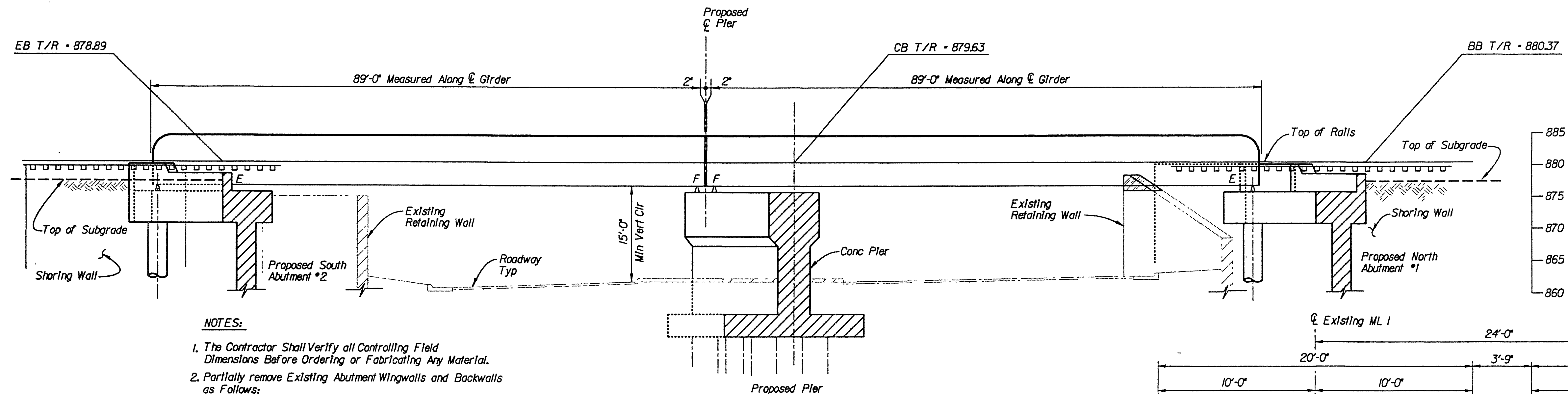


6 5 4 3 2 1

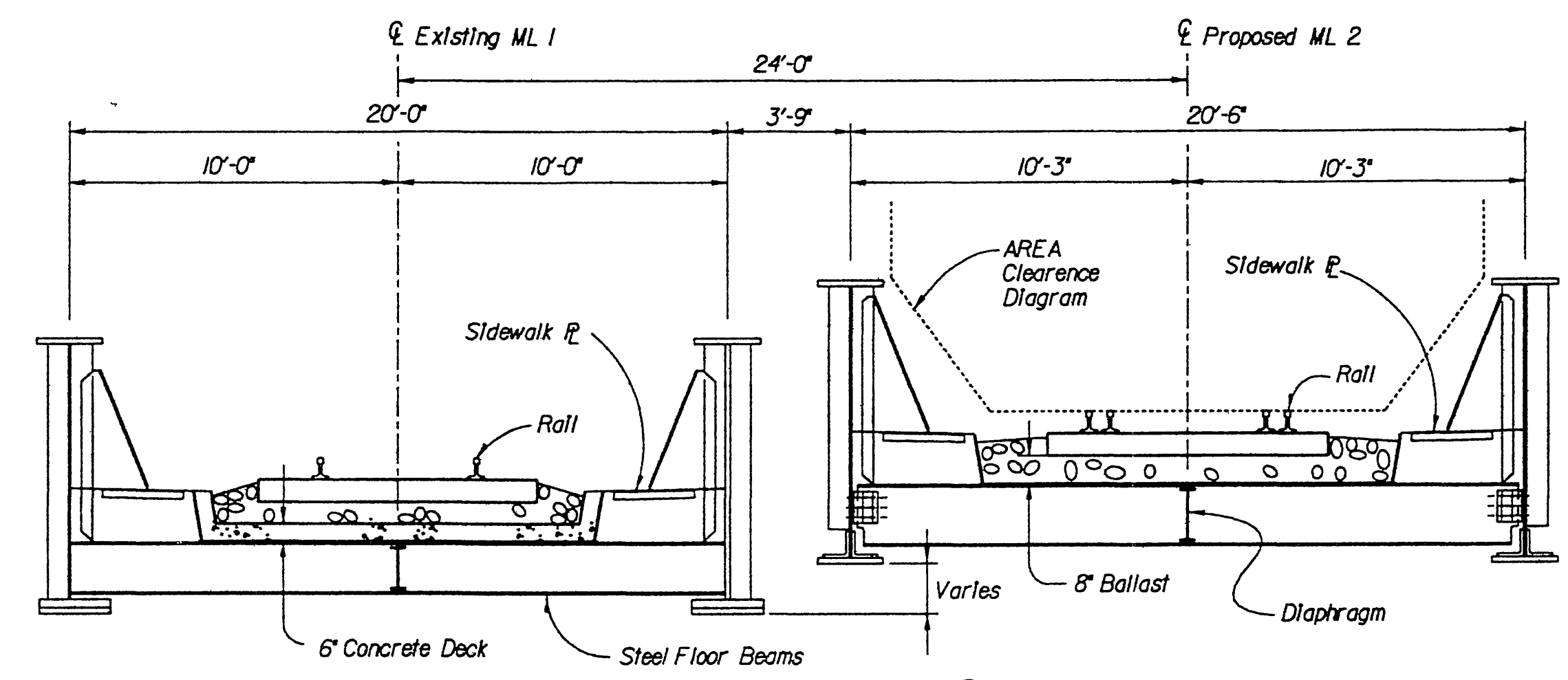
SHEET INDEX

- S-1 General Arrangement
- S-2 Abutment Details No 1
- S-3 Abutment Details No 2
- S-4 Abutment Details No 3
- S-5 Abutment Details No 4
- S-6 Abutment Details No 5
- S-7 Pier Details
- S-8 Framing Plan
- S-9 Girder Details No 1
- S-10 Girder Details No 2
- S-11 Girder Details No 3
- S-12 Girder Details No 4
- S-13 Bearing Details
- S-14 Inspection Facilities Details
- S-15 Waterproofing Details
- S-16 Geoweb Retaining Wall Plan and Details
- S-17 General Notes & Quantities
- S-18 Log of Test Borings



- NOTES:**
1. The Contractor Shall Verify all Controlling Field Dimensions Before Ordering or Fabricating Any Material.
 2. Partially remove Existing Abutment Wingwalls and Backwalls as Follows:
Saw-cut Existing Abutments Horizontally to Limits Shown on Plan View and ABUTMENT DETAILS Sheets. Grind resulting Surfaces smooth. Burn Back Exposed reinforcing 1/2 inch and Grout resulting recesses. Chamfer all Exposed Concrete Edges 3/4".
 3. Stations are Approximate. The Location of the Proposed Bridge Shall be such that the Existing Bridge Pier Centerline and Proposed Bridge Pier Centerline Align as shown in the Plans.
 4. Portion of Shoring Wall to Remain in Place. Shoring Walls are to be Designed by Contractor.

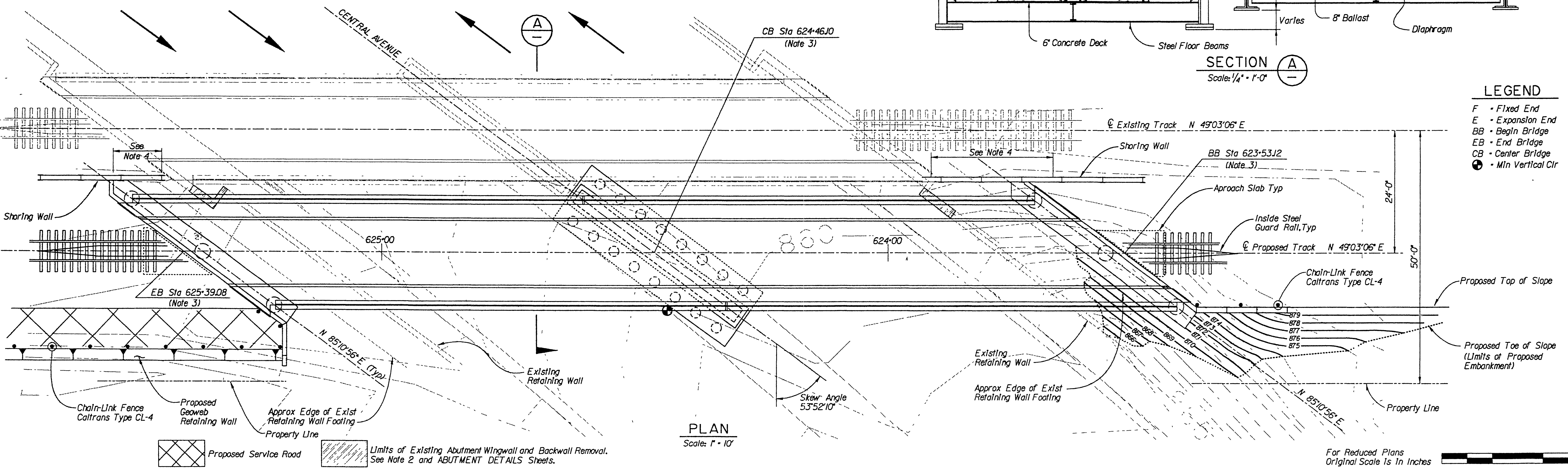
SECTION ALONG C-C OF TRACK
Scale: 1" = 10'
(Existing Bridge Not Shown for Clarity)



SECTION A-A
Scale: 1/4" = 1'-0"

LEGEND

- F - Fixed End
- E - Expansion End
- BB - Begin Bridge
- EB - End Bridge
- CB - Center Bridge
- ⊙ - Min Vertical Cir



PLAN
Scale: 1" = 10'

For Reduced Plans
Original Scale 1s in Inches

FILE: c:\0679\016\centra01.dgn DATE: 9-Aug-94 07:09p

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

HDR
HDR Engineering, Inc.

Designed By: TDL
 Drawn By: PZ
 Checked By: HS
 Approved By: JMJ
 Date: 07-15-1994

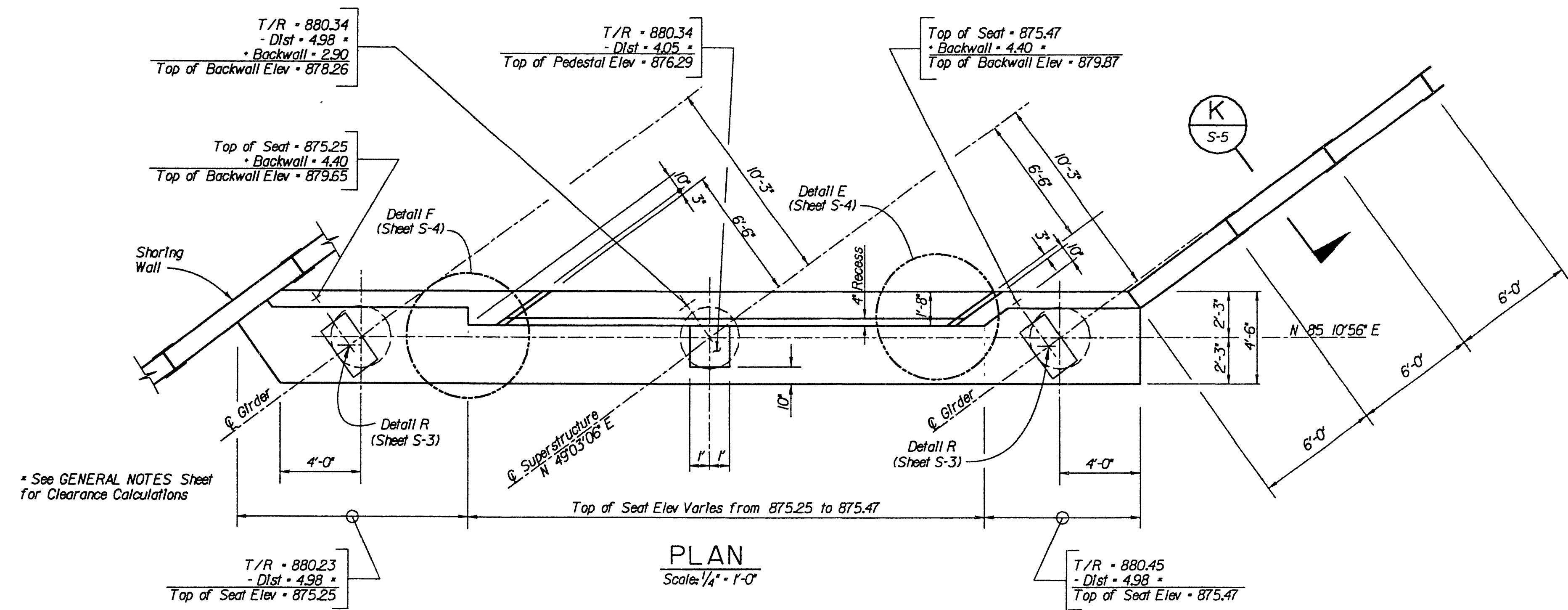
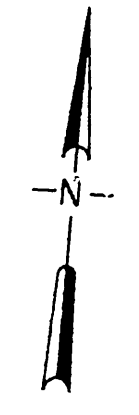
ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS, GENERAL ARRANGEMENT
R-3595

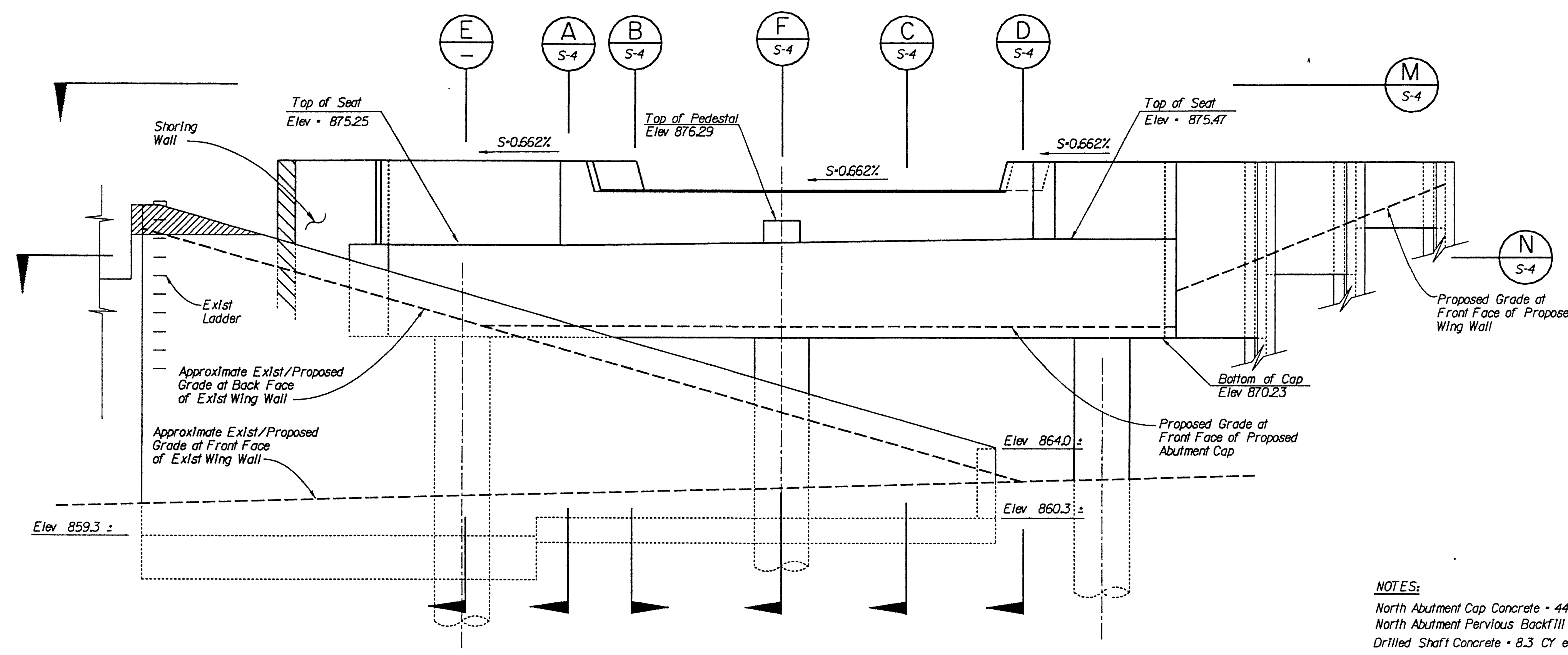
Scale: AS NOTED	Project No.: 06791	Drawing No.: S-1	Sheet: 1 of 18
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AS BUILT DRAWINGS

INDEXED 8-8-2000 LPH

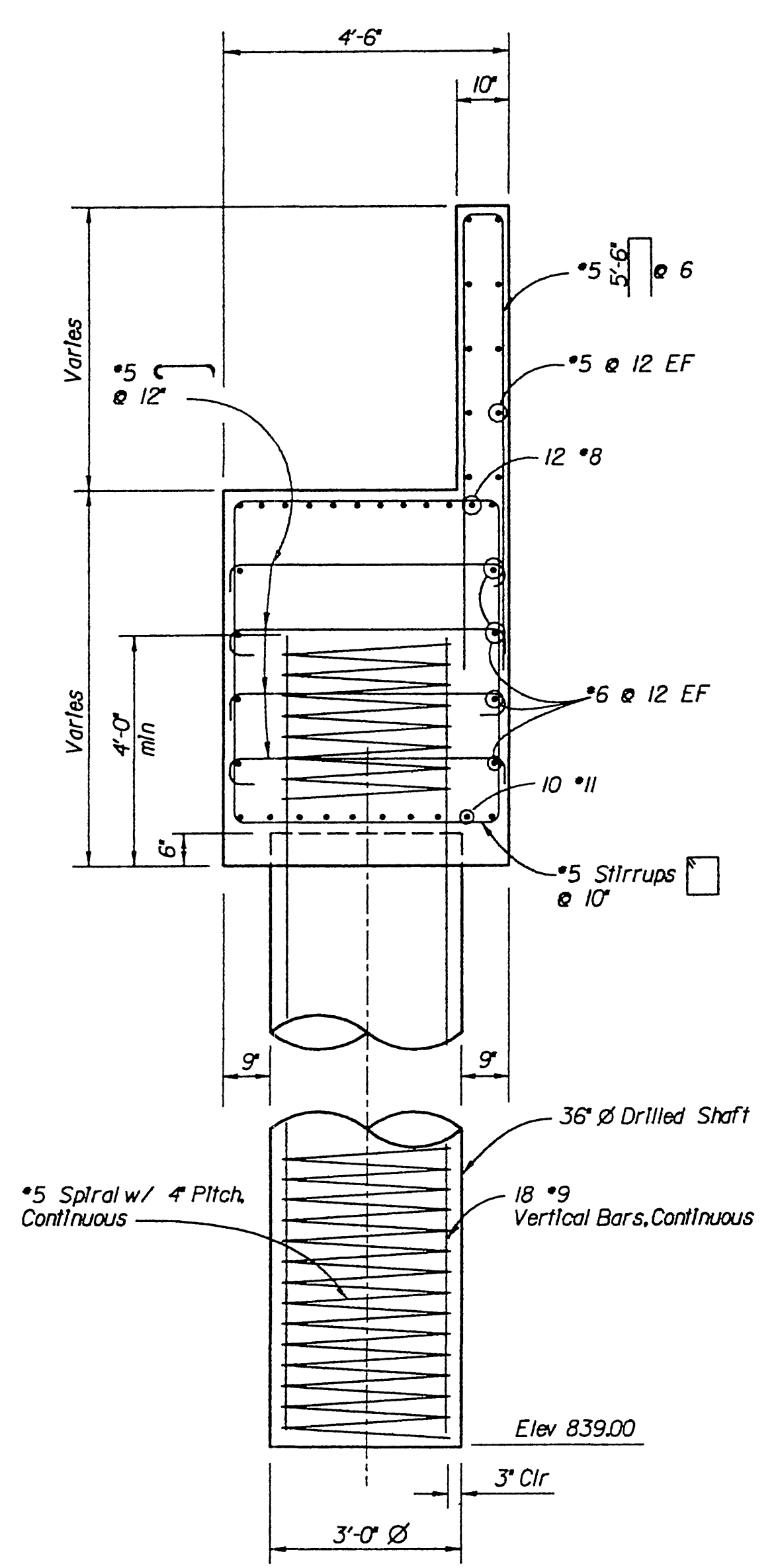


PLAN
Scale: 1/4" = 1'-0"



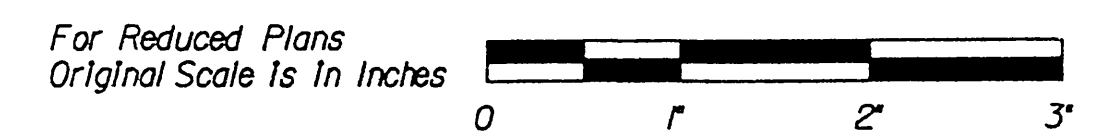
ELEVATION - NORTH ABUTMENT
Scale: 1/4" = 1'-0"

- NOTES:**
- The Contractor Shall Verify all Controlling Field Dimensions Before Ordering or Fabricating any Material.
 - Partially Remove Existing North Abutment Wingwall and Backwall as Follows:
Saw-cut Existing Abutments Horizontally at Elevation 879.00 to Limits Shown on Elevation View and GENERAL ARRANGEMENT Sheet. Grind Resulting Surfaces Smooth. Burn Back Exposed Reinforcing and Grout Resulting Recesses. Chamfer all Exposed Concrete Edges 3/4".



SECTION E
Scale: 1/2" = 1'-0"

- NOTES:**
- North Abutment Cap Concrete - 44.8 CY
 - North Abutment Previous Backfill - 7.4 CY
 - Drilled Shaft Concrete - 8.3 CY each (North Abutment)



AS BUILT DRAWINGS

FILE: c:\06791\016\centra02.dgn
DATE: 9-Aug-94 07:20 A

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

HDR
HDR Engineering, Inc.

Designed By: TDL
Drawn By: PZ
Checked By: HS
Approved By: JMJ
Date: 07-15-1994

ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS ABUTMENT DETAILS NO. 1 (NORTH ABUTMENT DETAILS)

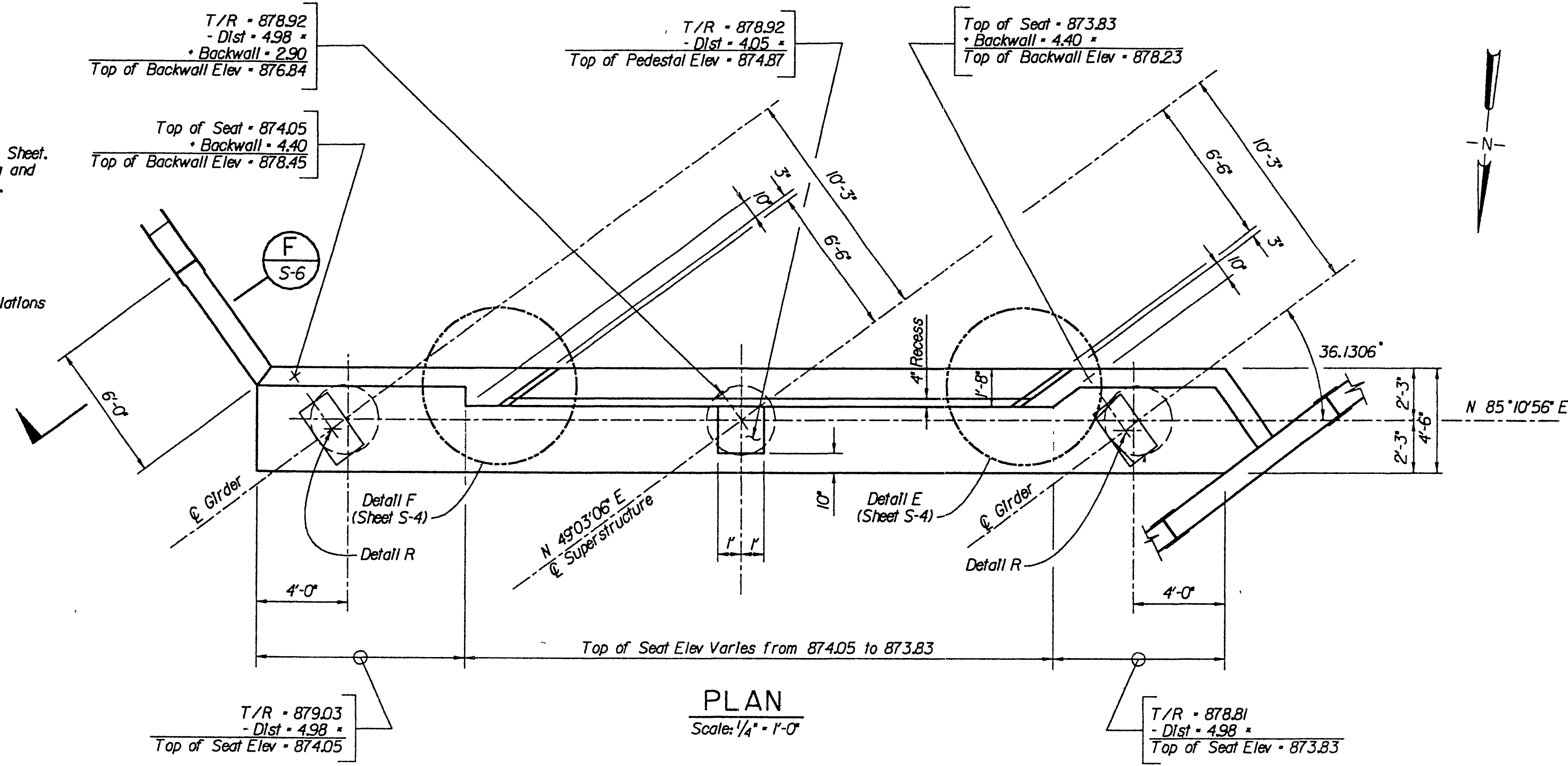
Scale: AS NOTED
Project No.: 06791
Drawing No.: S-2
Sheet: 2 of 18

NOTES:

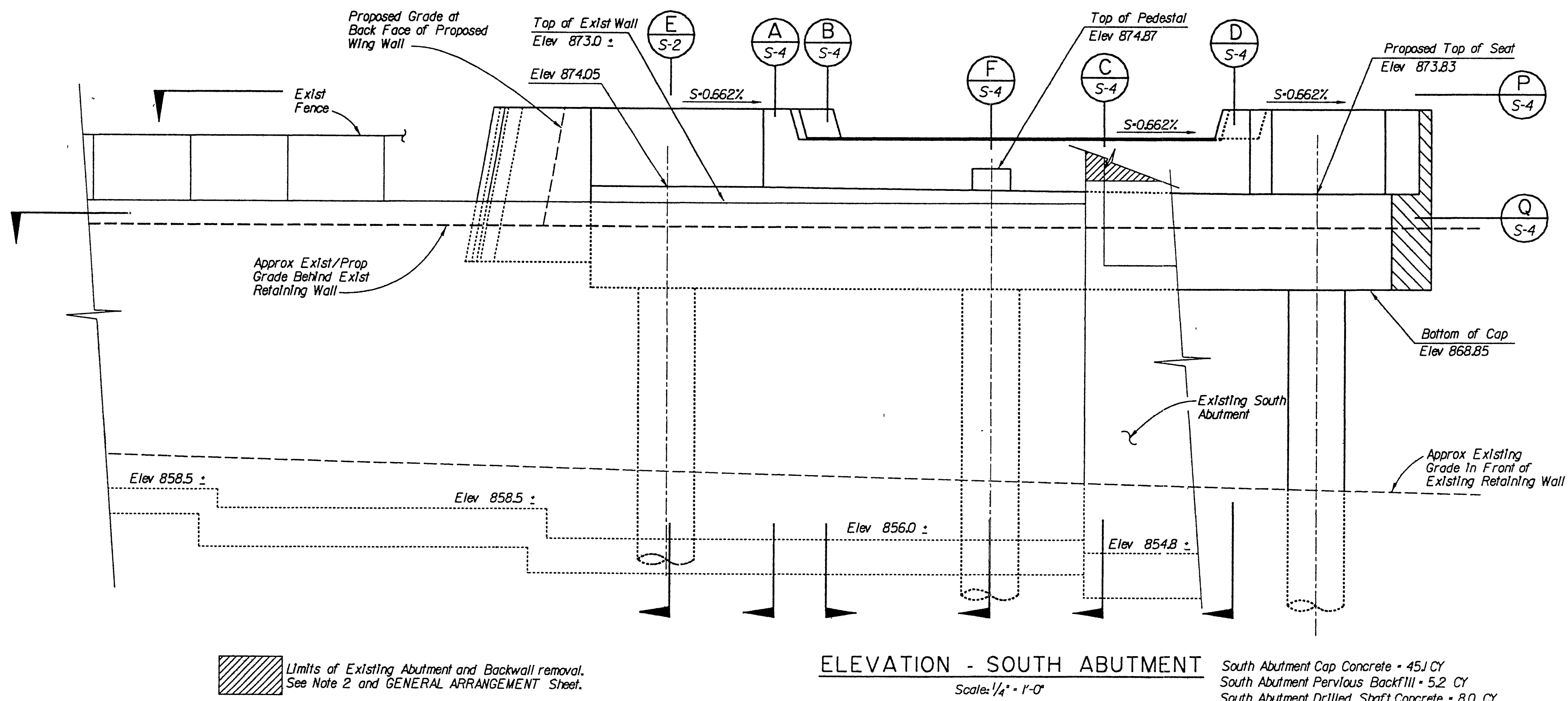
- The Contractor Shall Verify all Controlling Field Dimensions Before Ordering or Fabricating any Material.
- Partially Remove Existing South Abutment Wingwall and Backwall as Follows:
Saw-cut Existing Abutments Horizontally at Elevation 878.00 to Limits Shown on Elevation View and GENERAL ARRANGEMENT Sheet. Grind Resulting Surfaces Smooth, Burn Back Exposed Reinforcing and Grout Resulting Recesses. Chamfer all Exposed Concrete Edges 1/4".
- Place one foot of Pervious Backfill Material Continuous behind Abutment and Wingwall.

* See GENERAL NOTES Sheet for Clearance Calculations

DETAIL "R"
ANCHOR BOLT LAYOUT
Scale: 1/2" = 1'-0"



PLAN
Scale: 1/4" = 1'-0"



ELEVATION - SOUTH ABUTMENT
Scale: 1/4" = 1'-0"

South Abutment Cap Concrete - 45J CY
South Abutment Pervious Backfill - 5.2 CY
South Abutment Drilled Shaft Concrete - 8.0 CY

FOR INFORMATION ONLY						
ITEM : EACH ABUTMENT						
QTY	BAR SIZE (#)	NOTE	BAR TYPE	BAR LENGTH (FT - IN)	BAR UNIT WEIGHT (LB / LF)	TOTAL WEIGHT (LB)
40	5		(BW)	11'-8"	1.043	487
54	5		(BW)	8'-8"	1.043	488
1	4	1	ST-H-BW	23'-0"	0.668	15
1	5	2	ST-V-BW	78'-0"	1.043	81
1	5	3	ST-H-BW	453'-0"	1.043	472
3	5		(P)	12'-4"	1.043	39
12	8	4	ST-H-TC-NL	44'-6"	2.67	1426
10	11	4	ST-H-BC-NL	44'-6"	5.31	2363
180	5		(P)	5'-0 3/4"	1.043	6446
8	6	4	ST-H-SC	43'-0"	1.502	517
1	5	5	ST-H-EC	86'-0"	1.043	90
5	6		(P)	5'-0"	1.502	38
5	6		(P)	5'-8"	1.502	43
53	5		(P)	18'-2"	1.502	1446
TOTAL PER ABUTMENT						13951
TOTAL FOR BOTH ABUTMENTS						27902

* ST= STRAIGHT BAR
V = VERTICAL BAR
H = HORIZONTAL BAR
BW= BAR LOCATED IN BACKWALL
P = PEDESTAL BAR
TC= TOP OF ABUT CAP BAR
BC= BOTTOM OF ABUT CAP BAR
SC= SIDE FACES OF ABUT CAP BAR
EC= END FACES OF ABUT CAP BAR
NL= NO LAP SPLICE PERMITTED
BAR DIMENSIONS SHOWN ON DIAGRAMS ARE OUT-TO-OUT
NOTES:

- FIELD CUT / BEND FOR [diagram] AND [diagram] BARS (SHOWN IN VIEW "M" AND VIEW "P" ON ABUTMENT DETAILS NO.3 SHEET)
- FIELD CUT / BEND FOR [diagram] AND [diagram] BARS (SHOWN IN DETAIL "E" AND DETAIL "F" ON ABUTMENT DETAILS NO.3 SHEET)
- FIELD CUT / BEND BACKWALL LONGITUDINAL BARS (SHOWN IN SECTION "A", "B", "C", "D", AND "F"; VIEWS "M" AND "P", AND DETAILS "E" AND "F" ON ABUTMENT DETAILS NO.1 AND NO.3 SHEETS)
- FIELD CUT LONGITUDINAL BENT CAP BARS TO FIT
- FIELD CUT / BEND FOR [diagram] AND [diagram] BARS (SHOWN IN SECTIONS "N" AND "O" ON ABUTMENT DETAILS NO.3 SHEET)

FOR INFORMATION ONLY						
ITEM : 36" DRILLED SHAFT						
QTY	BAR SIZE (#)	BAR TYPE	NOTE	BAR LENGTH (FT - IN)	BAR UNIT WEIGHT (LB / LF)	TOTAL WEIGHT (LB)
18	9	ST-V-NL		35'-6"	3.40	2173
1	5	S		888'-0"	1.043	926
TOTAL FOR EACH DRILLED SHAFT						3099
TOTAL FOR 6 DRILLED SHAFTS (BOTH ABUTS)						18594

* ST= STRAIGHT BAR
V = VERTICAL BAR
S = #5 CONTINUOUS SPIRAL AT 4" PITCH,
D = 32" OUT-TO-OUT
NL= NO LAP SPLICE PERMITTED
BAR DIMENSIONS SHOWN ON DIAGRAMS ARE OUT-TO-OUT

For Reduced Plans
Original Scale Is In Inches

AS BUILT DRAWINGS

FILE: c:\06791\016\cehrrad3.dgn
DATE: 9-AUG-94 07:30

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

HDR Engineering, Inc.

Designed By: TDL

Drawn By: PZ

Checked By: HS

Approved By: JMJ

Date: 07-15-1994

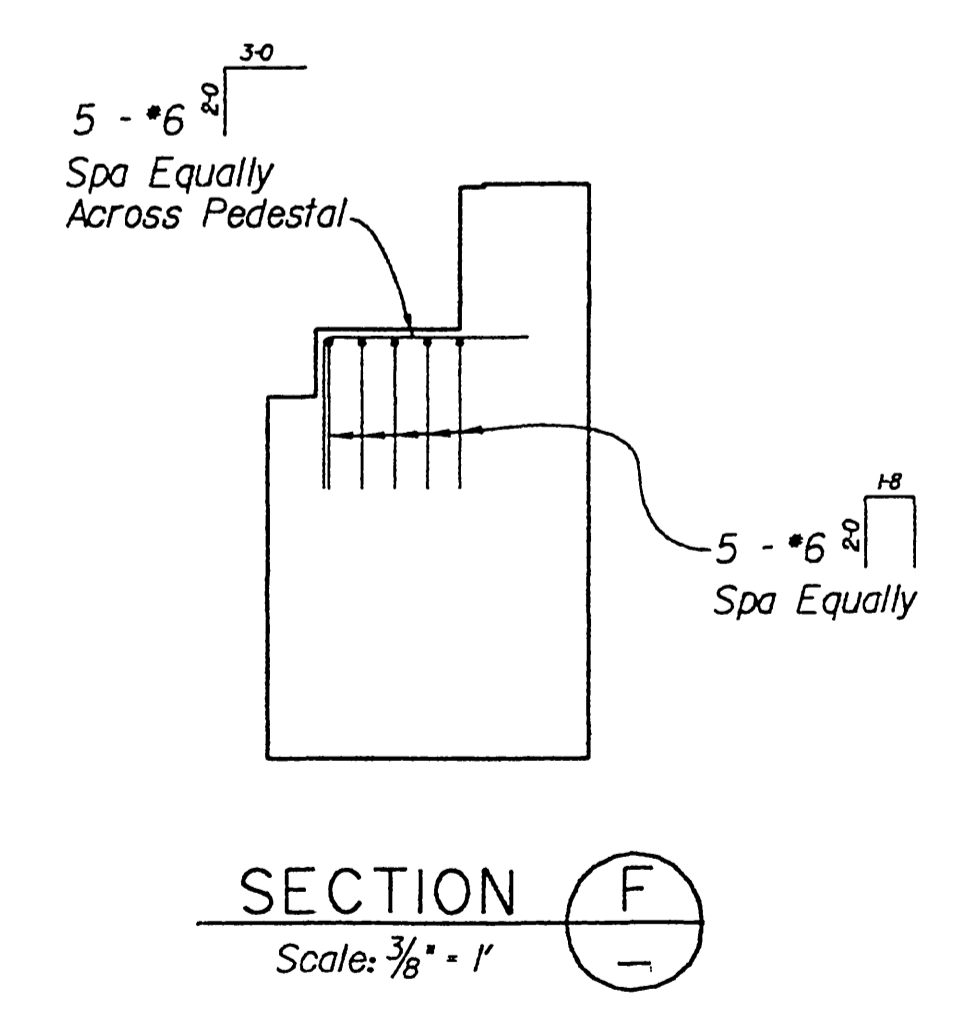
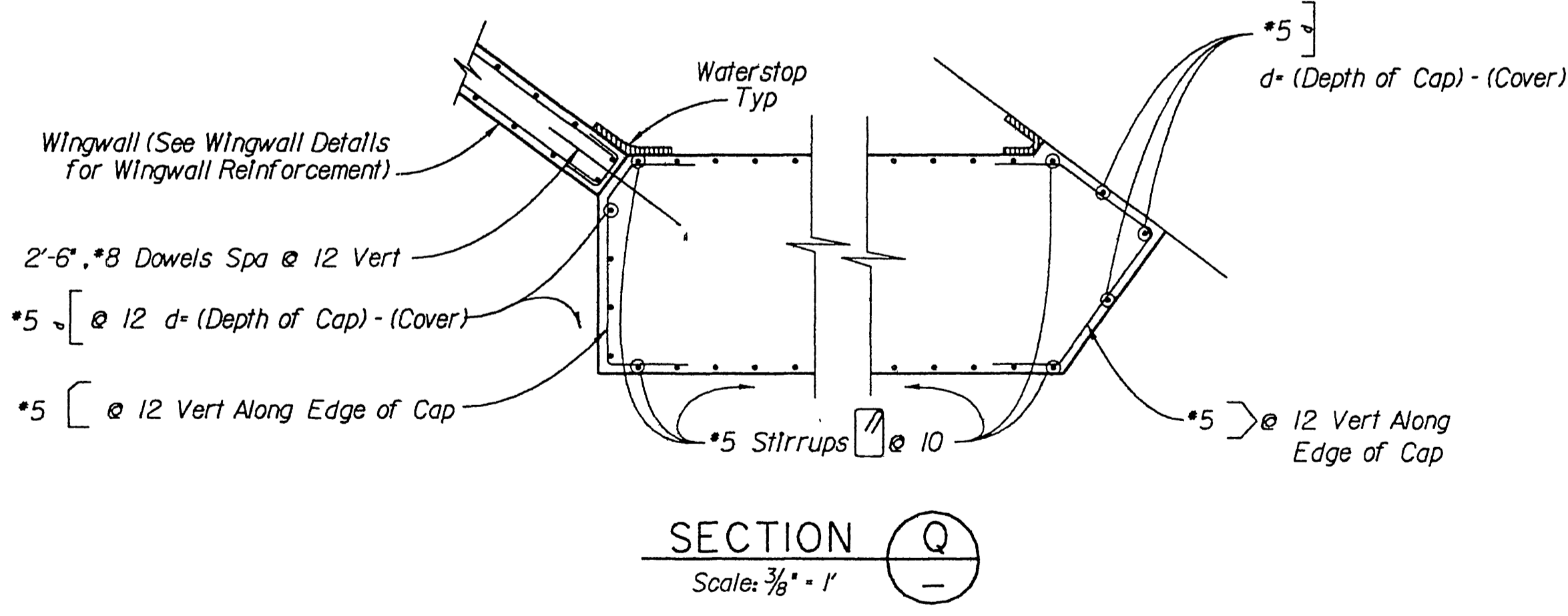
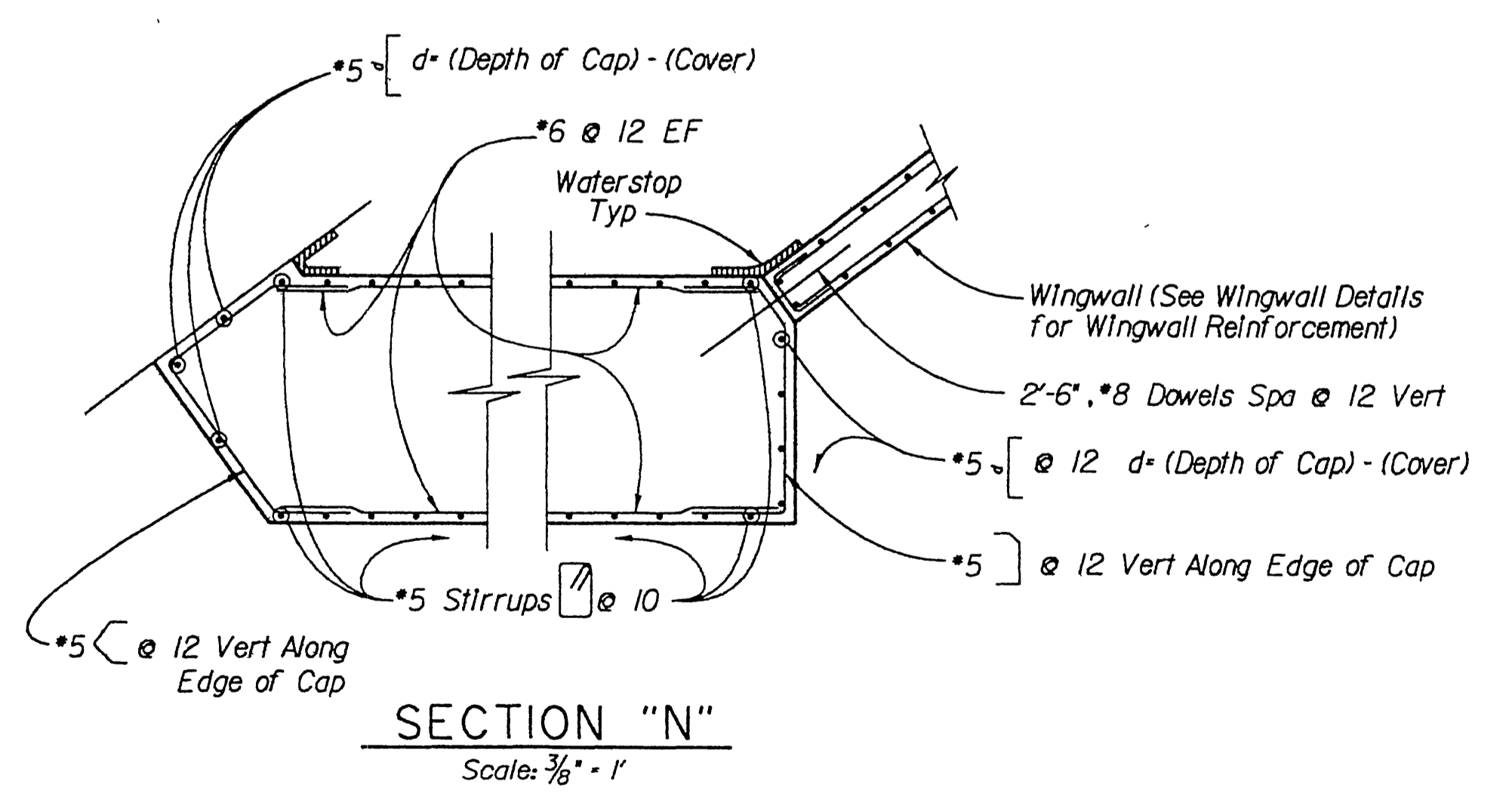
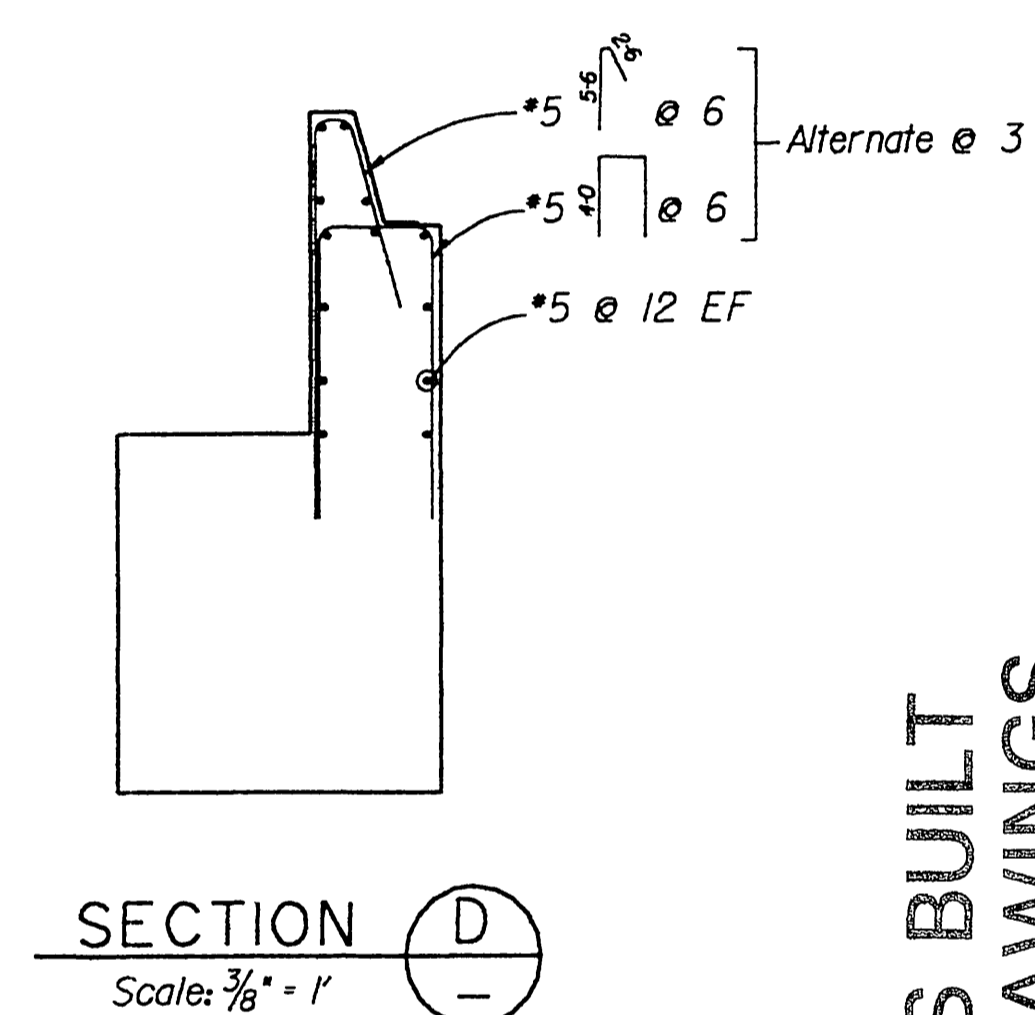
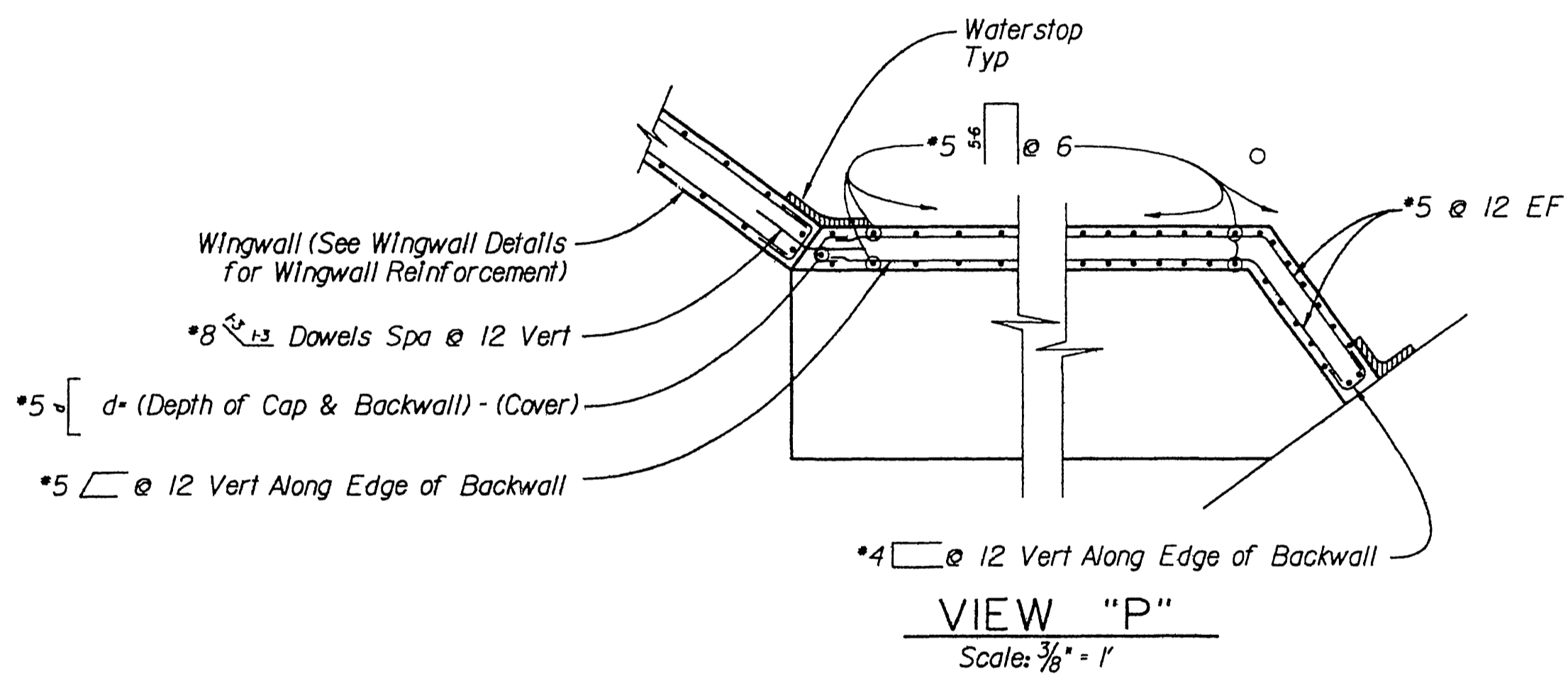
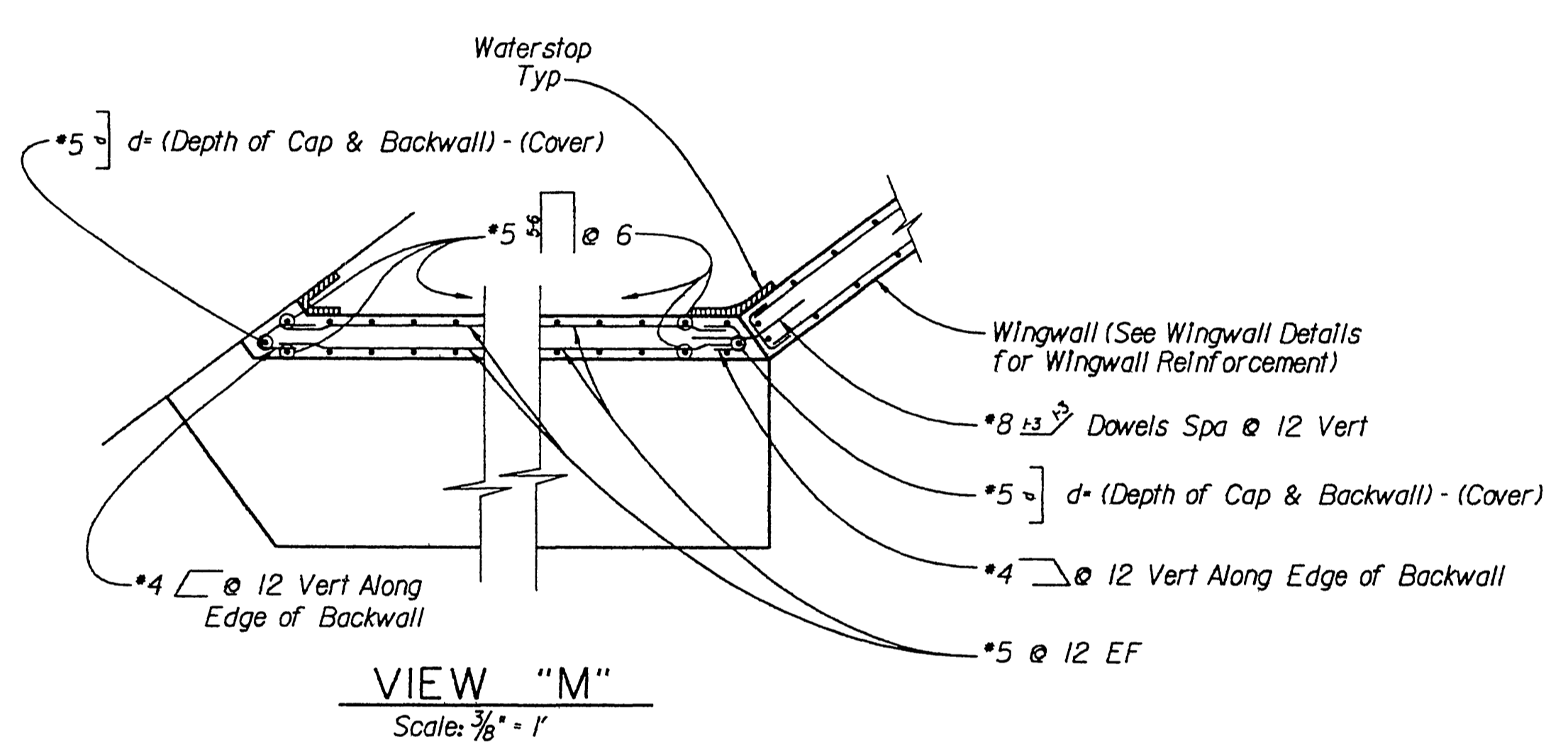
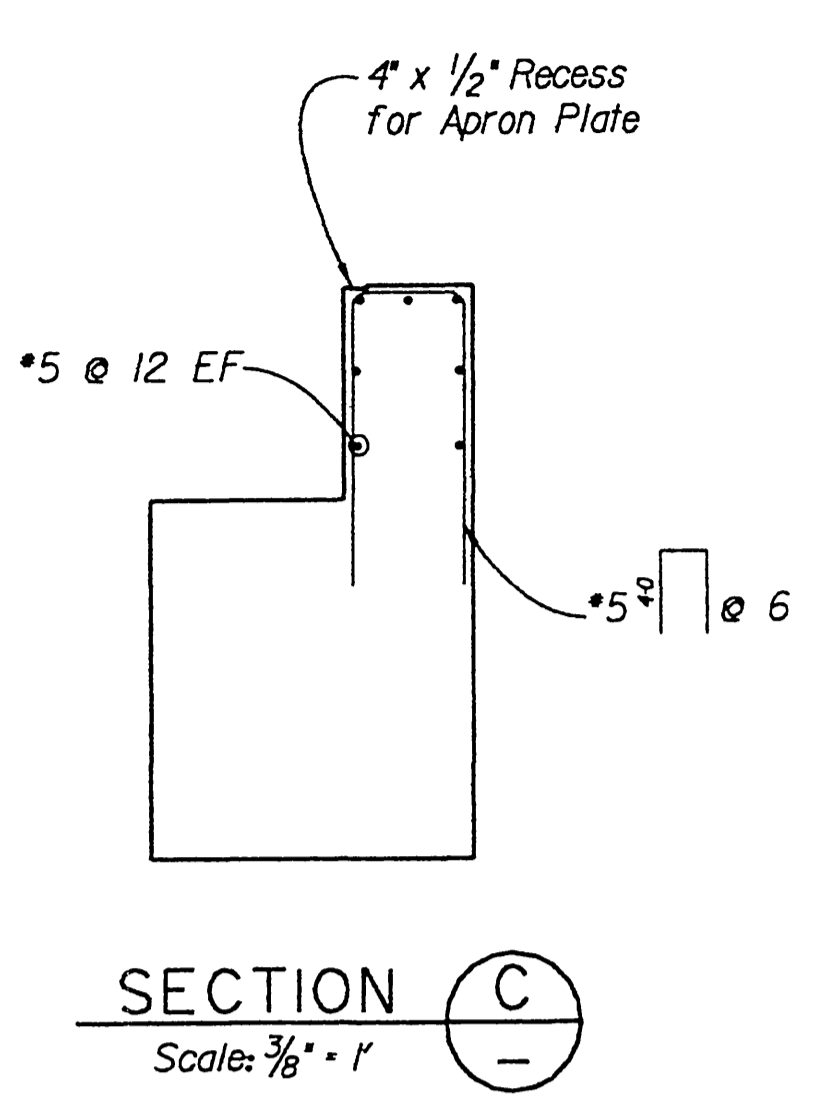
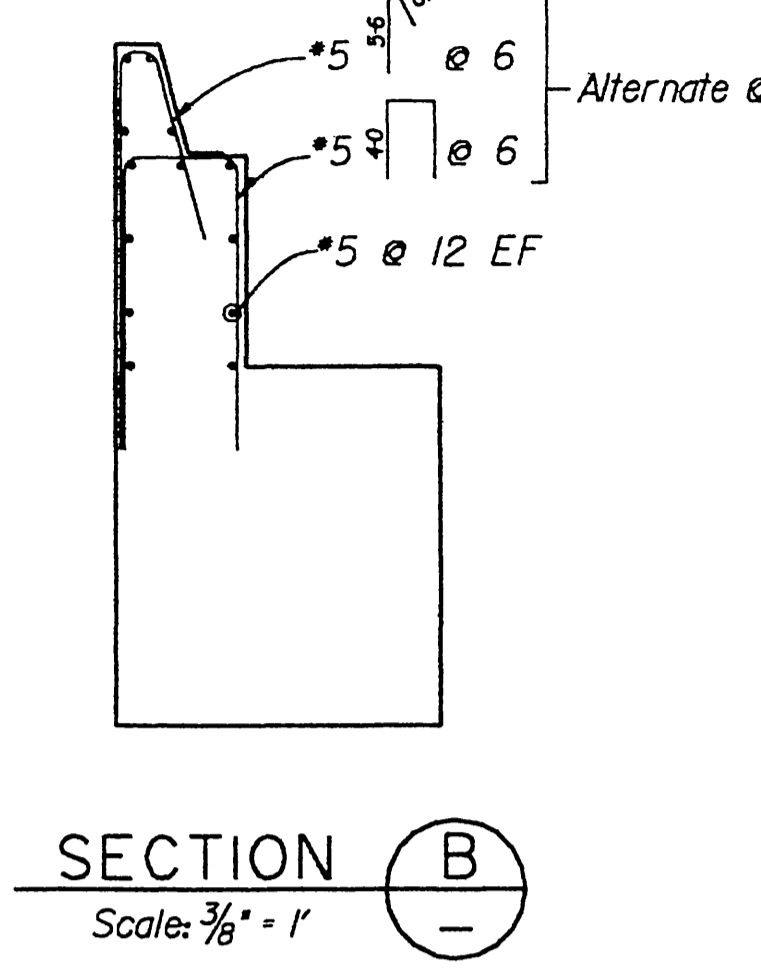
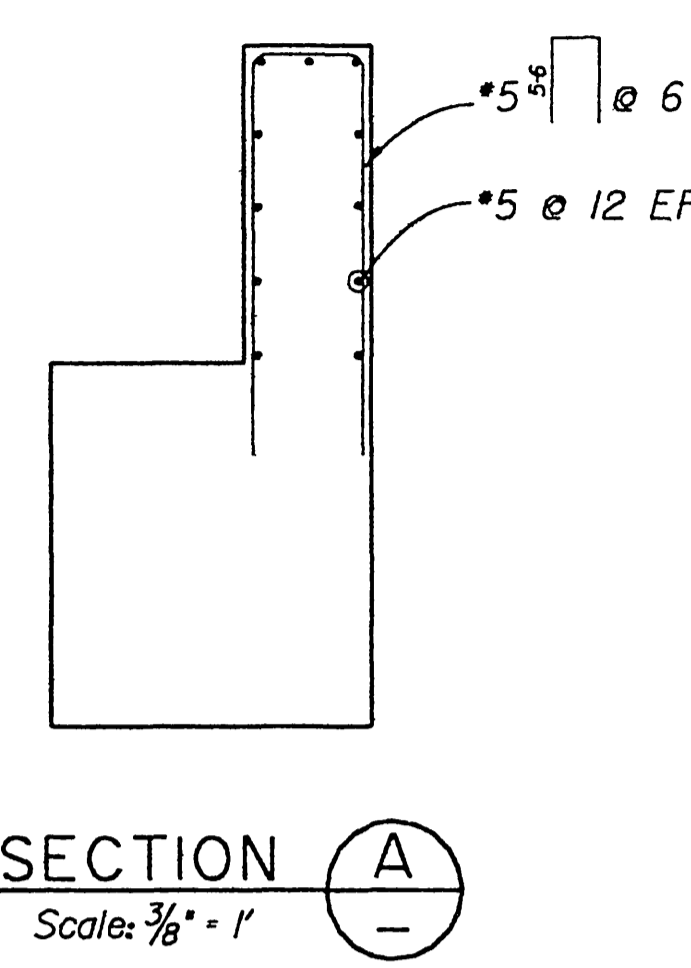
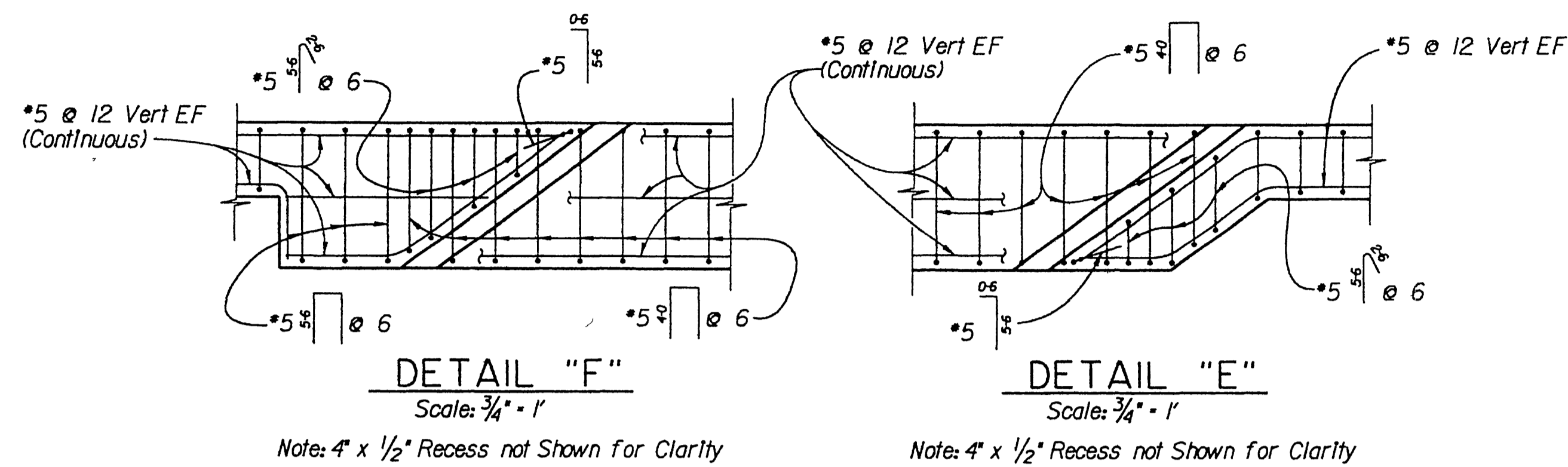
ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS ABUTMENT DETAILS NO. 2

(SOUTH ABUTMENT DETAILS) R-3595

Scale: AS NOTED	Project No.: 06791	Drawing No.: S-3/	Sheet: 4 of 18
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INDEXED 8-8-2000 LTT



For Reduced Plans
Original Scale Is In Inches

AS BUILT DRAWINGS

FILE: c:\06791\016\centra\04.dgn
DATE: 4-Aug-94 09:37

Issue No.	Description	Date	Drwn.	Chkd	Resp Engr.	Proj. Mgr.

HDR
HDR Engineering, Inc.

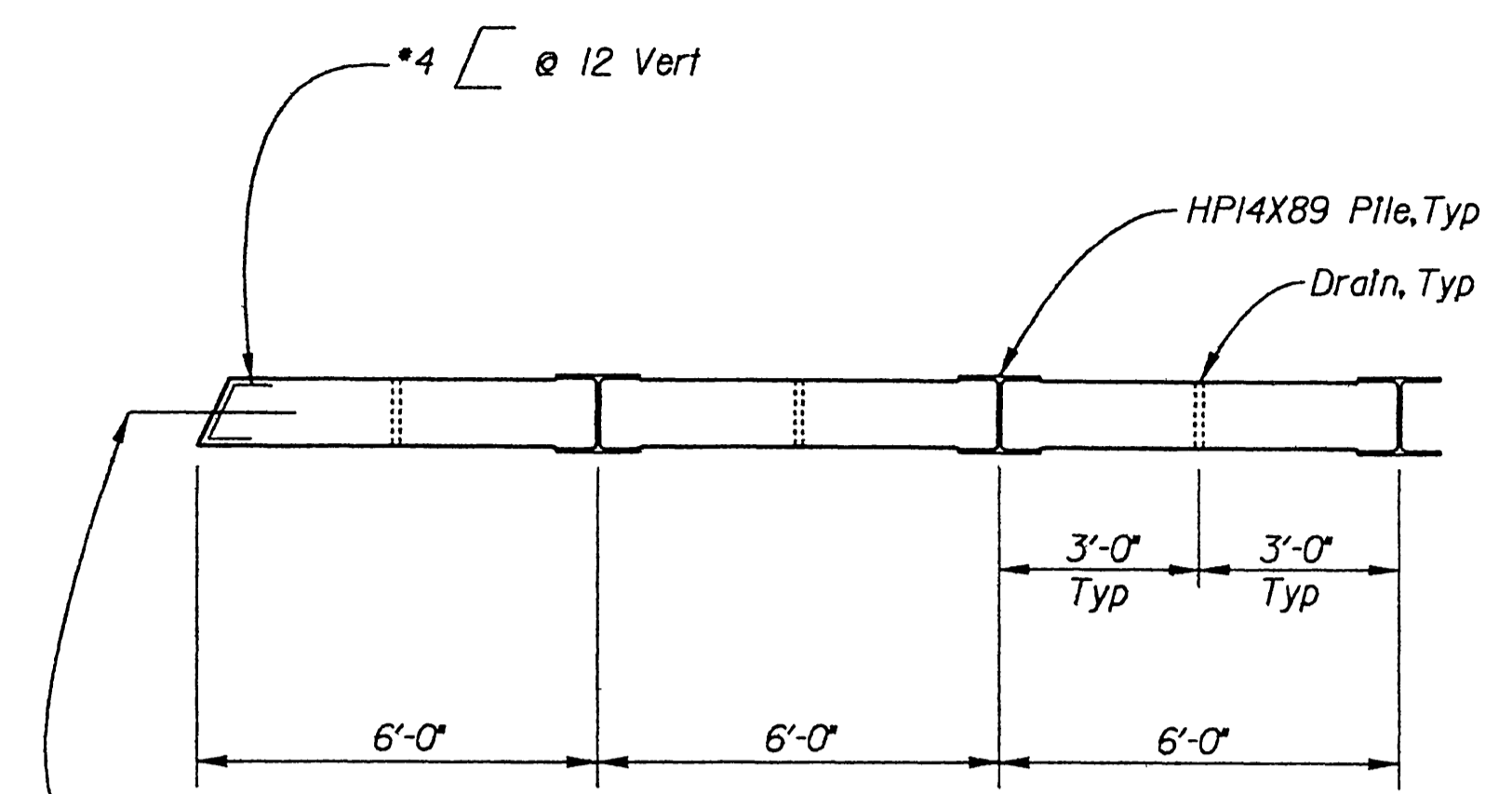
Designed By: TDL/EH
 Drawn By: PZ
 Checked By: HS
 Approved By: JM/J
 Date: 07-15-1994

Santa Fe
ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

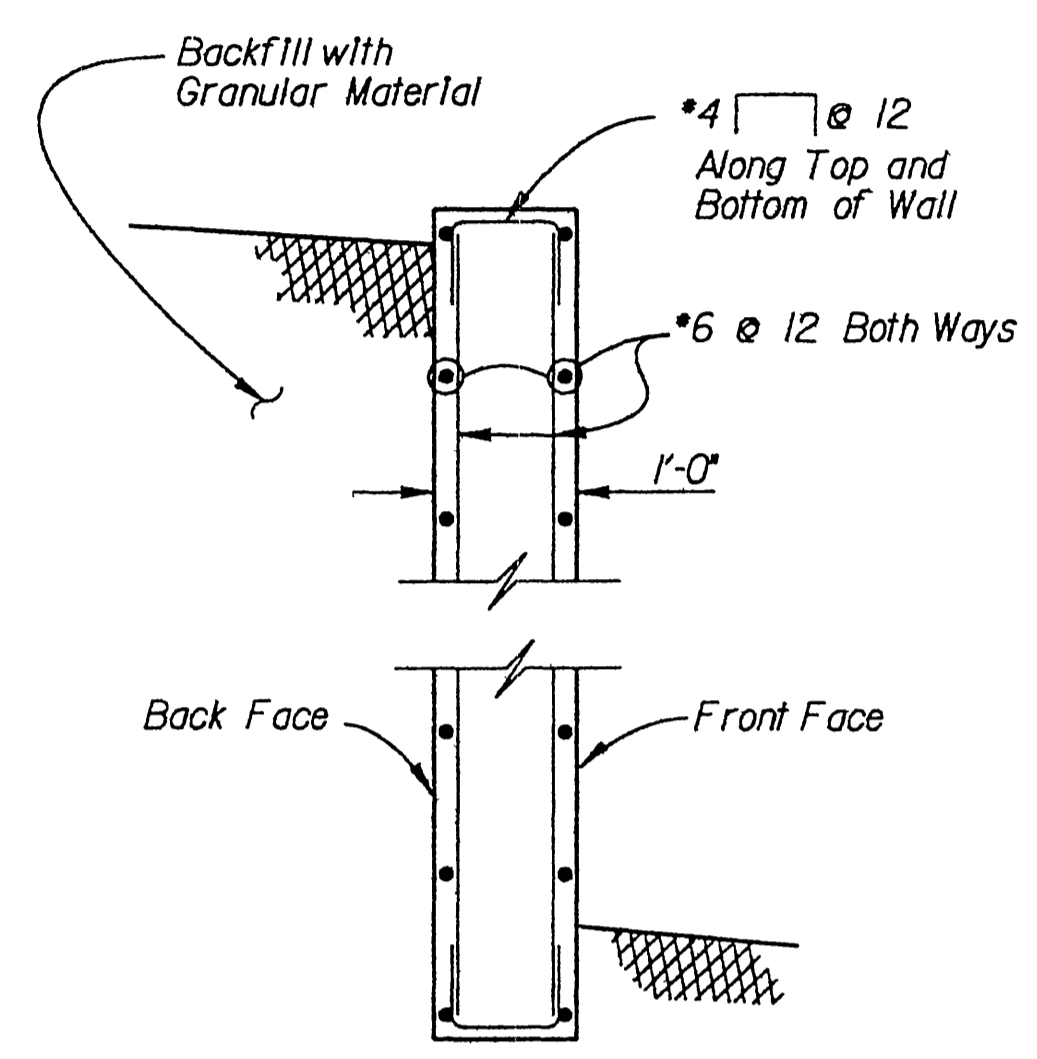
CENTRAL AVENUE UNDERPASS ABUTMENT DETAILS NO. 3 (SECTIONS) R-3595

Scale: AS NOTED	Project No.: 06791	Drawing No.: S-4	Sheet: 4 of 18
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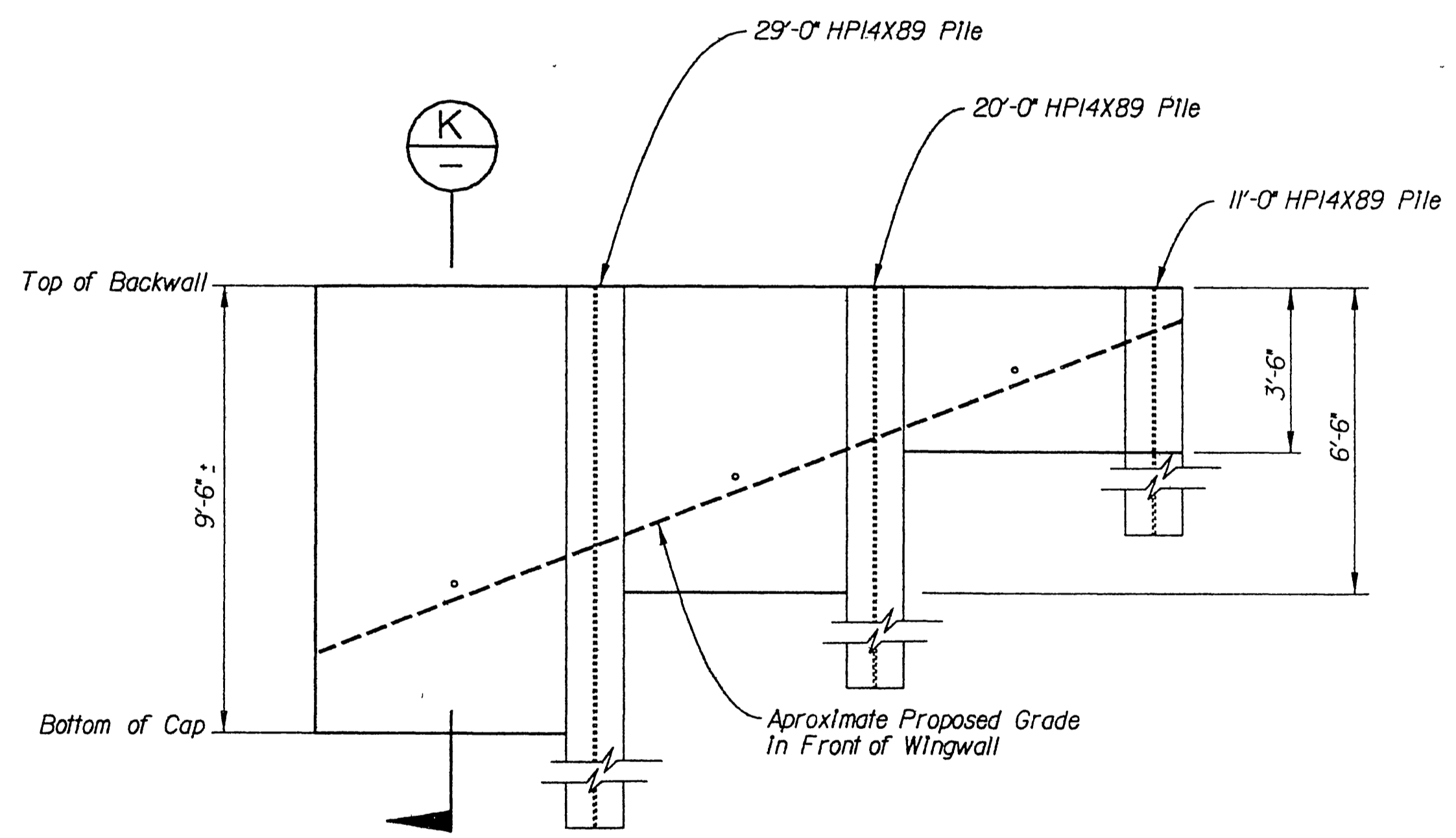
INDEXED 8-8-2000 LHH



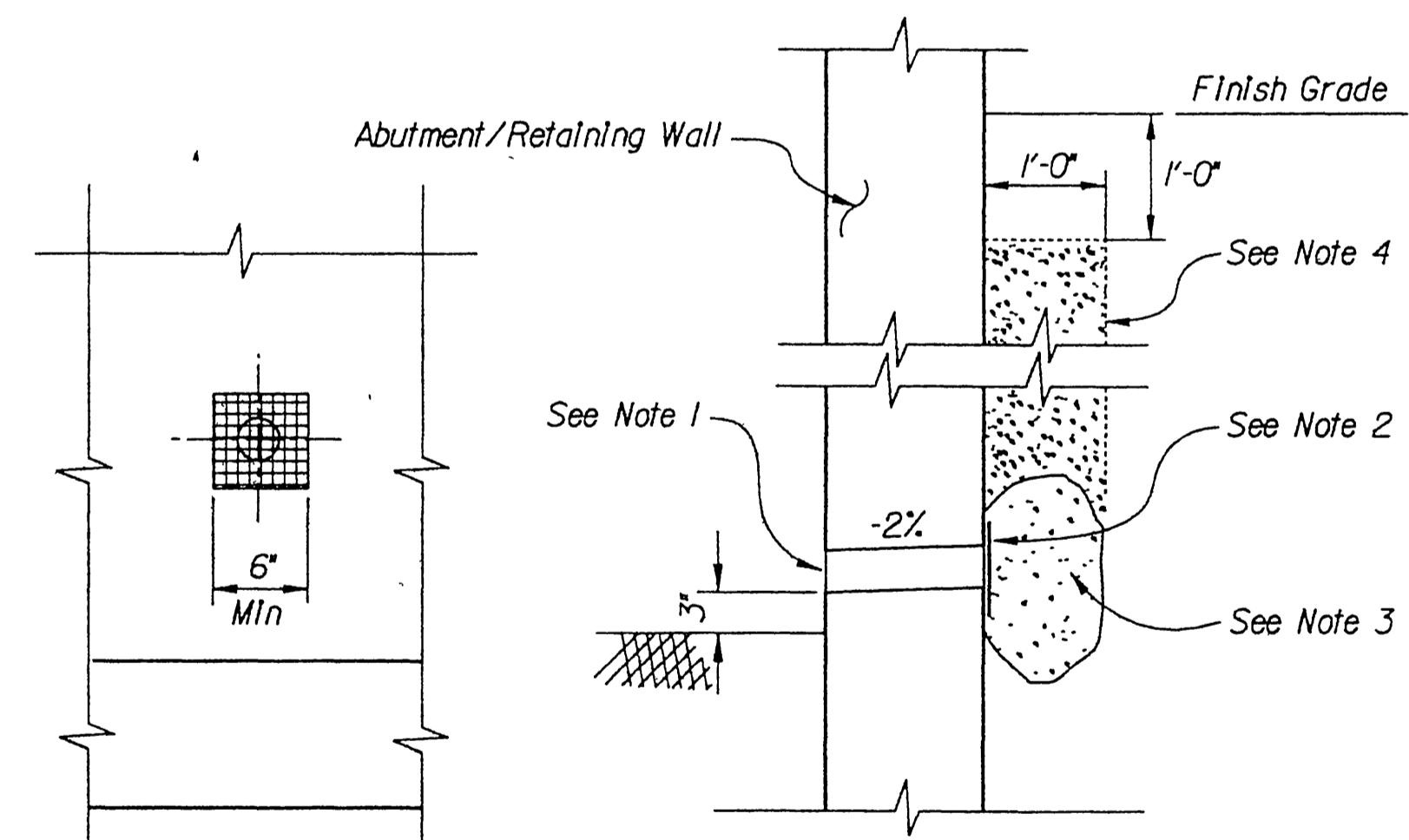
PLAN
Scale: 3/8" = 1'
Note: Other Reinforcement Not Shown for Clarity



SECTION K
Scale: 3/4" = 1'



FRONT ELEVATION
Scale: 3/8" = 1'
Concrete - 4.3 CY
HPI4X89 Piling - 60 LF
Pervious Backfill - 2.7 CY

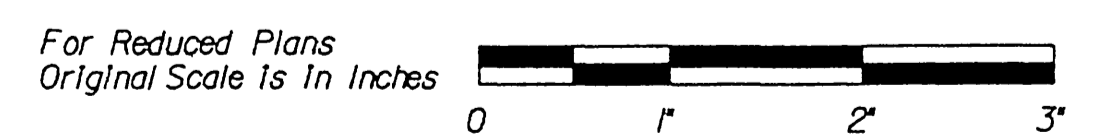


DRAINAGE DETAILS
Not To Scale

FOR INFORMATION ONLY					
ITEM : NORTH ABUTMENT WINGWALL					
QTY	BAR TYPE (#)	BAR TYPE x	BAR LENGTH (FT - IN)	BAR UNIT WEIGHT (LB / LF)	TOTAL WEIGHT (LB)
32	4	#12 V	2'-0"	0.668	43
14	6	ST - V	9'-2"	1.502	193
14	6	ST - V	6'-2"	1.502	143
14	6	ST - V	3'-2"	1.502	67
42	6	ST - H	5'-8"	1.502	358
3	8	ST-H-D	2'-6"	2.67	20
7	8	ST-H-D	2'-6"	2.67	48
TOTAL					870

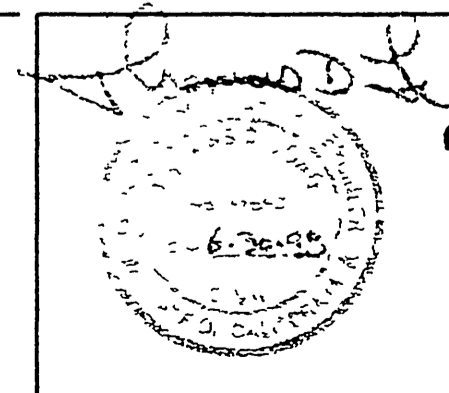
x D = DOWEL BAR
ST = STRAIGHT BAR
V = VERTICAL BAR
H = HORIZONTAL BAR
BAR DIMENSIONS SHOWN ON DIAGRAMS ARE OUT-TO-OUT

- Drainage Notes:**
- Exposed Wall Drains Shall be Located 3" ± Above Finished Grade.
 - 6" Square Aluminum or Galvanized Steel Wire 1/4" Mesh Hardware Cloth. (Min. Wire Diameter = 0.025") Anchor Firmly to Backface.
 - One Cubic Foot of Pervious Backfill Material in a Burlap Sack, Securely Tied.
 - Place Pervious Backfill Material Continuous Behind Wingwall and Abutment.



FILE: c:\0679\016\centra05.dgn
DATE: 9-Aug-94 07:34

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj Mgr.



Designed By TDL/EH
Drawn By PZ
Checked By HS
Approved By MJM
Date 07-15-1994



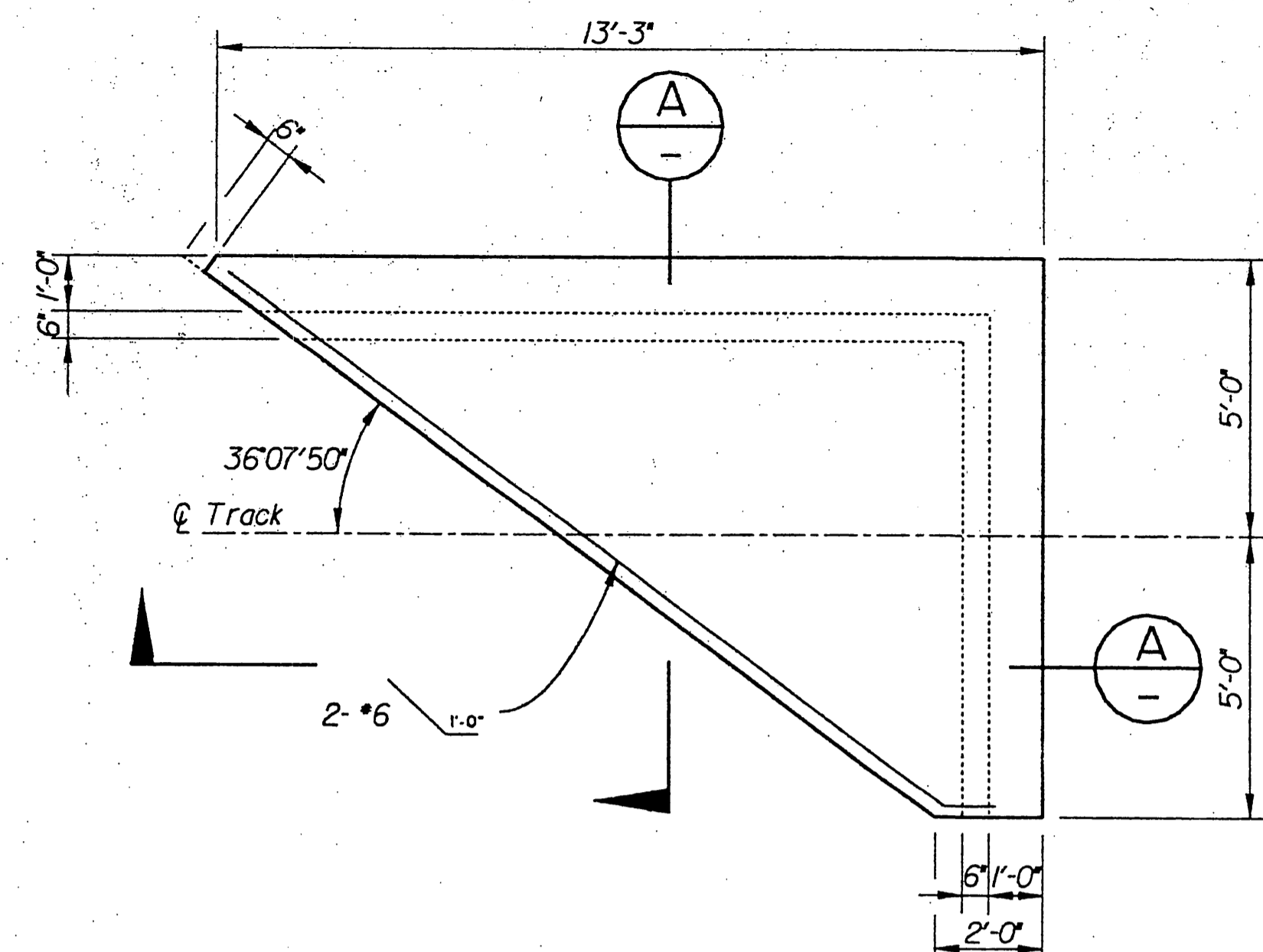
ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

**CENTRAL AVENUE UNDERPASS
ABUTMENT DETAILS NO. 4
(NORTH ABUTMENT WINGWALL DETAILS)**

Scale AS NOTED	Project No. 06791	Drawing No. S-5	Sheet 5 of 18
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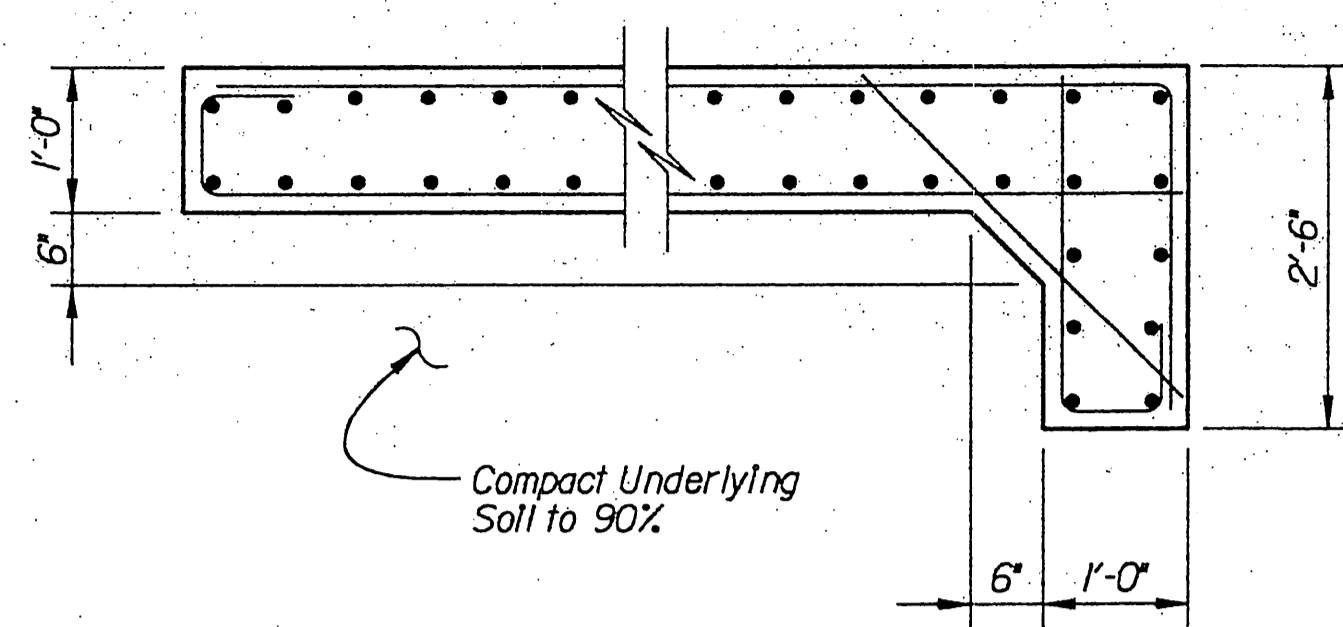
R-3595
INDEXED 8-8-2000 Lfh

AS BUILT DRAWINGS

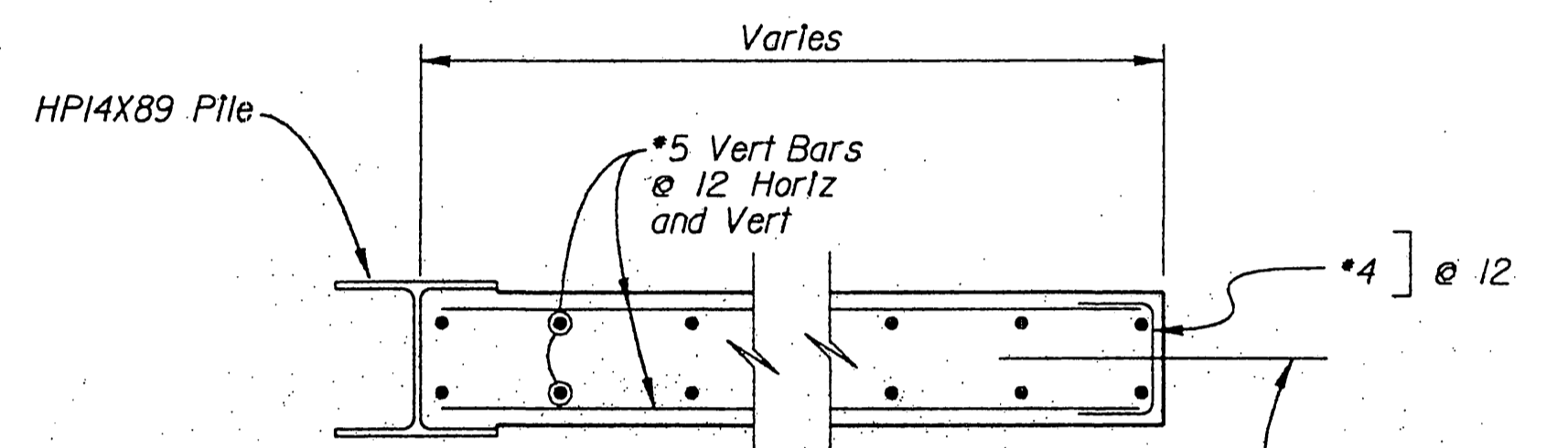


APPROACH SLAB

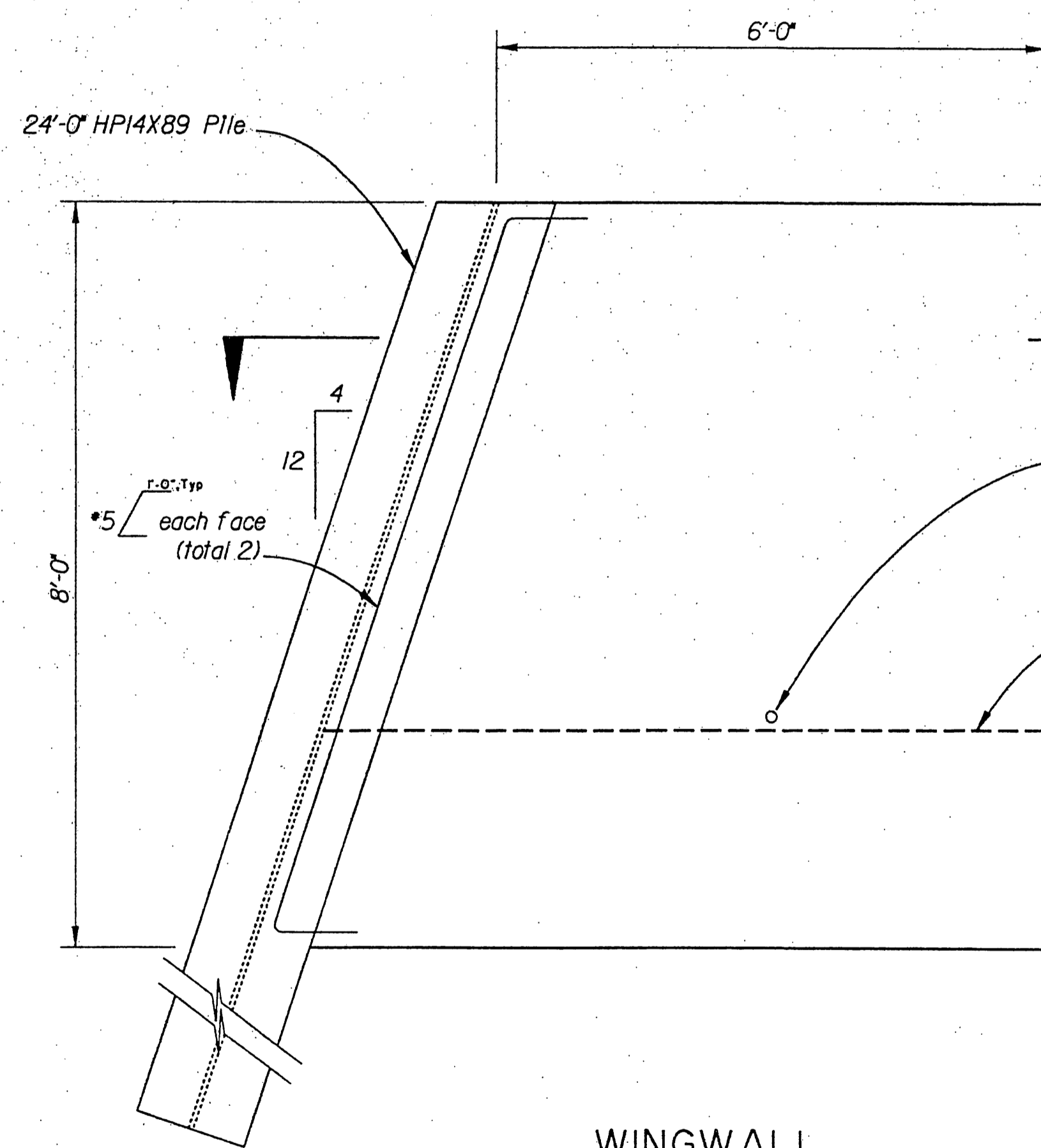
Scale: 3/8" = 1'
Concrete = 6.2 CY each



SECTION A
Scale: 3/4" = 1'

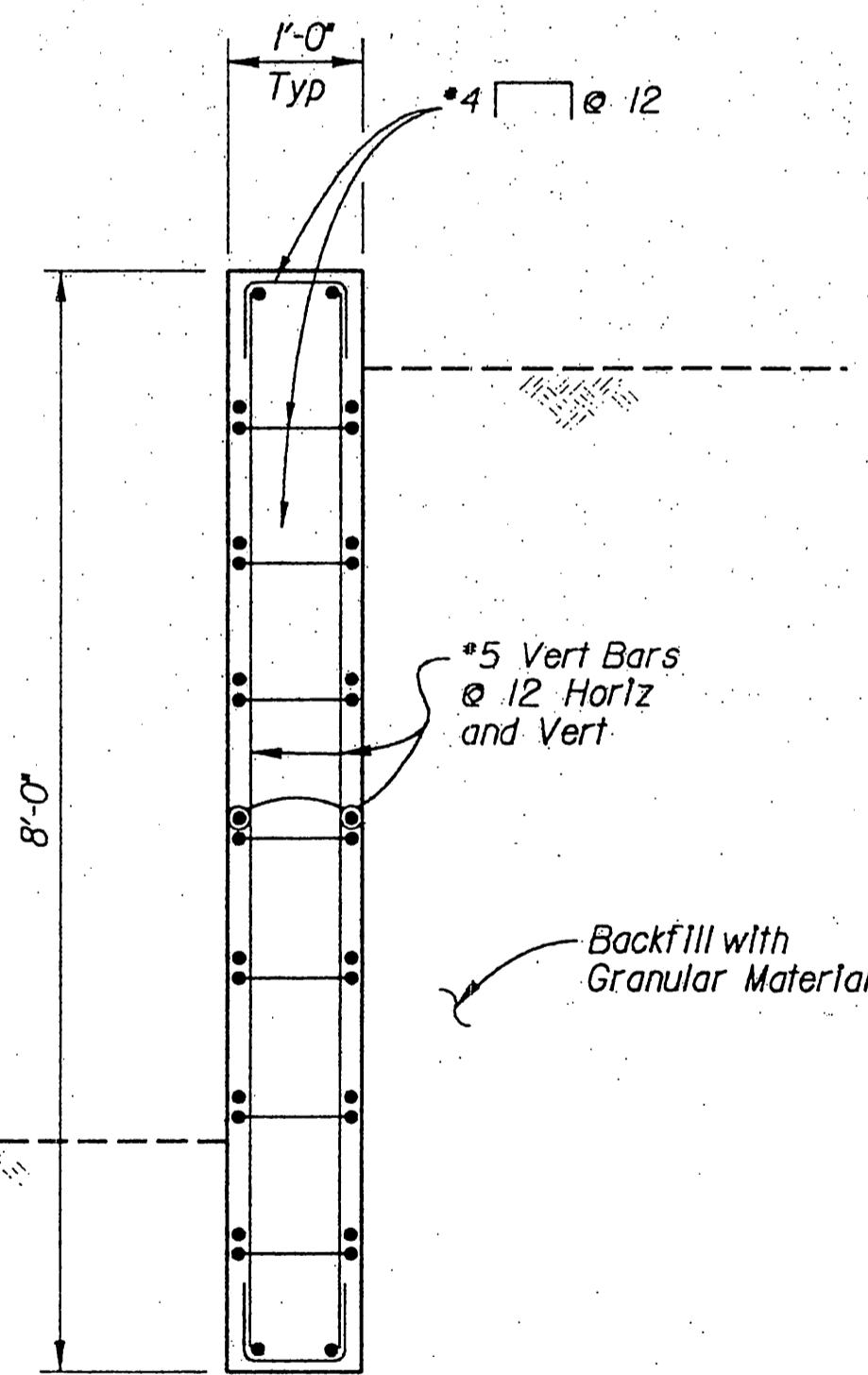


SECTION B
Scale: 3/4" = 1'



WINGWALL

Scale: 3/4" = 1'
Concrete = 2.2 CY
HPI4X89 Piling = 24 LF
Pervious Backfill = 1.6 CY



VIEW F
Scale: 3/4" = 1'

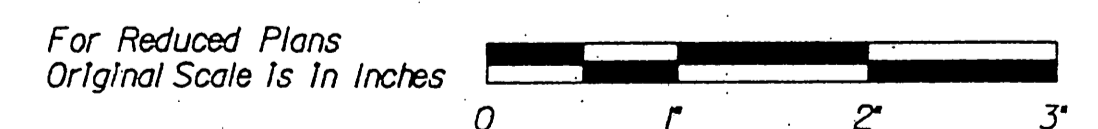
AS BUILT DRAWINGS

FOR INFORMATION ONLY					
ITEM : SOUTH ABUTMENT WINGWALL					
QTY	BAR SIZE (#)	BAR TYPE x	BAR LENGTH (FT - IN)	BAR UNIT WEIGHT (LB / LF)	TOTAL WEIGHT (LB)
14	5	ST - V	7'-8"	1.043	112
2	5	ST - V	4'-8"	1.043	10
2	5	ST - V	1'-8"	1.043	3
2	5	ST - H	8'-4"	1.043	17
2	5	ST - H	8'-0"	1.043	17
2	5	ST - H	7'-8"	1.043	16
2	5	ST - H	7'-4"	1.043	15
2	5	ST - H	7'-0"	1.043	15
2	5	ST - H	6'-8"	1.043	14
2	5	ST - H	6'-4"	1.043	13
2	5	ST - H	6'-0"	1.043	13
2	5	ST - H	5'-8"	1.043	12
22	4	D	2'-8"	0.668	39
2	5	D	10'-0"	1.043	21
3	8	ST - H-D	2'-6"	2.67	20
5	8	ST - H-D	2'-6"	2.67	33
TOTAL					370

* D = DOWEL BAR
ST = STRAIGHT BAR
V = VERTICAL BAR
H = HORIZONTAL BAR
BAR DIMENSIONS SHOWN ON DIAGRAMS ARE OUT-TO-OUT

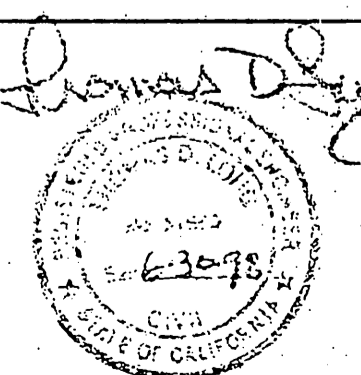
FOR INFORMATION ONLY						
ITEM : APPROACH SLABS						
QTY	BAR SIZE (#)	BAR TYPE x	NOTE	BAR LENGTH (FT - IN)	BAR UNIT WEIGHT (LB / LF)	TOTAL WEIGHT (LB)
8	6	ST - T		9'-8"	1.502	116
8	6	ST - L		18'-8"	1.502	224
54	6	ST - T		3'-0"	1.502	243
6	6	(T)		11'-10"	1.502	107
18	6	(T)	I	14'-0"	1.502	379
11	6	(T)	I	23'-0"	1.502	380
6	6	(T)		11'-0"	1.502	99
18	6	(T)	I	12'-4"	1.502	333
11	6	(T)	I	21'-4"	1.502	352
62	6	(TOEWALL)		3'-6"	1.502	326
2	6	(T)		17'-0"	1.502	51
TOTAL					2610	

* ST = STRAIGHT BAR
T = TRANSVERSE BAR
L = LONGITUDINAL BAR
NOTE 1: FIELD CUT LONG SIDE TO FIT.
PLACE REMAINDER IN OTHER APPROACH SLAB.
BAR DIMENSIONS SHOWN ON DIAGRAMS ARE OUT-TO-OUT



FILE: c:\06791016\centra06.dgn
DATE: 4-Aug-94 09:45

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.



Designed By	TDL/EH
Drawn By	PZ
Checked By	HS
Approved By	JMJ
Date	07-15-1994

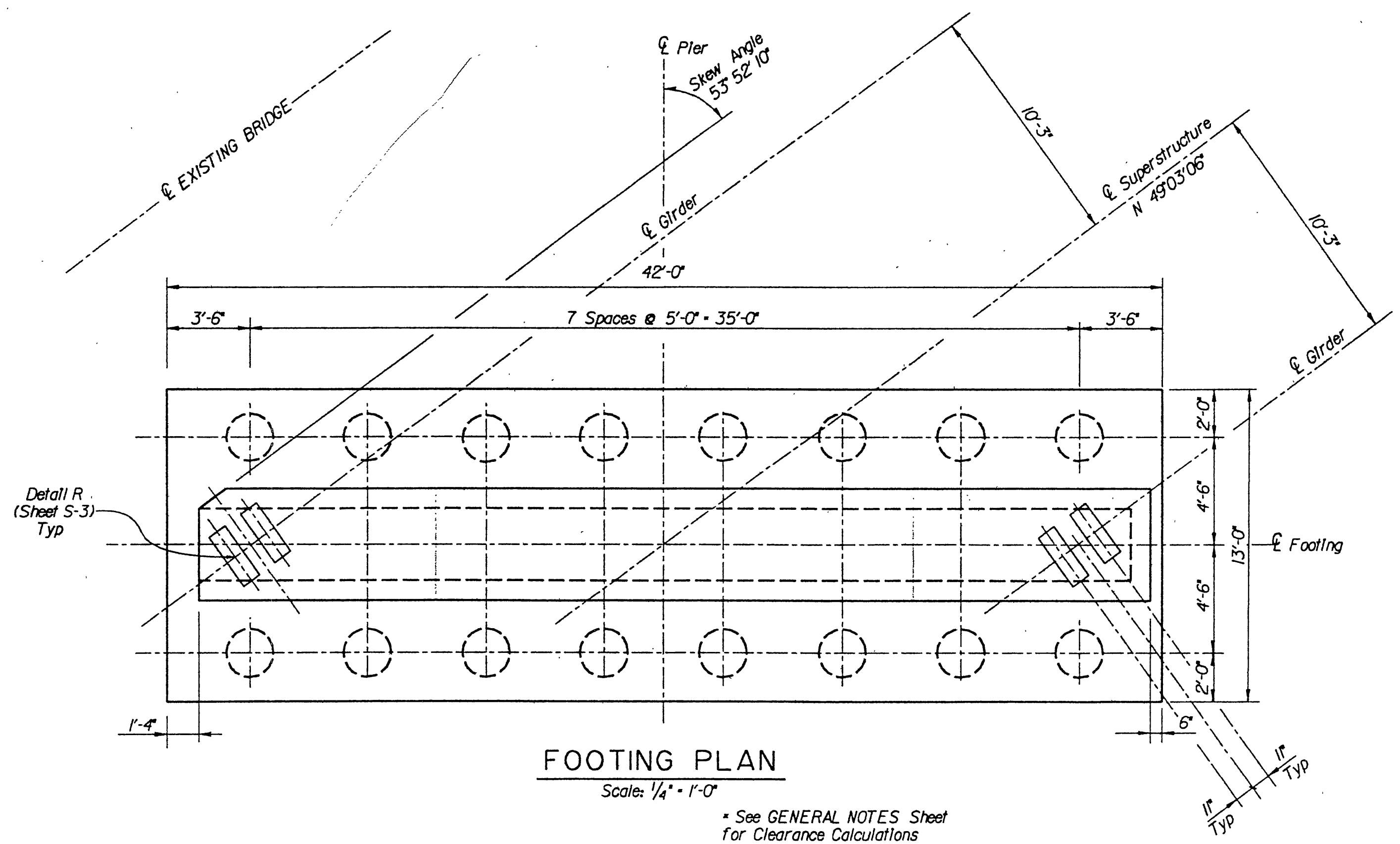
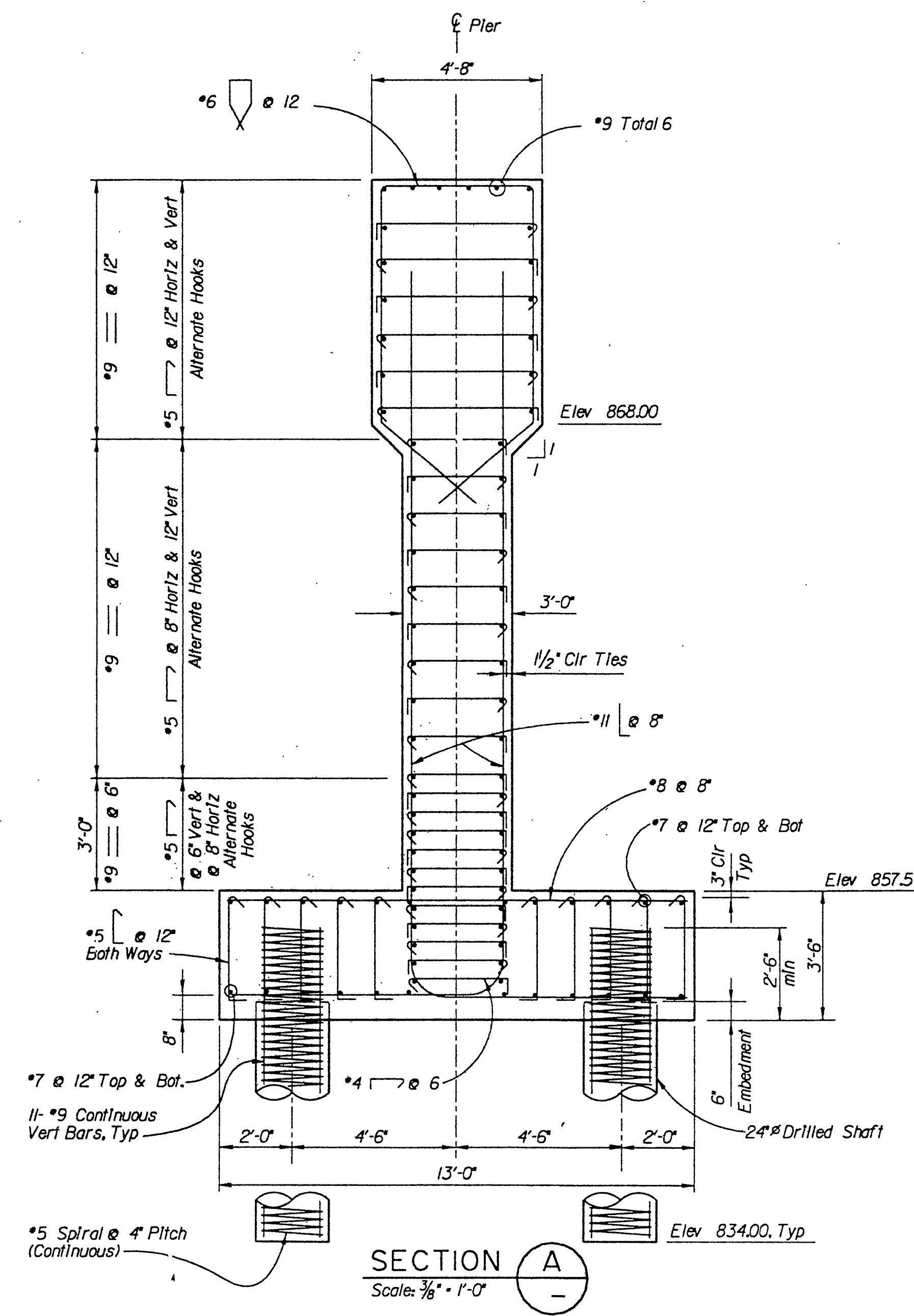
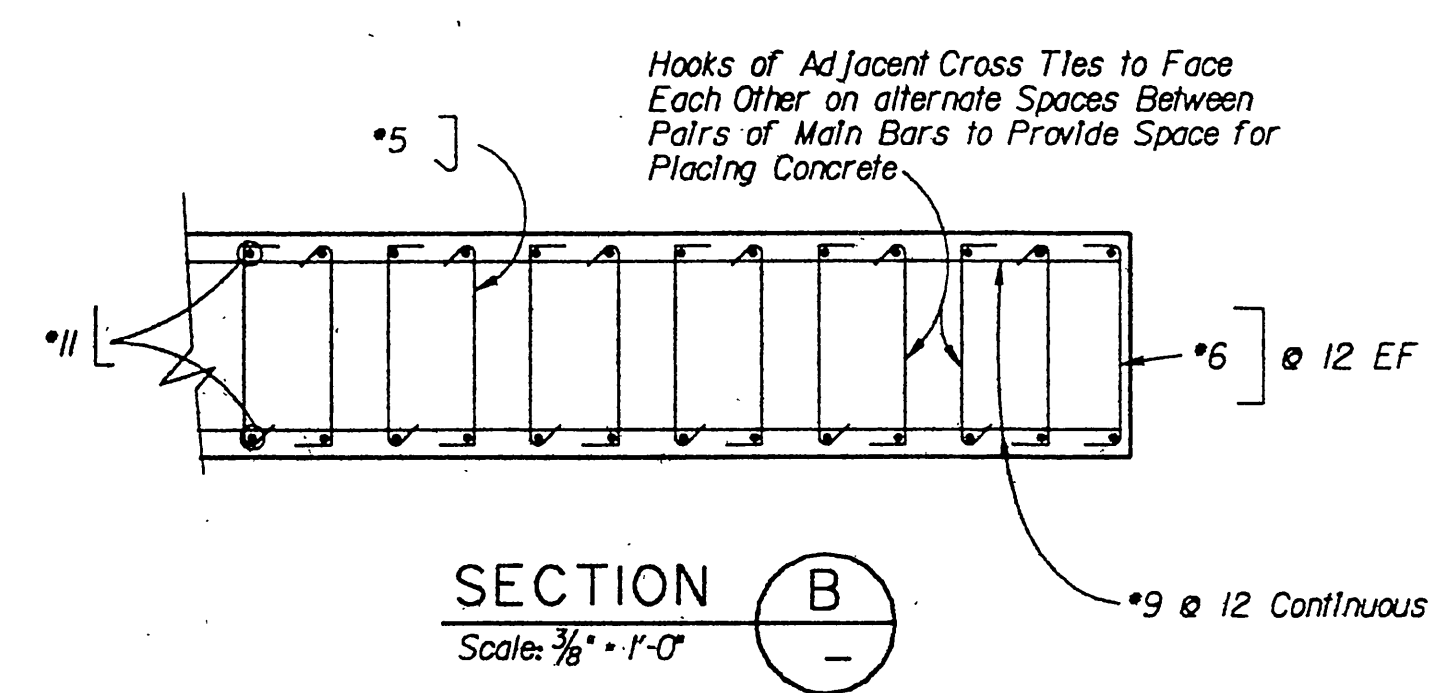
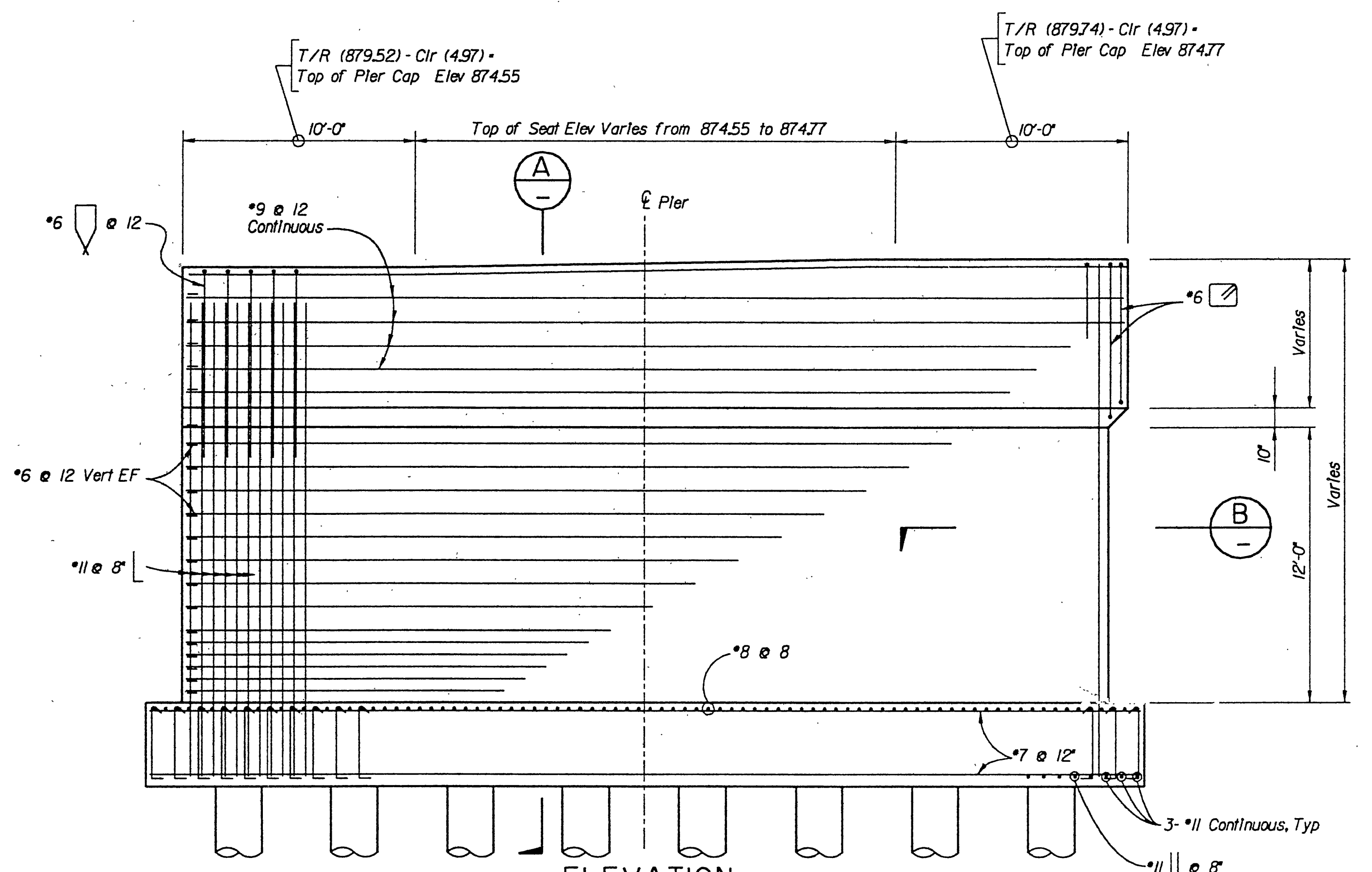


ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS ABUTMENT DETAILS NO.5 (SOUTH ABUTMENT WINGWALL DETAILS AND APPROACH SLAB DETAILS)

Scale	Project No.	Drawing No.	Sheet
AS NOTED	06791	S-6	6 of 18

R-3595
INDEXED 8-8-2000 L/H



FOR INFORMATION ONLY					
ITEM : PIER WALL					
QTY	BAR SIZE (#)	BAR TYPE	BAR LENGTH (FT - IN)	BAR UNIT WEIGHT (LB / LF)	TOTAL WEIGHT (LB)
40	6		29'-0"	1.502	1742
246	5		5'-2 3/4"	1.043	1342
760	5		3'-6 3/4"	1.043	2824
430	5		4'-1 3/4"	1.043	1859
2	5		23'-0"	1.043	48
20	9	ST - H	39'-8"	3.40	2697
36	9	ST - H	38'-11"	3.40	4763
12	7	ST-H-FT	41'-8"	2.044	1022
12	7	ST-H-FB	41'-8"	2.044	1022
120	11	(NL)	26'-0"	5.31	16567
64	8	ST-H-FT-NL	12'-8"	2.67	2164
14	6		6'-8"	1.502	140
26	6		3'-10"	1.502	150
TOTAL					36340

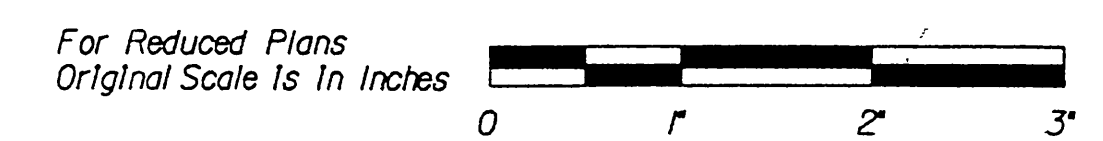
*ST= STRAIGHT BAR
H = HORIZONTAL BAR
V = VERTICAL BAR
FT = FOOTING TOP BARS
FB = FOOTING BOTTOM BARS
NL = NO LAP SPLICE PERMITTED

Concrete • 164 CY
Structural Excavation • 160 CY
Structural Backfill • 76 CY

FOR INFORMATION ONLY					
ITEM : 24" DRILLED SHAFTS					
QTY	BAR TYPE (#)	BAR TYPE	BAR LENGTH (FT - IN)	BAR UNIT WEIGHT (LB / LF)	TOTAL WEIGHT (LB)
11	9	ST-V-NL	23'-0"	3.40	785
1	5	S	359'-0"	1.043	374
TOTAL FOR EACH DRILLED SHAFT					1159
TOTAL FOR 16 DRILLED SHAFTS					18544

*ST= STRAIGHT BAR CONTINUOUS
V = VERTICAL BAR
S = #5 CONTINUOUS SPIRAL AT 4" PITCH (D = 20" OUT-TO-OUT)
NL = NO LAP SPLICE PERMITTED

Concrete • 5.31 CY each



AS BUILT DRAWINGS

FILE: c:\0679\016\centro07.dgn
DATE: 4-Aug-94 09:48

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

HDR
HDR Engineering, Inc.

Designed By: TDL
Drawn By: PZ
Checked By: HS
Approved By: JMJ
Date: 07-15-1994

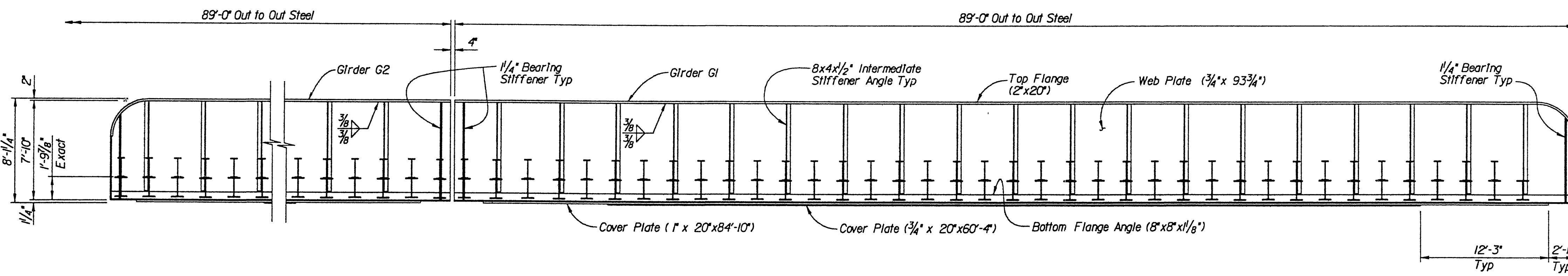
ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS PIER DETAILS

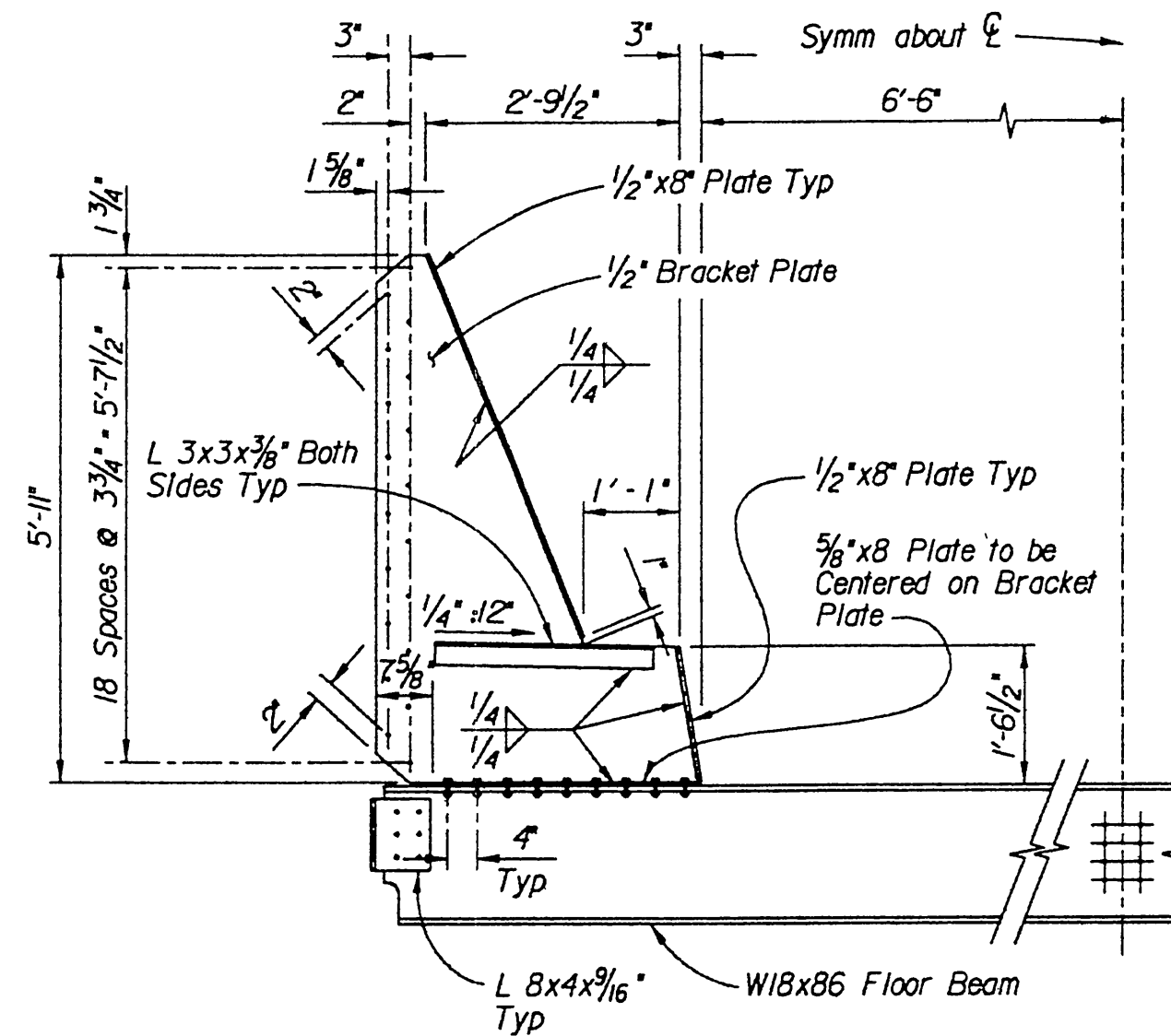
Scale: AS NOTED | Project No.: 06791 | Drawing No.: S-7 | Sheet: 7 of 18

R-3595

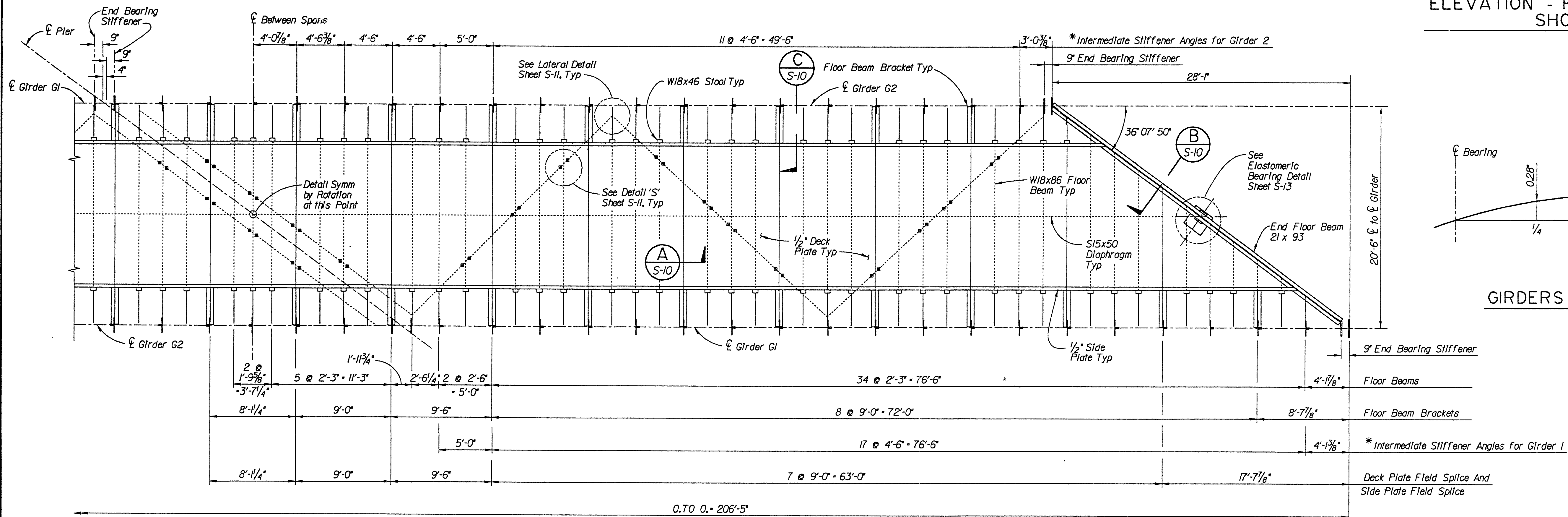
INDEXED 8-8-2000 Lfh



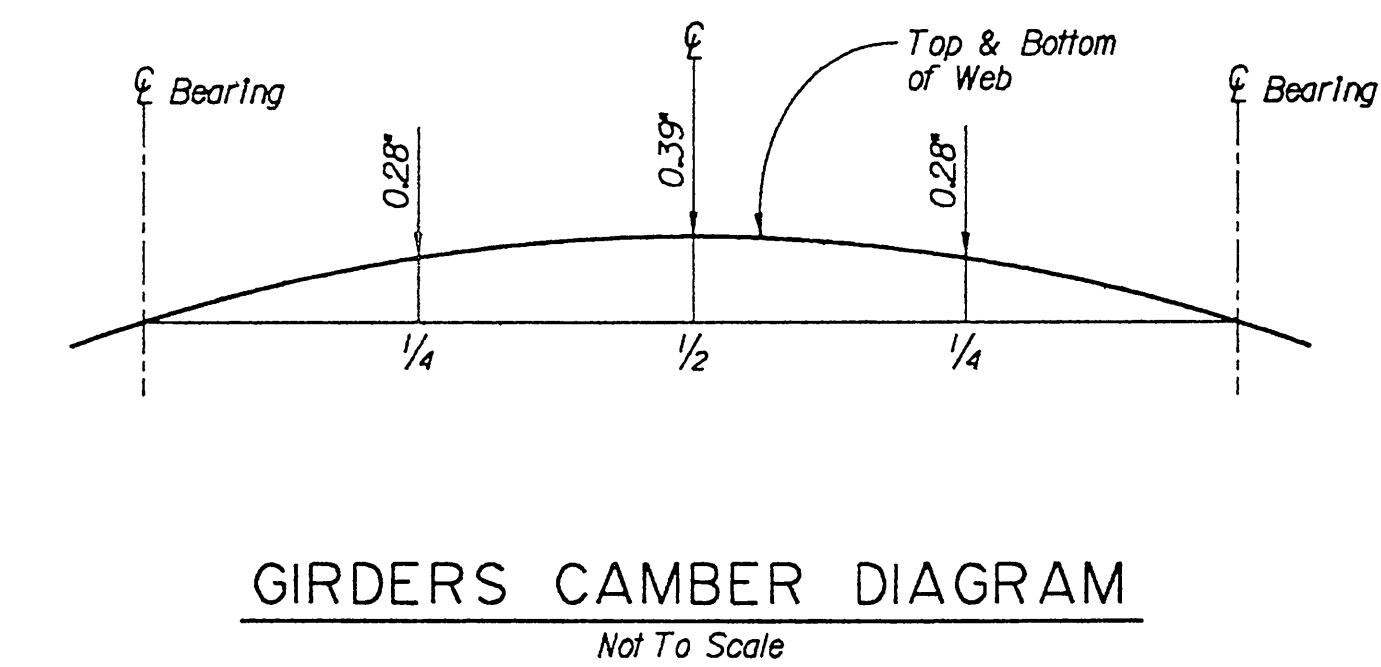
GIRDER ELEVATION
Scale: 3/16" = 1'-0"



ELEVATION - FLOOR BEAM BRACKETS SHOP ASSEMBLY
Scale: 1/2" = 1'-0"



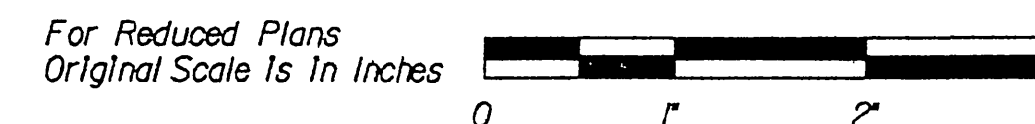
FRAMING PLAN
Scale: 3/16" = 1'-0"



GIRDERS CAMBER DIAGRAM
Not To Scale

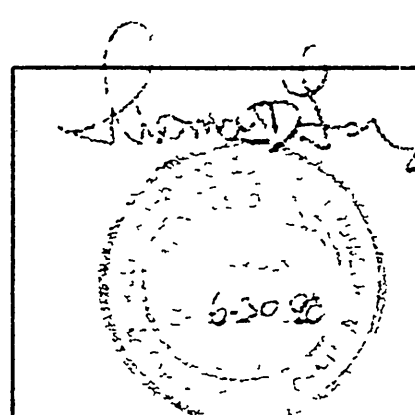
AS BUILT DRAWINGS

* Dimensions are to Center of Outstanding Leg of Intermediate Stiffener Angles.



FILE: c:\06791\06\centra08.dgn DATE: 9-Aug-94 07:48

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.



Designed By	TDL
Drawn By	JG
Checked By	HS
Approved By	JMJ
Date	07-15-1994



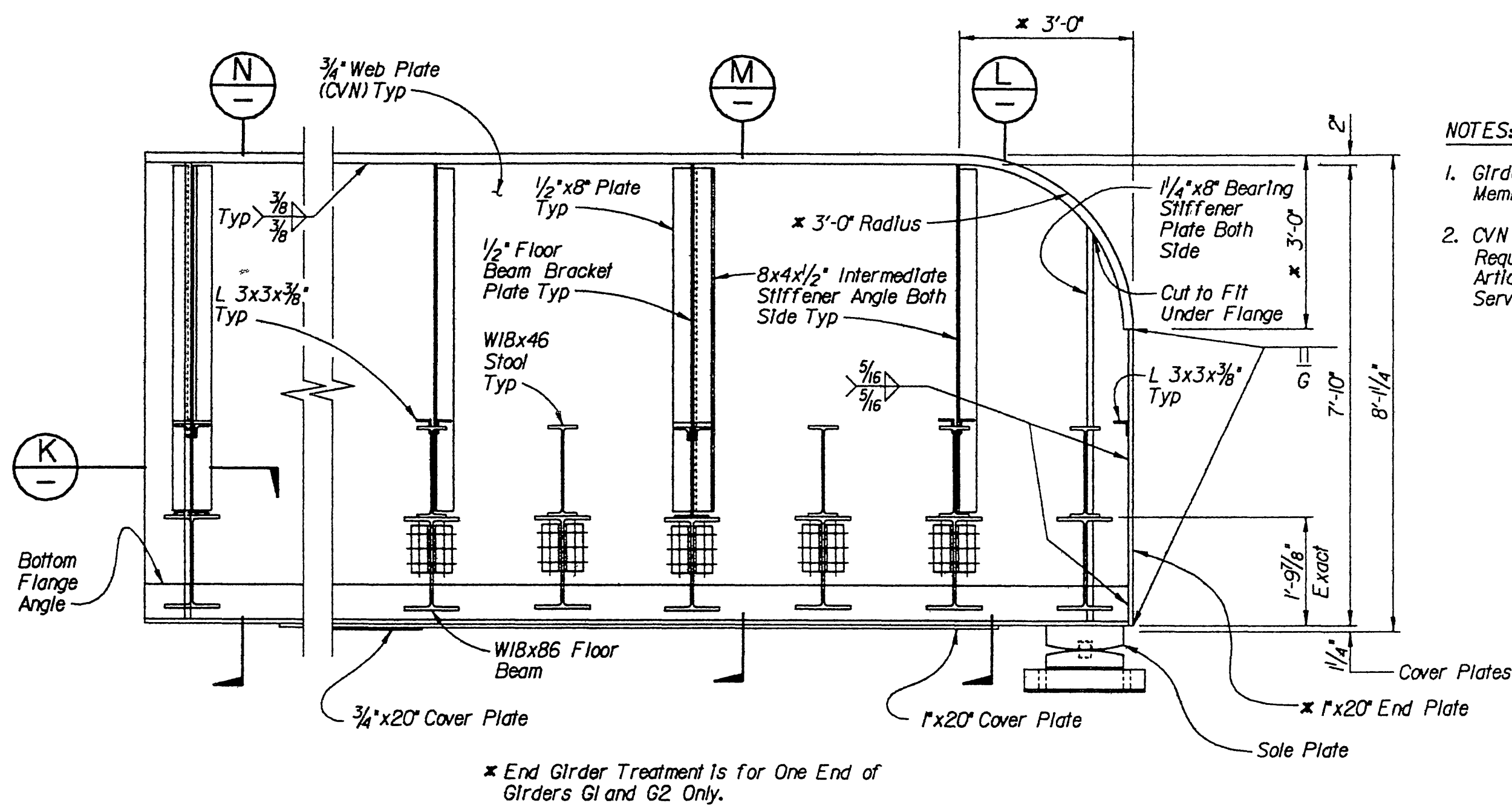
ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS FRAMING PLAN

R-3595

Scale	Project No.	Drawing No.	Sheet
AS NOTED	06791	S-8	8 of 18

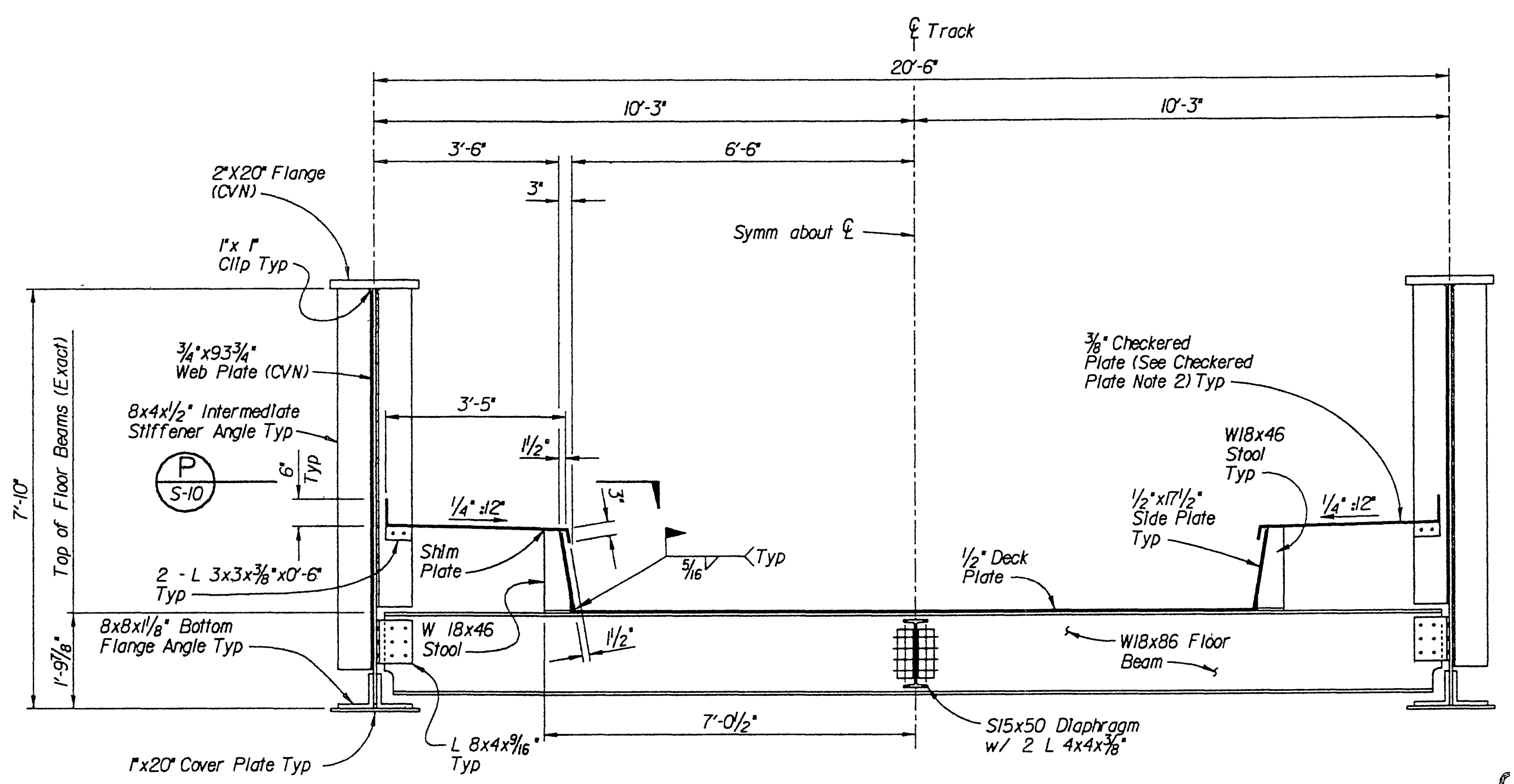
INDEXED 8-8-2000 LJA



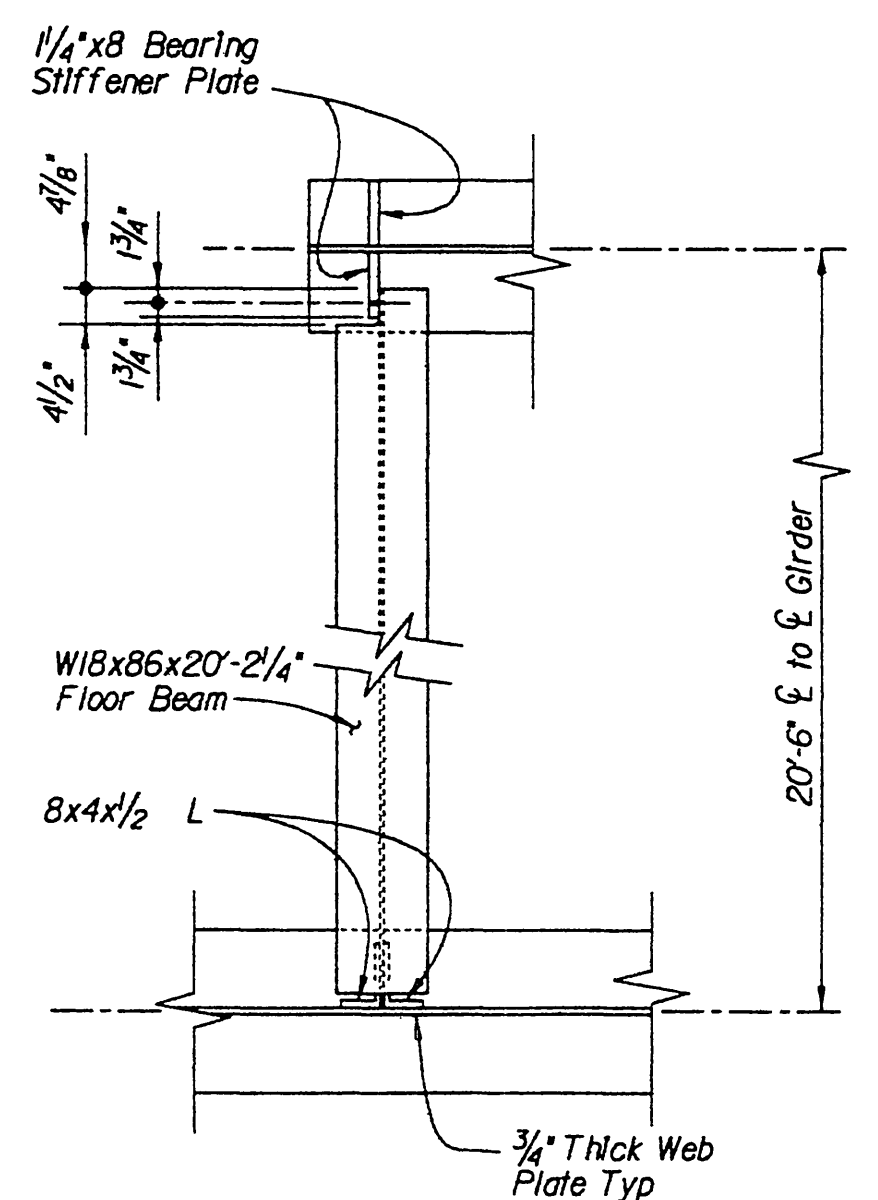
INSIDE ELEVATION OF GIRDER G2
Scale: 1/2" = 1'-0"

- NOTES:**
- Girders are Designated as Fracture Critical Members.
 - CVN Denotes Charpy V-Notch Impact Test Requirements as per 1993 ARA Specification Article 1-4, Table 1-4-7 (-30F) Minimum Service Temperature.

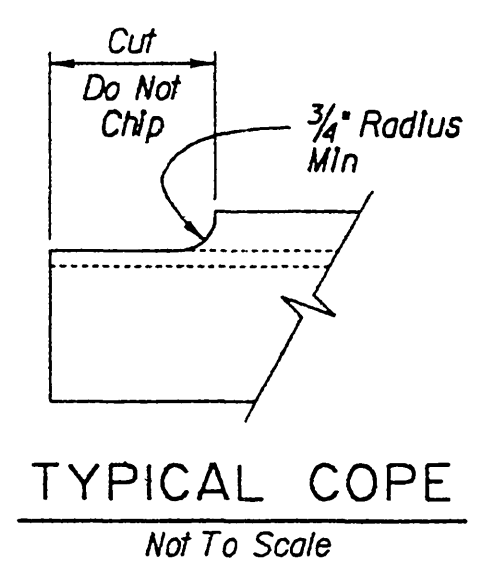
- CHECKERED PLATE NOTES:**
- Fasten 3/8" Checkered Plate to Stools and Angles with 1/2" Diameter Countersunk Flat Head Bolts, Nuts to be Tack Weld Under the Flanges After Field Assembled.
 - Notch Checkered Plate to Fit Around Stiffener Plates.
 - Notch Checkered Plate to Fit Around Bracket Plate and Stiffener Plate.



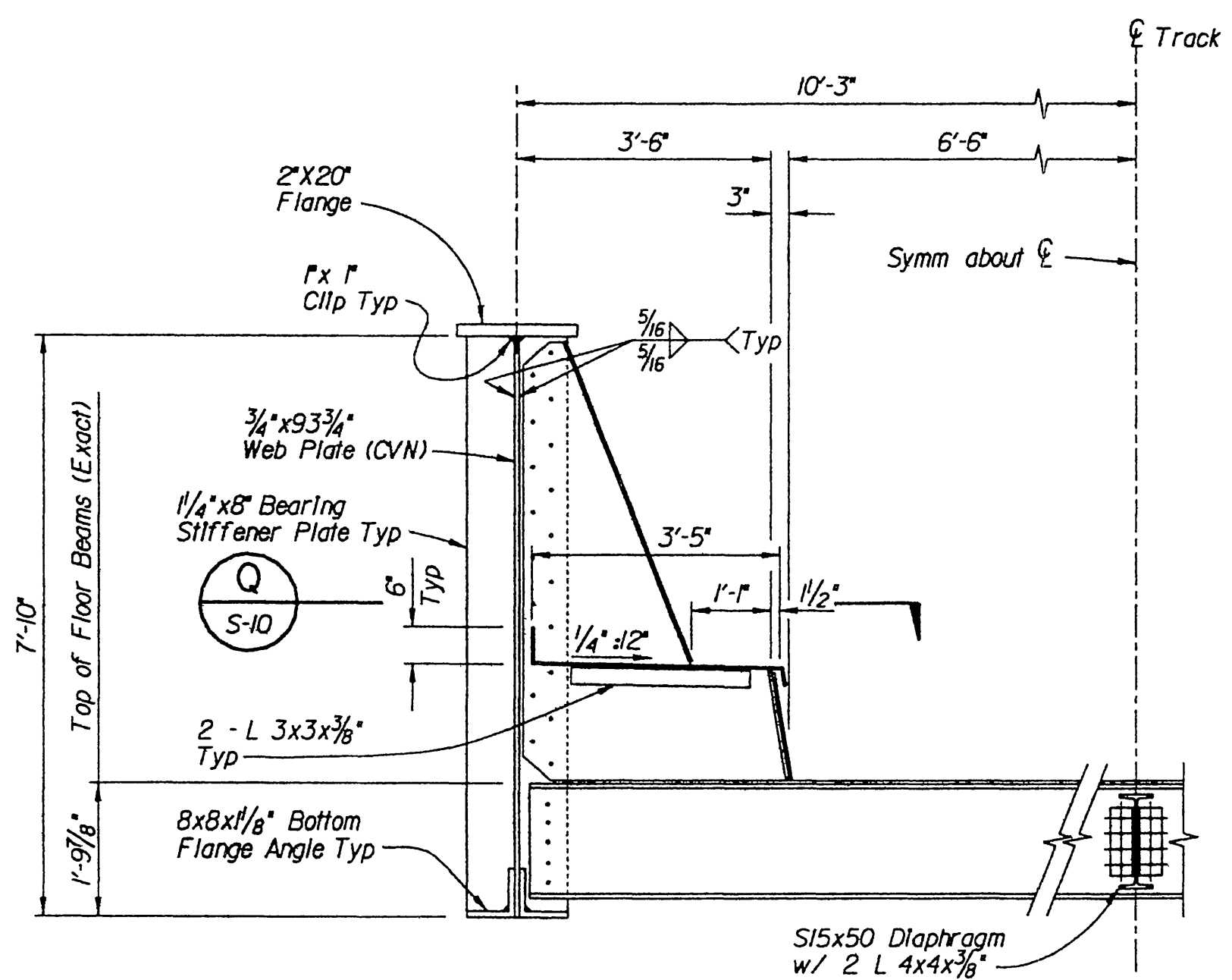
SECTION L
Scale: 1/2" = 1'-0"



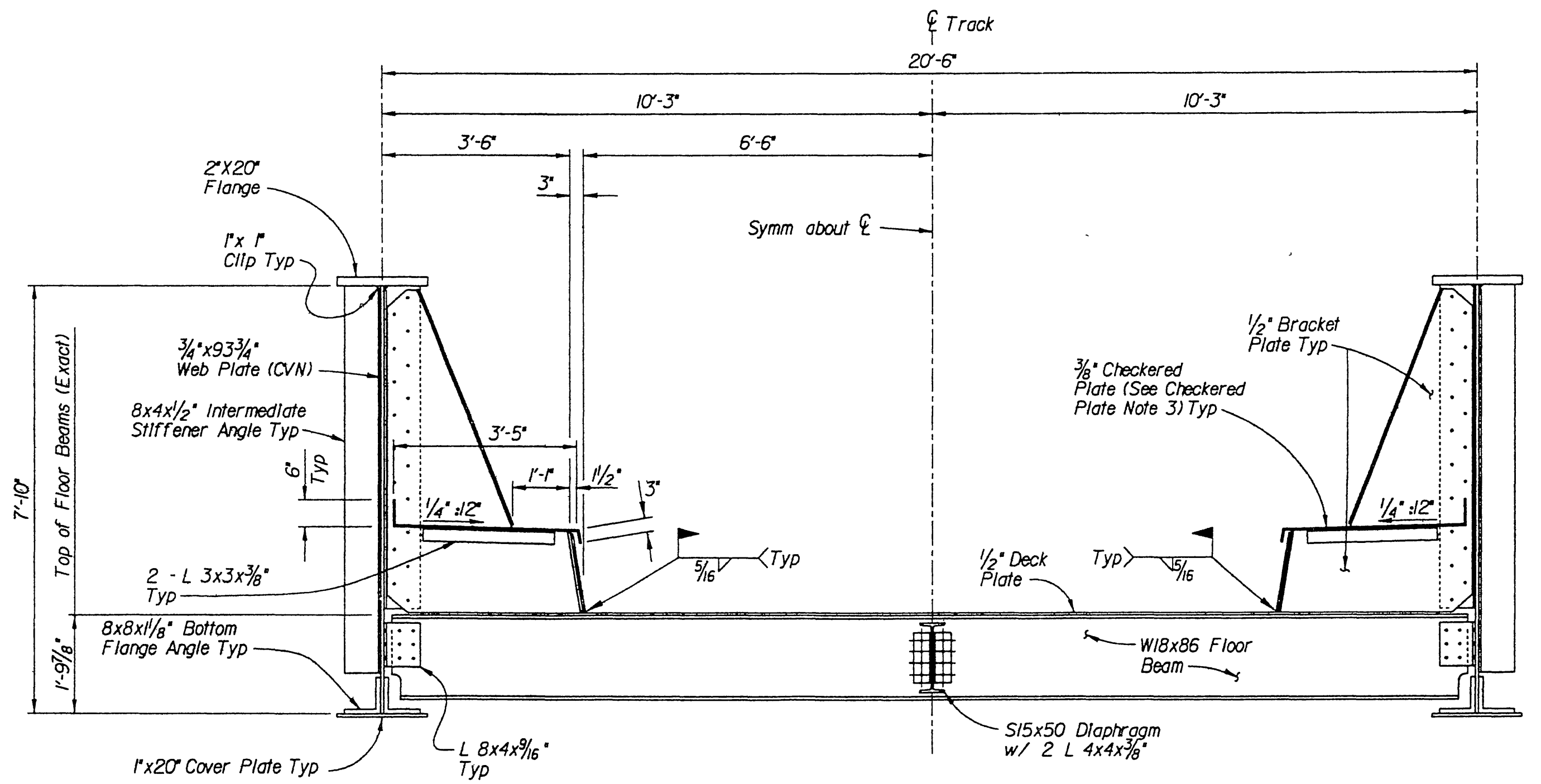
SECTION K
Scale: 1/2" = 1'-0"



TYPICAL COPE
Not To Scale



SECTION N
Scale: 1/2" = 1'-0"



SECTION M
Scale: 1/2" = 1'-0"



AS BUILT DRAWINGS

FILE: c:\0679\1016\centra09.dgn
DATE: 9-Aug-94 07:52 A

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

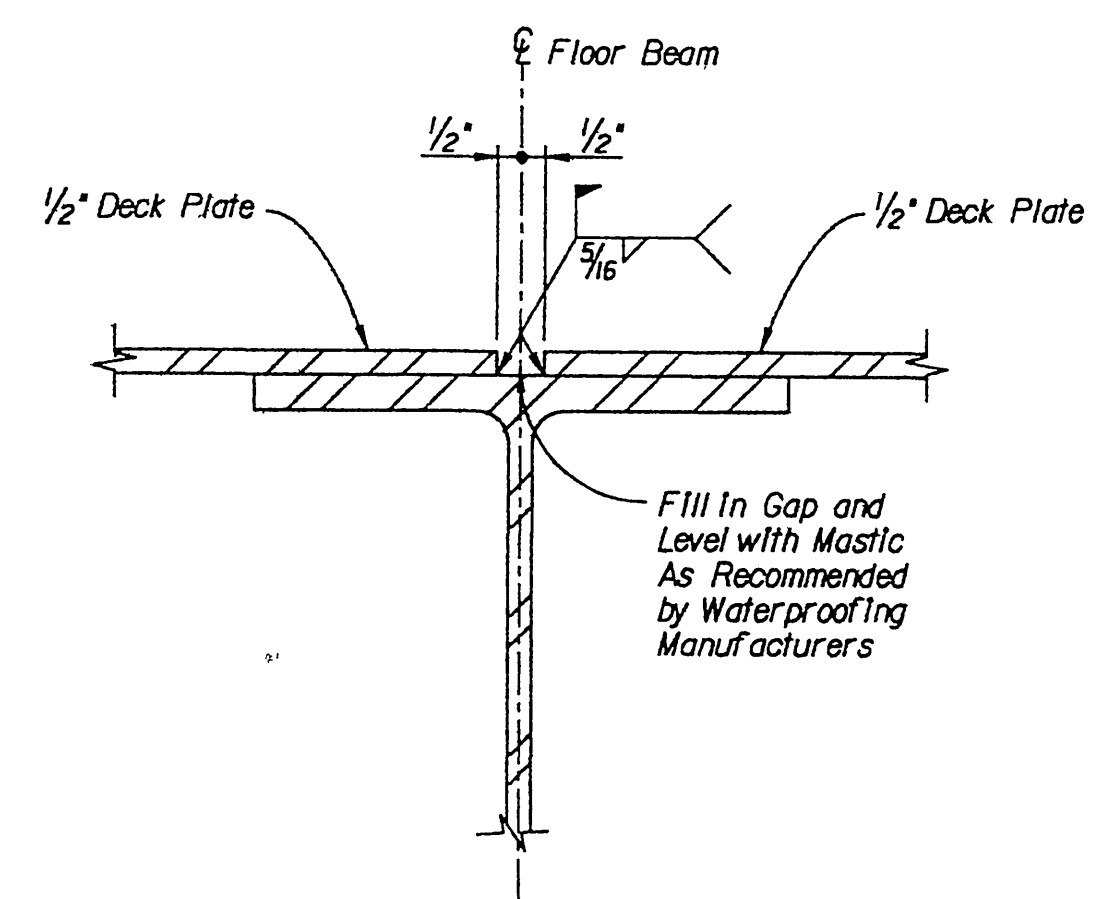
 HDR HDR Engineering, Inc.	Designed By TDL	 ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY
	Drawn By JG	
	Checked By HS	
	Approved By JMJ	
	Date 07-15-1994	

CENTRAL AVENUE UNDERPASS GIRDER DETAILS NO. 1

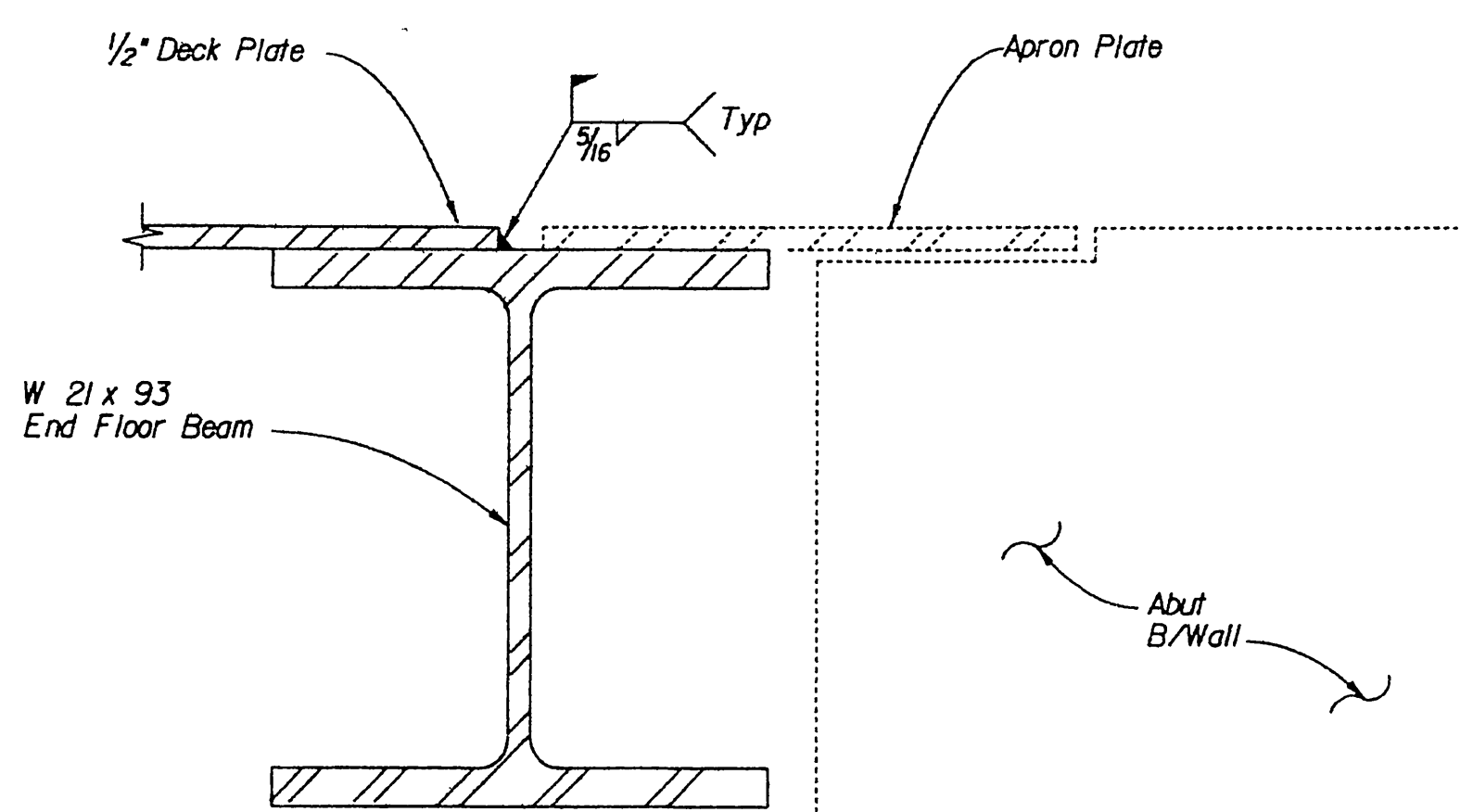
R-3595

Scale AS NOTED	Project No. 06791	Drawing No. S-9	Sheet 9 of 18
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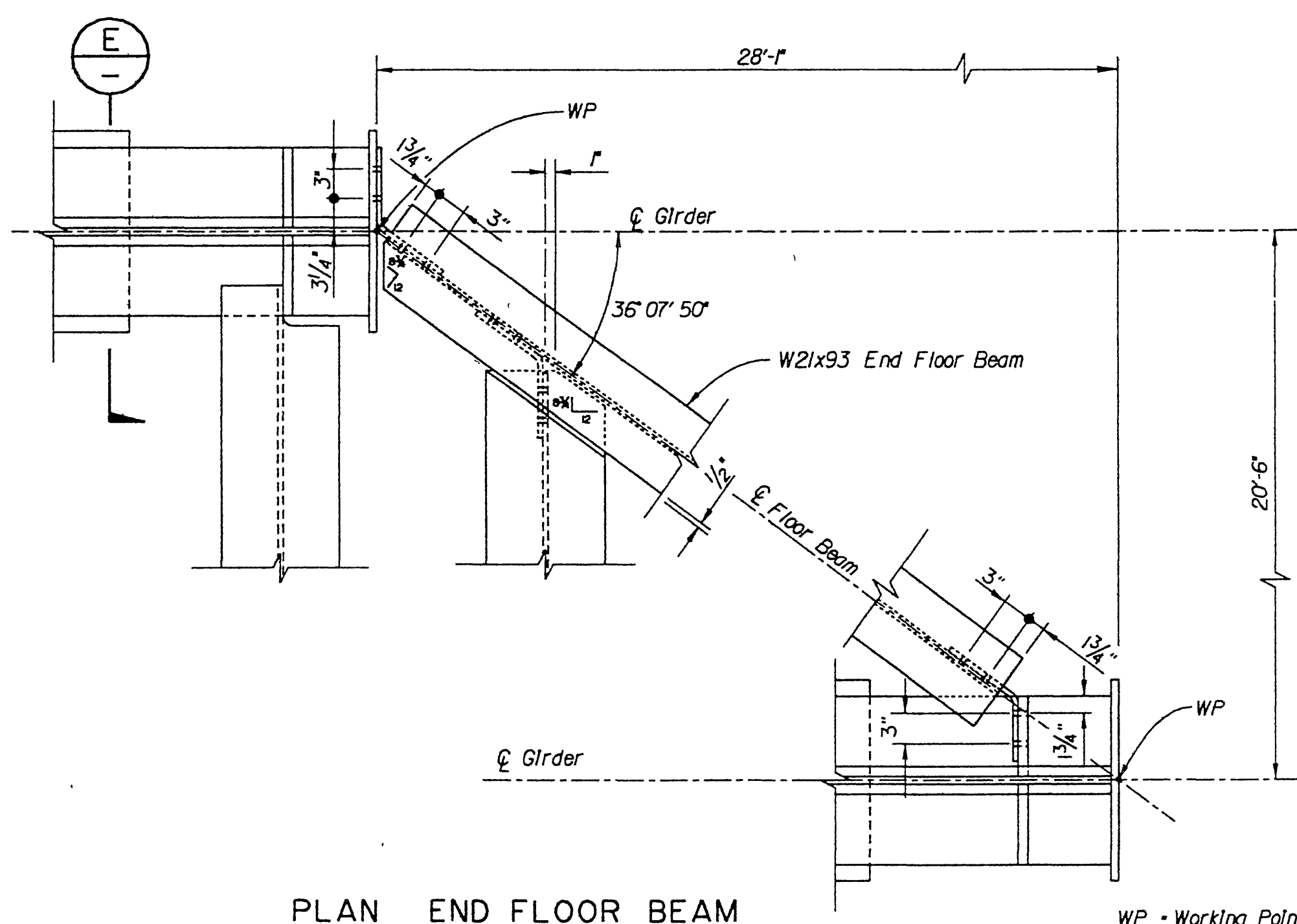
INDEXED 8-8-2000 Lfh



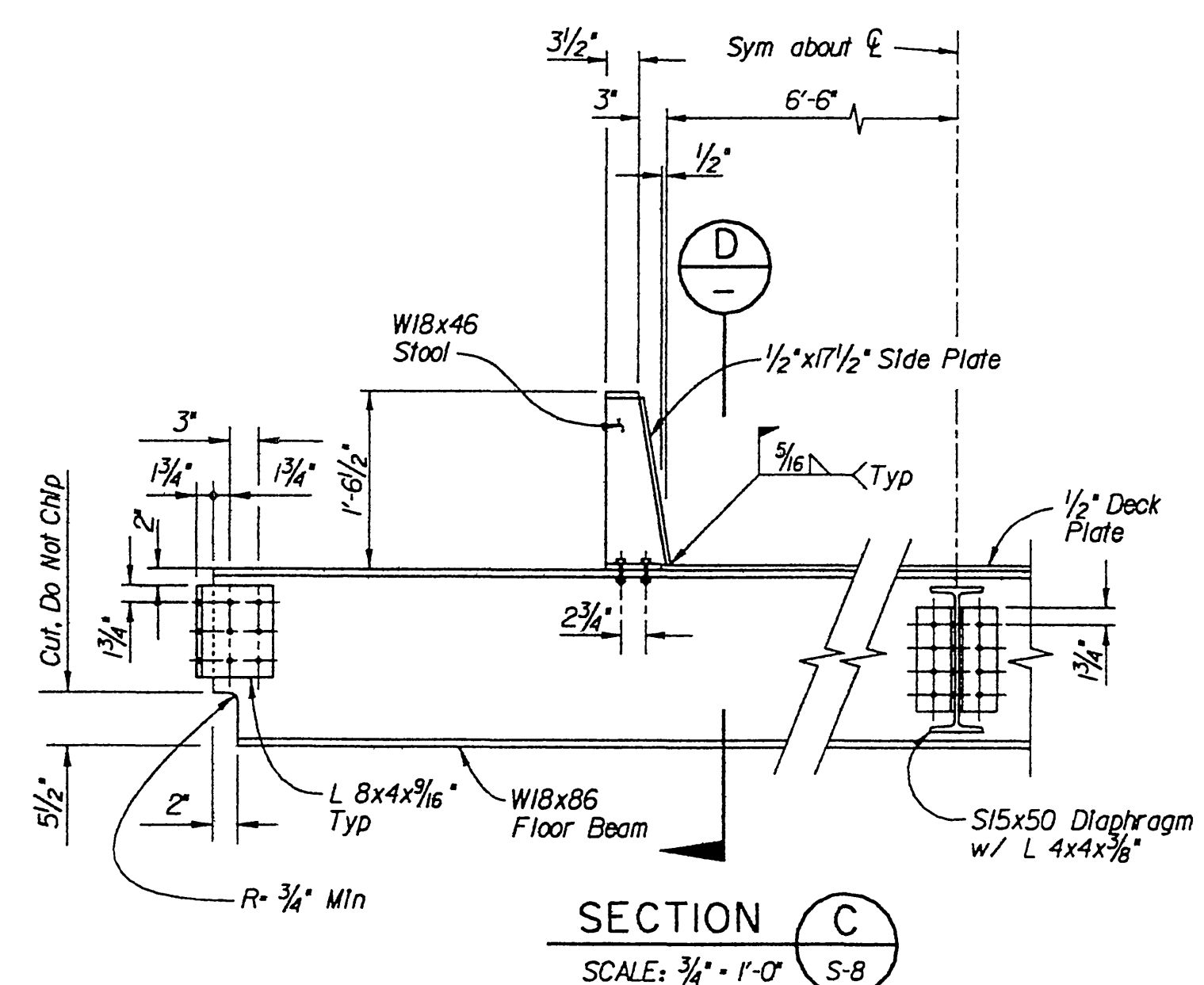
SECTION A
TYPICAL FIELD SPLICE JOINT
Scale: 3/4" = 1'-0"



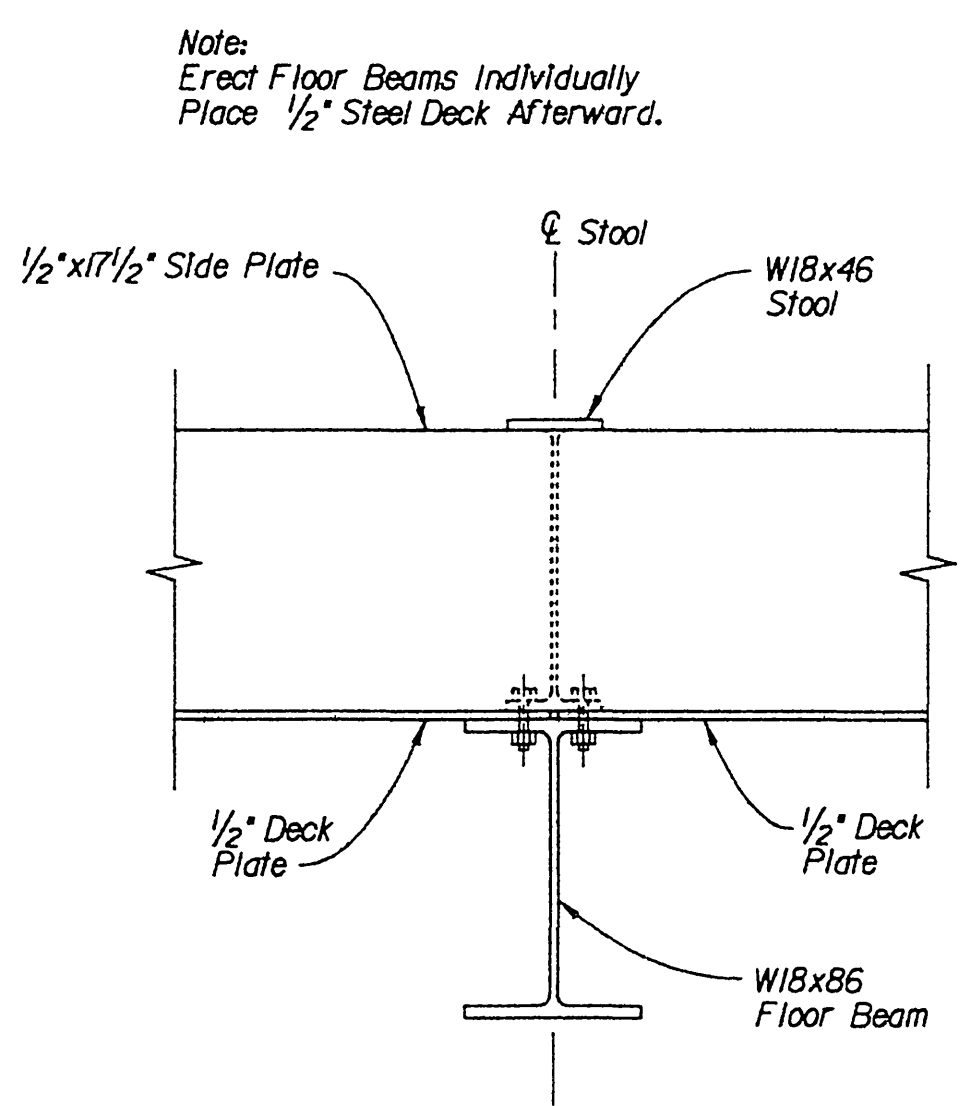
SECTION B
No Scale



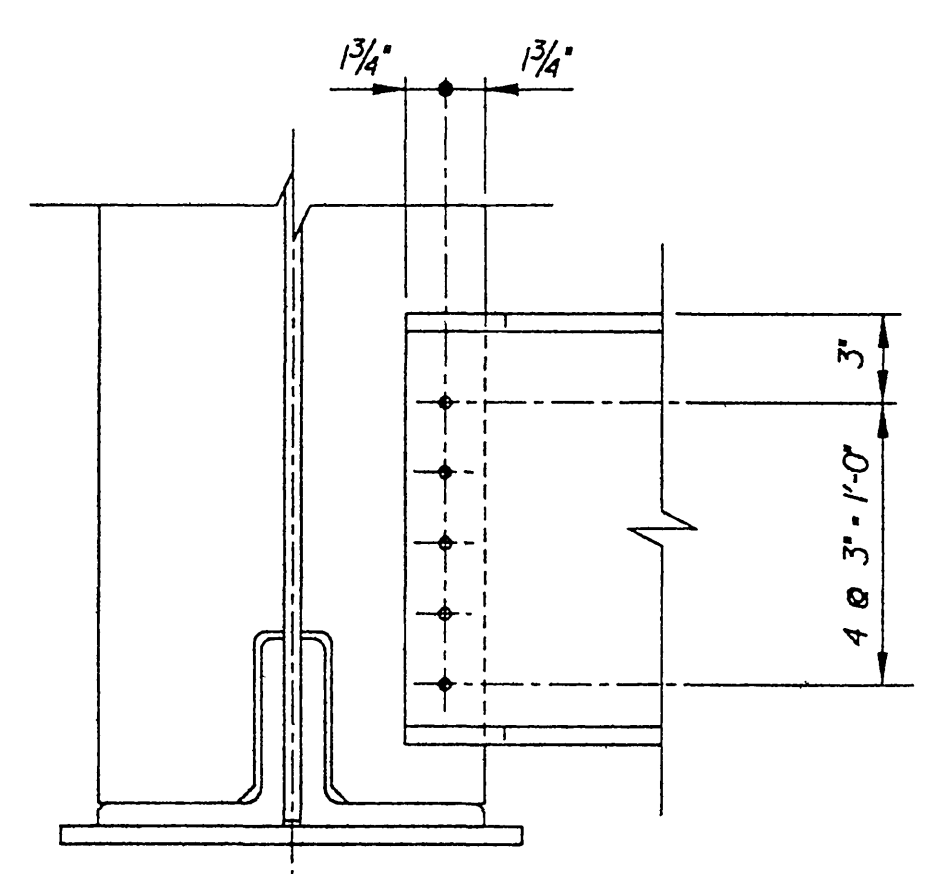
PLAN END FLOOR BEAM
Scale: 1" = 1'-0"



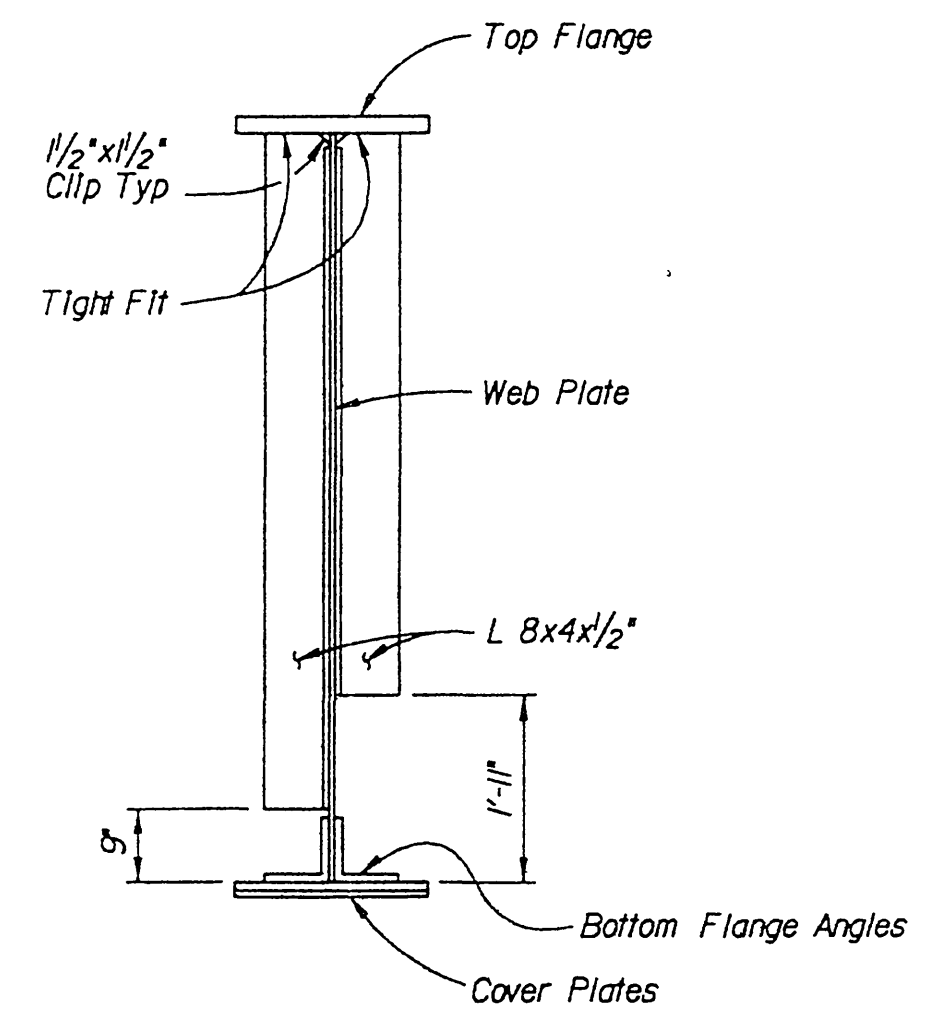
SECTION C
SCALE: 3/4" = 1'-0"



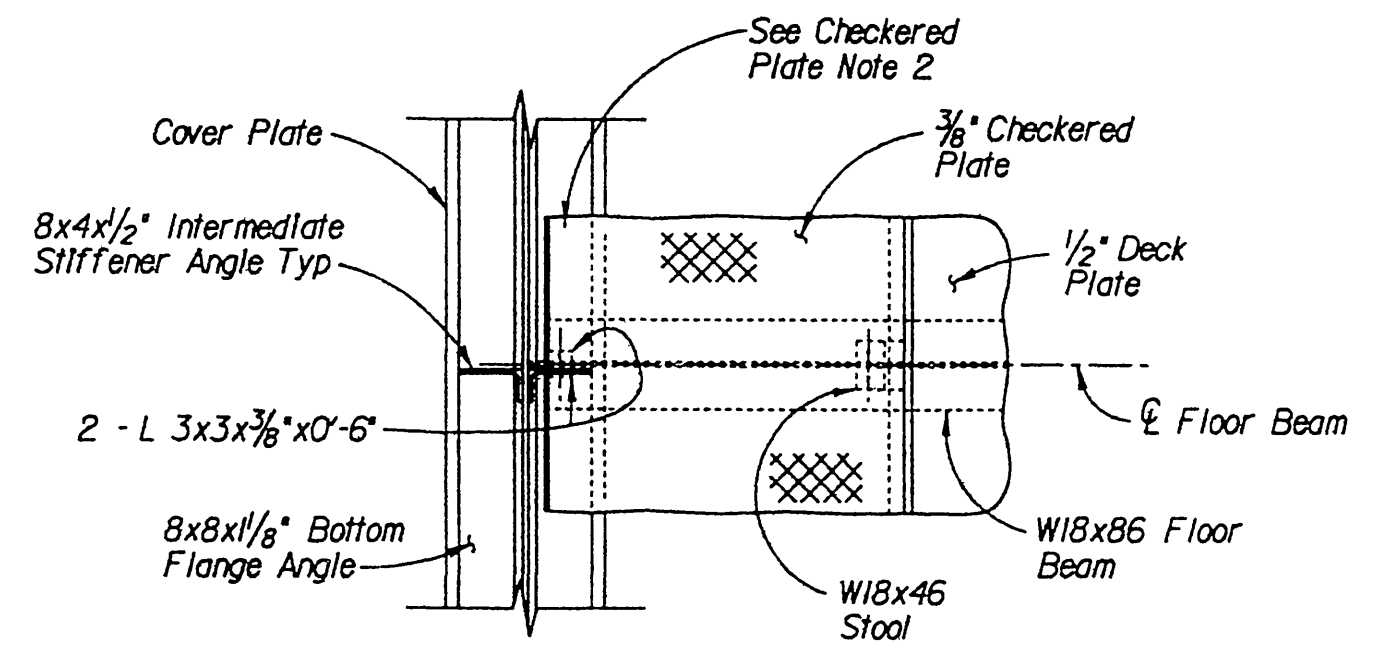
SECTION D
No Scale



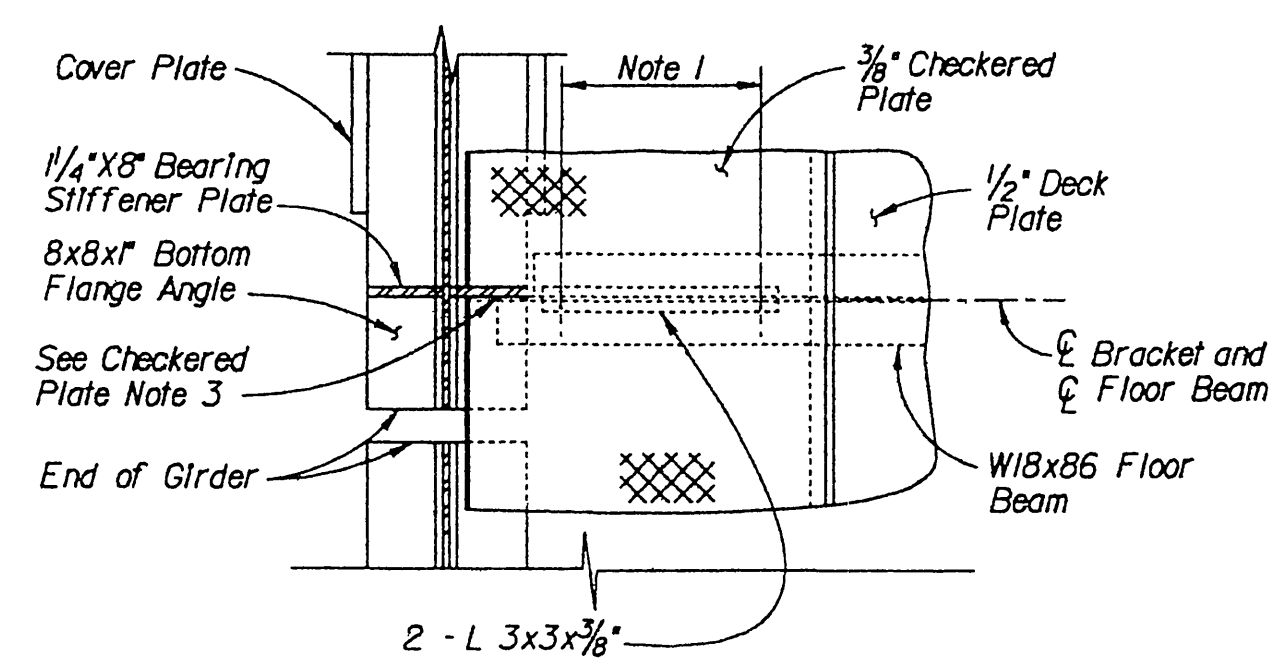
SECTION E
SCALE: 1/2" = 1'-0"



TYPICAL SECTION AT FLOOR BEAMS
Scale: 1/2" = 1'-0"



SECTION P
Scale: 1/2" = 1'-0"



SECTION Q
Scale: 1/2" = 1'-0"

Note:
Erect Floor Beams Individually
Place 1/2" Steel Deck Afterward.

For Reduced Plans
Original Scale Is In Inches

AS BUILT
DRAWINGS

FILE: c:\06791\016\central10.dgn
DATE: 9-Aug-94 08:08

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

HDR
HDR Engineering, Inc.

Designed By	TDL
Drawn By	PZ
Checked By	HS
Approved By	JMJ
Date	07-15-1994

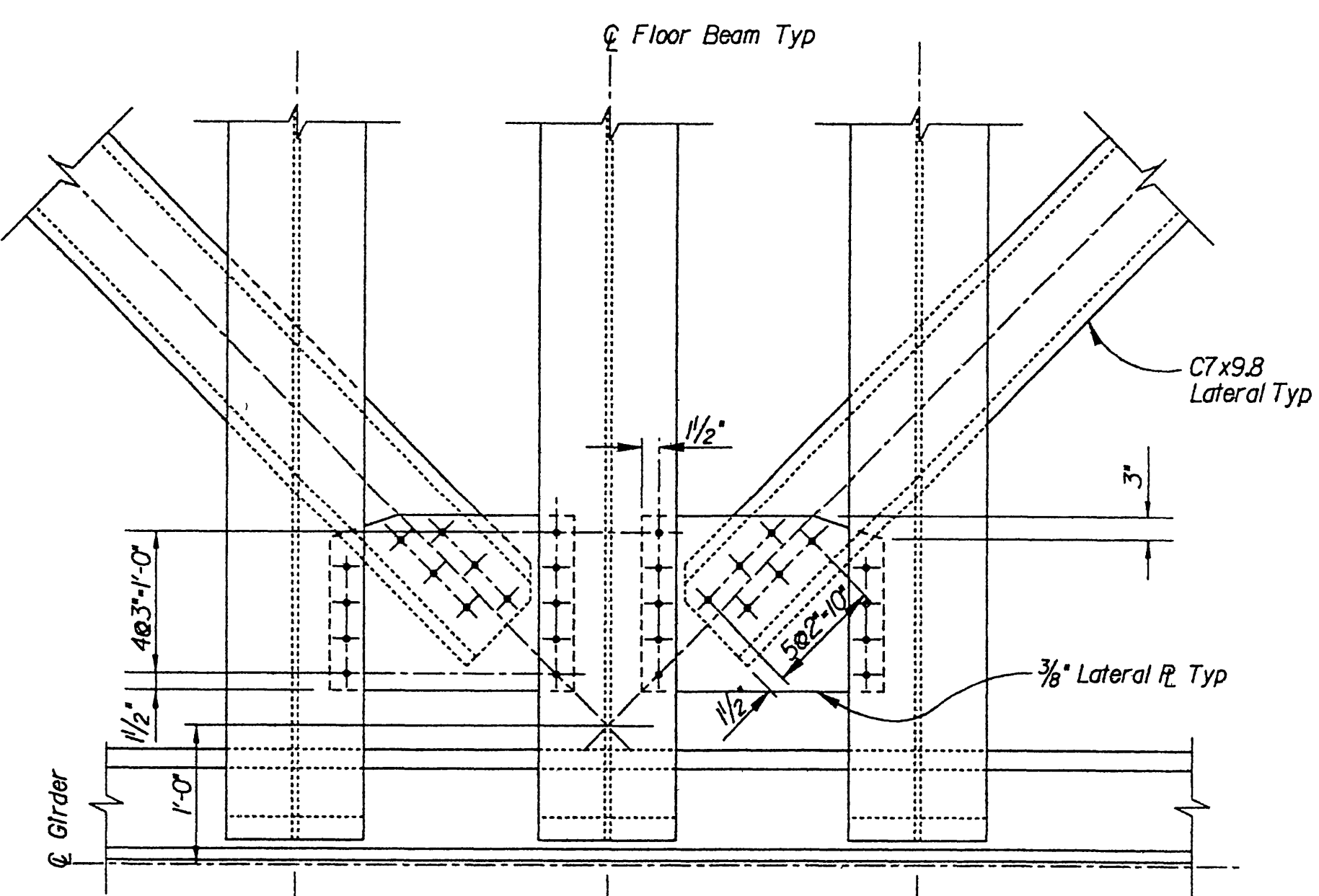
Santa Fe ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS GIRDER DETAILS NO. 2

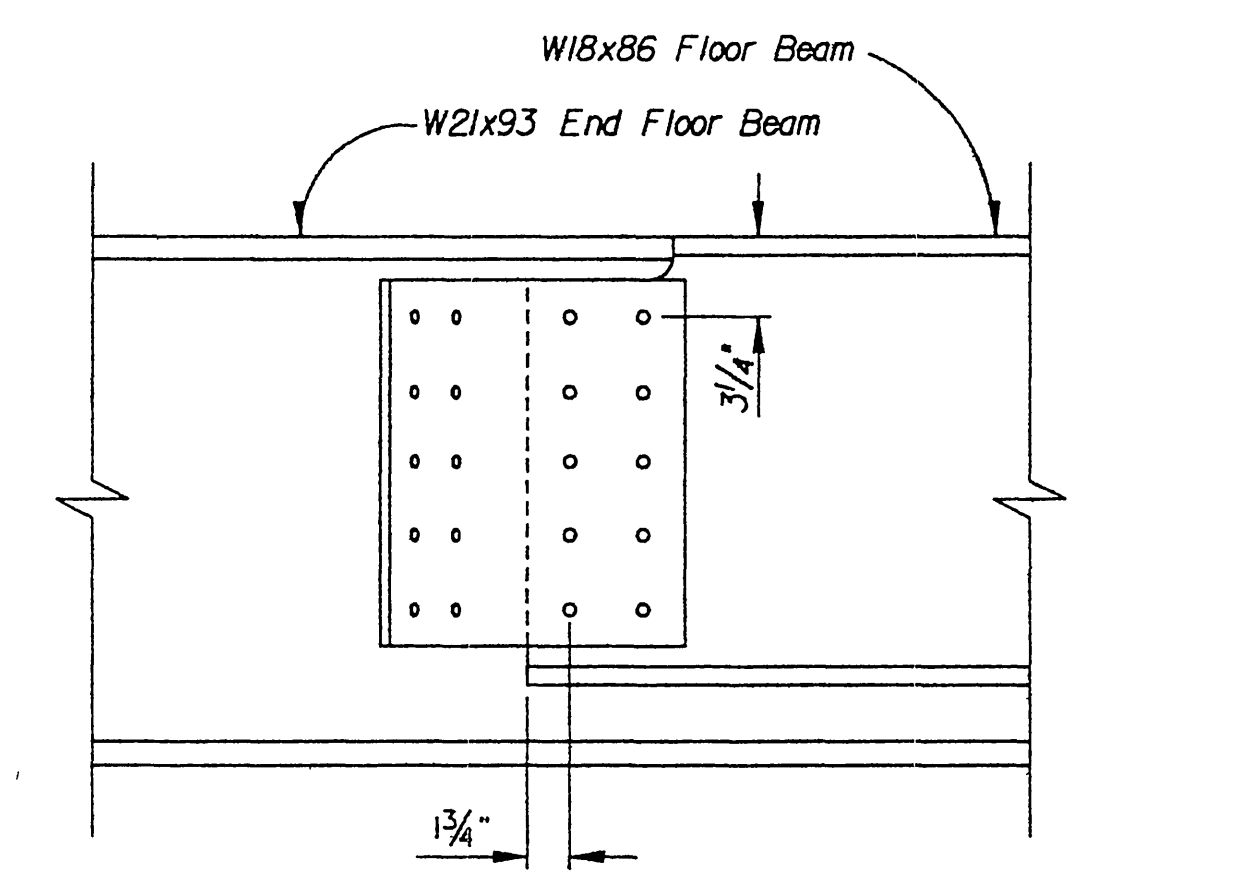
R-3595

Scale	Project No.	Drawing No	Sheet
AS NOTED	06791	S-10	10 of 18

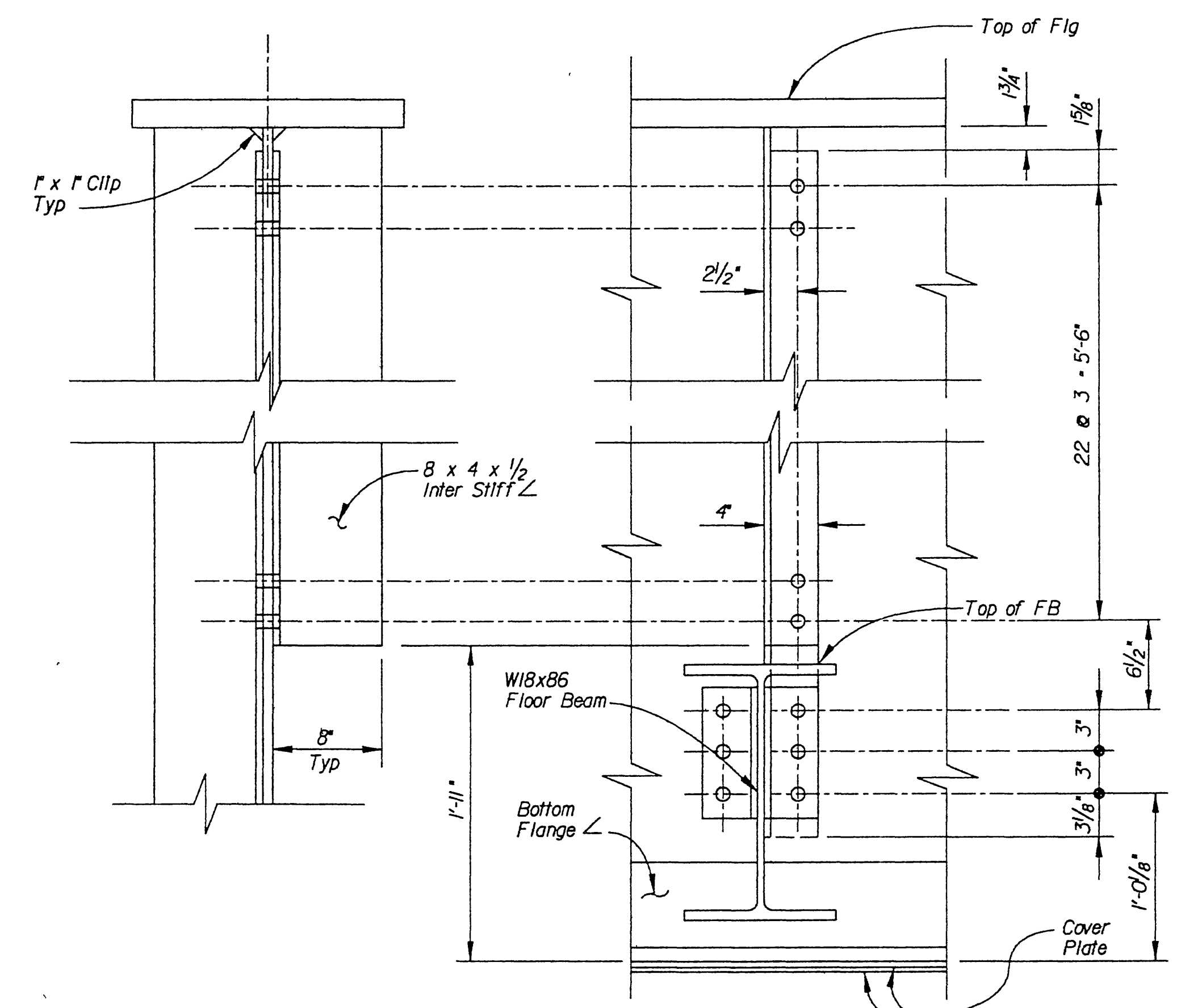
INDEXED 8-8-2000 Lfh



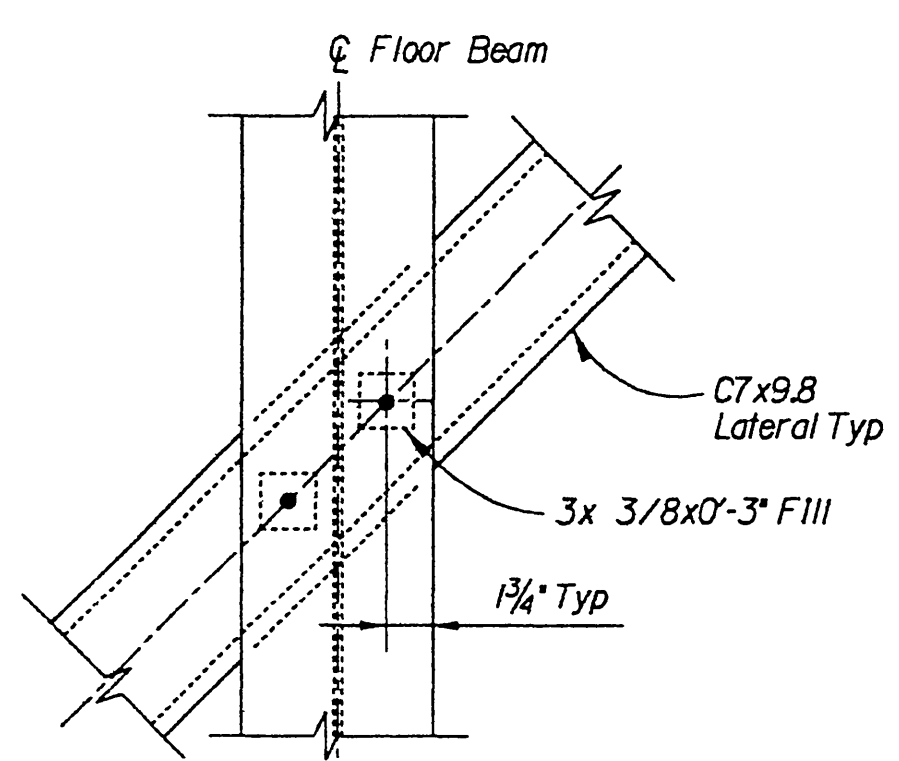
LATERAL DETAIL
SCALE: 1"=1'-0"



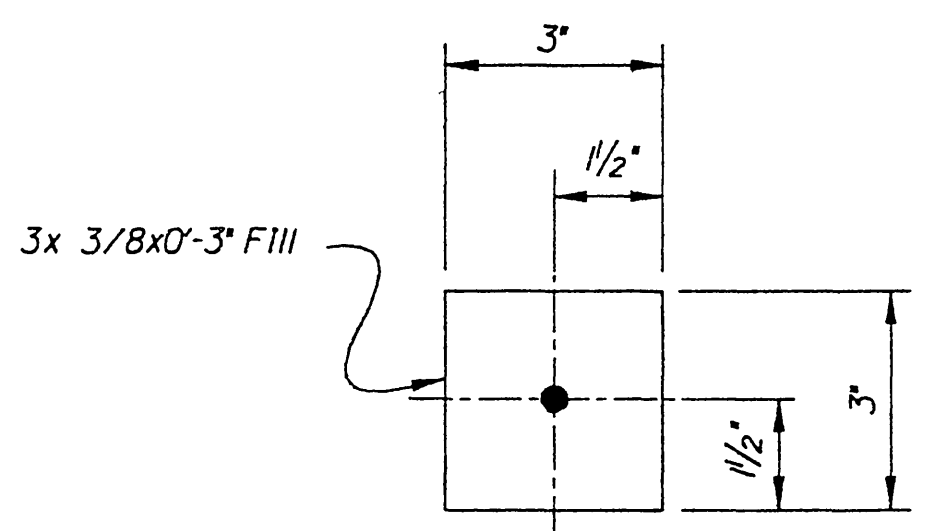
TYPICAL CONNECTION END FLOOR BEAM
SCALE: 1/2"=1'-0"



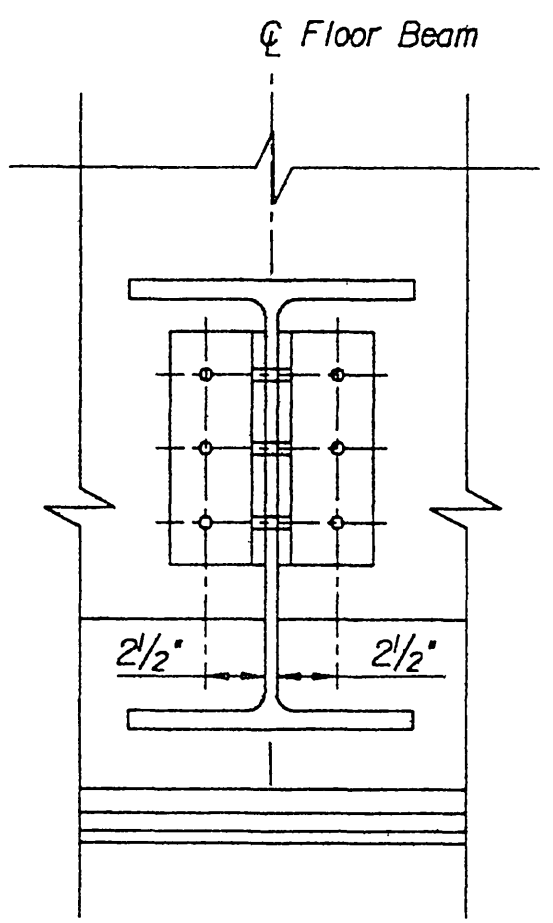
INTERMEDIATE STIFFENER
SCALE: 1/2"=1'-0"



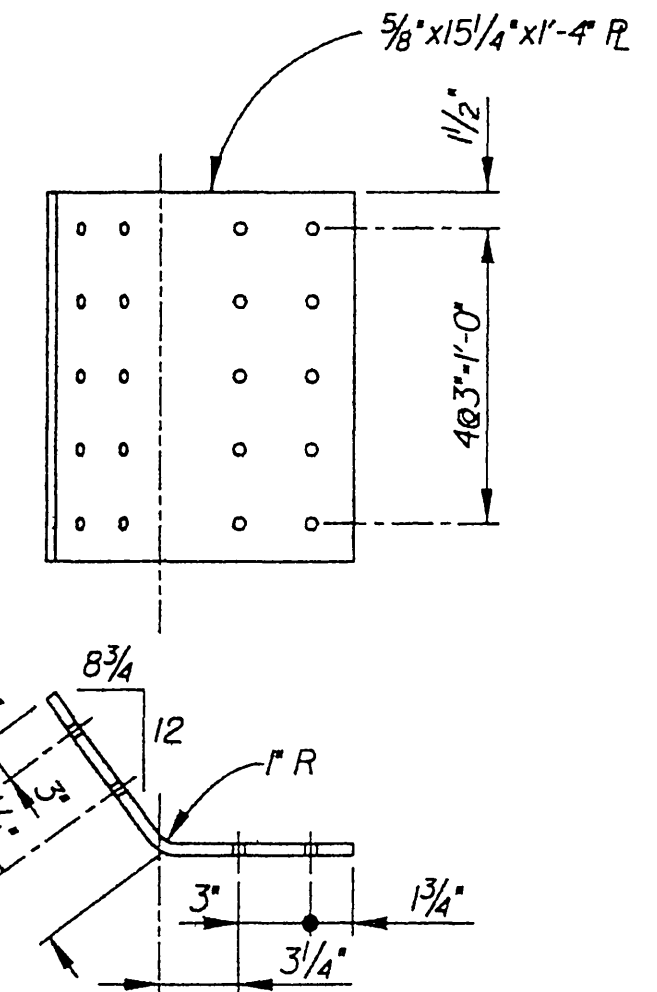
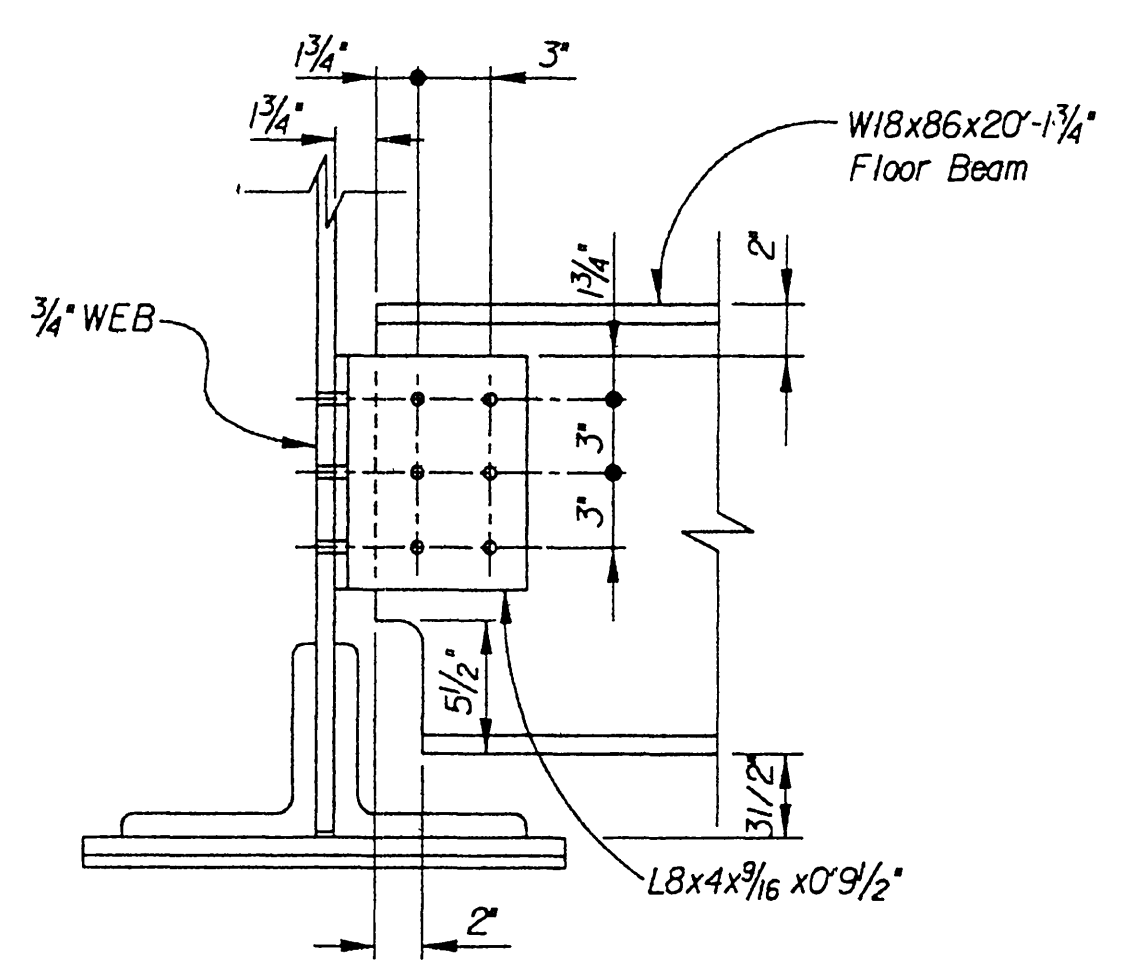
DETAIL "S"
SCALE: 1"=1'-0"



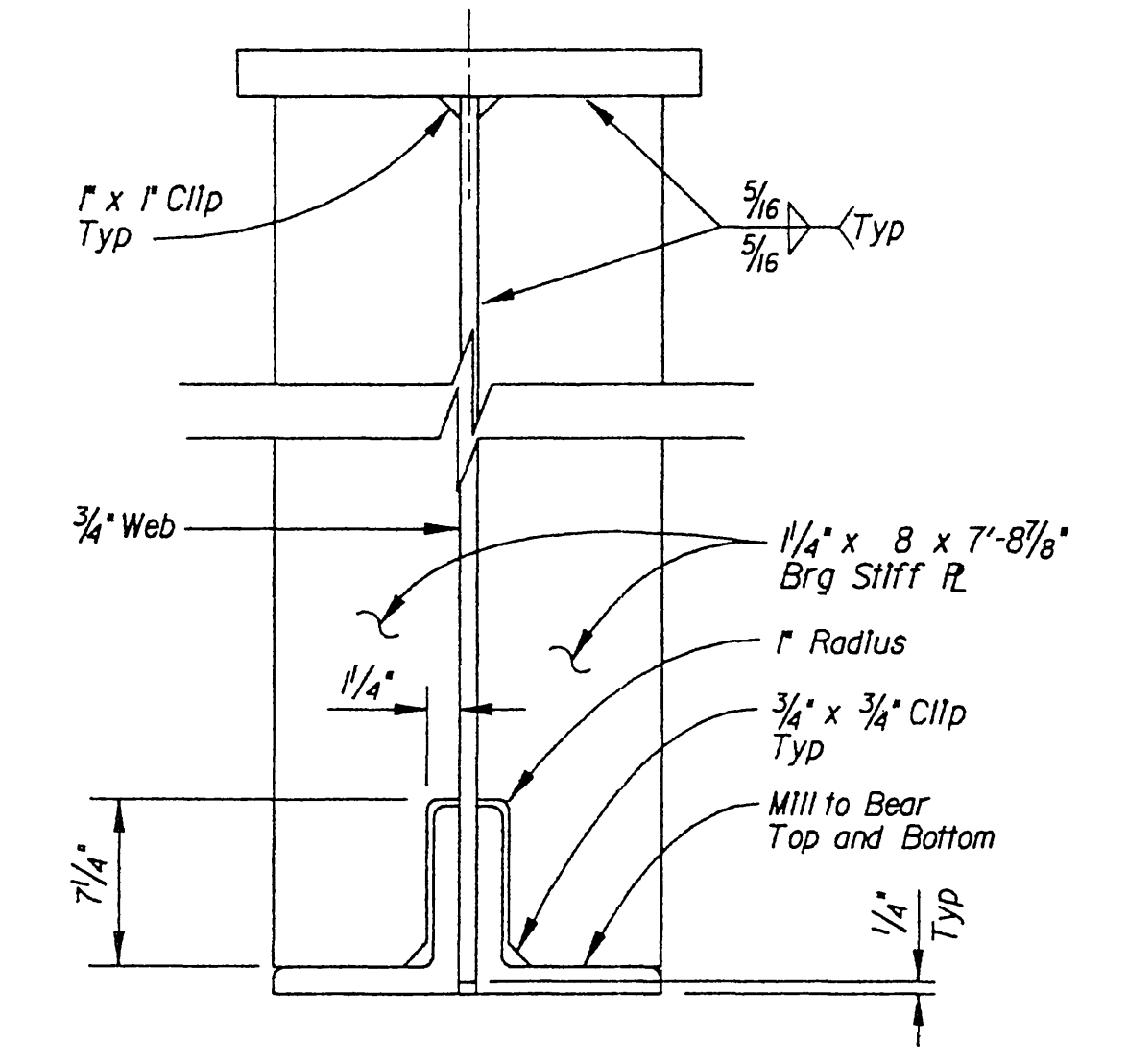
FILL PLATE
NO SCALE



TYPICAL FLOOR BEAM CONNECTION
SCALE 1/2"=1'-0"



BENT PLATE
SCALE 1/2"=1'-0"



BEARING STIFFENER
SCALE: 1/2"=1'-0"

For Reduced Plans
Original Scale Is In Inches

AS BUILT
DRAWINGS

FILE: c:\0679\016\central\ldgn
DATE: 4-AUG-94 10:19

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

HDR
HDR Engineering, Inc.

Thomas P. ...

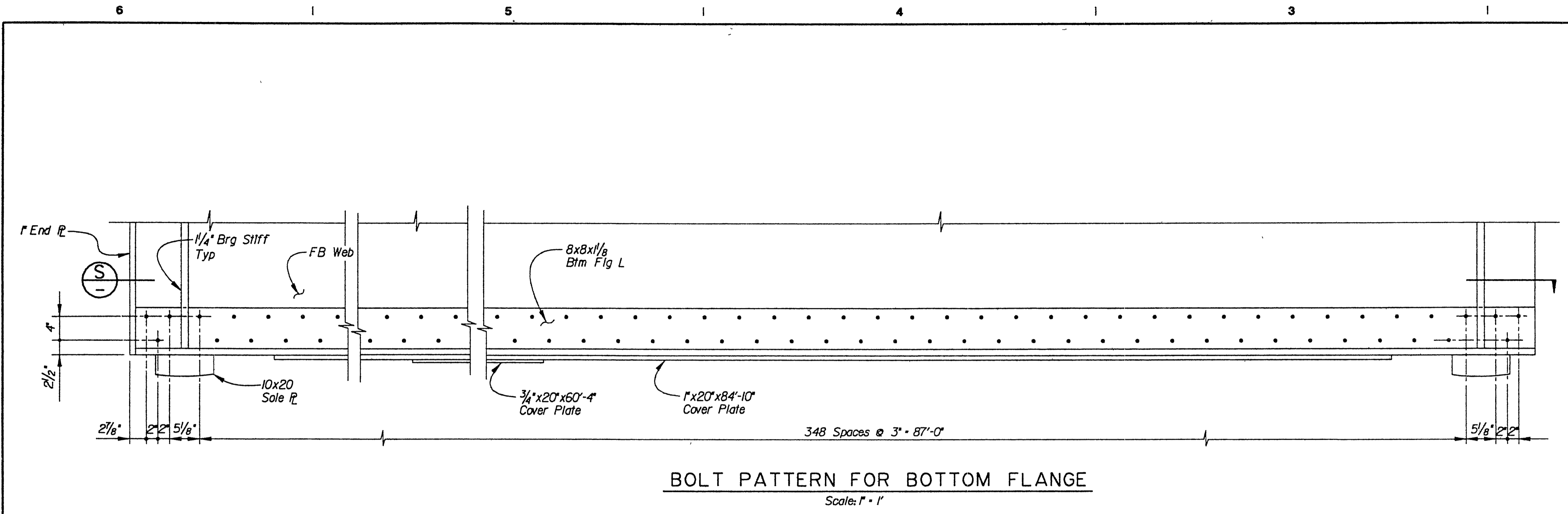
Designed By	TDL
Drawn By	PZ
Checked By	HJ
Approved By	JMJ
Date	07-15-1994

Santa Fe
ATCHISON, TOPEKA & SANTA FE
RAILWAY COMPANY

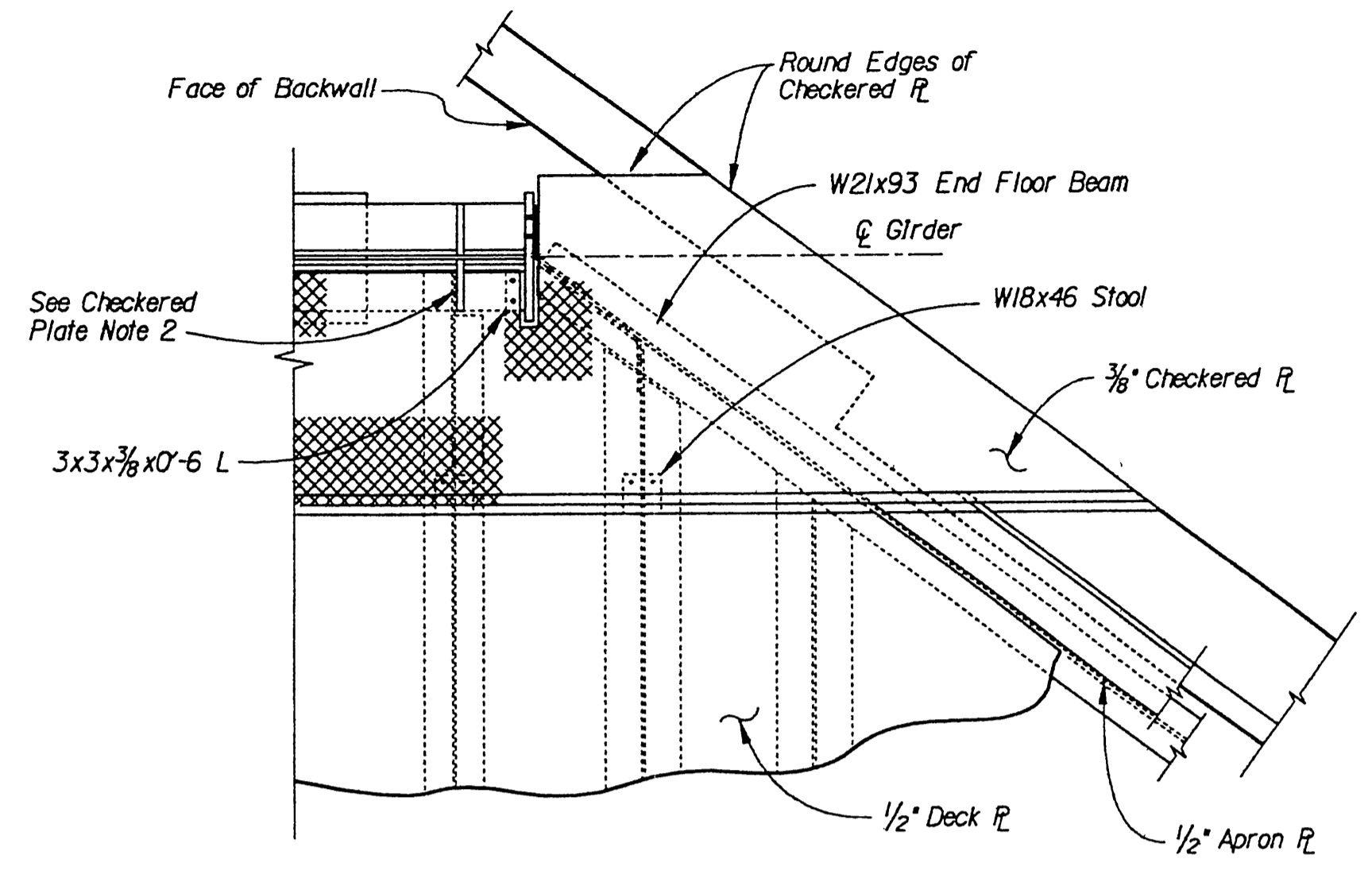
CENTRAL AVENUE UNDERPASS
GIRDER DETAILS NO. 3
R-3595

Scale	AS NOTED	Project No.	06791	Drawing No.	S-II	Sheet	11 of 18
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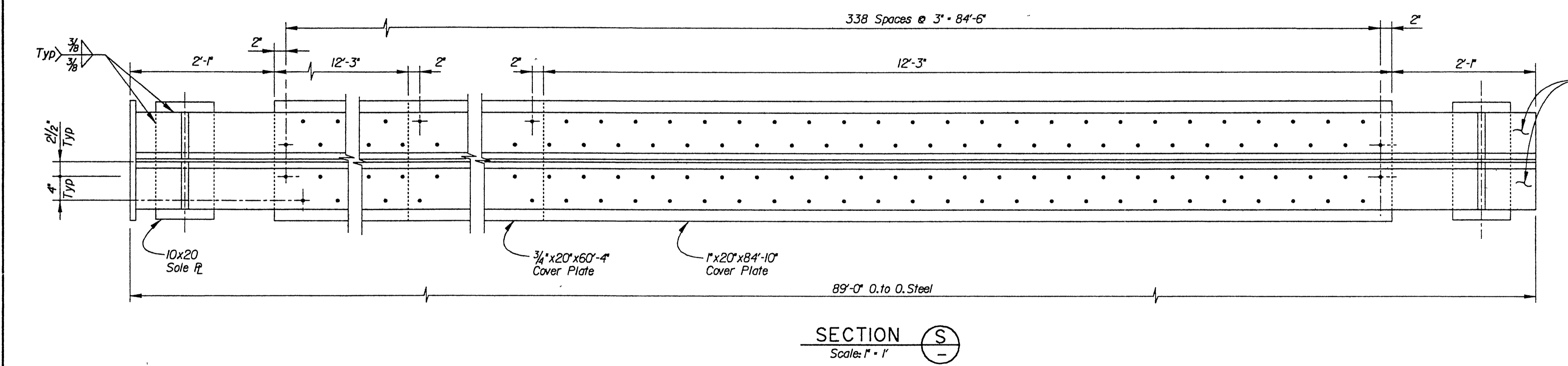
INDEXED 8-8-2000 LHL



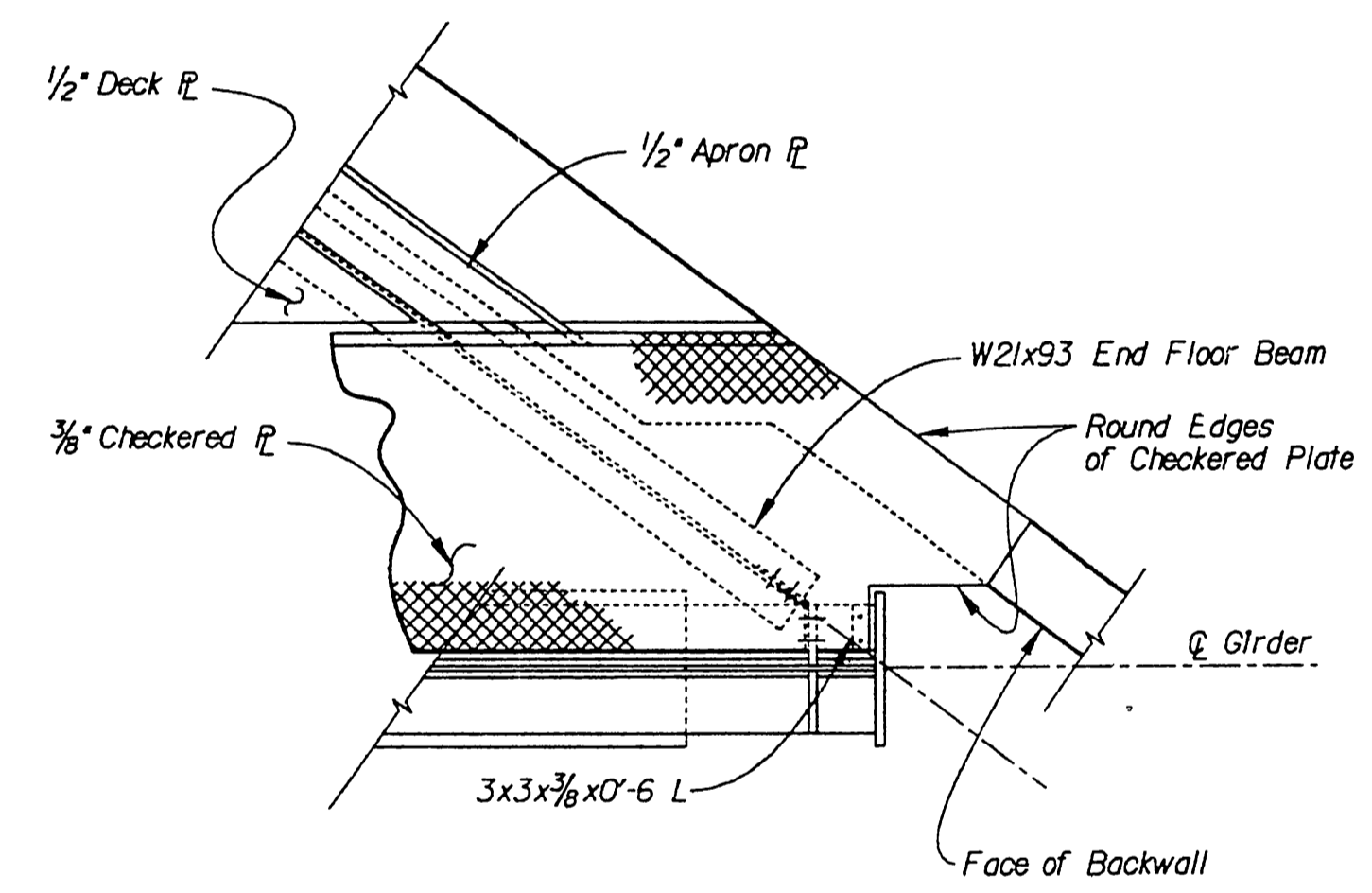
BOLT PATTERN FOR BOTTOM FLANGE
Scale: 1" = 1'



CHECKERED PLATE DETAIL AT ABUTMENT
Scale: 1/2" = 1'



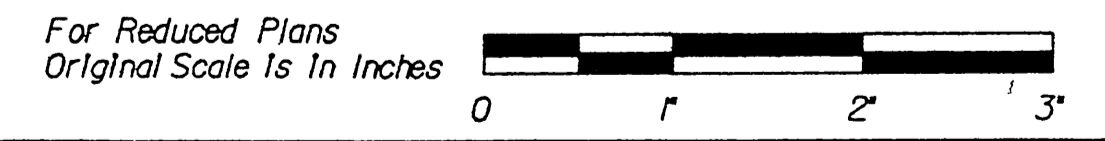
SECTION S
Scale: 1" = 1'



CHECKERED PLATE DETAIL AT ABUTMENT
Scale: 1/2" = 1'

- CHECKERED PLATE NOTES:**
1. Fasten 3/8" Checkered Plate to Stools and Angles with 1/2" Diameter Countersunk Flat Head Bolts. Nuts to be Tack Weld Under the Flanges After Field Assembled.
 2. Notch Checkered Plate to Fit Around Stiffener.
 3. Notch Checkered Plate to Fit Around Bracket Plate and Stiffener.

AS BUILT DRAWINGS



FILE: c:\06791016\central2.dgn
DATE: 9-Aug-94 08:12

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj Mgr.

HDR
HDR Engineering, Inc.

Thomas D. L...

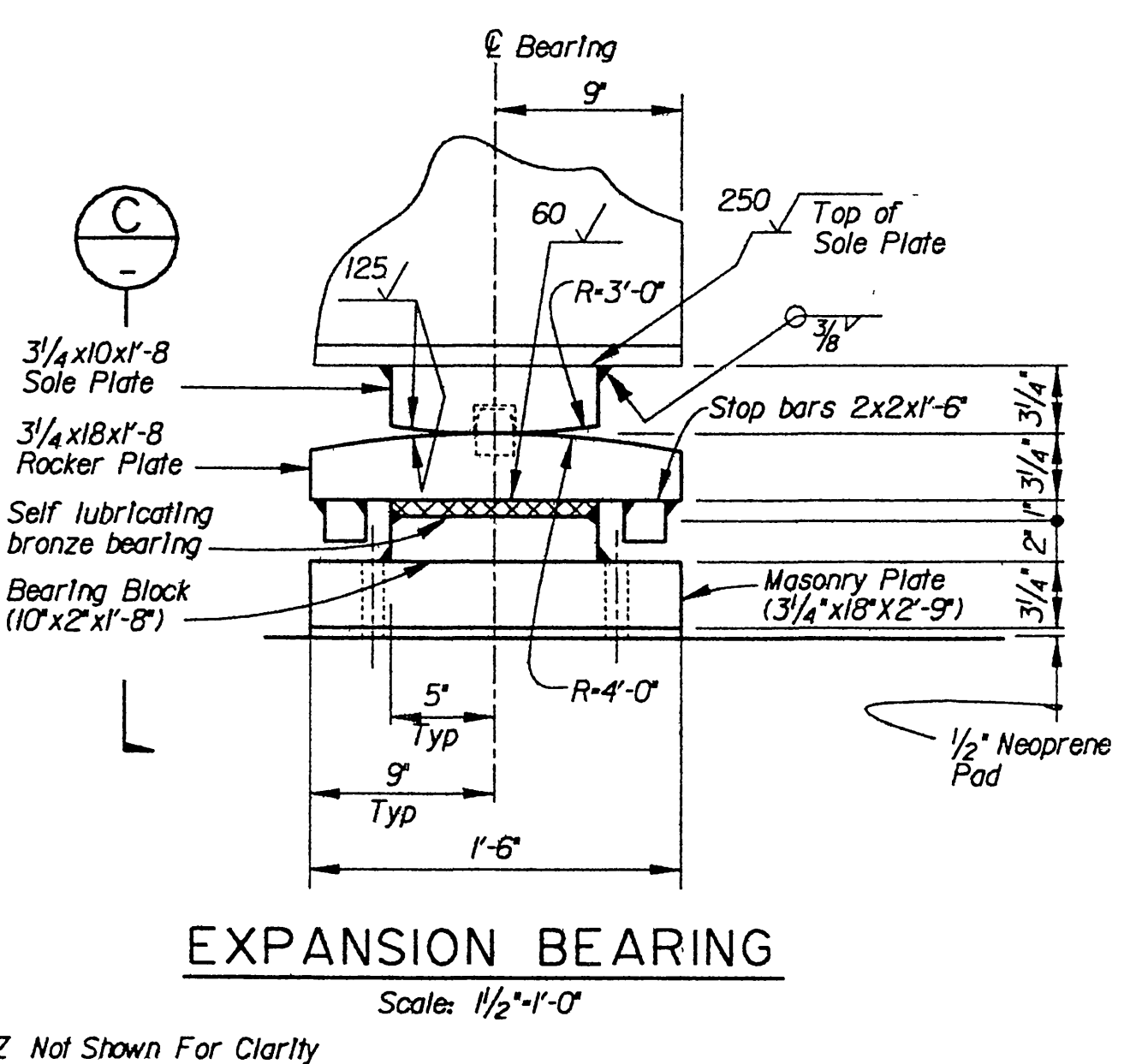
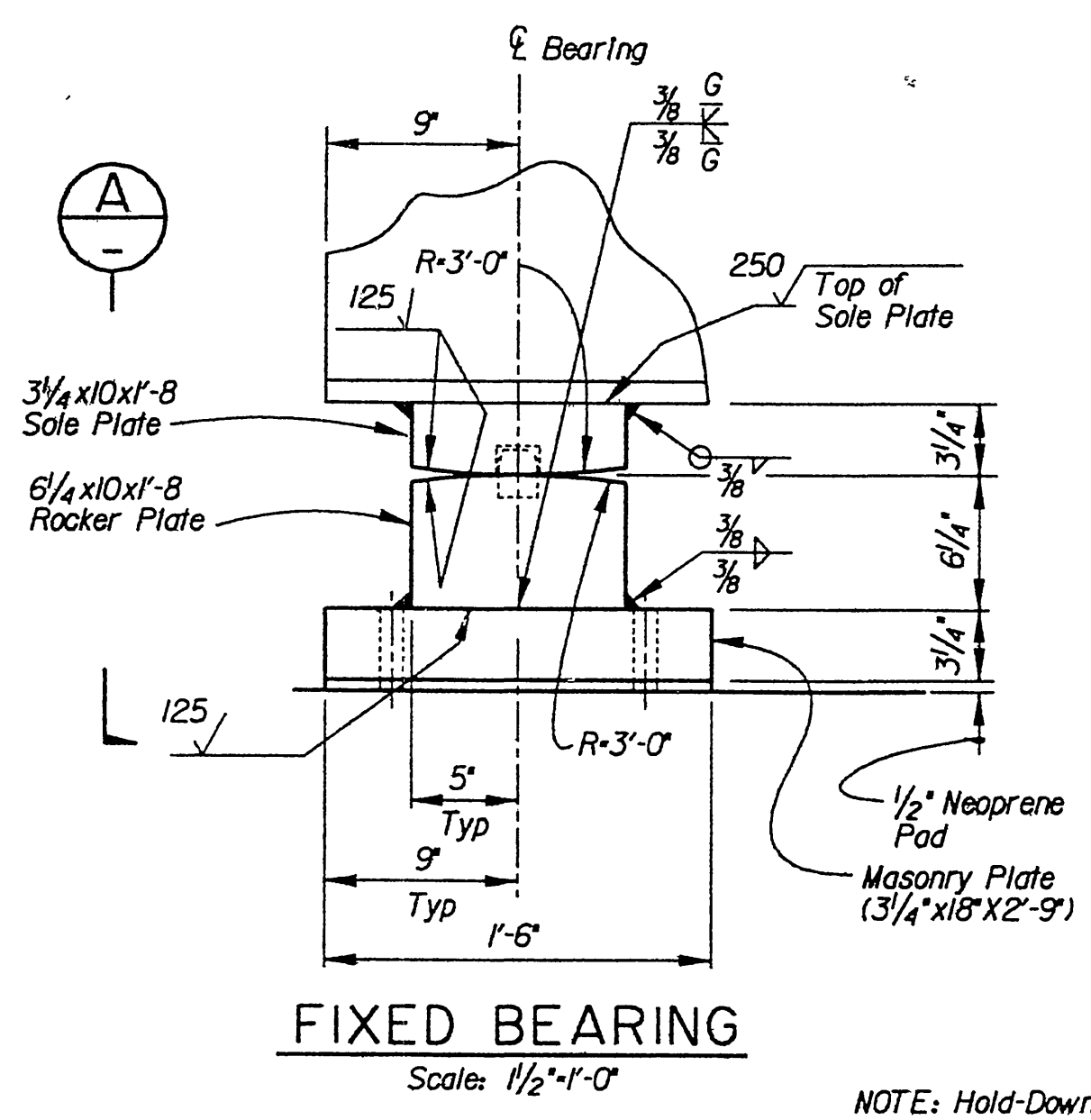
Designed By: TDL
 Drawn By: PZ
 Checked By: HS
 Approved By: JMJ
 Date: 07-15-1994

Santa Fe
ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

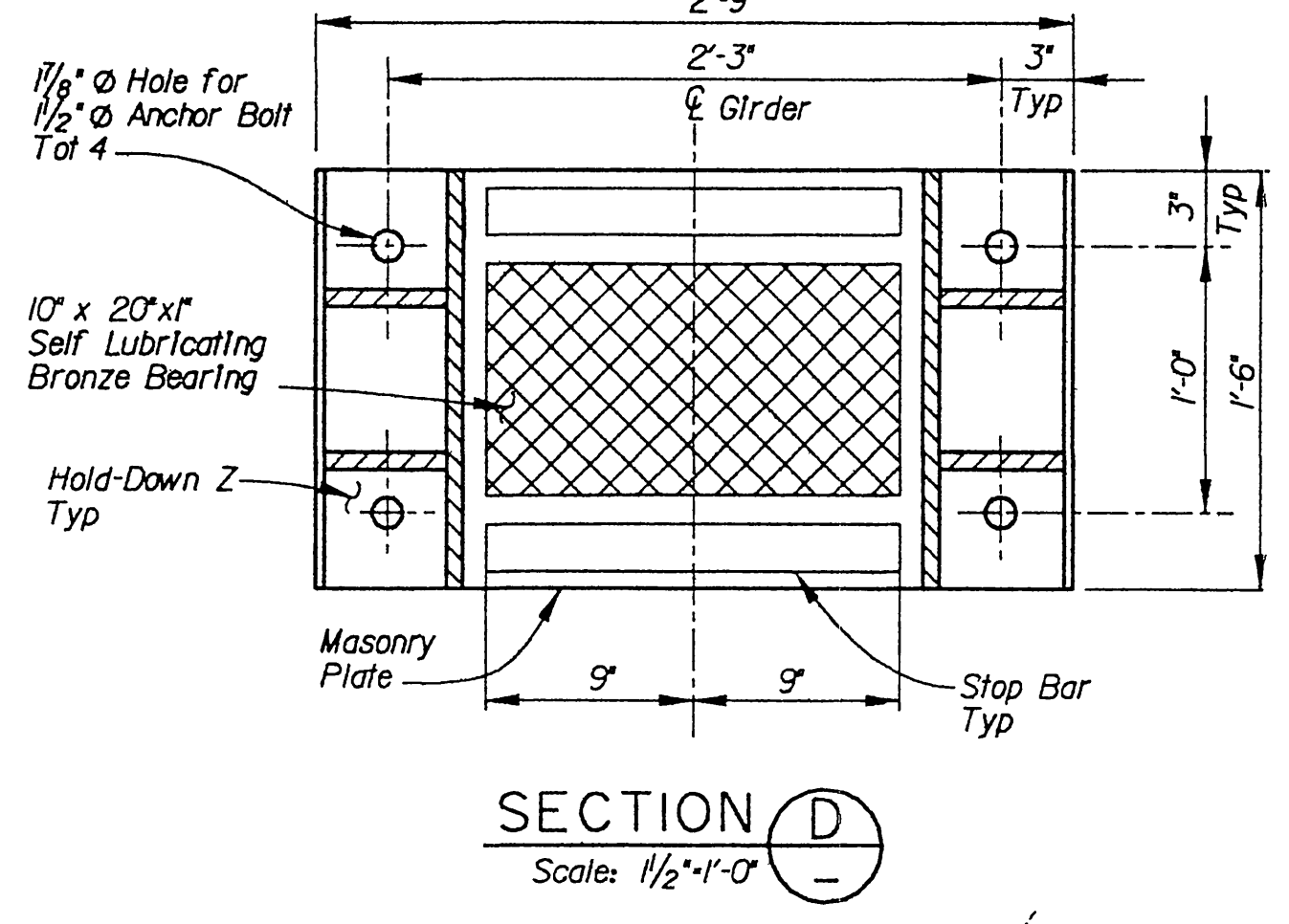
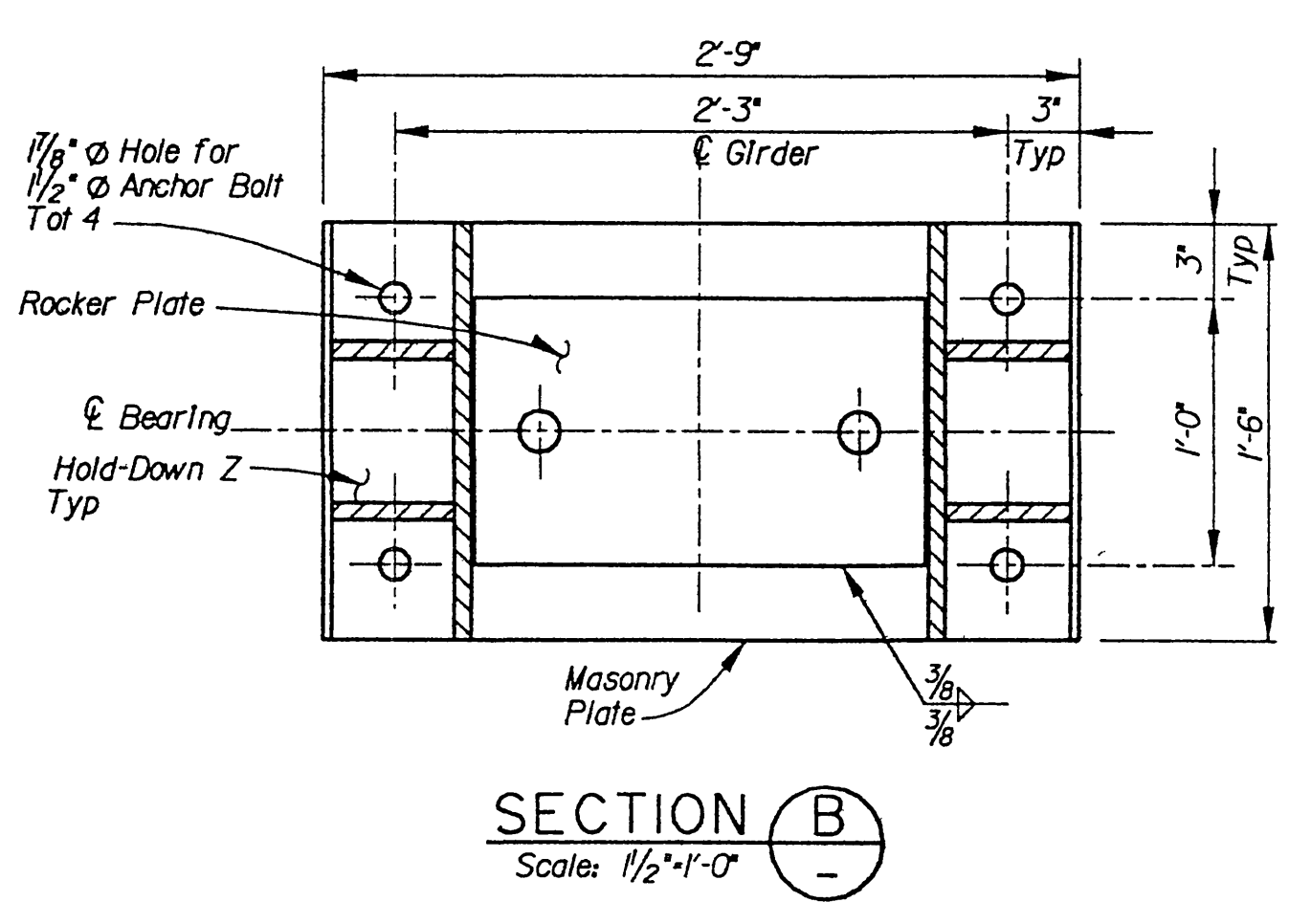
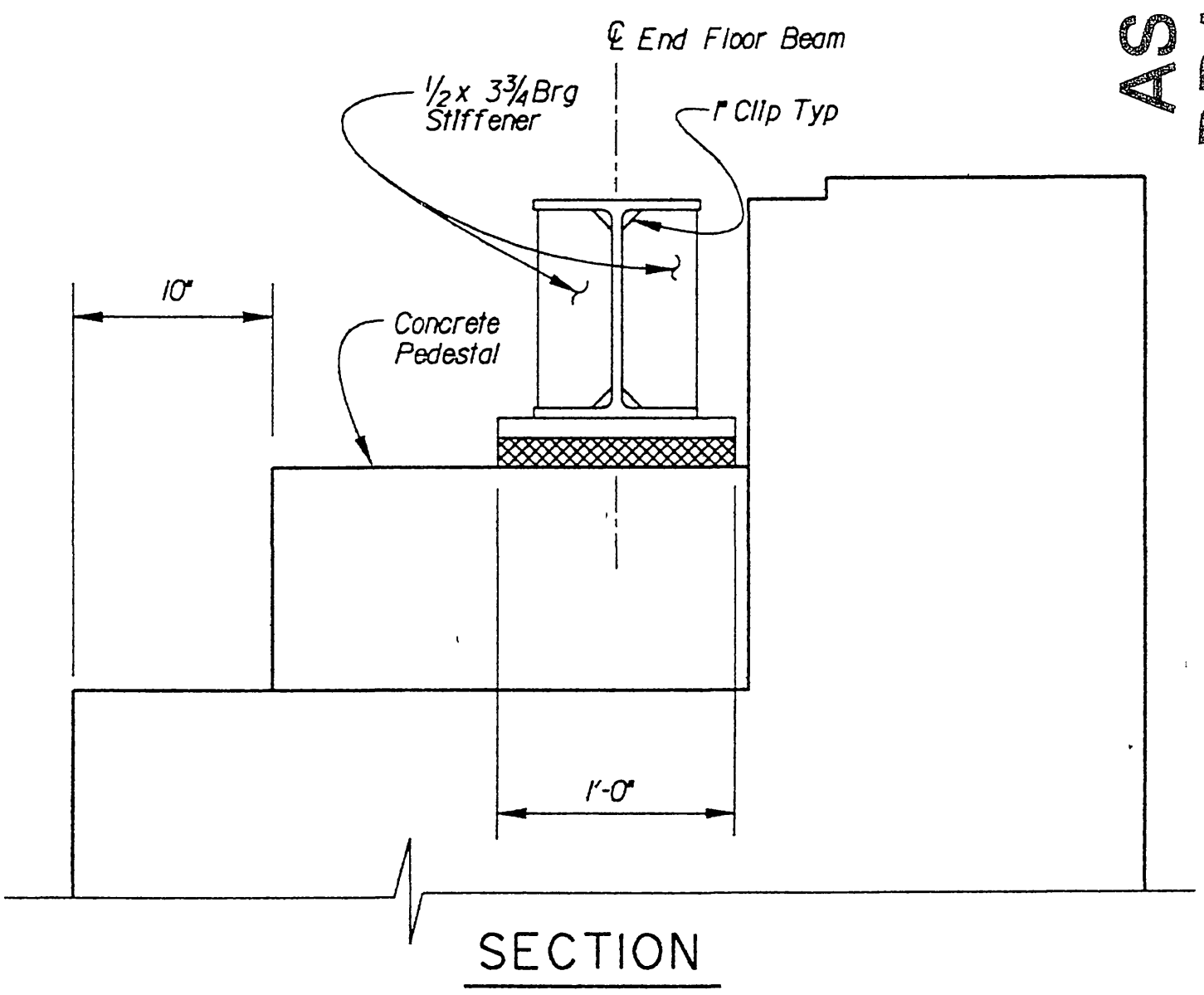
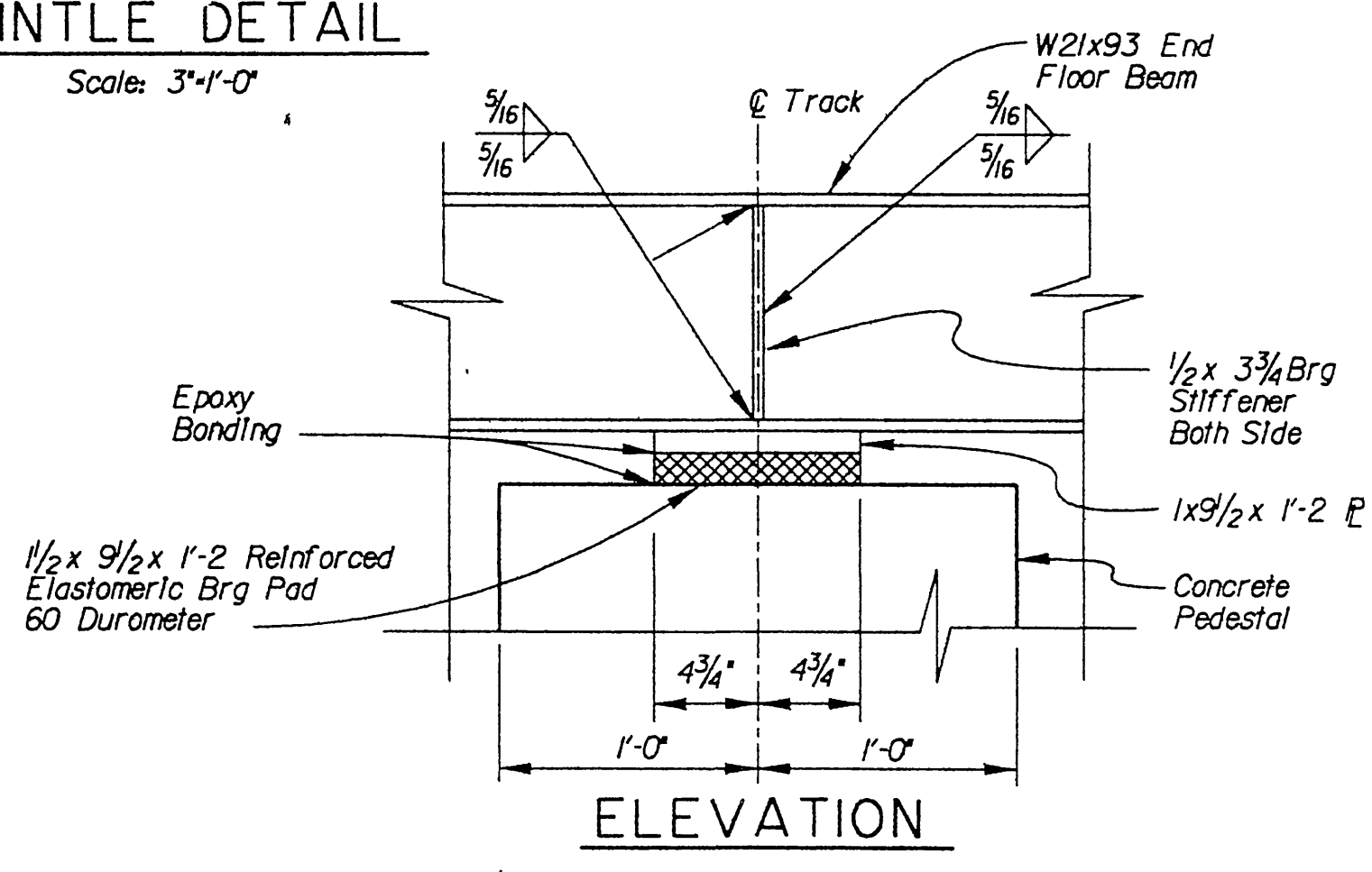
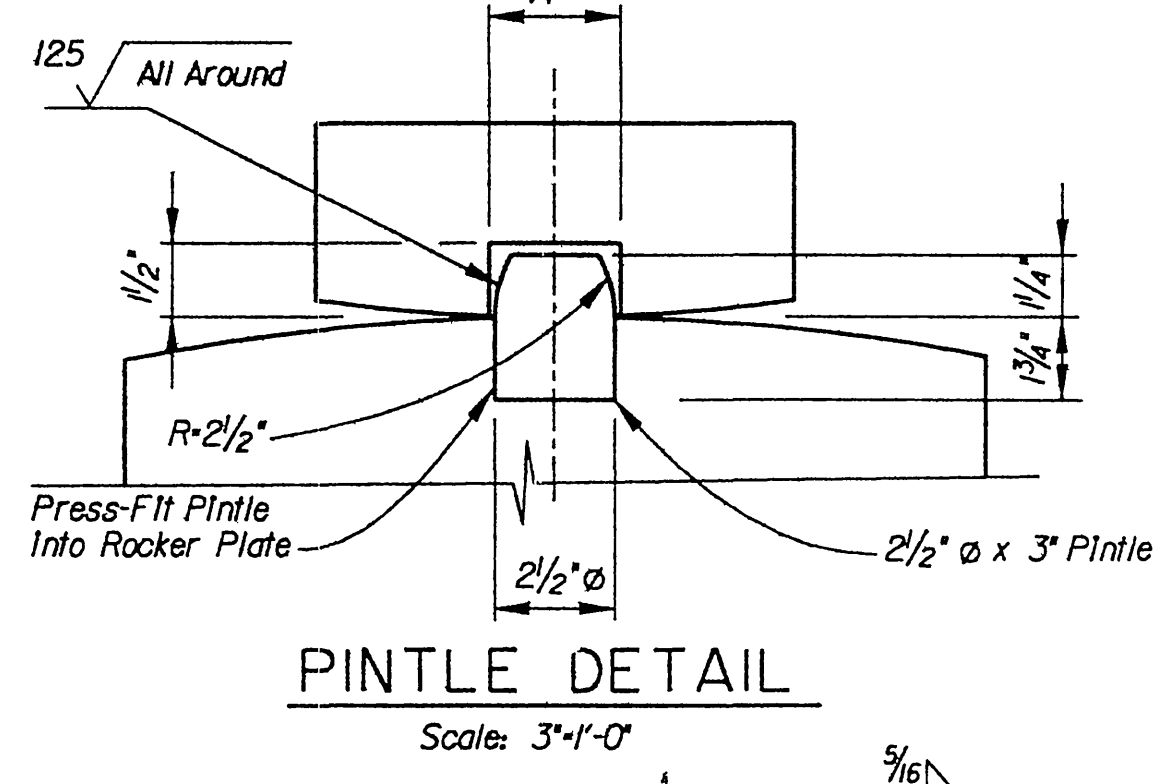
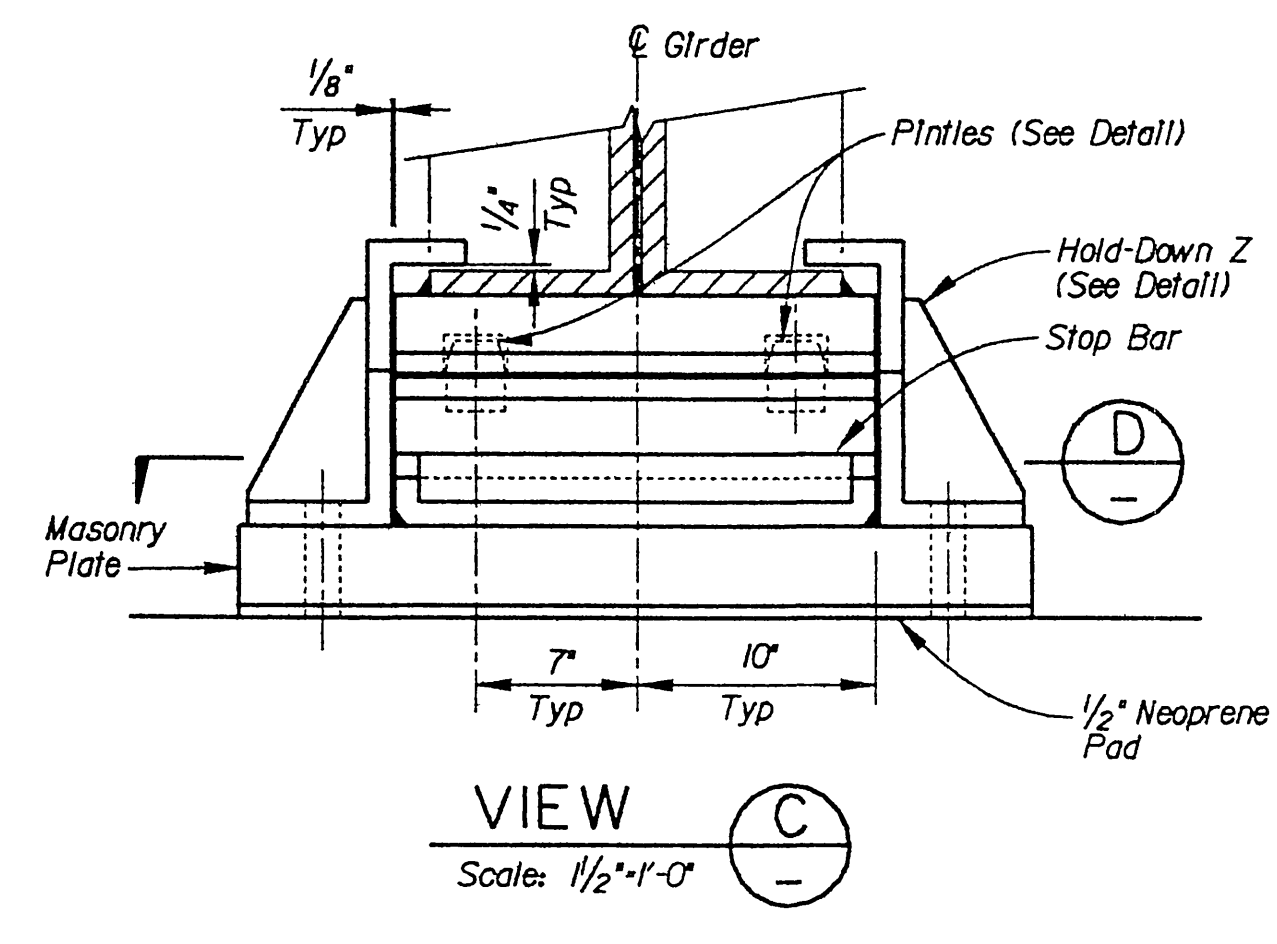
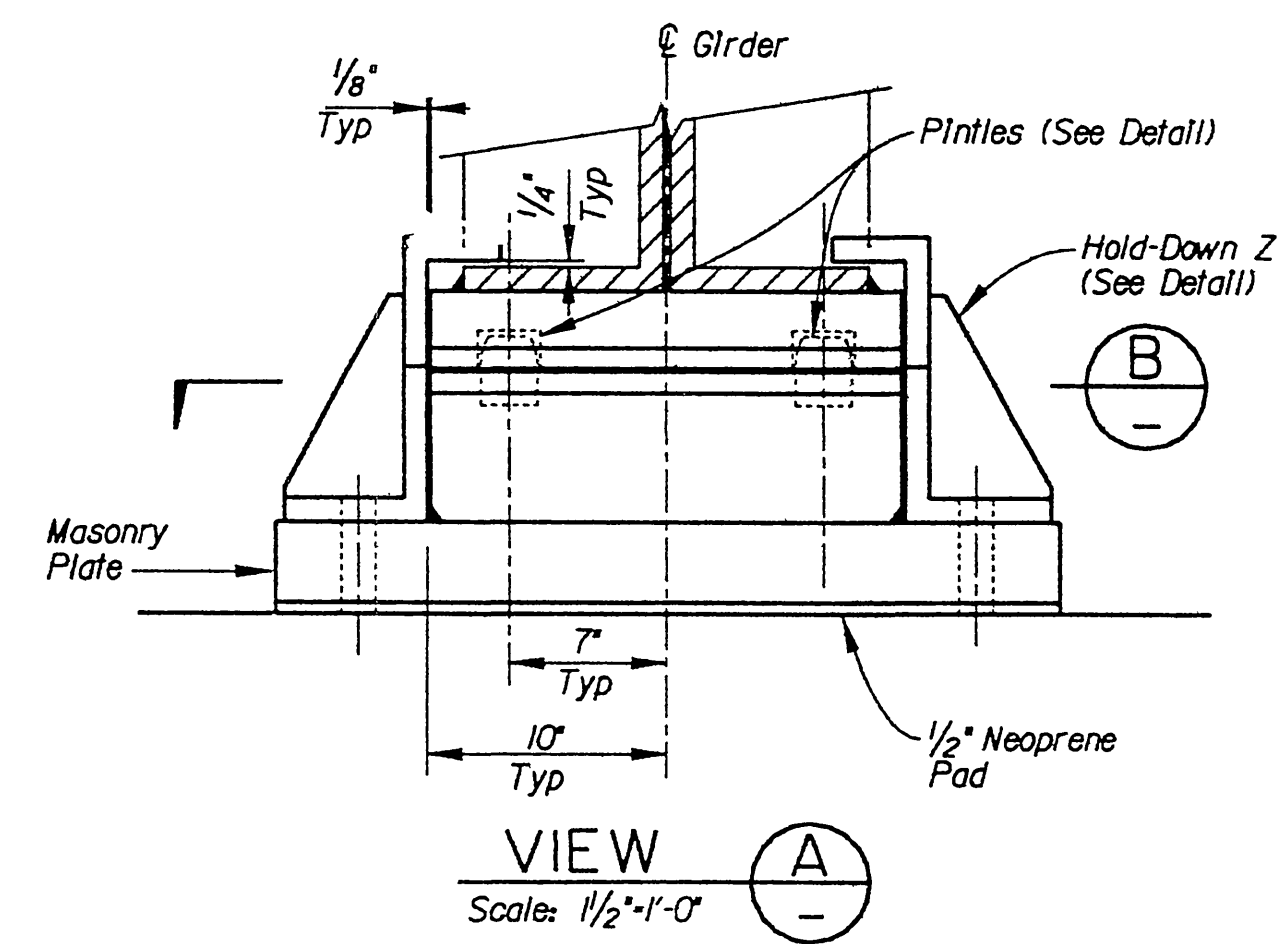
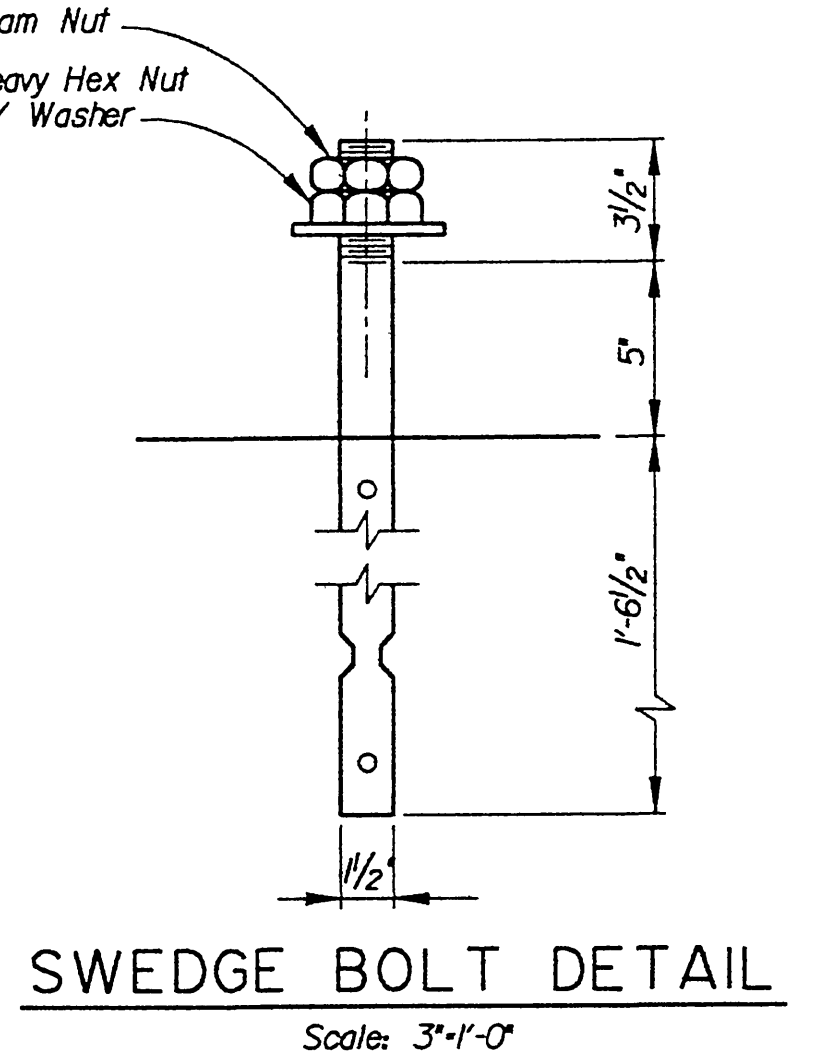
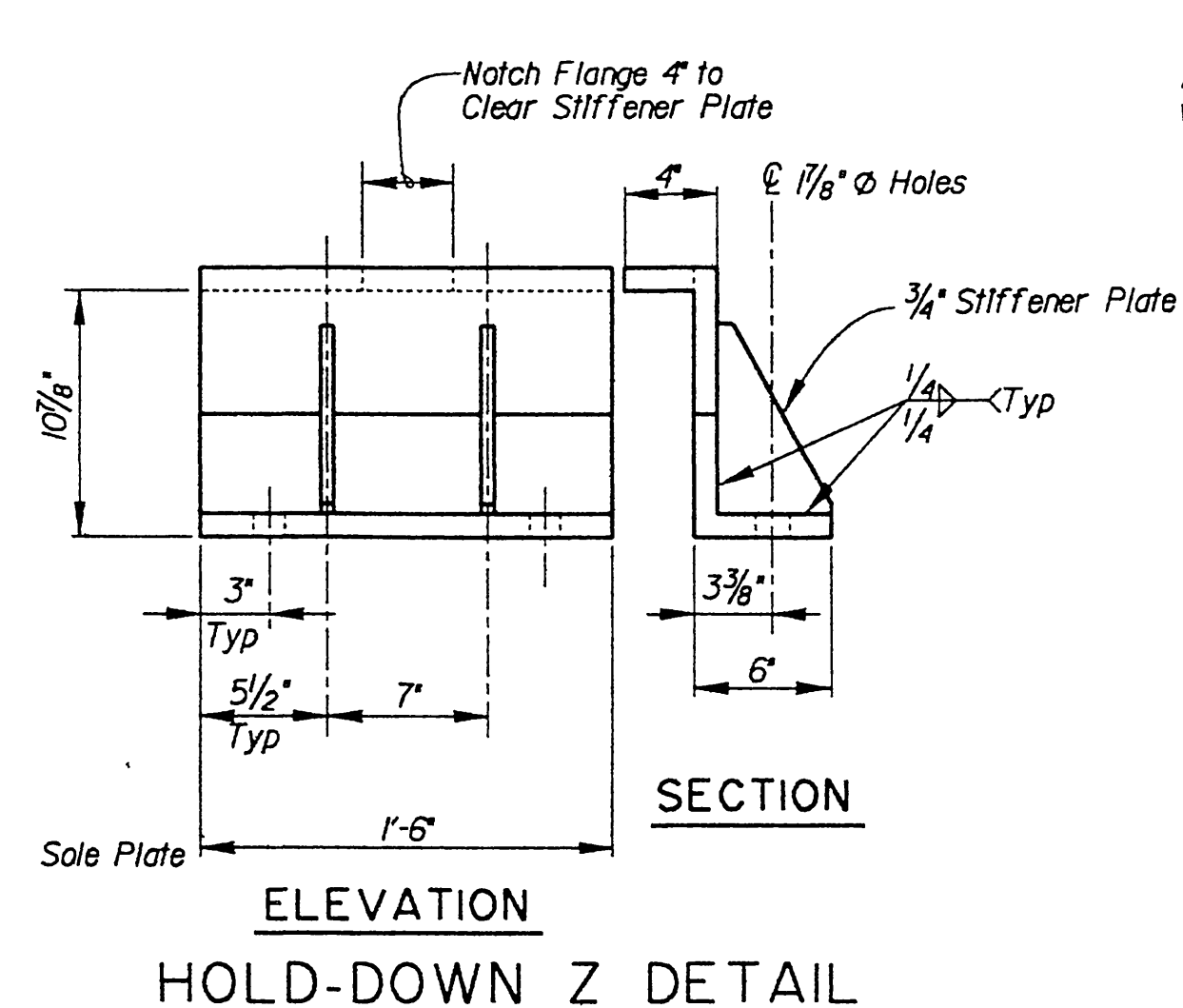
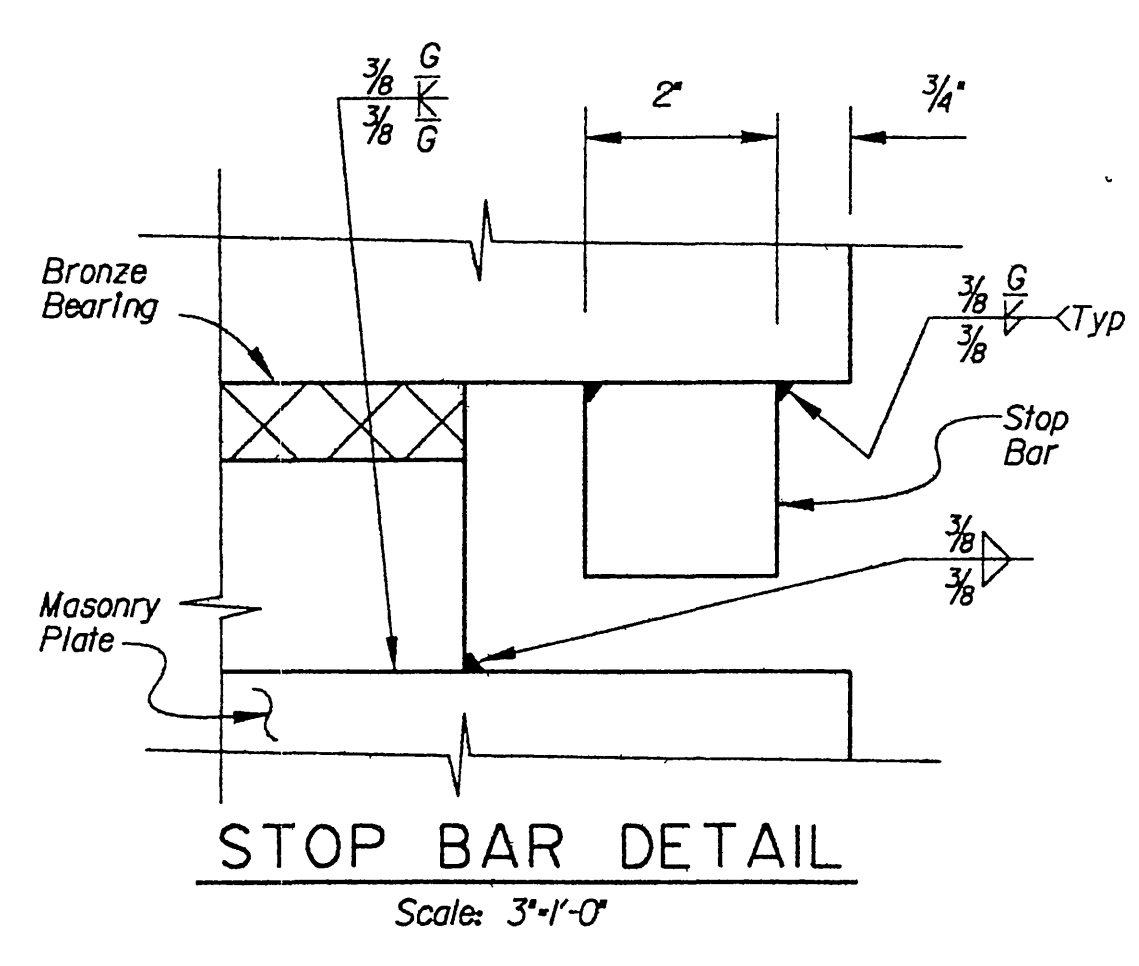
CENTRAL AVENUE UNDERPASS GIRDER DETAILS NO. 4
R-3595

Scale: AS NOTED	Project No: 06791	Drawing No: S-12	Sheet: 12 of 18
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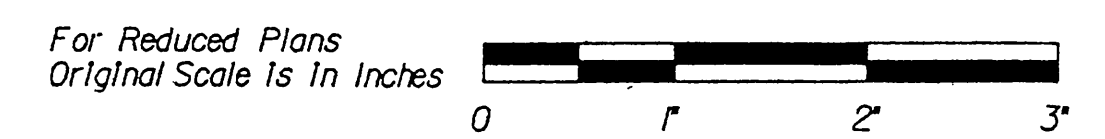
INDEXED 8-8-2000 LHM



NOTE: Hold-Down Z Not Shown For Clarity



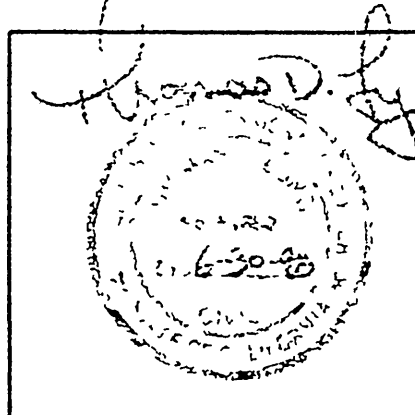
- GENERAL NOTES FOR BEARINGS:**
1. All Material shall conform to ASTM A-709, 50 W specifications.
 2. All welded assemblies shall be stress-relieved after fabrication.
 3. All surfaces where finish is shown shall be machine finished.
 4. Self lubricating bronze bearing plates to conform to ASTM Specification B22, Alloy C9100, Edges to be machined.
 5. All masonry plates to be set on 1/2" neoprene pad 60 Durometer.
 6. Elastomeric Bearing pad See GENERAL NOTES Sheet S-17.



FILE: c:\0679\016\central3.dgn
DATE: 4-Aug-94 11:01

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

Designed By: TDL
 Drawn By: PZ
 Checked By: HS
 Approved By: JMJ
 Date: 07-15-1994

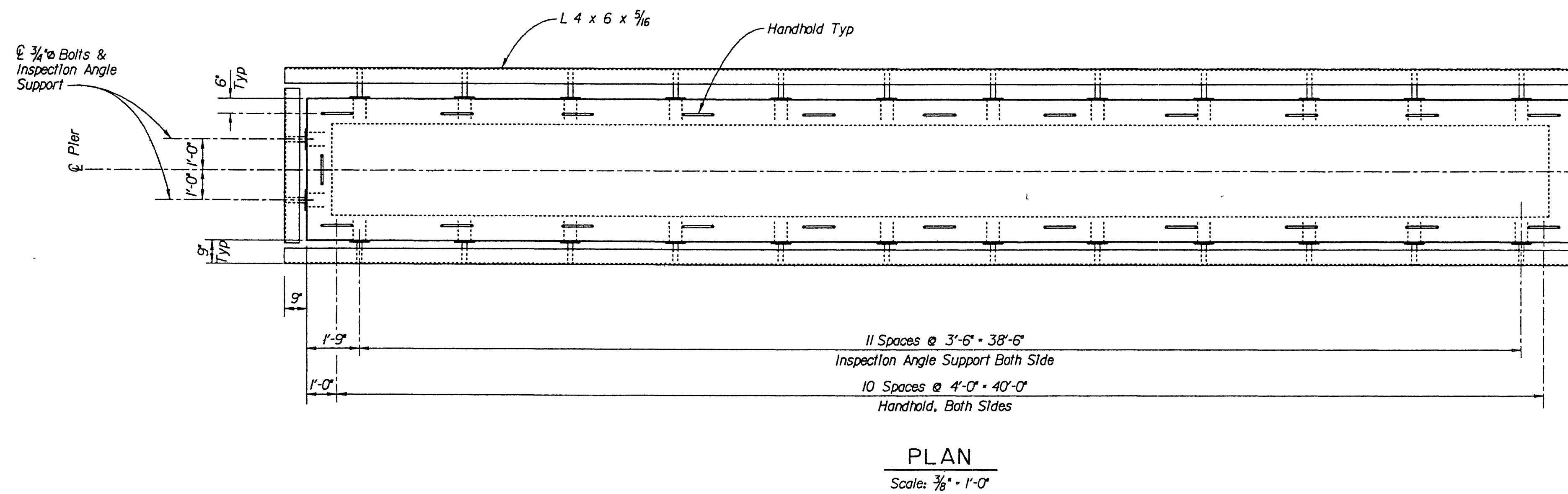
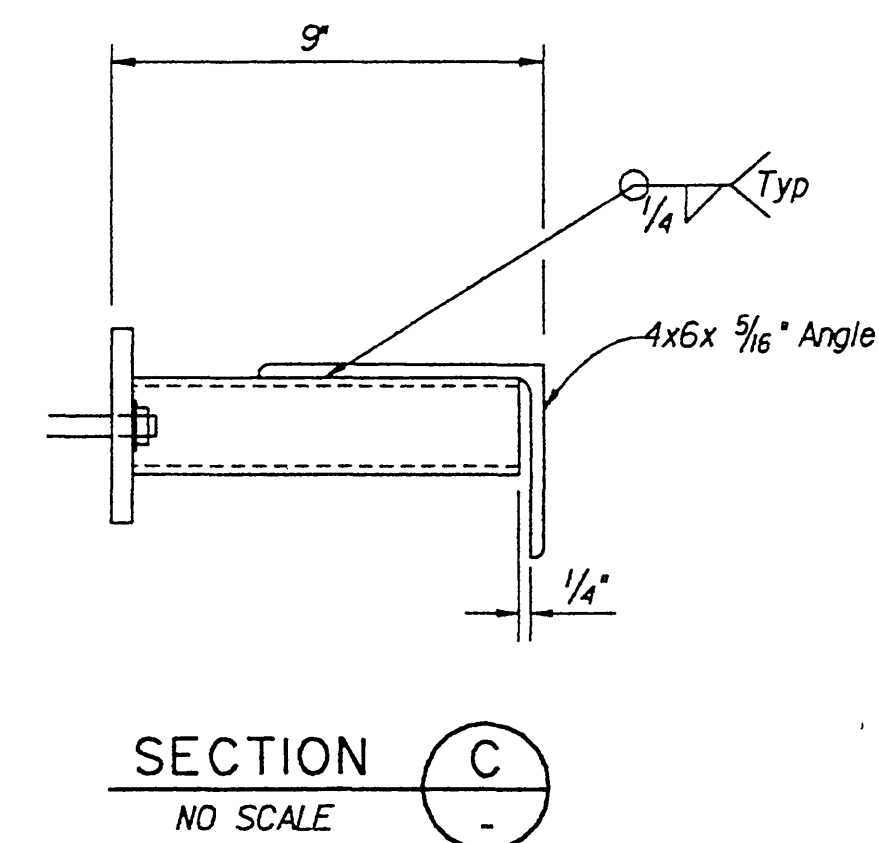
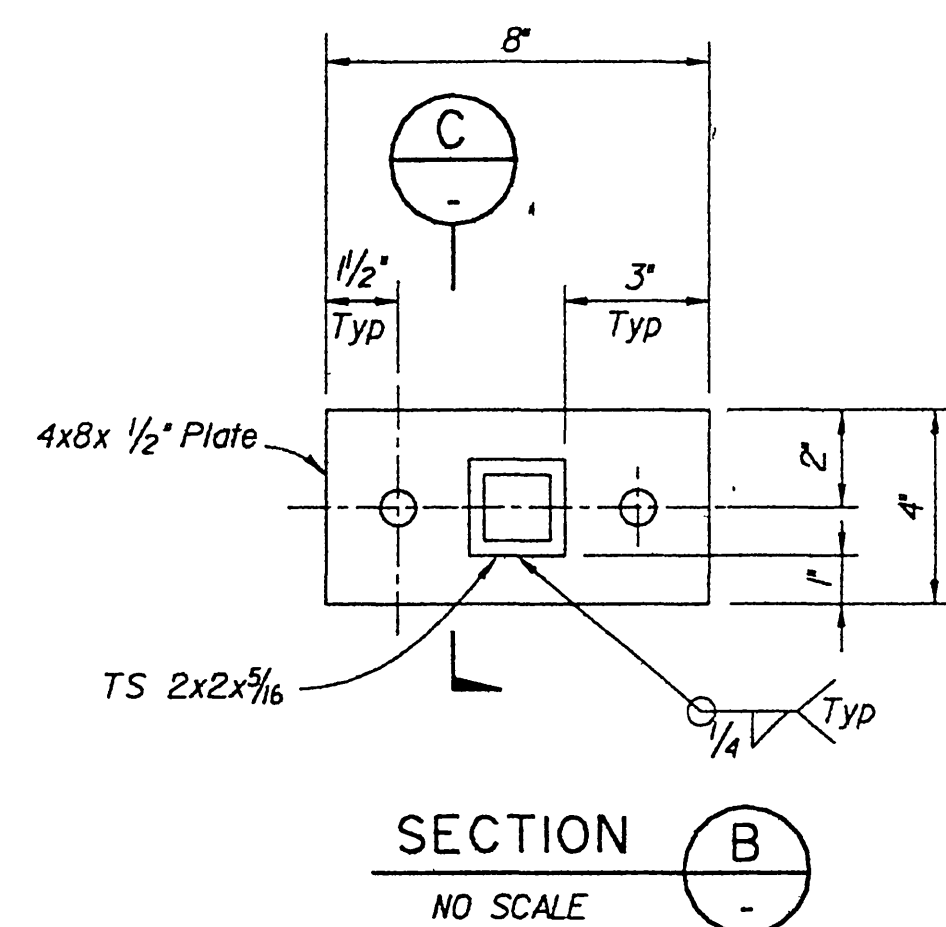
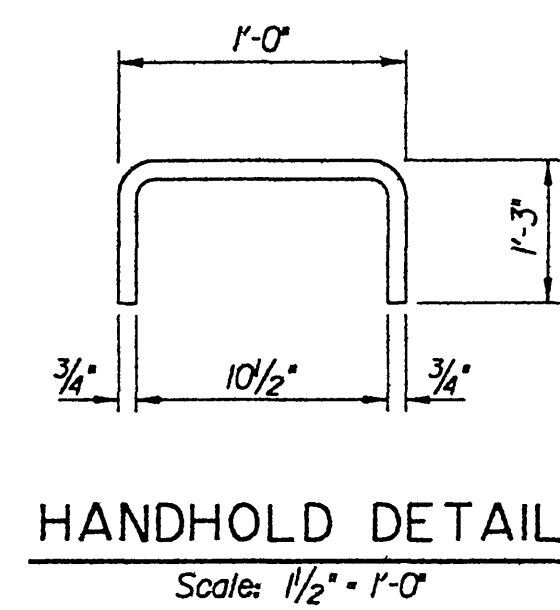
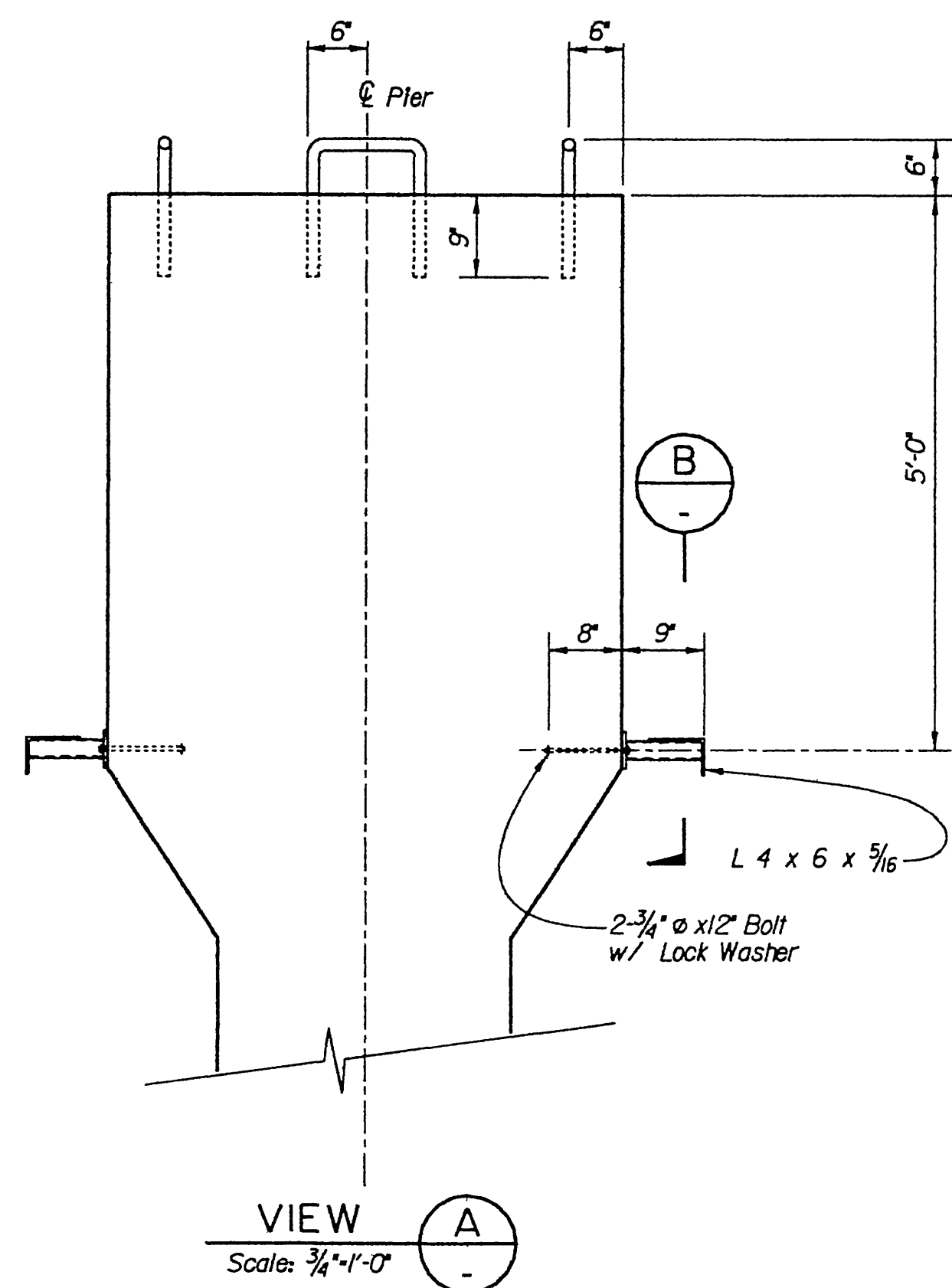


ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS BEARING DETAILS R-3595

Scale: AS NOTED	Project No.: 06791	Drawing No.: S-13	Sheet: 13 of 18
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AS BUILT DRAWINGS

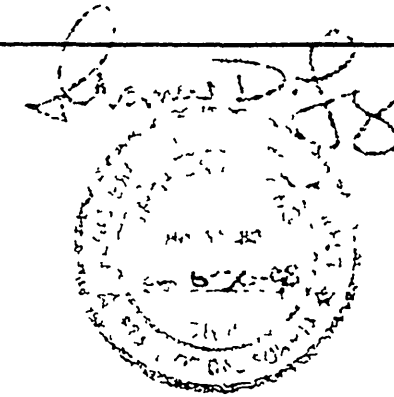


AS BUILT DRAWINGS

For Reduced Plans
Original Scale Is In Inches

FILE: c:\cst790\cst790\central\magn
DATE: 8-Aug-94 14:03

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.



Designed By	TDL
Drawn By	PZ
Checked By	HS
Approved By	JMJ
Date	07-15-1994

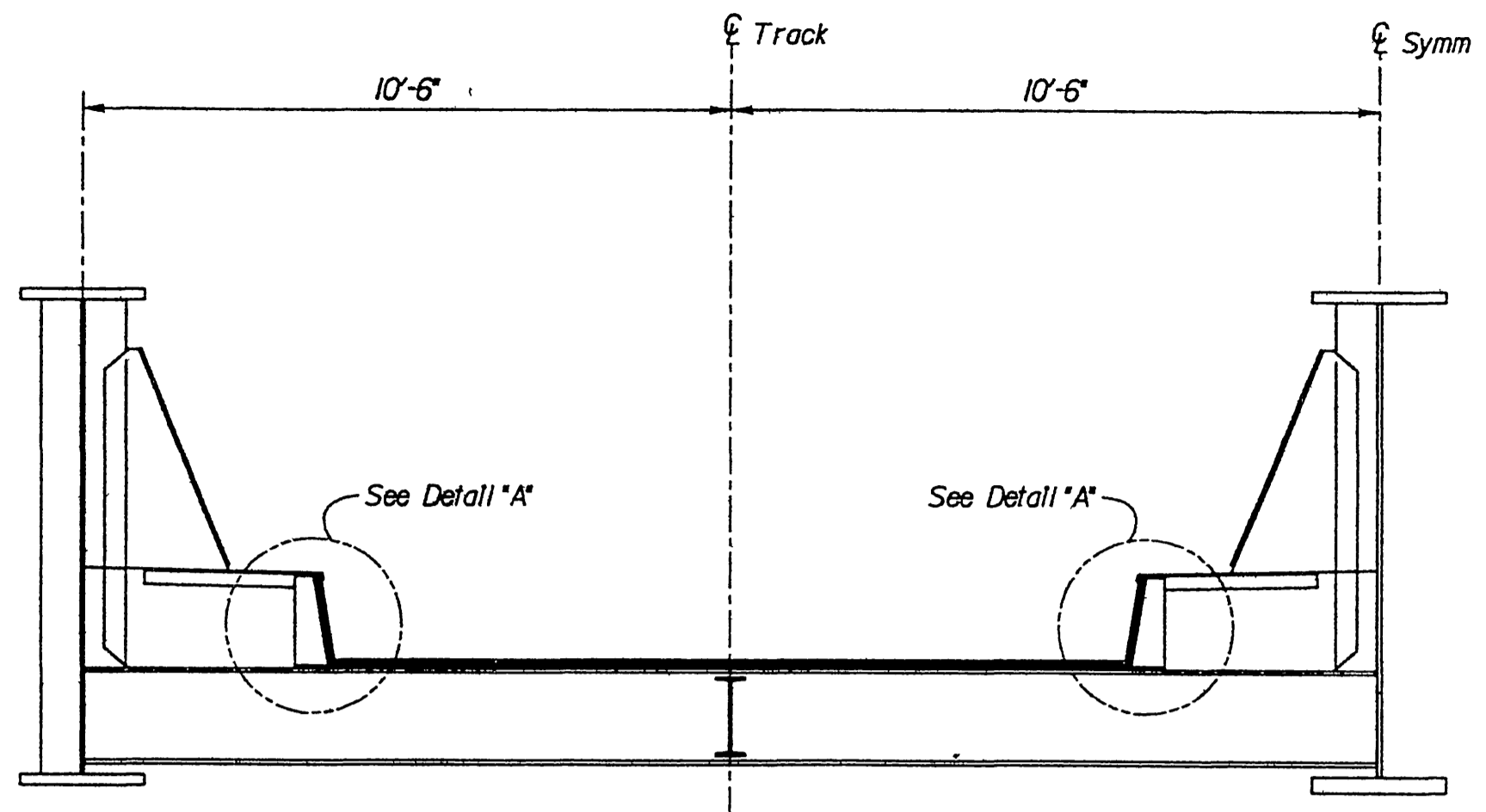


ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

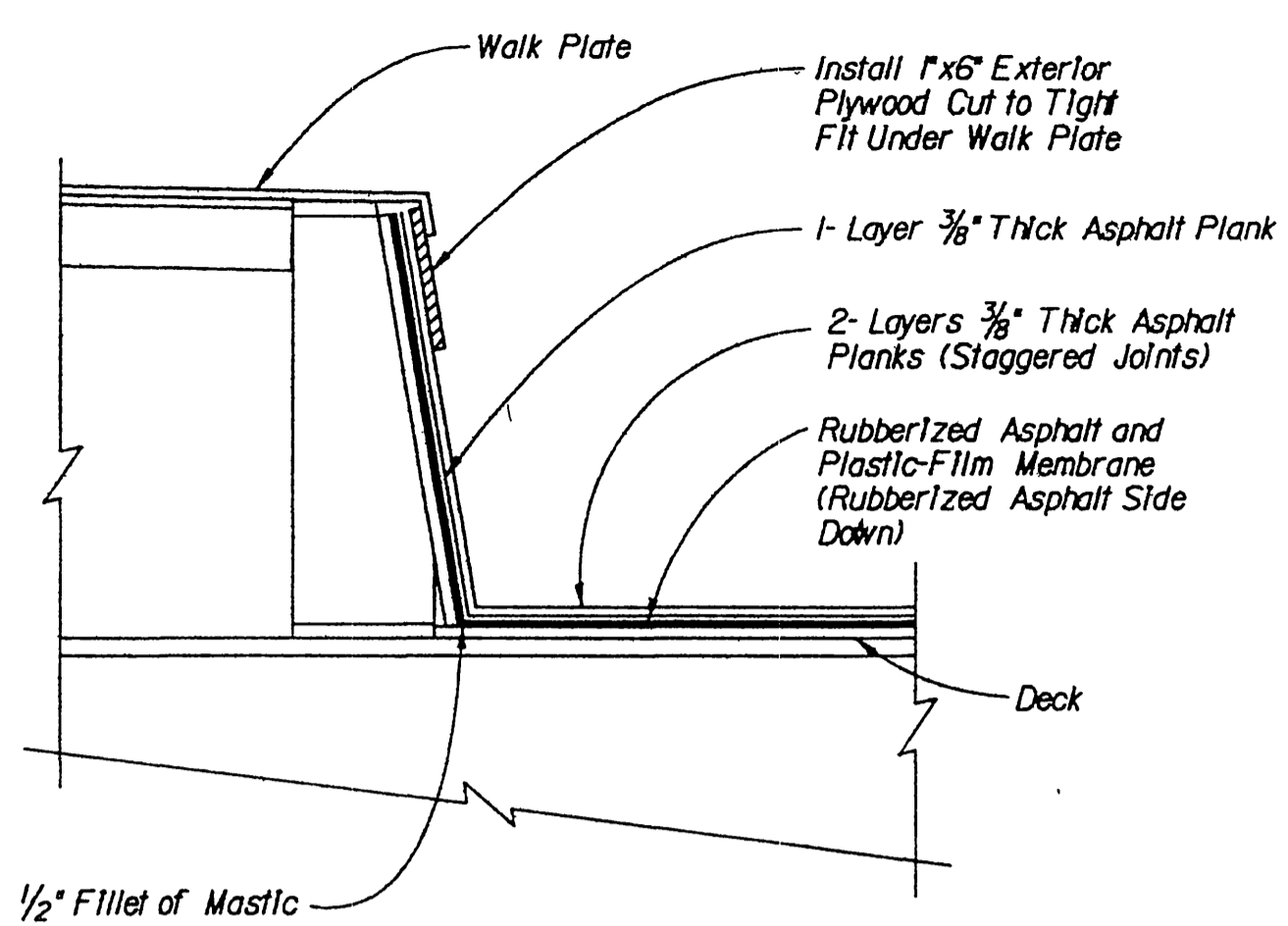
CENTRAL AVENUE UNDERPASS
INSPECTION FACILITIES DETAILS
R-3595

Scale	Project No	Drawing No.	Sheet
AS NOTED	06791	S-14	14 of 18

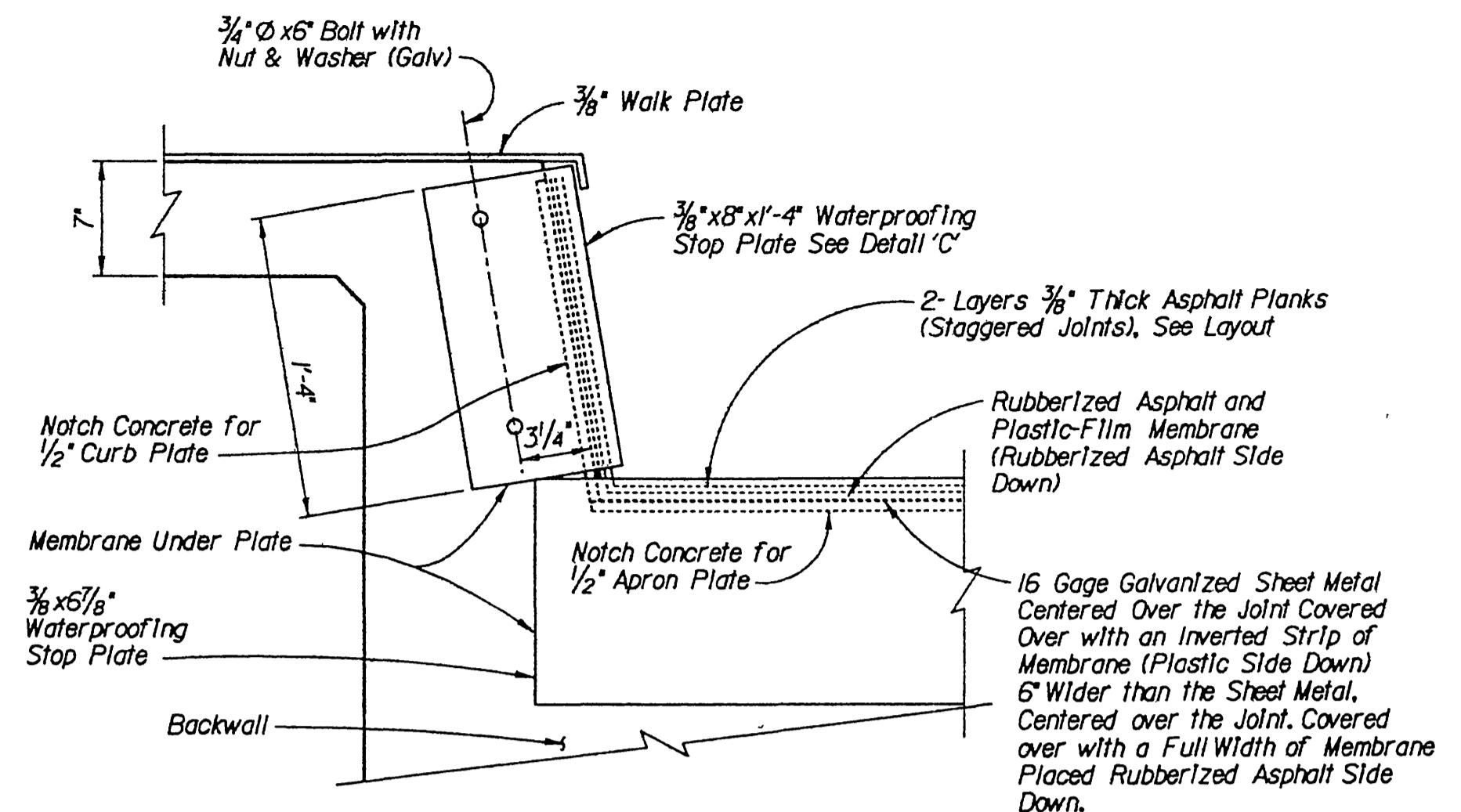
INDEXED 8-8-2000 JH



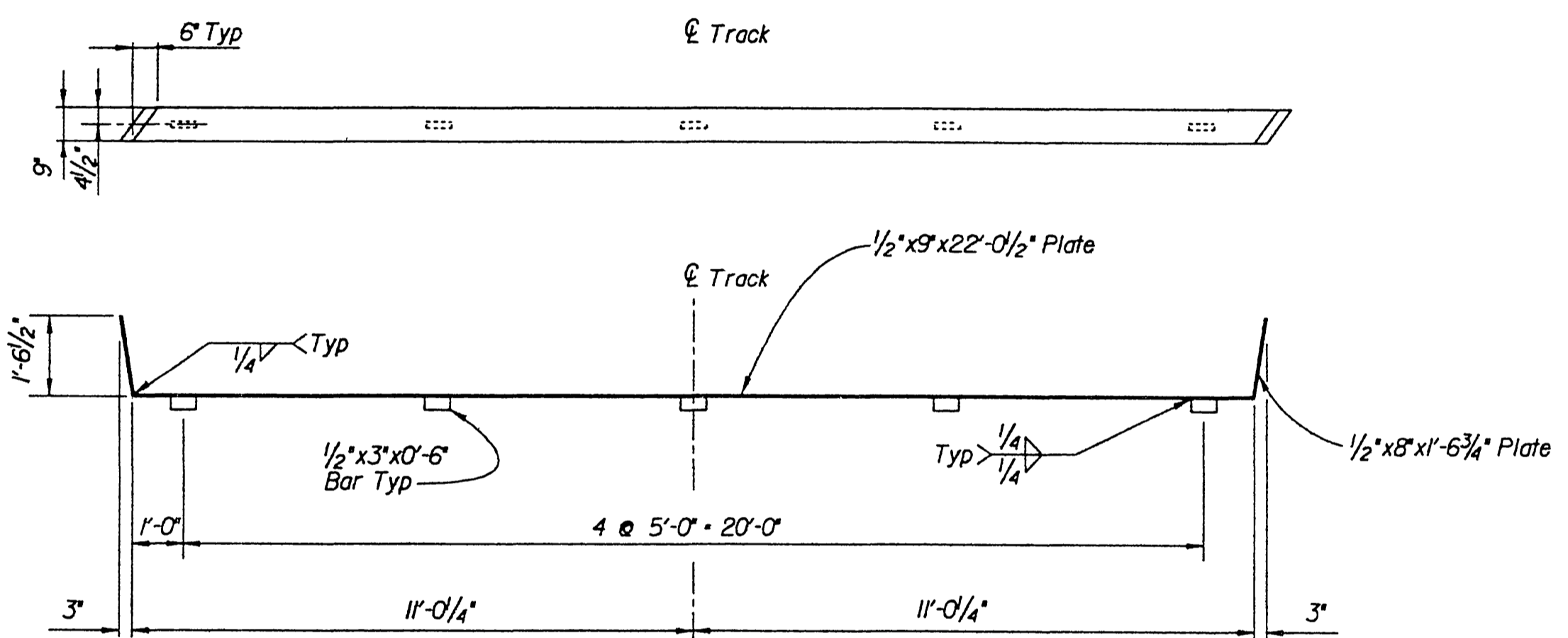
TYPICAL SECTION
Scale: 3/8" = 1'-0"



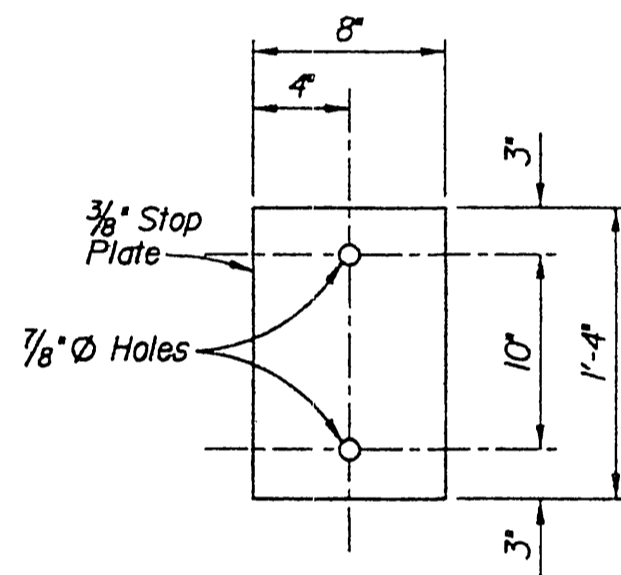
DETAIL 'A'
Scale: 1/2" = 1'-0"



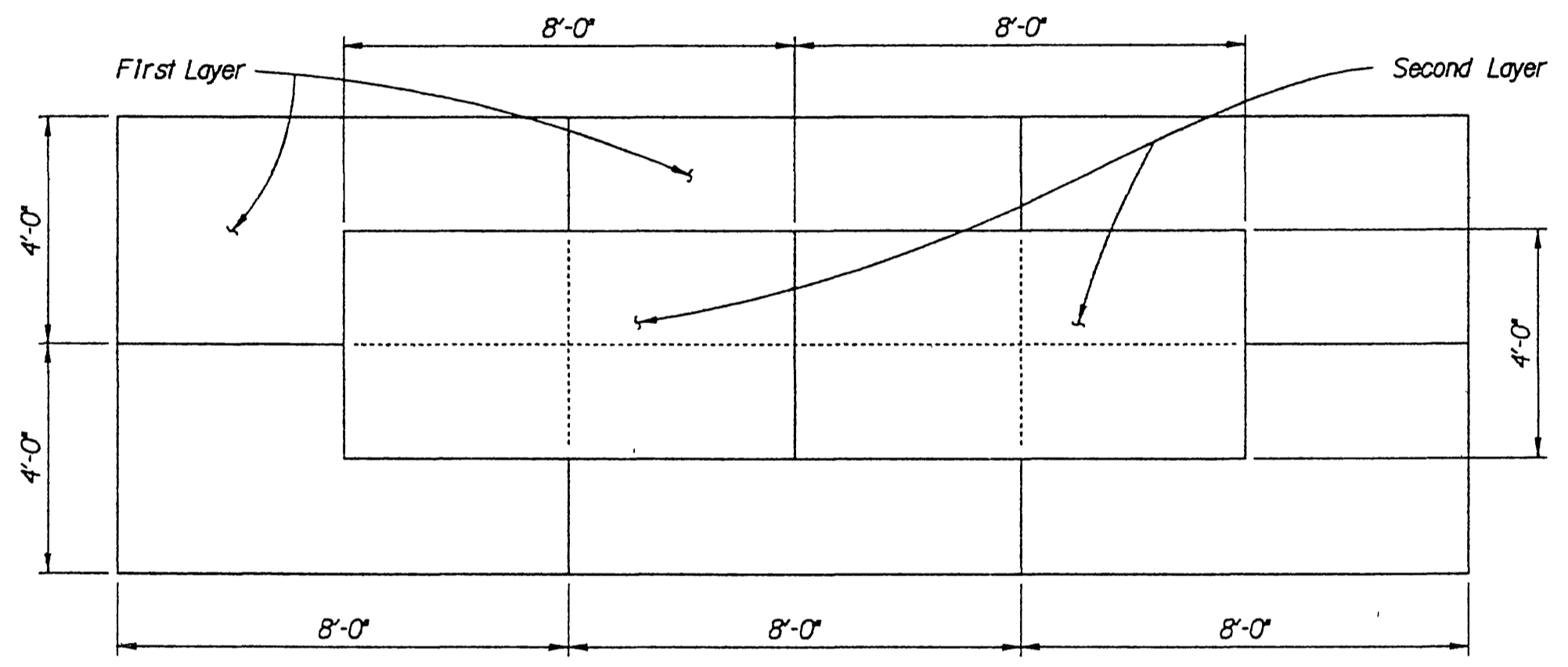
WATERPROOFING AT ABUTMENT CURB
Scale: 1/2" = 1'-0"



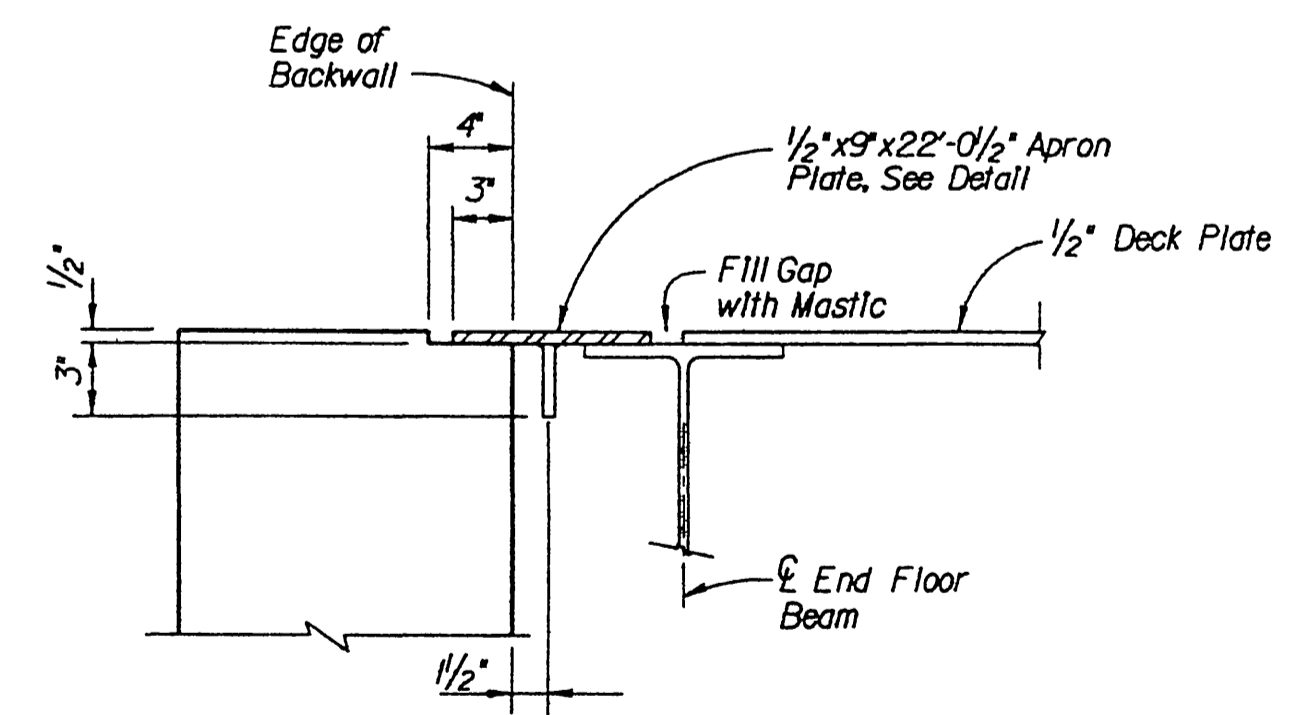
APRON PLATE DETAIL
Scale: 3/8" = 1'-0"



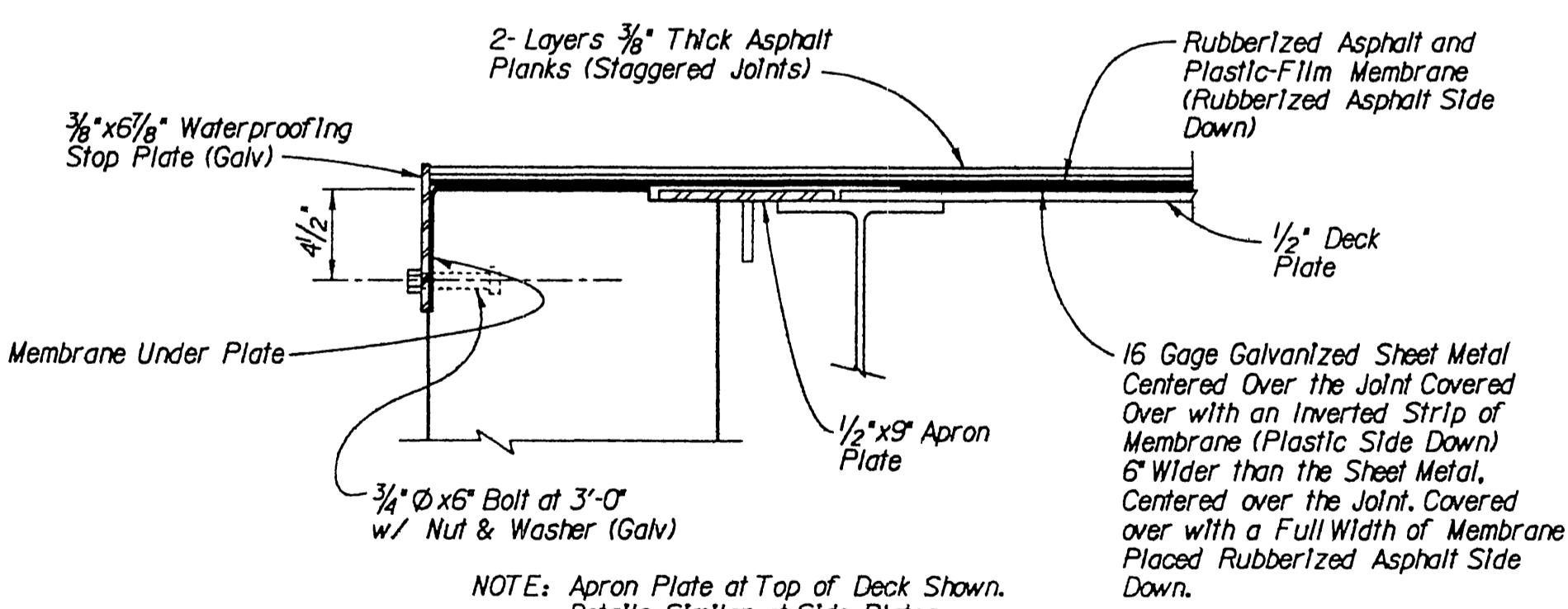
DETAIL 'C'
Not To Scale



3/8" ASPHALT PLANKS LAYOUT
Scale: 3/8" = 1'-0"



APRON PLATE AT ABUTMENTS
Scale: 1/2" = 1'-0"



WATERPROOFING AT ABUTMENT
Not To Scale

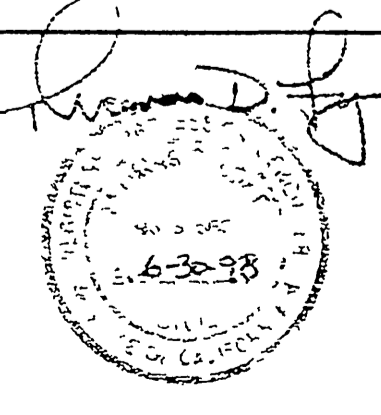
NOTE: Apron Plate at Top of Deck Shown. Details Similar at Side Plates.

For Reduced Plans
Original Scale is in Inches
0 1' 2' 3'

AS BUILT
DRAWINGS

FILE: c:\06791\016\central5.dgn
DATE: 9-Aug-94 08:30A

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj Mgr.



Designed By	TDL
Drawn By	PZ
Checked By	HS
Approved By	JMJ
Date	07-15-1994



ATCHISON, TOPEKA & SANTA FE
RAILWAY COMPANY

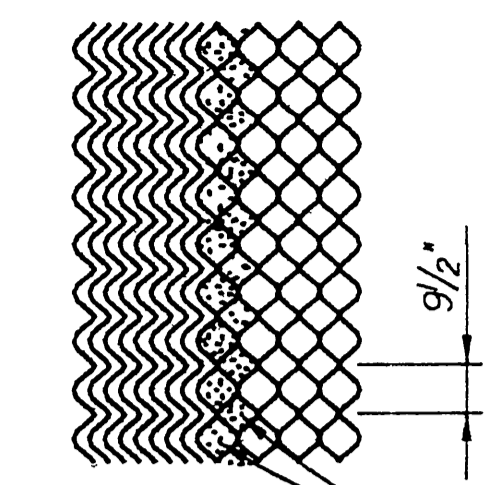
CENTRAL AVENUE UNDERPASS
WATERPROOFING DETAILS
R-3595

Scale	Project No.	Drawing No.	Sheet
AS NOTED	06791	S-15	15 of 18

INDEXED 8-8-2000 LHT

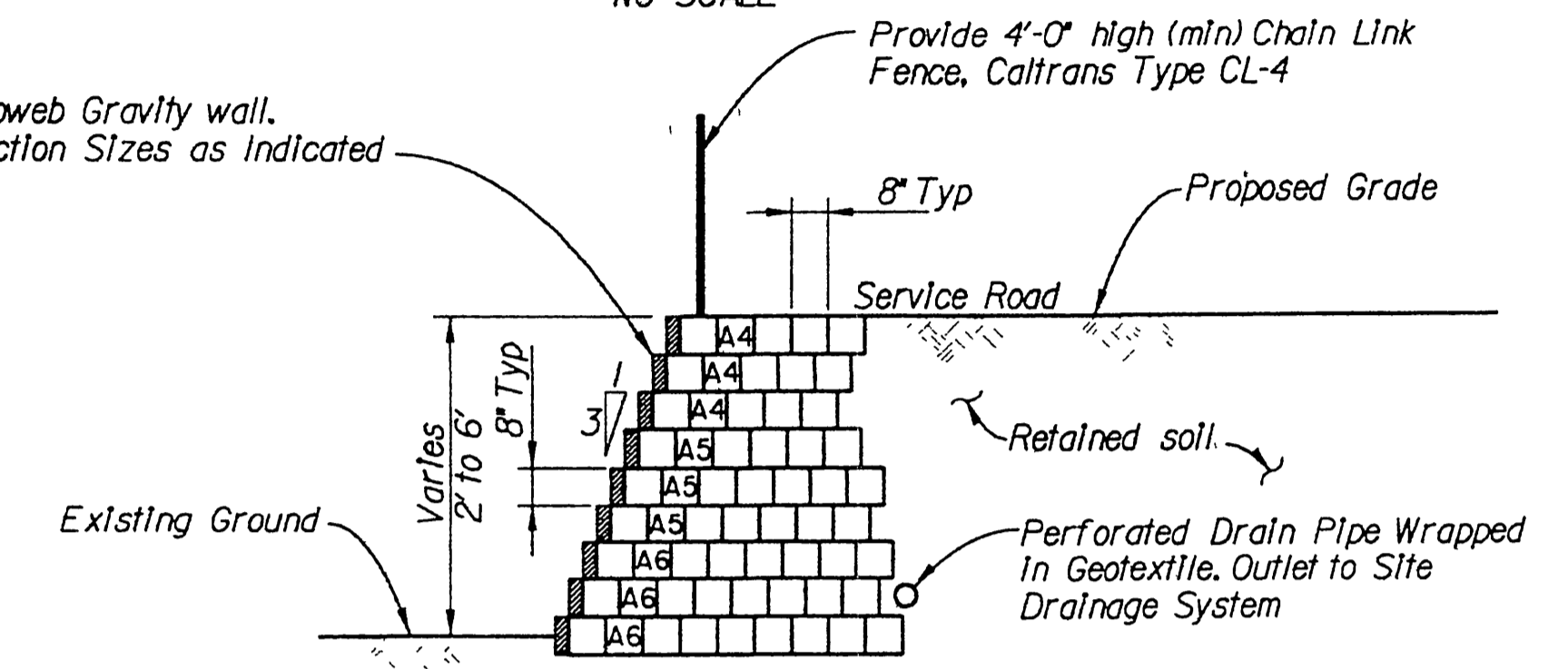
Max. Wall Height:	6.0	(Feet)
Base Width:	4.02	(Feet)
Backslope Angle:	0.00	(Degrees)
No. of Layers:	9	
Surcharge:	250.0	(PSF)

Layer	Toe	Heel	Width	Thickness
1	0.00	4.02	4.02 A6	0.67
2	0.22	4.01	3.79	0.67
3	0.44	4.00	3.56	0.67
4	0.67	4.00	3.33 A5	0.67
5	0.89	3.99	3.10	0.67
6	1.11	3.98	2.87	0.67
7	1.33	3.97	2.64 A4	0.67
8	1.56	3.97	2.41	0.67
9	1.78	3.96	2.18	0.67

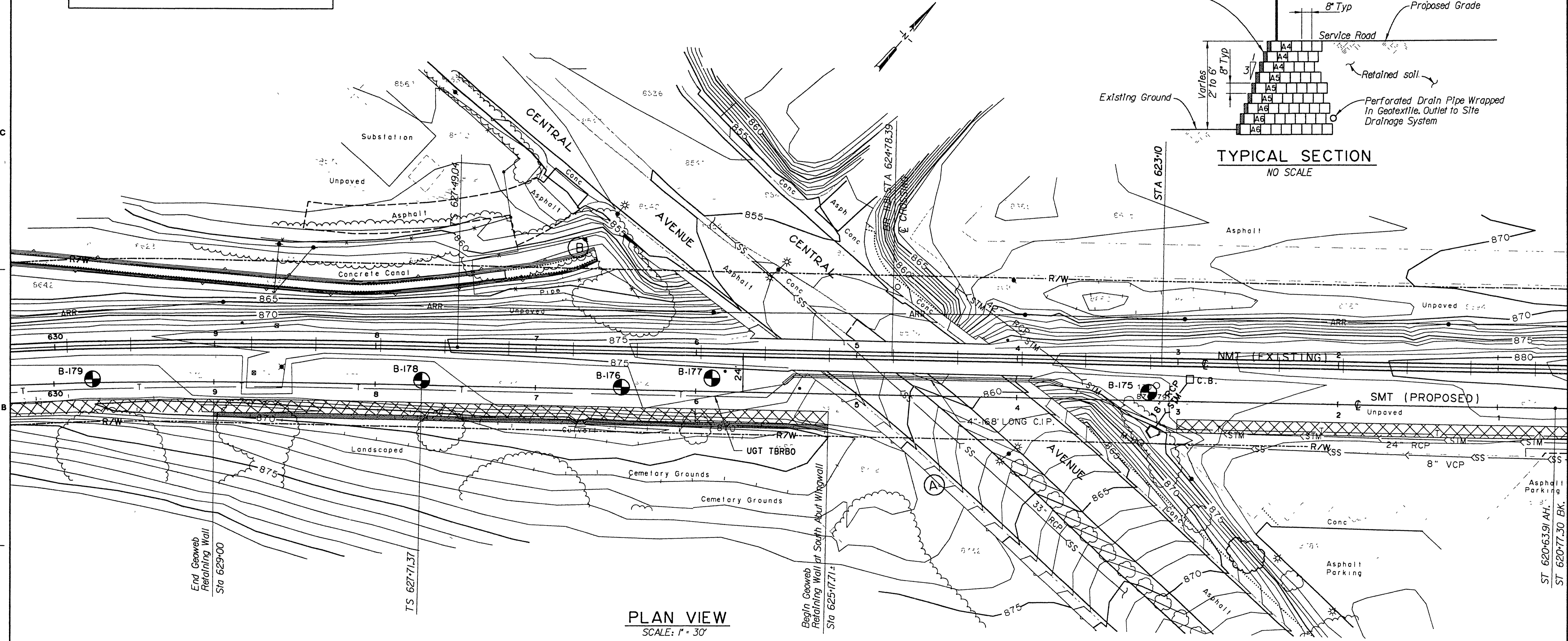


PLAN VIEW
NO SCALE

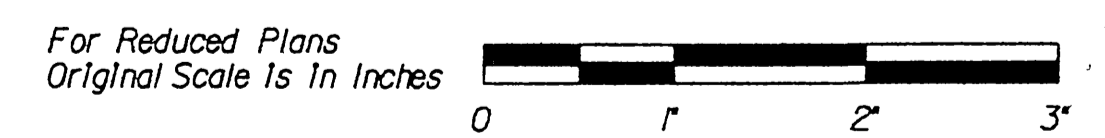
Grout Outer two Cells with 2500 psi Concrete - All Layers



TYPICAL SECTION
NO SCALE



PLAN VIEW
SCALE: 1" = 30'



For Reduced Plans
Original Scale Is 1/4" = 1'-0"

FILE: c:\0679\016\central6.dgn
DATE: 4-Aug-94 11:06

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

HDR
HDR Engineering, Inc.

Designed By: TDL/EH
 Drawn By: PZ
 Checked By: HS
 Approved By: JMJ
 Date: 07-15-1994

Santa Fe
 ATCHISON, TOPEKA & SANTA FE
 RAILWAY COMPANY

**CENTRAL AVENUE UNDERPASS
 GEOWEB RETAINING WALL
 PLAN AND TYPICAL SECTION**

Scale: AS NOTED	Project No.: 06791	Drawing No.: S-16	Sheet: 16 of 18
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**AS BUILT
DRAWINGS**

GENERAL NOTES:

DESIGN SPECIFICATION:

Controlling specifications for design and construction of this project are as follows:

AT&SF Standard practice.

American Railway Engineering Association, Manual for Railway Engineering, Volumes I and II, latest edition, and Interim versions.

American Welding Society, Bridge Welding Code D1.5-88, latest edition.

Caltrans Standard Specifications, July 1992.

DESIGN LOADING:

Dead Load: As Calculated

Live Load: Coopers E-80 Plus Impact

TRACKWORK:

As specified by AT&SF and shown on the plans.

CAST-IN-PLACE CONCRETE:

All concrete, concrete work and placement of reinforcement shall be in accordance with Section 51 of Caltrans Standard Specification, July, 1992.

The ultimate compressive strength of concrete shall be not less than 4,000 psi in 28 days. Maximum size of coarse aggregate shall be one inch.

Minimum concrete cover on reinforcement shall be two inches, except on surfaces cast against earth which shall be three inches.

All exposed edges of concrete members shall be chamfered 3/4 inch.

All concrete shall receive an ordinary surface finish.

AIR-ENTRAINED CONCRETE:

Concrete in general shall be air-entrained containing not less than 4% nor more than 6% air by volume. Admixtures containing Chlorides are not permitted. Concrete shall be in accordance with Section 90 of Caltrans Standard Specification, July 1992.

REINFORCING STEEL:

All reinforcing steel shall be deformed bars meeting current A.S.T.M. designation: A615, grade 60. Fabrication of reinforcing steel shall be as per Section 52 of Caltrans Standard Specification, July 1992.

All reinforcing steel splices shall have a minimum lap of 30 bar diameters unless otherwise shown.

GROUT:

Grout shall be SEALTIGHT 588 Grout, non-ferrous, non-shrink grout as manufactured by W. R. Meadows, Inc. or similar.

GEOWEB RETAINING WALL:

The Geoweb retaining wall multi-layer retention structure shall be a cellular confinement system as manufactured by PRESTO Products Company and distributed by T.C. Johnson Co. (1-800-231-6341).

The installation of the retaining wall shall be supervised by a manufacturer's representative.

ELASTOMERIC BEARING PADS:

The elastomeric bearing pads shall be 60 durometer and shall conform to AREA, chapter 8, part 1B.

STRUCTURAL STEEL:

All structural steel shall conform to ASTM Specification A709-50W requirements unless otherwise shown on the plans. No painting of structural steel will be required.

A welding procedure shall be submitted and approved by the Engineer prior to commencement of fabrication of the superstructures.

Nondestructive testing and inspection will be required for all shop and field welding.

Girders are designed as Fracture Critical Members and shall meet the requirements of AREA Chapter 15, Article 1J4. Charpy V-Notch impact test requirements as per Table 1J4.7 (-30°F) Minimum Service Temperature.

Personnel performing Non-Destructive Testing (NDT) shall be qualified as NDT level III. In accordance with ASNT recommended practice SNT-TC-1A, level III personnel must be certified by the ASNT.

Structural steel fabricators shall be currently certified under the AISC Quality Certification Program, Category III, Major Steel Bridges only.

The welds shall be performed with filler metal with atmospheric corrosion resistance, similar to the A709-50W steel.

All bolts shall be 7/8" dia. ASTM A-325 Type 3 with the same weathering characteristics as that of the A709-50W Structural Steels. Each bolt shall have one hardened washer under the turned element. Bolts shall be tightened by the turn-of-the-nut method as per AREA Chapter 15, Section 3.2.

The Through Plate Girder spans shall be completely shop assembled when sitting on level supports to the proper grade. All parts are to be match-marked for field erection.

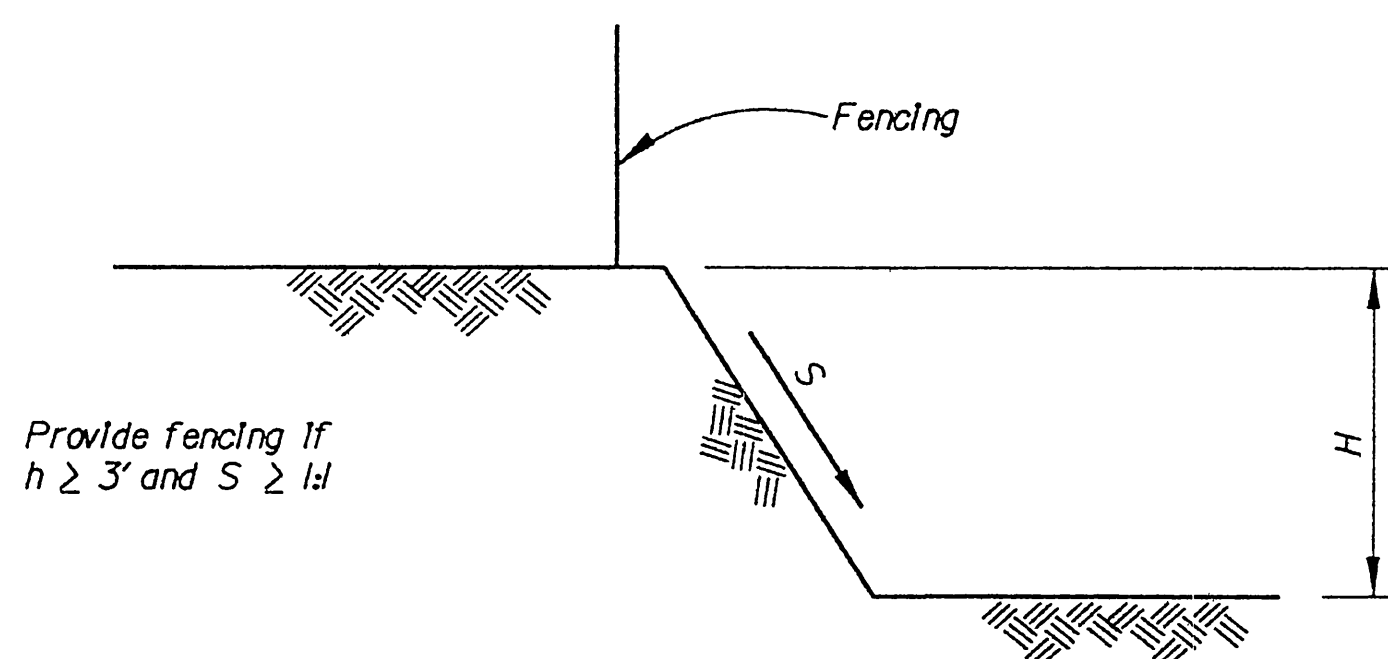
The completed girders, including knee-bracing and the floor system, shall be shop blasted in accordance with SSPC-SP6 to remove all mill scale.

SHOP DRAWINGS:

Detailed shop drawings shall be submitted for review by the Engineer for conformance with the plans prior to beginning fabrication.

HANDRAILING/FENCING:

4'-0" high (min) chain-link fencing (Caltrans Type CL-4) shall be provided at all locations conforming to the following diagram. These locations include, but are not limited to, the following:
1. Along the Geoweb retaining wall.
2. Along the existing and proposed retaining/wing walls adjacent to the bridge abutments.



SITE CONDITIONS

The contractor shall verify all controlling field dimensions before ordering or fabricating any material.

QUANTITIES

All quantities listed in plans are for information purposes. The contractor shall verify all quantities prior to submitting the bid.

ESTIMATED SUBSTRUCTURE QUANTITIES*	ITEM	UNIT	NORTH ABUTMENT	SOUTH ABUTMENT	BOTH APPROACH	BOTH ABUTMENT	SIX 36" DRILLED SHAFTS	SIXTEEN 24" DRILLED SHAFTS	PIER WALL	GEOWEB RETAINING WALL	TOTAL
			WINGWALL	WINGWALL	SLABS	CAPS					
	BAR REINFORCING STEEL	LB	870	370	2,610	27,902	18,594	18,544	36,340		105,230 LB
	STRUCTURAL CONCRETE	CY	4.3	2.2	12.4	89.9	48.9	85.0	164		407 CY
	36" DRILLED SHAFT	LF					183				183 LF
	24" DRILLED SHAFT	LF						315			315 LF
	HP 14 X 89 PILING	LF	60	24							84 LF
	GEOWEB RETAINING WALL	SF								1,800	1,800 SF
	PERVIOUS BACKFILL	CY	2.7	1.6		12.6					17 CY
	STRUCTURAL EXCAVATION	CY							160		160 CY
	STRUCTURAL BACKFILL	CY							76		76 CY

ESTIMATED SUPERSTRUCTURE QUANTITIES*	ITEM	TOTAL
	STRUCTURAL STEEL	494,349 LB
	WATERPROOFING	320 SY

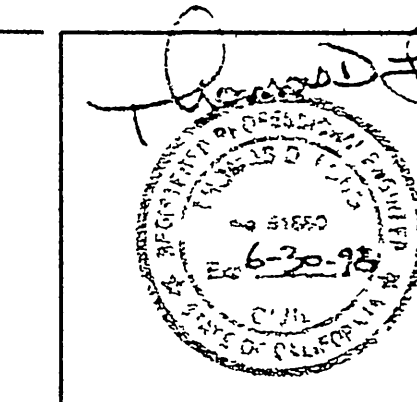
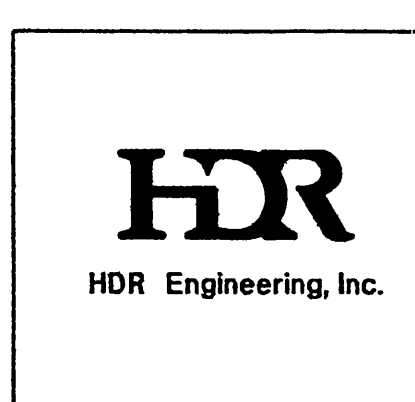
* FOR INFORMATION ONLY

ITEM	Top of Rail to Bridge Seat Distance		Top of Rail to Low Girder Distance		Top of Rail to End Floor Beam Pedestal Seat Distance	
	EXPAN	FIXED	IN	IN	IN	IN
Rail-Tie PL	8	8			8	8
Timber Tie	7	7			7	7
Ballast	8	8			8	8
Waterproofing	1	1			1	1
Steel Deck PL	0.5	0.5			0.5	0.5
Floor Beams	18.375	18.375			18.375	
Clearance	2.5	2.5			2.5	
Flange Angles	113	113			113	
Sole PL	3.25	3.25				
Rocker PL	3.25	6.25				
Brance Bearing	3.00					
Masonry PL	3.25	3.25				
Neoprene Pad	0.5	0.5				
Cover PLs					1.25	
Bolt Heads					0.625	
End Floor Beam						21.625
End Floor Beam Sole PL						1
Bearing Pad						1.5
TOTAL INCHES	59.750	59.750	48.375		48.625	
TOTAL FEET	4.98	4.98	4.03		4.05	

AS BUILT DRAWINGS

FILE: c:\0679\016\central7.dgn
DATE: 9-Aug-94 08:36A

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.



Designed By	TDL
Drawn By	PZ
Checked By	HS
Approved By	JMJ
Date	07-15-1994

Santa Fe
ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

CENTRAL AVENUE UNDERPASS
GENERAL NOTES AND QUANTITIES
R-3595

Scale	Project No.	Drawing No.	Sheet
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INDEXED 8-8-2000 fth

