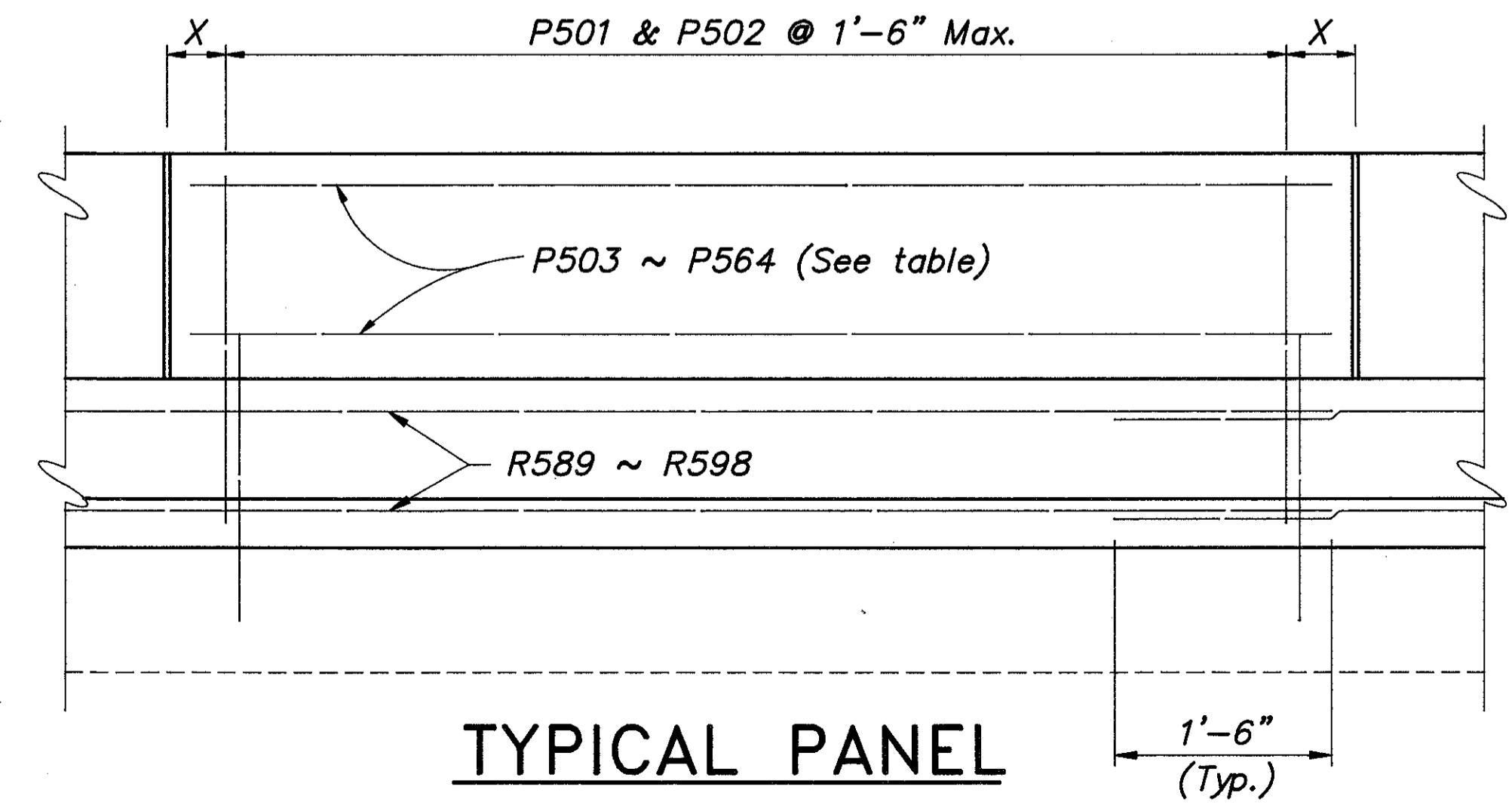
### TYPICAL SECTION THRU PARAPET



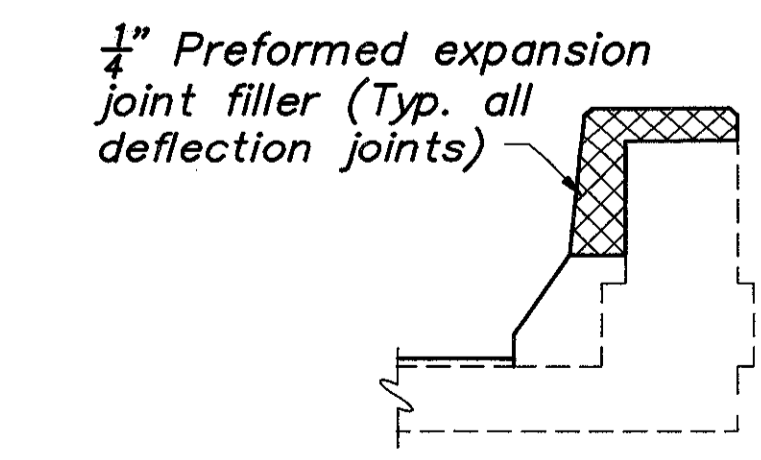
### SECTION B-B (28 REQUIRED)



### SECTION C-C



### TYPICAL PANEL



### DEFLECTION JOINT DETAIL

New deflection joints shall match the existing deflection joints locations.

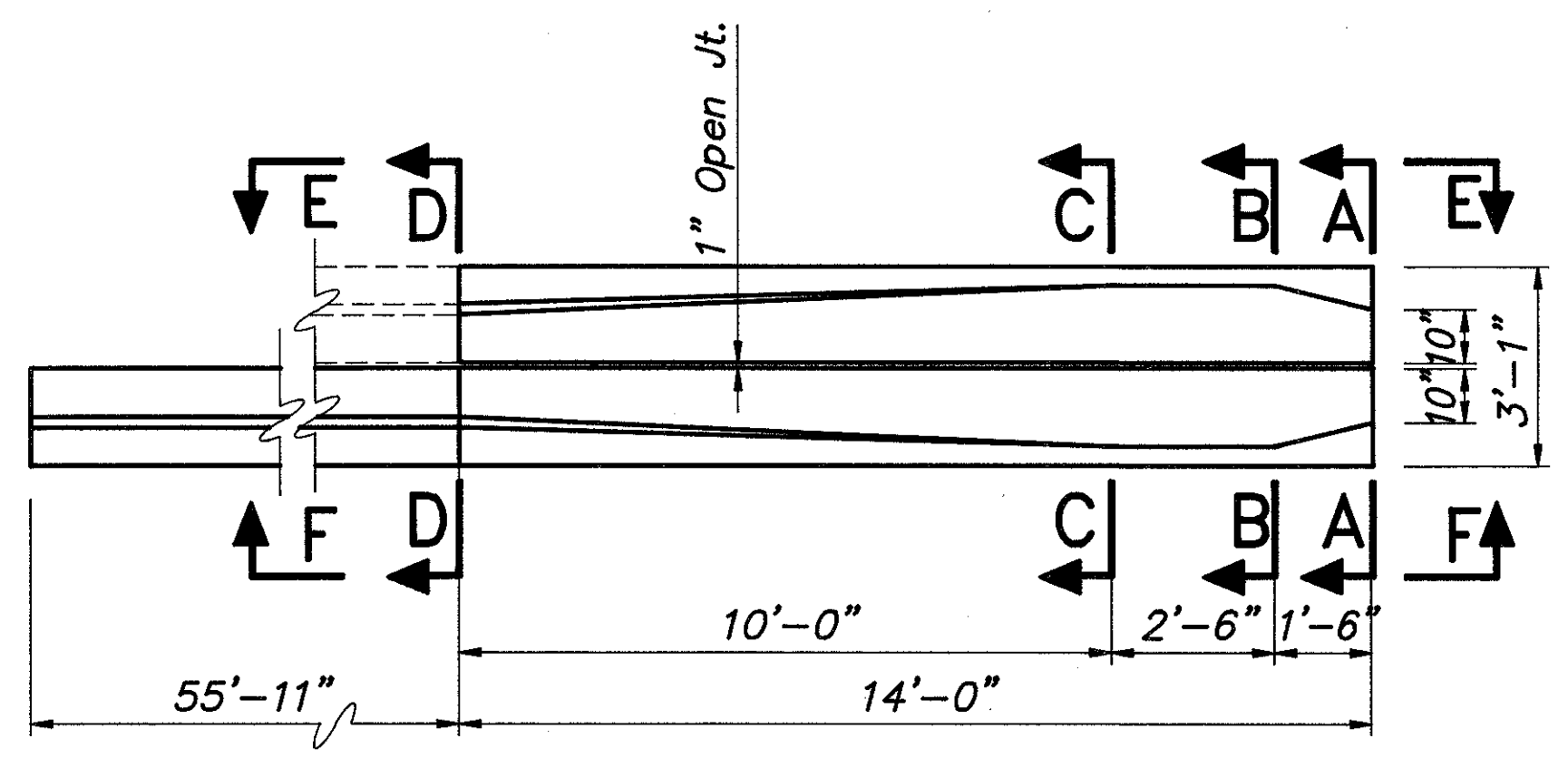
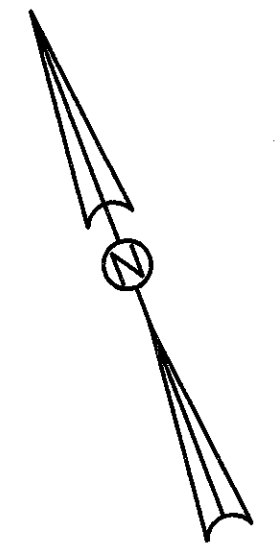
- NOTE:
- For additional panel information, see sheet 27/30
  - P501 & P502 to be dowelled into existing concrete as shown.
  - Within limits shown, remove full parapet and curb section and replace as shown in section C-C. Care shall be taken not to damage horizontal steel during concrete removal. This steel shall be incorporated in the new parapet. For limits of concrete removal and replacement, see sheet 15/30 thru 22/30.
  - All reinforcing bars to be epoxy coated.

BALKE ENGINEERS 26/30  
 1848 SUMMIT ROAD  
 CINCINNATI, OHIO 45237

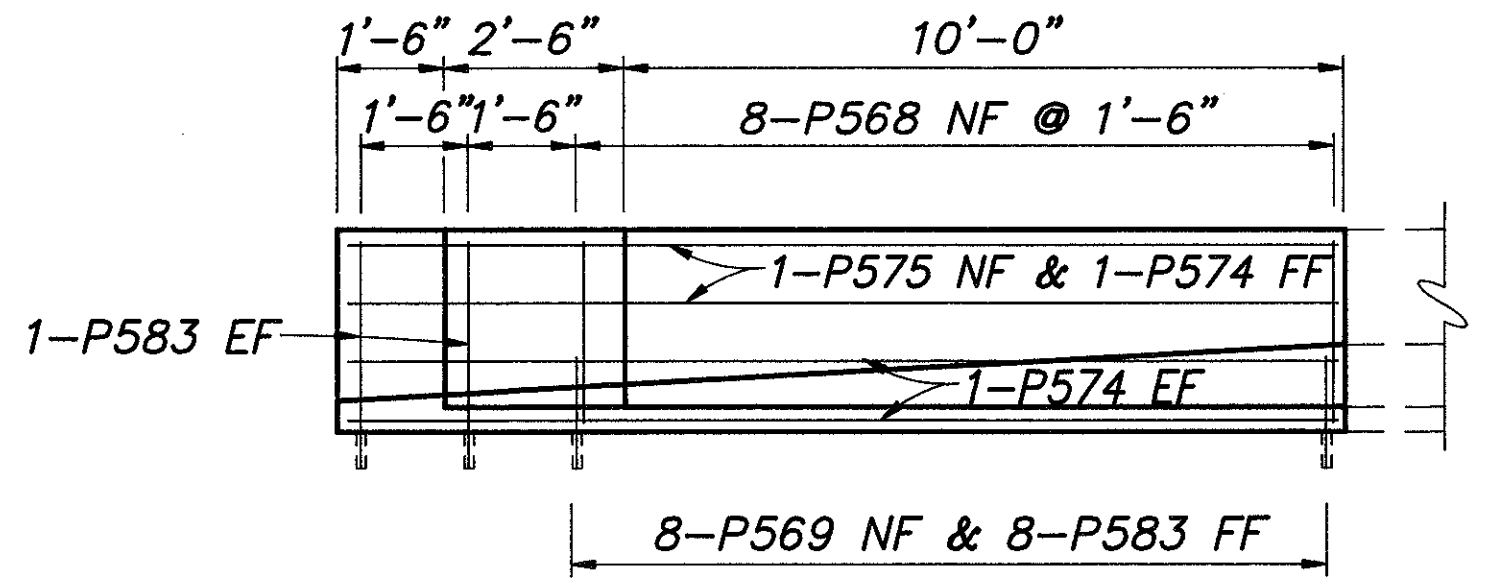
PARAPET DETAILS  
 BRIDGE NO. HAM-50-1936 R & L  
 SIXTH STREET EXPRESSWAY  
 OVER RR AND MILL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

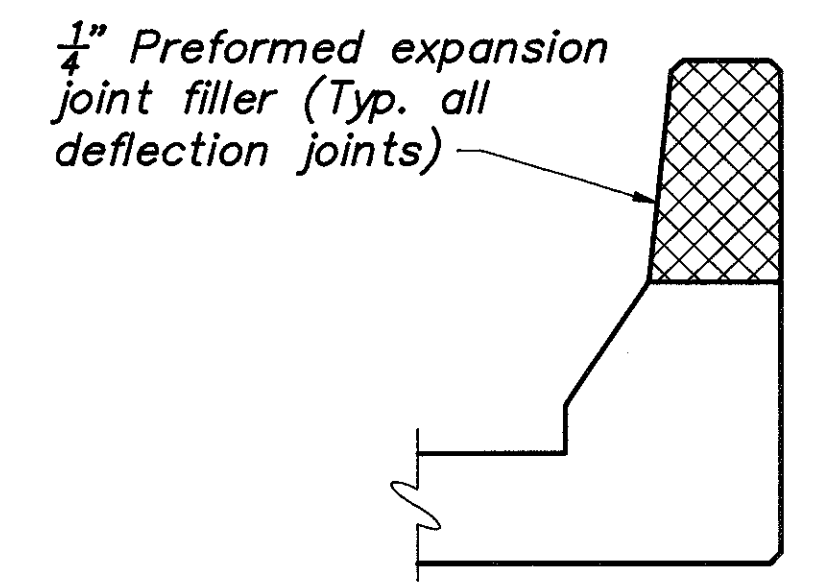




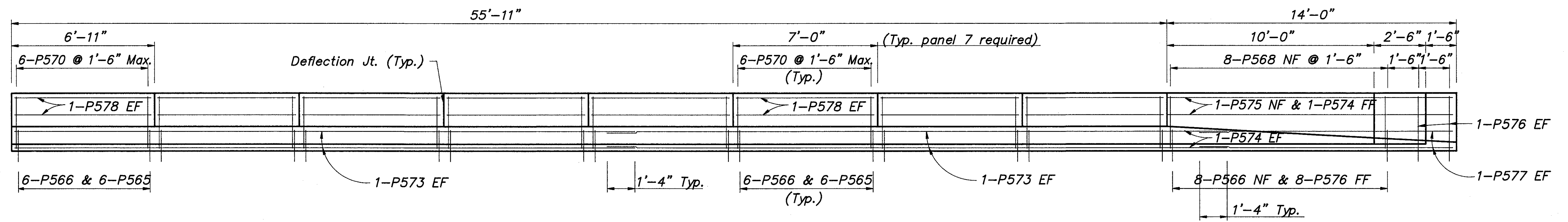
**DETAIL B**



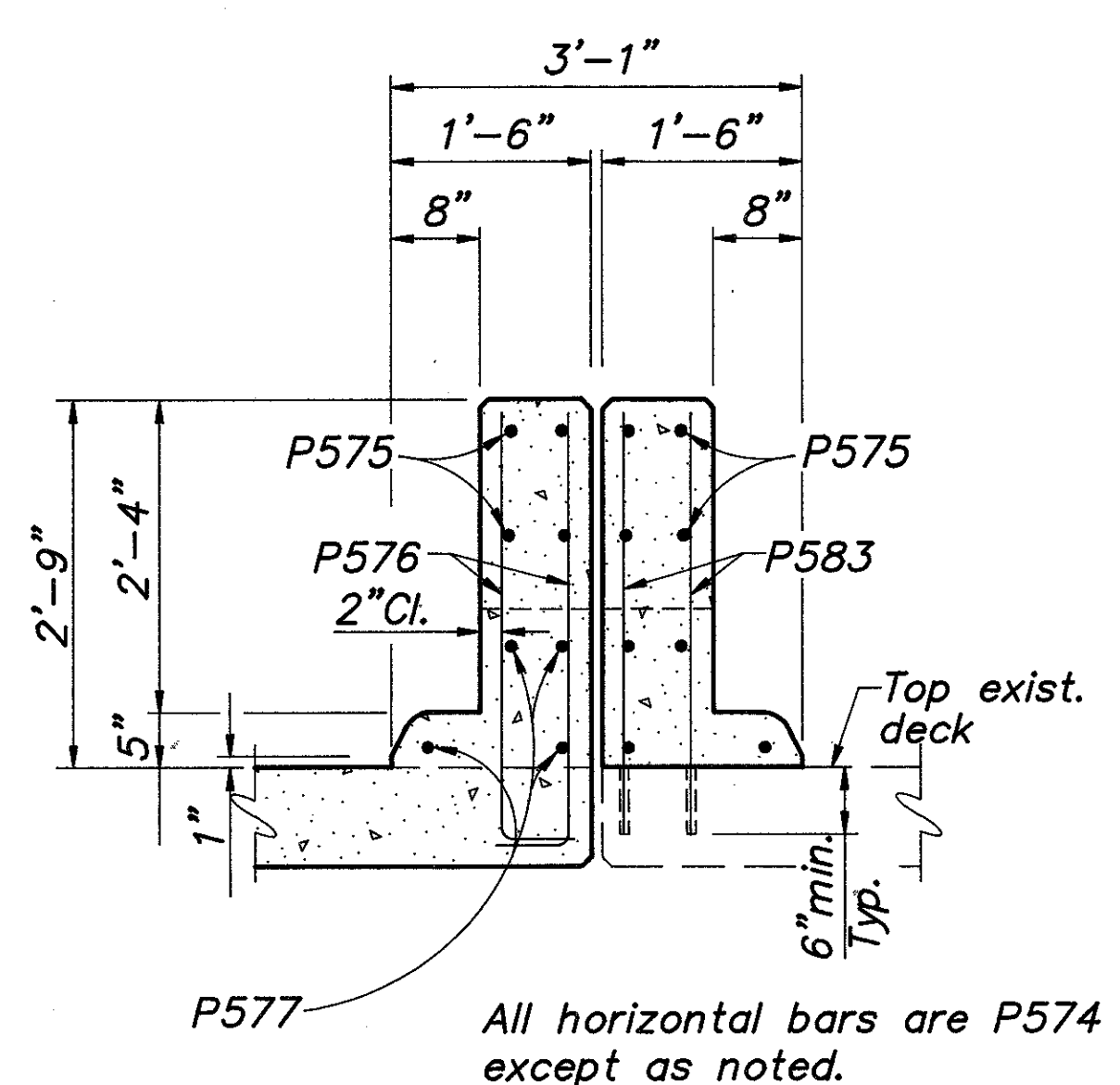
**VIEW E-E**



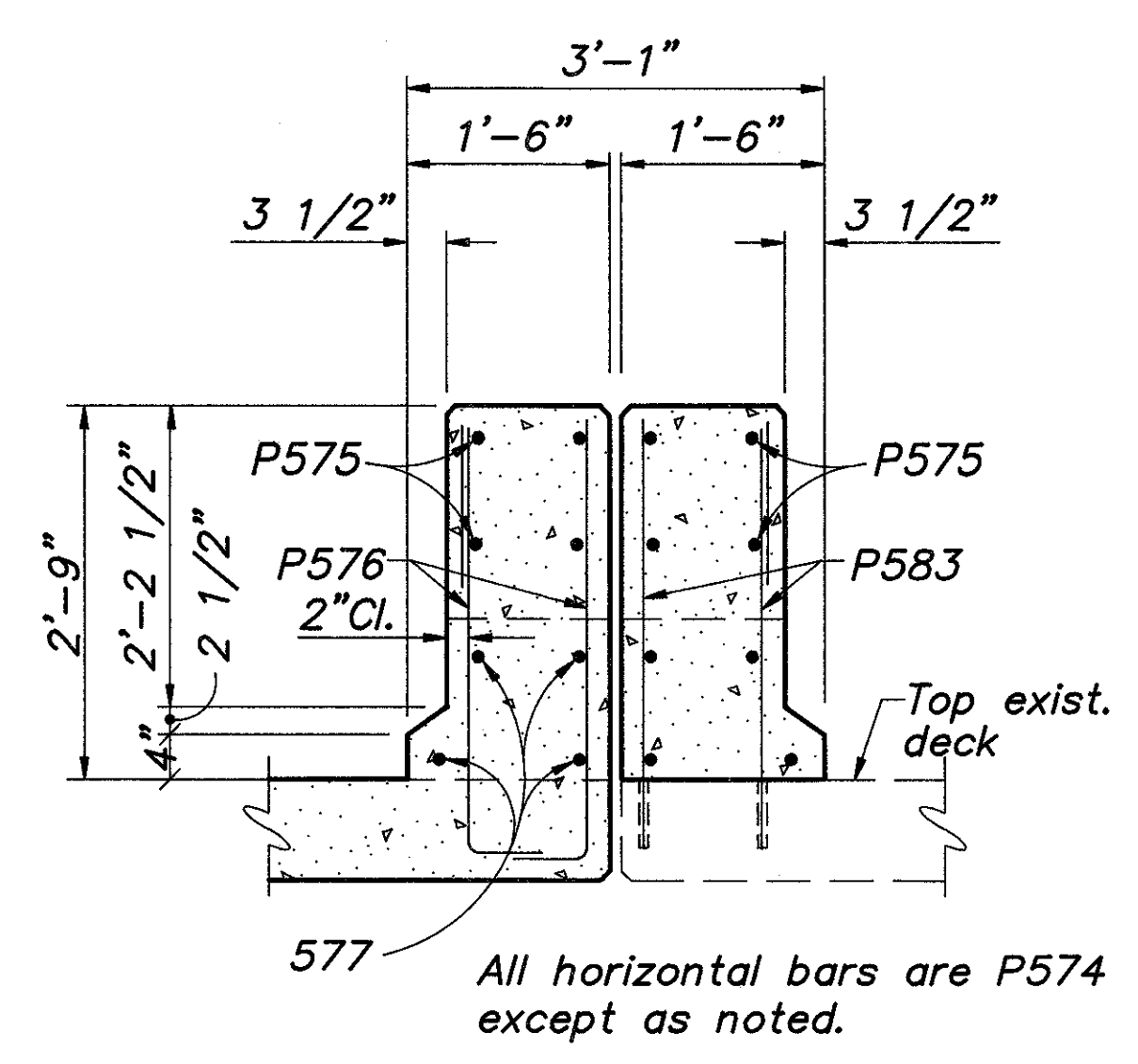
**DEFLECTION JOINT DETAIL**



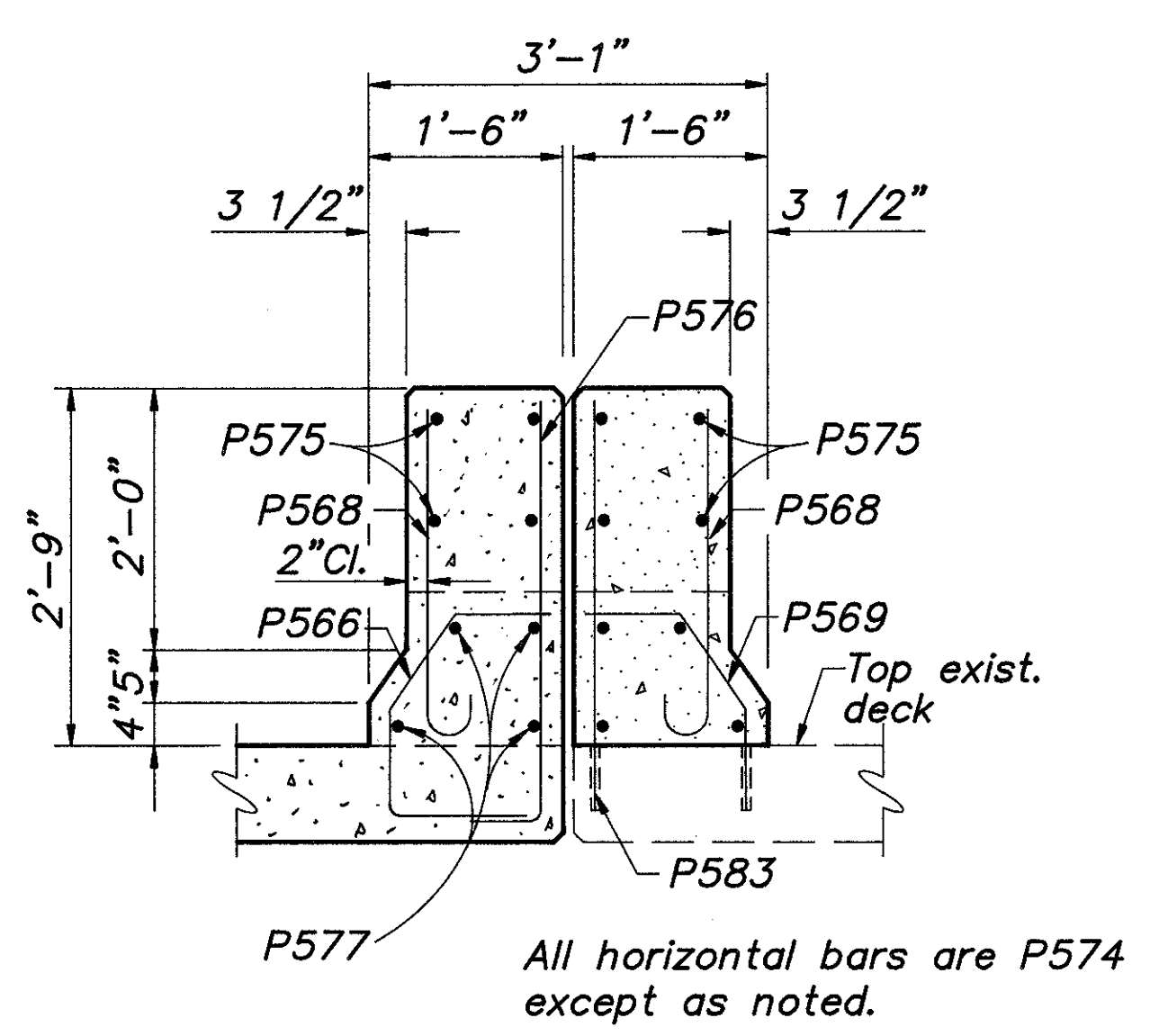
**VIEW F-F**



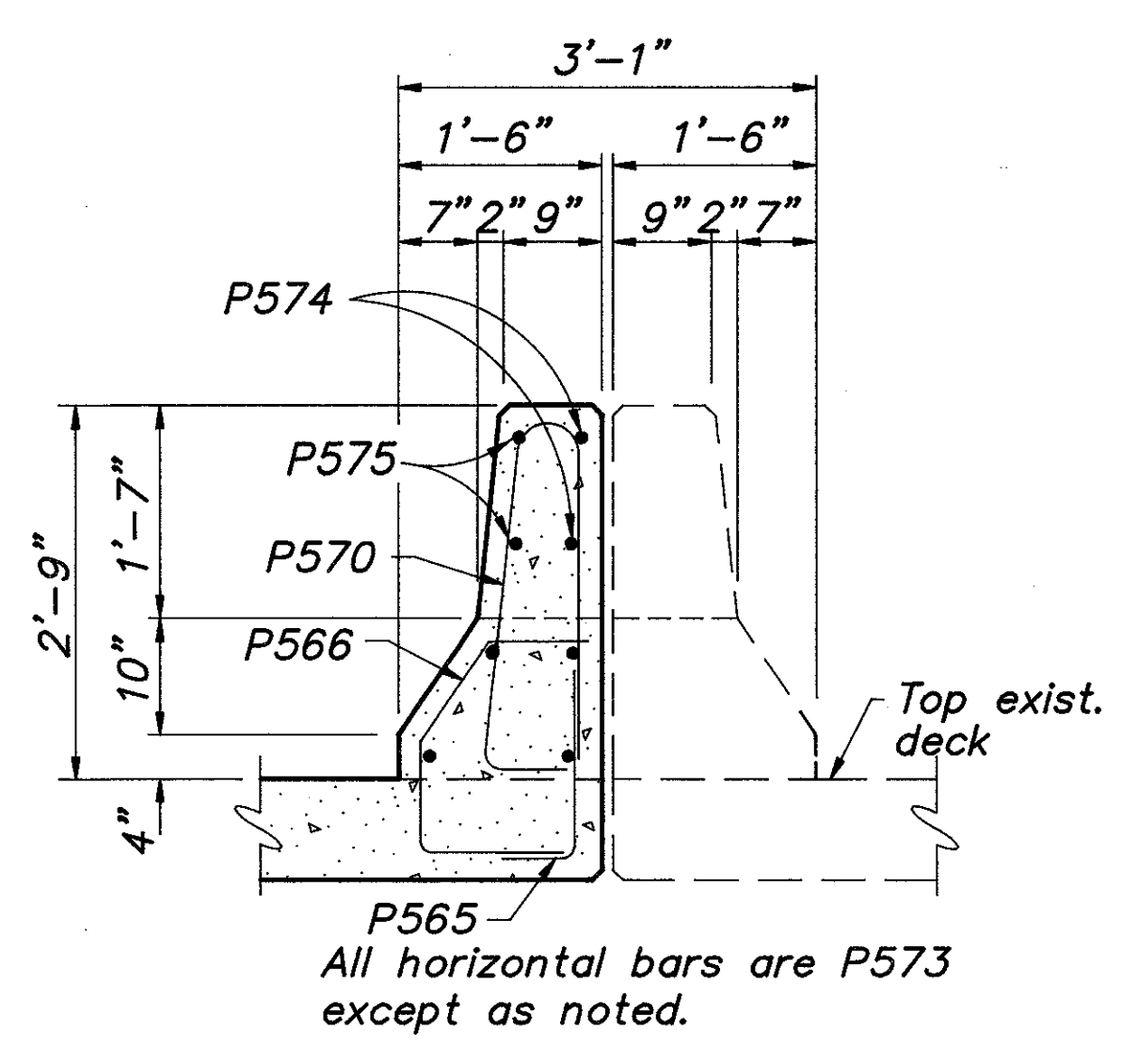
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



**SECTION D-D**

NOTE:  
For location of DETAIL B,  
see sheet **25/30**.

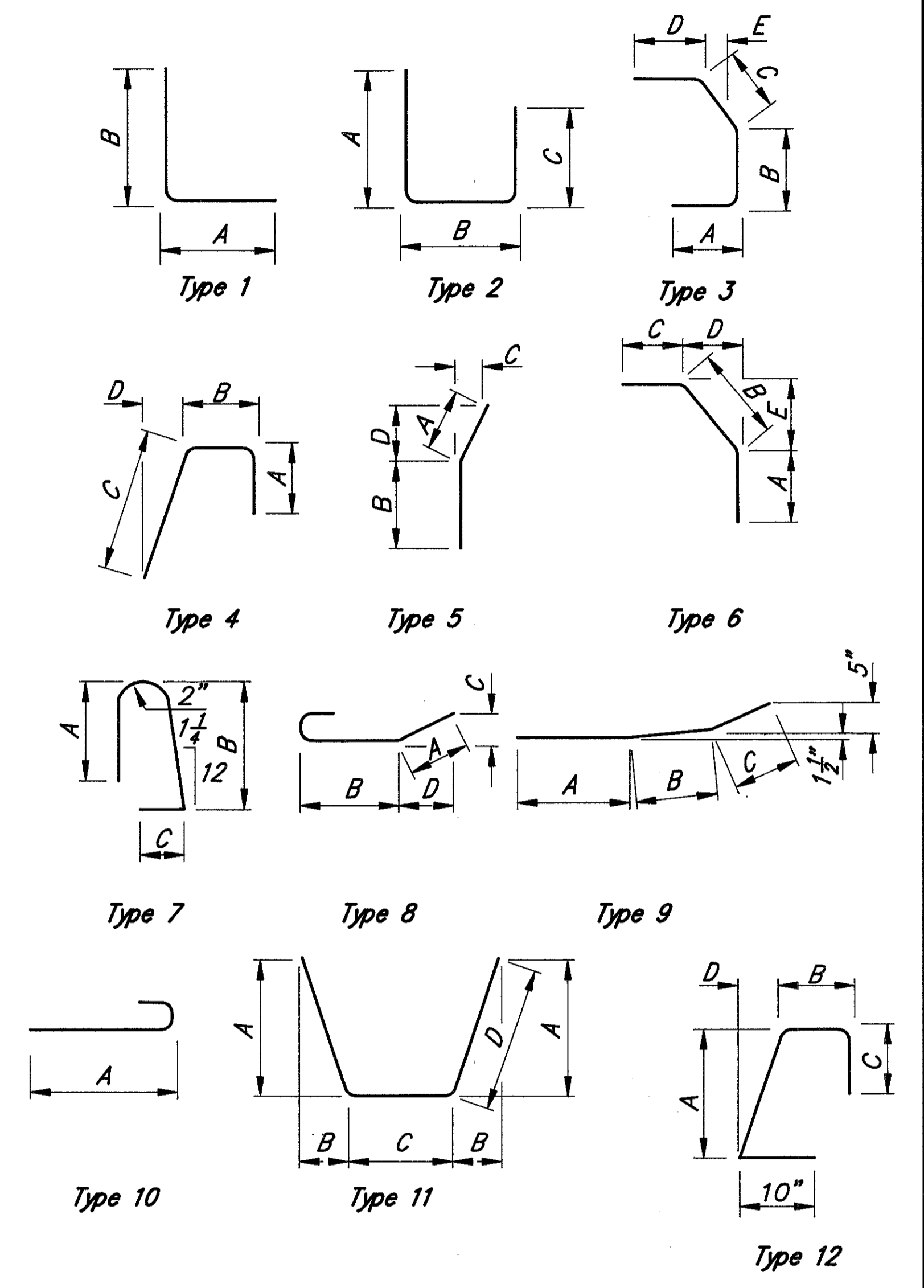
BALKE ENGINEERS 28/30 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					
PARAPET DETAILS BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

### REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	LEFT BRIDGE	RIGHT BRIDGE
F801	59	4'-0	630	8	1'-5	2'-7	1'-0	1'-0		30	29
F601	86	8'-1	1044	2	6'-4	1'-4	0'-9			44	42
F602	6	9'-3	83	2	7'-6	1'-4	0'-9			6	-
F603	18	9'-4	252	Str.						6	12
F501	86	5'-3"	471	Str.						44	42
F502	86	6'-0	538	2	2'-9	0'-9	2'-9			44	42
F503	6	6'-0	38	Str.						6	-
F504	13	23'-9	322	Str.						13	-
F505	13	28'-8	389	Str.						13	-
F506	3	5'-9	18	Str.						3	-
F507	18	3'-11	74	1	2'-0	2'-0				6	12
F508	2	3'-3	7	1	0'-10	2'-6				2	-
F509	2	3'-9	8	4	0'-10	1'-3	1'-9	1'-5 1/4		2	-
F510	2	5'-11	12	4	2'-5	1'-2	2'-5	0'-3		2	-
F511	6	0'-11	6	Str.						6	-
F512	18	6'-3	117	Str.						6	12
F513	60	5'-0	313	Str.						20	40
F514	18	3'-3	61	1	0'-10	2'-6				6	12
F515	18	3'-9	70	4	0'-10	1'-3	1'-9	1'-5 1/4		6	12
F516	18	6'-1	114	4	2'-5	1'-5	2'-5	0'-3		6	12
F517	13	28'-6	386	Str.						-	13
F518	13	18'-5	250	Str.						-	13
P701	106	5'-1	1101	Str.						106	-
P702	106	5'-6	1192	Str.						106	-
P703	40	30'-0	2453	Str.						40	-
P704	20	16'-7	678	Str.						20	-
P601	12	24'-8	445	Str.						-	12
P602	36	27'-6	1487	Str.						36	-
P603	24	28'-6	1027	Str.						-	24
P604	24	28'-4	1021	Str.						24	-
P605	24	24'-7	886	Str.						-	24
P606	6	29'-6	266	Str.						-	6
P607	6	27'-6	248	Str.						6	-
P608	6	28'-6	257	Str.						6	-
P609	36	30'-8	1658	Str.						-	36
P610	24	33'-6	1208	Str.						24	-
P611	6	30'-3	273	Str.						-	6
P612	12	7'-9"	140	Str.						12	-
P501	3047	3'-11	12447	4	0'-9	1'-0	2'-5	0'-3		1216	1831
P502	3047	2'-3	7151	5	1'-5	0'-10	0'-10	1'-2		1216	1831
P503	5	21'-1	110	Str.						5	-
P504	50	15'-10	826	Str.						25	25
P505	10	13'-1	136	Str.						10	-
P506	25	13'-6	352	Str.						15	10
P507	195	16'-4	3322	Str.						80	115
P508	20	19'-6	406	Str.						10	10
P509	15	13'-2	206	Str.						10	5
P510	20	22'-4	465	Str.						15	5
P511	15	14'-4	224	Str.						15	-
P512	100	16'-10	1756	Str.						95	5
P513	5	12'-7	66	Str.						-	5
P514	10	12'-10	134	Str.						5	5
P515	5	13'-4	70	Str.						5	-
P516	10	20'-6	214	Str.						5	5
P517	105	14'-10	1624	Str.						105	-
P518	5	17'-8	92	Str.						5	-
P519	80	16'-0	1335	Str.						-	80
P520	10	20'-11	218	Str.						-	10
P521	5	19'-1	100	Str.						-	5
P522	5	10'-11	57	Str.						-	5
P523	10	13'-11	146	Str.						5	5
P524	5	18'-0	94	Str.						-	5
P525	5	21'-6	112	Str.						-	5
P526	5	18'-11	99	Str.						-	5
P527	10	11'-10	123	Str.						-	10
P528	5	10'-8	56	Str.						-	5
P529	5	13'-10	72	Str.						-	5

### REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	LEFT BRIDGE	RIGHT BRIDGE
P530	5	14'-8	76	Str.						-	5
P531	10	19'-9	206	Str.						5	5
P532	15	21'-8	339	Str.						10	5
P533	5	14'-6	76	Str.						-	5
P534	140	17'-0	2482	Str.						60	80
P535	5	20'-4	106	Str.						-	5
P536	5	16'-8	87	Str.						-	5
P537	10	11'-8	122	Str.						5	5
P538	10	20'-0	209	Str.						-	10
P539	5	10'-8	56	Str.						-	5
P540	5	23'-4	122	Str.						-	5
P541	5	22'-11	120	Str.						-	5
P542	10	20'-2	210	Str.						10	-
P543	105	16'-6	1807	Str.						50	55
P544	5	26'-8	139	Str.						5	-
P545	5	13'-4	70	Str.						5	-
P546	5	18'-8	97	Str.						5	-
P547	5	21'-8	113	Str.						5	-
P548	5	19'-8	103	Str.						5	-
P549	5	16'-8	87	Str.						5	-
P550	5	15'-8	82	Str.						5	-
P551	10	15'-6	162	Str.						10	-
P552	5	19'-11	104	Str.						5	-
P553	10	14'-0	146	Str.						10	-
P554	10	22'-1	230	Str.						-	10
P555	10	15'-2	158	Str.						-	10
P556	65	14'-2	960	Str.						-	65
P557	5	11'-7	60	Str.						-	5
P558	5	12'-4	64	Str.						-	5
P559	5	26'-2	136	Str.						-	5
P560	5	21'-11	114	Str.						-	5
P561	5	30'-5	159	Str.						-	5
P562	10	18'-6	193	Str.						-	10
P563	5	19'-4	101	Str.						-	5
P564	5	22'-6	117	Str.						-	5
P565	121	2'-5	304	1	0'-10	1'-8				97	24
P566	129	3'-1	415	3	0'-10	0'-10	0'-10	0'-9	0'-6	105	24
P567	73	6'-0	457	12	2'-6	1'-4	2'-6	0'-2		49	24
P568	32	3'-1	103	10	2'-6					24	8
P569	47	2'-4	115	6	0'-10	0'-10 1/2	0'-8	0'-6	0'-8 1/2	27	20
P570	71	5'-3	389	7	2'-2	2'-5	0'-7 1/2			59	12
P571	8	2'-3	18	1	1'-2	1'-2				4	4
P572	16	9'-5	158	Str.						8	8
P573	8	30'-0	250	Str.						8	-
P574	8	13'-8	114	Str.						8	-
P575	4	13'-8	57	9	9'-11	2'-4	1'-5			4	-
P576	12	4'-0	50	1	0'-10	3'-3				12	-
P577	4	12'-8	53	Str.						4	-
P578	32	6'-8	223	Str.						32	-
P579	2	3'-8	8	Str.						-	2
P580	2	2'-2	5	Str.						-	2
P581	3	3'-9	12	11	0'-8 3/4	0'-1 3/4	2'-4	0'-8 1/2		-	3
P582	23	1'-6	36	Str.						11	12
P583	36	3'-1	116	Str.						24	12
P584	2	20'-4	42	9	16'-7	2'-4	1'-5			-	2
P585	6	20'-4	127	Str.						-	6
P586	6	19'-8	123	Str.						6	-
P587	2	19'-8	41	9	15'-11	2'-4	1'-5			2	-
P588	6	24'-8	154	Str.						6	-
P589	292	30'-0	9136	Str.						136	156
P590	4	15'-5	64	Str.						-	4
P591	4	20'-9	87	Str.						-	4
P592	4	22'-11	96	Str.						4	-
P593	2	25'-4	53	Str.						2	-
P594	6	10'-9	67	Str.						4	2
P595	4	3'-10	16	Str.						4	-
P596	2	18'-0	38	Str.						2	-
P597	2	5'-8	12	Str.						-	2
P598	2	6'-10	14	Str.						-	2



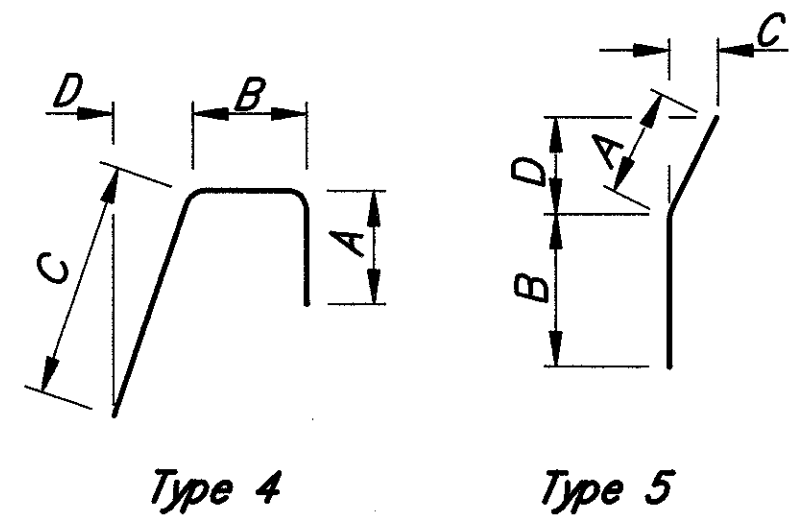
- NOTES**
1. REINFORCING STEEL SAMPLES: REFER TO CMS SECTION 106.03, 700, 709.01 THRU. 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY ADDITIONAL STEEL SPLICED IN ACCORDANCE WITH 509.08.
  2. ALL DIMENSIONS ARE OUT TO OUT OF BAR.
  3. ALL BARS ARE TO BE EPOXY COATED.

BALKE ENGINEERS 29/30  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

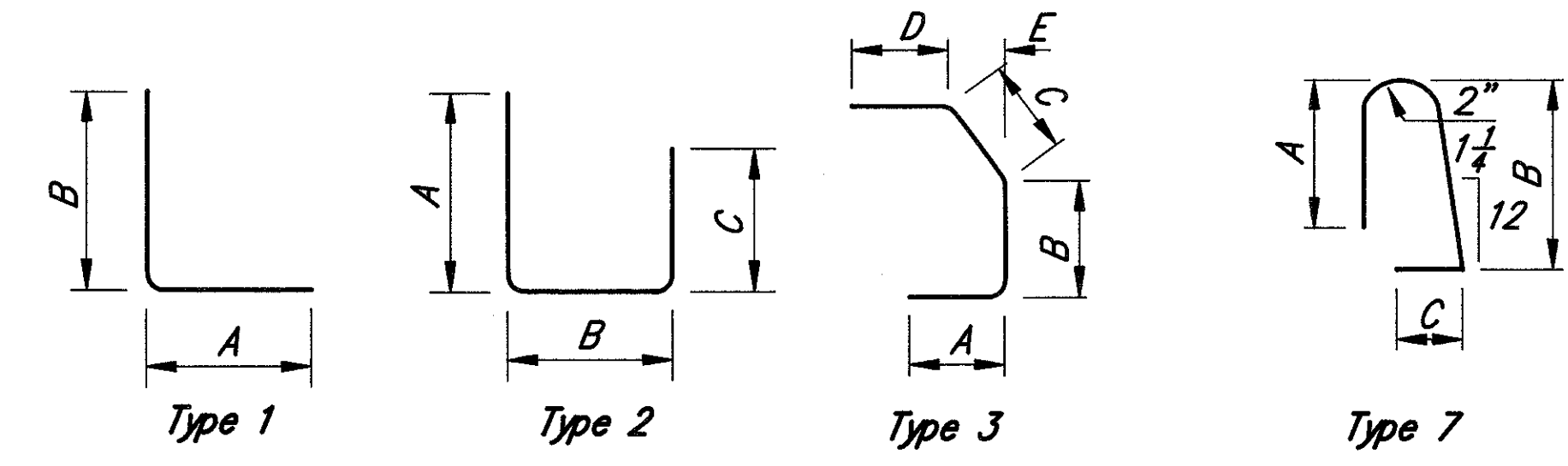
**REINFORCING STEEL LIST**  
BRIDGE NO. HAM-50-19.36 R & L  
SIXTH STREET EXPRESSWAY  
OVER RR AND MILL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

RETAINING WALL NO. 2 REINFORCING STEEL LIST									
MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E
Z501	192	2'-9	551	5	1'-5	1'-4	0'-9 <sup>7</sup> / <sub>8</sub>	1'-1 <sup>7</sup> / <sub>8</sub>	
Z502	192	4'-0	801	4	0'-9	1'-0	2'-6	0'-3 <sup>1</sup> / <sub>8</sub>	
Z503	24	27'-6	688	Str.					
Z504	4	23'-6	98	Str.					



ABUTMENT W REINFORCING STEEL LIST									
MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E
H601	49	6'-4	466	Str.					
H501	49	5'-6	281	Str.					
H502	49	3'-2	162	2	1'-6	0'-5	1'-6		
H503	8	13'-9	115	Str.					
H504	8	18'-6	154	Str.					
H505	8	15'-0	125	Str.					
H506	2	2'-3	5	1	0'-10	1'-6			
H507	2	3'-3	7	3	0'-10	1'-0	0'-10 <sup>3</sup> / <sub>8</sub>	0'-9	0'-6
H508	2	2'-6	5	1	0'-10	1'-9			
H509	2	5'-3	11	7	2'-2	2'-5	0'-7 <sup>1</sup> / <sub>2</sub>		



**NOTES**

- REINFORCING STEEL SAMPLES: REFER TO CMS SECTION 106.03, 700, 709.01 THRU. 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY ADDITIONAL STEEL SPLICED IN ACCORDANCE WITH 509.08.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR.
- ALL BARS ARE TO BE EPOXY COATED.

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237						30/30
<b>REINFORCING STEEL LIST</b>						
BRIDGE NO. HAM-50-1936 R & L SIXTH STREET EXPRESSWAY OVER RR AND MILL CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DWI	CRS 4/92		

**GENERAL NOTES**

STANDARD DRAWINGS

Reference shall be made to the following Standard Drawings:  
VPF-1-90 Dated 9-26-90

SCOPE OF WORK

- The scope of work to be performed includes:
1. Add Vandal Protection Fence.
  2. Seal Concrete Surfaces as noted on plans.
  3. Clean and paint the structural steel.

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/or 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. It is the intent of these plans that the proposed additions to these structures match existing conditions. The contractor is referred to CMS sections 102.05 and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described in the preceding paragraph 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.

MAINTENANCE OF TRAFFIC

For maintenance of traffic on Sixth Street Expressway, see highway drawings.

PLANS FOR EXISTING BRIDGE

Plans of the existing structure are available for reference at the City of Cincinnati Engineer's Office and the ODOT District Eight office.

SEALING OF CONCRETE SURFACES

The steps, landings, and bridge concrete shall be sealed with an epoxy or non-epoxy sealer. Also seal sides and ends of piers with epoxy sealer. See the proposal note for details.

ITEM 516: REFURBISH BEARING DEVICE

This item shall include all work necessary to clean and paint sliding expansion bearings at north and south piers. Included shall be:

1. Disassembly of bearings.
2. Hand cleaning (grinding if required).
3. Sandblasting and painting as required by field painting of existing steel, system OZEU, proposal note.
4. Replacement of any damaged sheet lead (711.19). Preformed bearing pads 1/8" thick, meeting the requirements of 711.21, may be substituted for the sheet lead.
5. Installation of any necessary 1/8" thick steel shims of the same size as the bearings to provide a snug fit.
6. Reassembly of the bearings.

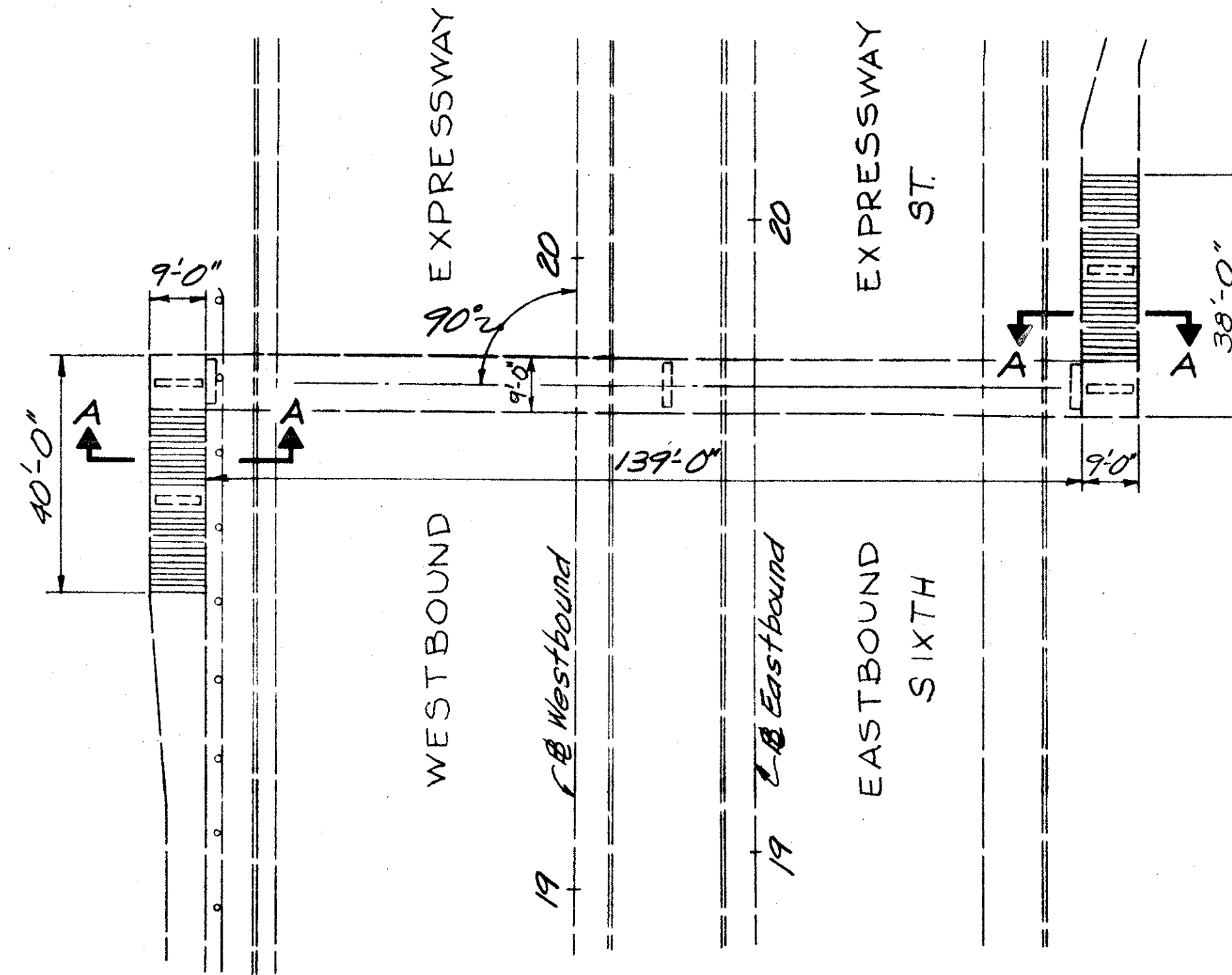
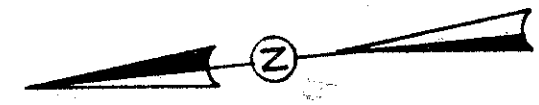
At the option of the Contractor and at no additional cost to the state, new bearings of the same type as the existing may be installed in place of the refurbished bearings. All work shall be to the satisfaction of the Project Engineer. Payment for all the above described labor and materials will be made at the contract price bid for Item 516: Refurbish Bearing Device.

ITEM 516: JACKING & TEMPORARY SUPPORT OF SUPERSTRUCTURE

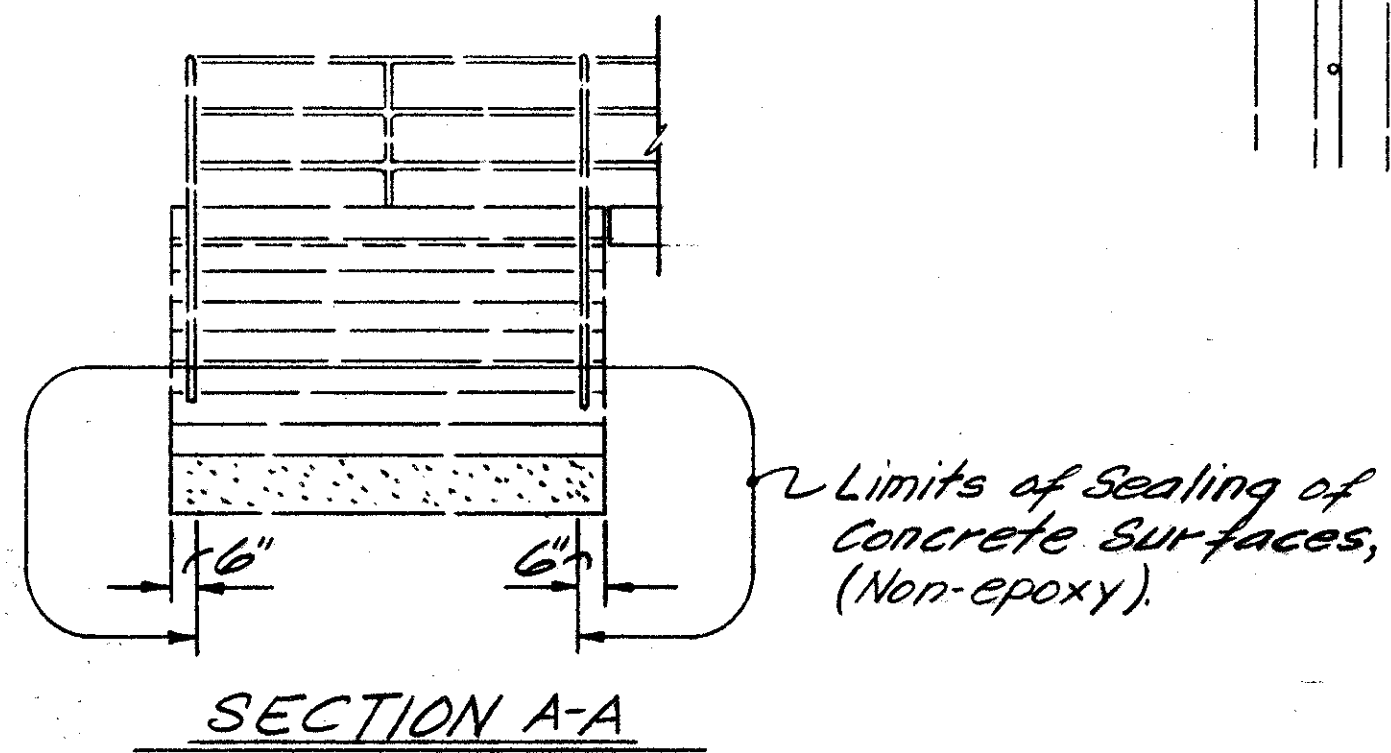
The ends of the beams of the north and south pier shall be jacked and the beams supported so bearing may be removed. Prior to jacking, the Contractor shall submit his jacking plan to the Engineer for approval.

ITEM 516: RESET BEARINGS

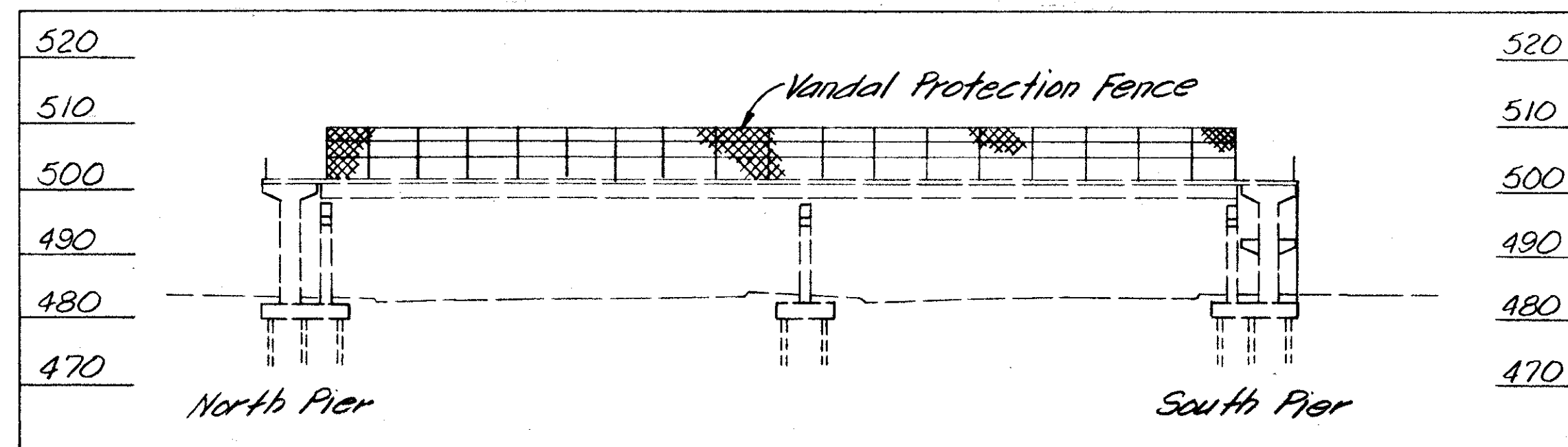
Refurbished bearings shall be reset to be centered at 60°F.



PLAN



Limits of Sealing of Concrete Surfaces, (Non-epoxy).



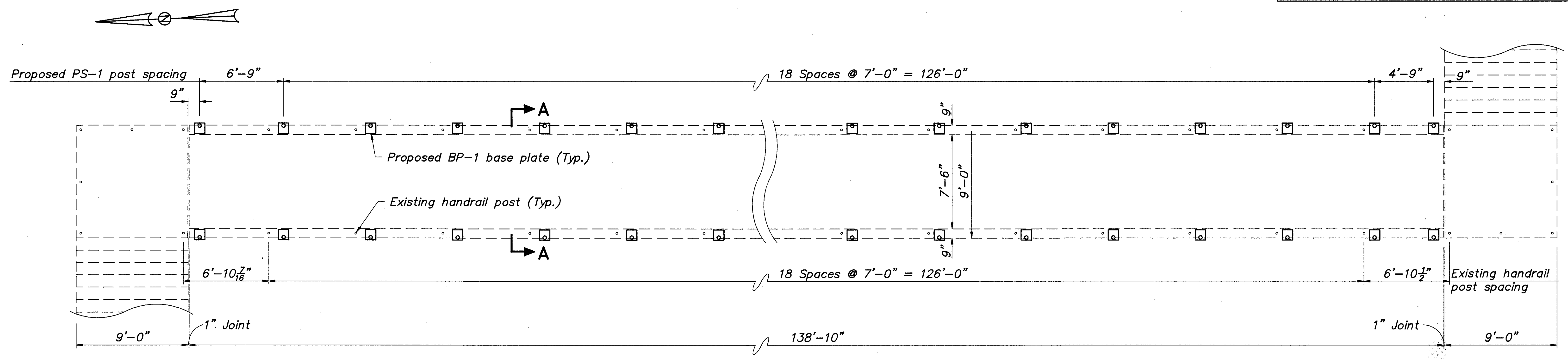
ELEVATION

BALKE ENGINEERS  
1848 SUMMIT RD.  
CINCINNATI, OHIO 45237

GENERAL PLAN

BRIDGE NO. HAM-50-1971  
PEDESTRIAN BRIDGE OVER  
SIXTH ST. EXPRESSWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	



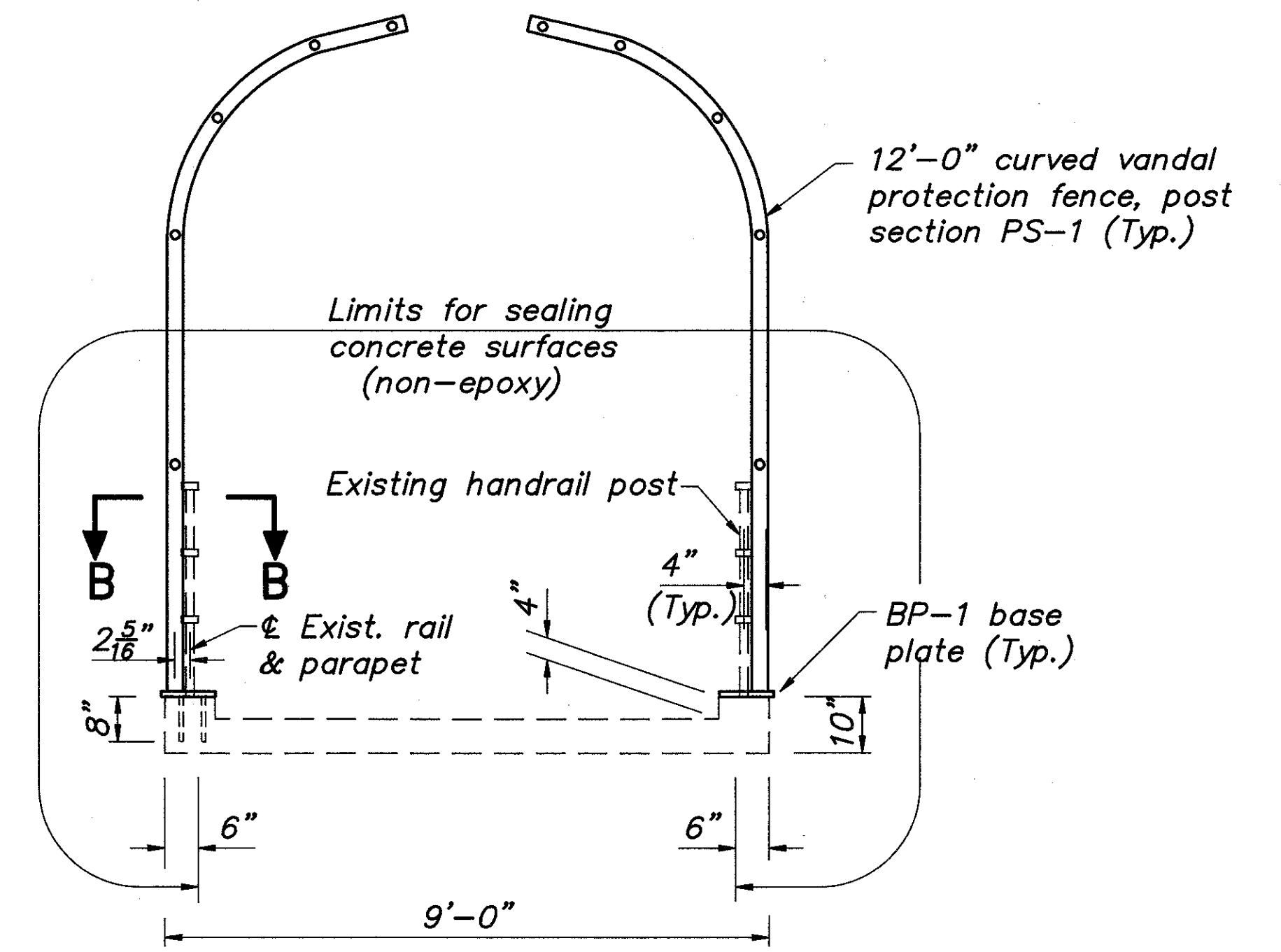
### DECK PLAN

ESTIMATED QUANTITIES						
ITEM	CODE	TOTAL	UNIT	DESCRIPTION	SUPERST.	GENERAL
SPECIAL	51267502	93	Sq. Yd.	Sealing of concrete surfaces (epoxy) *		93
SPECIAL	51267504	331	Sq. Yd.	Sealing of concrete surfaces (non-epoxy) *	331	
SPECIAL	51400050	2575	Sq. Ft.	Surface preparation of existing steel, system OZEU *	2575	
SPECIAL	51400056	2575	Sq. Ft.	Field painting of existing steel, prime coat, system OZEU *	2575	
SPECIAL	51400060	2575	Sq. Ft.	Field painting of existing steel, intermediate coat, system OZEU *	2575	
SPECIAL	51400066	2575	Sq. Ft.	Field painting of existing steel, finish coat, System OZEU *	2575	
516	45304	4	Each	Refurbish bearing device	4	
516	46700	4	Each	Reset bearing	4	
516	47000	L.S.	Lump Sum	Jacking and temporary support of superstructure	L.S.	
SPECIAL	60739930	275	Lin. Ft.	Vandal protection fence, 12' curved, coated fabric	275	

ESTIMATED QUANTITIES CALCULATED BY : MRS DATE : 11/91

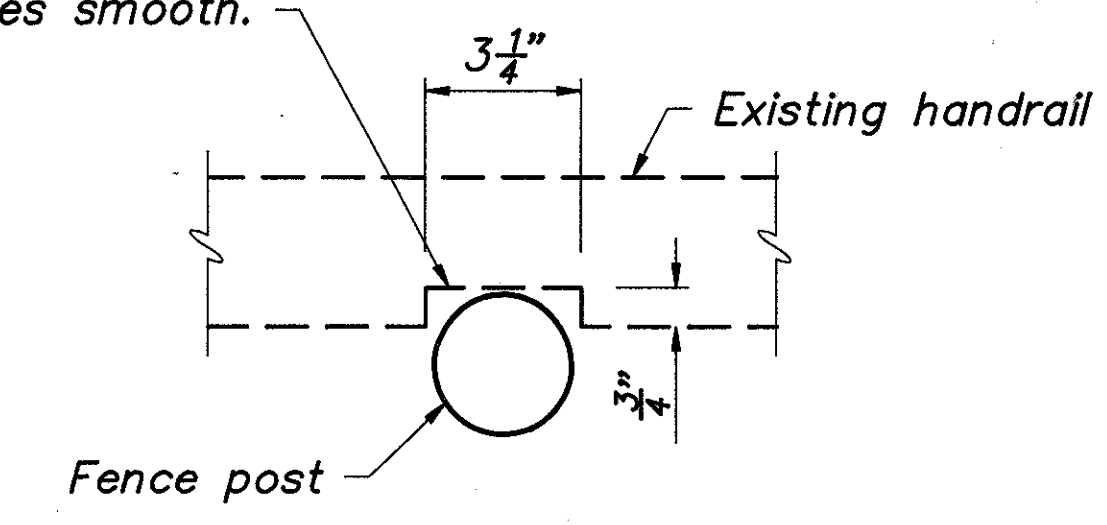
CHECKED BY : EHC DATE : 1/92

\* See Proposal Note  
Contact Principal Structural Design Engineer at City of Cincinnati to determine color of material to be used on the project.



### SECTION A-A

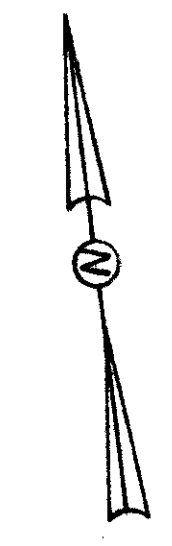
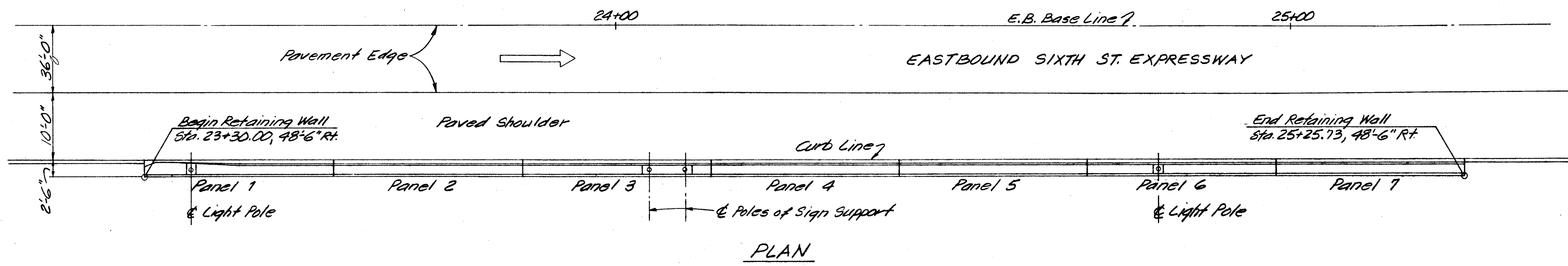
Notch handrails to clear fence posts. After cutting grind edges smooth.



### SECTION B-B

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237						2 / 2
VANDAL PROTECTION FENCE BRIDGE NO. HAM-50-1971 PEDESTRIAN BRIDGE OVER SIXTH. ST. EXPRESSWAY						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DWI	CRS 4/92		



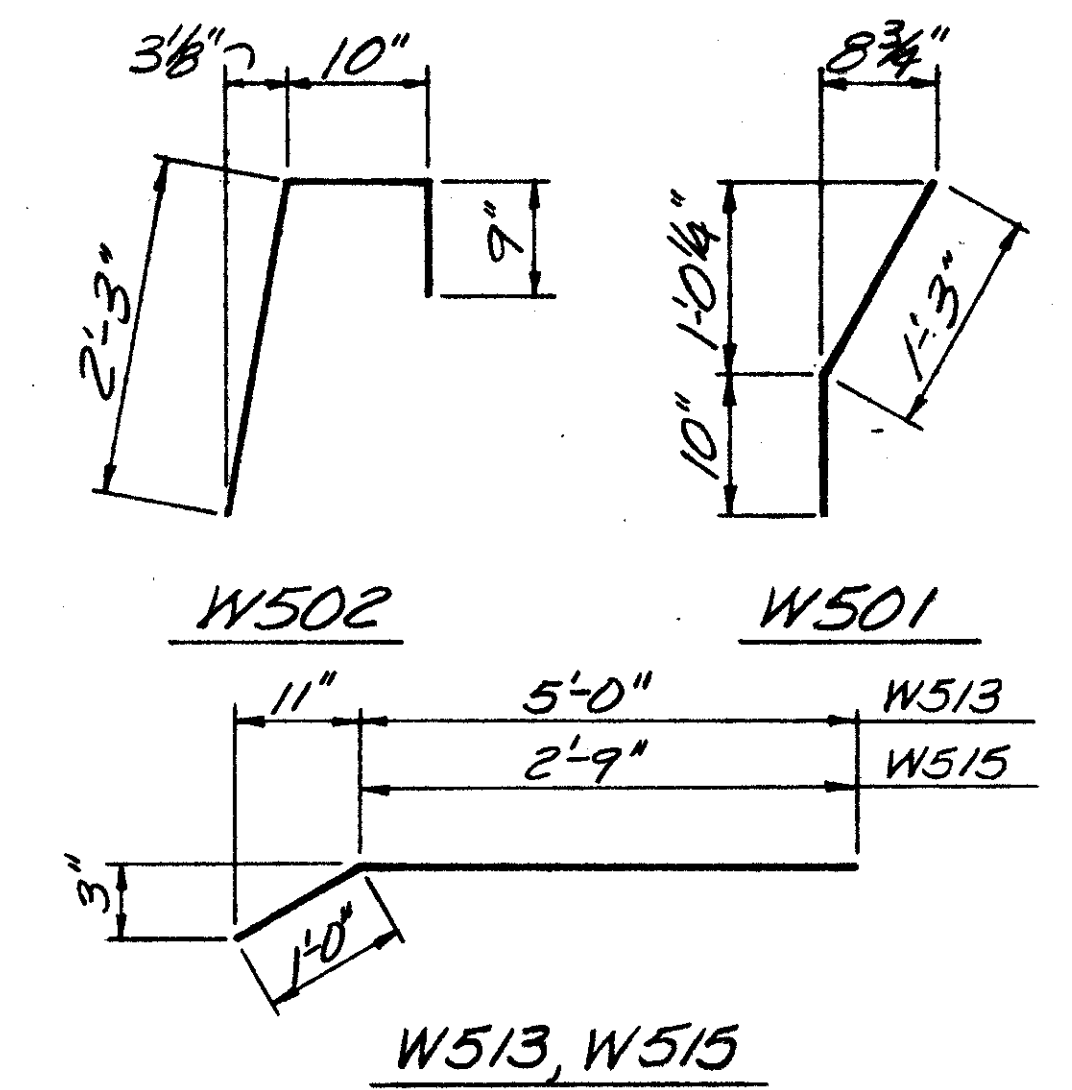


PLAN

ESTIMATED QUANTITIES				
ITEM	CODE	TOTAL	UNIT	DESCRIPTION
202	11202	L.S.	Lump Sum	Portions of structures removed
509	15800	1974	Lbs.	Epoxy coated reinforcing steel, grade 60
510	12200	196	Lin. Ft.	Dowel hole
511	45700	21	Cu. Yd.	Class C concrete, retaining wall, (repair or reconstruction)
SPECIAL	51267500	150	Sq. Yd.	Sealing of concrete surfaces (see proposal note)

Estimated quantities calculated by: MRS Date: 3/93  
checked by: WJH Date: 3/93

STEEL LIST				
MARK	NO.	LENGTH	WEIGHT	SHAPE
W501	191	2'-1"	415	B
W502	181	3'-9"	708	B
W503	10	2'-1"	22	S
W504	2	23'-9"	50	S
W505	20	20'-0"	42	S
W506	20	27'-8"	577	S
W507	2	4'-0"	8	S
W508	2	17'-5"	36	S
W509	2	2'-6"	5	S
W510	1	9'-0"	9	S
W511	2	9'-5"	20	S
W512	2	16'-6"	34	S
W513	1	6'-0"	6	B
W514	1	5'-10"	6	S
W515	1	3'-9"	4	B
W516	3	3'-9"	12	S
W517	6	3'-3"	20	S
		Total:	1974#	



STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS  
Reference shall be made to supplemental specifications:  
836 Dated 11-12-85  
852 Dated 12-14-88

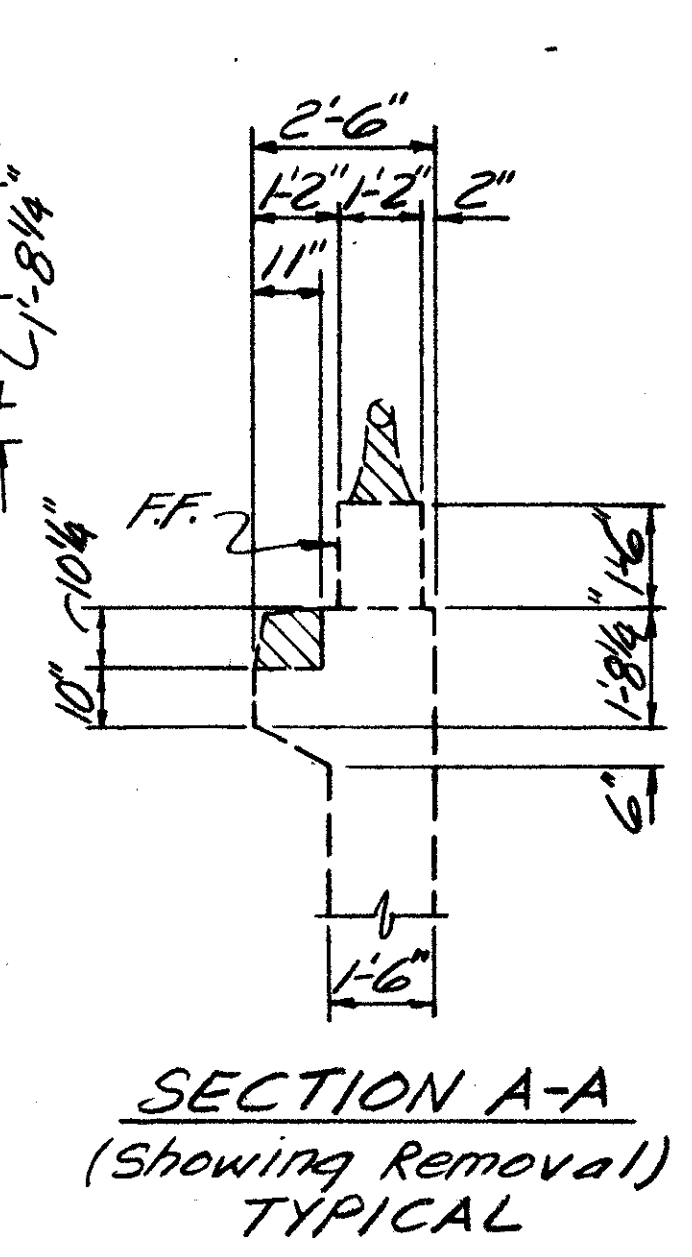
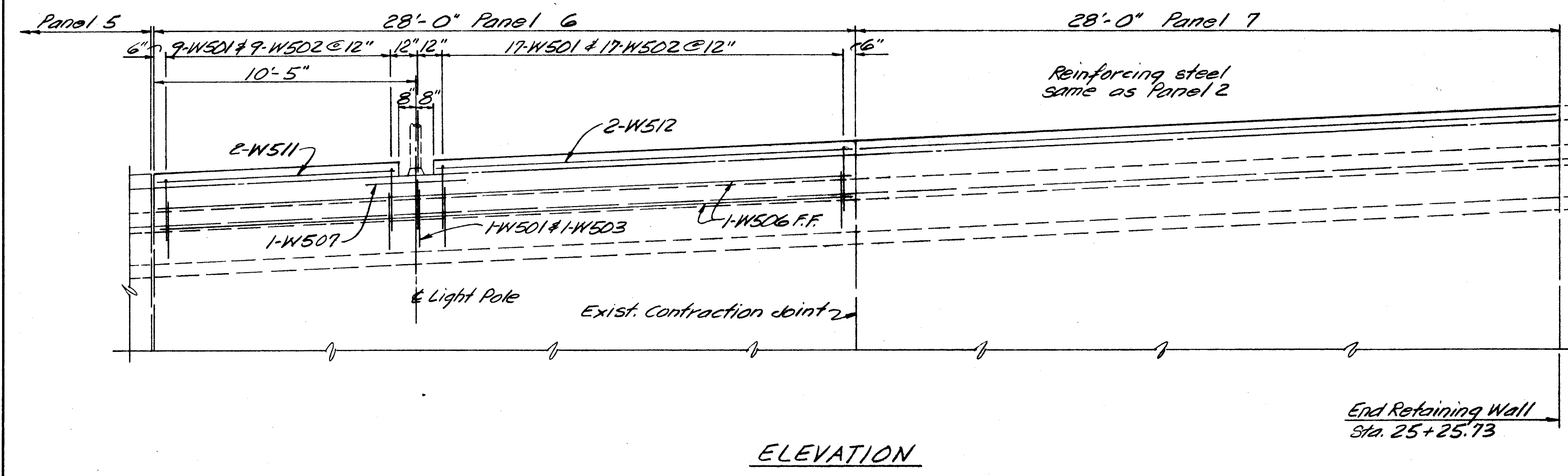
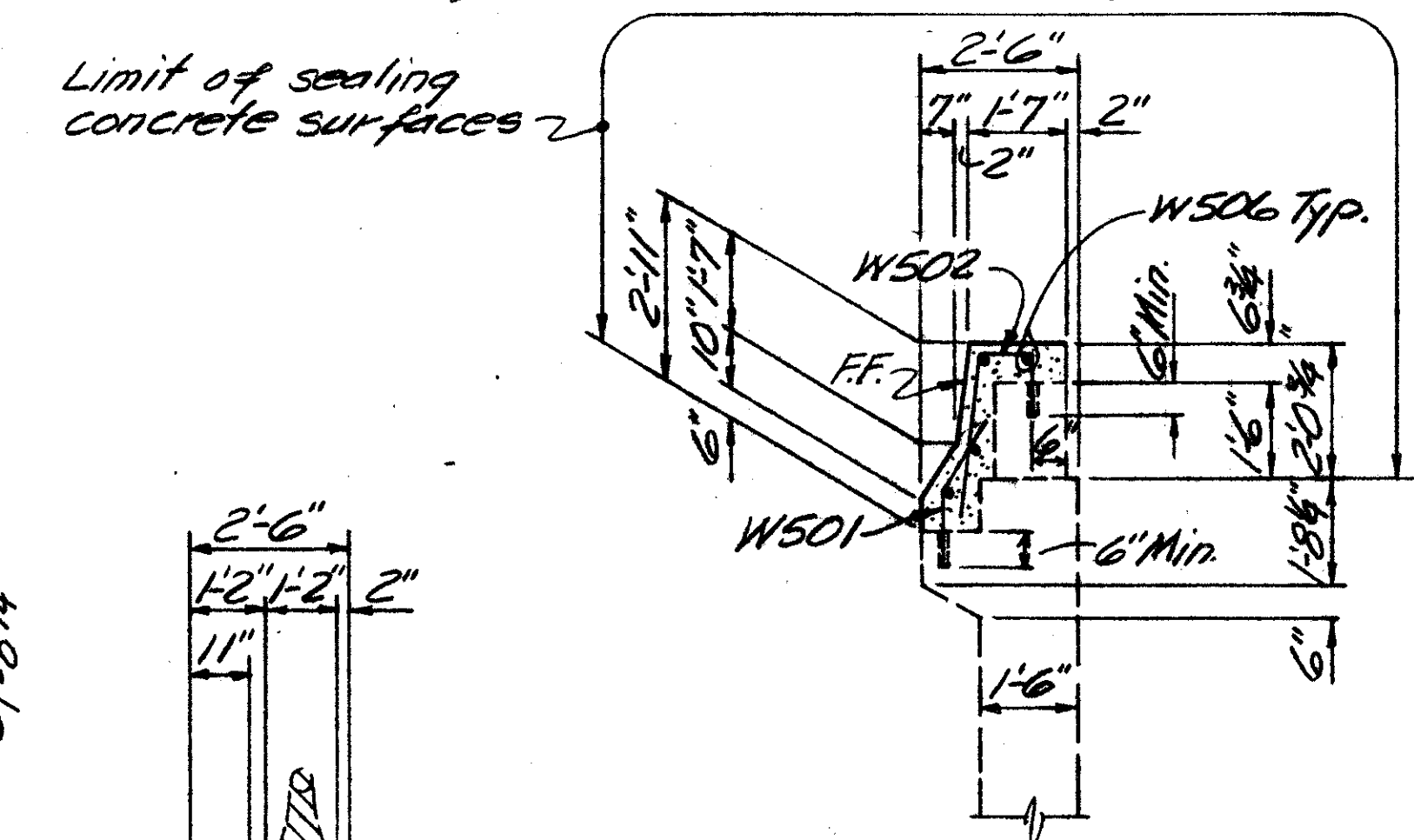
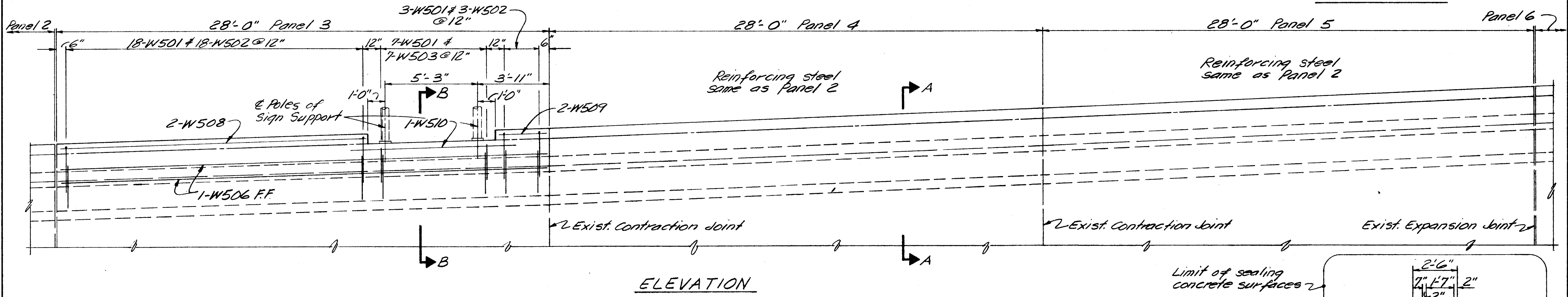
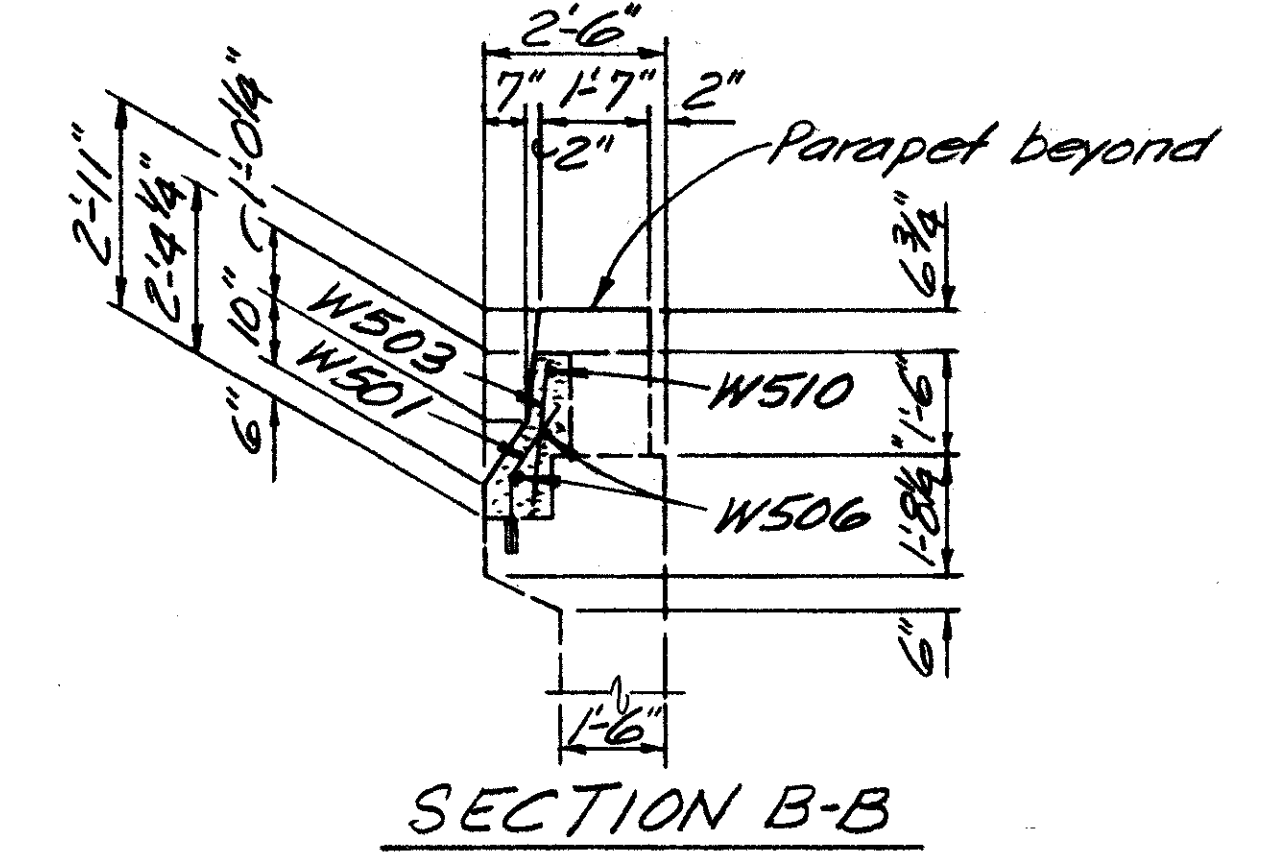
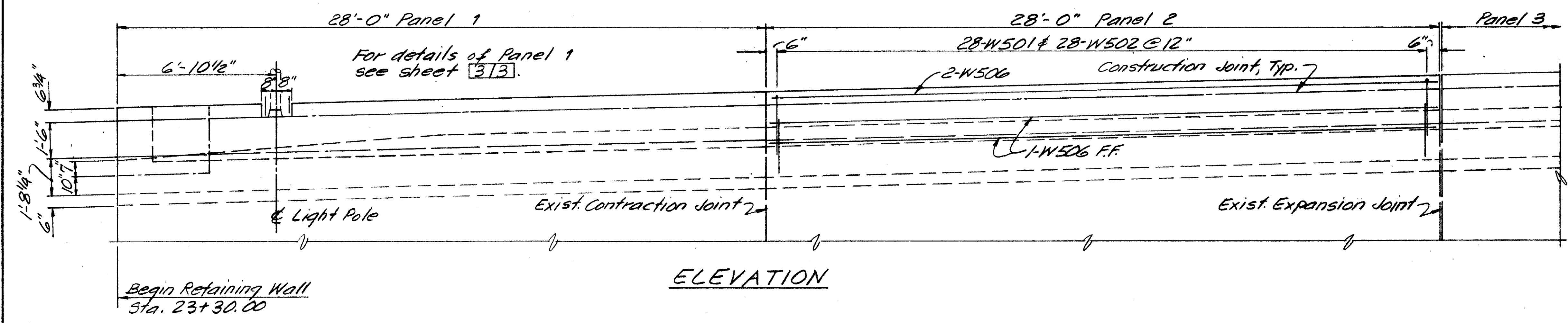
SCOPE OF WORK  
The scope of work to be performed shall be executed in stages as shown and includes:  
1. Retrofit railing, as indicated on plans.  
2. Seal railing

ITEM 510  
Dowel holes shall be drilled and grouted per Supplemental Specifications 852 and CMS 705.20.

SEALING OF CONCRETE SURFACES  
Portions of the structure shall be sealed as noted below. See the proposal note for application rates and materials. City of Cincinnati Principal Structural Design Engineer shall be contacted to determine color of sealer to be used.  
1. Parapets shall be sealed as shown on sheet 213 with an epoxy or non-epoxy sealer.

For additional notes, see Bridge Ham-50-1986 R & L, sheet 212.

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237					113
RETAINING WALL NO. 5 6TH STREET EXPRESSWAY EASTBOUND					
STA. 23+30.00 TO STA. 25+25.73					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	VDG	CRS	



End Retaining Wall  
Sta. 25+25.73

2/3

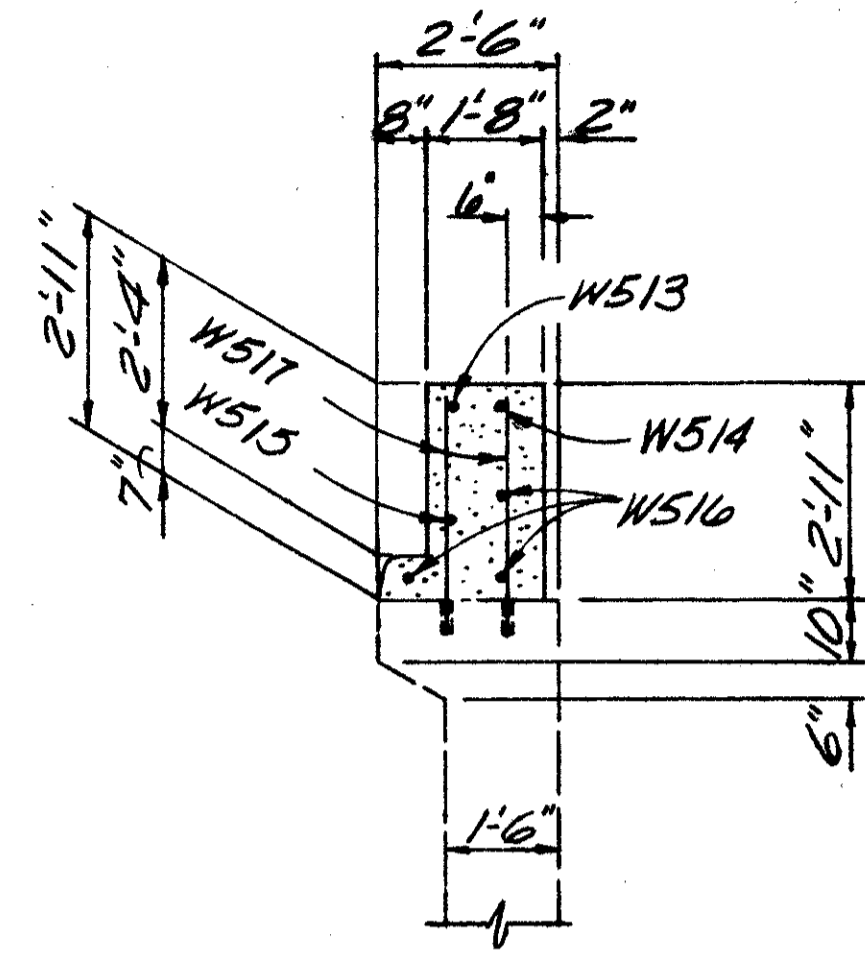
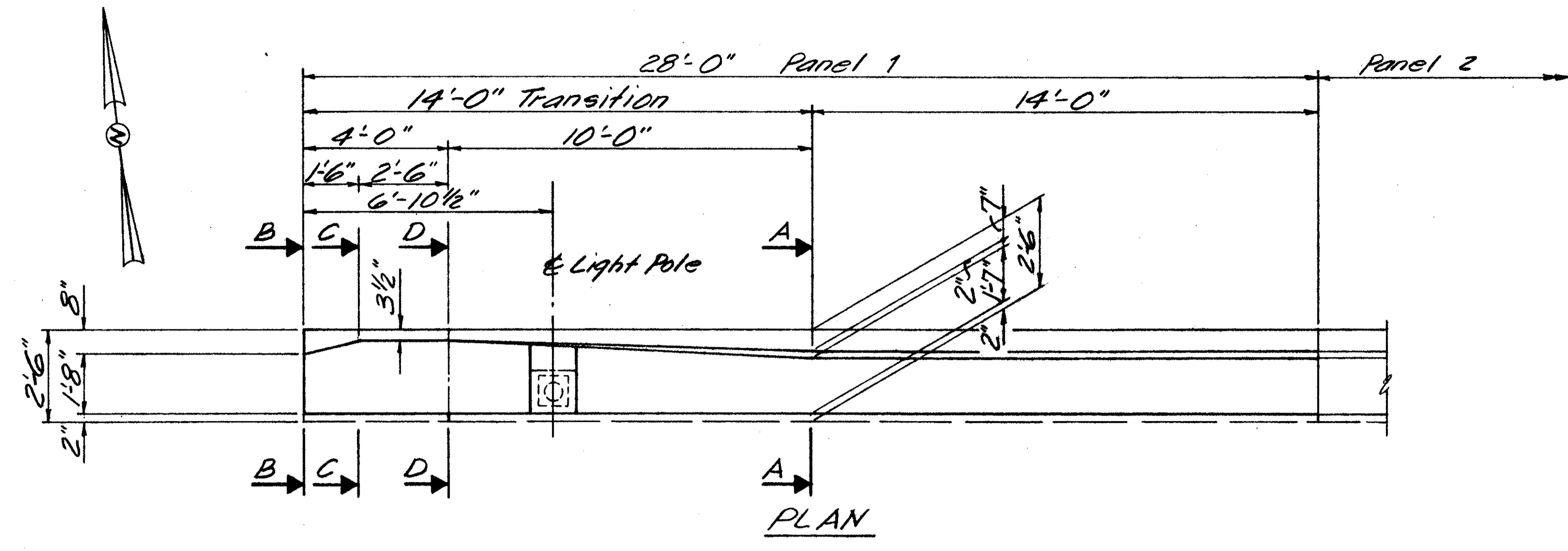
BALKE ENGINEERS  
1848 SUMMIT RD.  
CINCINNATI, OHIO 45237

RETAINING WALL NO. 5  
6TH STREET EXPRESSWAY  
EASTBOUND

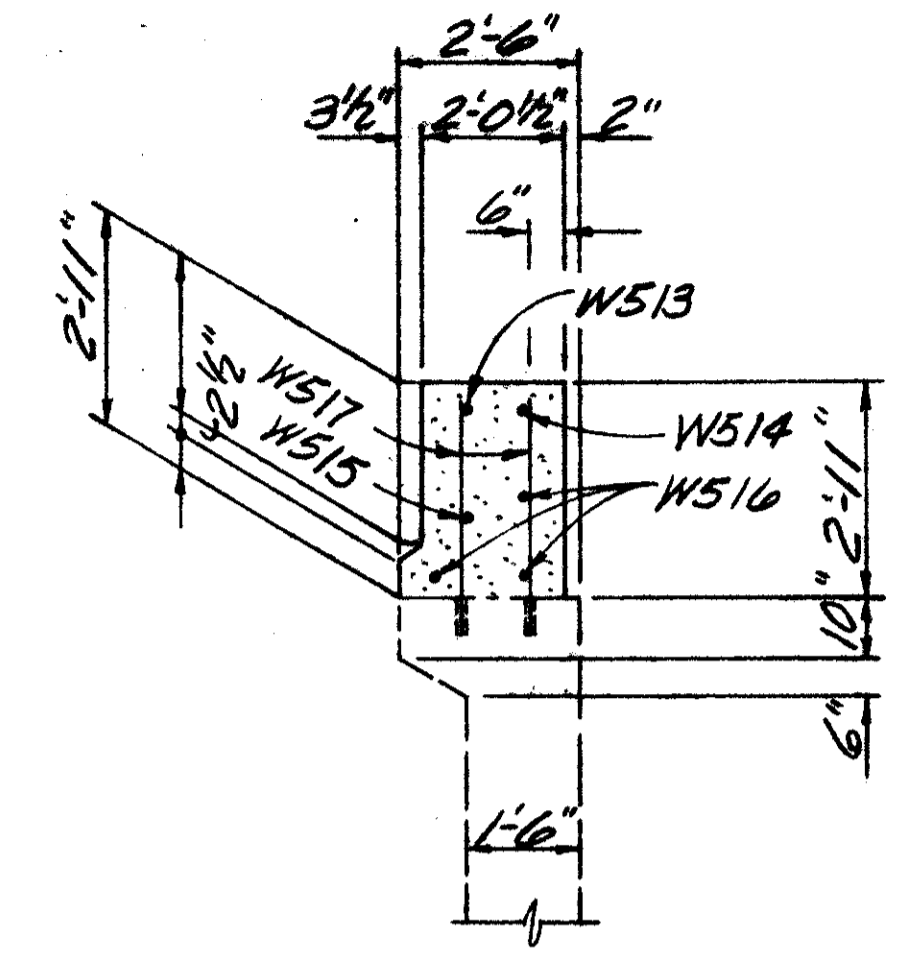
STA. 23+30.00 TO STA. 25+25.73

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WHH	~	VDG	CRS	

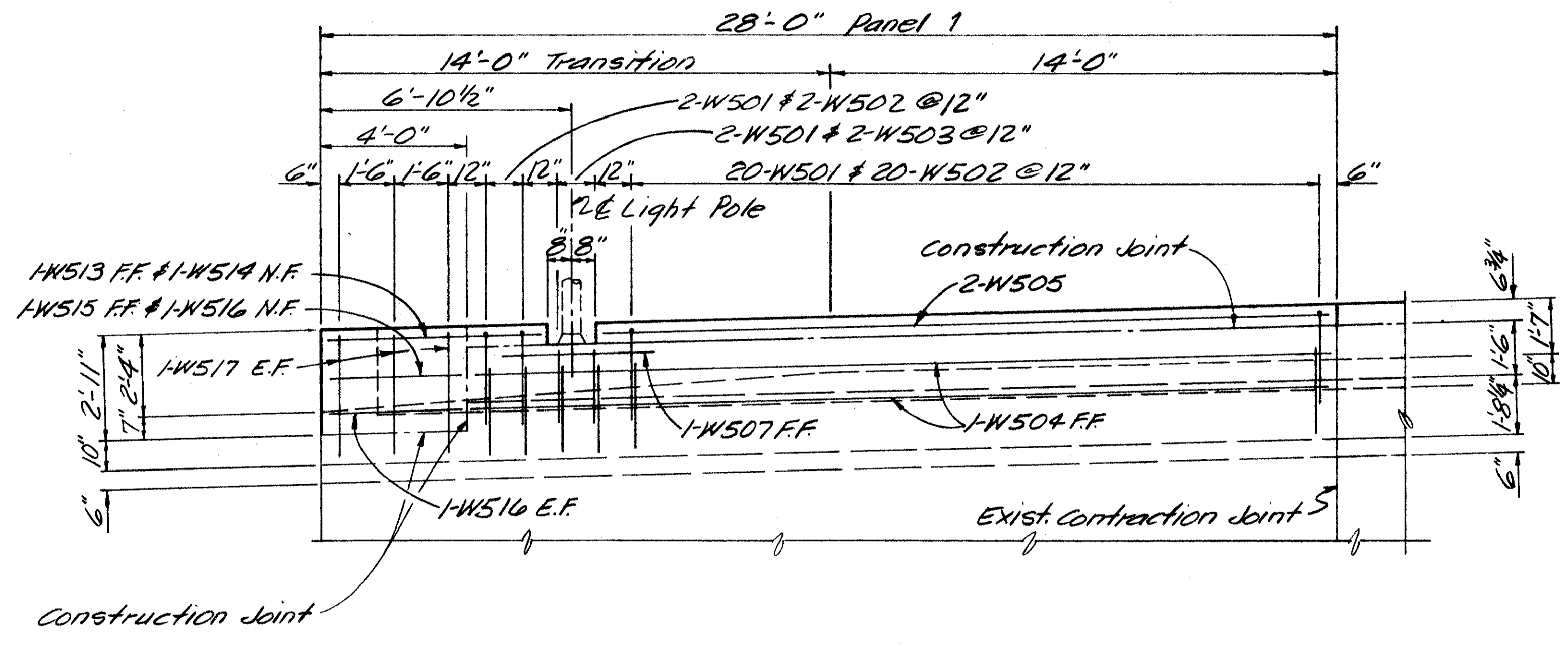
OHIO BLUE PRINT



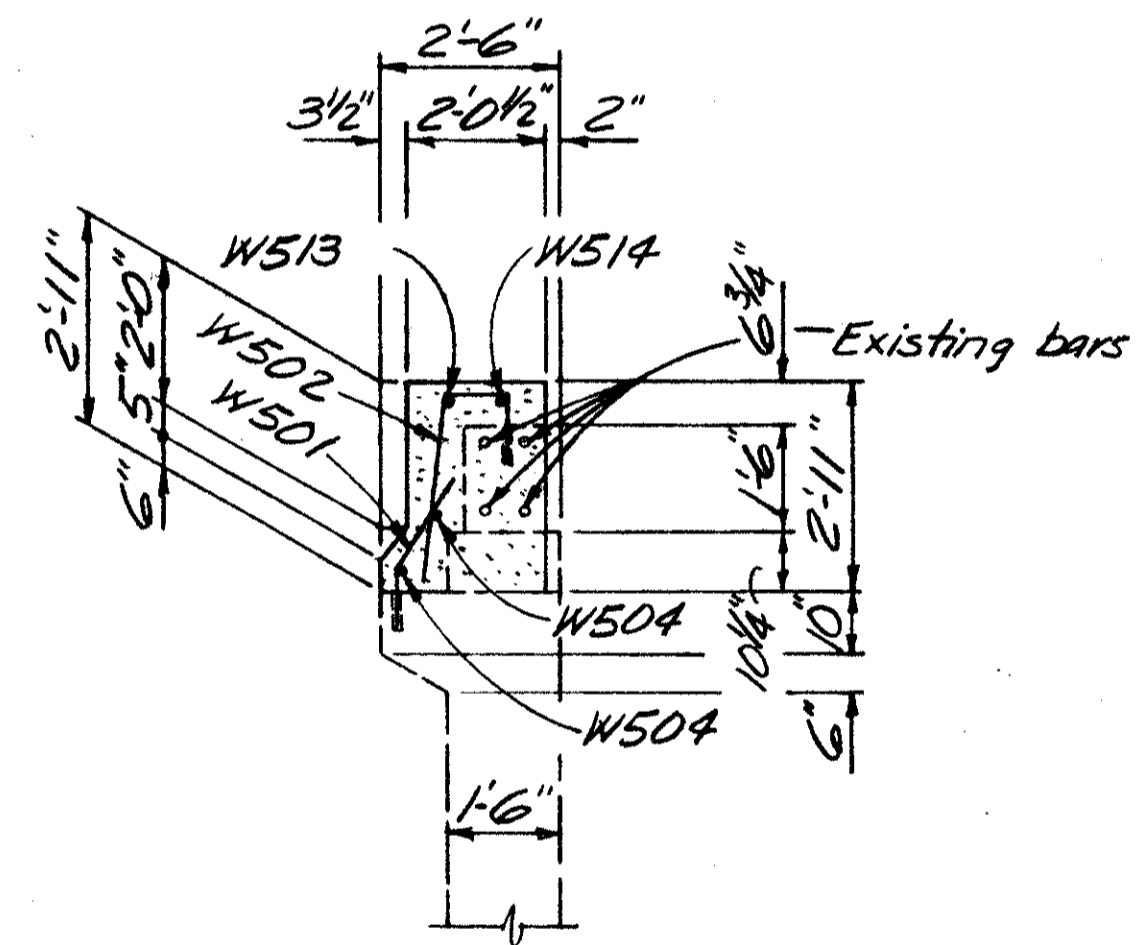
SECTION B-B



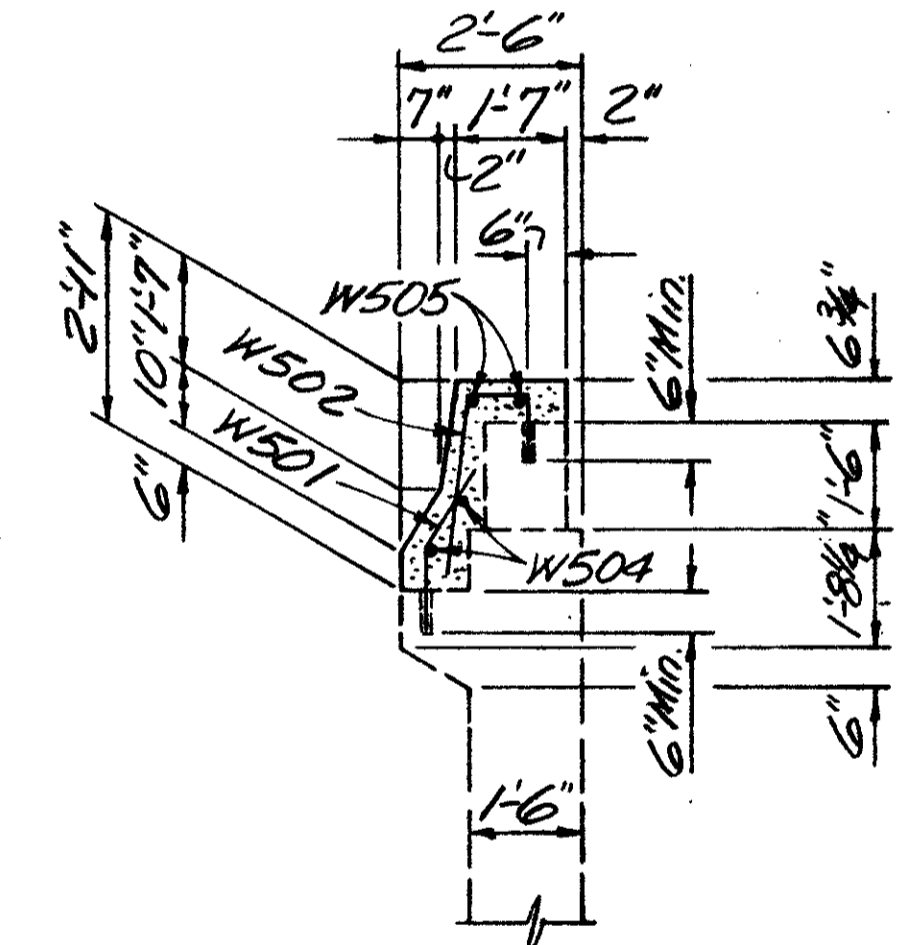
SECTION C-C



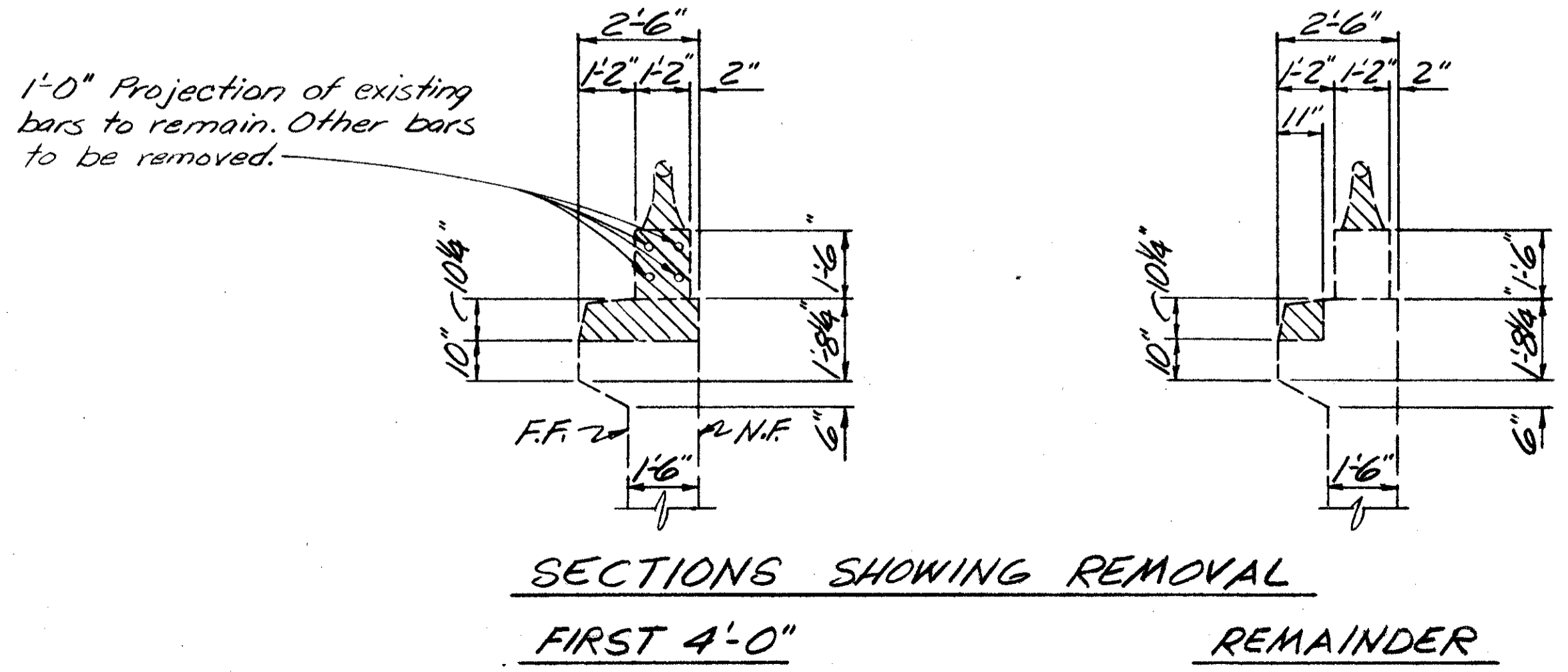
ELEVATION



SECTION D-D



SECTION A-A

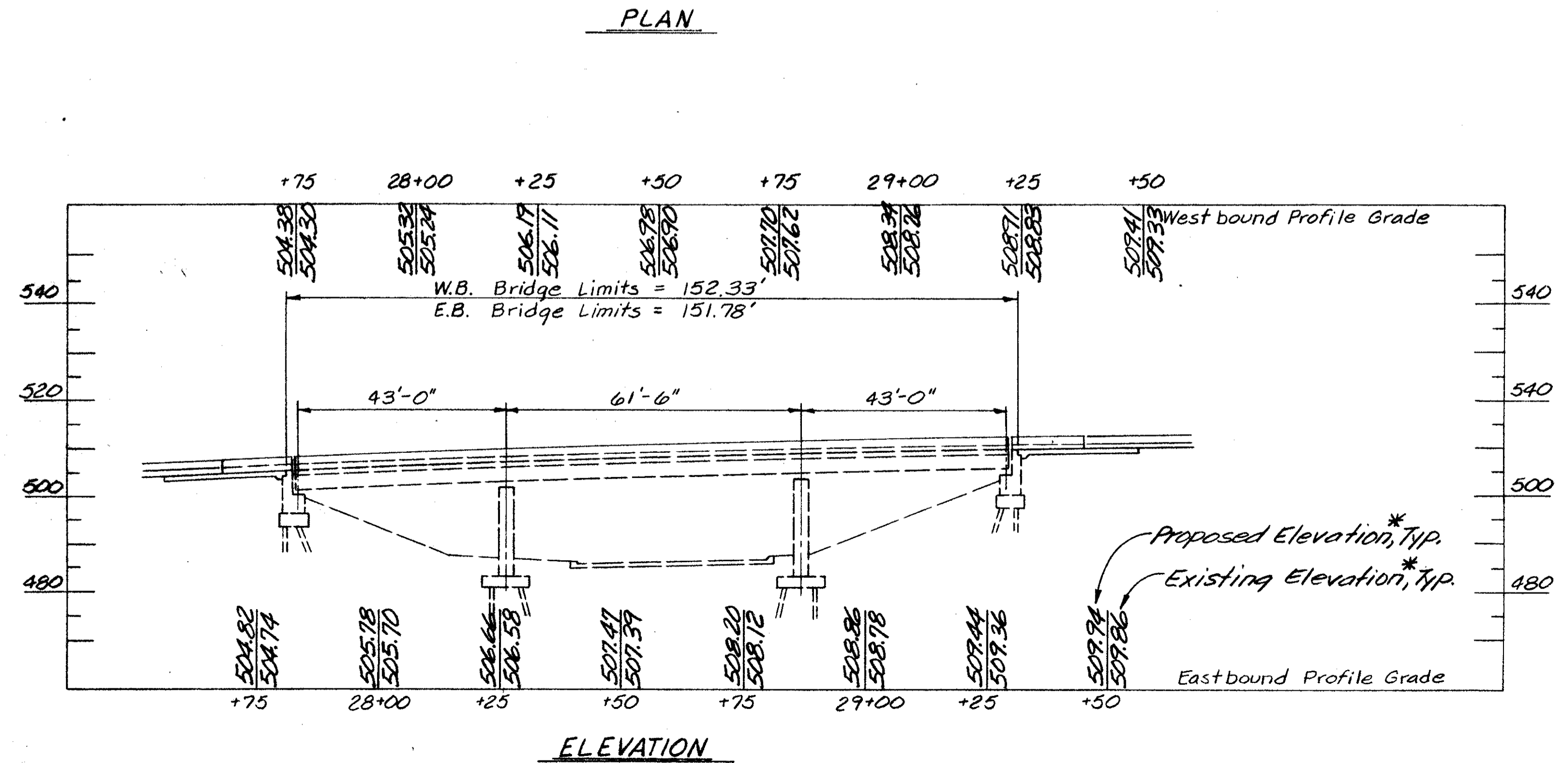
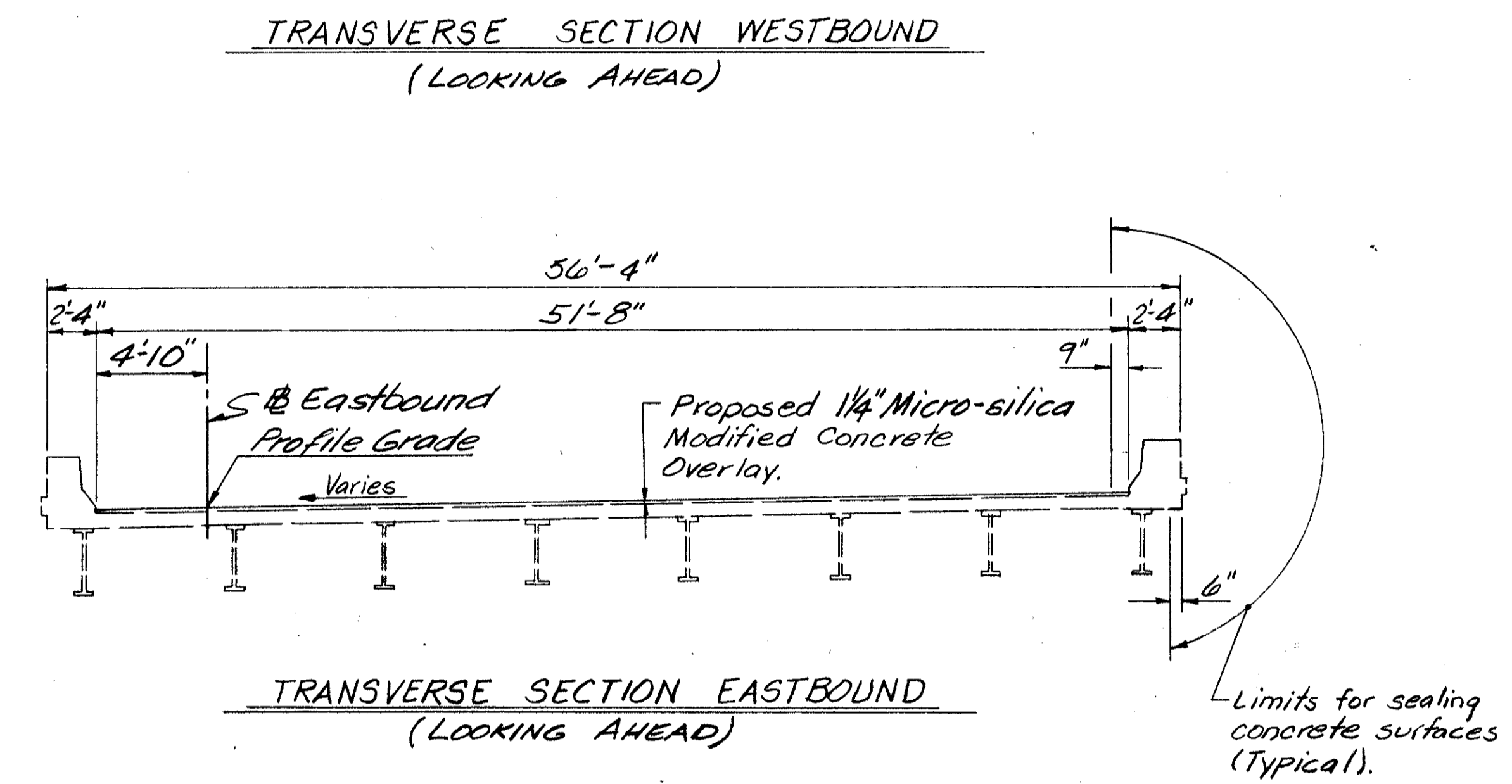
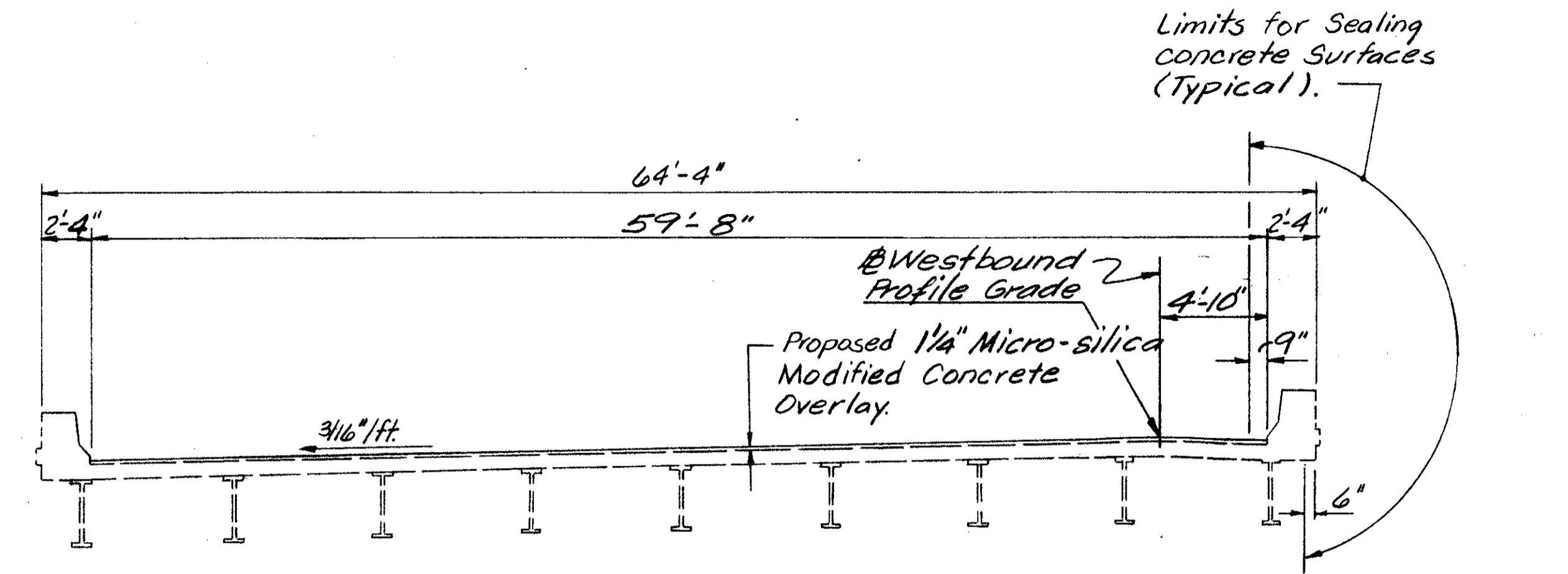
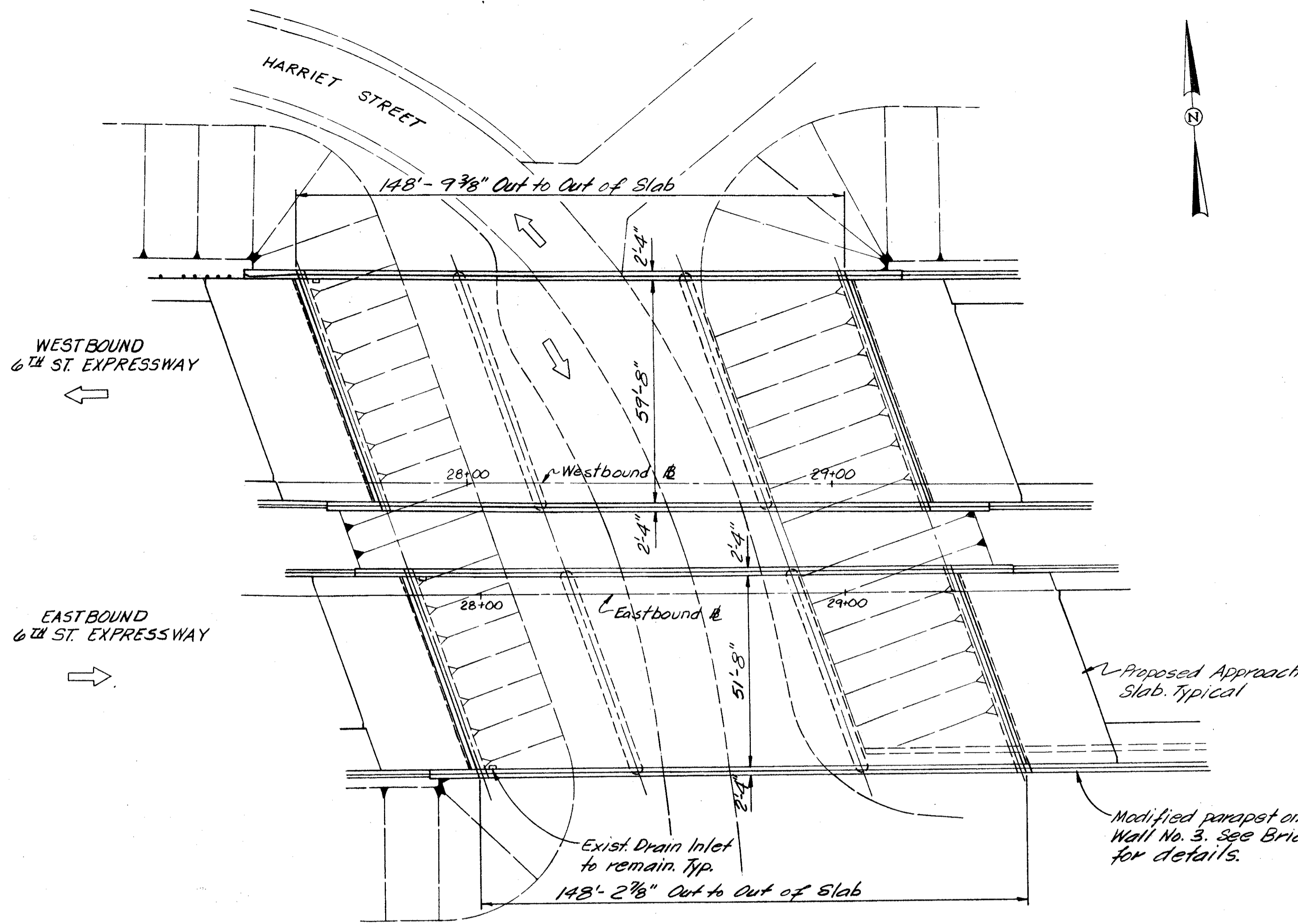


SECTIONS SHOWING REMOVAL

FIRST 4'-0"

REMAINDER

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237						3/3
RETAINING WALL NO. 5 6TH STREET EXPRESSWAY EASTBOUND						
STA. 23+30.00 TO STA. 25+25.73						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
MRS	WJH	~	VDG	CRS		



Modified parapet on Retaining Wall No. 3. See Bridge No. HAM-50-1992 for details.

\* Elevations shown are for information only. The 1/4" micro-silica modified concrete overlay shall be of uniform thickness & final deck elevations will not necessarily conform to profile shown.

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237						1/12
GENERAL PLAN BRIDGE NO. HAM-50-1986 (LT. & RT.) 6th ST. EXPRESSWAY OVER HARRIET STREET HAMILTON COUNTY STA. 28+52.52						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MRS	ALH	~	DWI	CRS	4/92	

# GENERAL NOTES

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

Reference shall be made to standard drawings:

- AS-1-81 Dated 11-27-81
- EXJ-4-87 Dated 1-5-89

Reference shall be made to supplemental specifications:

- 836 Dated 11-12-85
- 852 Dated 12-14-88

**DESIGN STRESSES**

Concrete compressive strength-

- Class S - 4500 PSI
- Class C - 4000 PSI

Reinforcing steel - ASTM A615, A616, A617

- Minimum yield strength
- Grade 60 - 60,000 PSI

**SCOPE OF WORK**

The scope of work to be performed shall be executed in stages as shown and includes:

1. Add strip seals.
2. Refurbish and reset abutment bearings.
3. Refurbish drains.
4. Replace portions of abutment backwalls, as indicated on plans.
5. Retrofit railings, as indicated on plans.
6. Seal railings, abutments and piers..
7. Overlay deck with 1 1/4" micro-silica modified concrete.
8. Clean and paint the fascia beams at the abutments over a six foot length.
9. Replace approach slabs.
10. Repair vertical joint between abutment & retaining wall. (See plans for Bridge No. HAM-50-1992 for details & quantities).

**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/or 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. It is the intent of these plans that the proposed additions to these structures match existing conditions. The Contractor is referred to CMS sections 102.05 and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described in the preceding paragraph 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.

**ITEM 202 - PORTIONS OF STRUCTURES REMOVED**

Removal of portions of existing structure shall be performed in such a manner as to prevent debris from falling onto the roadway below. All debris shall be removed from the site and disposed of by the Contractor.

**REPLACEMENT OF EXISTING REINFORCING**

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 his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in item 509 for this purpose.

**ITEM SPECIAL - MICRO-SILICA MODIFIED CONCRETE OVERLAY**

Longitudinal joints in the concrete overlay are permitted, but only to the extent necessary to accommodate the width of the finishing machine, to facilitate changes in the roadway crown, and to permit maintenance of vehicular traffic, see proposal note for details.

**MAINTENANCE OF TRAFFIC**

For maintenance of traffic on Sixth Street Expressway, see highway drawings.

**PLANS FOR EXISTING BRIDGE**

Plans of the existing structure are available for reference at the City of Cincinnati Engineer's Office and at the ODOT District Eight office.

**ITEM 516 - REFURBISH BEARING DEVICE**

This Item shall include all work necessary to clean and paint abutment rocker bearings. Included shall be:

1. Disassembly of rockers.
2. Hand cleaning (grinding if required.)
3. Sandblasting and painting as required by Field Painting of Existing Steel System OZEU proposal note.
4. Replacement of any damaged sheet lead (711.19). Prefomed bearing pads 1/8" thick, meeting the requirements of 711.21 may be substituted for the sheet lead.
5. Installation of any necessary 1/8" thick steel shims of the same size as the bearings to provide a snug fit.
6. Reassembly of the rockers.

At the option of the Contractor and at no additional cost to the state, new bearings of the same type as the existing may be installed in place of the refurbished bearings. All work shall be to the satisfaction of the Project Engineer. Payment for all the above described labor and materials will be made at the contract price bid for Item 516 - REFURBISH BEARING DEVICE.

**ITEM 516 - JACKING & TEMPORARY SUPPORT OF SUPERSTRUCTURE**

The ends of the beams at each abutment shall be jacked and the beams supported so the bearing may be removed. The Contractor shall submit his jacking plan to the Engineer for approval prior to jacking.

**ITEM 516 - RESET BEARINGS**

Bearings at the abutments shall be reset to be vertical at 60° F. Masonry plates shall be adjusted to be centered under bearings.

**ITEM 510**

Dowel holes shall be drilled and grouted per Supplemental Specifications 852 and CMS 705.20.

**ITEM 514 - CLEANING AND PAINTING OF EXISTING STRUCTURAL STEEL, AS PER PLAN**

The end 6 feet of the exterior beams at each abutment shall be cleaned and painted as required by field painting of existing steel, System OZEU proposal note. The color of the final coat shall match, as near as possible, the existing color of the beams.

**SEALING OF CONCRETE SURFACES**

Portions of the structure shall be sealed as noted below. See the proposal note for application rates and materials. City of Cincinnati Principal Structural Design Engineer shall be contacted to determine color of sealer to be used.

1. Parapets shall be sealed as shown on sheet 1/12 with an epoxy or non-epoxy sealer.
2. Abutment backwalls, beam seats, and the face of the breastwall and wingwalls down to the groundline shall be sealed with an epoxy sealer.
3. The total surface of all piers shall be sealed with a non-epoxy sealer.

**REFURBISH DRAINS**

This item shall include the cleaning and flushing out of the scupper inlet and downspout. The downspout shall be thoroughly cleaned so that water flows freely. All exposed pipes and supports shall be cleaned and painted as required by field painting of existing steel, system OZEU proposal note. Payment for all the above described labor and materials will be made at the contract price bid for Item 518 - structural drainage, misc: Refurbish drains.

**ESTIMATED QUANTITIES**

ITEM	CODE	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE			RIGHT BRIDGE		
					ABUTMENTS	SUPERST.	GENERAL	ABUTMENTS	SUPERST.	GENERAL
202	11202	L.S.	Lump Sum	Portions of structures removed, over 20 foot span	-	-	L.S.	-	-	L.S.
509	15800	13,601	Lbs.	Epoxy coated reinforcing steel, grade 60	2892	4028	50	2411	4170	50
510	12200	1315	Lin. Ft.	Dowel hole	485	205	-	421	204	-
511	34400	65	Cu. Yd.	Class S concrete, superstructure (repair or reconstruction)	-	33	-	-	32	-
511	45700	26	Cu. Yd.	Class C concrete, abutment (repair or reconstruction)	14	-	-	12	-	-
SPECIAL	51267500	730	Sq. Yd.	Sealing of concrete surfaces *	57	316	-	42	315	-
SPECIAL	51267502	210	Sq. Yd.	Sealing of concrete surfaces (epoxy) *	112	-	-	98	-	-
SPECIAL	51267504	609	Sq. Yd.	Sealing of concrete surfaces (non-epoxy) *	-	-	318	-	-	291
514	25501	L.S.	Lump Sum	Cleaning and painting of existing structural steel, as per plan	-	L.S.	-	-	L.S.	-
516	11210	246	Lin. Ft.	Structural expansion joint including elastomeric strip seal	-	132	-	-	114	-
516	45304	34	Each	Refurbish bearing device	18	-	-	16	-	-
516	46700	34	Each	Reset bearing	18	-	-	16	-	-
516	47000	L.S.	Lump Sum	Jacking and temporary support of superstructure	-	L.S.	-	-	L.S.	-
518	63300	L.S.	Lump Sum	Structural drainage, misc.: refurbish drains	-	L.S.	-	-	L.S.	-
SPECIAL	51922000	1838	Sq. Yd.	Micro-silica modified concrete overlay (1 1/4" thick)*	-	987	-	-	851	-
SPECIAL	51922100	50	Cu. Yd.	Micro-silica modified concrete overlay (variable thickness)*	-	35	-	-	15	-

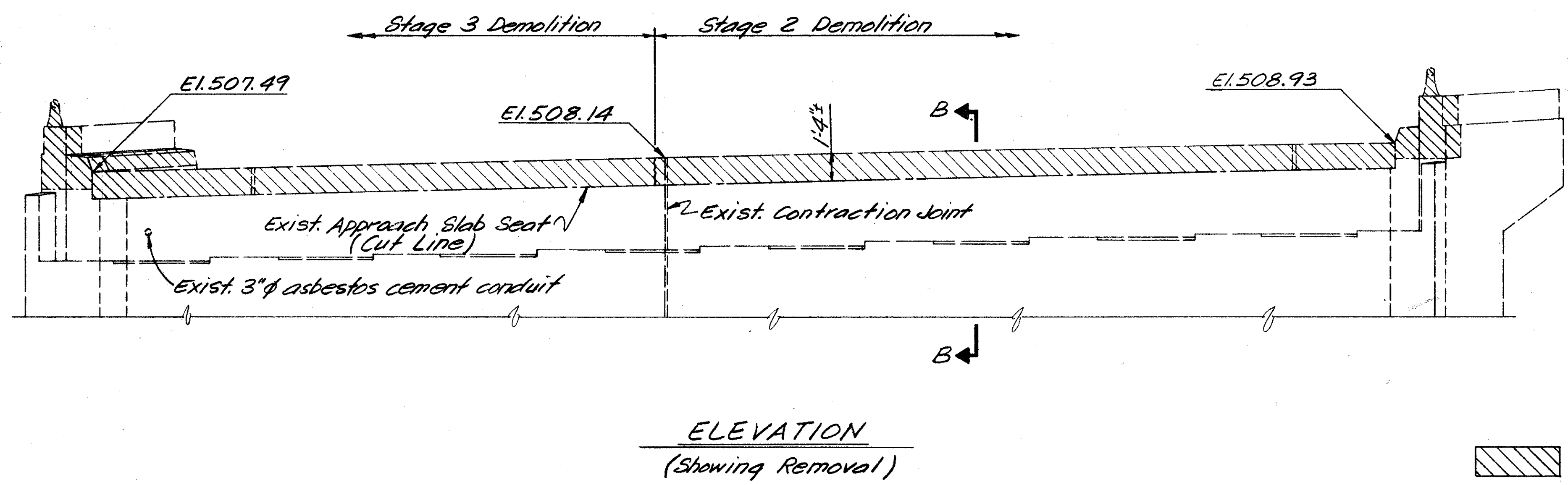
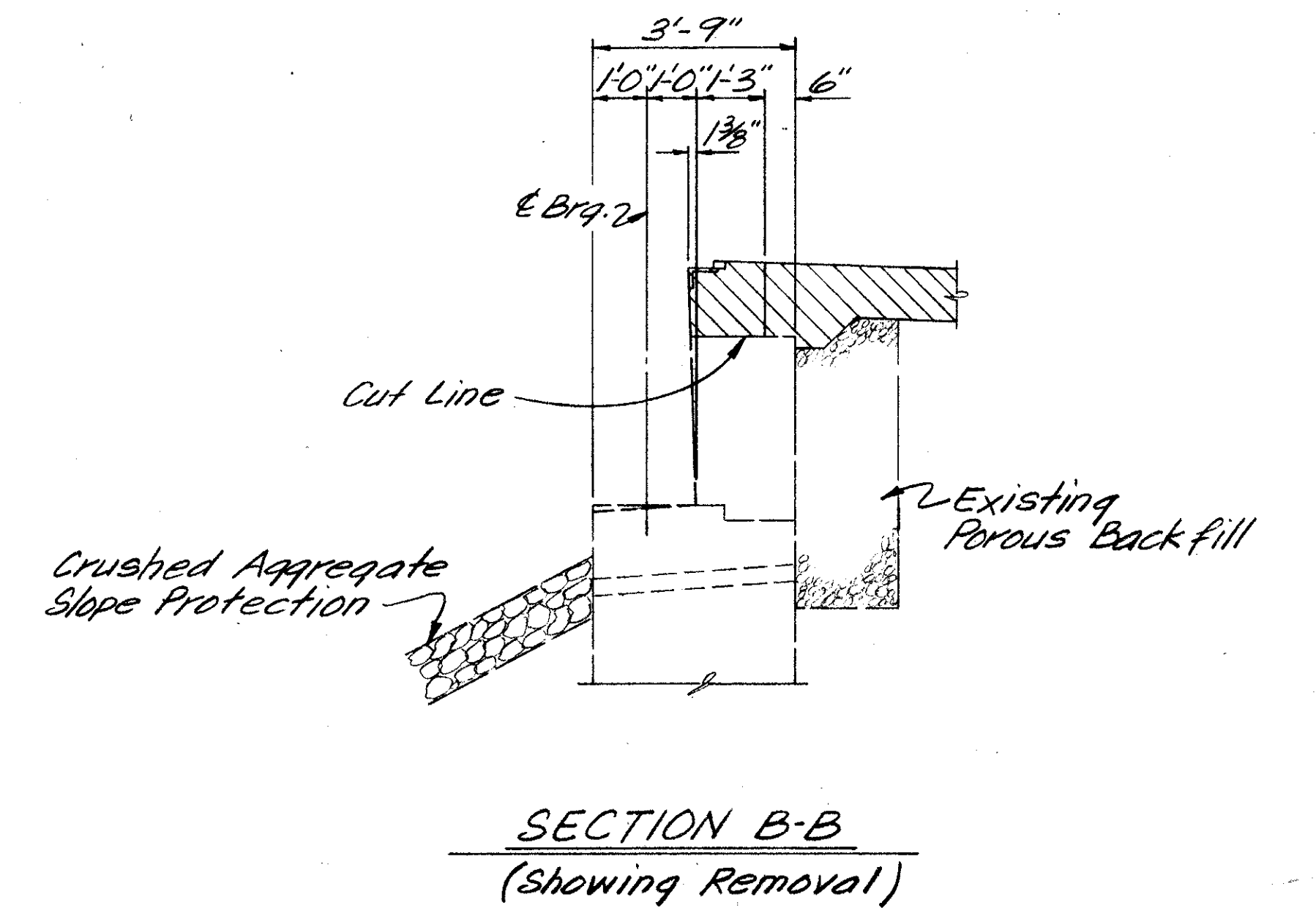
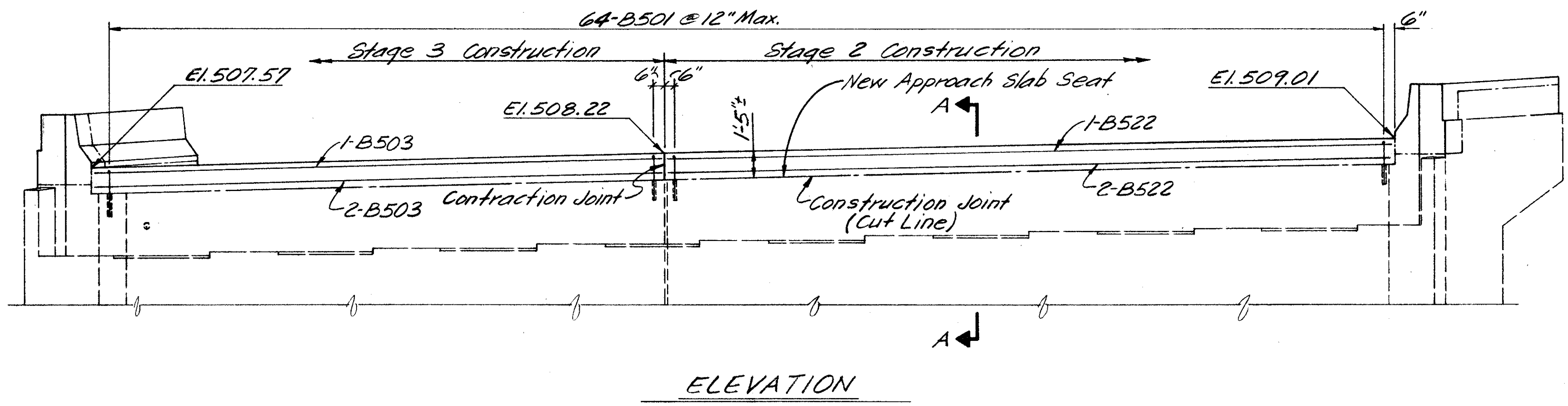
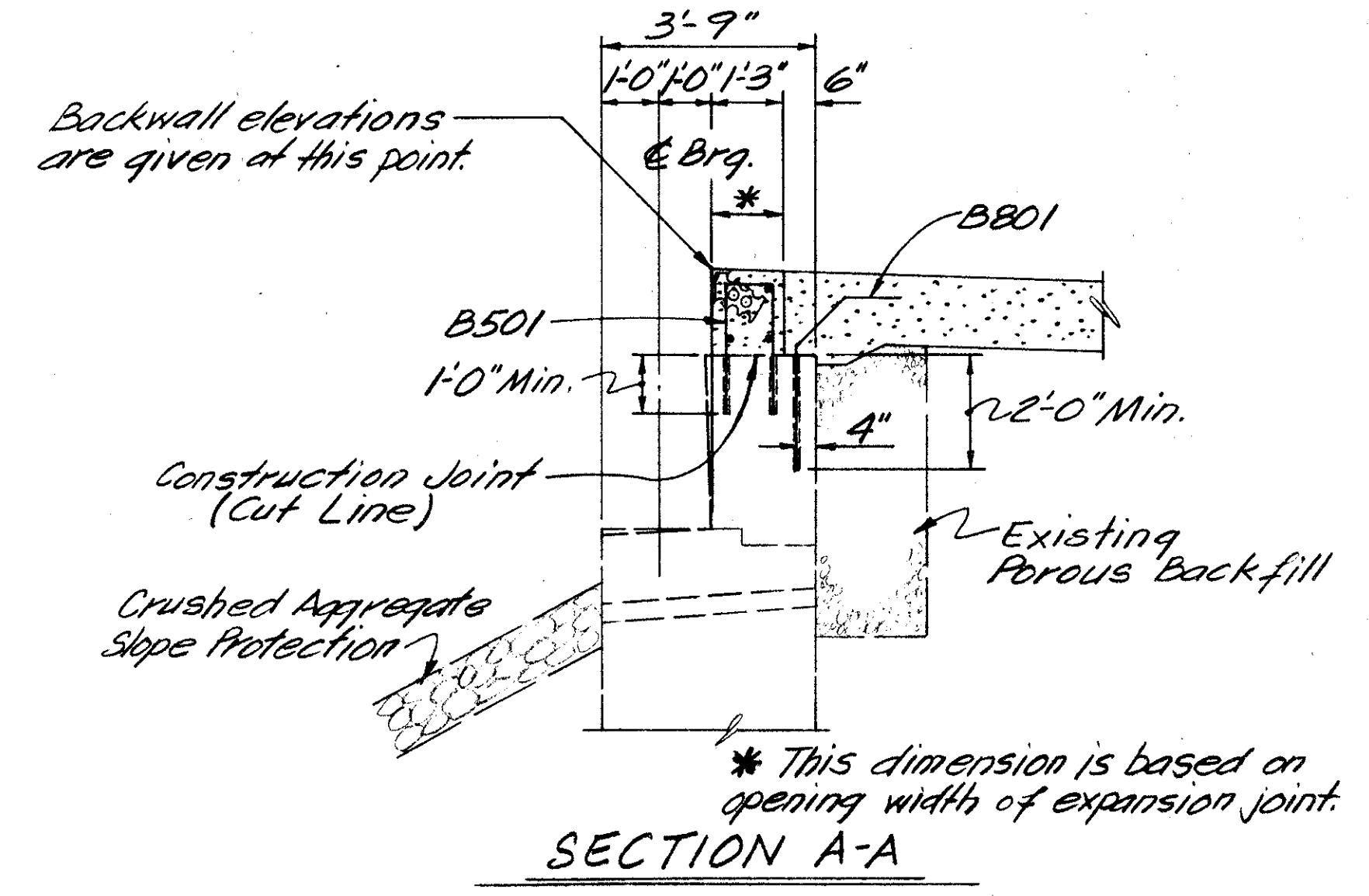
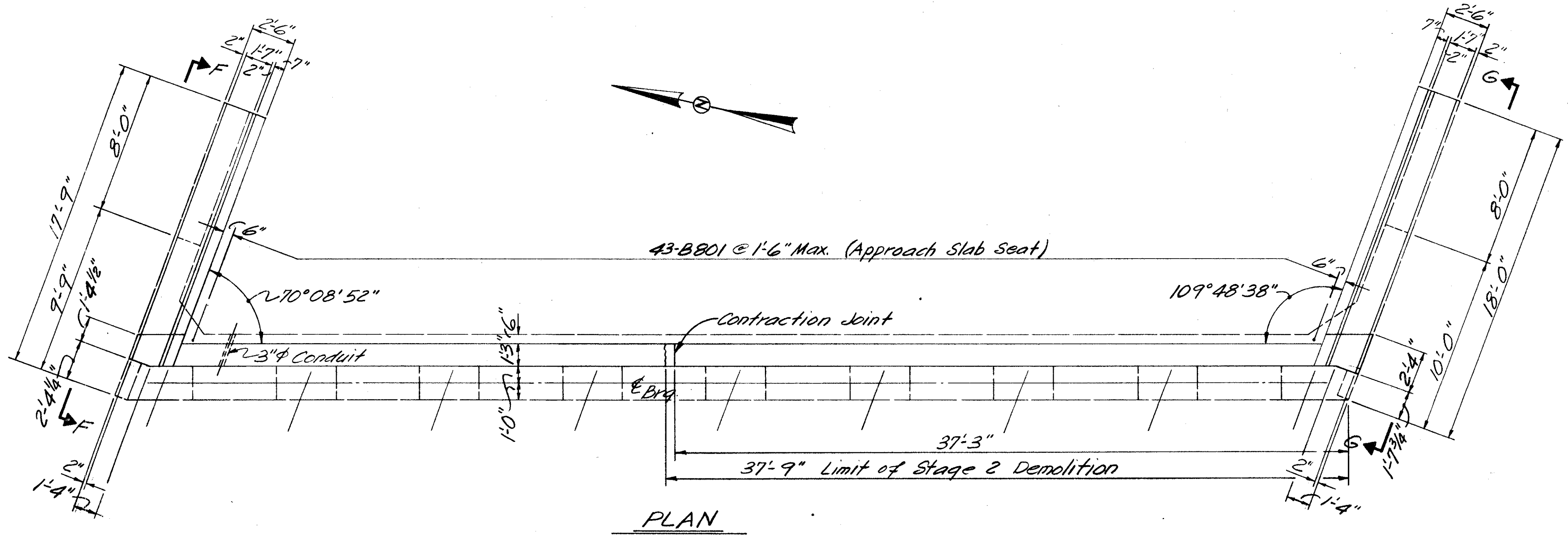
\* See proposal note

ESTIMATED QUANTITIES CALCULATED BY : MRS DATE : 11/91

CHECKED BY : EHC DATE : 1/92

BALKE ENGINEERS <span style="float: right;">2/12</span>					
1848 SUMMIT ROAD					
CINCINNATI, OHIO 45237					
<b>GENERAL NOTES &amp; QUANTITIES</b>					
BRIDGE NO. HAM-50-1986 R & L					
SIXTH STREET EXPRESSWAY					
OVER HARRIET STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	

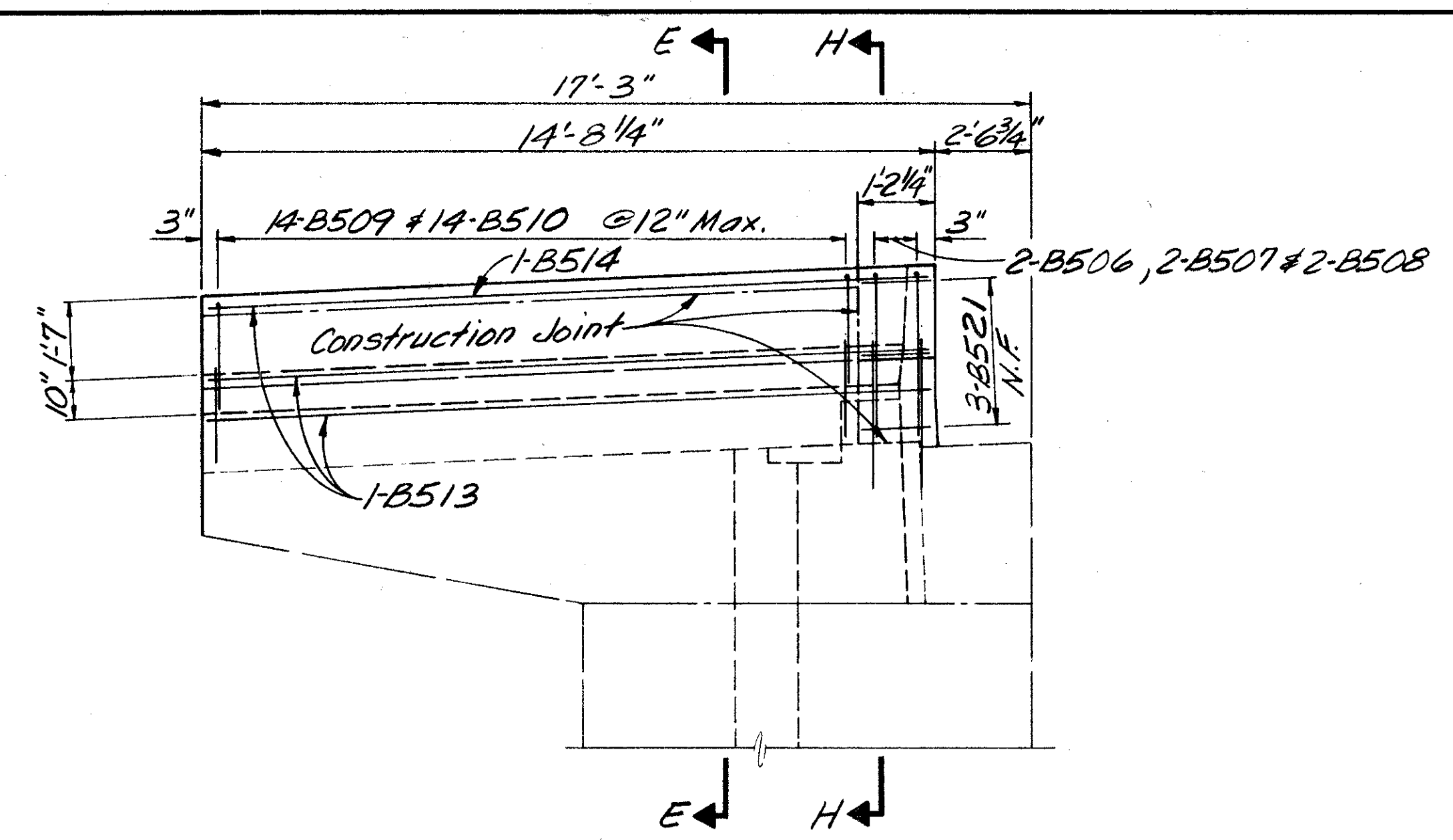




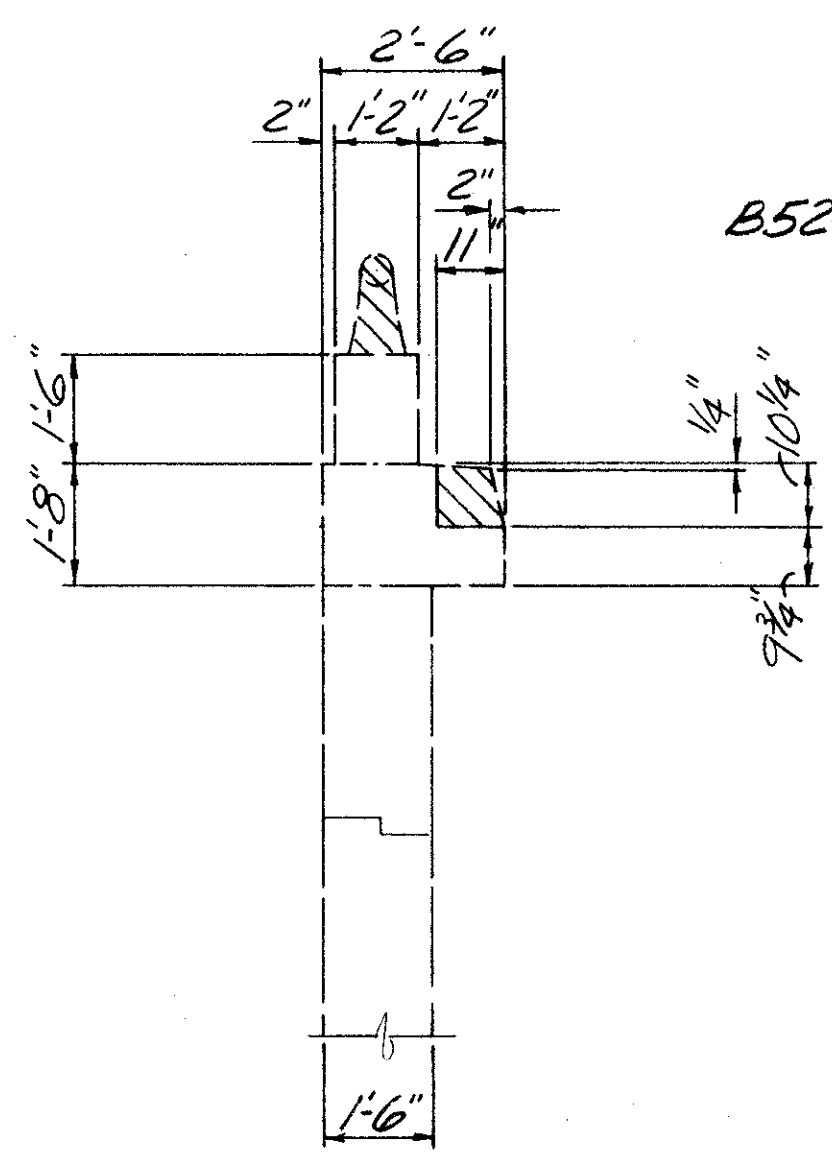
Notes:  
1. For Elevation F-F & G-G, see sheet 5/12.

Denotes portion of existing structure to be removed.

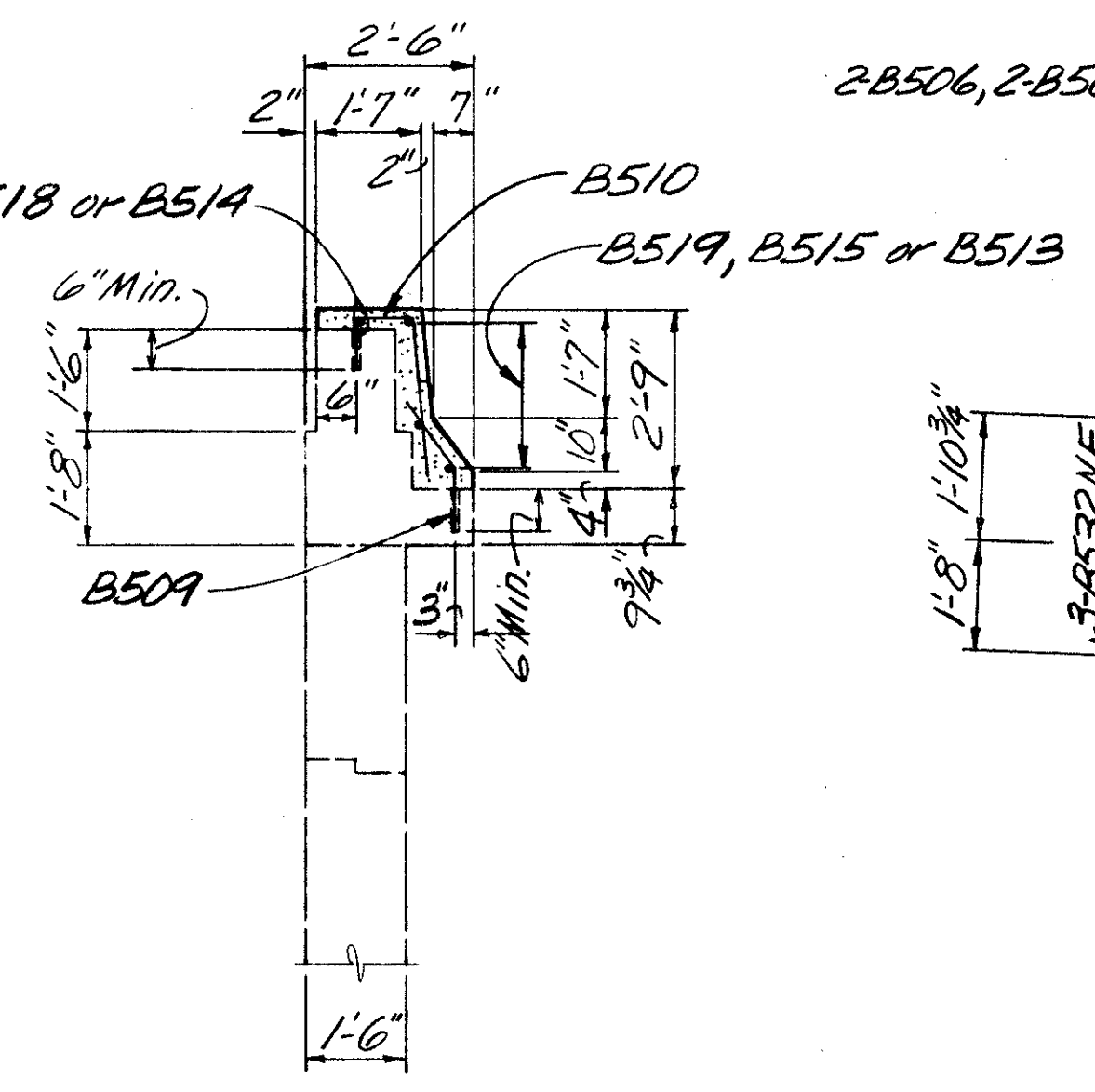
BALKE ENGINEERS 4/12 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
EAST ABUTMENT BRIDGE NO. HAM-50-1986 L WESTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER HARRIET STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	



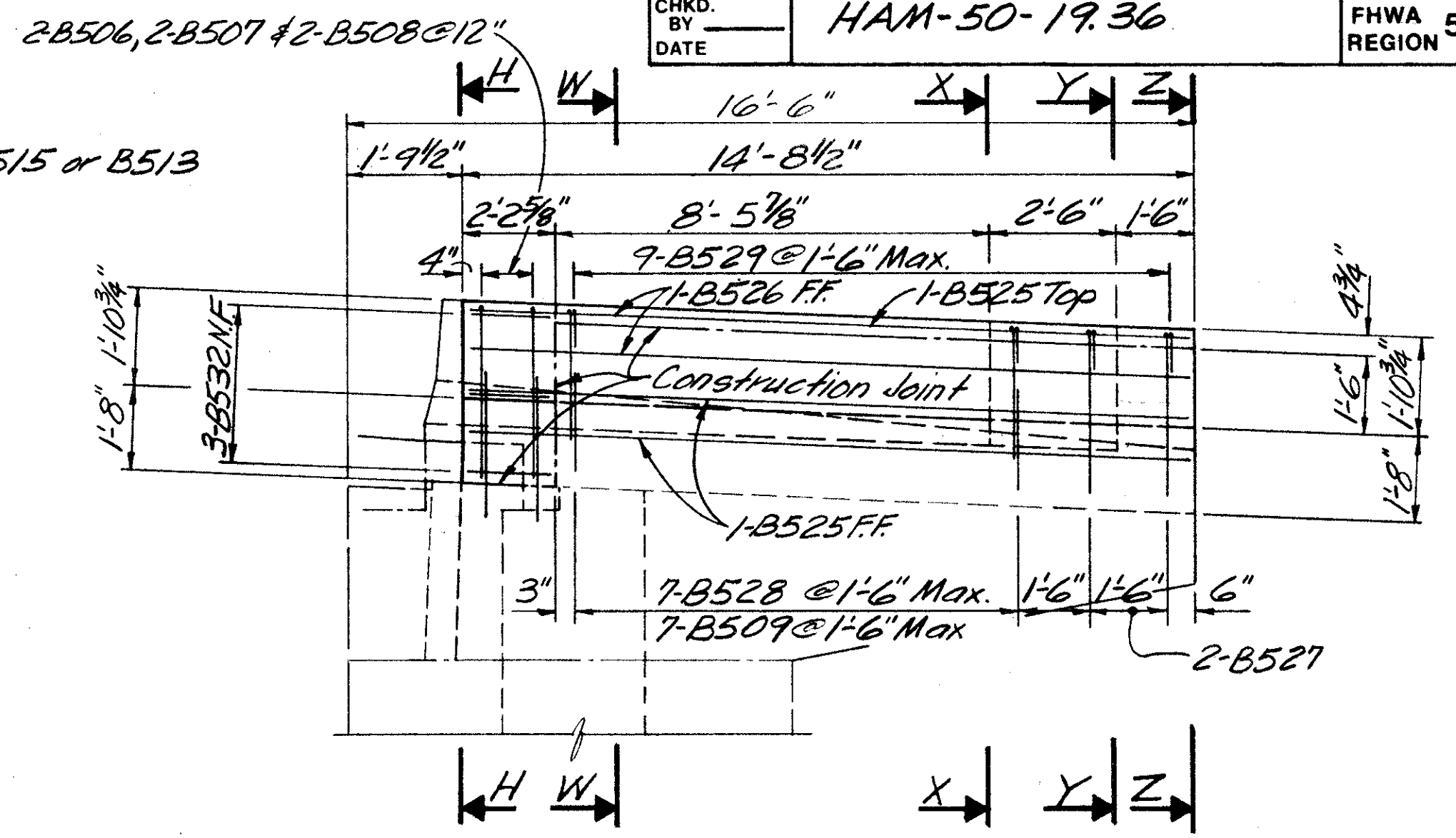
ELEVATION C-C



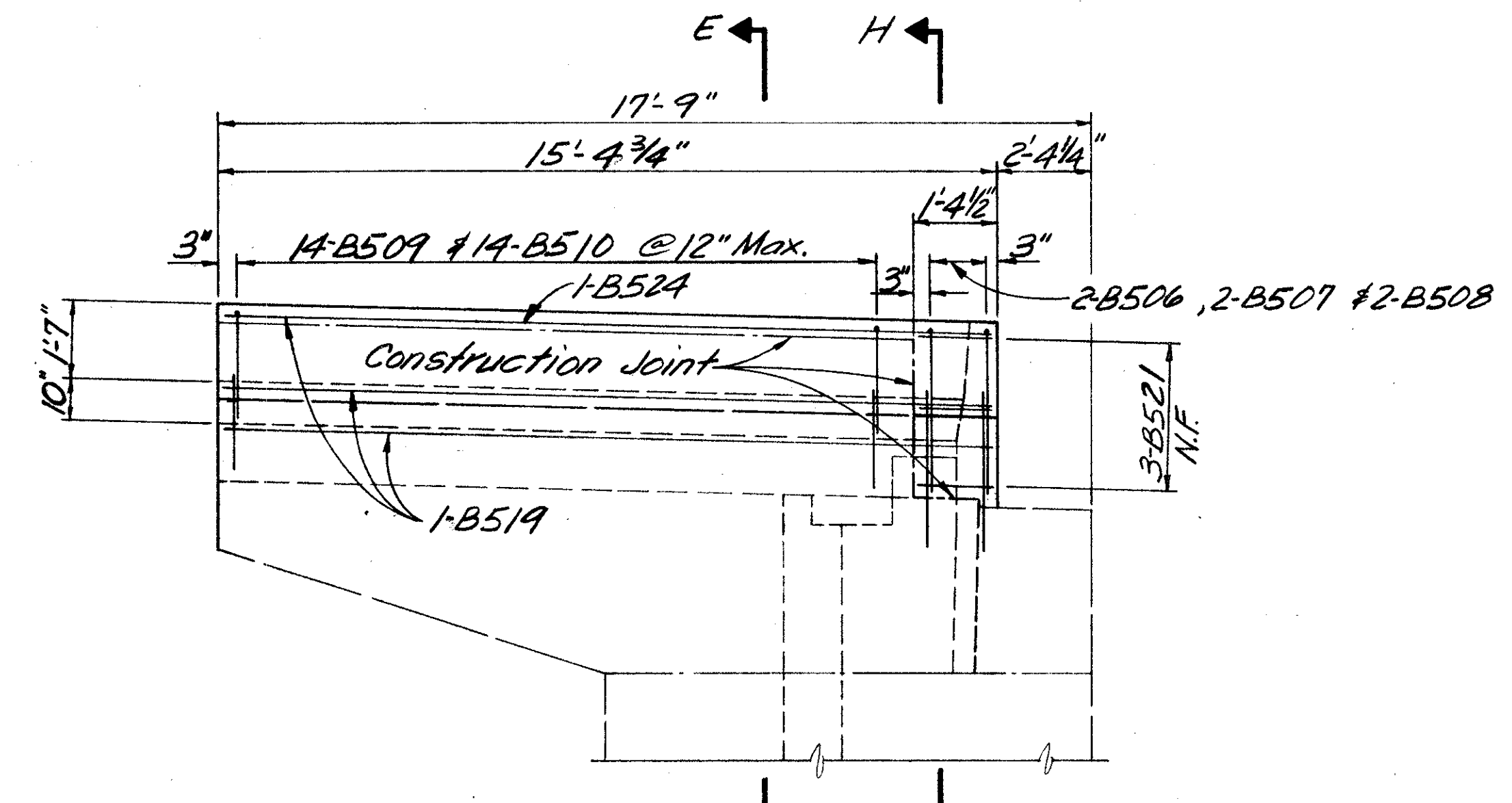
SECTION E-E  
(Showing Removal)



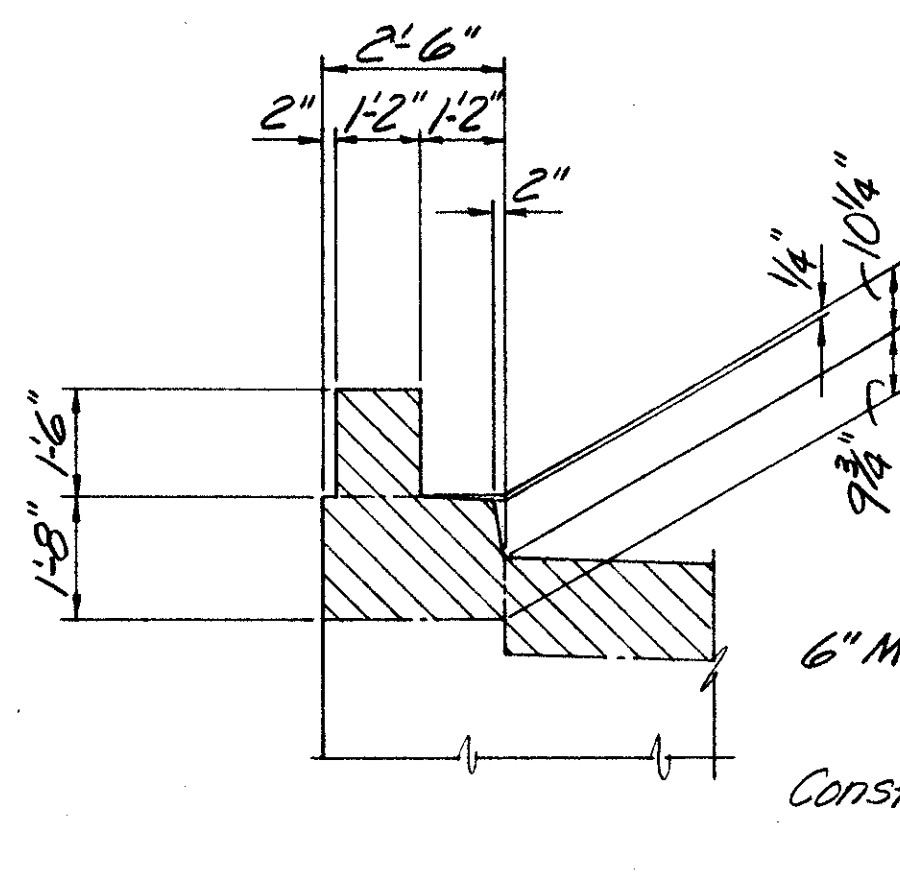
SECTION E-E



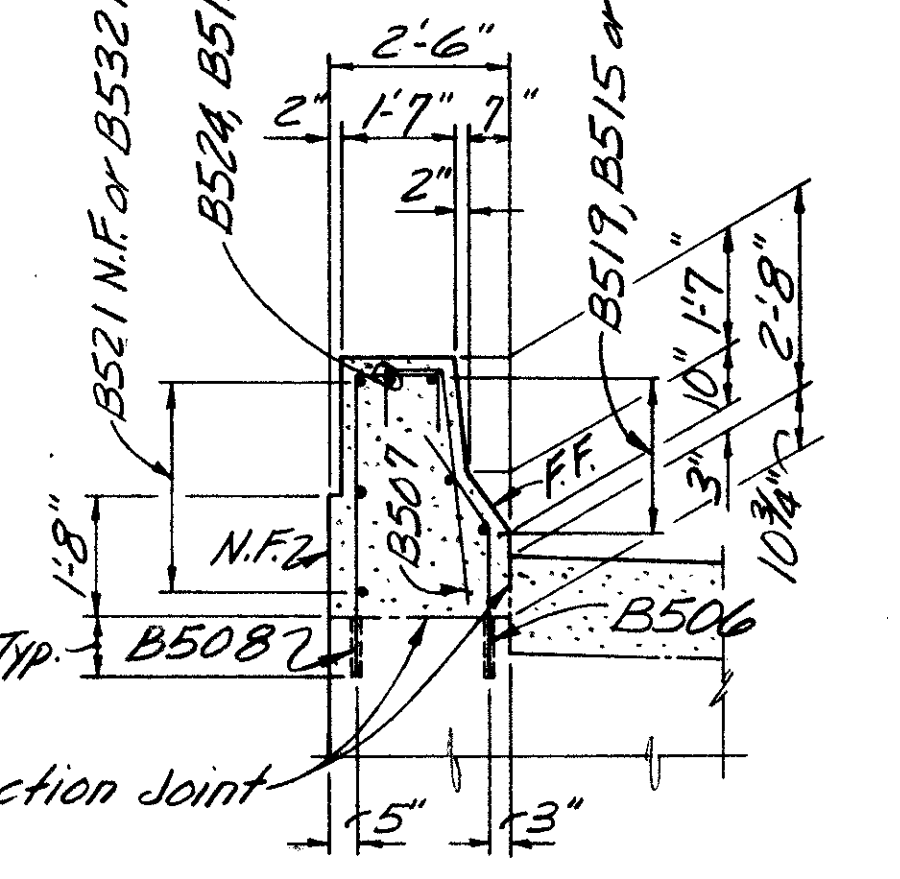
ELEVATION D-D



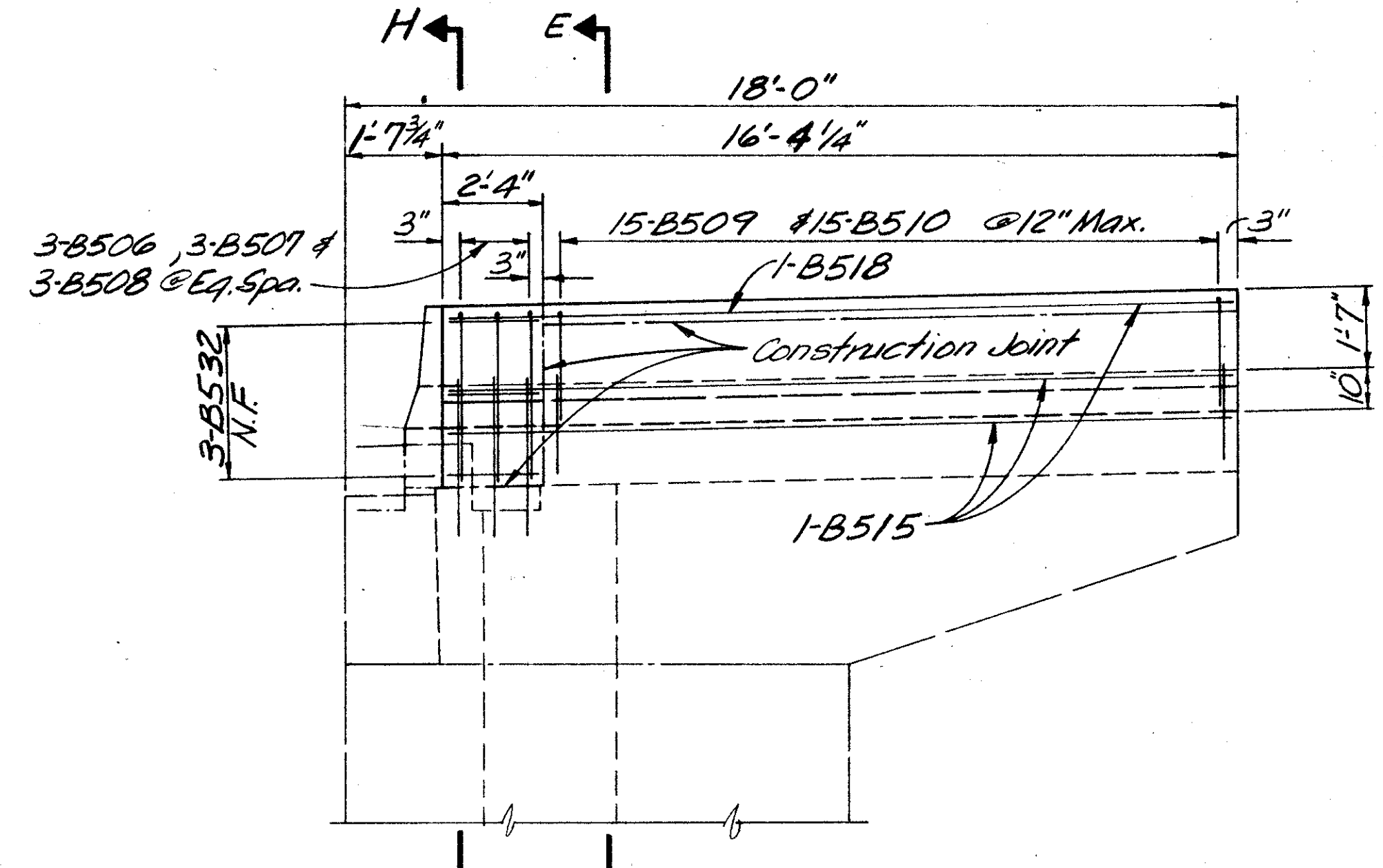
ELEVATION F-F



SECTION H-H  
(Showing Removal)

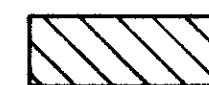


SECTION H-H



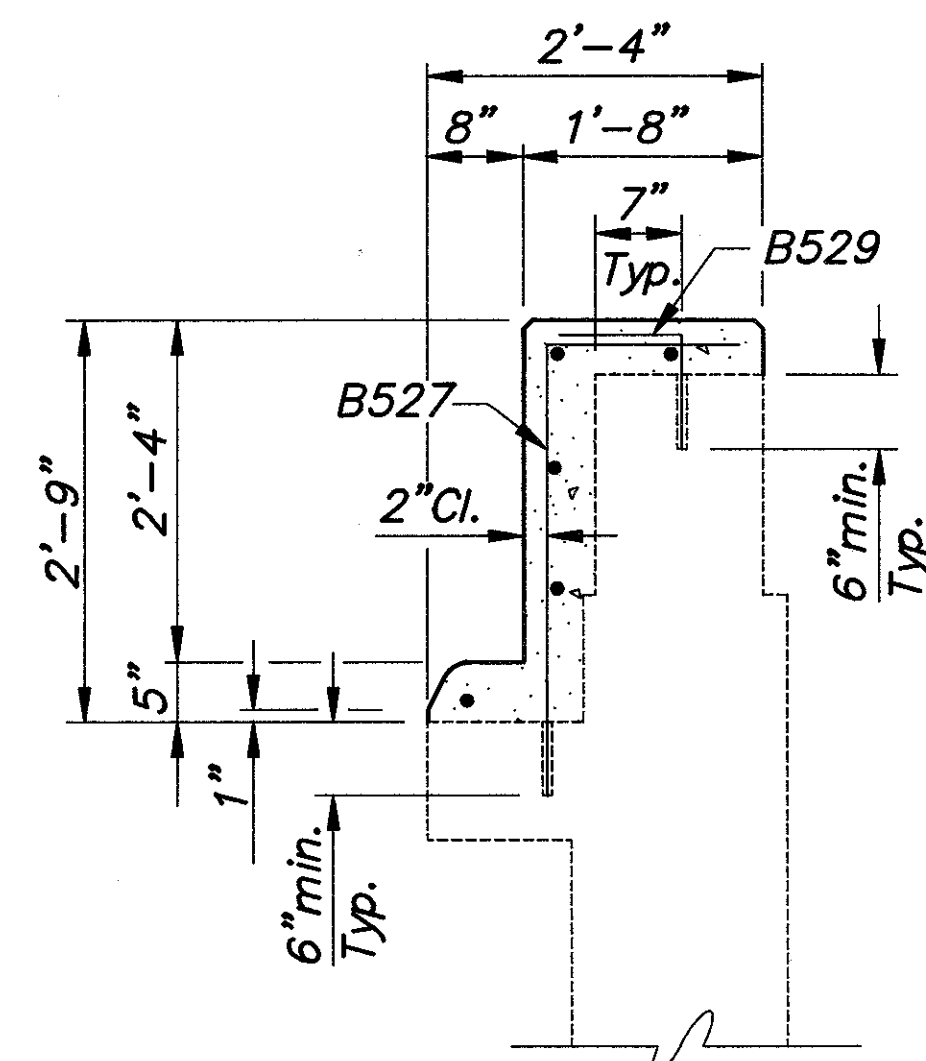
ELEVATION G-G

Notes:  
 1. N.F. = Near Face  
 FF = Far Face  
 2. For Section W-W, X-X, Y-Y # Z-Z,  
 see Sheet 6/12.

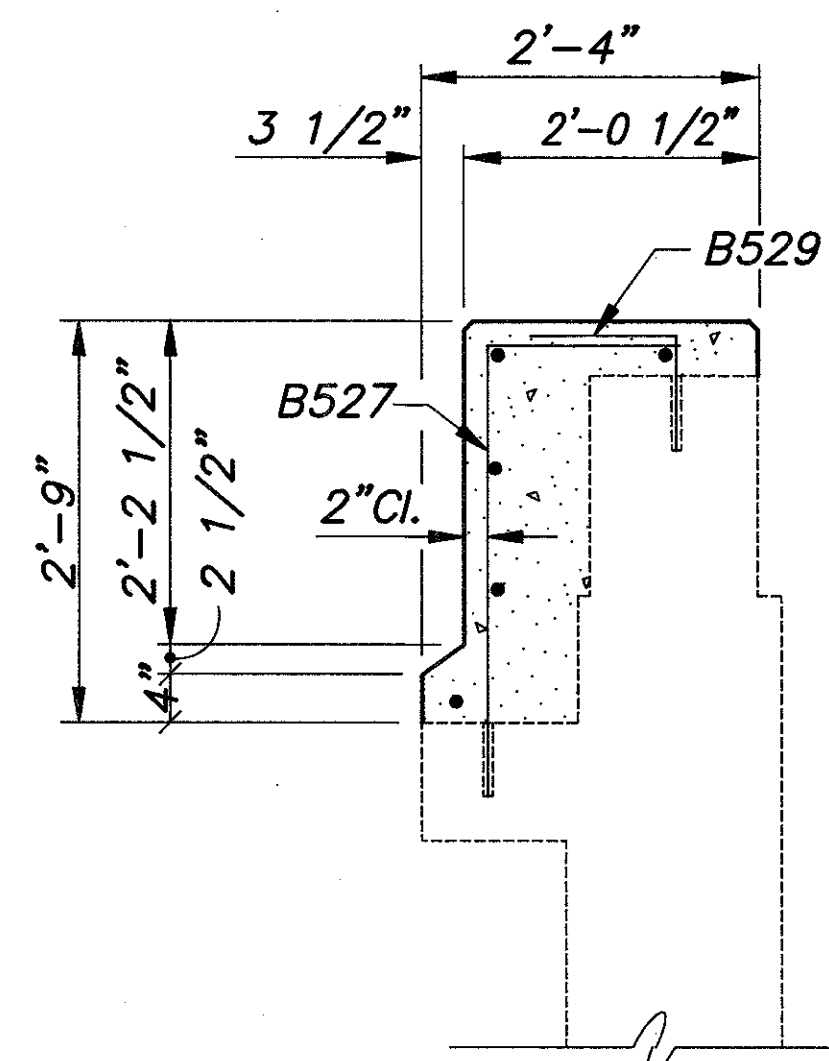
 Denotes portion of existing structure to be removed.

BALKE ENGINEERS 5/12 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
ABUTMENT DETAILS BRIDGE NO. HAM-50-1986 L WESTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER HARRIET STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	

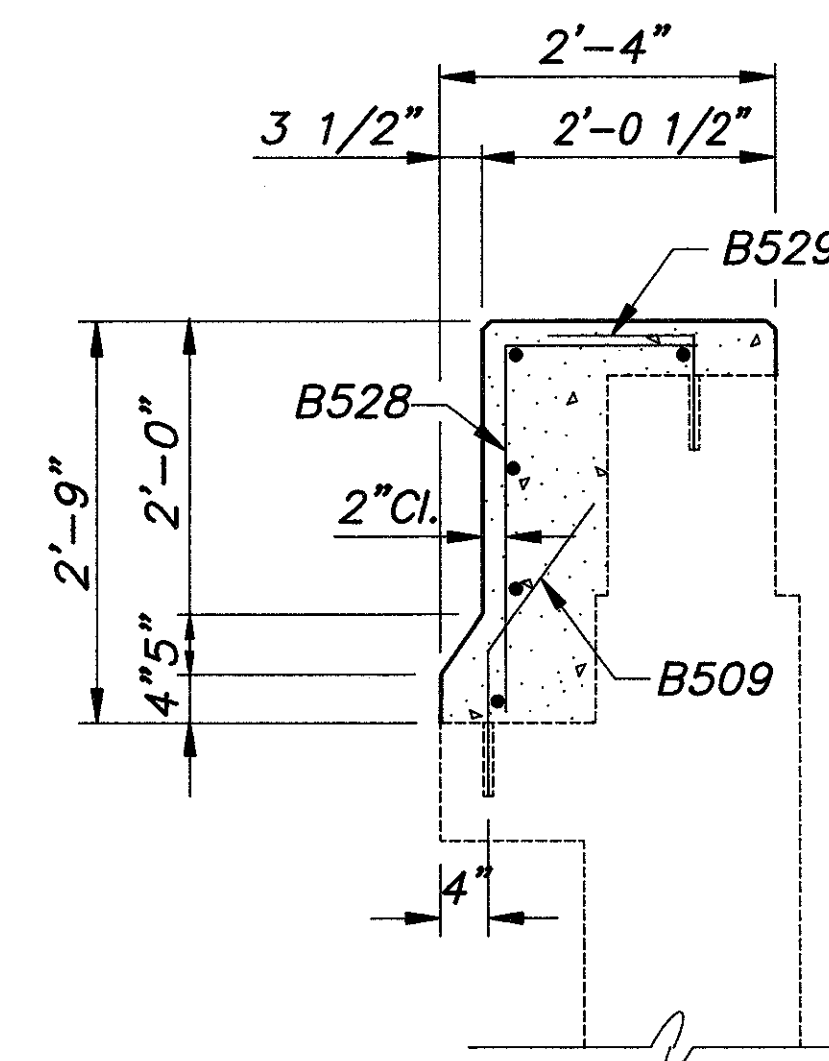




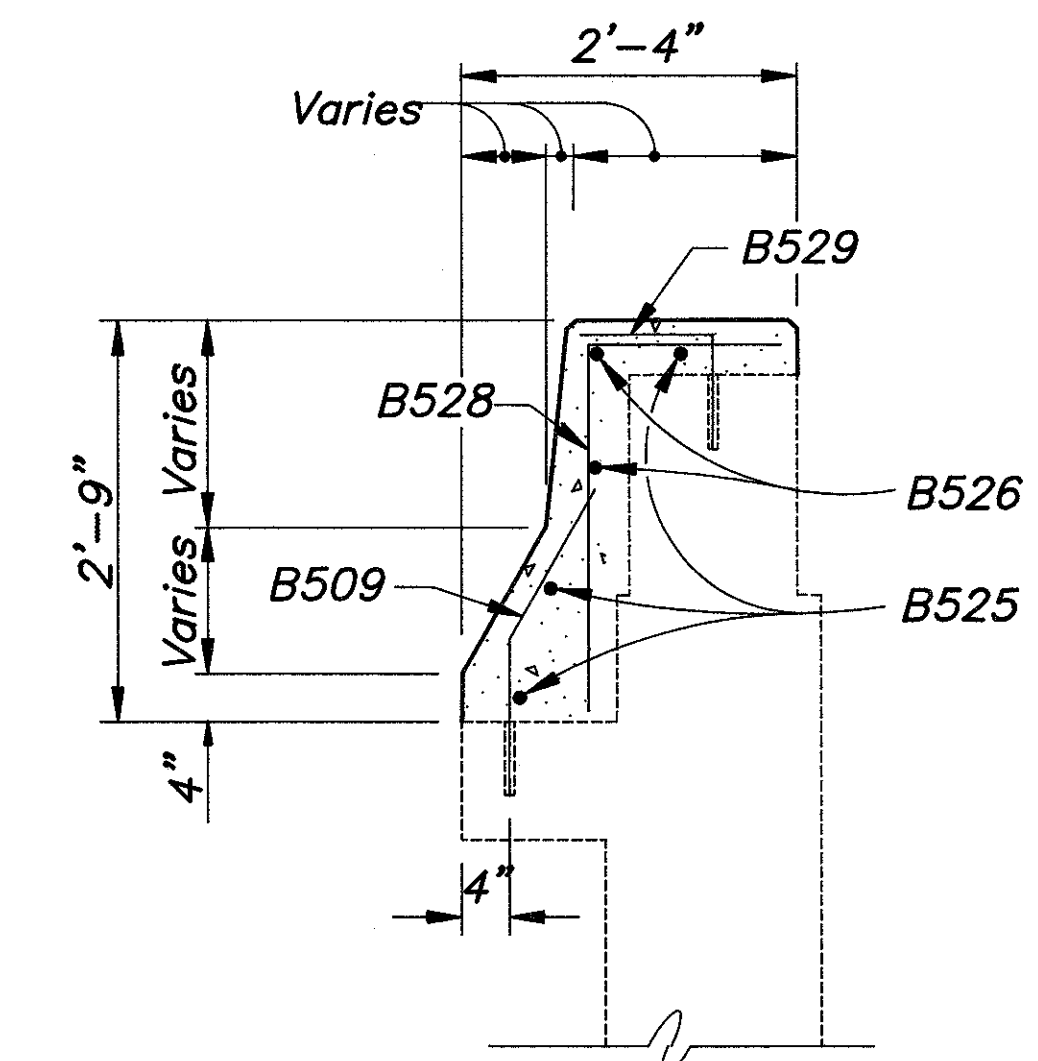
**SECTION Z-Z**



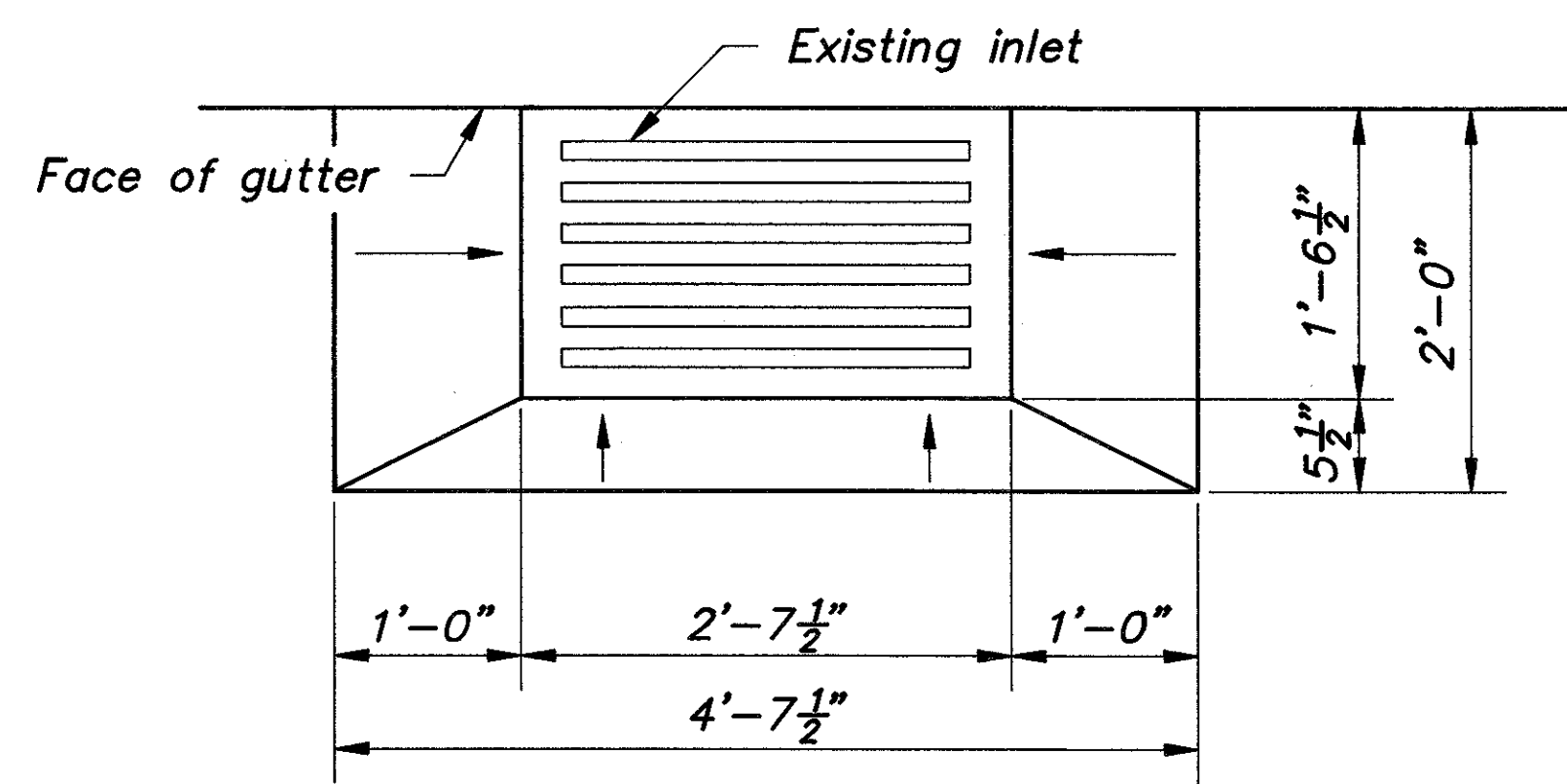
**SECTION Y-Y**



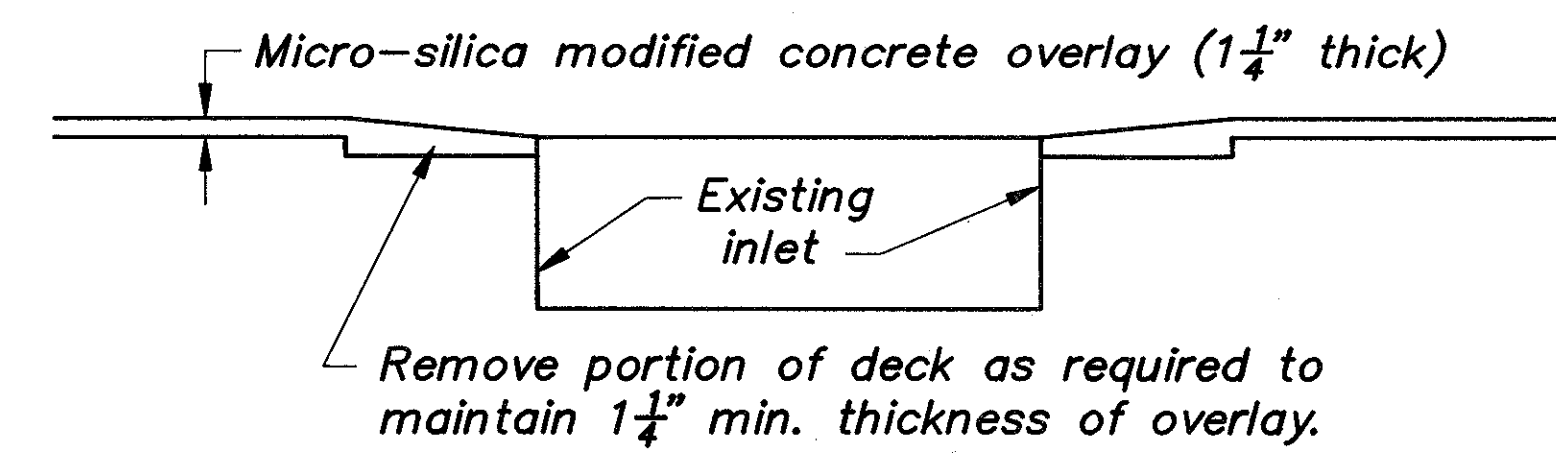
**SECTION X-X**



**SECTION W-W**

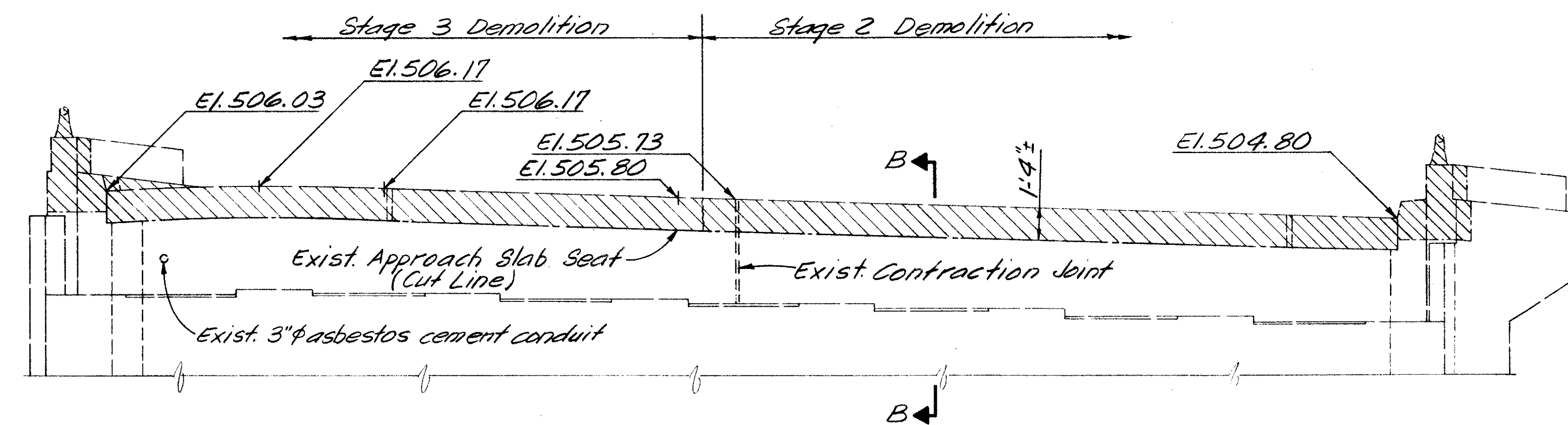
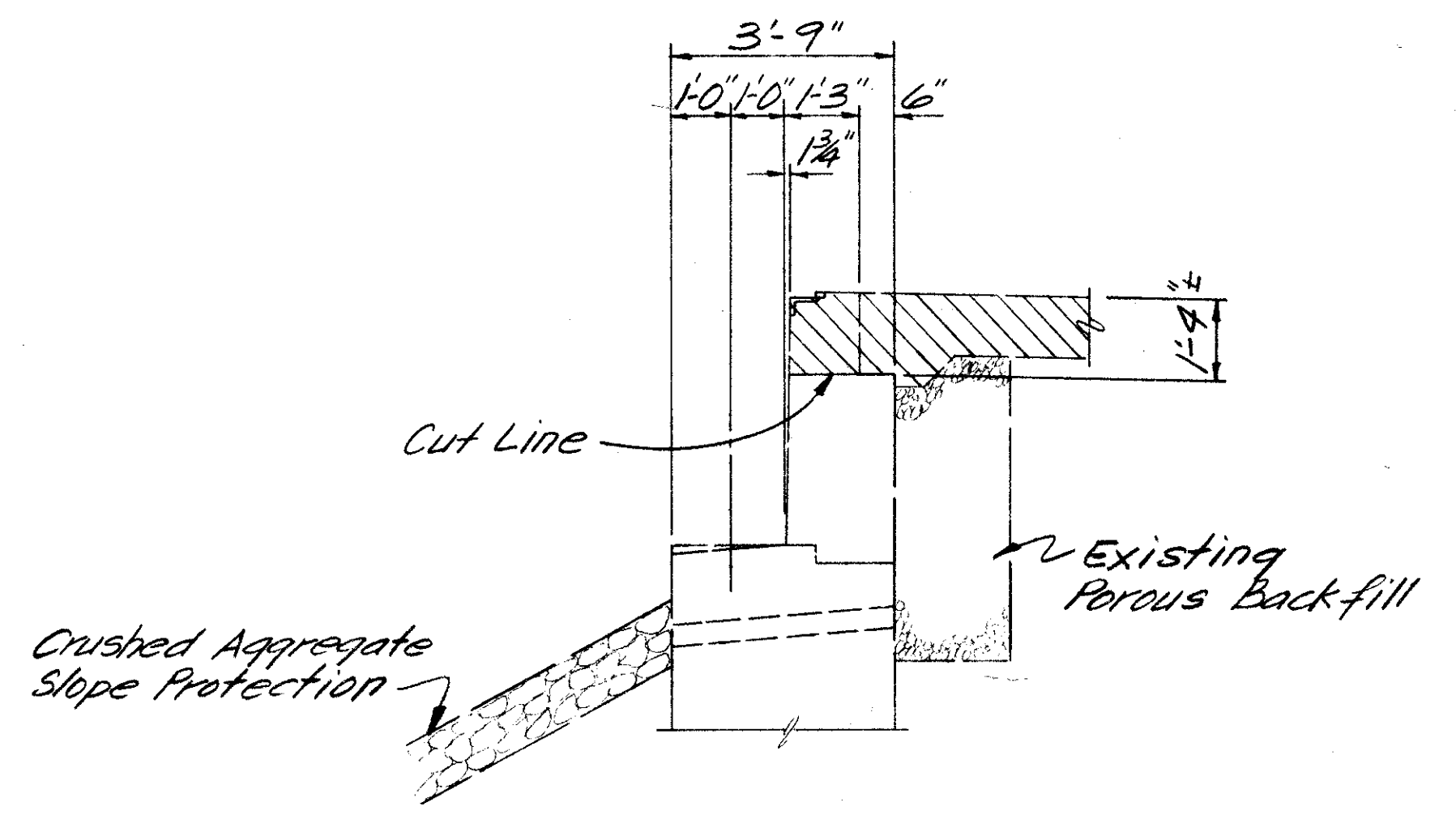
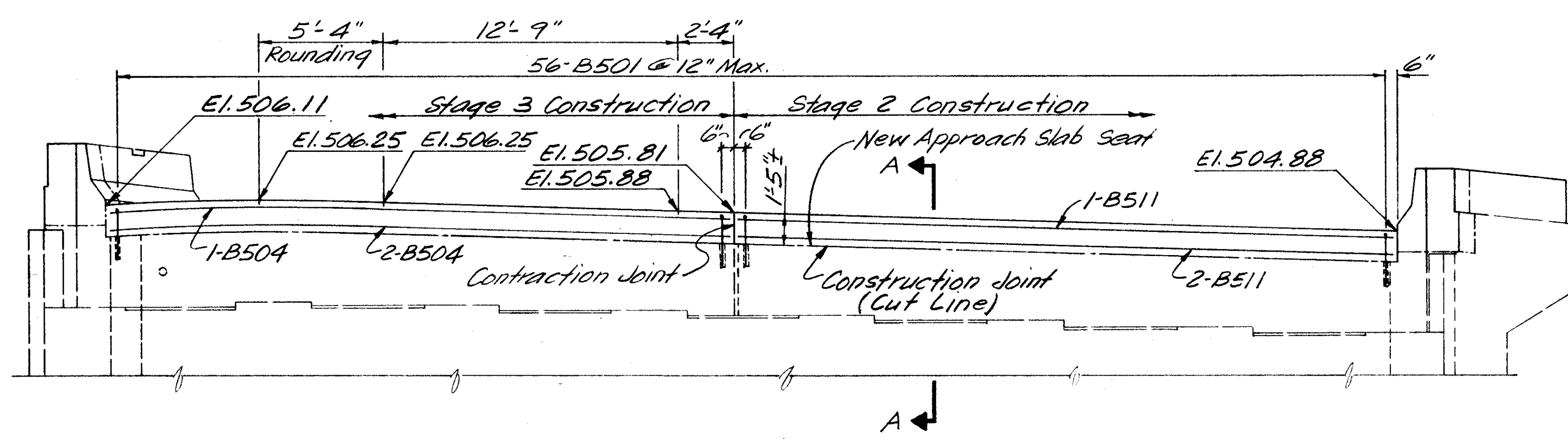
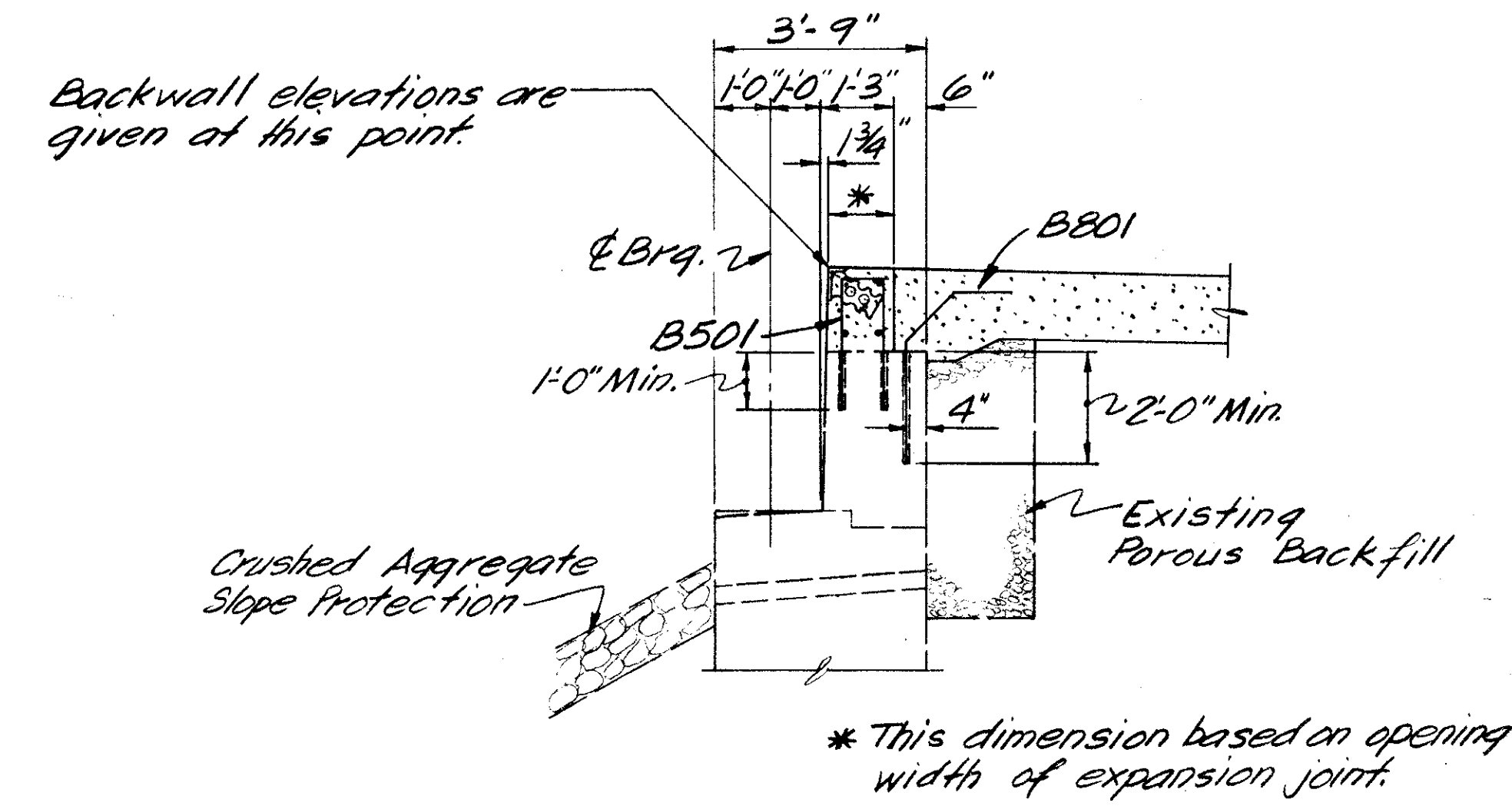
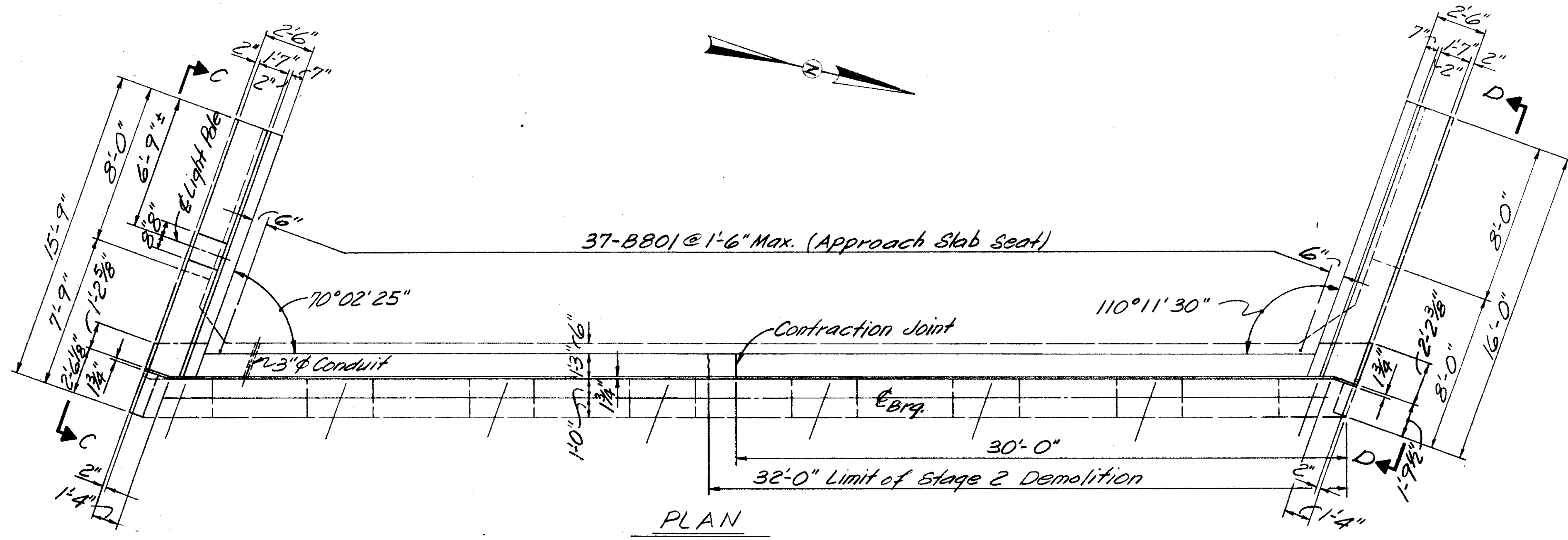


**PLAN AT INLET**



**SECTION THRU INLET**

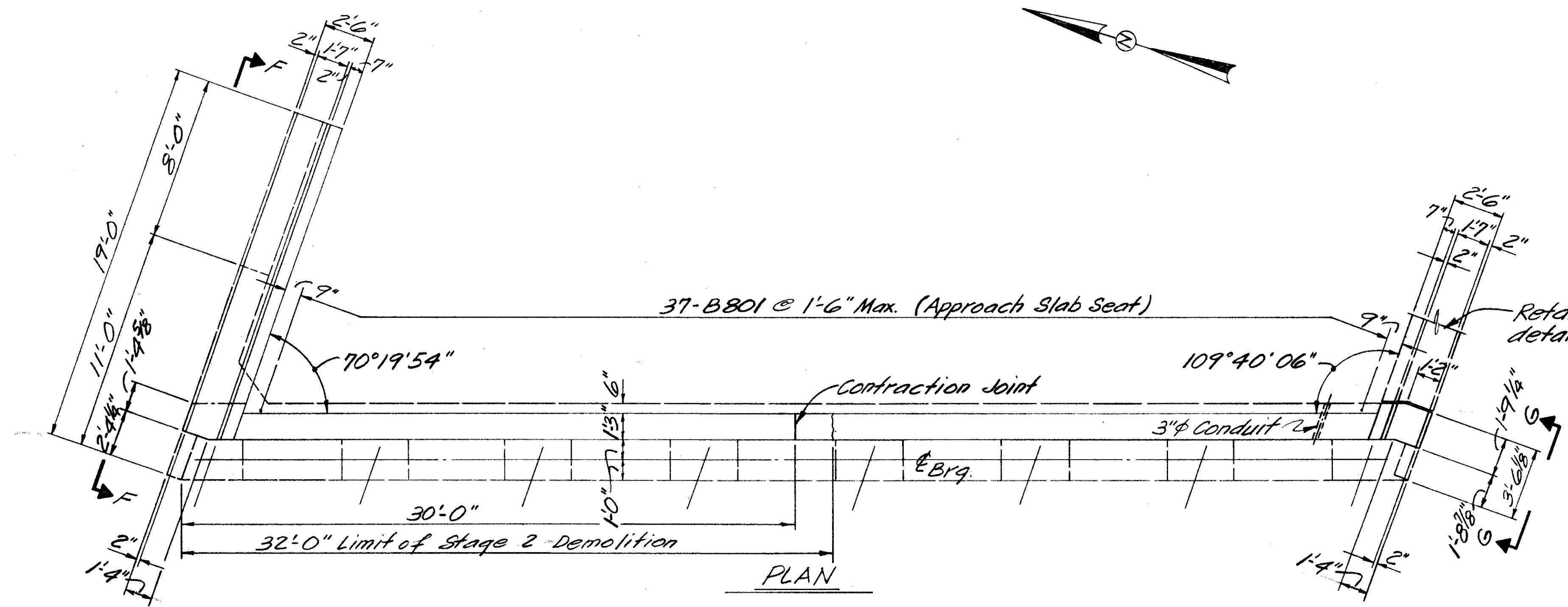
BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237						6/12
MISCELLANEOUS DETAILS BRIDGE NO. HAM-50-1986 R & L SIXTH STREET EXPRESSWAY OVER HARRIET STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DWI	CRS 4/92		



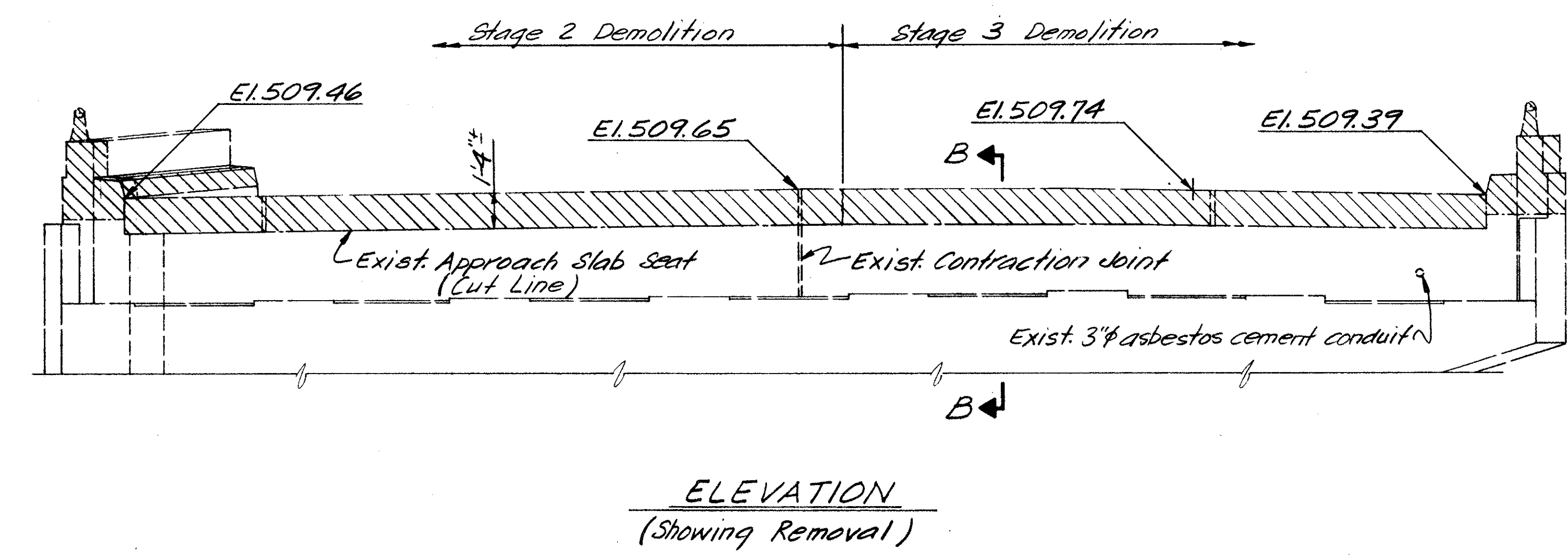
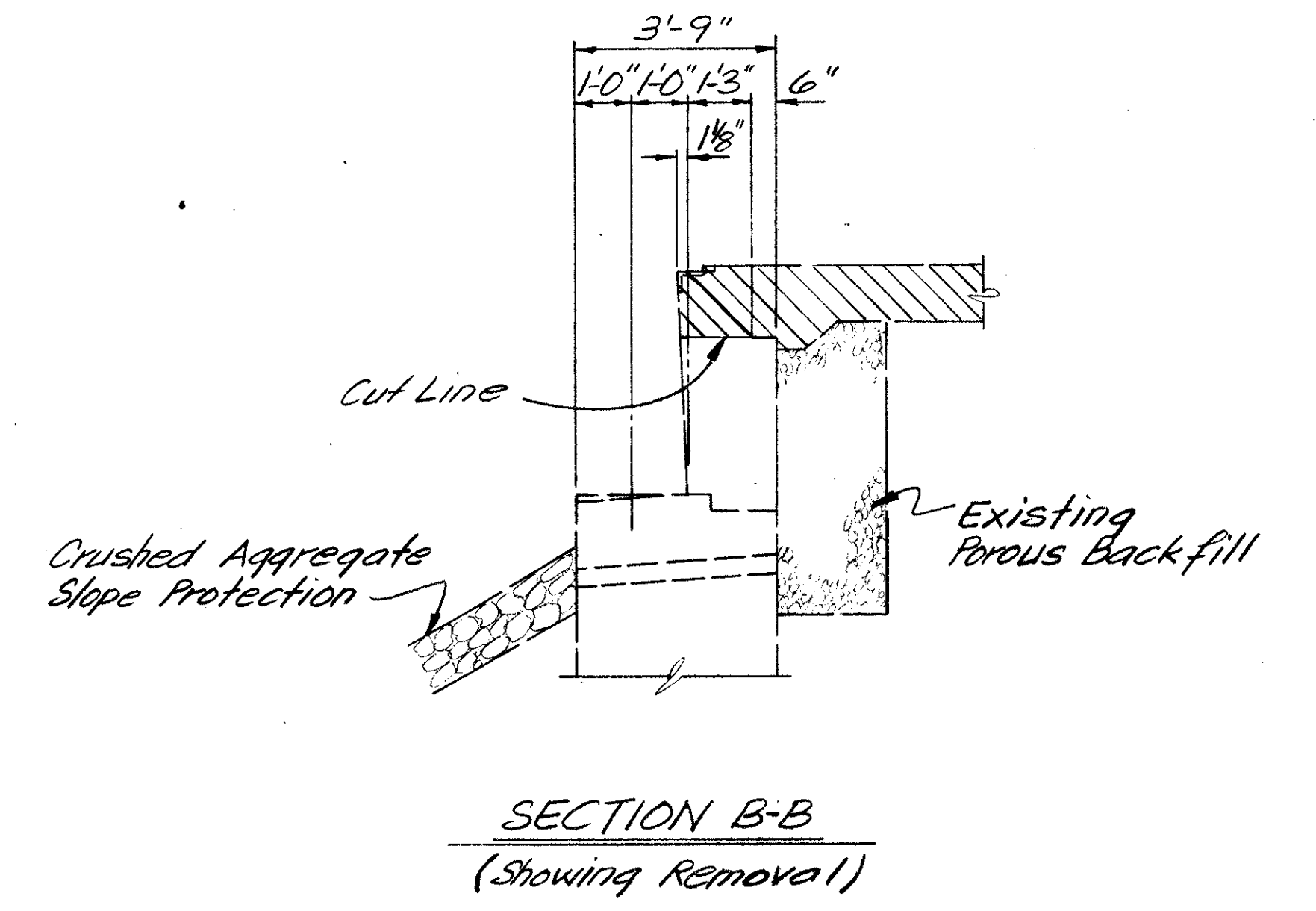
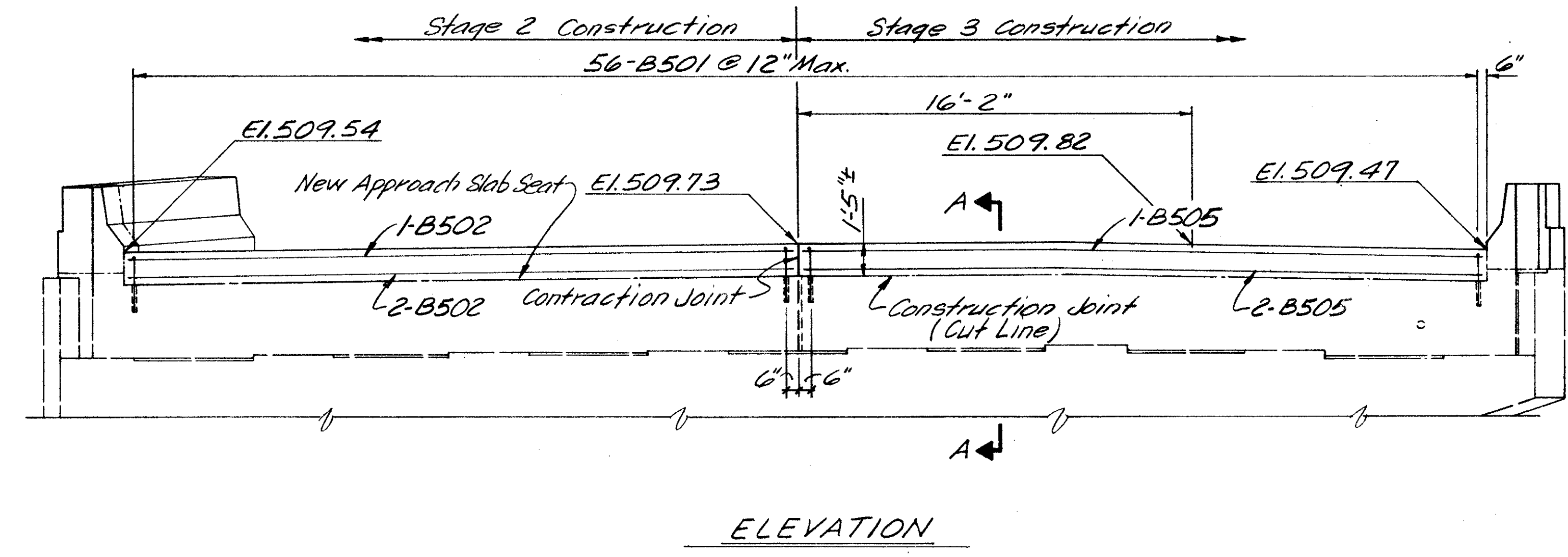
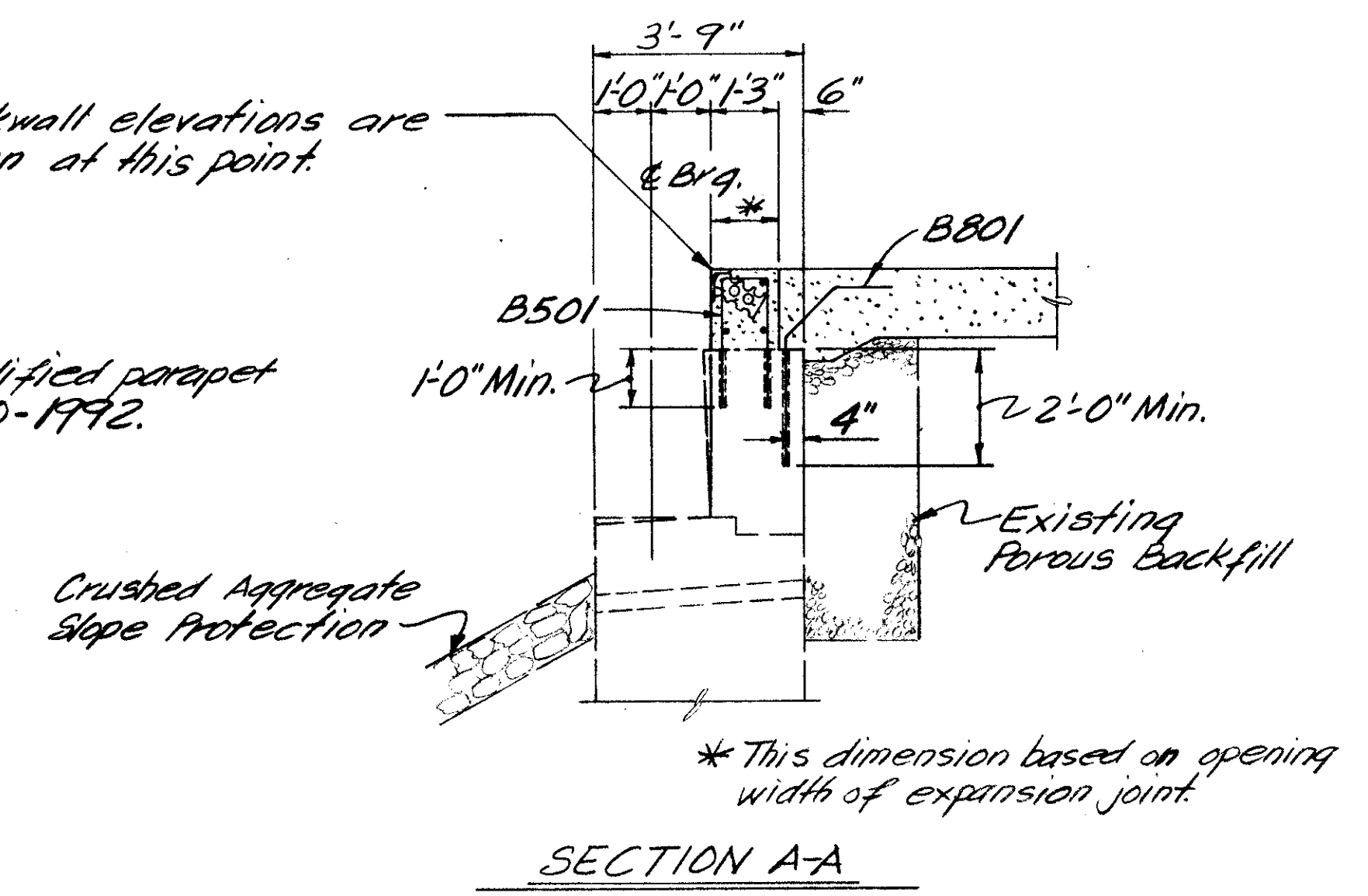
Notes:  
1. For Elevation C-C & D-D, see Sht. 9/12.

Denotes portion of existing structure to be removed.

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237					7/12
WEST ABUTMENT BRIDGE NO. HAM-50-1986R EASTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER HARRIET STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
MRS	WJH	~	DWI	CRS	4/92



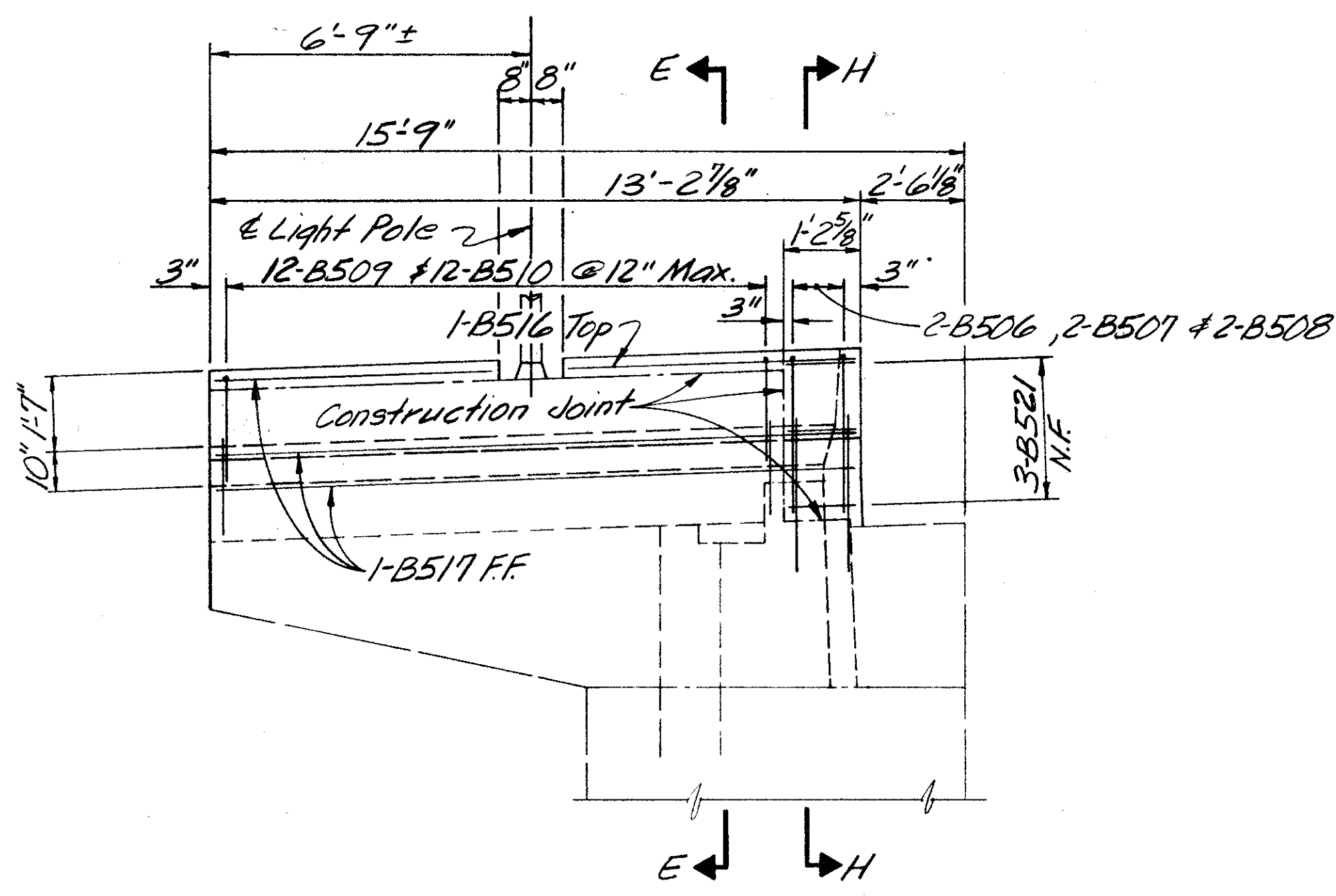
Backwall elevations are given at this point.



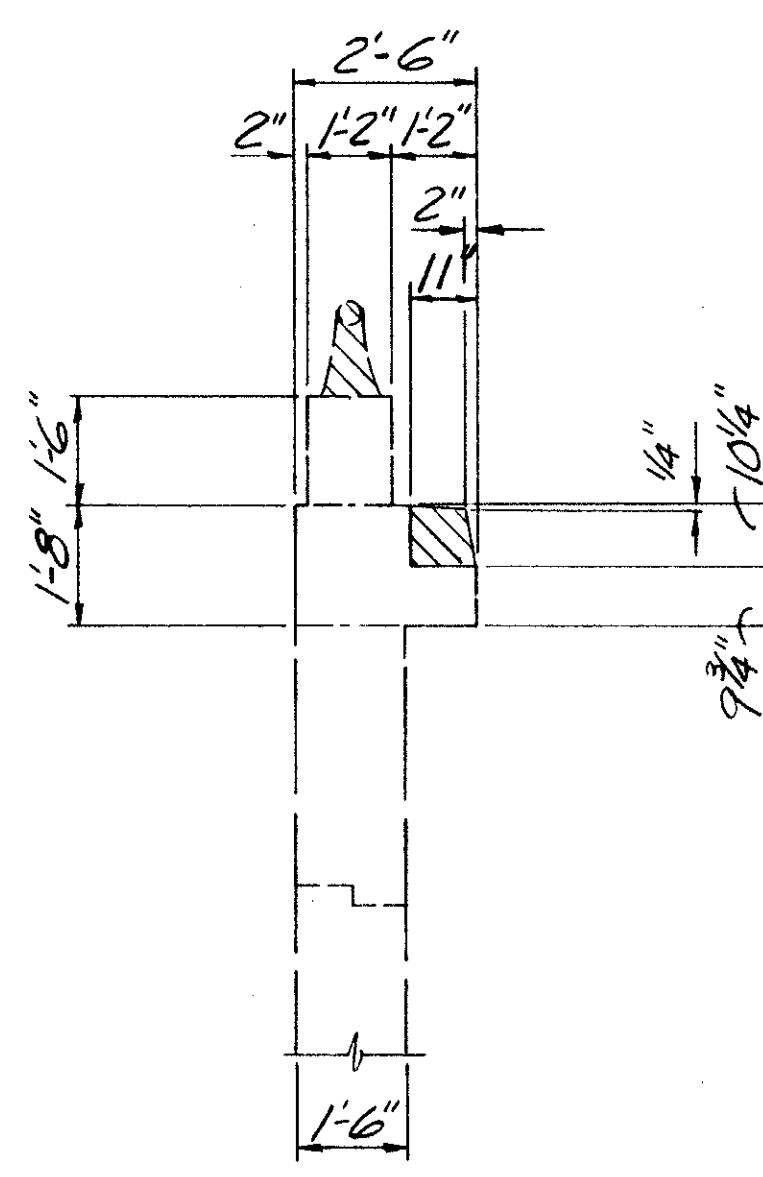
Notes:  
1. For Elevation F-F & G-G, see Sht. 9/12.

Denotes portion of existing structure to be removed.

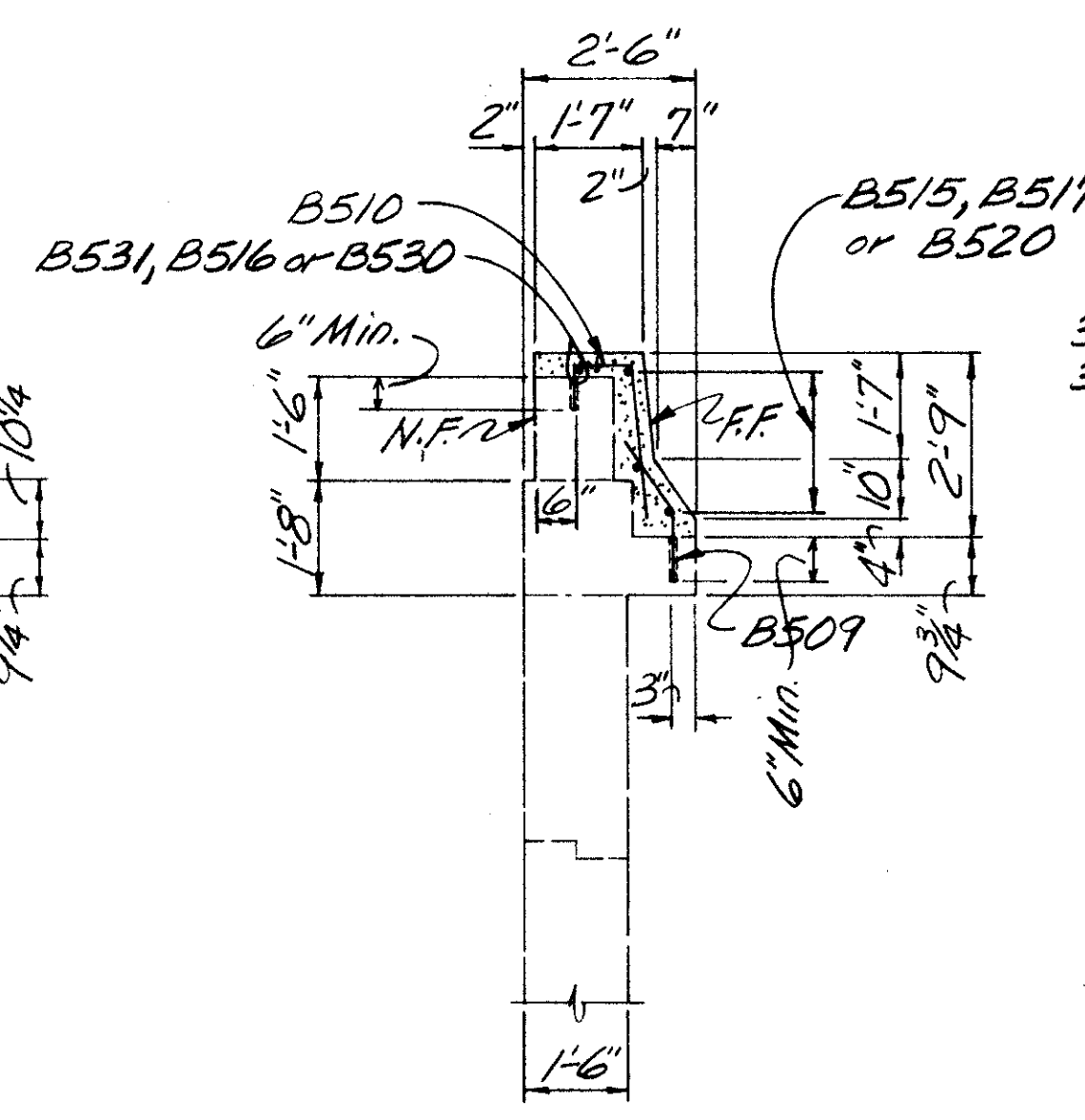
BALKE ENGINEERS 8/12					
1848 SUMMIT RD. CINCINNATI, OHIO 45237					
EAST ABUTMENT BRIDGE NO. HAM-50-1986 R EASTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER HARRIET STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	



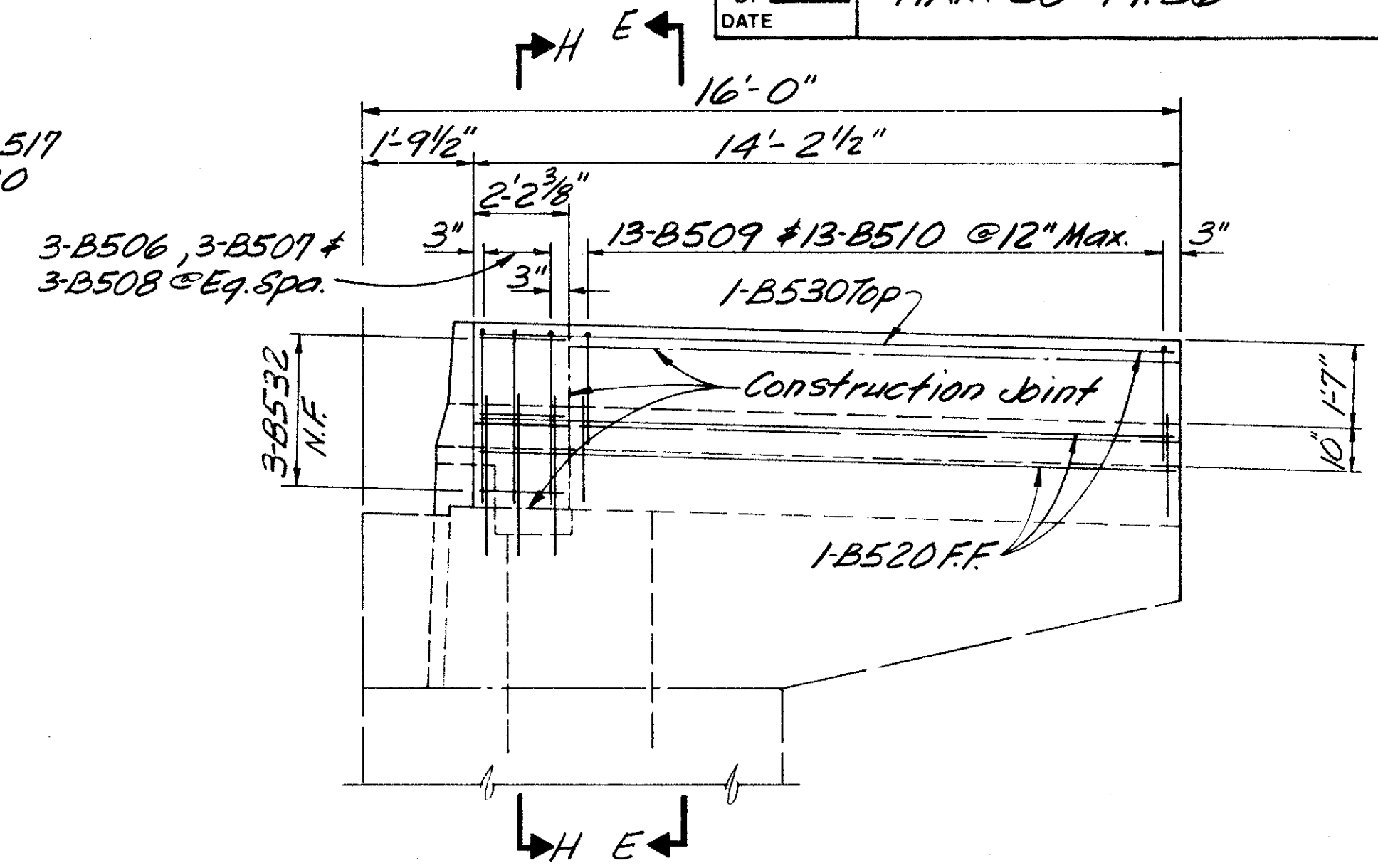
ELEVATION C-C



SECTION E-E  
(Showing Removal)

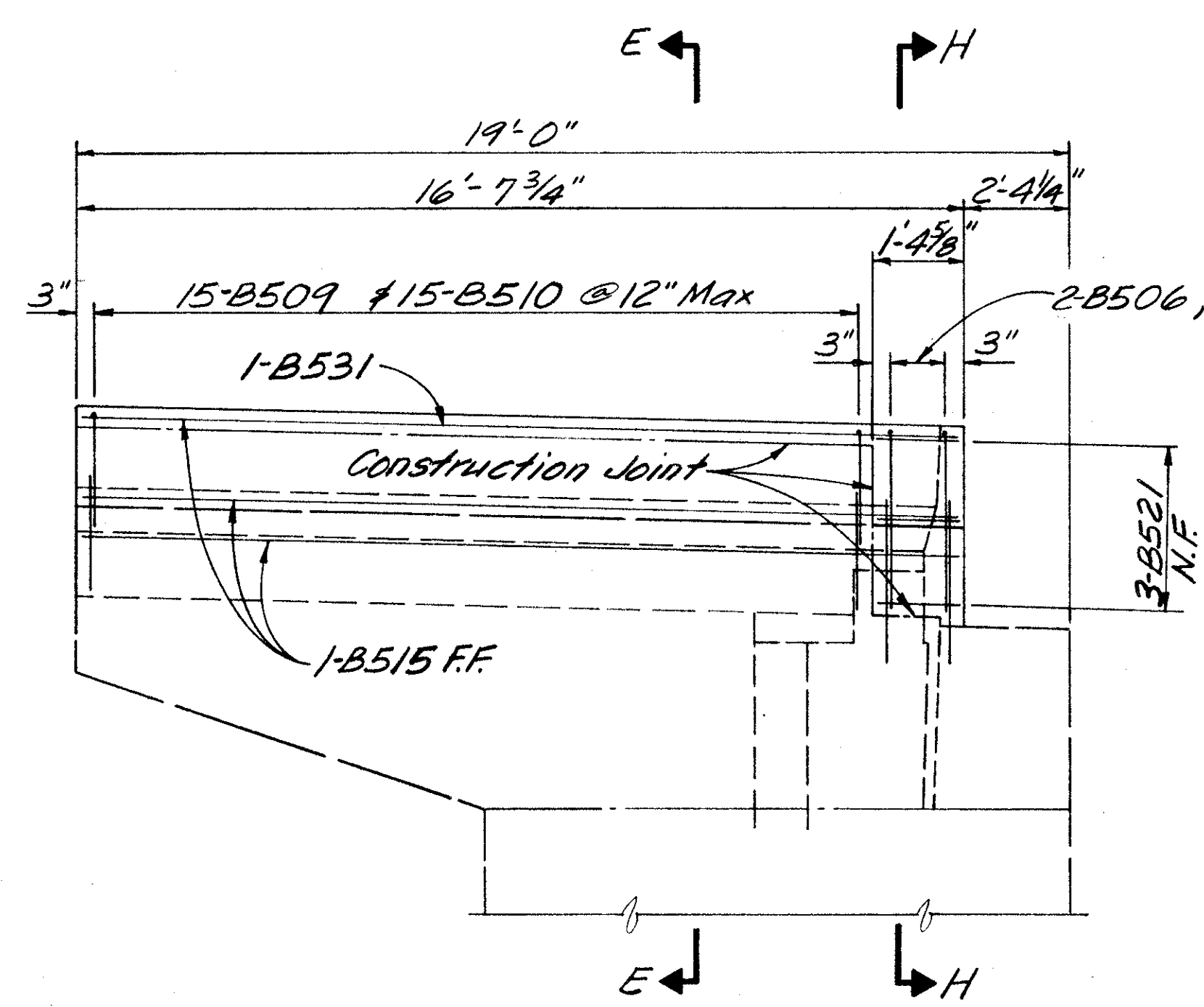


SECTION E-E

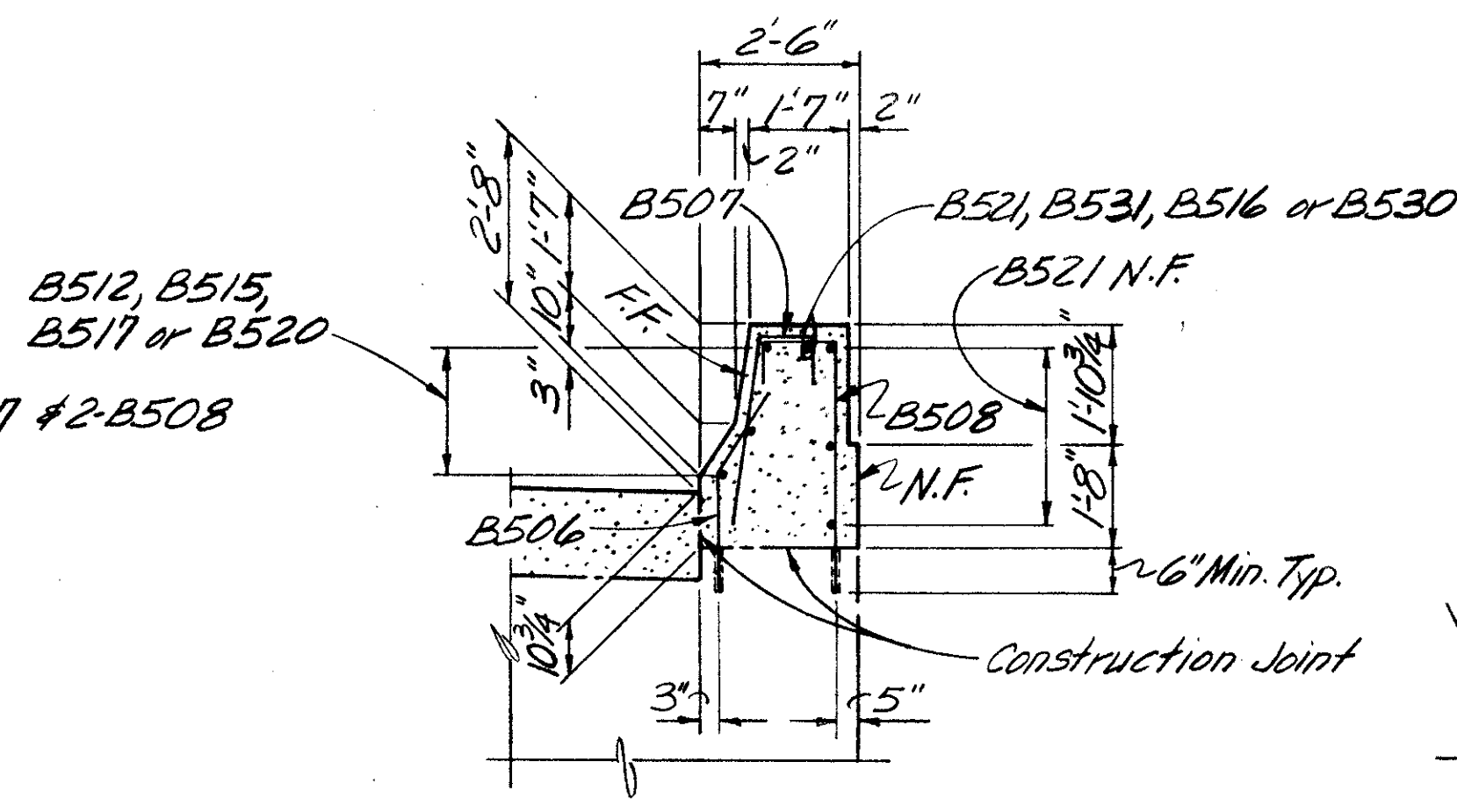


ELEVATION D-D

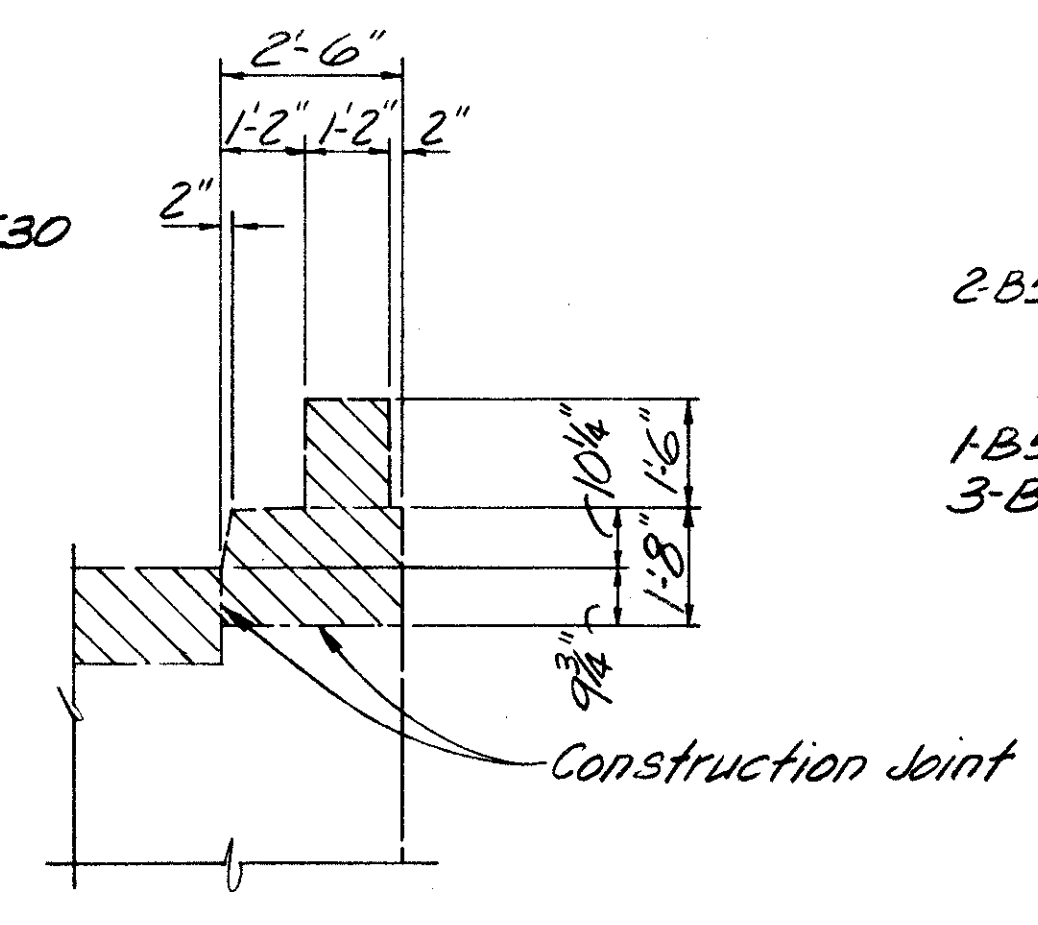
Note: Field adjust rebar spacing & field cut rebars as necessary to clear lighting pole.



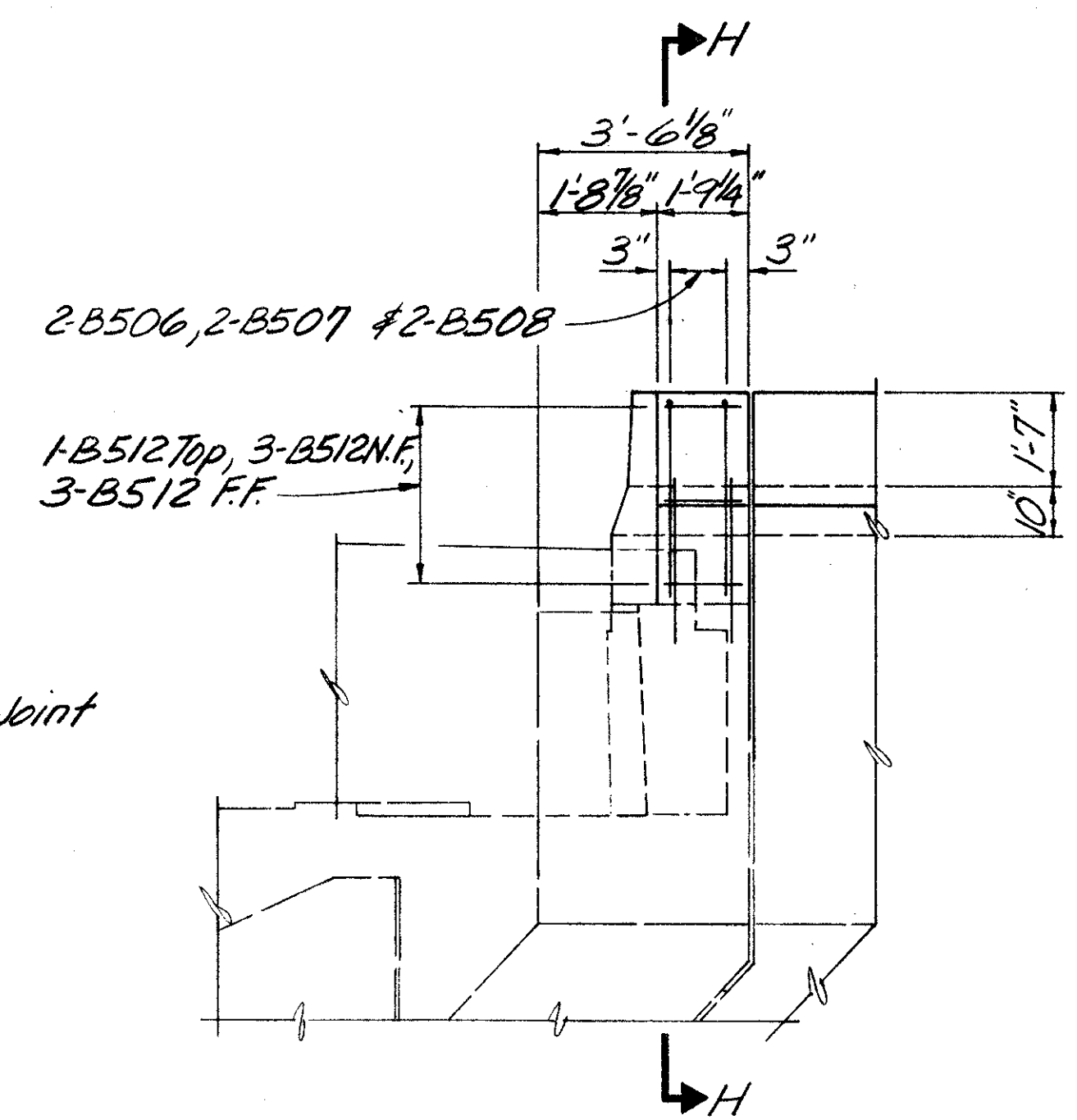
ELEVATION F-F



SECTION H-H



SECTION H-H  
(Showing Removal)

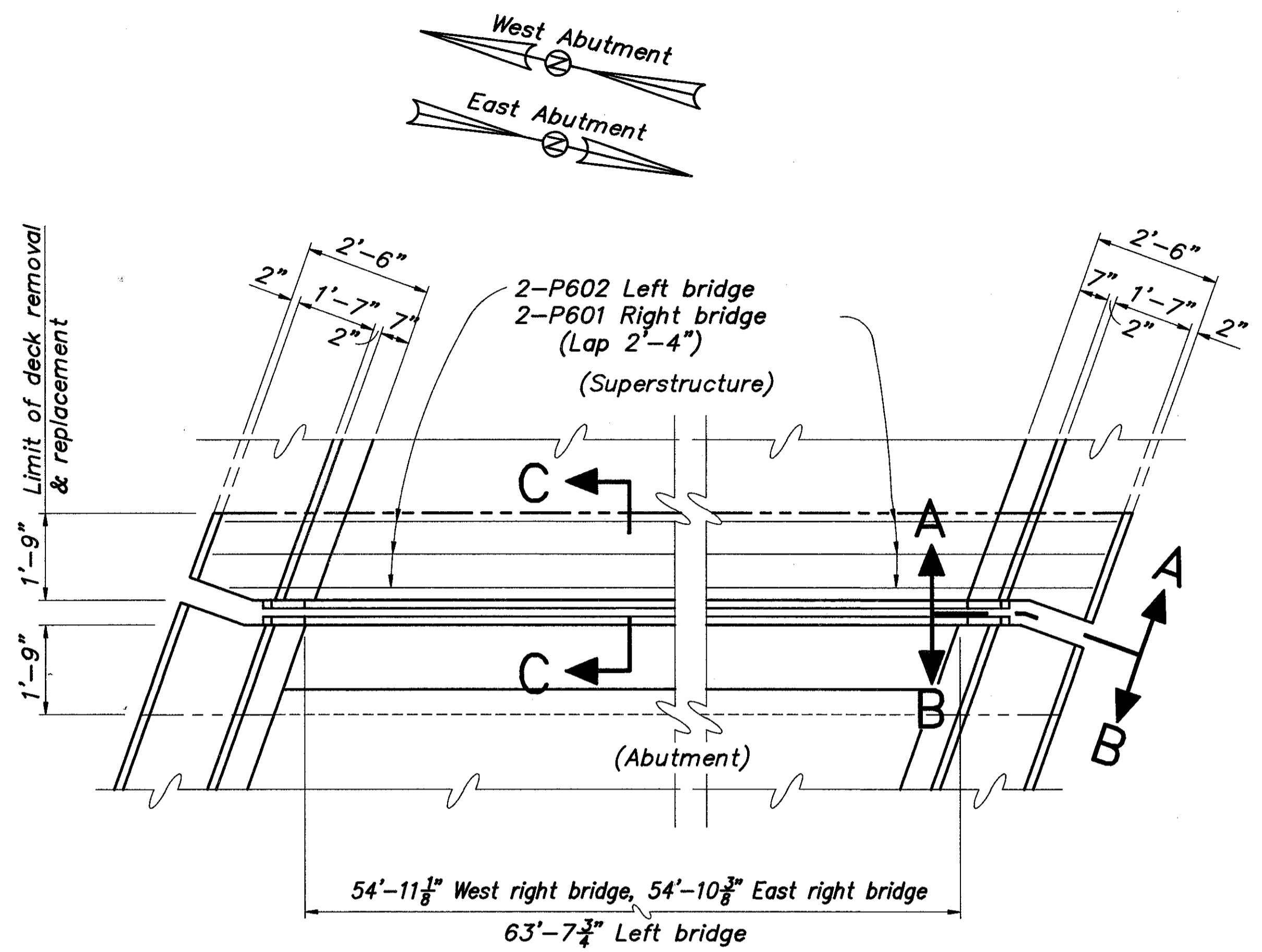


ELEVATION G-G

Note:  
N.F. = Near Face  
F.F. = Far Face

Denotes portion of existing structure to be removed.

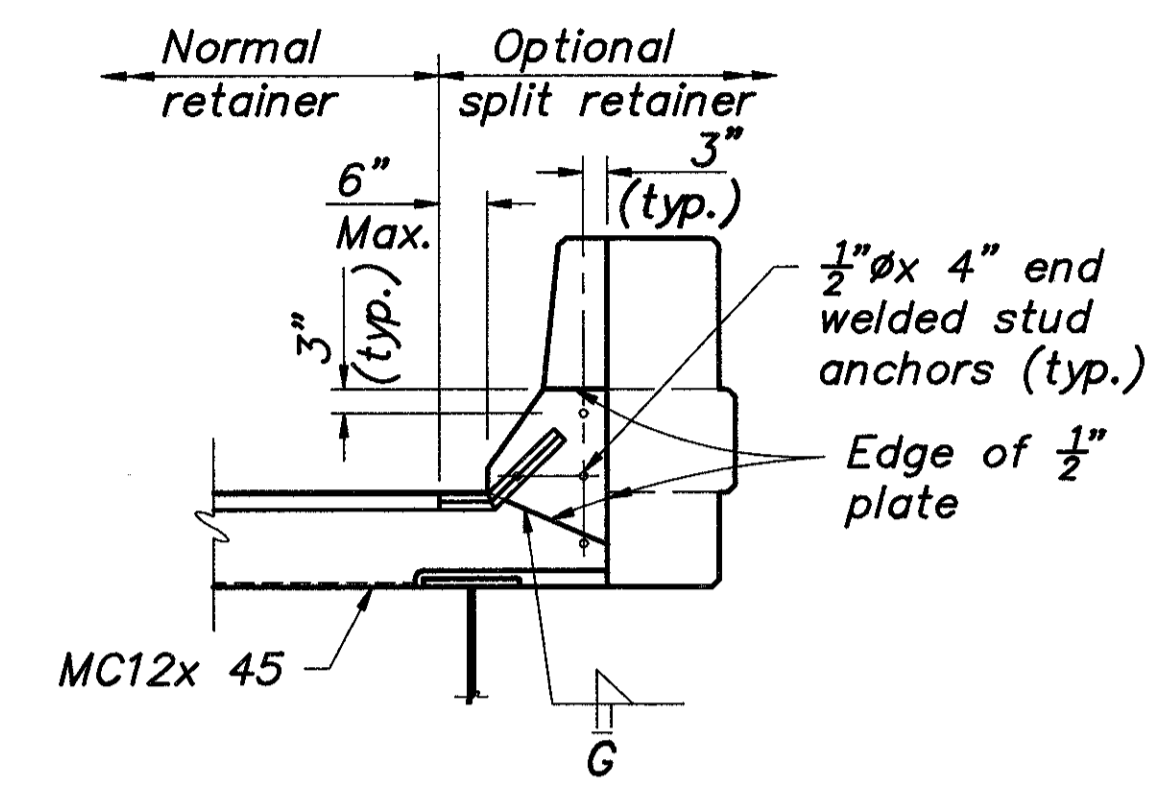
BALKE ENGINEERS 9/12 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
ABUTMENT DETAILS BRIDGE NO. HAM-50-1986 R EASTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER HARRIET STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	



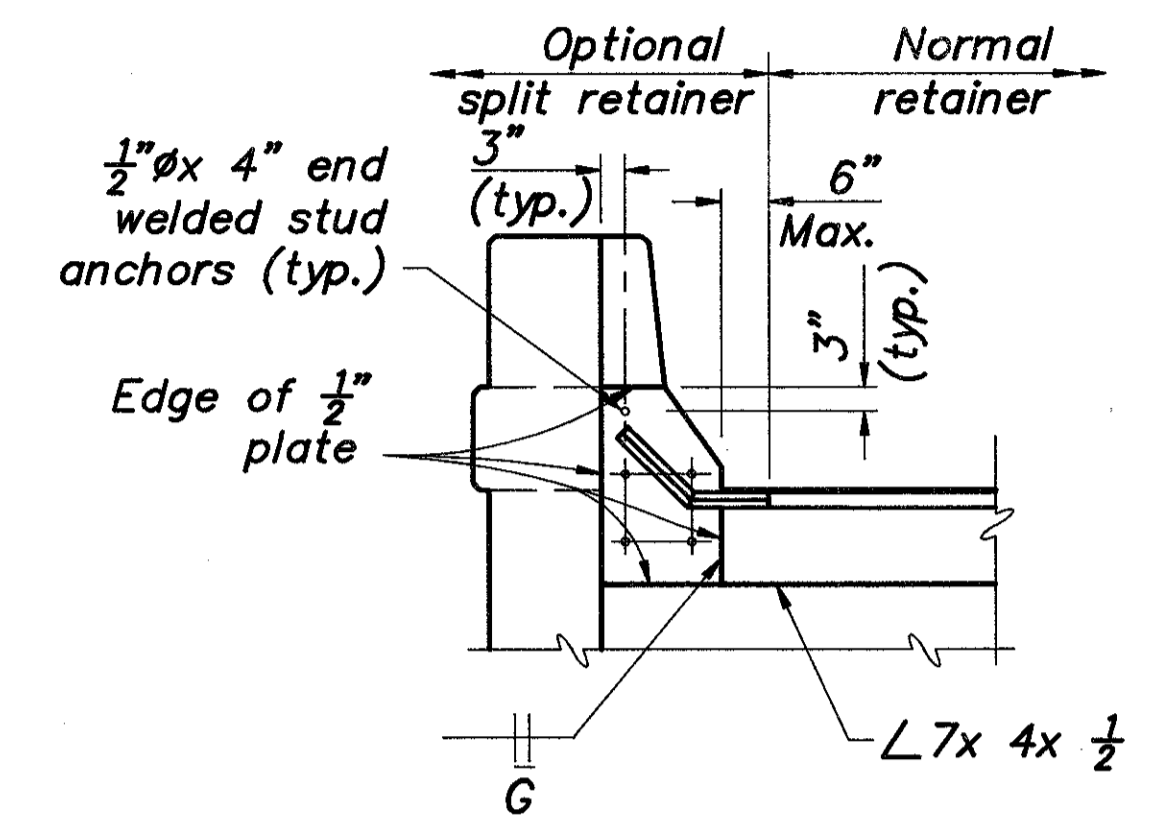
**PARTIAL PLAN**

STRIP SEAL GLAND			
LOCATION	MANUFACTURER		
		D.S. Brown Co.	Watson-Bowman & Acme Corp.
Abutments	300L	SE-300	-

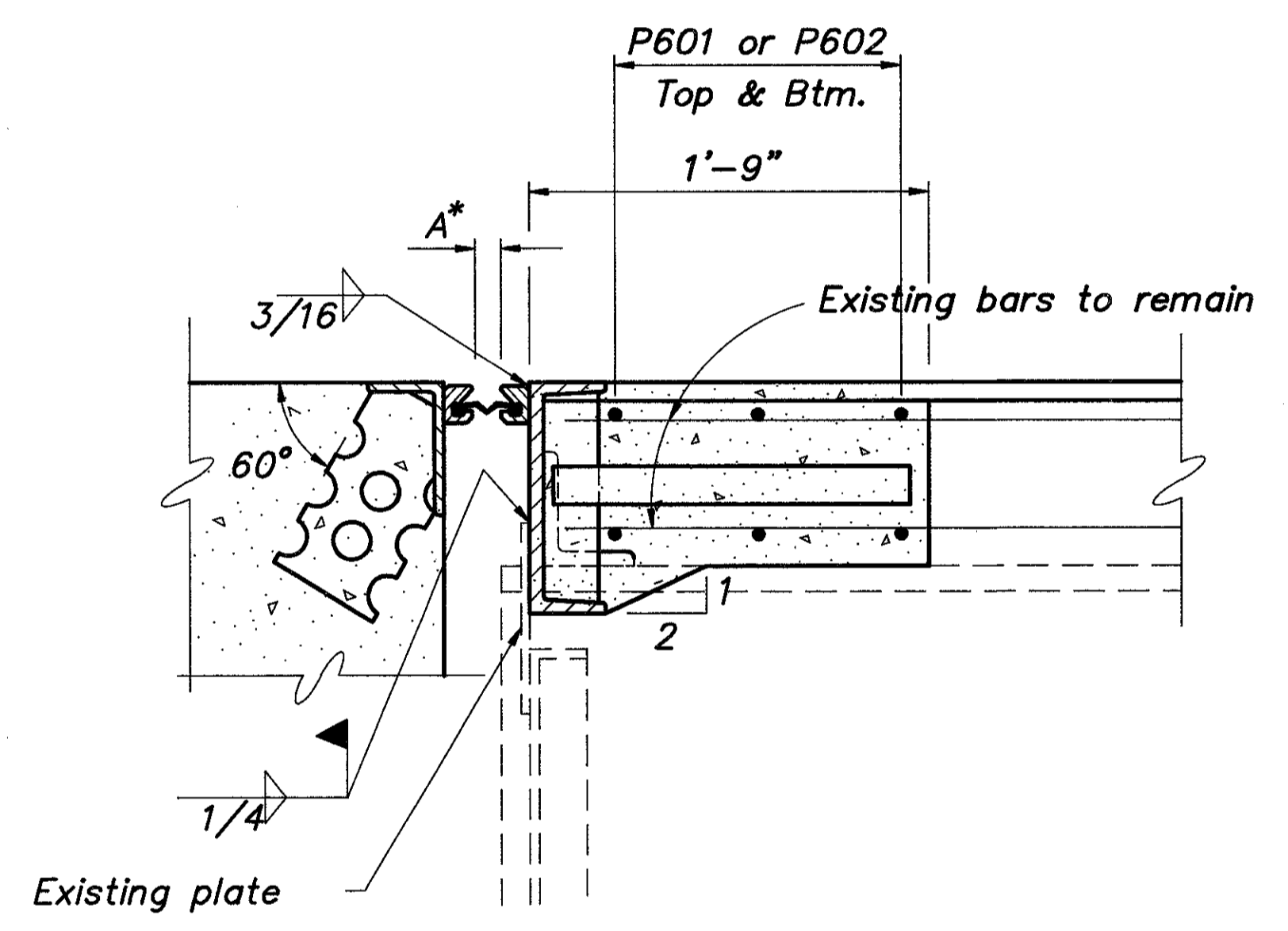
Gland shall be provided in continuous strip and inserted after all phases of extrusion installation are complete.



**SECTION A-A**



**SECTION B-B**

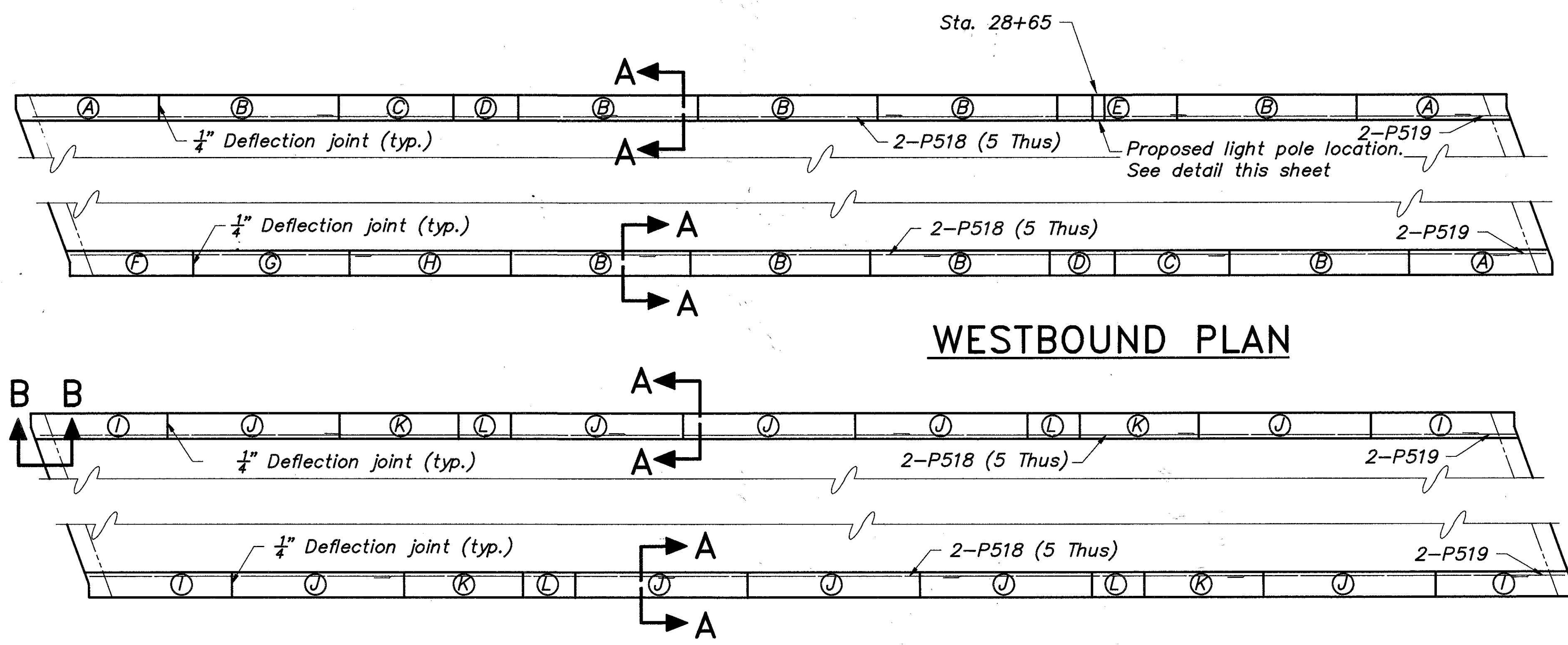


**SECTION C-C**

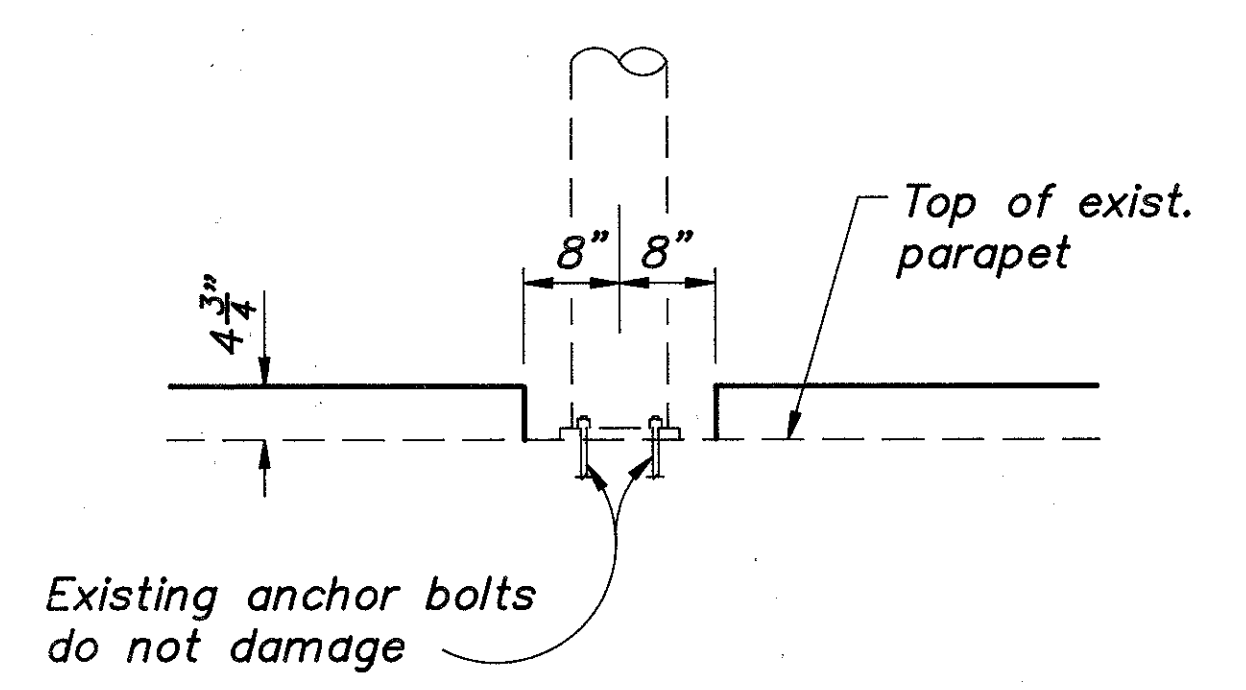
°F	OPENING WIDTH	
	WEST ABUT.	EAST ABUT.
90	1 1/2"	1 5/8"
80	1 5/8"	1 3/4"
70	1 5/8"	1 3/4"
60	1 3/4"	1 3/4"
50	1 7/8"	1 3/4"
40	1 7/8"	1 5/8"
30	2"	1 7/8"

**NOTE:**  
For additional details & notes on expansion joint, see Std. Drawing EXJ-4-87.

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					10/12
<b>EXPANSION JOINT DETAILS</b> BRIDGE NO. HAM-50-1986 R & L SIXTH STREET EXPRESSWAY OVER HARRIET STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

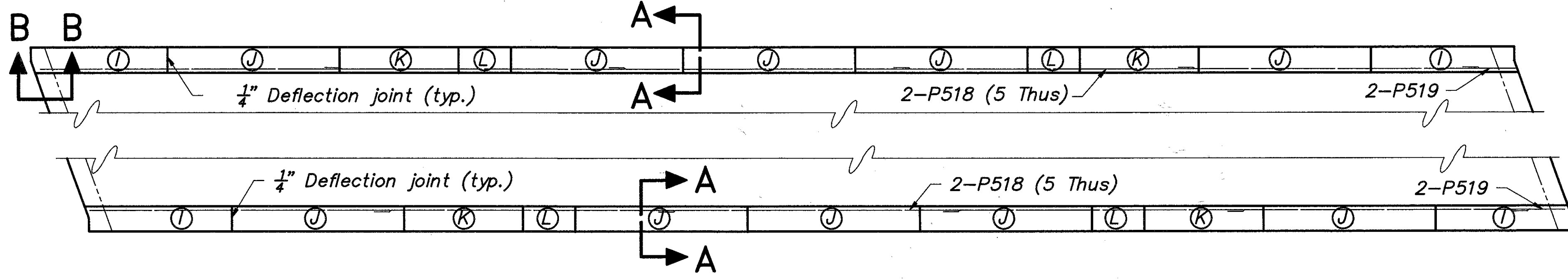


**WESTBOUND PLAN**



**LIGHT POLE SUPPORT DETAIL**

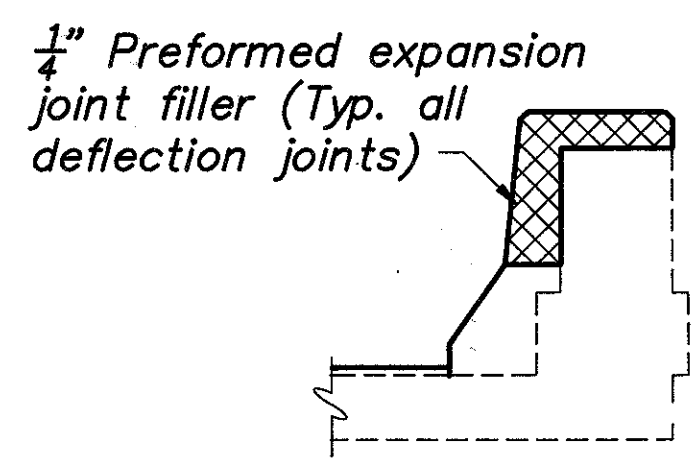
NOTE: Light pole locations match existing pole locations.



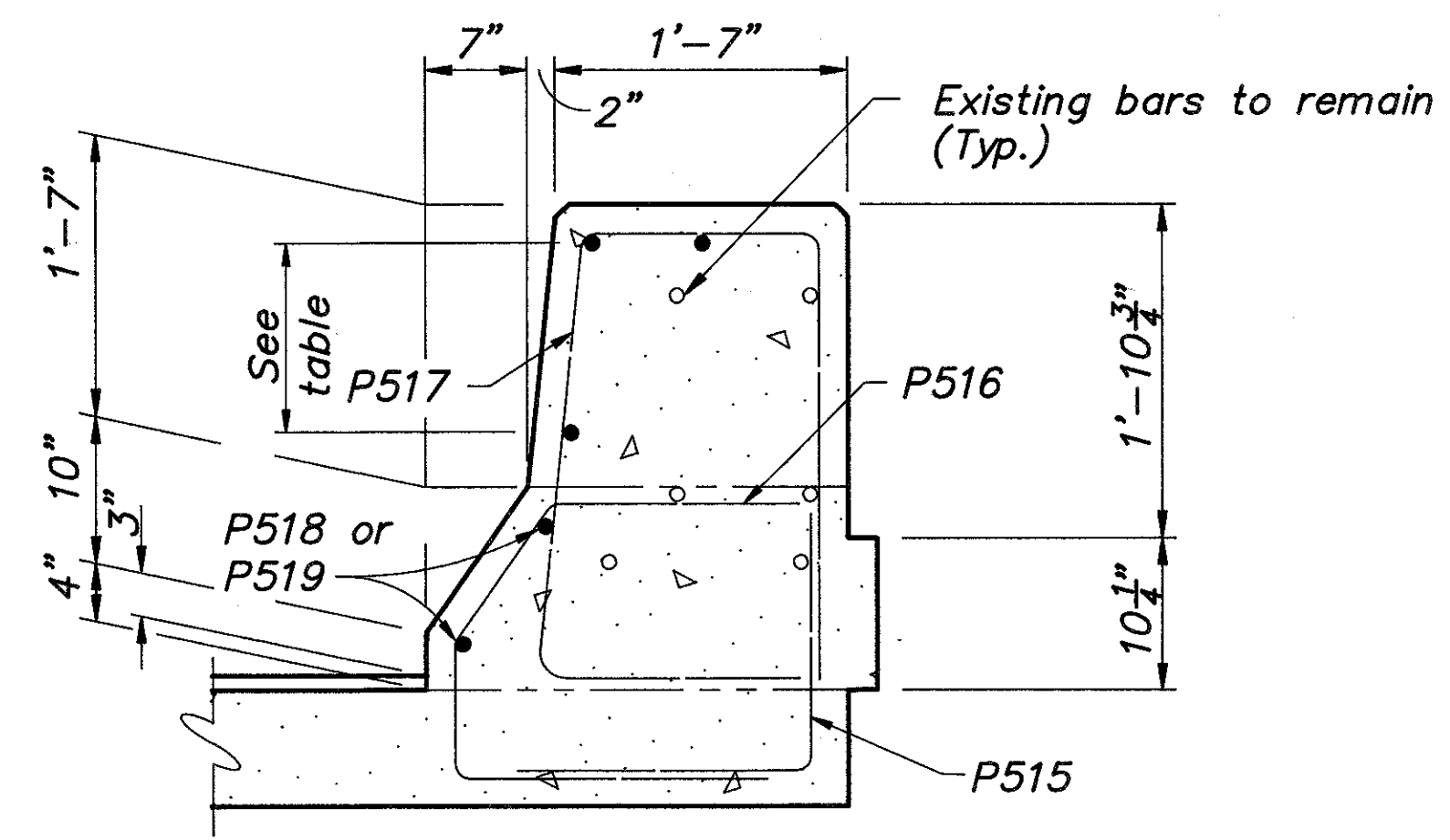
**EASTBOUND PLAN**

PARAPET PANELS				
MARK	NO.	PANEL LENGTH	DIM. X	BARS NEEDED
(A)	3	14'-8"	7"	8-P501, 8-P502 & 3-P503
(B)	9	18'-0"	2"	13-P501, 13-P502 & 3-P504
(C)	2	11'-6"	6"	8-P501, 8-P502 & 3-P505
(D)	2	6'-6"	3"	5-P501, 5-P502 & 3-P506
(E)	1	12'-0"	2"	9-P501, 9-P502 & 3-P507
(F)	1	12'-8"	4"	7-P501, 7-P502 & 3-P508
(G)	1	15'-8"	4"	11-P501, 11-P502 & 3-P509
(H)	1	16'-2"	7"	11-P501, 11-P502 & 3-P510
(I)	4	14'-0"	3"	8-P501, 8-P502 & 3-P511
(J)	10	17'-3"	4 1/2"	12-P501, 12-P502 & 3-P512
(K)	4	11'-11"	2"	9-P501, 9-P502 & 3-P513
(L)	4	5'-3"	4 1/2"	4-P501, 4-P502 & 3-P514

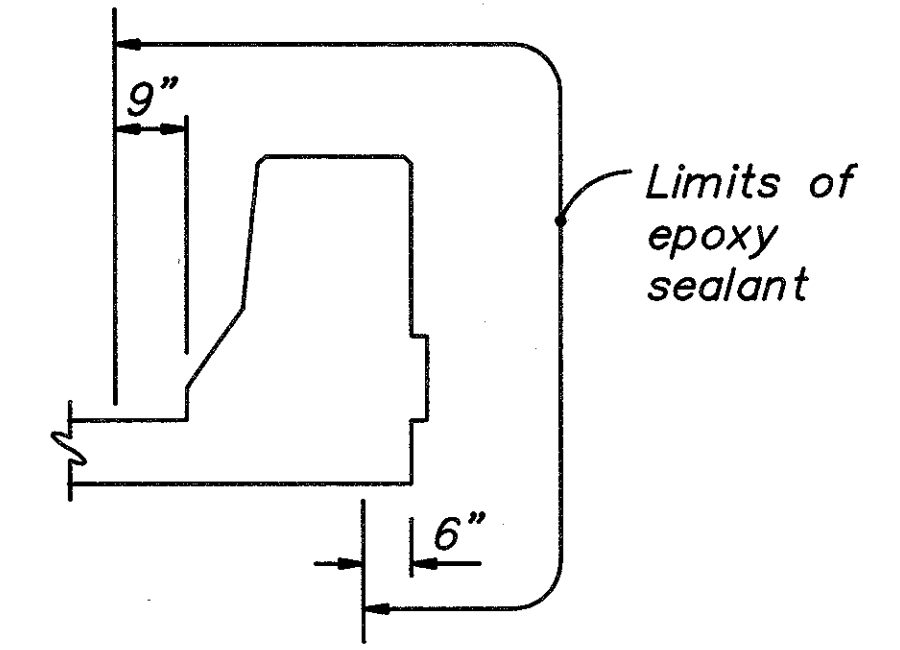
All reinforcing bars to be epoxy coated.



**DEFLECTION JOINT DETAIL**

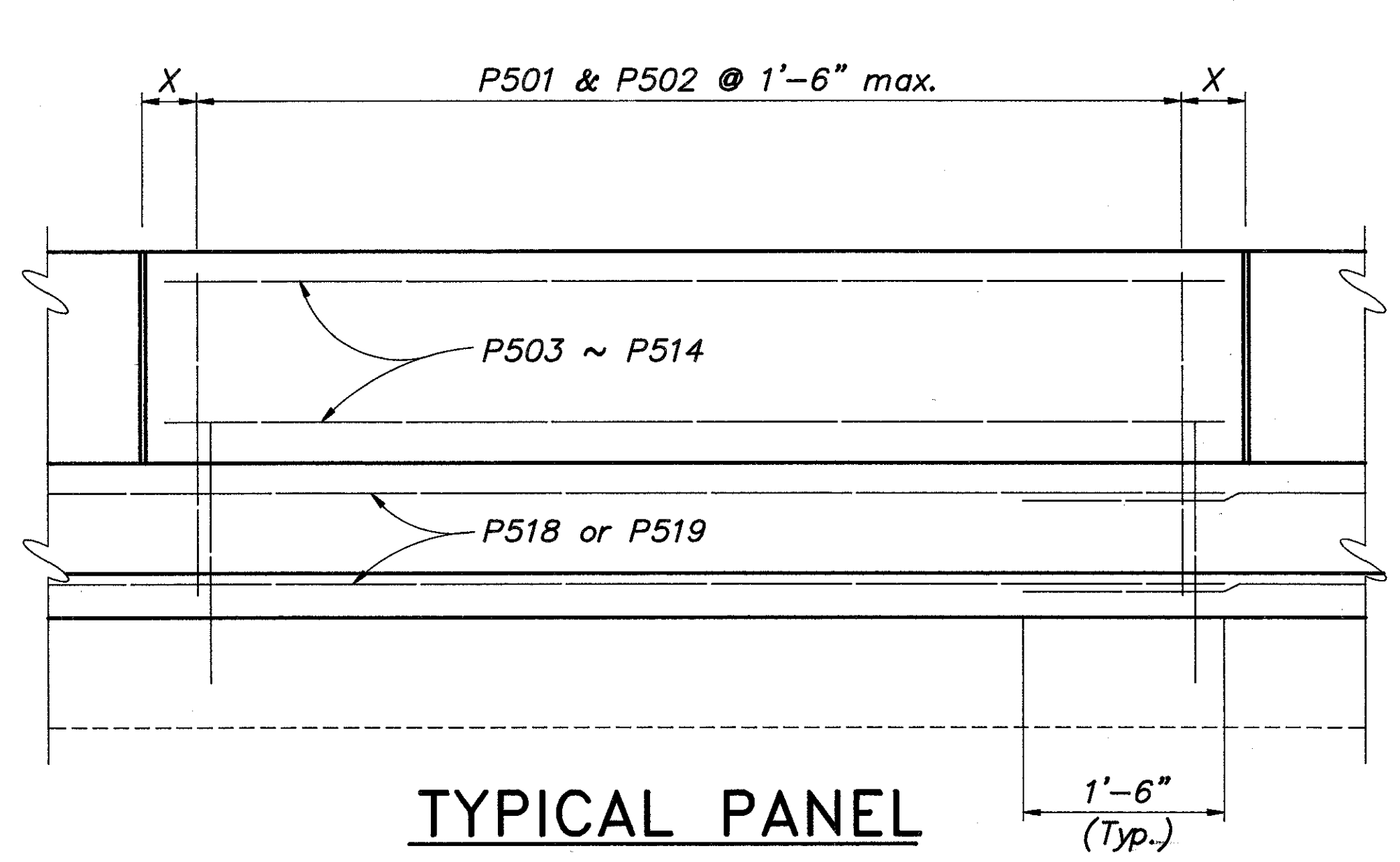


**SECTION C-C**

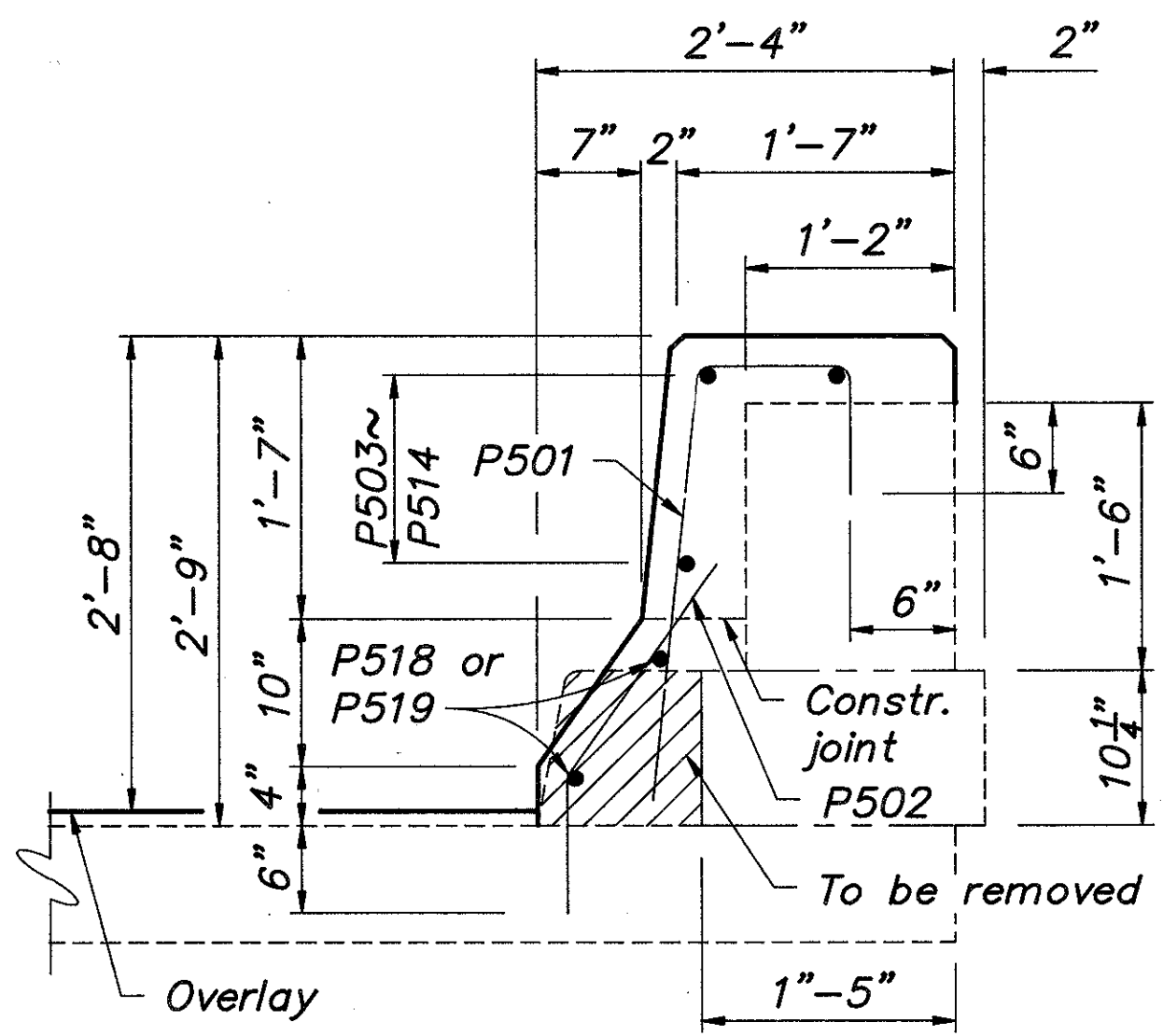


**LIMITS OF EPOXY COATING**

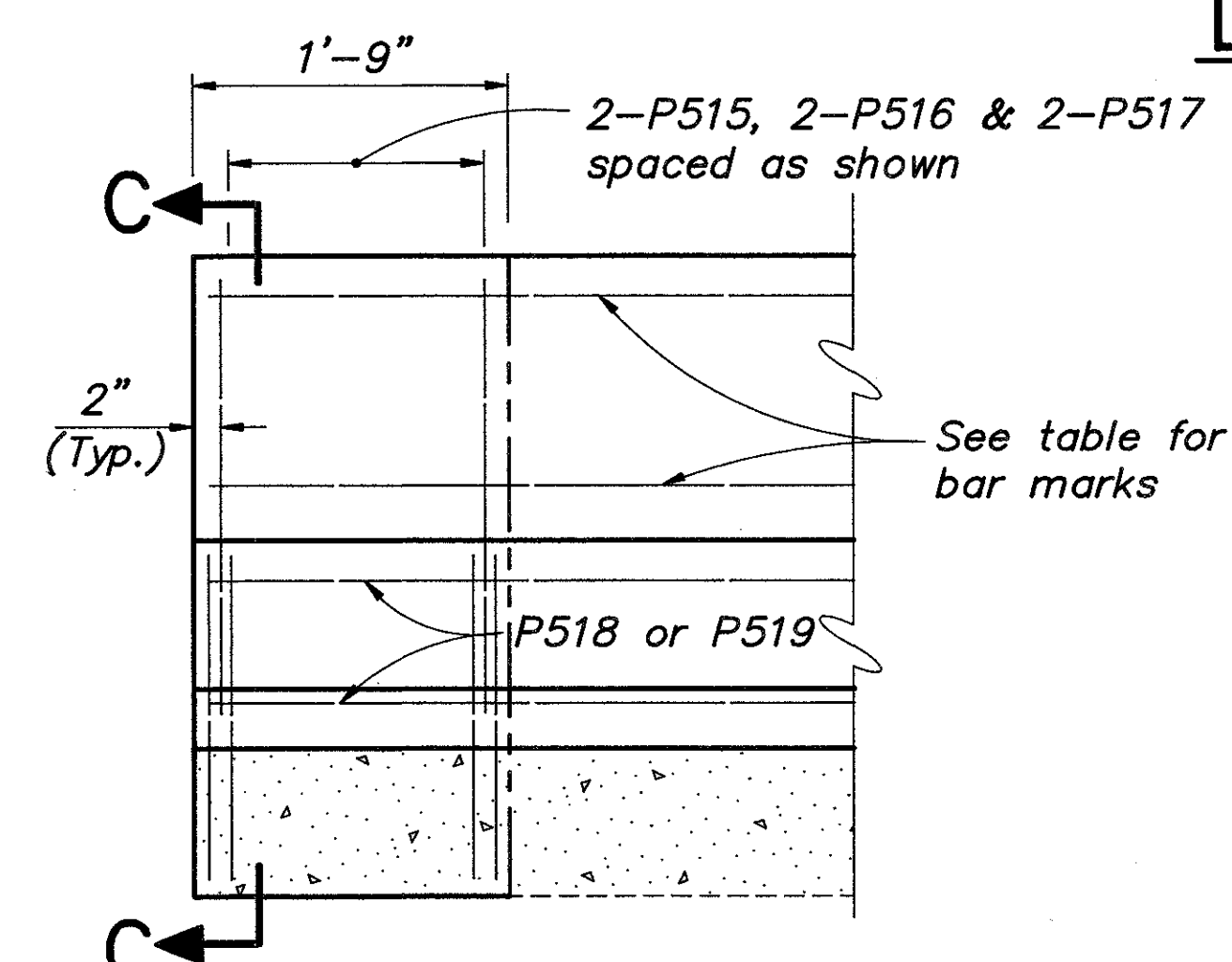
NOTE: New deflection joints shall match the existing deflection joints locations. SECTION B-B is typical at all expansion joints.



**TYPICAL PANEL**



**SECTION A-A**

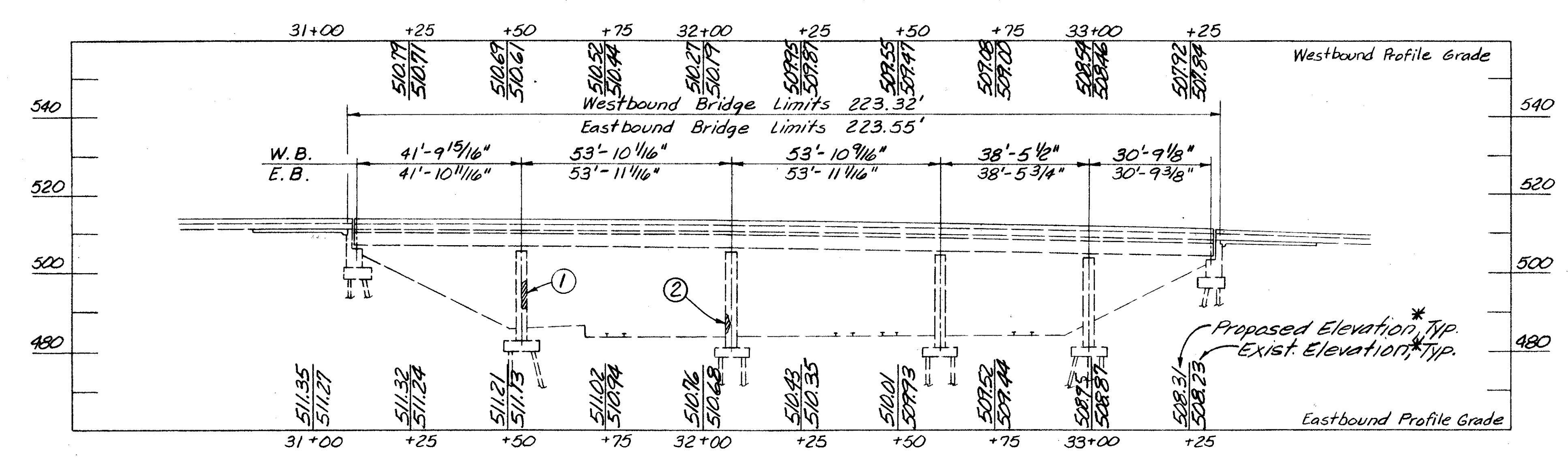
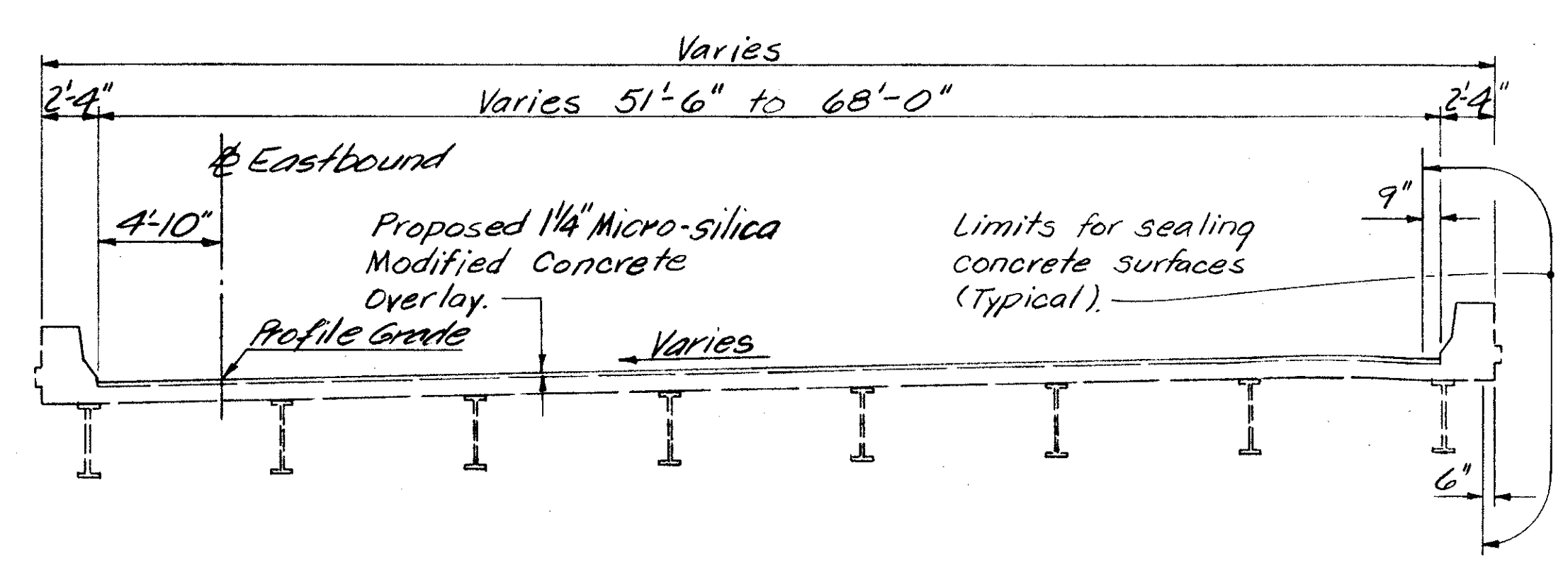
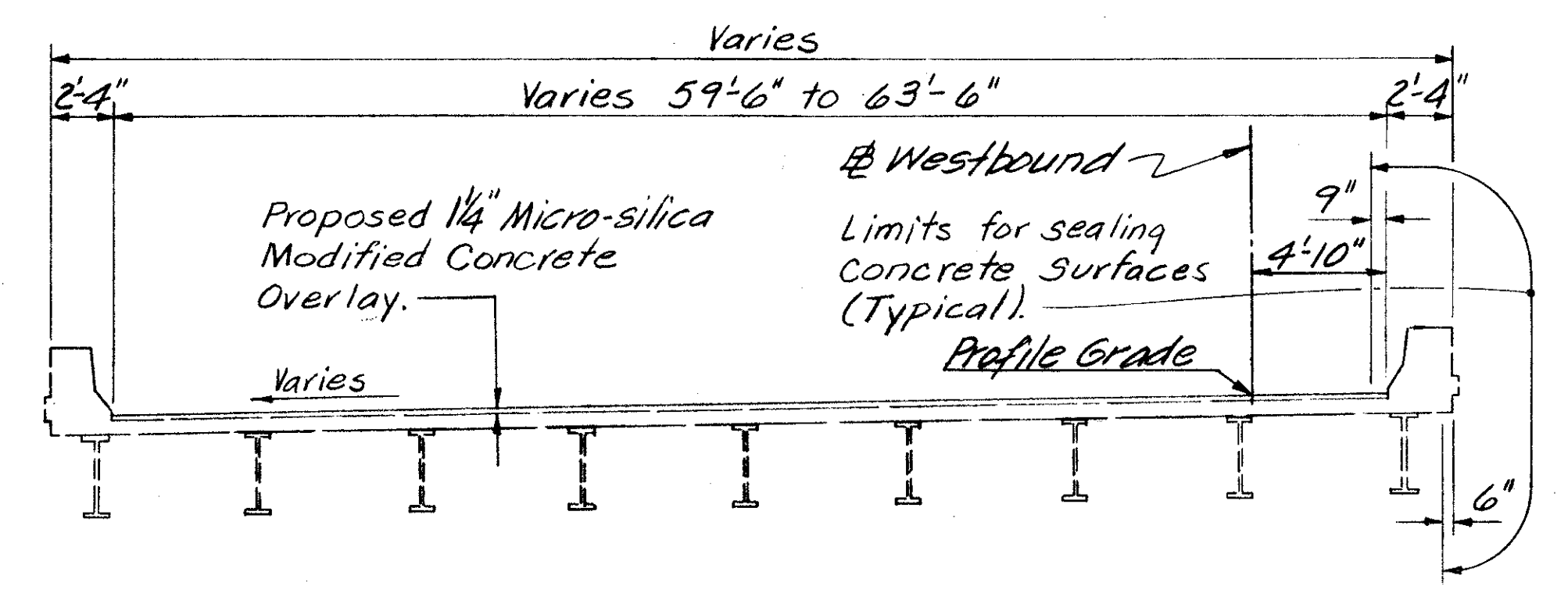
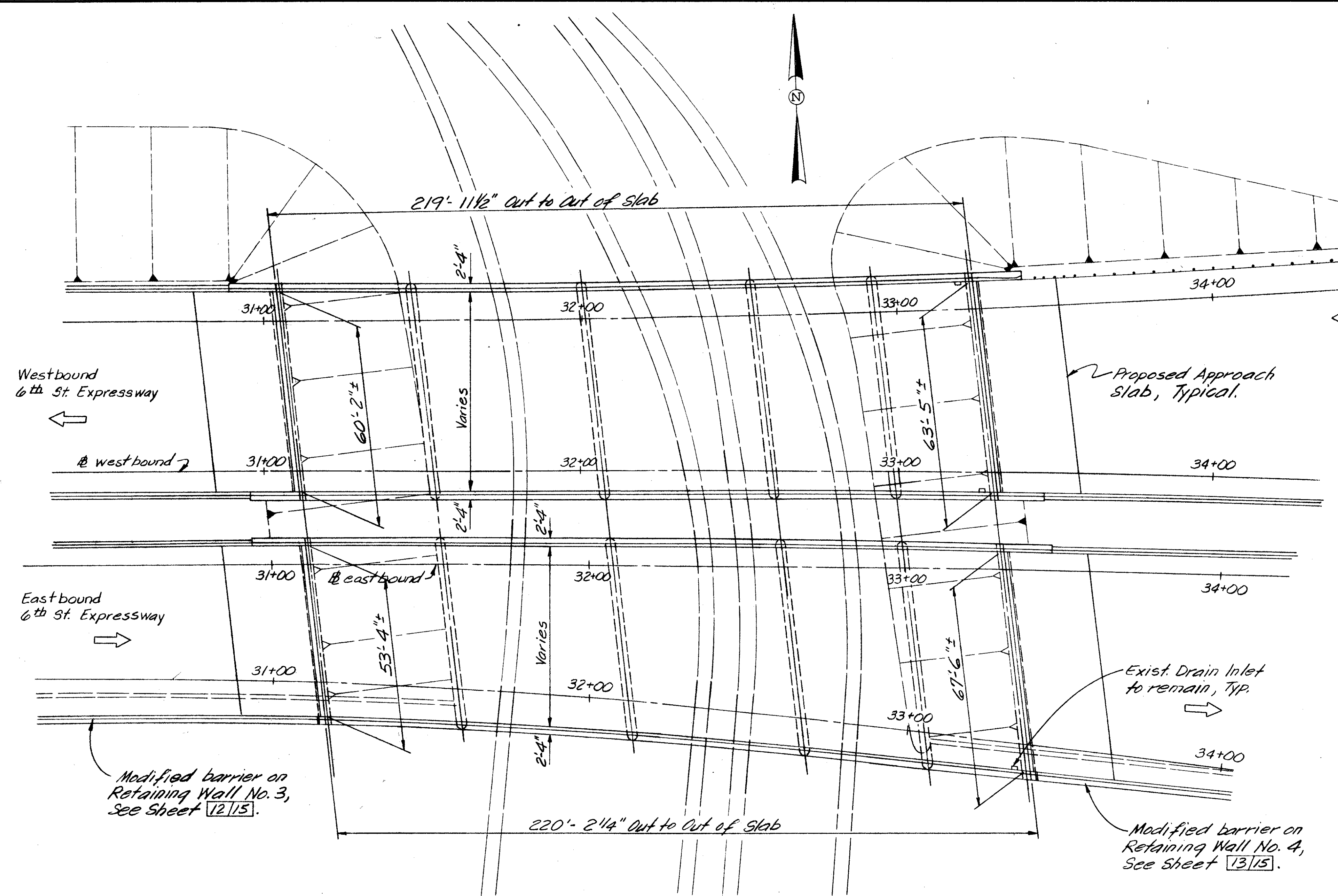


**SECTION B-B**

(8 REQUIRED)

BALKE ENGINEERS 11/12 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					
PARAPET DETAILS BRIDGE NO. HAM-50-1986 R & L SIXTH STREET EXPRESSWAY OVER HARRIET STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	





- ① Patching per Item 519, 95 Sq. Ft. - North column  
20 Sq. Ft. - Second column.
  - ② Patching per Item 519, 10 Sq. Ft. - second column from North.
- \* Elevations shown are for information only. The 1 1/4" micro-silica modified concrete overlay shall be of uniform thickness & final deck elevations will not necessarily conform to profile shown.

BALKE ENGINEERS  
1848 SUMMIT RD.  
CINCINNATI, OHIO 45237

1/15

GENERAL PLAN  
BRIDGE NO. HAM-50-1992 LT.#RT.  
6TH ST. EXPRESSWAY BRIDGE  
OVER R.R. SIDING W. OF FREEMAN AVE.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MRS	ALH	-	DWI	CRS	4/92	



# GENERAL NOTES

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

Reference shall be made to standard drawings:  
 AS-1-81 Dated 11-27-81  
 EXJ-4-87 Dated 1-5-89

Reference shall be made to supplemental specifications:  
 836 Dated 11-12-85  
 852 Dated 12-14-88

DESIGN STRESSES

Concrete compressive strength-  
 Class S - 4500 PSI  
 Class C - 4000 PSI  
 Reinforcing steel - ASTM A615, A616, A617  
 Minimum yield strength  
 Grade 60 - 60,000 PSI

SCOPE OF WORK

The scope of work to be performed shall be executed in stages as shown and includes:

1. Add strip seals.
2. Refurbish and reset abutment bearings.
3. Refurbish drains.
4. Replace portions of abutment backwalls, as indicated on plans.
5. Retrofit railings, as indicated on plans.
6. Seal railings and abutments.
7. Overlay deck with 1 1/4" micro-silica modified concrete.
8. Clean and paint the fascia beams. Clean and paint a 6 foot length @ the end of all beams.
9. Replace approach slabs.
10. Repair vertical joint between abutment and retaining wall.

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/or 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. It is the intent of these plans that the proposed additions to these structures

match existing conditions. The Contractor is referred to CMS sections 102.05 and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described in the preceding paragraph 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.

REPLACEMENT OF EXISTING REINFORCING

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 his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in item 509 for this purpose.

ITEM SPECIAL - MICRO-SILICA MODIFIED CONCRETE OVERLAY

Longitudinal joints in the concrete overlay are permitted but only to the extent necessary to accommodate the width of the finishing machine, to facilitate changes in the roadway crown, and to permit maintenance of vehicular traffic. See proposal note for details.

MAINTENANCE OF TRAFFIC

For maintenance of traffic on Sixth Street Expressway, see highway drawings.

PLANS FOR EXISTING BRIDGE

Plans of the existing structure are available for reference at the City of Cincinnati Engineer's Office and the ODOT District Eight office.

ITEM 516 - REFURBISH BEARING DEVICE

This Item shall include all work necessary to clean and paint abutment rocker bearings. Included shall be:

1. Disassembly of rockers.
2. Hand cleaning (grinding if required.)
3. Sandblasting and painting as required by Field Painting of Existing Steel, System OZEU proposal note.
4. Replacement of any damaged sheet lead (711.19). Preformed bearing pads 1/8" thick, meeting the requirements of 711.21, may be substituted for the sheet lead.
5. Installation of any necessary 1/8" thick steel shims of the same size as the bearings to provide a snug fit.
6. Reassembly of the rockers.

At the option of the Contractor and at no additional cost to the state, new bearings of the same type as the existing may be installed in place of the refurbished bearings. All work shall be to the satisfaction of the Project Engineer. Payment for all the above described labor and materials will be made at the contract price bid for Item 516 - REFURBISH BEARING DEVICE.

ITEM 516 - JACKING & TEMPORARY SUPPORT OF SUPERSTRUCTURE

The end of the beams at each abutment shall be jacked and the beams supported so that bearings may be removed. The Contractor shall submit his jacking plan for approval prior to jacking.

ITEM 516 - RESET BEARINGS

Bearings at the abutments shall be reset to be vertical at 60° F. Masonry plates shall be adjusted to be centered under bearings.

ITEM 510

Dowel holes shall be drilled and grouted per Supplemental Specifications 852 and CMS 705.20.

ITEM 514 - CLEANING AND PAINTING OF EXISTING STRUCTURAL STEEL, AS PER PLAN

The end 6 feet of all beams at each abutment and the complete fascia beams shall be cleaned and painted as required by Field Painting of Existing Steel, System OZEU proposal note. The color of the final coat shall match, as near as possible, the existing color of the beams.

REFURBISH DRAINS

This item shall include the cleaning and flushing out of the scupper inlet and downspout. The downspout shall be thoroughly cleaned so that water flows freely. All exposed pipes and supports shall be cleaned and painted as required by Field Painting of Existing Steel, system OZEU proposal note. Payment for all the above described labor and materials will be made at the contract price bid for Item 518 - structural drainage, misc: Refurbish drains.

SEALING OF CONCRETE SURFACES

Portions of the structure shall be sealed as noted below. See the proposal note for application rates and materials. City of Cincinnati Principal Structural Design Engineer shall be contacted to determine color of sealer to be used.

1. Parapets shall be sealed as shown on sheet 1/15 with an epoxy or non-epoxy sealer.
2. Abutment backwalls, beam seats, and the face of the breastwall and wingwalls down to the groundline shall be sealed with an epoxy sealer.
3. The total surface of all piers shall be sealed with a non-epoxy sealer.

**ESTIMATED QUANTITIES**

ITEM	CODE	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE			RIGHT BRIDGE		
					ABUTMENTS	SUPERST.	GENERAL	ABUTMENTS	SUPERST.	GENERAL
202	11202	L.S.	Lump Sum	Portions of structures removed, over 20 foot span	-	-	L.S.	-	-	L.S.
509	15800	20,688	Lbs.	Epoxy coated reinforcing steel, grade 60	2858	6003	50	2533	6082	3162
510	12200	1848	Lin. Ft.	Dowel hole	477	312	-	444	315	300
511	34400	86	Cu. Yd.	Class S concrete, superstructure (repair or reconstruction)	-	43	-	-	43	-
511	45700	50	Cu. Yd.	Class C concrete, abutment (repair or reconstruction)	14	-	-	12	-	24
SPECIAL	51267500	1354	Sq. Yd.	Sealing of concrete surfaces *	-	527	-	-	508	319
SPECIAL	51267502	1064	Sq. Yd.	Sealing of concrete surfaces (epoxy) *	126	-	-	938	-	-
SPECIAL	51267504	1942	Sq. Yd.	Sealing of concrete surfaces (non-epoxy) *	-	-	989	-	-	953
514	25501	L.S.	Lump Sum	Cleaning & painting of existing structural steel, as per plan*	-	L.S.	-	-	L.S.	-
516	11210	251	Lin. Ft.	Structural expansion joint including elastomeric strip seal	-	127	-	-	124	-
516	45304	34	Each	Refurbish bearing device	16	-	-	18	-	-
516	46700	34	Each	Reset bearing	16	-	-	18	-	-
516	47000	L.S.	Lump Sum	Jacking and temporary support of superstructure	-	L.S.	-	-	L.S.	-
518	63300	L.S.	Lump Sum	Structure drainage, misc.: refurbish drains	-	L.S.	-	-	L.S.	-
519	11100	75	Sq. Ft.	Patching concrete structure	-	75	-	-	-	-
SPECIAL	51922000	2988	Sq. Yd.	Micro-silica modified concrete overlay (1 1/4" thick)*	-	1510	-	-	1478	-
SPECIAL	51922100	95	Cu. Yd.	Micro-silica modified concrete overlay (variable thickness)*	-	31	-	-	64	-
SPECIAL	51614600	72	Lin. Ft.	Precompressed joint filler	-	-	-	-	-	72

\* See proposal note

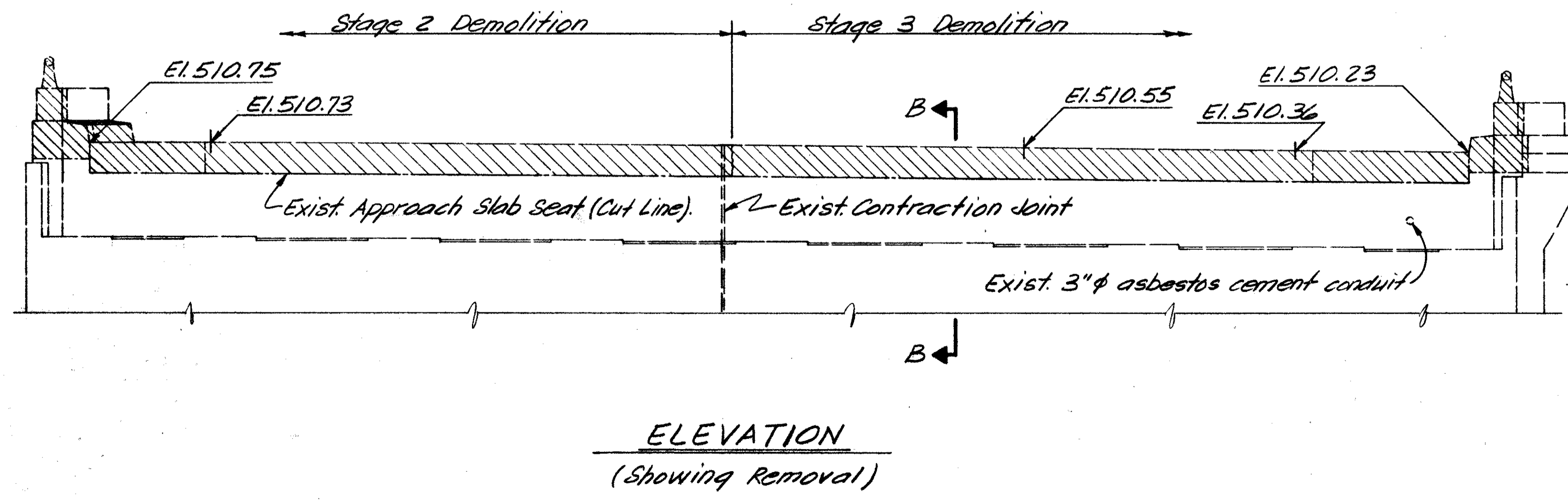
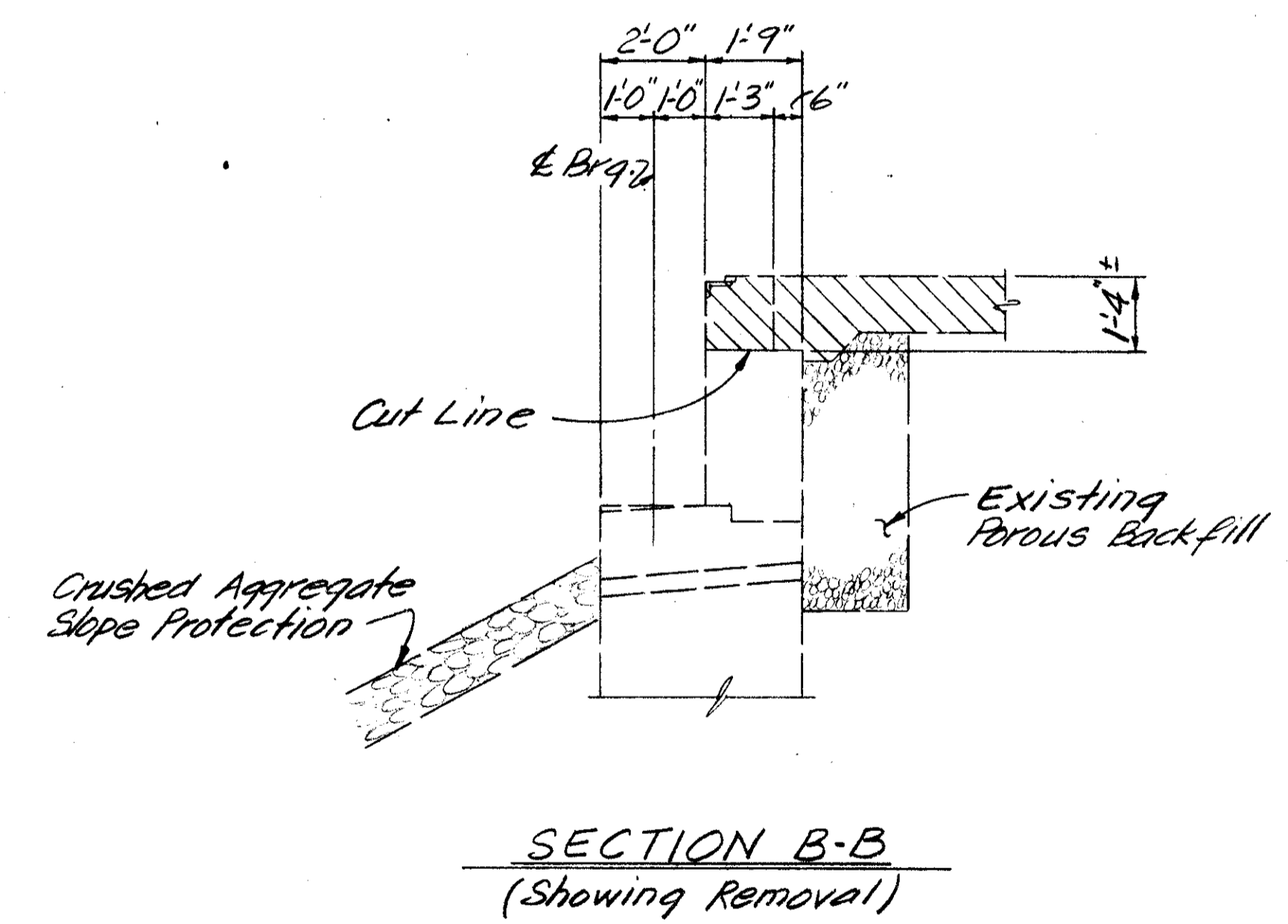
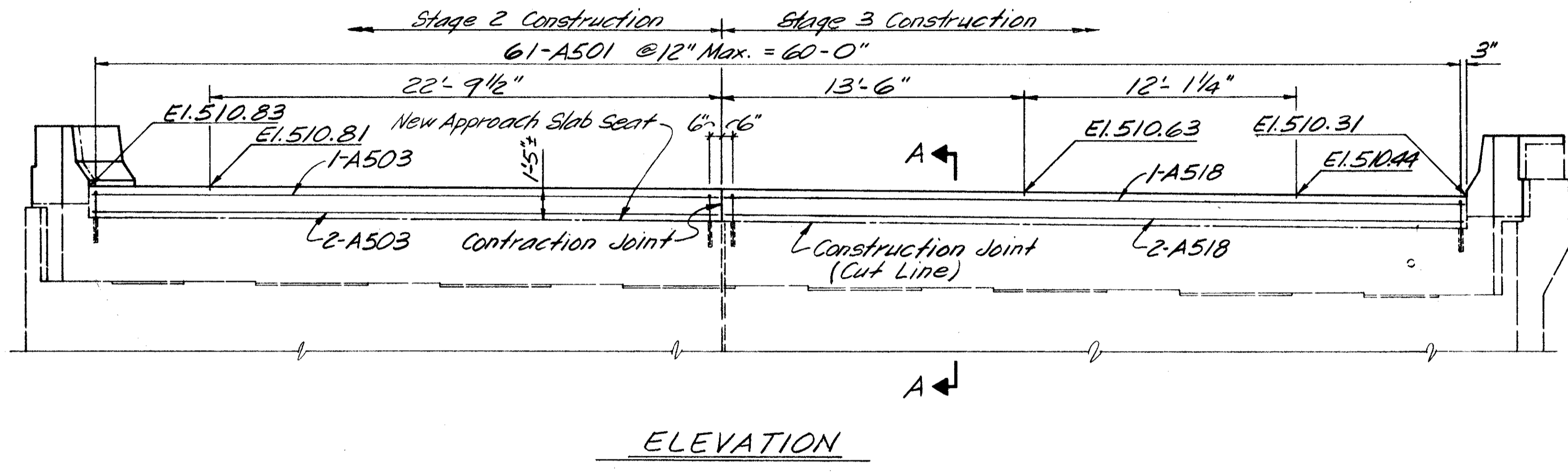
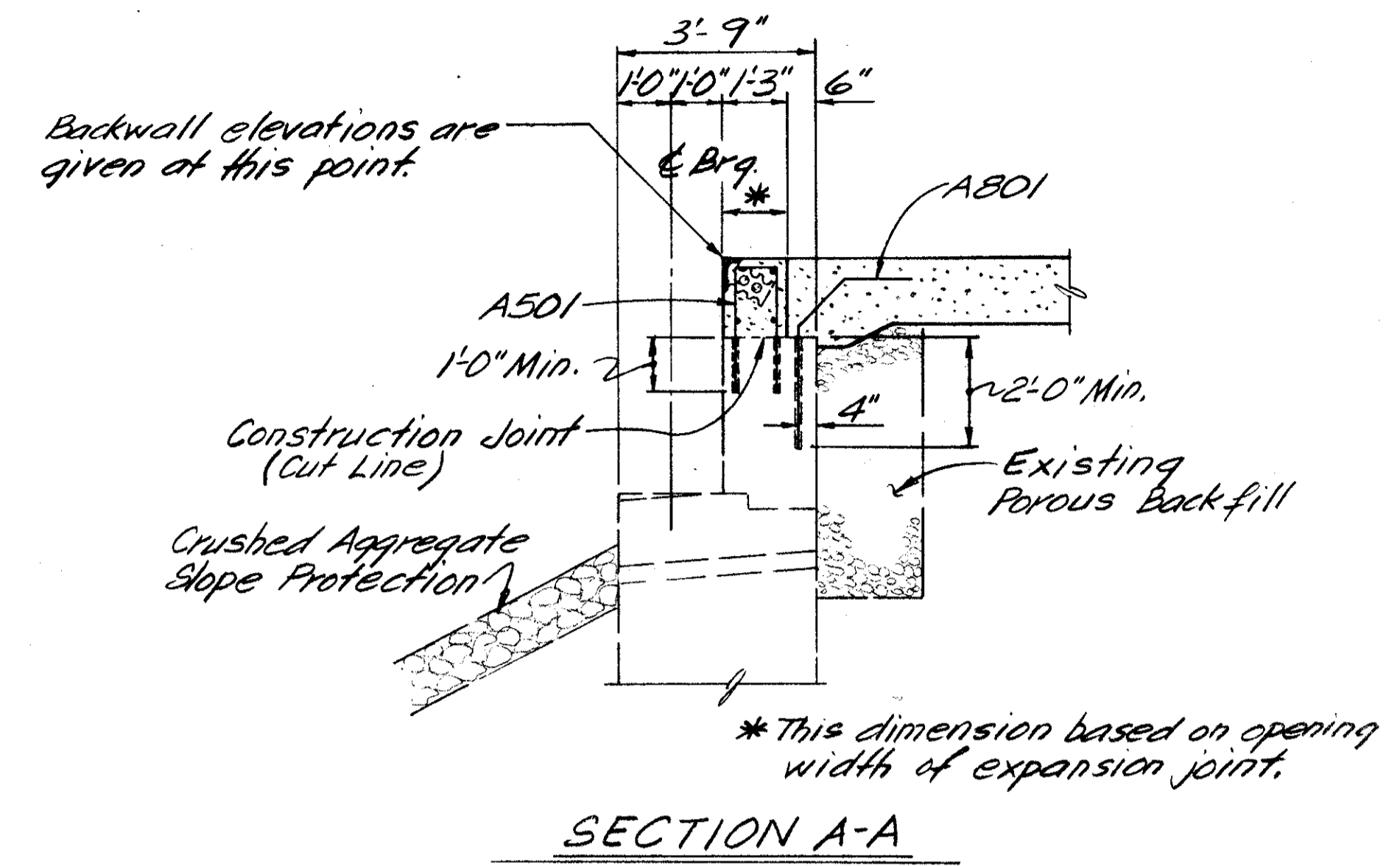
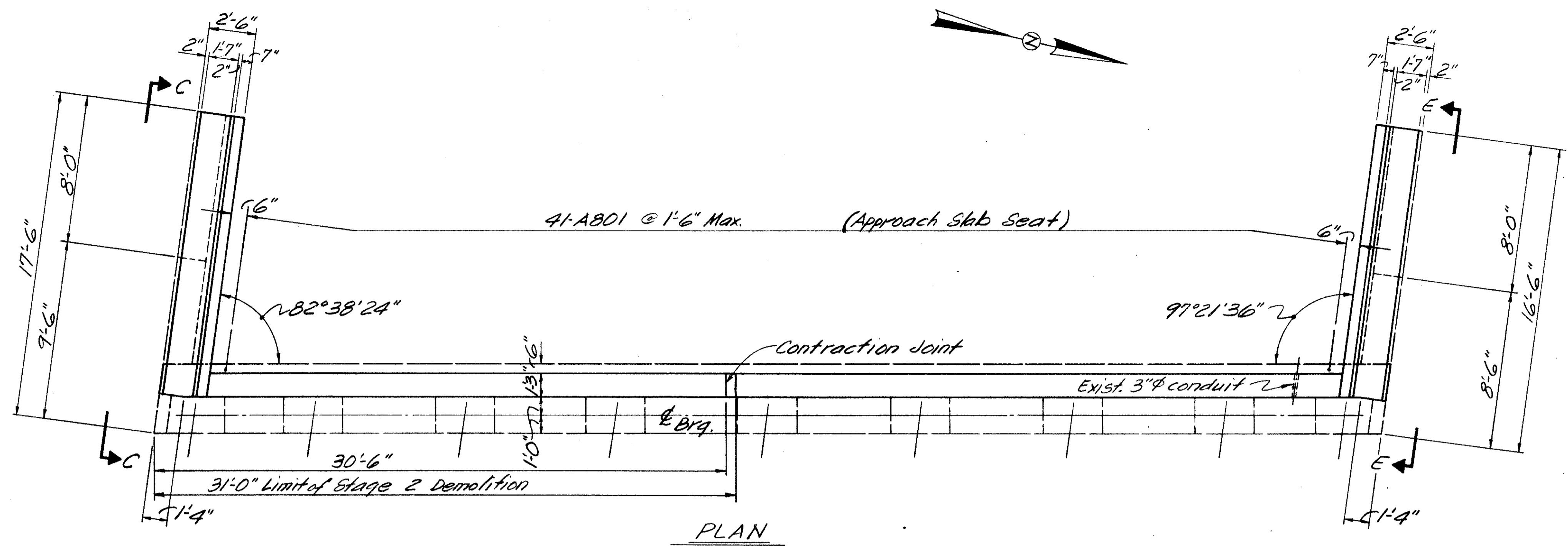
ESTIMATED QUANTITIES CALCULATED BY : WJH DATE : 11/91

CHECKED BY : EHC DATE : 1/92

BALKE ENGINEERS 2/15  
 1848 SUMMIT ROAD  
 CINCINNATI, OHIO 45237

**GENERAL NOTES & QUANTITIES**  
 BRIDGE NO. HAM-50-1992 R & L  
 SIXTH STREET EXPRESSWAY  
 OVER R.R. SIDING WEST OF FREEMAN AVE.

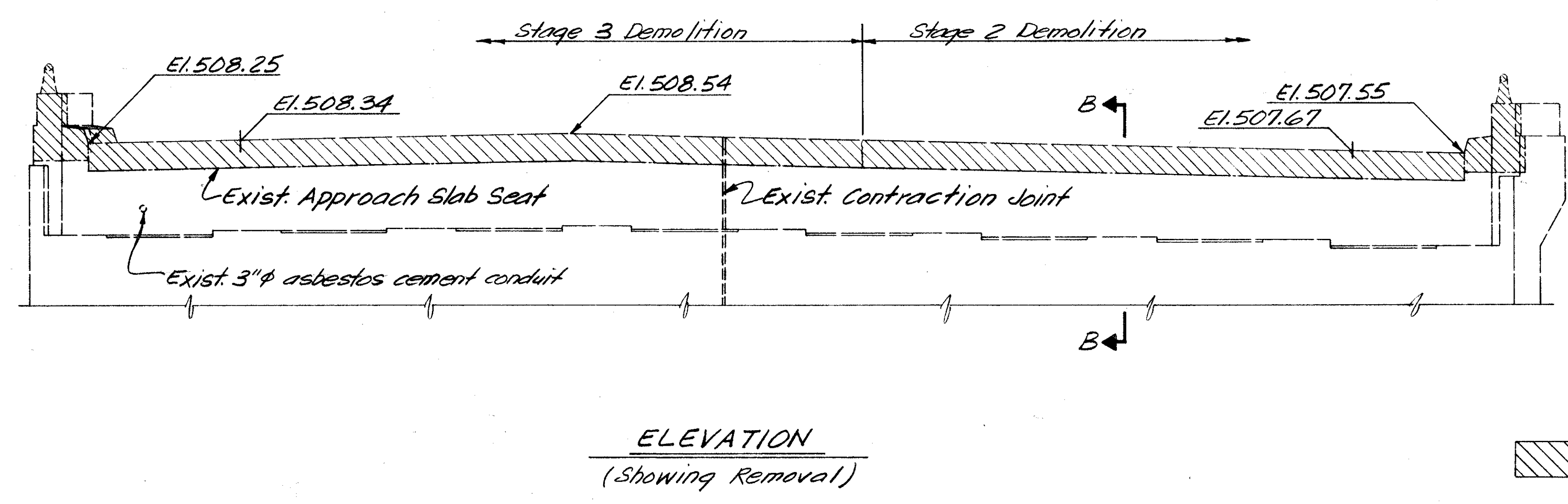
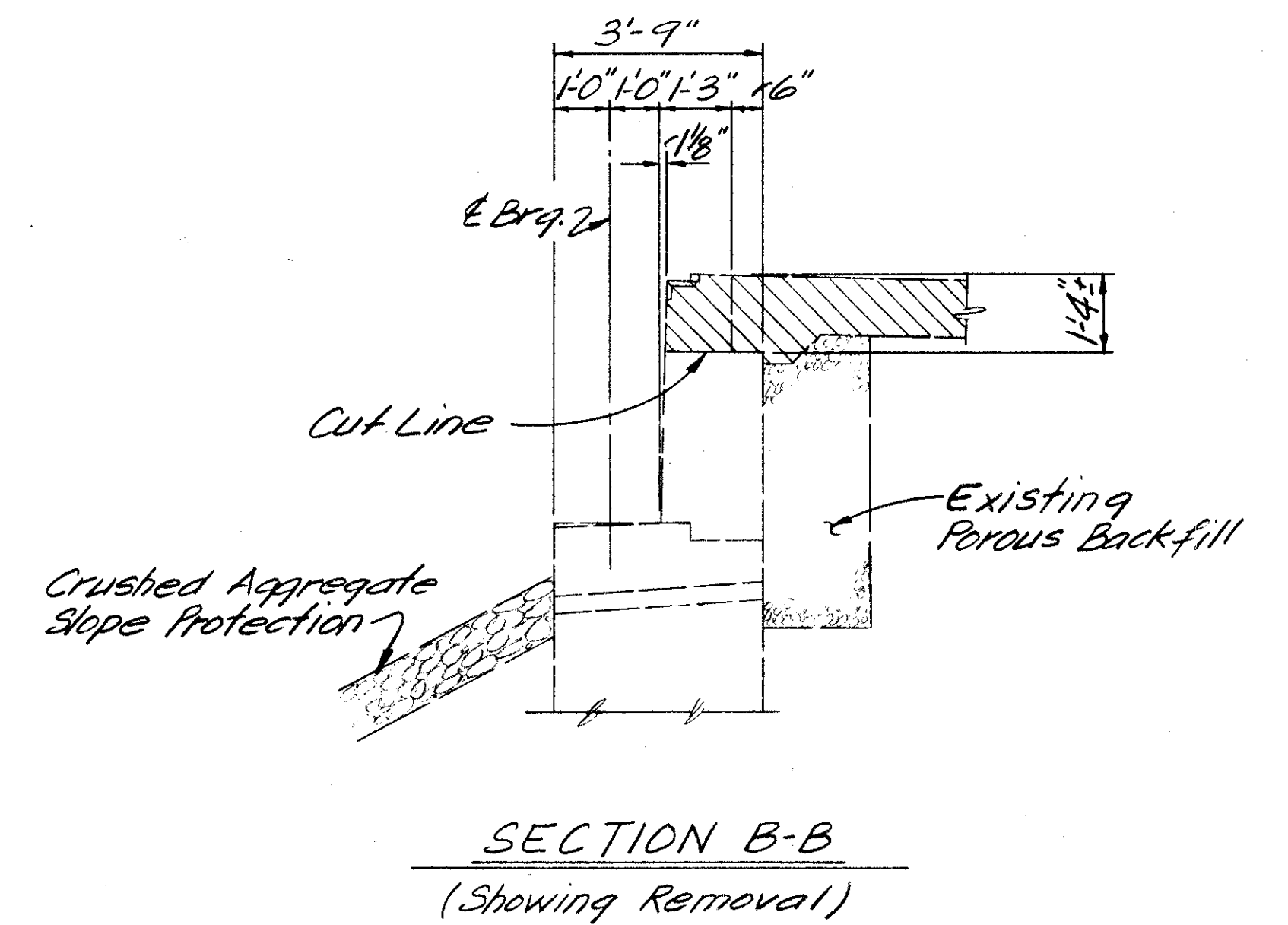
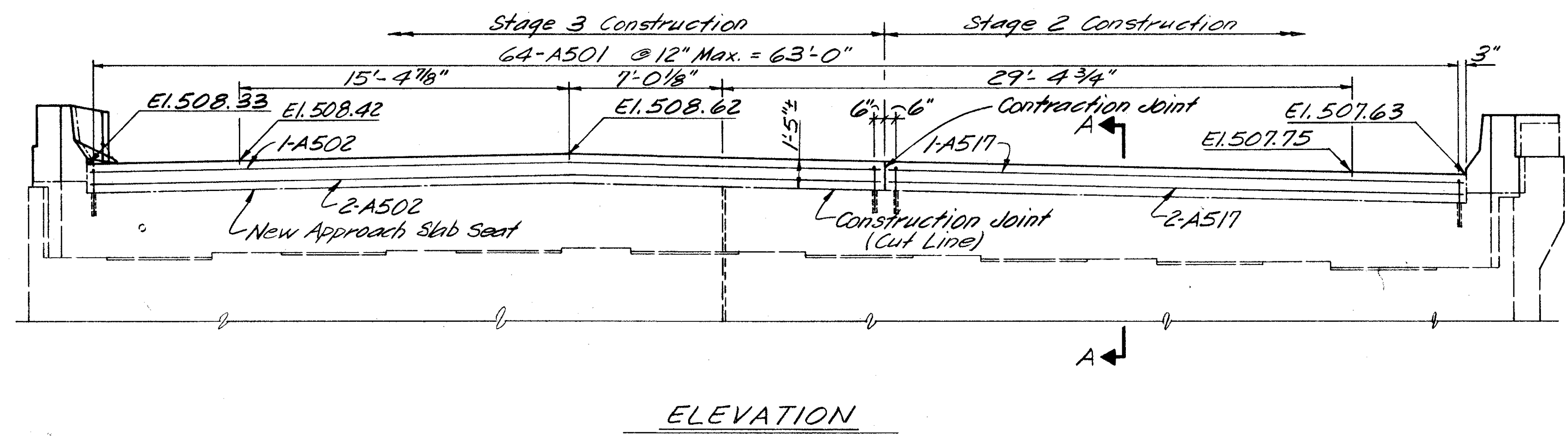
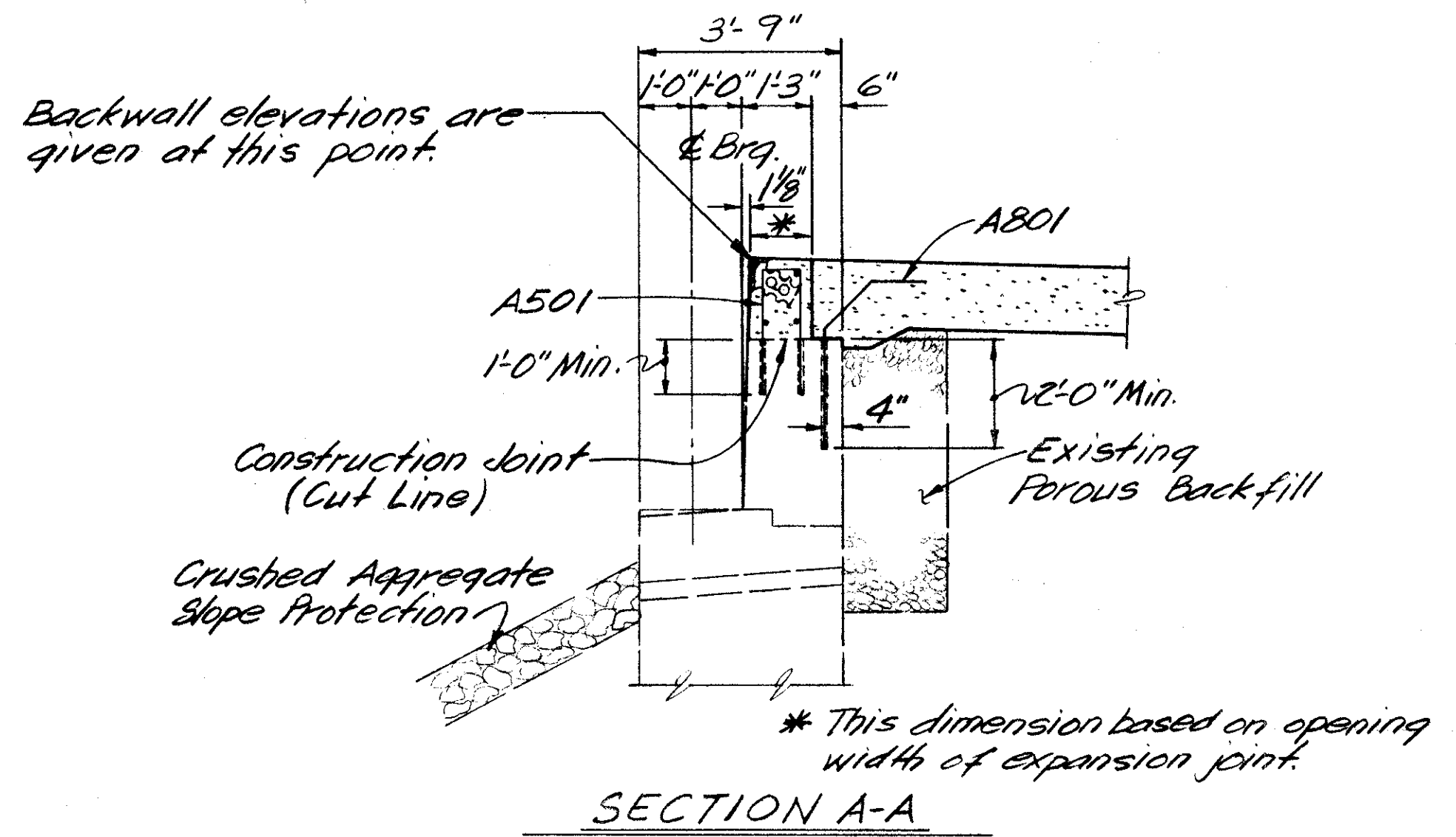
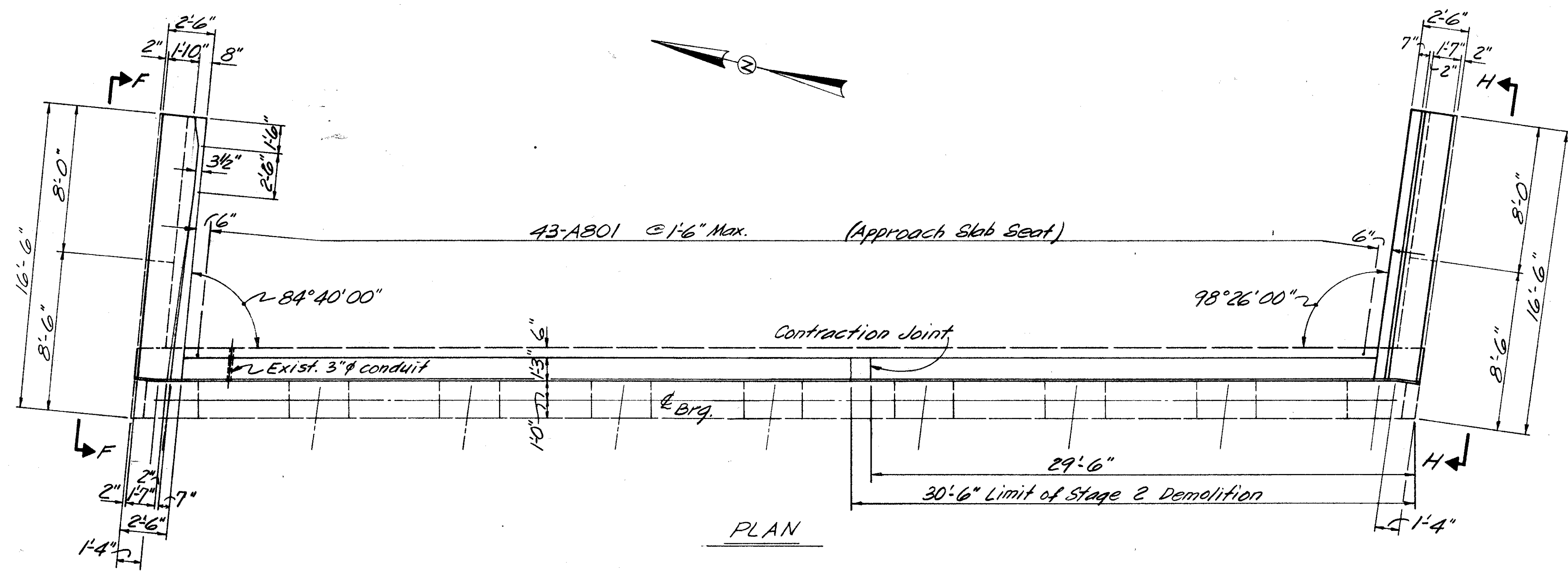
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	



Notes:  
1. For Elevation C-C & E-E, see Sht. 5115.

Denotes portion of existing structure to be removed.

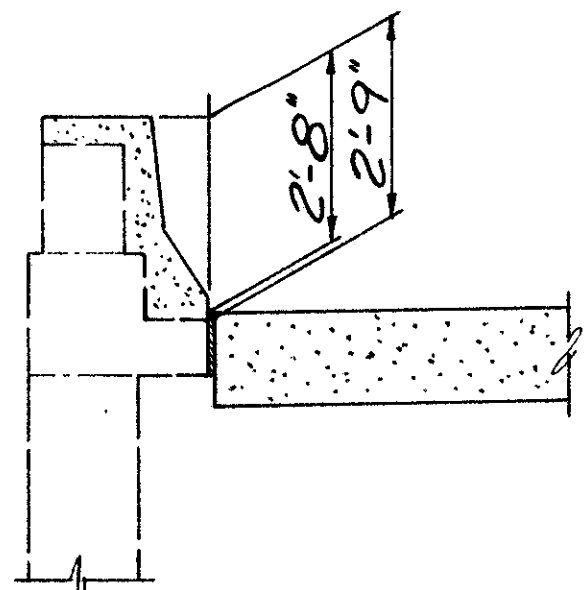
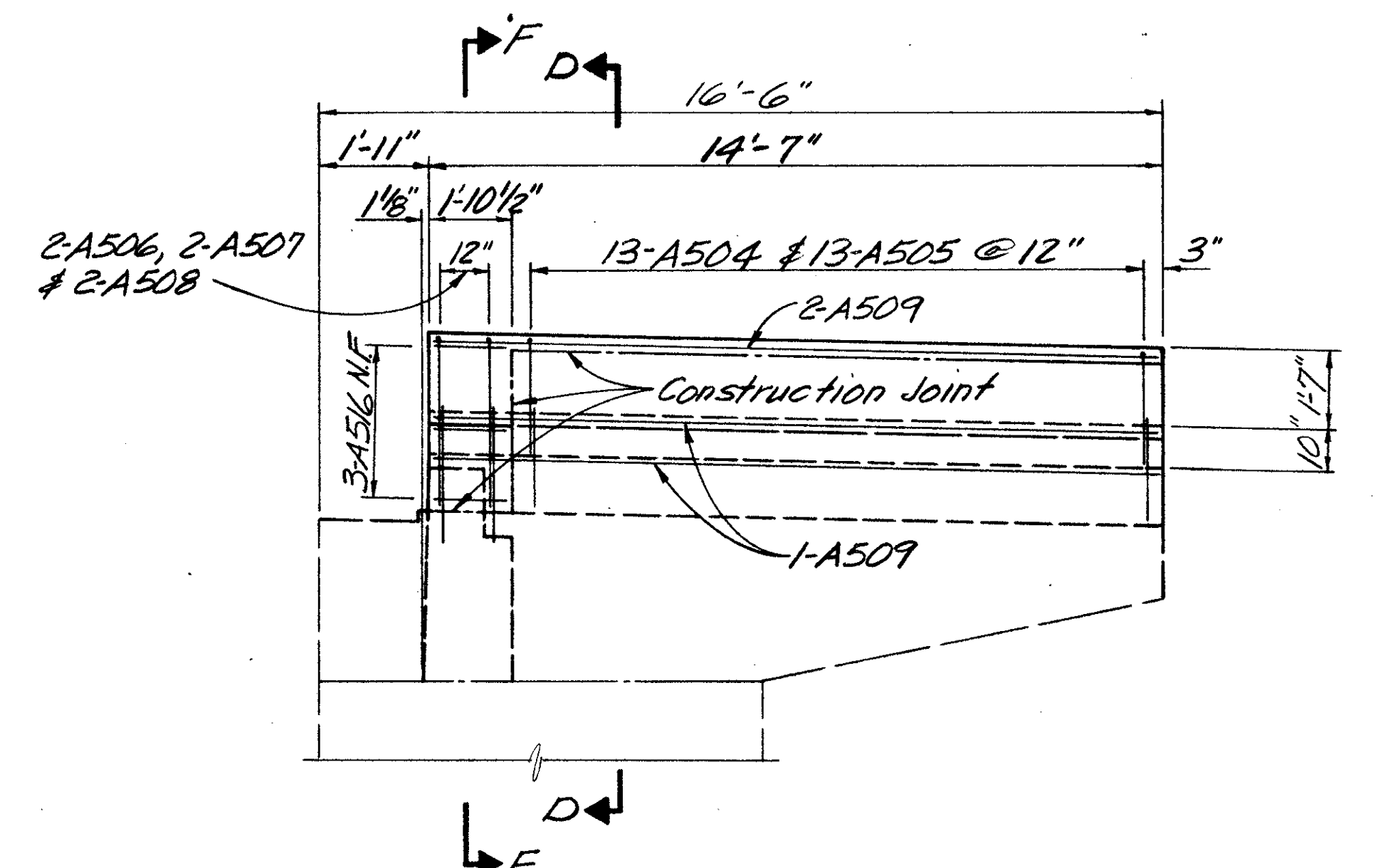
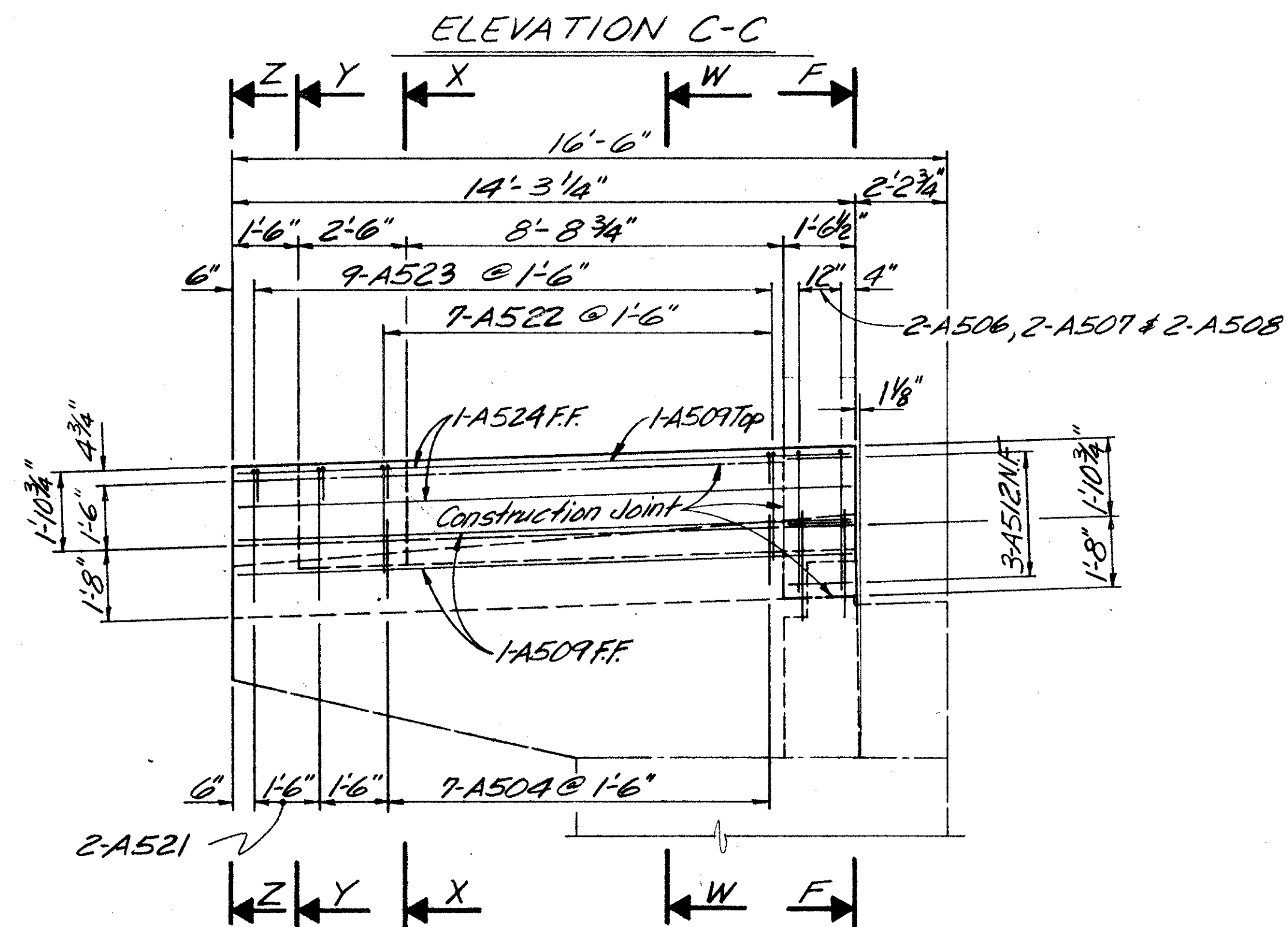
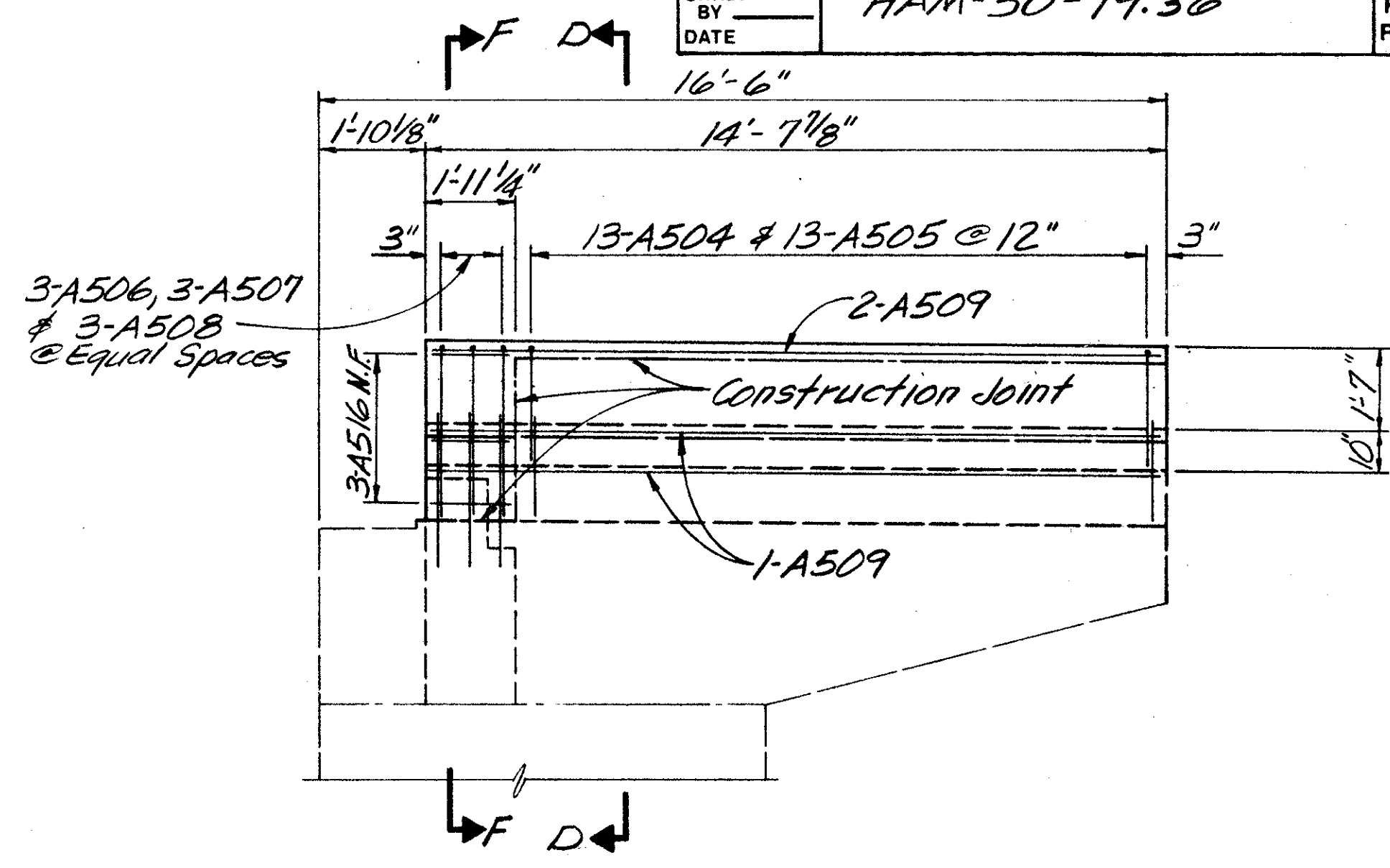
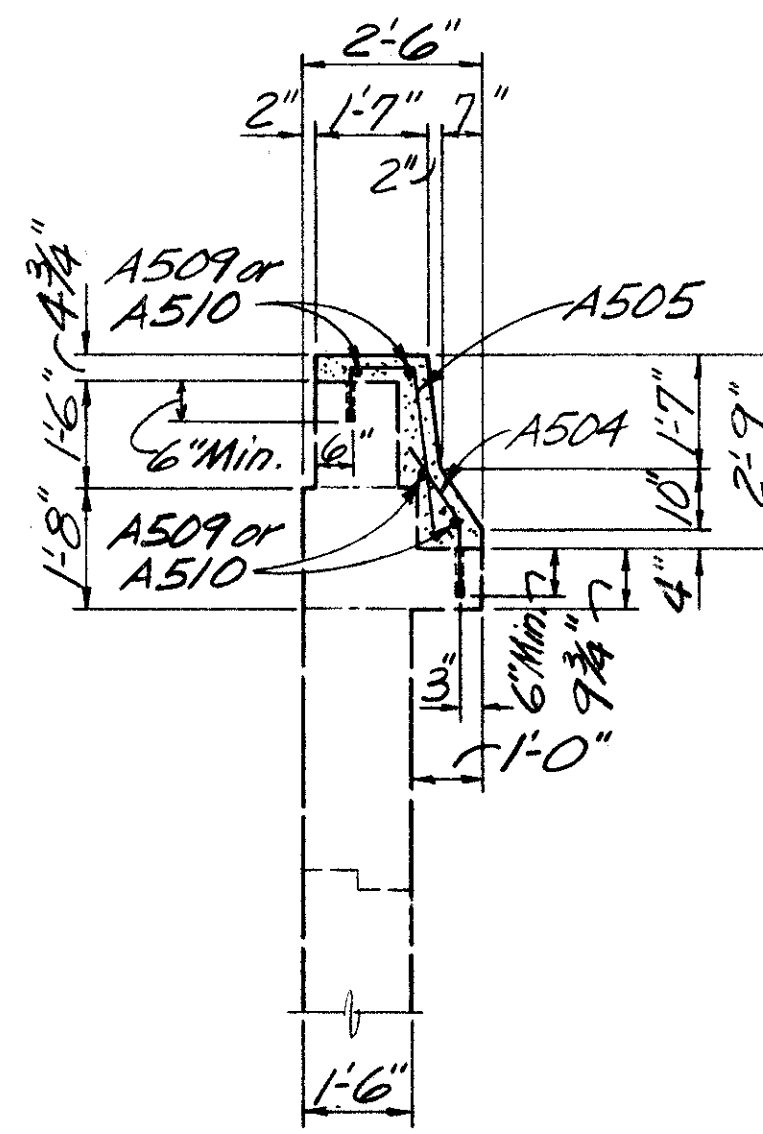
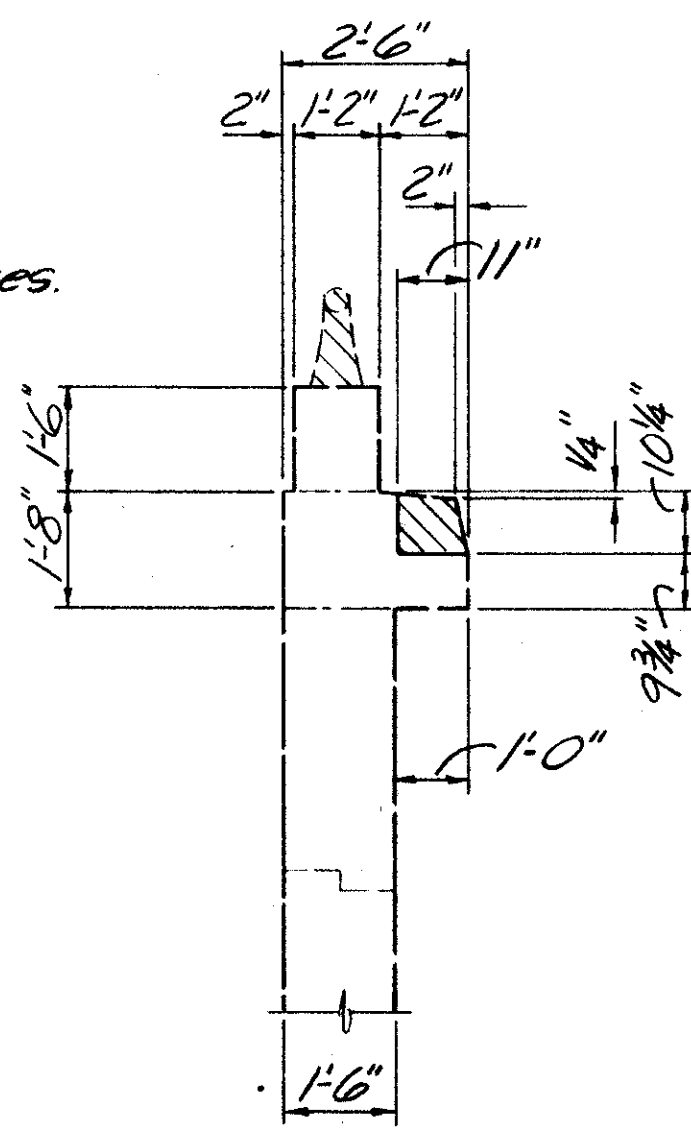
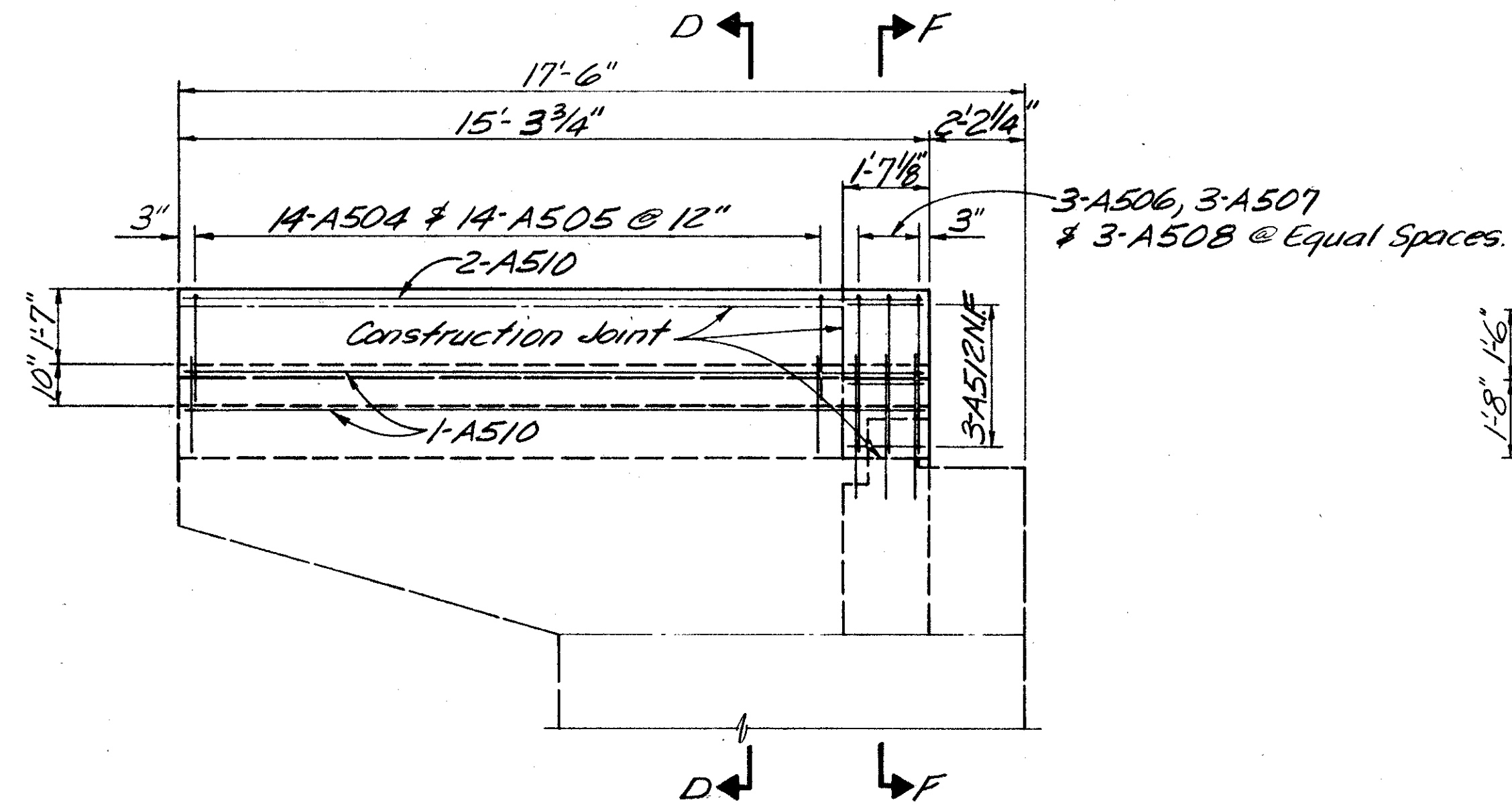
BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237					3/15
WEST ABUTMENT BRIDGE NO. HAM-50-1992 L WESTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER R.R. SIDING W. OF FREEMAN AVE.					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DW1	CRS 4/92	



Notes:  
1. For Elevation F-F & H-H, see Sht. 5/15.


Denotes portion of existing structure to be removed.

BALKE ENGINEERS 4/15 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
EAST ABUTMENT BRIDGE NO. HAM-50-1992 L WESTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER R.R. SIDING W. OF FREEMAN AVE.				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS 4/92
				REVISED



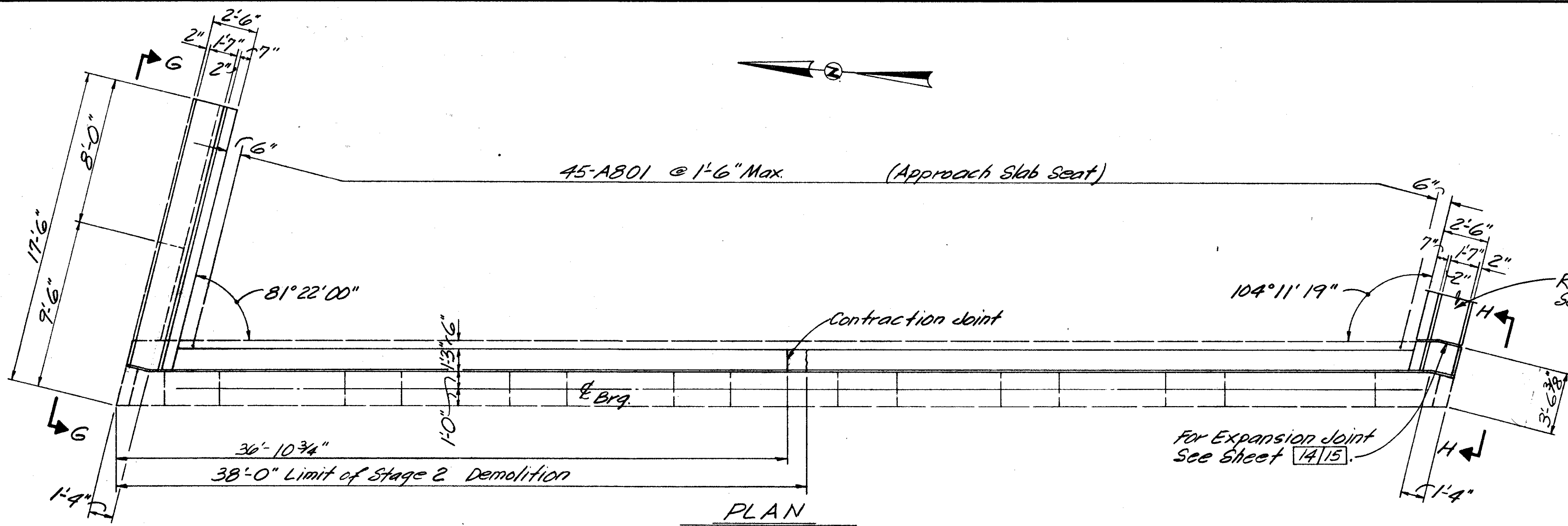
SECTION WITH APPROACH SLAB  
TYPICAL

- Notes:
1. For Section F-F, see Sheet 8/15.
  2. N.F. = Near Face; F.F. = Far Face
  3. For Section W-W, X-X, Y-Y & Z-Z, see Sht. 9/15.

 Denotes portion of existing structure to be removed.

BALKE ENGINEERS 5/15 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
ABLIMENT DETAILS BRIDGE NO. HAM-50-1992 L WESTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER R.R. SIDING W. OF FREEMAN AVE.				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS 4/92

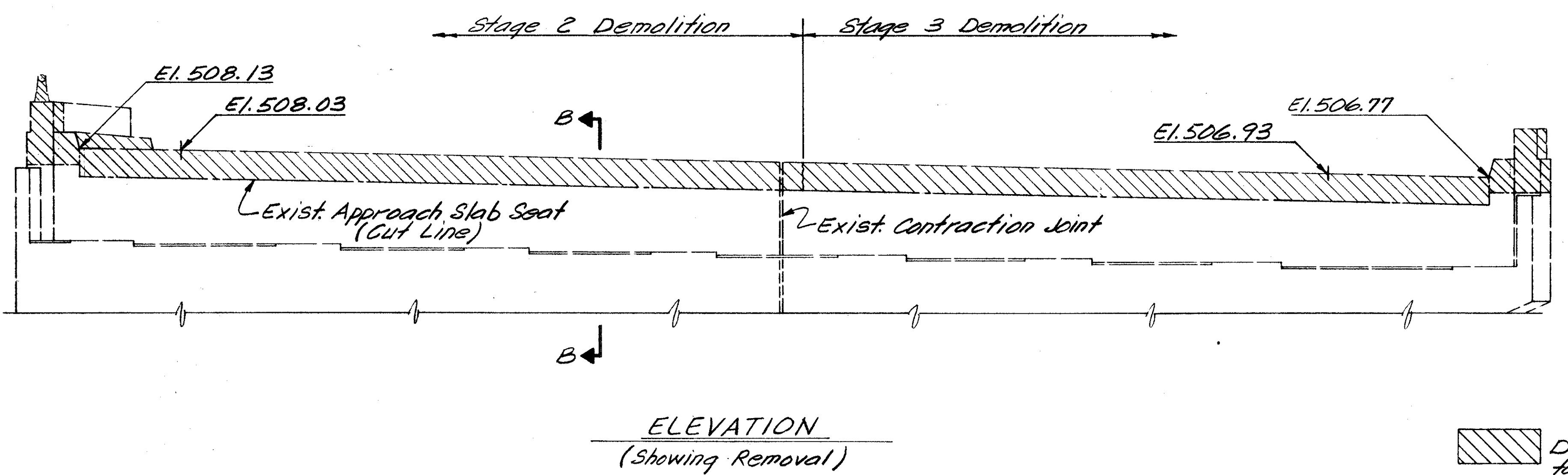
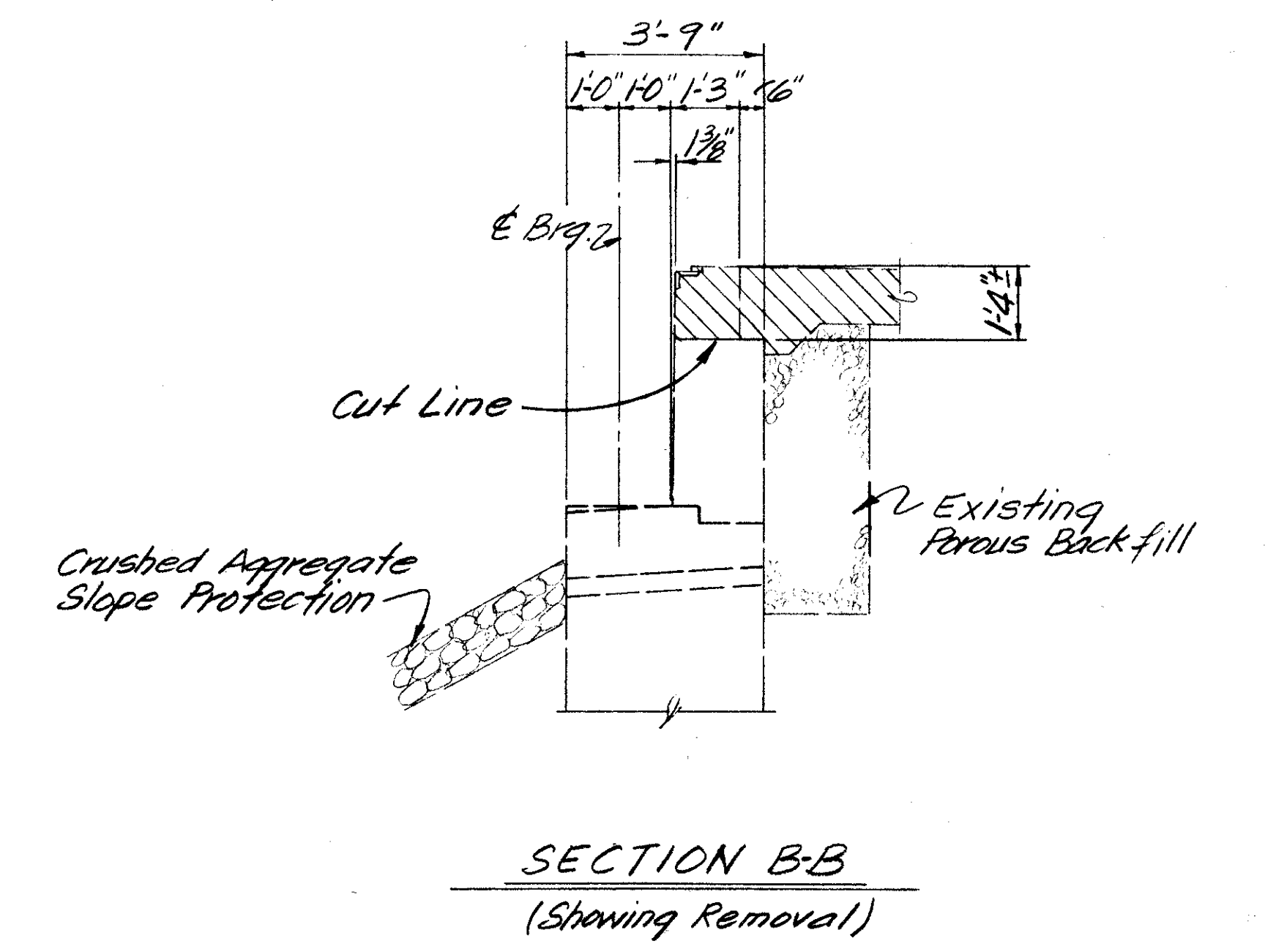
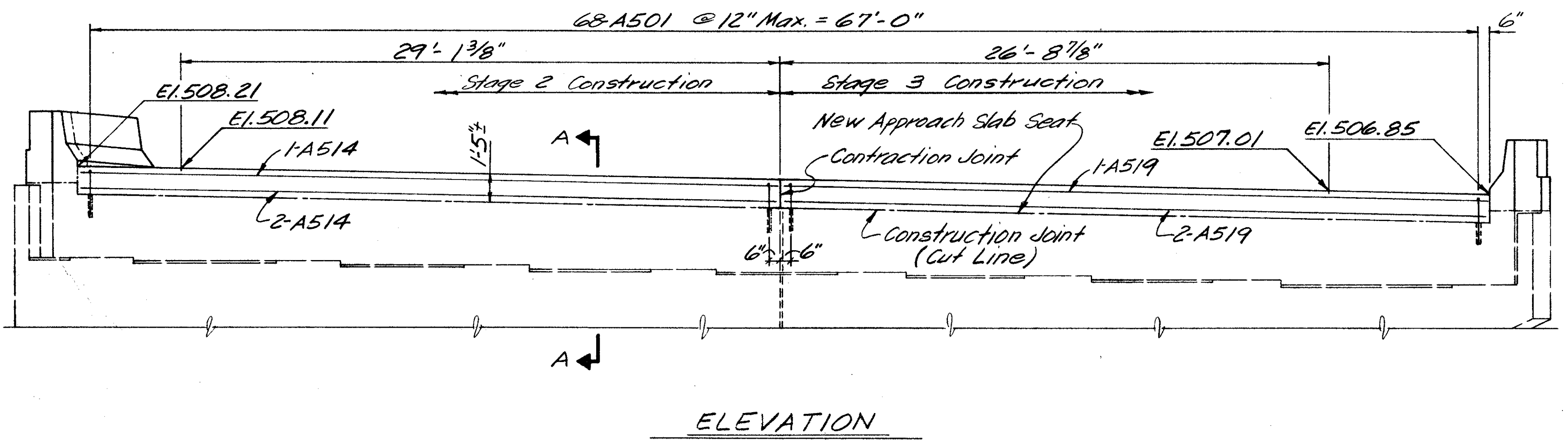
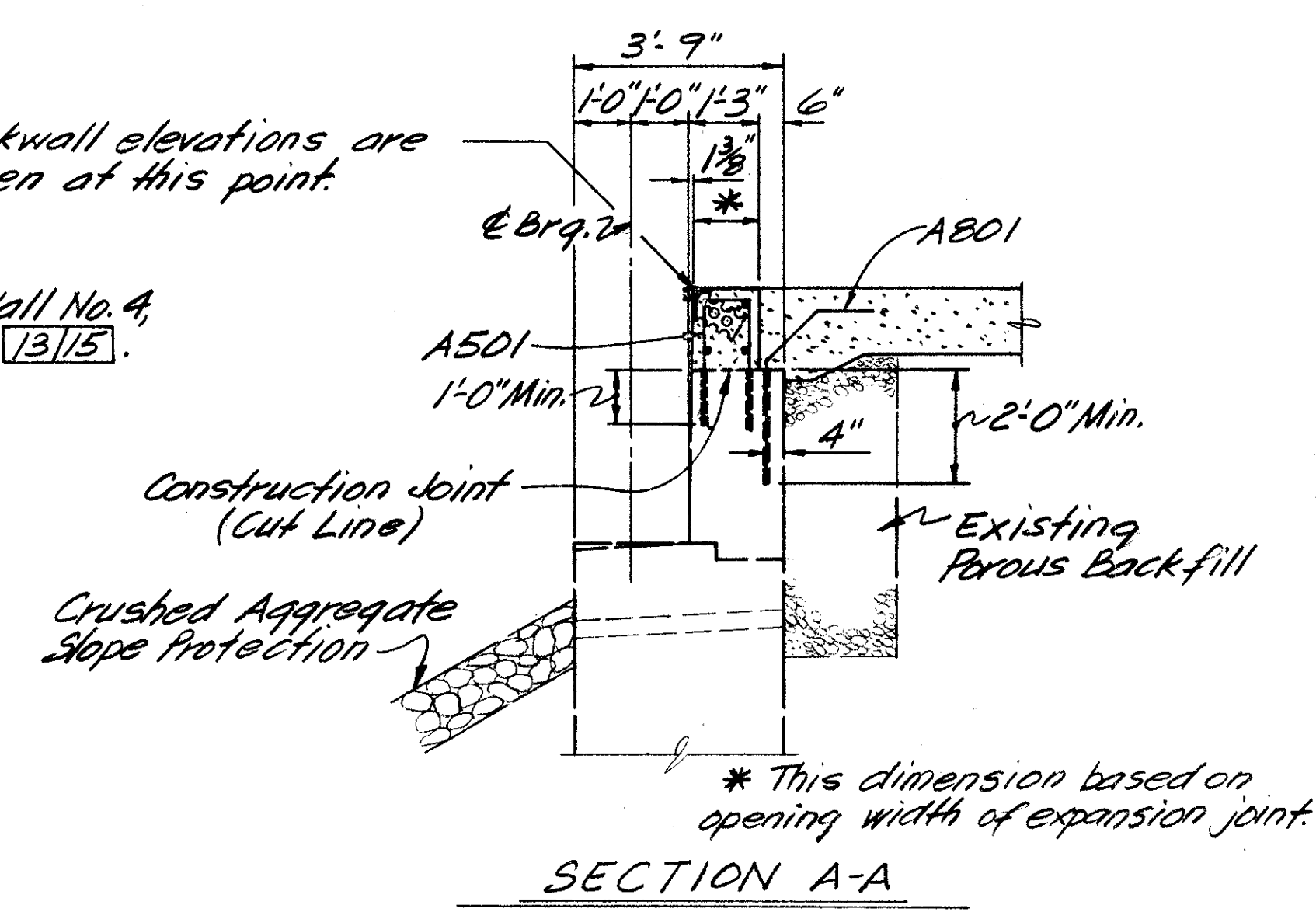




Backwall elevations are given at this point.

Retaining Wall No. 4, See Sheet 13/15.

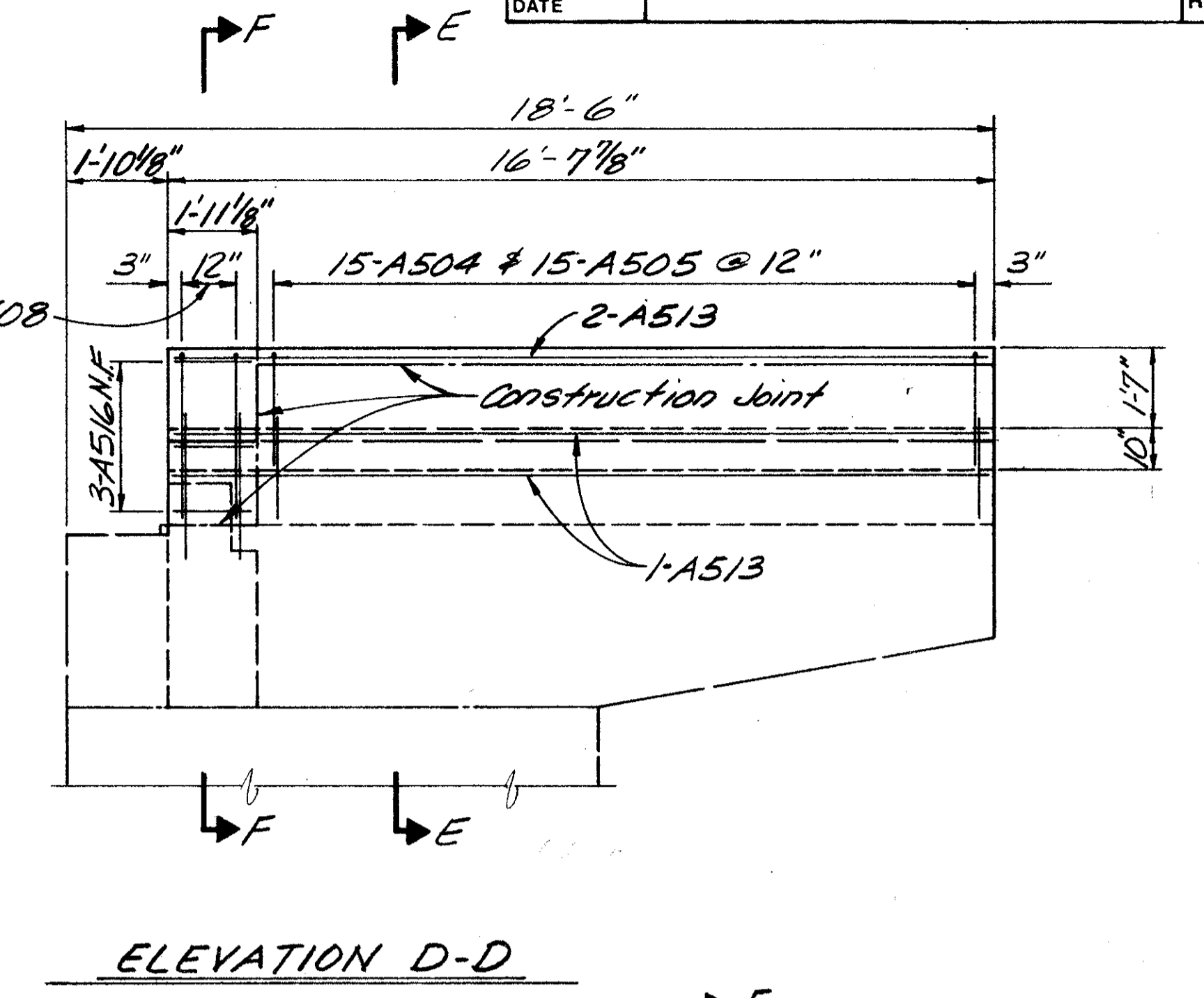
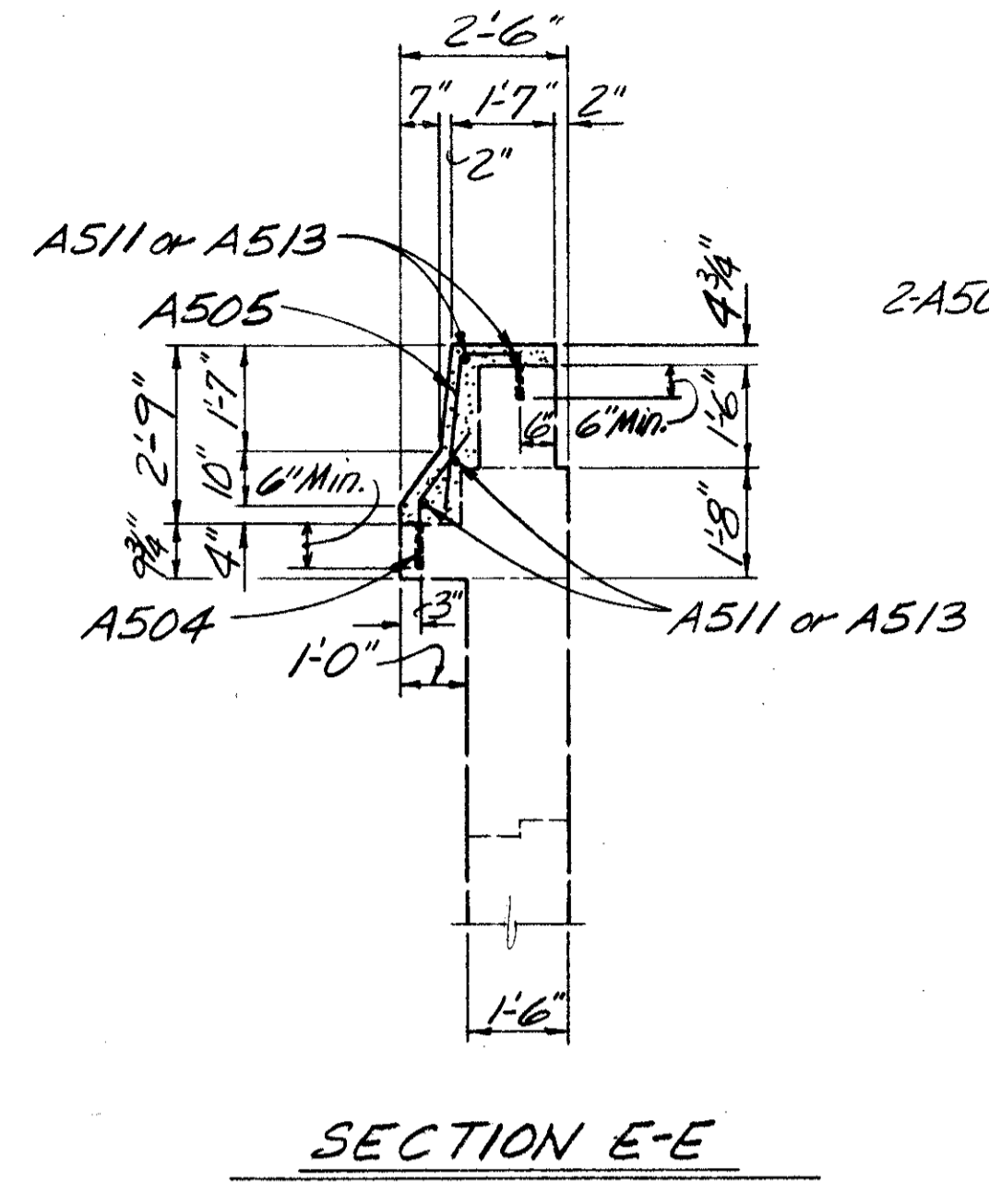
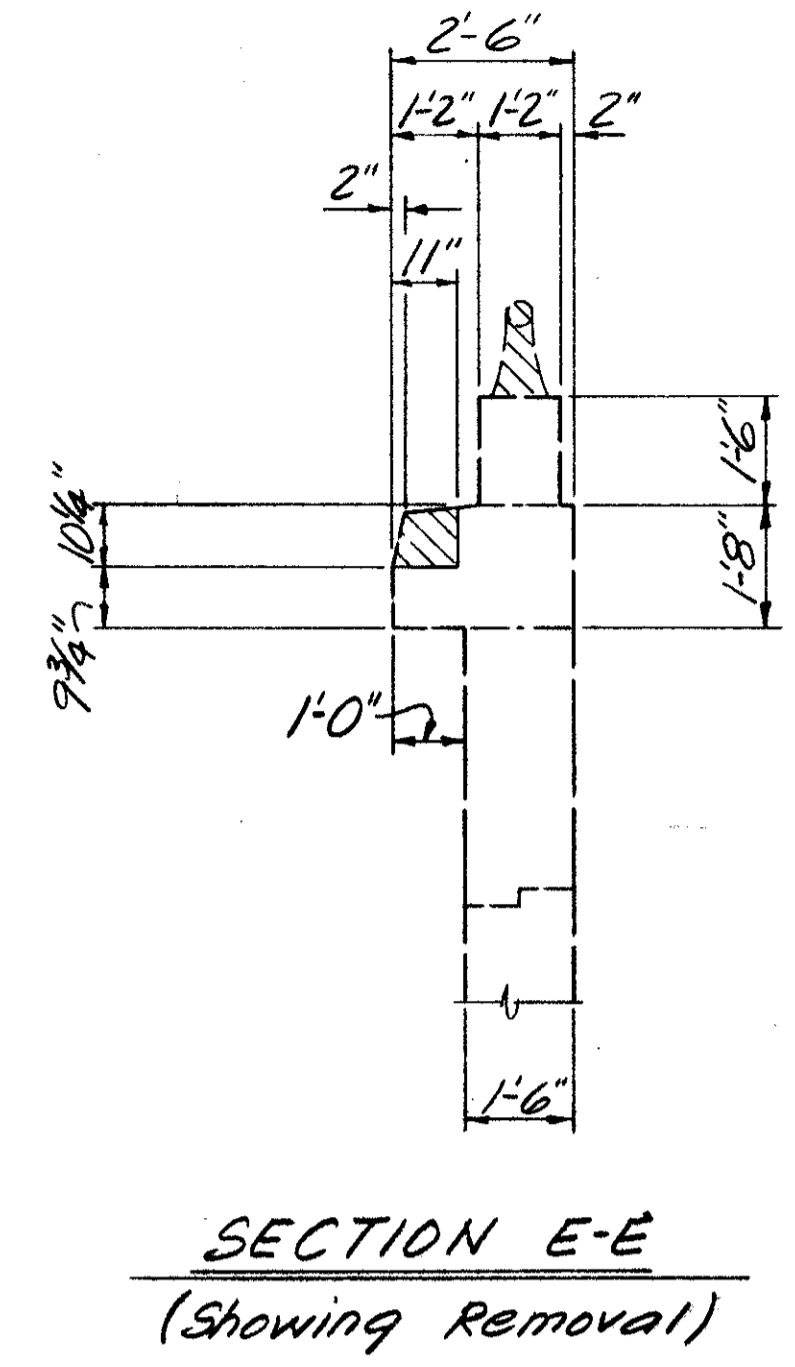
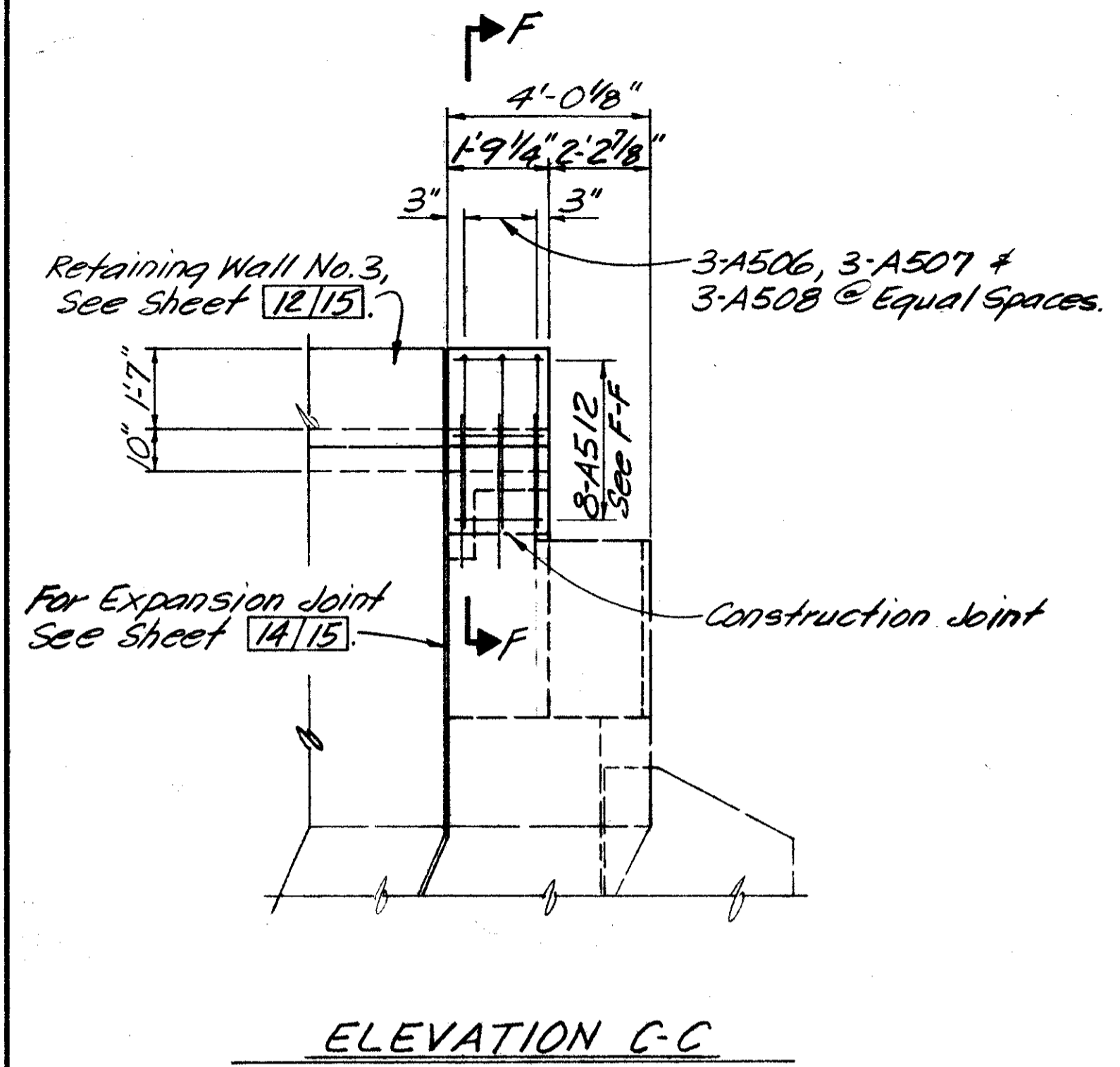
For Expansion Joint See Sheet 14/15.



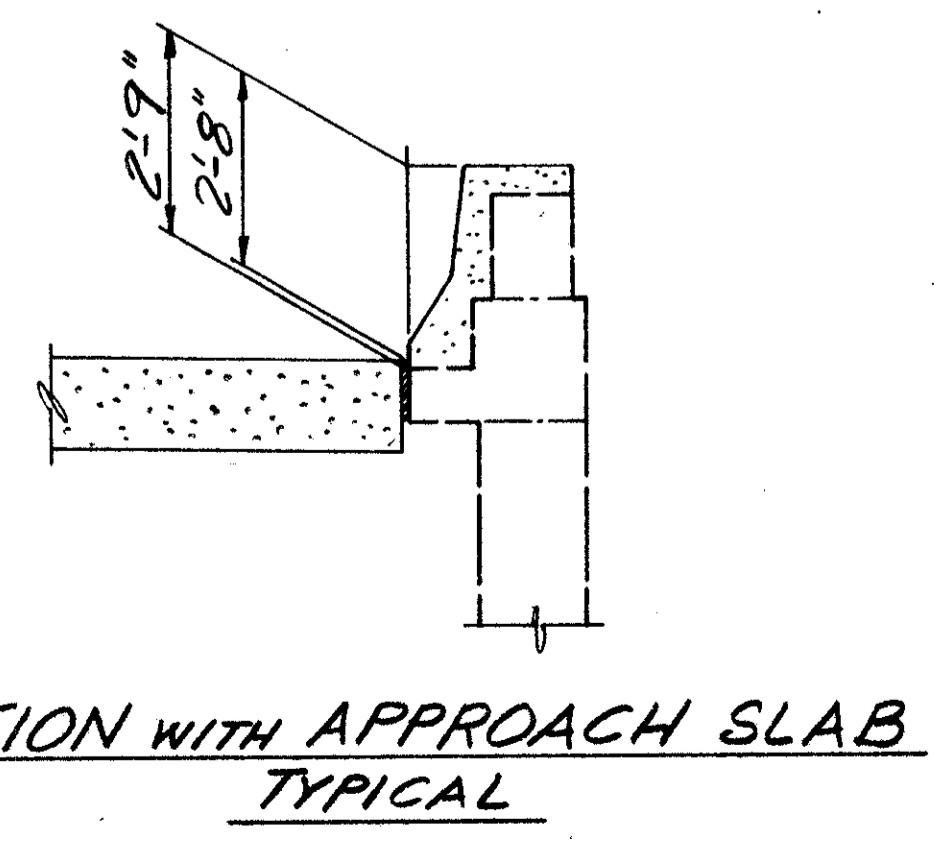
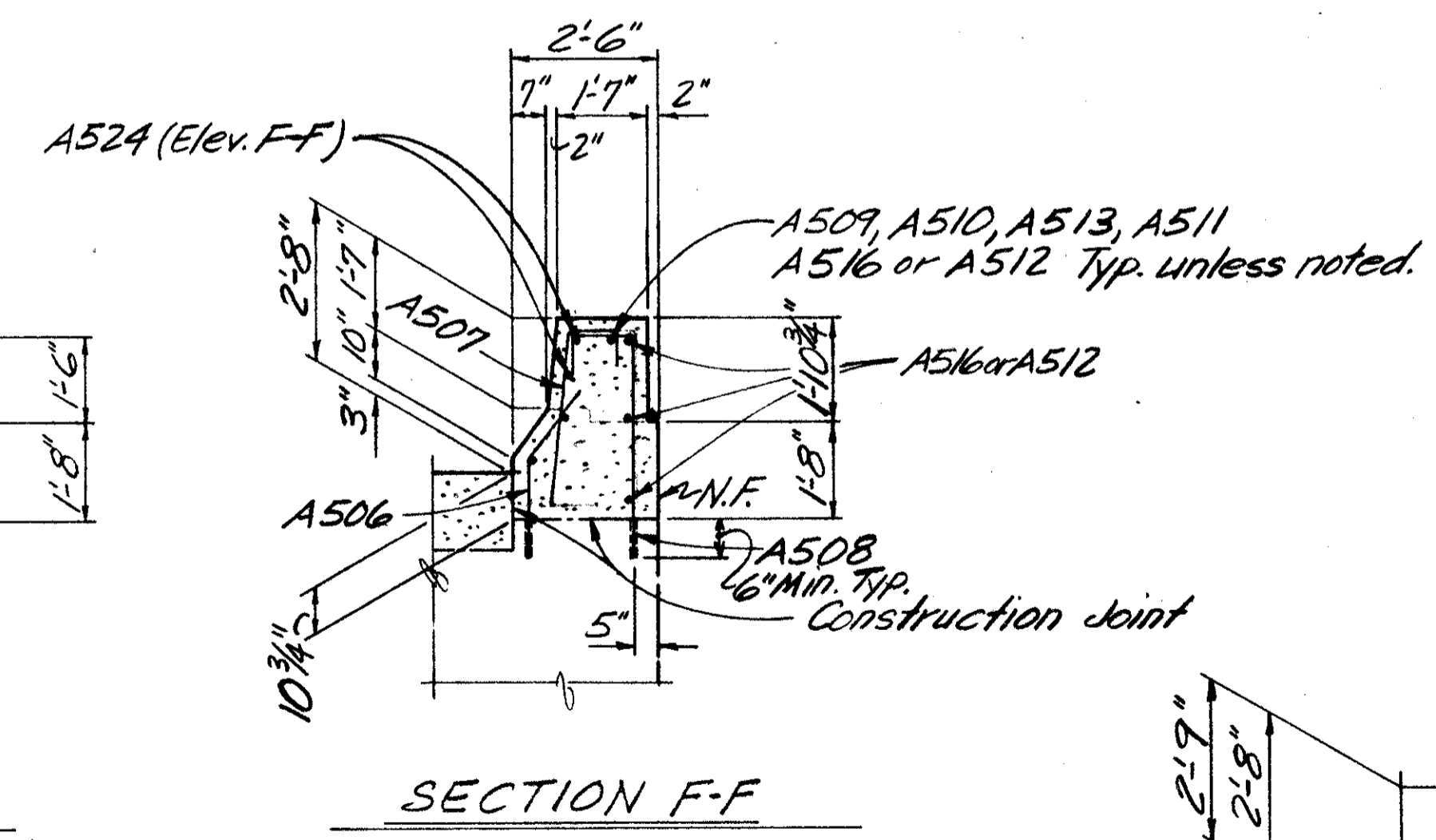
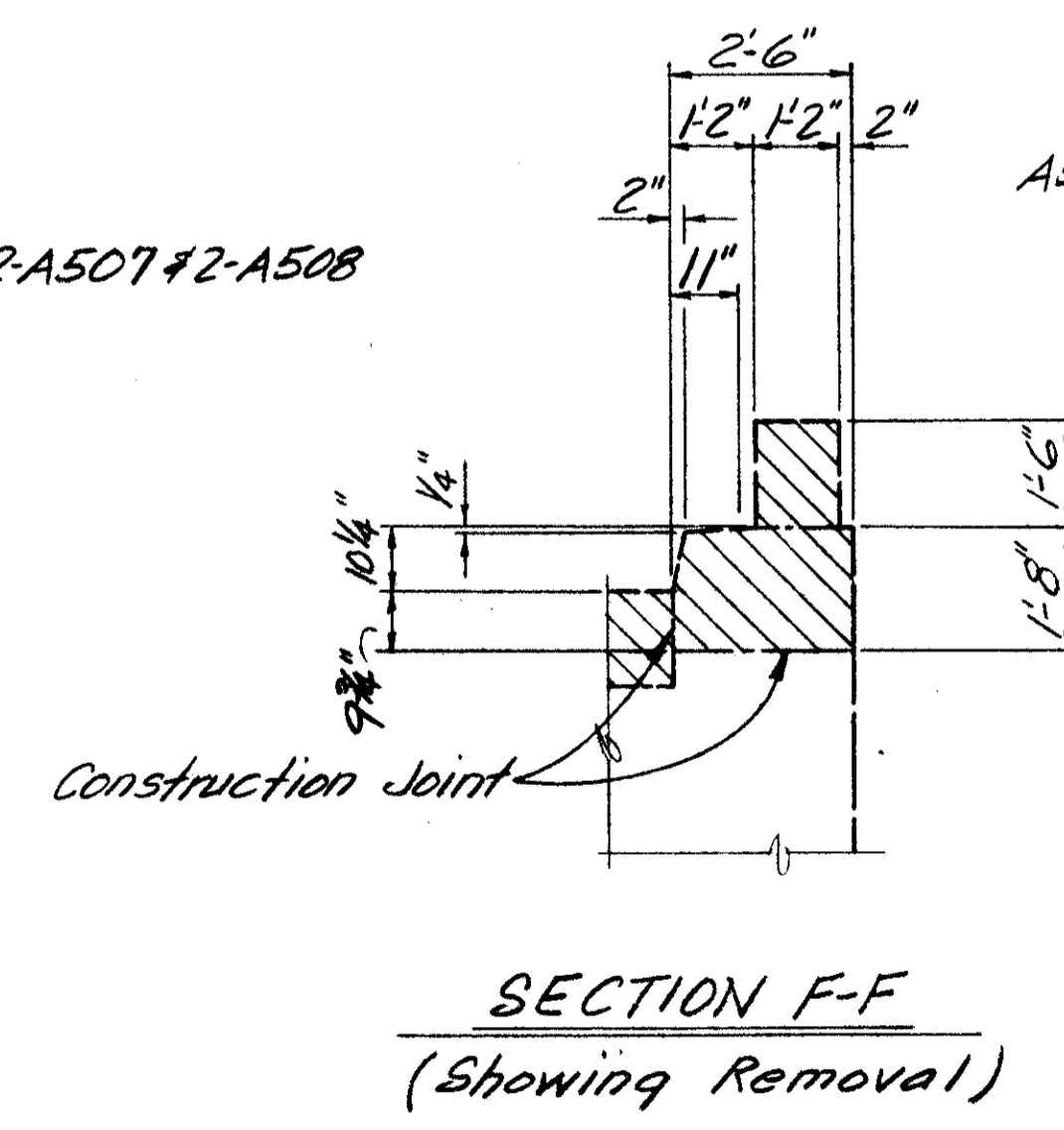
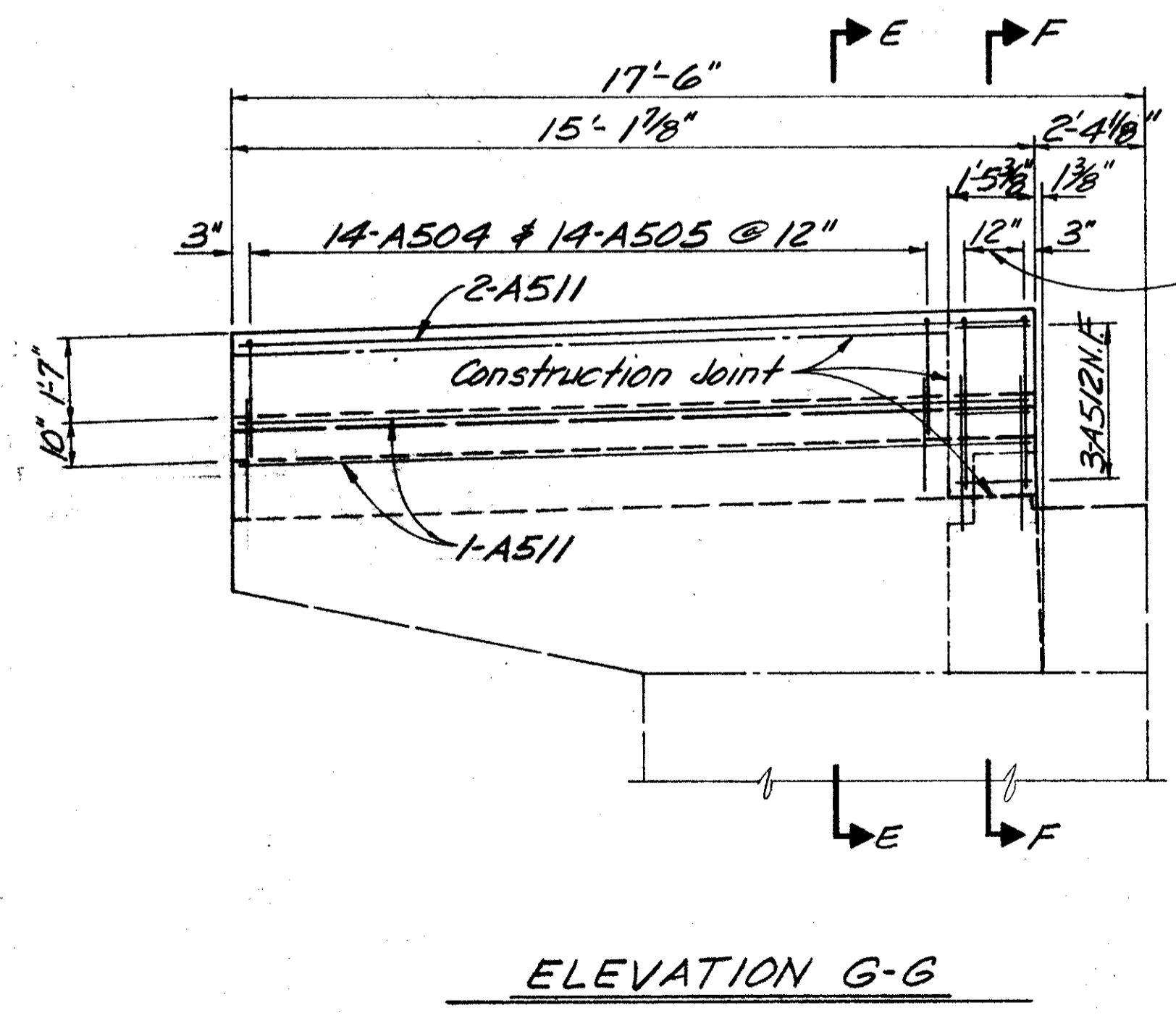
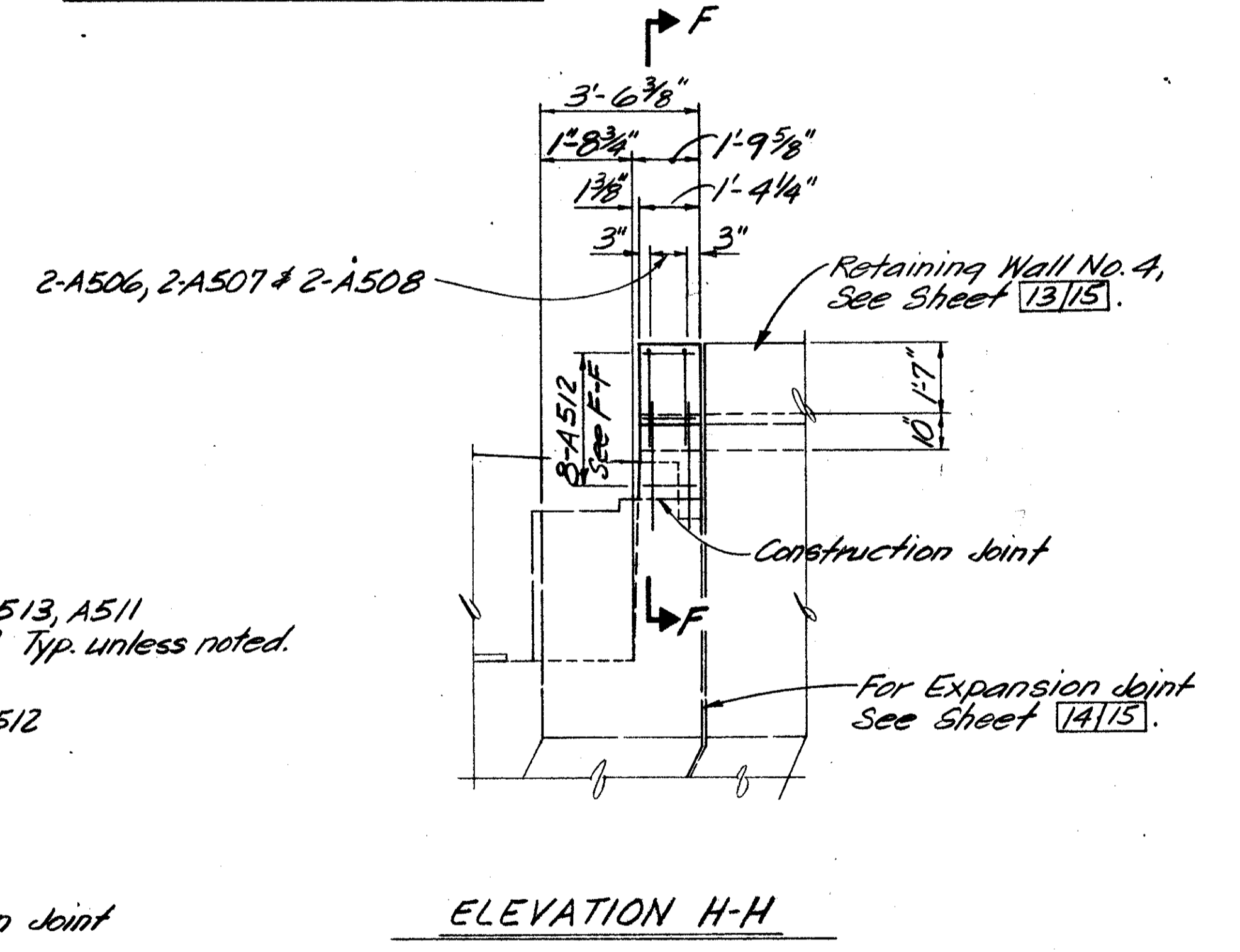
Notes:  
1. For Elevation G-G & H-H, see Sht. 8/15.

Denotes portion of existing structure to be removed.

BALKE ENGINEERS 7/15 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
EAST ABUTMENT BRIDGE NO. HAM-50-1992 R EASTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER R.R. SIDING W. OF FREEMAN AVE.				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS 4/92
REVISED				

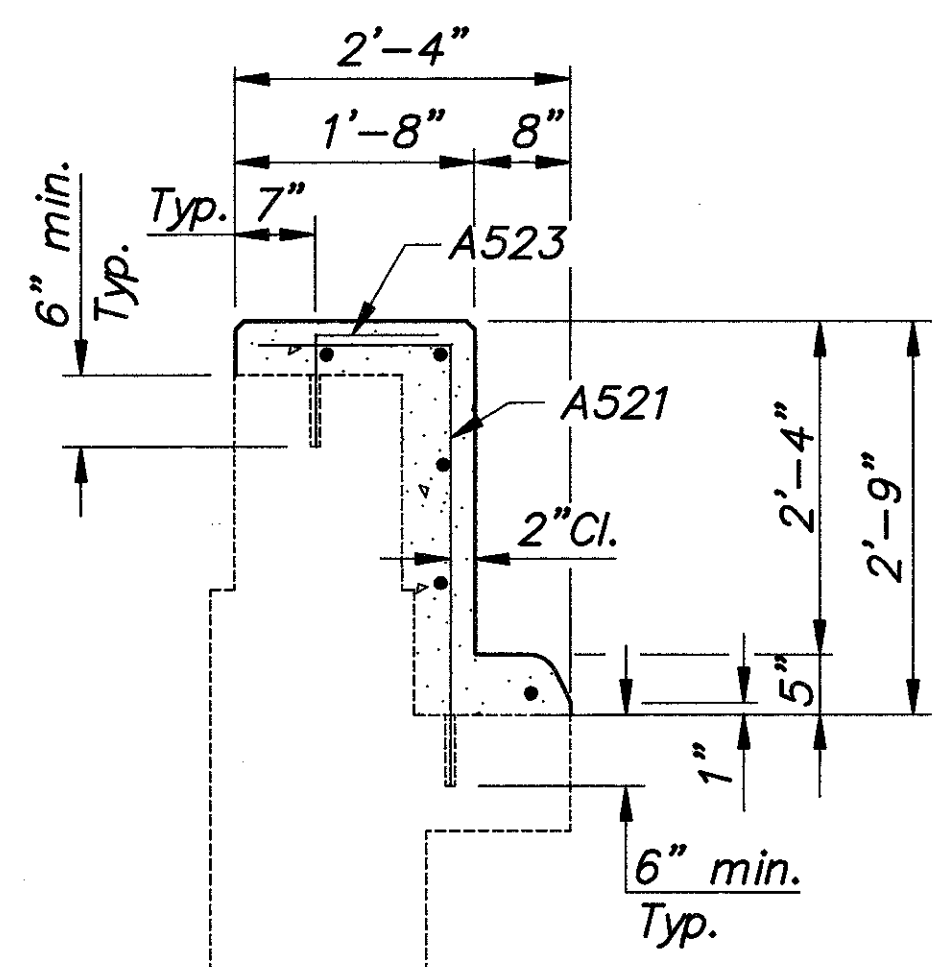


Note:  
N.F. = Near Face

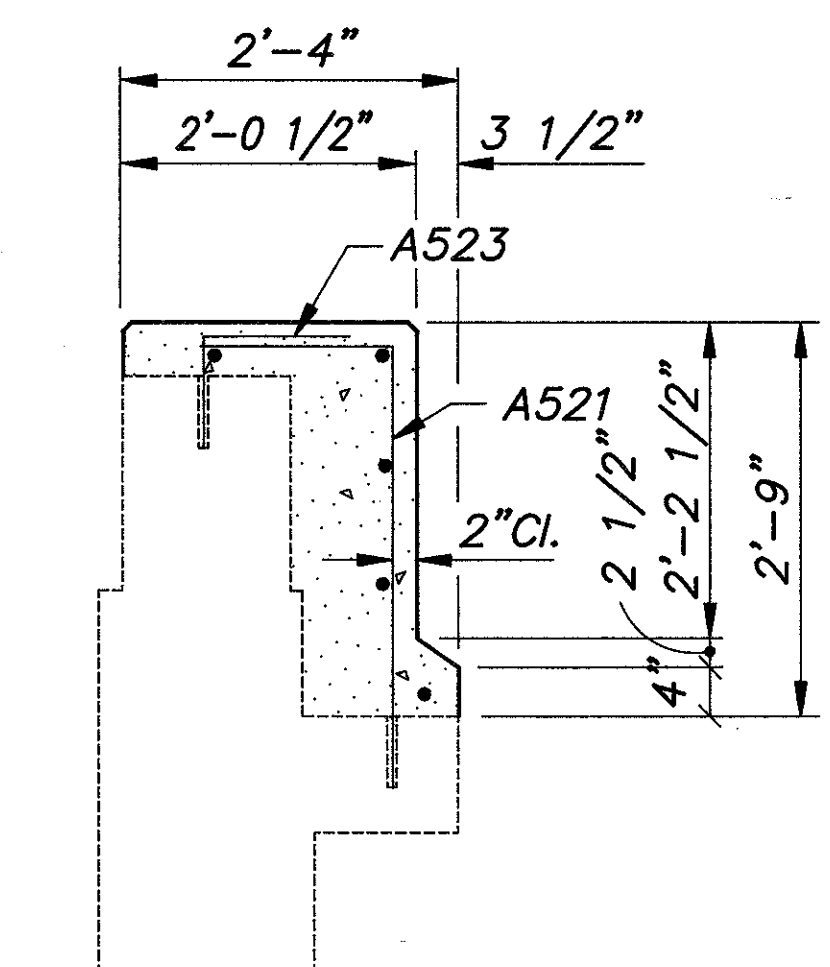


Denotes portion of existing structure to be removed.

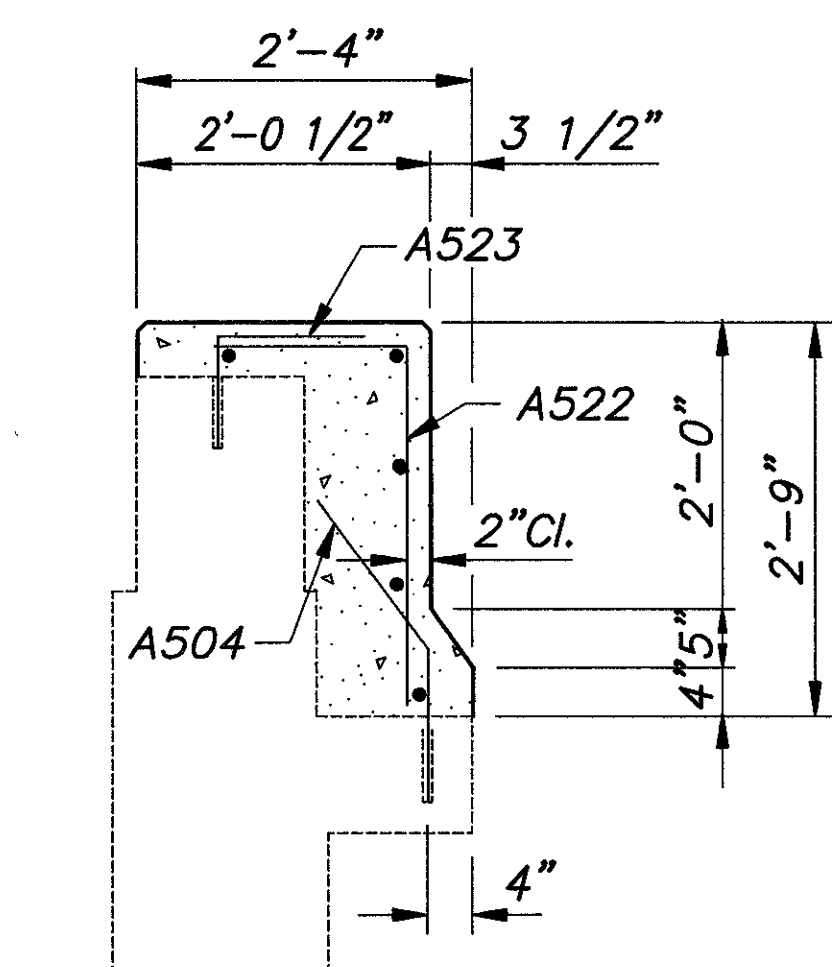
BALKE ENGINEERS 8/15 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
ABUTMENT DETAILS BRIDGE NO. HAM-50-1992 R EASTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER R.R. SIDING W. OF FREEMAN AVE.					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	



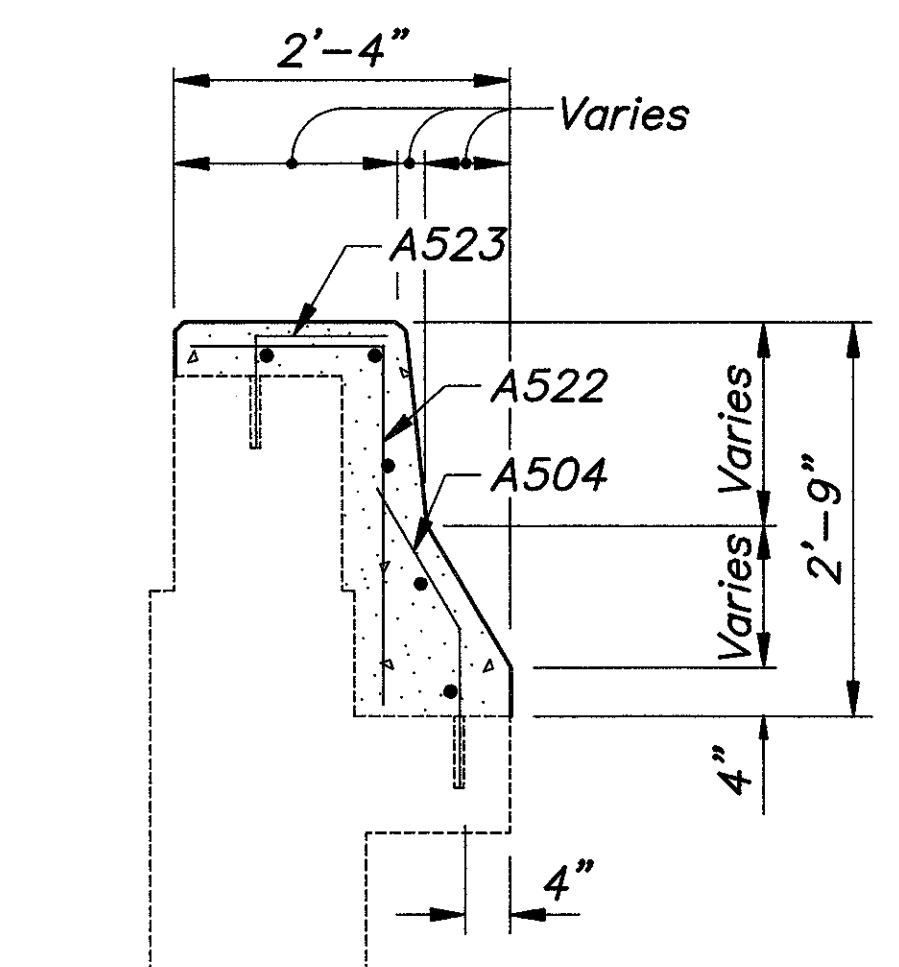
**SECTION Z-Z**



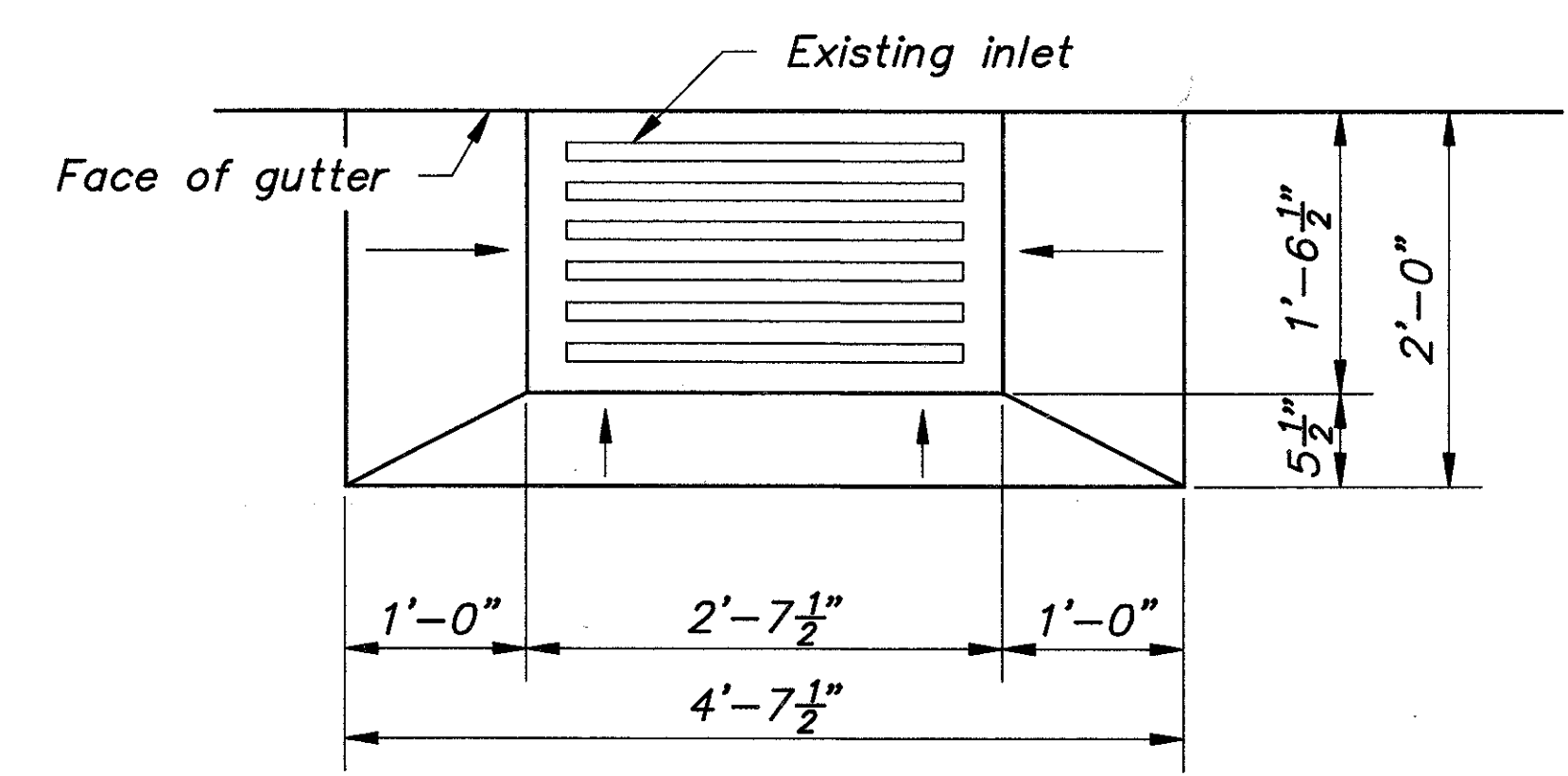
**SECTION Y-Y**



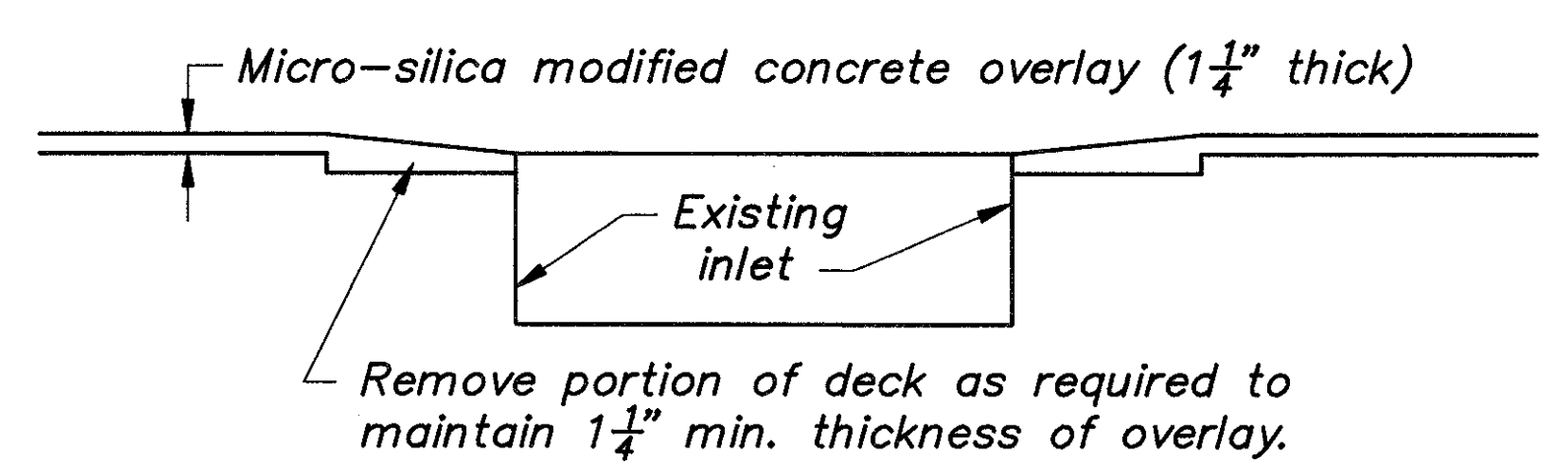
**SECTION X-X**



**SECTION W-W**



**PLAN AT INLET**



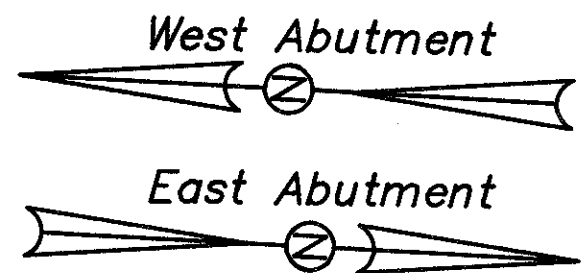
**SECTION THRU INLET**

BALKE ENGINEERS 9/15  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

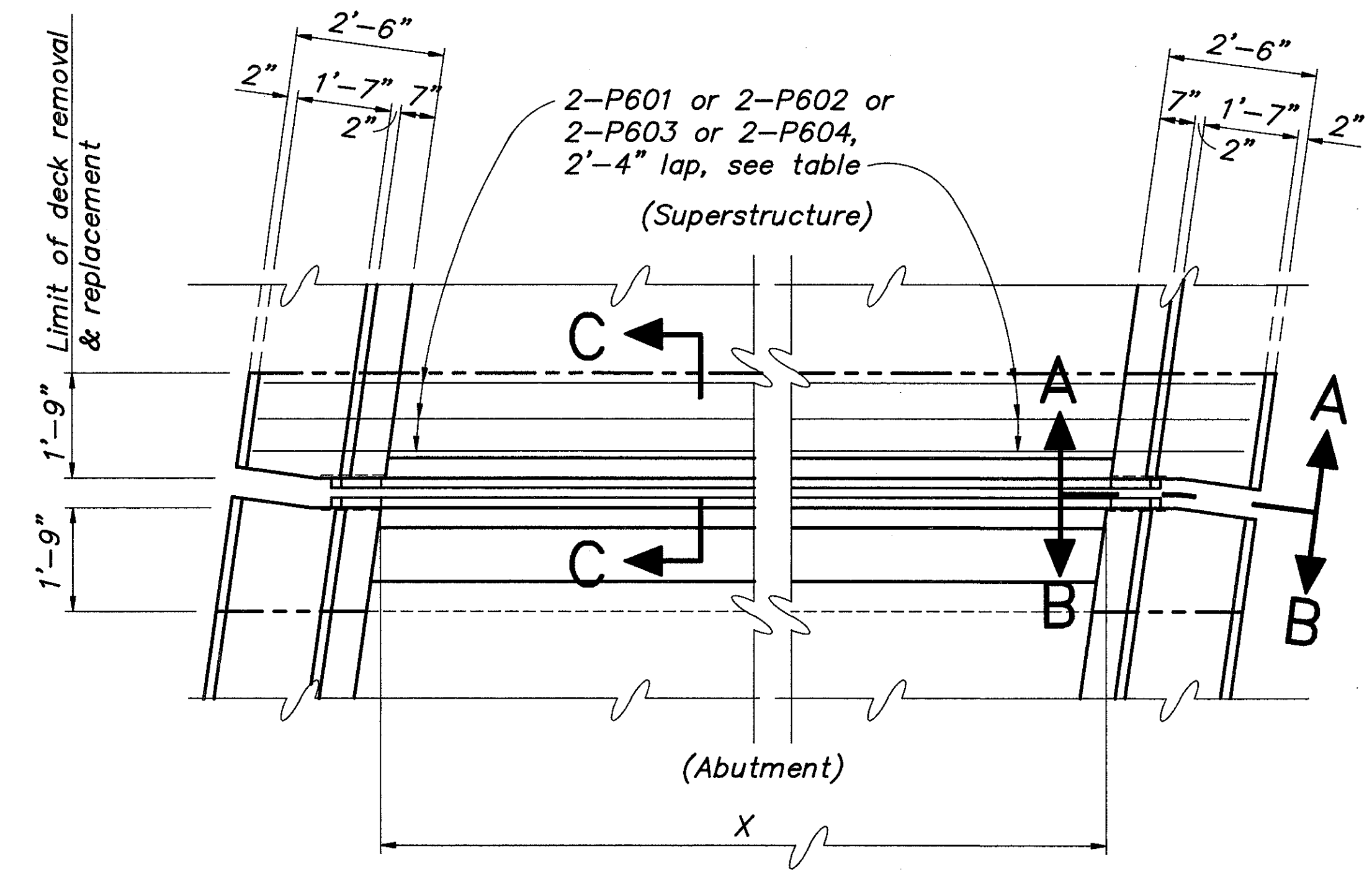
MISCELLANEOUS DETAILS  
BRIDGE NO. HAM-50-1992 R & L  
SIXTH STREET EXPRESSWAY  
OVER RR SIDING WEST OF FREEMAN AVE.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	





SUPERSTRUCTURE BARS			
LEFT BRIDGE		RIGHT BRIDGE	
WEST ABUT	EAST ABUT	WEST ABUT	EAST ABUT
P601	P602	P603	P604

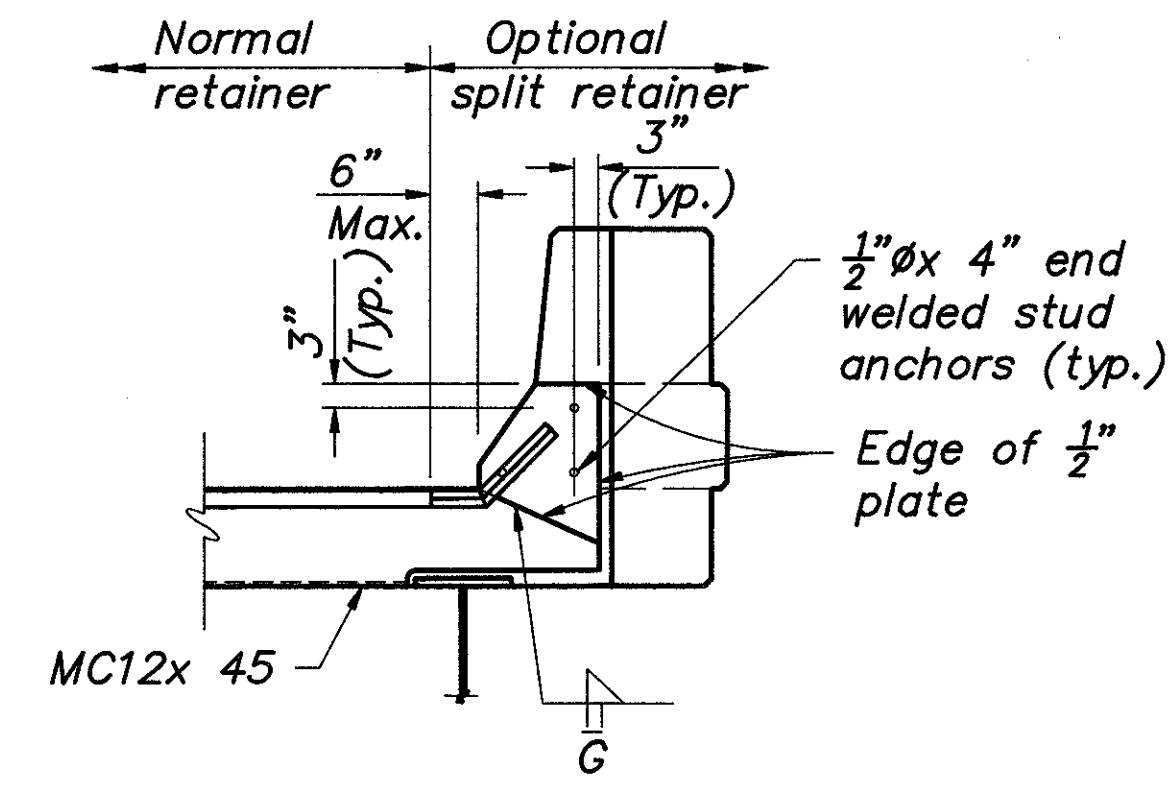


**PARTIAL PLAN**

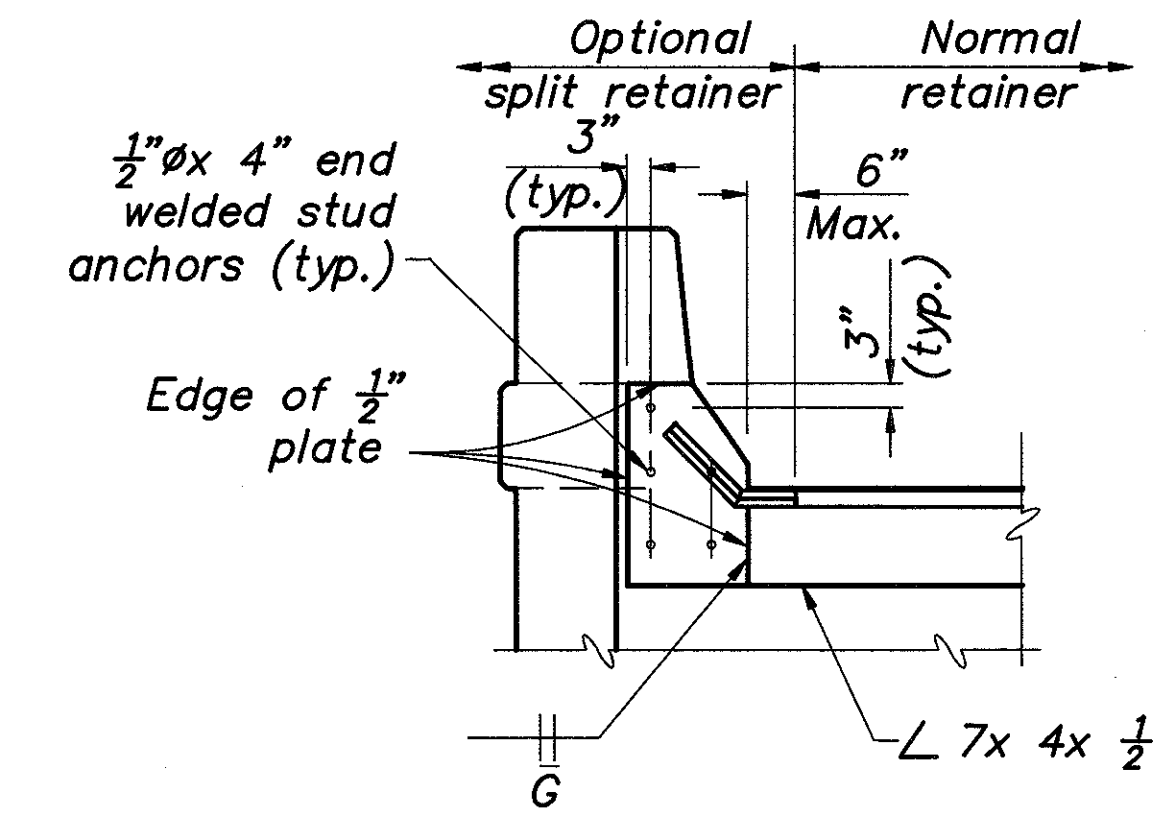
FACE TO FACE OF CURB (DIM. X)			
LEFT BRIDGE		RIGHT BRIDGE	
WEST ABUT	EAST ABUT	WEST ABUT	EAST ABUT
60'-1 <sup>7</sup> / <sub>8</sub> "	63'-5 <sup>1</sup> / <sub>8</sub> "	53'-4 <sup>1</sup> / <sub>4</sub> "	67'-6 <sup>3</sup> / <sub>8</sub> "

LOCATION	STRIP SEAL GLAND		
	MANUFACTURER		
Abutments	D.S. Brown Co. 300L	Watson-Bowman & Acme Corp. SE-300	Structural Acc. Inc. -

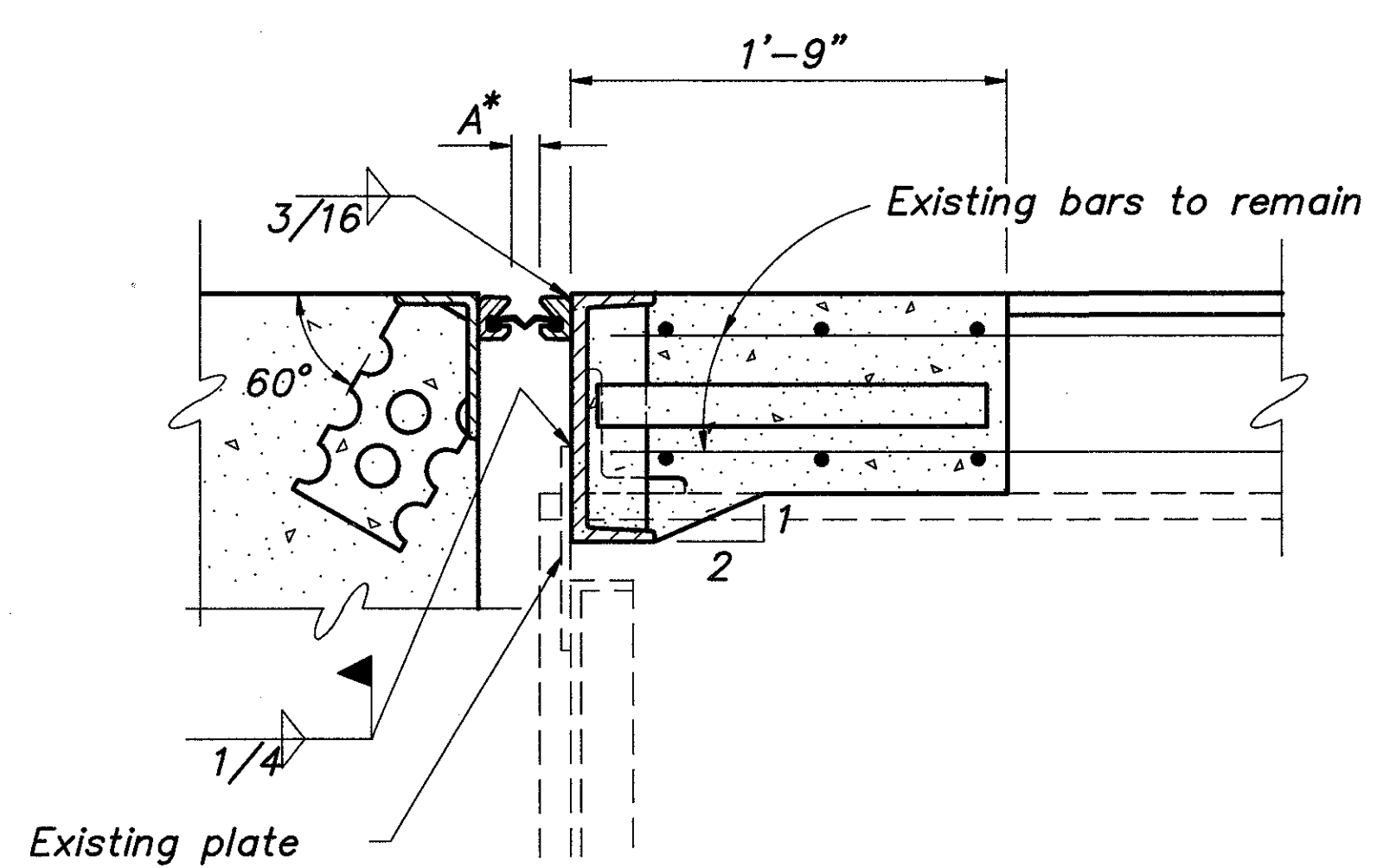
Gland shall be provided in continuous strip and inserted after all phases of extrusion installation are complete.



**SECTION A-A**



**SECTION B-B**

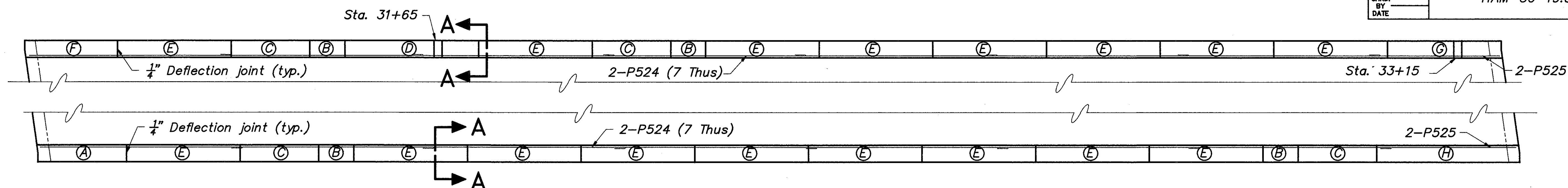


**SECTION C-C**

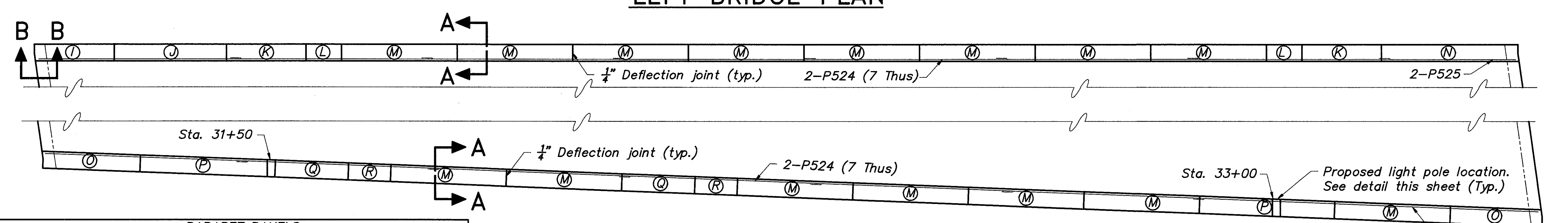
°F	OPENING WIDTH	
	WEST ABUT	EAST ABUT.
90	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "
80	1 <sup>5</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>2</sub> "
70	1 <sup>3</sup> / <sub>4</sub> "	1 <sup>5</sup> / <sub>8</sub> "
60	1 <sup>3</sup> / <sub>4</sub> "	1 <sup>3</sup> / <sub>4</sub> "
50	1 <sup>7</sup> / <sub>8</sub> "	1 <sup>7</sup> / <sub>8</sub> "
40	1 <sup>7</sup> / <sub>8</sub> "	2"
30	2"	2"

**NOTE:**  
For additional details & notes on expansion joint, see Std. Drawing EXJ -4-87.

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237						10/15
<b>EXPANSION JOINT DETAILS</b>						
BRIDGE NO. HAM-50-1992 R & L SIXTH STREET EXPRESSWAY OVER RR SIDING WEST OF FREEMAN AVE.						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DWI	CRS 4/92		



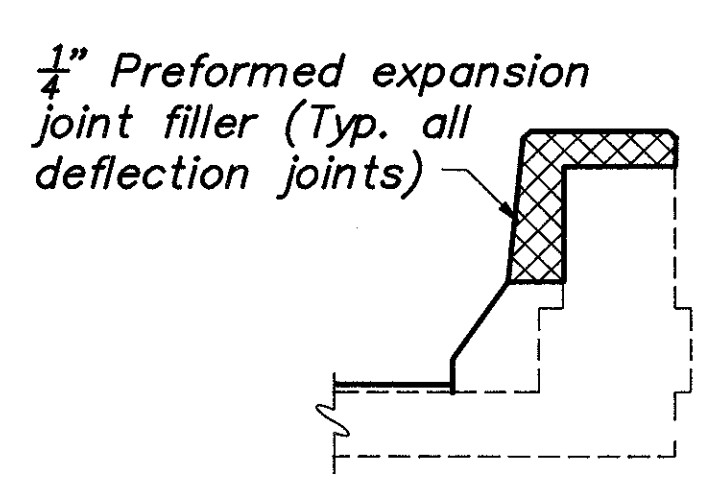
**LEFT BRIDGE PLAN**



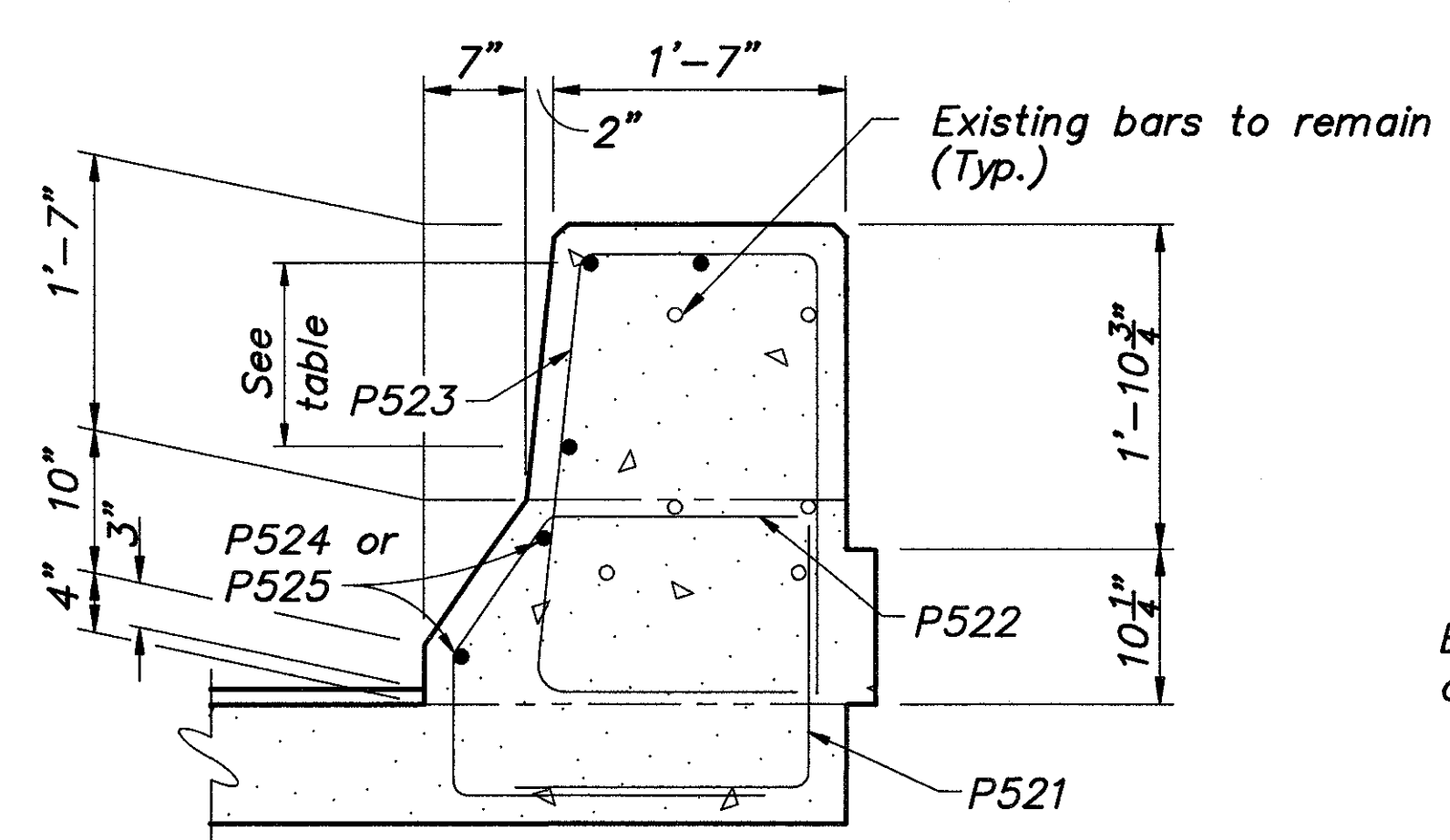
**RIGHT BRIDGE PLAN**

PARAPET PANELS				
MARK	NO.	PANEL LENGTH	DIM. X	BARS NEEDED
(A)	1	13'-0"	6"	7-P501, 7-P502 & 3-P503
(B)	4	5'-2 3/4"	4 3/8"	4-P501, 4-P502 & 3-P504
(C)	4	11'-8 1/4"	2"	9-P501, 9-P502 & 3-P505
(D)	1	19'-11"	2 1/2"	14-P501, 14-P502 & 3-P506
(E)	17	16'-11"	2 1/2"	12-P501, 12-P502 & 3-P507
(F)	1	14'-0"	3"	8-P501, 8-P502 & 3-P508
(G)	1	17'-0"	3"	10-P501, 10-P502 & 3-P509
(H)	1	20'-5"	2"	13-P501, 13-P502 & 3-P510
(I)	1	12'-1"	2"	7-P501, 7-P502 & 3-P511
(J)	1	16'-8 1/2"	2"	12-P501, 12-P502 & 3-P512
(K)	2	11'-10"	2"	9-P501, 9-P502 & 3-P513
(L)	2	5'-3 1/2"	4 3/4"	4-P501, 4-P502 & 3-P514
(M)	15	17'-2 1/2"	7"	12-P501, 12-P502 & 3-P515
(N)	1	20'-3 1/2"	4 3/4"	12-P501, 12-P502 & 3-P516
(O)	2	14'-2 1/2"	7"	8-P501, 8-P502 & 3-P517
(P)	2	20'-1 1/2"	3 3/4"	14-P501, 14-P502 & 3-P518
(Q)	2	10'-10 1/2"	2"	8-P501, 8-P502 & 3-P519
(R)	2	6'-4"	2"	5-P501, 5-P502 & 3-P520

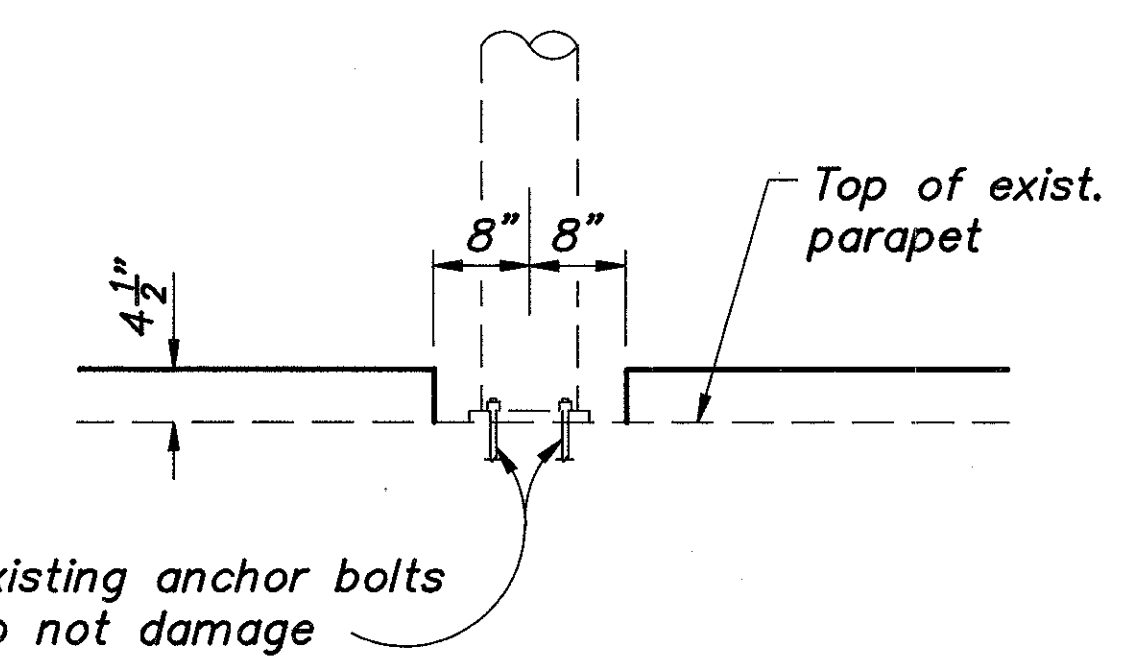
All reinforcing bars to be epoxy coated.



**DEFLECTION JOINT DETAIL**



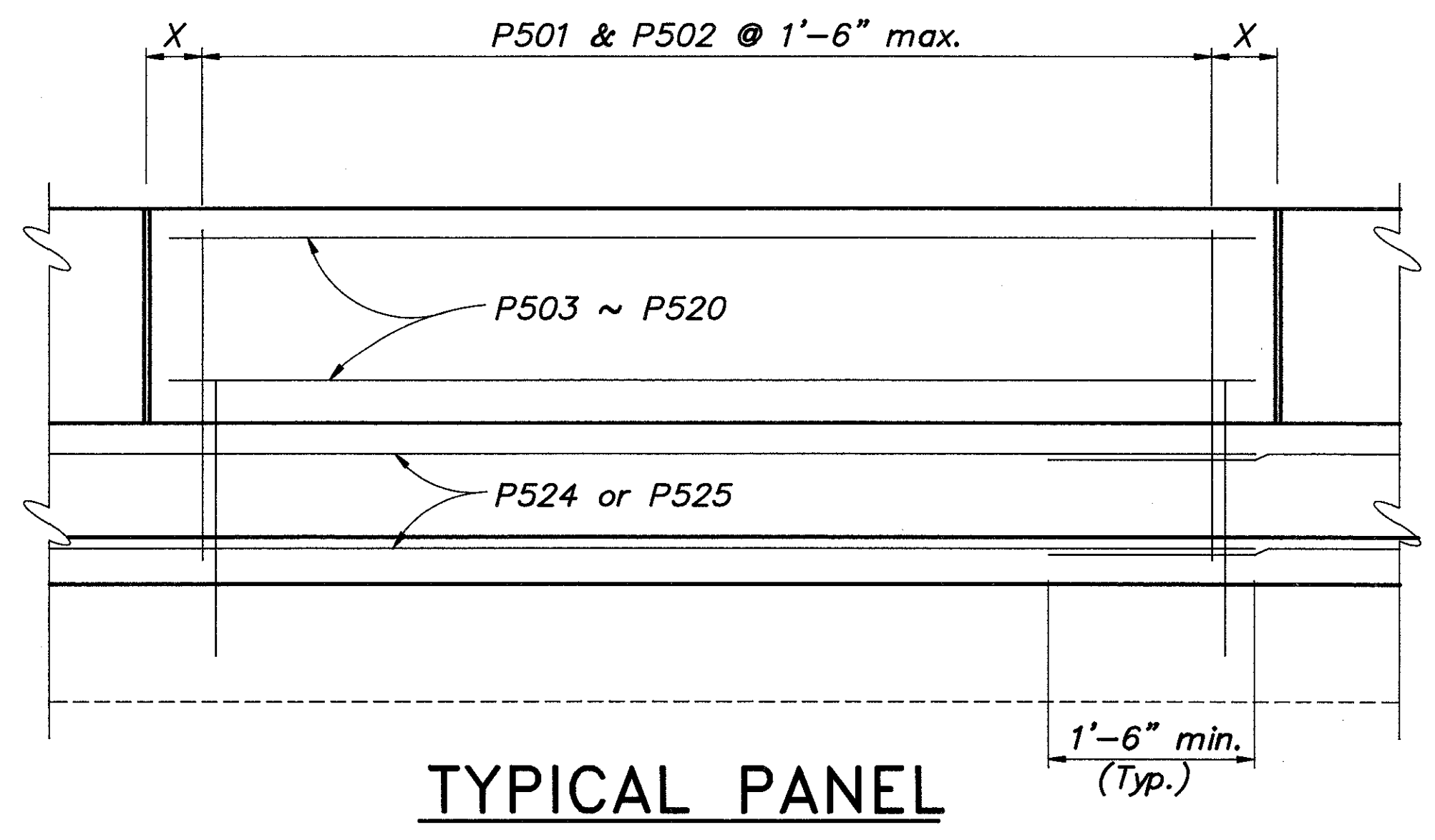
**SECTION C-C**



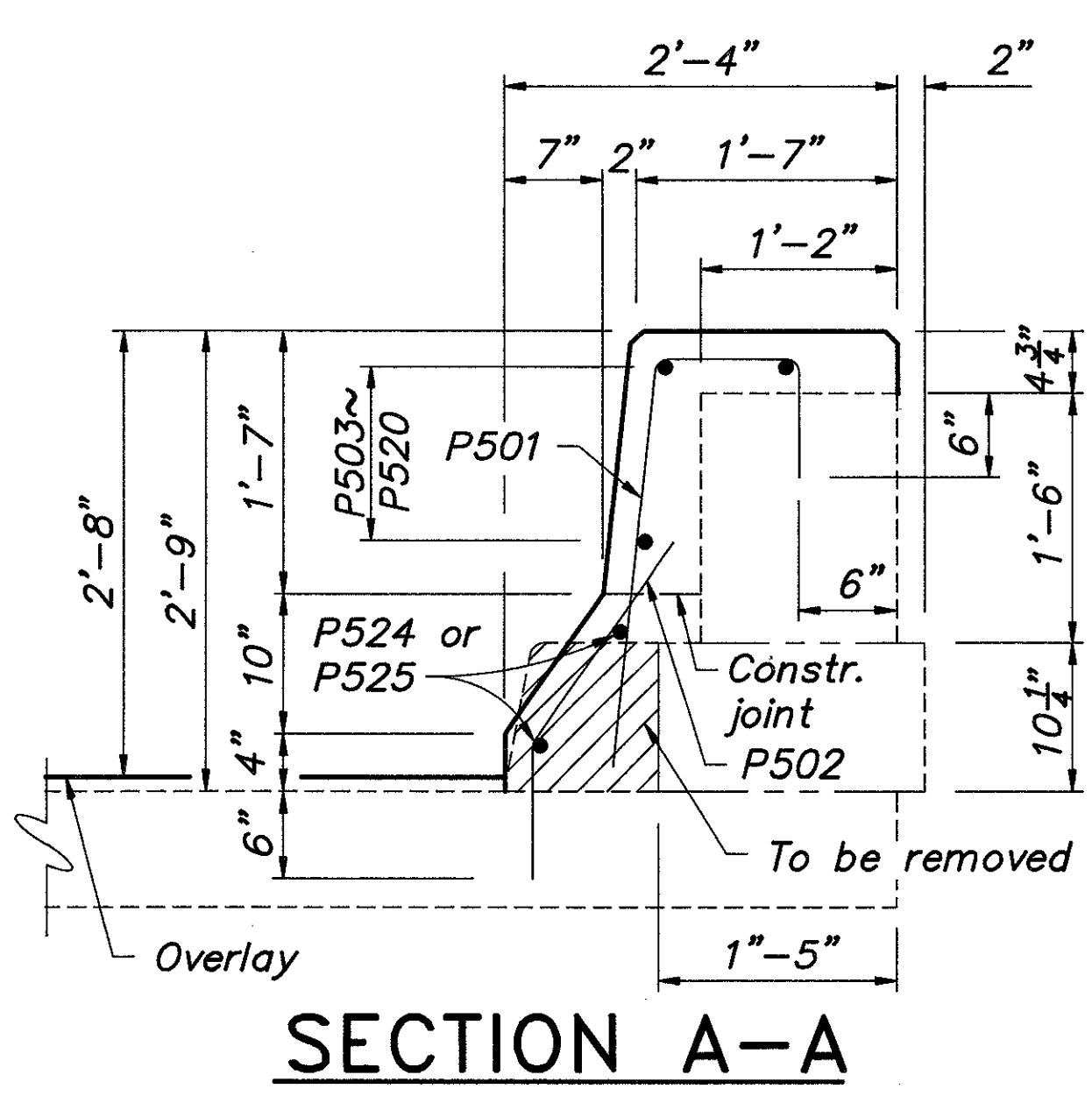
**LIGHT POLE SUPPORT DETAIL**

NOTE: Light pole locations match existing pole locations.

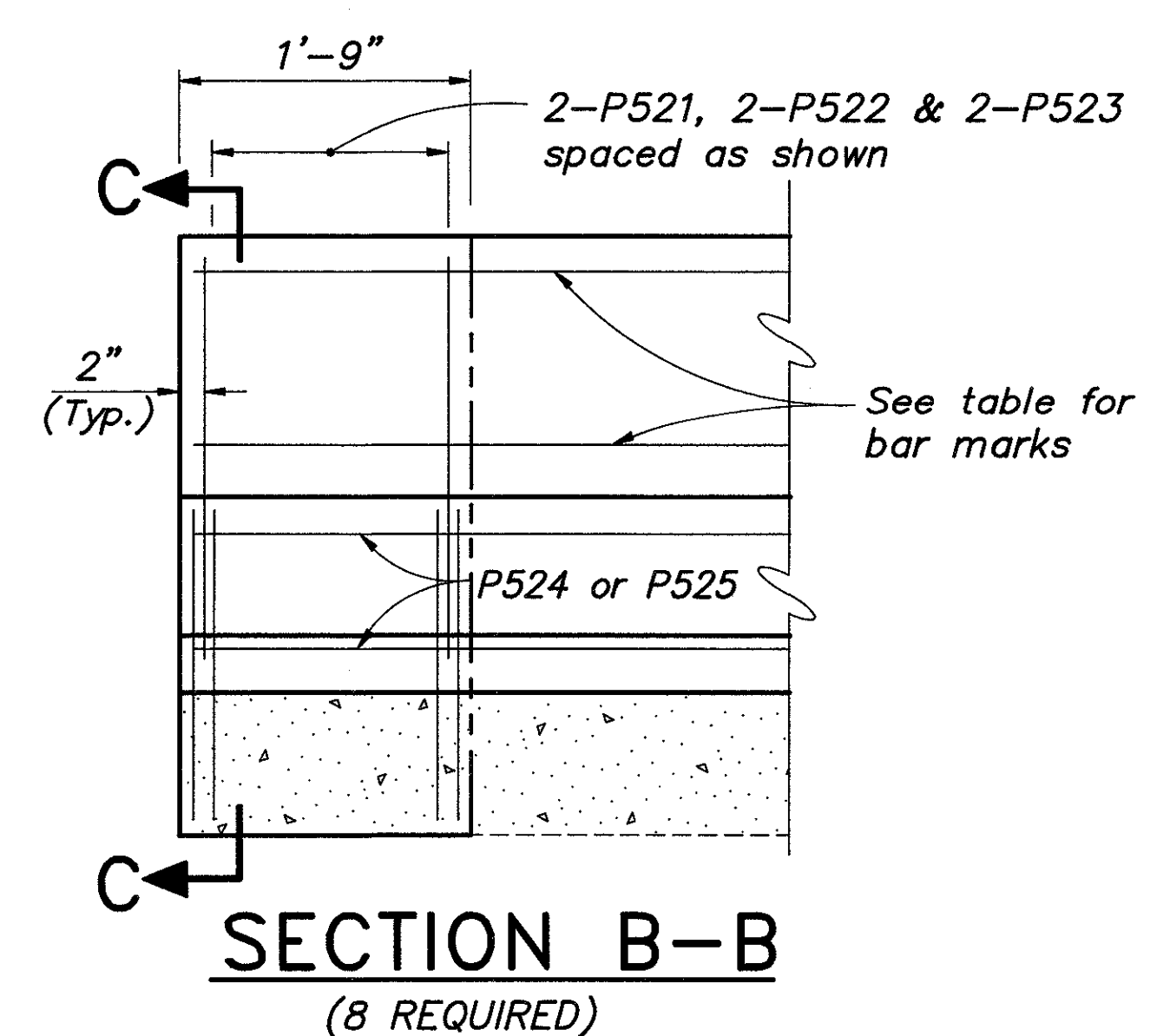
NOTE: New deflection joints shall match the existing deflection joints locations.



**TYPICAL PANEL**



**SECTION A-A**

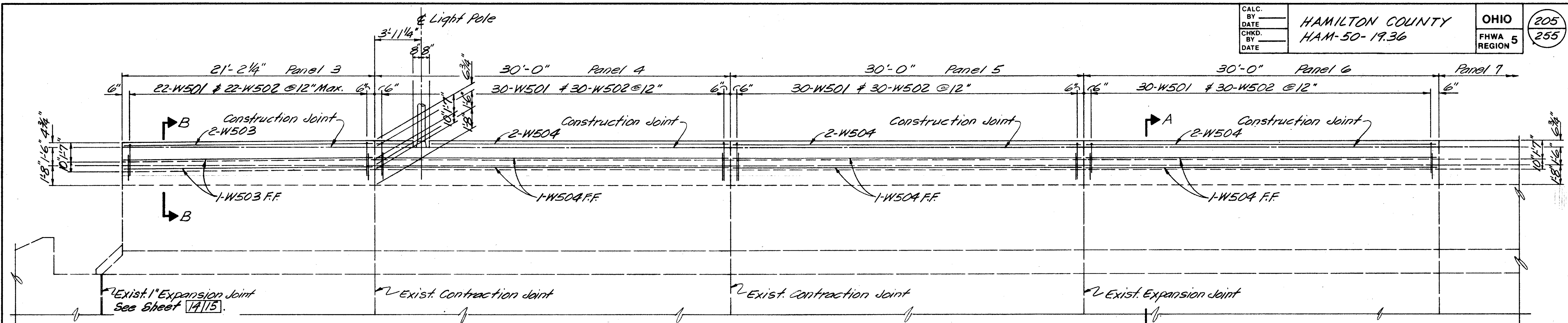


**SECTION B-B**  
(8 REQUIRED)

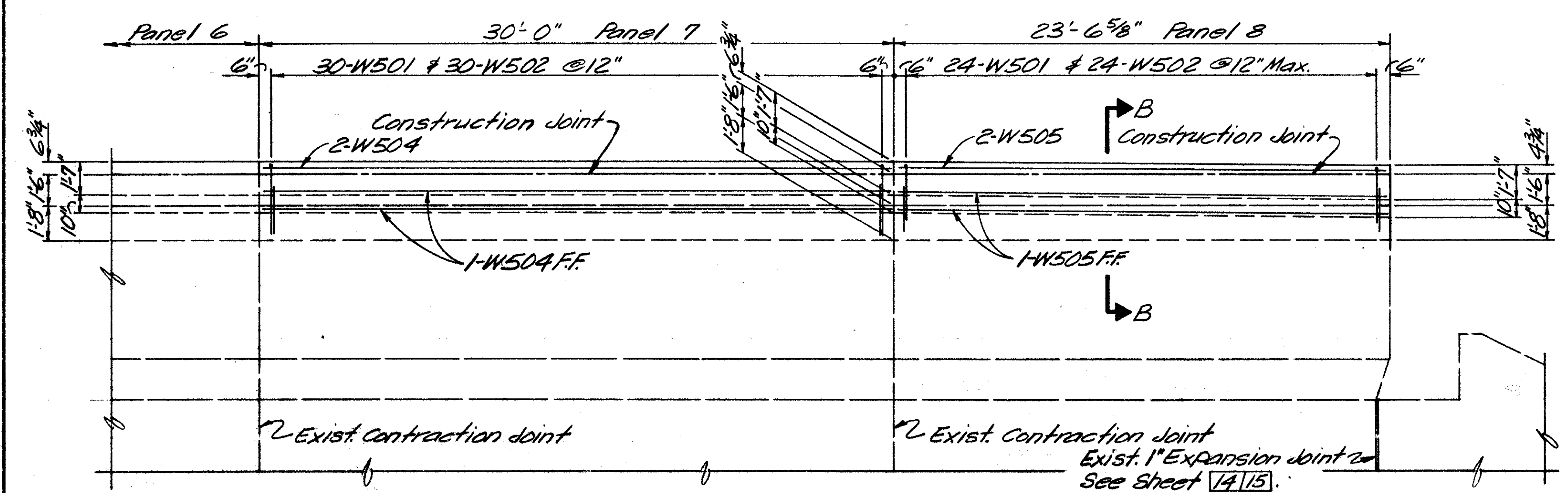
BALKE ENGINEERS 11/15  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

**PARAPET DETAILS**  
BRIDGE NO. HAM-50-1992 R & L  
SIXTH STREET EXPRESSWAY  
OVER RR SIDING WEST OF FREEMAN AVE.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

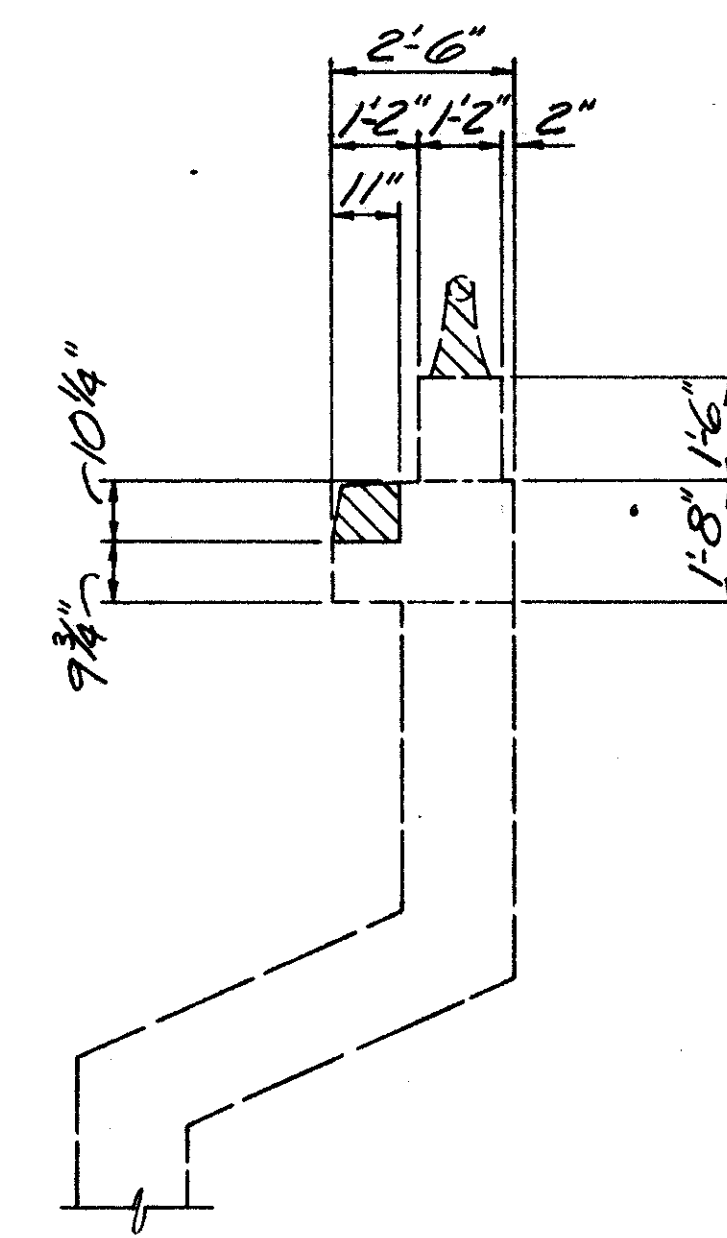


ELEVATION

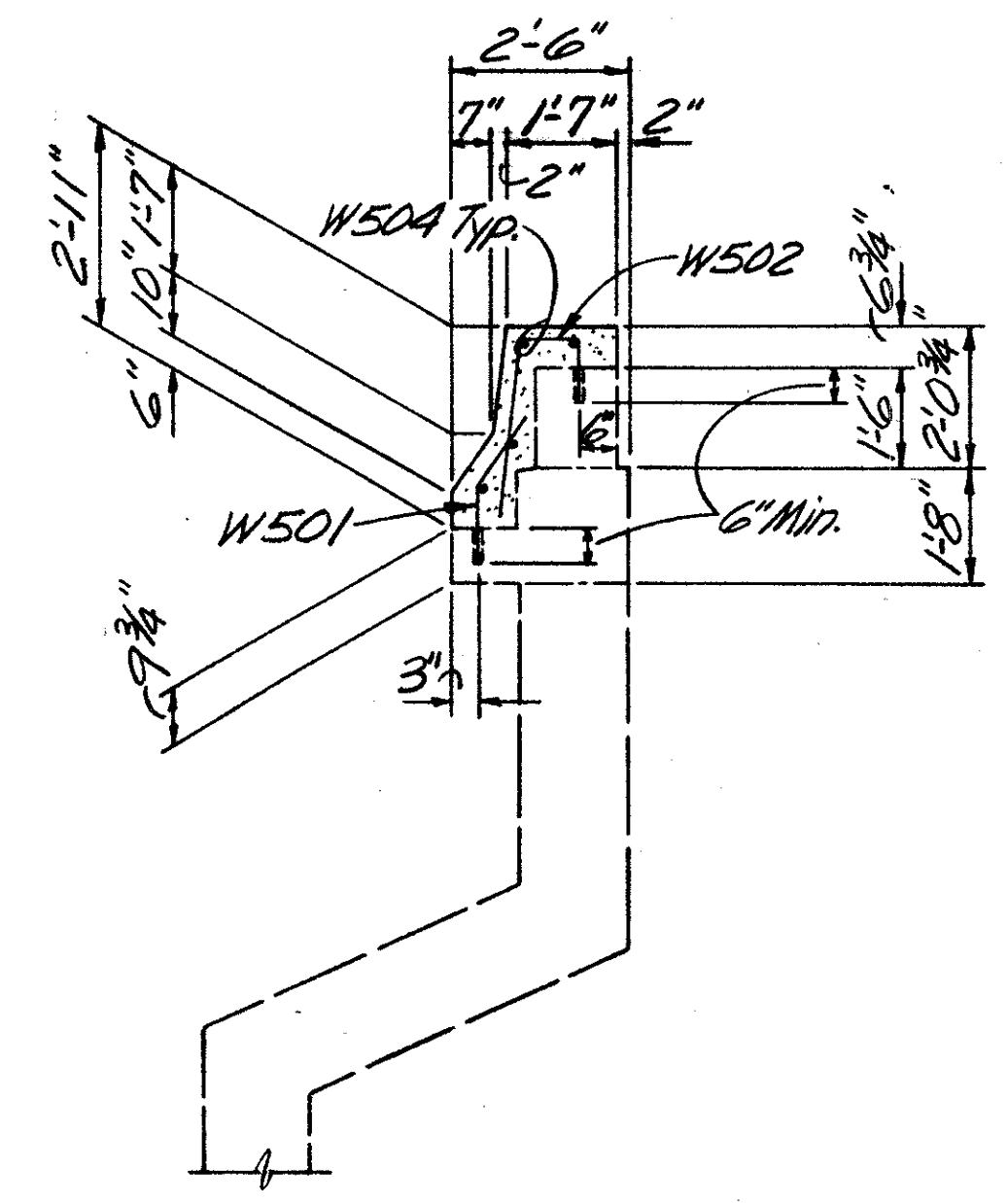


ELEVATION

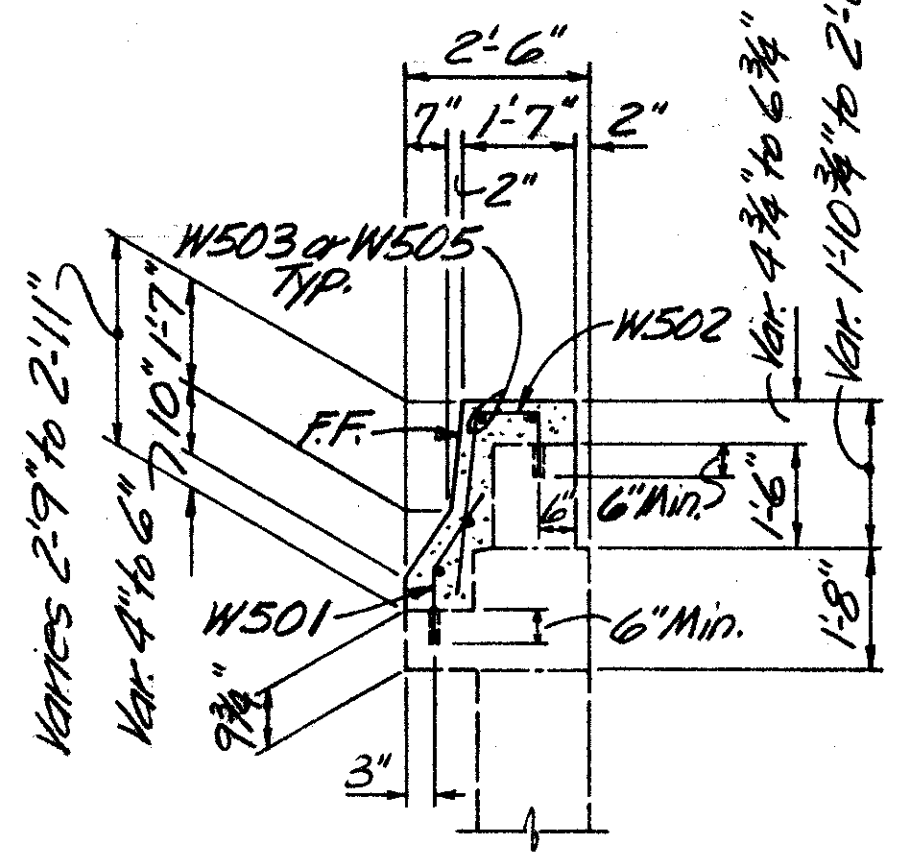
Notes:  
 1. Field adjust rebar spacing & field cut rebars as necessary to clear lighting pole.  
 2. F.F. = Far Face



SECTION A-A & B-B  
(Showing Removal)

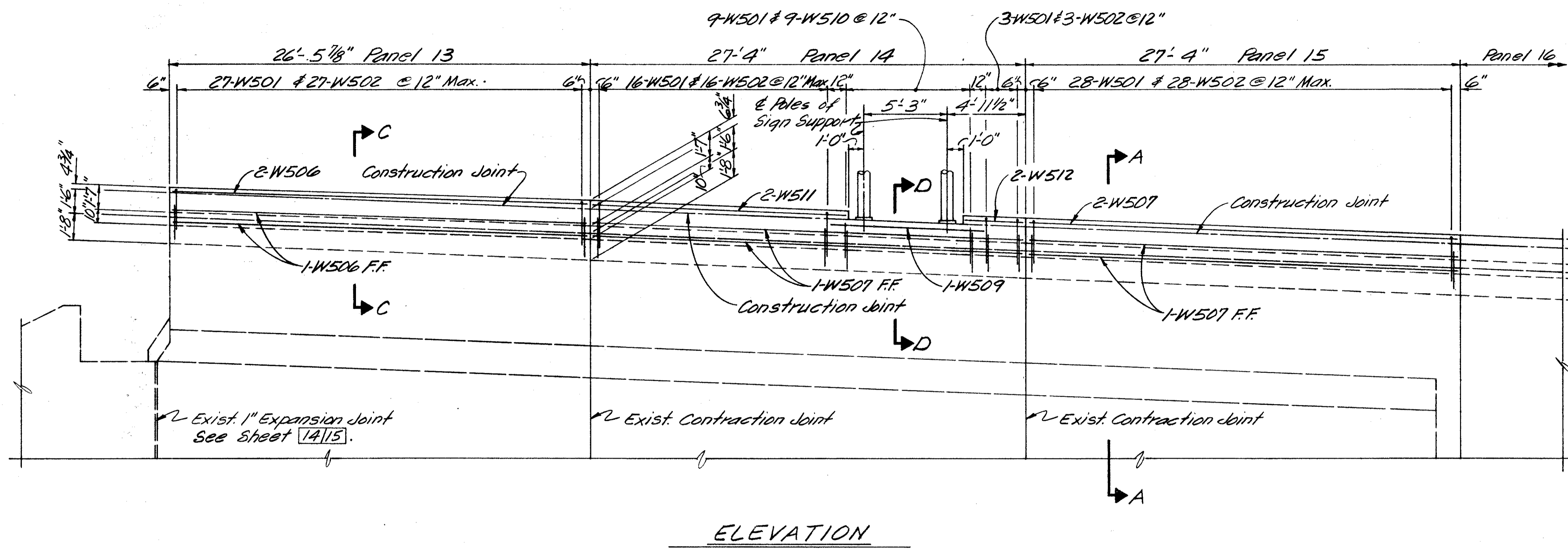


SECTION A-A  
PANEL 4, 5, 6 & 7

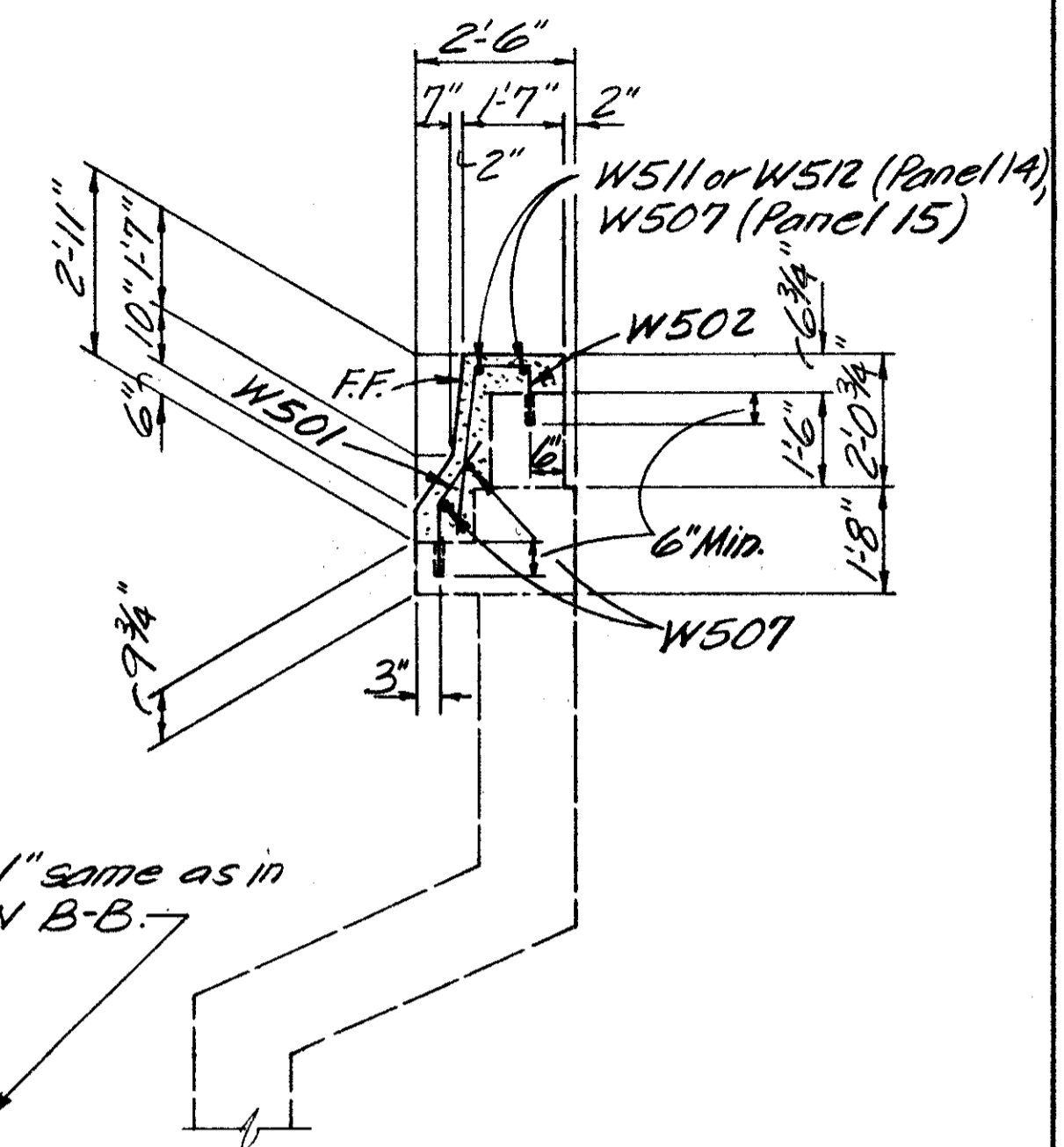


SECTION B-B  
PANEL 3 & 8

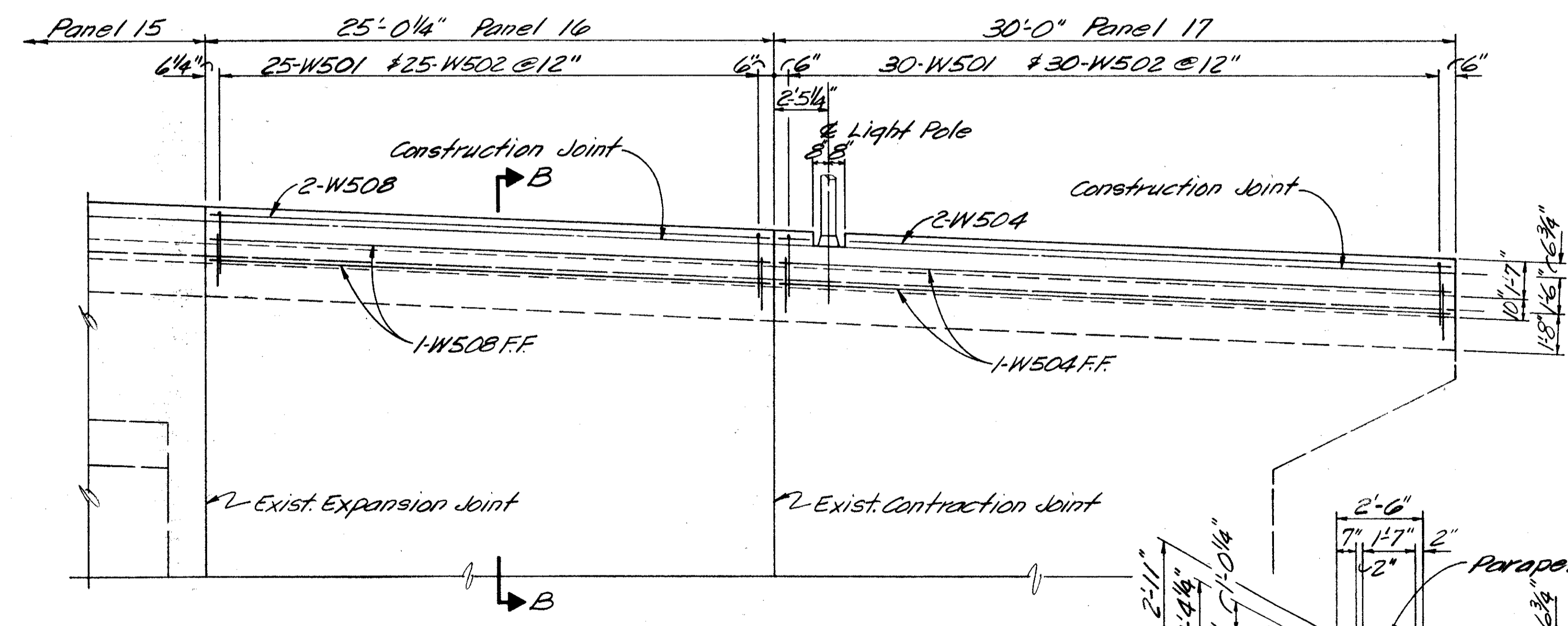
BALKE ENGINEERS		12/15	
1848 SUMMIT RD. CINCINNATI, OHIO 45237			
RETAINING WALL NO. 3 BRIDGE NO. HAM-50-1992 R EASTBOLIND 6TH ST. EXPRESSWAY BRIDGE OVER R.R. SIDING W. OF FREEMAN AVE.			
DESIGNED	DRAWN	TRACED	CHECKED
MRS	WJH	~	DWI
REVIEWED DATE	CRS 4/92	REVISED	



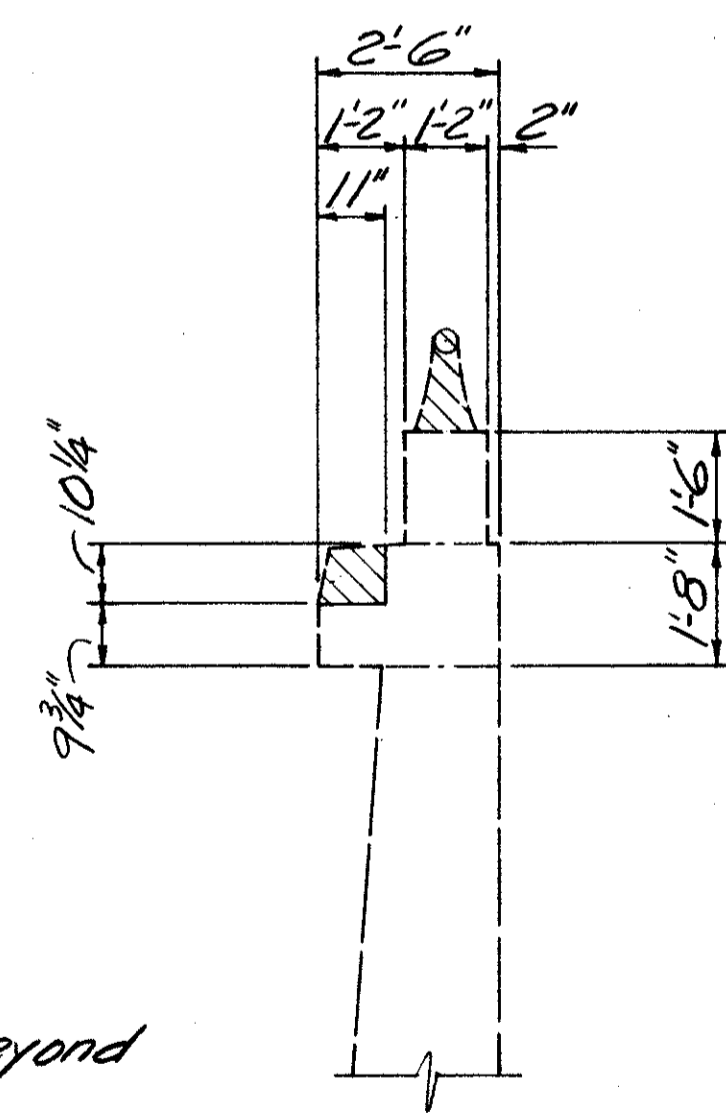
ELEVATION



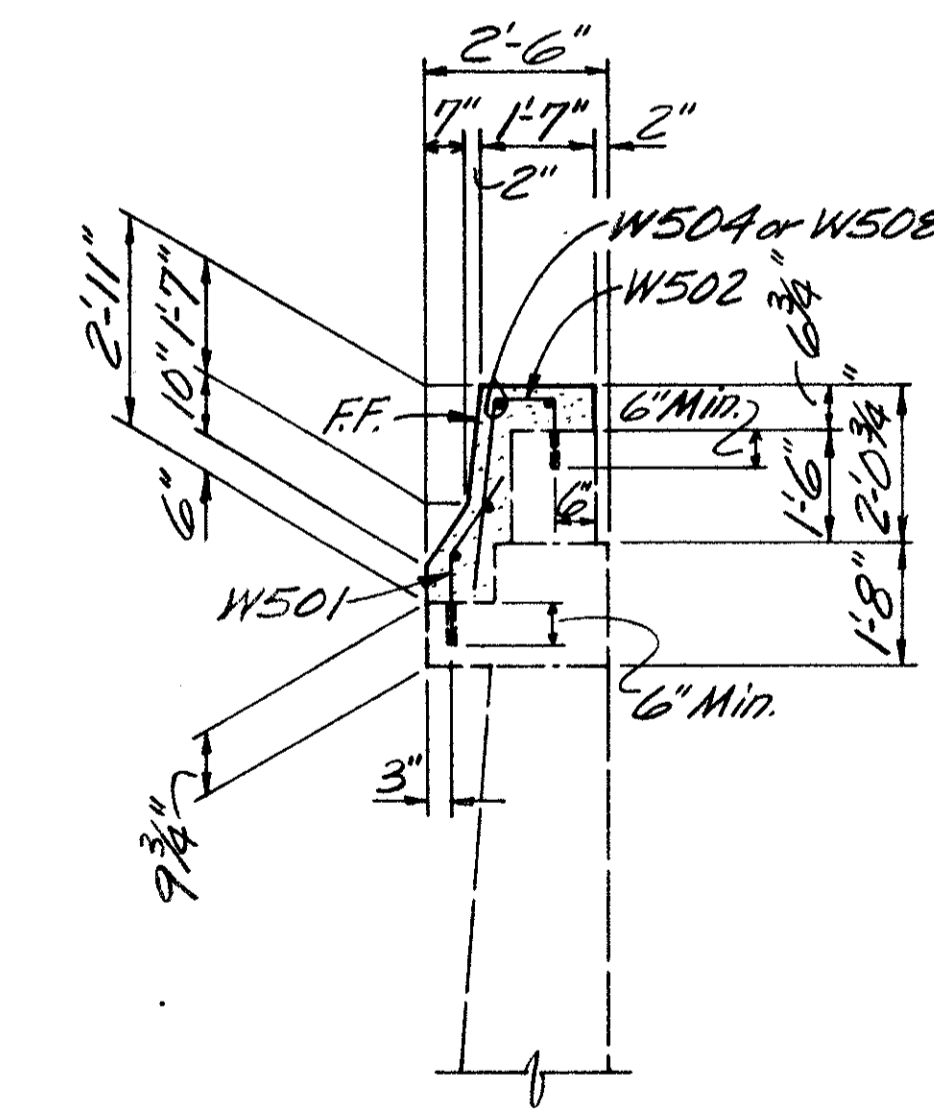
SECTION A-A  
PANEL 14 & 15



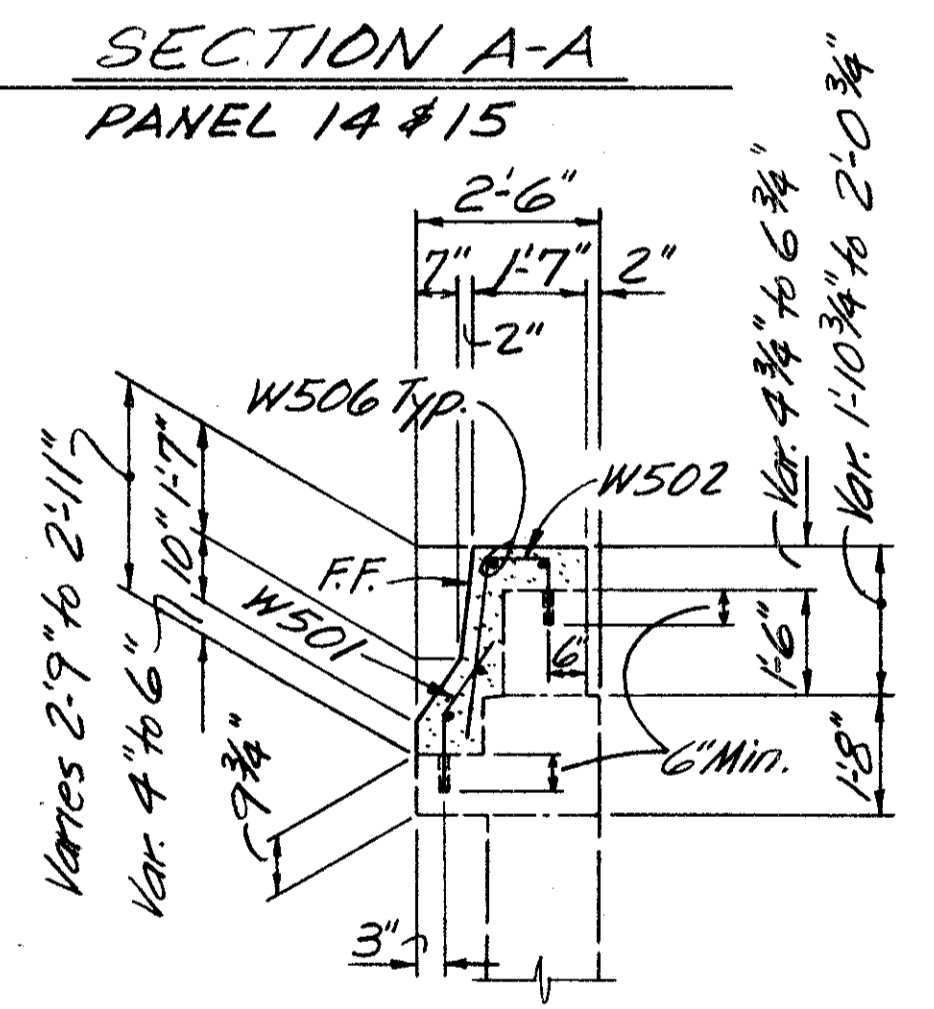
ELEVATION



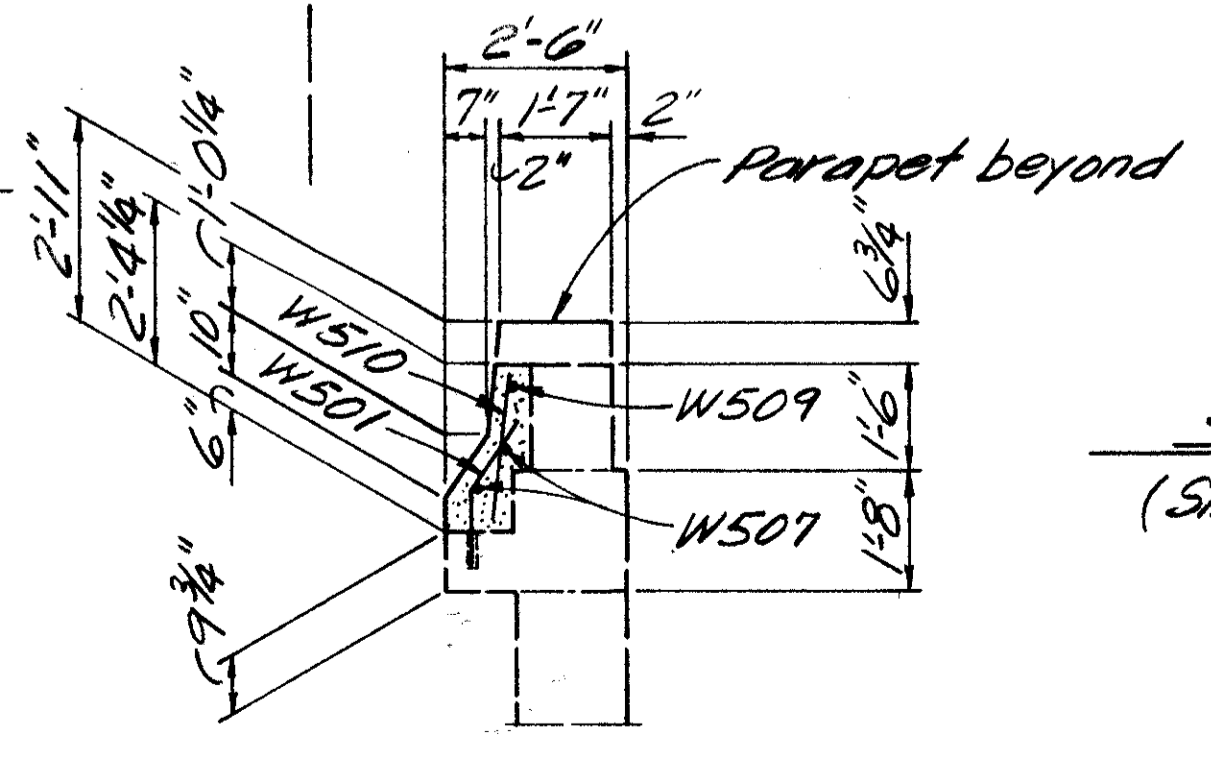
SECTION B-B  
(Showing Removal)



SECTION B-B  
PANEL 16 & 17



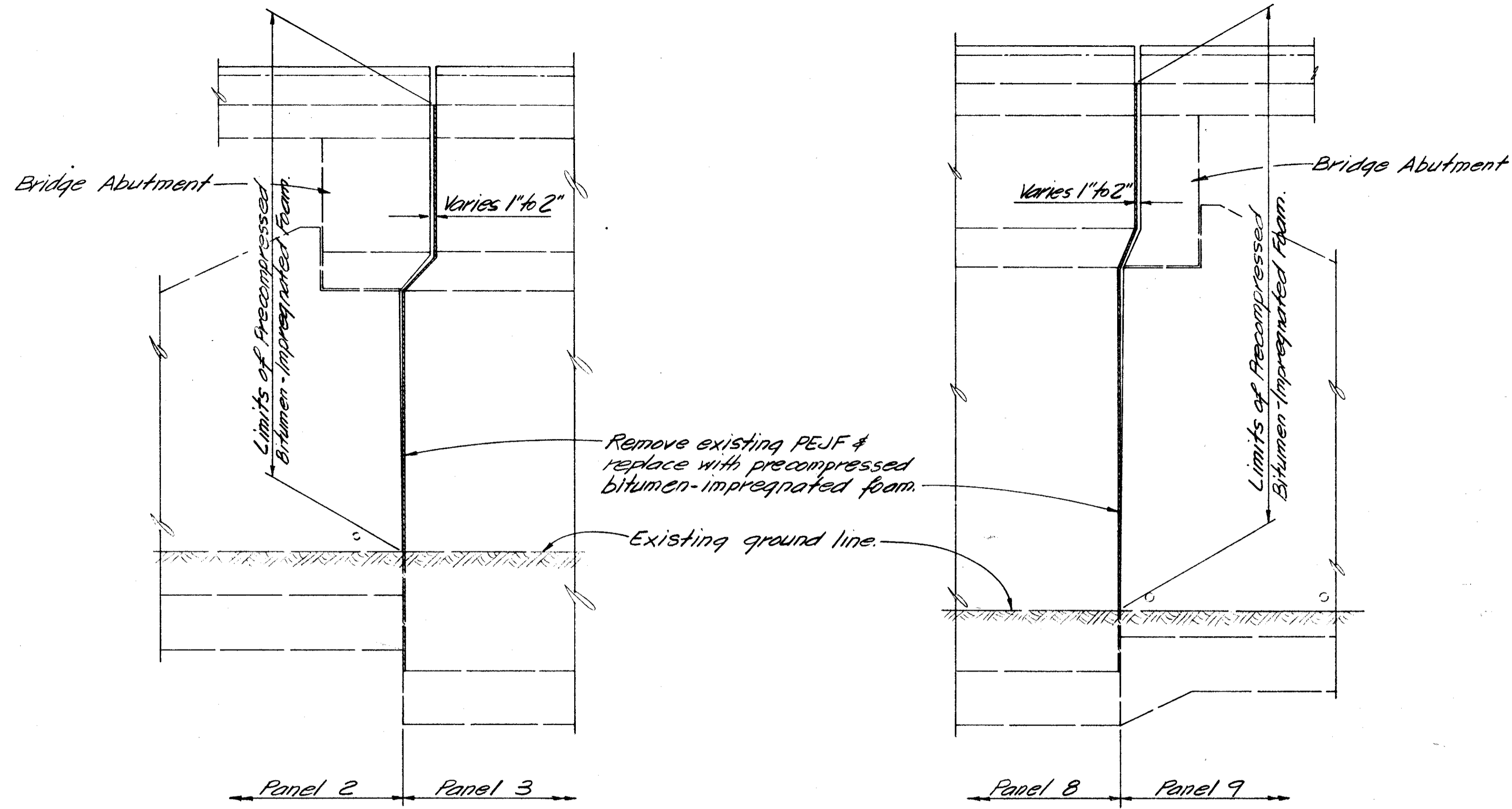
SECTION C-C  
PANEL 13



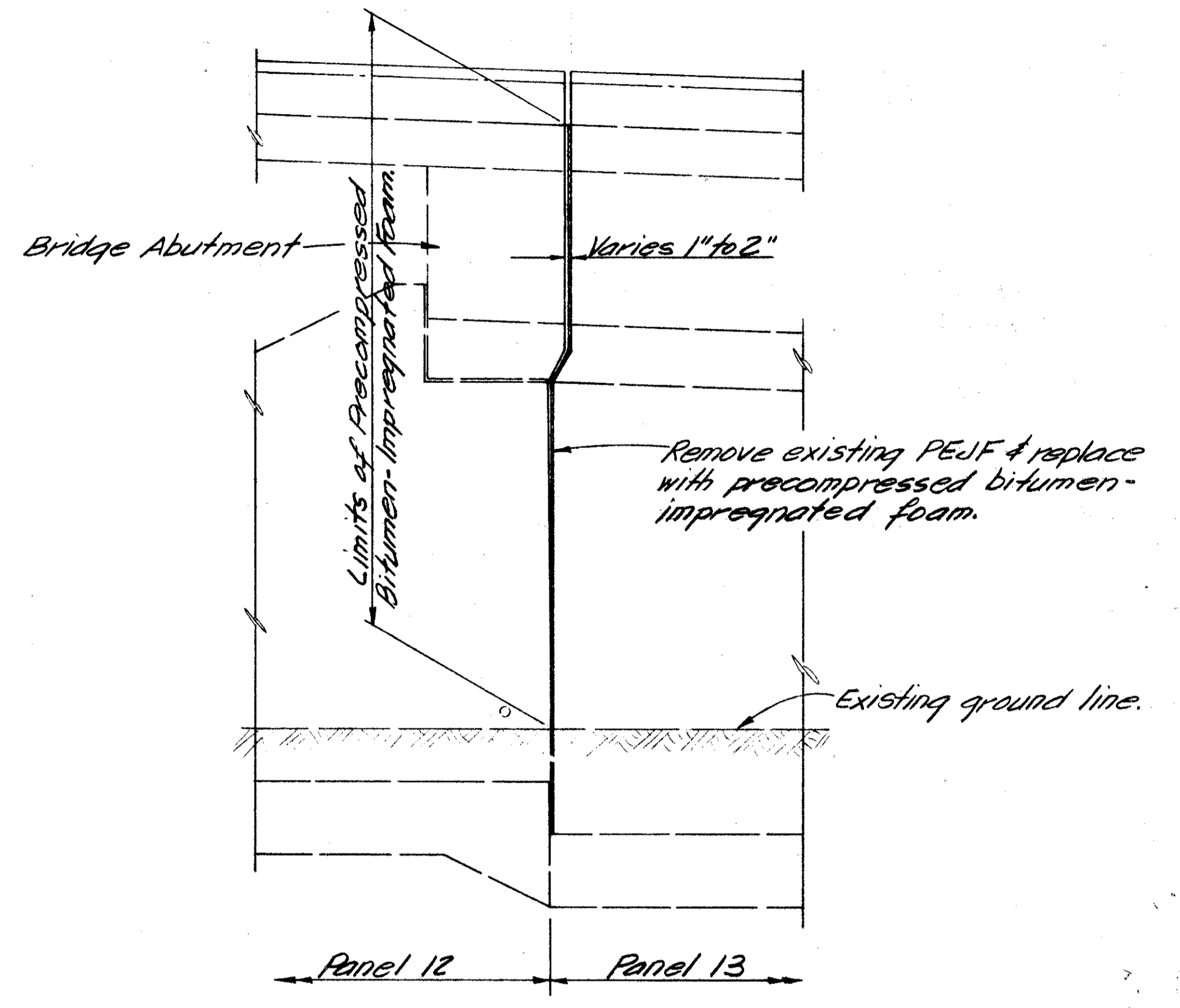
SECTION D-D

Notes:  
1. Field adjust rebar spacing & field cut rebars as necessary to clear lighting pole.  
2. F.F. = Far Face

BALKE ENGINEERS 13/15 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
RETAINING WALL NO. 4 BRIDGE NO. HAM-50-1992 R EASTBOUND 6TH ST. EXPRESSWAY BRIDGE OVER R.R. SIDING W. OF FREEMAN AVE.					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	



RETAINING WALL NO. 3

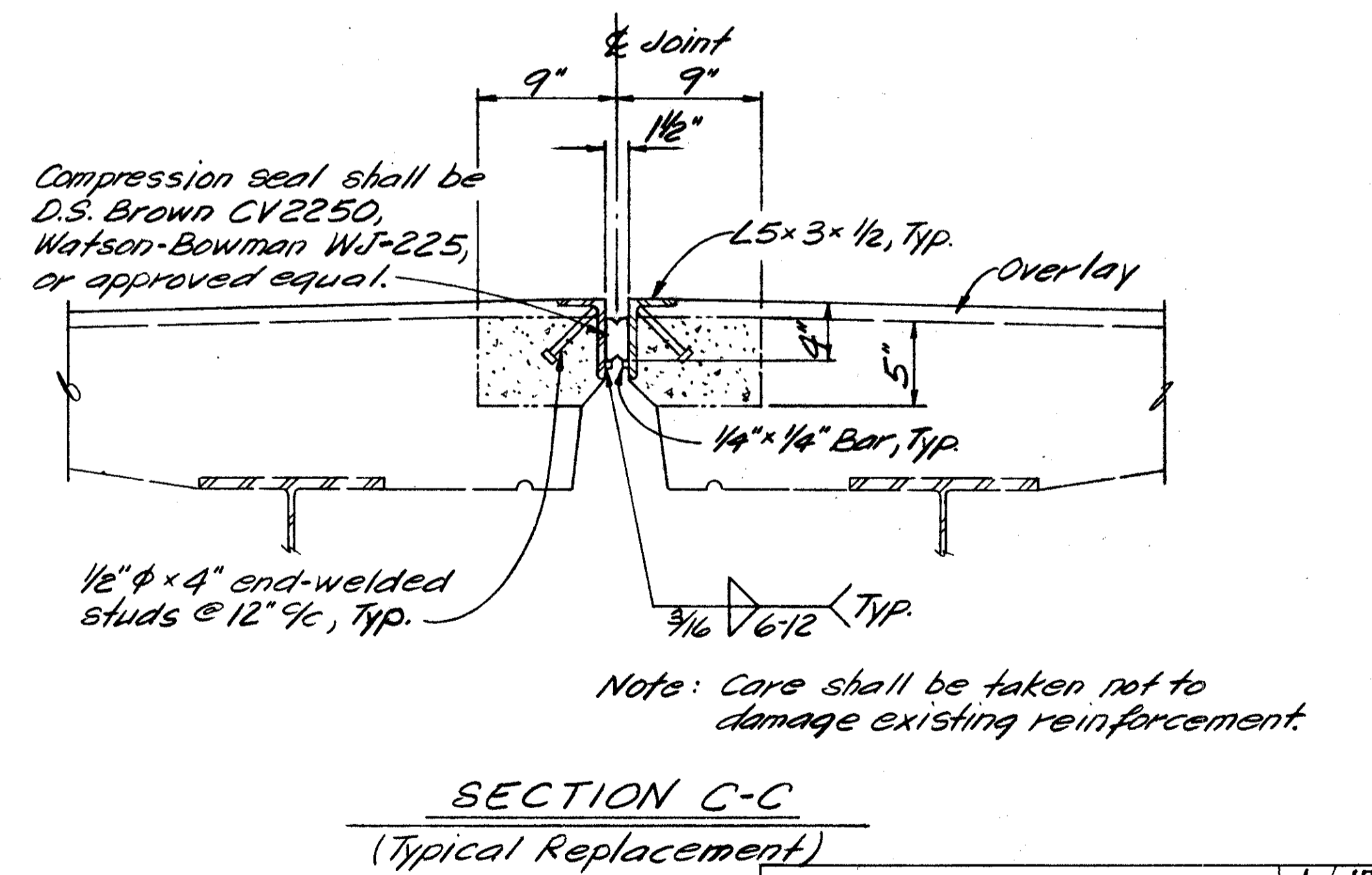
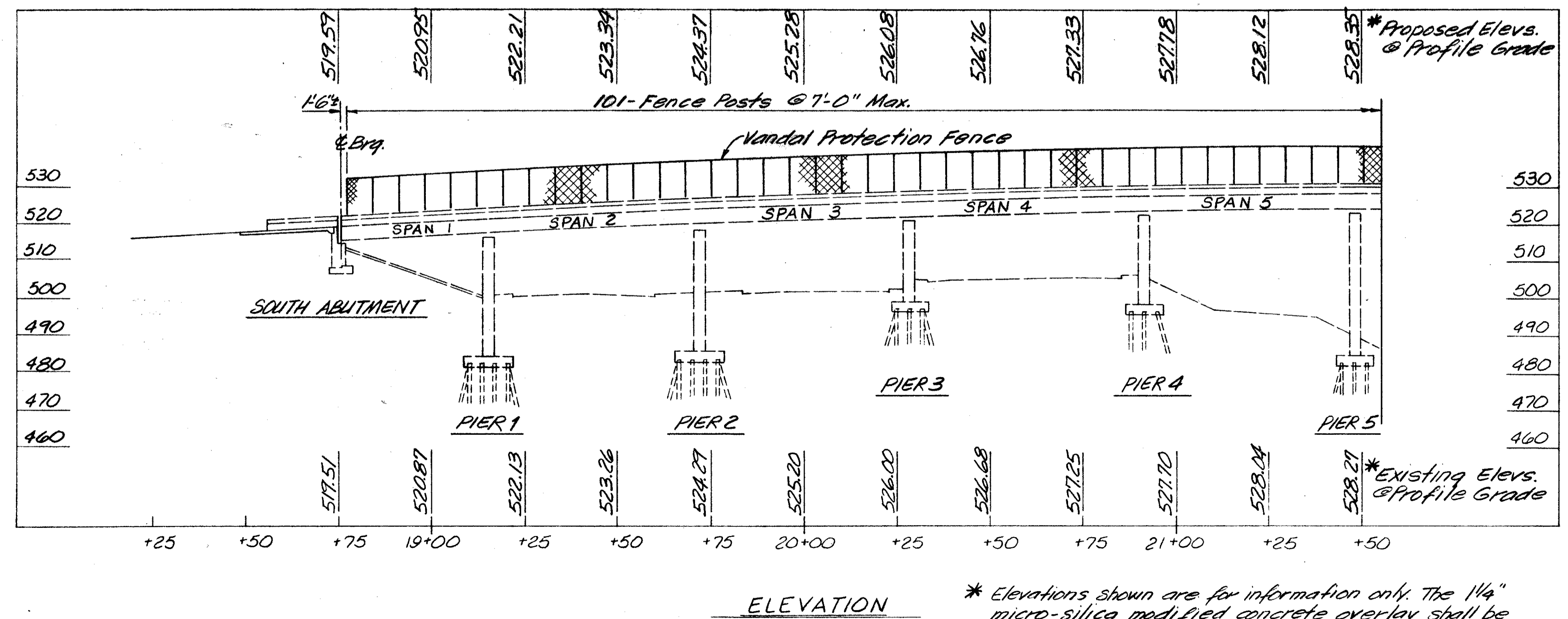
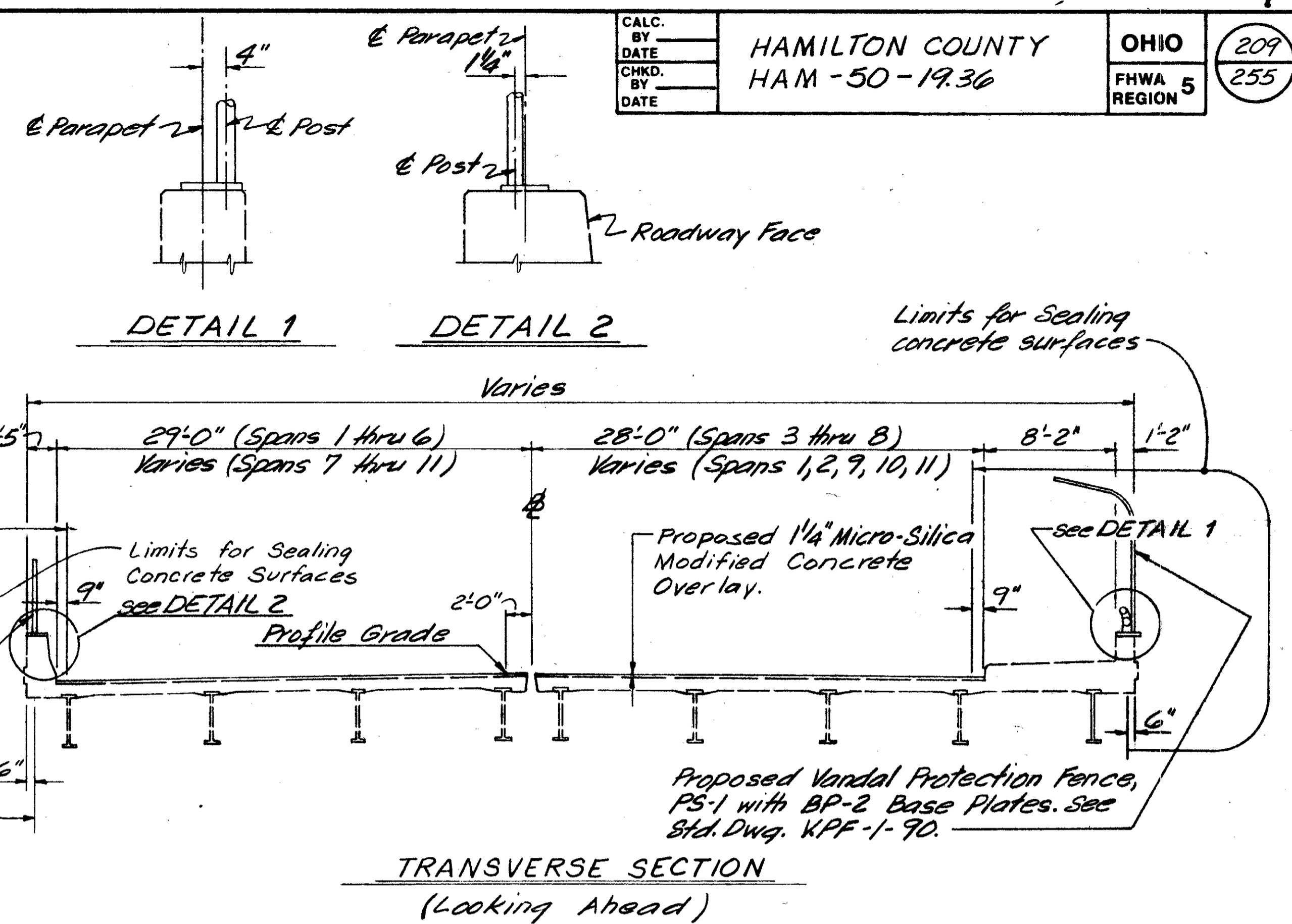
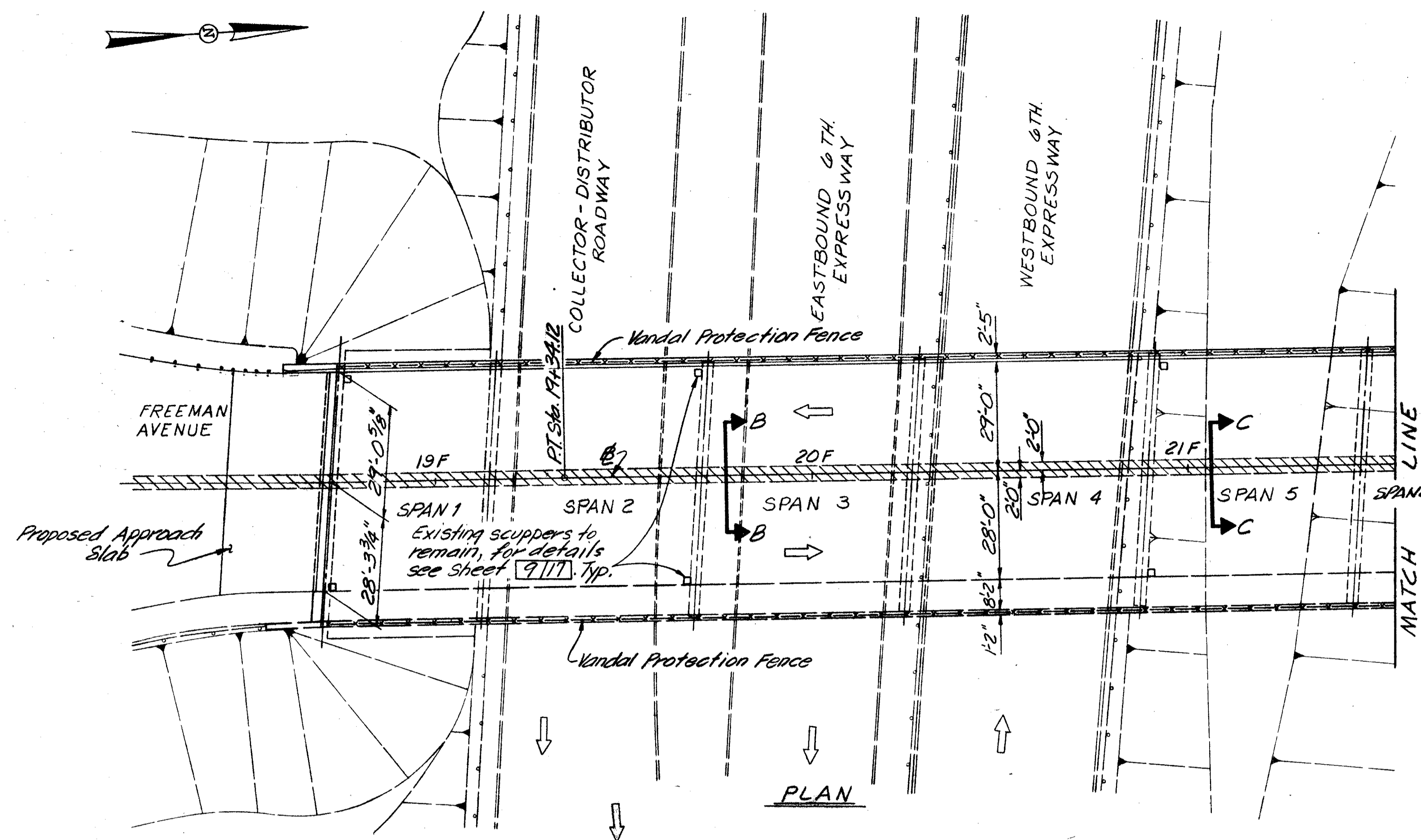
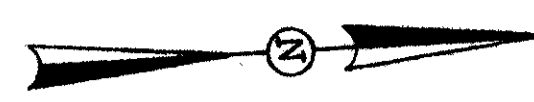


RETAINING WALL NO. 4

BALKE ENGINEERS 14/15					
1848 SUMMIT RD.					
CINCINNATI, OHIO 45237					
RETAINING WALL NO. 3 & NO. 4					
BRIDGE NO. HAM-50-1992 R					
EASTBOUND					
6TH ST. EXPRESSWAY BRIDGE					
OVER R.R. SIDING W. OF FREEMAN AVE.					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	

OHIO BLUE PRINT





Notes:  
 1. For removal see SECTION B-B on Stn. 2117.

\* Elevations shown are for information only. The 1/4" micro-silica modified concrete overlay shall be of uniform thickness and final deck elevations will not necessarily conform to profile shown.

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
GENERAL PLAN BRIDGE NO. HAM-50-2007 SIXTH STREET EXPRESSWAY UNDER FREEMAN AVENUE				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	ALH	~	DWI	CRS





STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

Reference shall be made to the Standard Drawings:

- AS-1-81 Dated 11-27-81
- EXJ-4-87 Dated 1-5-89
- VPF-1-90 Dated 9-26-90

Reference shall be made to supplemental specifications:

- 836 Dated 11-12-85
- 852 Dated 12-14-88

DESIGN STRESSES

Concrete compressive strength-

- Class S - 4500 PSI
- Class C - 4000 PSI

Reinforcing steel - ASTM A615, A616, A617

- Minimum yield strength
- Grade 60 - 60,000 PSI

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/or 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. It is the intent of these plans that the proposed additions to these structures match existing conditions. The Contractor is referred to CMS sections 102.05 and 105.02.

# GENERAL NOTES

Contract bid prices shall be based upon a recognition of the uncertainties described in the preceding paragraph 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.

SCOPE OF WORK

The scope of work to be performed shall be executed in stages as shown and includes:

1. Seal cracks in piers 3, 9, & 10 by epoxy injection.
2. Refurbish and reset bearings adjacent to expansion joints.
3. Refurbish drains.
4. Remove tee sections from ends of beams at south abutment.
5. Trim beam ends to clear the backwall at north abutment.
6. Crack in end weld of cover plate - Remove the existing weld and reweld.
7. Seal vertical joints.
8. Replace abutment backwalls, as indicated on plans.
9. Patch cap at pier 8 per item 519.
10. Retrofit railings, as indicated on plans.
11. Seal railings, abutments and piers.
12. Install vandal protection fence
13. Overlay deck with 1 1/4" micro-silica modified concrete.
14. Paint all structural steel with system OZEU.
15. Add strip seals.

ITEM 202 - PORTIONS OF STRUCTURES REMOVED

Removal of portions of existing structure shall be performed in such a manner as to prevent debris from falling onto the roadway and railroad below. All debris shall be removed from the site and disposed of by the Contractor.

REPLACEMENT OF EXISTING REINFORCING

Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by the contractors concrete removal operations shall be replaced with new steel at his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in item 509 for this purpose.

ITEM SPECIAL - MICRO-SILICA MODIFIED CONCRETE OVERLAY

Longitudinal joints in the concrete overlay are permitted but only to the extent necessary to accommodate the width of the finishing machine, to facilitate changes in the roadway crown, and to permit maintenance of vehicular traffic. See proposal note for details.

MAINTENANCE OF TRAFFIC

For maintenance of traffic on Freeman Avenue, see highway drawings.

PLANS FOR EXISTING BRIDGE

Plans of the existing structure are available for reference at the City of Cincinnati Engineer's Office and at the ODOT District Eight office.

ITEM 516 - REFURBISH BEARING DEVICE

This Item shall include all work necessary to clean and paint the rocker bearings at the abutments & piers 6, 7, 8, 5A & 6A. Included shall be:

1. Disassembly of rockers.
2. Hand cleaning (grinding if required.)
3. Sandblasting and painting as required by field painting of existing steel, System OZEU, proposal note.
4. Replacement of any damaged sheet lead (711.19). Preformed bearing pads 1/8" thick, meeting the requirements of 711.21 may be substituted for the sheet lead.
5. Installation of any necessary 1/8" thick steel shims of the same size as the bearings to provide a snug fit. Shims are required at the south abutment bearings.
6. Reassembly of the rockers.

At the option of the Contractor and at no additional cost to the state, new bearings of the same type as the existing may be installed in place of the refurbished bearings. All work shall be to the satisfaction of the Project Engineer. Payment for all the above described labor and materials will be made at the contract price bid for Item 516 - REFURBISH BEARING DEVICE.

ITEM 516 - JACKING & TEMPORARY SUPPORT OF SUPERSTRUCTURE

The ends of the beams or girders at each location where bearings are to be refurbished shall be jacked and the beams supported so the bearings may be removed. Before jacking operations begin, the Contractor shall submit his jacking plan to the Engineer for approval.

ITEM 510

Dowel holes shall be drilled and grouted per Supplemental Specifications 852 and CMS 105.20.

PAINTING OF EXISTING STEEL

See proposal note for requirements of System OZEU. City of Cincinnati Principal Structural Design Engineer shall be contacted to determine color of paint to be used.

CALC. BY	HAMILTON COUNTY	OHIO	211
DATE	HAM-50-19.36	FWHA REGION 5	
CHKD. BY			255
DATE			

ITEM 516 - RESET BEARINGS

Bearings which have been refurbished shall be reset to be vertical at 60° F. Masonry plates shall adjusted to be centered under bearing.

ITEM 513 - TRIMMING OF BEAM ENDS

The ends of the beams at the north abutment shall be trimmed by removing 1". Care shall be taken not to damage the cross-frame while trimming the end of the beam.

ITEM SPECIAL - CONCRETE REPAIR BY EPOXY INJECTION

The horizontal cracks in the south face of columns on pier 3, north face of columns on pier 9 & 10 shall be sealed by epoxy injection.

SEALING OF CONCRETE SURFACES

Portions of the structure shall be sealed as noted below. See the proposal note for application rates and materials. City of Cincinnati Principal Structural Design Engineer shall be contacted to determine color of sealer to be used.

1. Parapets shall be sealed as shown on sheet [2/17] with an epoxy or non-epoxy sealer. Walk surface shall be sealed with a non-epoxy sealer.
2. Abutment backwalls, beam seats, and the face of the breastwall and wingwalls down to the groundline shall be sealed with an epoxy sealer.
3. The total surface of all piers shall be sealed with a non-epoxy sealer.

ITEM 513 STRUCTURAL STEEL, MISC. REPLACE WELD

The south end weld on the bottom coverplate of the east fascia beam at pier 1 shall be removed and re-welded with a 5/16" fillet weld. Care shall be taken to not damage the flange of the beam. Payment for this Item shall include all labor, material & equipment necessary to perform the work.

ITEM 513 STRUCTURAL STEEL, MISC. REMOVE TEE SECTIONS

The beams at the south abutment have tee sections welded to the end of the beams. After the backwall has been removed, the tee sections shall be removed from all beams (9 total). Payment for this item shall include all labor, material & equipment necessary to perform the work.

REFURBISH DRAINS

This item shall include the cleaning and flushing out of the scupper inlet and downspout. The downspout shall be thoroughly cleaned so that water flows freely. All exposed pipes and supports shall be cleaned and painted as required by field painting of existing steel, system OZEU proposal note. Payment for all the above described labor and materials will be made at the contract price bid for Item 518 - structural drainage, misc: Refurbish drains.

ASBESTOS CEMENT CONDUIT

For notes concerning this, see Bridge No. HAM-50-2043, sheet [2/16].

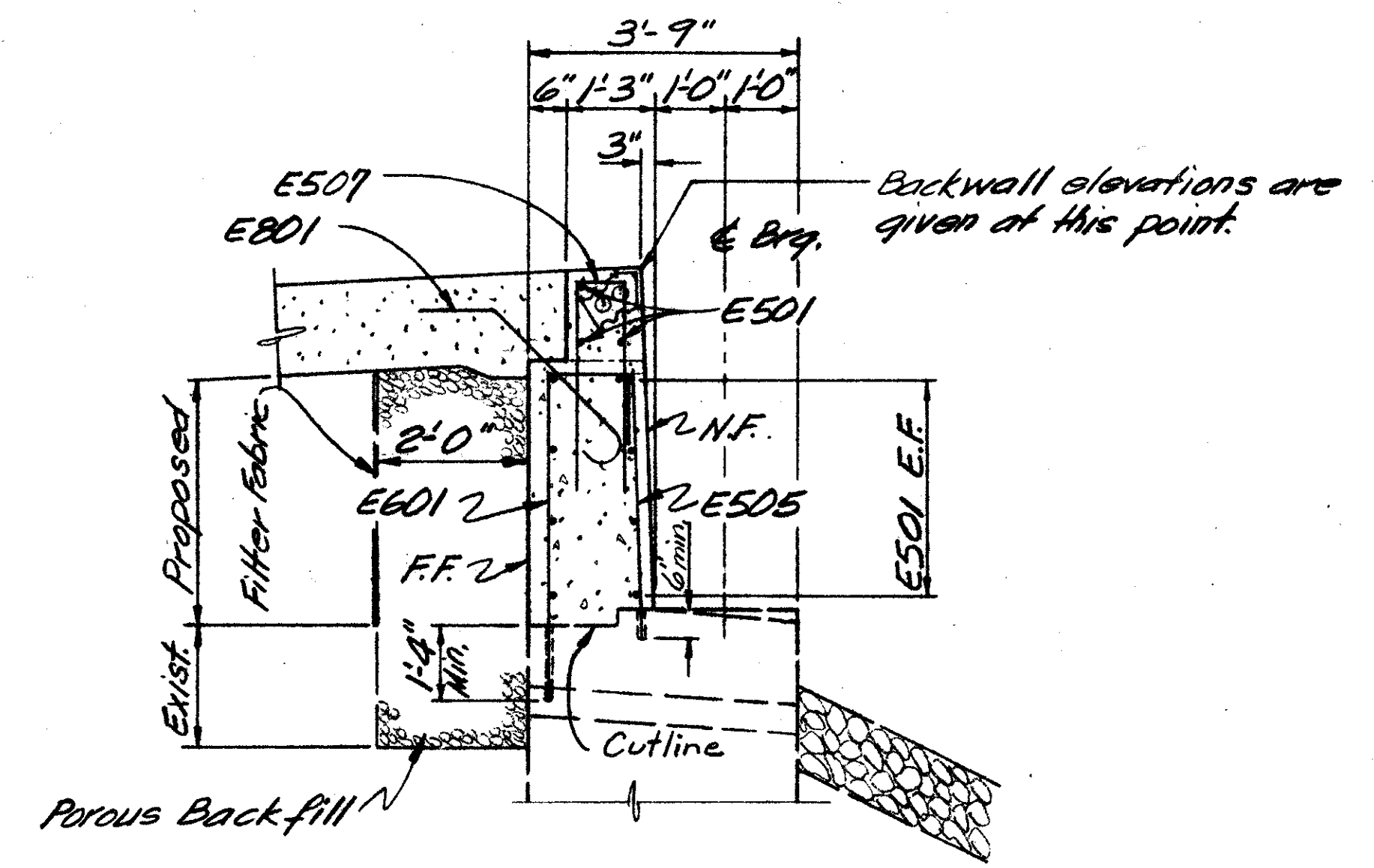
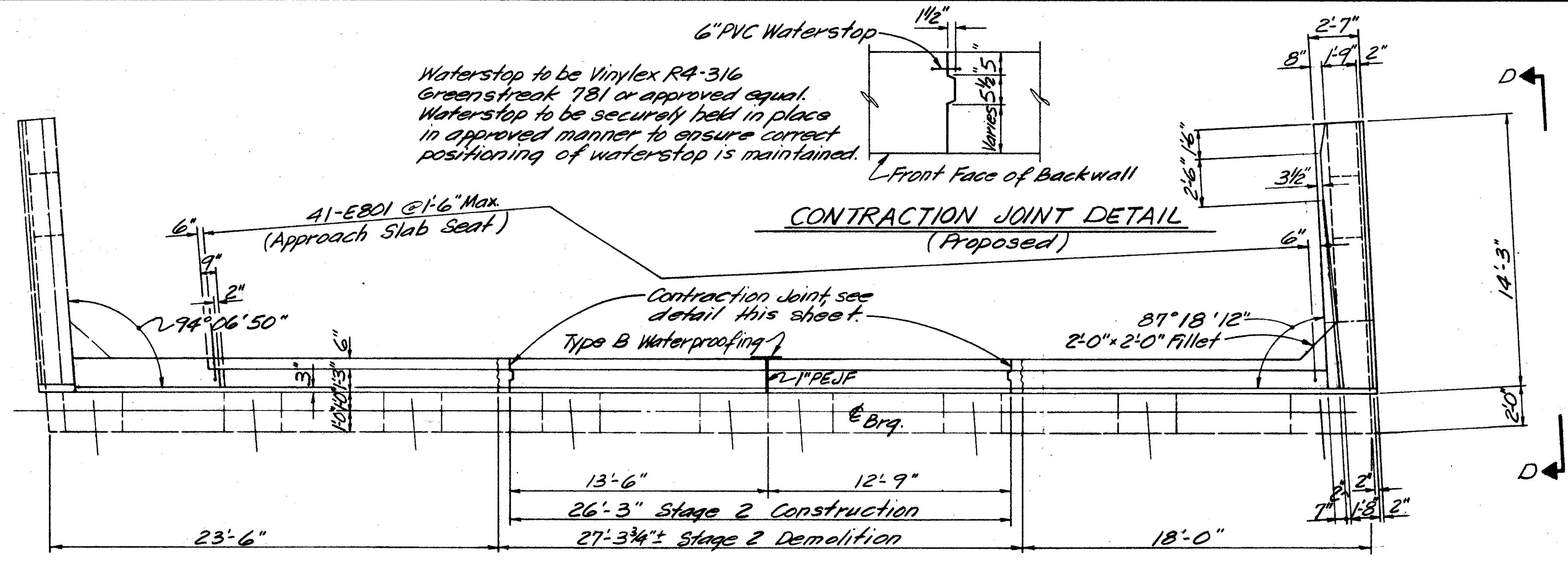
ESTIMATED QUANTITIES

ITEM	CODE	TOTAL	UNIT	DESCRIPTION			
					ABUTMENTS	SUPERST.	GENERAL
202	11202	L.S.	Lump sum	Portions of structures removed, over 20 foot span	L.S.		
509	15800	22,295	Lbs.	Epoxy coated reinforcing steel, grade 60	7,288	15,007	100
510	12200	1164	Lin. Ft.	Dowel hole	440	724	
511	34400	104	Cu. Yd.	Class S concrete, superstructure (repair or reconstruction)		104	
511	45700	54	Cu. Yd.	Class C concrete, abutment (repair or reconstruction)	54		
512	44400	2	Sq. Yd.	Type B waterproofing	2		
SPEC	51267500	1,227	Sq. Yd.	Sealing of concrete surfaces *	90	1,137	
SPEC	51267502	314	Sq. Yd.	Sealing of concrete surfaces (epoxy) *	314		
SPEC	51267504	2,492	Sq. Yd.	Sealing of concrete surfaces (non-epoxy) *			2,492
513	16600	L.S.	Lump Sum	Structural steel, misc.: replace weld		L.S.	
513	16800	9	Each	Structural steel, misc: remove tee sections		9	
513	21000	11	Each	Trimming of beam end		11	
SPEC	51400050	105,965	Sq. Ft.	Surface preparation of existing steel, System OZEU*		105,965	
SPEC	51400056	105,965	Sq. Ft.	Field painting of existing steel, prime coat System OZEU*		105,965	
SPEC	51400060	105,965	Sq. Ft.	Field painting of existing steel, intermediate coat System OZEU*		105,965	
SPEC	51400066	105,965	Sq. Ft.	Field painting of existing steel, finish coat System OZEU*		105,965	
516	11210	427	Lin. Ft.	Structural expansion joint including elastomeric strip seal		427	
516	10501	710	Lin. Ft.	Structural steel jt. & elastomeric compression seal as per plan		710	
516	13600	18	Sq. Ft.	1" preformed expansion joint filler	18		
516	45304	108	Each	Refurbish bearing device		108	
516	46700	108	Each	Reset bearing		108	
516	47000	L.S.	Lump Sum	Jacking and temporary support of superstructure		L.S.	
518	21200	42	Cu. Yd.	Porous backfill with filter fabric	42		
518	63300	L.S.	Lump Sum	Structure drainage, misc.: refurbish drains		L.S.	
519	11100	9	Sq. Ft.	Patching concrete structure	9		
SPEC	51912600	327	Lin. Ft.	Concrete repair by epoxy Injection*			327
SPEC	51922000	5,352	Sq. Yd.	Micro-silica modified concrete overlay (1 1/4" thick)*		5,352	
SPEC	51922100	32	Cu. Yd.	Micro-silica modified concrete overlay (variable thickness)*		32	
SPEC	51922200	1	Cu. Yd.	Full depth repair (micro-silica)*		1	
SPEC	60739930	703	Lin. Ft.	Vandal protection fence, 12' curved, coated fabric		703	
SPEC	60739900	710	Lin. Ft.	Vandal protection fence, 6' straight, coated fabric		710	
SPEC	51614600	44	Lin. Ft.	Precompressed joint filler	44		

\* See proposal note

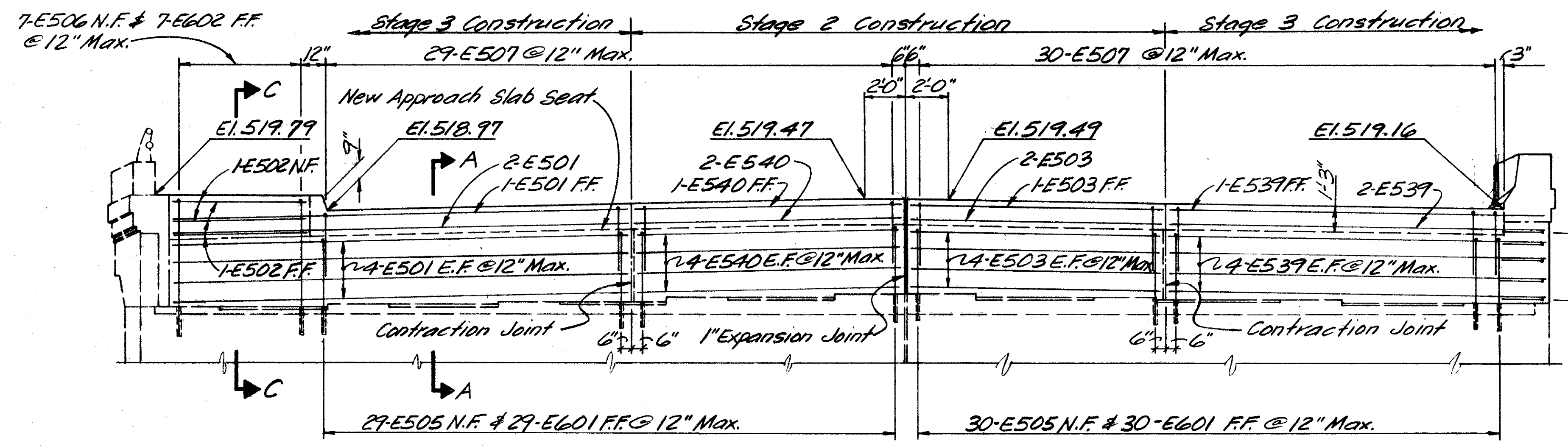
BALKE ENGINEERS						3/17
1848 SUMMIT ROAD						
CINCINNATI, OHIO 45237						
GENERAL NOTES & QUANTITIES						
BRIDGE NO. HAM-50-2007						
SIXTH STREET EXPRESSWAY						
UNDER FREEMAN AVENUE						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DW	CRS		

Waterstop to be Vinylex RA-316  
Greenstreak 781 or approved equal.  
Waterstop to be securely held in place  
in approved manner to ensure correct  
positioning of waterstop is maintained.



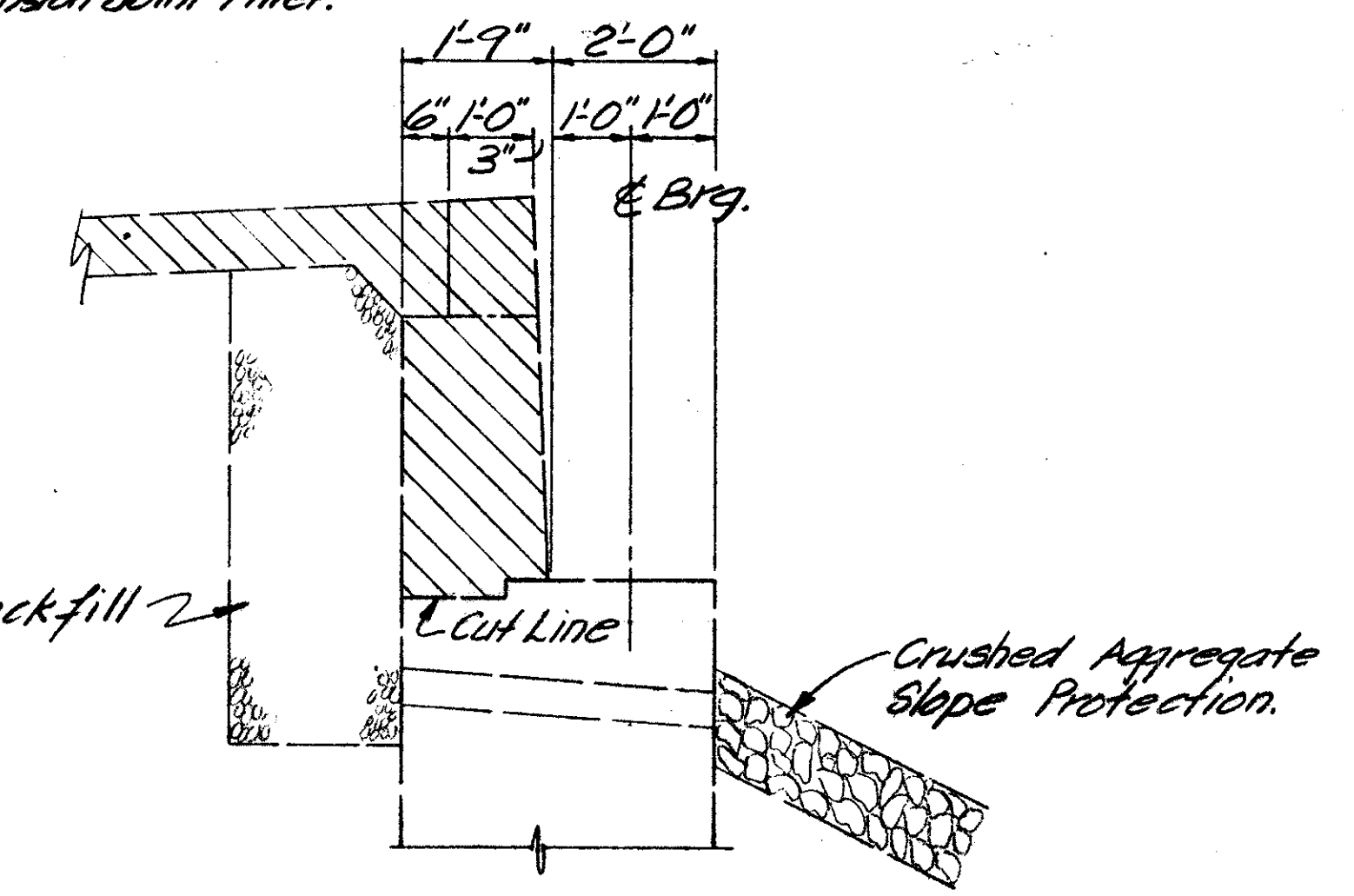
PLAN

SECTION A-A

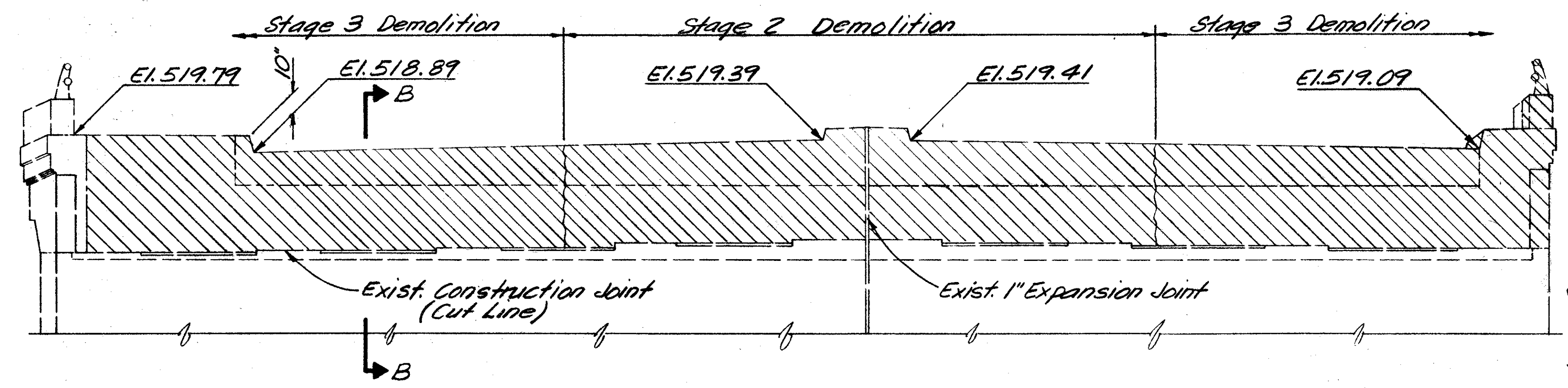


Notes:  
1. E.F. = Each Face  
FF = Far Face  
N.F. = Near Face  
2. For Elevation D-D, see Sht. 517.  
3. PEJF = Preformed Expansion Joint Filler.

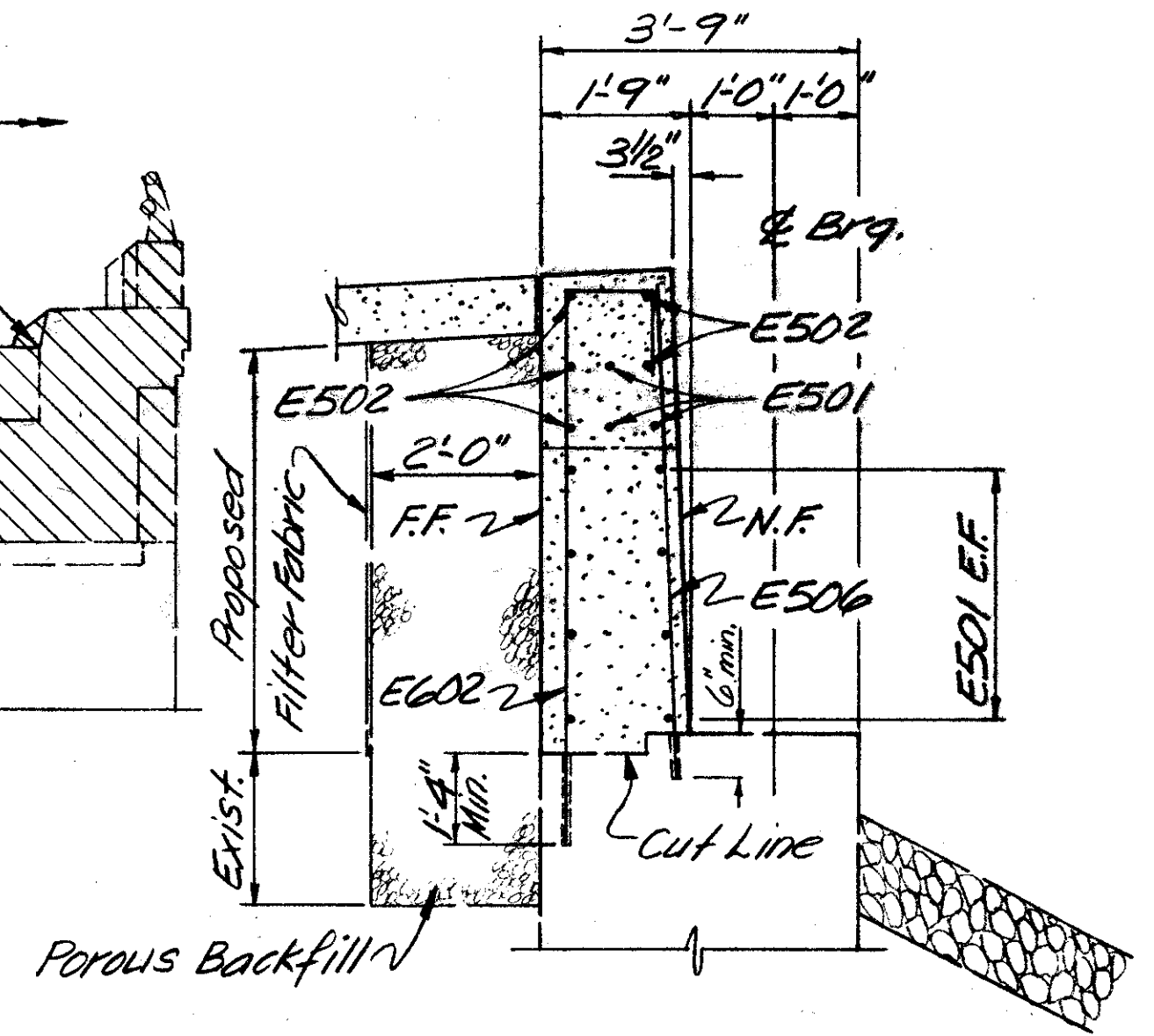
ELEVATION



SECTION B-B  
(Showing Removal)



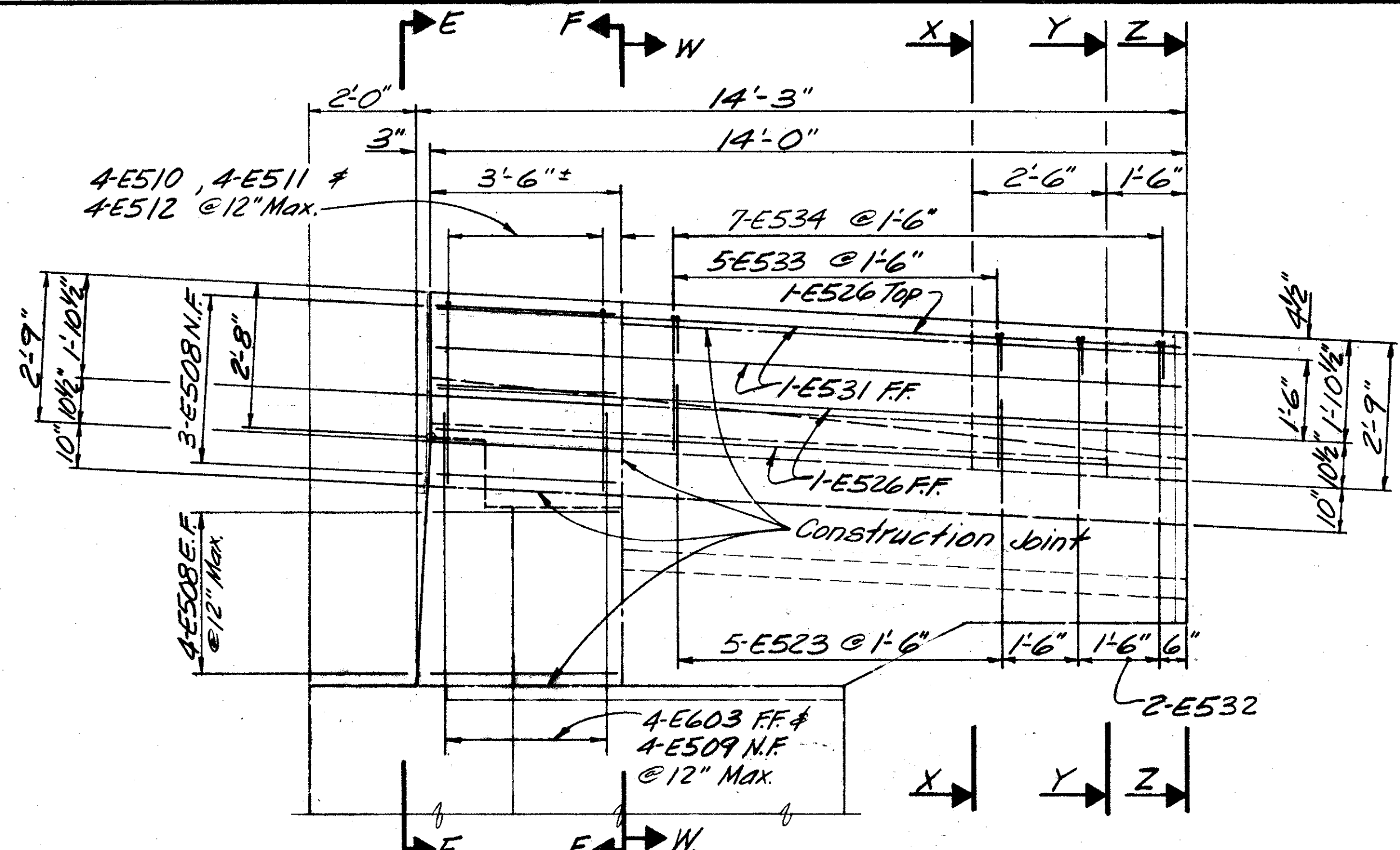
ELEVATION  
(Showing Removal)



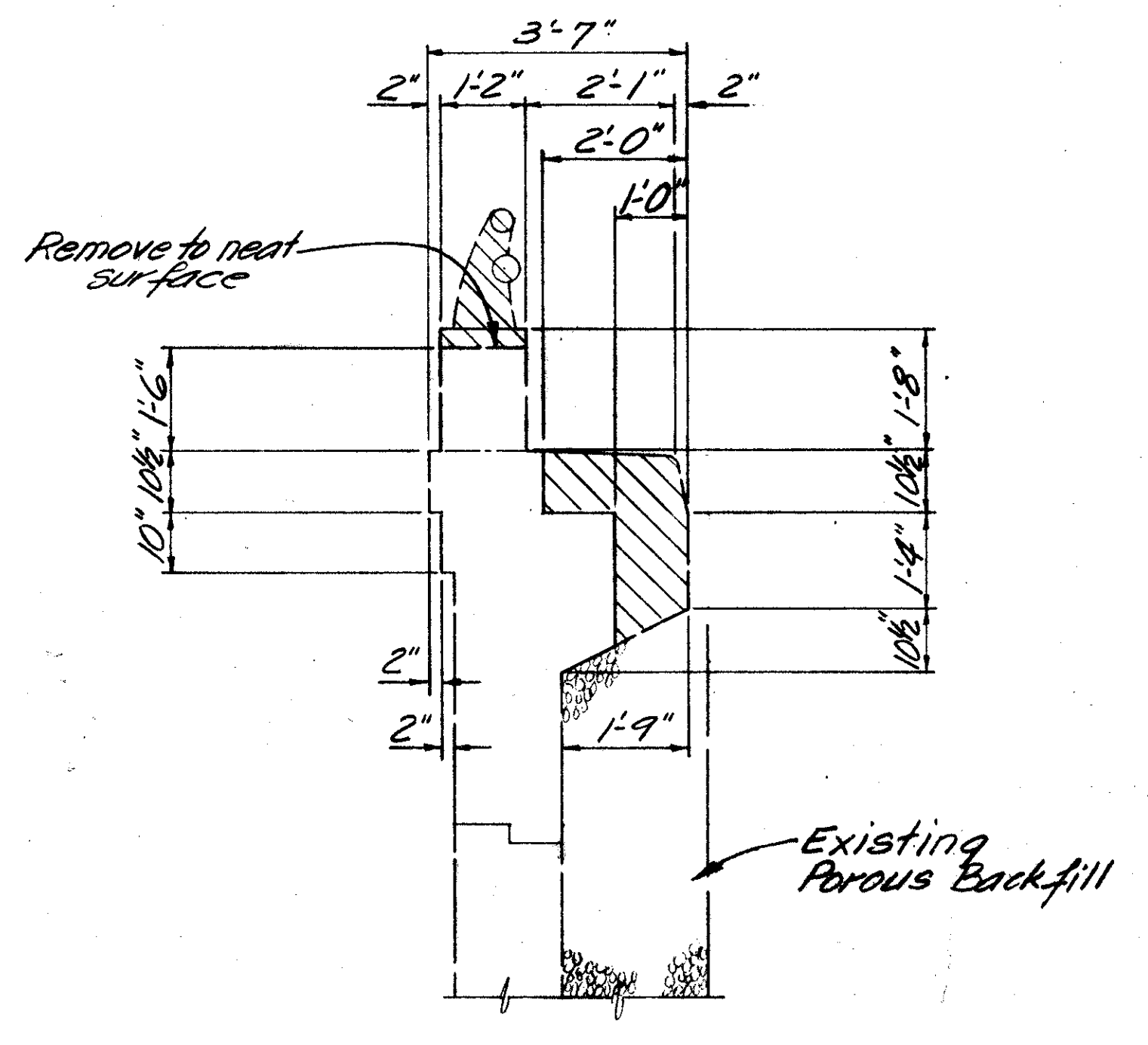
SECTION C-C

Denotes portion of existing structure to be removed.

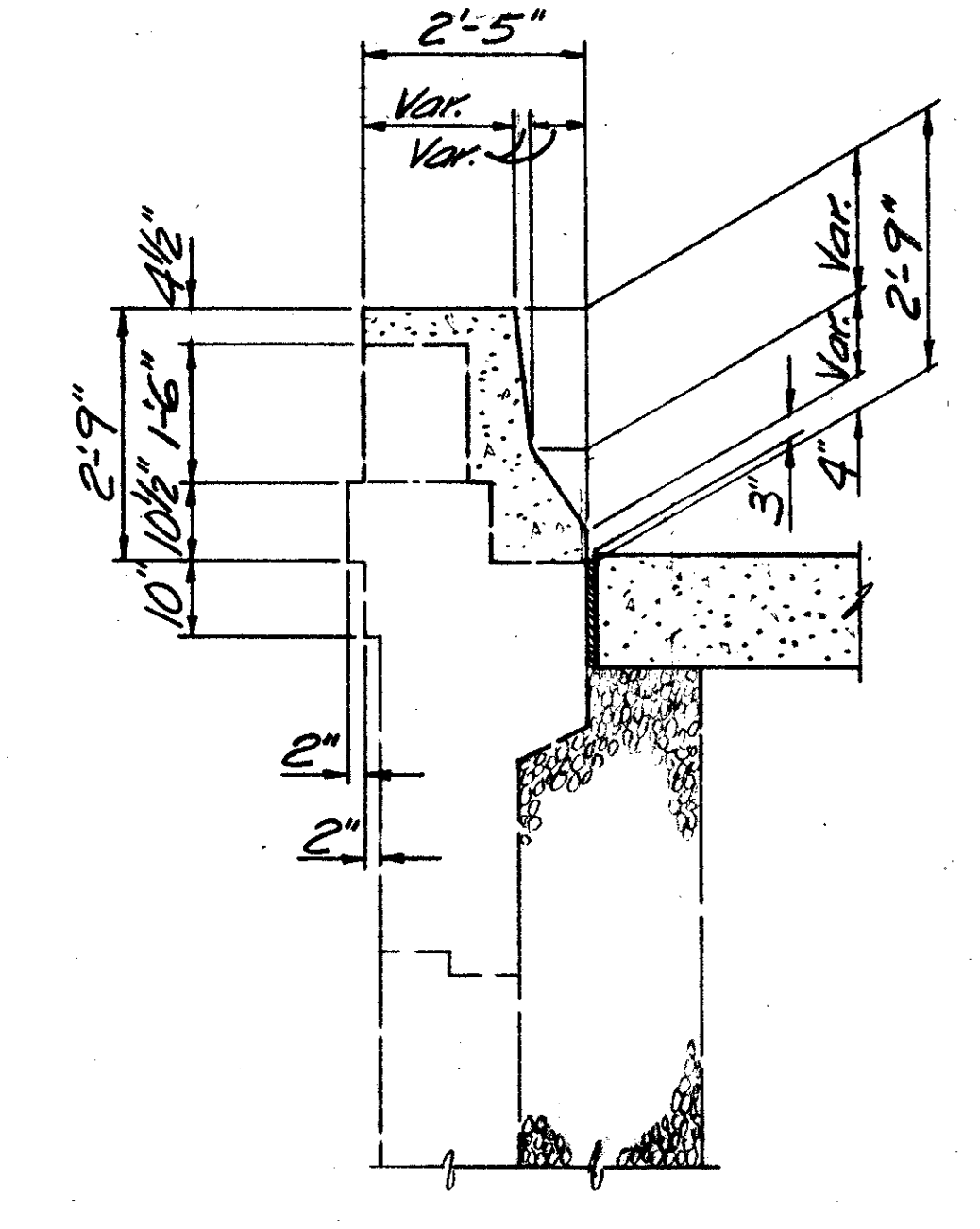
BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237						4/17
SOUTH ABUTMENT BRIDGE NO. HAM-50-2007 SIXTH STREET EXPRESSWAY UNDER FREEMAN AVENUE						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
MRS	WJH	~	DWI	CRS		



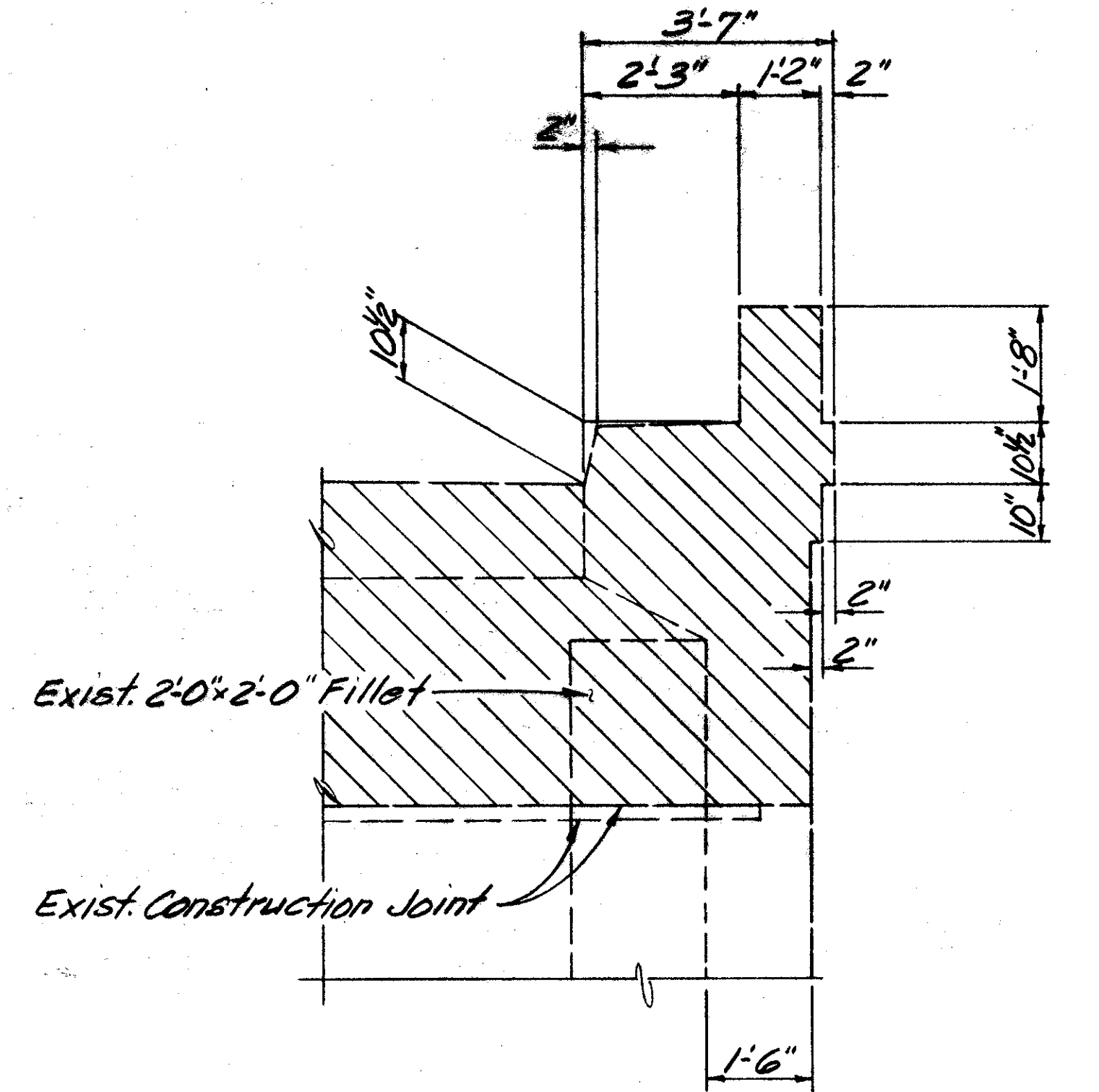
ELEVATION D-D



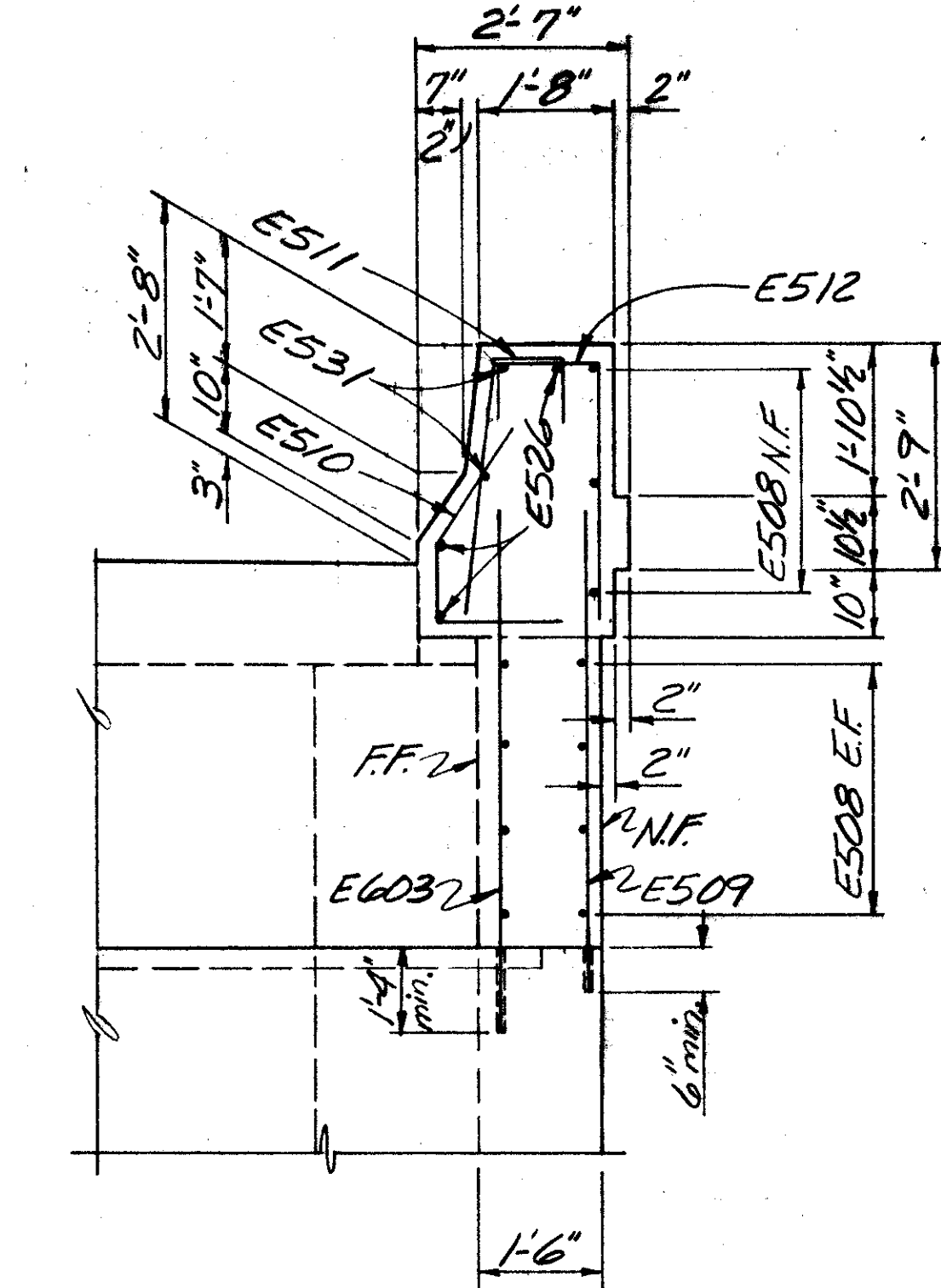
SECTION F-F  
(Showing Removal)



SECTION F-F  
(For Information Only)



SECTION E-E  
(Showing Removal)

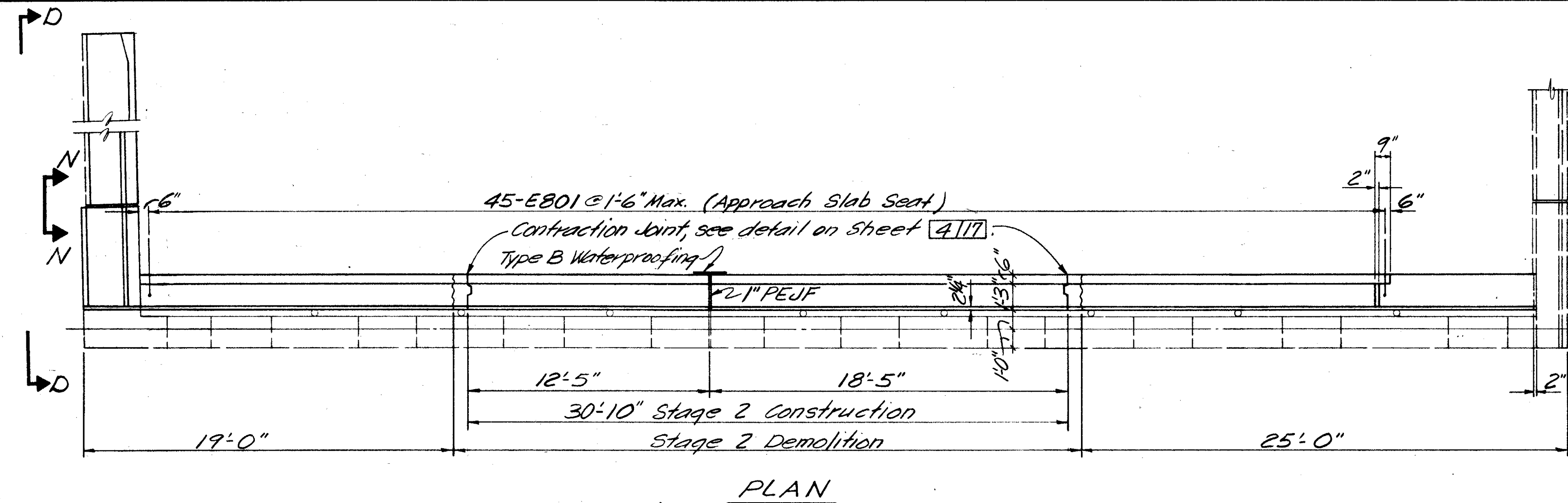


SECTION E-E

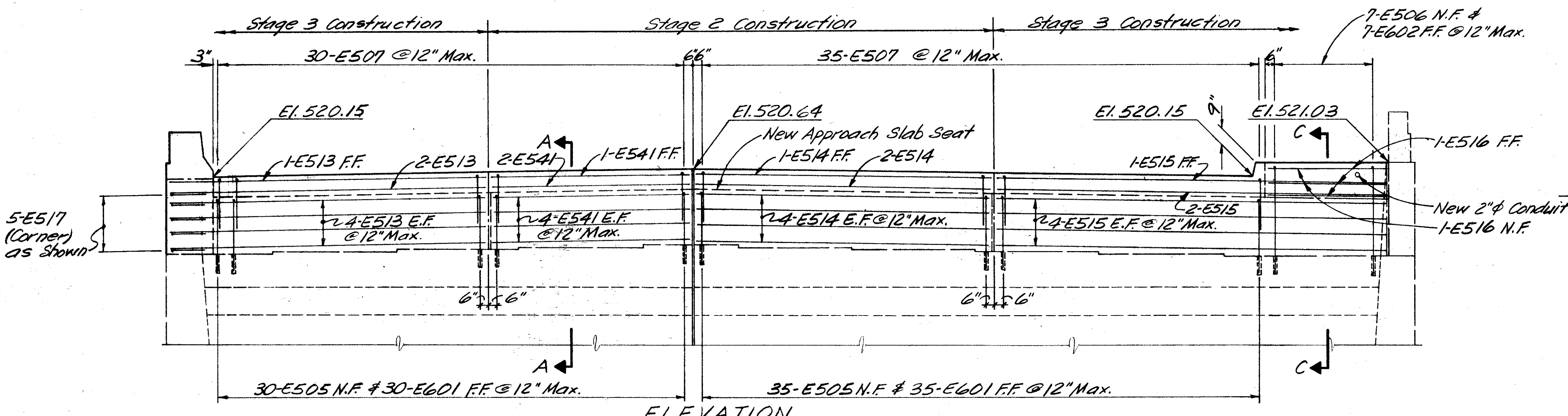
Denotes of portion of existing structure to be removed.

- Notes:  
 1. E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face  
 2. For Section W-W, X-X, Y-Y & Z-Z, see Sht. 7/17.

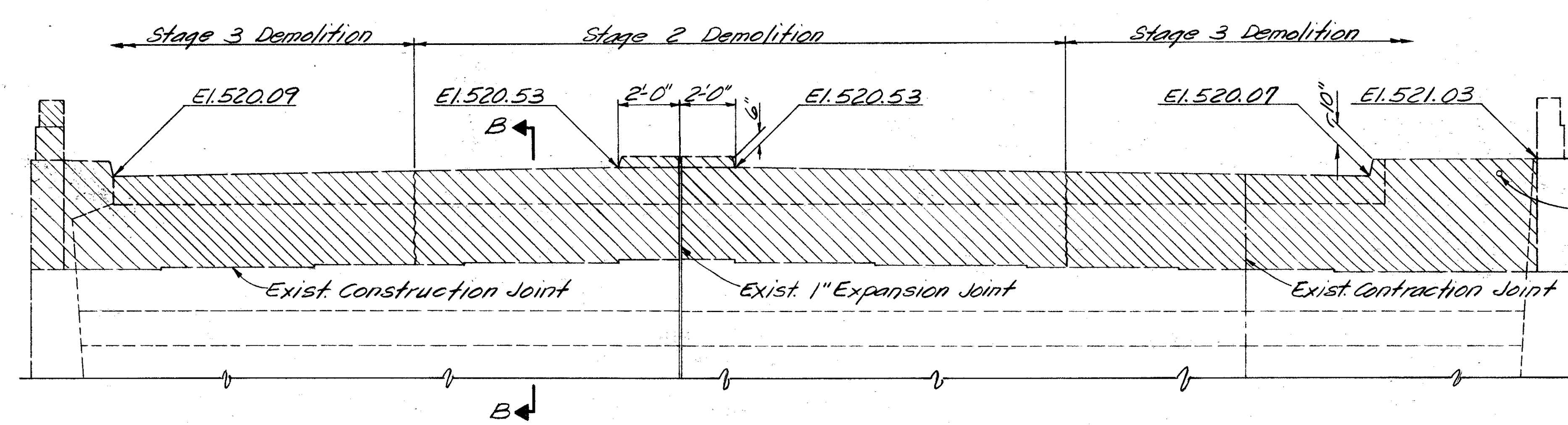
BALKE ENGINEERS 5/17 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
SOUTH ABUTMENT BRIDGE NO. HAM-50-2007 SIXTH STREET EXPRESSWAY UNDER FREEMAN AVENUE				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS
				REVISED



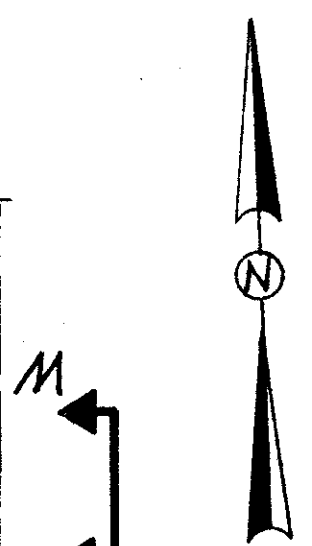
PLAN



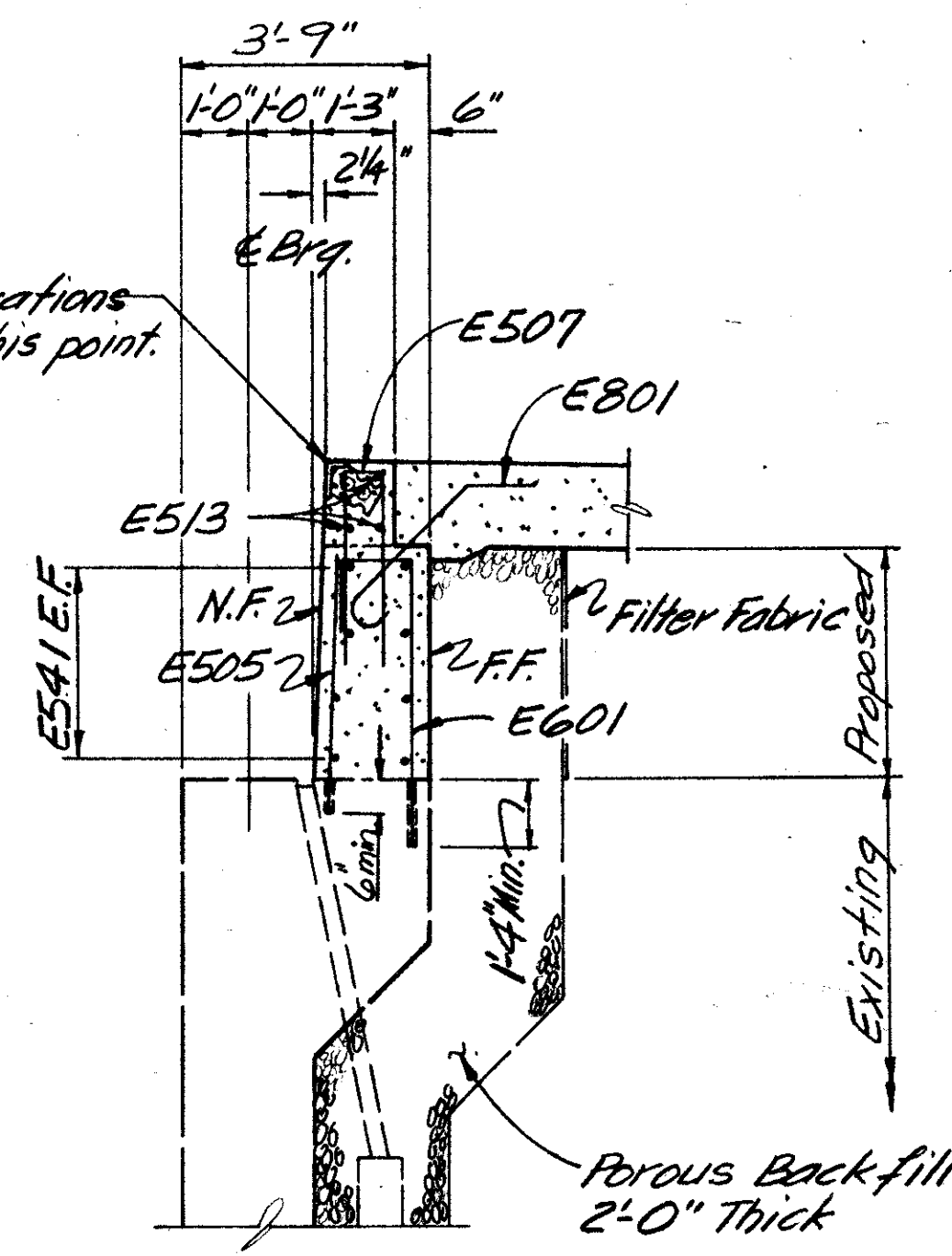
ELEVATION



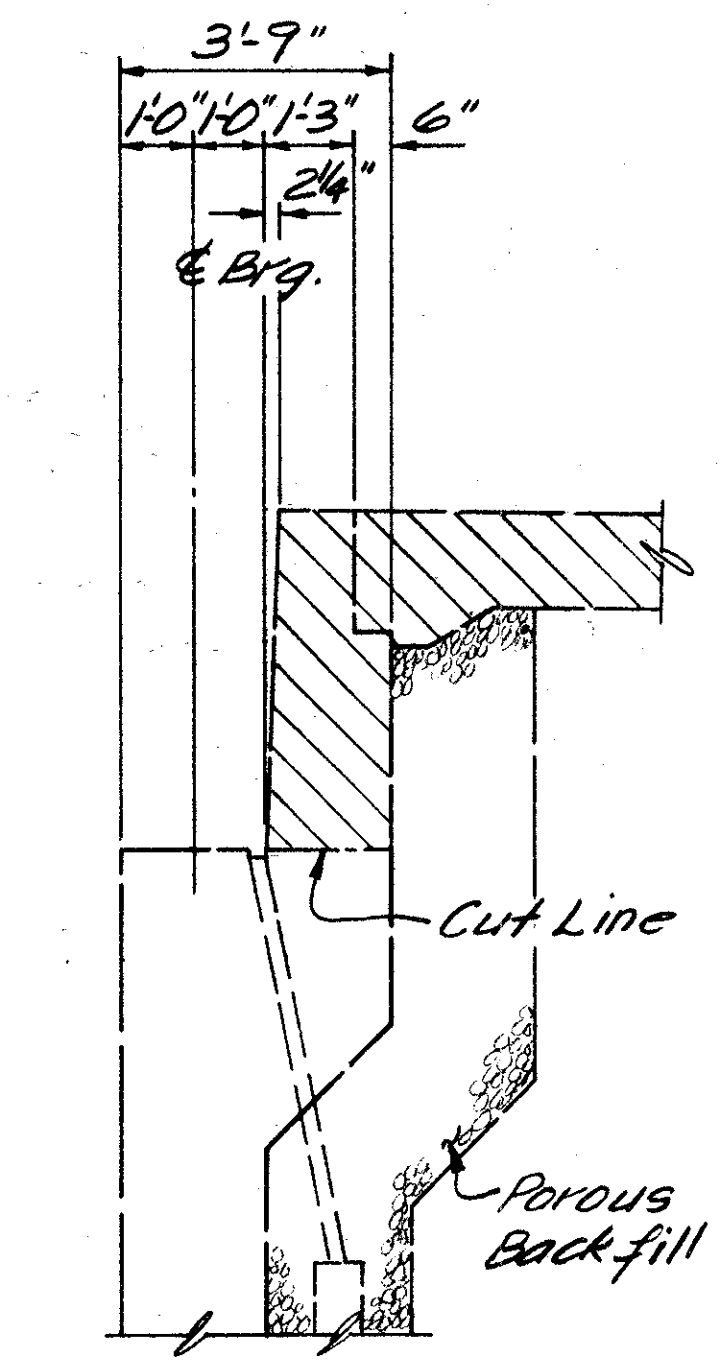
ELEVATION  
(Showing Removal)



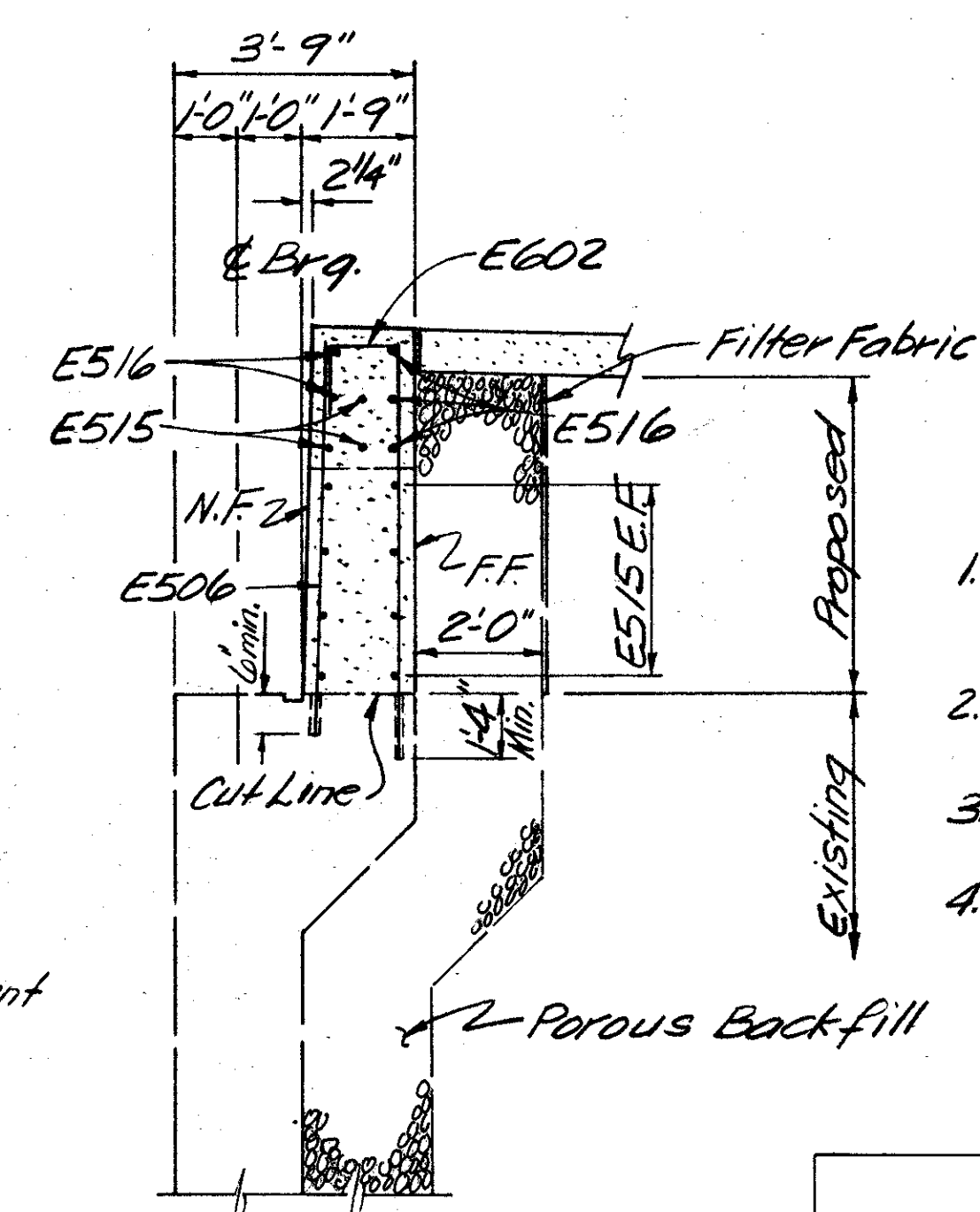
Backwall elevations are given at this point.



SECTION A-A



SECTION B-B  
(Showing Removal)

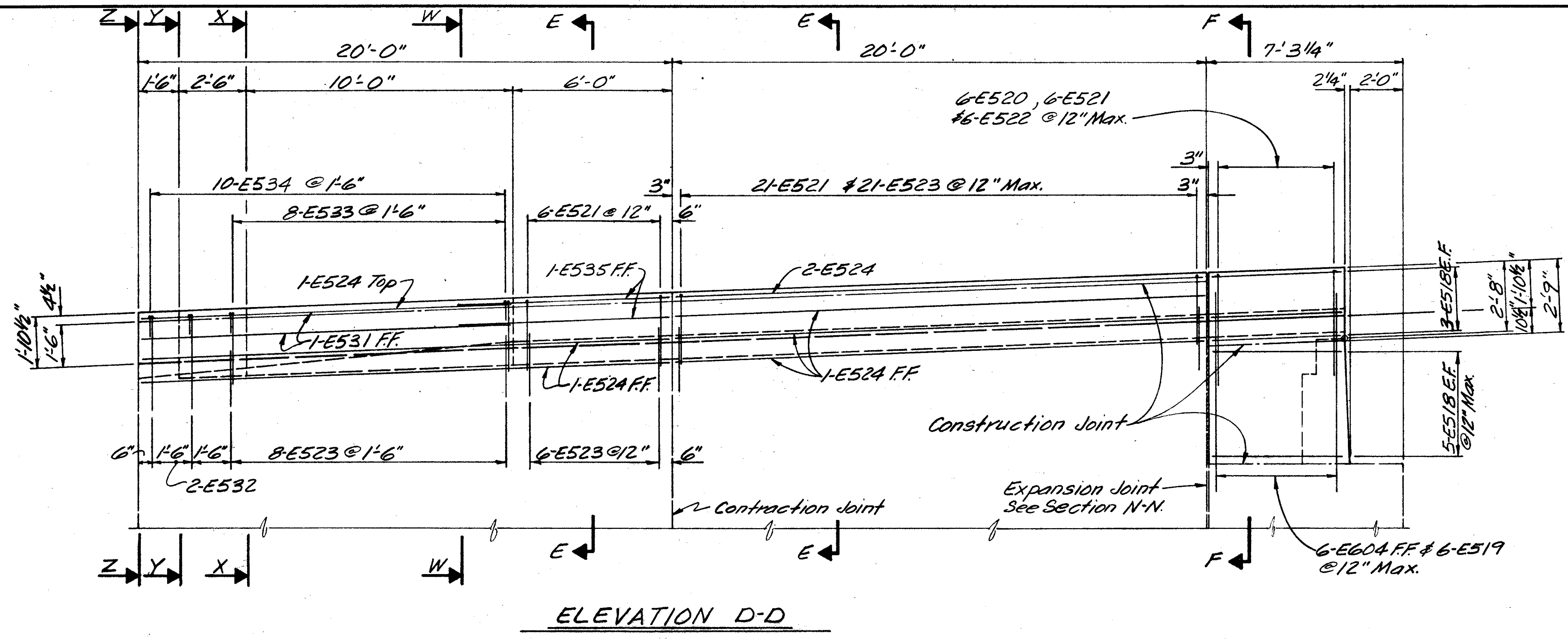


SECTION C-C

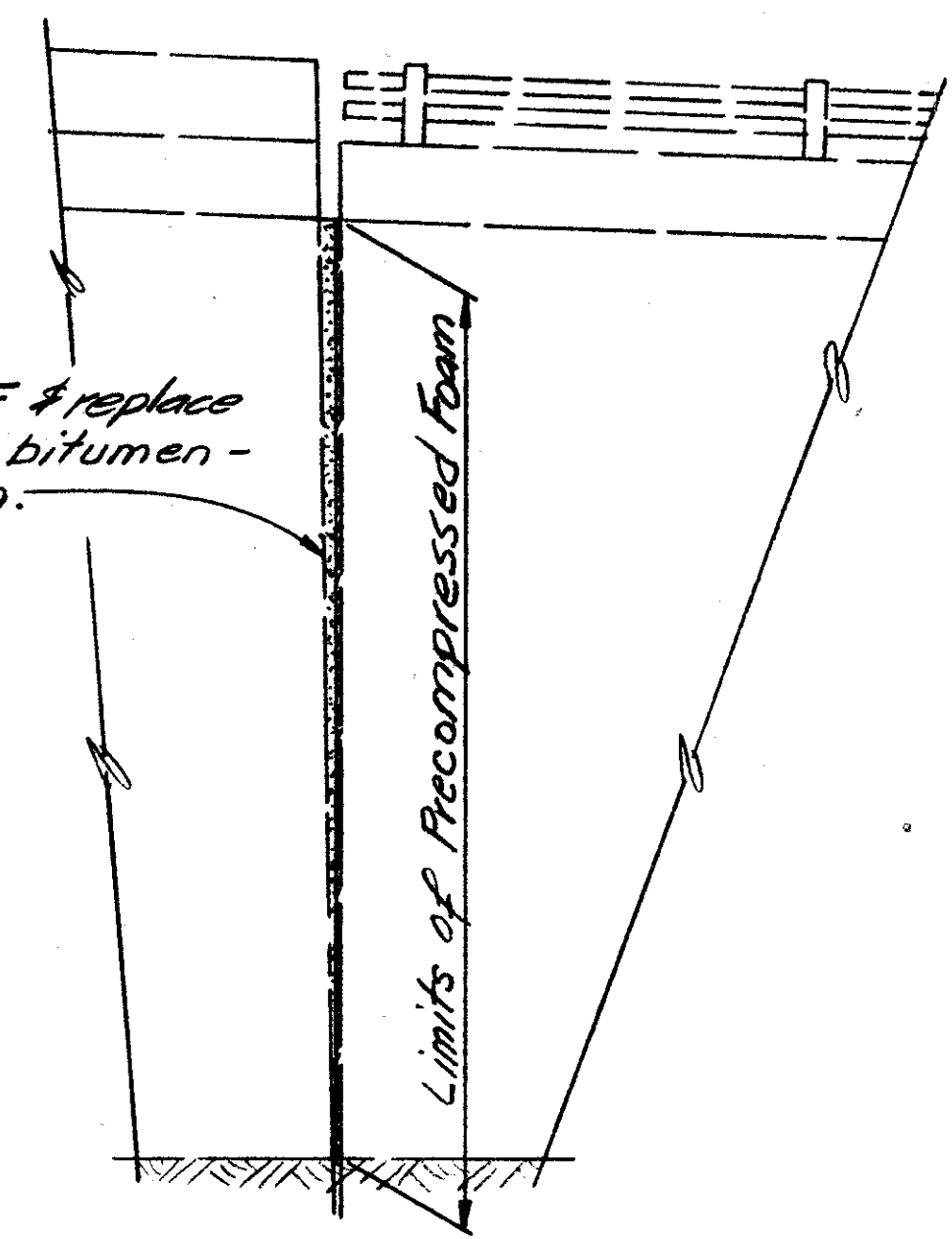
- Notes:
1. E.F. = Each Face  
F.F. = Far Face  
N.F. = Near Face
  2. For Elevation D-D, see Sht. 7/17.
  3. For Views M-M & N-N see Sheet 7/17.
  4. PEJF = Preformed Expansion Joint Filler.

Denotes portion of existing structure to be removed.

BALKE ENGINEERS 6/17 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
NORTH ABUTMENT BRIDGE NO. HAM-50-2007 SIXTH STREET EXPRESSWAY UNDER FREEMAN AVENUE					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS	



Remove existing PEJF & replace with Precompressed bitumen-impregnated foam.

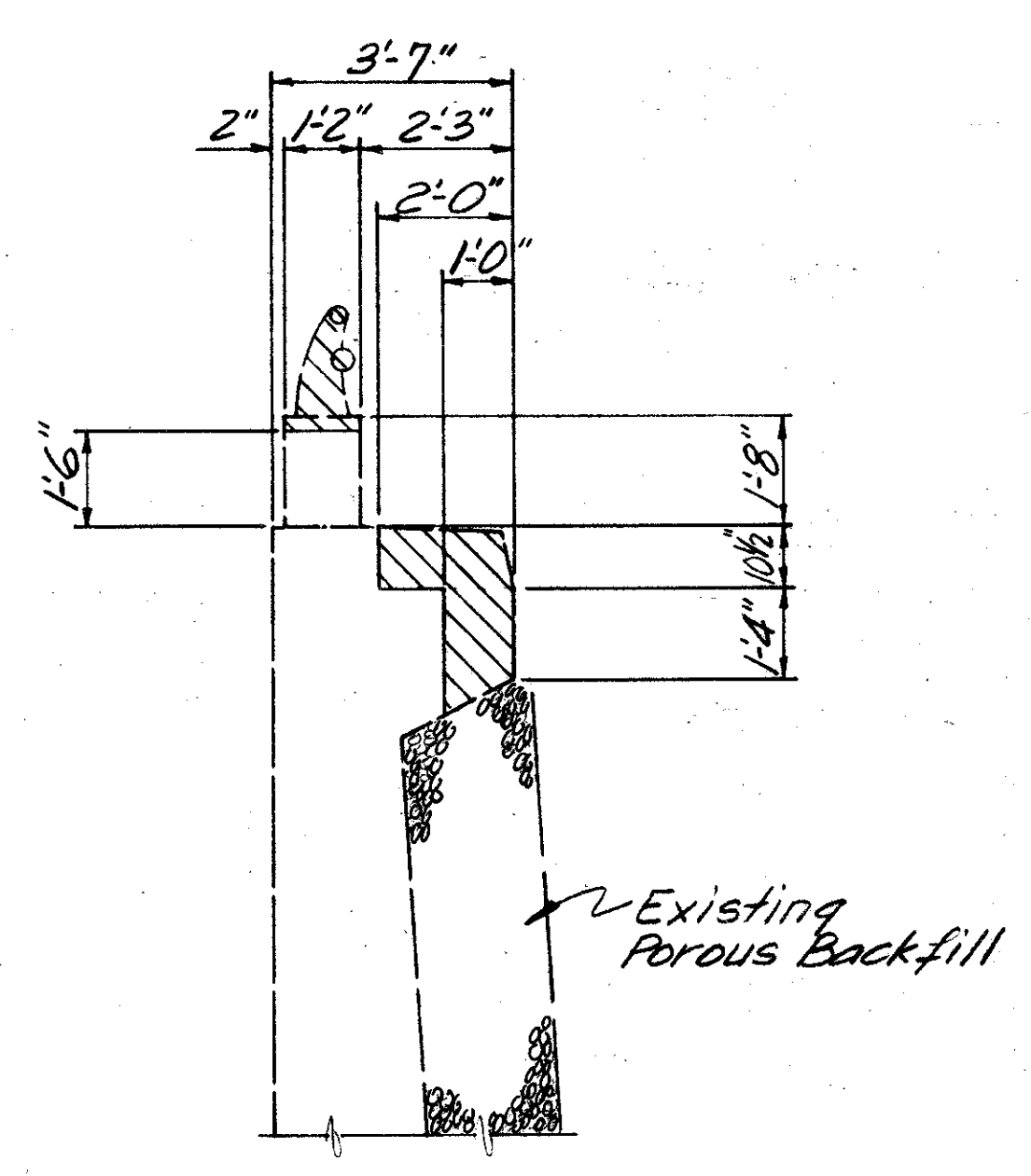


VIEW M-M  
VIEW N-N Similar

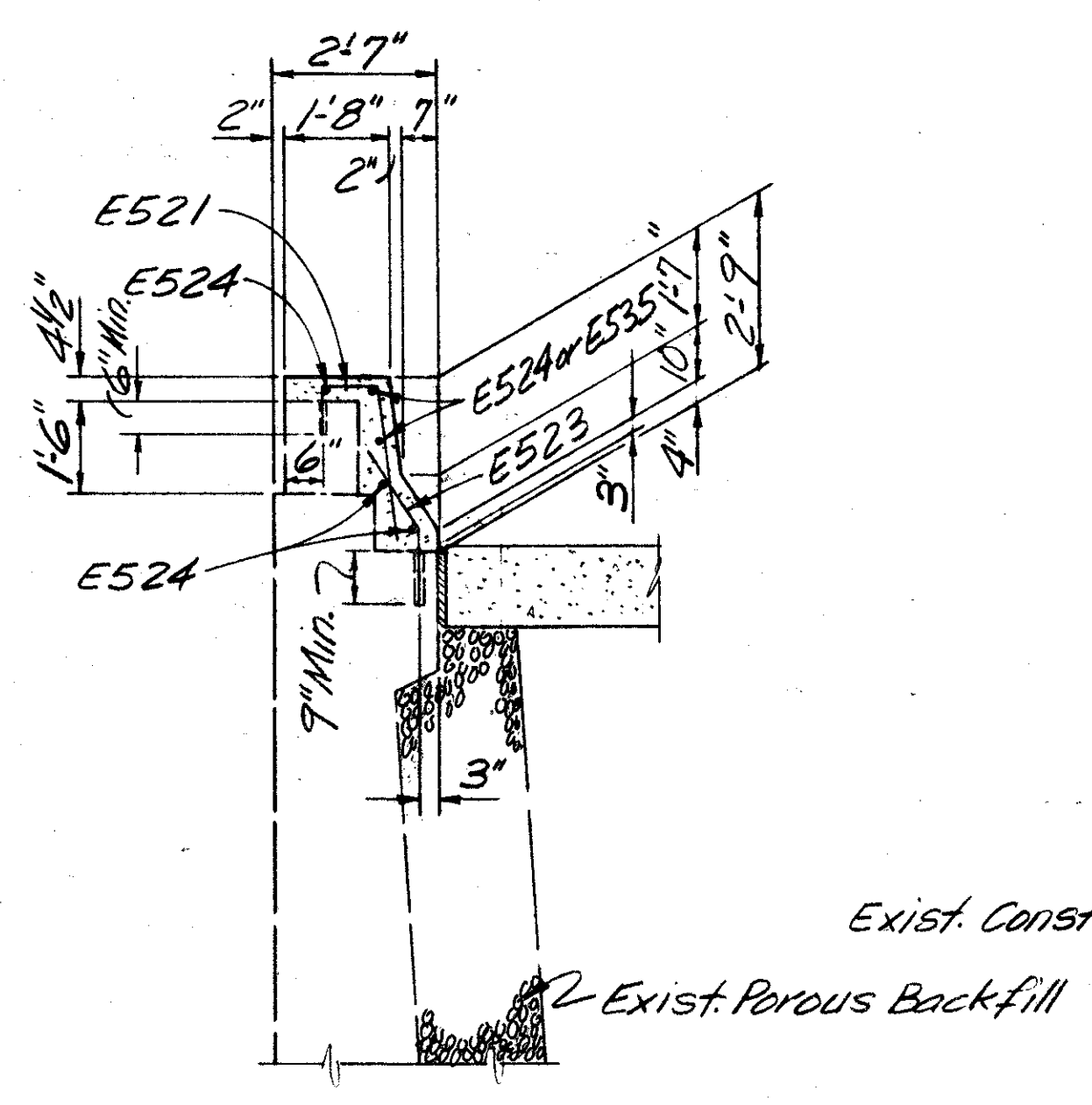
ELEVATION D-D

- Notes:
- 1.E.F = Each Face  
FF = Far Face  
N.F = Near Face
  2. For Section W-W, X-X, Y-Y & Z-Z see Sht 917.
  3. PEJF = Pre-formed Expansion Joint Filler.

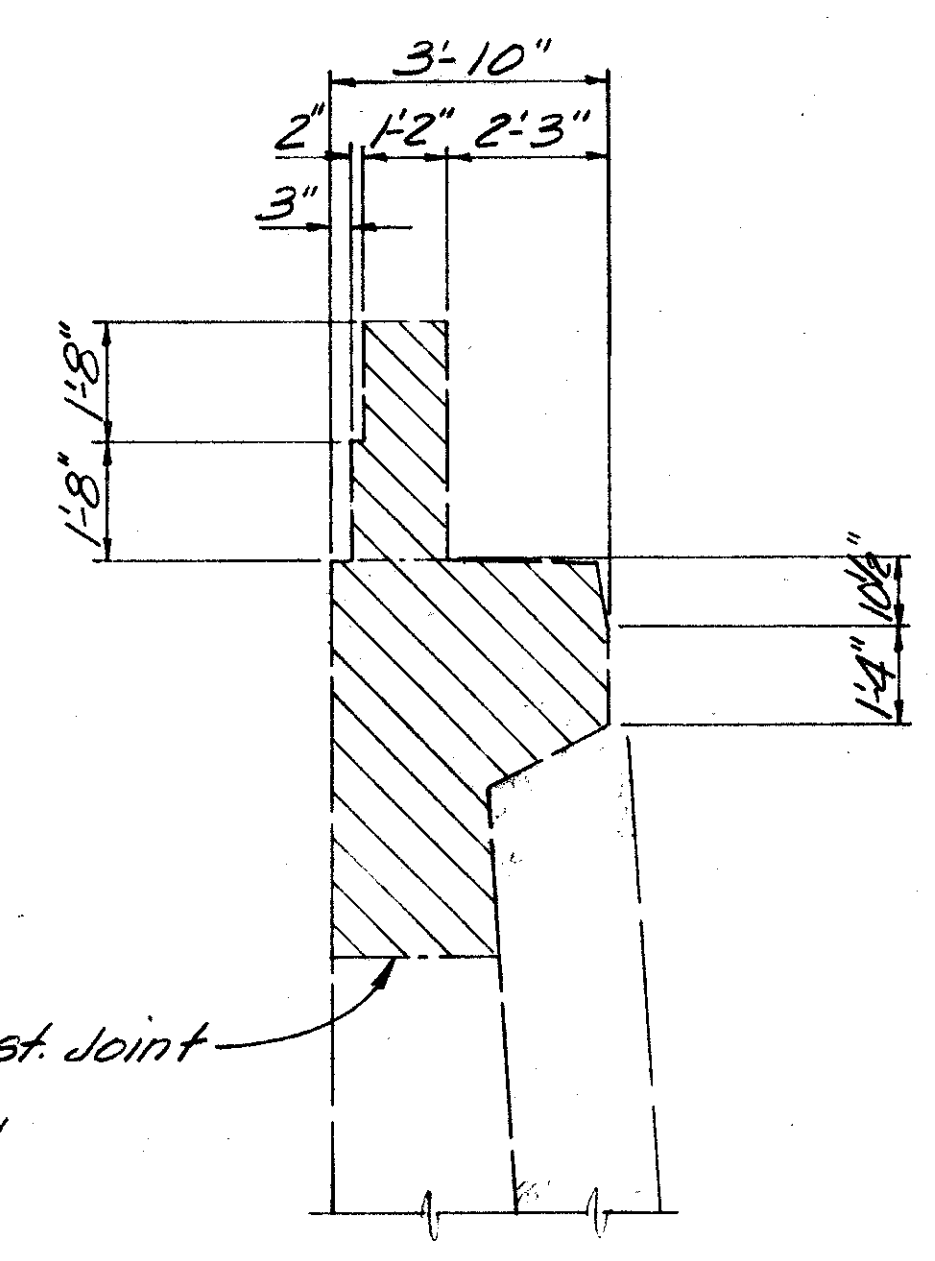
Denotes portion of existing structure to be removed.



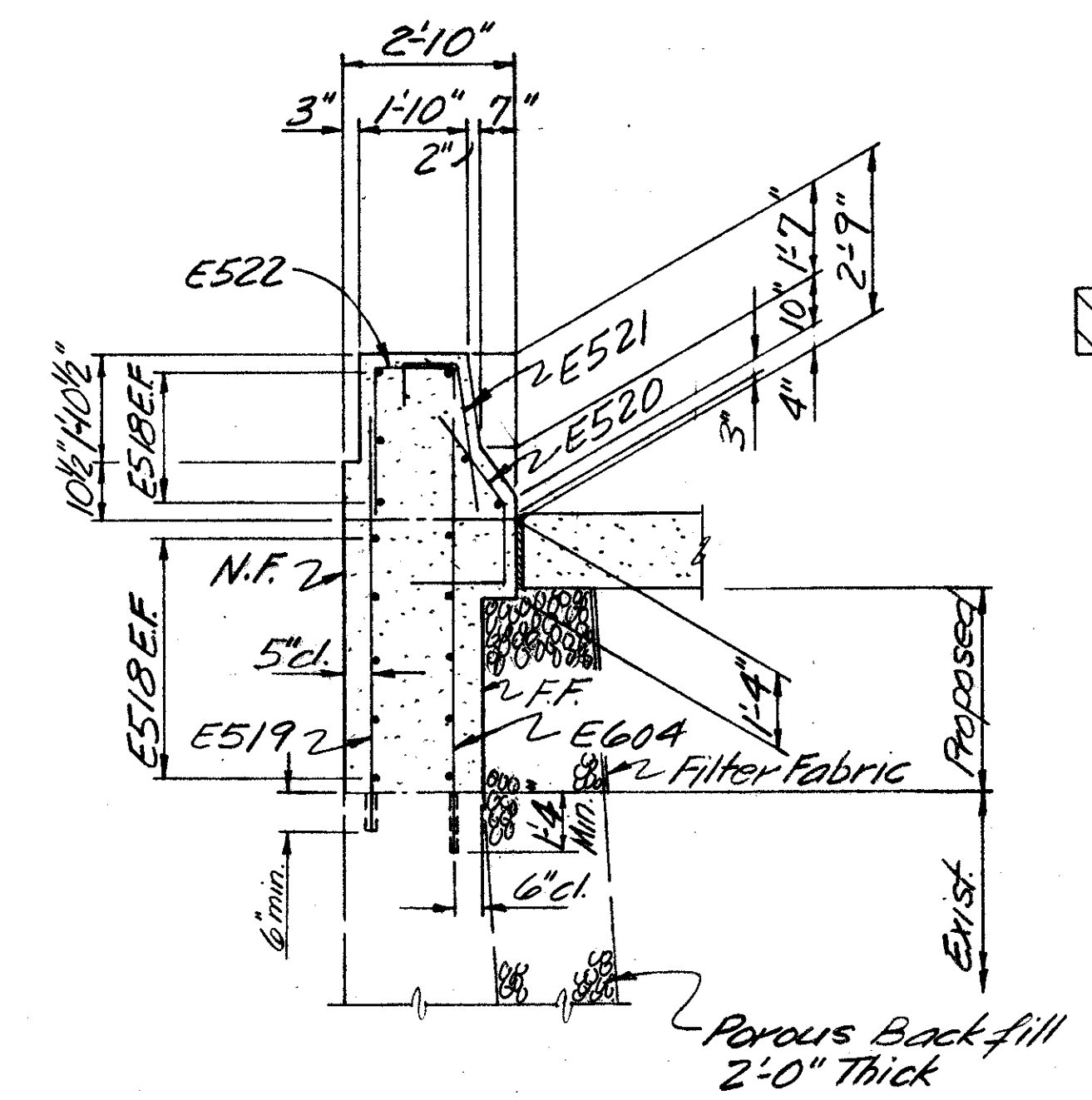
SECTION E-E  
(Showing Removal)



SECTION E-E

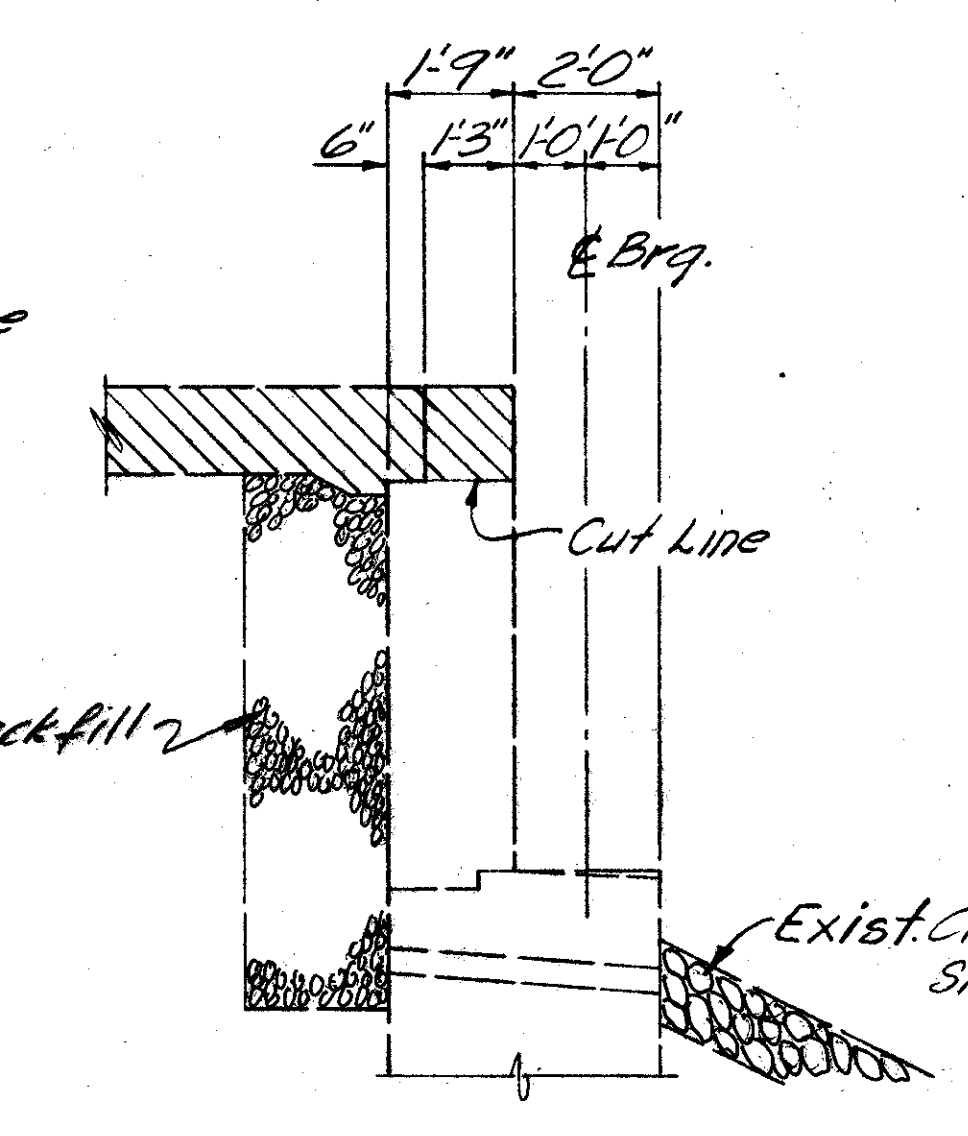
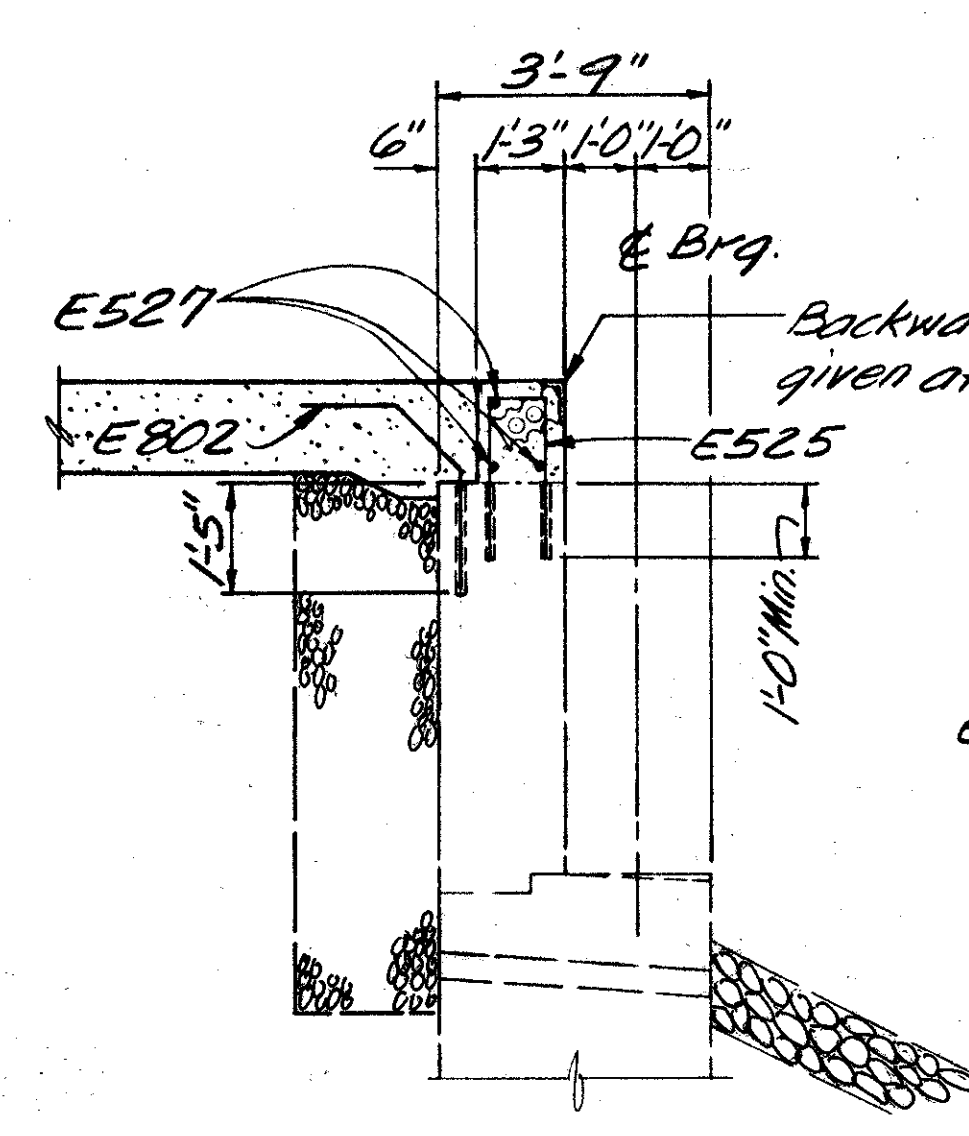
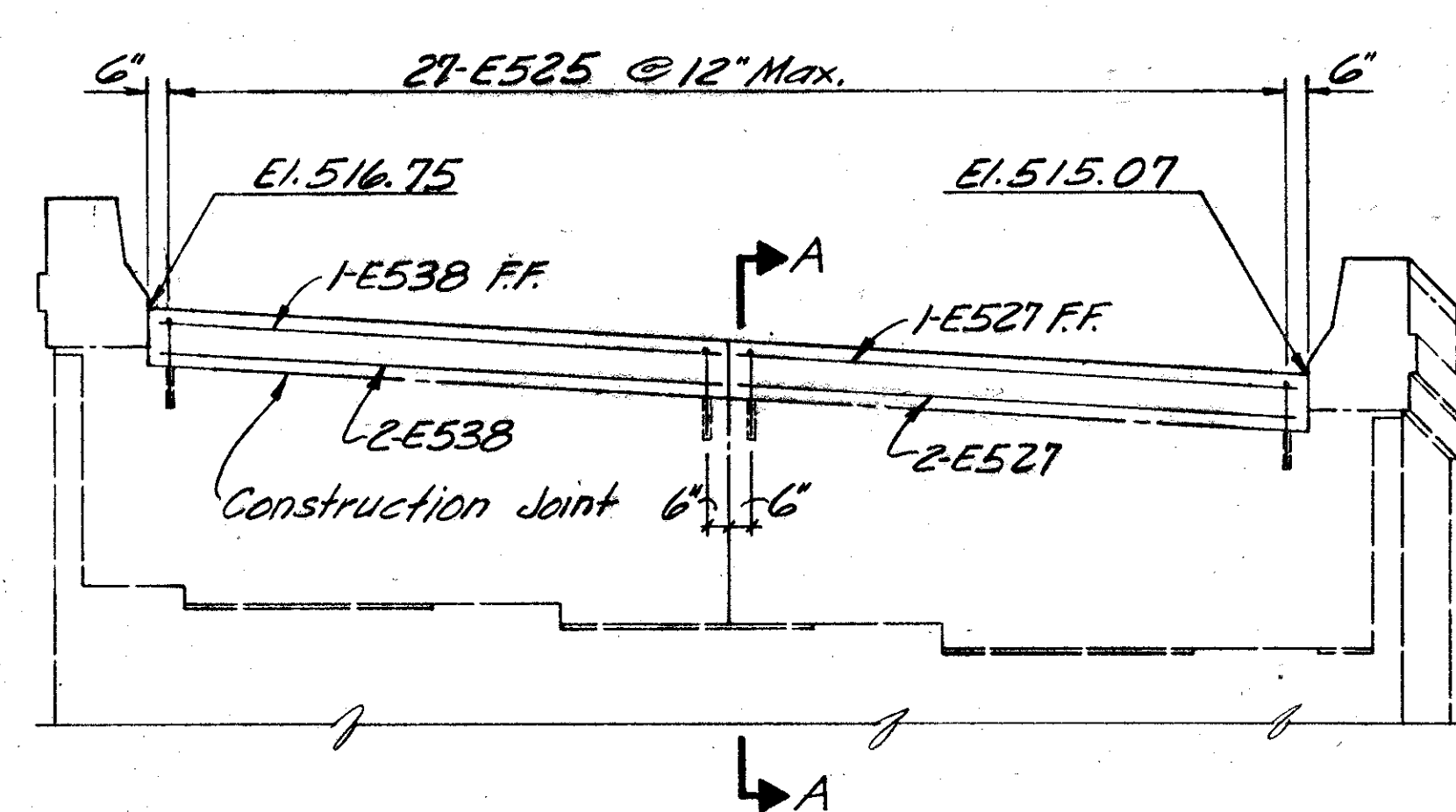
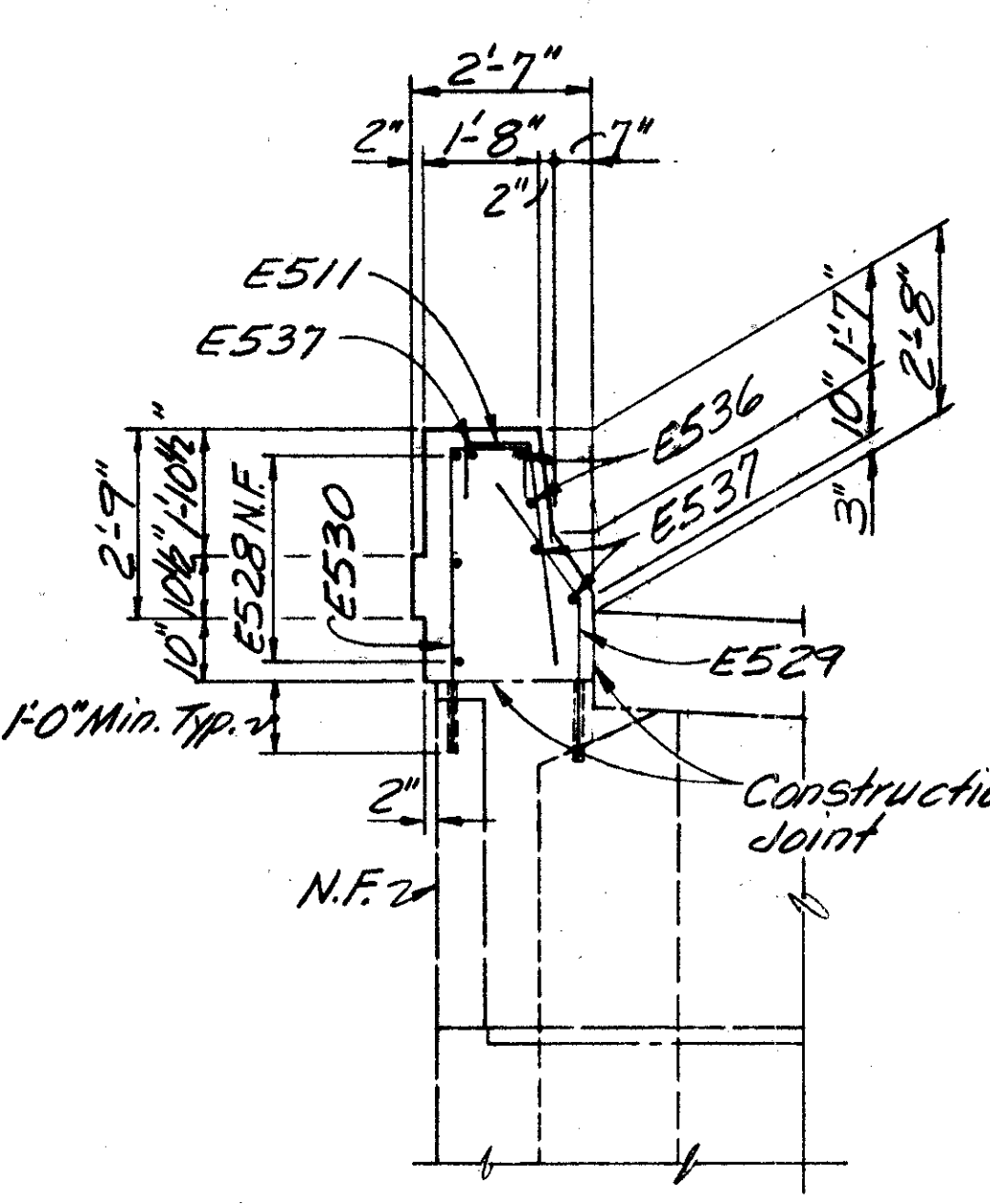
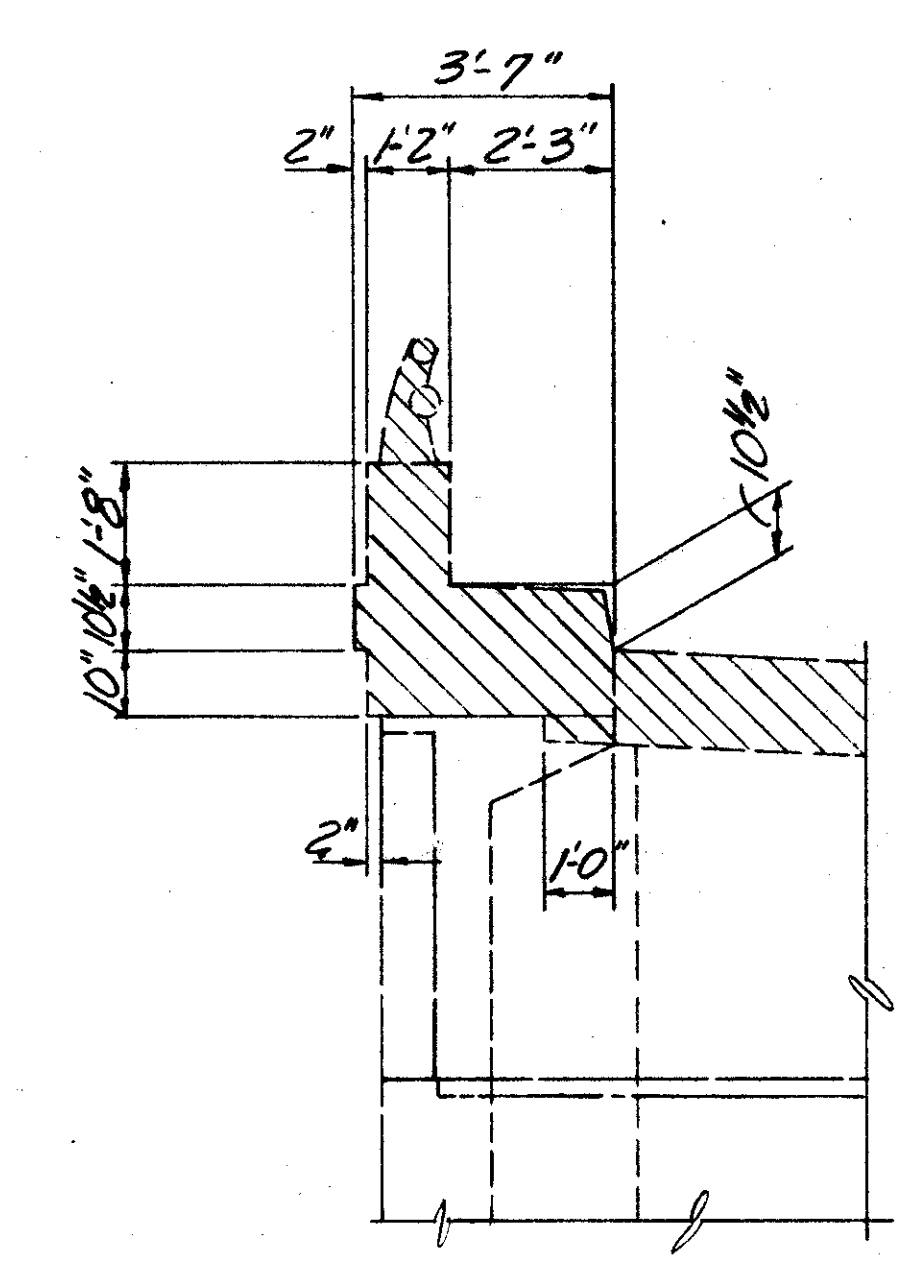
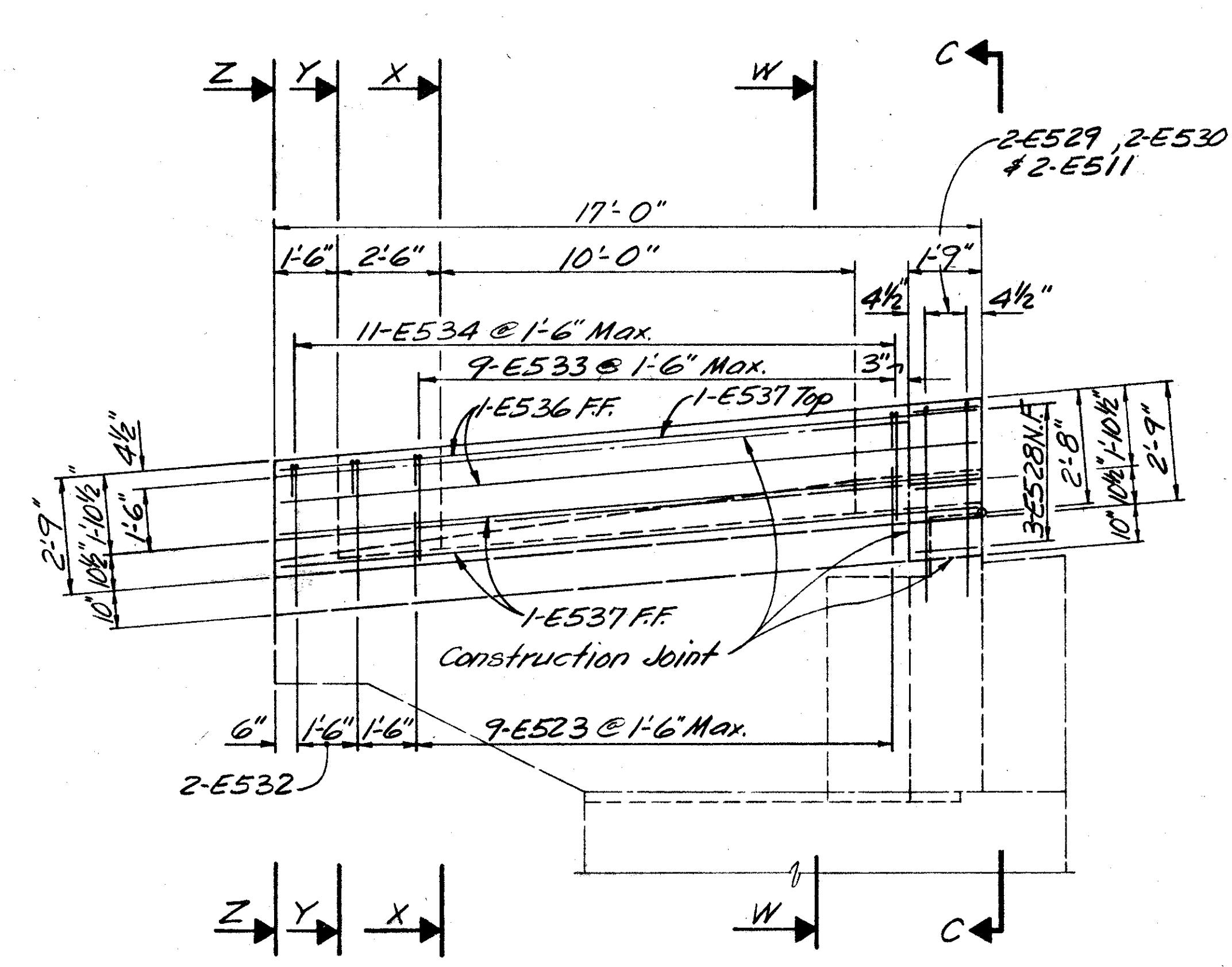
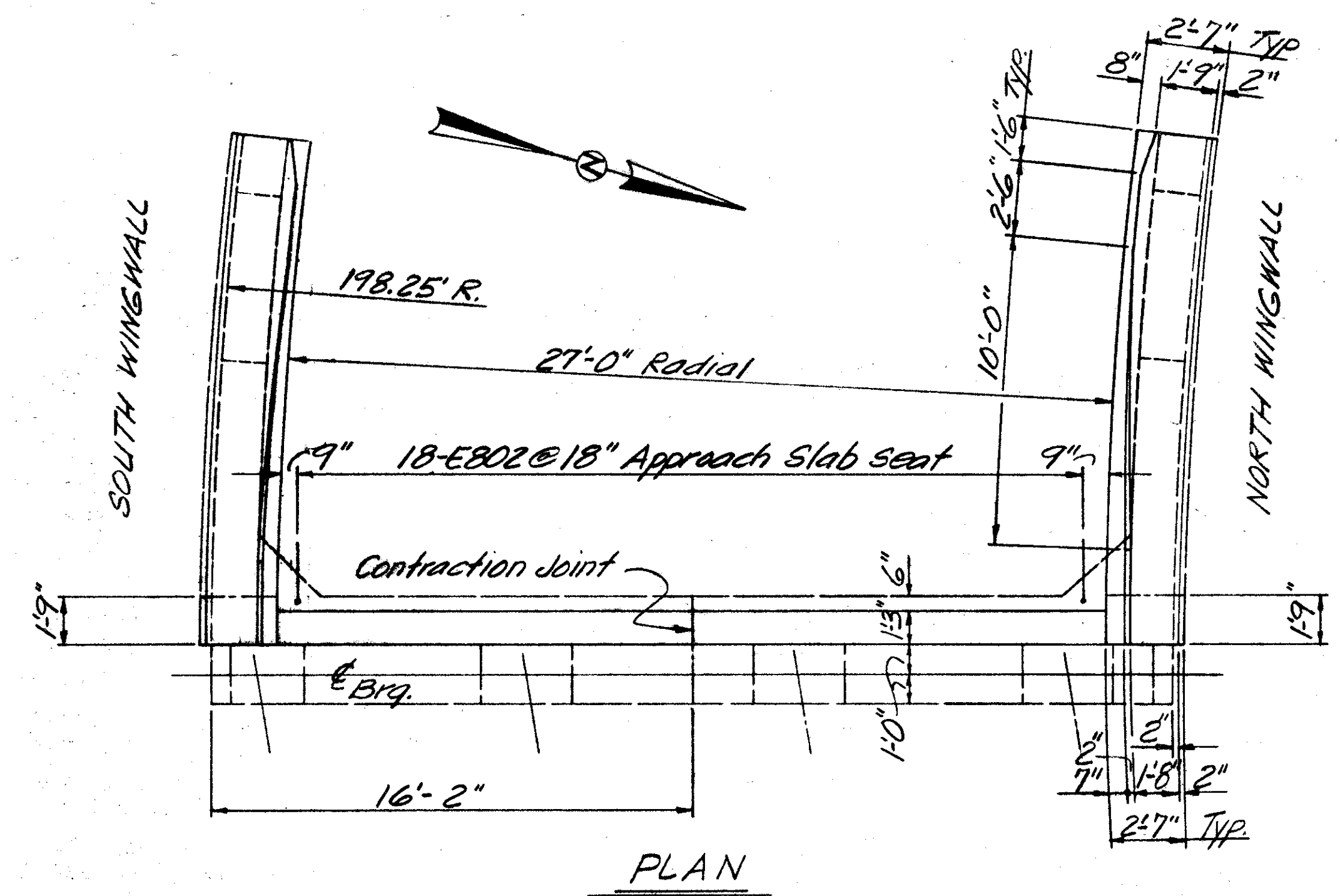


SECTION F-F  
(Showing Removal)

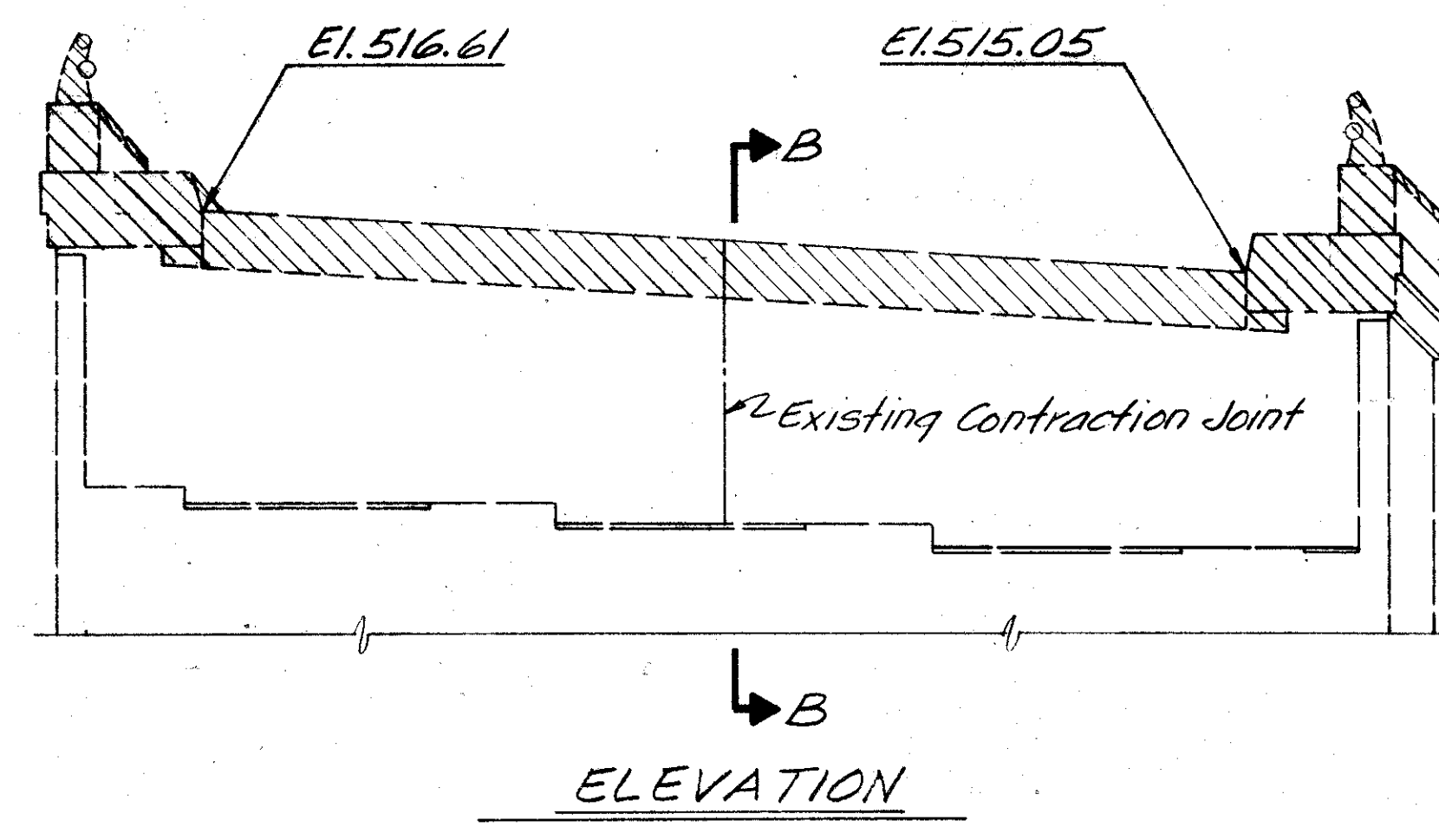


SECTION F-F

BALKE ENGINEERS 7/17 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
NORTH ABUTMENT BRIDGE NO. HAM-50-2007 SIXTH STREET EXPRESSWAY UNDER FREEMAN AVENUE					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJA	~	DWI	CRS	

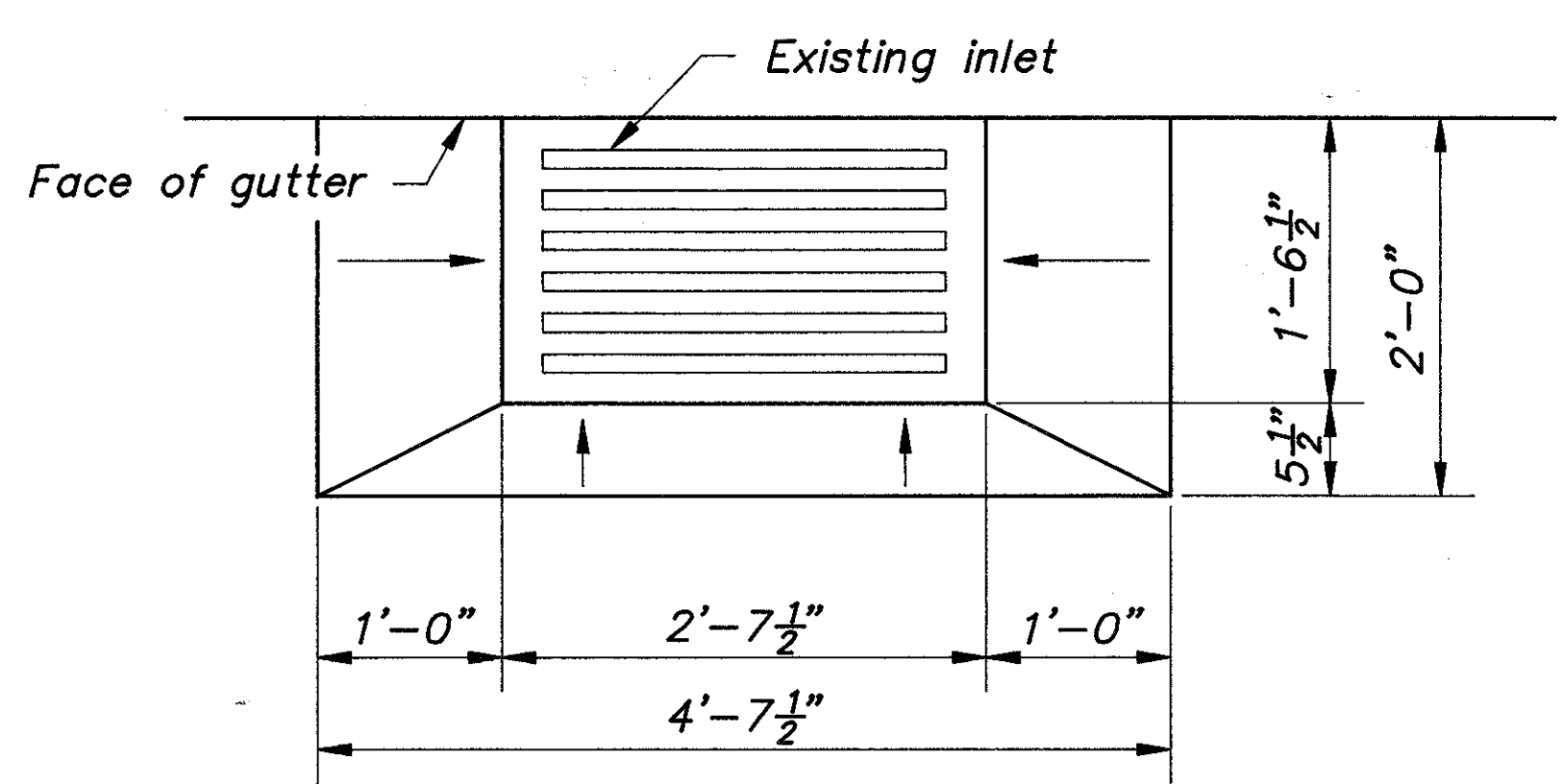


- Notes:
1. FF = Far Face  
N.F. = Near Face
  2. For Section W-W, X-X, Y-Y & Z-Z, see Shit. 9117.

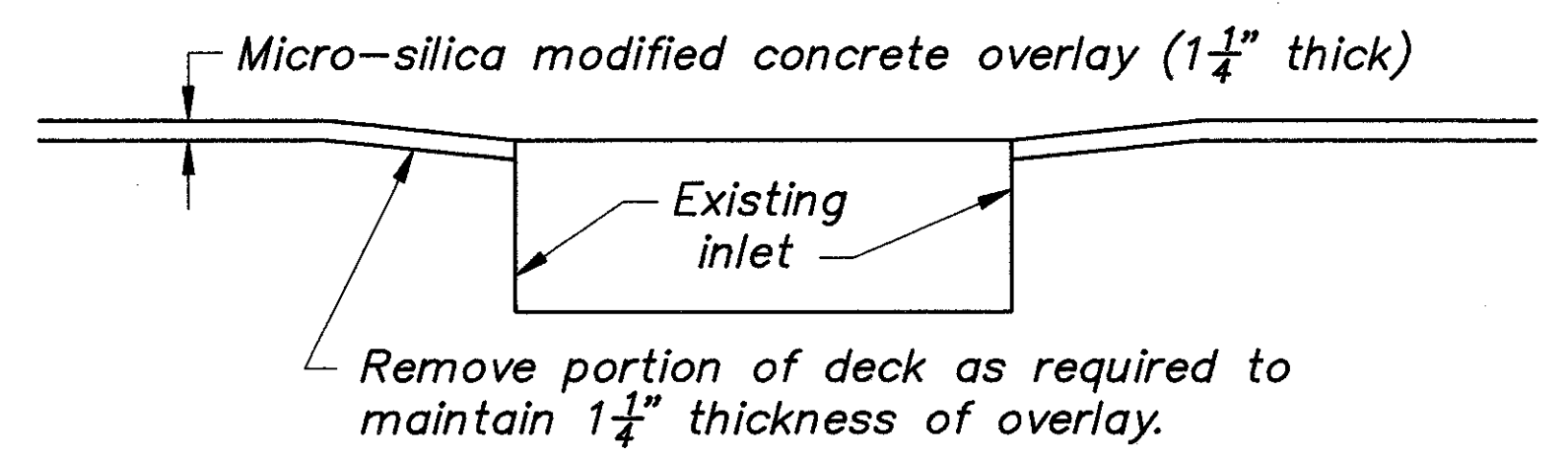


Denotes portion of existing structure to be removed

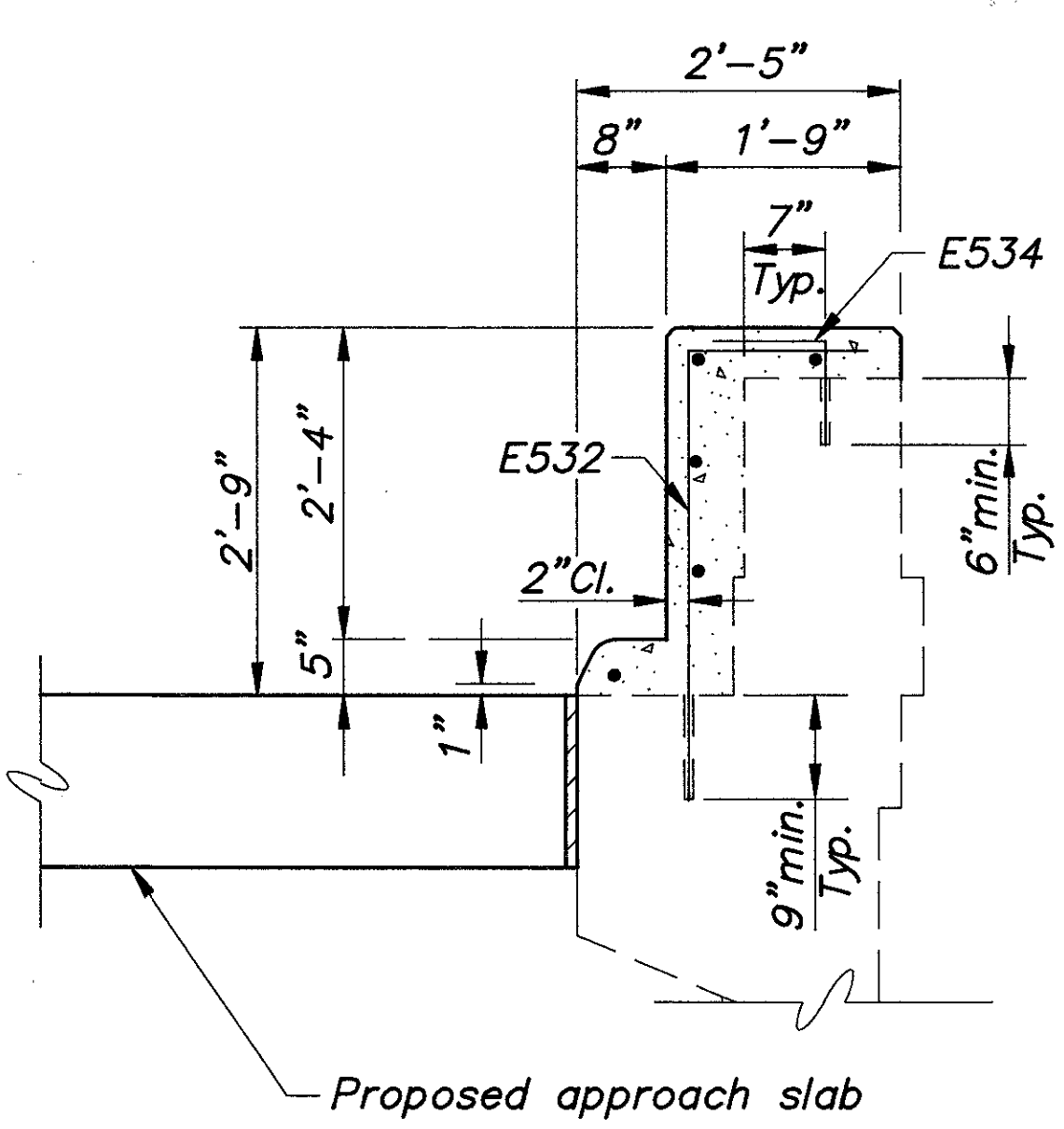
BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237						8/17
WEST ABUTMENT BRIDGE NO. HAM-50-2007 SIXTH STREET EXPRESSWAY UNDER FREEMAN AVENUE						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
MRS	WJH	~	DWI	CRS		



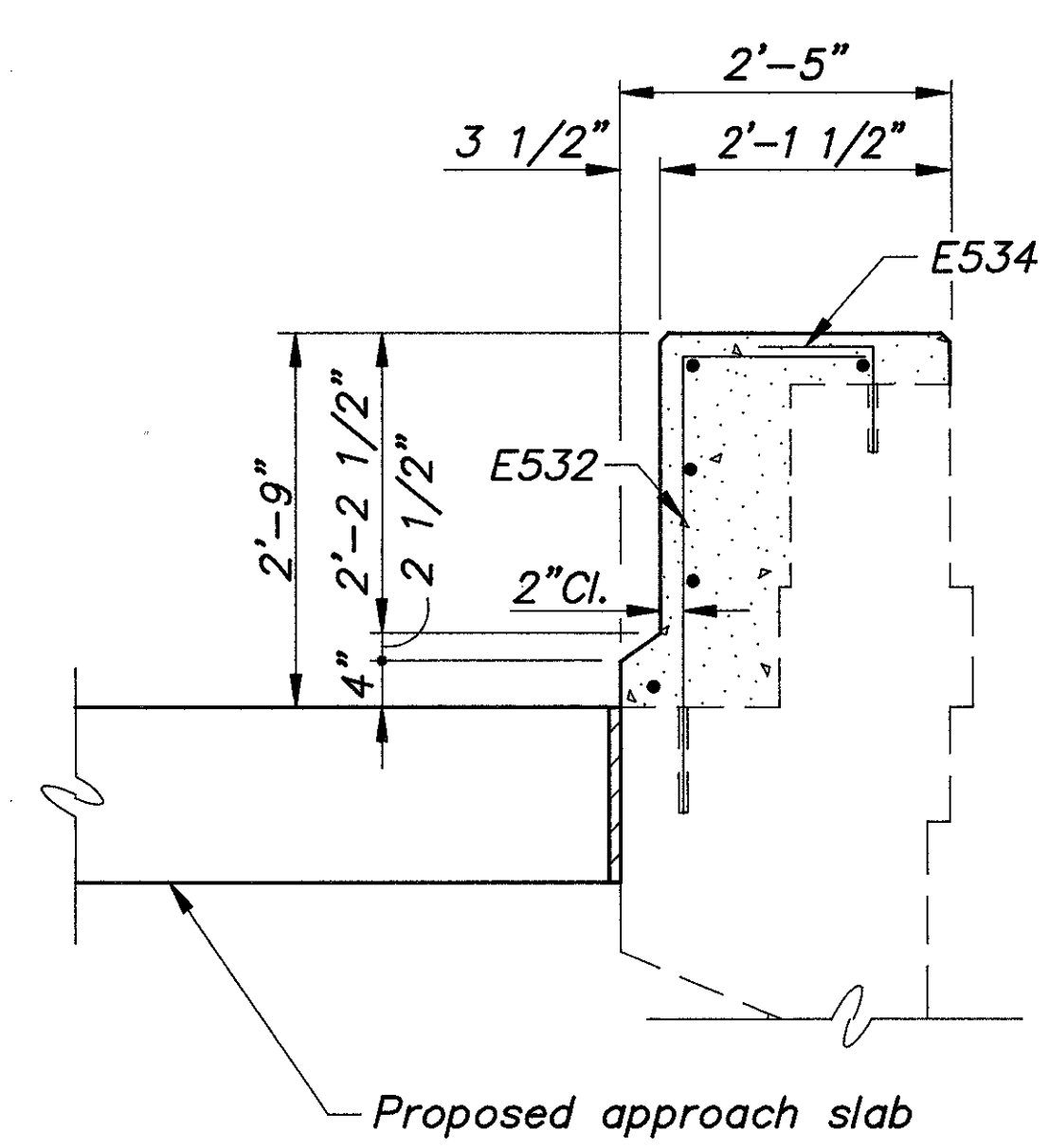
**PLAN AT INLET**  
(EAST CURB LINE)



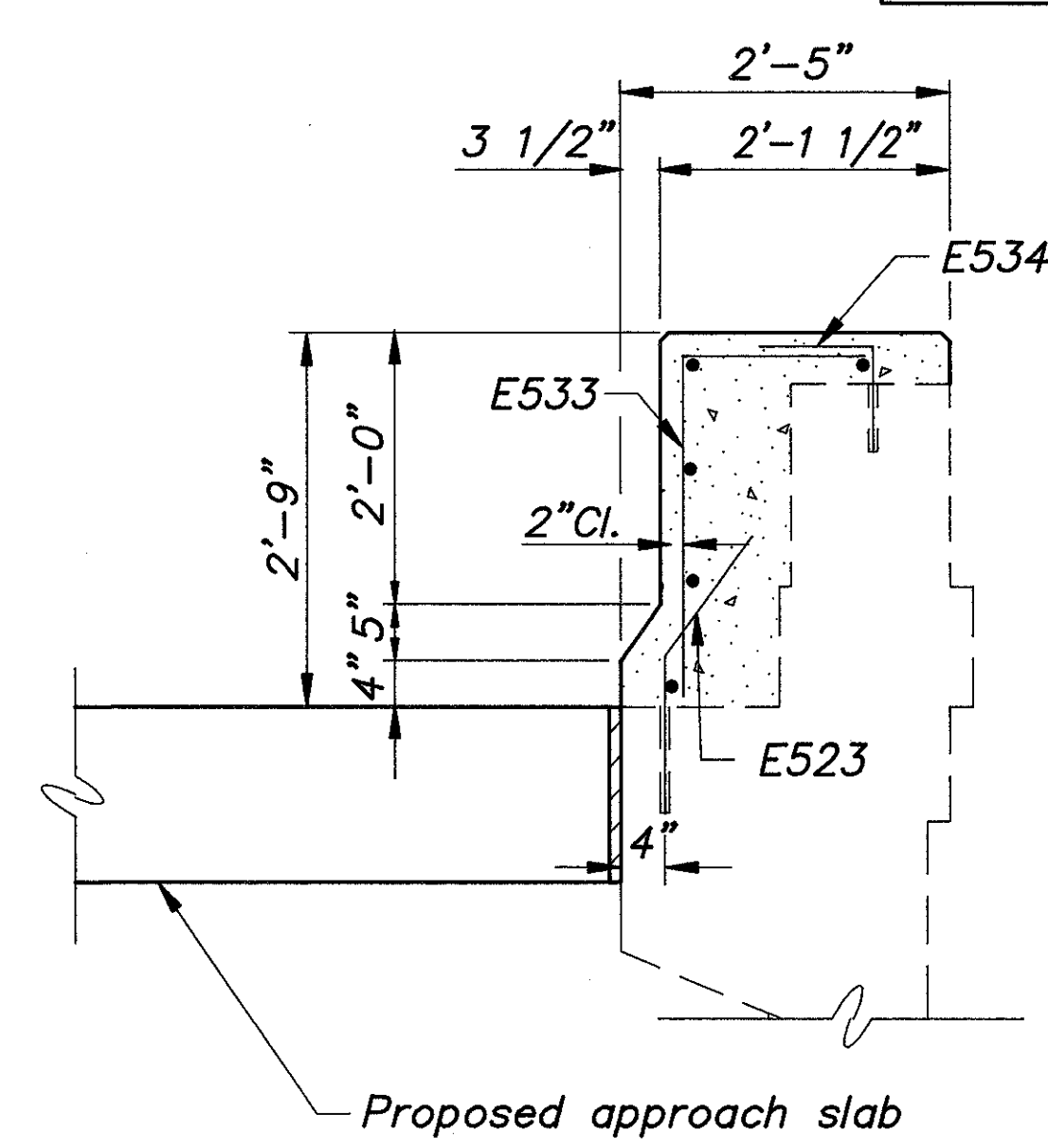
**SECTION THRU INLET**  
(EAST CURB LINE)



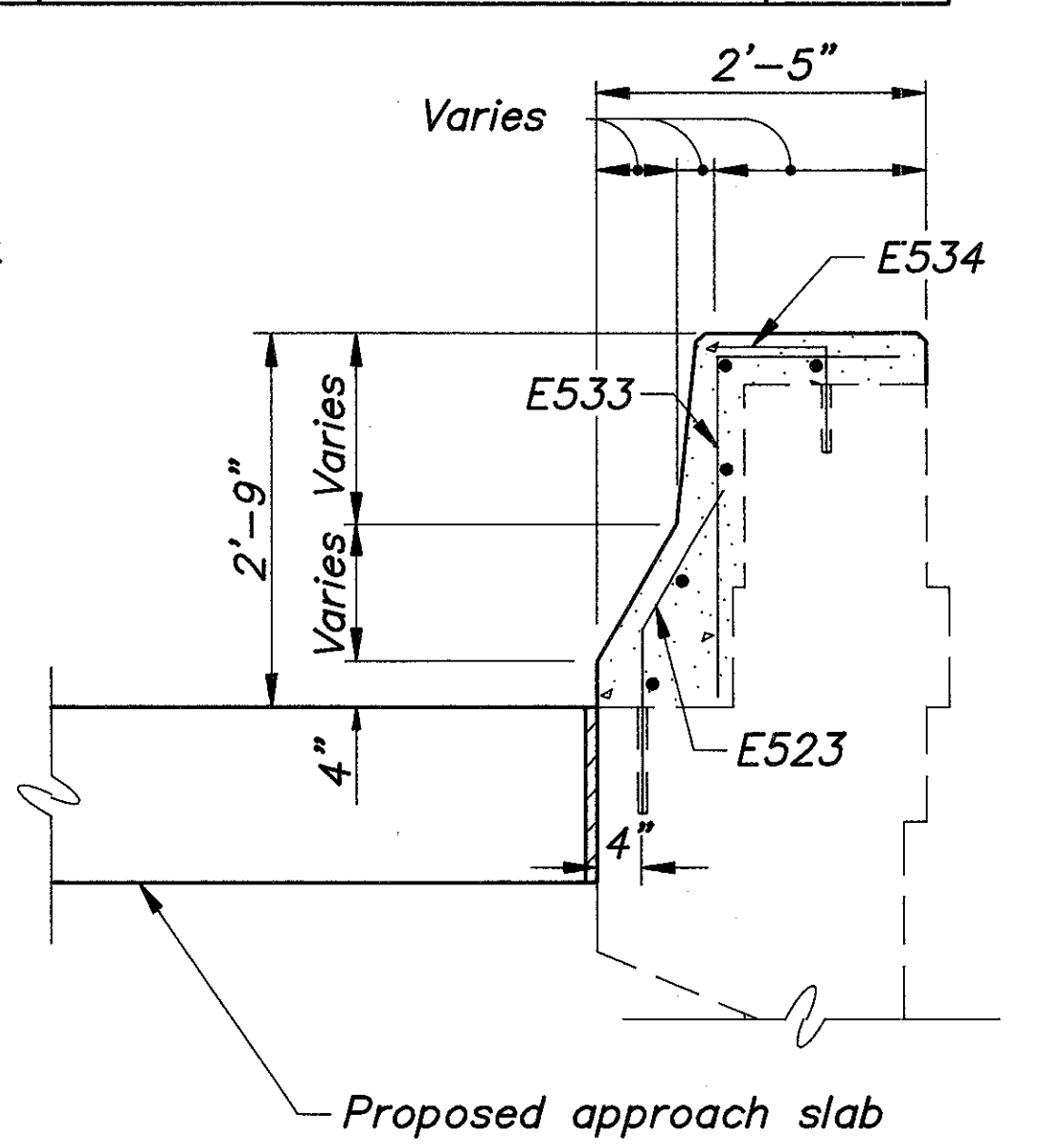
**SECTION Z-Z**



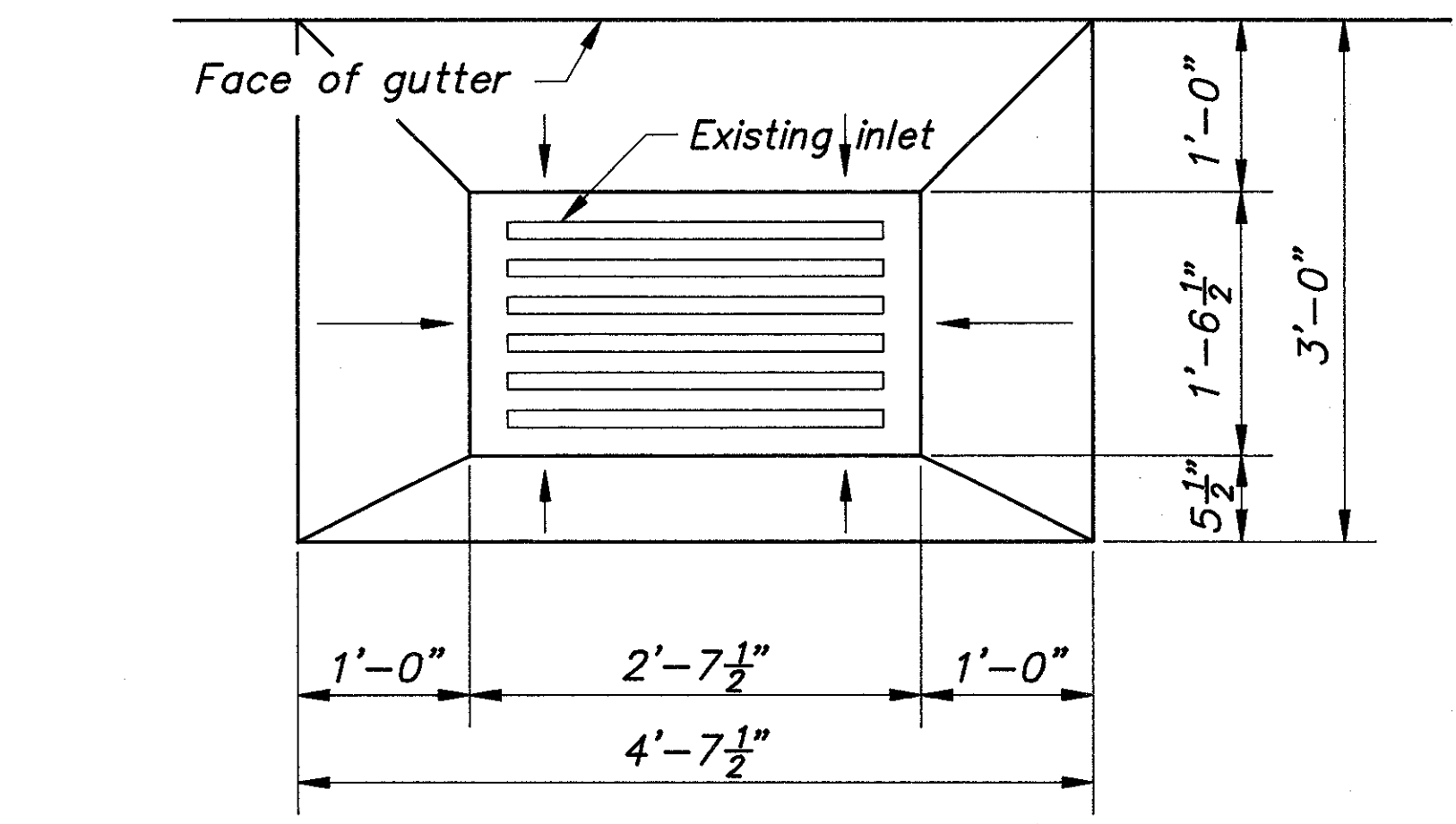
**SECTION Y-Y**



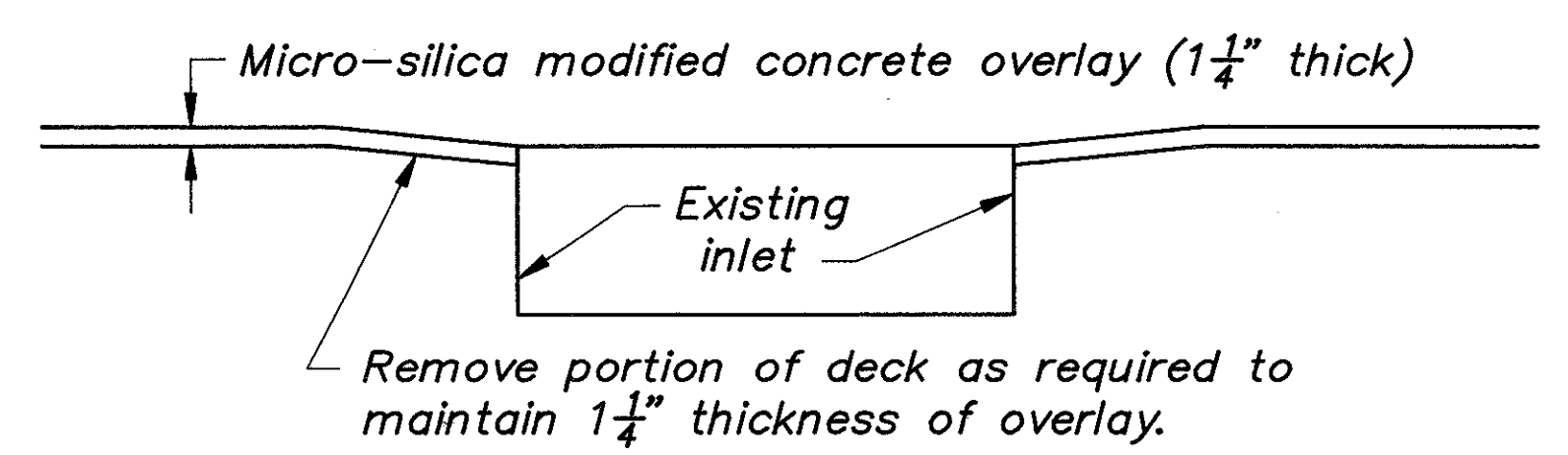
**SECTION X-X**



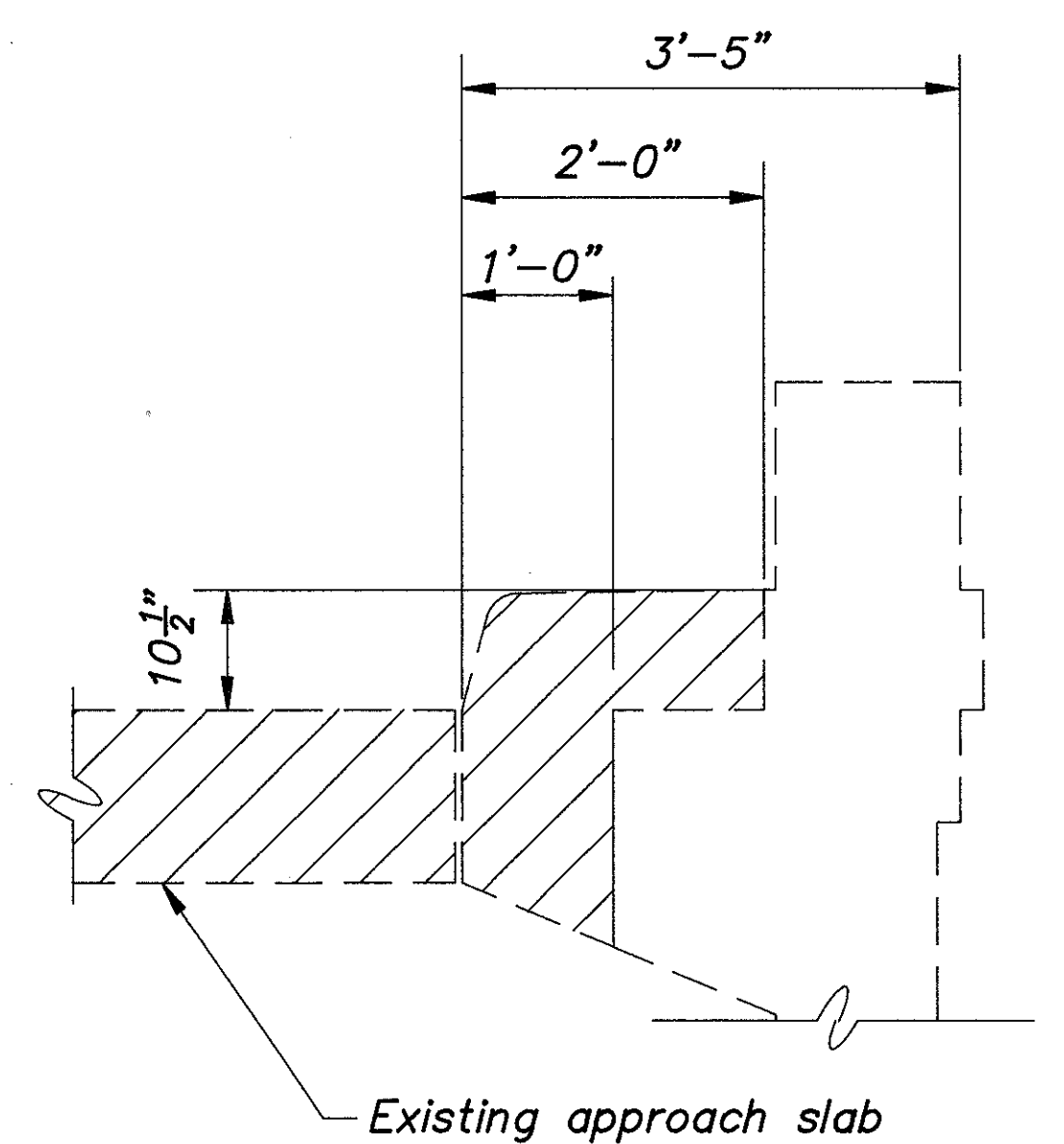
**SECTION W-W**



**PLAN AT INLET**  
(WEST CURB LINE)



**SECTION THRU INLET**  
(WEST CURB LINE)

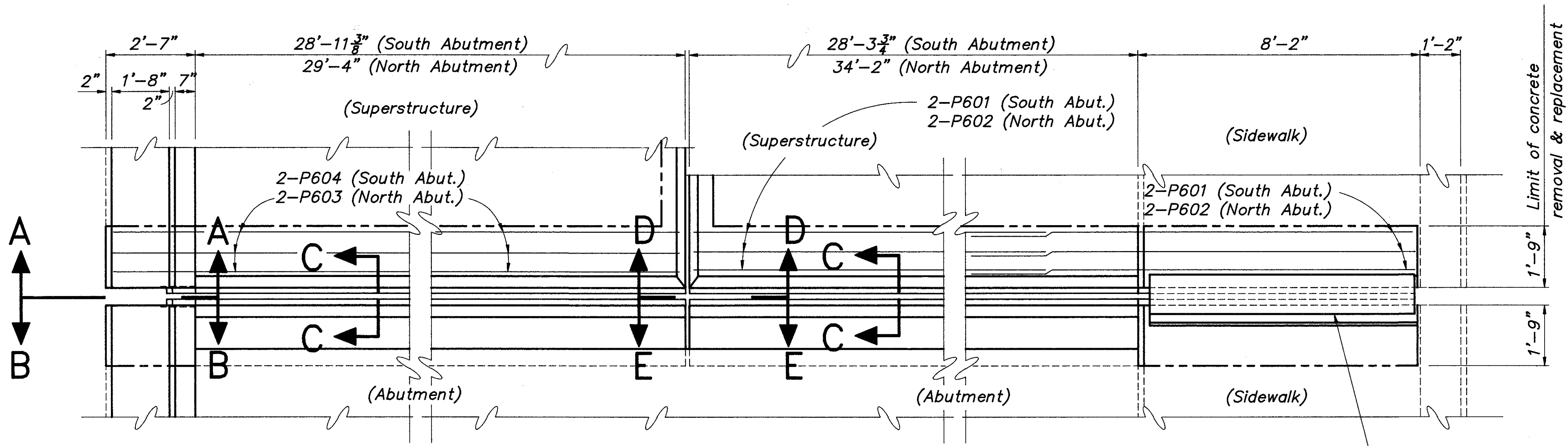
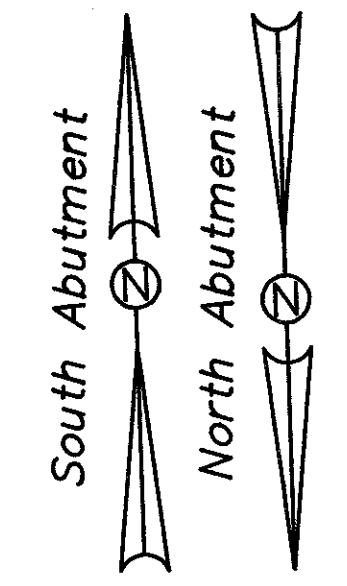


**SECTION THRU WING**  
**TYPICAL**  
(Showing Removal)

 Denotes portion of existing structure to be removed.

BALKE ENGINEERS 9/17  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237  
**MISCELLANEOUS DETAILS**  
BRIDGE NO. HAM-50-2007  
FREEMAN AVENUE OVER  
SIXTH. STREET EXPRESSWAY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DW	CRS	



NOTE: Lap P601, P602, P603 & P604 bars 2'-4" minimum.

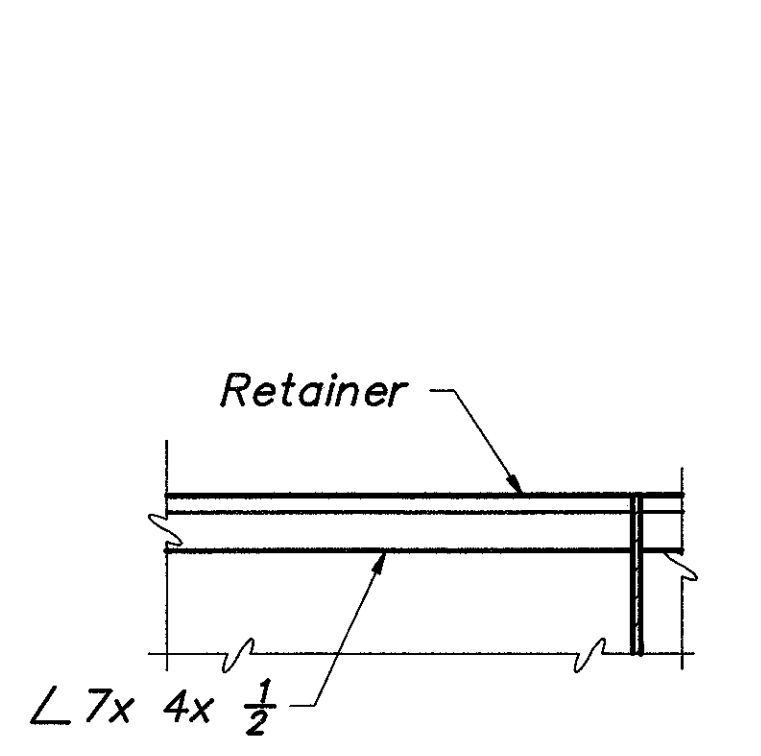
**PARTIAL PLAN @ ABUTMENTS**  
(SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR)

For sections and elevations of sidewalk, see Std. Dwg. EXJ-4-87.

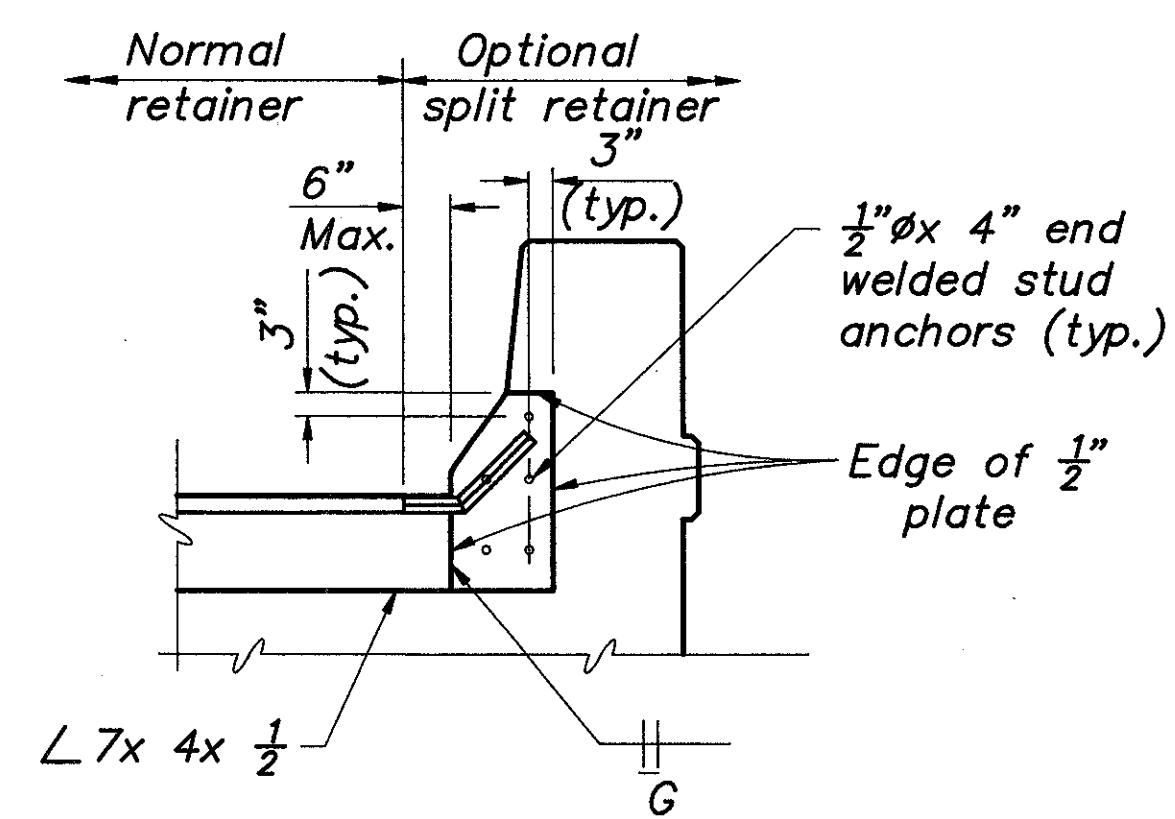
\* OPENING WIDTH

°F	NORTH ABUT. SOUTH ABUT.	
	DIM A	DIM A
90	1 5/8"	1 1/4"
80	1 5/8"	1 3/8"
70	1 3/4"	1 1/2"
60	1 3/4"	1 5/8"
50	1 3/4"	1 3/4"
40	1 5/8"	1 7/8"
30	1 7/8"	2"

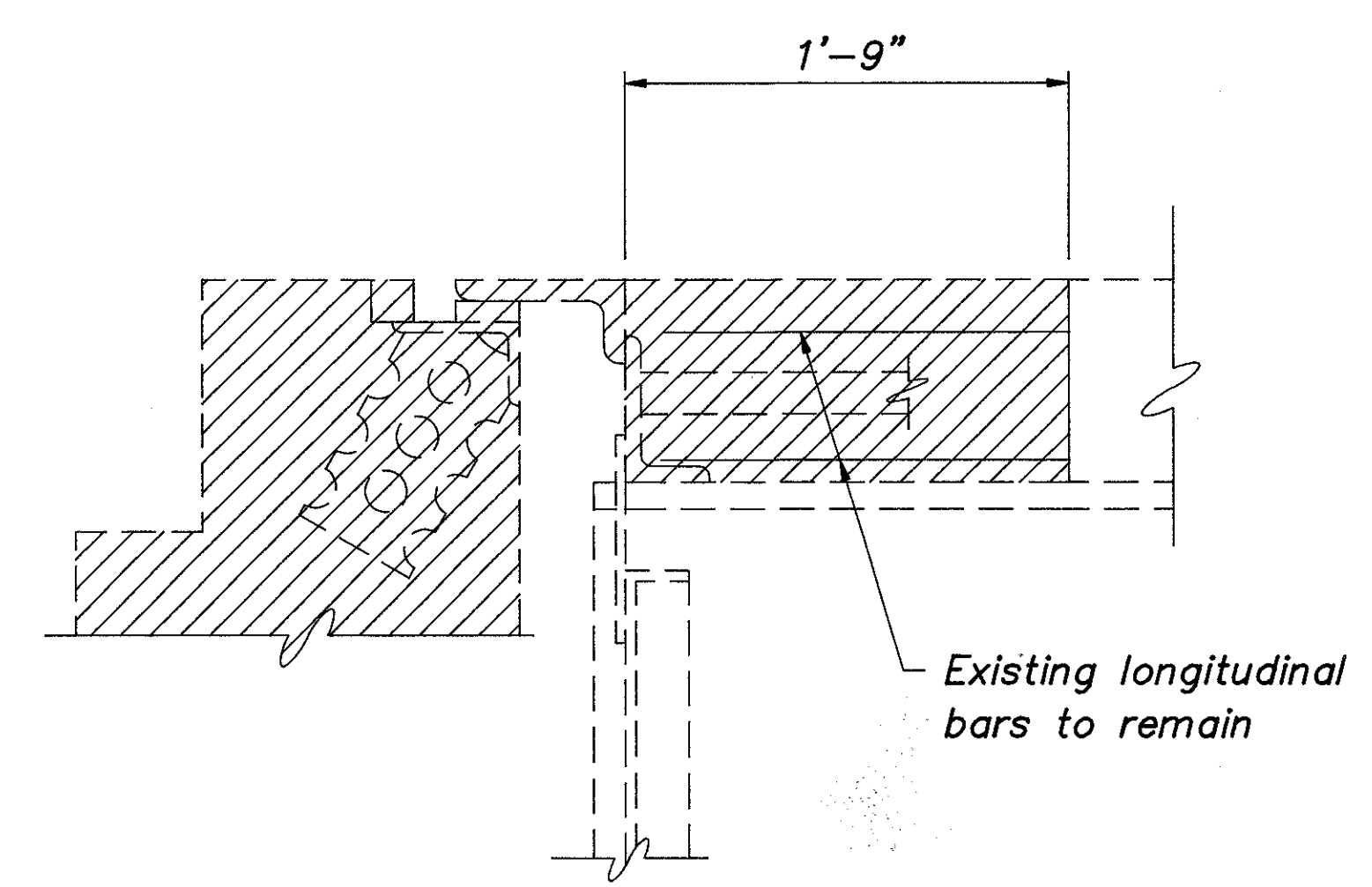
Strip seal gland shall be as follows: D.S. Brown 300, Watson-Bowman & Acme SE300, or equal. Gland seal shall be continuous with no joints or splices except at the longitudinal deck joint.



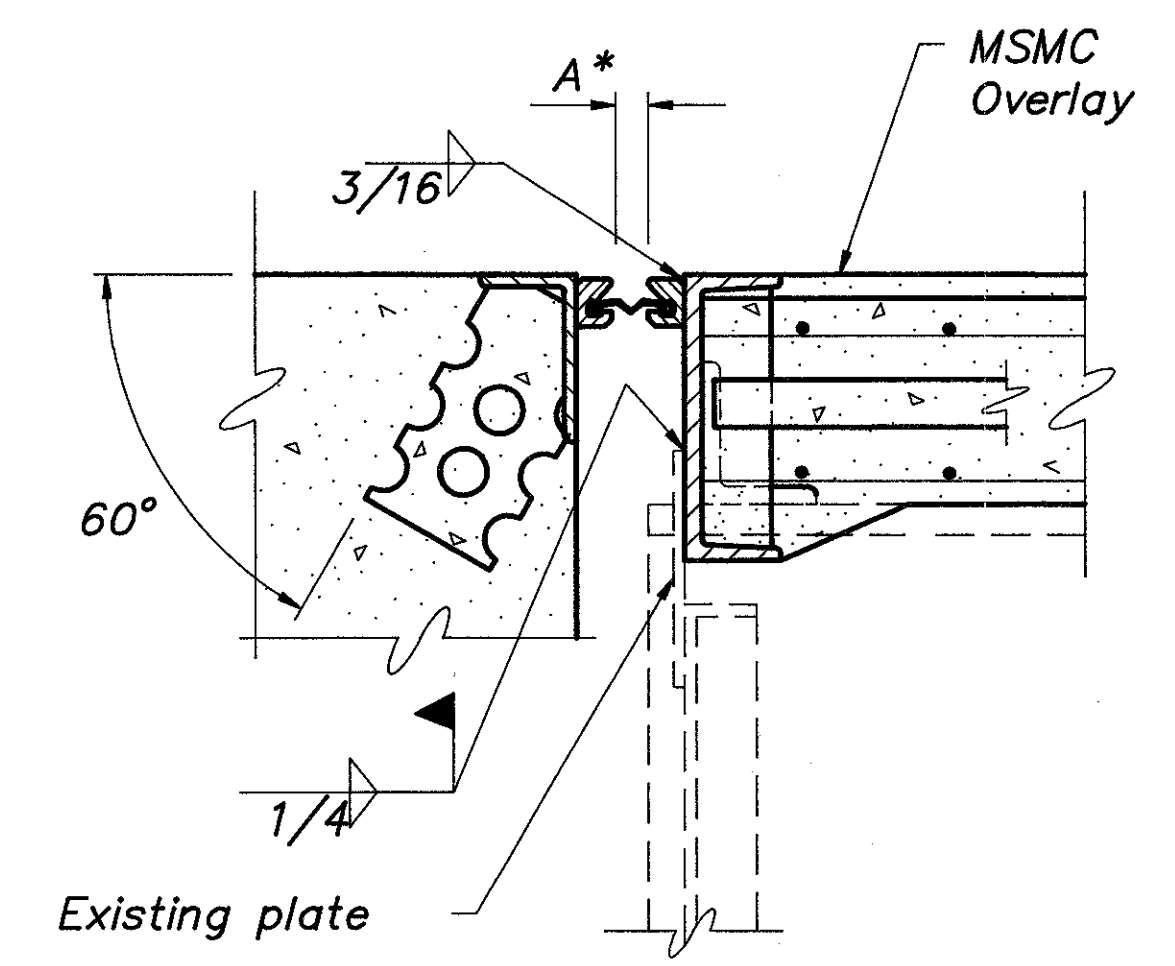
**SECTION E-E**



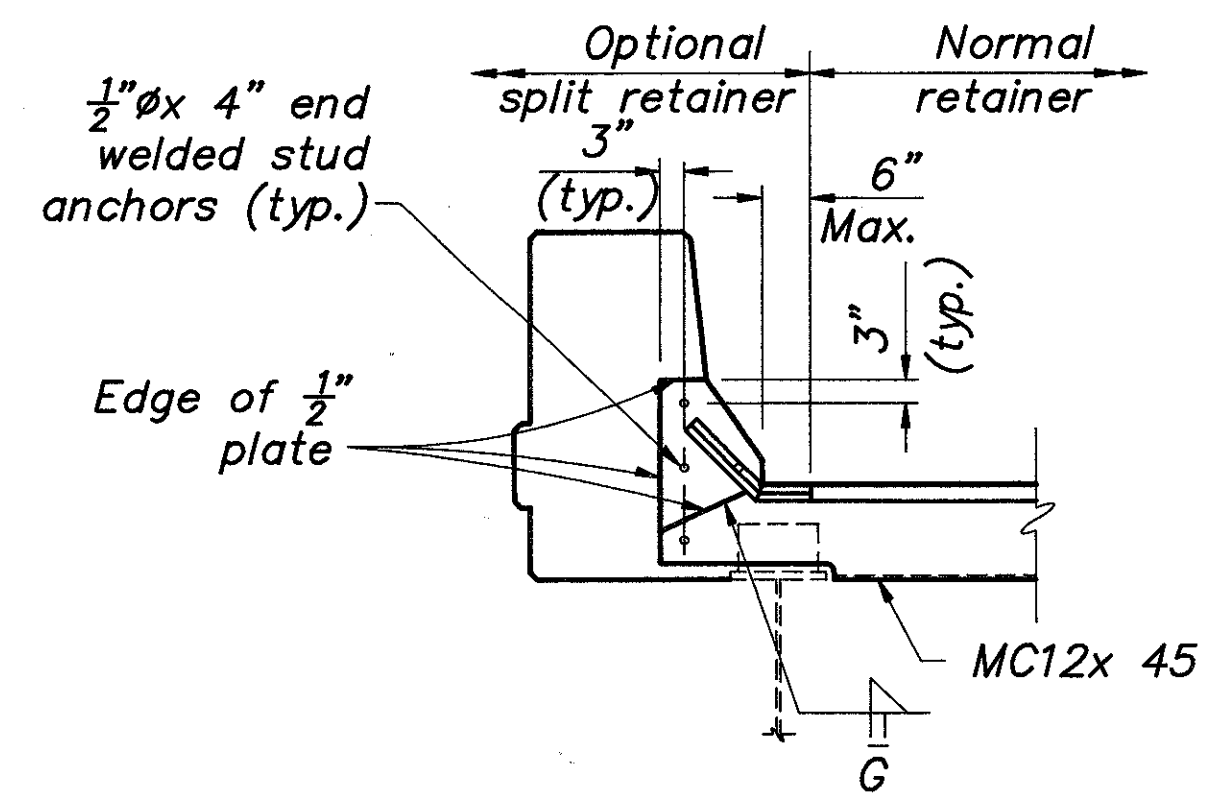
**SECTION B-B**



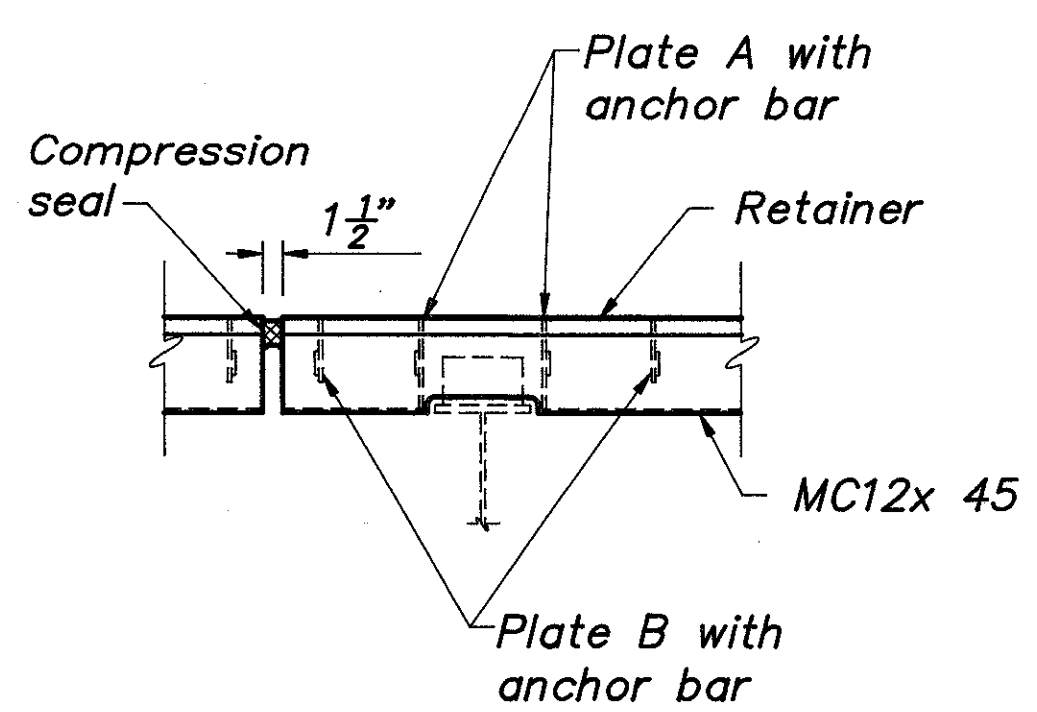
**SECTION C-C**  
(SHOWING REMOVAL)



**SECTION C-C**  
(PROPOSED)



**SECTION A-A**



**SECTION D-D**

Denotes portion of structure to be removed.

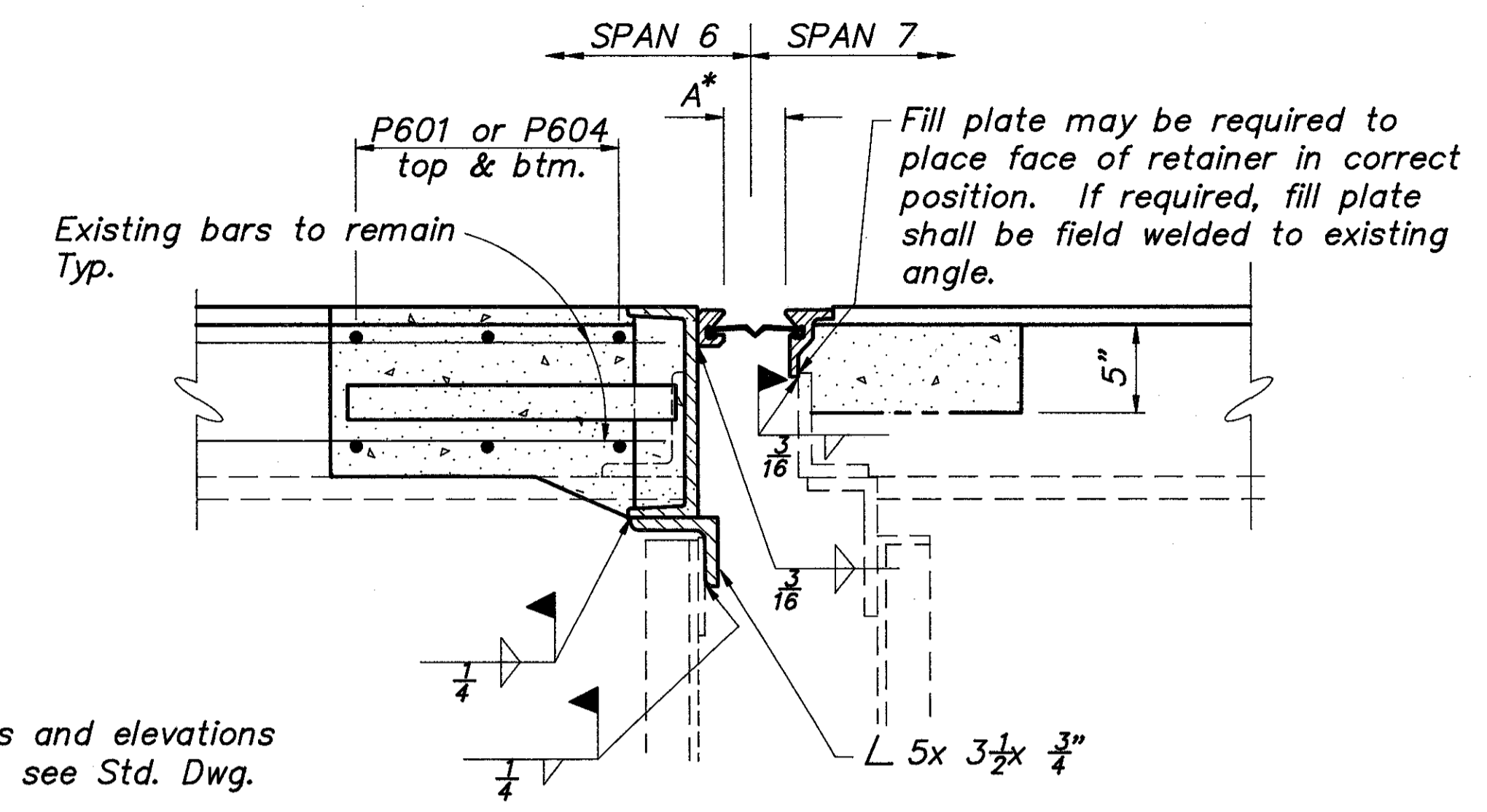
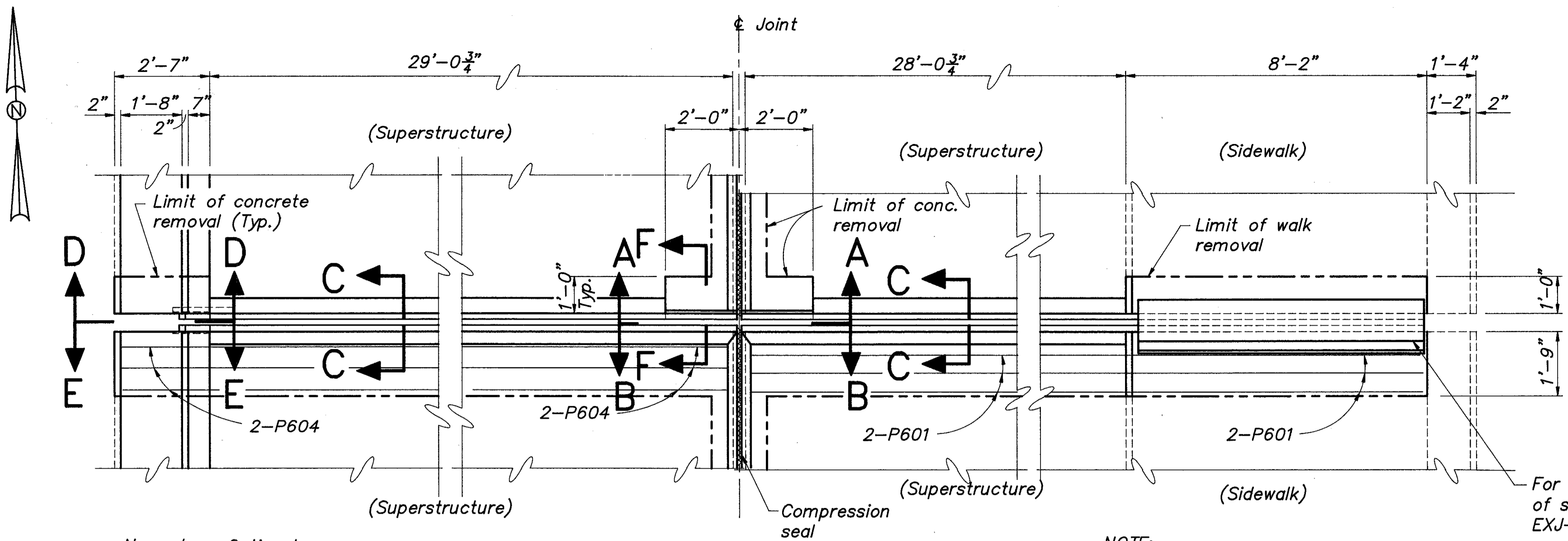
NOTE:  
For additional details on expansion joint, see Std. Drawing EXJ-4-87.

BALKE ENGINEERS 10/17  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

**EXPANSION JOINT DETAILS**  
BRIDGE NO. HAM-50-2007  
SIXTH STREET EXPRESSWAY  
UNDER FREEMAN AVENUE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	

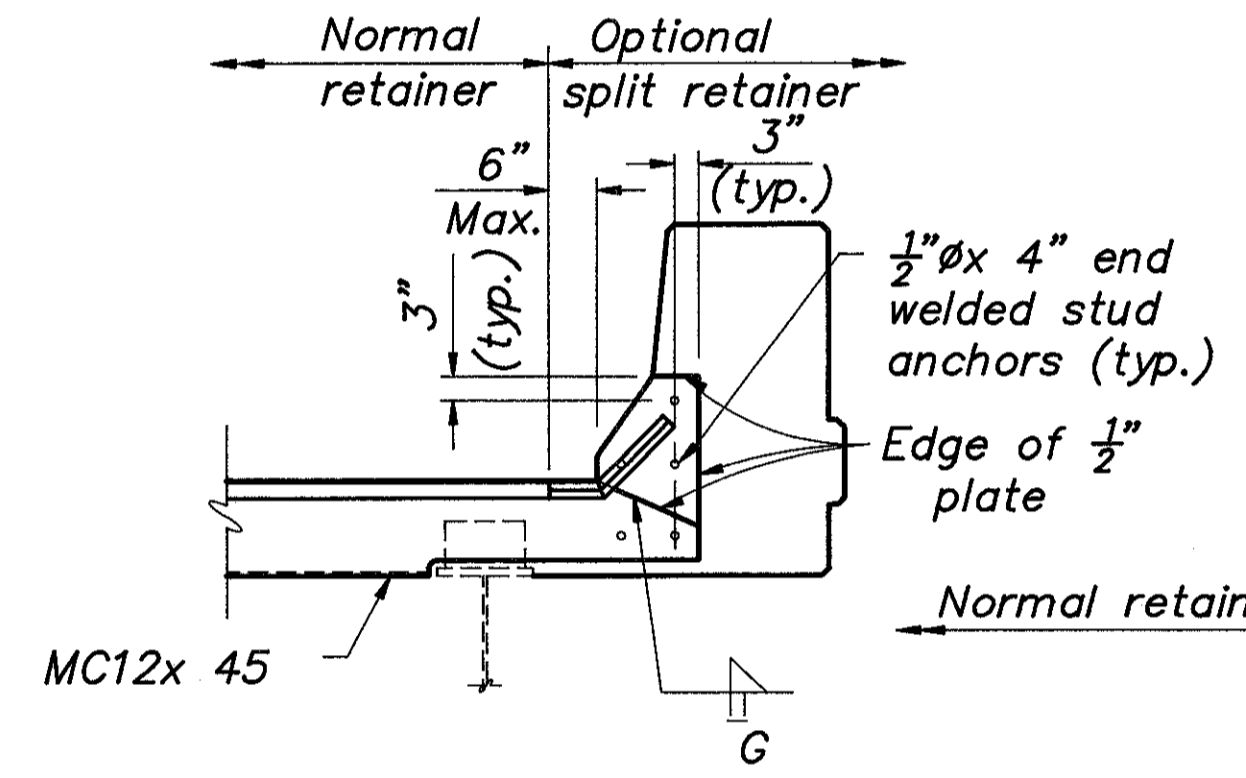




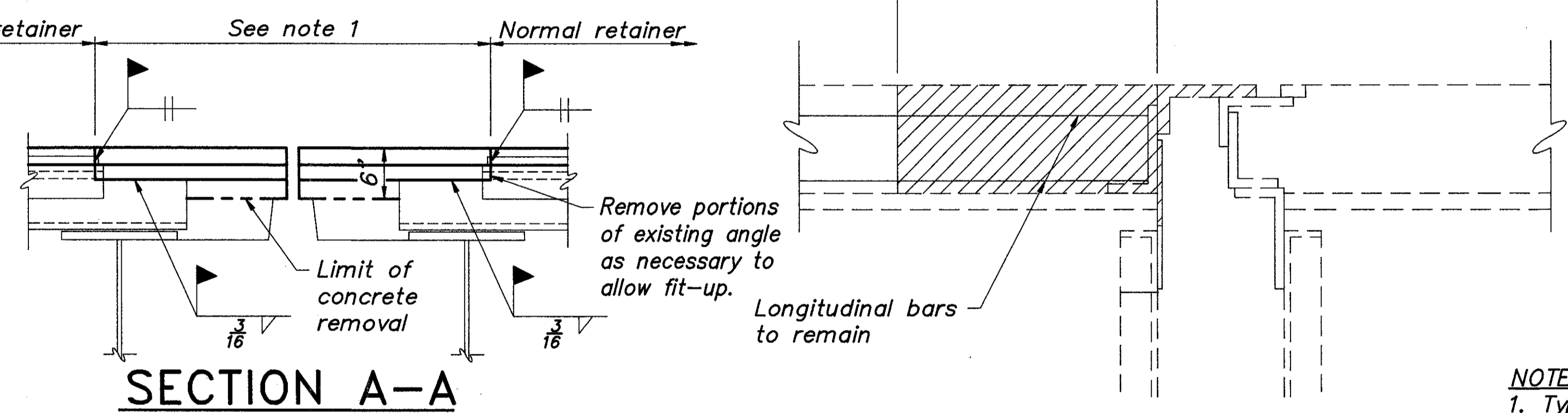
For sections and elevations of sidewalk, see Std. Dwg. EXJ-4-87.

NOTE:  
Lap P601 & P605 bars 2'-4" minimum.

**PARTIAL PLAN (PIER 6)**

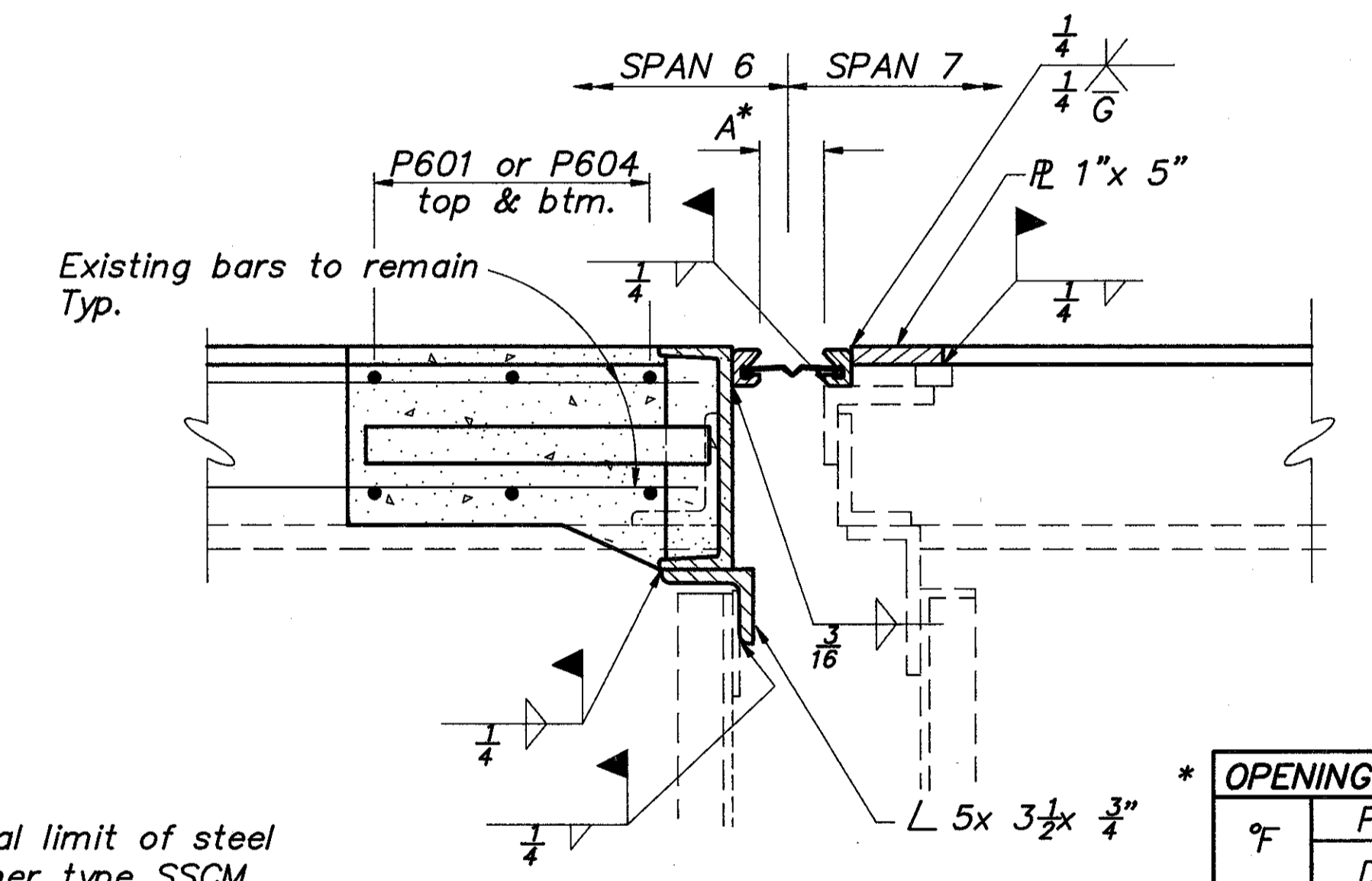


**SECTION E-E**



**SECTION A-A**

Longitudinal bars to remain



**SECTION C-C (PROPOSED)**

NOTE:  
1. Typical limit of steel retainer type SSCM from D.S. Brown, Type M from Watson-Bowman & Acme, or approved equal.  
2. For additional details on expansion joint, see Std. Drawing EXJ-4-87.

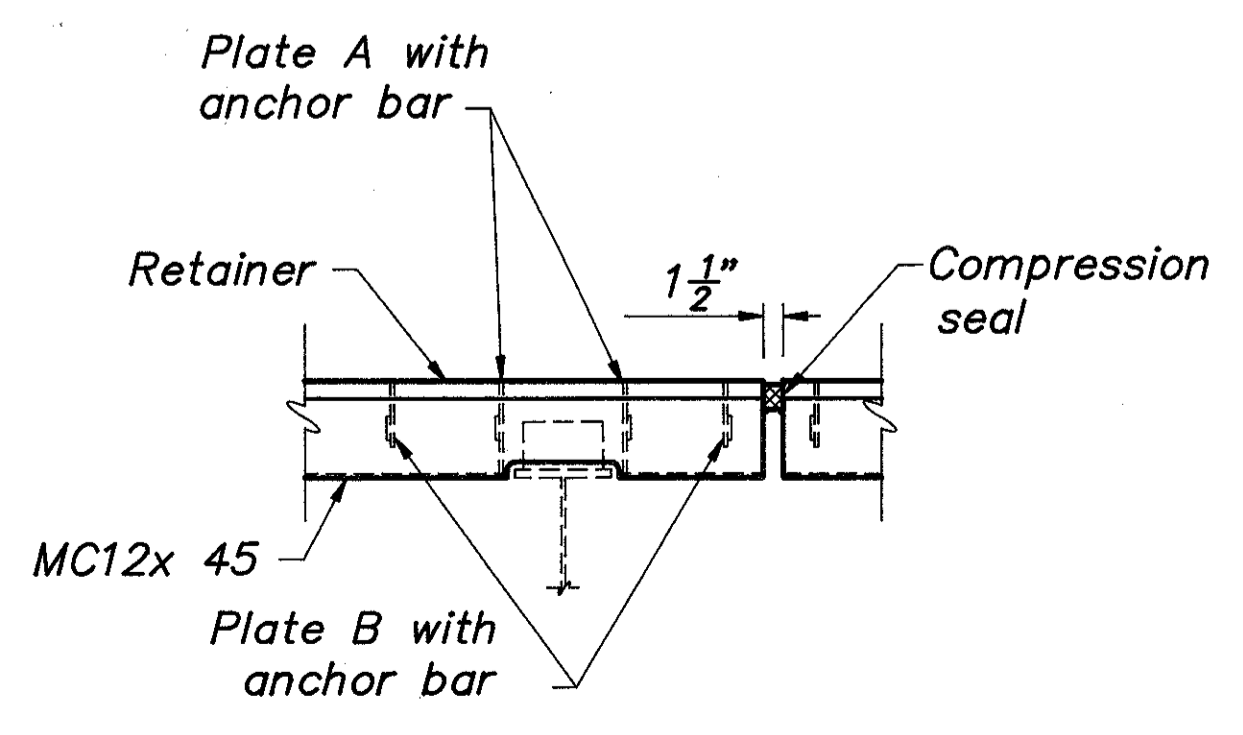
* OPENING WIDTH	
°F	PIER 6 DIM A
90	3 3/8"
80	3 1/2"
70	3 5/8"
60	3 3/4"
50	3 7/8"
40	4"
30	4 1/8"

**SECTION C-C (SHOWING REMOVAL)**

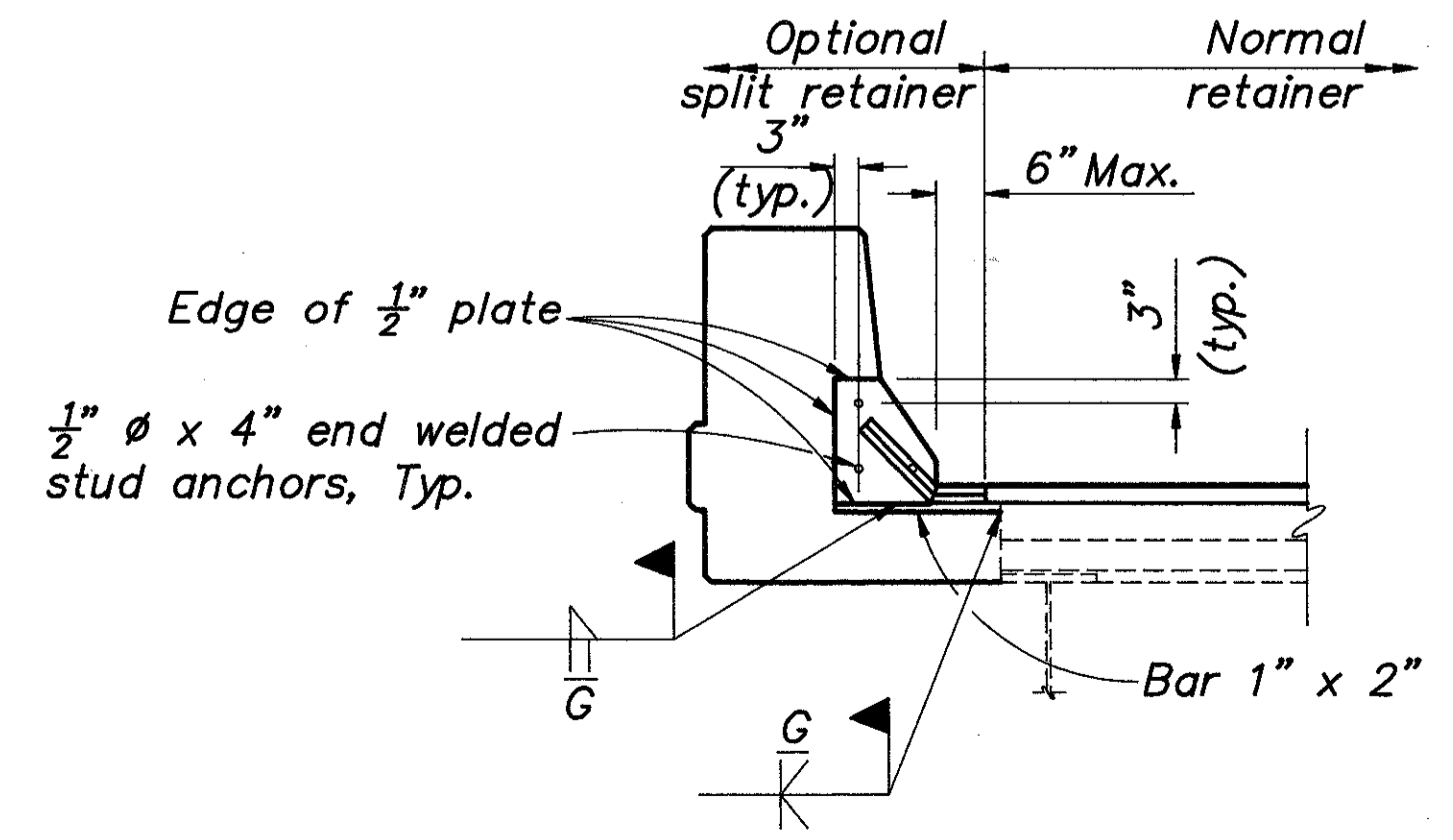
Denotes portion of structure to be removed.

LOCATION	STRIP SEAL GLAND MANUFACTURER		
	D.S. Brown Co.	Watson-Bowman & Acme Corp.	Structural Acc. Inc.
Pier 6	500L	SE-500	50SEQ

Gland shall be continuous with no splices or joints except at the longitudinal deck joint.



**SECTION B-B**

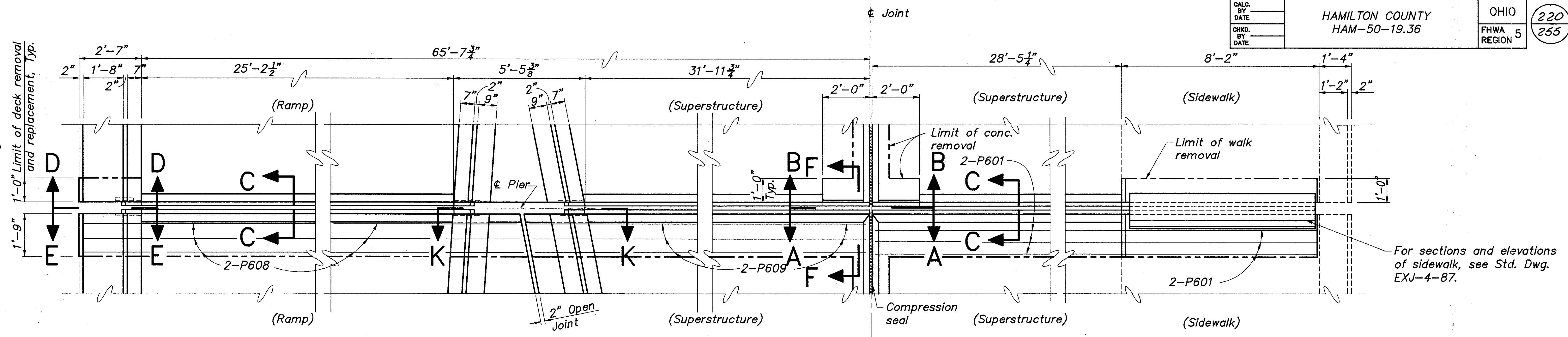


**SECTION D-D**

BALKE ENGINEERS 11/17  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

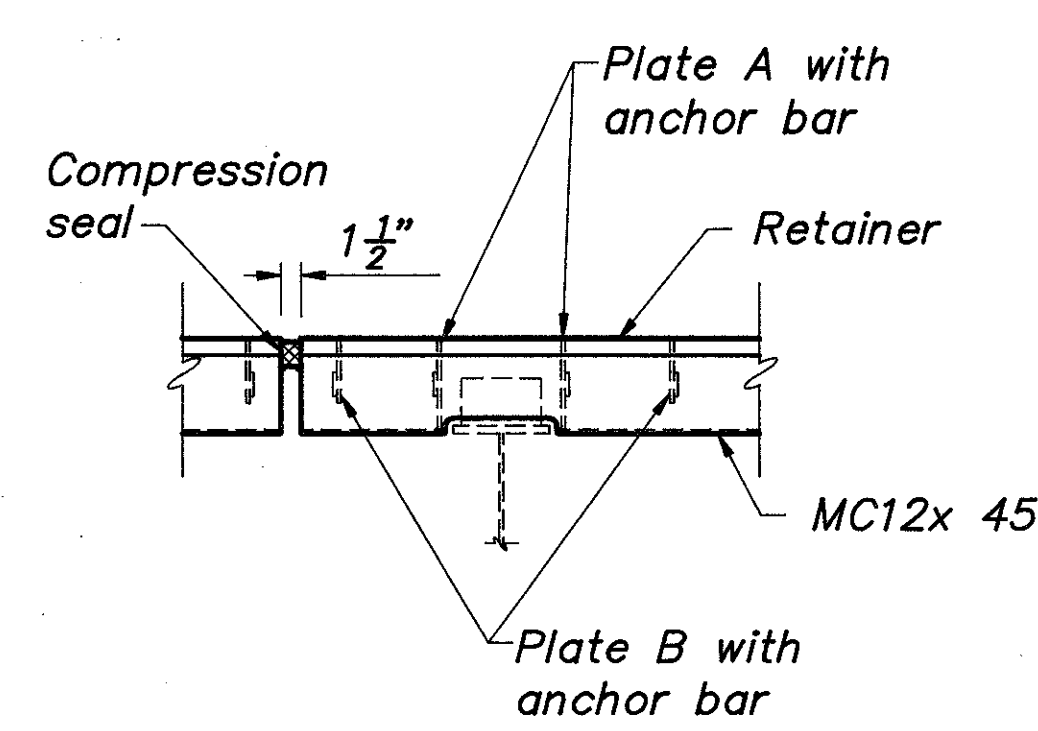
**EXPANSION JOINT DETAILS**  
BRIDGE NO. HAM-50-2007  
SIXTH STREET EXPRESSWAY  
UNDER FREEMAN AVENUE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	

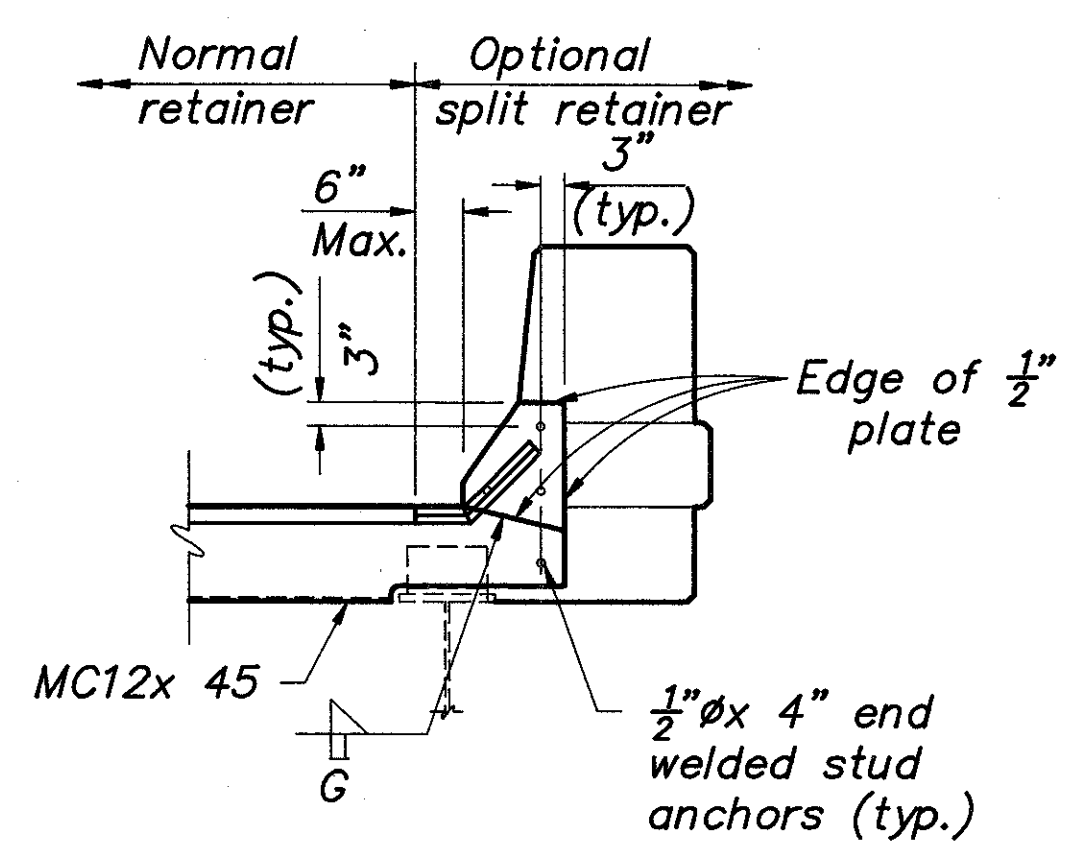


**PARTIAL PLAN (PIER 7)**

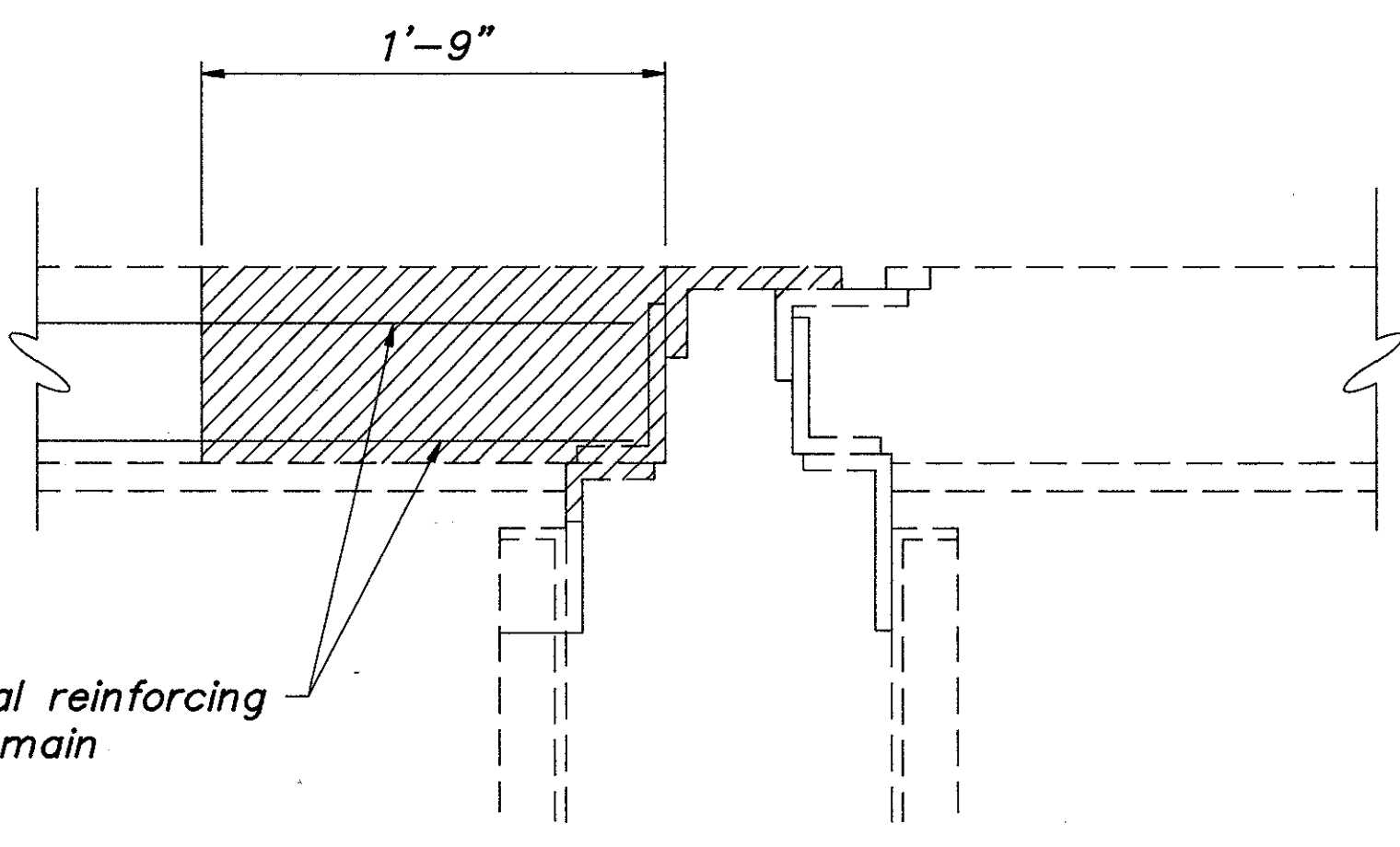
NOTE:  
Lap P608, P609 & P610 bars 2'-4" minimum.



**SECTION A-A**

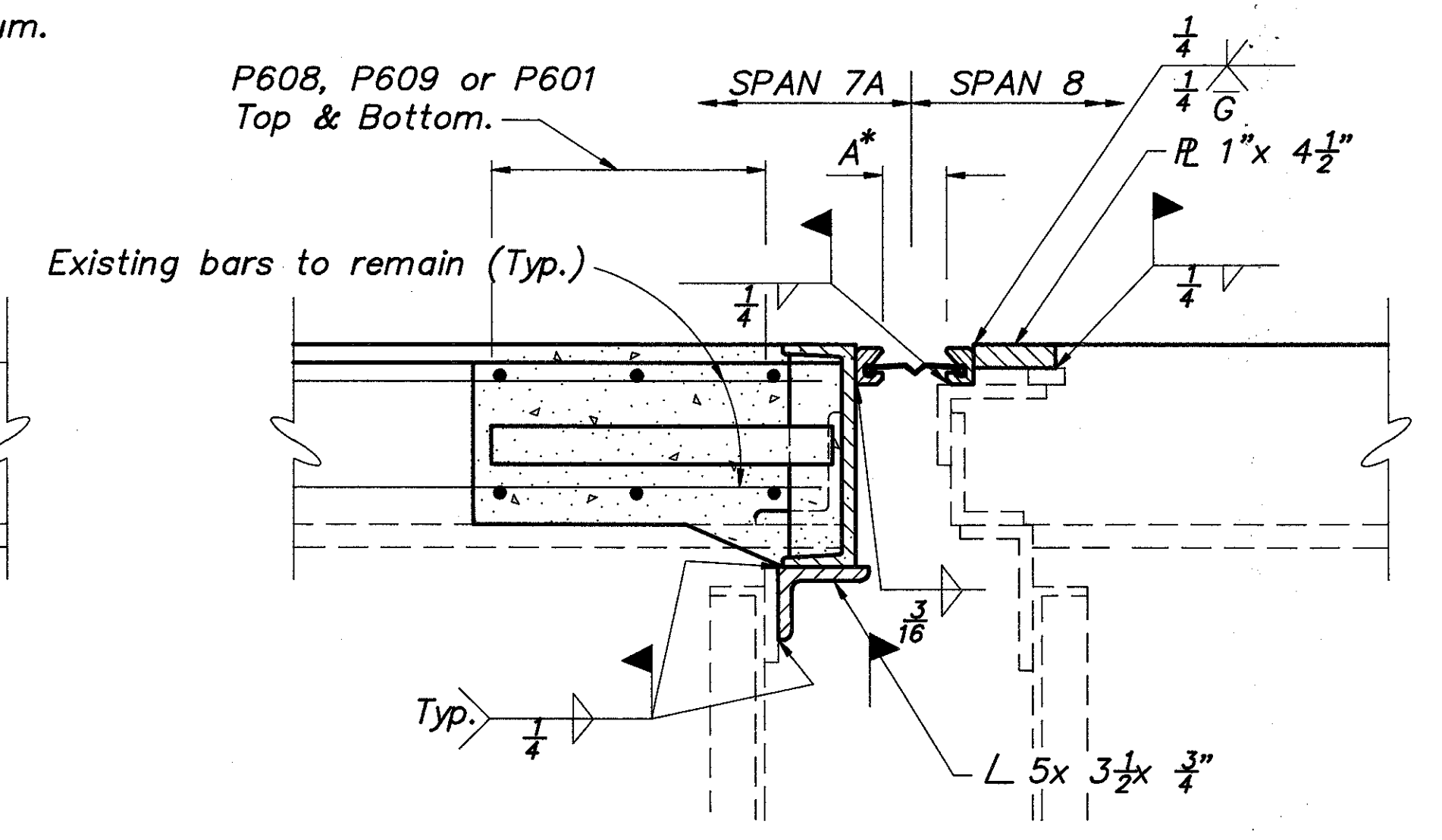


**SECTION E-E**



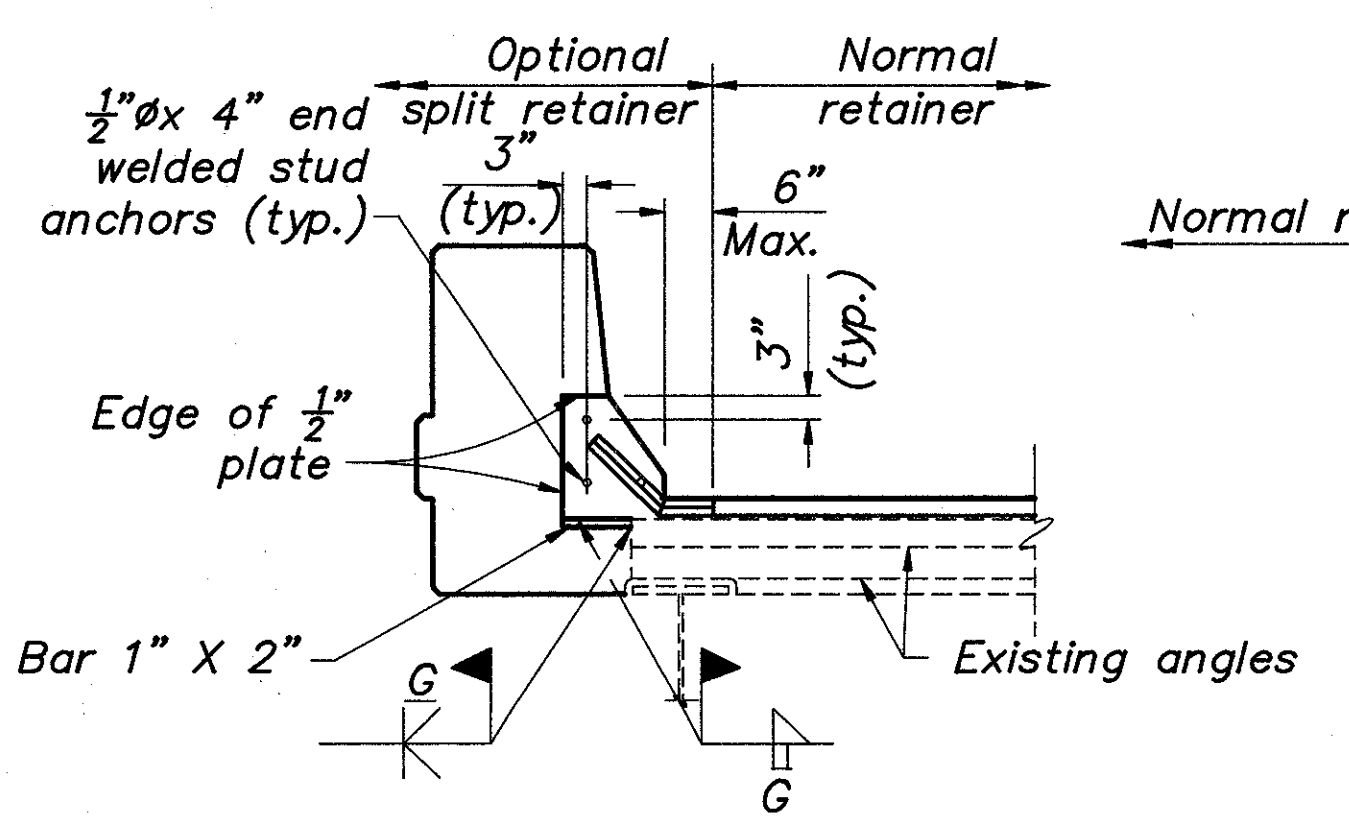
**SECTION C-C (SHOWING REMOVAL)**

Denotes portion of structure to be removed.

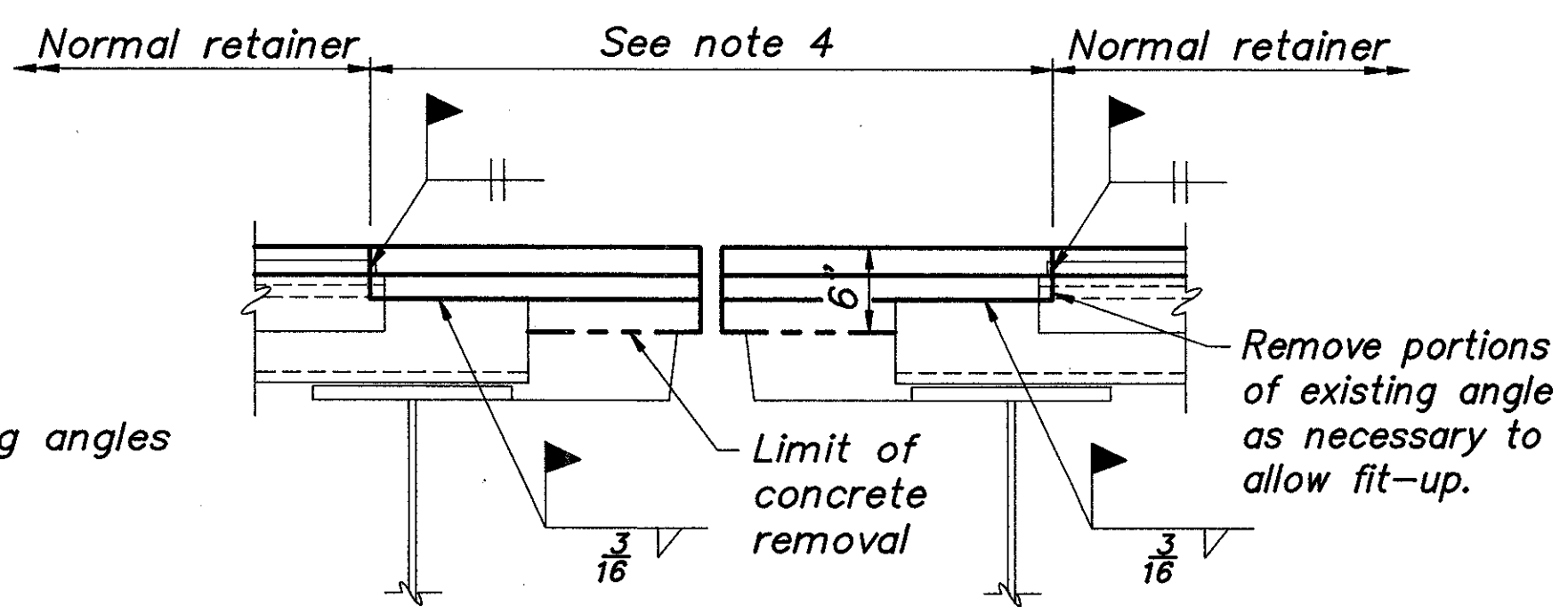


**SECTION C-C (PROPOSED)**

- NOTE:
- For additional details on expansion joint, see Std. Drawing EXJ-4-87.
  - All longitudinal reinforcing deck steel is to remain.
  - For section K-K, see sheet 14/17.
  - Typical limit of steel retainer Type SSCM from D.S. Brown, Type M from Watson-Bowman & Acme, or approved equal.
  - For section F-F, see sheet 11/17.



**SECTION D-D**



**SECTION B-B**

* OPENING WIDTH	PIER 7
9"	DIM A
90	3 3/8"
80	3 1/2"
70	3 5/8"
60	3 3/4"
50	3 7/8"
40	4"
30	4 1/8"

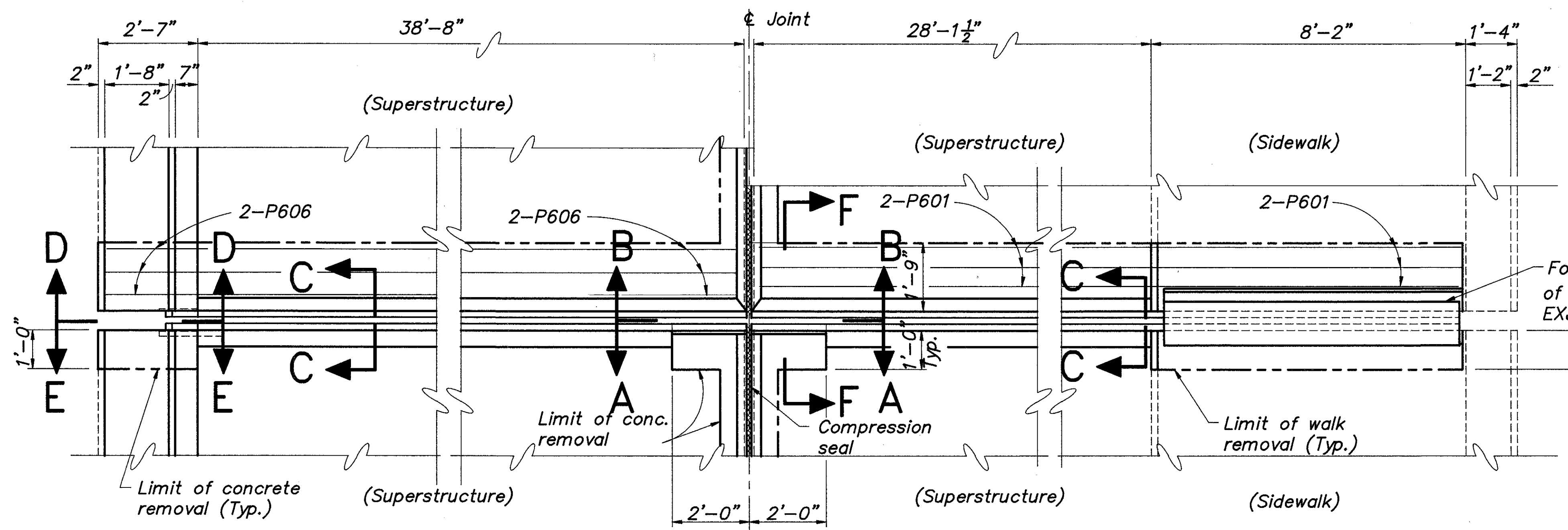
LOCATION	STRIP SEAL GLAND		
	MANUFACTURER		
Pier 7	D.S. Brown Co.	Watson-Bowman & Acme Corp.	Structural Acc. Inc.
	500L	SE-500	50SEQ

Gland shall be continuous with no splices or joints except at the longitudinal deck joint.

BALKE ENGINEERS 12/17  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

**EXPANSION JOINT DETAILS**  
BRIDGE NO. HAM-50-2007  
SIXTH STREET EXPRESSWAY  
UNDER FREEMAN AVENUE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	

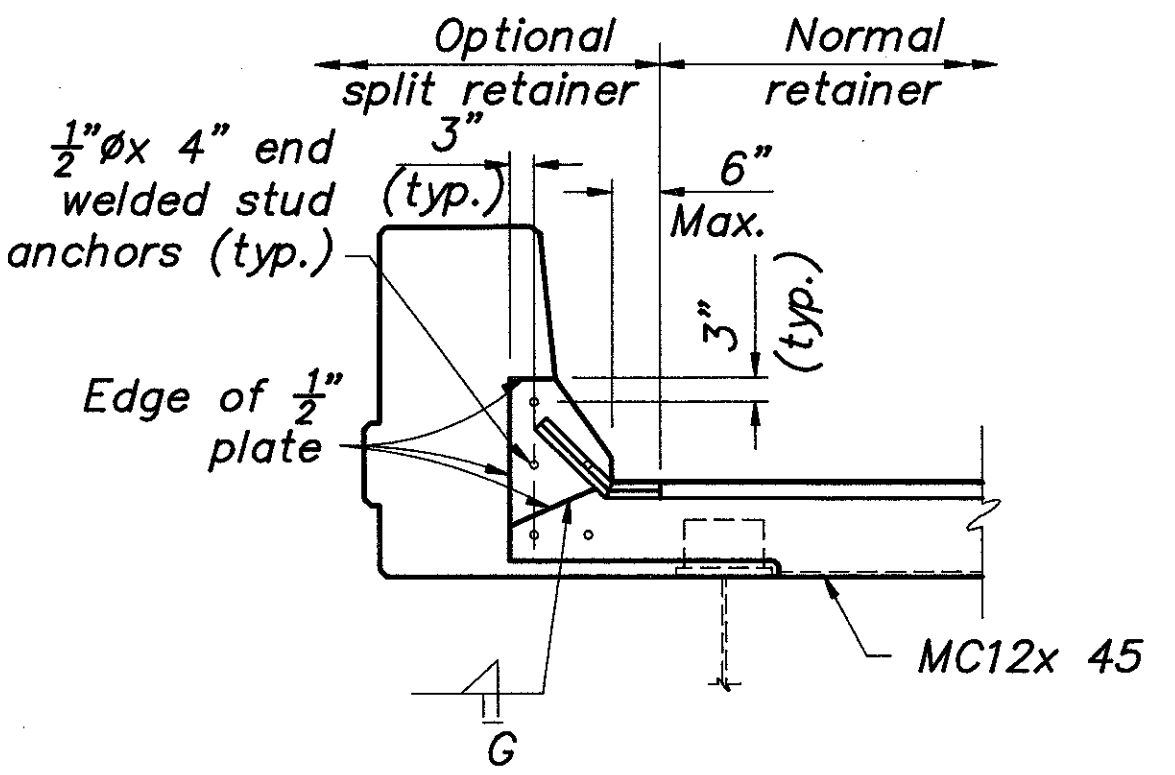


**PARTIAL PLAN (PIER 8)**

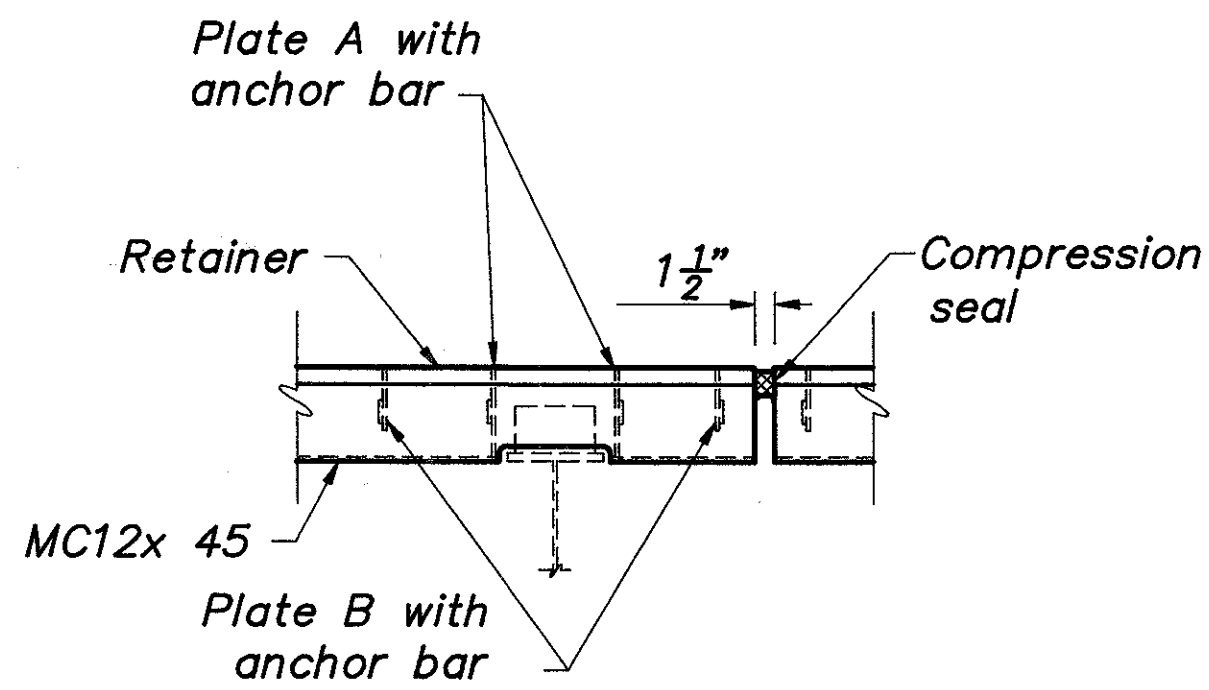
NOTE: Lap P601 & P606 bars 2'-4" minimum.

\* OPENING WIDTH

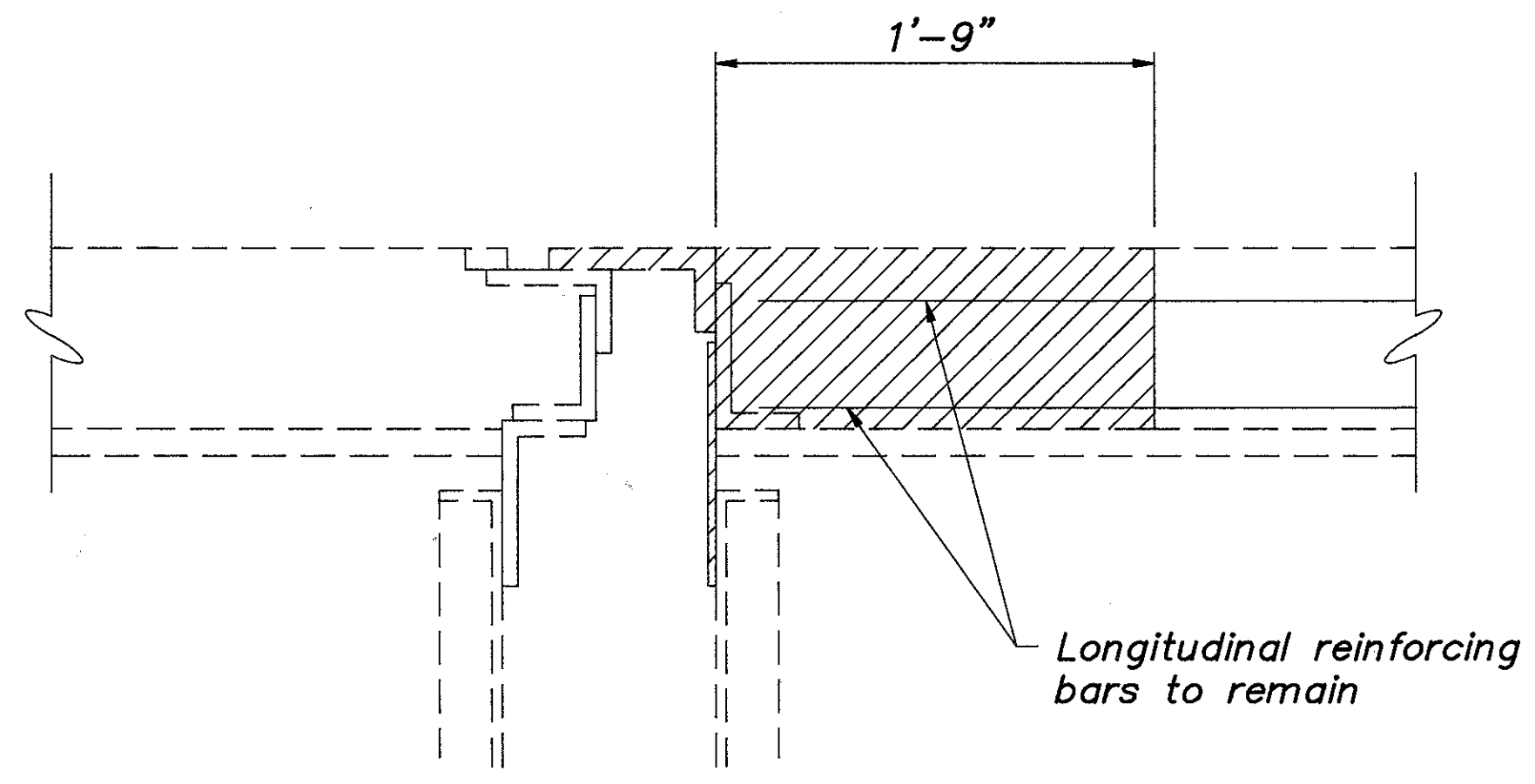
PIER 8	DIM A
90	3 1/2"
80	3 5/8"
70	3 3/4"
60	3 7/8"
50	4"
40	4 1/8"
30	4 1/4"



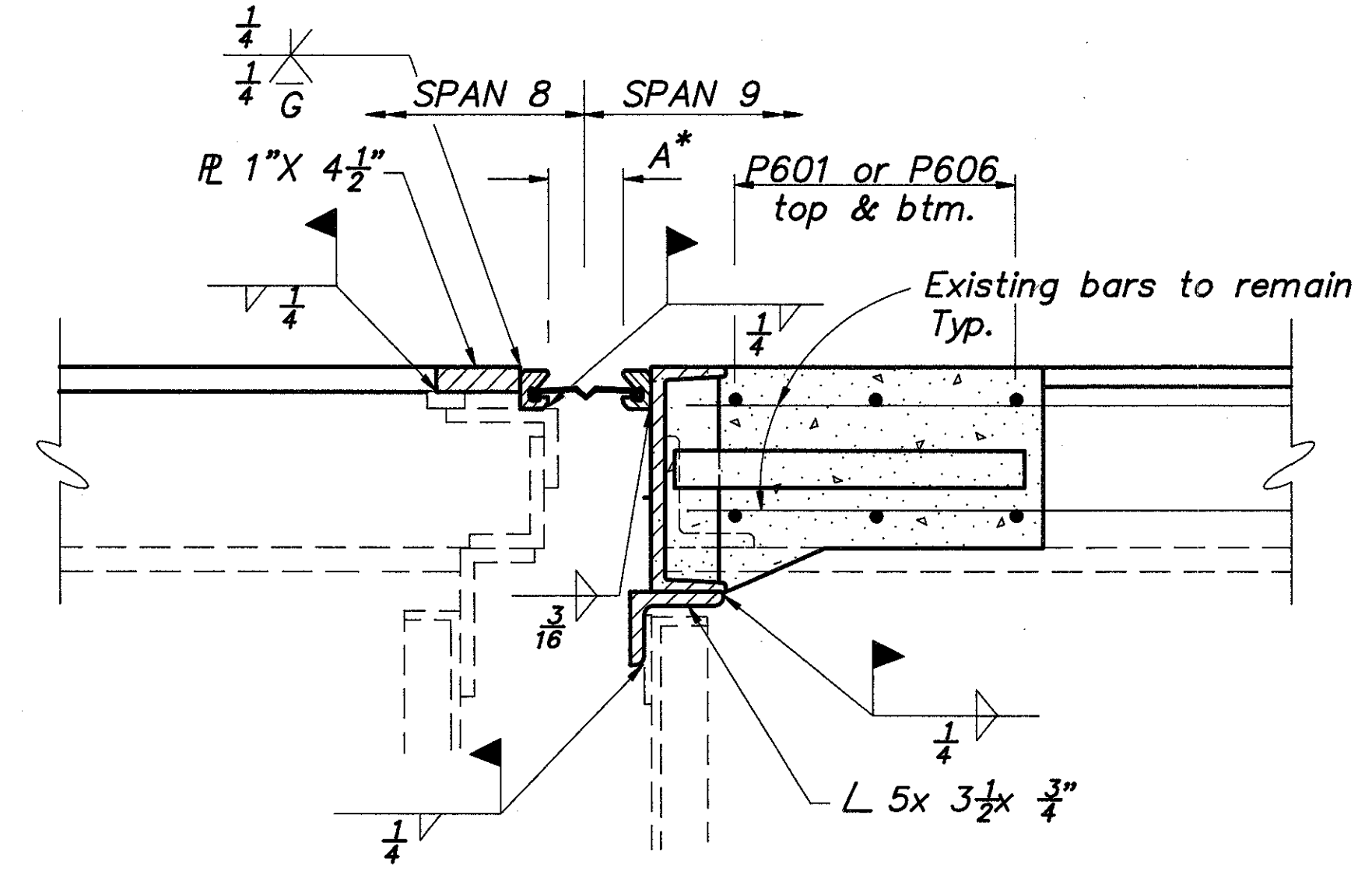
**SECTION D-D**



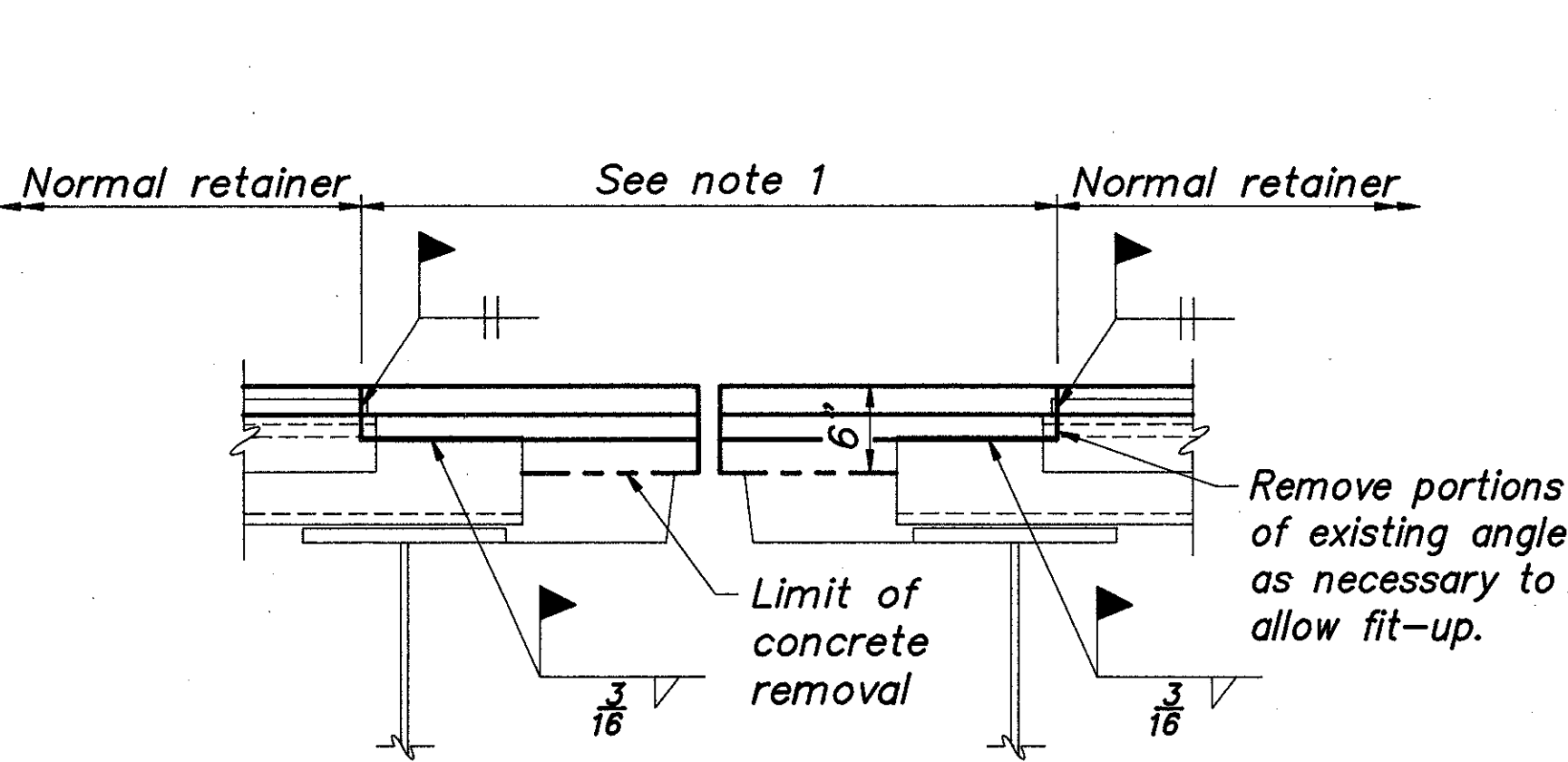
**SECTION B-B**



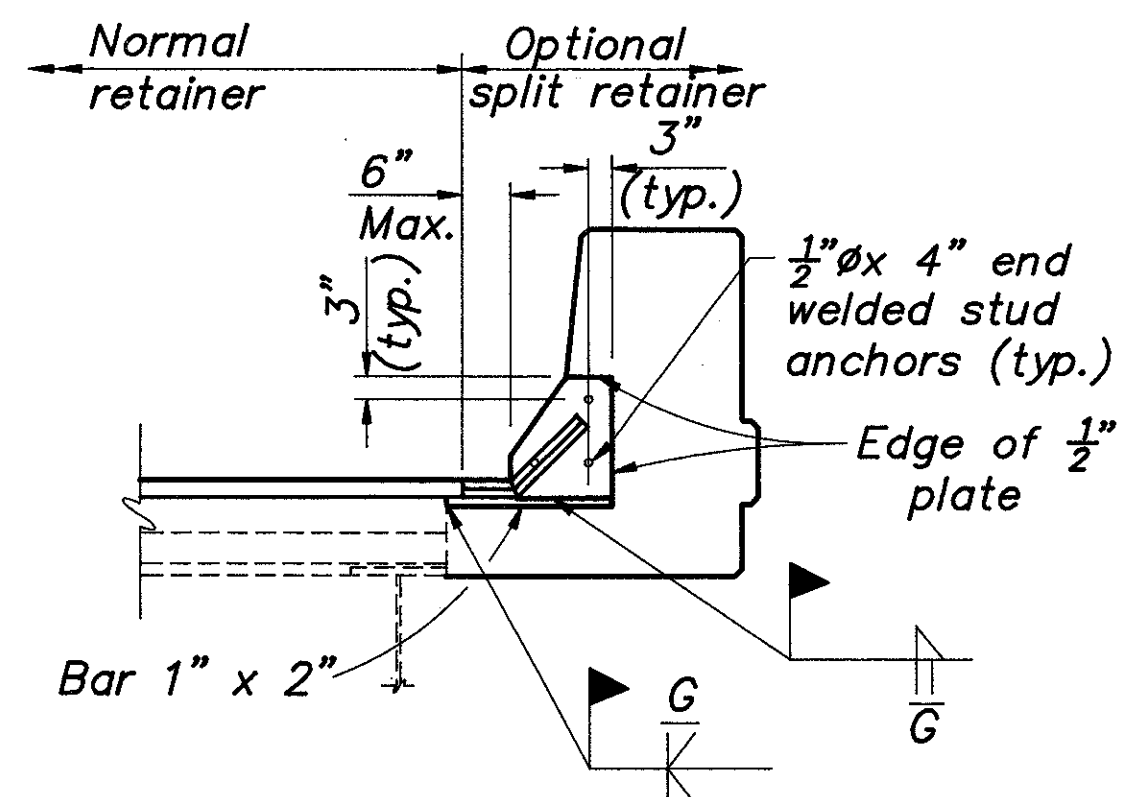
**SECTION C-C (SHOWING REMOVAL)**



**SECTION C-C (PROPOSED)**



**SECTION A-A**



**SECTION E-E**

NOTE:  
 1. Typical limit of steel retainer type SSCM from D.S. Brown, Type M from Watson-Bowman & Acme, or approved equal.  
 2. For additional details on expansion joint, see Std. Drawing EXJ-4-87.  
 3. For section F-F, see sheet 11/17.

Denotes portion of structure to be removed.

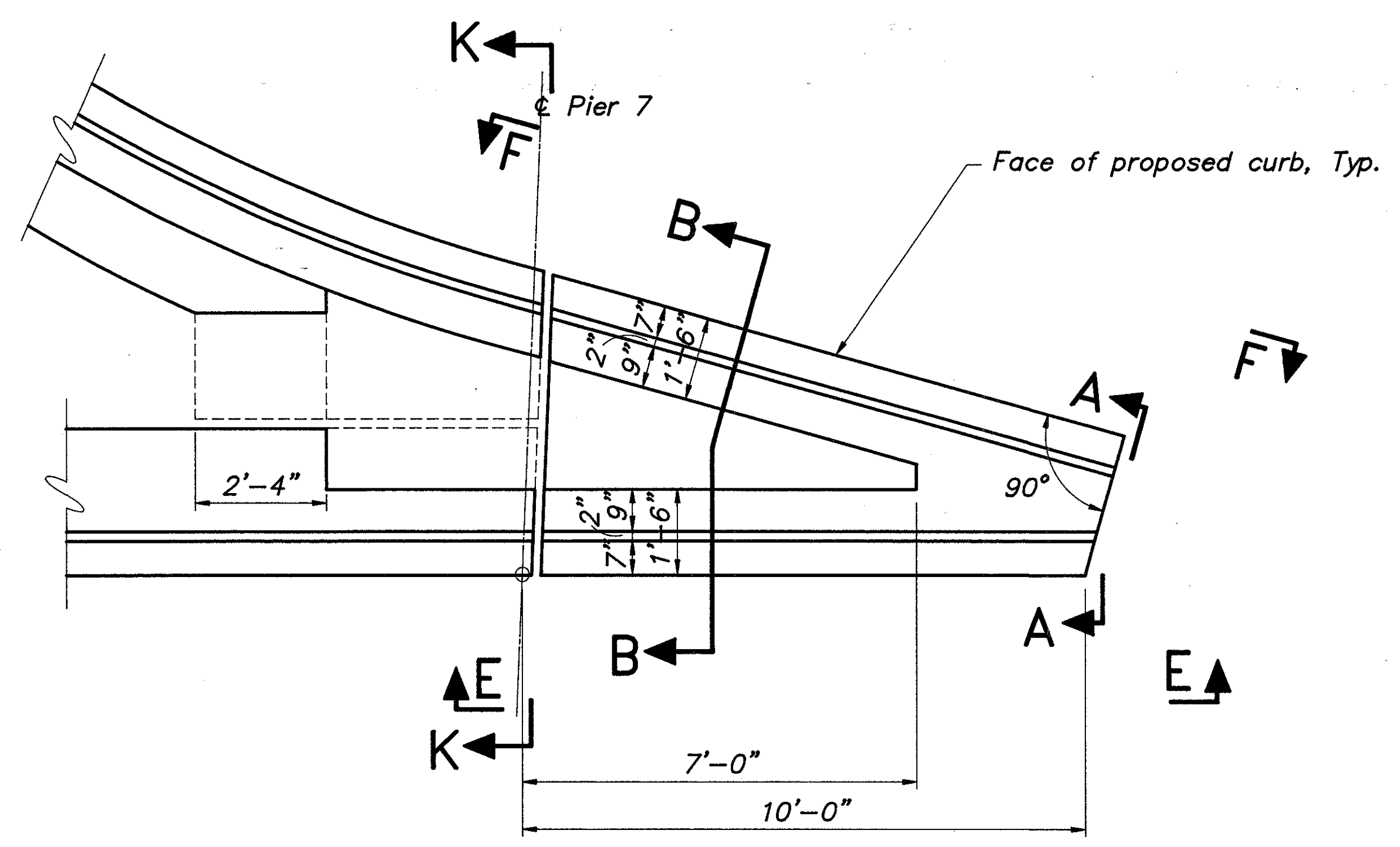
LOCATION	STRIP SEAL GLAND MANUFACTURER		
	D.S. Brown Co.	Watson-Bowman & Acme Corp.	Structural Acc. Inc.
Pier 8	500L	SE-500	50SEQ

Gland shall be continuous with no splices or joints except at the longitudinal deck joint.

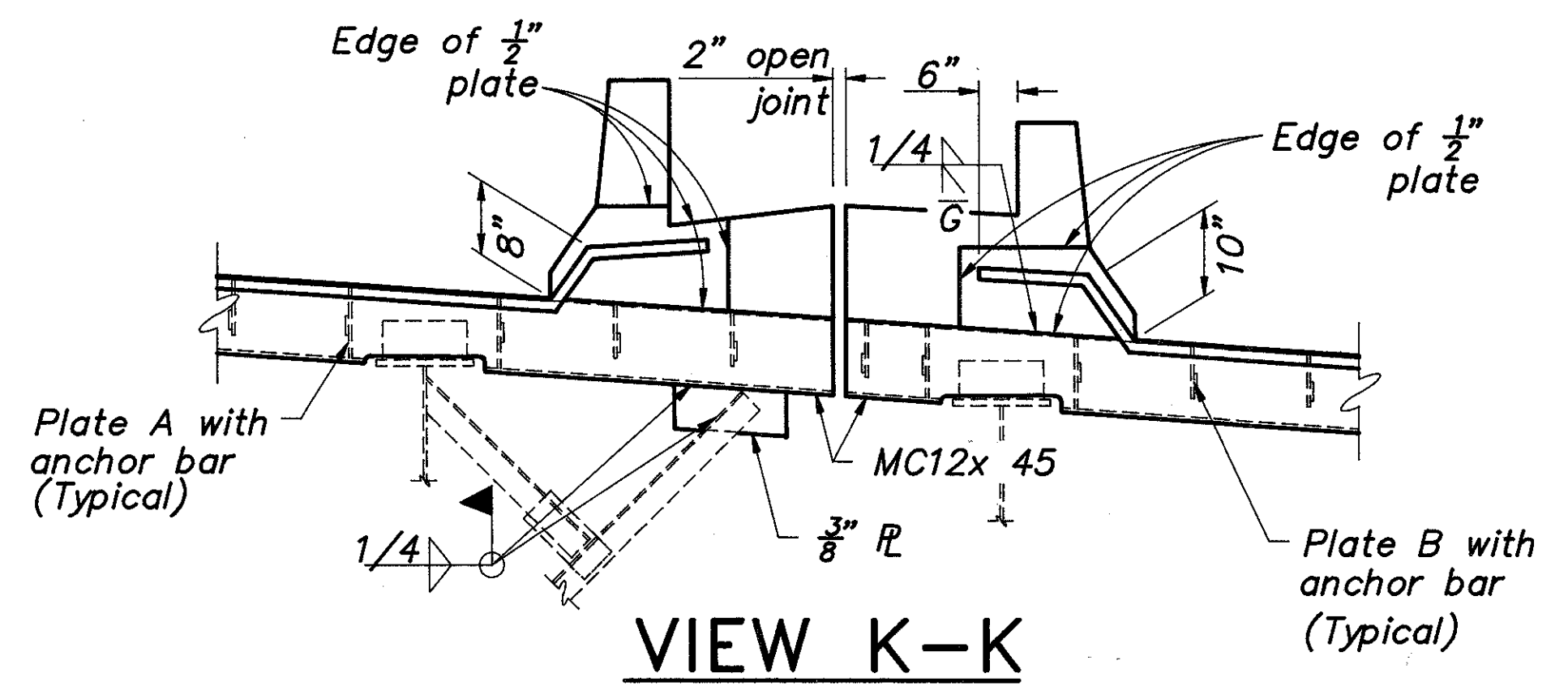
BALKE ENGINEERS 13/17  
 1848 SUMMIT ROAD  
 CINCINNATI, OHIO 45237

**EXPANSION JOINT DETAILS**  
 BRIDGE NO. HAM-50-2007  
 SIXTH STREET EXPRESSWAY  
 UNDER FREEMAN AVENUE

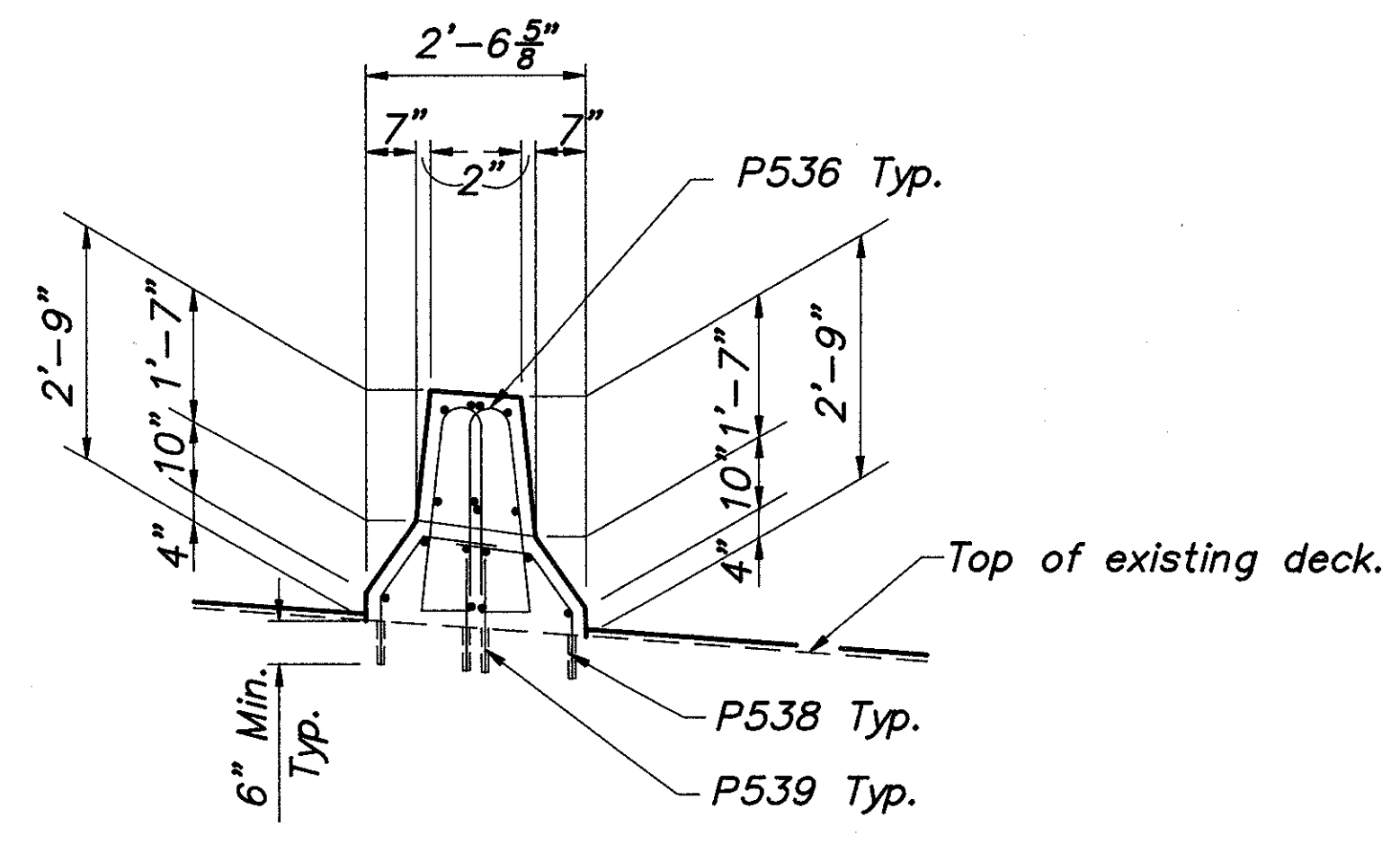
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	



**DETAIL R**

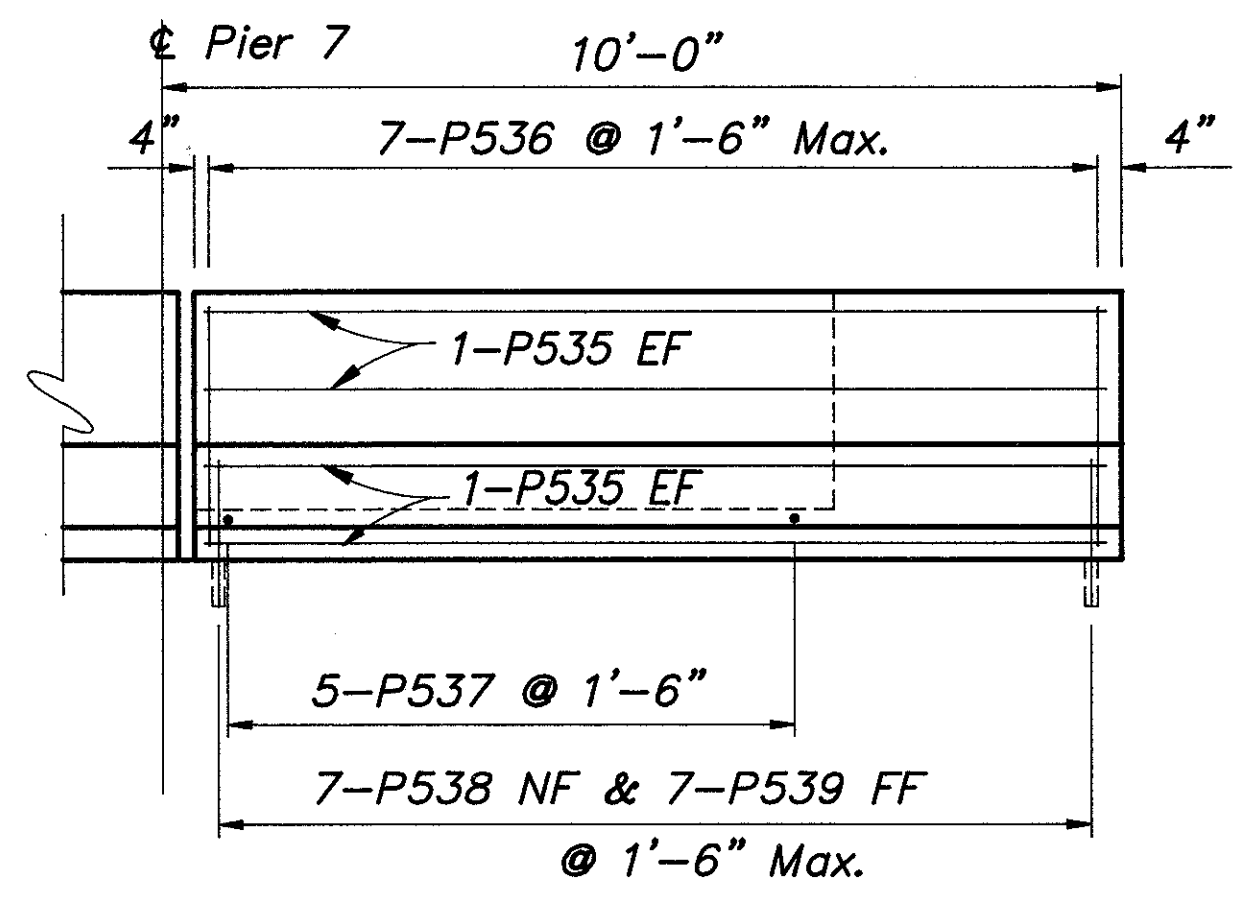


**VIEW K-K**

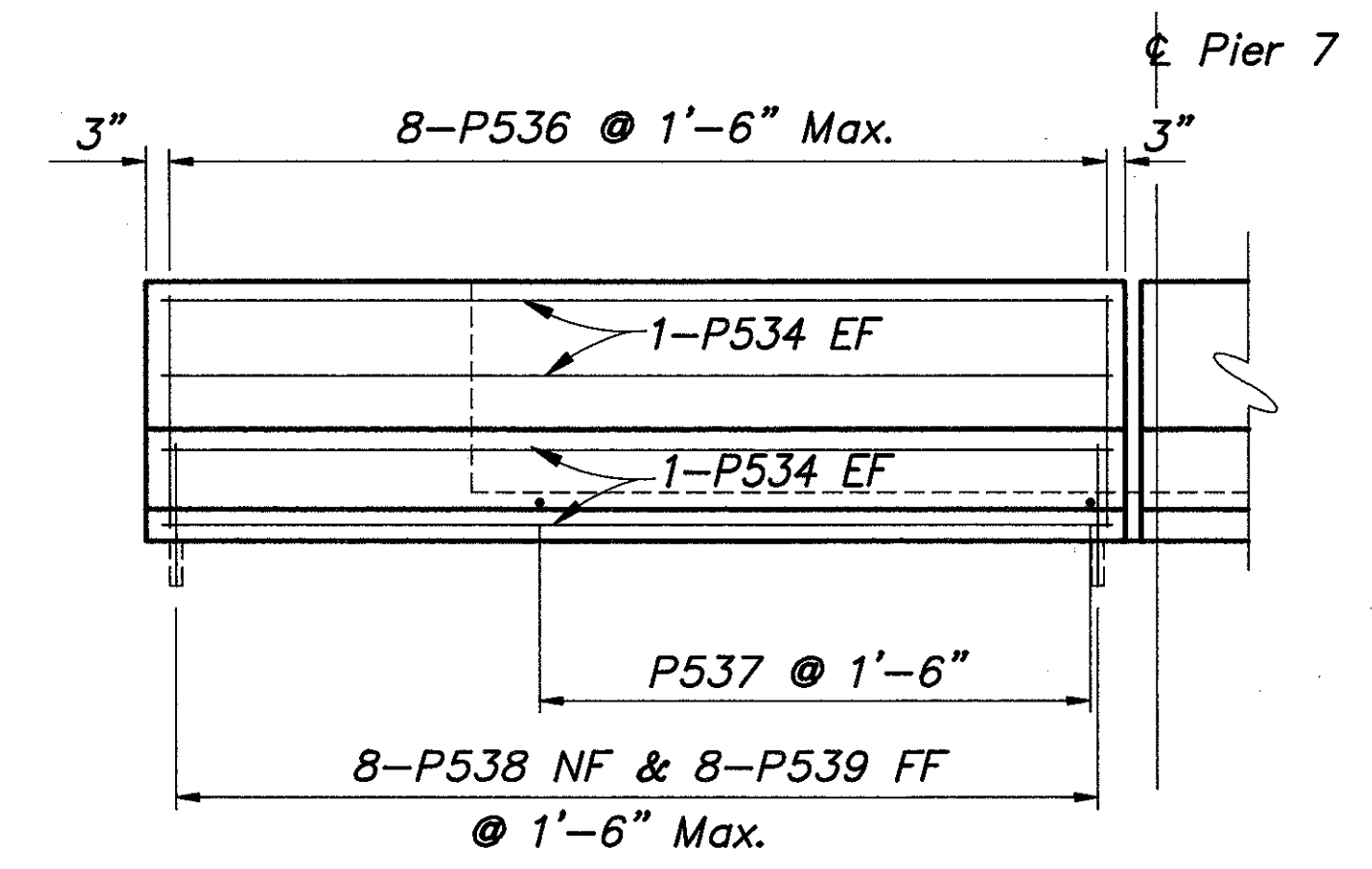


**VIEW A-A**

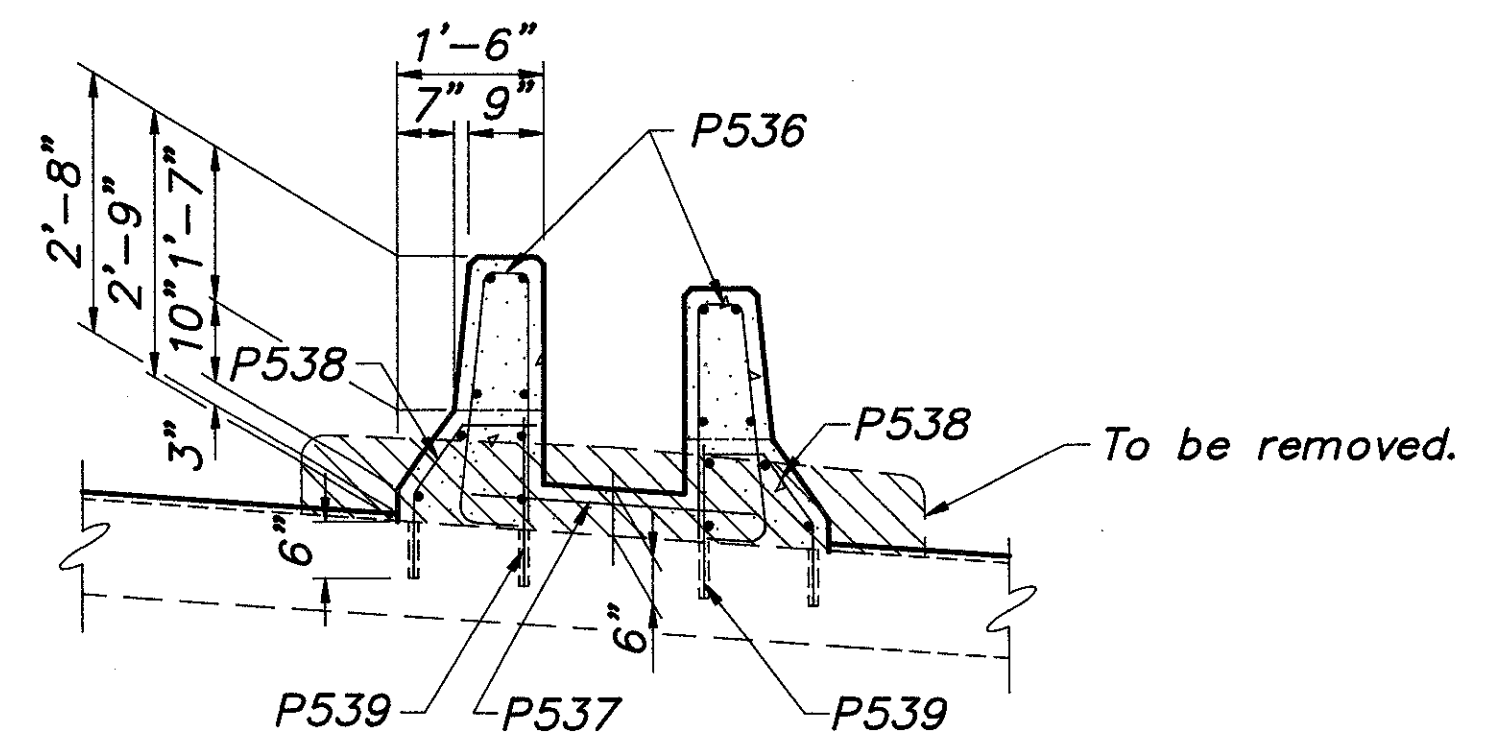
All horizontal bars are P534 or P535.



**VIEW E-E**



**VIEW F-F**



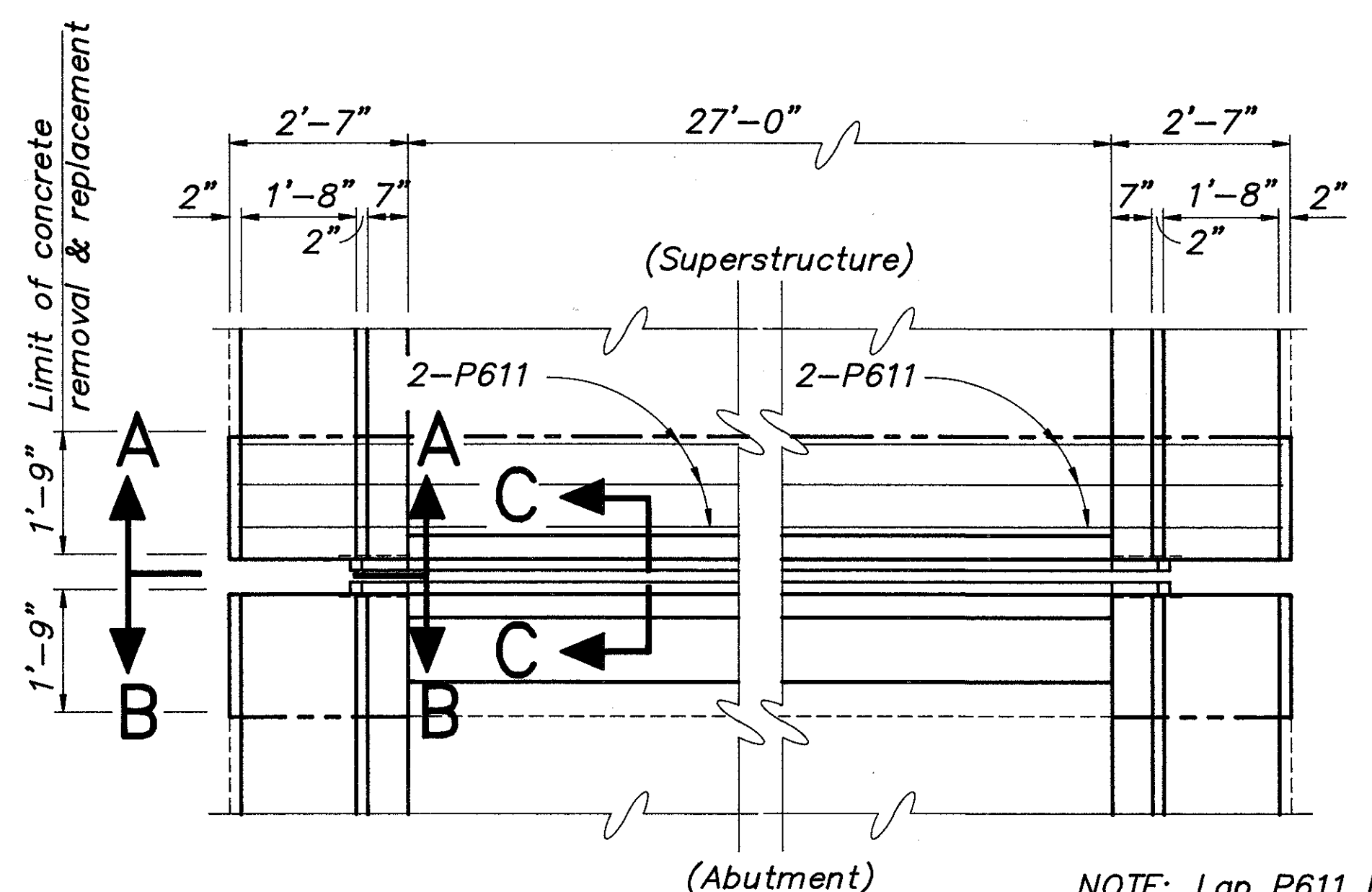
**SECTION B-B**

All horizontal bars are P534 or P535.

BALKE ENGINEERS 14/17  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

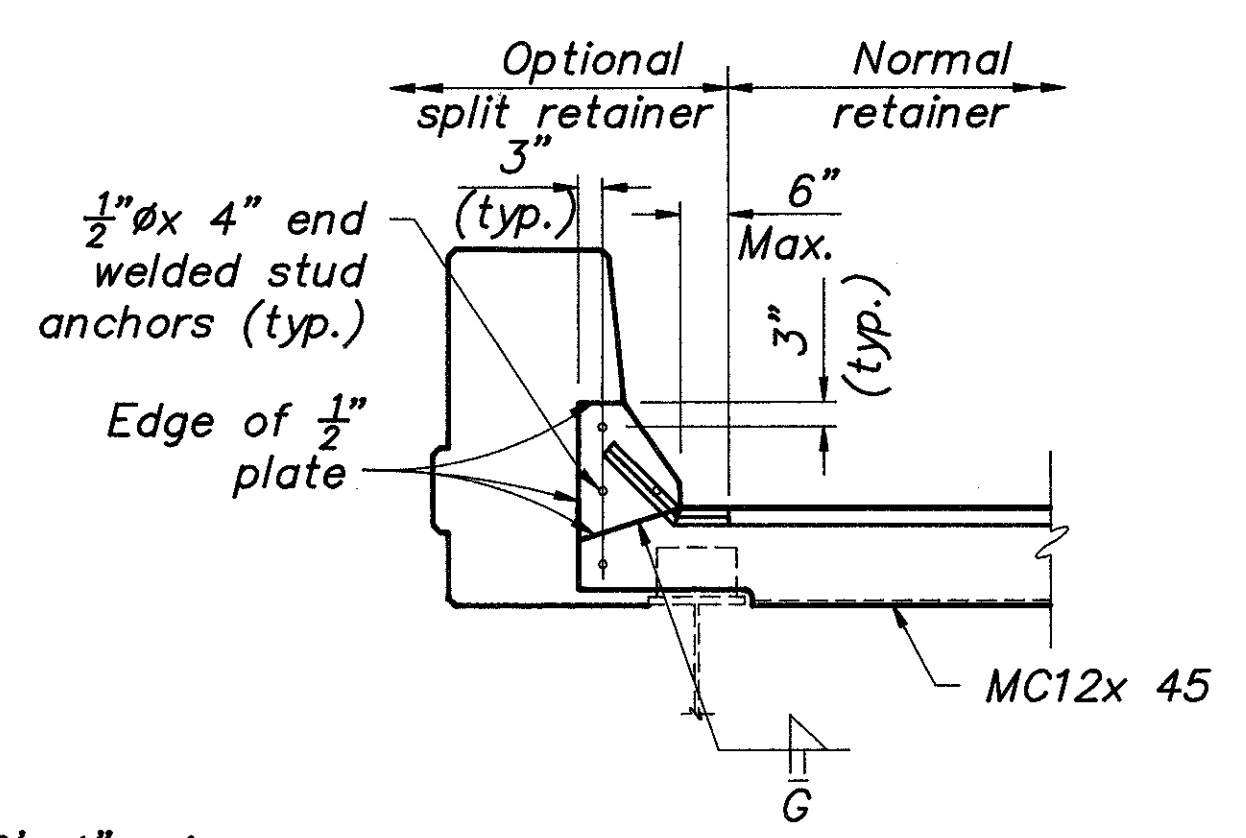
**EXPANSION JOINT DETAILS**  
BRIDGE NO. HAM-50-2007  
SIXTH STREET EXPRESSWAY  
UNDER FREEMAN AVENUE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	

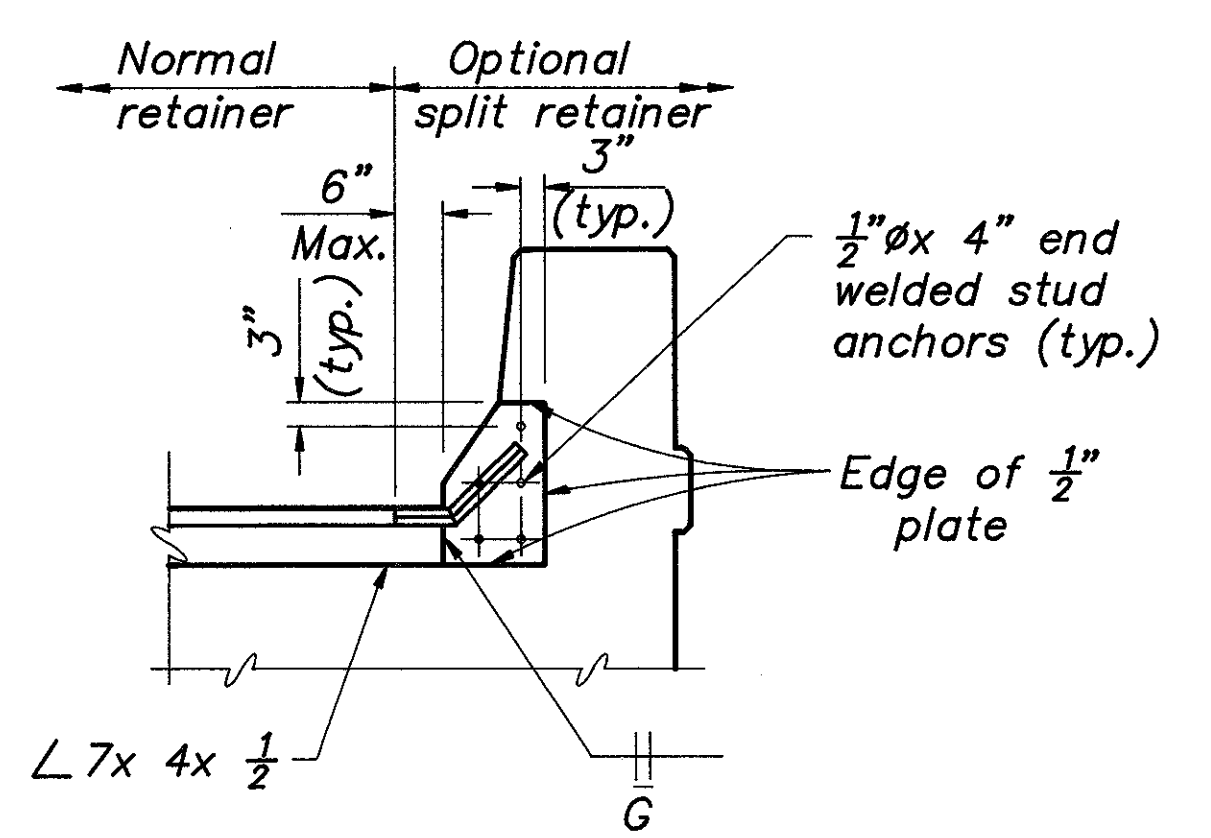


**PARTIAL PLAN (WEST ABUT.)  
RAMP**

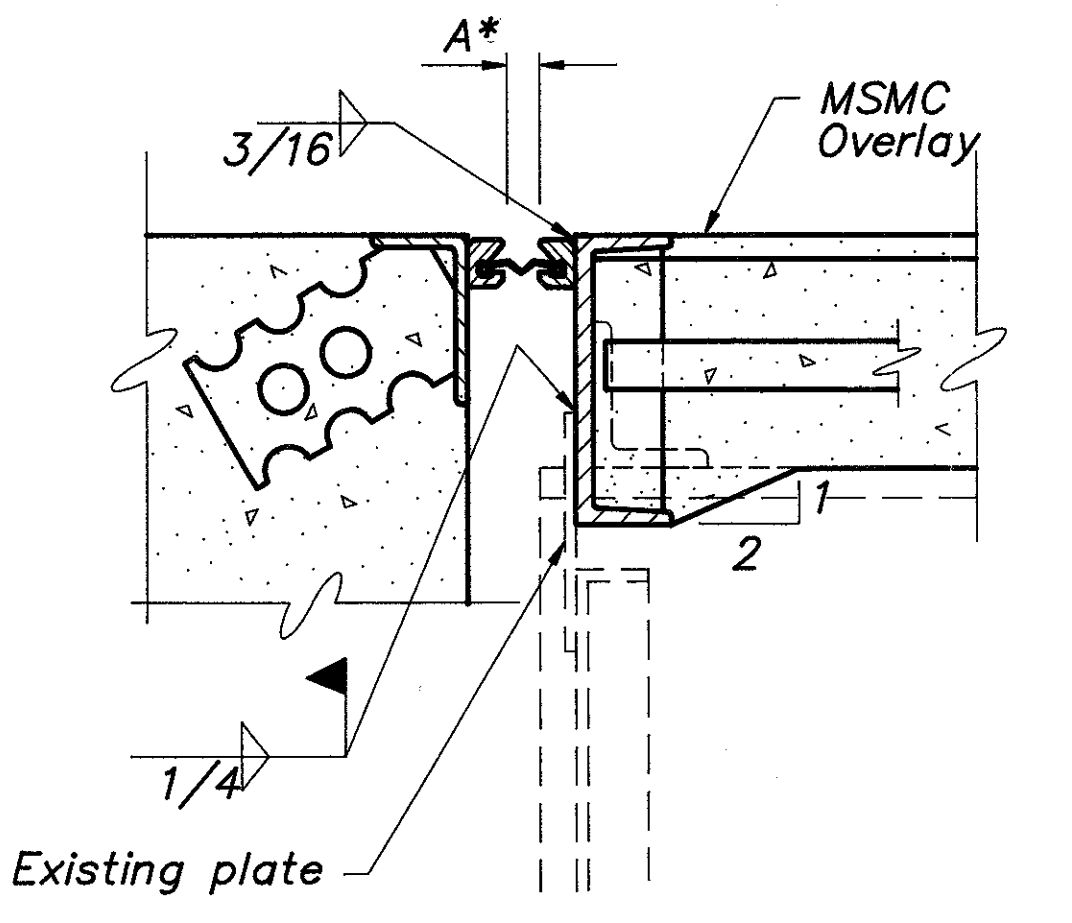
NOTE: Lap P611 bars 2'-4" min.



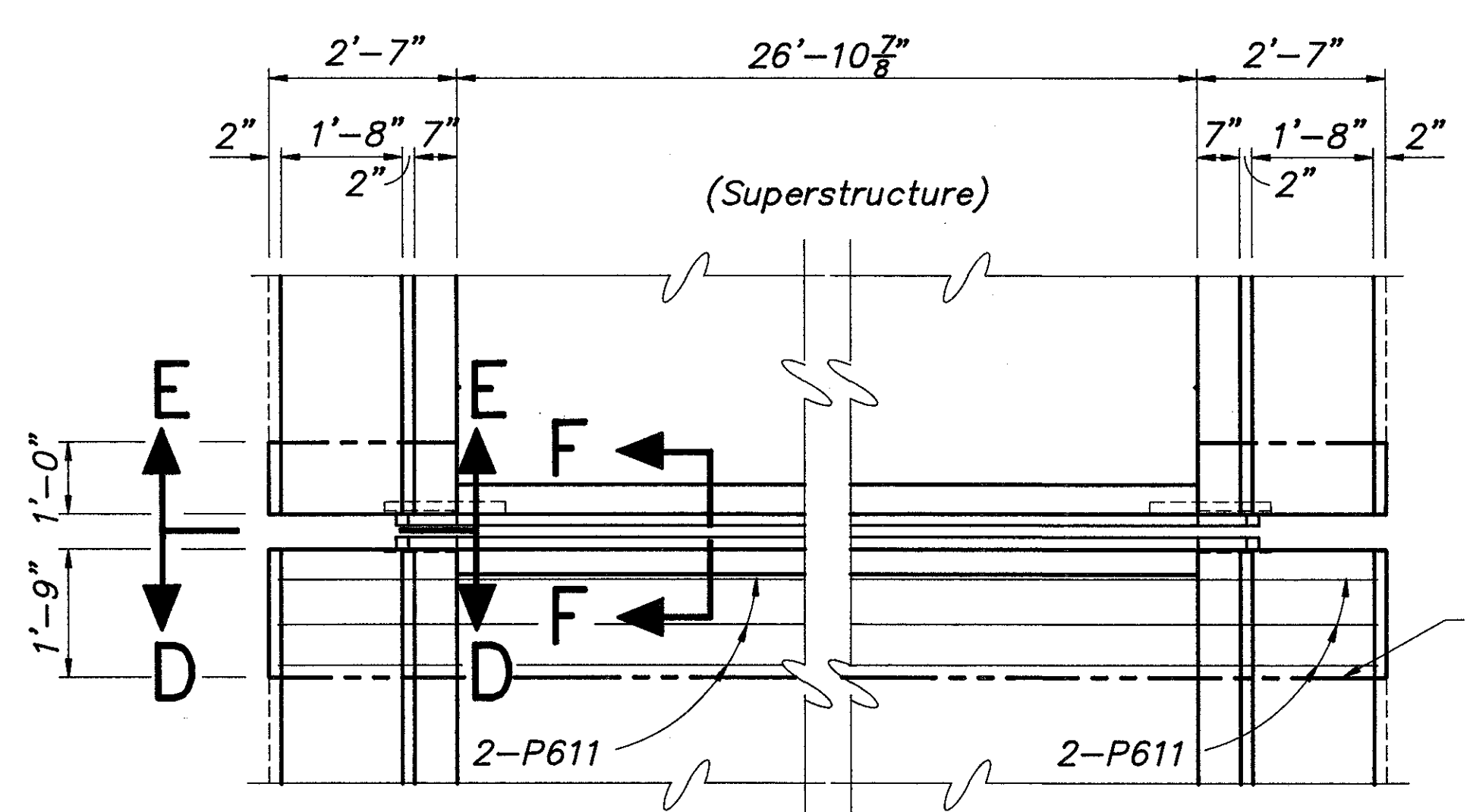
**SECTION A-A**



**SECTION B-B**

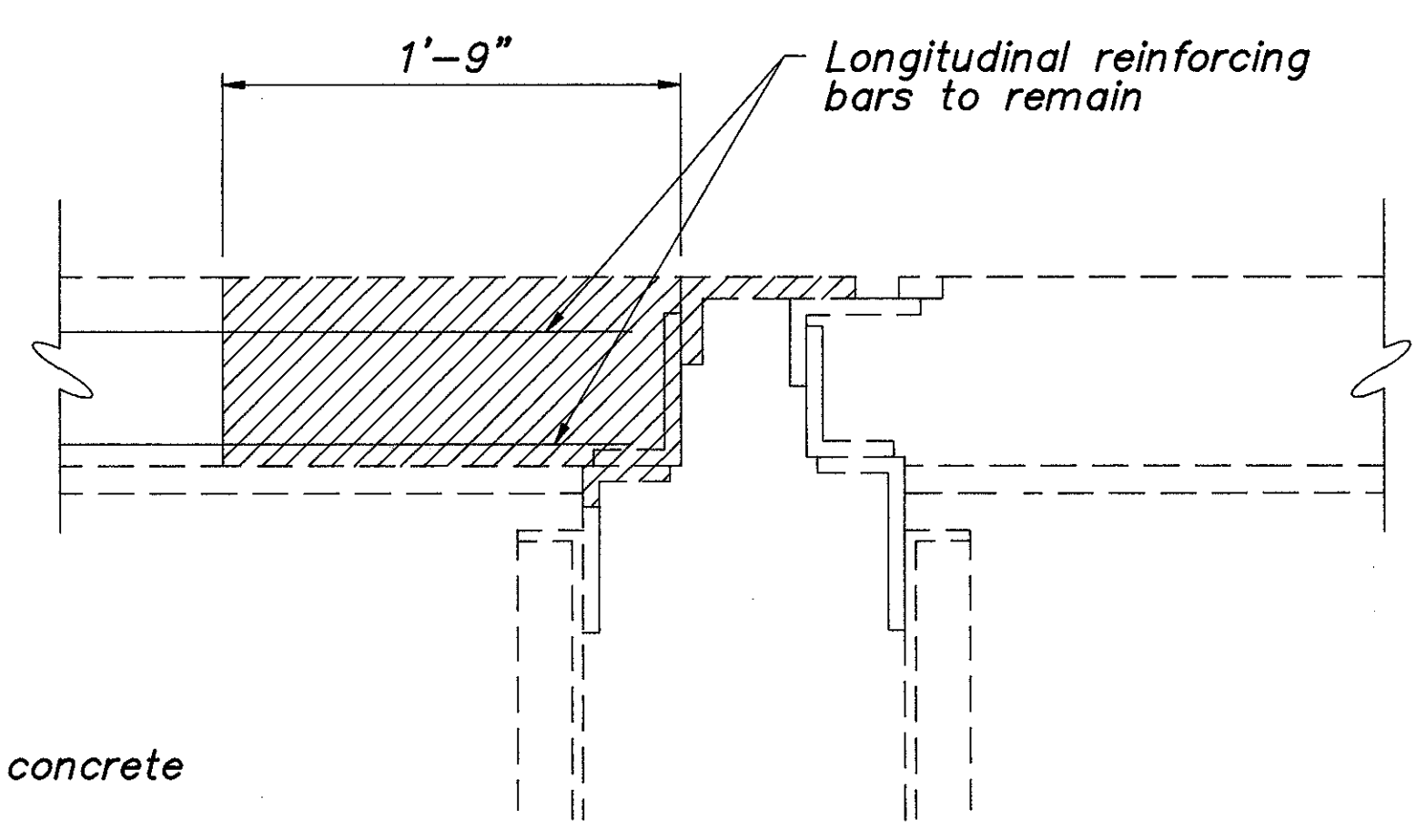


**SECTION C-C**

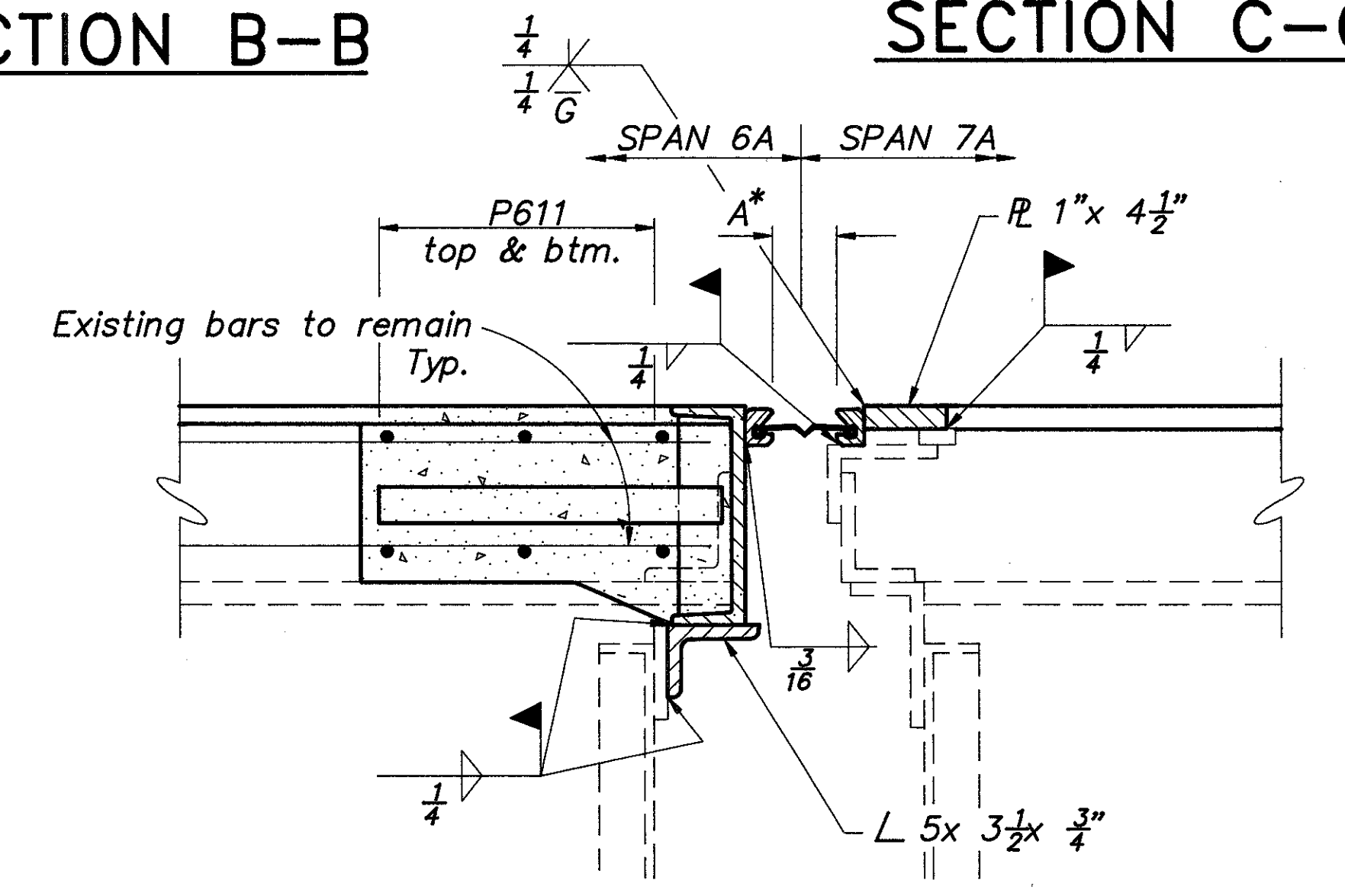


**PARTIAL PLAN (PIER 6A)  
RAMP**

NOTE: Lap P611 bars 2'-4" min.



**SECTION F-F  
(SHOWING REMOVAL)**

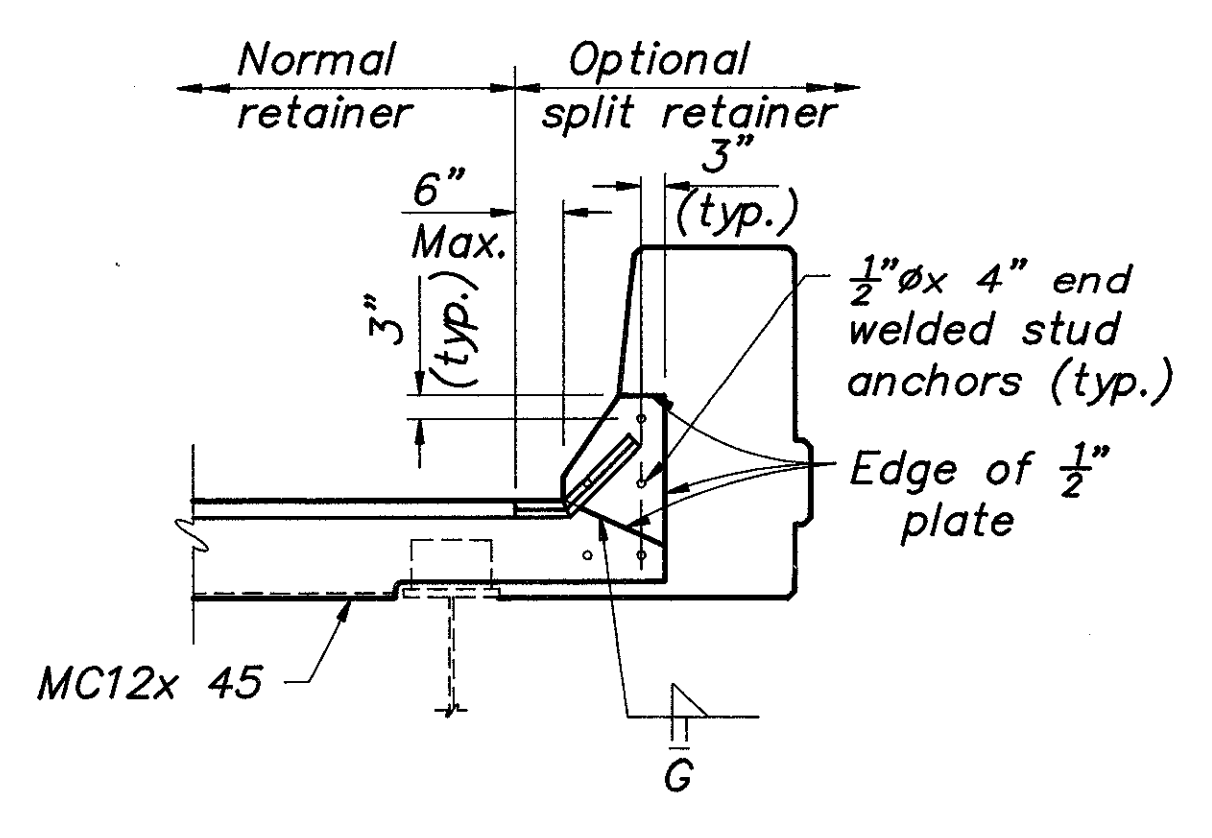


**SECTION F-F  
(PROPOSED)**

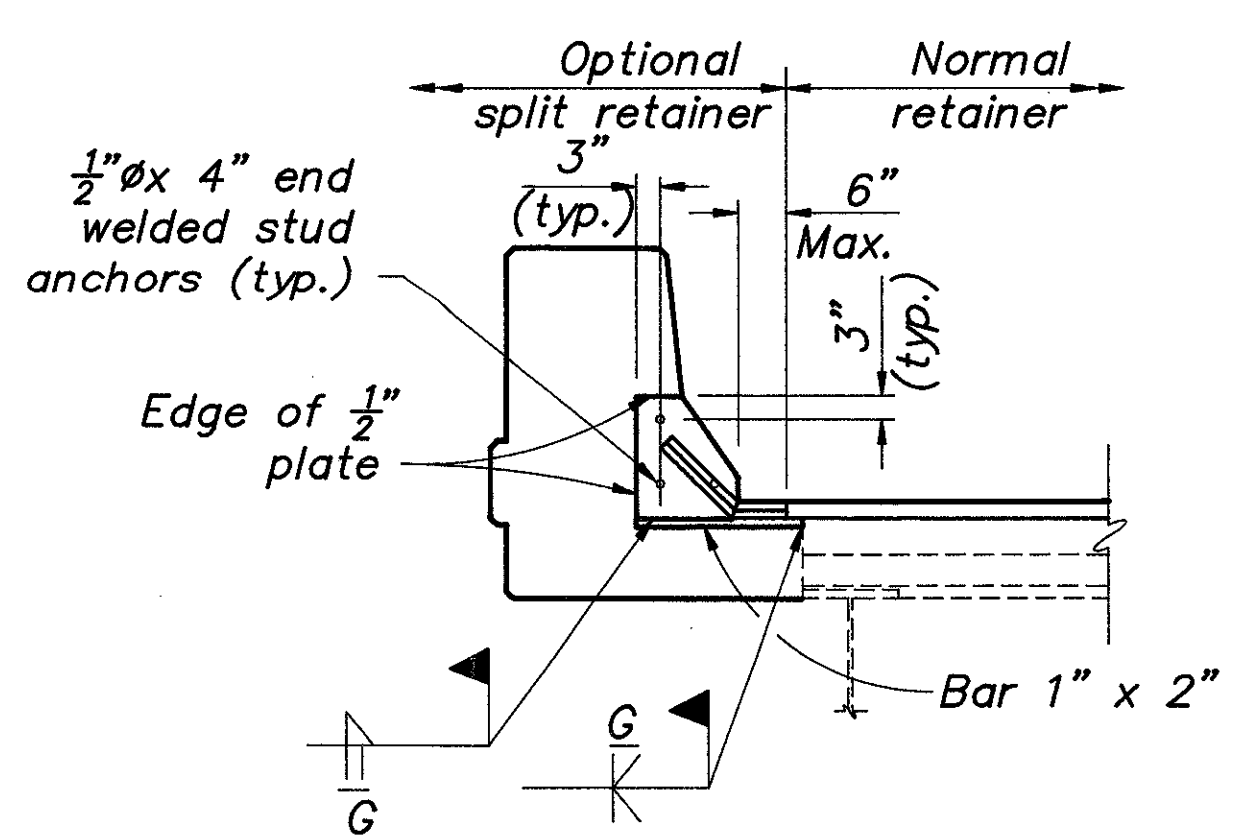
Denotes portion of structure to be removed.

LOCATION	STRIP SEAL GLAND		
	MANUFACTURER		
West abut.	D.S. Brown Co. 300L	Watson-Bowman & Acme Corp. SE-300	Structural Acc. Inc. -
Pier 6A	500L	SE-500	50SEQ

Gland shall be provided in continuous strip and inserted after all stages of extrusion installation are complete.



**SECTION D-D**

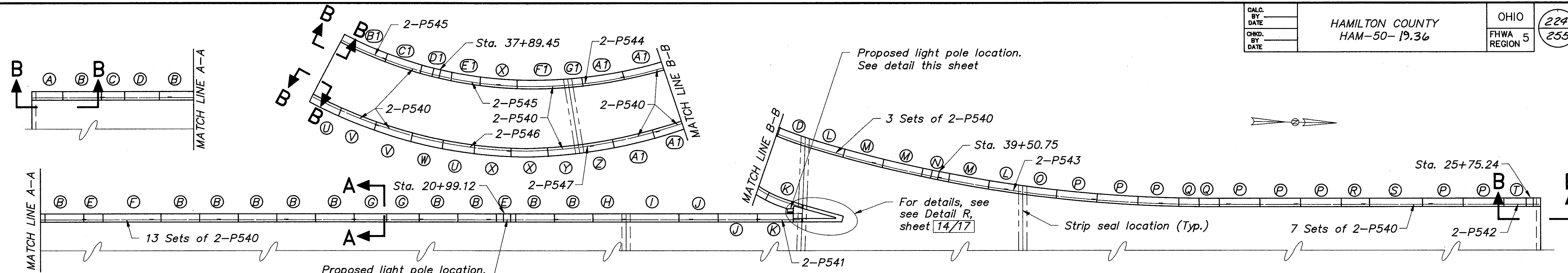


**SECTION E-E**

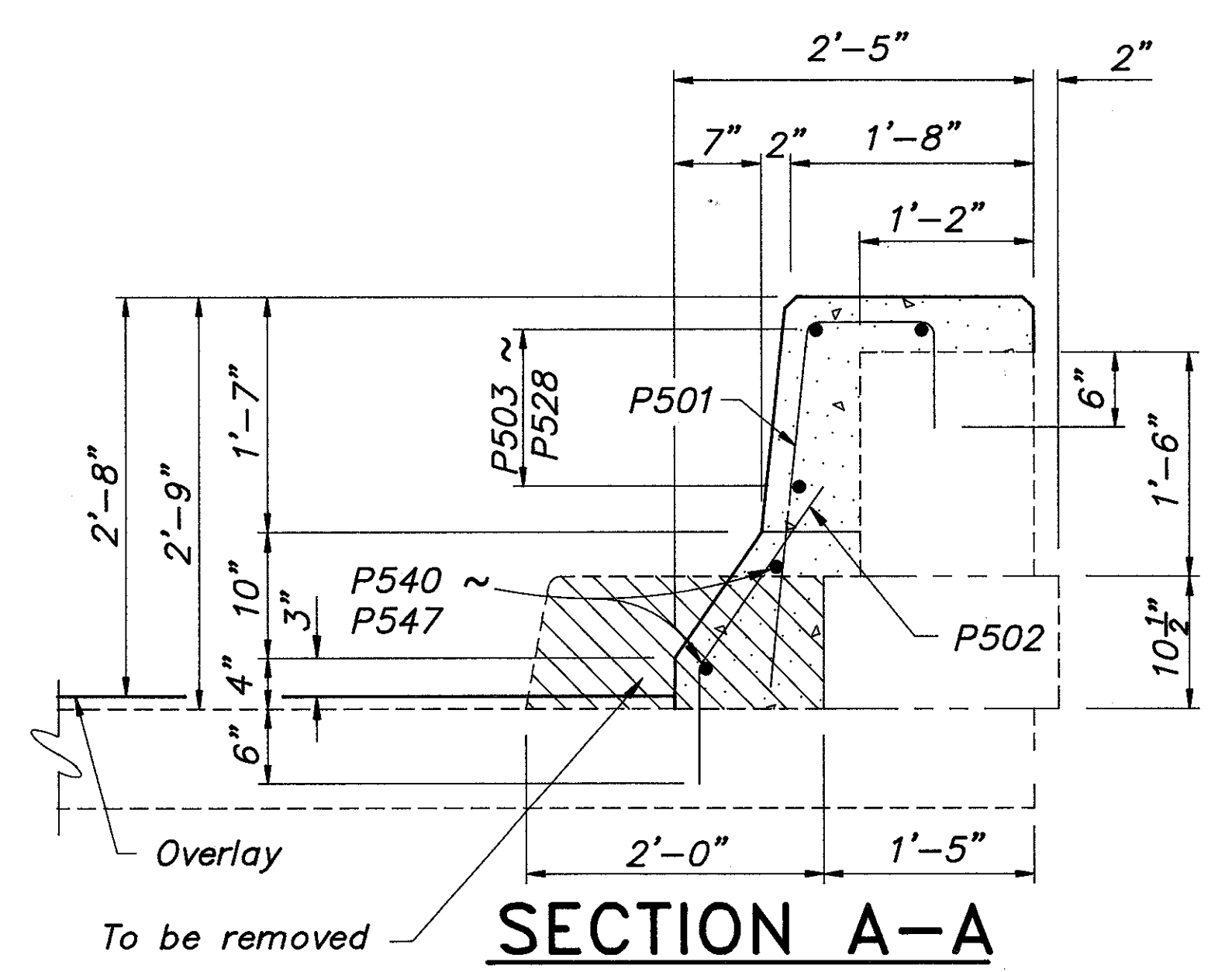
%	OPENING WIDTH	
	WEST ABUT. DIM A	PIER 6A DIM A
90	1 5/8"	4 1/2"
80	1 3/4"	4 5/8"
70	1 3/4"	4 5/8"
60	1 3/4"	4 5/8"
50	1 3/4"	4 5/8"
40	1 7/8"	4 3/4"
30	1 7/8"	4 3/4"

NOTE:  
1. For additional details on expansion joint, see Std. Drawing EXJ-4-87.  
2. All longitudinal reinforcing deck steel is to remain.

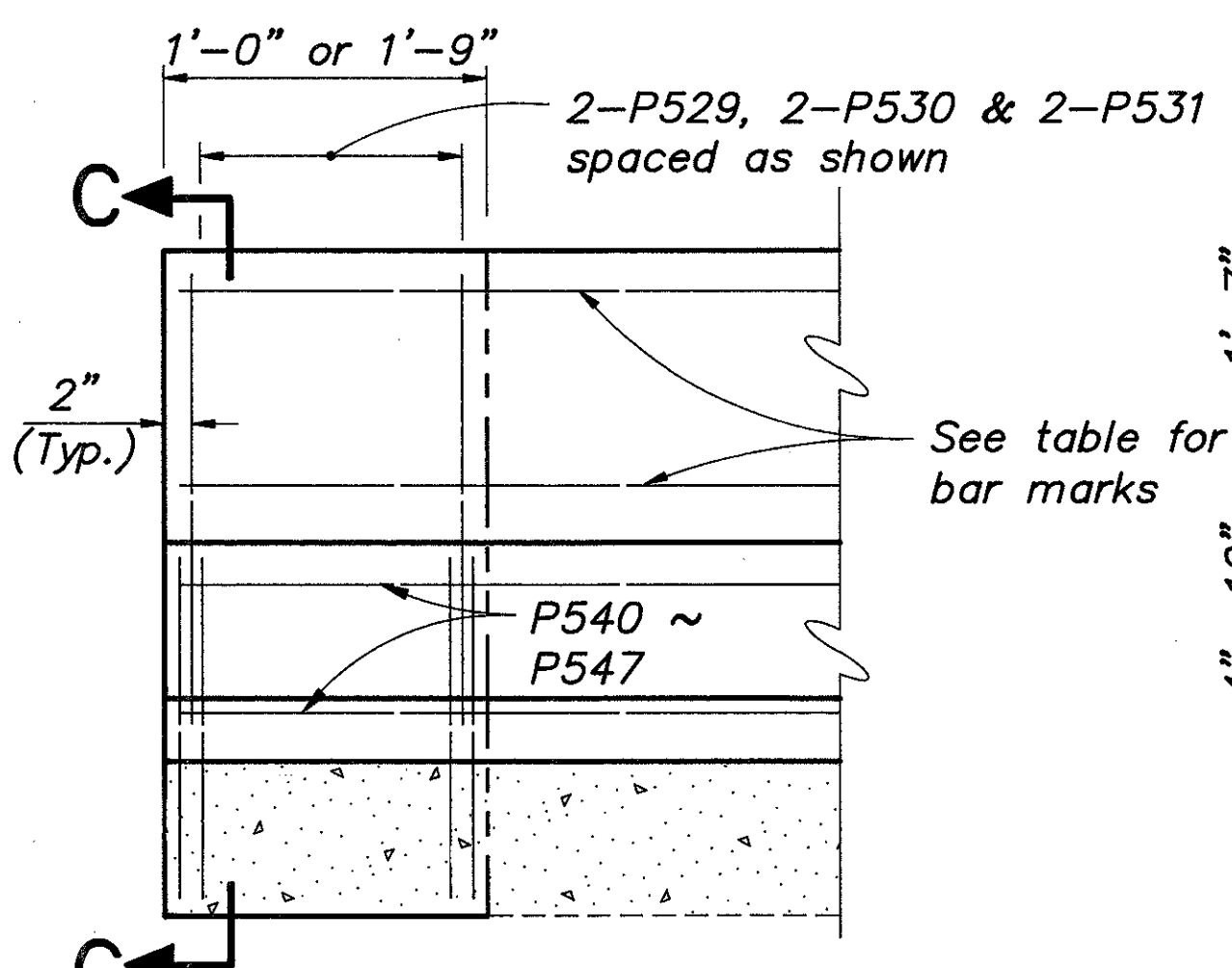
BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237 EXPANSION JOINT DETAILS BRIDGE NO. HAM-50-2007 SIXTH STREET EXPRESSWAY UNDER FREEMAN AVENUE						15/17
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DW	CRS		



**WEST RAILING PLAN**

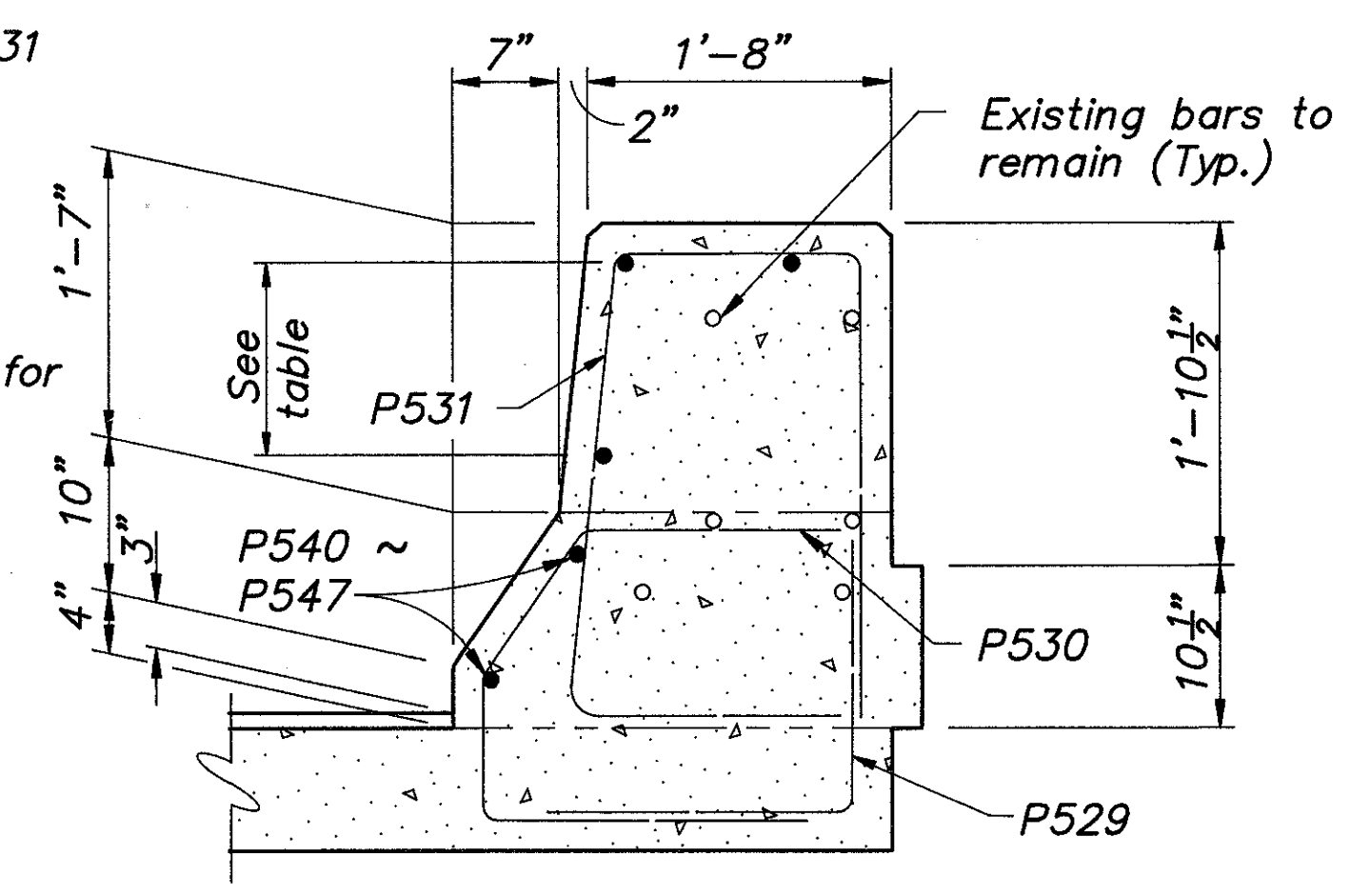


**SECTION A-A**



**SECTION B-B**

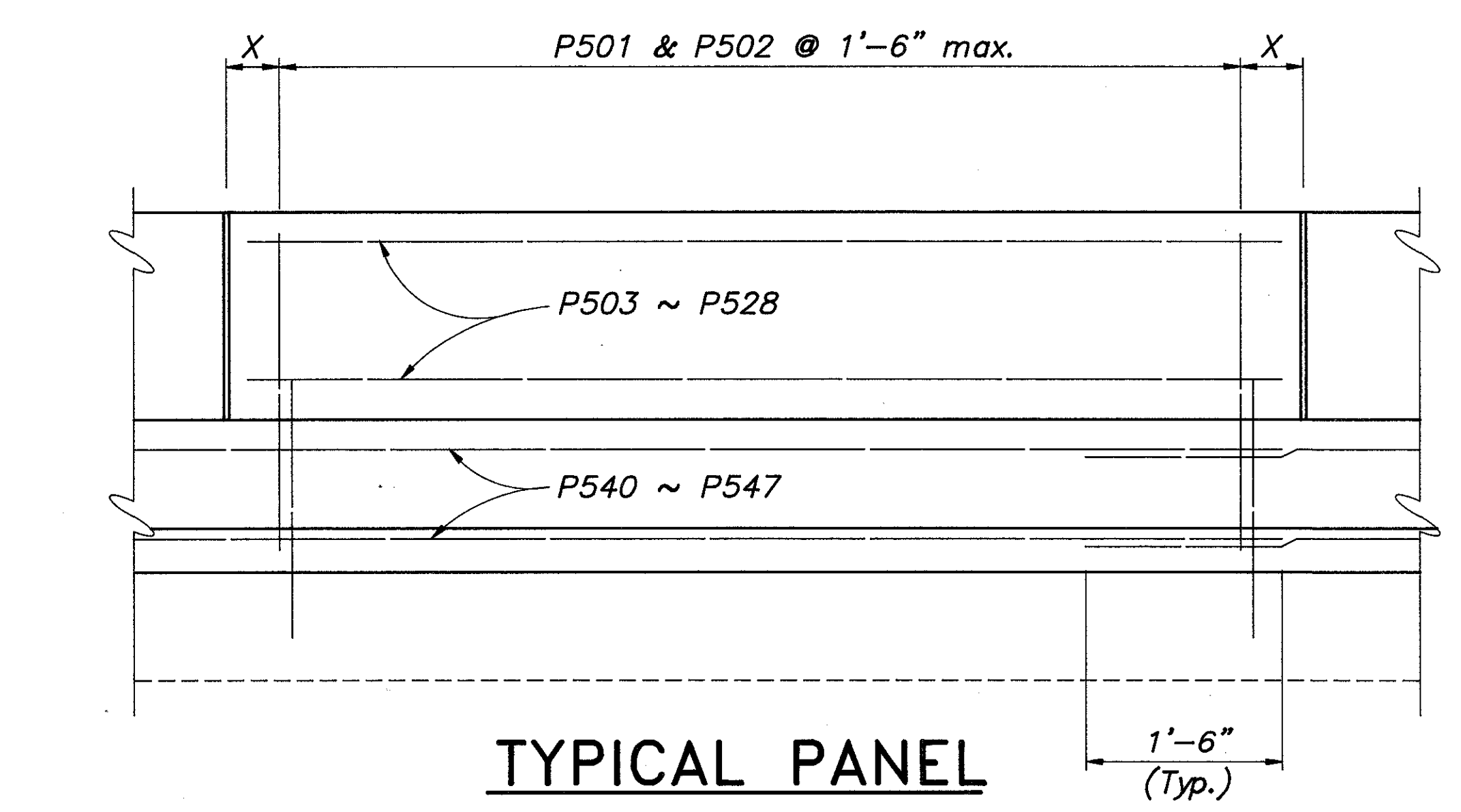
Typical at all expansion joints  
(16 REQUIRED)



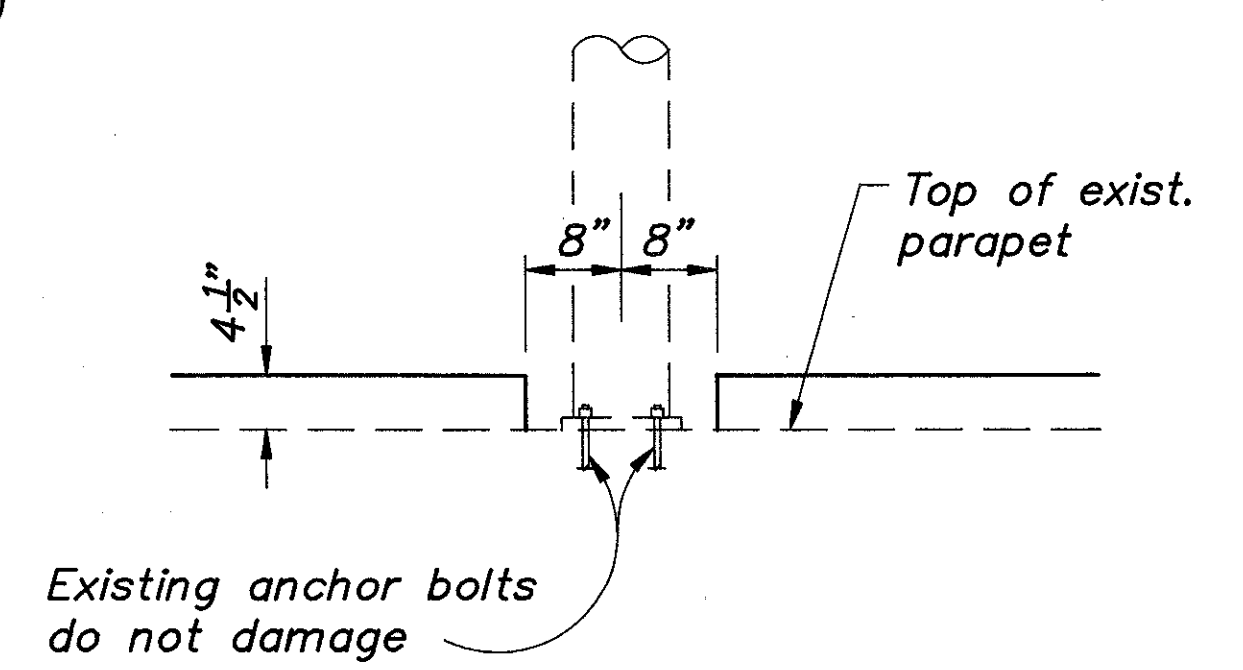
**SECTION C-C**

PARAPET PANELS				
MARK	NO.	PANEL LENGTH	DIM. X	BARS NEEDED
(A)	1	13'-0 7/8	2"	8-P501, 8-P502 & 3-P503
(B)	12	16'-4	2"	12-P501, 12-P502 & 3-P504
(C)	1	9'-10	5"	7-P501, 7-P502 & 3-P505
(D)	2	14'-8	2"	11-P501, 11-P502 & 3-P506
(E)	2	8'-2	2"	7-P501, 7-P502 & 3-P507
(F)	1	24'-6	3"	17-P501, 17-P502 & 3-P508
(G)	2	13'-9	2"	10-P501, 10-P502 & 3-P509
(H)	1	14'-0	3"	8-P501, 8-P502 & 3-P510
(I)	1	22'-3 3/4	2"	13-P501, 13-P502 & 3-P511
(J)	2	16'-7	2"	12-P501, 12-P502 & 3-P512
(K)	2	15'-2	2"	9-P501, 9-P502 & 3-P513
(L)	2	14'-2 3/4	4 1/4"	8-P501, 8-P502 & 3-P510
(M)	3	17'-0	3"	12-P501, 12-P502 & 3-P514
(N)	1	11'-6	2"	9-P501, 9-P502 & 3-P515
(O)	1	14'-7 1/2	2"	9-P501, 9-P502 & 3-P506
(P)	8	17'-2	2"	13-P501, 13-P502 & 3-P514
(Q)	2	8'-7	2"	7-P501, 7-P502 & 3-P516
(R)	1	11'-11 1/2	2"	9-P501, 9-P502 & 3-P517
(S)	1	22'-4 1/2	2"	16-P501, 16-P502 & 3-P518
(T)	1	15'-6 1/2	3 1/4"	9-P501, 9-P502 & 3-P519
(U)	2	13'-4 3/4	2"	8-P501, 8-P502 & 3-P520
(V)	2	16'-0	2"	12-P501, 12-P502 & 3-P521
(W)	1	13'-5 3/4	2"	8-P501, 8-P502 & 3-P520
(X)	3	15'-6	3"	11-P501, 11-P502 & 3-P519
(Y)	1	13'-3 1/2	2"	8-P501, 8-P502 & 3-P522
(Z)	1	14'-7	2"	9-P501, 9-P502 & 3-P506
(A1)	4	17'-4	2"	13-P501, 13-P502 & 3-P523
(B1)	1	20'-7 3/8	2"	13-P501, 13-P502 & 3-P524
(C1)	1	15'-4	2"	11-P501, 11-P502 & 3-P525
(D1)	1	13'-1	2"	8-P501, 8-P502 & 3-P503
(E1)	1	12'-2 1/2	2"	7-P501, 7-P502 & 3-P526
(F1)	1	21'-4 1/2	2 1/4"	13-P501, 13-P502 & 3-P527
(G1)	1	6'-0	2"	3-P501, 3-P502 & 3-P528

All reinforcing bars to be epoxy coated.

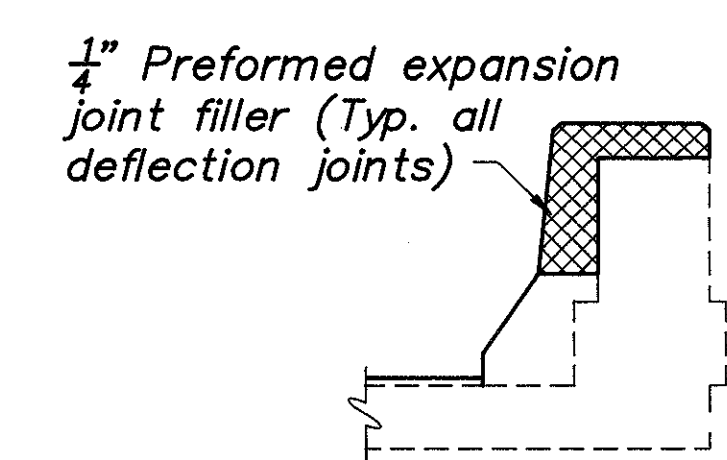


**TYPICAL PANEL**



**LIGHT POLE SUPPORT DETAIL**

NOTE: Light pole locations match existing pole locations.



**DEFLECTION JOINT DETAIL**

New deflection joints shall match the existing deflection joints locations.

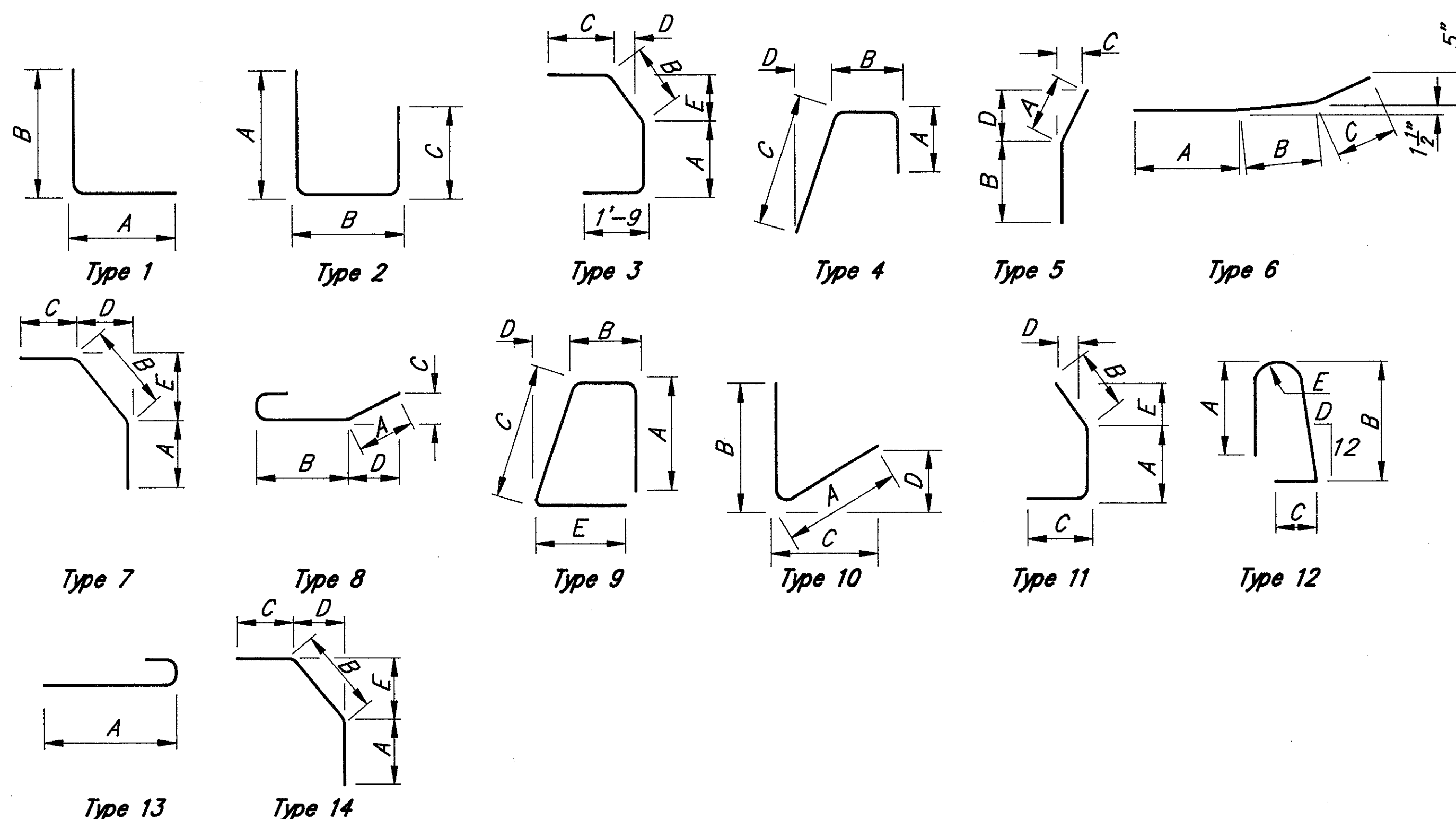
BALKE ENGINEERS 16/17  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

**PARAPET DETAILS**  
BRIDGE NO. HAM-50-2007  
SIXTH STREET EXPRESSWAY  
UNDER FREEMAN AVENUE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	

## REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E
E801	86	4'-11	1129	8	1'-5	2'-7	0'-8 $\frac{1}{2}$		
E802	18	4'-10	232	14	1'-5	2'-0	1'-5	1'-5	1'-5
E601	124	6'-8	1242	2	4'-10	1'-2	1'-0		
E602	14	8'-7	180	2	6'-10	1'-1	1'-0		
E603	4	6'-10	41	Str.					
E604	6	7'-7	68	Str.					
E501	11	22'-3	255	Str.					
E502	5	6'-9	35	Str.					
E503	11	12'-5	142	Str.					
E504	5	4'-0	21	10	2'-0	2'-0	2'-0	0'-1 $\frac{3}{4}$	
E505	124	3'-9	485	Str.					
E506	14	5'-8	83	Str.					
E507	124	6'-4	819	2	3'-0	0'-8	3'-0		
E508	11	3'-2	36	Str.					
E509	4	6'-0	25	Str.					
E510	4	4'-0	17	11	1'-0	1'-9	1'-6	1'-0 $\frac{1}{8}$	1'-5 $\frac{1}{4}$
E511	4	4'-9	20	4	0'-9	0'-10	3'-3	0'-4	
E512	4	5'-1	21	2	3'-3	1'-4	0'-9		
E513	11	19'-2	220	Str.					
E514	11	18'-1	207	Str.					
E515	11	23'-6	270	Str.					
E516	5	7'-0	37	Str.					
E517	5	4'-0	21	1	2'-0	2'-0			
E518	16	4'-8	78	Str.					
E519	6	6'-9	42	Str.					
E520	6	4'-5	28	11	1'-3	1'-9	1'-6	1'-0 $\frac{1}{8}$	1'-5 $\frac{1}{4}$
E521	33	4'-0	138	4	0'-9	0'-10	2'-6	0'-3 $\frac{3}{8}$	
E522	6	4'-6	28	2	2'-6	1'-6	0'-9		
E523	58	2'-7	156	5	1'-6	1'-1	0'-8 $\frac{3}{4}$	1'-0 $\frac{1}{4}$	
E524	8	19'-7	163	Str.					
E525	27	5'-0	141	2	2'-2	0'-11	2'-2		
E526	3	13'-7	43	Str.					
E527	3	13'-0	41	Str.					
E528	6	1'-6	9	Str.					
E529	4	4'-0	17	5	1'-9	2'-3	1'-0 $\frac{1}{8}$	1'-5 $\frac{1}{4}$	
E530	4	7'-3	30	2	4'-5	2'-2	0'-9		
E531	4	13'-8	57	6	9'-11	2'-4	1'-5		
E532	8	4'-7	38	1	1'-4	3'-4			
E533	31	3'-9	121	1	1'-4	2'-6			
E534	39	1'-6	61	1	0'-8	0'-10			
E535	2	8'-0	17	Str.					
E536	4	16'-6	69	6	12'-9	2'-4	1'-5		
E537	6	16'-6	103	Str.					
E538	3	13'-6	42	Str.					
E539	11	17'-8	203	Str.					
E540	11	13'-2	151	Str.					
E541	11	12'-0	138	Str.					
P601	48	19'-3	1388	Str.					
P602	12	22'-2	400	Str.					
P603	12	16'-10	303	Str.					
P604	24	16'-9	604	Str.					
P605	NOT USED								
P606	12	21'-7	389	Str.					
P607	NOT USED								
P608	12	16'-4	294	Str.					
P609	12	18'-3	329	Str.					
P610	NOT USED								
P611	24	17'-1	616	Str.					
P501	724	3'-9	2832	4	0'-8	0'-9	2'-5	0'-3	
P502	724	2'-3	1699	5	1'-5	0'-10	0'-10	1'-2	
P503	6	12'-8	79	Str.					
P504	36	16'-0	601	Str.					
P505	3	9'-6	30	Str.					
P506	9	14'-4	135	Str.					



## REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E
P507	6	7'-10	49	Str.					
P508	3	24'-2	76	Str.					
P509	6	13'-5	84	Str.					
P510	9	13'-8	128	Str.					
P511	3	21'-11	69	Str.					
P512	6	16'-3	102	Str.					
P513	6	14'-10	93	Str.					
P514	33	16'-8	574	Str.					
P515	3	11'-2	35	Str.					
P516	6	8'-3	52	Str.					
P517	3	11'-7	36	Str.					
P518	3	22'-0	69	Str.					
P519	12	15'-2	190	Str.					
P520	9	13'-0	122	Str.					
P521	6	15'-8	98	Str.					
P522	3	12'-11	40	Str.					
P523	12	17'-0	213	Str.					
P524	3	20'-3	63	Str.					
P525	3	15'-0	47	Str.					
P526	3	11'-8	37	Str.					
P527	3	21'-0	66	Str.					
P528	3	5'-8	18	Str.					
P529	32	2'-11	97	1	1'-6	1'-6			
P530	32	4'-10	161	3	0'-11	0'-10 $\frac{3}{8}$	1'-5	0'-6	0'-8 $\frac{1}{2}$
P531	32	7'-4	245	9	2'-5	1'-4	2'-5	0'-3 $\frac{1}{2}$	1'-5
P532	NOT USED								
P533	NOT USED								
P534	8	9'-9	81	Str.					
P535	8	9'-4	78	Str.					
P536	15	5'-3	82	12	2'-2	2'-5	0'-7 $\frac{1}{2}$	0'-1 $\frac{1}{4}$	0'-2
P537	5	3'-0	16	Str.					
P538	15	2'-4	37	14	0'-10	0'-10	0'-8	0'-6	0'-8 $\frac{1}{2}$
P539	15	1'-6	23	Str.					
P540	62	30'-0	1940	Str.					
P541	2	17'-0	35	Str.					
P542	2	19'-3	40	Str.					
P543	2	5'-6	11	Str.					
P544	2	26'-10	56	Str.					
P545	4	21'-6	90	Str.					
P546	2	28'-9	60	Str.					
P547	2	12'-3	26	Str.					

CALC. BY \_\_\_\_\_  
DATE \_\_\_\_\_  
CHKD. BY \_\_\_\_\_  
DATE \_\_\_\_\_

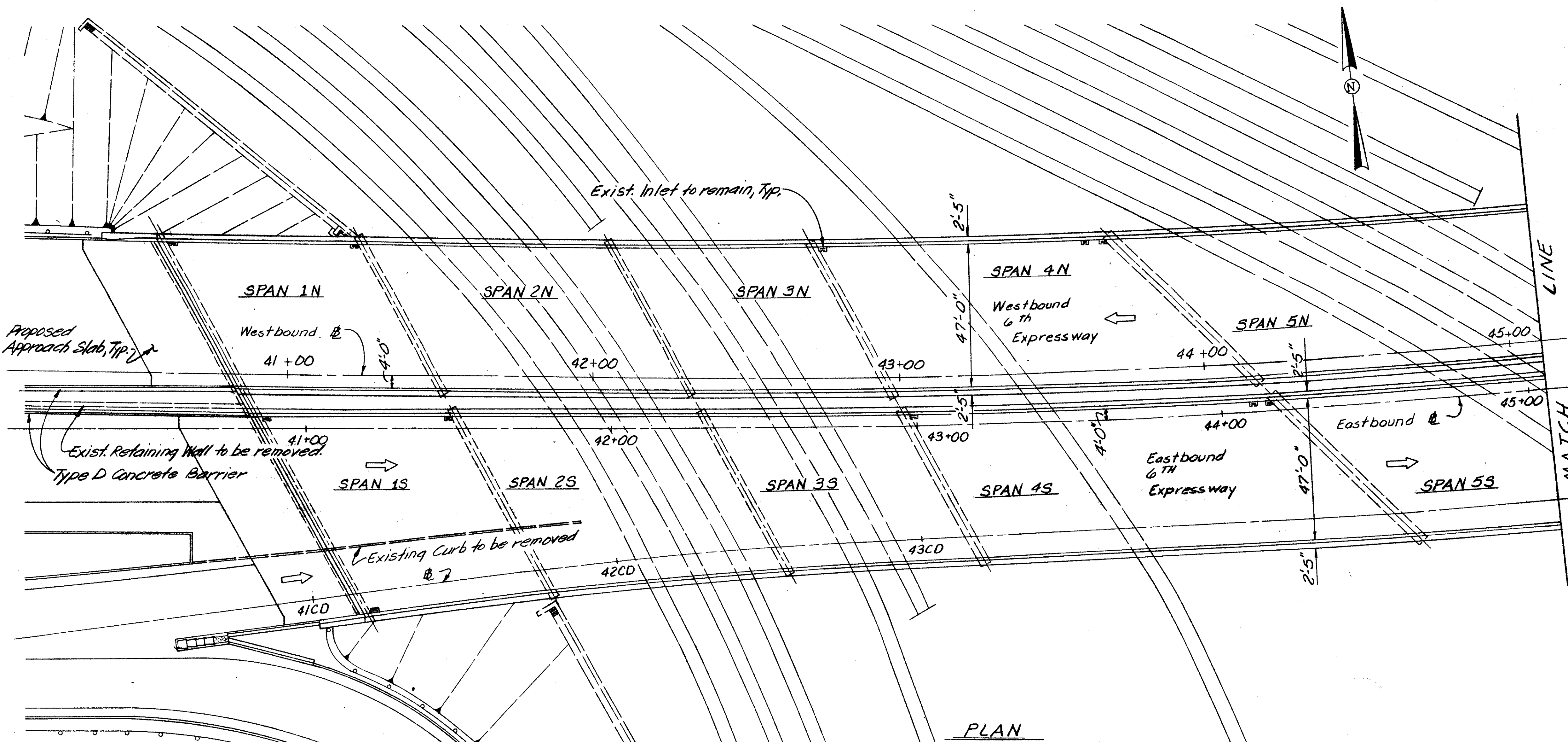
HAMILTON COUNTY  
HAM-50-19.36

OHIO  
FHWA REGION 5  
225  
255

14-

- REINFORCING STEEL SAMPLES: REFER TO CMS SECTION 106.03, 700, 709.01 THRU. 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY ADDITIONAL STEEL SPLICED IN ACCORDANCE WITH 509.08.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR.
- ALL BARS ARE TO BE EPOXY COATED.

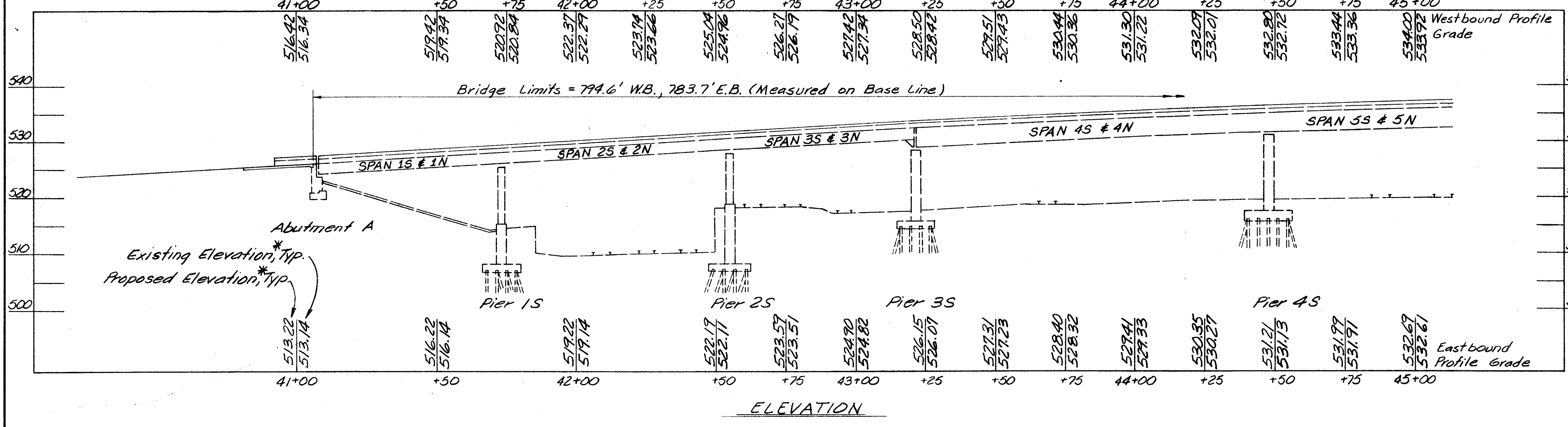
BALKE ENGINEERS <span style="float: right;">17/17</span>					
1848 SUMMIT ROAD					
CINCINNATI, OHIO 45237					
<b>REINFORCING STEEL LIST</b>					
BRIDGE NO. HAM-50-2007					
SIXTH STREET EXPRESSWAY					
UNDER FREEMAN AVENUE					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	



**\* TABLE of SPAN LENGTHS**

SPAN	LENGTH
1N	64.80'
2N	81.00'
3N	64.80'
4N	117.70'
5N	148.81'
5AN	72.19'
6N	70.72'
7N	99.64'
8N	70.00'
1S	64.29'
2S	80.48'
3S	64.63'
4S	124.38'
5S	148.19'
6S	127.24'
7S	99.62'
8S	69.95'

\* Measured Along Base Lines



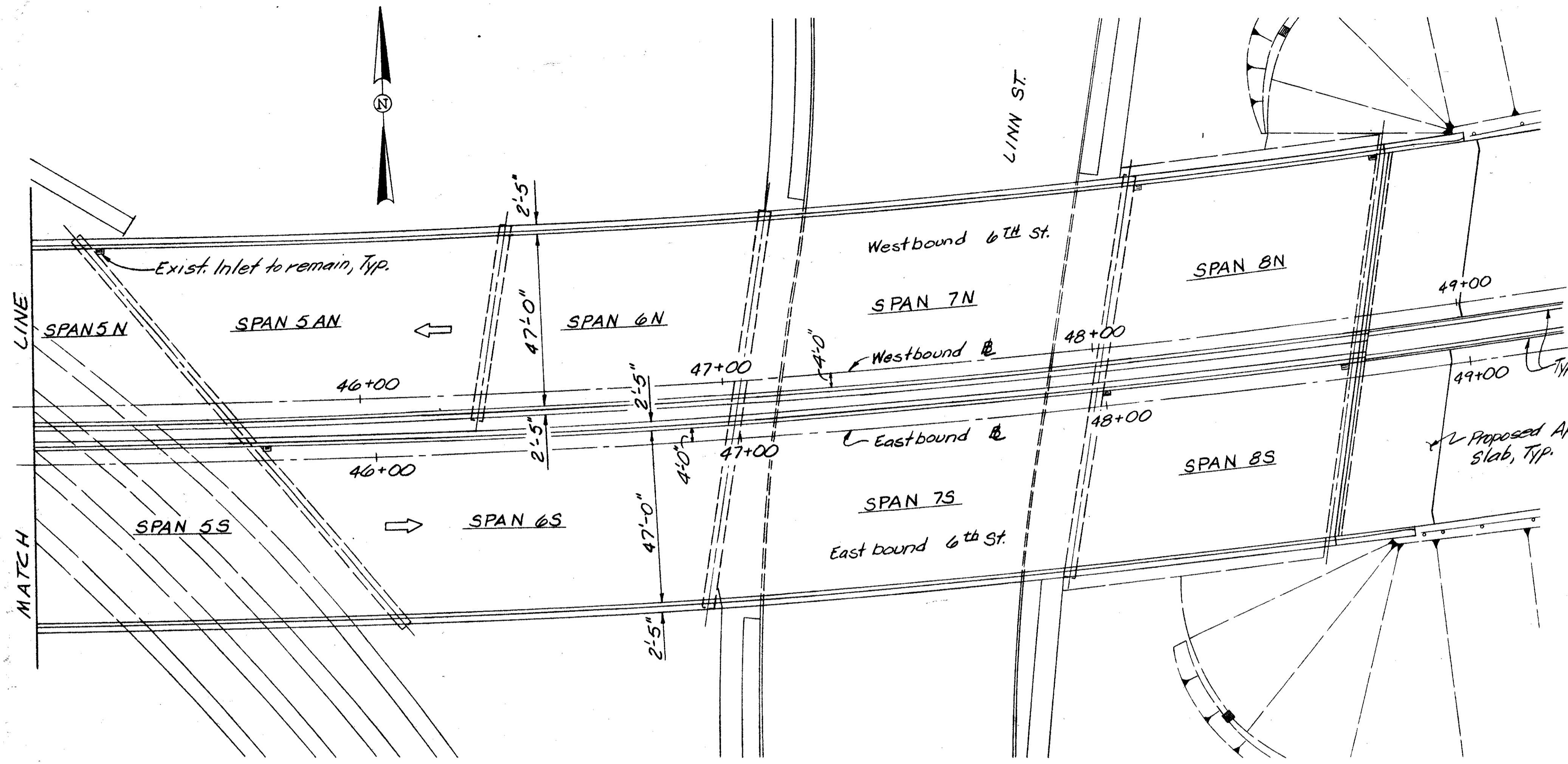
\* Elevations shown are for information only. The 1 1/4" micro-silica modified concrete overlay shall be of uniform thickness & final deck elevations will not necessarily conform to profile shown.

**BALKE ENGINEERS**  
 1848 SUMMIT RD.  
 CINCINNATI, OHIO 45237

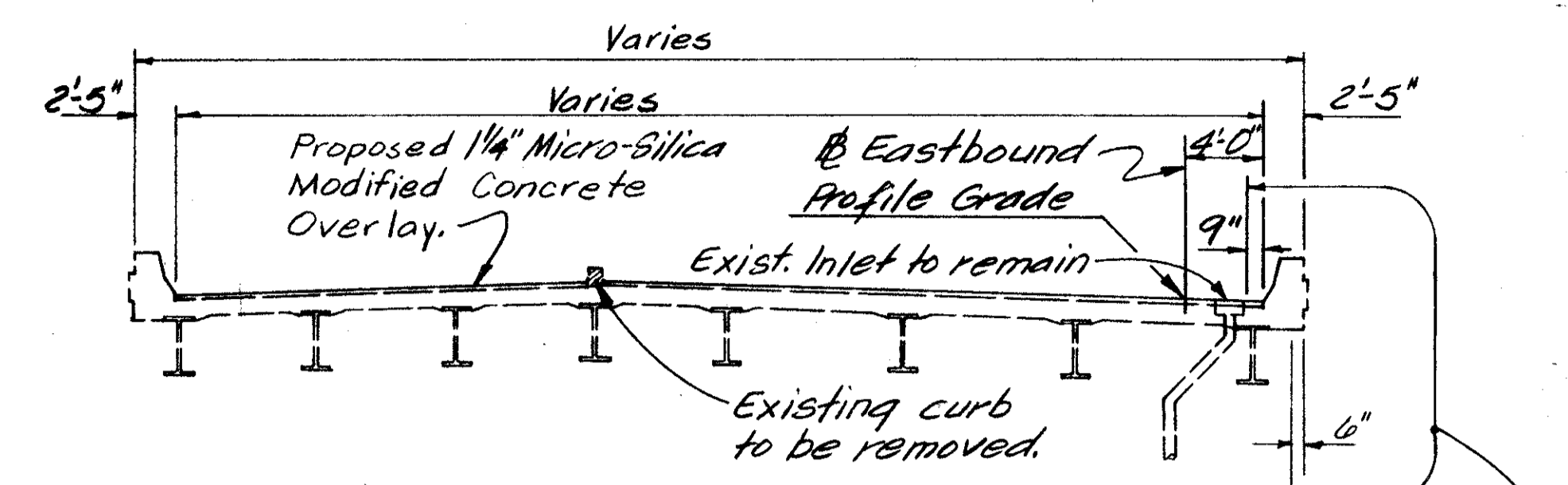
**GENERAL PLAN**  
 BRIDGE NO. HAM-50-2011 R. & L.  
 SIXTH ST. EXPRESSWAY  
 OVER CONRAIL AND LINN STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	



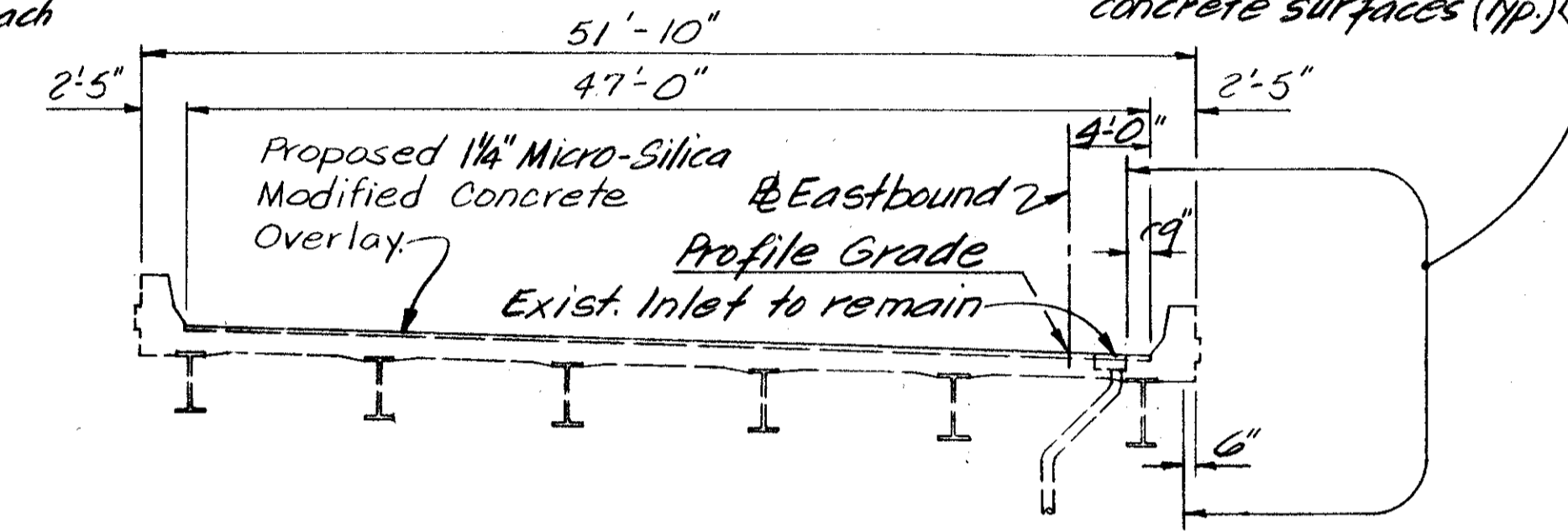


PLAN



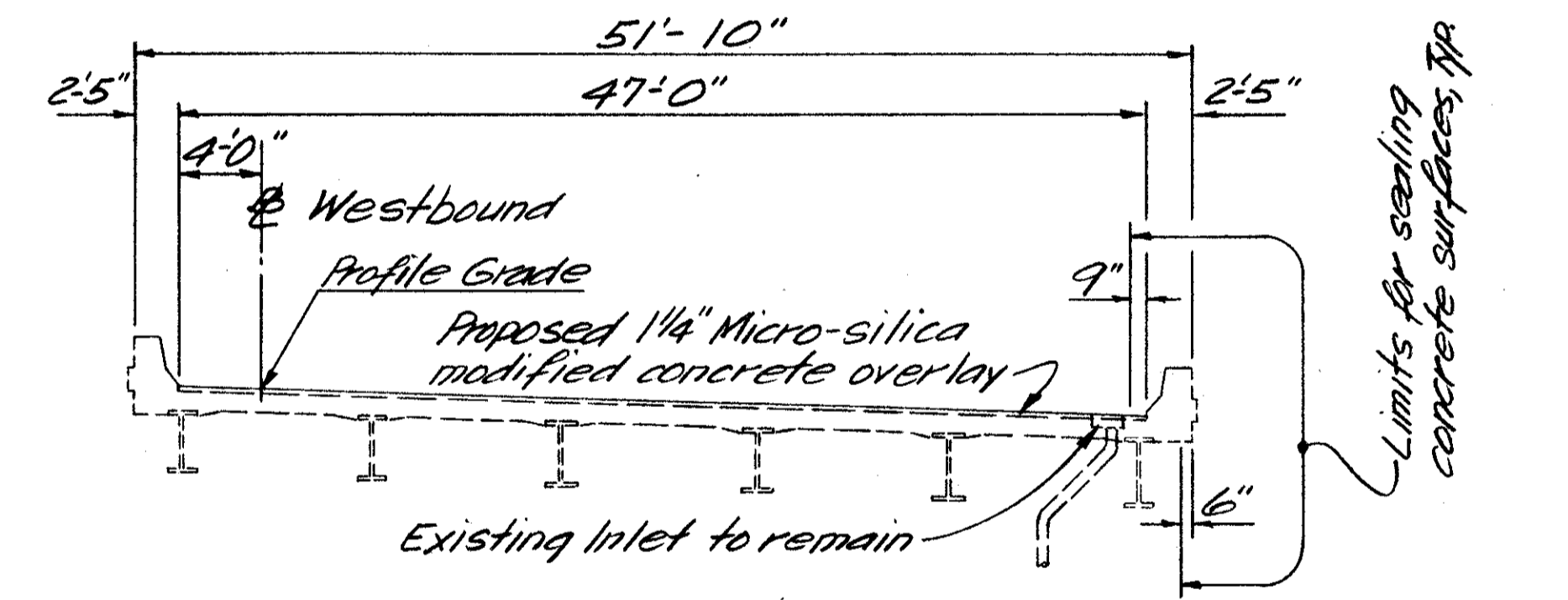
TRANSVERSE SECTION

(Typical for Spans 1S thru 3S)  
(LOOKING BACK STATION)



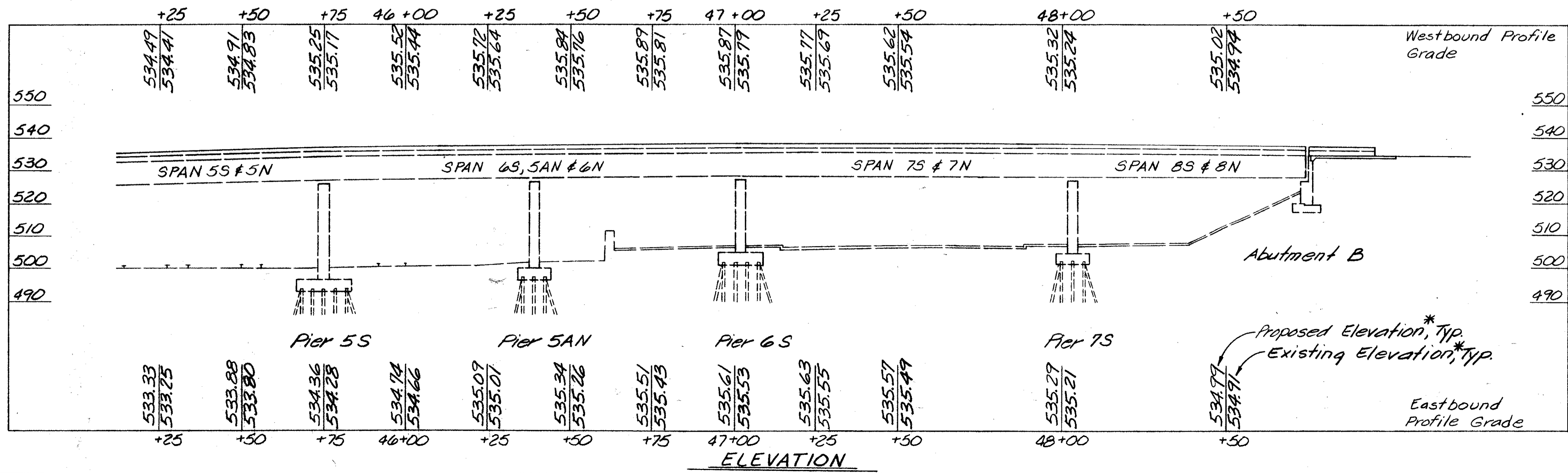
TRANSVERSE SECTION

(LOOKING BACK STATIONS)  
Typ. from Sta. 43+91.66 E.B. thru Span 8S



TYPICAL SECTION

(LOOKING BACK STATIONS)  
Typical for Spans 1N thru 8N



ELEVATION

\* See note on sheet 114.

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
2/14					
GENERAL PLAN					
BRIDGE NO. HAM-50-2011 R.#L.					
SIXTH ST. EXPRESSWAY					
OVER CONRAIL AND LINN STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	ALH	~	DWI	CRS 4/92	

OHIO BLUE PRINT NAME

# GENERAL NOTES

### STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

Reference shall be made to standard drawings:

- AS-1-81 Dated 11-27-81
- EXJ-4-87 Dated 1-5-89

Reference shall be made to supplemental specifications:

- 836 Dated 11-12-85
- 852 Dated 12-14-88

### DESIGN STRESSES

Concrete compressive strength

Class S - 4500 PSI

Class C - 4000 PSI

Reinforcing steel - ASTM A615, A616, A617

Minimum yield strength

Grade 60 - 60,000 PSI

### SCOPE OF WORK

The scope of work to be performed shall be executed in stages as shown and includes:

- Add strip seals.
- Refurbish and reset bearings at abutments & pier 3.
- Refurbish drains.
- Trim beam ends to clear backwall at east & west abutments.
- Replace deteriorated portions of backwalls, as indicated on plans.
- Seal cracks in pier 2.
- Retrofit railings, as indicated on plans.
- Seal railings, abutments and piers.
- Overlay deck with 1 1/4" micro-silica modified concrete.
- Clean and paint the structural steel as necessary.
- Replace approach slabs.

### 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/or 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. It is the intent of these plans that the proposed additions to these structures match existing conditions. The Contractor is referred to CMS sections 102.05 and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described in the preceding paragraph 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.

### ITEM 202 - PORTIONS OF STRUCTURES REMOVED

Removal of portions of existing structure shall be performed in such a manner as to prevent debris from falling onto the roadway below. All debris shall be removed from the site and disposed of by the Contractor.

### REPLACEMENT OF EXISTING REINFORCING

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 his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in item 509 for this purpose.

### ITEM SPECIAL - MICRO-SILICA MODIFIED CONCRETE OVERLAY

Longitudinal joints in the concrete overlay are permitted but only to the extent necessary to accommodate the width of the finishing machine, to facilitate changes in the roadway crown, and to permit maintenance of vehicular traffic. See proposal note for details.

### MAINTENANCE OF TRAFFIC

For maintenance of traffic on Sixth Street Expressway, see highway drawings.

### PLANS FOR EXISTING BRIDGE

Plans of the existing structure are available for reference at the City of Cincinnati Engineer's Office and at the ODOT District Eight office.

### ITEM 516 - REFURBISH BEARING DEVICE

This item shall include all work necessary to clean and paint rocker bearings at abutments and pier 3. Included shall be:

- Disassembly of rockers.
- Hand cleaning (grinding if required.)
- Sandblasting and painting as required by Field Painting of Existing Steel, System OZEU proposal note.
- Replacement of any damaged sheet lead (711.19). Prefabricated bearing pads 1/8" thick, meeting the requirements of 711.21, may be substituted for the sheet lead.
- Installation of any necessary 1/8" thick steel shims of the same size as the bearings to provide a snug fit.
- Reassembly of the rockers.

At the option of the Contractor and at no additional cost to the state, new bearings of the same type as the existing may be installed in place of the refurbished bearings. All work shall be to the satisfaction of the Project Engineer. Payment for all the above described labor and materials will be made at the contract price bid for Item 516 - REFURBISH BEARING DEVICE.

### ITEM 516 - JACKING & TEMPORARY SUPPORT OF SUPERSTRUCTURE

The ends of the beams or girders at each abutment & pier 3 shall be jacked and the beams supported so the bearing may be removed. Prior to jacking, the Contractor shall submit his jacking plan to the Engineer for approval.

### ITEM 516 - RESET BEARINGS

Bearings at the abutments & pier 3 shall be reset to be vertical at 60° F. Masonry plates shall be adjusted to be centered under bearing.

### ITEM 513 - TRIMMING OF BEAM ENDS

The ends of the beams at each abutment shall be trimmed by removing 1". Care shall be taken not to damage the crossframe while trimming the end of the beam.

<table border="0"> <tr> <td>CALC. BY:</td> <td></td> </tr> <tr> <td>DATE:</td> <td></td> </tr> <tr> <td>CHKD. BY:</td> <td></td> </tr> <tr> <td>DATE:</td> <td></td> </tr> </table>	CALC. BY:		DATE:		CHKD. BY:		DATE:		HAMILTON COUNTY HAM-50-19.36	OHIO FHWA REGION 5	<table border="1"> <tr> <td>228</td> </tr> <tr> <td>255</td> </tr> </table>	228	255
CALC. BY:													
DATE:													
CHKD. BY:													
DATE:													
228													
255													

### ITEM SPECIAL - CONCRETE REPAIR BY EPOXY INJECTION

The horizontal cracks in the west face of pier 2 shall be sealed by epoxy injection.

### SEALING OF CONCRETE SURFACES

Portions of the structure shall be sealed as noted below. See the proposal note for application rates and materials. City of Cincinnati Principal Structural Design Engineer shall be contacted to determine color of sealer to be used.

- Parapets shall be sealed as shown on sheet 2/14 with an epoxy or non-epoxy sealer.
- Abutment backwalls, beam seats, and the face of the breastwall and wingwalls down to the ground line shall be sealed with an epoxy sealer.
- The total surface of all piers shall be sealed with a non-epoxy sealer.

### ITEM 514 - CLEANING & PAINTING OF STRUCTURAL STEEL, AS PER PLAN

All steel at all expansion joints shall be cleaned and painted for a length of 6' along the beams each side of the joint. The fascia beams shall be painted as indicated in detail A below. Cleaning and painting shall be in accordance with field painting of existing steel, system EEU proposal note.

### REFURBISH DRAINS

This item shall include the cleaning and flushing out of the scupper inlet and downspout. The downspout shall be thoroughly cleaned so that water flows freely. All exposed pipes and supports shall be cleaned and painted as required by field painting of existing steel, system OZEU proposal note. Payment for all the above described labor and materials will be made at the contract price bid for Item 518 - structural drainage, misc: Refurbish drains.

### ITEM 510

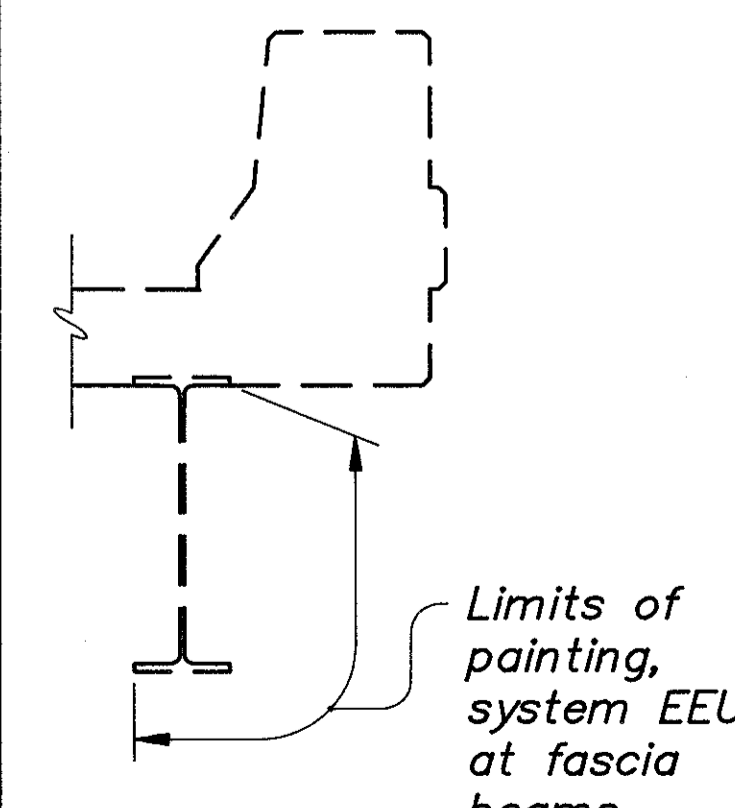
Dowel holes shall be drilled and grouted per Supplemental Specifications 852 and CMS 705.2.0.

### ASBESTOS CEMENT CONDUIT

For notes concerning this, see Bridge No. HAM-50-2043, sheet 2/16.

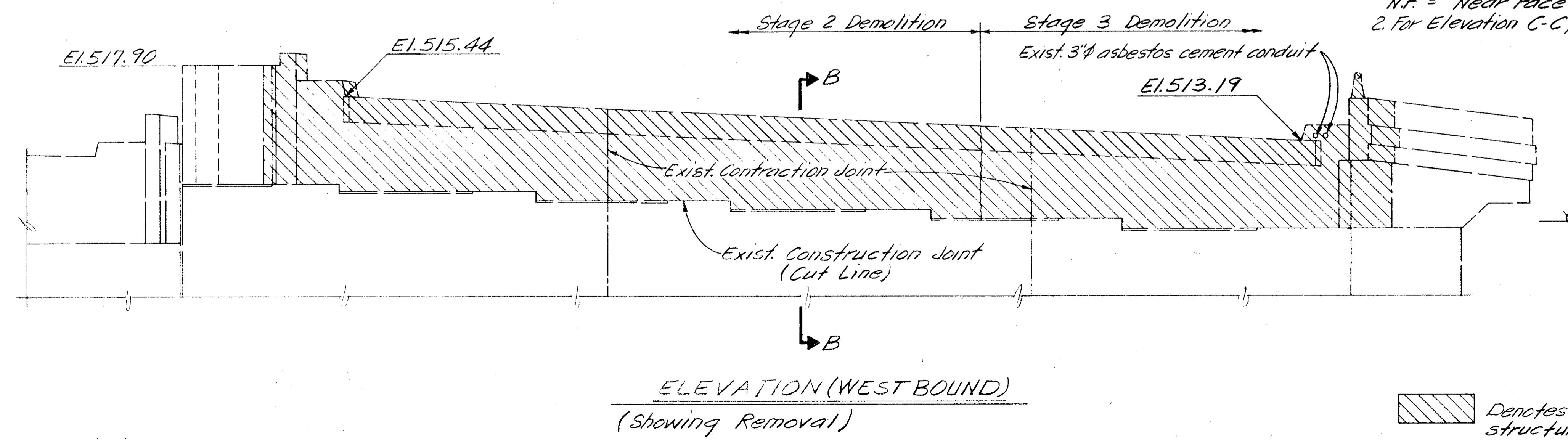
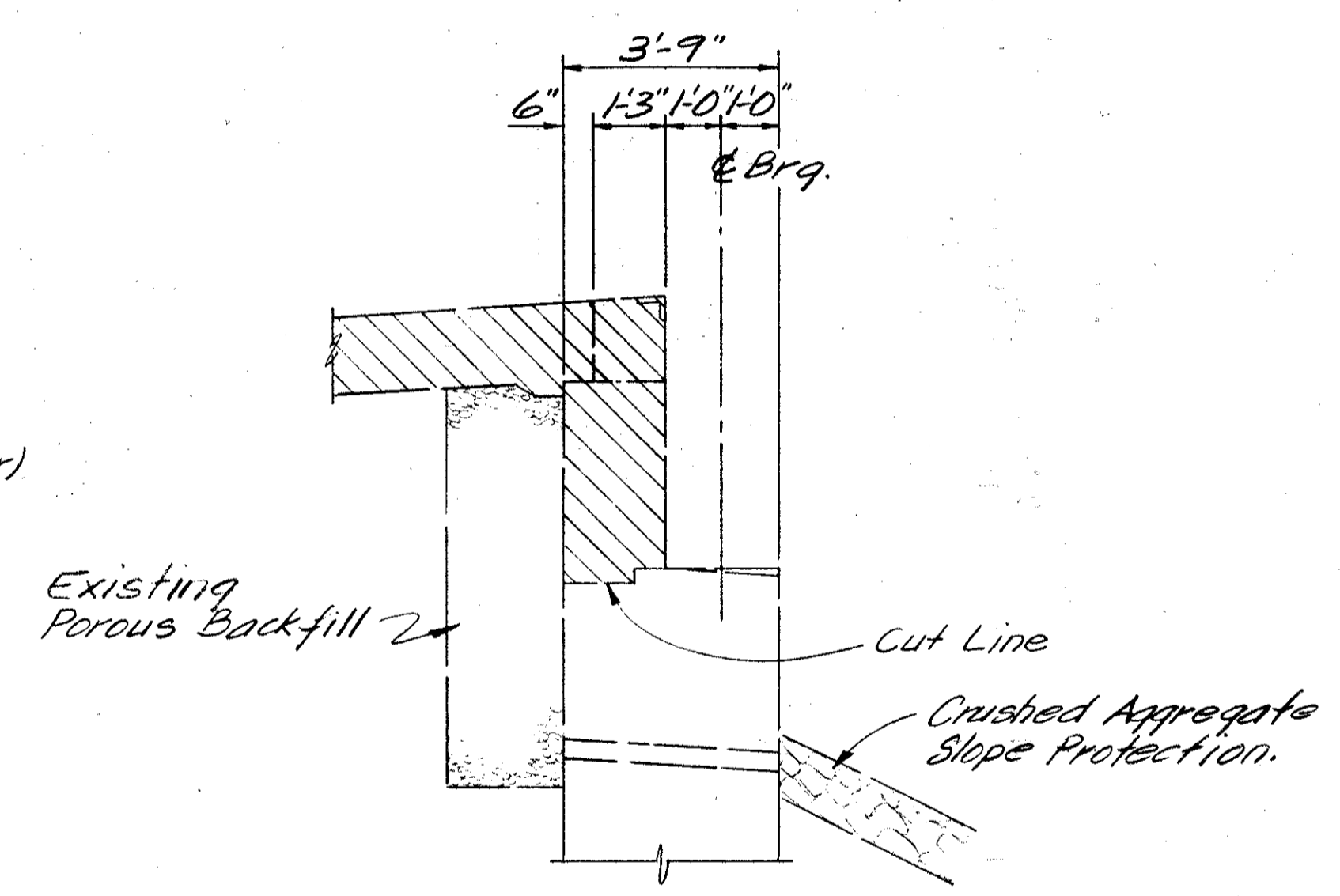
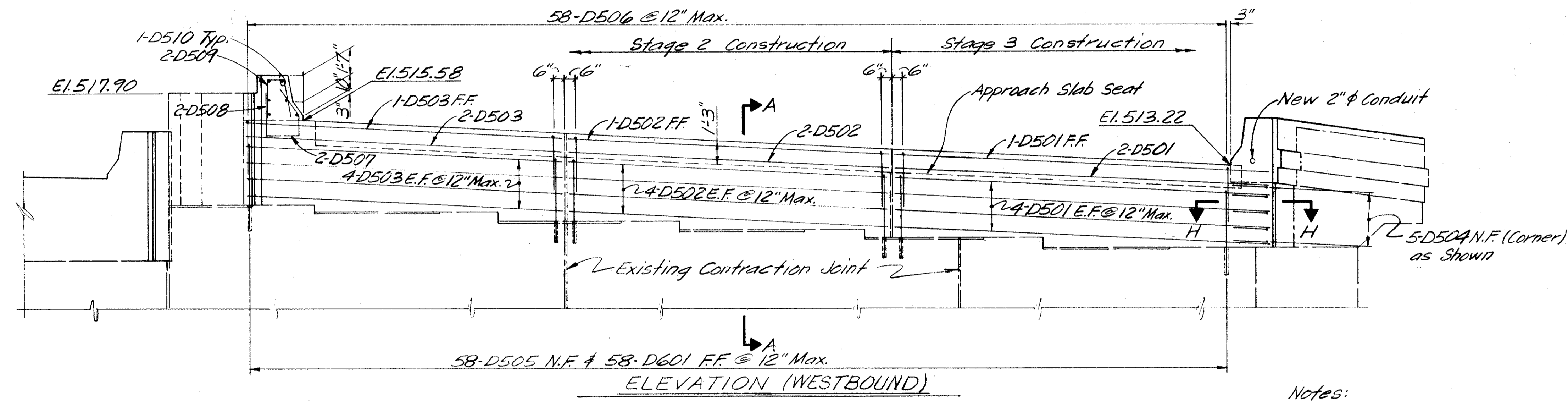
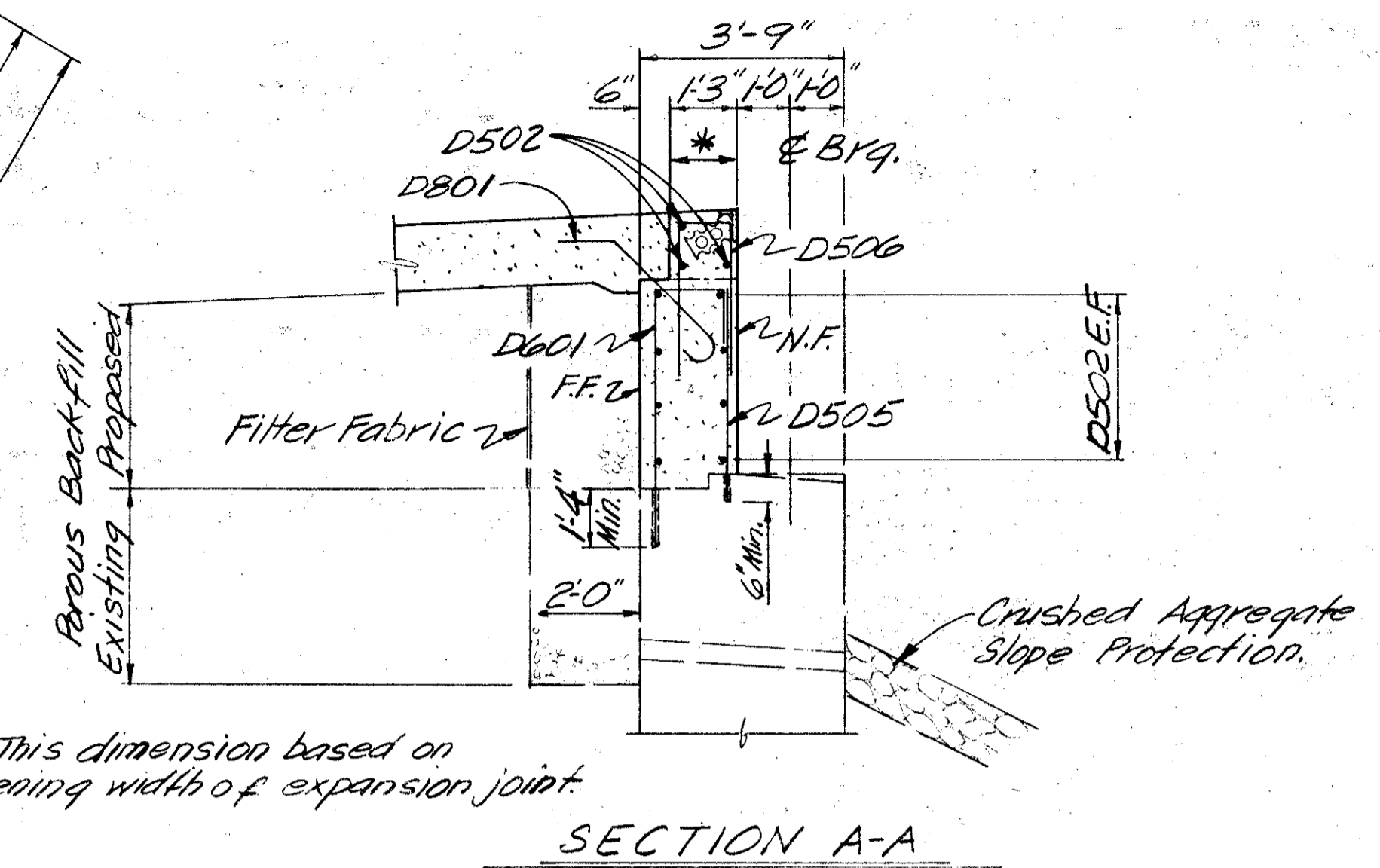
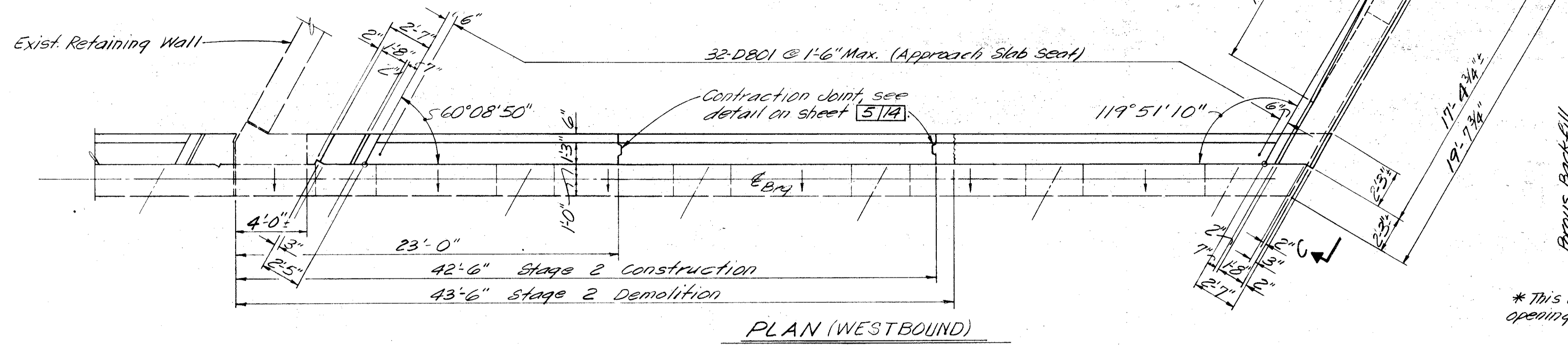
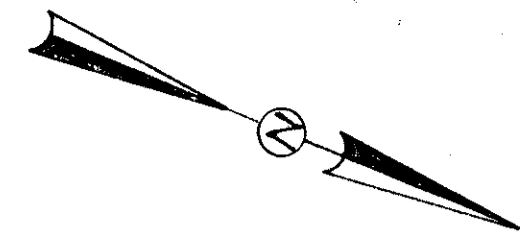
CALCULATED BY: <u>WJH</u> DATE: <u>11/91</u>				ESTIMATED QUANTITIES			CHECKED BY: <u>EHC</u> DATE: <u>1/92</u>			
ITEM	CODE	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE			RIGHT BRIDGE		
					ABUTMENTS	SUPERST.	GENERAL	ABUTMENTS	SUPERST.	GENERAL
202	11202	L.S.	Lump sum	Portions of structures removed, over 20 foot span	-	-	L.S.	-	-	L.S.
509	15800	49873	Lbs.	Epoxy coated reinforcing steel, grade 60	6311	17325	50	7221	18916	50
510	12200	2811	Lin. Ft.	Dowel hole	229	1164	-	310	1108	-
511	34400	288	Cu. Yd.	Class S concrete, superstructure (repair or reconstruction)	-	147	-	-	141	-
511	45700	106	Cu. Yd.	Class C concrete, abutment (repair or reconstruction)	50	-	-	56	-	-
SPECIAL	51267500	3469	Sq. Yd.	Sealing of concrete surfaces *	48	1728	-	48	1645	-
SPECIAL	51267502	329	Sq. Yd.	Sealing of concrete surfaces (epoxy) *	161	-	-	168	-	-
SPECIAL	51267504	3332	Sq. Yd.	Sealing of concrete surfaces (non-epoxy) *	-	-	1678	-	-	1654
513	21000	26	Each	Trimming of beam end	-	12	-	-	14	-
514	25501	L.S.	Lump sum	Cleaning & painting of existing structural steel, as per plan *	-	L.S.	-	-	L.S.	-
516	11210	235	Lin. Ft.	Structural expansion joint including elastomeric strip seal	-	107	-	-	128	-
516	13600	30	Sq. Ft.	1" Prefabricated expansion joint filler	-	-	-	30	-	-
516	45304	52	Each	Refurbish bearing device	-	24	-	-	28	-
516	46700	52	Each	Reset bearing	-	24	-	-	28	-
516	47000	L.S.	Lump Sum	Jacking and temporary support of superstructure	-	L.S.	-	-	L.S.	-
518	21200	98	Cu. Yd.	Porous backfill with filter fabric	47	-	-	51	-	-
518	63300	L.S.	Lump Sum	Structure drainage, misc.: refurbish drains	-	L.S.	-	-	L.S.	-
SPECIAL	51912600	72	Lin. Ft.	Concrete repair by epoxy injection *	-	-	36	-	-	36
SPECIAL	51922000	9859	Sq. Yd.	Micro-silica modified concrete overlay (1 1/4" thick) *	-	4609	-	-	5250	-
SPECIAL	51922100	203	Cu. Yd.	Micro-silica modified concrete overlay (variable thickness) *	-	72	-	-	131	-
SPECIAL	51922200	1	Cu. Yd.	Full depth repair (micro-silica) *	-	1	-	-	-	-

\* See proposal note



## DETAIL A

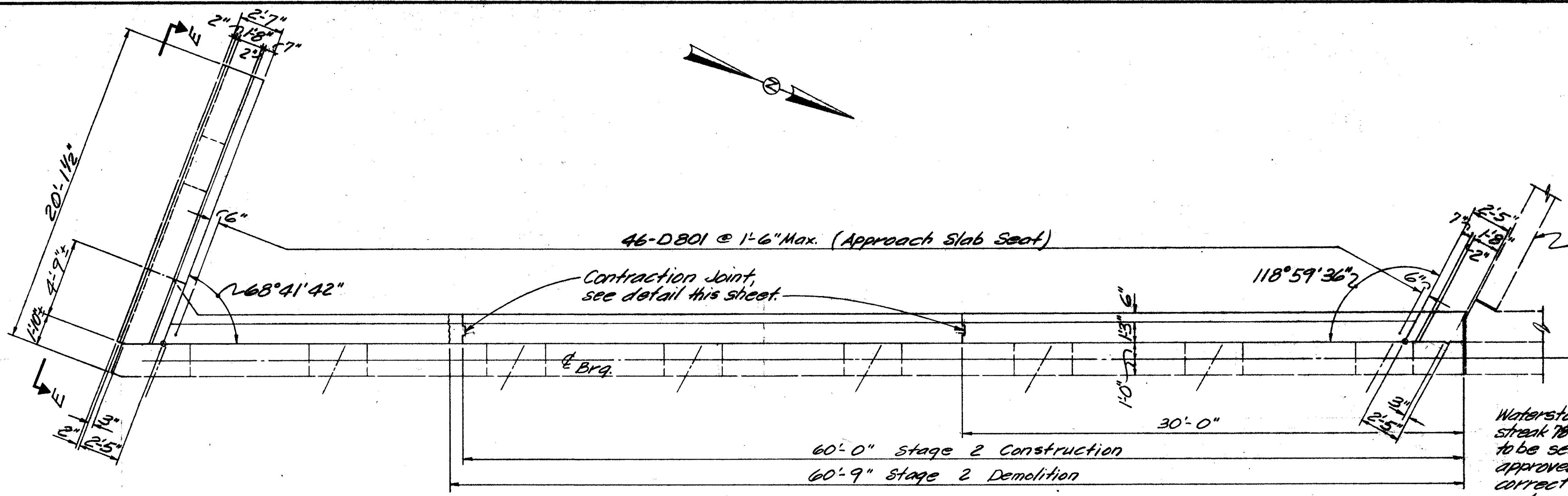
BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					3/14
<b>GENERAL NOTES &amp; QUANTITIES</b> BRIDGE NO. HAM-50-2011 R & L SIXTH STREET EXPRESSWAY OVER CONRAIL AND LINN STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS	



Notes:  
 1. E.F. = Each Face  
 FF. = Far Face  
 N.F. = Near Face  
 2. For Elevation C-C, see Sht. 6/14.

Denotes portion of existing structure to be removed.

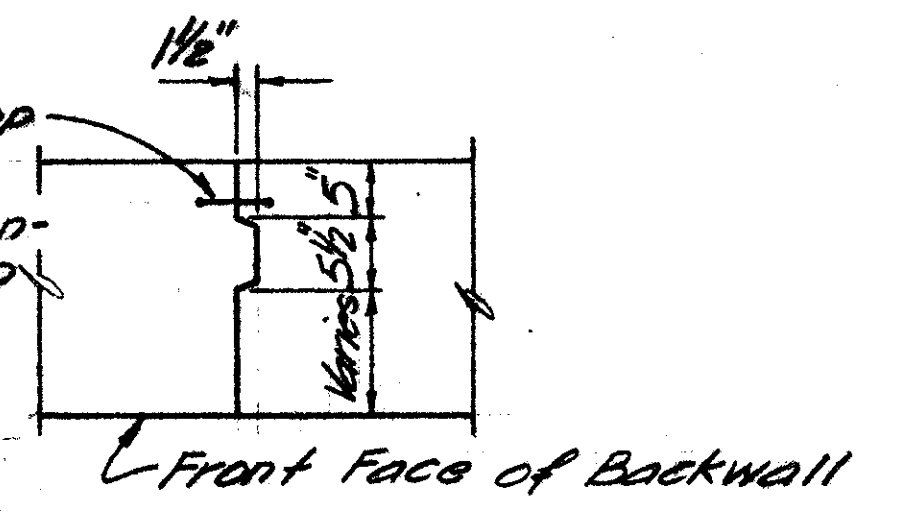
<b>BALKE ENGINEERS</b> 4/14 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
<b>ABUTMENT A</b> BRIDGE NO. HAM-50-2011 R. & L. SIXTH STREET EXPRESSWAY OVER CONRAIL AND LINN STREET				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	ERS 4/92



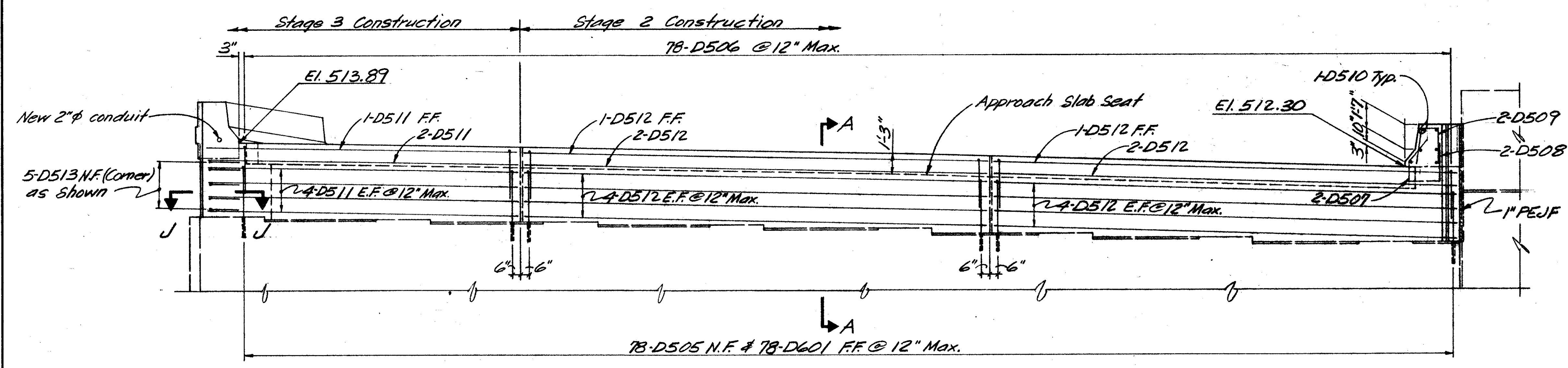
PLAN (EASTBOUND)

Exist. Retaining Wall to be removed. See Roadway Sheet 65-255

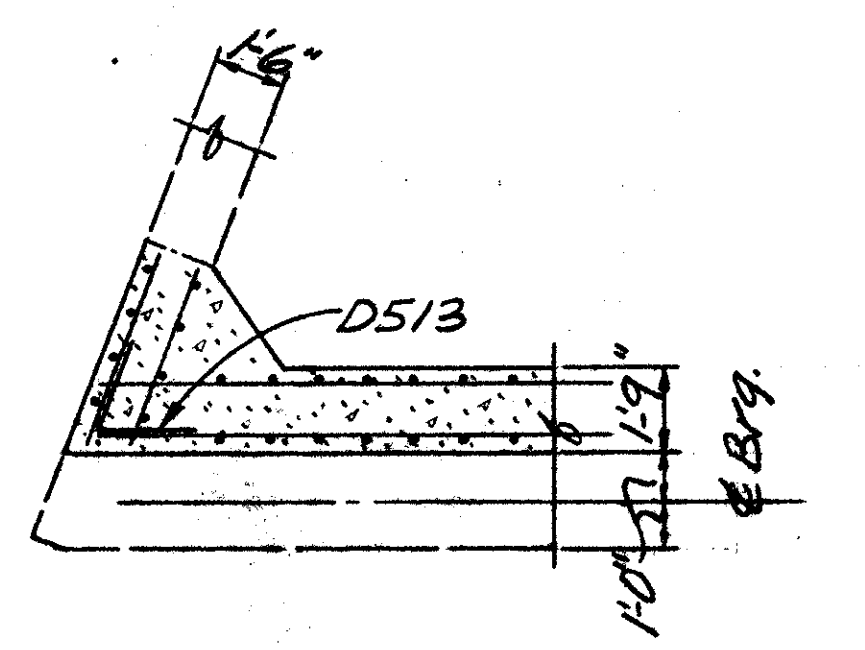
Waterstop to be Vinylex RA-316 Green-streak 781 or approved equal Waterstop to be securely held in place in approved manner to ensure correct positioning of waterstop is maintained.



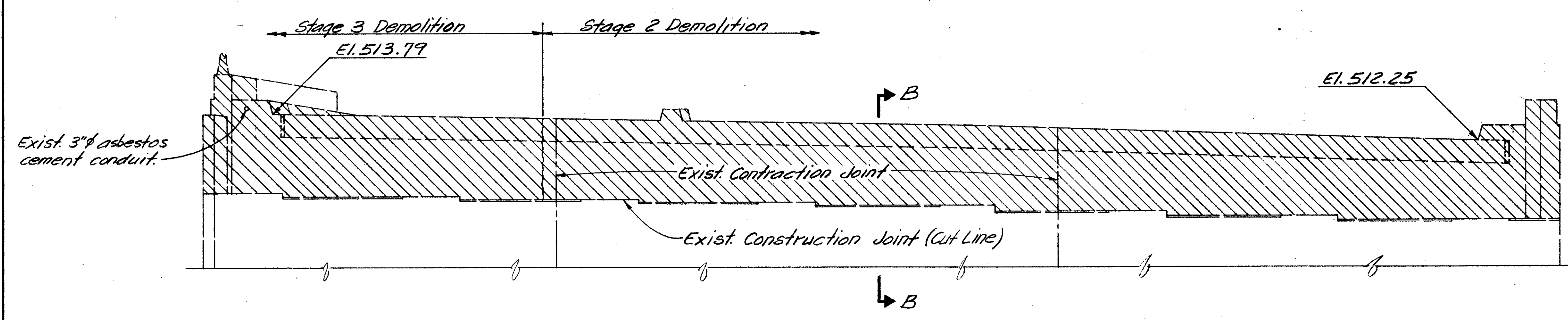
CONTRACTION JOINT DETAIL (Proposed)



ELEVATION (EASTBOUND)



SECTION J-J

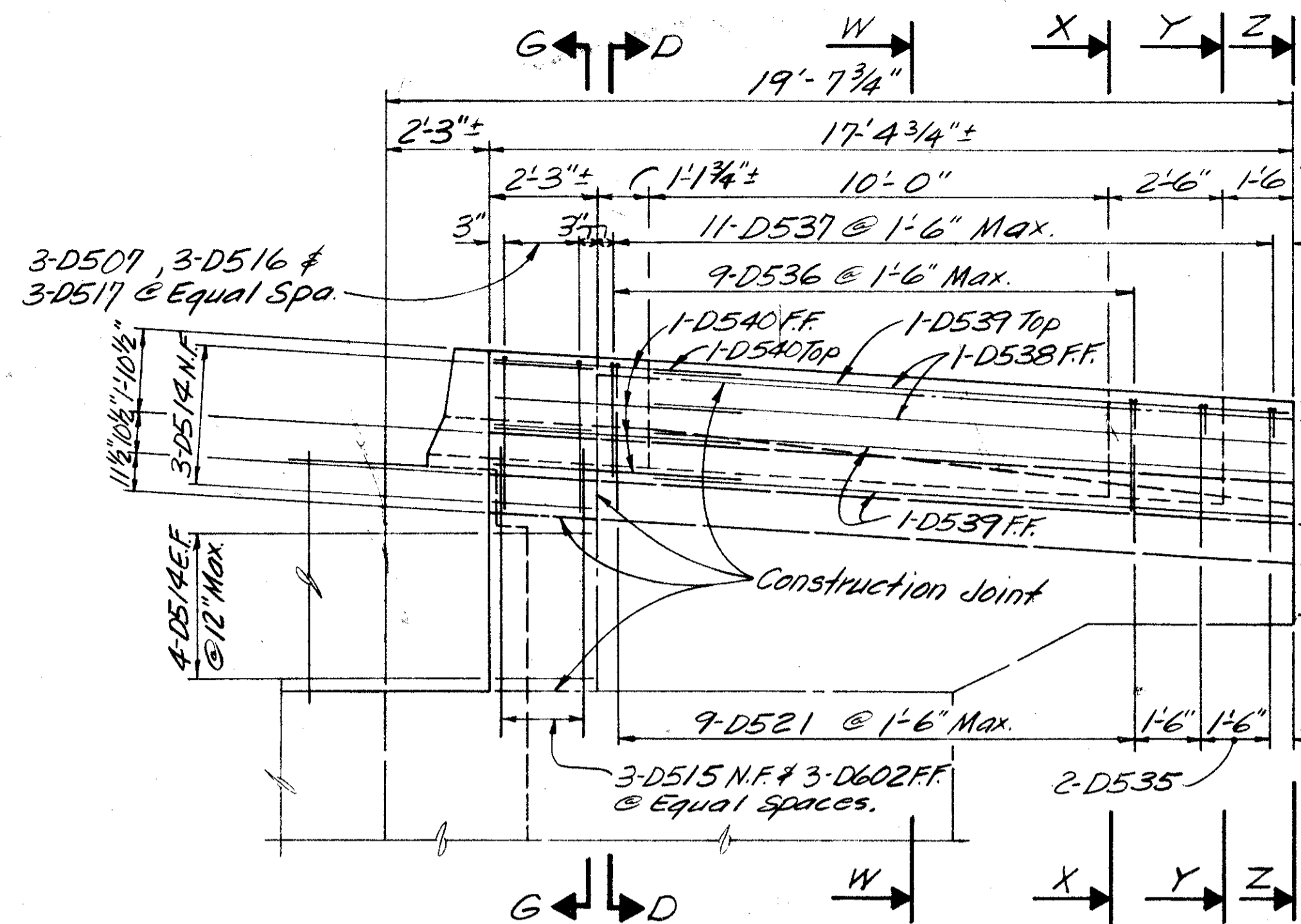


ELEVATION (EASTBOUND)

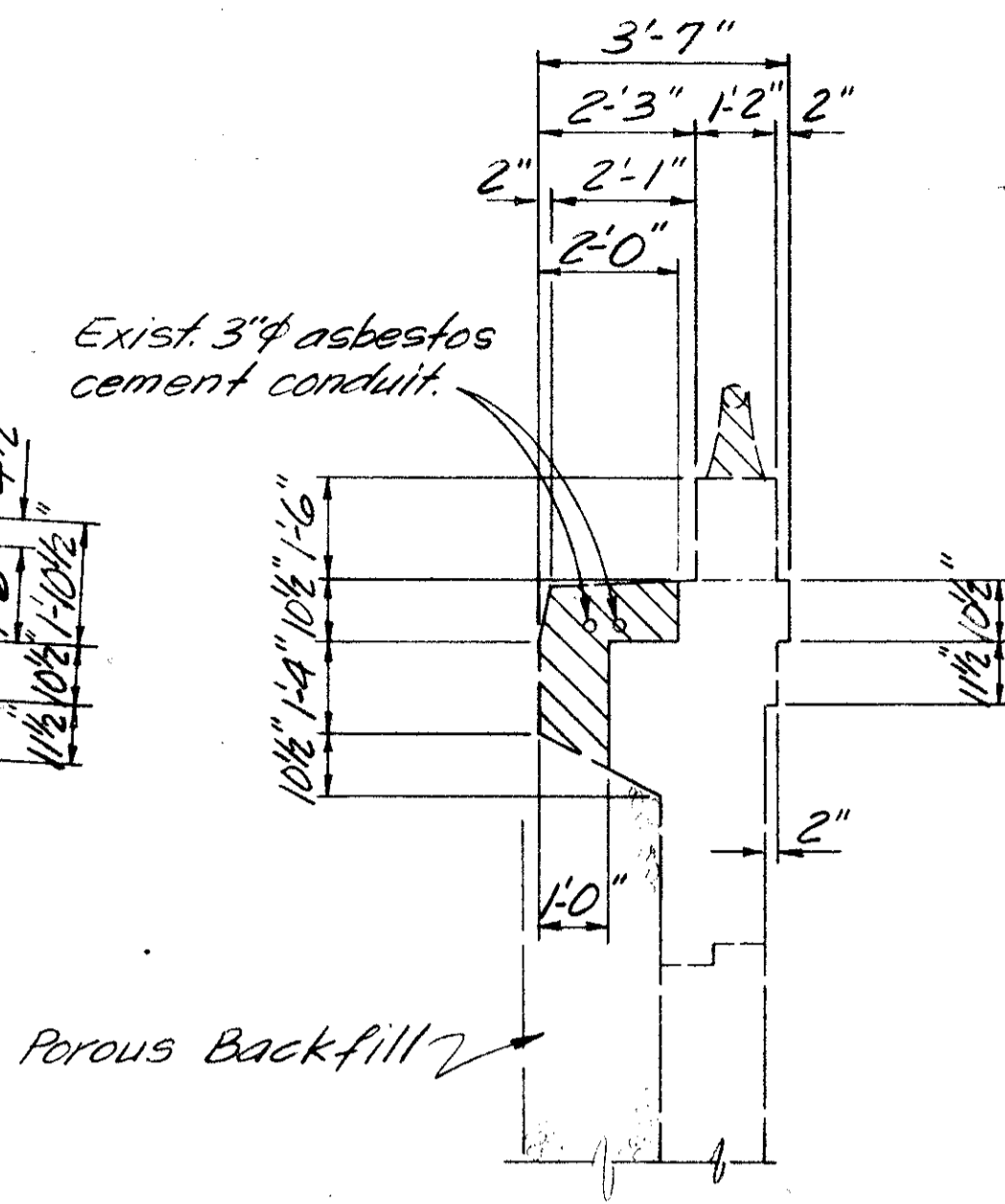
Denotes portion of existing structure to be removed.

- Notes:
- For Section A-A & B-B, see Sht. 4/14. For Elevation E-E, see Sht. 6/14.
  - E.F. = Each Face  
F.F. = Far Face  
N.F. = Near Face  
PEJF = Performed Expansion Joint Filler

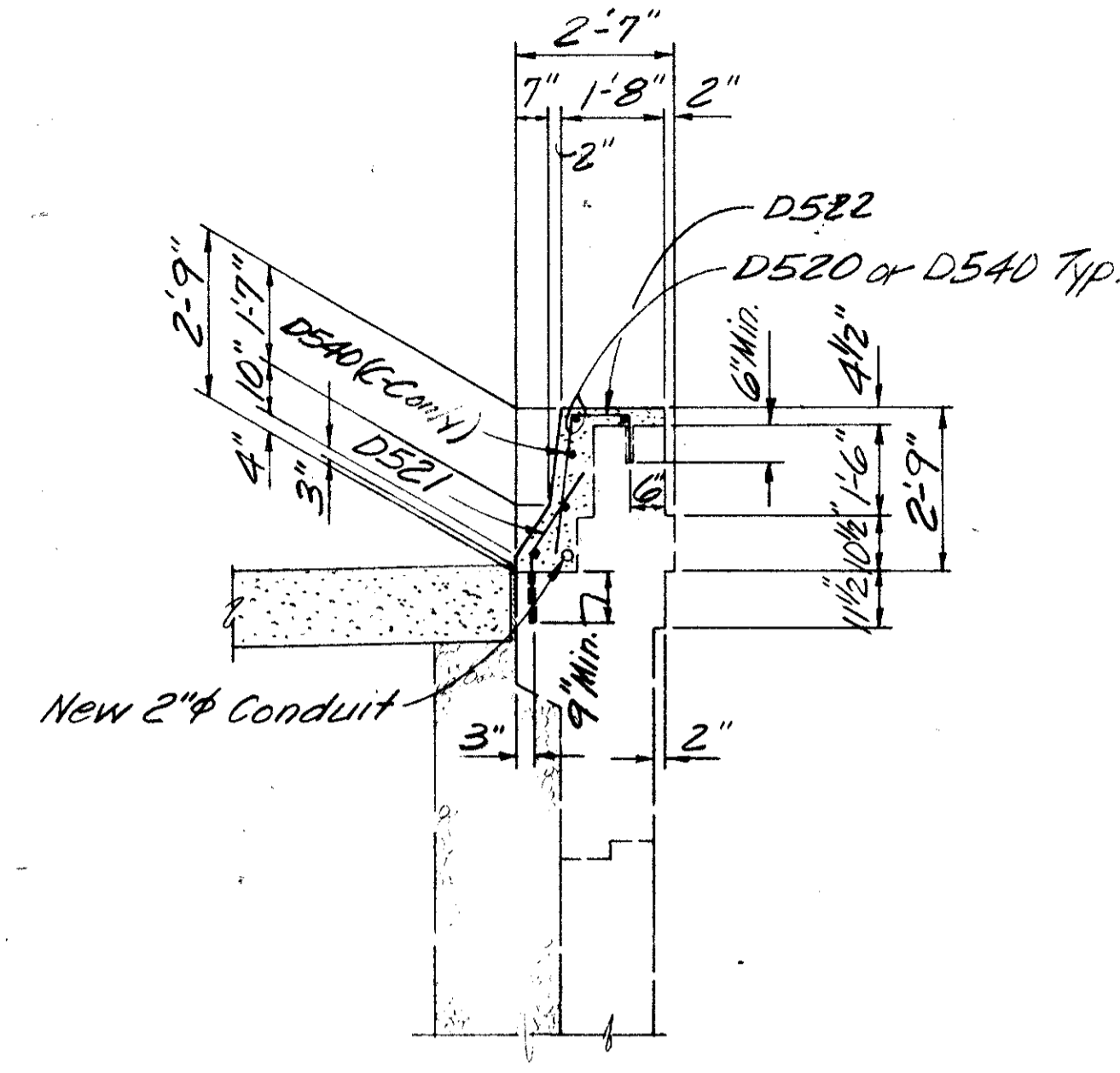
BALKE ENGINEERS		5/14	
1848 SUMMIT RD. CINCINNATI, OHIO 45237			
<b>ABUTMENT A</b>			
BRIDGE NO. HAM-50-2011 R & L SIXTH STREET EXPRESSWAY OVER CONRAIL AND LINN STREET			
DESIGNED	DRAWN	TRACED	CHECKED
MRS	WJH	~	DWI
REVIEWED	DATE	REVISED	
CRS	4/92		



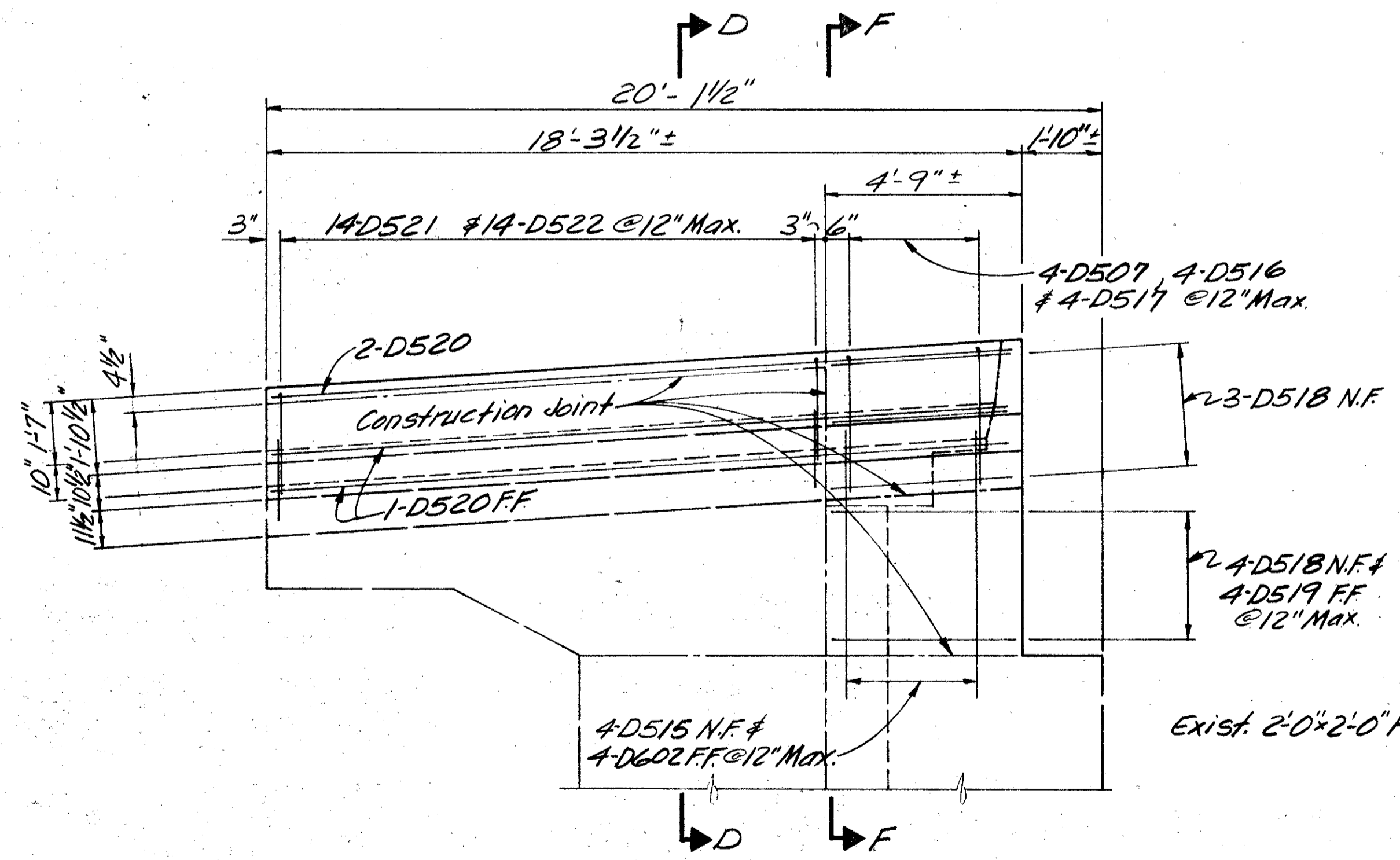
ELEVATION C-C



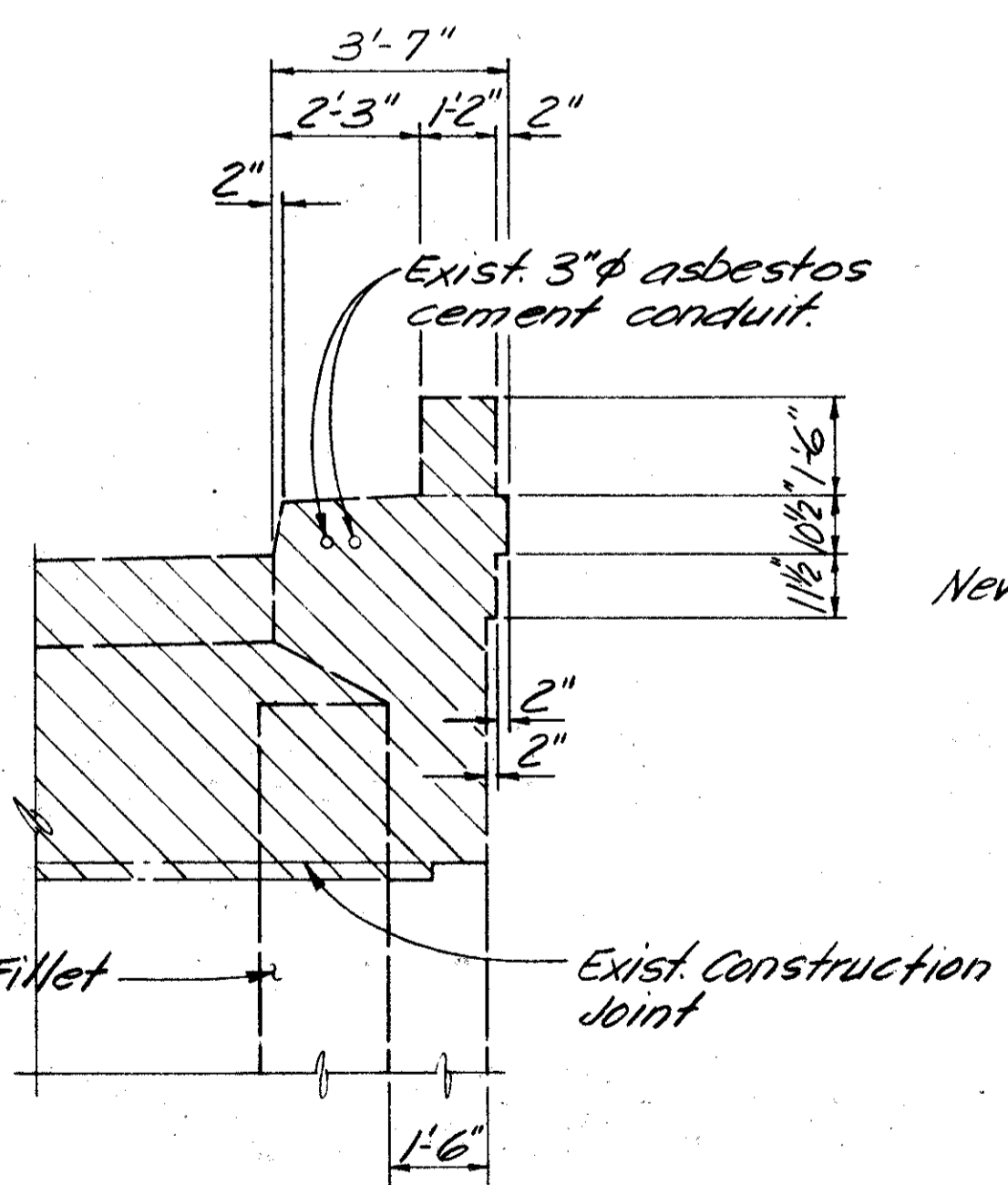
SECTION D-D (Showing Removal)



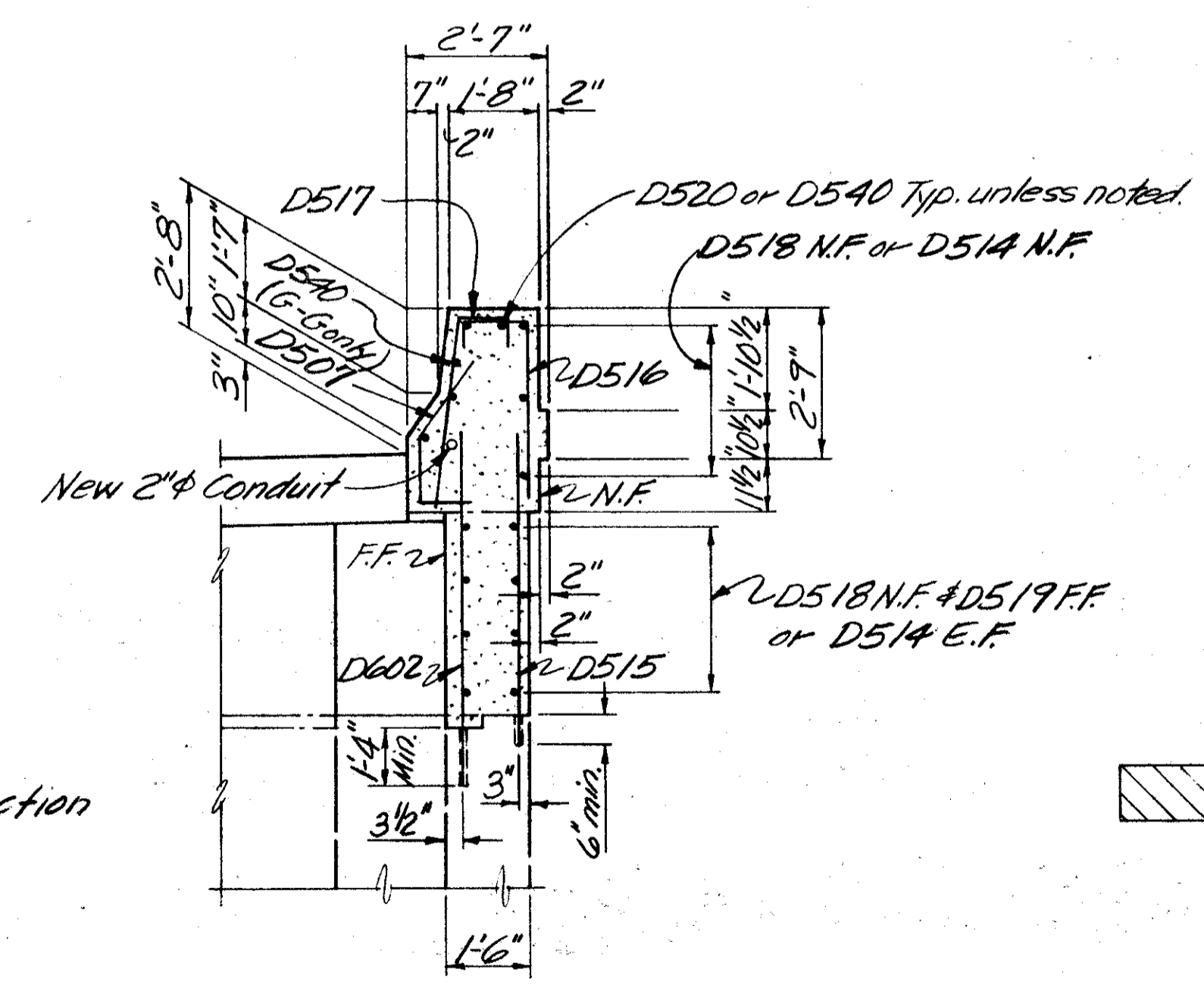
SECTION D-D



ELEVATION E-E



SECTION F-F (Showing Removal)

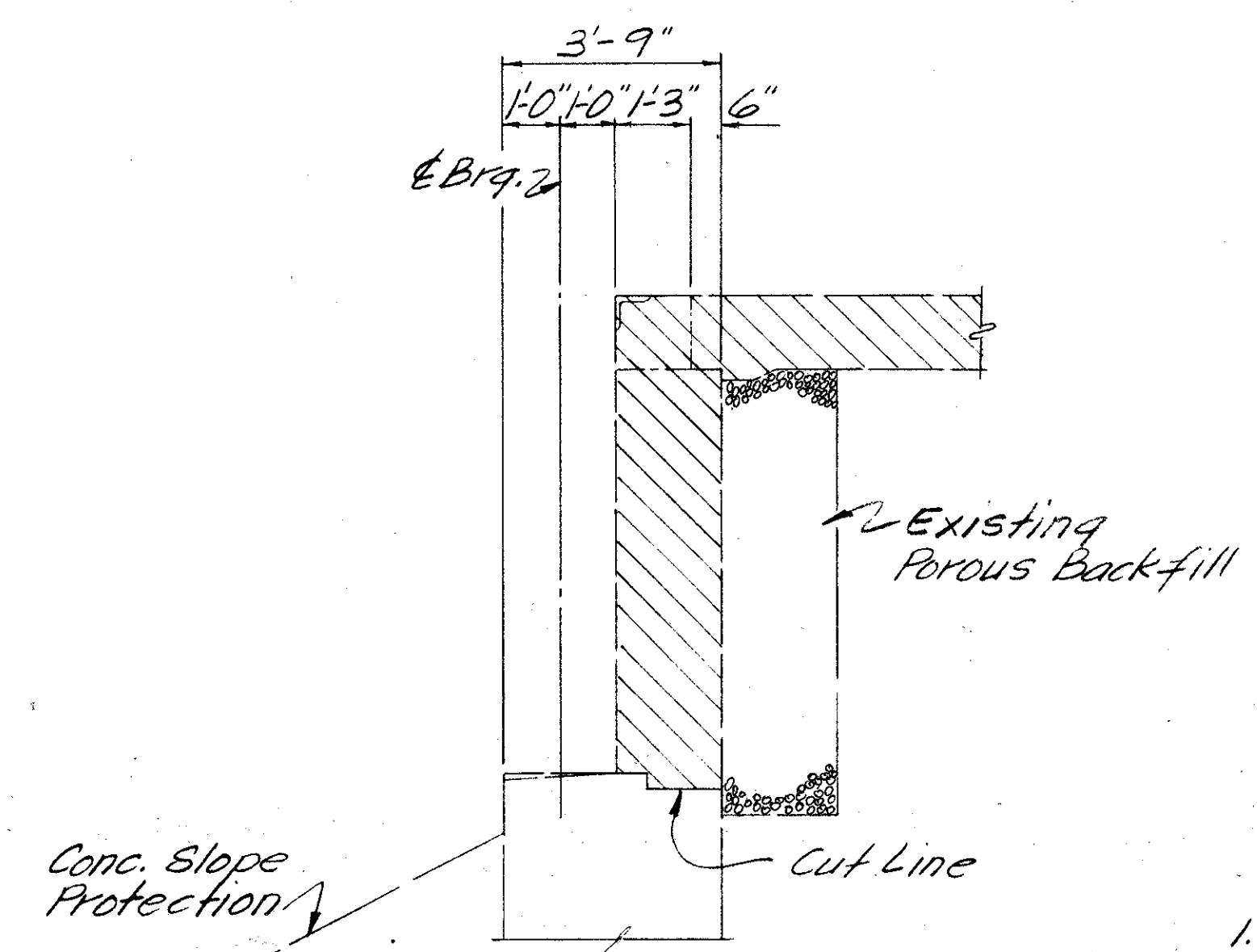
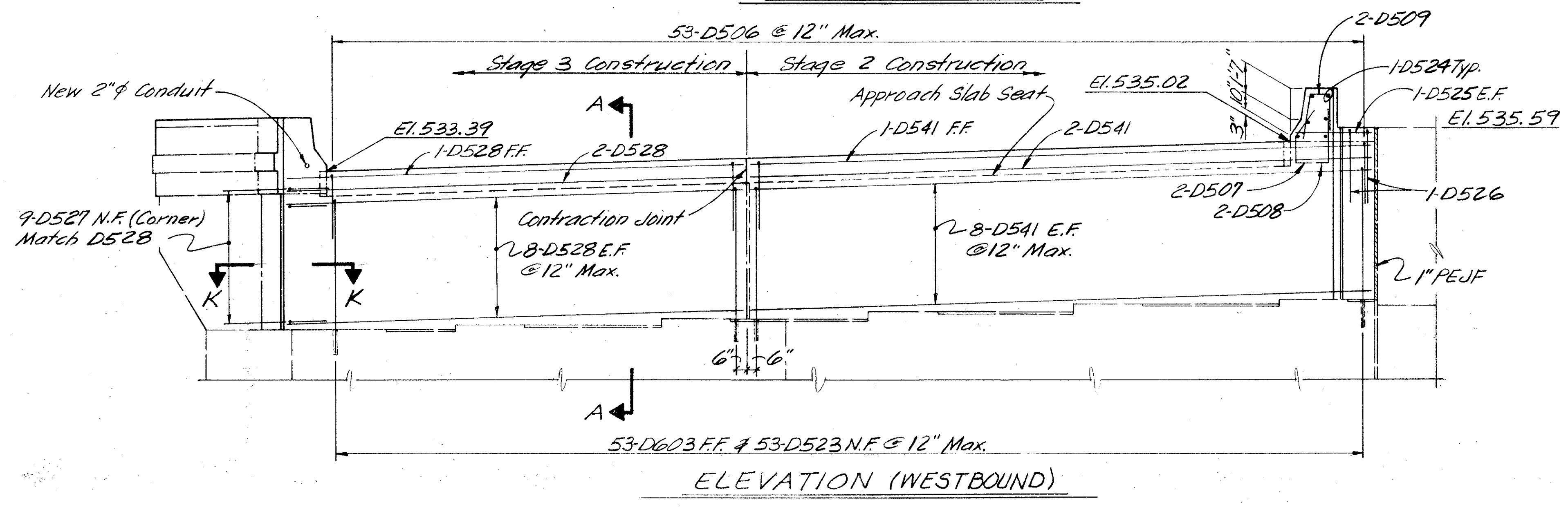
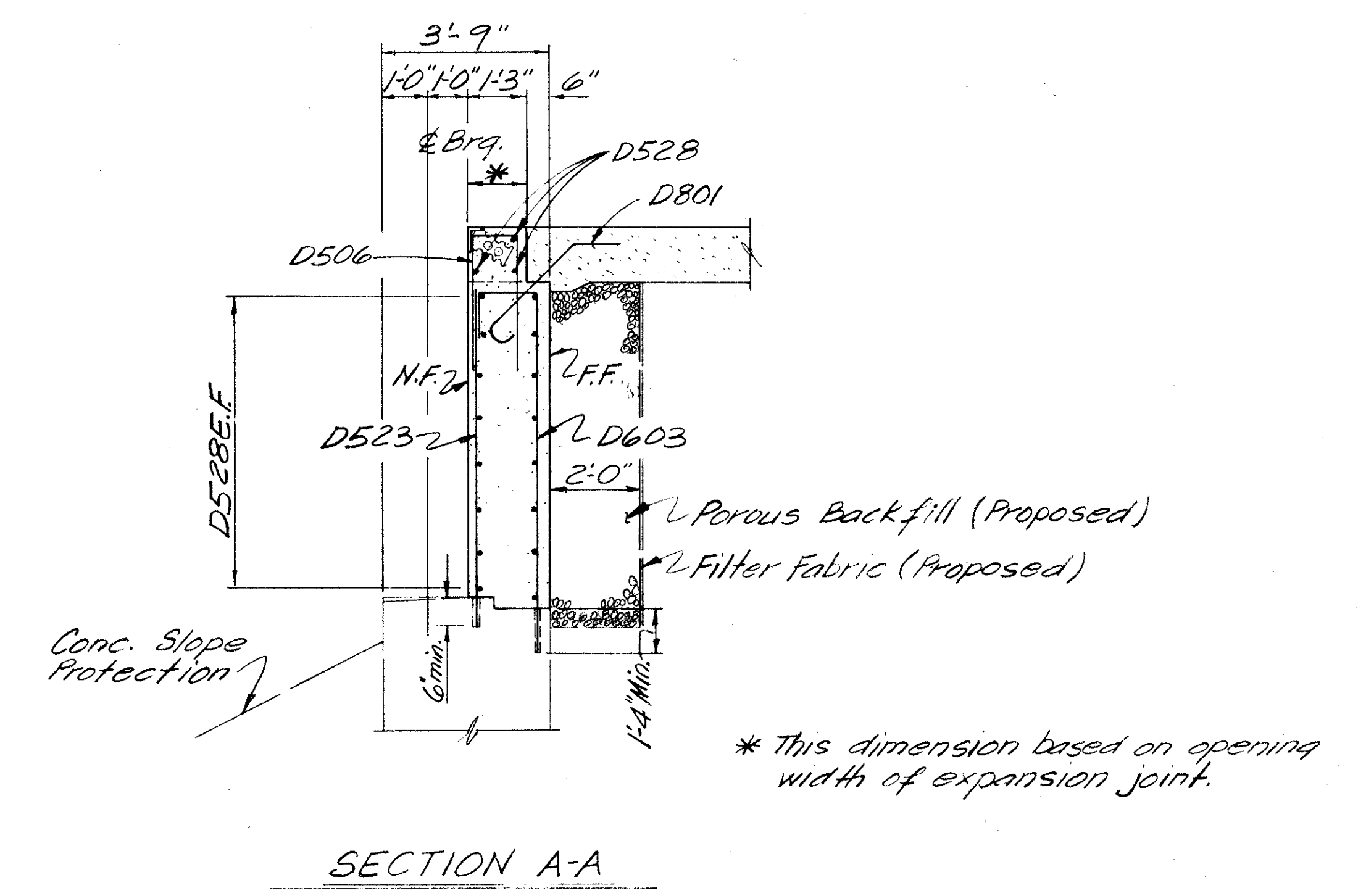
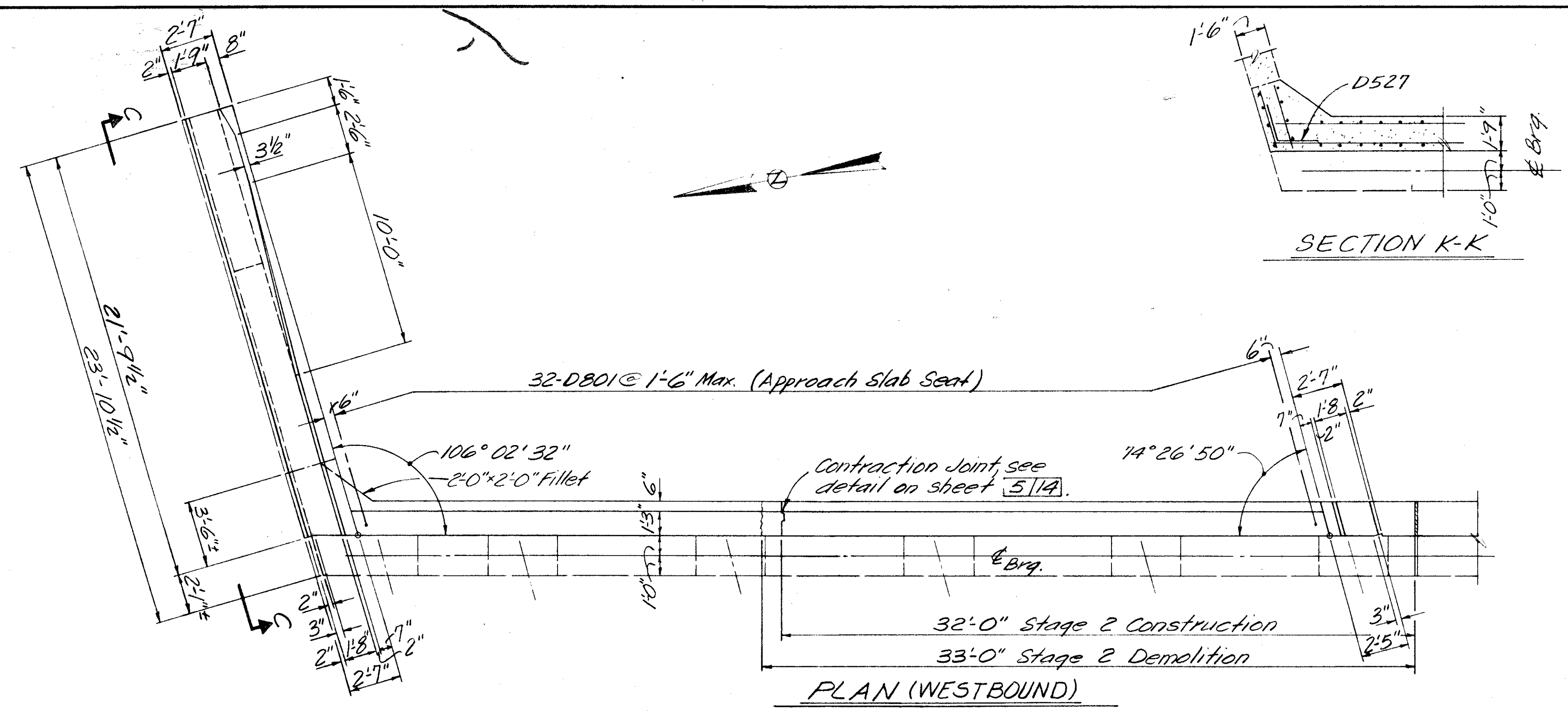


SECTION F-F

Notes:  
 1. E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face  
 2. For Section W-W, X-X, Y-Y & Z-Z see Sheet 10/14.

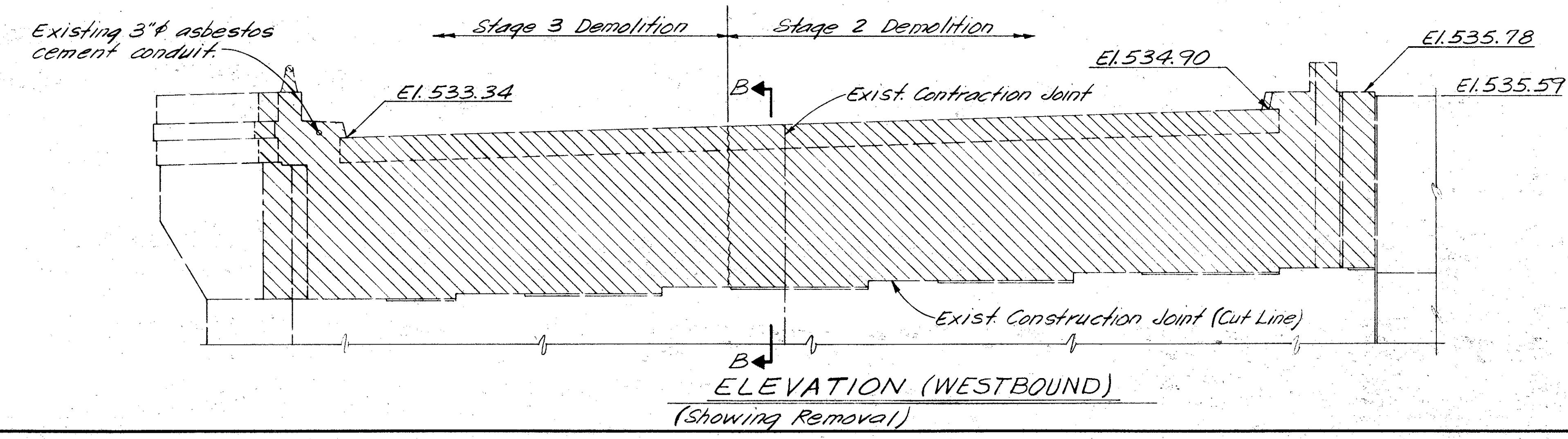
Denotes portion of existing structure to be removed.

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237				6/14
<b>ABUTMENT A</b> BRIDGE NO. HAM-50-2011 R#L SIXTH STREET EXPRESSWAY OVER CONRAIL AND LINN STREET				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS 4/92
				REVISED

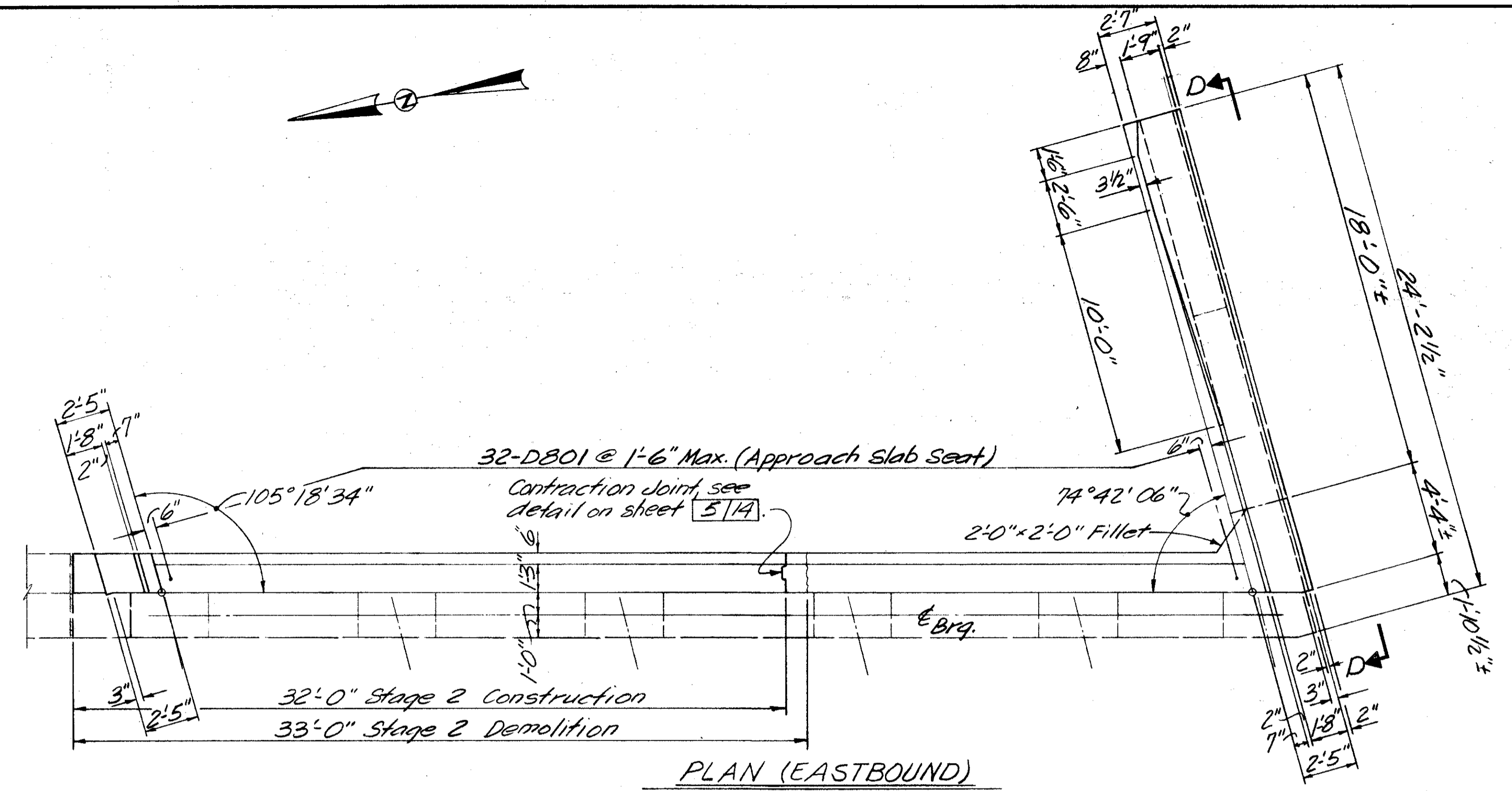
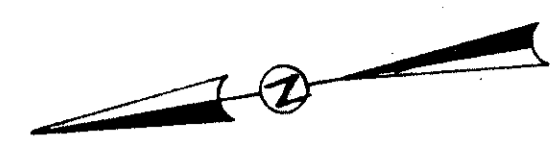


Notes:

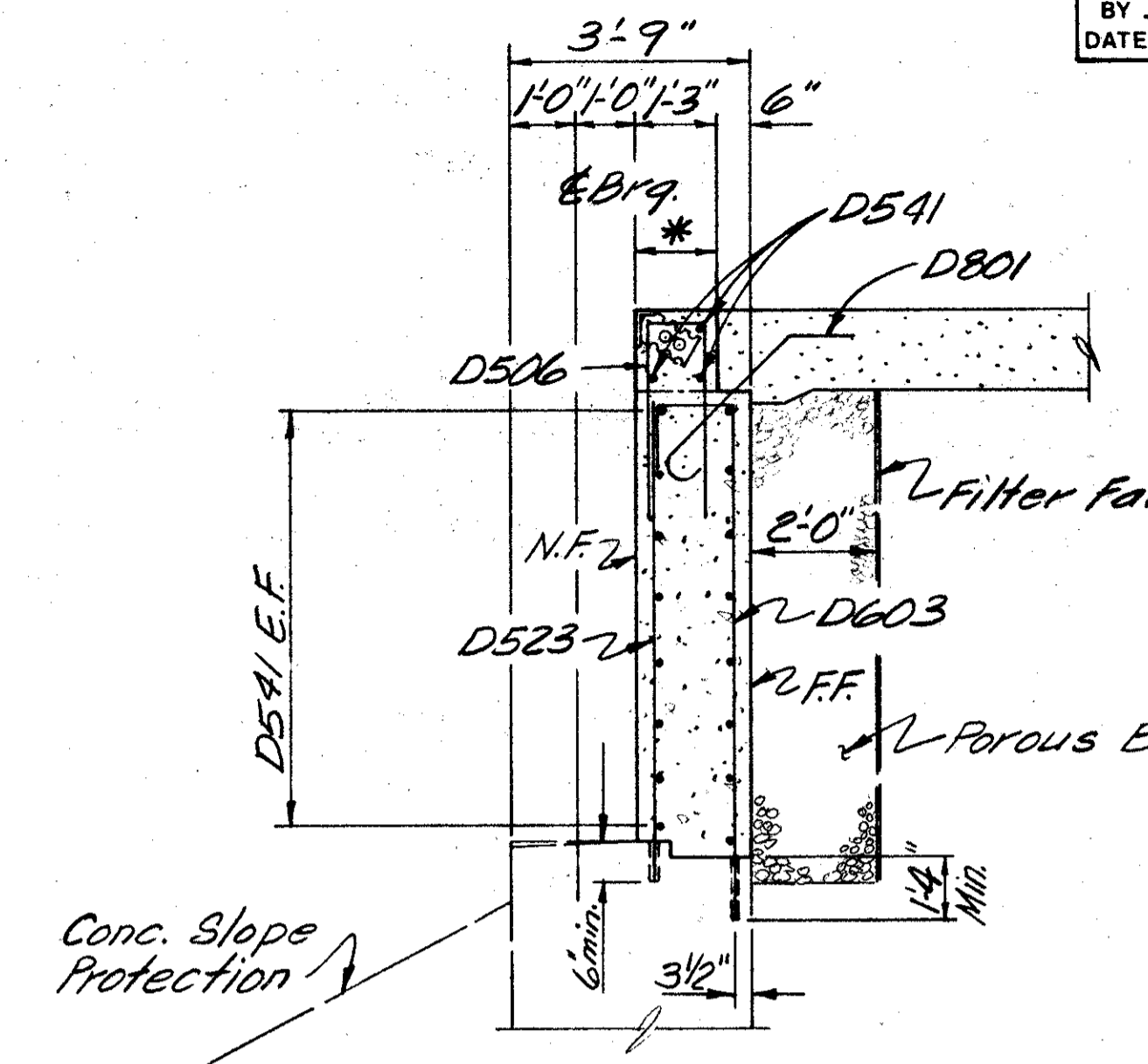
1. E.F = Each Face  
F.F. = Far Face  
N.F. = Near Face  
PEJF = Preformed Expansion Joint Filler.  
2. For Elevation C-C, see Sht. 9/14.



BALKE ENGINEERS 7/14 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
ABUTMENT B BRIDGE NO. HAM-50-2011 R&L SIXTH STREET EXPRESSWAY OVER CON. RAIL AND LINN STREET				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS 4/92

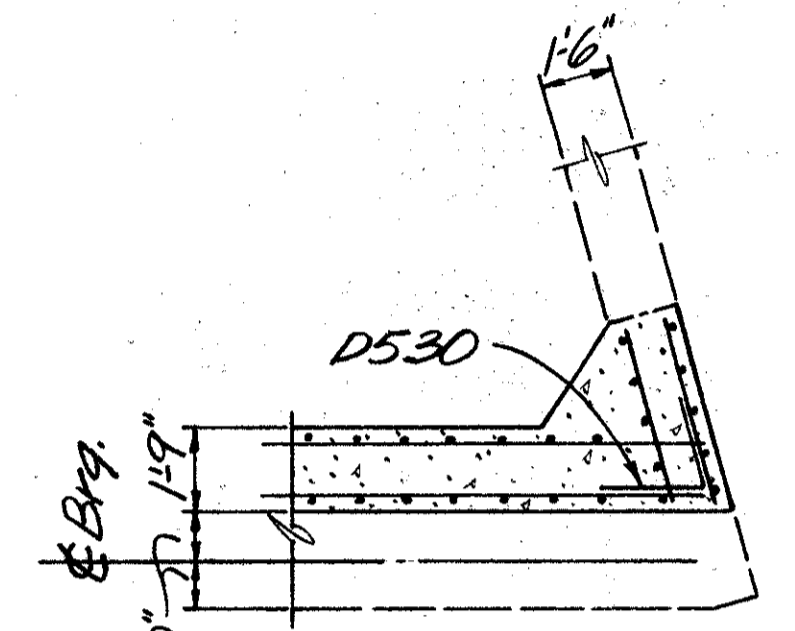


PLAN (EASTBOUND)

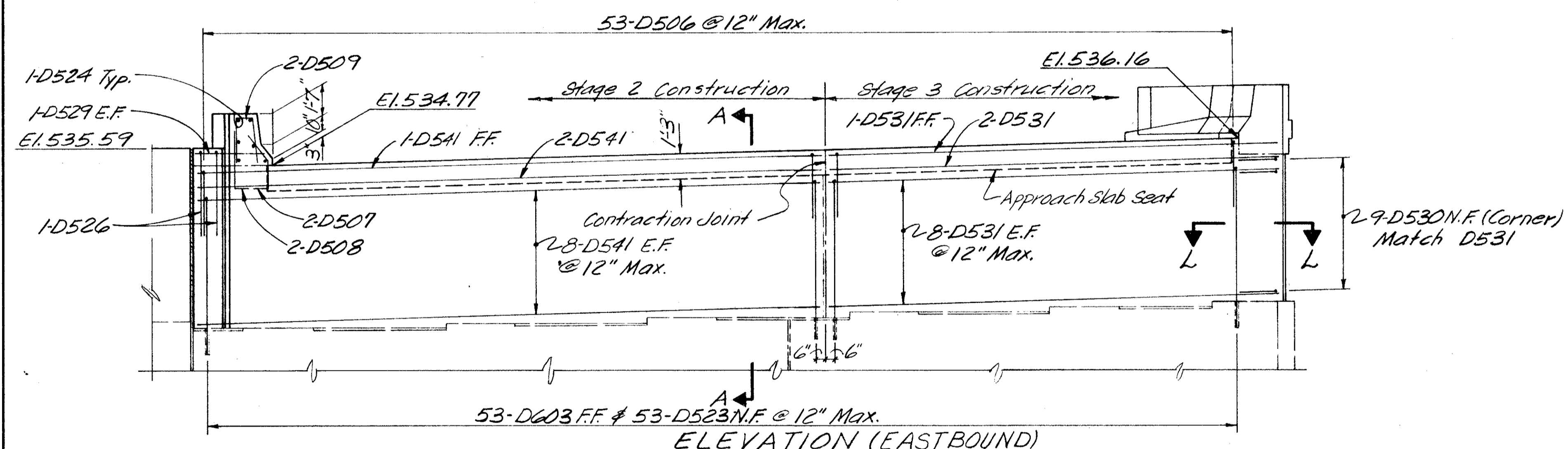


SECTION A-A

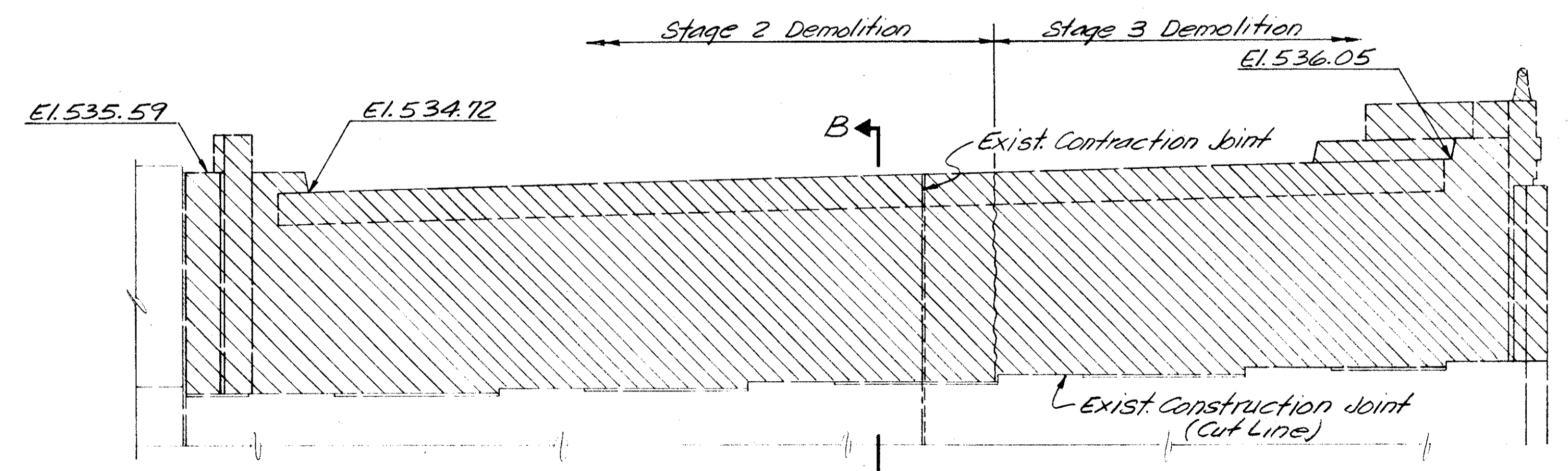
\* This dimension based on opening width of expansion joint.



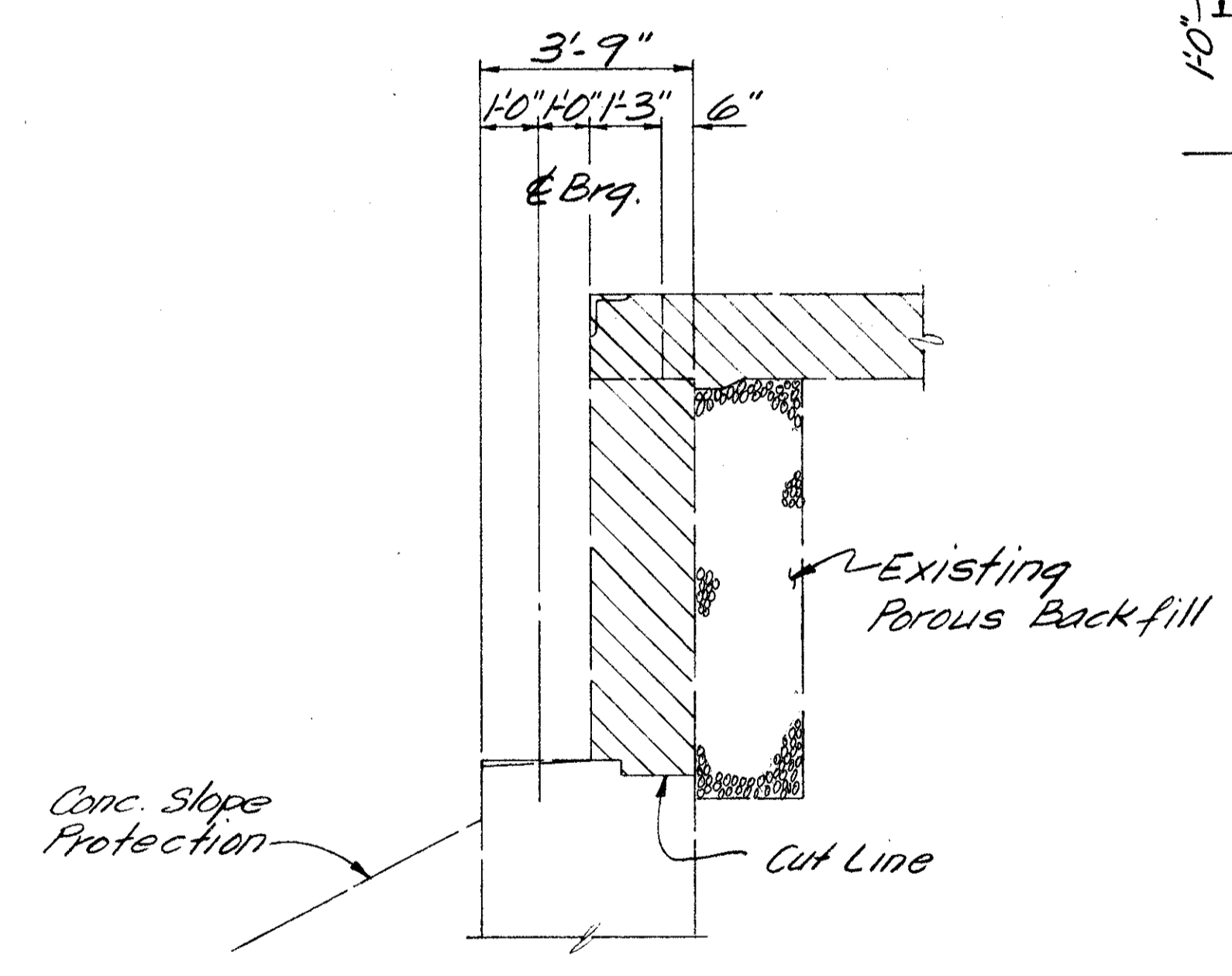
SECTION L-L



ELEVATION (EASTBOUND)



ELEVATION (EASTBOUND)  
(Showing Removal)

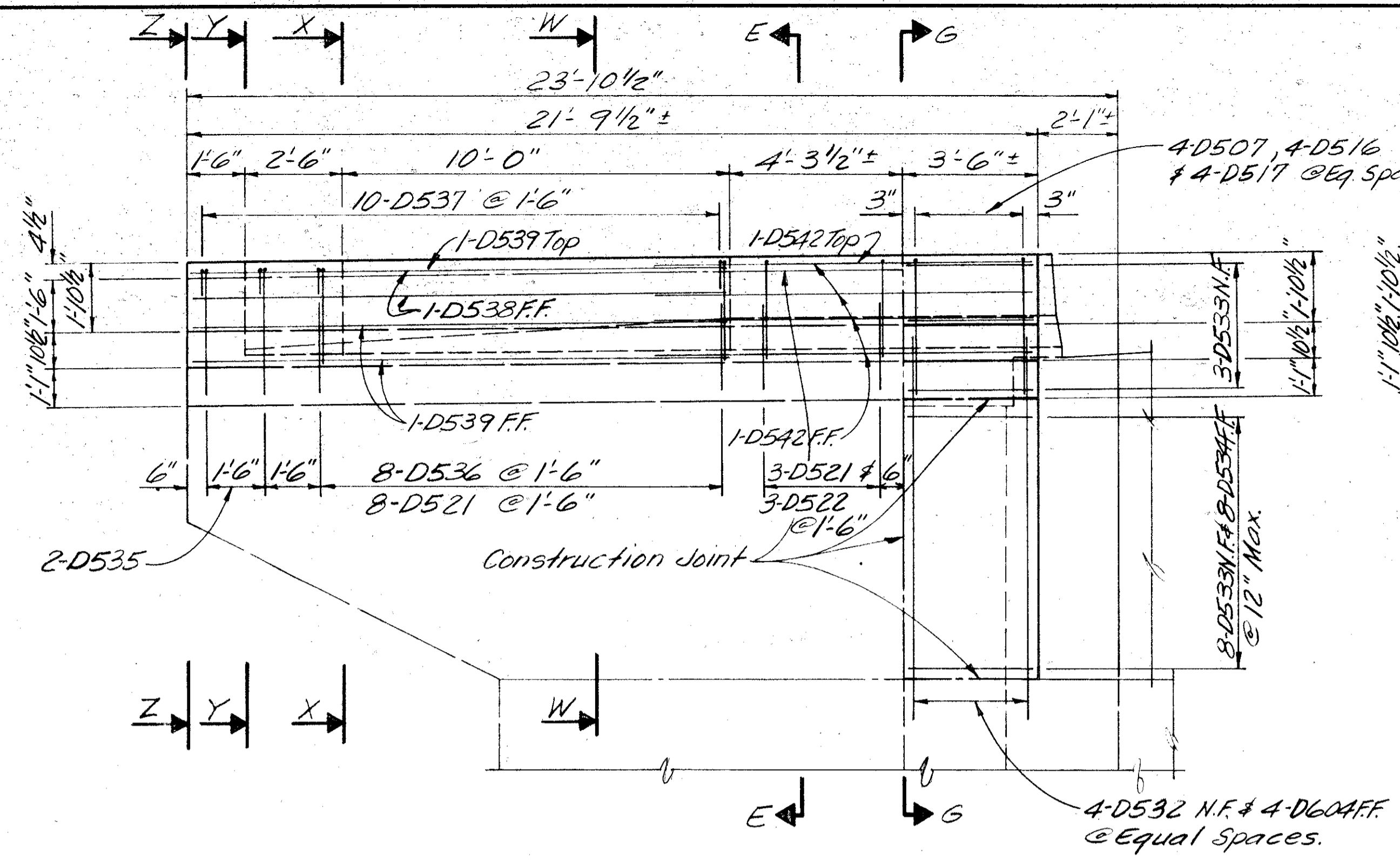


SECTION B-B  
(Showing Removal)

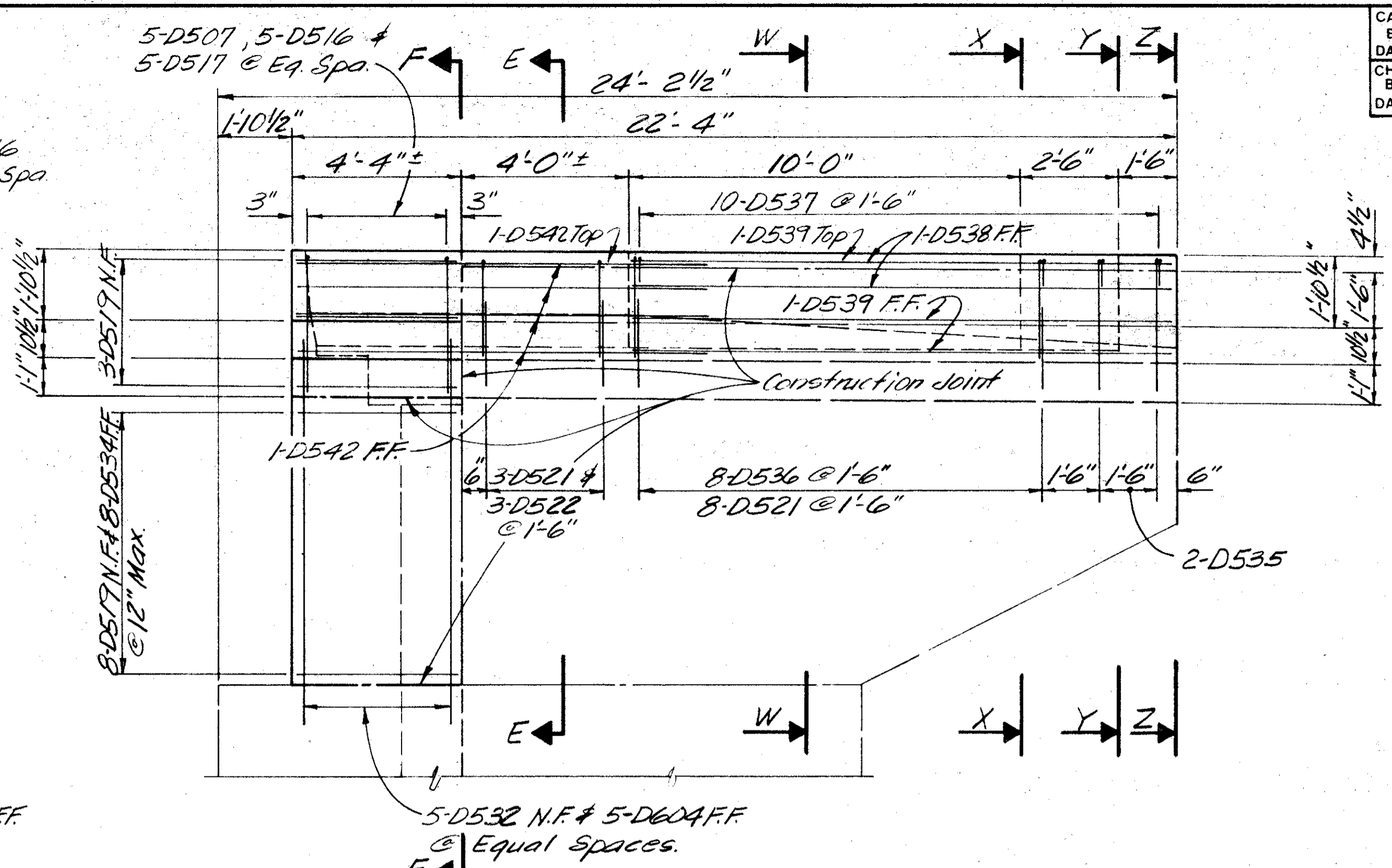
Notes:  
1. E.F = Each Face  
FF = Far Face  
N.F = Near Face  
2. For Elevation D-D, see Sht. 9/14.

Denotes portion of existing structure to be removed.

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237					8/14
ABUTMENT B BRIDGE NO. HAM-50-2011 R & L. SIXTH STREET EXPRESSWAY OVER CONRAIL AND LINN STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	

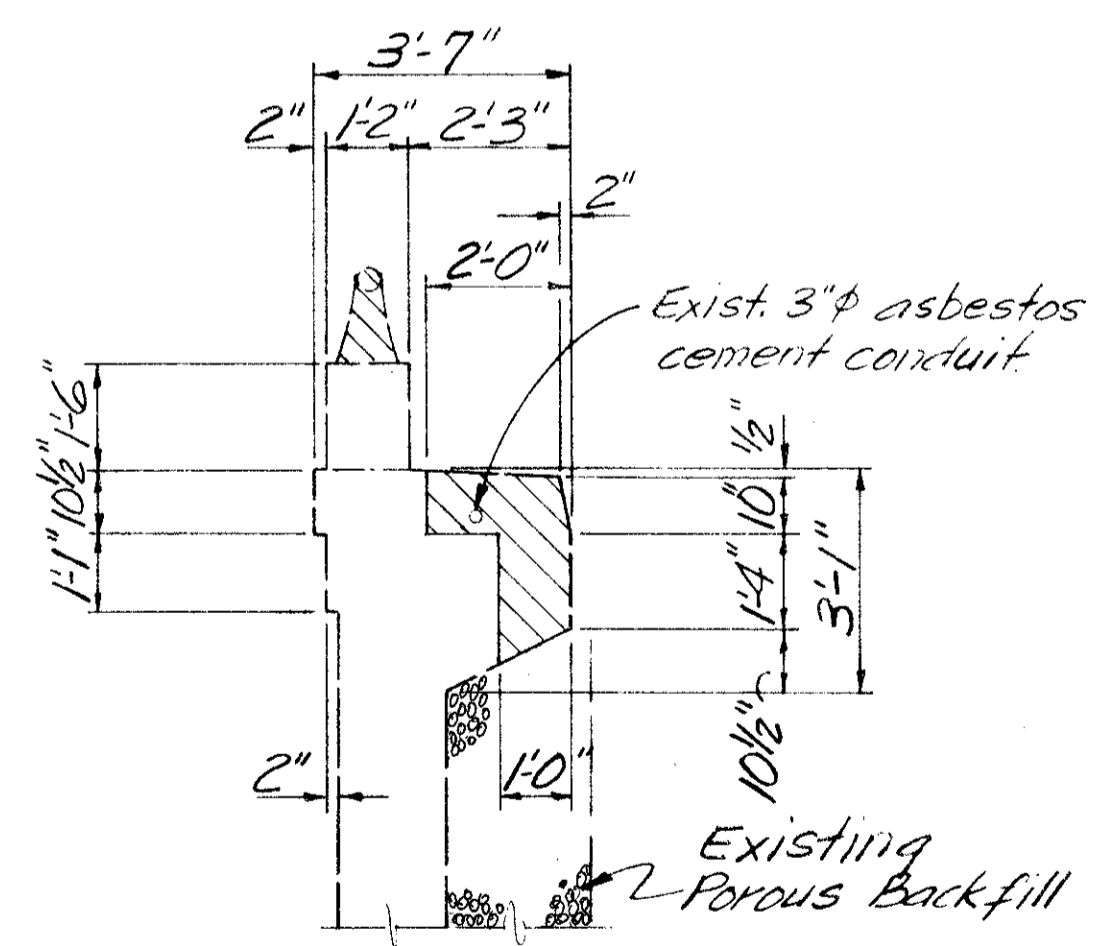


ELEVATION C-C

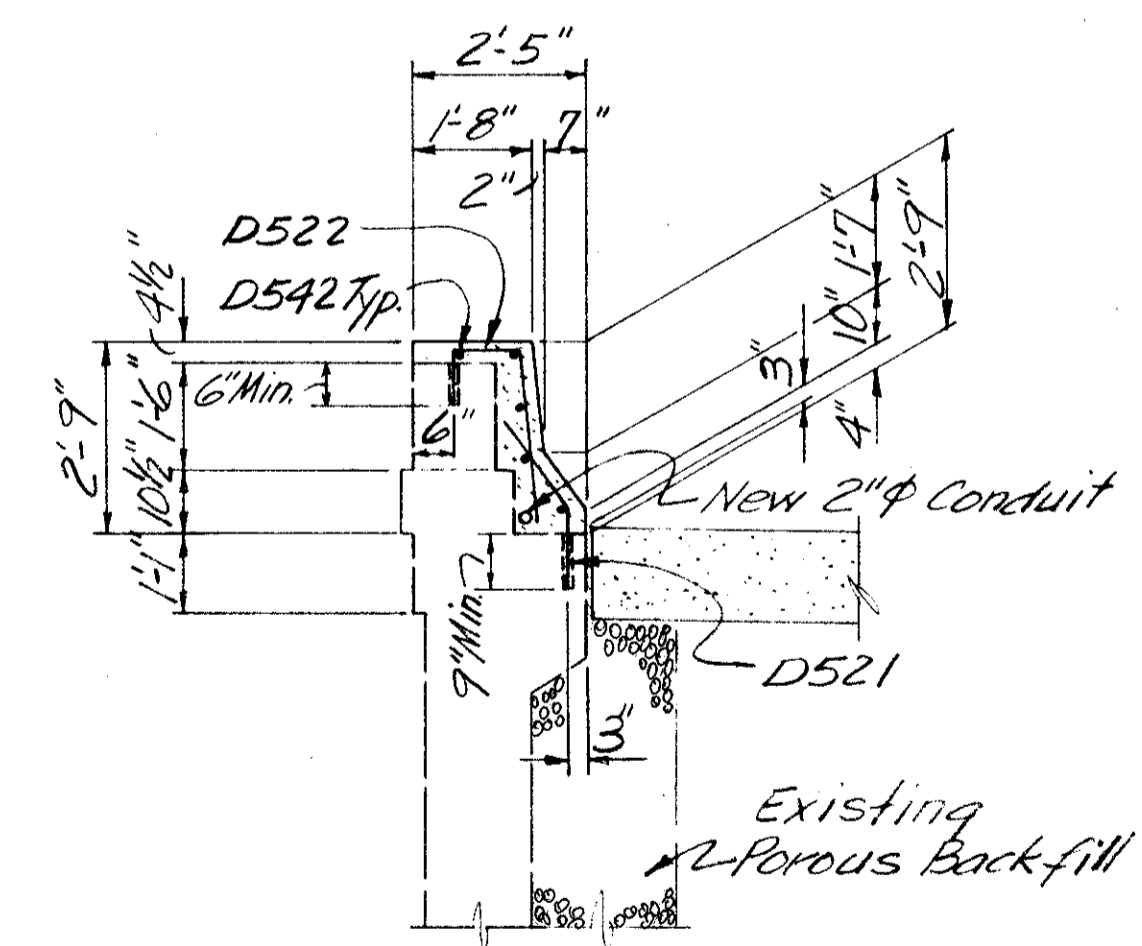


ELEVATION D-D

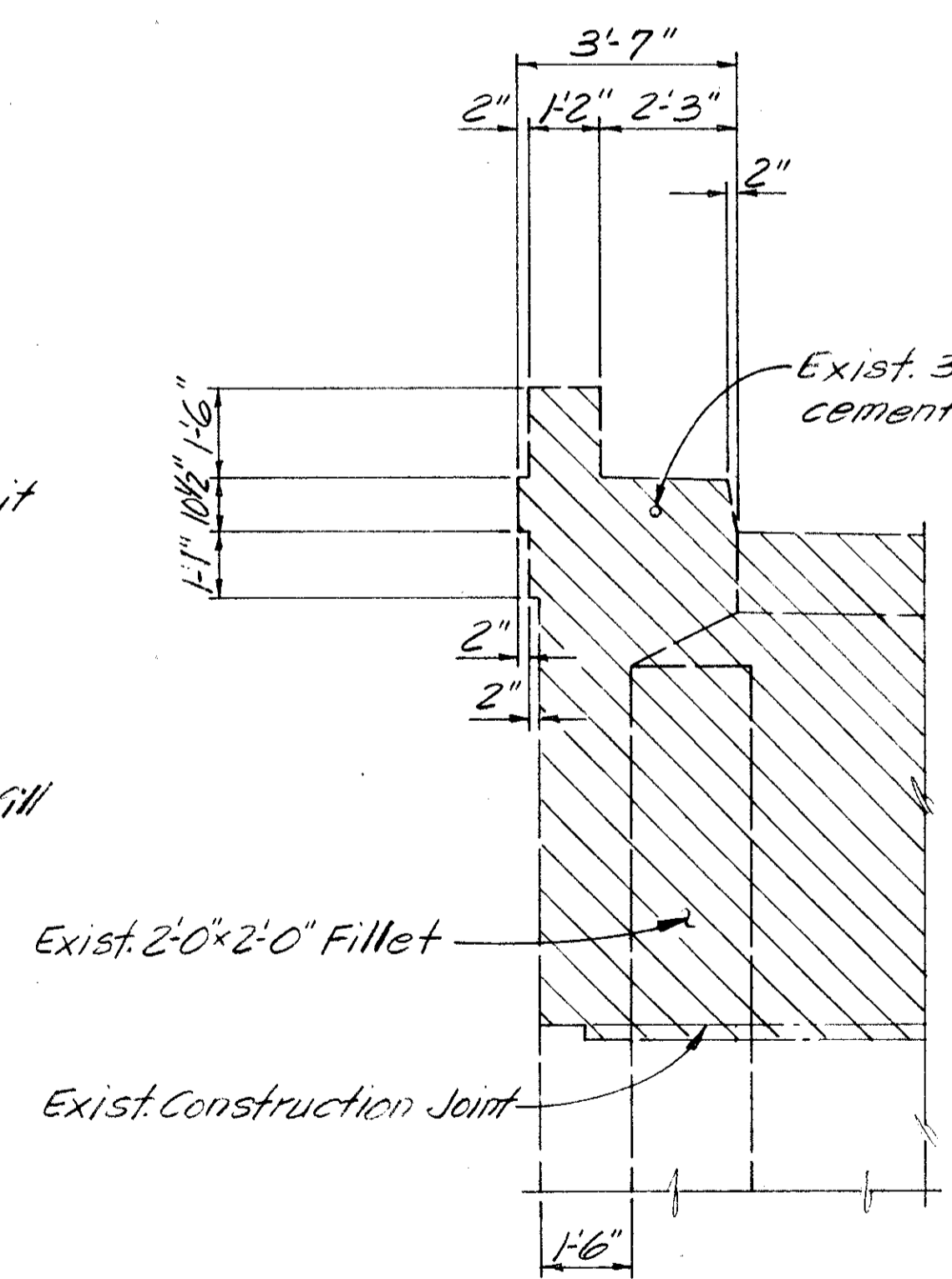
Notes:  
 1. F.F. = Far Face  
 N.F. = Near Face  
 2. For Section W-W, X-X, Y-Y & Z-Z, see Sheet 10/14.



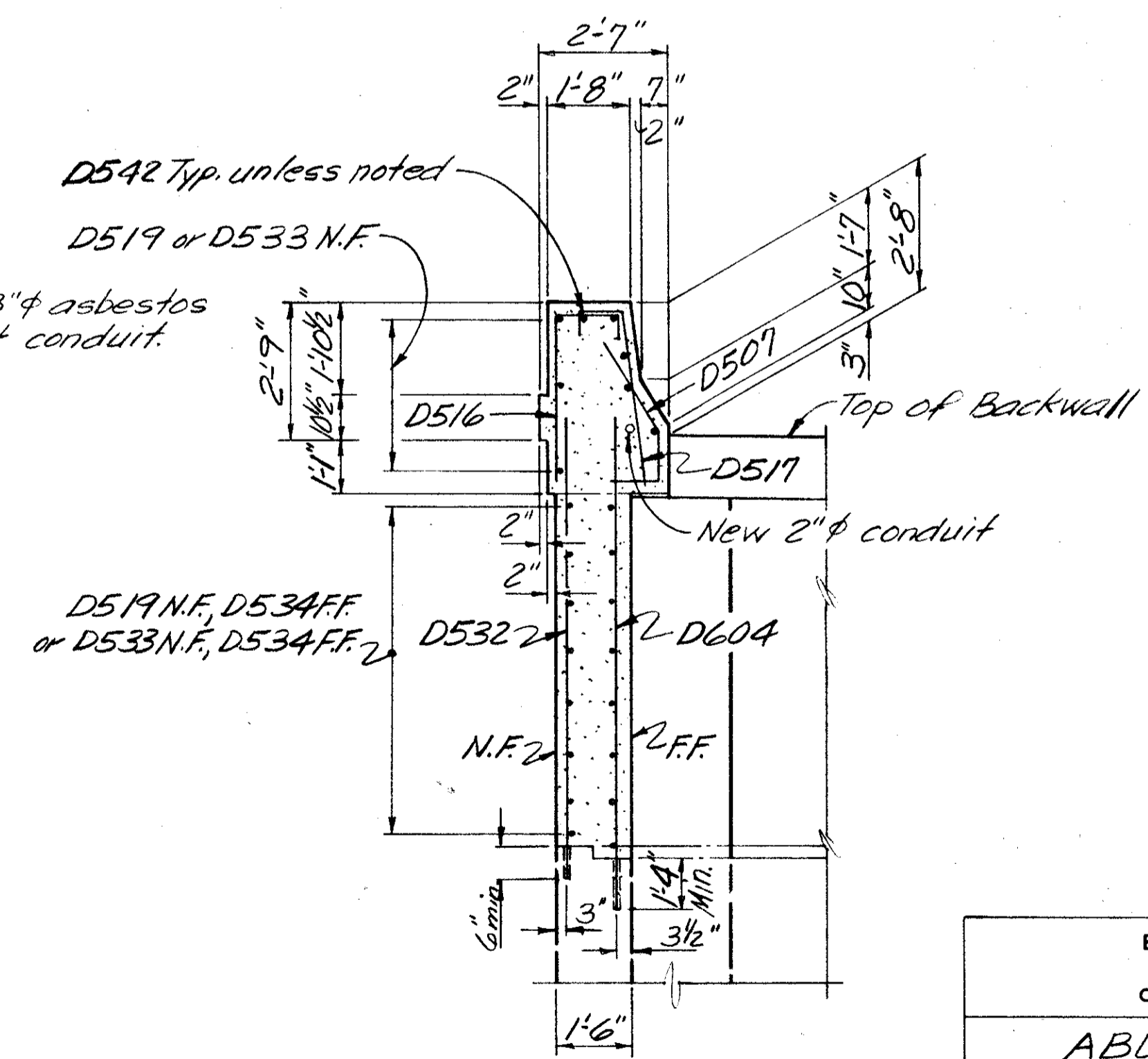
SECTION E-E  
(Showing Removal)



SECTION E-E



SECTION F-F  
SECTION G-G (OPPOSITE HAND)  
(Showing Removal)

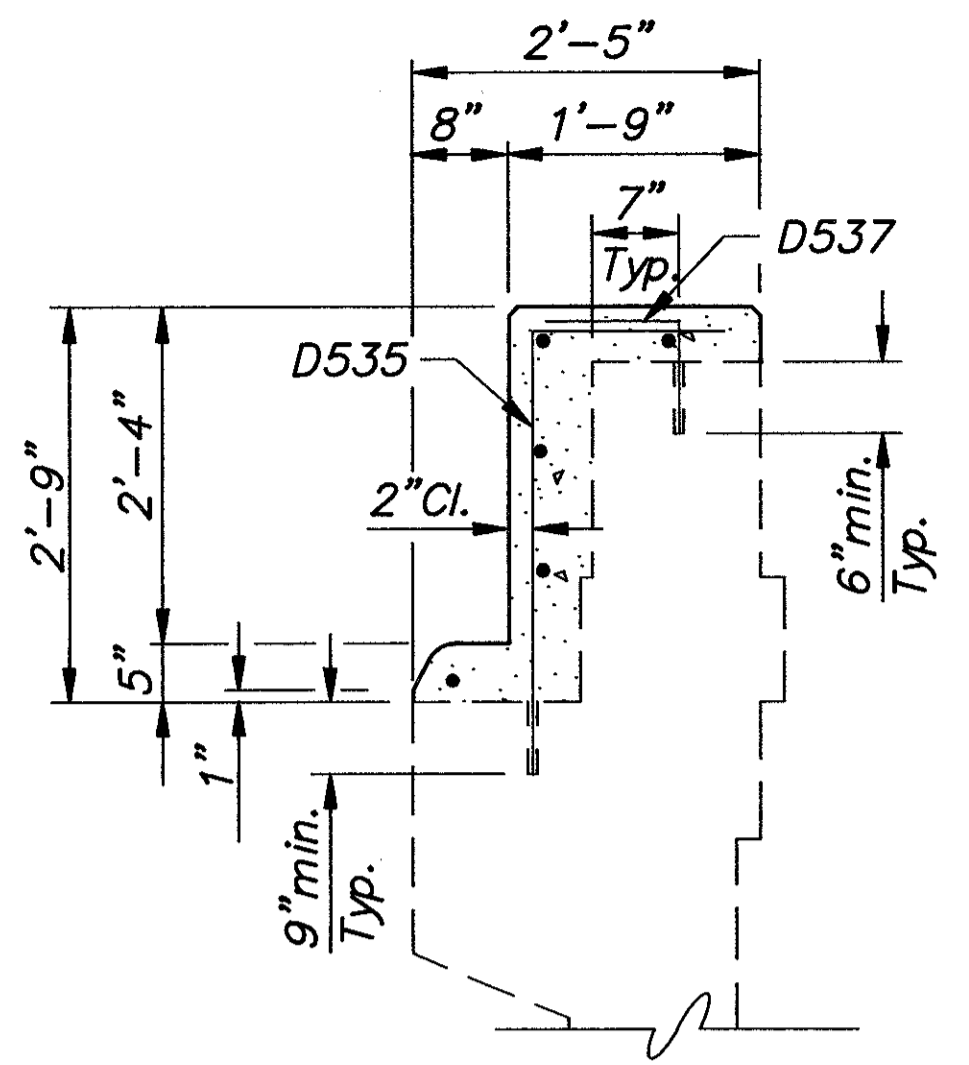


SECTION F-F  
SECTION G-G (OPPOSITE HAND)

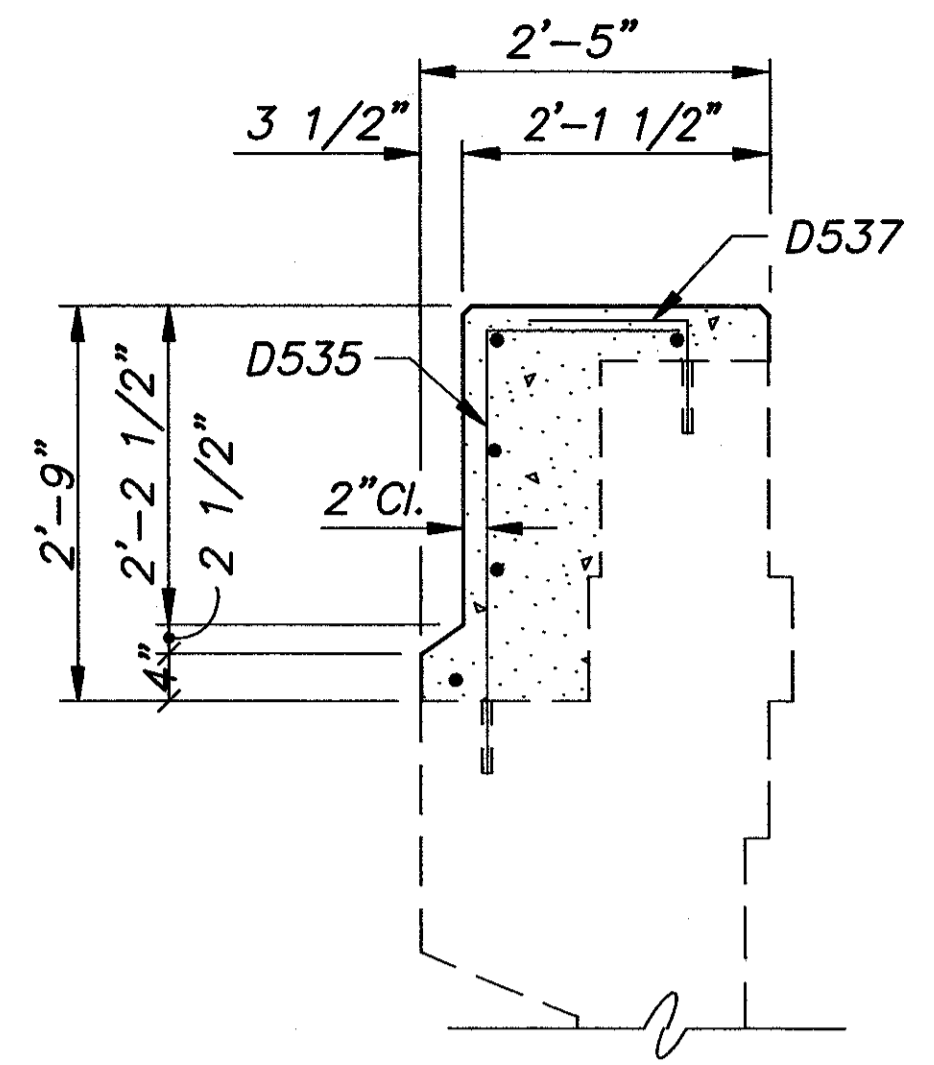
Denotes portion of existing structure to be removed.

BALKE ENGINEERS 9/14 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
ABUTMENT B BRIDGE NO. HAM-50-2011 R.#L. SIXTH STREET EXPRESSWAY OVER CONRAIL AND LINN STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	

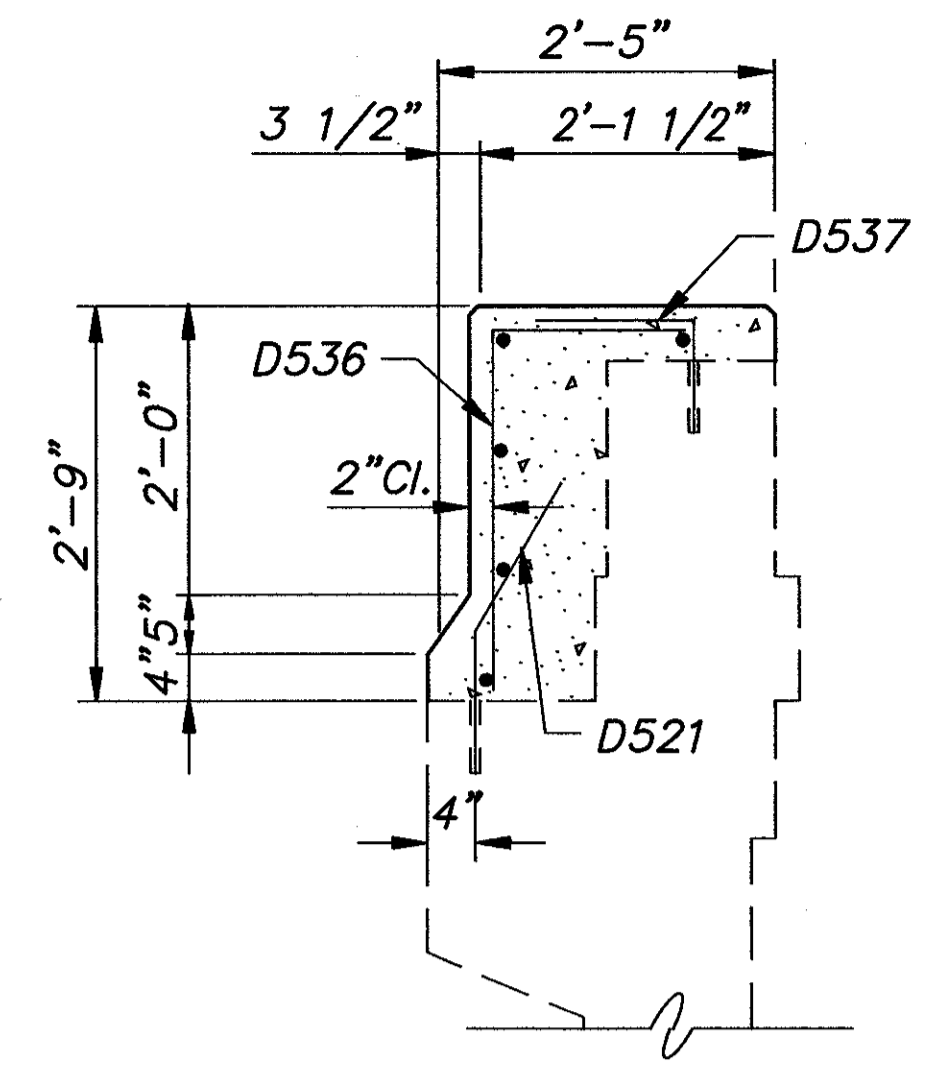




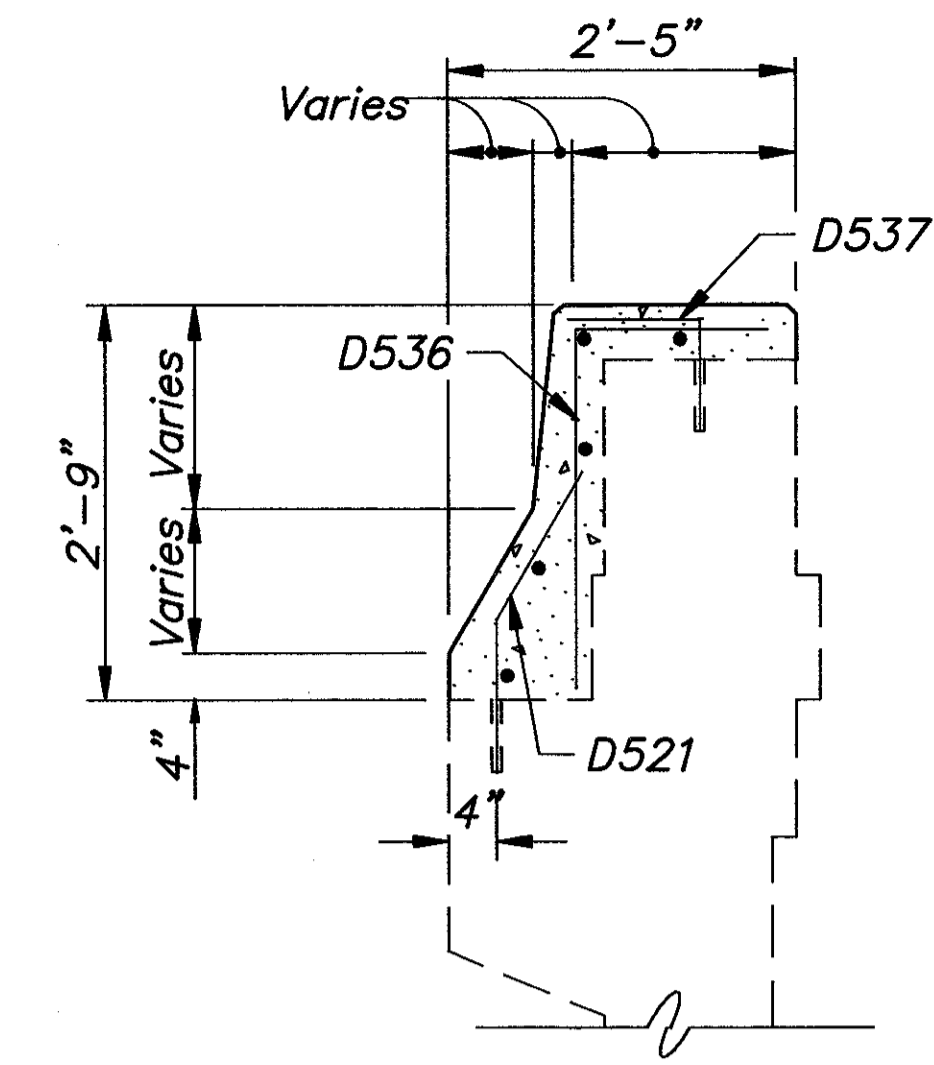
**SECTION Z-Z**



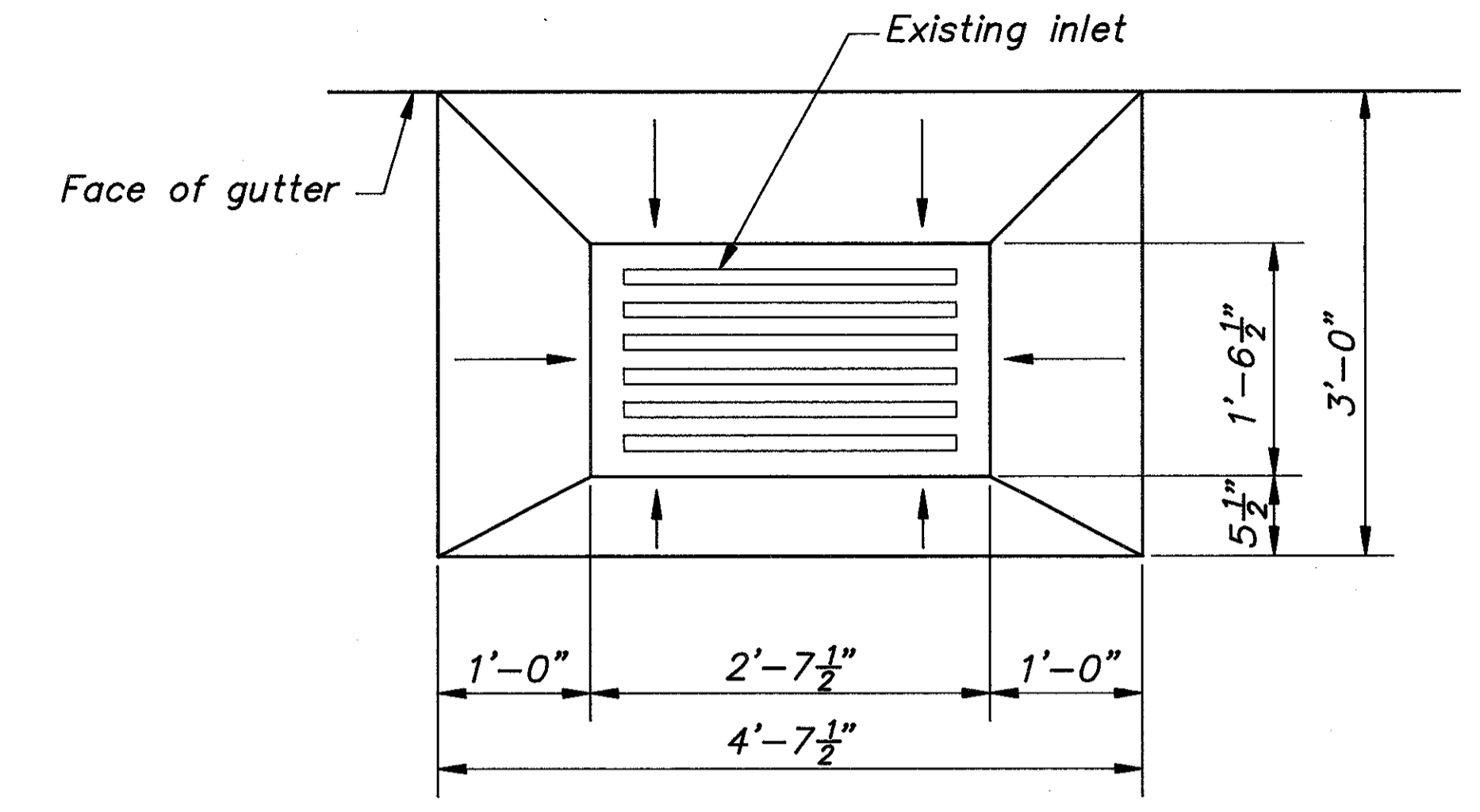
**SECTION Y-Y**



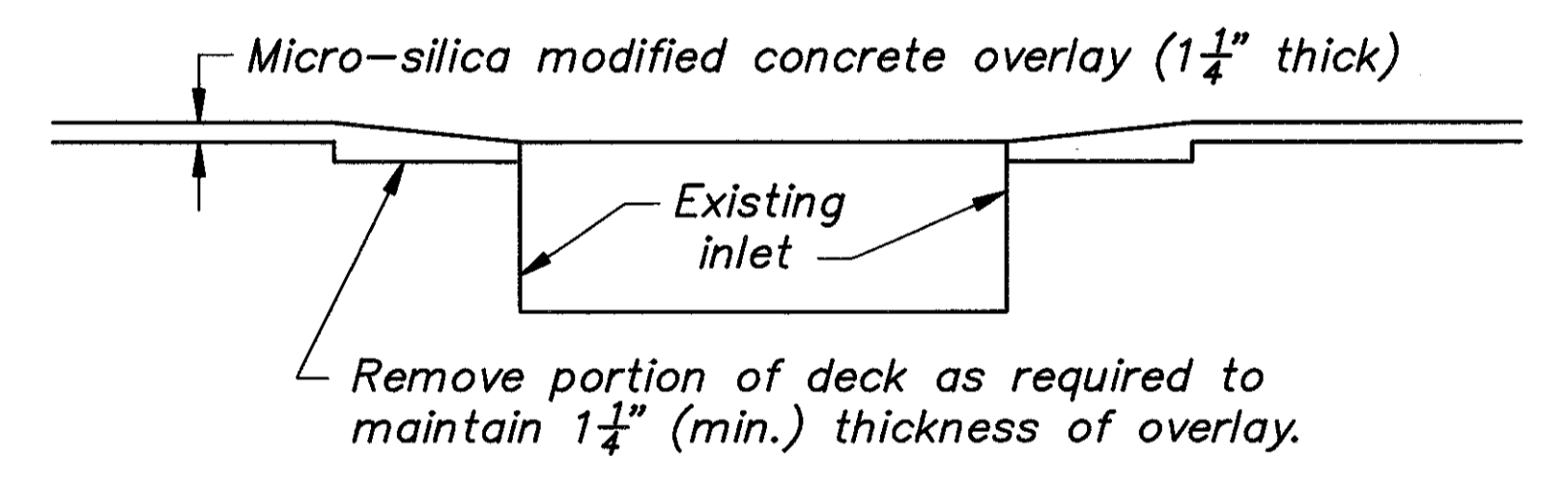
**SECTION X-X**



**SECTION W-W**



**PLAN AT INLET**



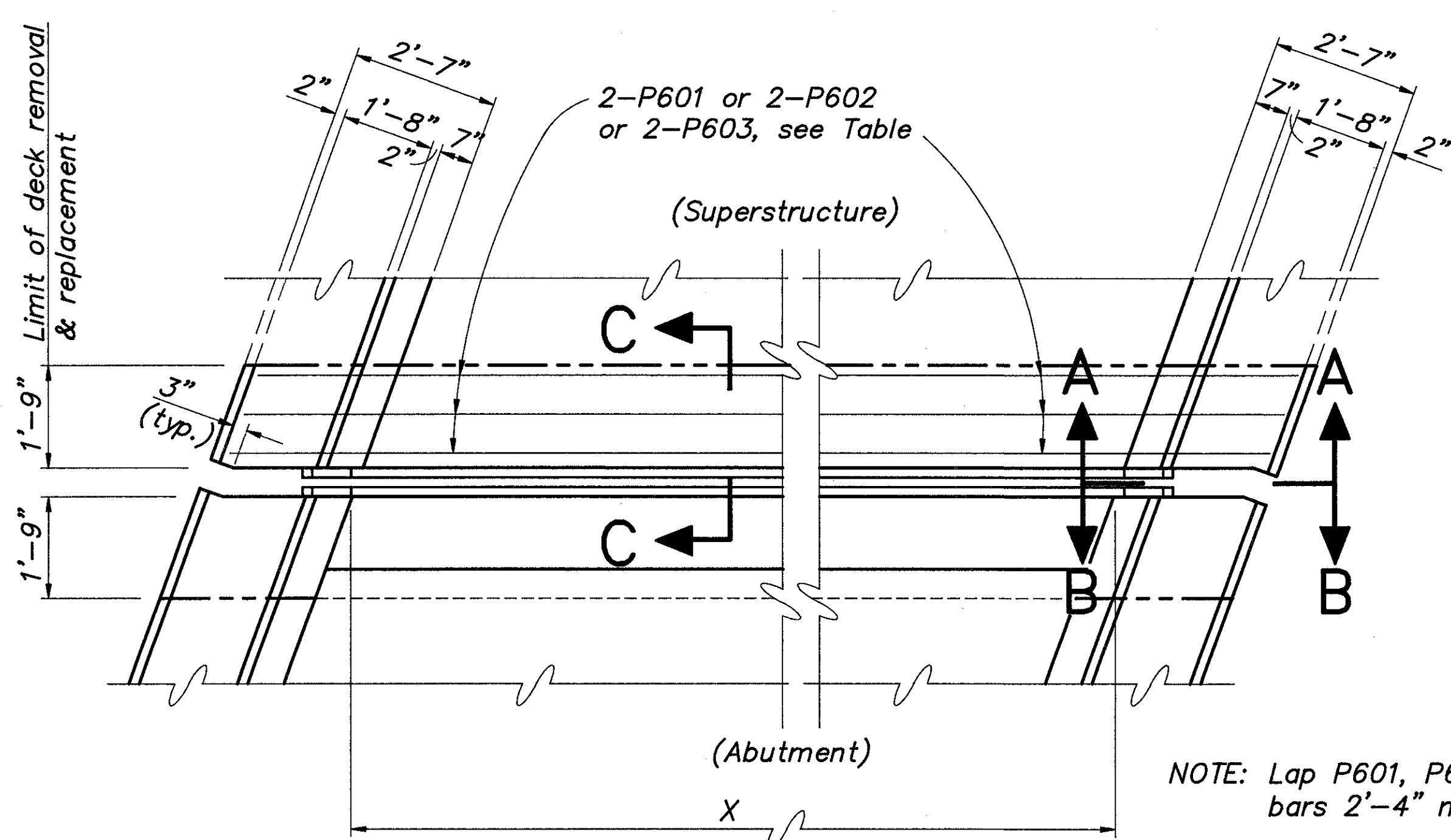
**SECTION THRU INLET**

BALKE ENGINEERS 10/14  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

MISCELLANEOUS DETAILS  
BRIDGE NO. HAM-50-2011 R & L  
SIXTH STREET EXPRESSWAY  
OVER CONRAIL AND LINN STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

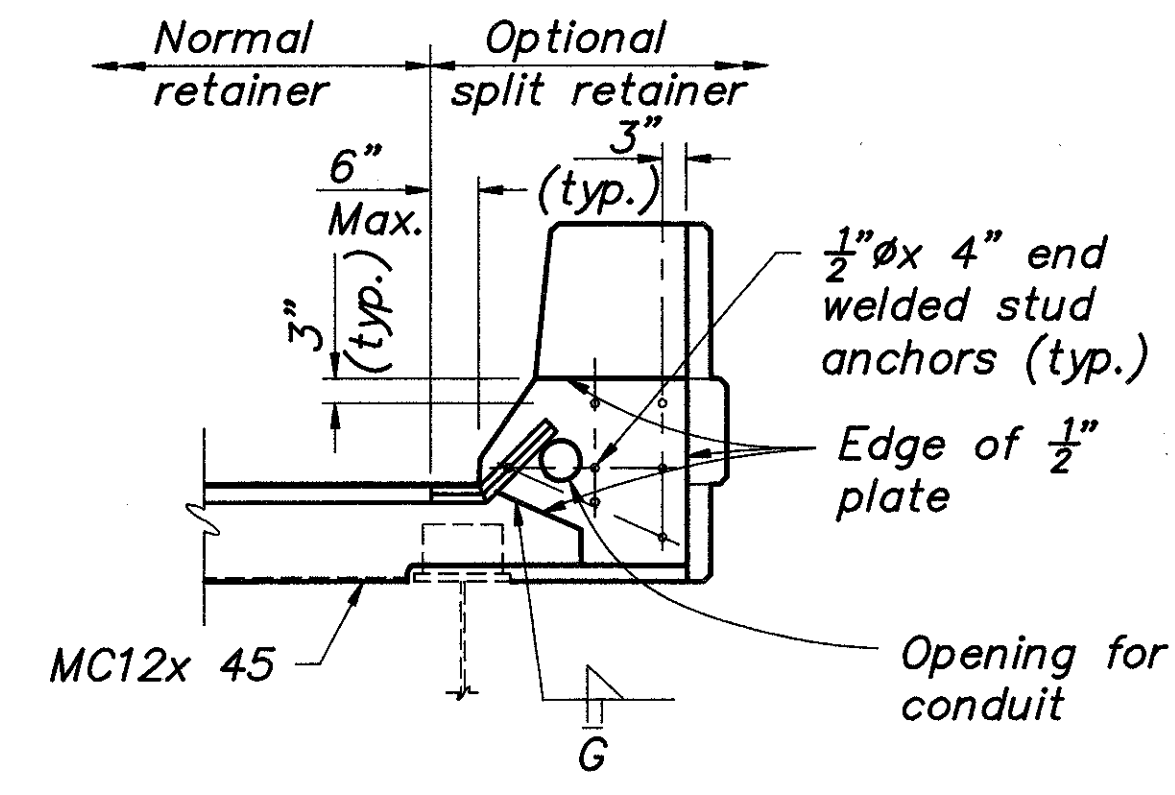
SUPERSTRUCTURE BARS			
LEFT BRIDGE		RIGHT BRIDGE	
ABUT. A	ABUT. B	ABUT. A	ABUT. B
P601	P602	P603	P602



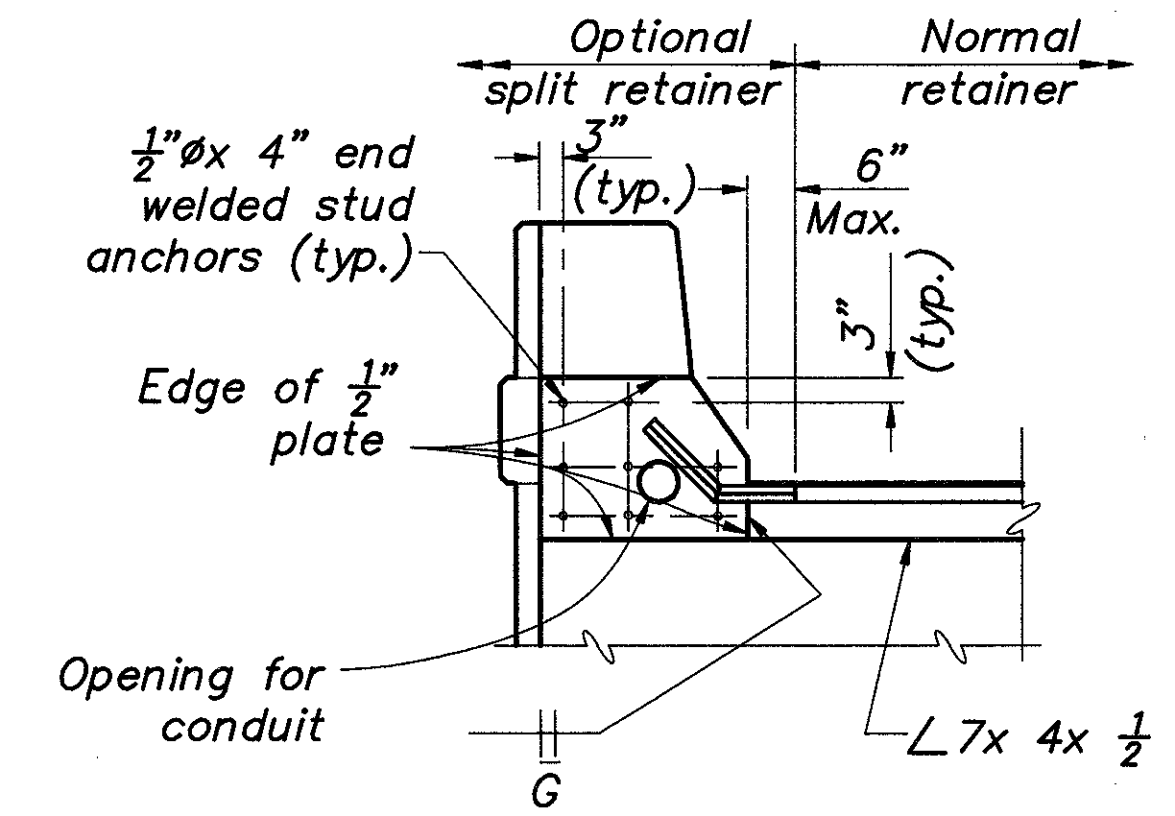
**PARTIAL PLAN**  
(ABUTMENTS)

NOTE: Lap P601, P602 & P603 bars 2'-4" minimum.

FACE TO FACE OF CURB (DIM. X)			
LEFT BRIDGE		RIGHT BRIDGE	
ABUT. A	ABUT. B	ABUT. A	ABUT. B
54'-2 1/4" ±	48'-9 1/2" ±	74'-6 1/2" ±	48'-8 3/4" ±



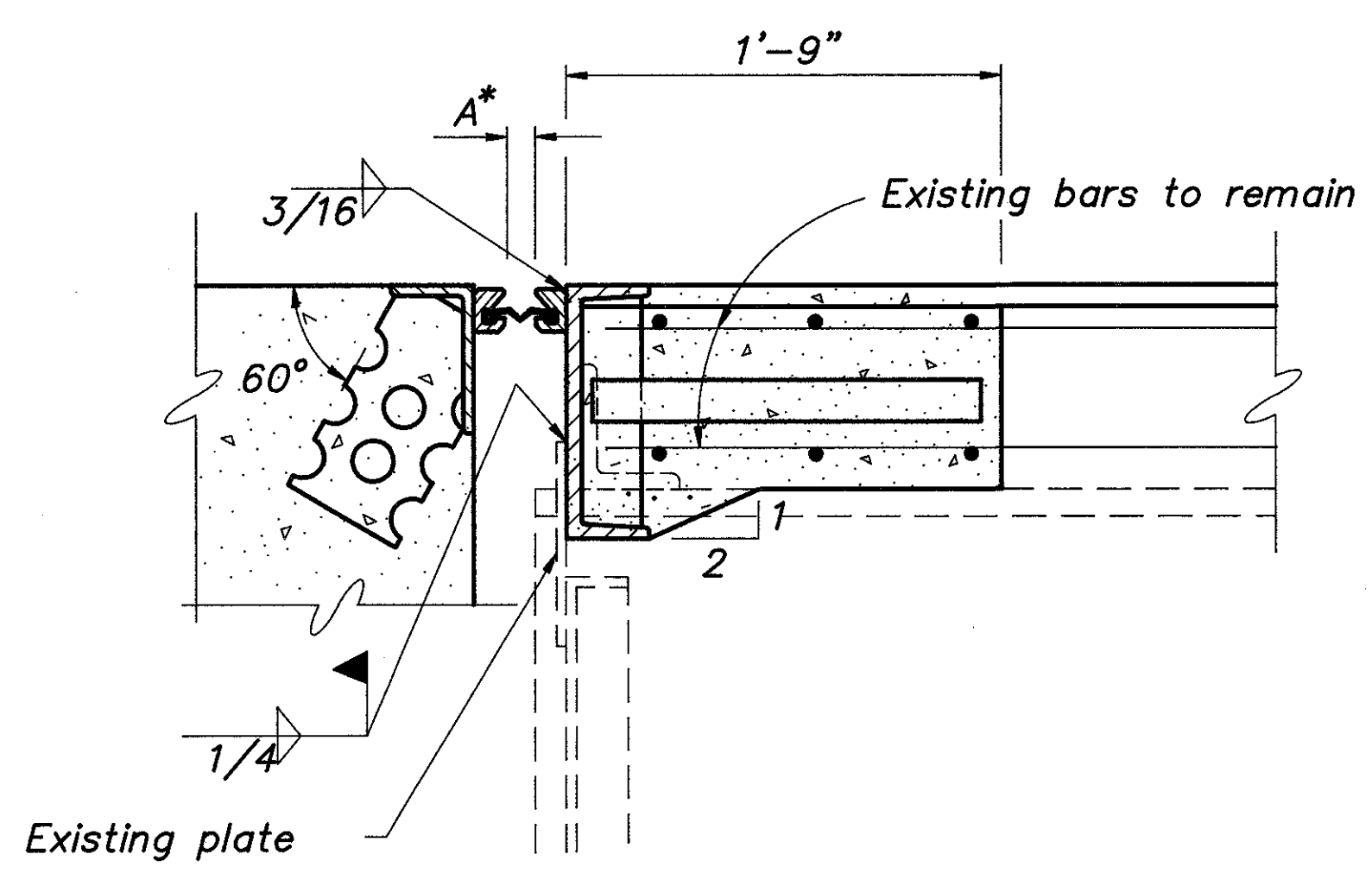
**SECTION A-A**



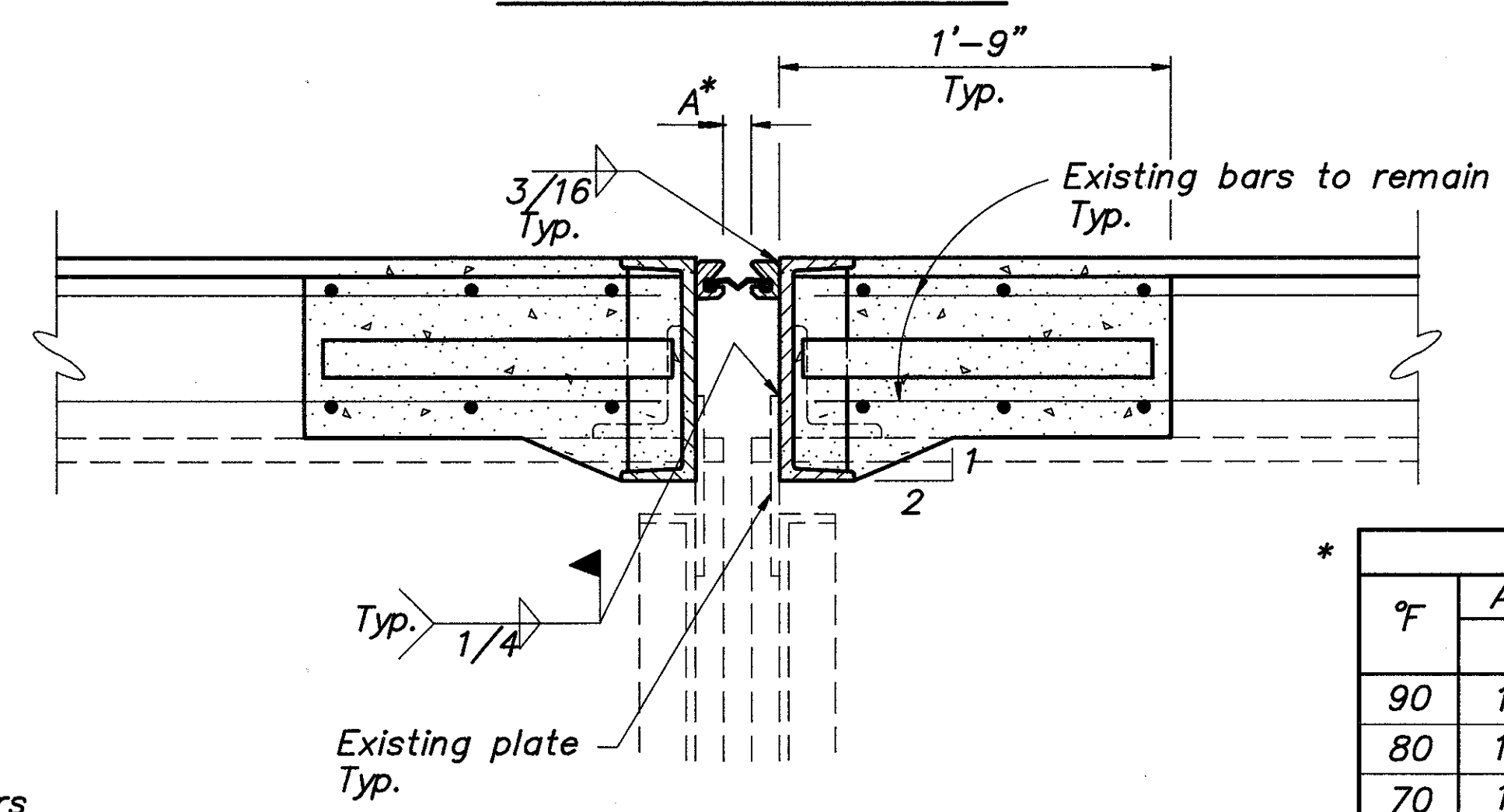
**SECTION B-B**

LOCATION	STRIP SEAL GLAND		
	MANUFACTURER		
Abut. A	D.S. Brown Co.	Watson-Bowman & Acme Corp.	Structural Acc. Inc.
Pier 3	300L	SE-300	-
Abut. B	500L	SE-500	50SEQ
		SE-500	50SEQ

Gland shall be provided in continuous strip and inserted after all phases of extrusion installation are complete.

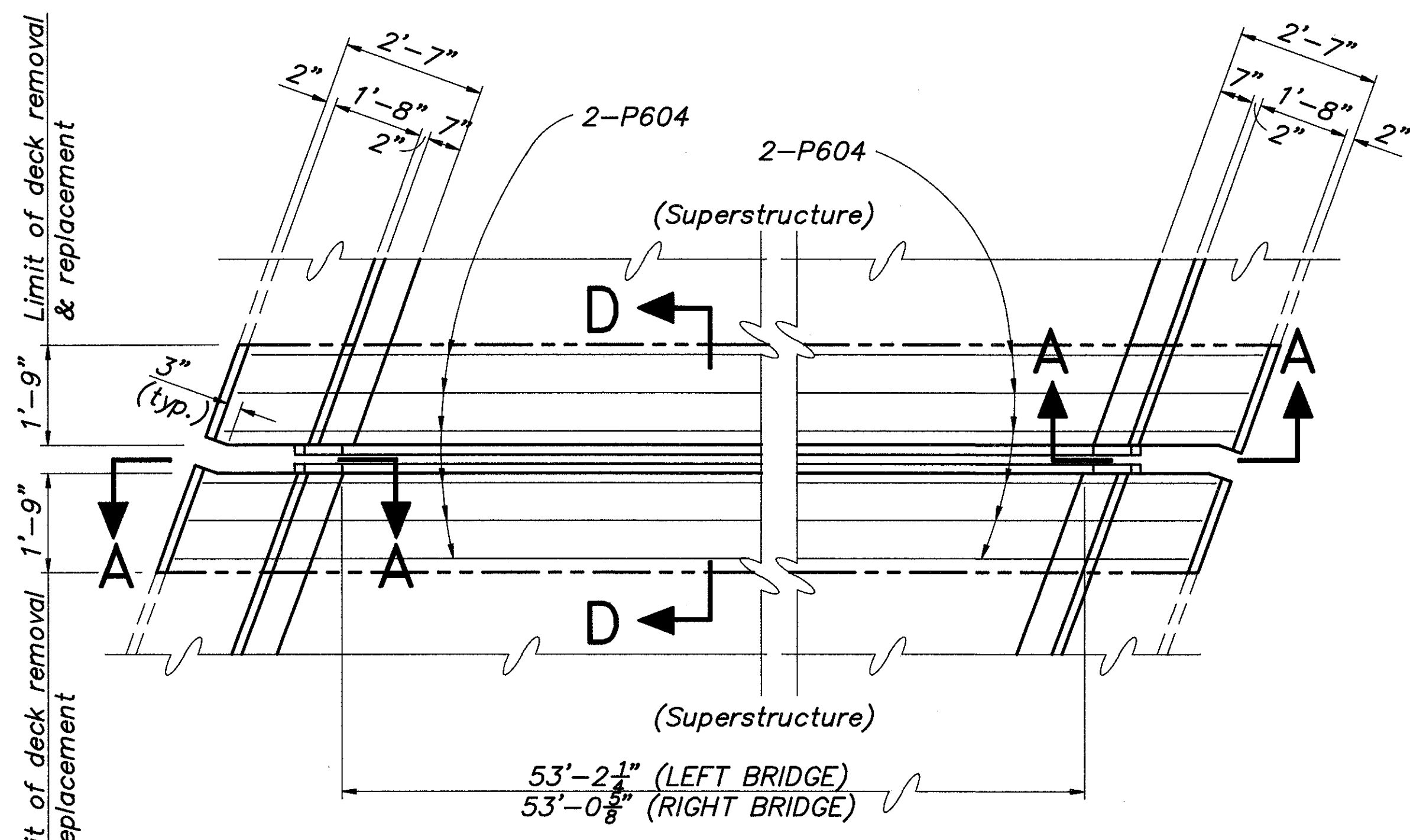


**SECTION C-C**



**SECTION D-D**

NOTE: For additional details on expansion joint, see Std. Drawing EXJ-4-87.

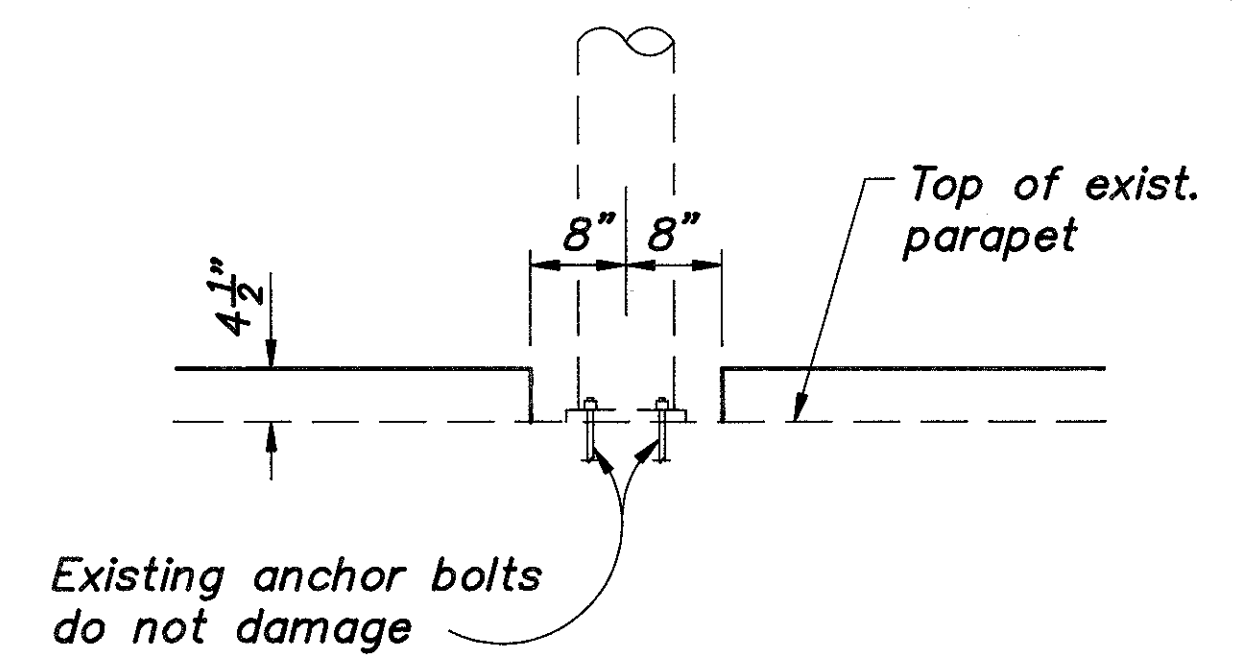
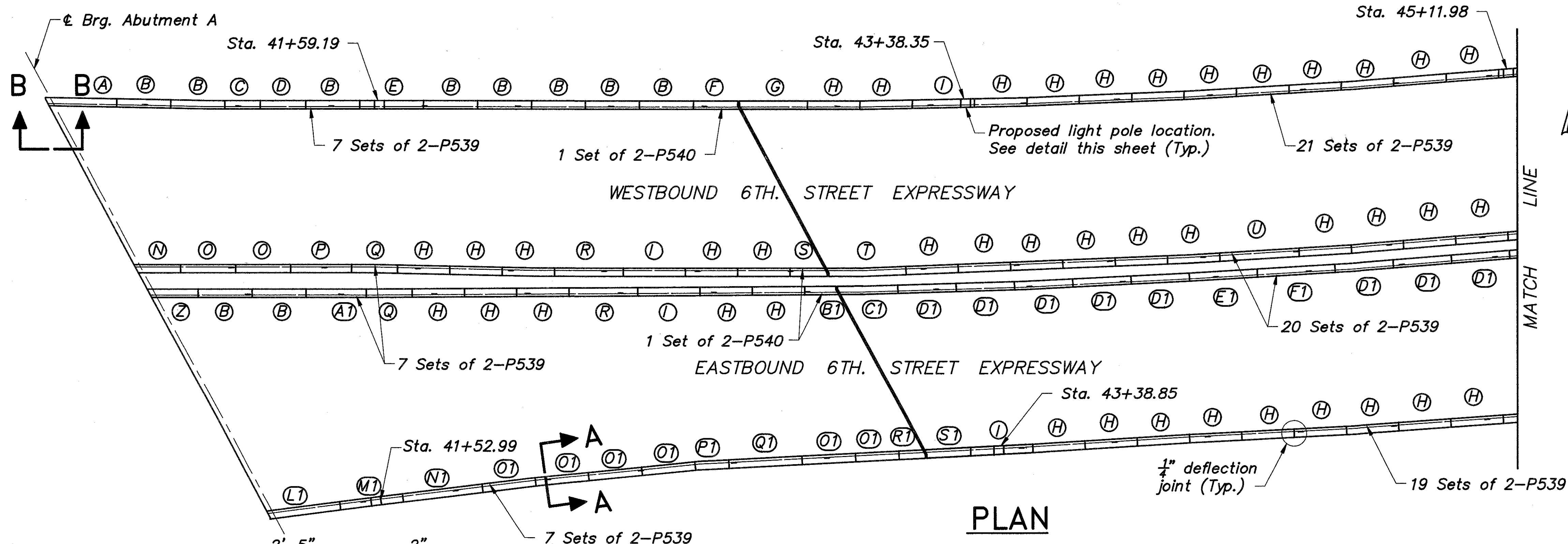


**PARTIAL PLAN**  
(PIER 3)

NOTE: Lap P602 & P604 bars 2'-4" minimum.

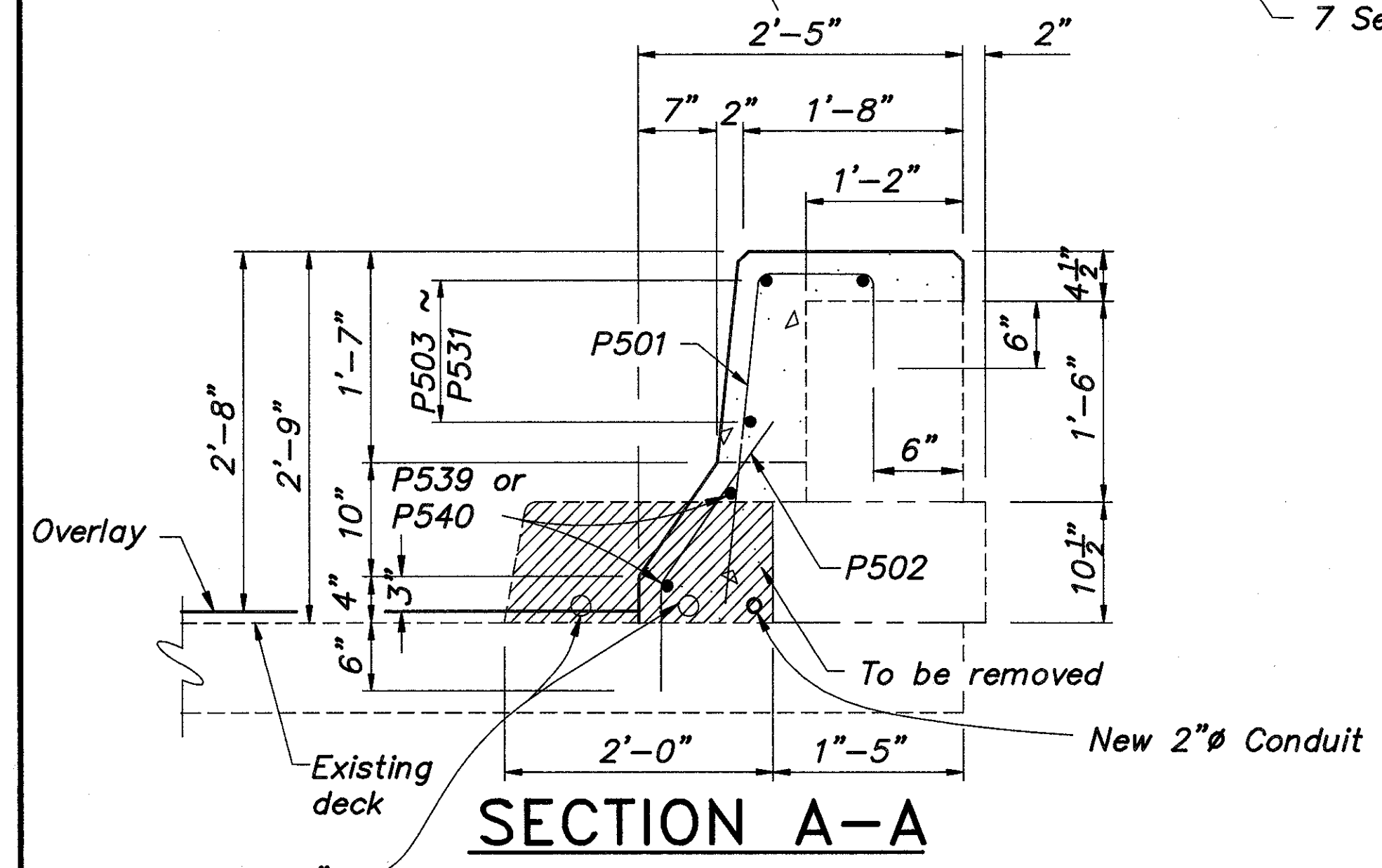
F	OPENING WIDTH		
	ABUT. A	ABUT. B	PIER 3
	DIM A	DIM A	DIM A
90	1 1/4"	2"	1 7/8"
80	1 3/8"	2 1/4"	2 1/8"
70	1 1/2"	2 1/2"	2 3/8"
60	1 5/8"	2 3/4"	2 5/8"
50	1 3/4"	3"	2 7/8"
40	1 7/8"	3 1/4"	3 1/8"
30	2"	3 1/2"	3 3/8"

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237						11/14
<b>EXPANSION JOINT DETAILS</b>						
BRIDGE NO. HAM-50-2011 R & L						
SIXTH STREET EXPRESSWAY						
OVER CONRAIL AND LINN STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DWI	CRS 4/92		

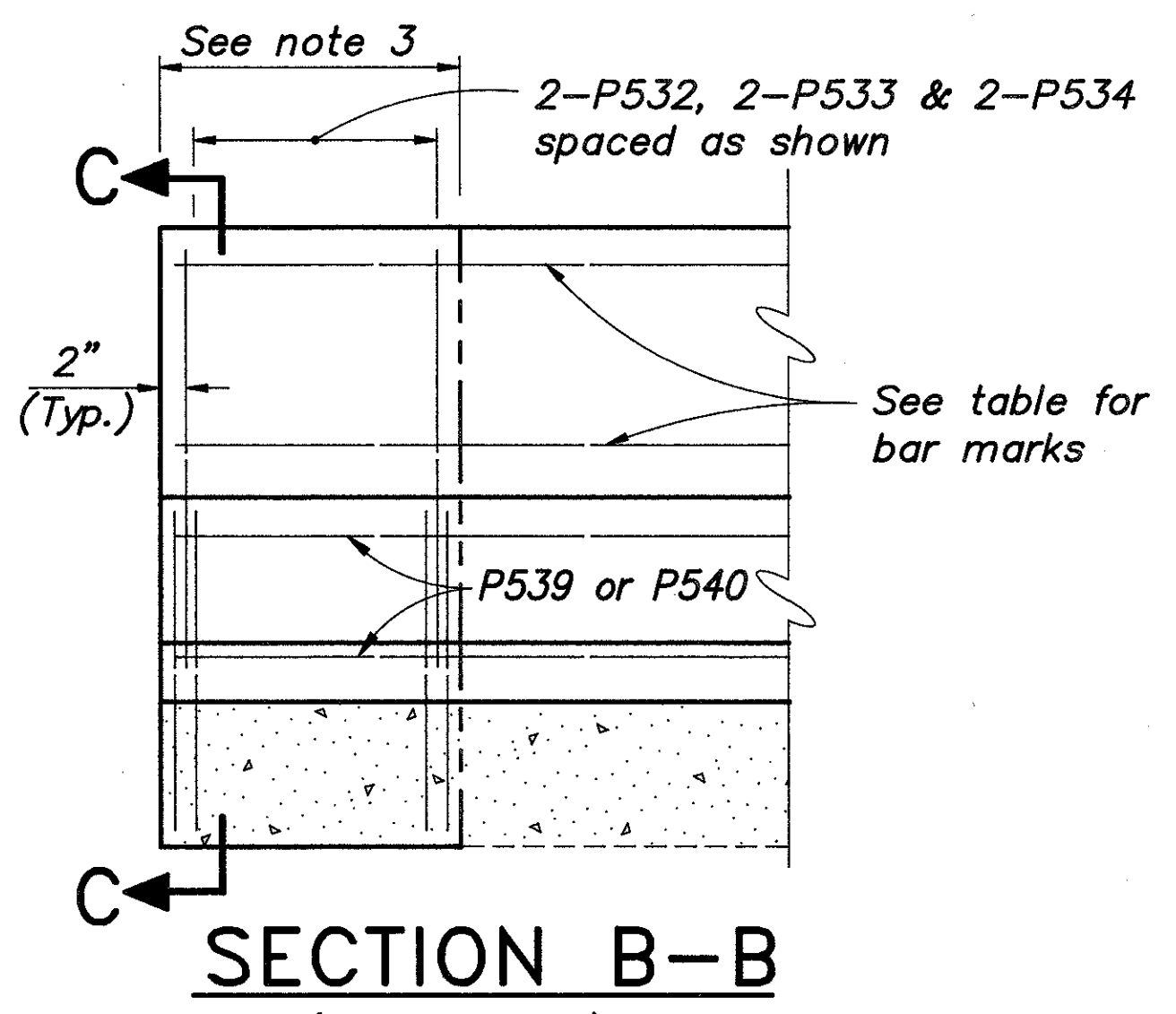


### LIGHT POLE SUPPORT DETAIL

NOTE: Light pole locations match existing pole locations.

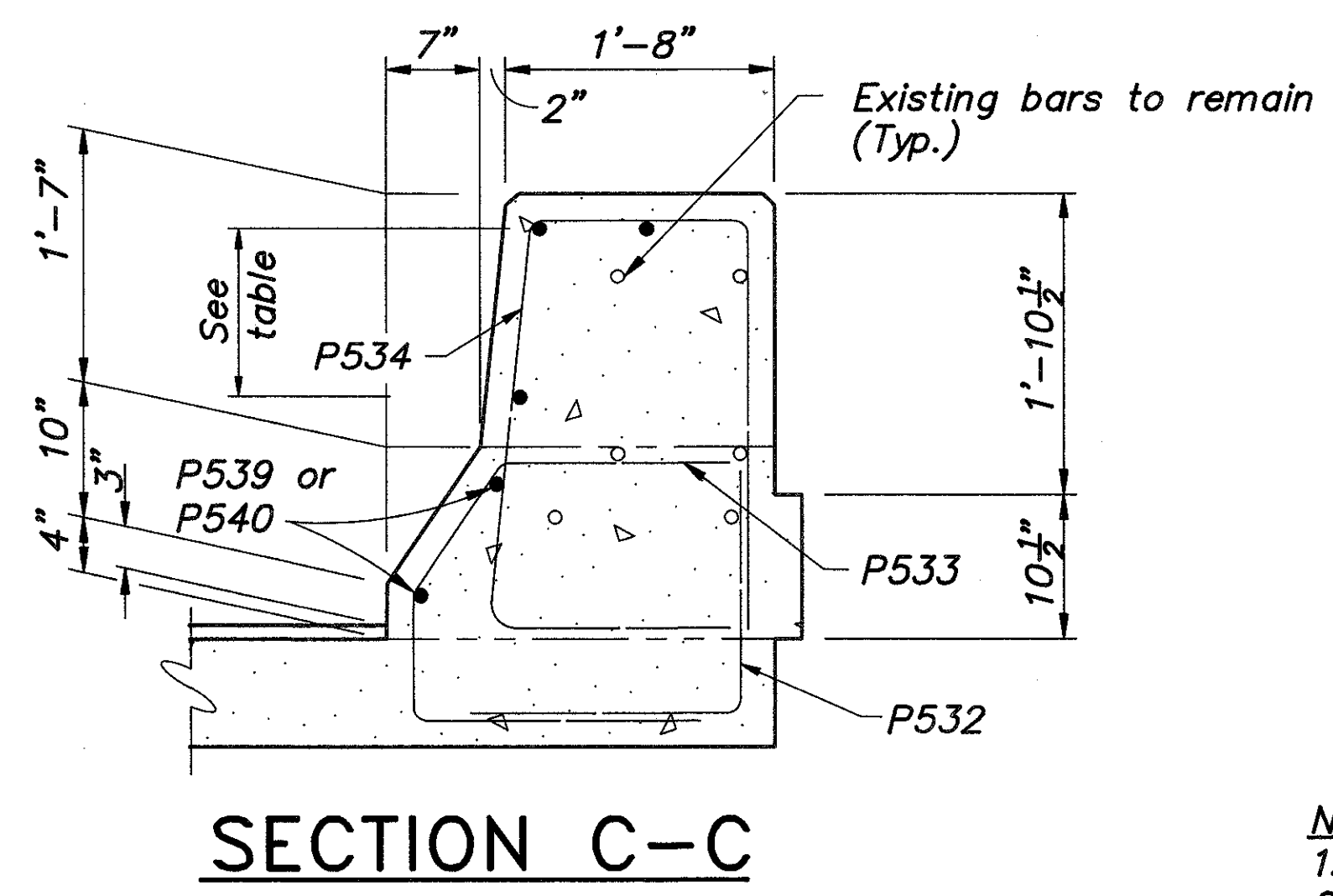


### SECTION A-A

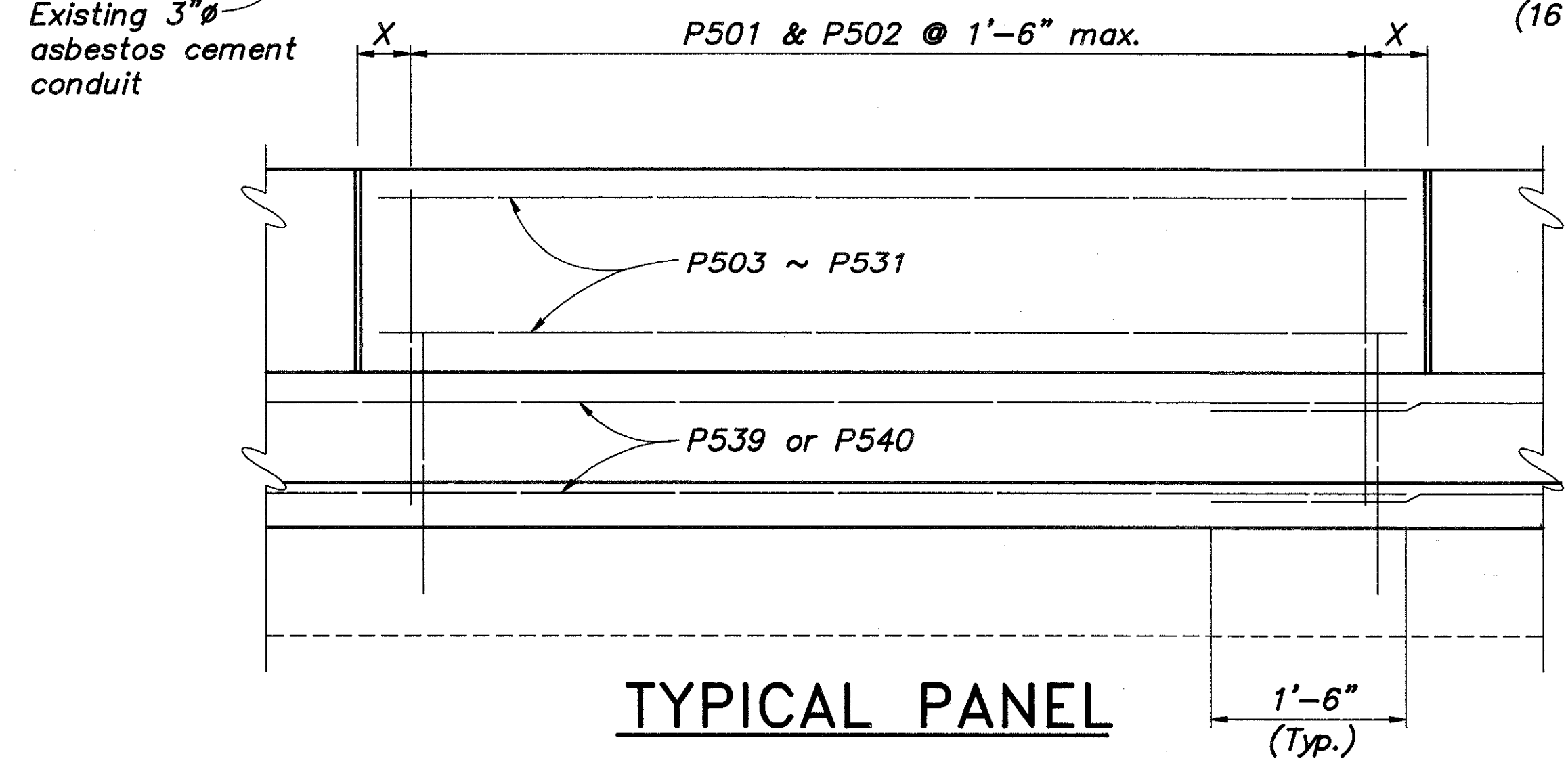


### SECTION B-B

(16 REQUIRED)

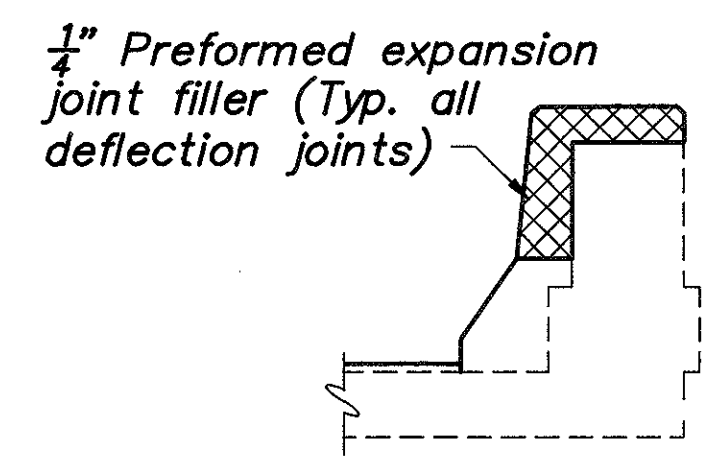


### SECTION C-C



### TYPICAL PANEL

(See table, sheet 13/14 for number of bars and value of X)

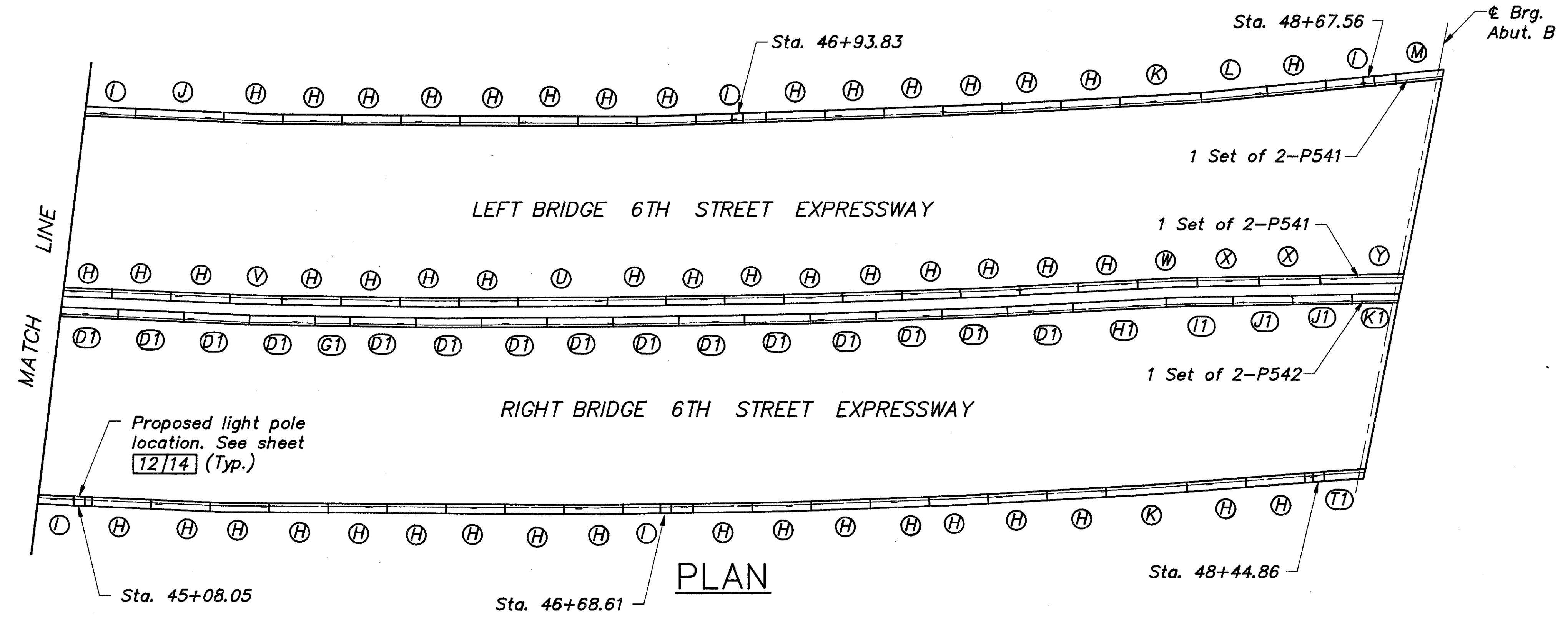


### DEFLECTION JOINT DETAIL

New deflection joints shall match the existing deflection joints locations.

- NOTE:
- For additional panel information, see sheet 13/14
  - P501 & P502 to be dowelled into existing concrete as shown.
  - Within limits shown, remove full parapet and curb section and replace as shown in section C-C. Care shall be taken not to damage horizontal steel during concrete removal. This steel shall be incorporated in the new parapet. For limits of concrete removal and replacement, see expansion joint details.

BALKE ENGINEERS 12/14 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					
<b>PARAPET DETAILS</b>					
BRIDGE NO. HAM-50-2011 R & L SIXTH STREET EXPRESSWAY OVER CONRAIL AND LINN STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	



PARAPET PANELS				
MARK	NO.	PANEL LENGTH	DIM. X	BARS NEEDED
(A)	1	21'-10 1/8	5"	13-P501, 13-P502 & 3-P503
(B)	10	16'-6	2"	12-P501, 12-P502 & 3-P504
(C)	1	10'-10 1/2	2 1/4"	8-P501, 8-P502 & 3-P505
(D)	1	13'-10 1/2	2 1/4"	10-P501, 10-P502 & 3-P506
(E)	1	19'-6	2"	14-P501, 14-P502 & 3-P507
(F)	1	13'-10	2"	8-P501, 8-P502 & 3-P506
(G)	1	21'-0 1/4	2"	13-P501, 13-P502 & 3-P508
(H)	90	16'-0	2"	12-P501, 12-P502 & 3-P509
(I)	9	19'-0	2"	14-P501, 14-P502 & 3-P510
(J)	1	24'-0	2"	17-P501, 17-P502 & 3-P511
(K)	2	22'-0	2"	16-P501, 16-P502 & 3-P512
(L)	1	18'-0	2"	13-P501, 13-P502 & 3-P513
(M)	1	13'-4	2"	8-P501, 8-P502 & 3-P514
(N)	1	11'-8	2"	7-P501, 7-P502 & 3-P535
(O)	2	16'-10	2"	12-P501, 12-P502 & 3-P504
(P)	1	18'-7 1/2	3 3/4"	13-P501, 13-P502 & 3-P515
(Q)	2	14'-0	3"	10-P501, 10-P502 & 3-P506
(R)	1	21'-0	2"	15-P501, 15-P502 & 3-P508
(S)	1	13'-5 5/8	2"	8-P501, 8-P502 & 3-P514
(T)	1	21'-6 7/8	3 1/2"	13-P501, 13-P502 & 3-P516
(U)	2	24'-3	2"	17-P501, 17-P502 & 3-P511
(V)	1	14'-1 1/2	3 3/4"	10-P501, 10-P502 & 3-P517
(W)	1	16'-3 1/2	2"	12-P501, 12-P502 & 3-P518
(X)	2	16'-8	2"	12-P501, 12-P502 & 3-P504
(Y)	1	20'-4 1/4	2"	12-P501, 12-P502 & 3-P538
(Z)	1	11'-3 5/8	2"	7-P501, 7-P502 & 3-P536

All reinforcing bars to be epoxy coated.

PARAPET PANELS				
MARK	NO.	PANEL LENGTH	DIM. X	BARS NEEDED
(A)	1	18'-4 1/2	2 1/4"	13-P501, 13-P502 & 3-P519
(B)	1	13'-8 1/8	2"	8-P501, 8-P502 & 3-P520
(C)	1	14'-5 1/4	2"	9-P501, 9-P502 & 3-P521
(D)	23	17'-10	2"	13-P501, 13-P502 & 3-P522
(E)	1	20'-9 1/2	2"	15-P501, 15-P502 & 3-P523
(F)	1	23'-9 1/2	2"	17-P501, 17-P502 & 3-P524
(G)	1	9'-4 1/2	2 1/4"	7-P501, 7-P502 & 3-P525
(H)	1	25'-3 1/2	2"	18-P501, 18-P502 & 3-P526
(I)	1	18'-0 1/2	2"	13-P501, 13-P502 & 3-P513
(J)	2	16'-2	2"	12-P501, 12-P502 & 3-P518
(K)	1	19'-2 3/8	2"	12-P501, 12-P502 & 3-P537
(L)	1	21'-8 3/4	4 3/8"	13-P501, 13-P502 & 3-P516
(M)	1	19'-4	2"	14-P501, 14-P502 & 3-P527
(N)	1	24'-6	3"	17-P501, 17-P502 & 3-P528
(O)	6	16'-4	2"	12-P501, 12-P502 & 3-P518
(P)	1	10'-3	2"	8-P501, 8-P502 & 3-P529
(Q)	1	22'-5	2"	16-P501, 16-P502 & 3-P530
(R)	1	5'-1 1/2	2"	3-P501, 3-P502 & 3-P531
(S)	1	13'-6	2"	8-P501, 8-P502 & 3-P514
(T)	1	16'-5 1/2	2"	10-P501, 10-P502 & 3-P504

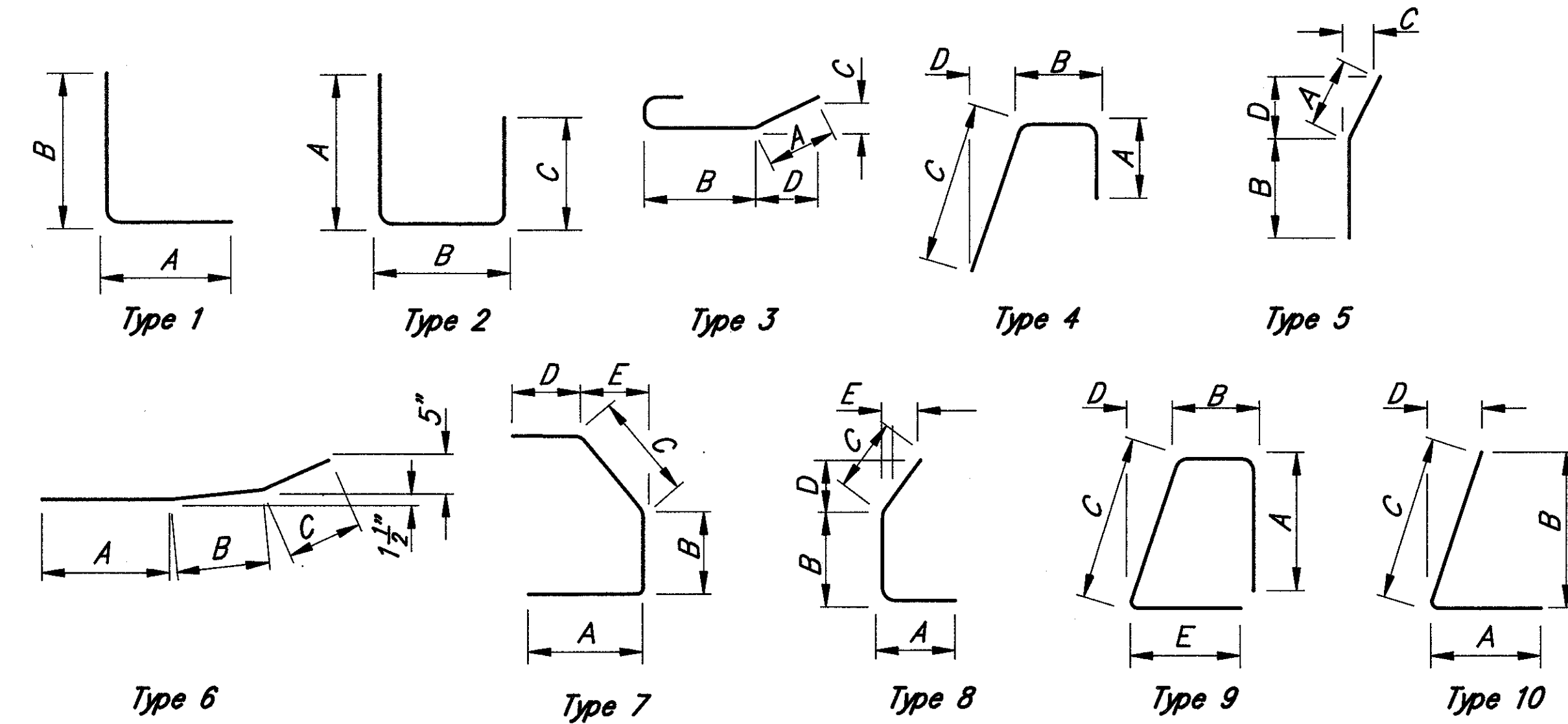
BALKE ENGINEERS 13/14  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

PARAPET DETAILS  
BRIDGE NO. HAM-50-2011 R & L  
SIXTH STREET EXPRESSWAY  
OVER CONRAIL AND LINN STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

# REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	LEFT BRIDGE	RIGHT BRIDGE
D801	142	4'-11"	1864	3	1'-5"	2'-7"	0'-8 1/2"	0'-8 1/2"		64	78
D601	136	6'-10"	1396	2	4'-10"	1'-4"	1'-0"			58	78
D602	7	7'-1"	75	Str.						3	4
D603	106	10'-0"	1592	2	8'-0"	1'-4"	1'-0"			53	53
D604	9	10'-4"	140	Str.						4	5
D501	11	21'-9"	250	Str.						11	-
D502	11	18'-8"	214	Str.						11	-
D503	11	18'-4"	210	Str.						11	-
D504	5	3'-0"	16	5	1'-6"	1'-6"	1'-5"	0'-6 1/8"		5	-
D505	136	4'-1"	579	Str.						58	78
D506	242	6'-8"	1683	2	3'-0"	0'-11"	3'-0"			111	131
D507	24	3'-9"	94	8	0'-10"	1'-3"	1'-9"	1'-5 1/4"	1'-0 1/8"	11	13
D508	8	3'-9"	32	1	0'-10"	3'-0"				4	4
D509	8	5'-9"	48	4	2'-3"	1'-4"	2'-3"	0'-2 3/4"		4	4
D510	12	1'-6"	18	Str.						6	6
D511	11	19'-6"	224	Str.						-	11
D512	22	29'-8"	681	Str.						-	22
D513	5	4'-0"	21	10	2'-0"	1'-10 3/8"	2'-0"	0'-8 1/2"		-	5
D514	11	1'-9"	20	Str.						11	-
D515	7	5'-6"	40	Str.						3	4
D516	16	5'-0"	84	2	3'-3"	1'-4"	0'-9"			7	9
D517	16	4'-9"	80	4	0'-9"	1'-0"	3'-3"	0'-4"		7	9
D518	7	4'-3"	31	Str.						-	7
D519	15	3'-9"	59	Str.						-	15
D520	4	16'-8"	70	Str.						-	4
D521	45	2'-9"	129	5	1'-9"	1'-0"	1'-0 1/8"	1'-5 1/4"		20	25
D522	20	3'-9"	78	4	0'-8"	1'-0"	2'-3"	0'-2 3/4"		3	17
D523	106	7'-2"	792	Str.						53	53
D524	12	1'-3"	16	Str.						6	6
D525	2	4'-0"	8	Str.						2	-
D526	4	9'-1"	38	2	4'-0"	1'-4"	4'-0"			2	2
D527	9	4'-0"	38	5	2'-0"	2'-0"	1'-11"	0'-6 3/4"		9	-
D528	19	23'-3"	461	Str.						19	-
D529	2	3'-3"	7	Str.						-	2
D530	9	4'-0"	38	10	2'-0"	1'-11 1/8"	2'-0"	0'-6 1/2"		-	9
D531	19	22'-3"	441	Str.						-	19
D532	9	9'-6"	90	Str.						4	5
D533	11	3'-0"	34	Str.						11	-
D534	16	3'-6"	58	Str.						8	8
D535	6	4'-7"	29	1	1'-4"	3'-4"				4	2
D536	25	3'-9"	97	1	1'-4"	2'-6"				17	8
D537	31	1'-7"	52	1	0'-8"	1'-0"				21	10
D538	6	15'-6"	97	6	11'-9"	2'-4"	1'-5"			4	2
D539	9	15'-6"	145	Str.						6	3
D540	5	4'-0"	21	Str.						5	-
D541	38	31'-8"	1256	Str.						19	19
D542	10	8'-4"	86	Str.						5	5
P601	12	30'-9"	554	Str.						12	-
P602	24	28'-1"	1012	Str.						12	12
P603	12	40'-10"	736	Str.						-	12
P604	48	30'-1"	2169	Str.						-	48
P501	2272	4'-0"	9479	4	0'-8"	1'-0"	2'-5"	0'-3"		1164	1108
P502	2272	2'-3"	5332	5	1'-5"	0'-10"	0'-10"	1'-2"		1164	1108
P503	3	21'-6"	67	Str.						3	-
P504	45	16'-2"	759	Str.						36	9
P505	3	10'-6"	33	Str.						3	-
P506	12	13'-6"	169	Str.						9	3
P507	3	19'-2"	60	Str.						3	-
P508	9	20'-8"	194	Str.						6	3
P509	270	15'-8"	4412	Str.						174	96
P510	27	18'-8"	526	Str.						15	12
P511	9	23'-8"	222	Str.						9	-
P512	6	21'-8"	136	Str.						3	3
P513	6	17'-8"	110	Str.						3	3
P514	9	13'-0"	122	Str.						6	3
P515	3	18'-4"	57	Str.						3	-
P516	6	21'-3"	132	Str.						3	3
P517	3	13'-10"	43	Str.						3	-
P518	27	15'-11"	448	Str.						3	24



# REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	LEFT BRIDGE	RIGHT BRIDGE
P519	3	18'-0"	56	Str.						-	3
P520	3	13'-4"	42	Str.						-	3
P521	3	14'-1"	44	Str.						-	3
P522	69	17'-6"	1259	Str.						-	69
P523	3	20'-6"	64	Str.						-	3
P524	3	23'-6"	74	Str.						-	3
P525	3	9'-0"	28	Str.						-	3
P526	3	24'-11"	78	Str.						-	3
P527	3	19'-0"	59	Str.						-	3
P528	3	24'-2"	76	Str.						-	3
P529	3	9'-11"	31	Str.						-	3
P530	3	22'-1"	69	Str.						-	3
P531	3	4'-10"	15	Str.						-	3
P532	32	2'-11"	98	1	1'-6"	1'-6"				16	16
P533	32	5'-0"	166	7	2'-0"	0'-10"	1'-0"	1'-4"	0'-6"	16	16
P534	32	7'-2"	240	9	2'-5"	1'-3"	2'-5"	0'-3 1/2"	1'-5"	16	16
P535	3	11'-4"	35	Str.						3	-
P536	3	10'-11 1/2"	34	Str.						-	3
P537	3	18'-10 1/2"	59	Str.						-	3
P538	3	20'-0"	63	Str.						3	-
P539	216	30'-0"	6759	Str.						110	106
P540	6	12'-6"	78	Str.						4	2
P541	4	8'-0"	33	Str.						4	-
P542	2	4'-3"	9	Str.						-	2

### NOTES

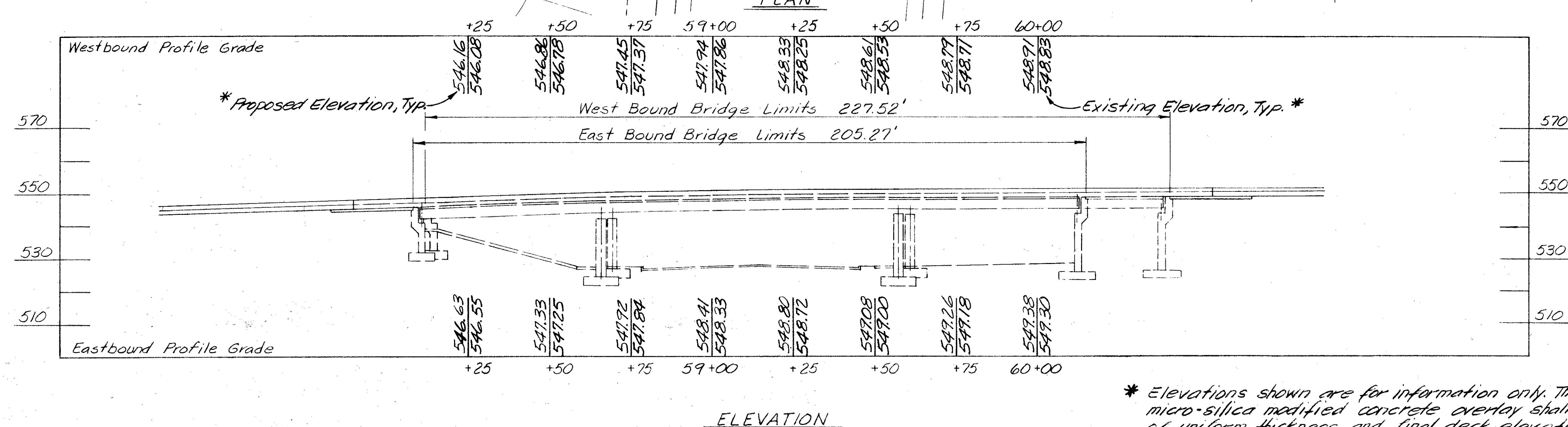
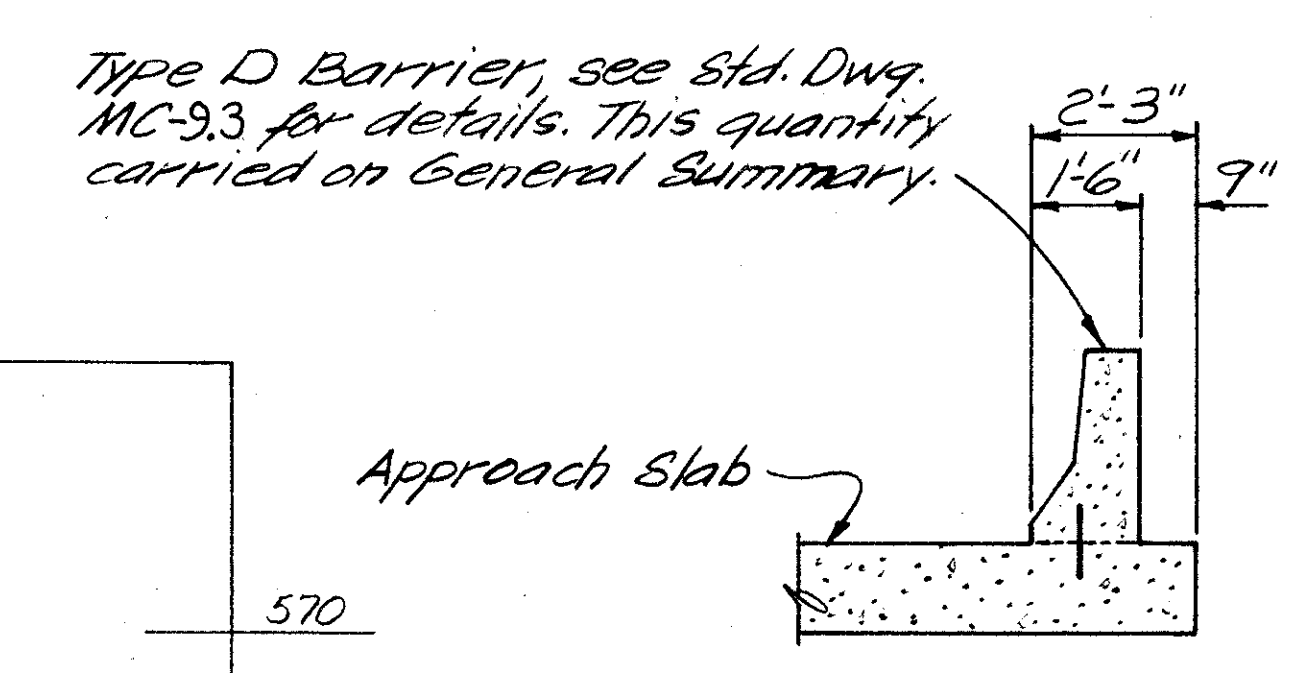
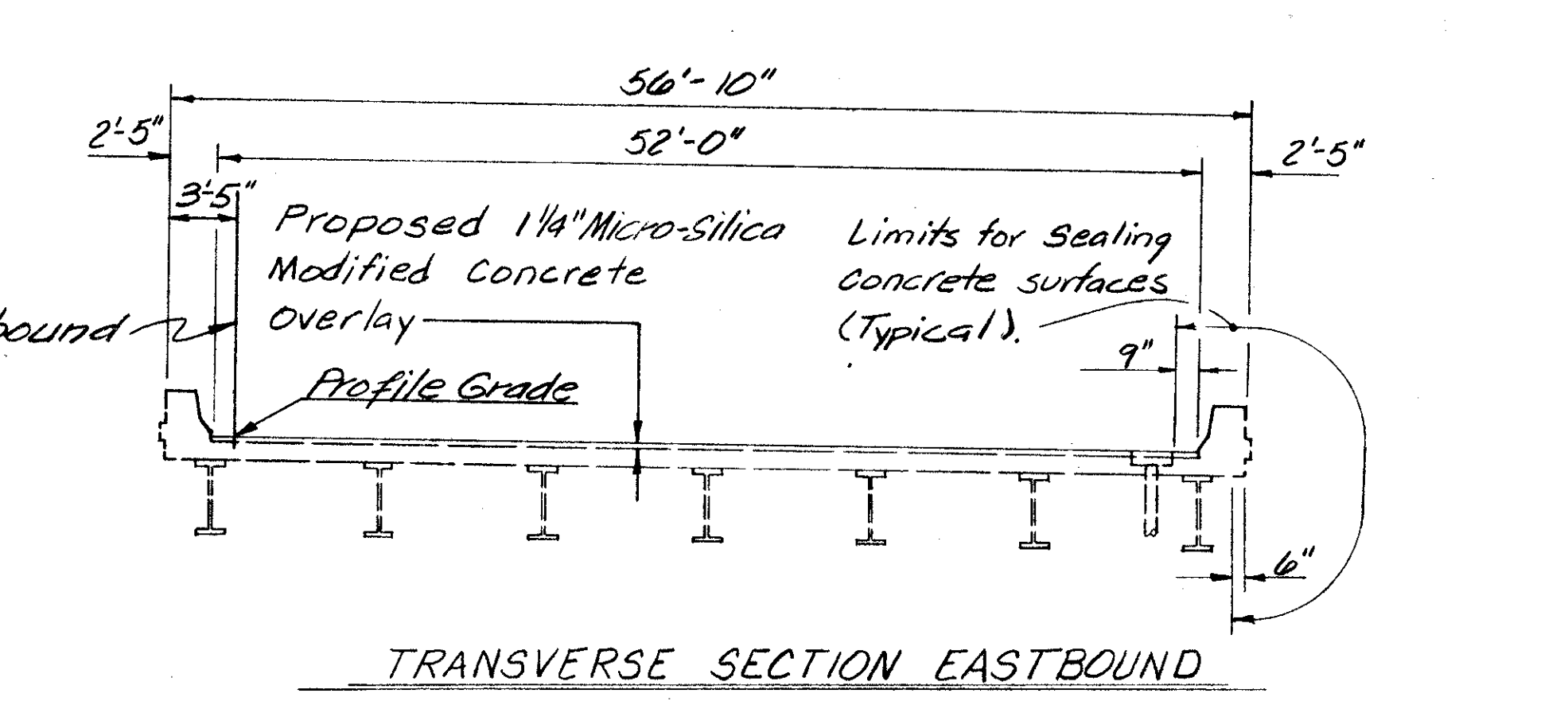
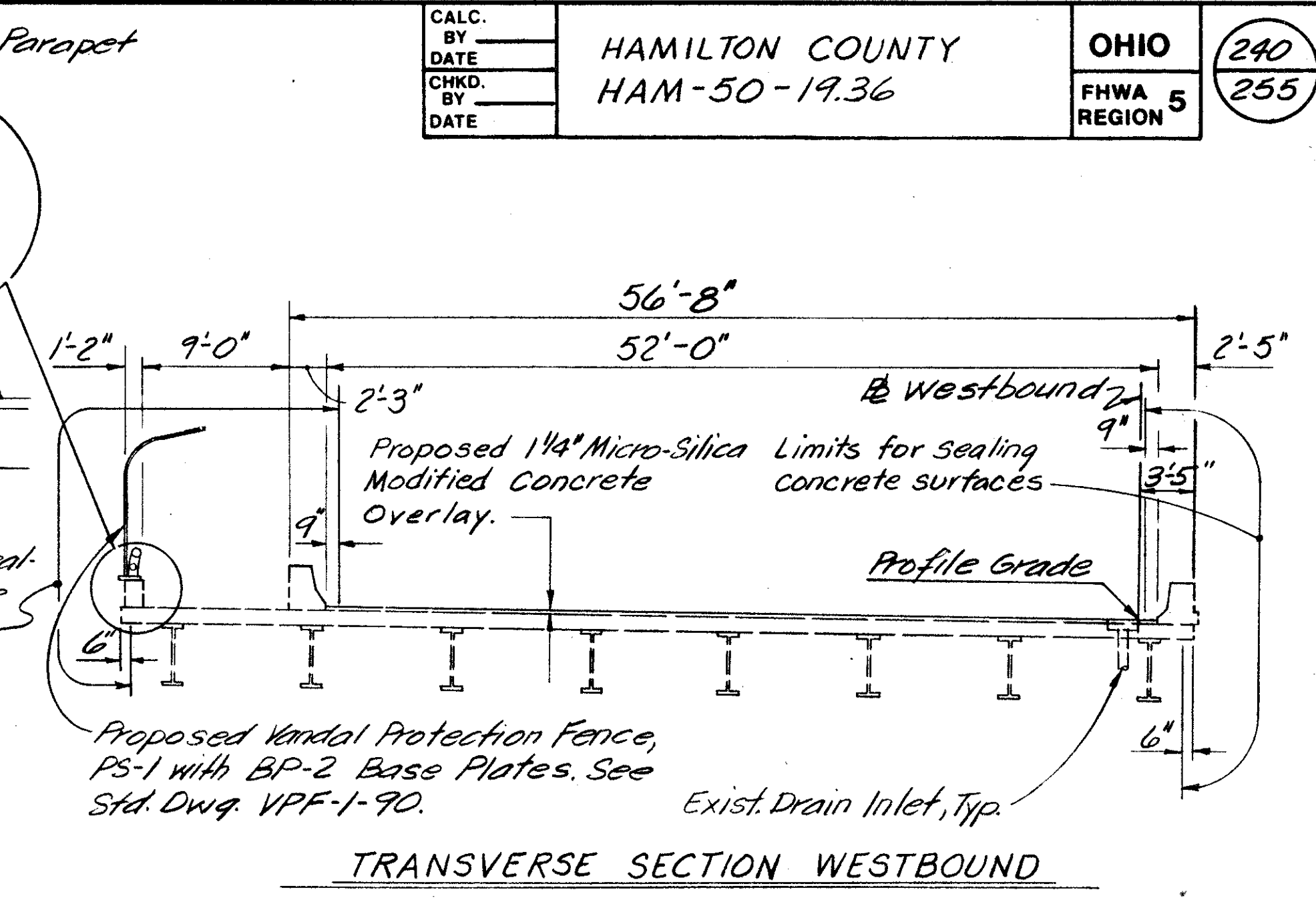
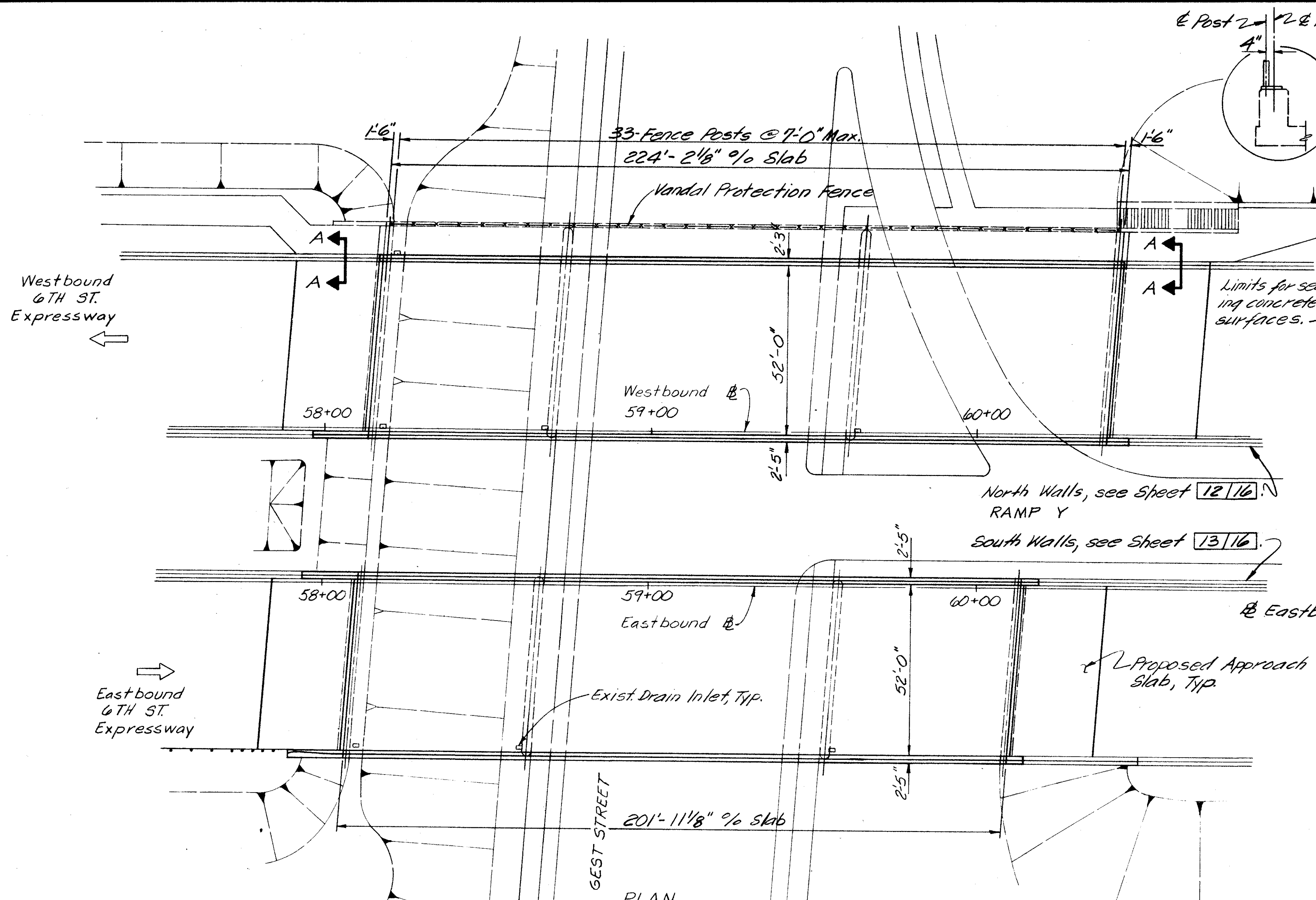
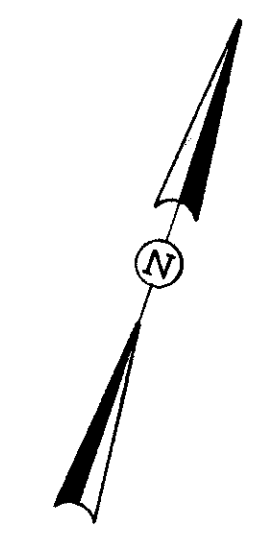
- REINFORCING STEEL SAMPLES: REFER TO CMS SECTION 106.03, 700, 709.01 THRU. 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY ADDITIONAL STEEL SPLICED IN ACCORDANCE WITH 509.08.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR.
- ALL BARS ARE TO BE EPOXY COATED.

BALKE ENGINEERS  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237

14/14

**REINFORCING STEEL LIST**  
BRIDGE NO. HAM-50-2011 R & L  
SIXTH STREET EXPRESSWAY  
OVER CONRAIL AND LINN STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	



\* Elevations shown are for information only. The 1 1/4" micro-silica modified concrete overlay shall be of uniform thickness and final deck elevations will not necessarily conform to profile shown.

BALKE ENGINEERS 1/16					
1848 SUMMIT RD. CINCINNATI, OHIO 45237					
GENERAL PLAN					
BRIDGE NO. HAM-50-2043 LT.#RT.					
SIXTH ST. EXPRESSWAY					
OVER GESS STREET					
HAMILTON COUNTY STA. 59+19.20					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
MRS	ALH	~	DWI	CRS	4/92

# GENERAL NOTES

CALC. BY	HAMILTON COUNTY HAM-50-19.36	OHIO	241
DATE		FHWA REGION	
CHKD. BY			255
DATE			

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

Reference shall be made to standard drawings:

- AS-1-81 Dated 11-27-81
- EXJ-4-87 Dated 1-5-89
- VPF-1-90 Dated 9-26-90

Reference shall be made to supplemental specifications:

- 836 Dated 11-12-85
- 852 Dated 12-14-88

**DESIGN STRESSES**

Concrete compressive strength

- Class S - 4500 PSI
- Class C - 4000 PSI

Reinforcing steel - ASTM A615, A616, A617

- Minimum yield strength
- Grade 60 - 60,000 PSI

**SCOPE OF WORK**

The scope of work to be performed shall be executed in stages as shown and includes:

- Add strip seals.
- Refurbish and reset abutment bearings.
- Refurbish drains.
- Trim beam ends to clear backwall at all abutments.
- Replace abutment backwalls, as indicated on plans.
- Patch abutments & repair vertical joints.
- Retrofit railings, as indicated on plans.
- Seal railings, abutments and piers.
- Overlay deck with 1 1/4" micro-silica modified concrete.
- Replace approach slabs.

**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/or 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. It is the intent of these plans that the proposed additions to these structures match existing conditions. The contractor is referred to CMS sections 102.05 and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described in the preceding paragraph 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.

**ITEM 202 - PORTIONS OF STRUCTURES REMOVED**

Removal of portions of existing structure shall be performed in such a manner as to prevent debris from falling onto the roadway below. All debris shall be removed from the site and disposed of by the Contractor.

**REPLACEMENT OF EXISTING REINFORCING**

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 his cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 100 pounds is included in item 509 for this purpose.

**ITEM SPECIAL - MICRO-SILICA MODIFIED CONCRETE OVERLAY**

Longitudinal joints in the concrete overlay are permitted, but only to the extent necessary to accommodate the width of the finishing machine, to facilitate changes in the roadway crown, and to permit maintenance of vehicular traffic, see proposal note for details.

**MAINTENANCE OF TRAFFIC**

For maintenance of traffic on Sixth Street Expressway, see highway drawings.

**PLANS FOR EXISTING BRIDGE**

Plans of the existing structure are available for reference at the City of Cincinnati Engineer's Office and at the ODOT District Eight office.

**ITEM 516 - REFURBISH BEARING DEVICE**

This Item shall include all work necessary to clean and paint abutment rocker bearings. Included shall be:

- Disassembly of rockers.
- Hand cleaning (grinding if required.)
- Sandblasting and Painting as required by Field Painting of Existing Steel, System OZEU, proposal note.
- Replacement of any damaged sheet lead (711.19). Preformed bearing pads 1/8" thick, meeting the requirements of 711.21, may be substituted for the sheet lead.
- Installation of any necessary 1/8" thick steel shims of the same size as the bearings to provide a snug fit.
- Reassembly of the rockers.

At the option of the Contractor and at no additional cost to the state, new bearings of the same type as the existing may be installed in place of the refurbished bearings. All work shall be to the satisfaction of the Project Engineer. Payment for all the above described labor and materials will be made at the contract price bid for Item 516 - REFURBISH BEARING DEVICE.

**ITEM 516 - JACKING & TEMPORARY SUPPORT OF SUPERSTRUCTURE**

The ends of the beams at each abutment shall be jacked and the beams supported so bearings may be removed. Prior to jacking, the Contractor shall submit his jacking plan to the Engineer for approval.

**ITEM 516 - RESET BEARINGS**

Bearings at the abutments shall be reset to be vertical at 60° F. Masonry plates shall be adjusted to be centered under bearing.

**ITEM 513 - TRIMMING OF BEAM ENDS**

The ends of the beams shall be trimmed by removing 1". Care shall be taken not to damage the crossframe frame while trimming the end of the beam. A length of one foot shall be painted at each end of the beams with system EEU (see proposal note). Cost of painting shall be included with Item 513, Trimming of beam end for payment.

**SEALING OF CONCRETE SURFACES**

Portions of the structure shall be sealed as noted below. See the proposal note for application rates &amp; materials. City of Cincinnati Principal Structural Design Engineer shall be contacted to determine color of sealer to be used.

- Parapets shall be sealed as shown on sheet 1/16 with an epoxy or non-epoxy sealer. Walk surface shall be sealed with a non-epoxy sealer.
- Abutment backwalls, beam seats, the face of the breastwall, wingwall, and retaining wall down to the groundline shall be sealed with an epoxy sealer.
- The piers shall be sealed with an epoxy sealer. The sealer shall be applied to the sides and ends of the cap and the total surface of the columns.

**REFURBISH DRAINS**

This item shall include the cleaning and flushing out of the scupper inlet and downspout. The downspout shall be thoroughly cleaned so that water flows freely. All exposed pipes and supports shall be cleaned and painted as required by field painting of existing steel, system OZEU proposal note. Payment for all the above described labor and materials will be made at the contract price bid for Item 518 - structural drainage, misc: Refurbish drains.

**ITEM 510**

Dowel holes shall be drilled and grouted per Supplemental Specifications 852 and CMS 705.20.

**EXISTING ASBESTOS CEMENT CONDUIT**

The Contractor shall be aware that an asbestos cement conduit is present on the structure and may be encountered during concrete removal on the superstructure and abutments. All necessary precautions shall be taken to prevent contamination of the air and to avoid endangering the public or personnel on the job.

All federal, state and local environmental protection laws, regulations and ordinances including, but not limited to, air quality, waste containment and waste removal must be observed when working in areas containing asbestos cement conduit. It is

the responsibility of the Contractor to comply with all applicable laws.

Costs associated with removal and disposal of asbestos contaminated material shall be included for payment with Item 202, Portions of structures removed.

**ESTIMATED QUANTITIES**

ITEM	CODE	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE			RIGHT BRIDGE		
					ABUTMENTS	SUPERST.	GENERAL	ABUTMENTS	SUPERST.	GENERAL
202	11202	L.S.	Lump sum	Portions of structures removed, over 20 foot span	-	-	L.S.	-	-	L.S.
509	15800	32094	Lbs.	Epoxy coated reinforcing steel, grade 60	5698	5669	4573	5982	5050	5122
510	12200	2094	Lin. Ft.	Dowel hole	265	318	448	276	286	501
511	34400	85	Cu. Yd.	Class S concrete, superstructure (repair or reconstruction)	-	43	-	-	42	-
511	45700	174	Cu. Yd.	Class C concrete, abutment (repair or reconstruction)	44	-	39	47	-	44
SPECIAL	51267500	1940	Sq. Yd.	Sealing of concrete surfaces *	24	481	433	77	438	487
SPECIAL	51267502	1721	Sq. Yd.	Sealing of concrete surfaces (epoxy) *	624	-	183	730	-	184
513	21000	30	Each	Trimming of beam end*	-	16	-	-	14	-
516	11210	236	Lin. Ft.	Structural expansion joint including elastomeric strip seal	-	128	-	-	108	-
516	45304	30	Each	Refurbish bearing device	-	16	-	-	14	-
516	46700	30	Each	Reset bearing	-	16	-	-	14	-
516	47000	L.S.	Lump Sum	Jacking and temporary support of superstructure	-	L.S.	-	-	L.S.	-
516	13600	32	Sq. Ft.	1" preformed expansion joint filler	13	-	-	19	-	-
518	21200	62	Cu. Yd.	Porous backfill with filter fabric	34	-	-	28	-	-
518	63300	L.S.	Lump Sum	Structure drainage, misc.: refurbish drains	-	L.S.	-	-	L.S.	-
SPECIAL	51922000	2467	Sq. Yd.	Micro-silica modified concrete overlay (1 1/4" thick)*	-	1298	-	-	1169	-
SPECIAL	51922100	155	Cu. Yd.	Micro-silica modified concrete overlay (variable thickness)*	-	93	-	-	62	-
SPECIAL	60739930	221	Lin. Ft.	Vandal protection fence, 12' curved, coated fabric	-	221	-	-	-	-
SPECIAL	51619600	34	Lin. Ft.	Precompressed joint filler	20	-	-	14	-	-

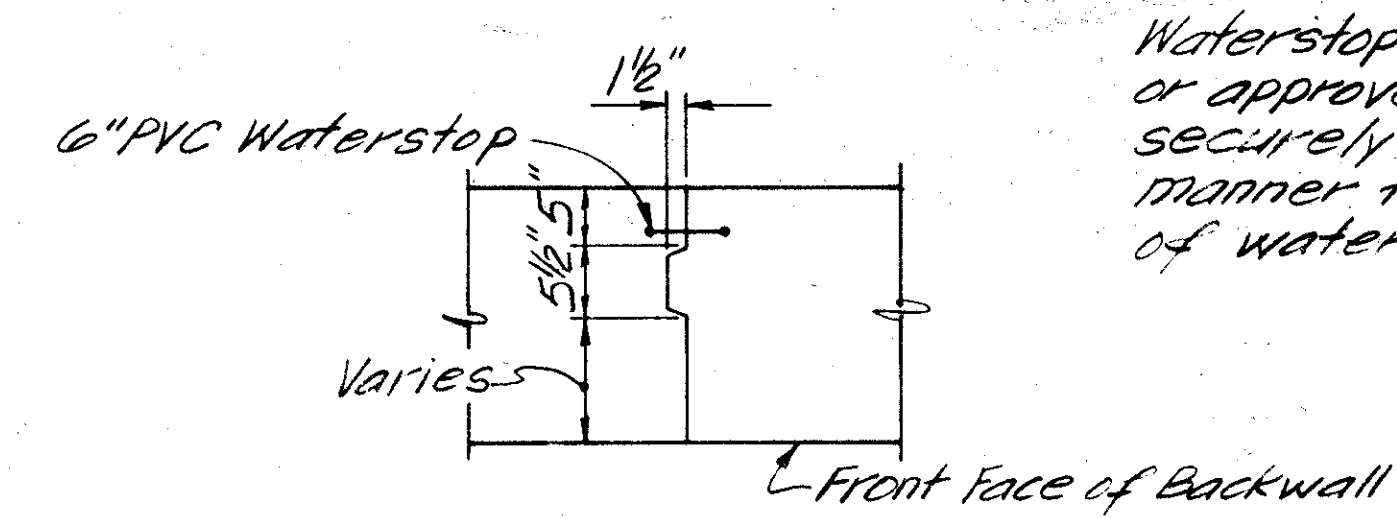
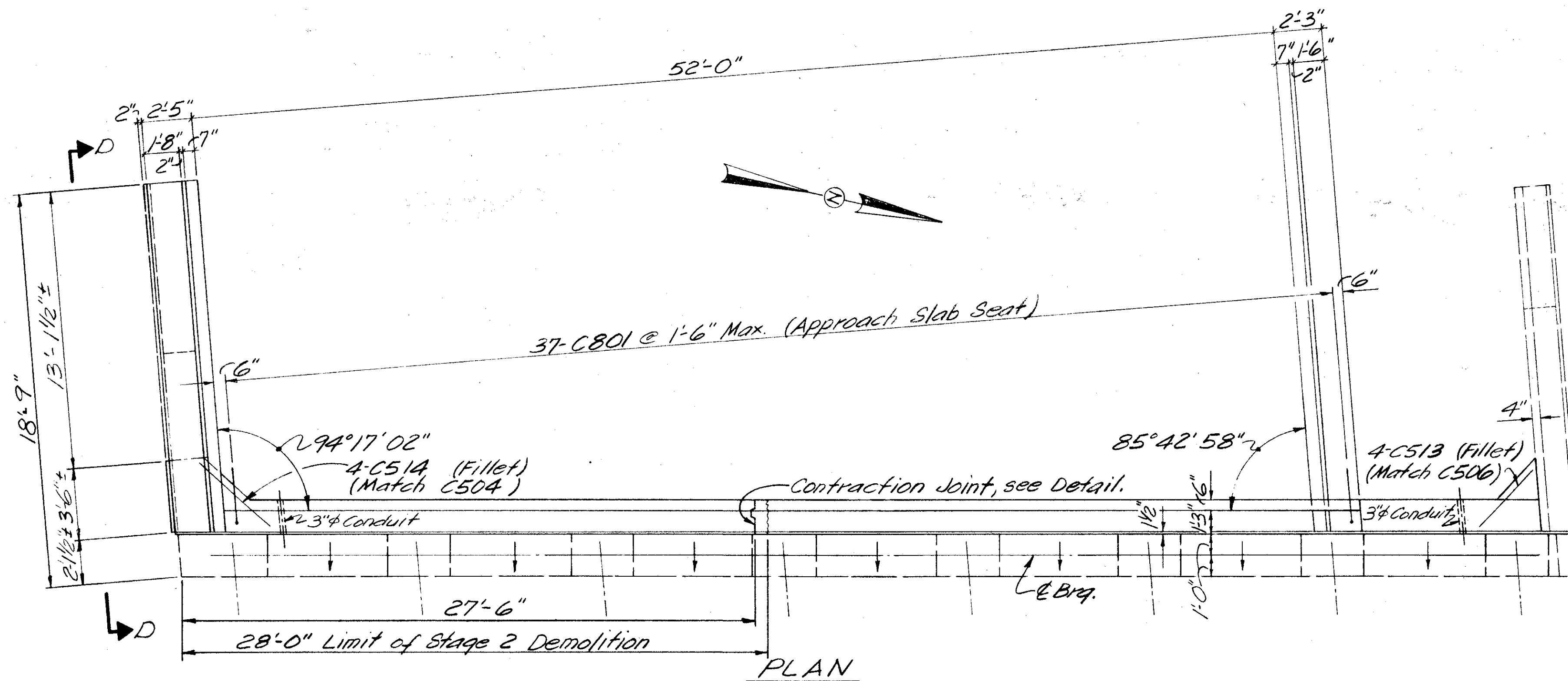
\* See proposal note

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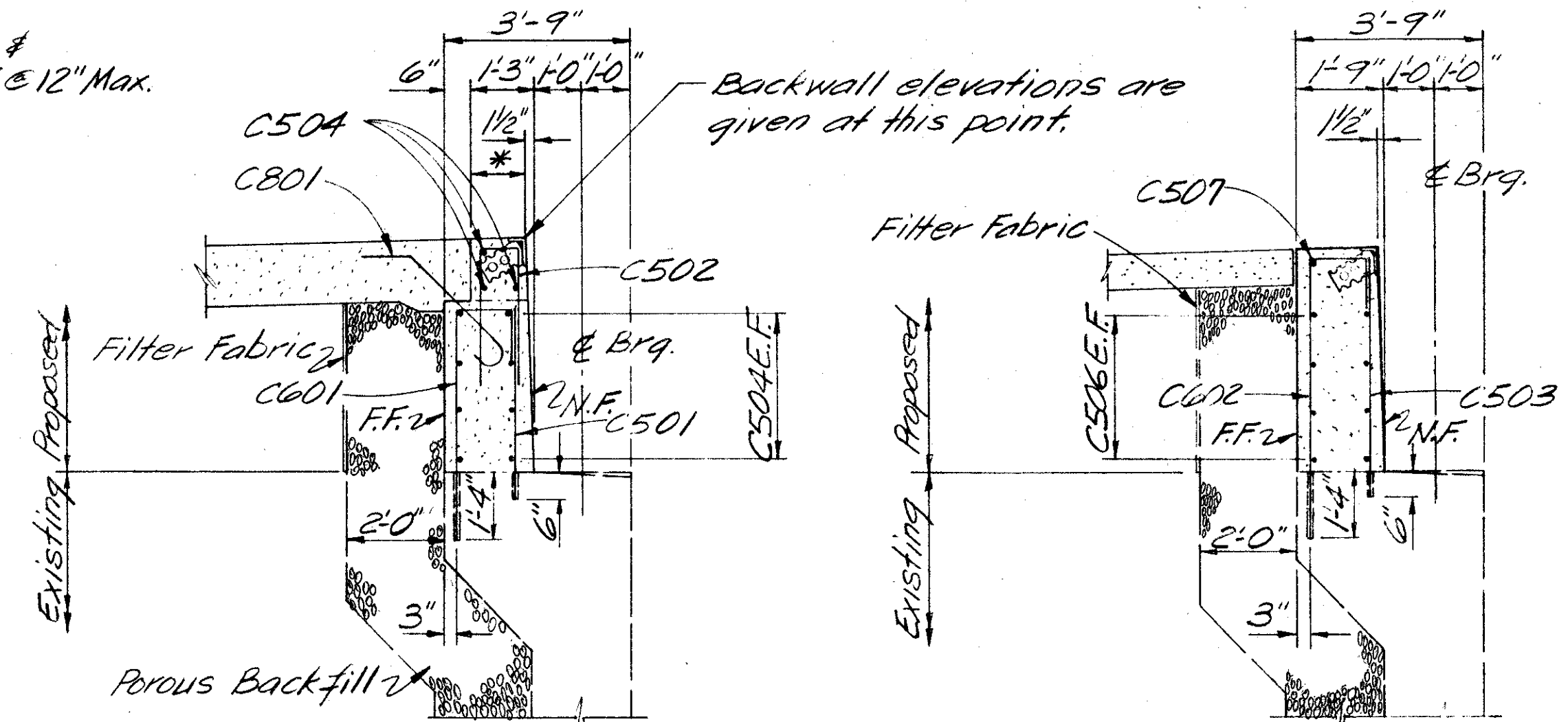
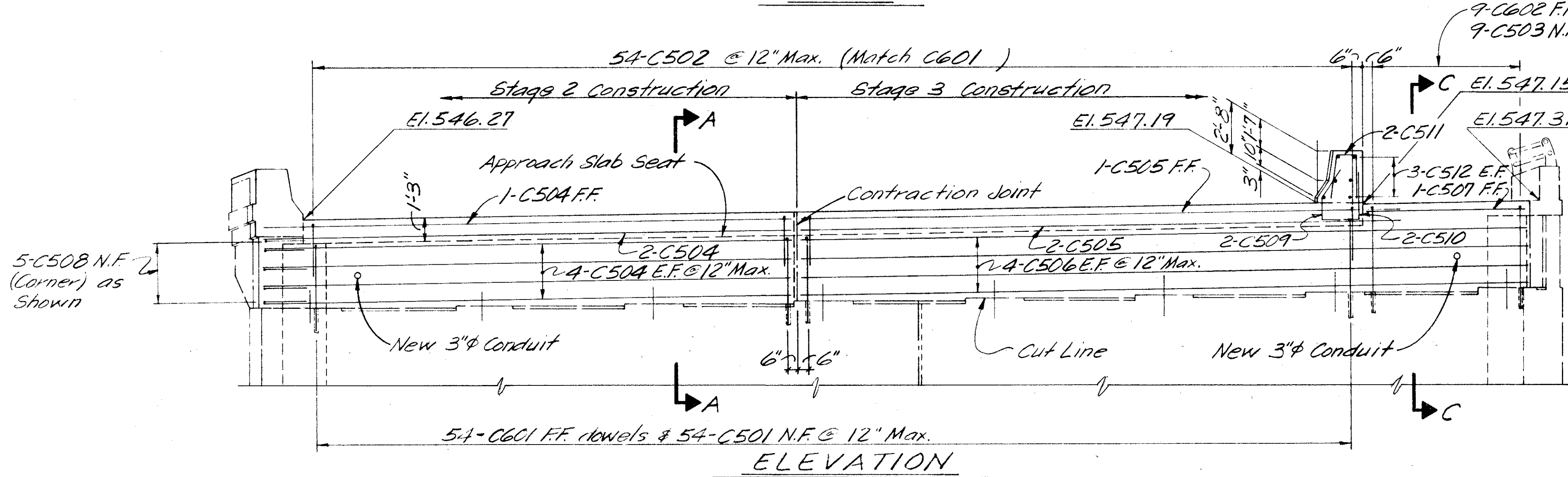
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BALKE ENGINEERS 2/16  
1848 SUMMIT ROAD  
CINCINNATI, OHIO 45237GENERAL NOTES & QUANTITIES  
BRIDGE NO. HAM-50-2043 R & L  
SIXTH STREET EXPRESSWAY  
OVER GEST STREET

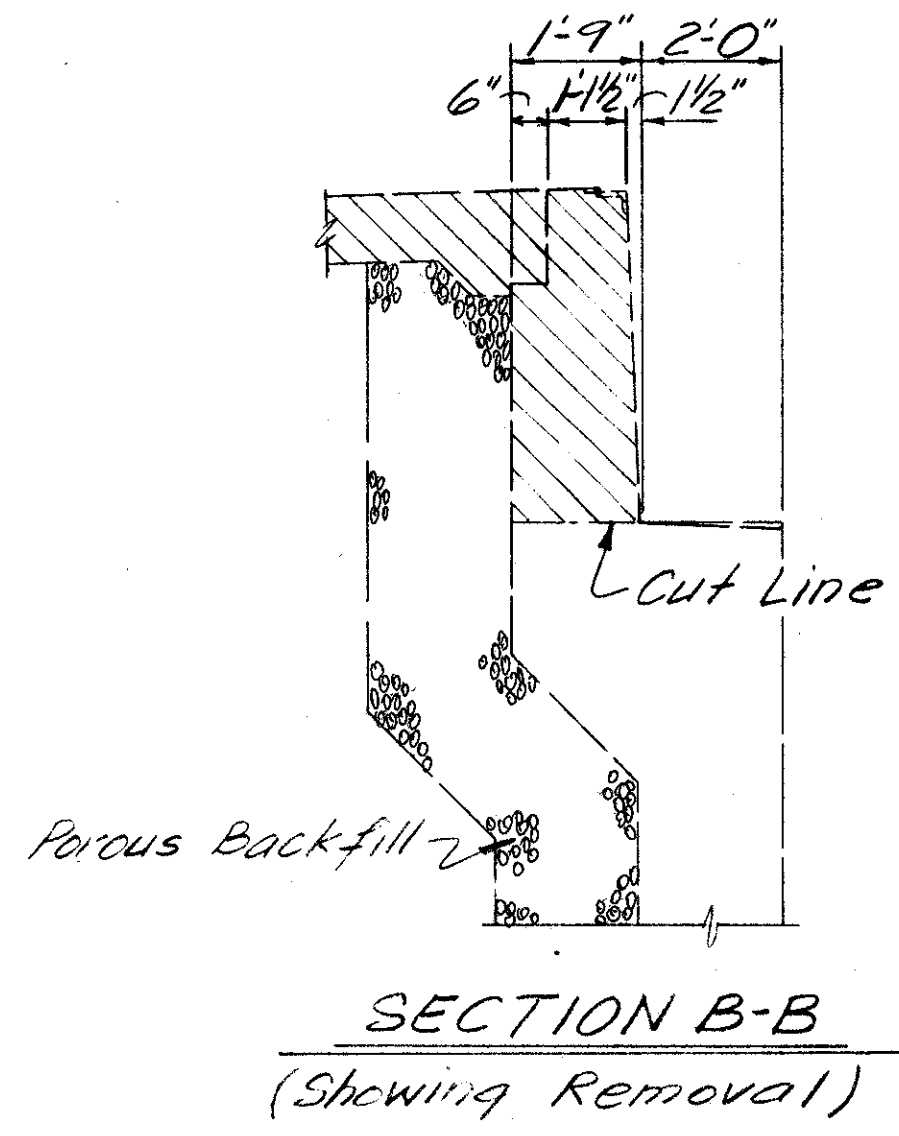
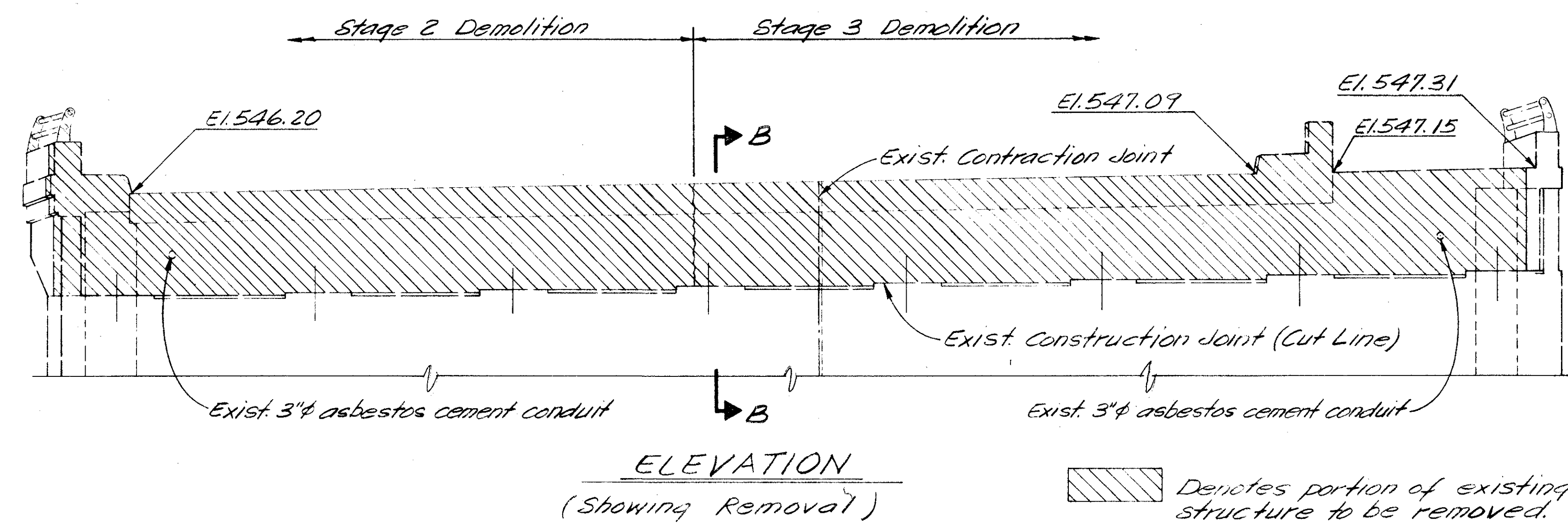
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DW	CRS	



Waterstop to be Vinyltex R4-316, Greenstreak 751 or approved equal. Waterstop to be securely held in place in approved manner to ensure correct positioning of waterstop is maintained.



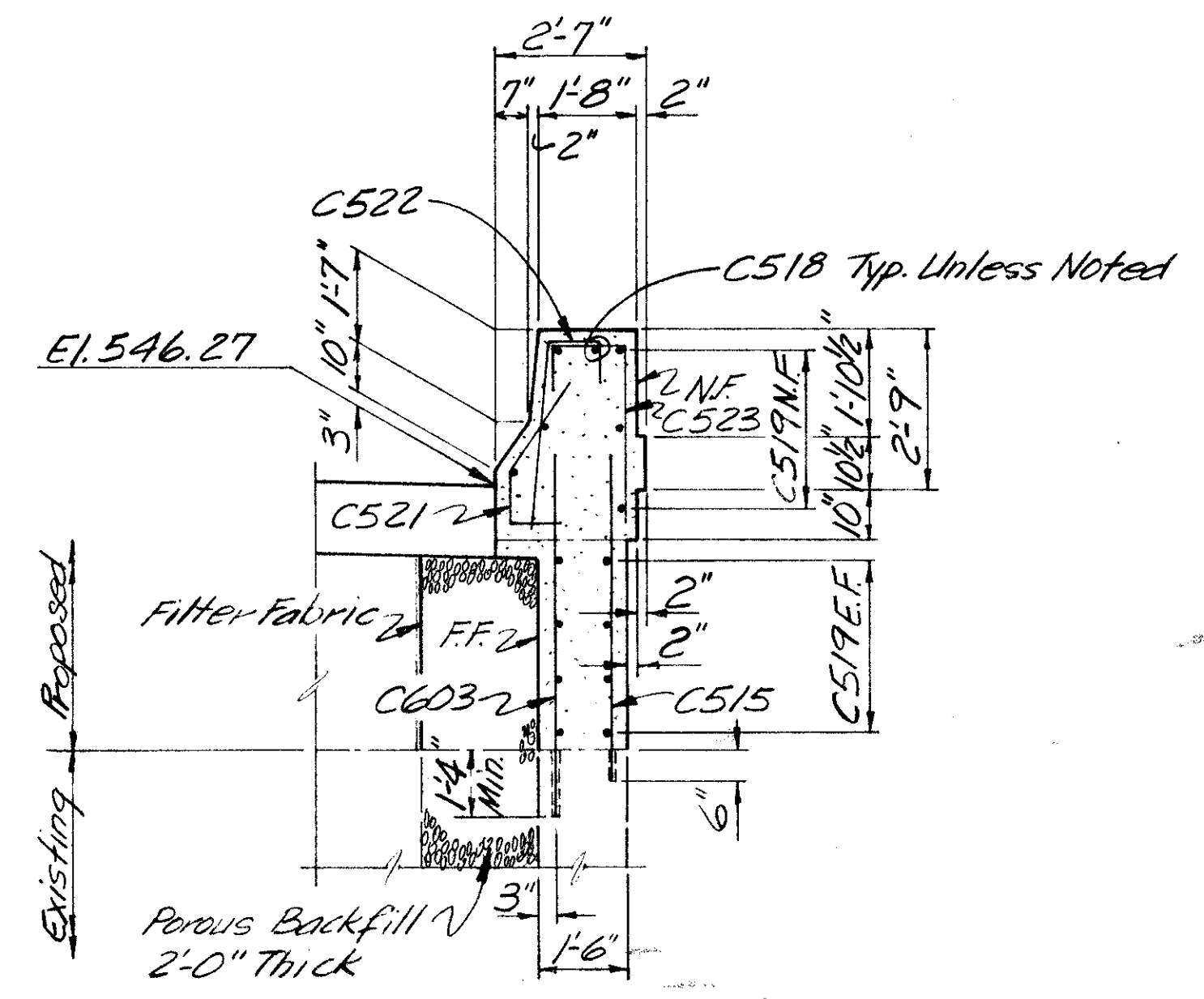
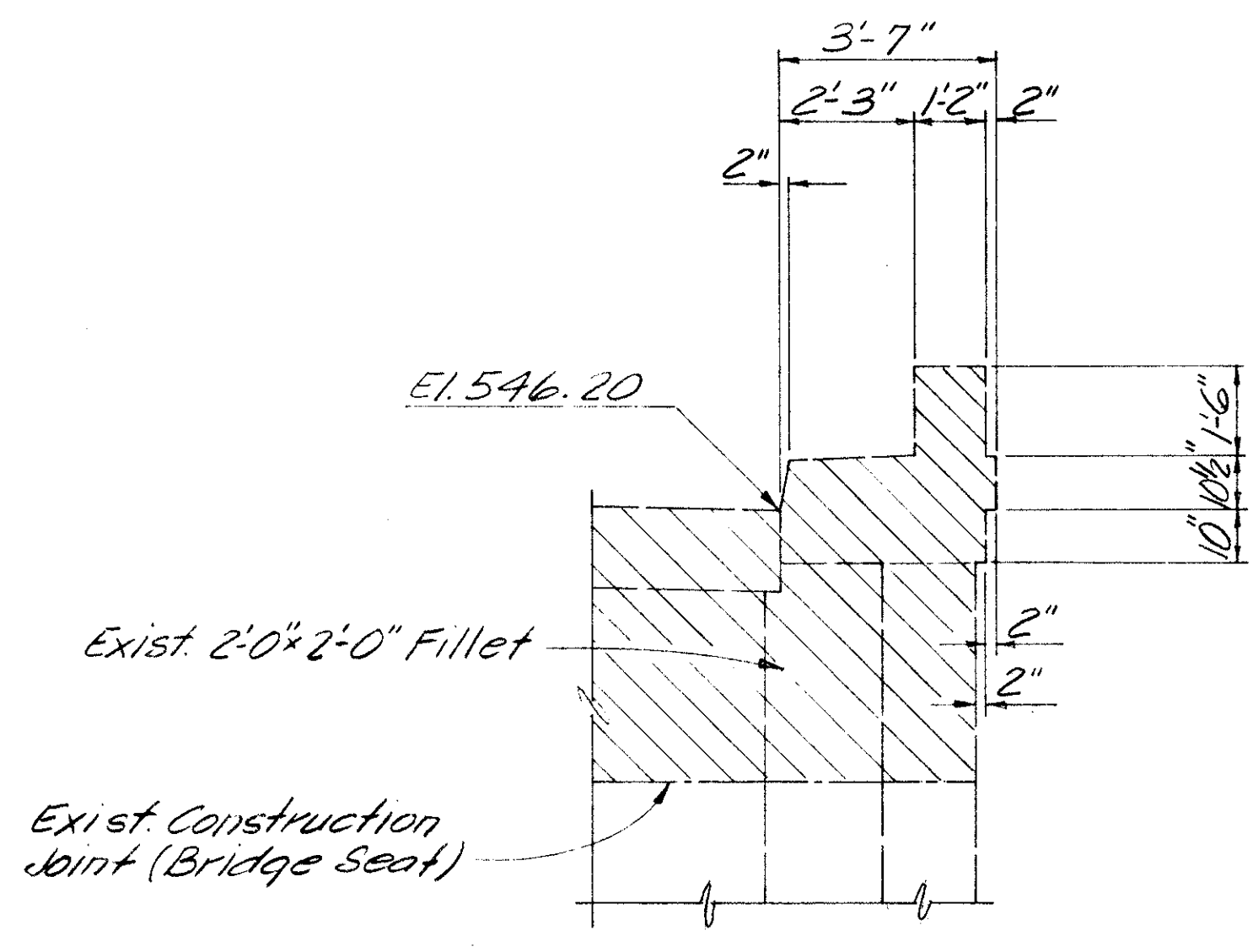
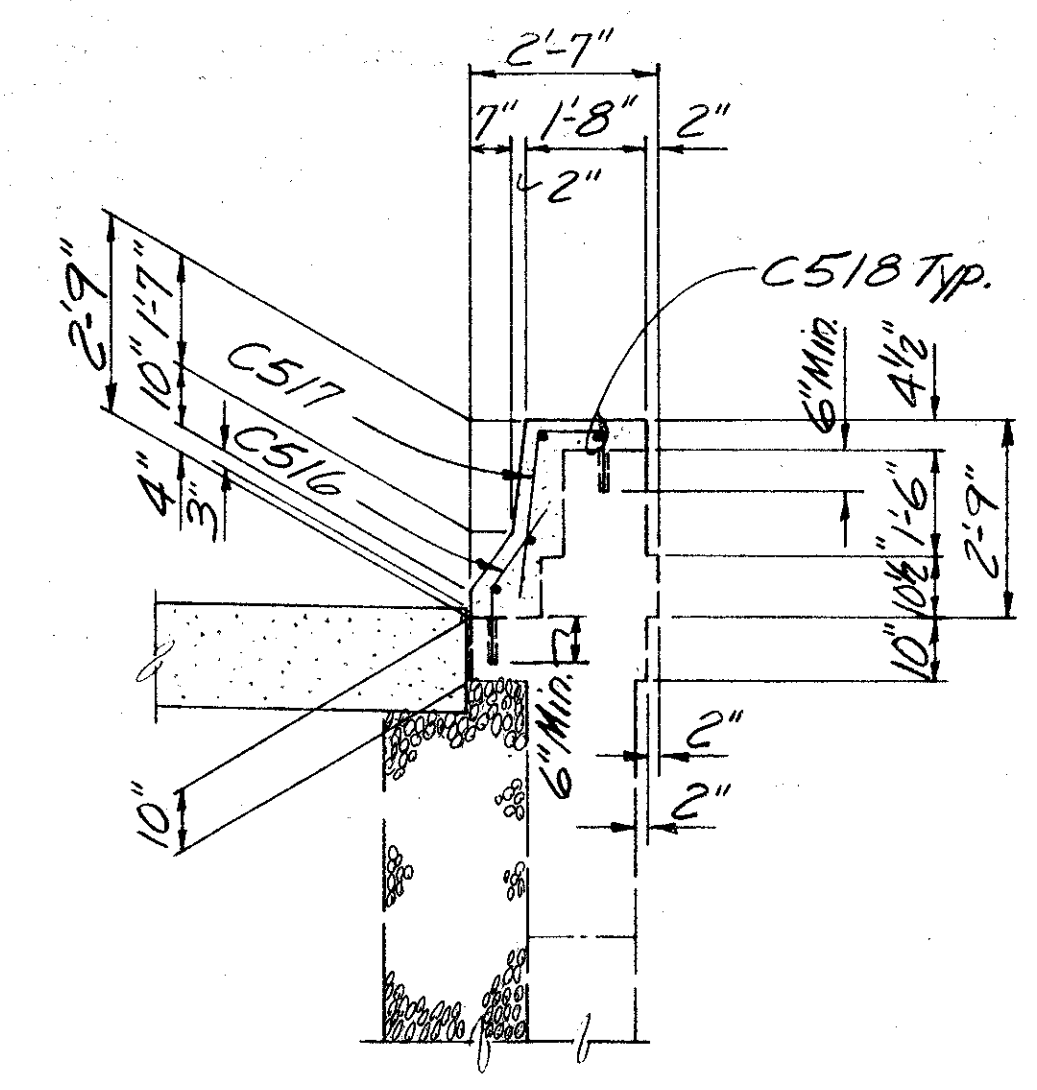
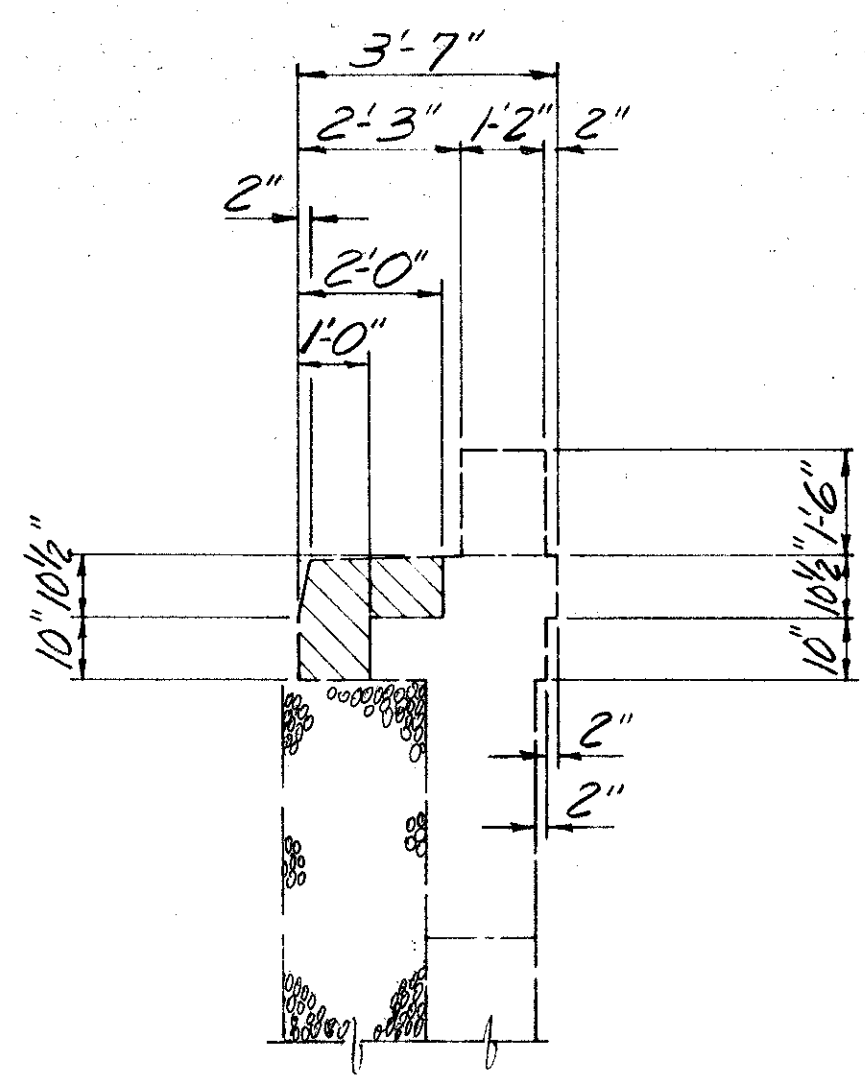
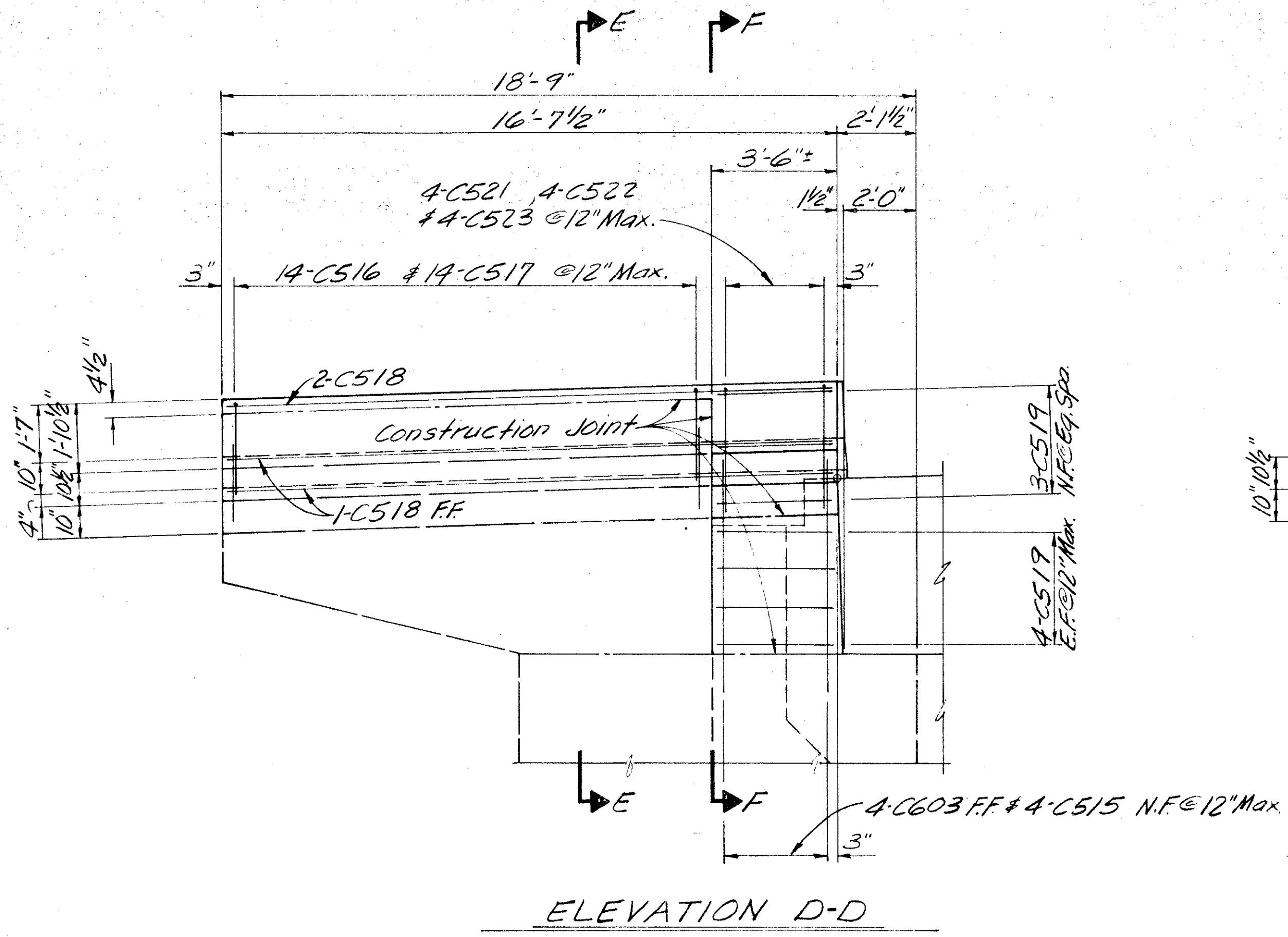
\* This dimension based on opening width of expansion joint.



Notes:  
 1. E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face  
 2. For Elevation D-D, see Sht. 4/16.

BALKE ENGINEERS 3/16 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
WEST ABUTMENT BRIDGE NO. HAM-50-2043 L WESTBOUND 6TH ST. EXPRESSWAY OVER GEST STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	

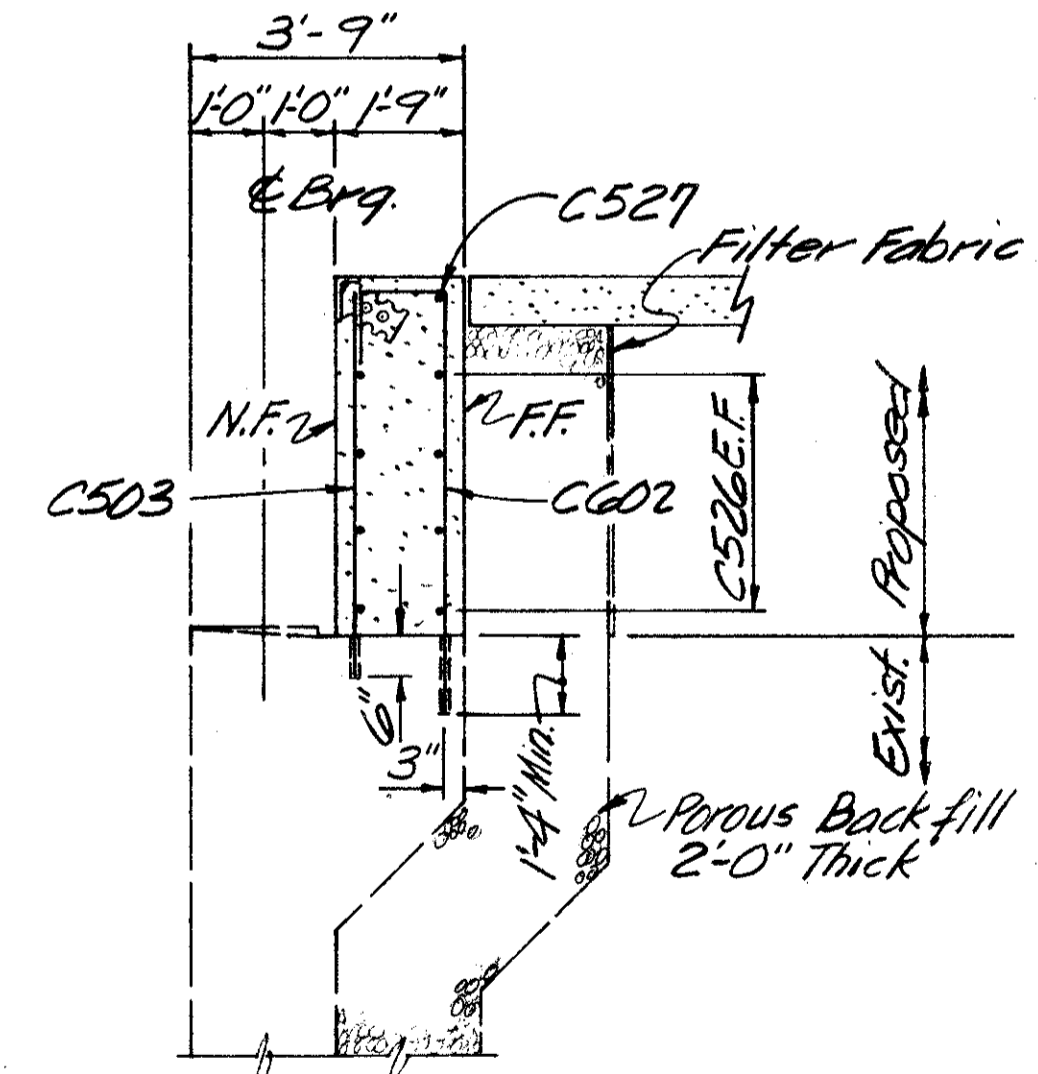
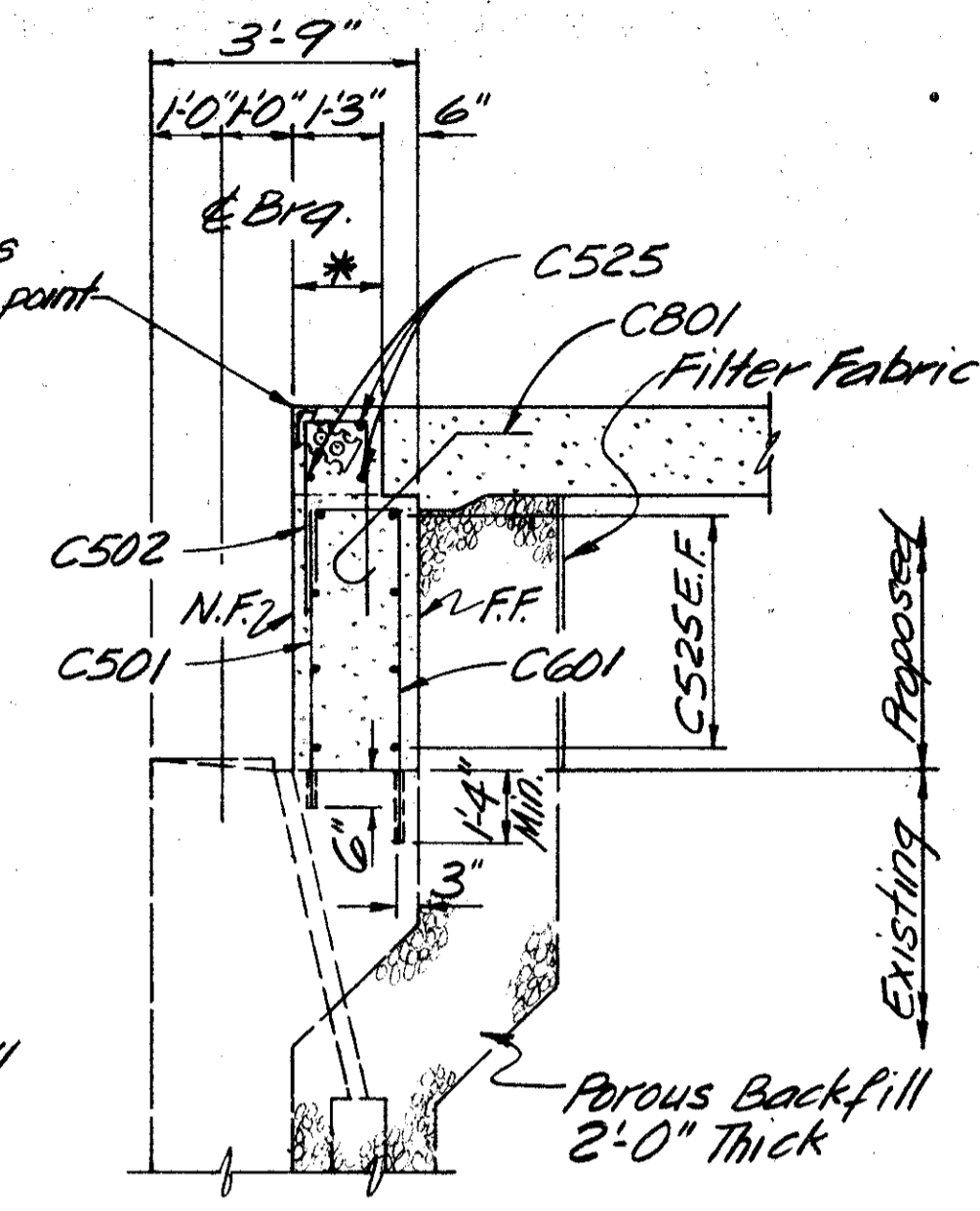
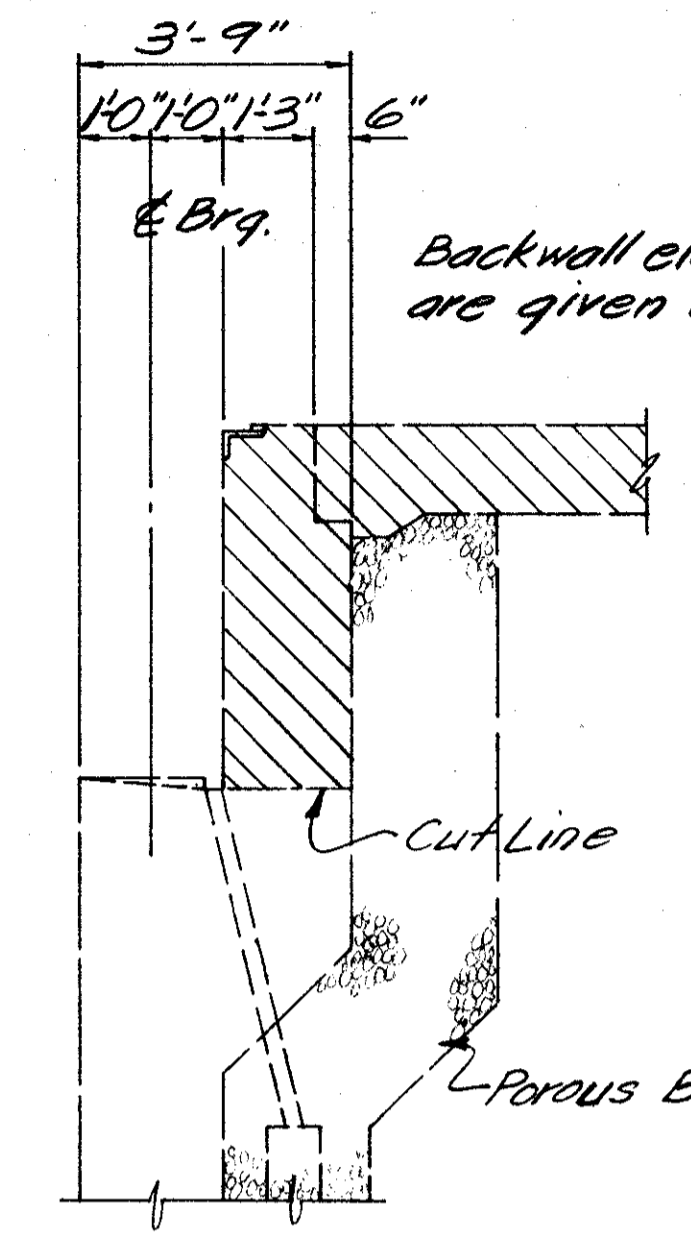
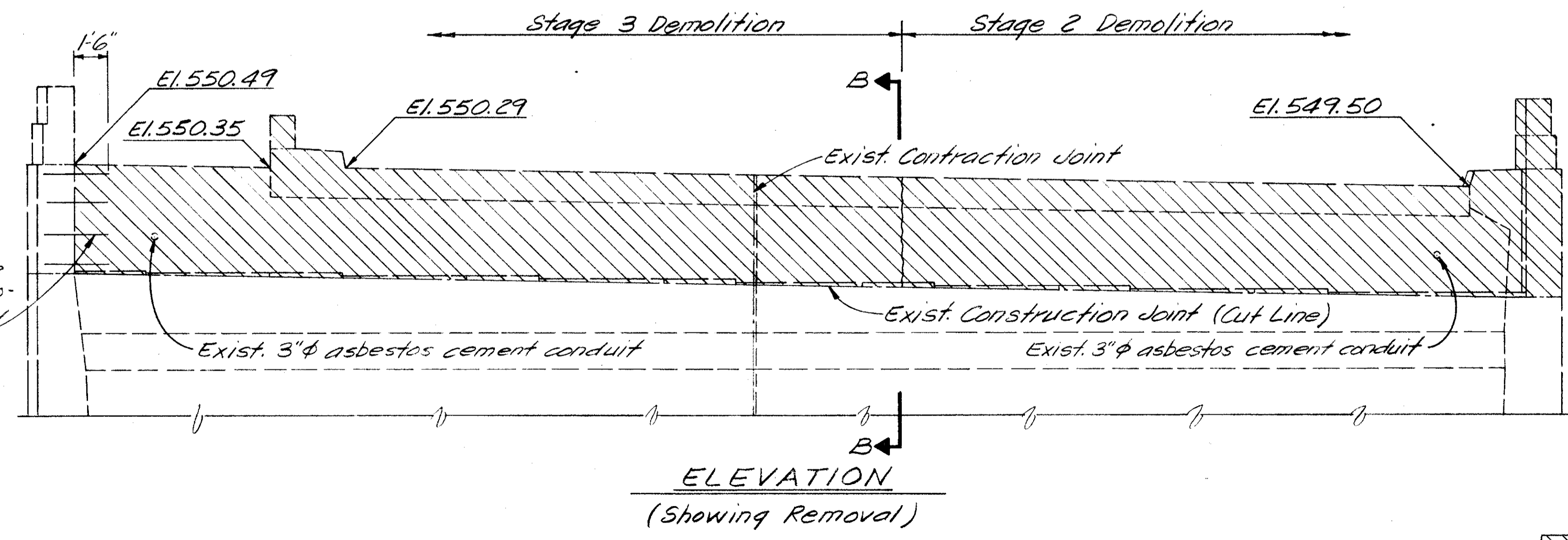
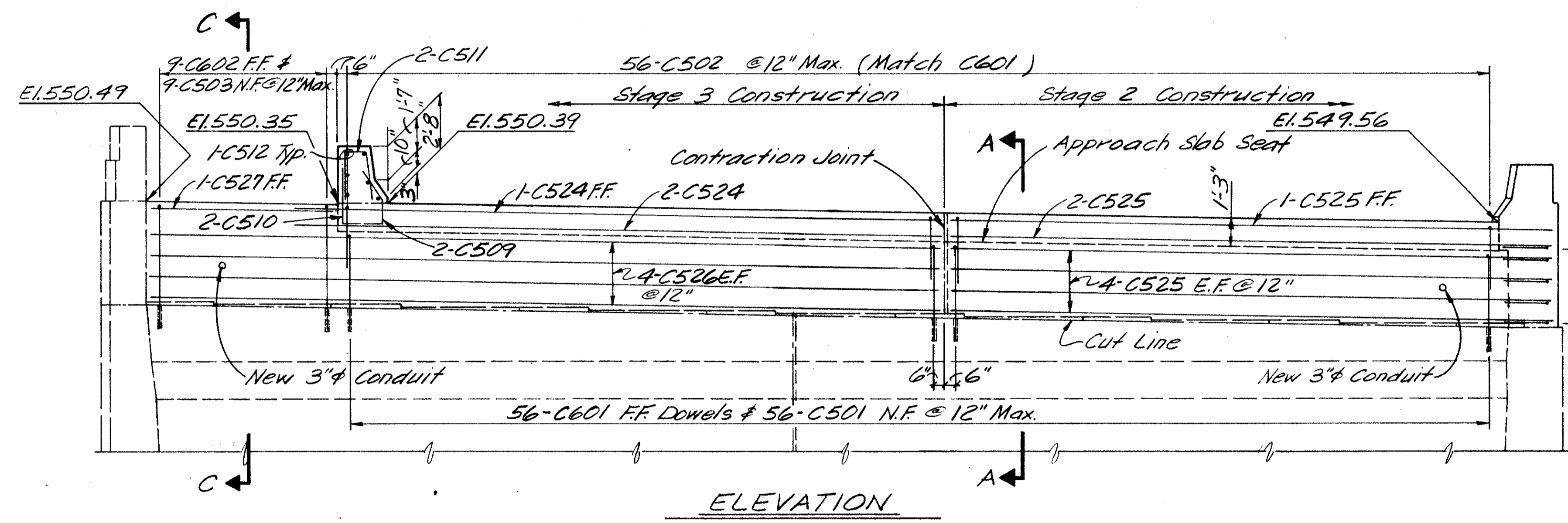
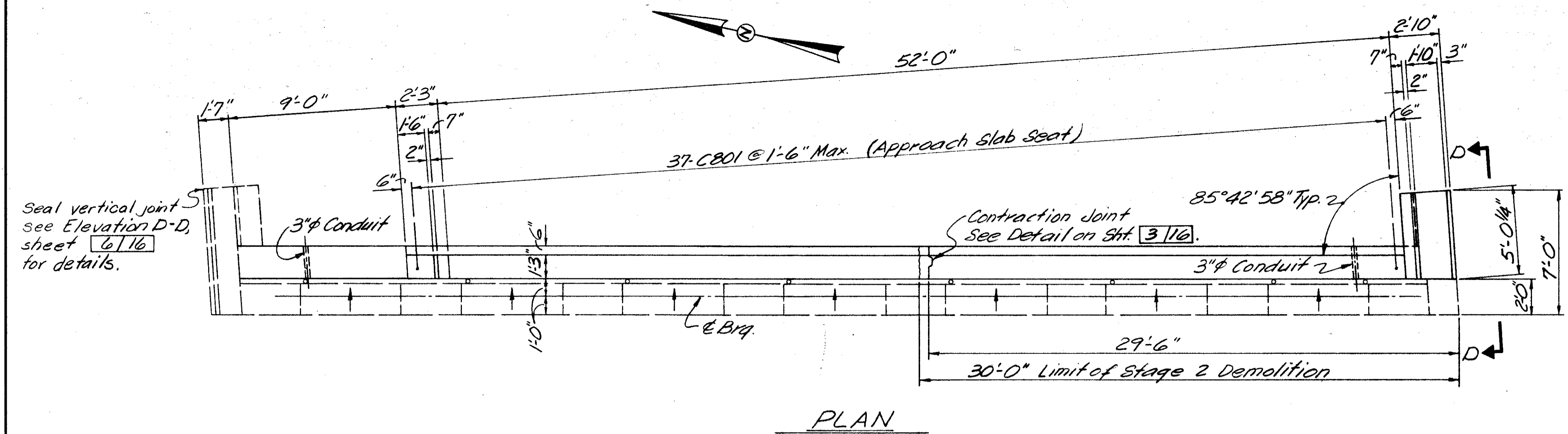




Note:  
 E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face

Denotes portion of existing structure to be removed.

BALKE ENGINEERS 4/16 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
WEST ABUTMENT BRIDGE NO. HAM-50-2043 L WESTBOUND 6 <sup>TH</sup> ST. EXPRESSWAY OVER GEST STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	.



Notes:

1. E.F. = Each Face

F.F. = Far Face

N.F. = Near Face

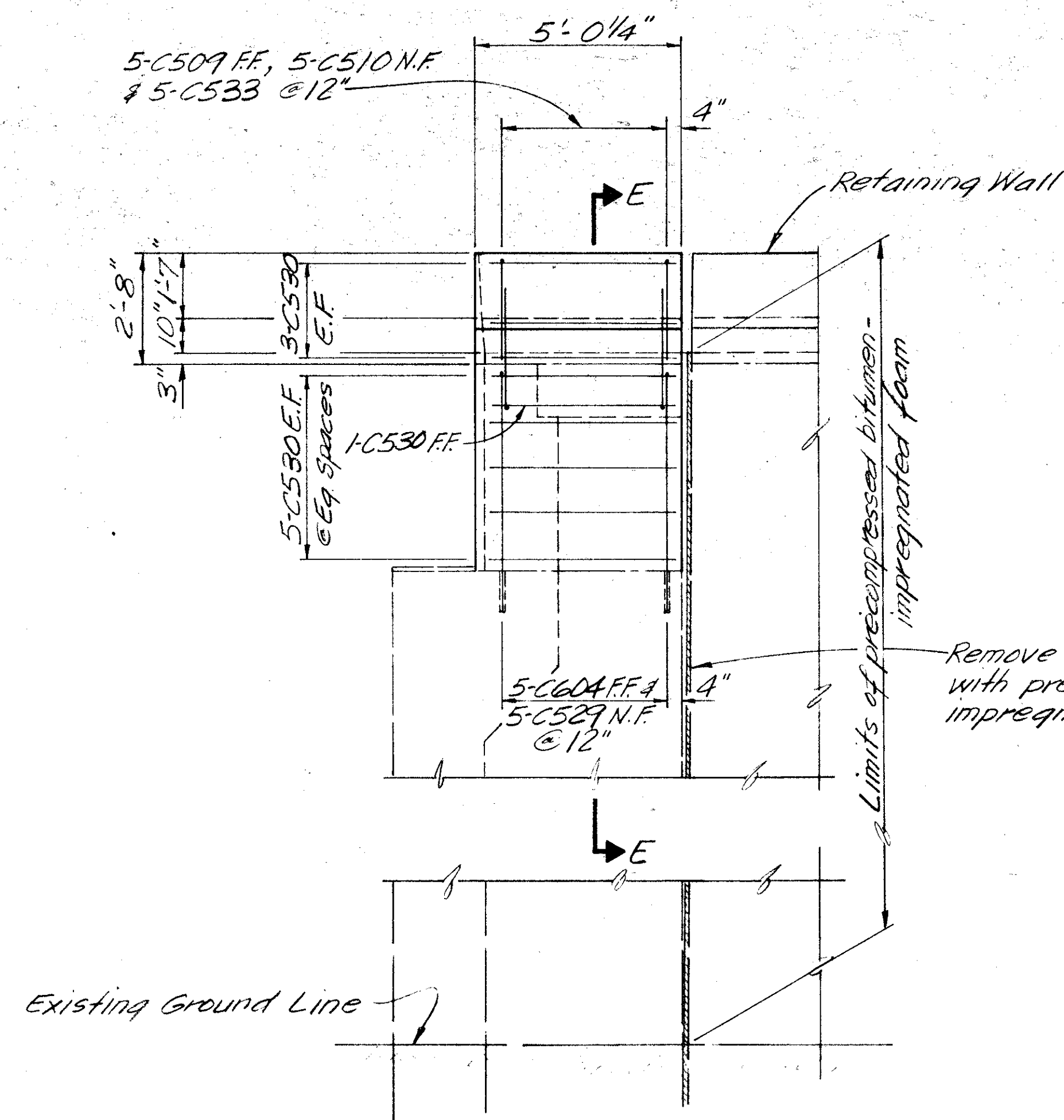
2. For Elevation D-D, see Sht. 6/16.

Denotes portion of existing structure to be removed.

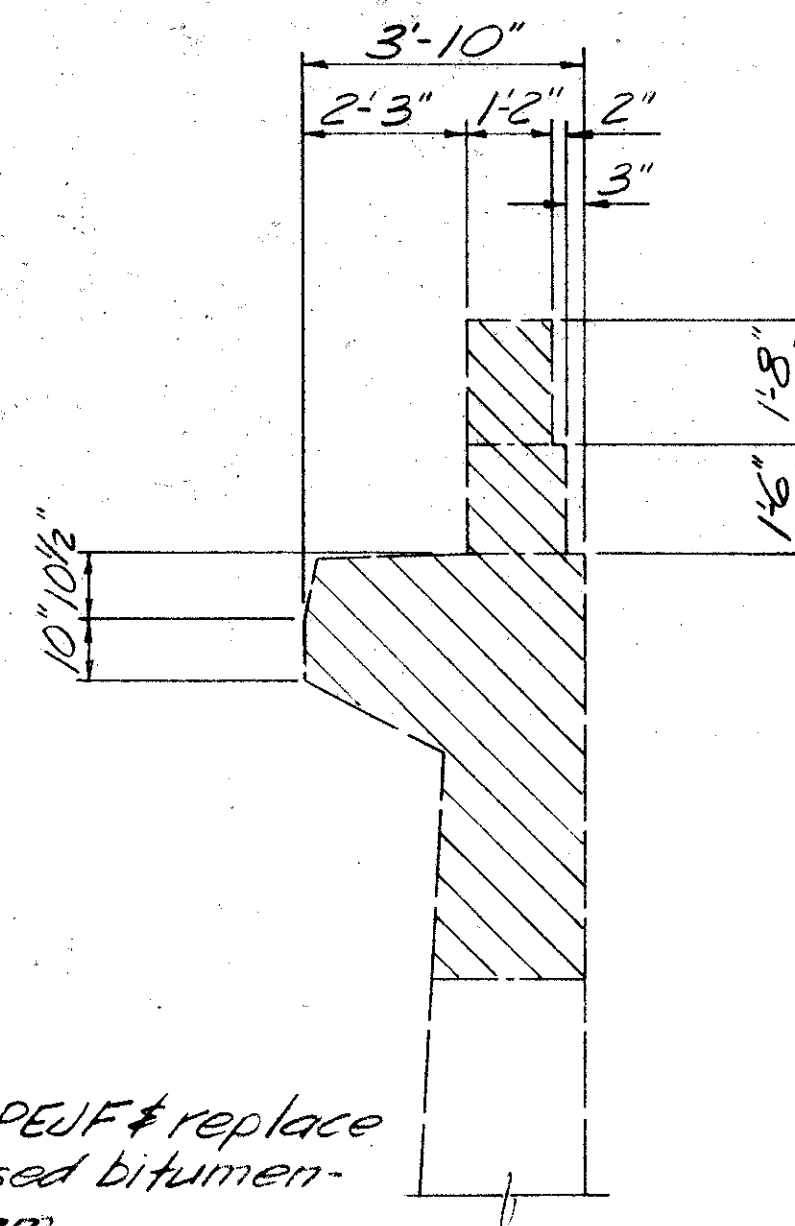
BALKE ENGINEERS 5/16  
1848 SUMMIT RD.  
CINCINNATI, OHIO 45237

EAST ABUTMENT  
BRIDGE NO HAM-50-2043 L  
WESTBOUND 6TH ST. EXPRESSWAY  
OVER GEST STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MRS	WUH	~	DW1	CRS	4/92	

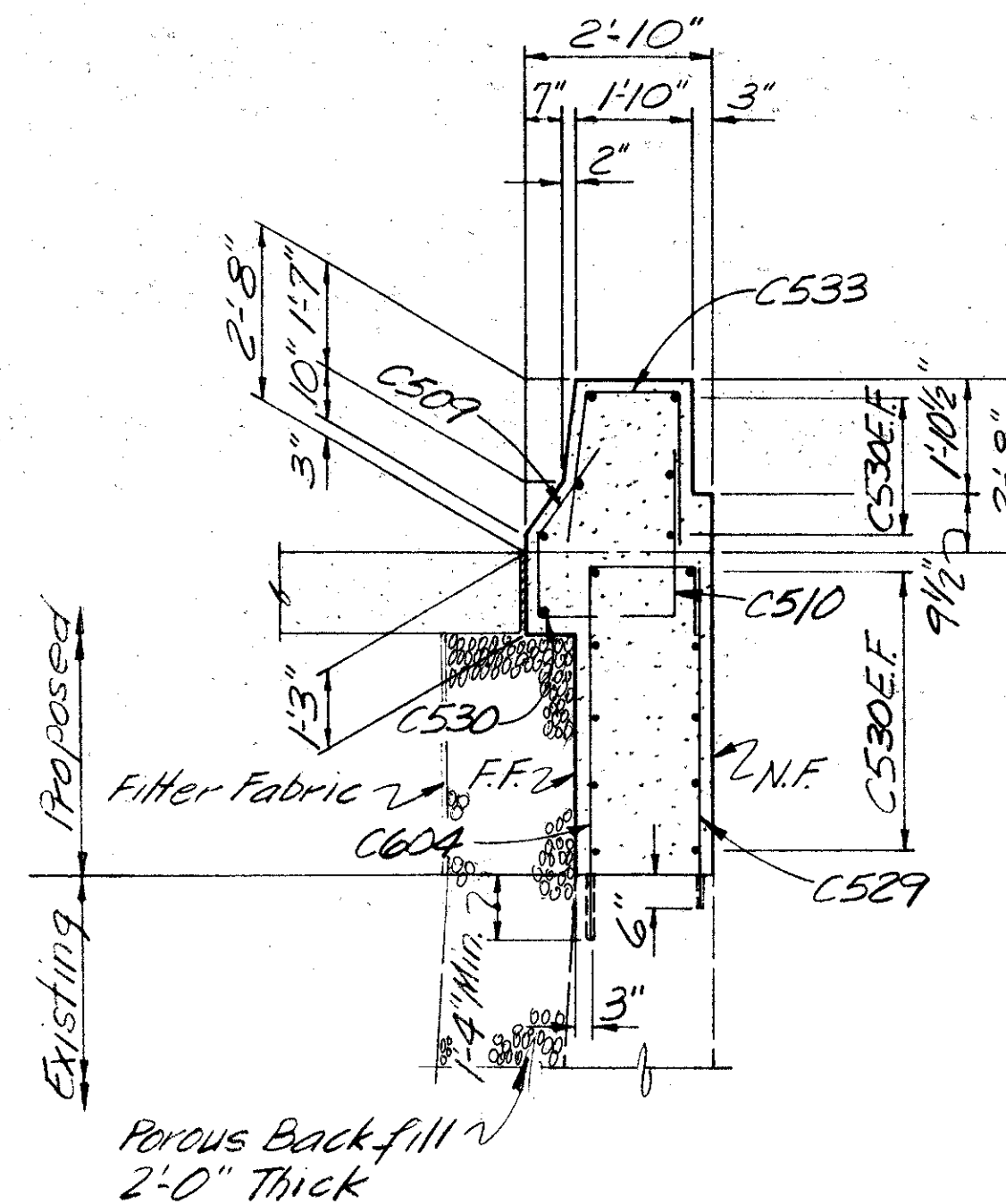


ELEVATION D-D

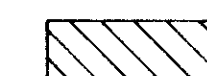


SECTION E-E  
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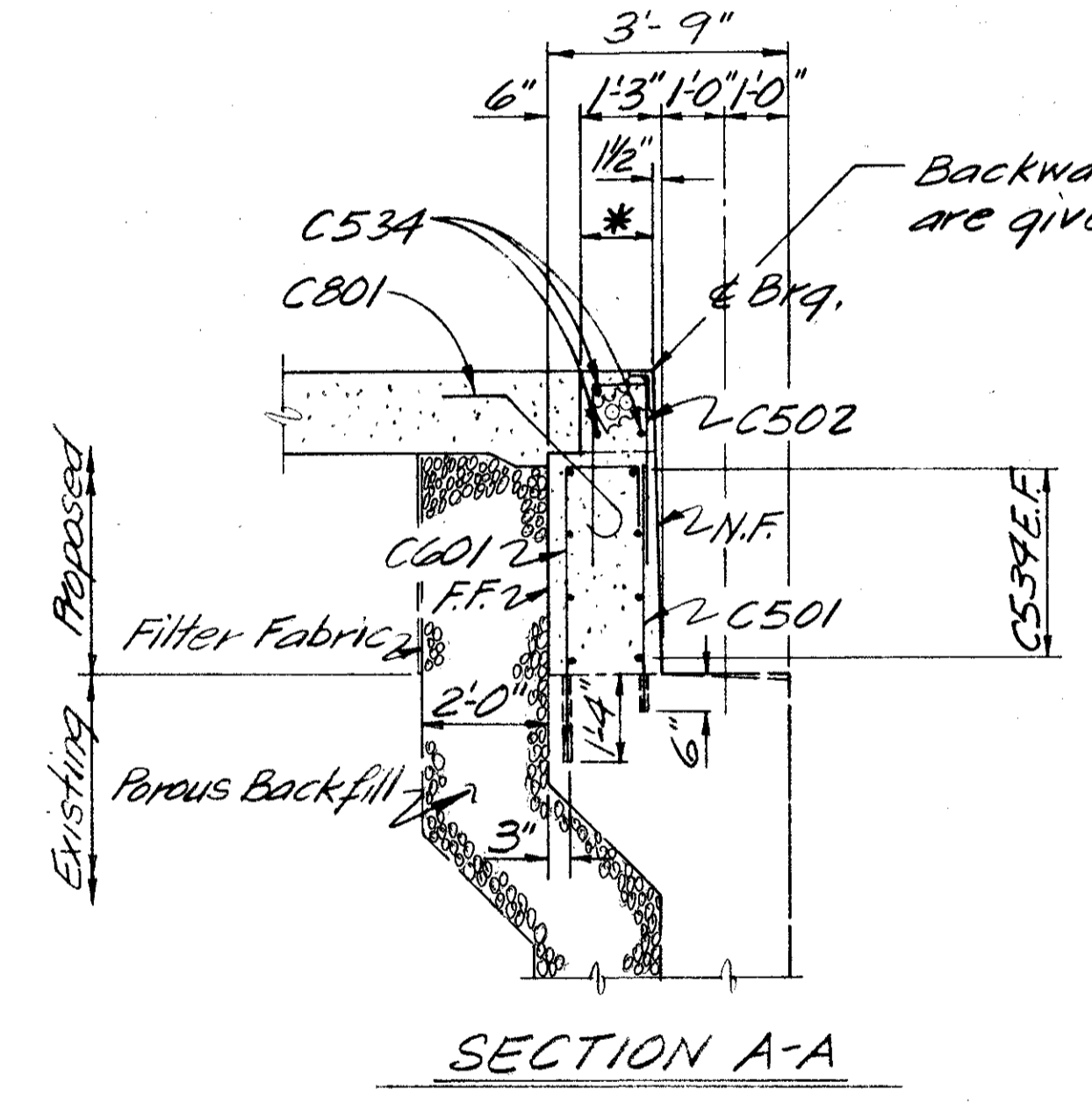
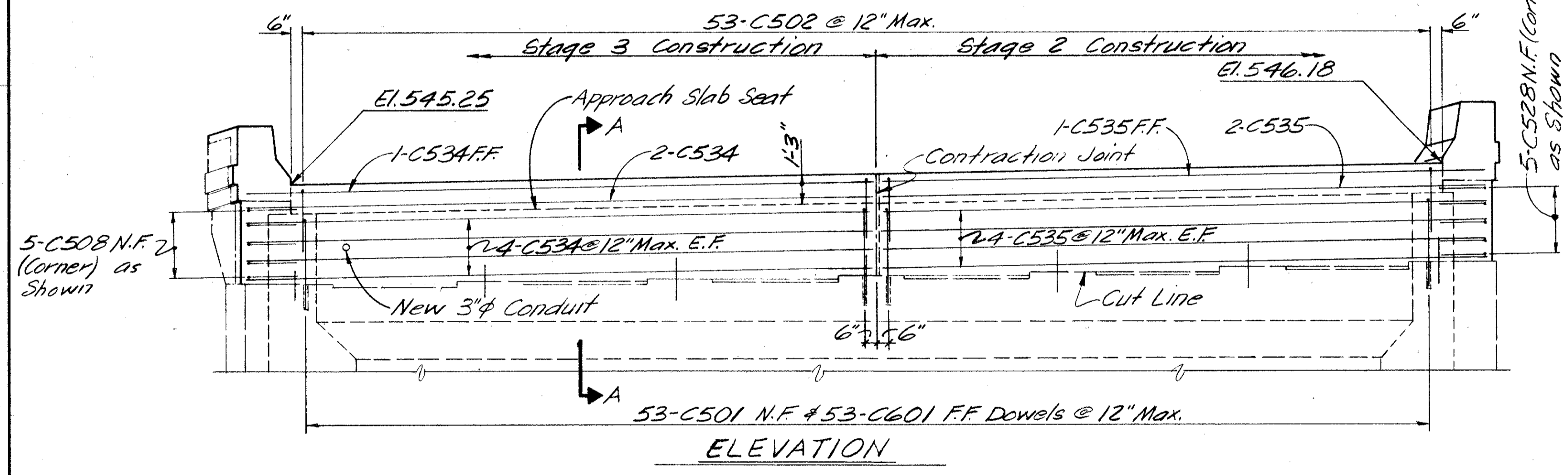
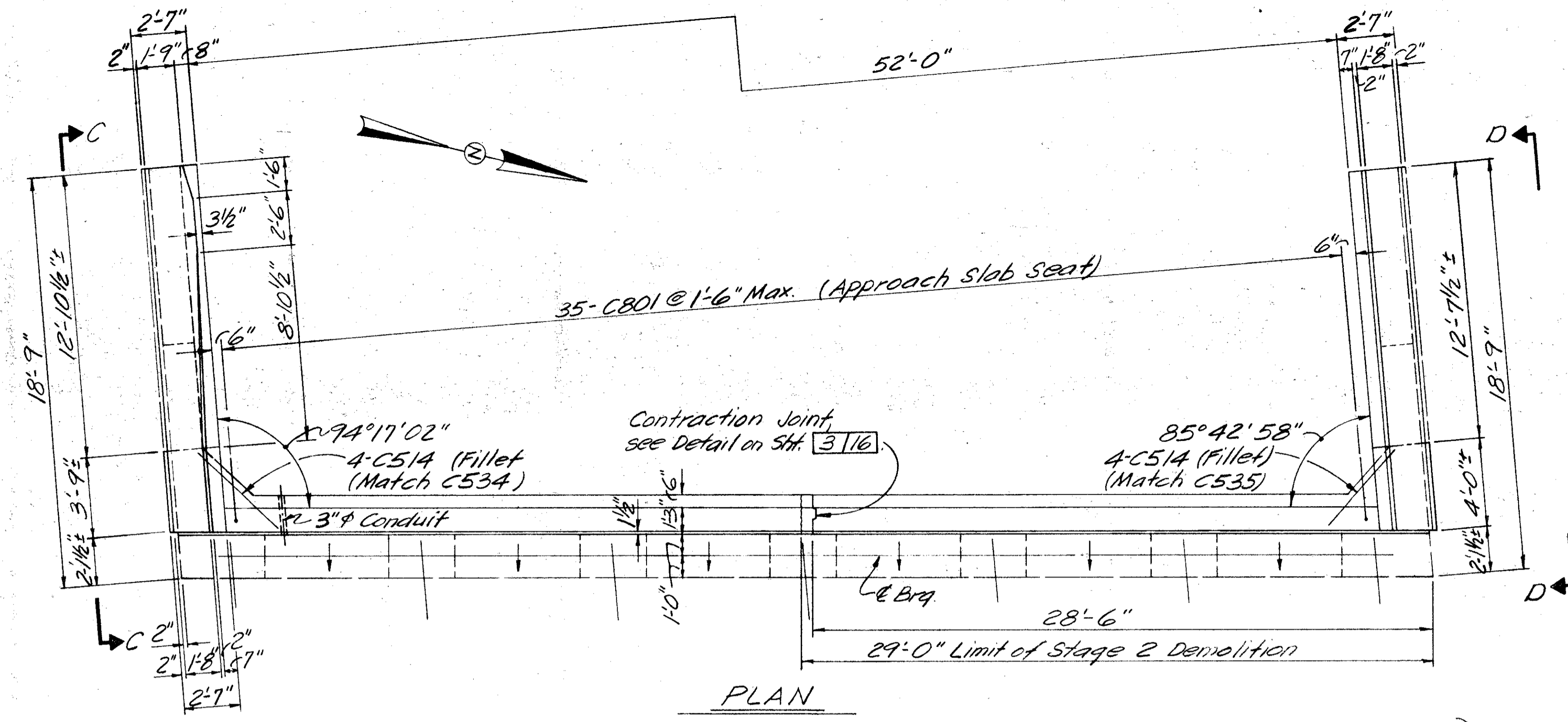
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E.F. = Each Face  
F.F. = Far Face  
N.F. = Near Face



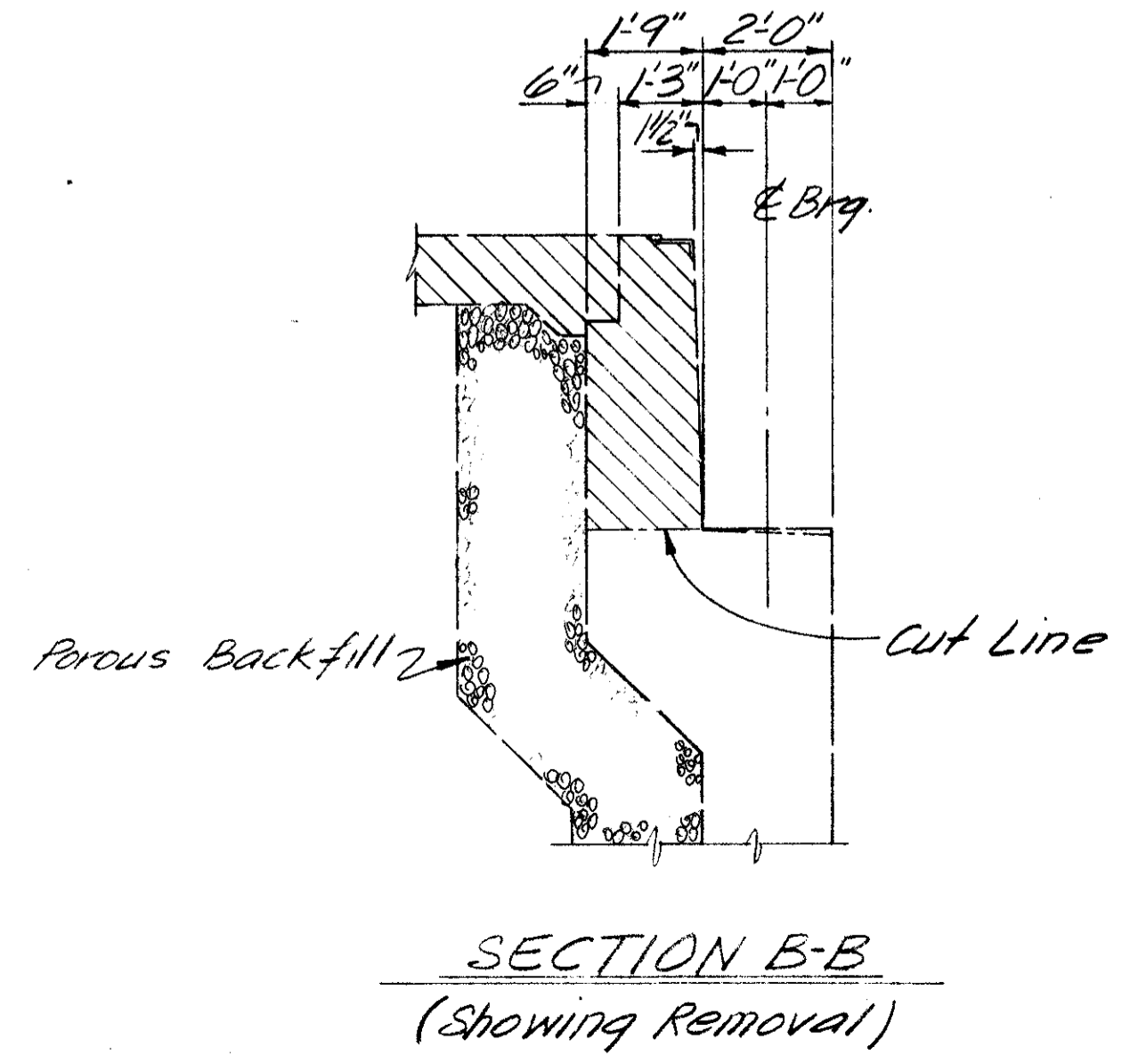
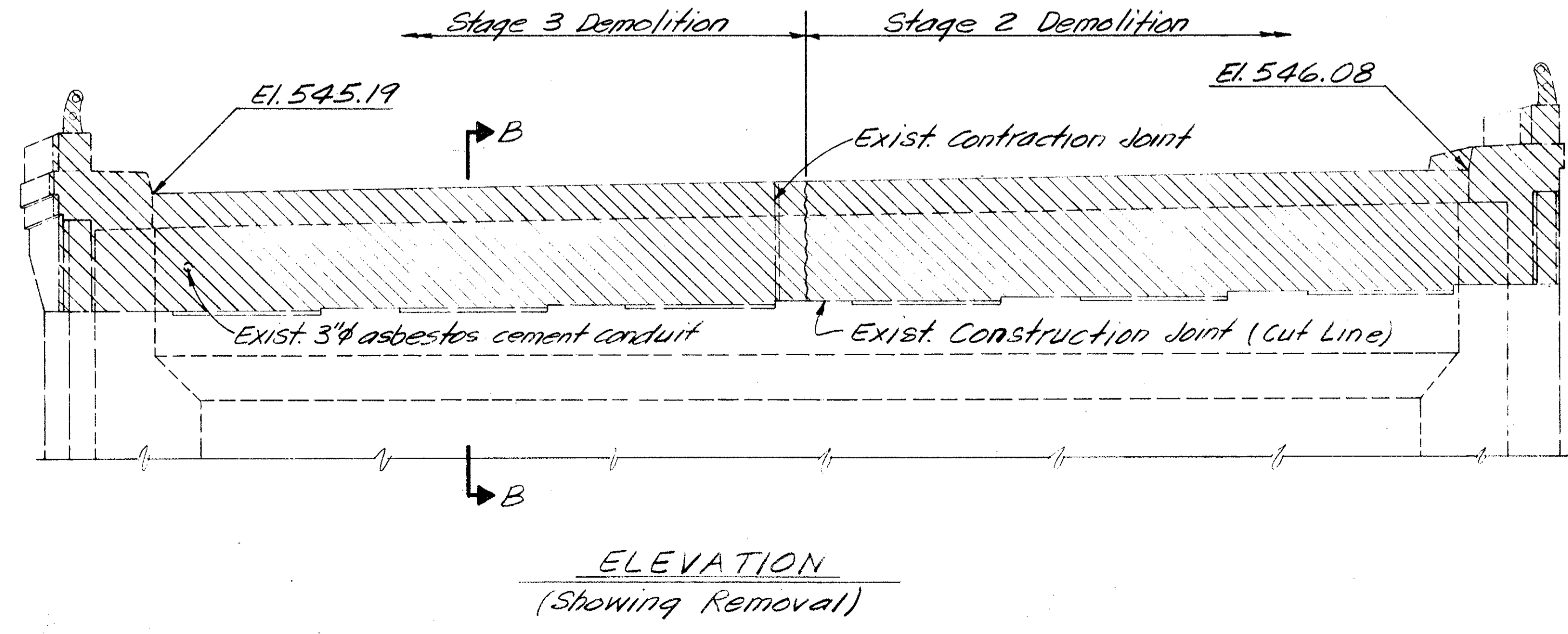
SECTION E-E

 Denotes portion of existing structure to be removed.

BALKE ENGINEERS 1848 SUMMIT RD. CINCINNATI, OHIO 45237					6/16
EAST ABUTMENT BRIDGE NO. HAM-50-2043 L WESTBOUND 6 <sup>TH</sup> ST. EXPRESSWAY OVER GEST STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CRS 4/92	

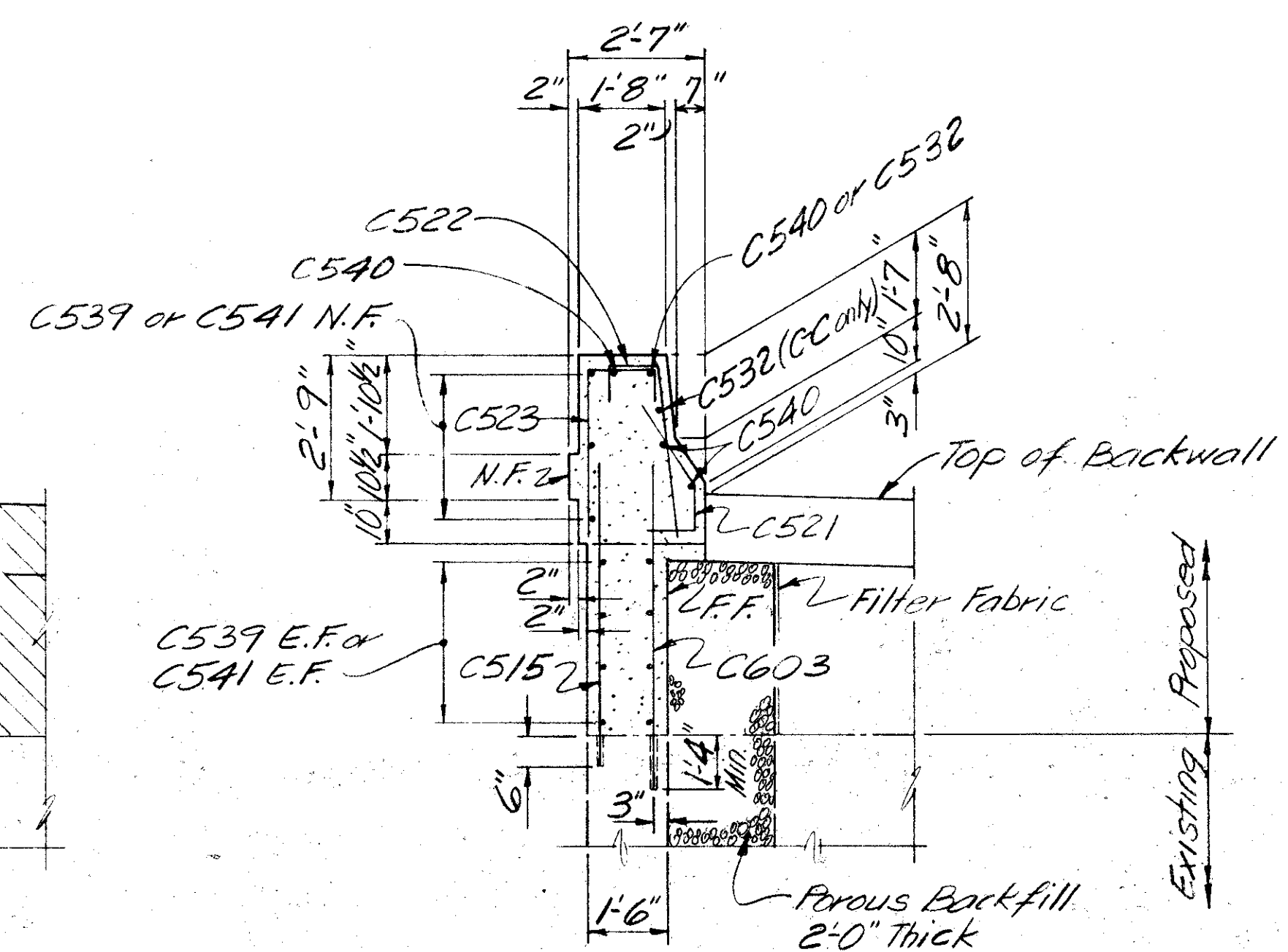
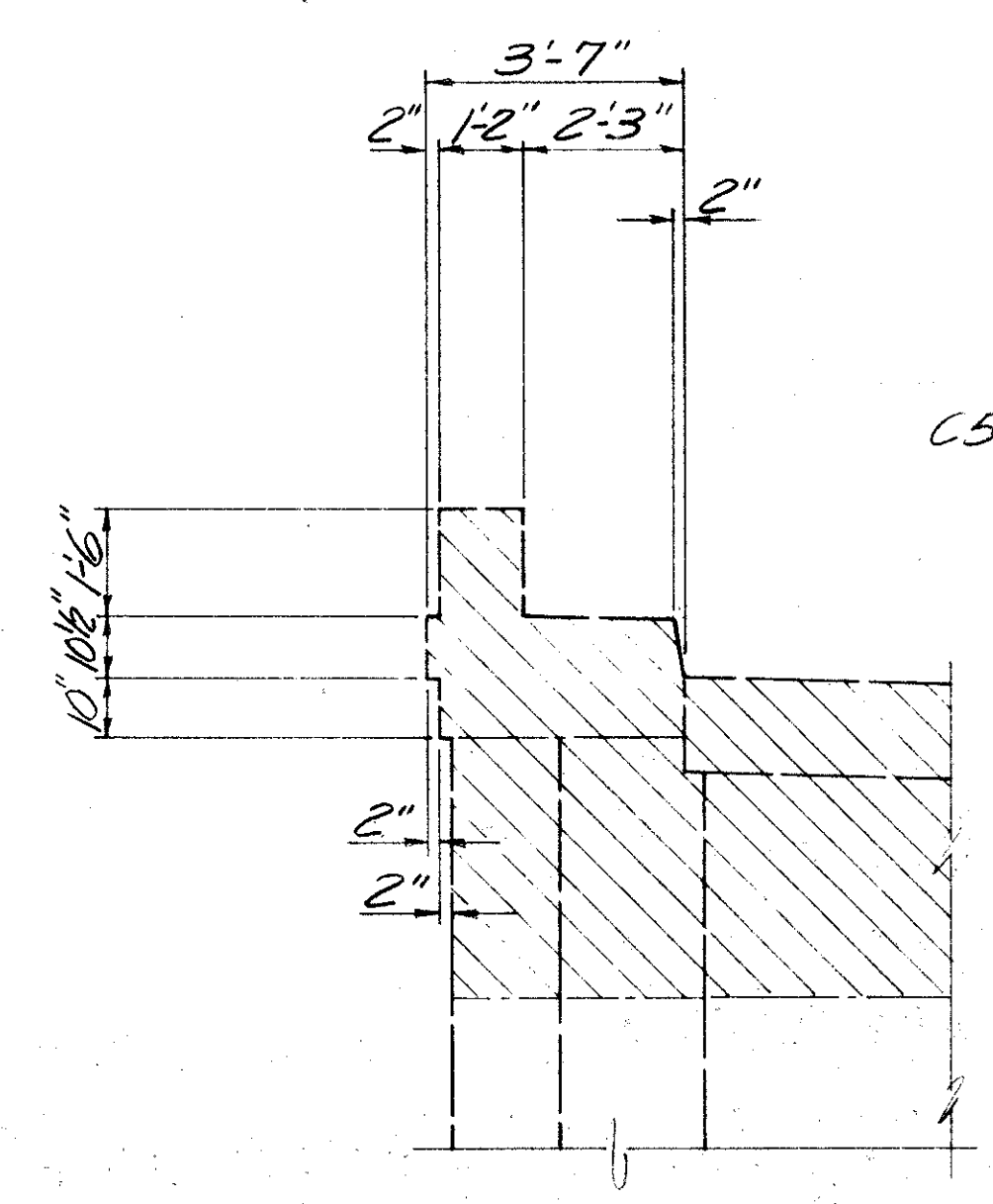
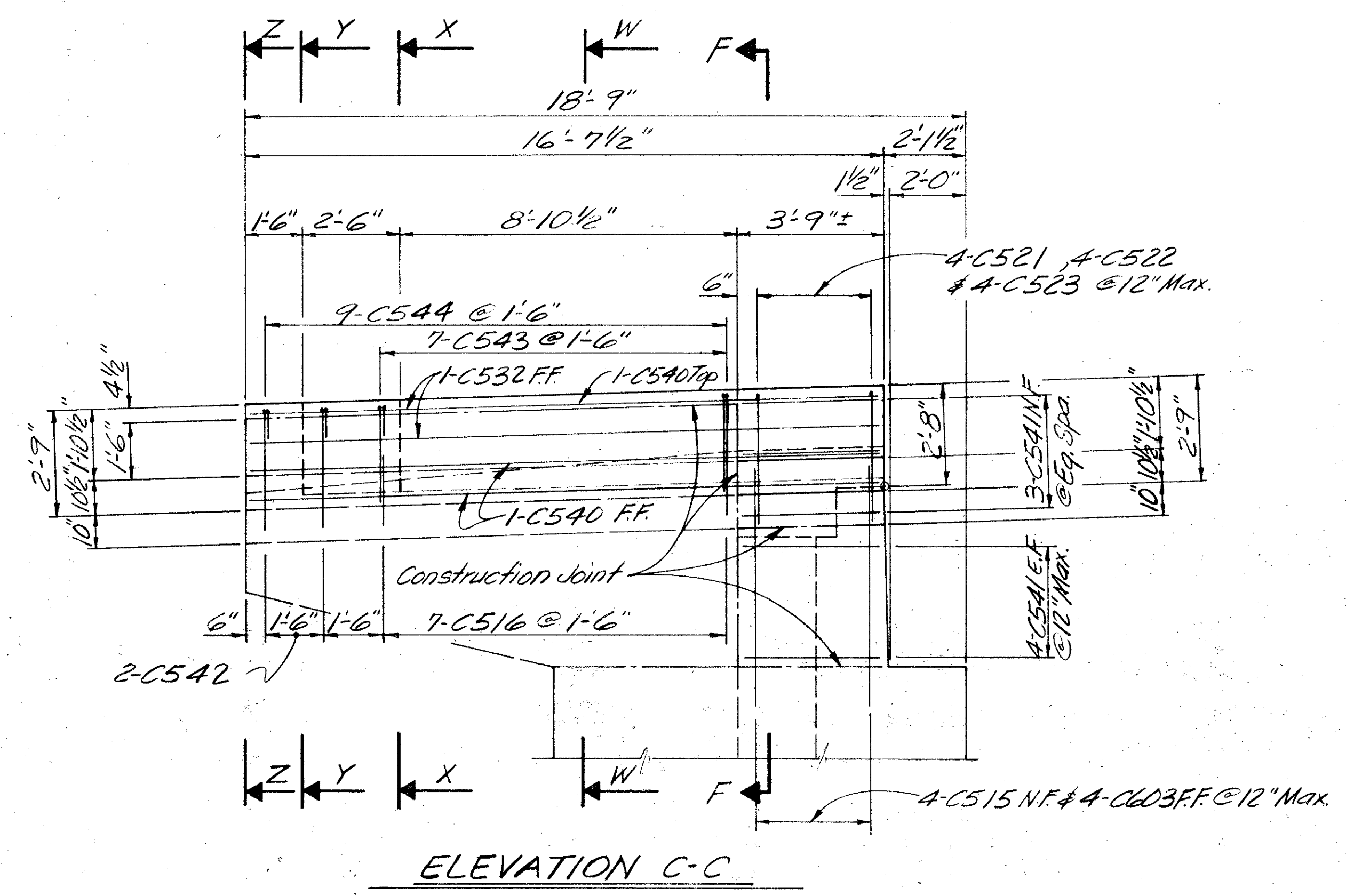
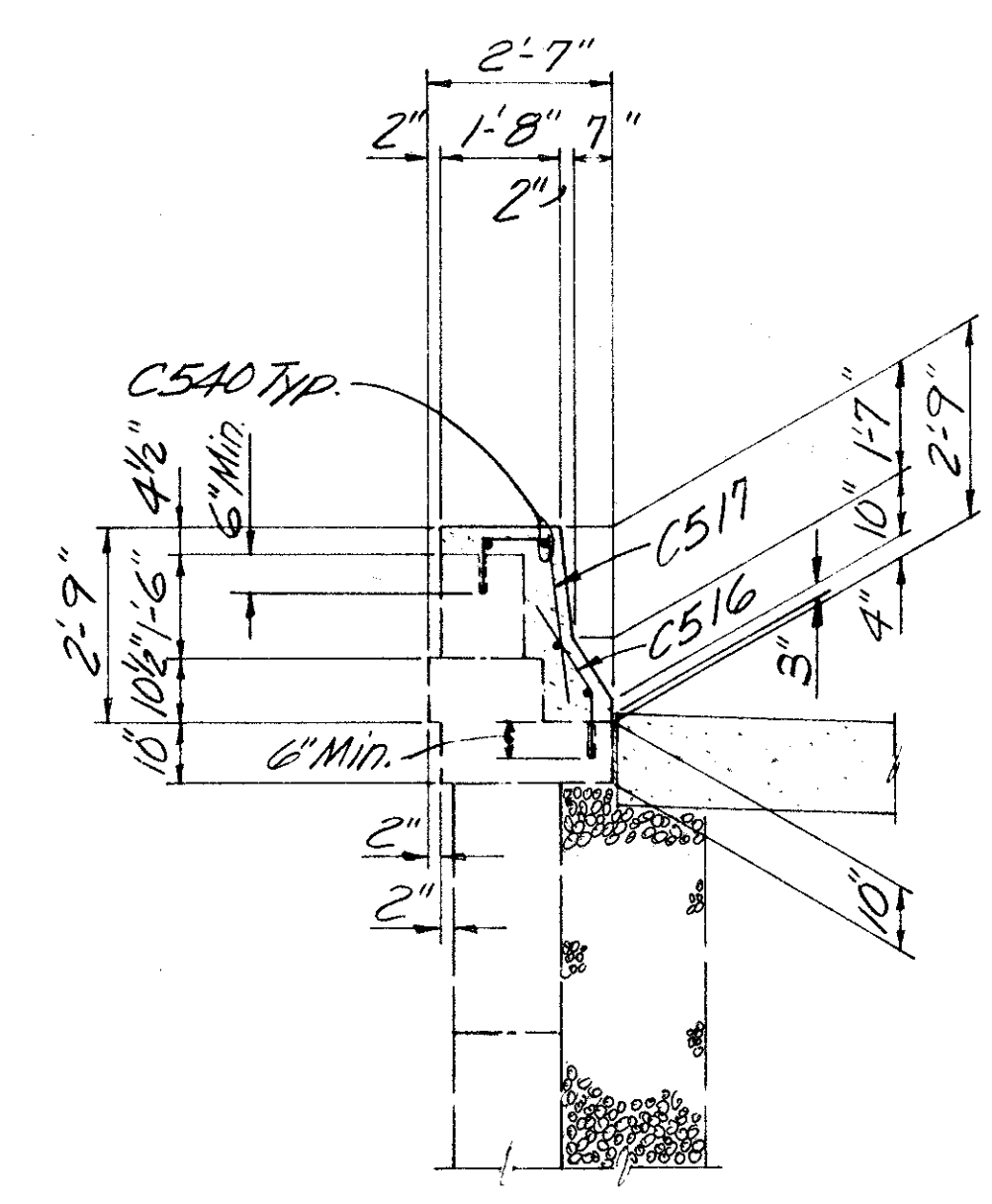
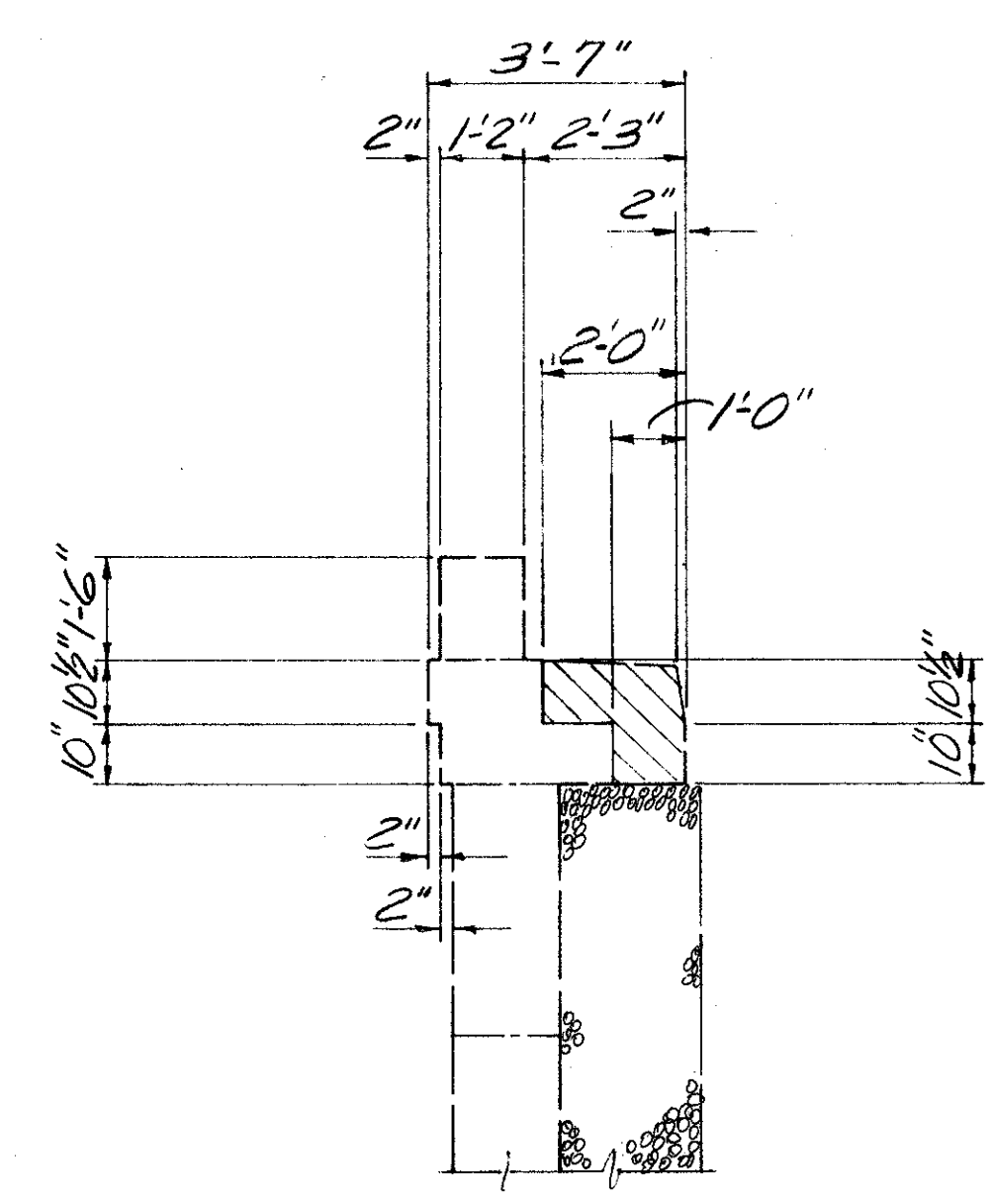
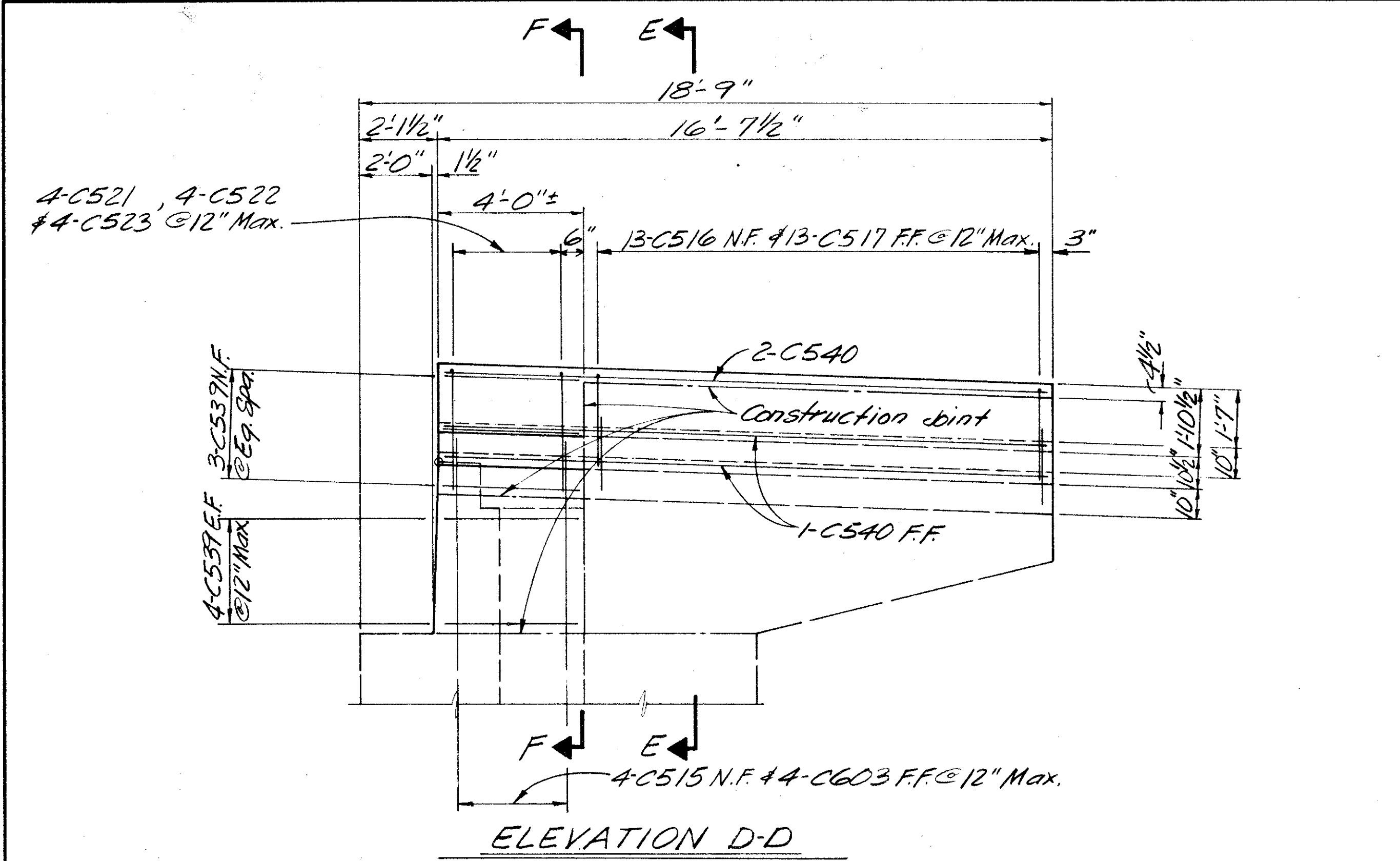


Notes:  
 I.E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face  
 2. For Elevation C-C & D-D, see sht. 8/16.



Denotes portion of existing structure to be removed.

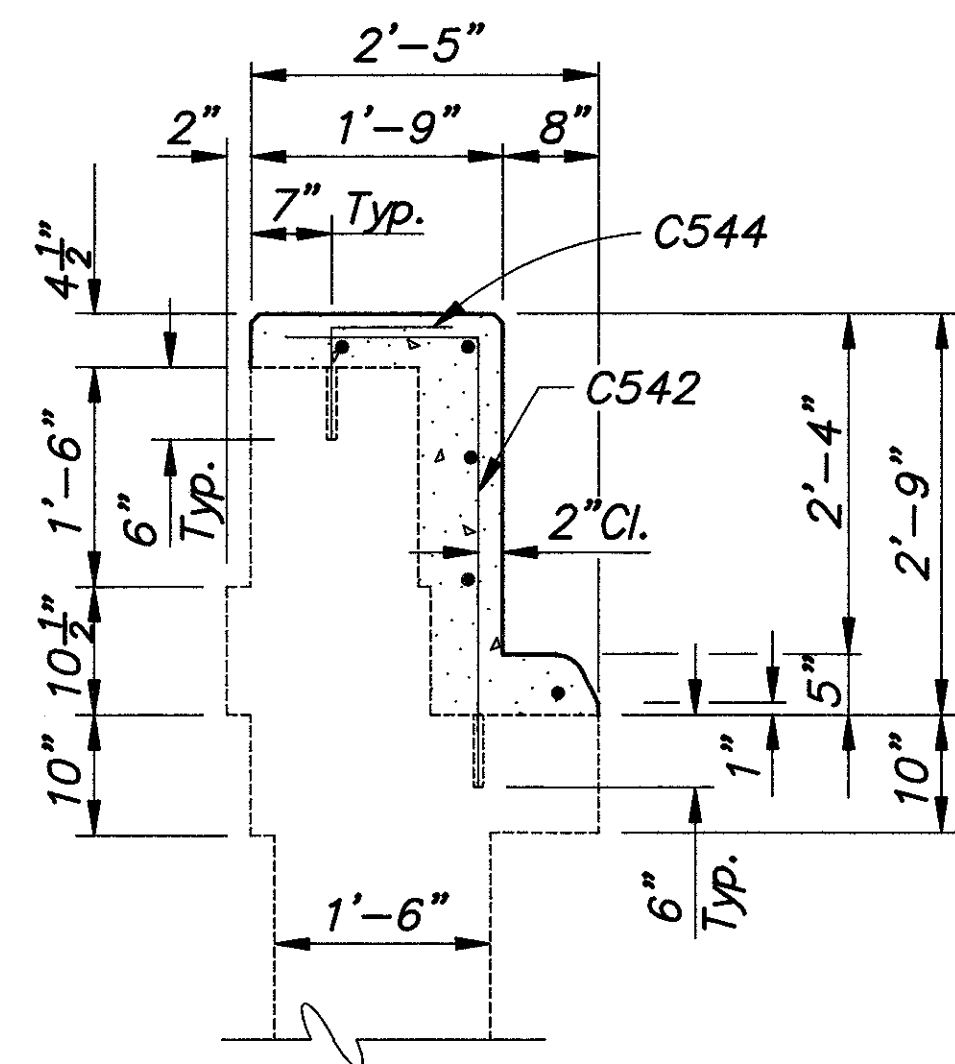
BALKE ENGINEERS 7/16 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
WEST ABUTMENT BRIDGE NO. HAM-50-2043 R EASTBOUND 6TH ST. EXPRESSWAY OVER GEST STREET				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS 4/92
				REVISED



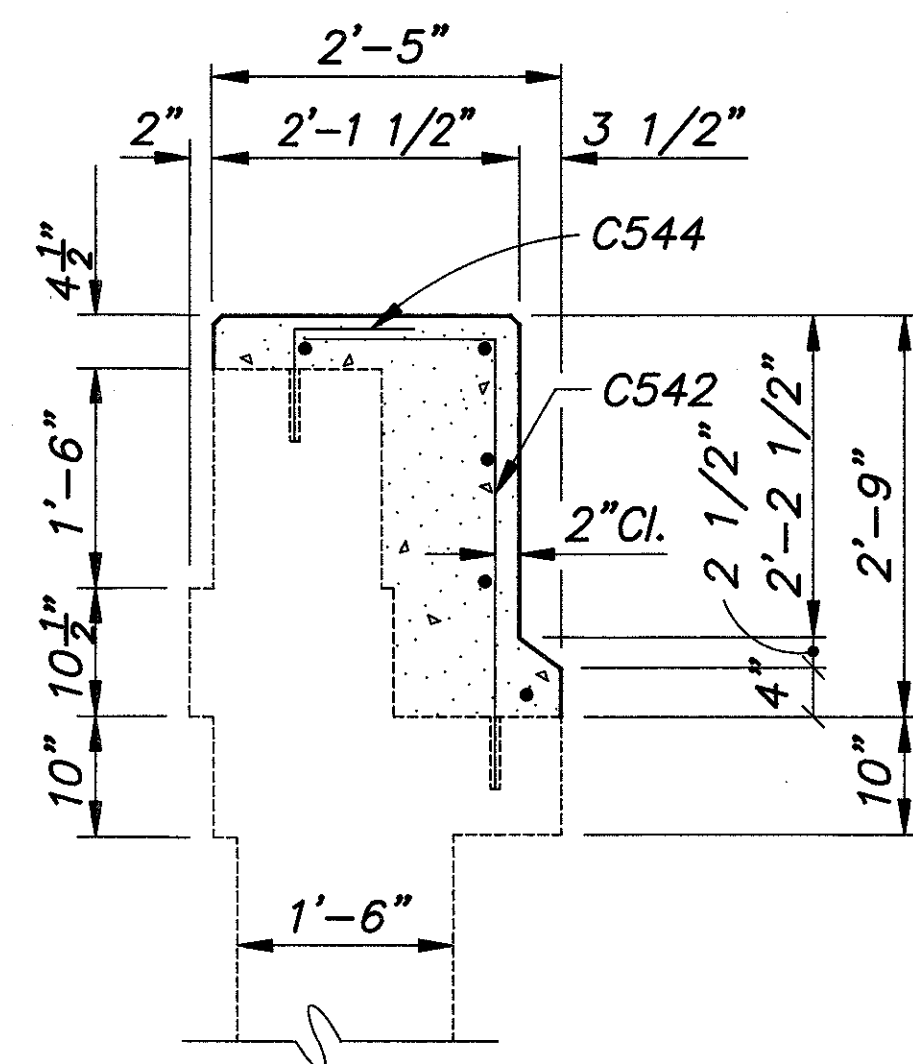
Notes:  
 1. E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face  
 2. For Section W-W, X-X, Y-Y & Z-Z, see Sht. 9/16.

Denotes portion of existing structure to be removed.

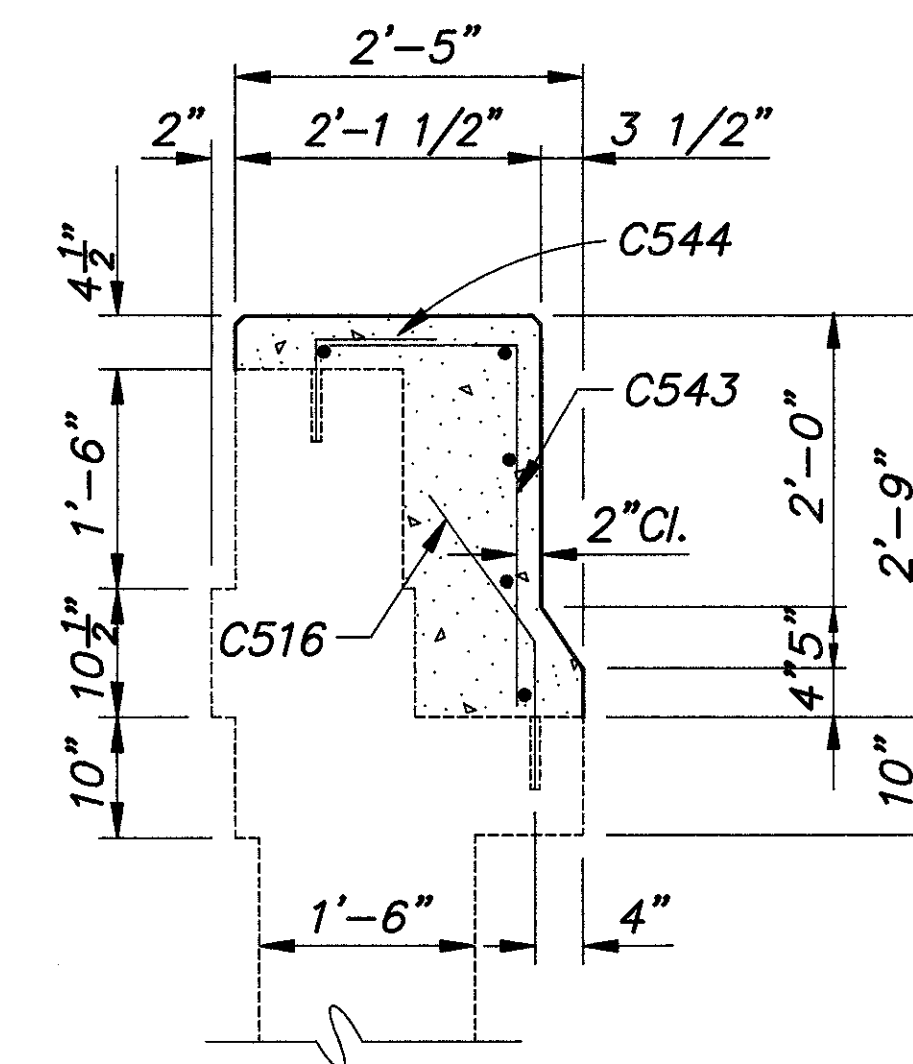
BALKE ENGINEERS 8/16 1848 SUMMIT RD. CINCINNATI, OHIO 45237					
WEST ABUTMENT BRIDGE NO. HAM-50-2043 R EASTBOUND 6TH ST. EXPRESSWAY OVER GEST STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRS	WJH	~	DWI	CES 4/92	



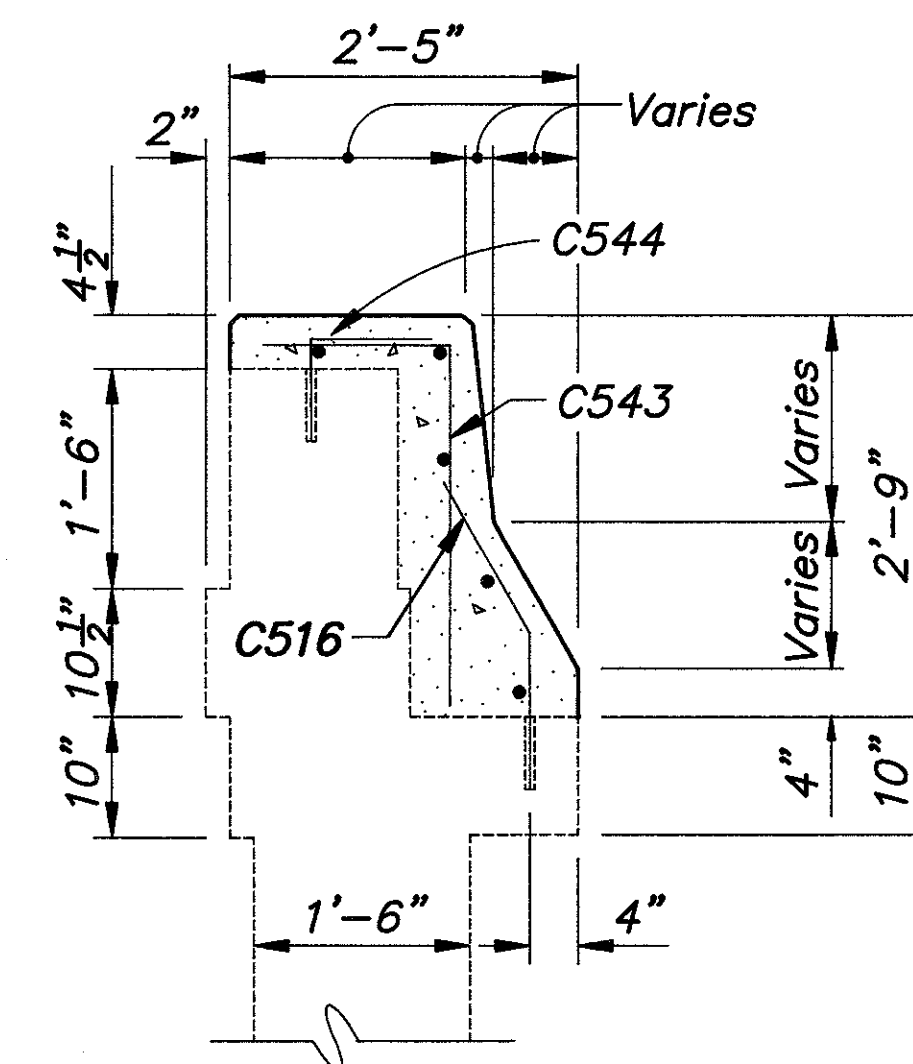
**SECTION Z-Z**



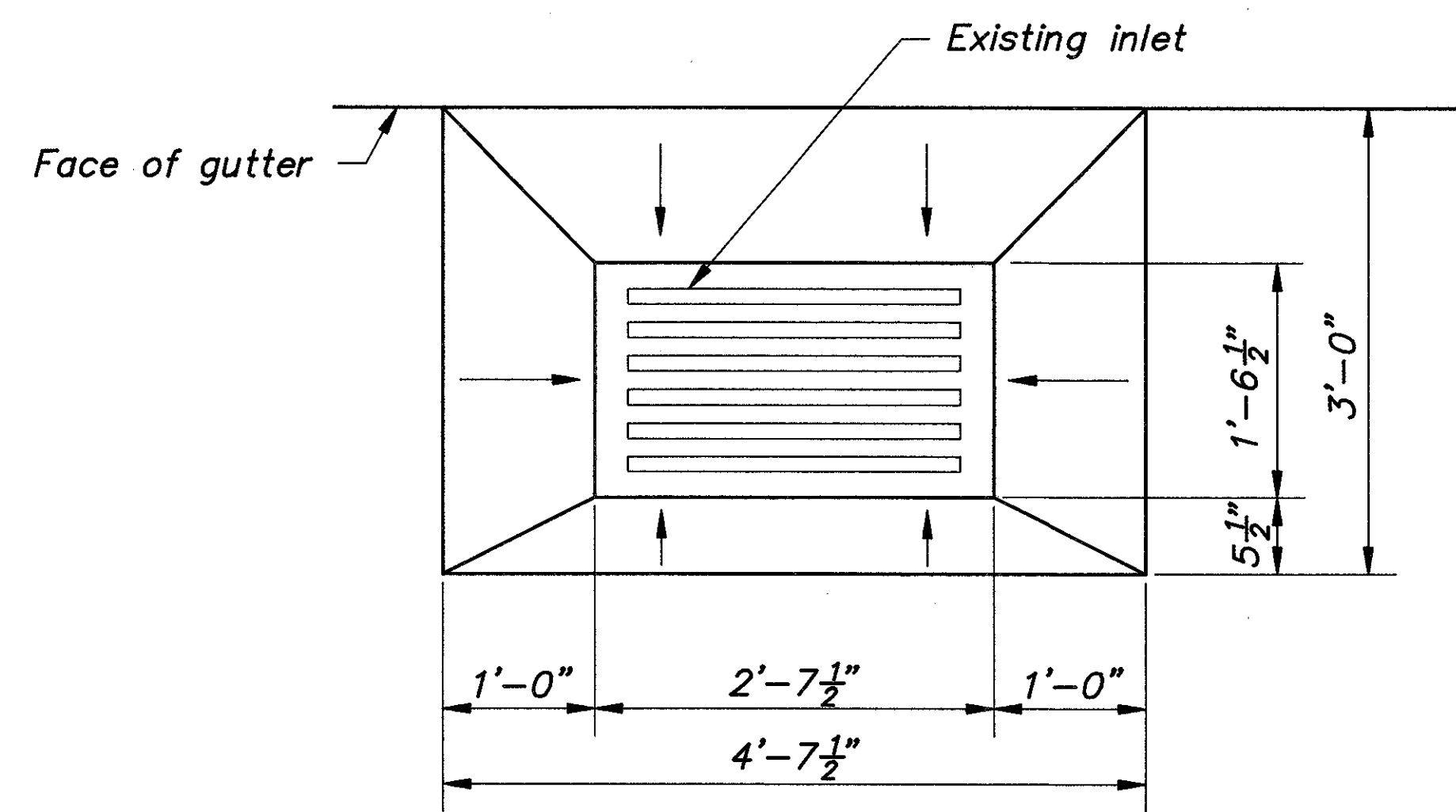
**SECTION Y-Y**



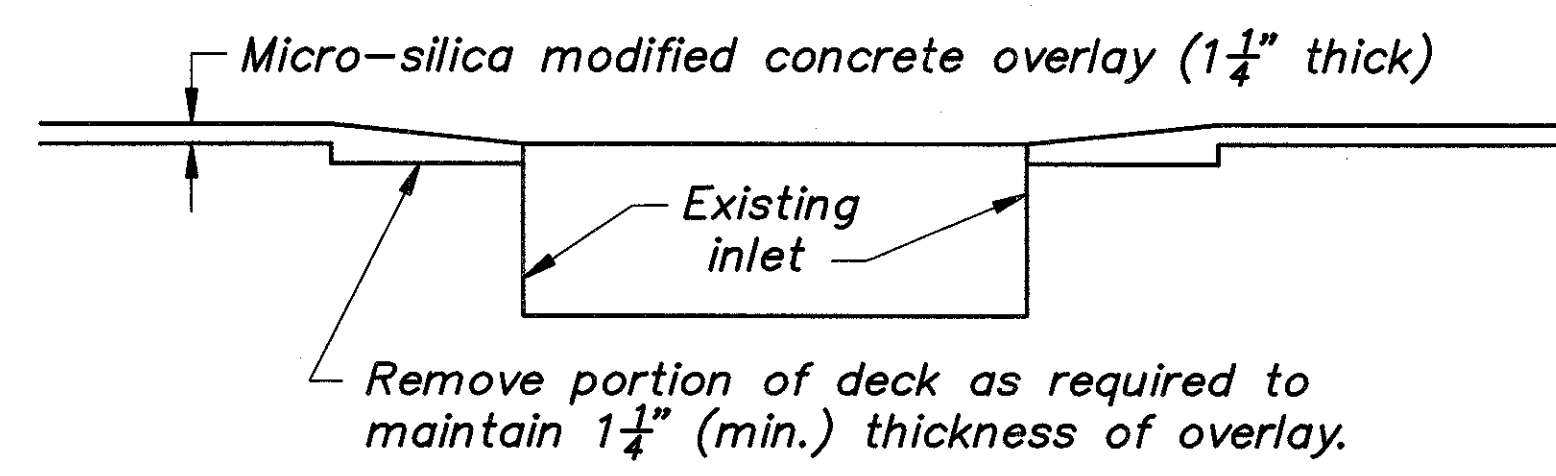
**SECTION X-X**



**SECTION W-W**



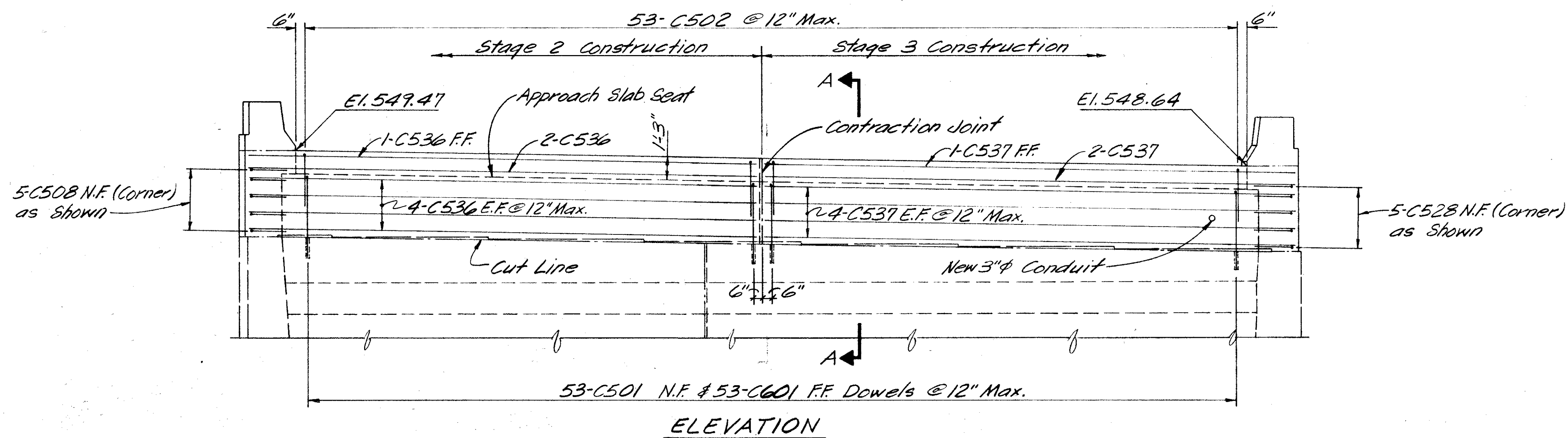
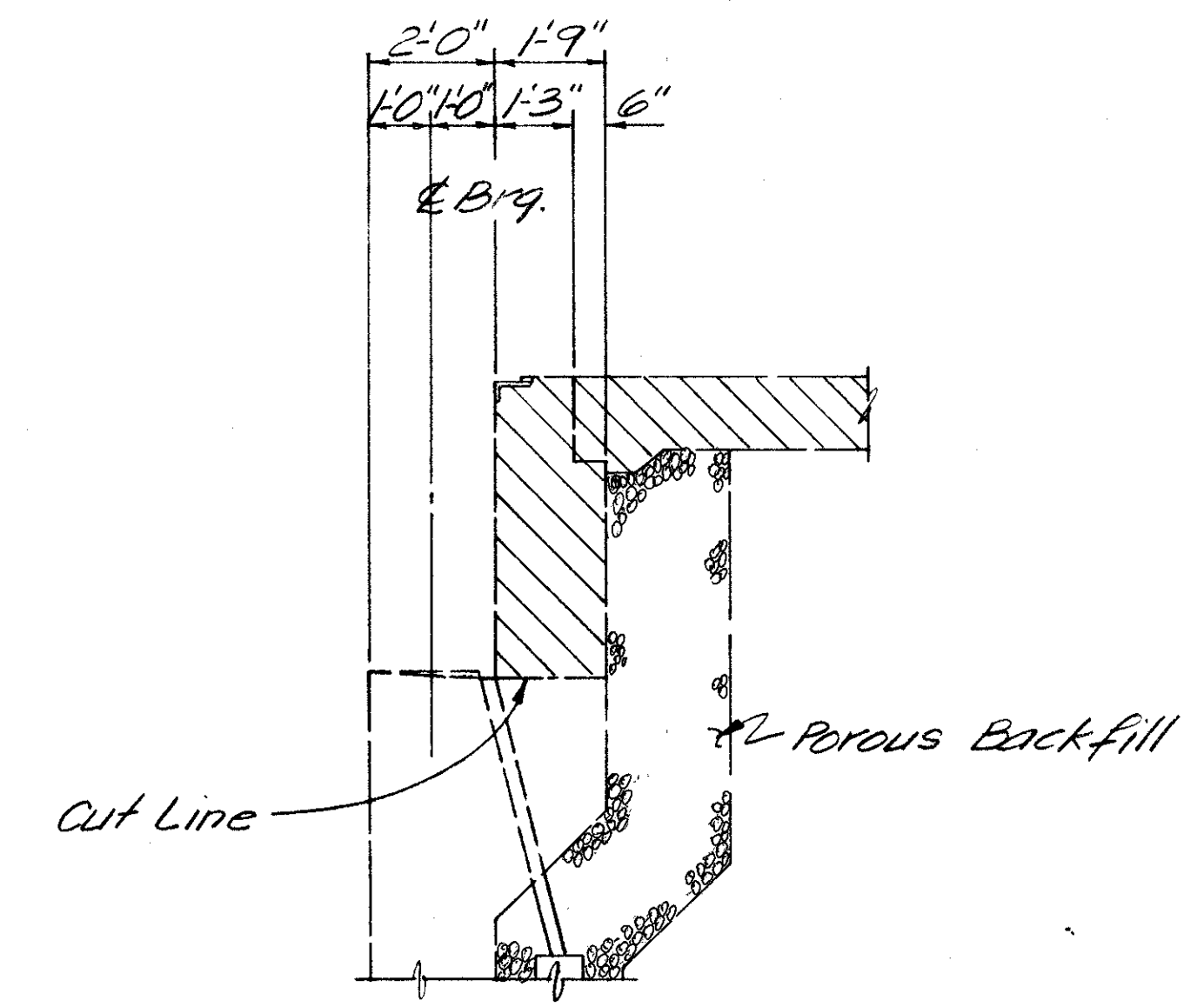
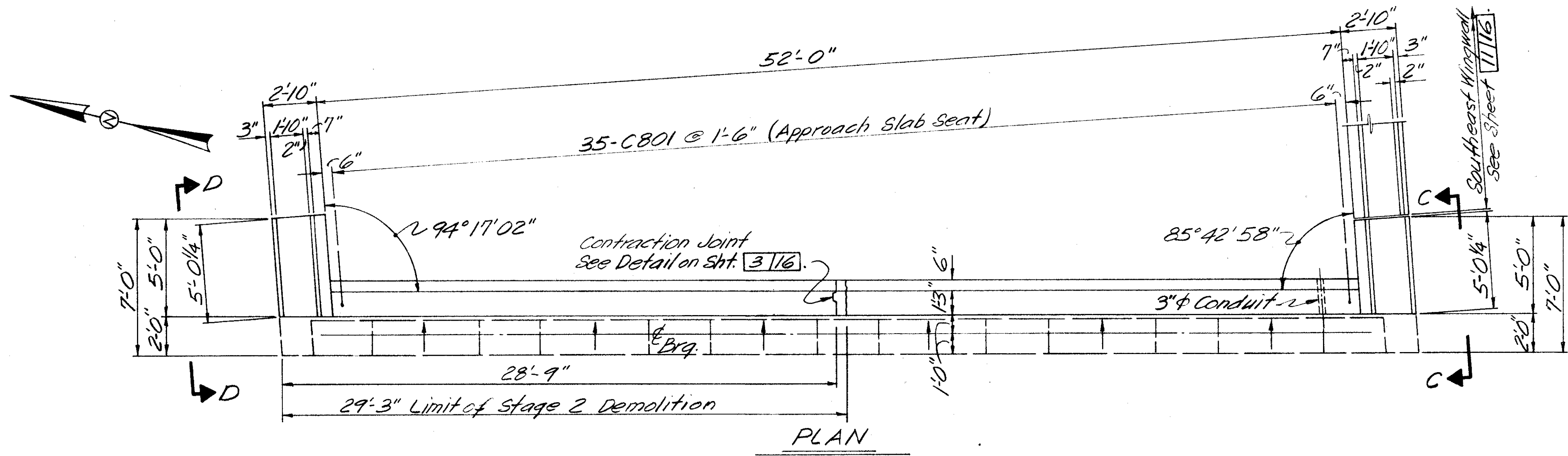
**PLAN AT INLET**



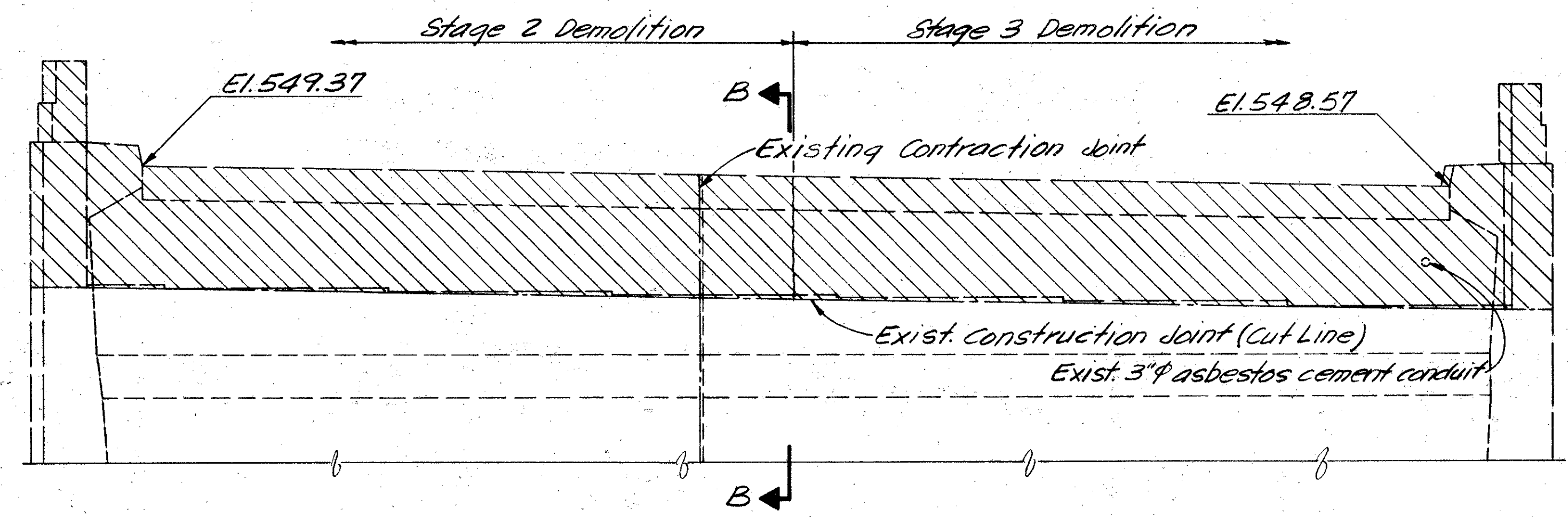
**SECTION THRU INLET**

Remove portion of deck as required to maintain 1 1/4" (min.) thickness of overlay.

BALKE ENGINEERS 1848 SUMMIT ROAD CINCINNATI, OHIO 45237						9/16
MISCELLANEOUS DETAILS BRIDGE NO. HAM-50-2043 R & L SIXTH STREET EXPRESSWAY OVER GEST STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
MRS	ALH	~	DWI	CRS 4/92		

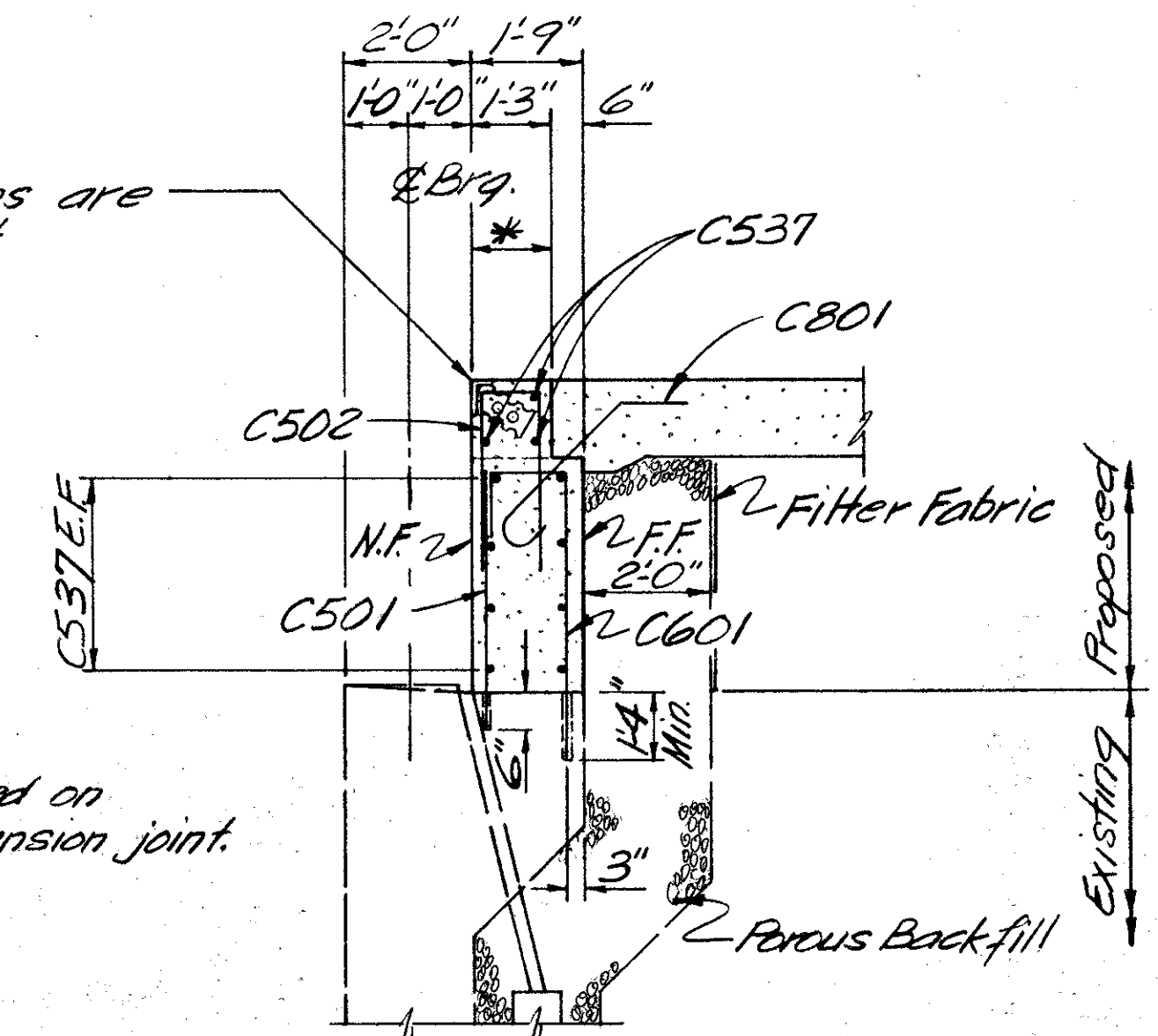


SECTION B-B  
(Showing Removal)



ELEVATION  
(Showing Removal)

Backwall elevations are given at this point.

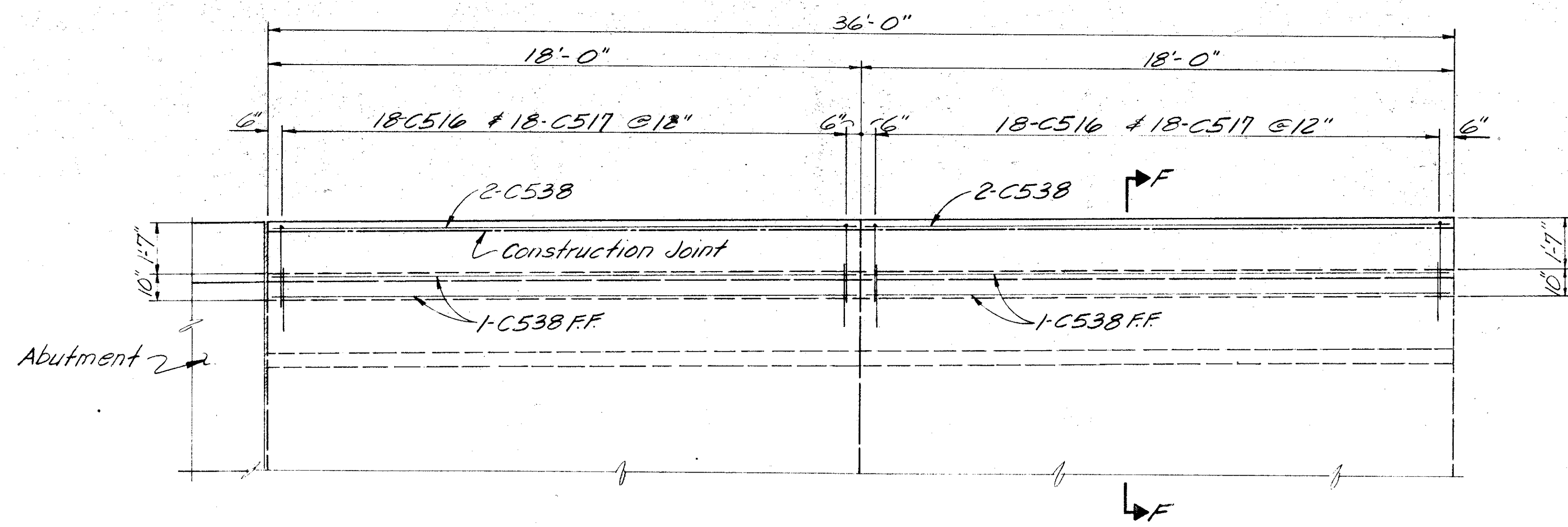


SECTION A-A

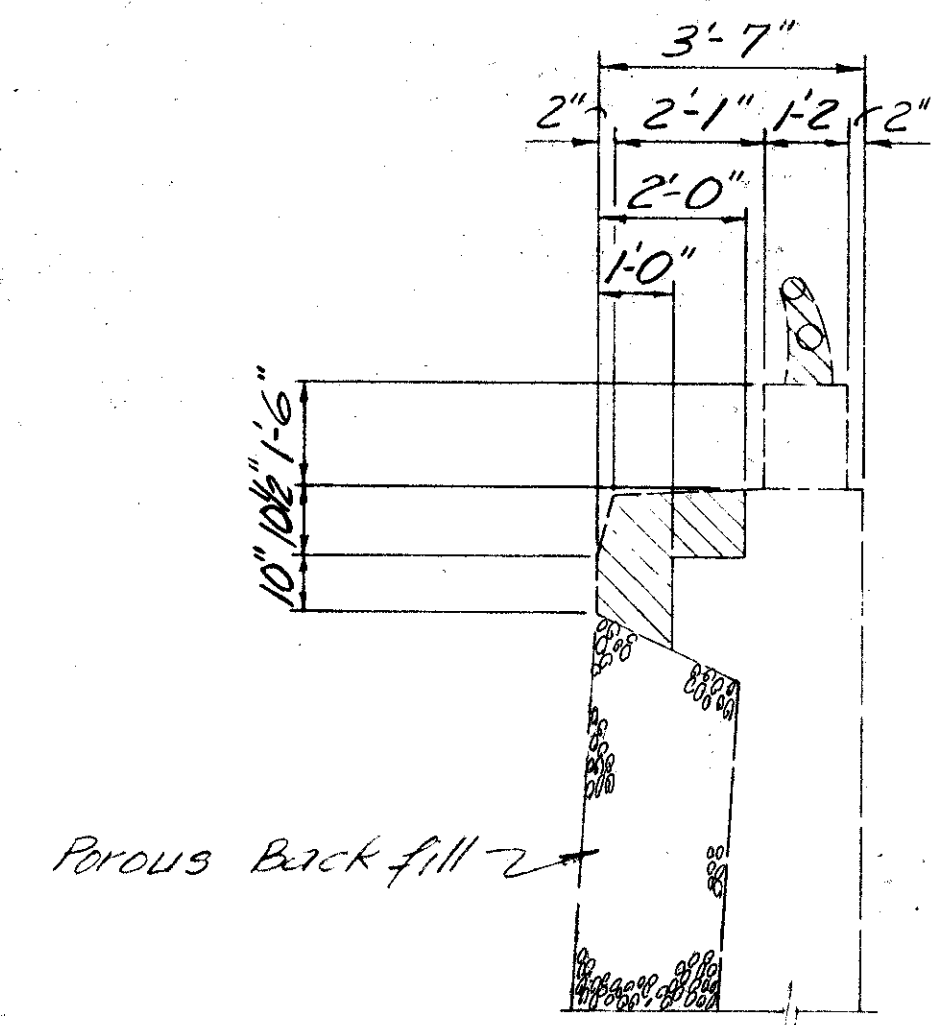
Notes:  
 1. E.F. = Each Face  
 F.F. = Far Face  
 N.F. = Near Face  
 2. For Elevation C-C & D-D, see Sht. 11/16.

Denotes portion of existing structure to be removed.

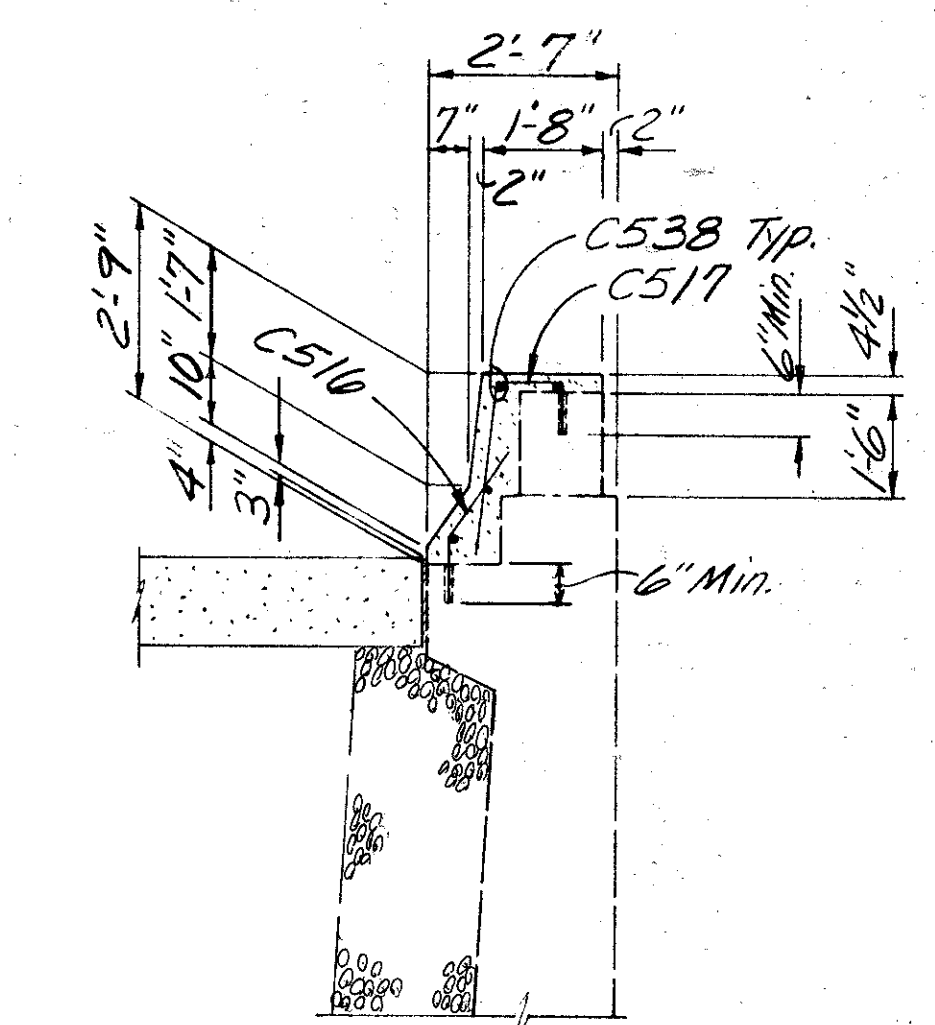
BALKE ENGINEERS 10/16 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
EAST ABUTMENT BRIDGE NO. HAM-50-2043 R EASTBOUND 6TH ST. EXPRESSWAY OVER GEST STREET				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS 4/92
REVISED				



ELEVATION: SOUTHEAST WINGWALL

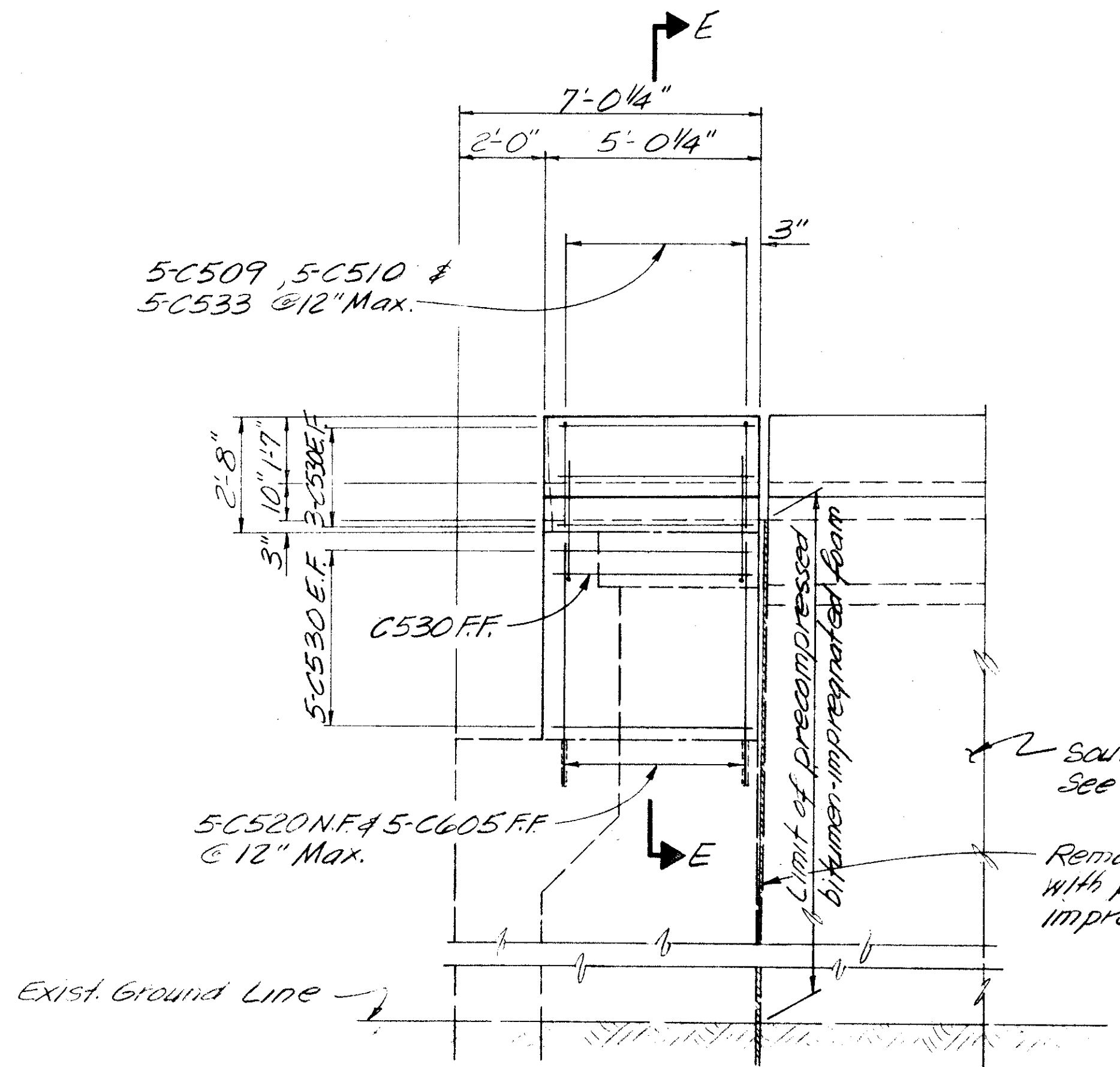


SECTION F-F



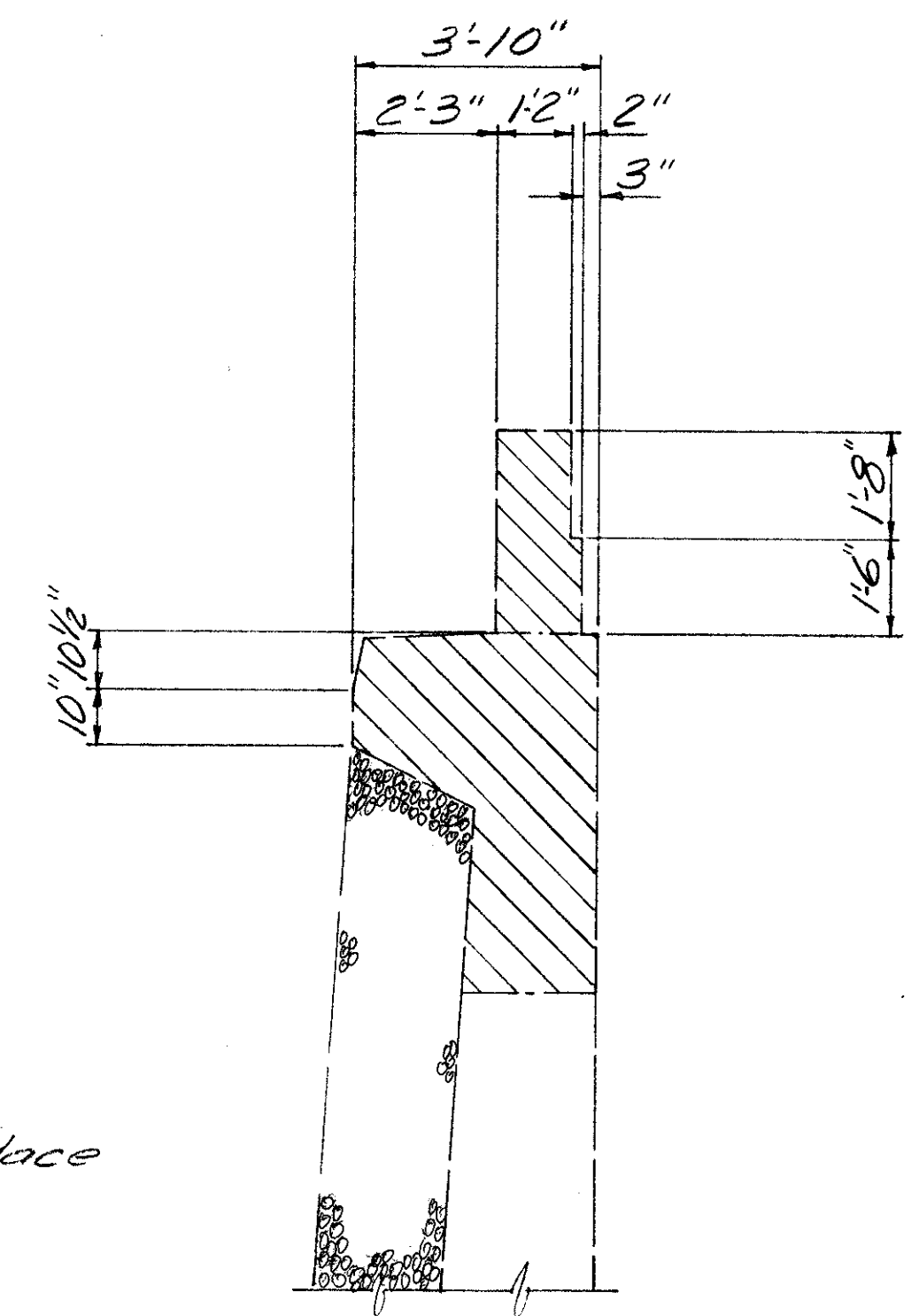
SECTION F-F

Denotes portion of existing structure to be removed.

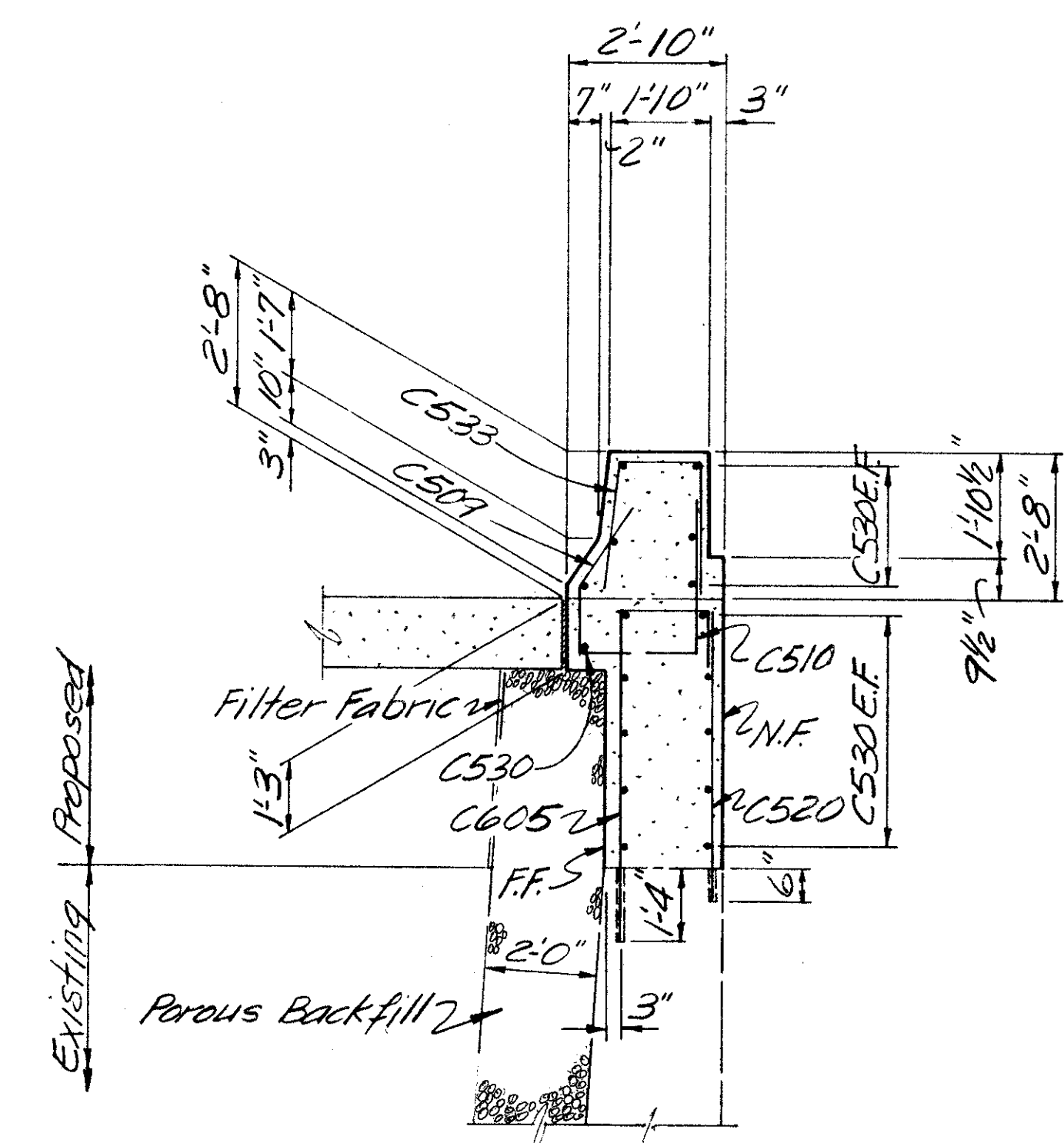


ELEVATION CC (shown)  
ELEVATION D-D (similar)

Remove existing PEJF and replace with precompressed bitumen-impregnated foam



SECTION E-E  
(Showing Removal)

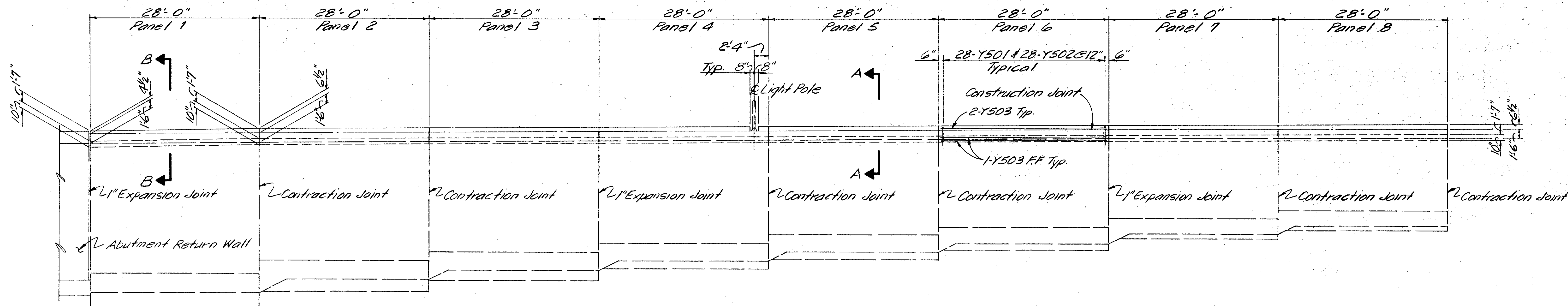


SECTION E-E

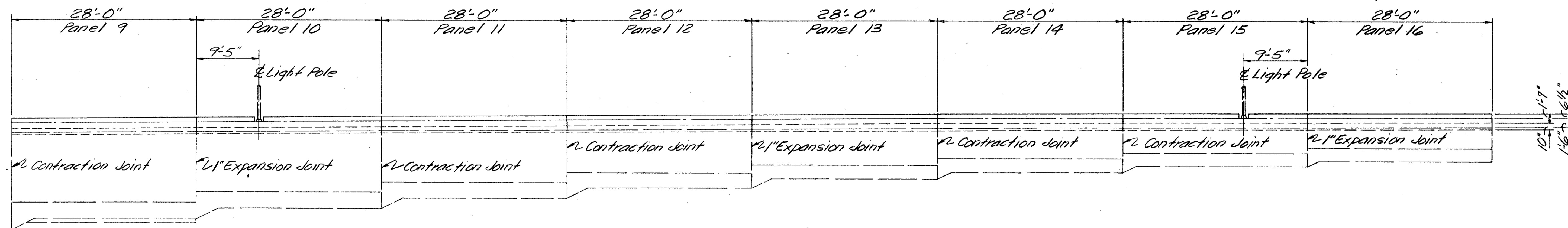
Note:  
E.F. = Each Face  
F.F. = Far Face  
N.F. = Near Face  
PEJF = Preformed Expansion Joint Filler

BALKE ENGINEERS 11/16				
1848 SUMMIT RD. CINCINNATI, OHIO 45237				
EAST ABUTMENT BRIDGE NO. HAM-50-2043 R EASTBOUND 6TH ST. EXPRESSWAY OVER GEST STREET				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	DWI	CRS 4/92
				REVISED

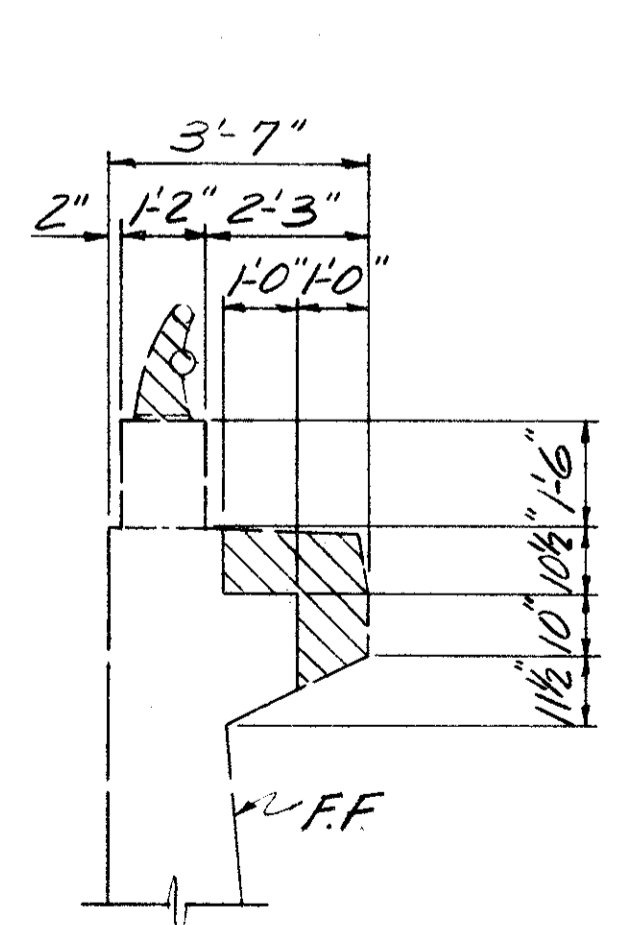




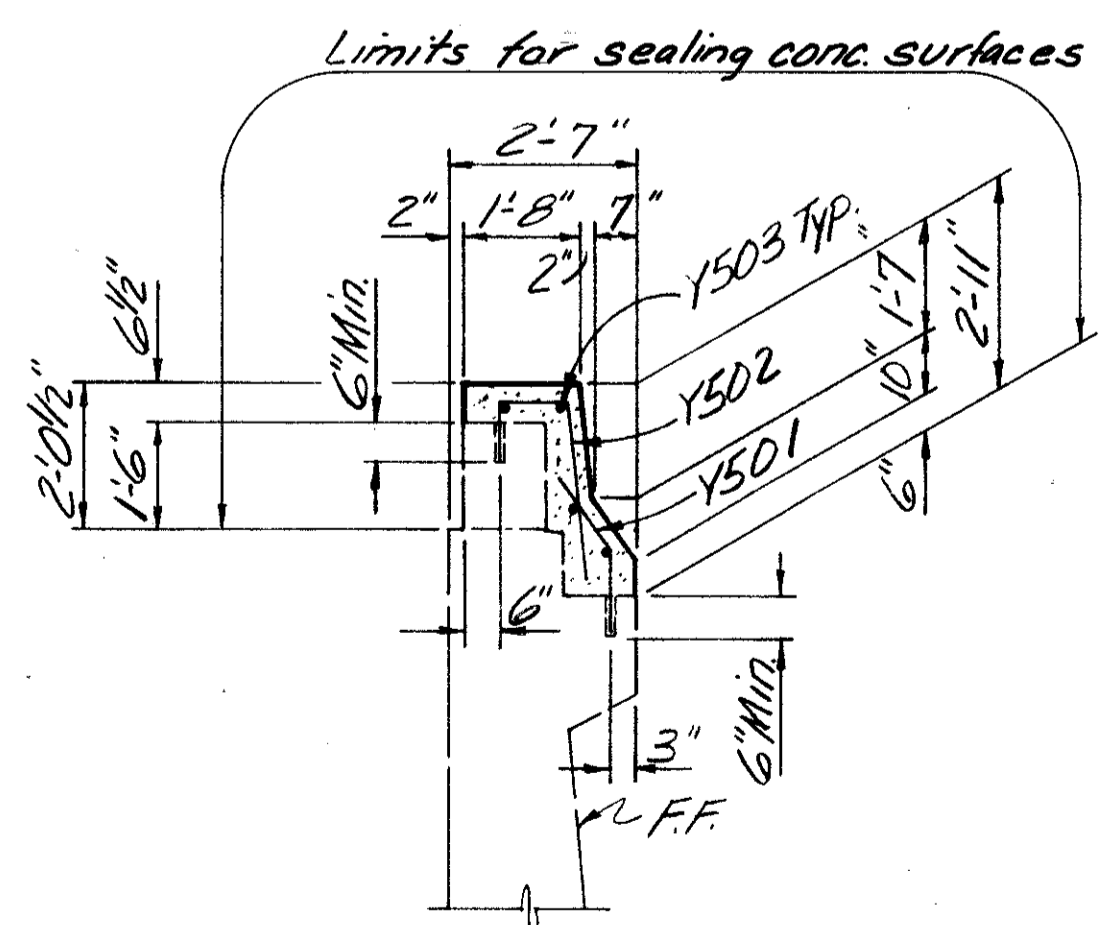
ELEVATION



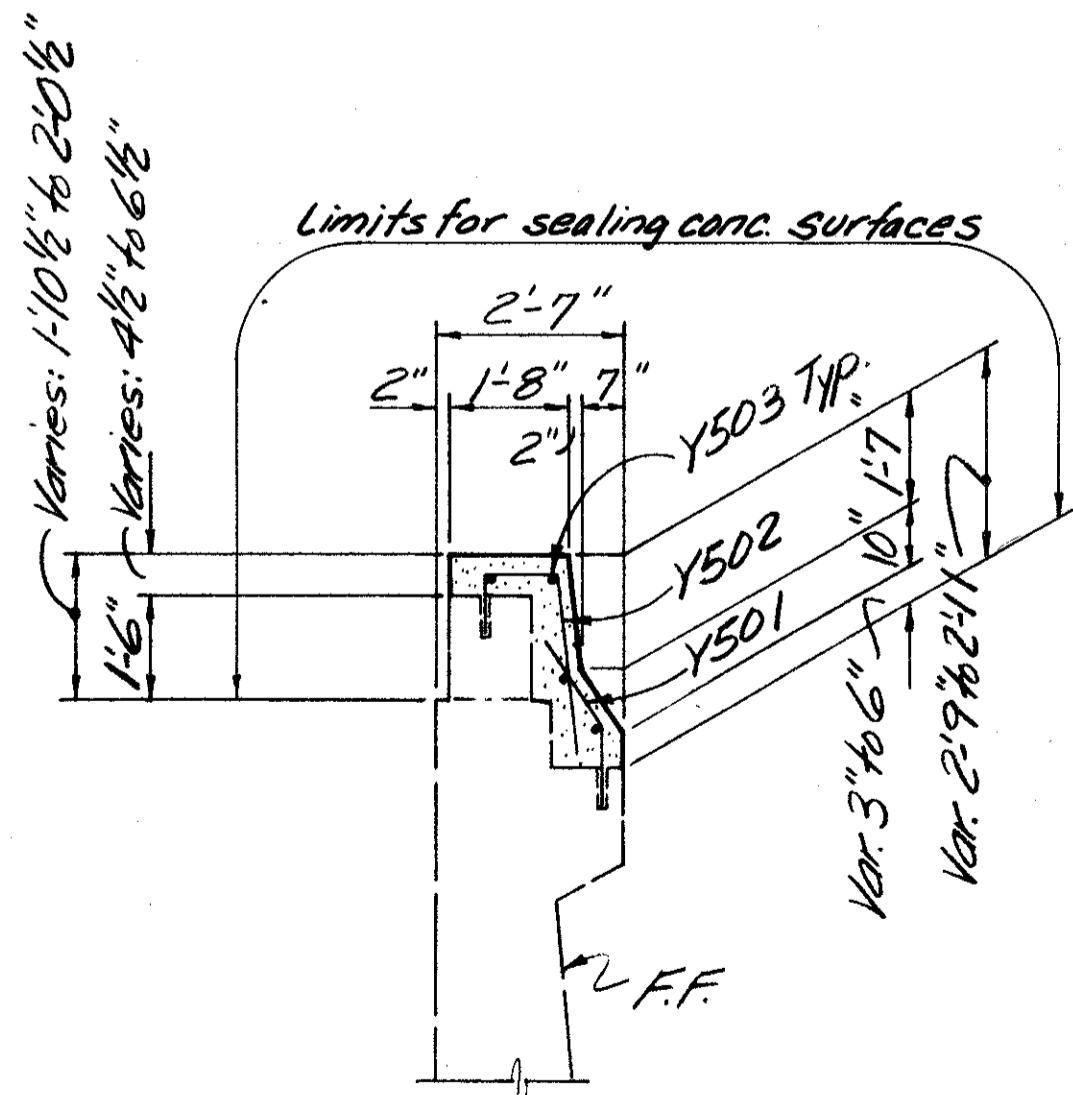
ELEVATION



SECTION A-A  
(Showing Removal)  
Typical



SECTION A-A  
Typical: North Walls, Panels 2~16  
Typical: South Walls, Panels 2~11, 13~18

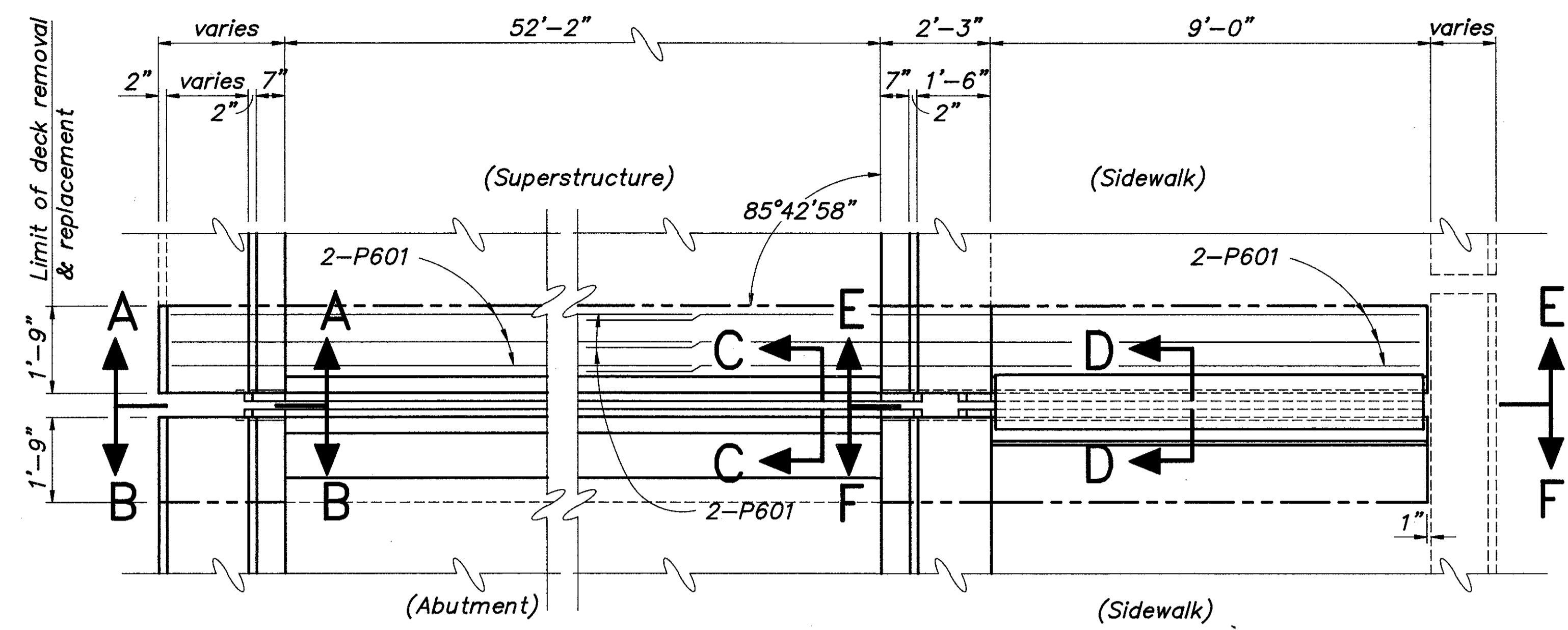


SECTION B-B  
North Walls, Panel 1  
South Walls, Panel 1

Notes:  
1. Field adjust rebar spacing & field cut rebars as necessary to clear lighting poles.  
2. F.F. = Far Face

BALKE ENGINEERS 12/16 1848 SUMMIT RD. CINCINNATI, OHIO 45237				
NORTH WALLS - RAMP Y BRIDGE NO. HAM-50-2043 L WESTBOUND 6TH ST. EXPRESSWAY OVER GEST STREET				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRS	WJH	~	VDG	CRS 4/92
REVISED				



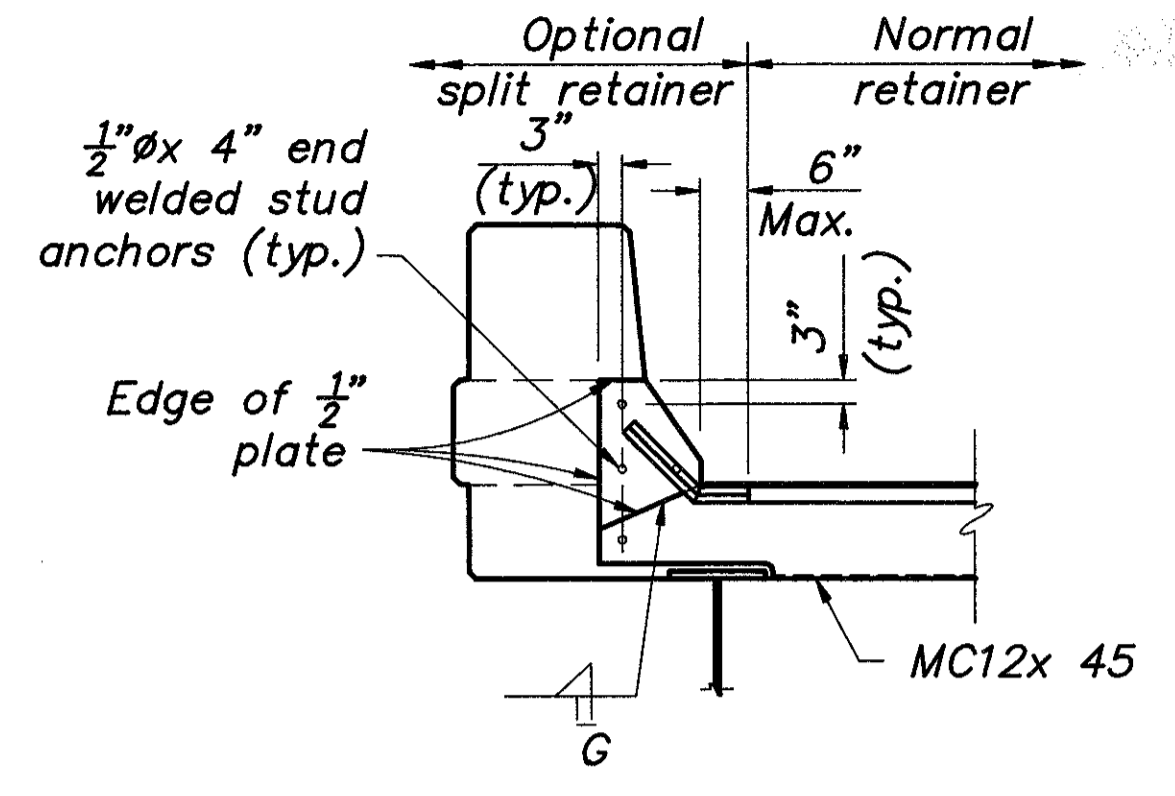


NOTE: Lap P601 bars 2'-4" minimum.

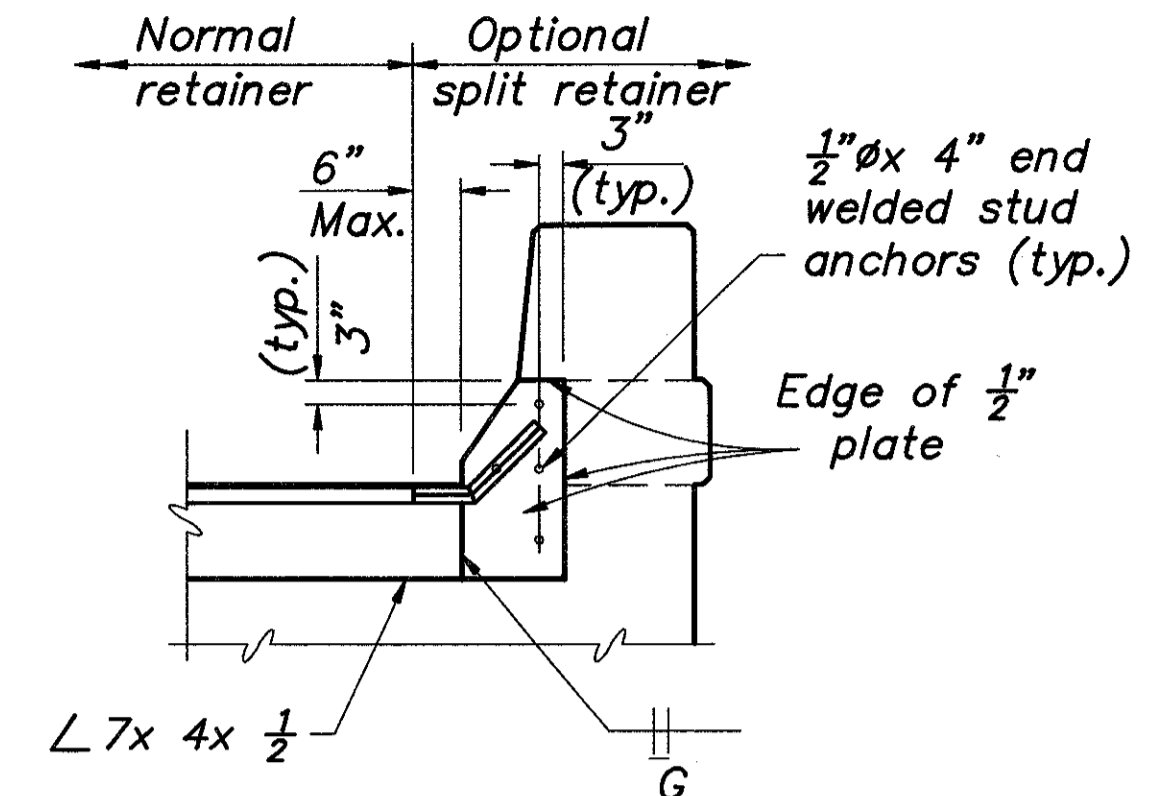
### PARTIAL PLAN LEFT BRIDGE ABUTMENTS

* F	OPENING WIDTH DIMENSION A	
	WEST ABUT.	EAST ABUT.
90	1 5/8"	1 1/4"
80	1 5/8"	1 3/8"
70	1 3/4"	1 1/2"
60	1 3/4"	1 5/8"
50	1 3/4"	1 3/4"
40	1 1/2"	1 7/8"
30	1 5/8"	2"

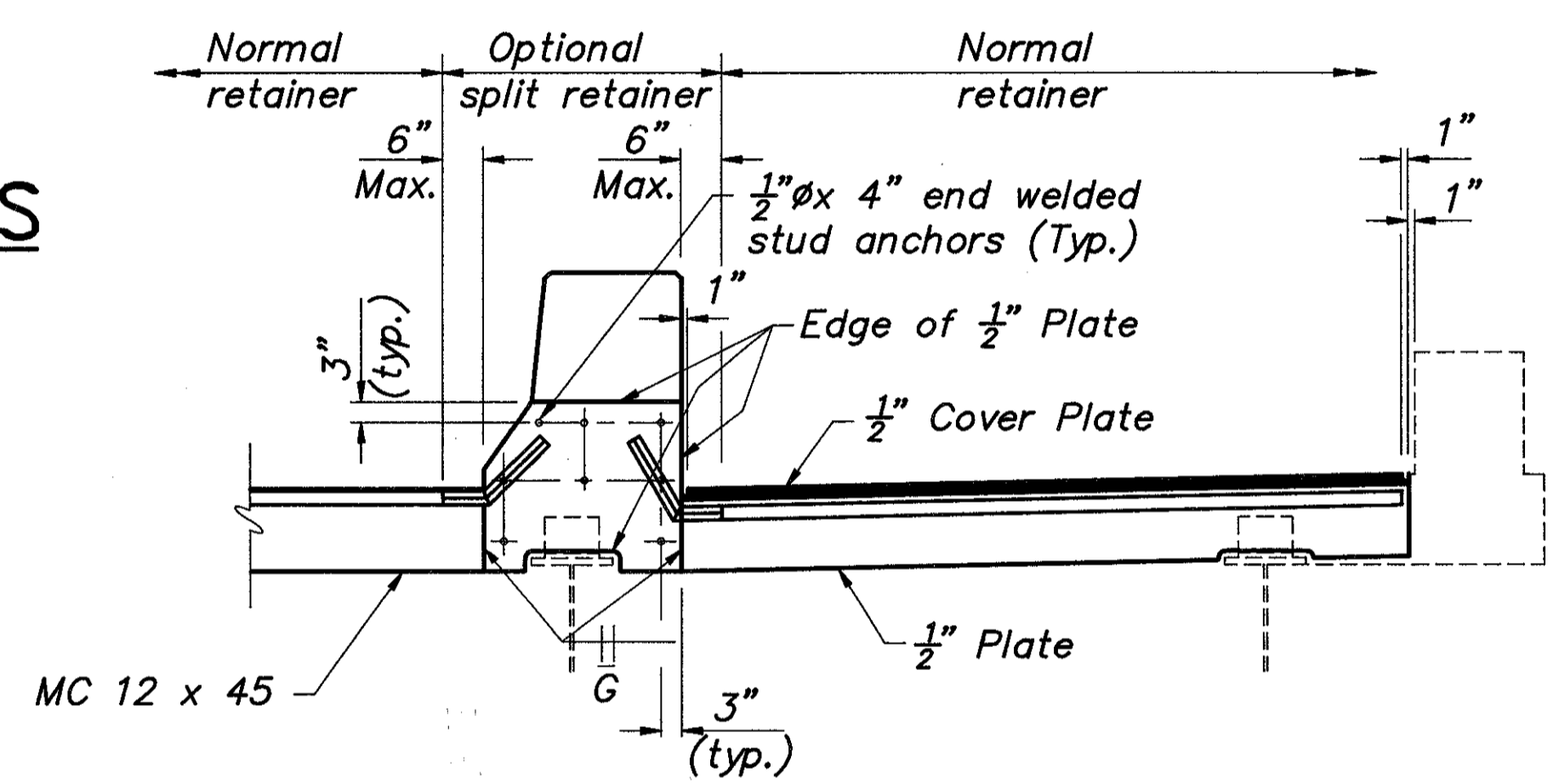
Strip seal gland shall be D.S. Brown 300L, Watson-Bowman & Acme SE-300 or equal.



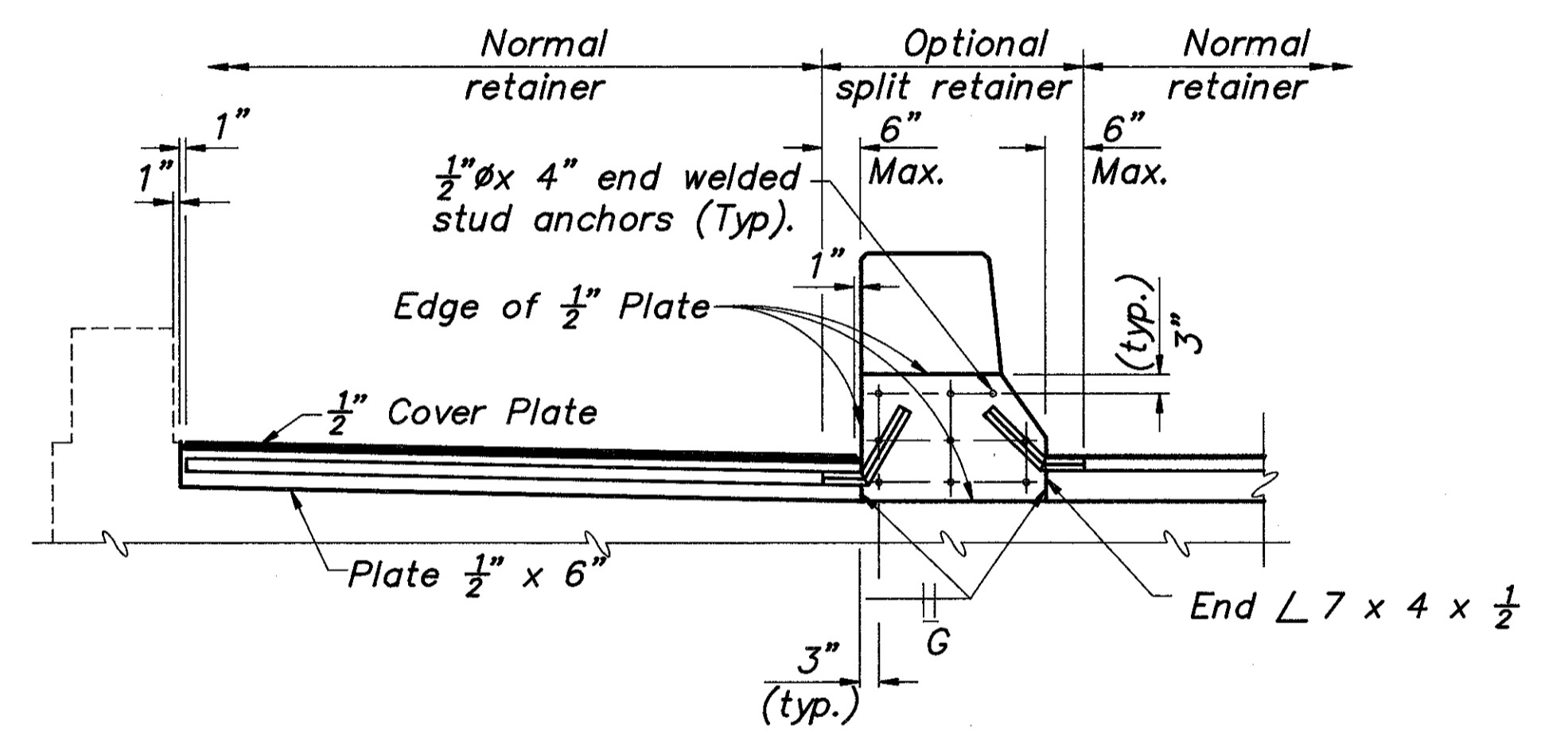
SECTION A-A



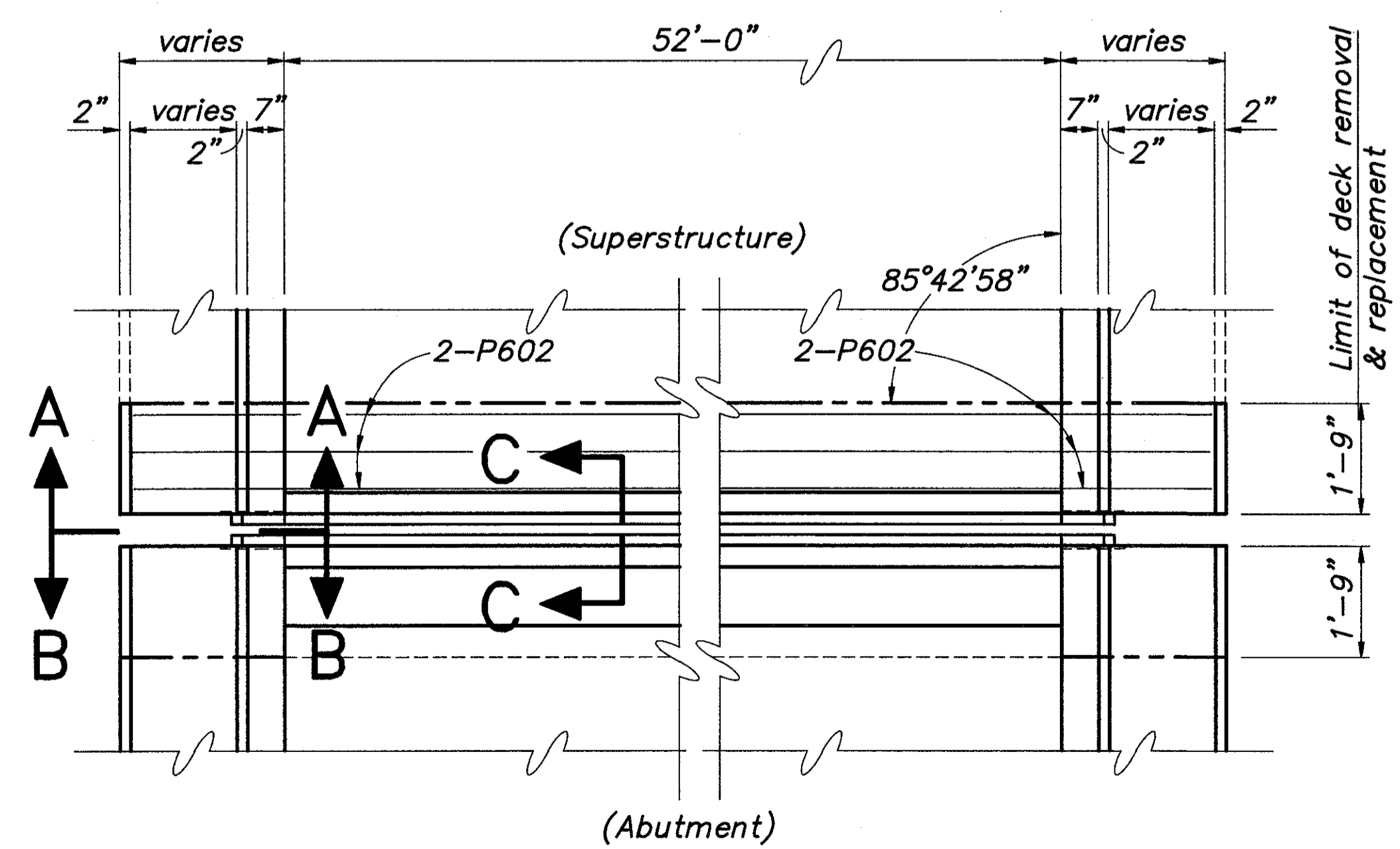
SECTION B-B



SECTION E-E

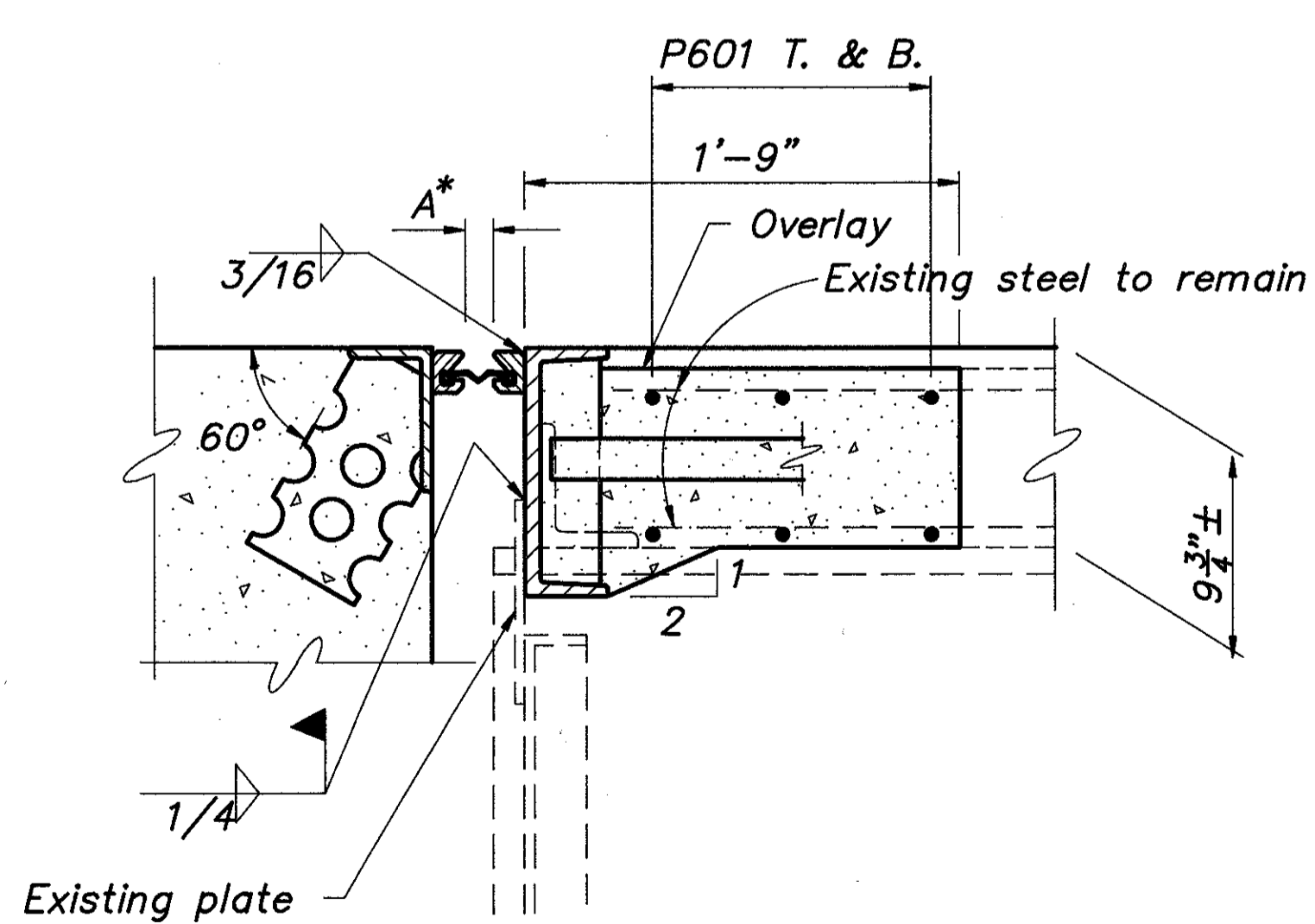


SECTION F-F

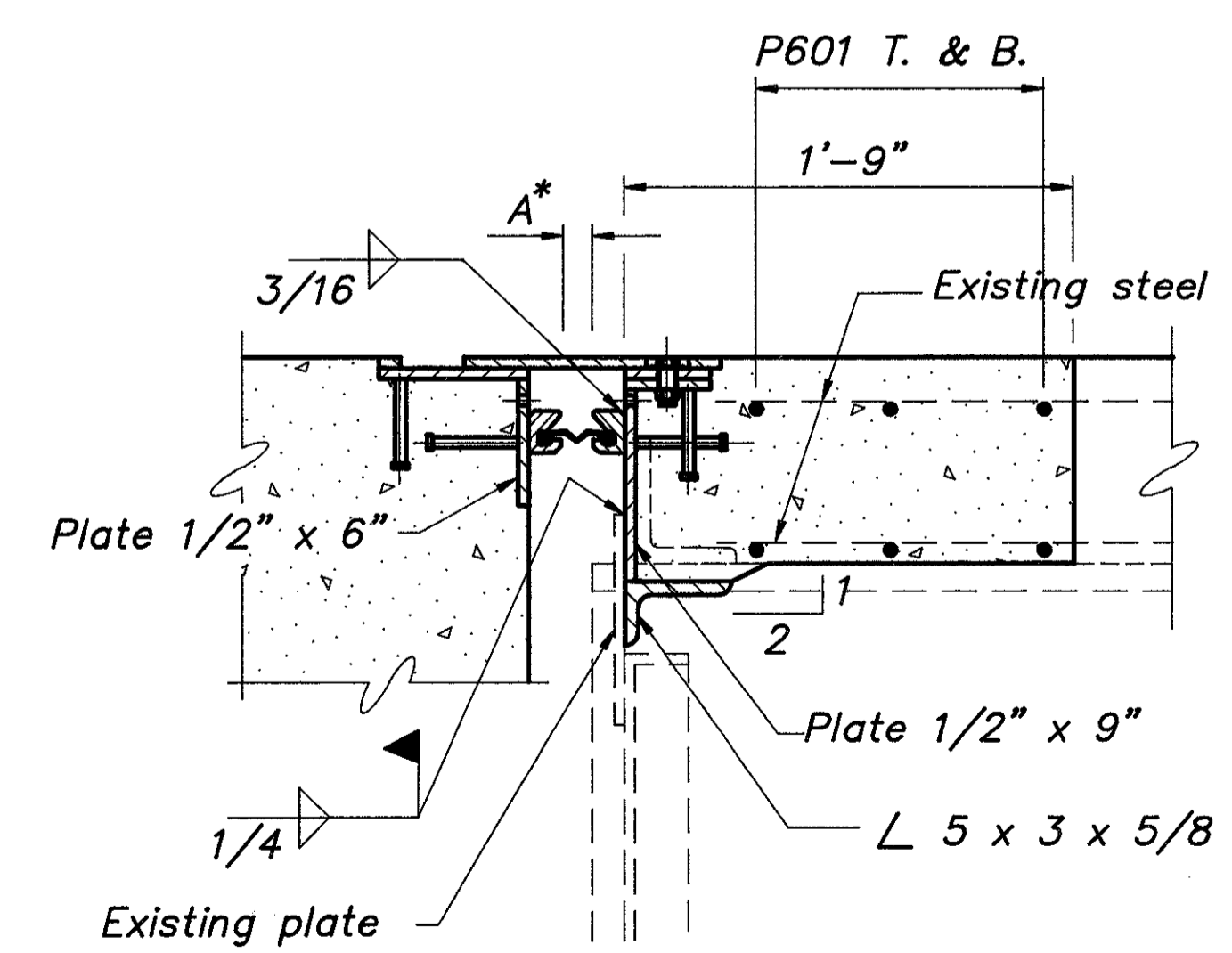


NOTE: Lap P602 bars 2'-4" minimum.

### PARTIAL PLAN RIGHT BRIDGE ABUTMENTS



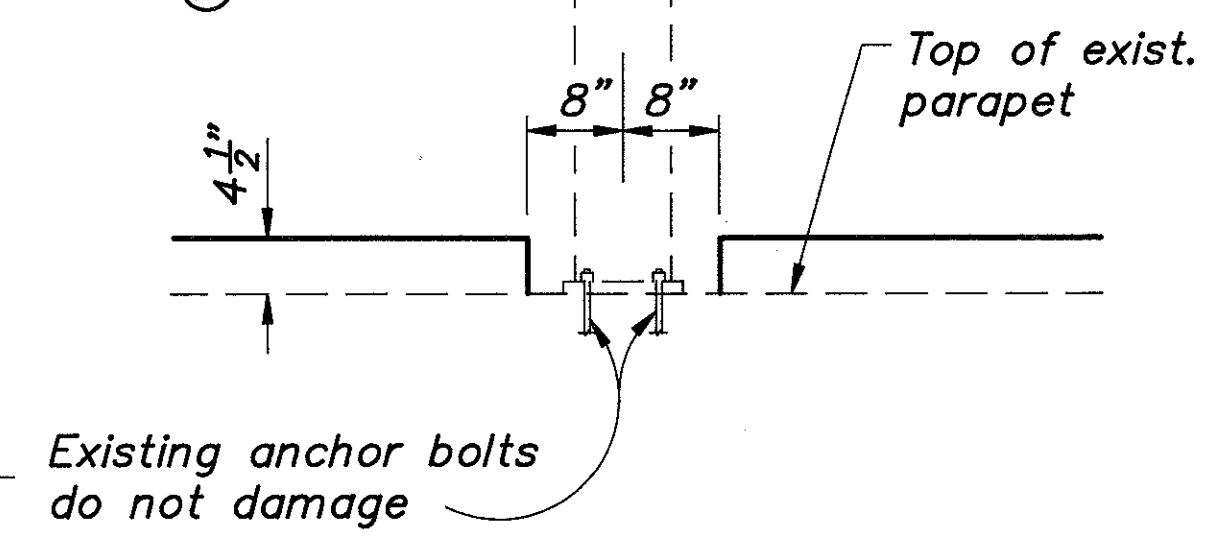
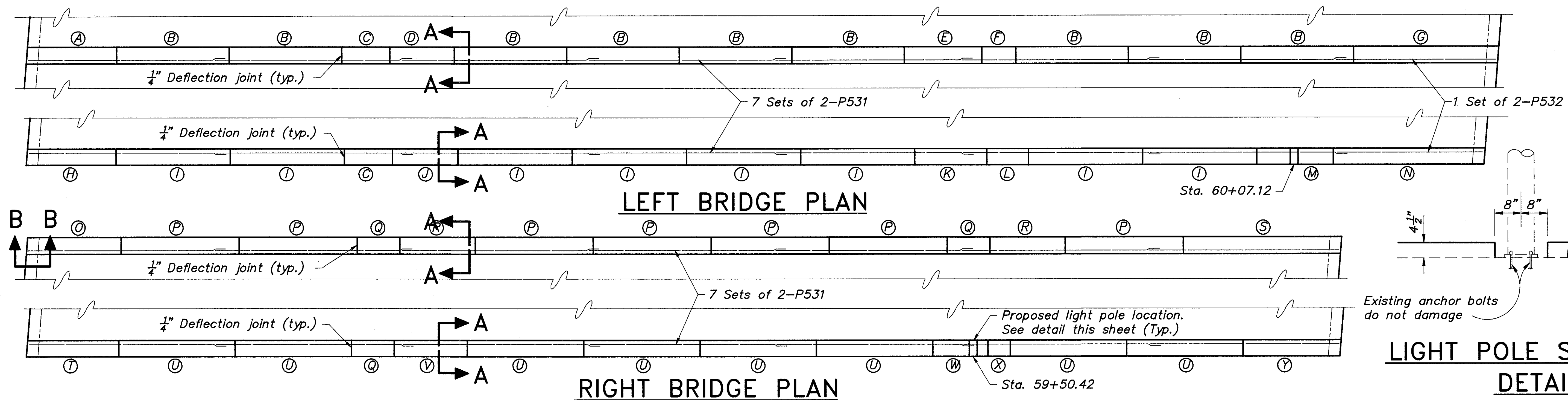
SECTION C-C



SECTION D-D

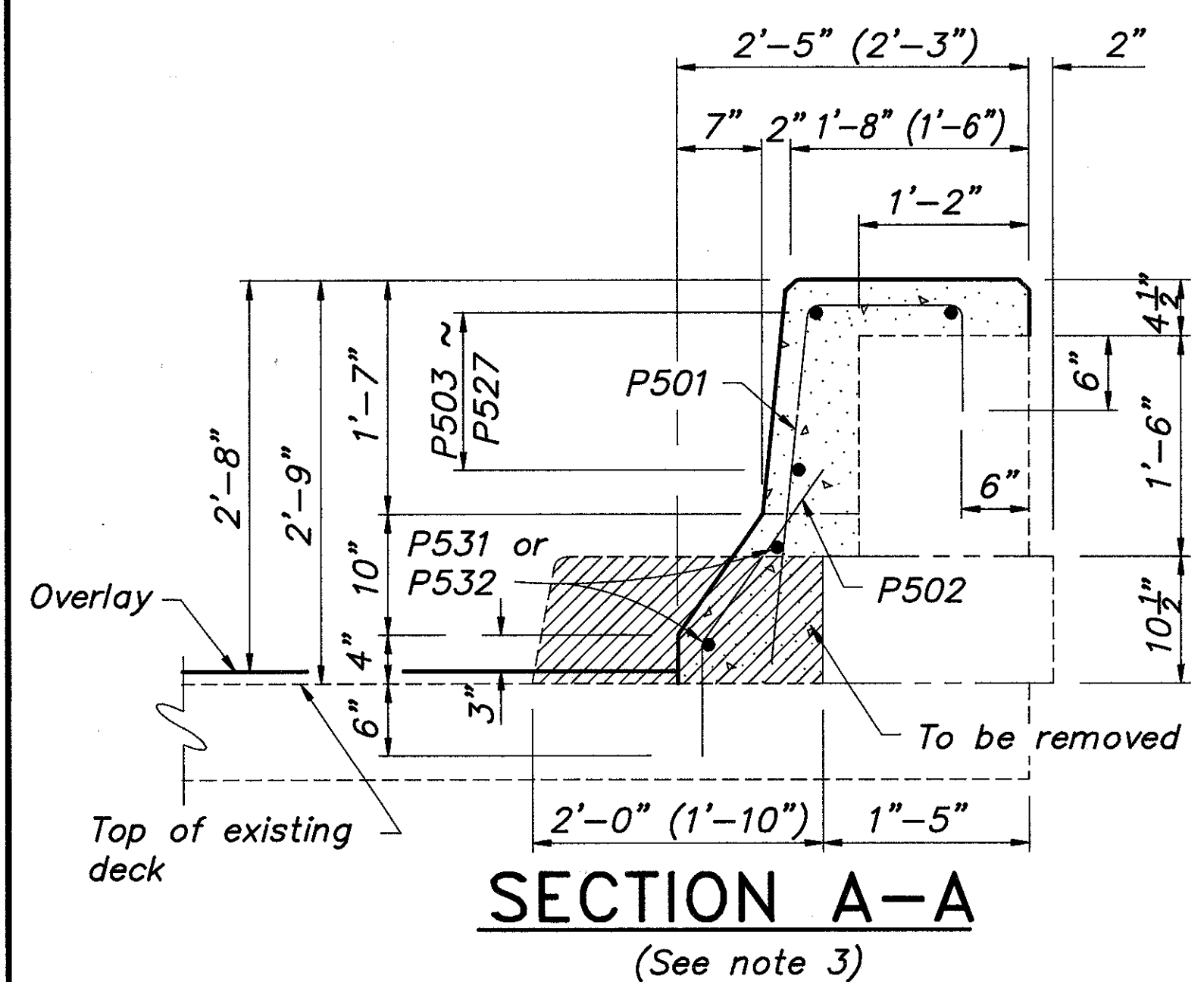
NOTE: For additional details & notes on expansion joint, see Std. Drawing EXJ-4-87.

BALKE ENGINEERS 14/16 1848 SUMMIT ROAD CINCINNATI, OHIO 45237					
EXPANSION JOINT DETAILS BRIDGE NO. HAM-50-2043 R & L SIXTH STREET EXPRESSWAY OVER GEST STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	



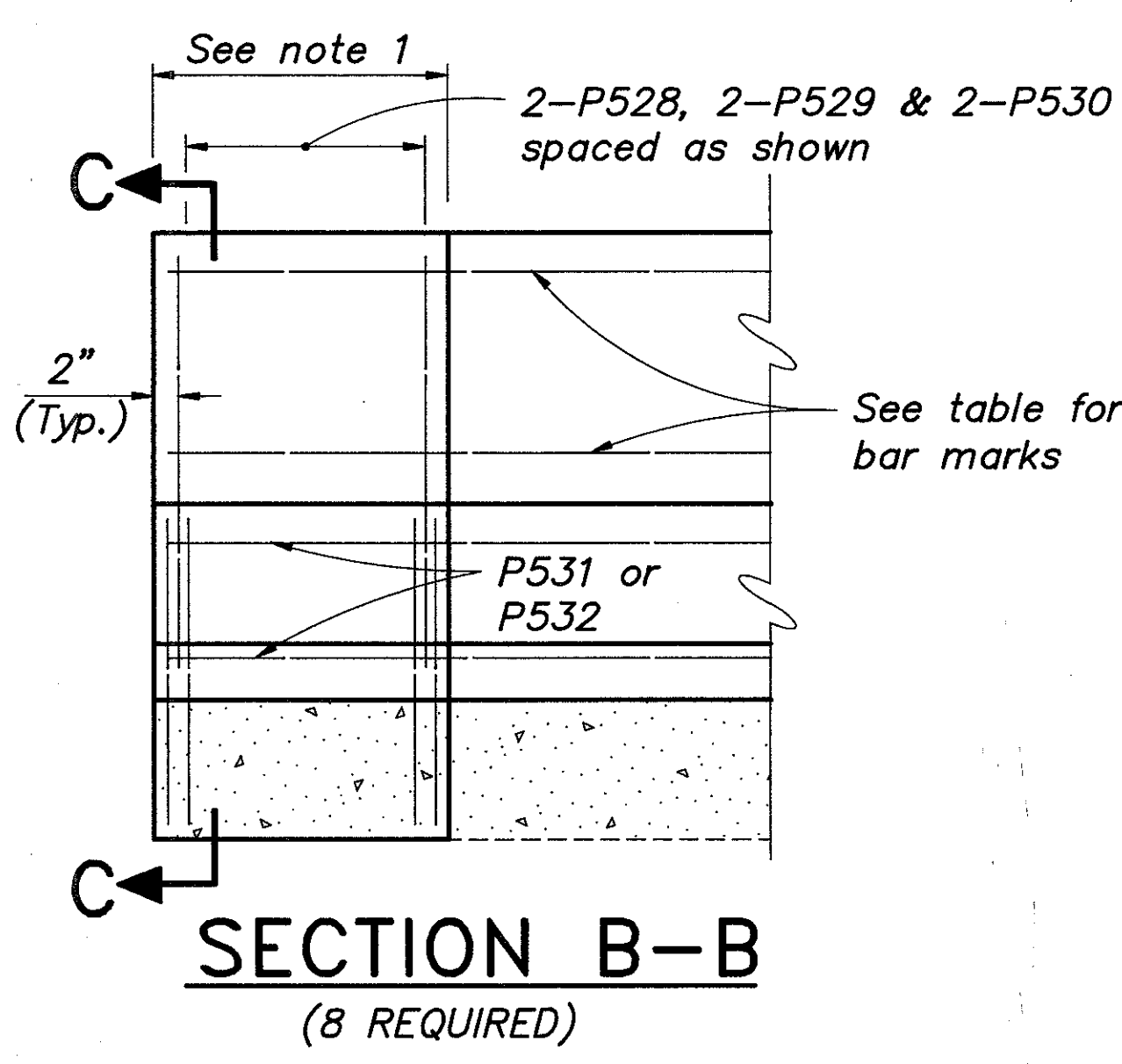
### LIGHT POLE SUPPORT DETAIL

NOTE: Light pole locations match existing pole locations.



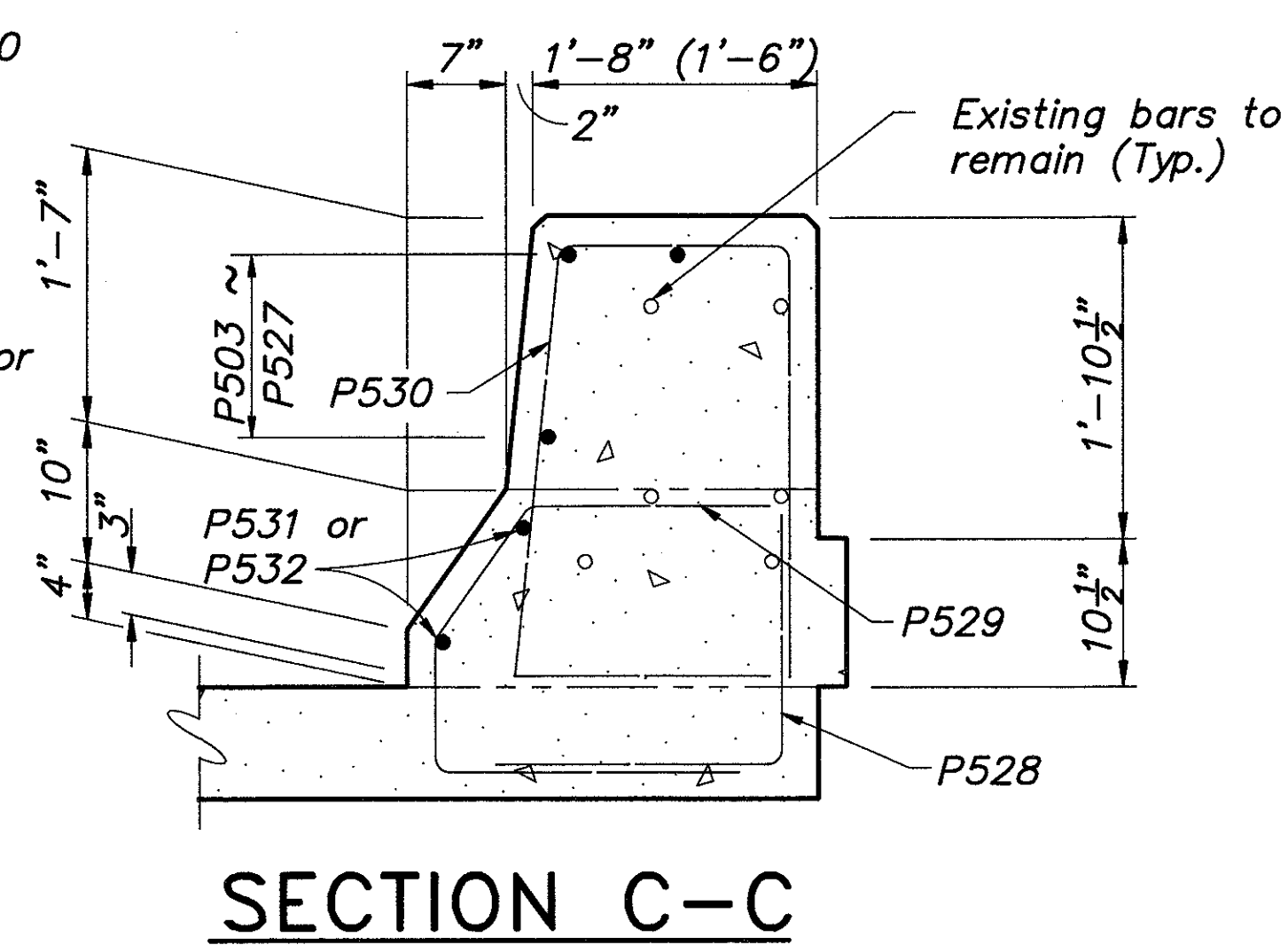
### SECTION A-A

(See note 3)



### SECTION B-B

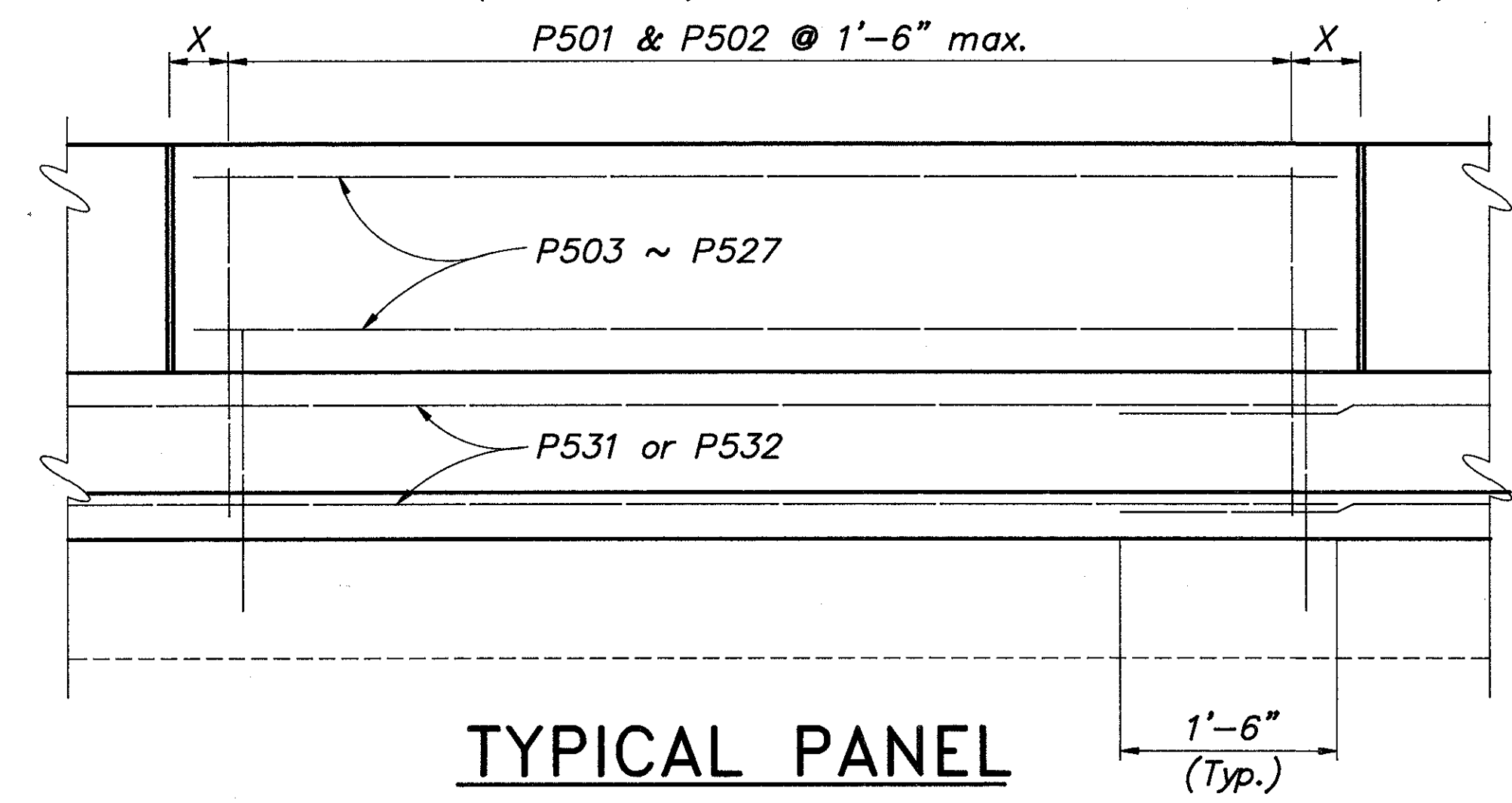
(8 REQUIRED)



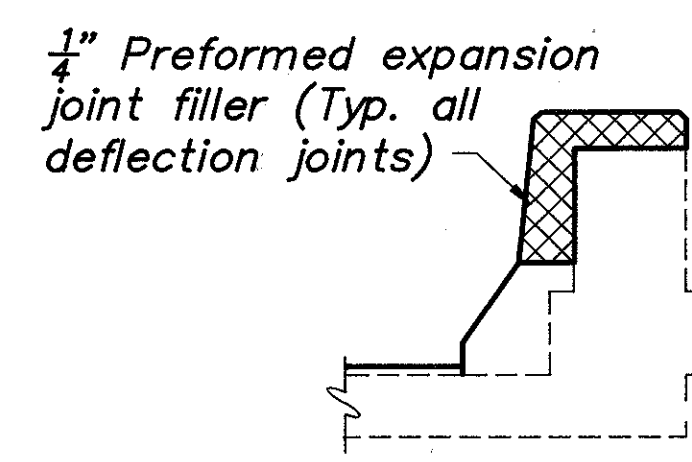
### SECTION C-C

PARAPET PANELS				
MARK	NO.	PANEL LENGTH	DIM. X	BARS NEEDED
A	1	13'-7"	2"	8-P501, 8-P502 & 3-P503
B	9	17'-2"	4"	12-P501, 12-P502 & 3-P504
C	2	7'-4"	2"	6-P501, 6-P502 & 3-P505
D	1	9'-10"	5"	7-P501, 7-P502 & 3-P506
E	1	11'-10"	2"	9-P501, 9-P502 & 3-P507
F	1	5'-2"	4"	4-P501, 4-P502 & 3-P508
G	1	22'-2"	2"	14-P501, 14-P502 & 3-P509
H	1	13'-6"	2"	8-P501, 8-P502 & 3-P510
I	8	17'-5"	2"	13-P501, 13-P502 & 3-P511
J	1	10'-0"	2"	8-P501, 8-P502 & 3-P512
K	1	11'-0"	3"	8-P501, 8-P502 & 3-P513
L	1	6'-4"	2"	5-P501, 5-P502 & 3-P514
M	1	11'-8"	2"	9-P501, 9-P502 & 3-P515
N	1	23'-2"	4"	14-P501, 14-P502 & 3-P514
O	1	14'-3"	4 1/2"	8-P501, 8-P502 & 3-P517
P	7	18'-0"	2"	13-P501, 13-P502 & 3-P518
Q	3	6'-6"	3"	5-P501, 5-P502 & 3-P519
R	2	11'-6"	2"	9-P501, 9-P502 & 3-P520
S	1	24'-2"	2"	15-P501, 15-P502 & 3-P521
T	1	14'-1"	3 1/2"	8-P501, 8-P502 & 3-P522
U	8	17'-9"	2"	13-P501, 13-P502 & 3-P523
V	1	11'-2"	4"	8-P501, 8-P502 & 3-P524
W	1	8'-5"	2"	7-P501, 7-P502 & 3-P525
X	1	3'-5"	2 1/2"	3-P501, 3-P502 & 3-P526
Y	1	14'-9"	2"	9-P501, 9-P502 & 3-P527

All reinforcing bars to be epoxy coated.



### TYPICAL PANEL



### DEFLECTION JOINT DETAIL

New deflection joints shall match the existing deflection joints locations.

### NOTES

1. Within limits shown, remove full parapet and curb section and replace as shown in Section C-C. Care shall be taken not to damage horizontal steel during concrete removal. This steel shall be incorporated in the new parapet. For limits of concrete removal and replacement, see abutment plans.
2. P501 & P502 to be dowelled into existing concrete as shown.
3. Dimensions shown ( ) are for the north parapet on the left bridge.

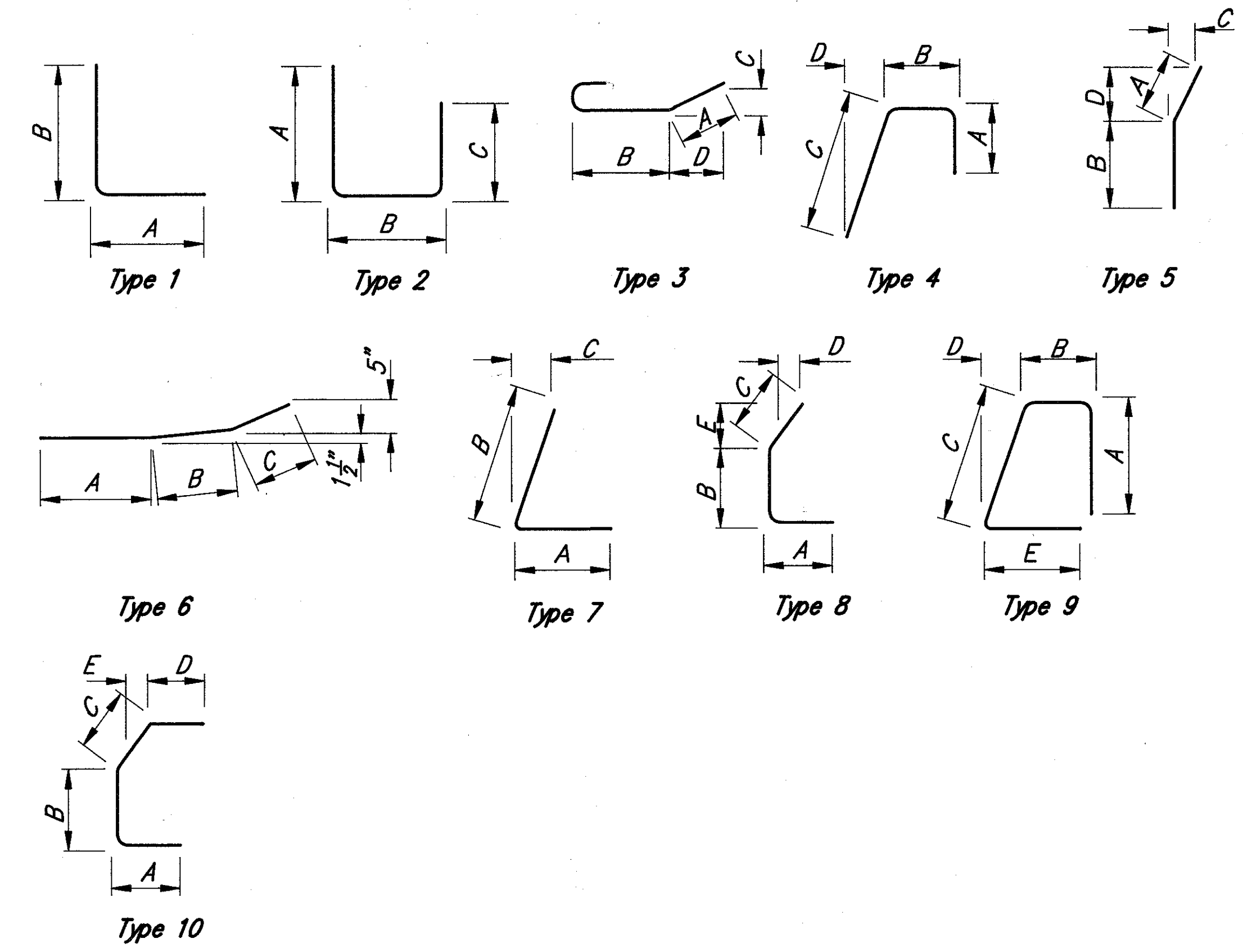
BALKE ENGINEERS 15/16  
 1848 SUMMIT ROAD  
 CINCINNATI, OHIO 45237

PARAPET DETAILS  
 BRIDGE NO. HAM-50-2043 R & L  
 SIXTH STREET EXPRESSWAY  
 OVER GEST STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	

# REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	LEFT BRIDGE	RIGHT BRIDGE
C801	144	4'-11	1890	3	1'-5	2'-7	0'-8 1/2	0'-8 1/2		74	70
C601	216	6'-7	2136	2	4'-8	1'-3	1'-0			110	106
C602	18	7'-7	205	2	5'-8	1'-3	1'-0			18	-
C603	12	6'-10	123	Str.						4	8
C604	5	8'-6	64	2	6'-2	1'-8	1'-0			5	-
C605	10	8'-4	125	2	5'-11	1'-8	1'-0			-	10
C501	216	3'-9	845	Str.						110	106
C502	216	6'-7	1483	2	3'-0	0'-10	3'-0			110	106
C503	18	4'-11	92	Str.						18	-
C504	11	27'-3	313	Str.						11	-
C505	3	30'-0	94	Str.						3	-
C506	8	37'-3	311	Str.						8	-
C507	1	8'-3	9	Str.						1	-
C508	15	4'-0	63	5	2'-0	2'-0	2'-0	0'-2		5	10
C509	19	3'-9	74	8	1'-0	1'-3	1'-9	1'-0 1/8	1'-5 1/4	9	10
C510	19	3'-7	71	1	1'-0	2'-9				9	10
C511	4	5'-6	23	4	2'-3	1'-2	2'-3	0'-2 1/4		4	-
C512	12	0'-10	10	Str.						12	-
C513	4	3'-9	16	Str.						4	-
C514	12	4'-6	57	Str.						4	8
C515	12	6'-0	75	Str.						4	8
C516	70	2'-0	146	5	1'-3	0'-10	0'-8 3/4	1'-0 1/4		14	56
C517	63	3'-9	247	4	0'-8	0'-10	2'-6	0'-3 3/8		14	49
C518	4	16'-3	68	Str.						4	-
C519	11	3'-2	36	Str.						11	-
C520	10	5'-0	52	Str.						-	10
C521	12	3'-8	46	8	1'-0	1'-0	1'-9	1'-0 1/8	1'-5 1/4	4	8
C522	12	4'-8	58	4	0'-8	0'-10	3'-3	0'-4		4	8
C523	12	5'-1	63	2	3'-3	1'-4	0'-9			4	8
C524	3	30'-0	94	Str.						3	-
C525	11	28'-6	327	Str.						11	-
C526	8	37'-9	315	Str.						8	-
C527	1	9'-0	9	Str.						1	-
C528	15	4'-0	63	7	2'-0	2'-0	0'-2			5	10
C529	5	5'-4	28	Str.						5	-
C530	51	4'-3	226	Str.						17	34
C531	Not used										
C532	2	16'-3	34	6	12'-6	2'-4	1'-5			-	2
C533	15	5'-9	90	4	2'-3	1'-6	2'-3	0'-2 1/4		5	10
C534	11	28'-9	330	Str.						-	11
C535	11	27'-9	318	Str.						-	11
C536	11	28'-3	324	Str.						-	11
C537	11	29'-3	336	Str.						-	11
C538	8	17'-6	146	Str.						-	8
C539	11	3'-6	40	Str.						-	11
C540	7	16'-0	117	Str.						-	7
C541	11	3'-4	38	Str.						-	11
C542	2	4'-4	9	1	1'-5	3'-1				-	2
C543	7	3'-9	27	1	1'-4	2'-6				-	7
C544	9	1'-6	14	1	1'-0	0'-8				-	9
Y501	952	2'-0	1986	5	1'-3	0'-10	0'-8 1/4	1'-0 1/4		448	504
Y502	945	3'-9	3696	4	0'-8	0'-10	2'-6	0'-3 3/8		448	497
Y503	134	27'-6	3843	Str.						64	70
Y504	7	2'-7	19	Str.						-	7
Y505	5	9'-9	51	Str.						-	5
P601	36	23'-6	1271	Str.						36	-
P602	24	30'-0	1081	Str.						-	24
P501	604	3'-7	2257	4	0'-8	0'-9	2'-5	0'-3		318	286
P502	604	2'-3	1417	5	1'-5	0'-10	0'-10	1'-2		318	286
P503	3	13'-3"	41	Str.						3	-
P504	27	16'-10"	474	Str.						27	-
P505	6	7'-0"	44	Str.						6	-
P506	3	9'-6"	30	Str.						3	-
P507	3	11'-6"	36	Str.						3	-



# REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	D	E	LEFT BRIDGE	RIGHT BRIDGE
P508	3	4'-10	15	Str.						3	-
P509	3	21'-10	68	Str.						3	-
P510	3	13'-2	41	Str.						3	-
P511	24	17'-1	428	Str.						24	-
P512	3	9'-8	30	Str.						3	-
P513	3	10'-8	33	Str.						3	-
P514	3	6'-0	19	Str.						3	-
P515	3	11'-4	35	Str.						3	-
P516	3	22'-10	71	Str.						3	-
P517	3	13'-11	44	Str.						-	3
P518	21	17'-8	387	Str.						-	21
P519	9	6'-2	58	Str.						-	9
P520	6	11'-2	70	Str.						-	6
P521	3	23'-10	75	Str.						-	3
P522	3	13'-9	43	Str.						-	3
P523	24	17'-5	436	Str.						-	24
P524	3	10'-10	34	Str.						-	3
P525	3	8'-1	25	Str.						-	3
P526	3	3'-1	10	Str.						-	3
P527	3	14'-5	45	Str.						-	3
P528	16	2'-11	48	1	1'-6	1'-6				8	8
P529	16	5'-0	84	10	2'-0	0'-10	1'-0	1'-4	0'-6	8	8
P530	16	7'-2	120	9	2'-5	1'-3	2'-5	0'-3 1/2	1'-5	8	8
P531	56	30'-0	1752	Str.						28	28
P532	4	23'-3	97	Str.						4	-

- NOTES**
- REINFORCING STEEL SAMPLES: REFER TO CMS SECTION 106.03, 700, 709.01 THRU. 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY ADDITIONAL STEEL SPLICED IN ACCORDANCE WITH 509.08.
  - ALL DIMENSIONS ARE OUT TO OUT OF BAR.
  - ALL BARS ARE TO BE EPOXY COATED.

BALKE ENGINEERS 16/16  
 1848 SUMMIT ROAD  
 CINCINNATI, OHIO 45237

**REINFORCING STEEL LIST**  
 BRIDGE NO. HAM-50-2043 R & L  
 SIXTH STREET EXPRESSWAY  
 OVER GEST STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
MRS	ALH	~	DWI	CRS 4/92	