

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	1
		ILLINOIS	CONTRACT NO. 68H90	

INDEX OF SHEETS:

- 1 COVER SHEET
- 2 JOB SPECIFIC NOTES & COMMITMENTS
- 3-6 SUMMARY OF QUANTITIES
- 7 SAMPLE WORK FORM
- 8 EXISTING V.A.T. SYSTEM
- 9 PROPOSED C.A.T. SYSTEM
- 10-12 EXISTING TRAFFIC BARRIER, TERMINAL TYPE 3 & TYPE 3A
- 13-14 EXISTING TYPE 4 TERMINAL
- 15-17 EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)
- 18 EXISTING GIBRALTAR CABLE BARRIER DETAIL
- 19 EXISTING TRAFFIC BARRIER TERMINAL TYPE 8
- 20 EXISTING TRAFFIC BARRIER TERMINAL TYPE 9
- 21-23 EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES
- 24-27 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6.75 FOOT POSTS STANDARD 630011-D4

PROPOSED  
HIGHWAY PLANS

VARIOUS ROUTES  
D4 GUARDRAIL REPAIRS 2024 – MCHD  
VARIOUS COUNTIES  
C-94-009-24

HIGHWAY STANDARDS:

630001-13	631046-04	701201-05	701456-05
630101-11	635001-02	701301-04	701601-09
630301-09	664001-02	701400-12	701606-10
631006-08	665001-02	701406-13	701701-10
631011-10	701006-05	701411-09	701901-09
631026-06	701011-04	701428-01	BLR-23-04
631031-18	701101-05		

DISTRICT STANDARDS:

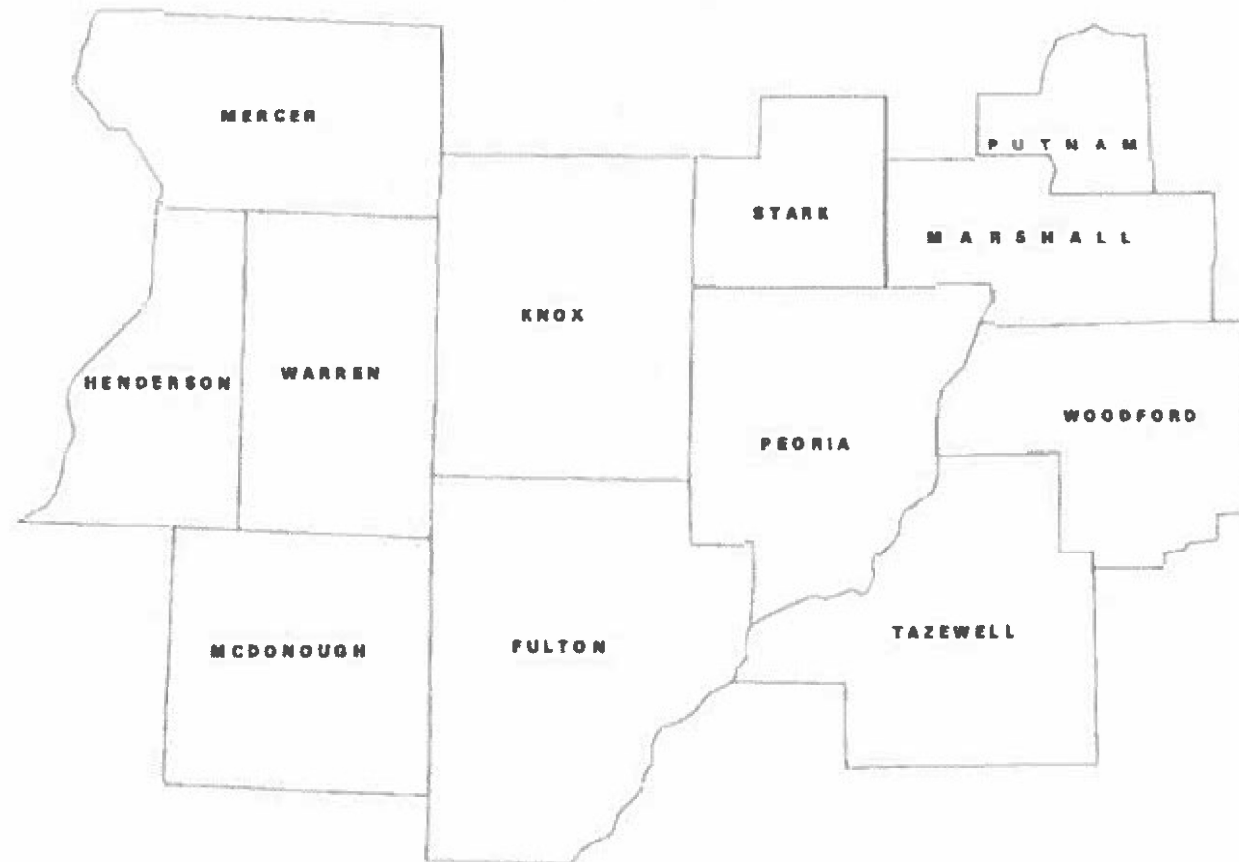
630011-D4



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER BEN TELLEFSON (309) 671-3333  
PROJECT MANAGER BEN TELLEFSON (309) 671-3333  
CATALOG NO. 036356-00D  
CONTRACT NO. 68H90



GROSS LENGTH = NA  
NET LENGTH = NA

D-94-009-24



DESCRIPTION:  
GUARDRAIL AND CABLE RAIL REPAIRS AT  
VARIOUS LOCATIONS IN DISTRICT 4

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED October 23, 2023  
Paul G. James REGIONAL ENGINEER  
December 8, 2023  
Scott A. Etkin  
ENGINEER OF DESIGN AND ENVIRONMENT  
December 8, 2023  
Stephen M. Smith  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

**COMMITMENTS**

NO COMMITMENTS HAVE BEEN MADE FOR THIS PROJECT.

**TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL:**

ANY TYPE 1, 1A, OR 1B TERMINAL REQUIRING REPLACEMENT UNDER THIS CONTRACT SHALL BE REPLACED BY A TYPE 1 (SPECIAL) TERMINAL AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER FORTY-EIGHT (48) HOURS PRIOR TO PERFORMING WORK.

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bentley.com/PWIDOT/Document/IDOT Offices/District 4/Project/ID4\_68EAP/CADD/Draw/CADsheets/ID468EAP\_sht-cover.dgn

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**JOB SPECIFIC NOTES AND COMMITMENTS**

SCALE: SHEET 1 OF 1 SHEETS, STA. TO STA.

P.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	2
ILLINOIS CONTRACT NO. 68H90				

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
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				100% STATE	100% STATE	100% STATE
				MCHD	CONTRACT MAINT	
				0021	0021	0021
63000001	SPBGR TY A 6FT POSTS	FOOT	2165	315	1400	450
63000003	SPBGR TY A 9FT POSTS	FOOT	605	45	460	100
63100045	TRAF BAR TERM T2	EACH	34	25	5	4
63100070	TRAF BAR TERM T5	EACH	5	4	0	1
63100085	TRAF BAR TERM T6	EACH	3	2	0	1
63100101	TRAF BAR TERM T9	EACH	5	4	0	1
63100105	TRAF BAR TERM T10	EACH	5	4	0	1
63100115	TRAF BAR TERM T12	EACH	5	4	0	1
63100167	TR BAR TRM T1 SPL TAN	EACH	43	29	3	11
63100169	TR BAR TRM T1 SPL FLR	EACH	15	4	2	9
63200310	GUARDRAIL REMOVAL	FOOT	5055	1670	2110	1275
63400105	GUARD POSTS	EACH	22	5	0	17
64300260	IMP ATTEN FRD NAR TL3	EACH	2	0	0	2
64300320	IMP ATTEN FRD RES TL3	EACH	2	0	0	2
64300370	IMP ATTEN FRD WID TL3	EACH	2	0	0	2

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	3
ILLINOIS CONTRACT NO. 68H90			

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
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				MCHD	CONTRACT MAINT	
				0021	0021	0021
64300450	IMP ATTEN NRD TL3	EACH	4	3	0	1
64300770	IMP ATTEN SU NAR TL3	EACH	2	0	0	2
66400105	CH LK FENCE 4	FOOT	205	5	100	100
66400305	CH LK FENCE 6	FOOT	524	324	100	100
66500105	WOV W FENCE 4	FOOT	500	0	0	500
72501000	TERMINAL MARKER - DA	EACH	47	25	10	12
78200005	GRDRAIL REF TYPE A	EACH	41	13	9	19
X0301372	REPR/UPGR EX VAT-CAT	EACH	5	4	0	1
X6300210	GUARDRAIL BLOCKS	EACH	216	126	30	60
X6300215	RAIL ELEMENT PLATES	EACH	85	54	16	15
X6300230	STEEL POSTS	EACH	136	81	15	40
X6330900	VERT ADJ OF GUARDRAIL	FOOT	440	200	120	120
X6331101	TUBULAR THRIE BEAM	FOOT	216	126	30	60
X6331110	STEEL POSTS SPECIAL	EACH	8	4	2	2
X6360123	REP CABLE RD GUARD 3S	FOOT	45	0	0	45

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.

PA	SECTION	COUNTY	TOTAL	SHEET
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	4
		ILLINOIS	CONTRACT NO. 68H90	

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				VARIOUS COUNTIES	VARIOUS COUNTIES	VARIOUS COUNTIES
				100% STATE	100% STATE	100% STATE
				MCHD	CONTRACT MAINT	
				0021	0021	0021
X6432213	REPR IMP ATTN FRW TL3	EACH	1	1	0	0
X6432223	RP IMP ATT FRN TL3	EACH	3	1	0	2
X6432233	REPR IMP ATTN SUN TL3	EACH	1	0	0	1
X6440130	REP HTC (GIBALTAR)	FOOT	450	0	0	450
X6440131	R HT TERM (GIBALTAR)	EACH	2	0	0	2
X6440134	R&R POSTS (GIBALTAR)	EACH	34	0	0	34
X6440135	REP LK PL (GIBALTAR)	EACH	90	0	0	90
X6440136	REP HAIRP (GIBALTAR)	EACH	45	0	0	45
X6640502	CHAIN LINK FENCE POST	EACH	13	5	4	4
X7010216	TRAF CONT & PROT SPL	L SUM	1	0.4	0.2	0.4
Z0008760	EMER WORK CALL OUT	EACH	14	13	0	1
Z0020210	PULL POST ARRANGEMENT	EACH	8	4	2	2
Z0051400	REM & RESET POSTS	EACH	103	63	10	30
Z0052410	REPAIR TRBT T1 SP TAN	EACH	17	16	0	1
Z0052415	REPAIR TRBT T1 SP FLR	EACH	5	4	0	1

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

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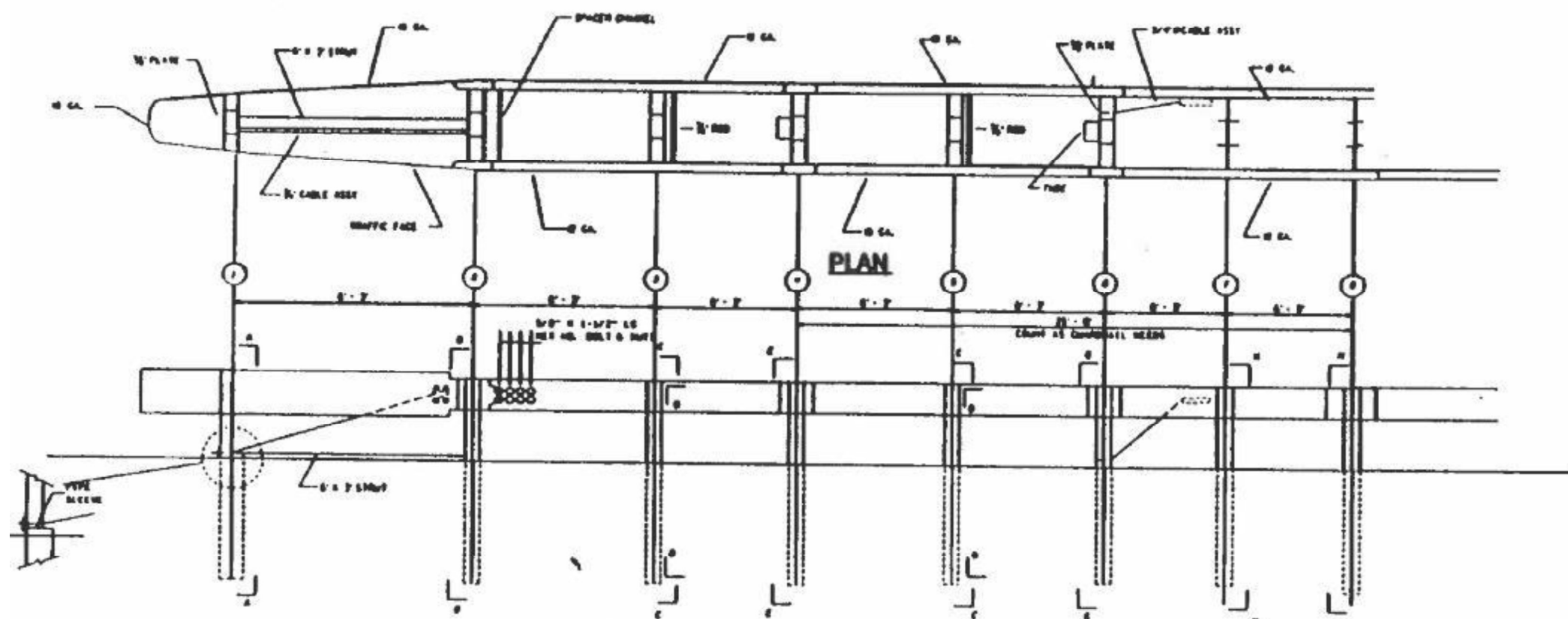
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D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	5
ILLINOIS CONTRACT NO. 68H90			



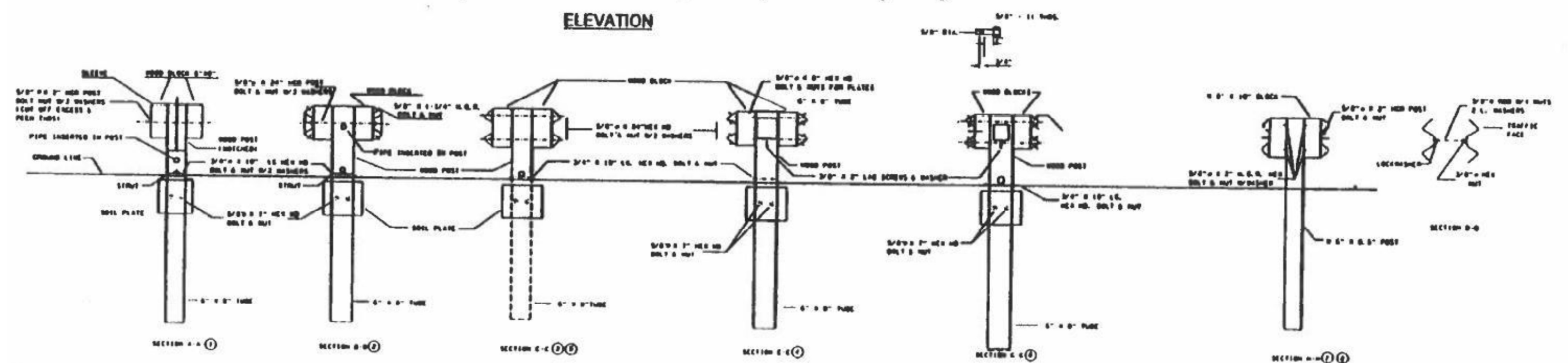








**DETAIL INCLUDED  
FOR REPAIR ONLY**



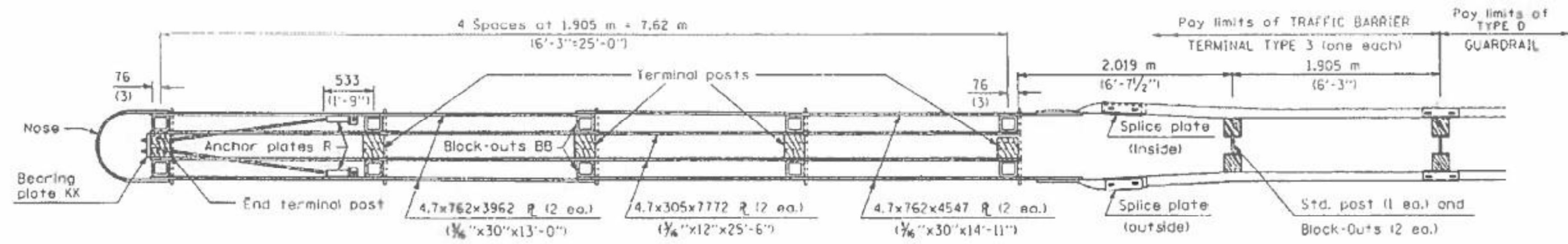
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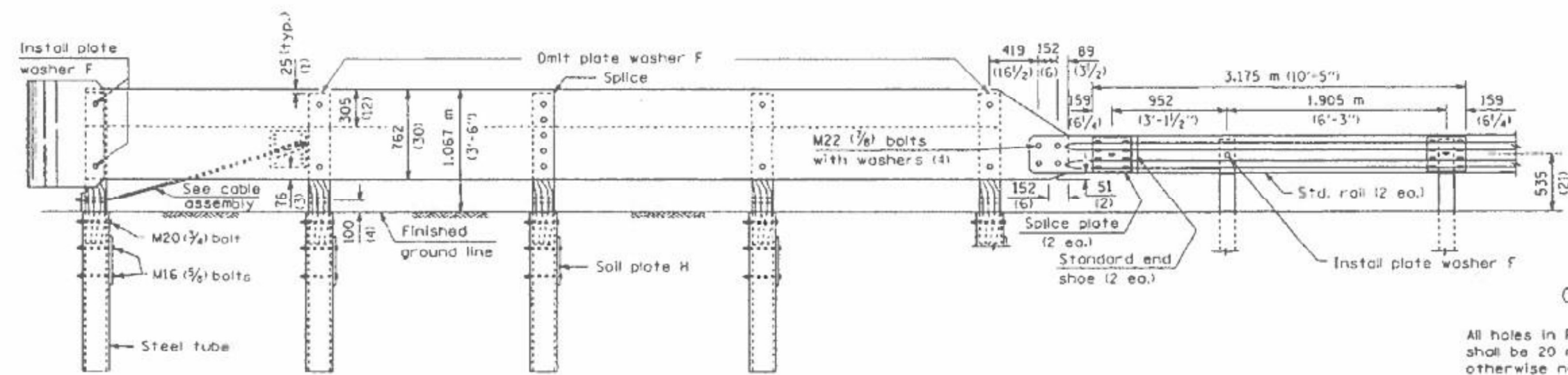
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXISTING C.A.T. SYSTEM**  
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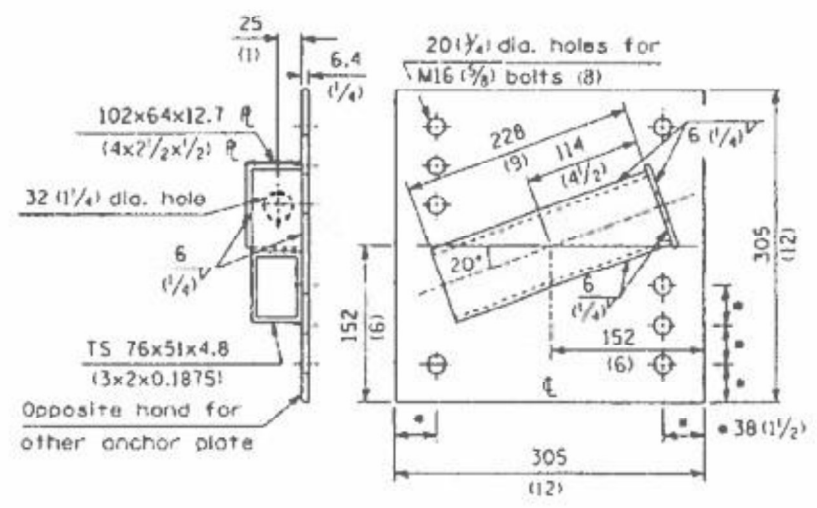
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VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	9
		ILLINOIS	CONTRACT NO. 68H90	



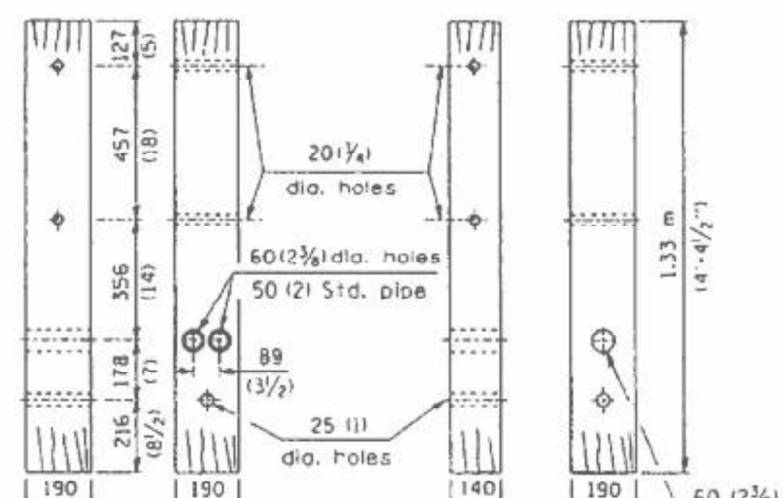
PLAN - TRAFFIC BARRIER TERMINAL TYPE 3



ELEVATION

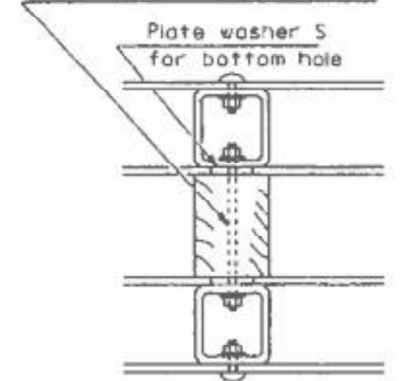


ANCHOR PLATE R  
(1 ea. lt. hd. & 1 ea. rt. hd.)



END TERMINAL POST (1 ea.)  
TERMINAL POST (4 ea. Type 3) (5 ea. Type 3A)

M16 (5/8) x 280 (11) threaded rod with nuts and washers (10 ea. Type 3) (12 ea. Type 3A)



TYPICAL BLOCK-OUT/POST ATTACHMENT

GENERAL NOTES

- All holes in Posts, Block-Outs and Plates shall be 20 mm (3/4") diameter unless otherwise noted.
- See Standard 630001 for details of guardrail elements not shown.
- Unless otherwise shown all bolts and nuts shall be Standard Post and Splice Bolts and Nuts (See Standard 630001).
- Block-Out AA shall be used at all locations unless otherwise noted.

**DETAIL INCLUDED FOR REPAIR ONLY**

All dimensions are in millimeters (inches) unless otherwise shown.

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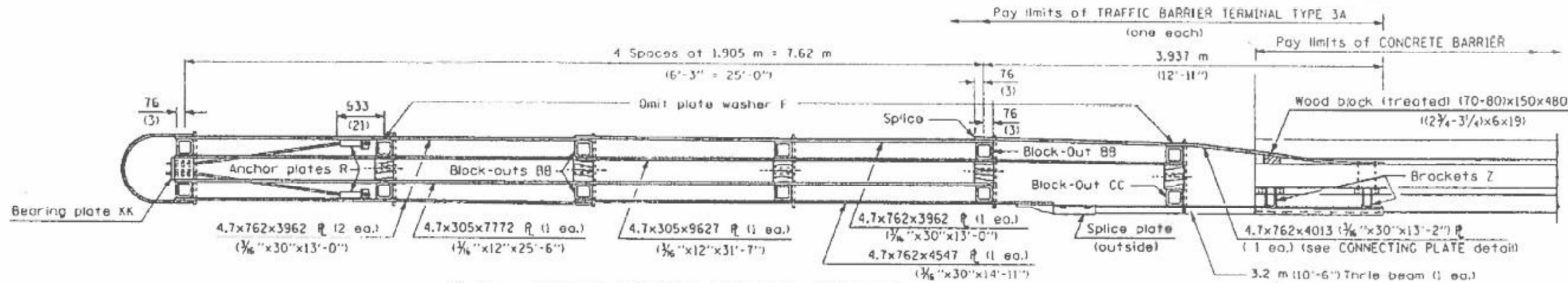
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

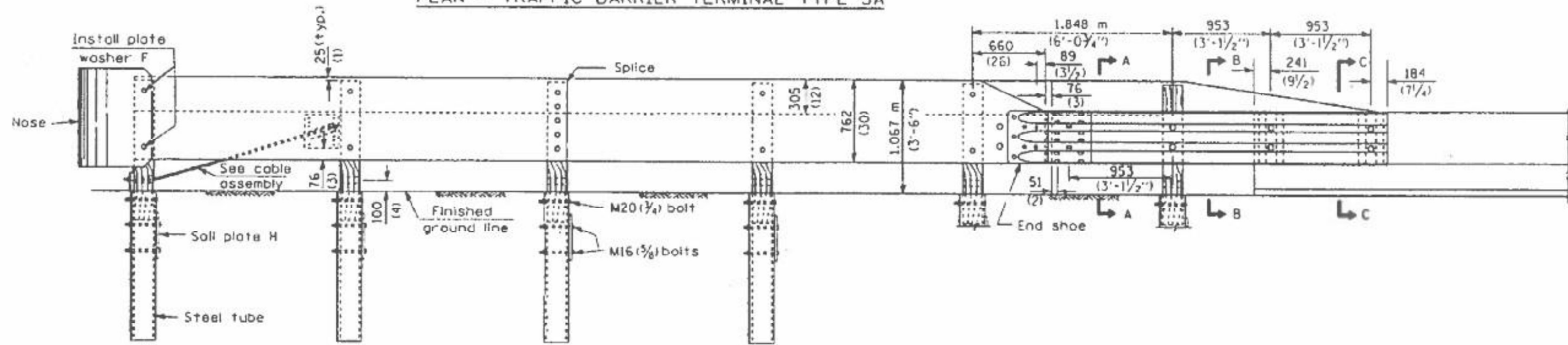
EXISTING TRAFFIC BARRIER TERMINAL  
TYPE 3 & TYPE 3A

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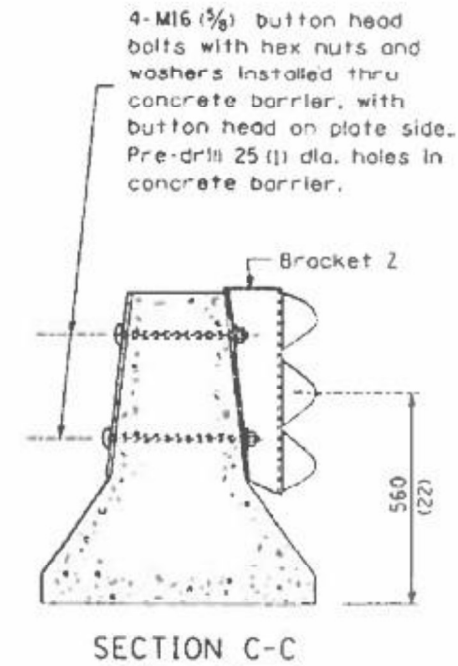
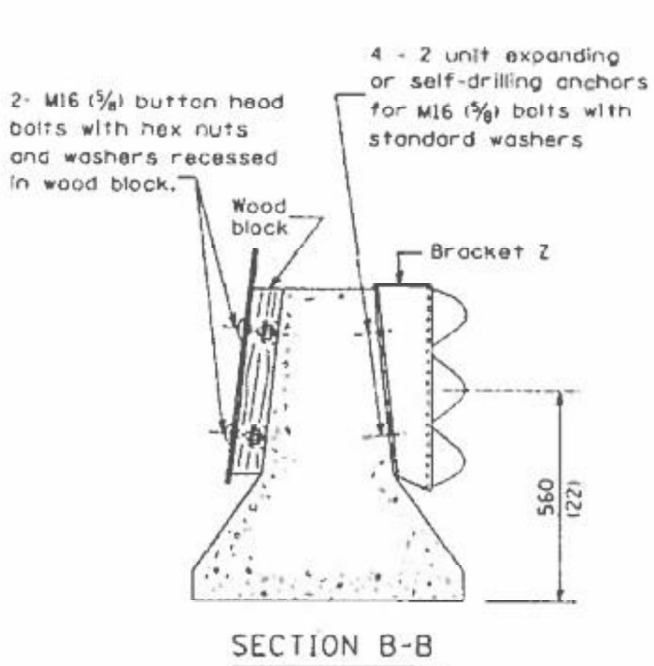
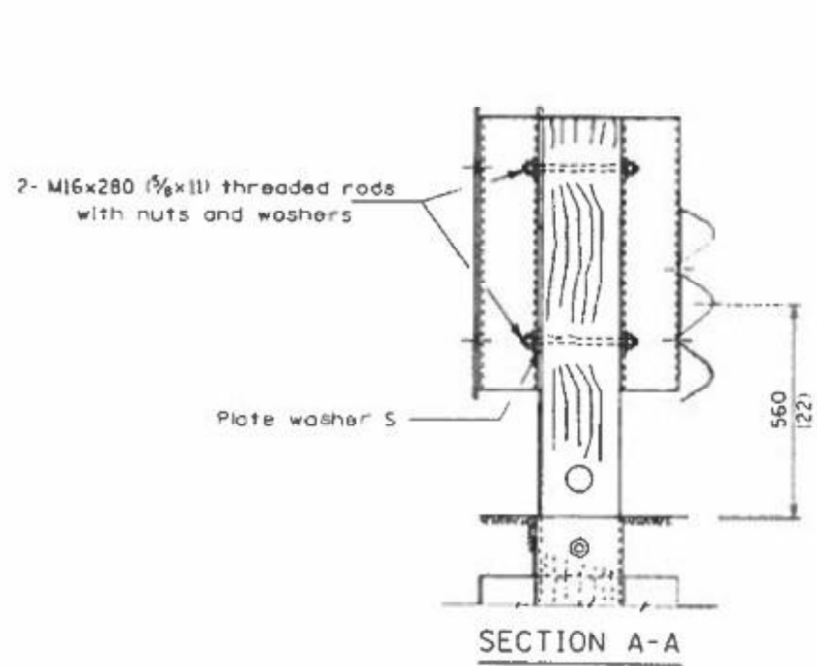
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VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	10
		ILLINOIS	CONTRACT NO. 68H90	



PLAN - TRAFFIC BARRIER TERMINAL TYPE 3A



ELEVATION



**DETAIL INCLUDED FOR REPAIR ONLY**

All dimensions are in millimeters (inches) unless otherwise shown.

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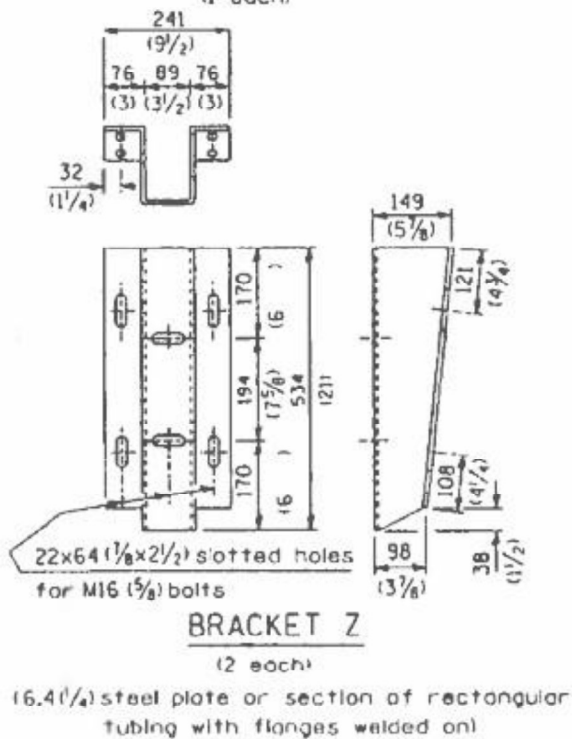
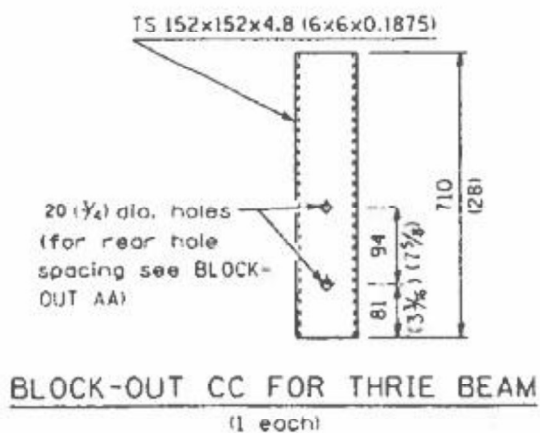
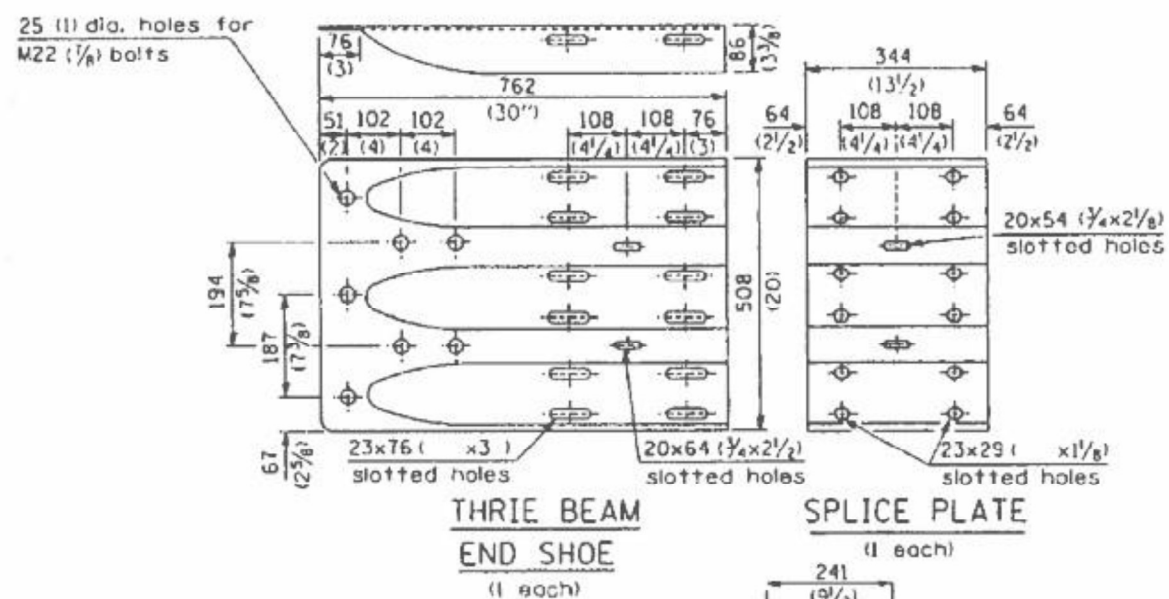
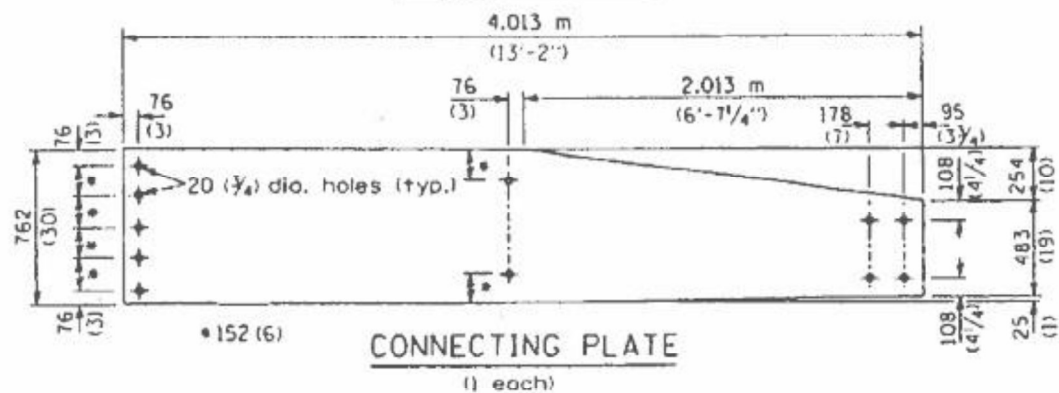
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC BARRIER TERMINAL  
TYPE 3 & TYPE 3A

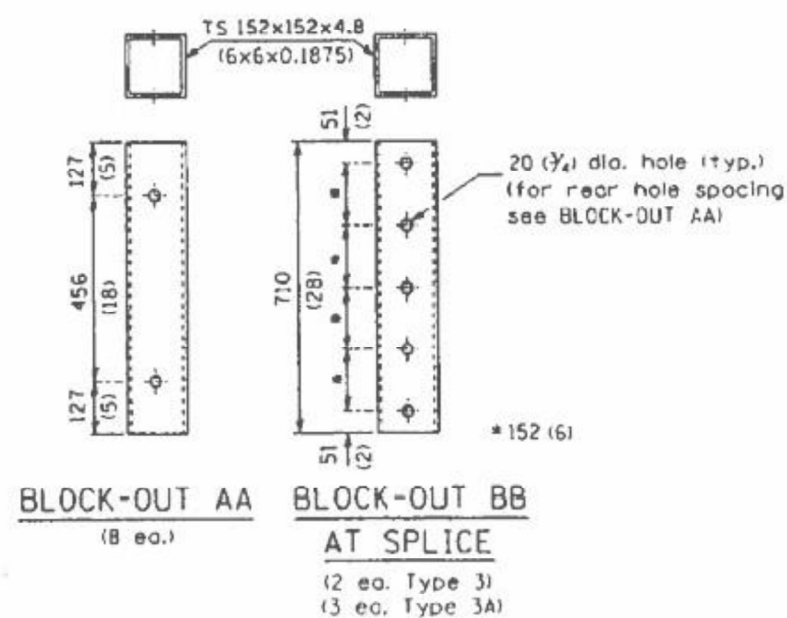
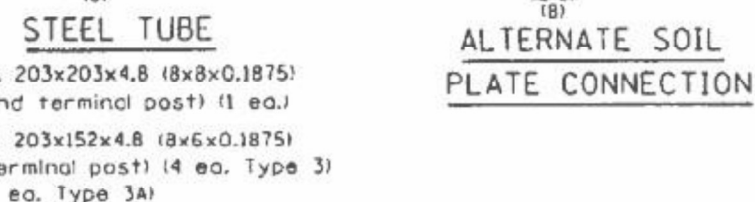
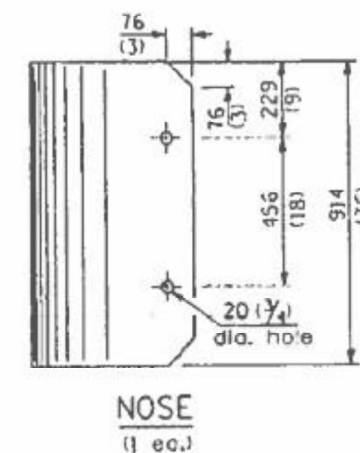
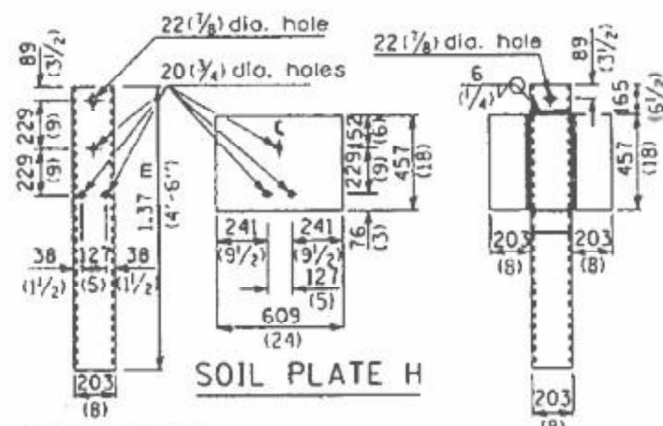
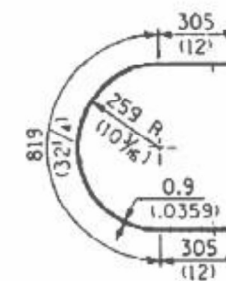
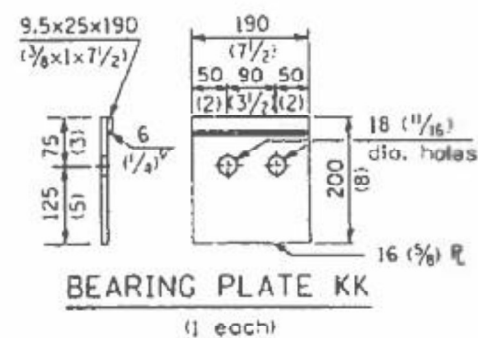
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PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	11
		ILLINOIS	CONTRACT NO. 68H90	

**TYPE 3A ONLY**



**TYPE 3 & 3A**



**DETAIL INCLUDED FOR REPAIR ONLY**

All dimensions are in millimeters (inches) unless otherwise shown.

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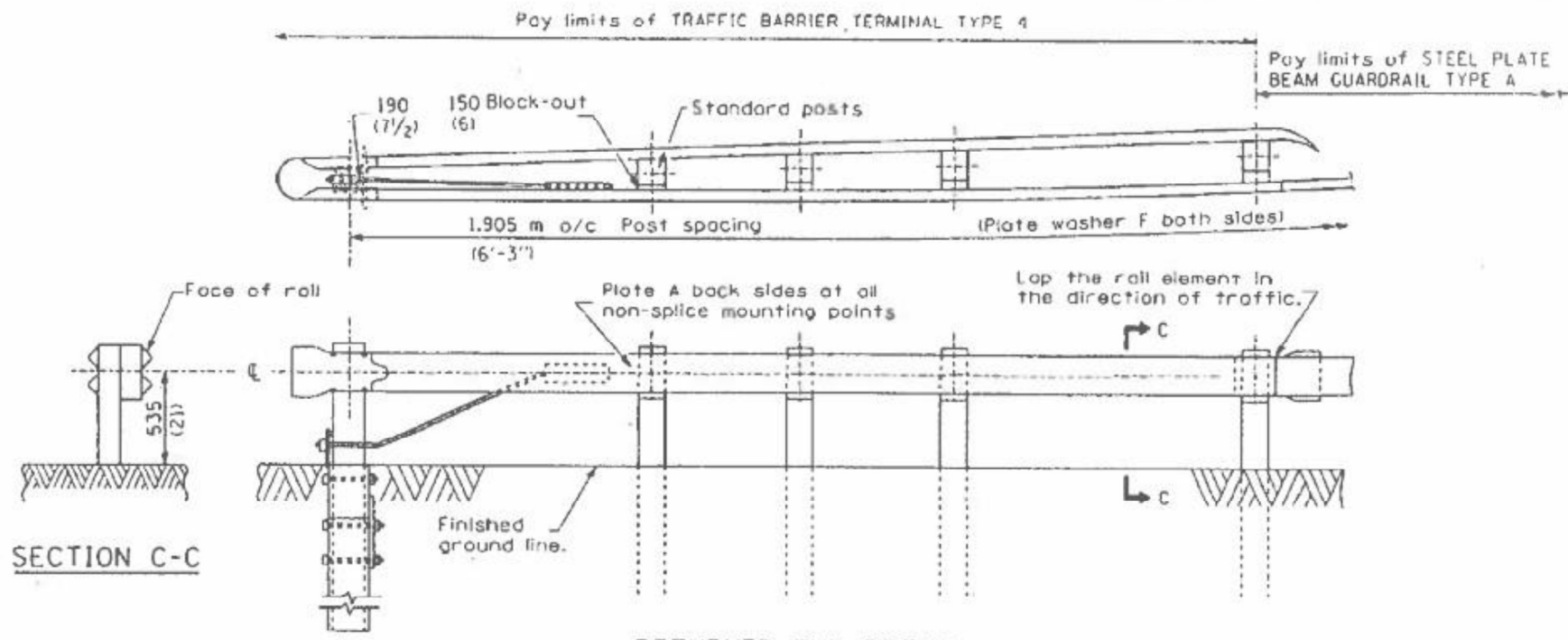
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC BARRIER TERMINAL  
TYPE 3 & TYPE 3A

SCALE: SHEET 3 OF 3 SHEETS, STA. TO STA.

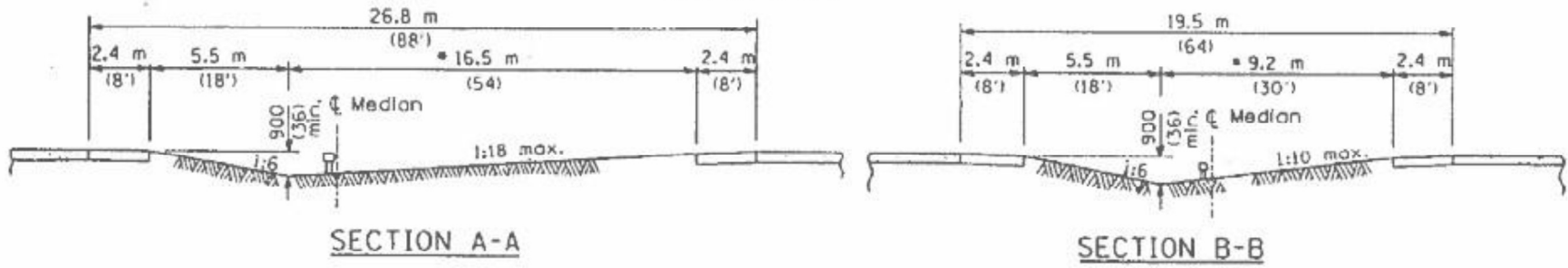
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VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	12
		ILLINOIS	CONTRACT NO. 68H90	





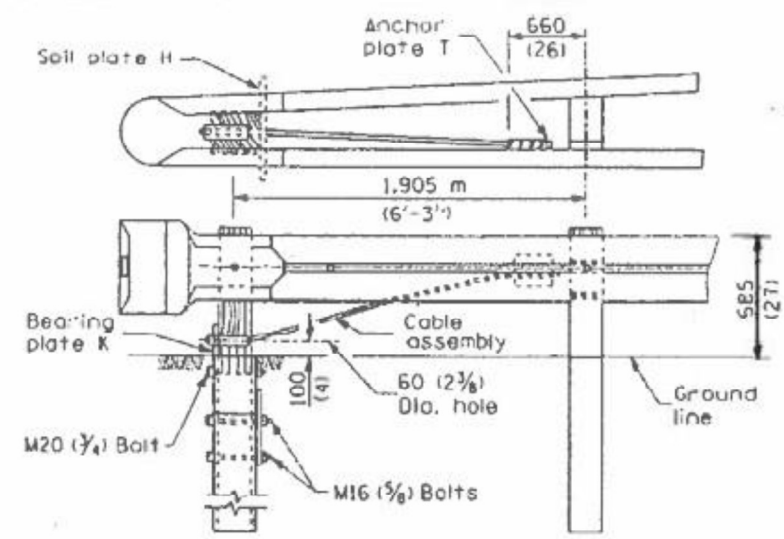
RETURNED END DETAIL

Adjust this dimension when the width of the shoulders is other than 2.4 m (8').

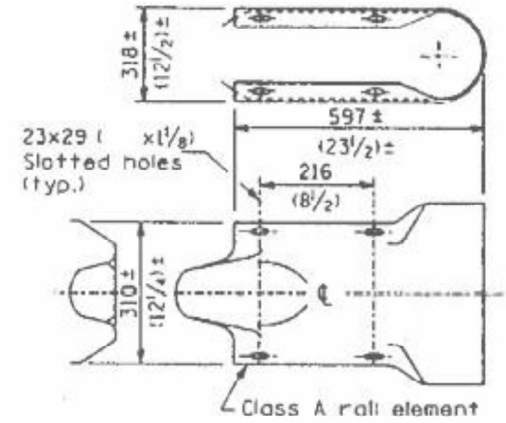


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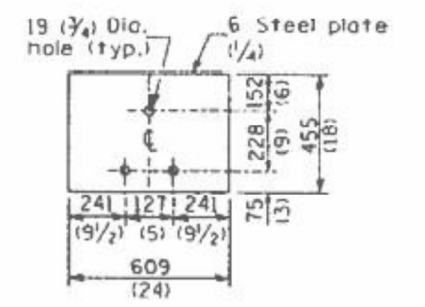
SECTION B-B



WOOD POST TUBULAR STEEL FOUNDATION



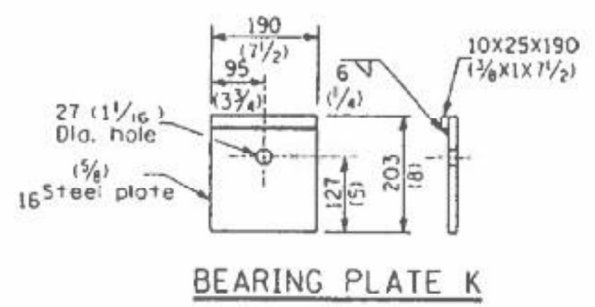
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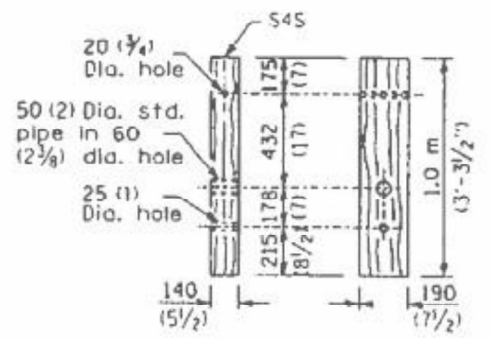
SOIL PLATE H

**DETAIL INCLUDED FOR REPAIR ONLY**

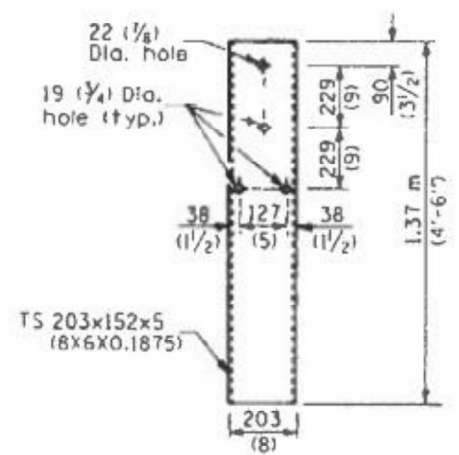
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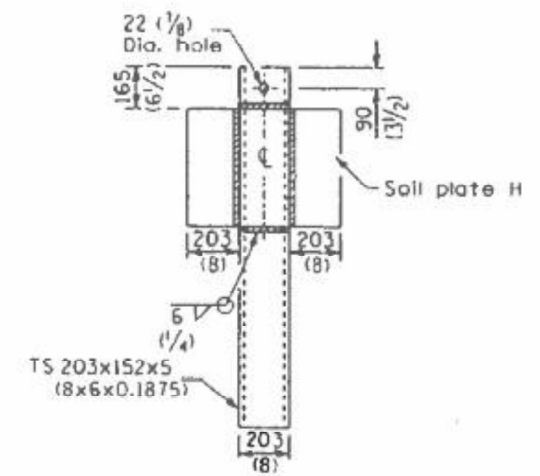
BEARING PLATE K



WOOD BREAKAWAY POST



STEEL TUBE



ALTERNATE SOIL PLATE CONNECTION

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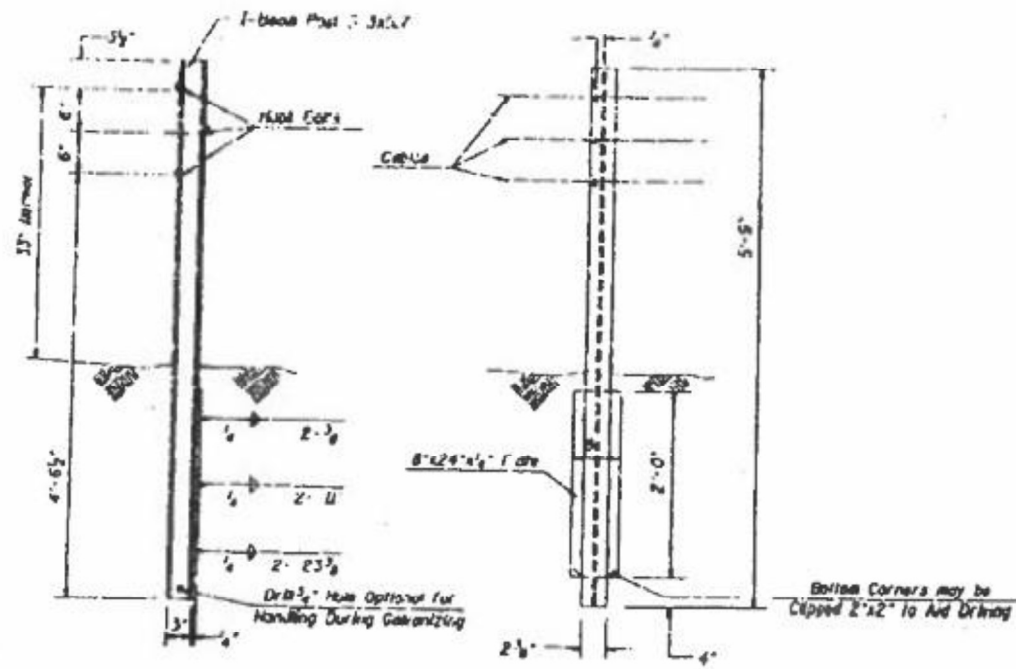
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DEPARTMENT OF TRANSPORTATION

EXISTING TYPE 4 TERMINAL

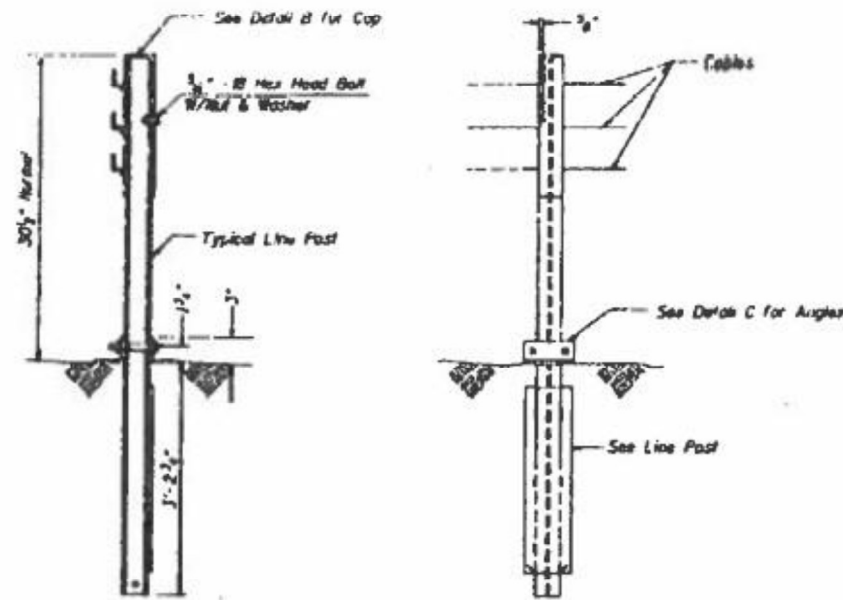
SCALE: SHEET 2 OF 2 SHEETS, STA. TO STA.

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ILLINOIS			CONTRACT NO. 68H90	

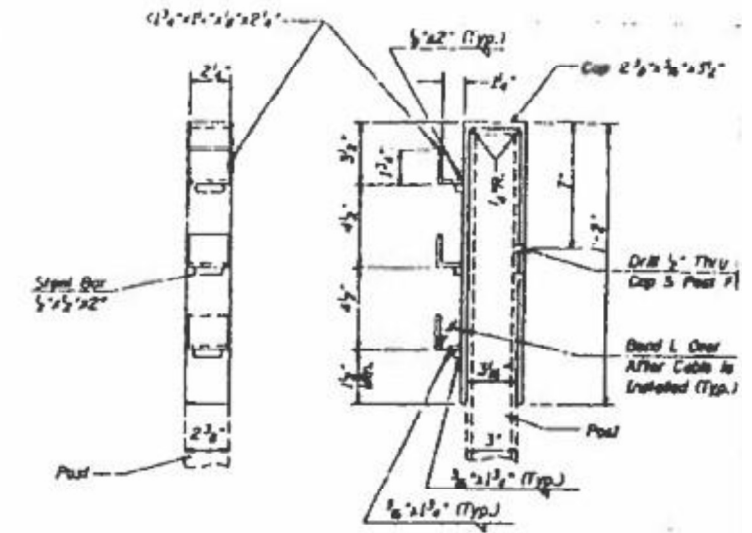




LINE POST DETAIL



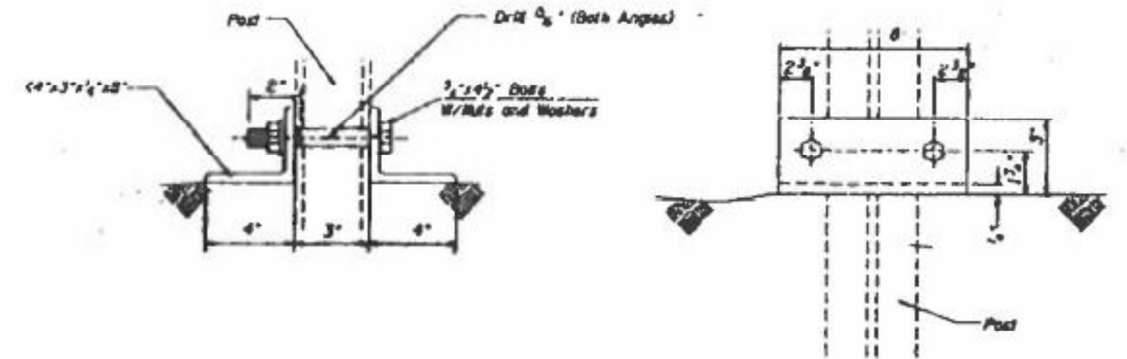
END POST DETAIL



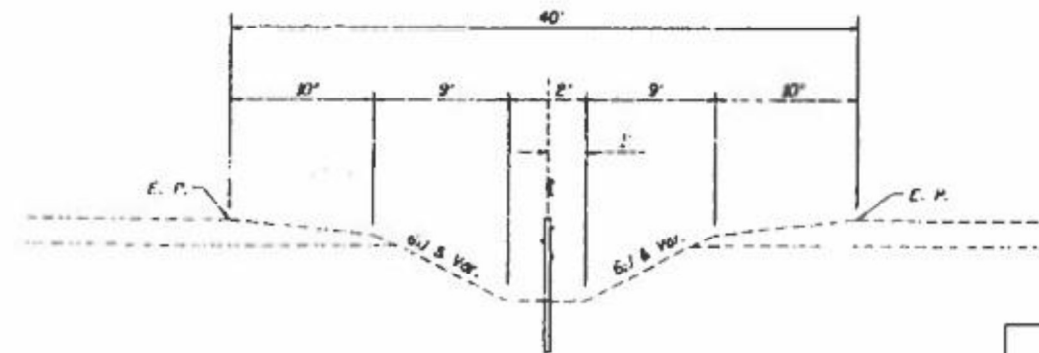
DETAIL B

NOTES

- At all locations where the cable is connected to a cable socket with a wedge type connection, one wire of the wire rope shall be crimped over the base of the wedge to hold it firmly in place.
- Compensating devices shall have spring constants of 450 Pounds Per Inch, plus or minus 50 Pounds Per Inch, and permit a travel of 5 inches, plus or minus 1 inch.
- Socket baskets shall be designed for use with the wedge detailed in these Standards.
- Alternate hardware designs will be considered for approval provided their connection details, for the purpose of maintenance substitutions, are compatible with the details of these standards and their operating characteristics are similar to those of the hardware shown.
- Threads of externally threaded parts shall be UNC, Class 2A tolerance (A.N.S.I. B1.1). Internally threaded parts shall meet the dimensional requirements of ASTM A 563.
- All fittings (including splices) shall be so designed to use the wedge shown in the wedge detail and shall be of such section as to develop the full strength of the 3/4\"
- For arrangement of spring cable and assembly (compensating devices and turnbuckle cable and assembly, the following criteria shall apply:  
Length of Cable Runs:  
To 1000' - Use compensating cable and assembly on one end, and turnbuckle cable and assembly on the other end of each individual cable.  
Over 1000' to 5000' - Use compensating cable and assembly on each end of each individual cable.
- All assembly parts and parts are to be galvanized and no punching, cutting or welding will be permitted after galvanizing.
- Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance, and accepted manufacturing practices.
- Prior to final acceptance by the State the following procedure shall be used to adjust the turnbuckle, depending on the temperature of the time of adjustment in accordance with the following table:  
Temperature: 120° 99° 79° 59° 39° 19° 1°  
to 10 10 10 10 10 10 10  
100° 80° 60° 40° 20° 1° 20°  
Springs Compression from unstored position in each spring: 1 1 1/2 2 2 1/2 3 3 1/2 4



DETAIL C



CABLE MEDIAN BARRIER TYPICAL SECTION

**DETAIL INCLUDED FOR REPAIR ONLY**

MODEL: Default  
FILE: M:\MS...  
PROJECT: D:\Projects\...  
DATE: 10/21/2022

USER NAME = SUSER	DESIGNED -	REVISED -
PLOT SCALE = 1:100	DRAWN -	REVISED -
PLOT DATE = 10/21/2022	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

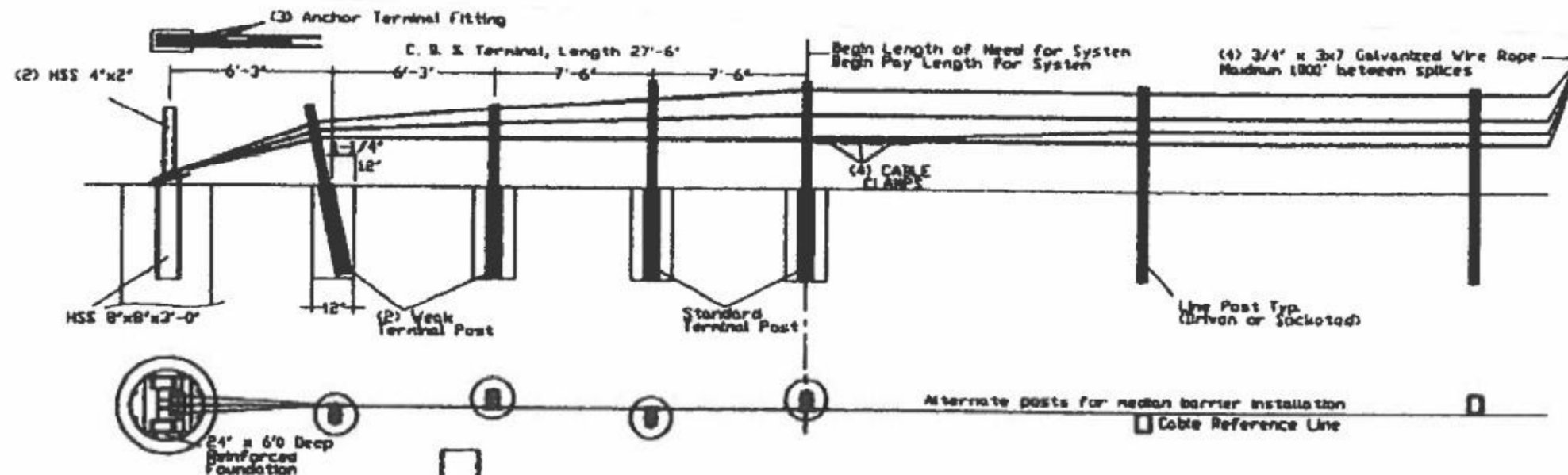
EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)

SCALE: SHEET 2 OF 3 SHEETS, STA. TO STA.

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	16
ILLINOIS CONTRACT NO. 68H90			



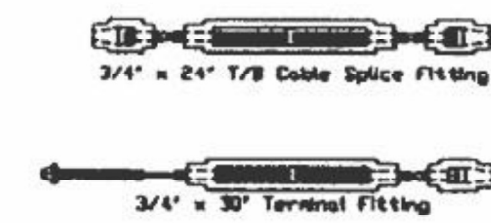
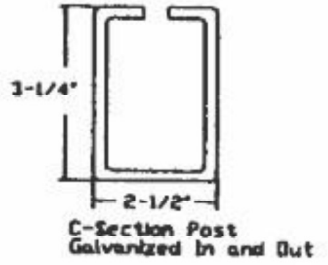
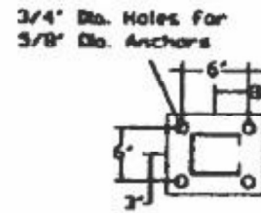




**GENERAL NOTES**

- For additional information contact Gibraltar, Inc. at 1-800-493-8957, or see the manufacturer's product manual.
- All concrete shall be minimum 2500 PSI.
- Alternate Post for bi-directional traffic flow. If installed for traffic in one direction install cables on traffic side of posts.
- The Cable Barrier System shall be installed on median shoulders or on depressed medians with slopes of 6:1 or flatter.
- The Cable Barrier System is accepted by the FHWA Test Level - 4
- See the MUTCD for proper "Barrier" delineation
- Rock Clause: Where solid rock is encountered
  - For socketed post, continue digging 12" diameter, 15' deep into rock or the required plan depth, whichever comes first.
  - For driven post, core drill a 4" diameter hole 18" deep into rock or the required plan depth, whichever comes first.
  - For Anchor post, continue digging 24" diameter, 30' deep into rock or the required plan depth, whichever comes first.
- Every component to be galvanized.

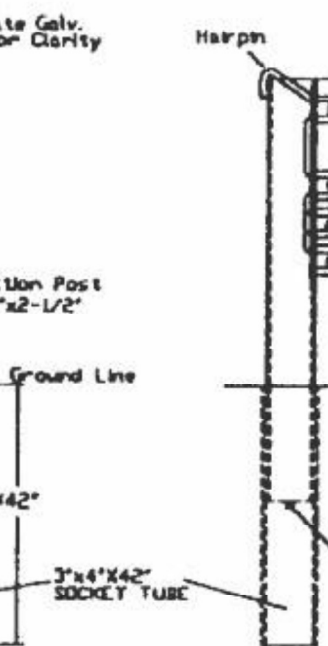
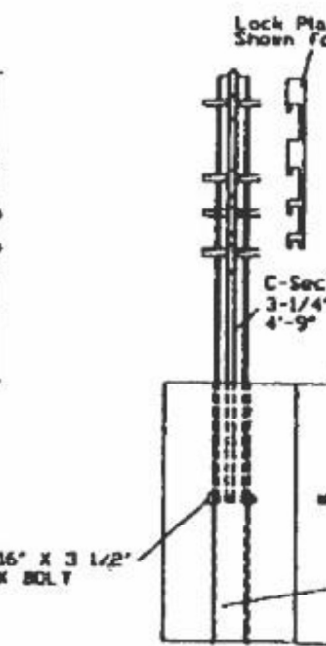
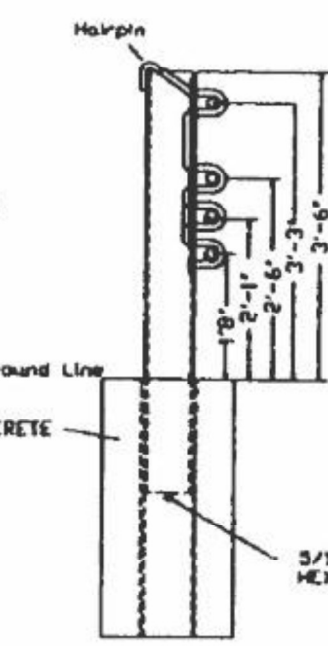
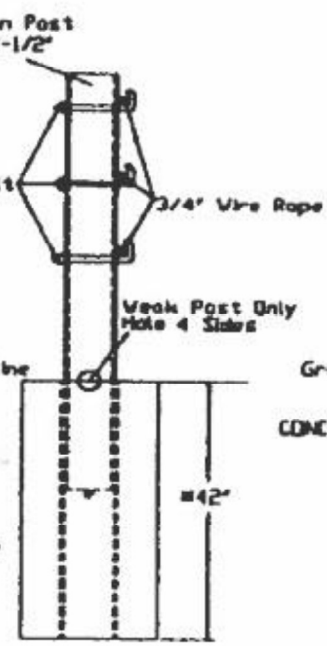
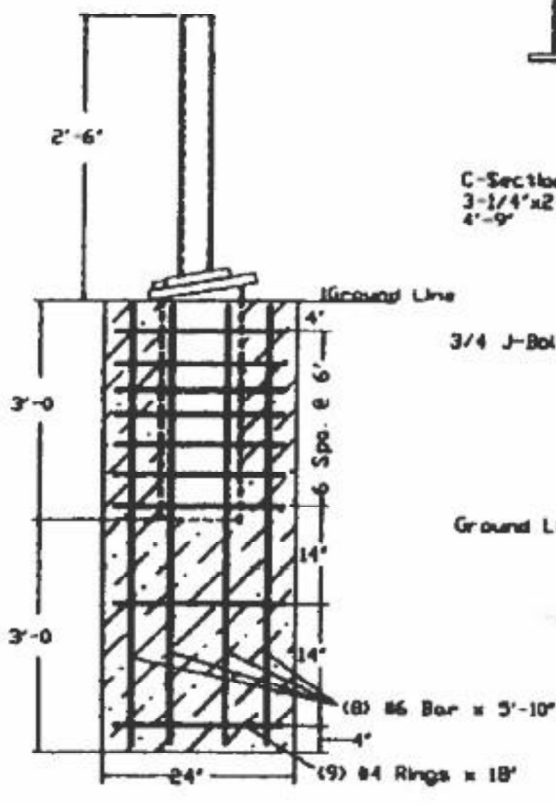
**BASE-PLATED POST**  
For Use On Concrete  
5/8" Mechanical Anchor  
Min. Pullout Strength 10,000 lbs.



Cable Tension	
-10F	8000
0	7600
10	7200
20	6800
30	6400
40	6000
50	5600
60	5200
70	4800
80	4400
90	4000
100	3600
110	3200

Allowable Deviation from Chart +/- 200 lbs./force

Deflection	Post Spacing
9'3"	30.FT
9'	28.FT
8'	20.FT
7'	12.FT
6'8"	10.FT



Cable Release Anchor Post

Terminal Post

Line Post (Socketed)

Socketed Line Post (Driven)

Line Post (Driven)

30" DIA Deep concrete foundation with Min. 18" wide Max Strip  
42"x12" DIA Deep w/o Max Strip

**DETAIL INCLUDED FOR REPAIR ONLY**

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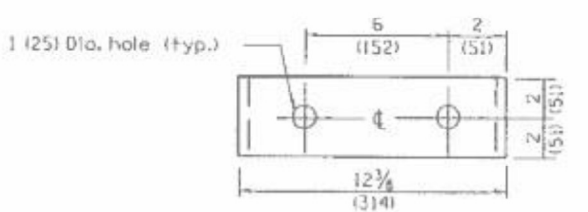
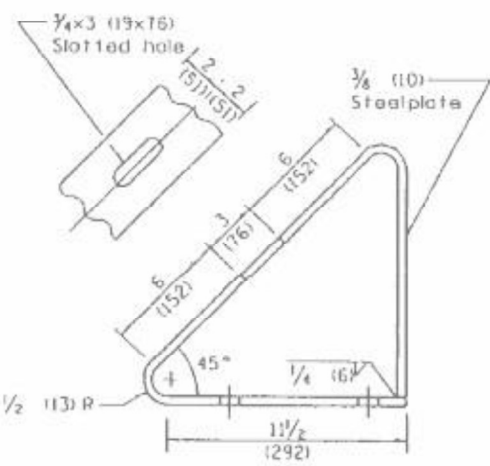
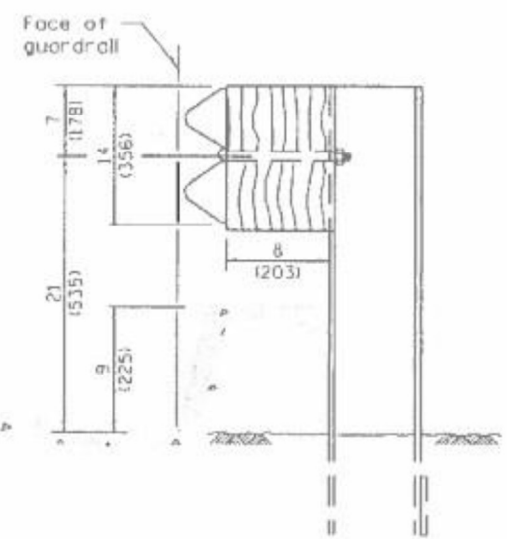
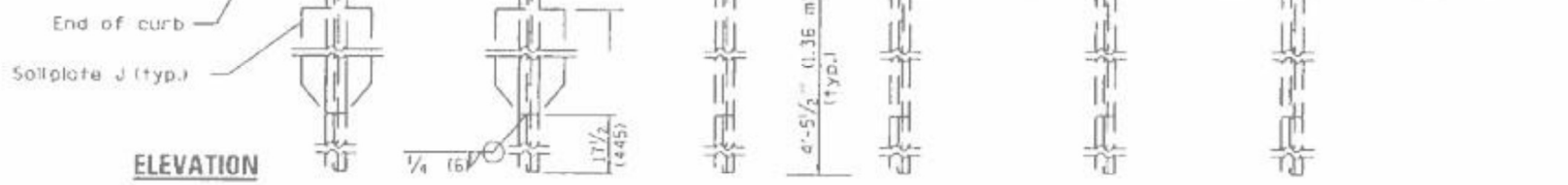
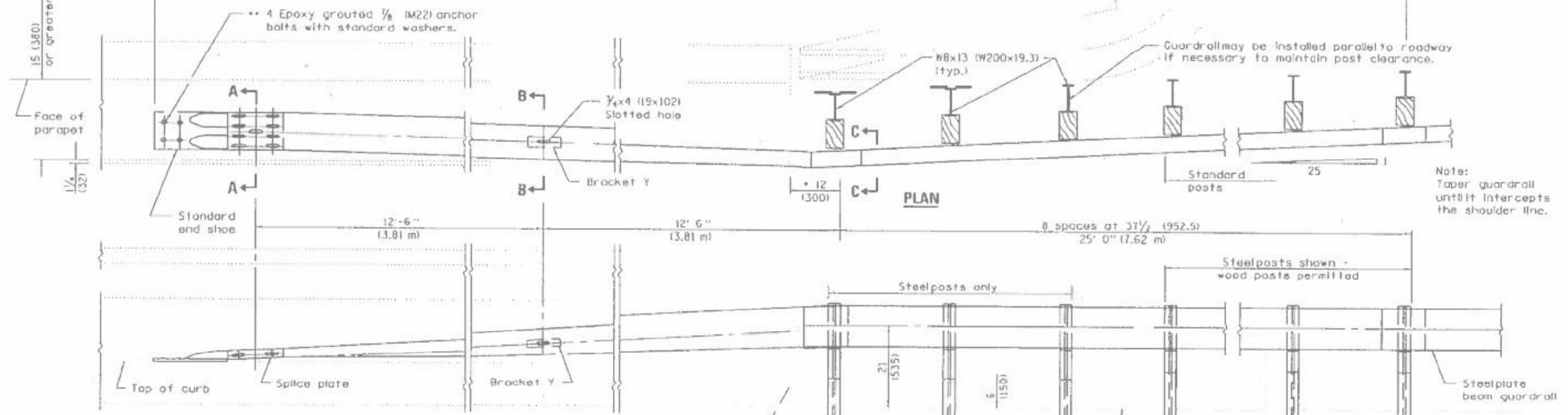
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	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

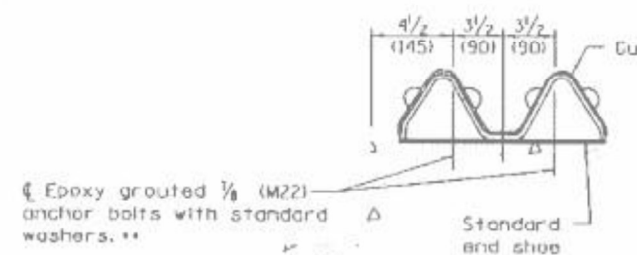
EXISTING GIBRALTAR CABLE BARRIER DETAIL

SCALE: SHEET 3 OF 3 SHEETS, STA. TO STA.

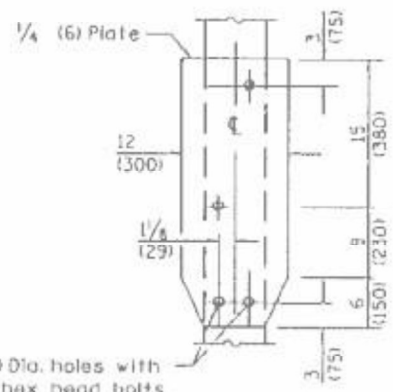
FA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	18
		ILLINOIS	CONTRACT NO. 68H90	



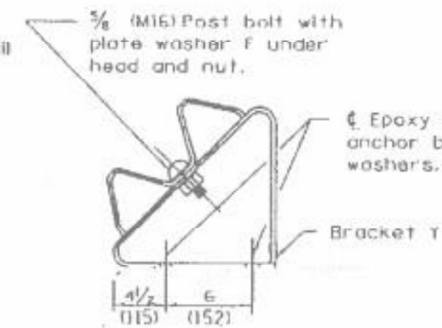
**BRACKET Y**



**SECTION A-A**



**SOIL PLATE J & ALTERNATE CONNECTION DETAILS**



**SECTION B-B**

**GENERAL NOTES**

- See Standard 630001 for details of guardrail not shown.
  - This dimension may be increased to fit field conditions. This post shall be located first. The layout of the terminal shall be determined by its location.
  - \*\* After tightening, cut the anchor bolts flush with nuts, and damage the bolt head to prevent them from loosening.
- All dimensions are in inches (millimeters) unless otherwise shown.

**DETAIL INCLUDED FOR REPAIR ONLY**

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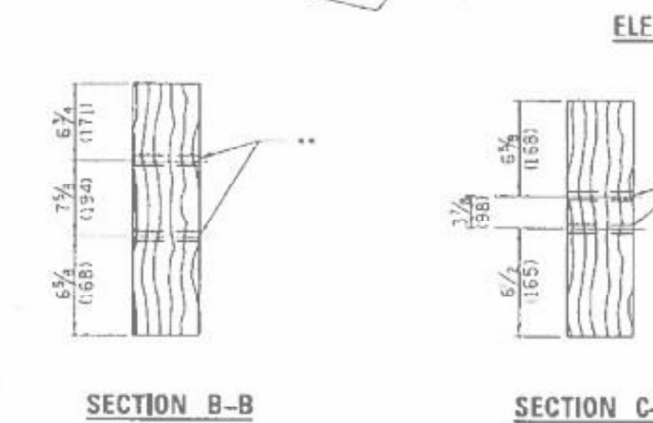
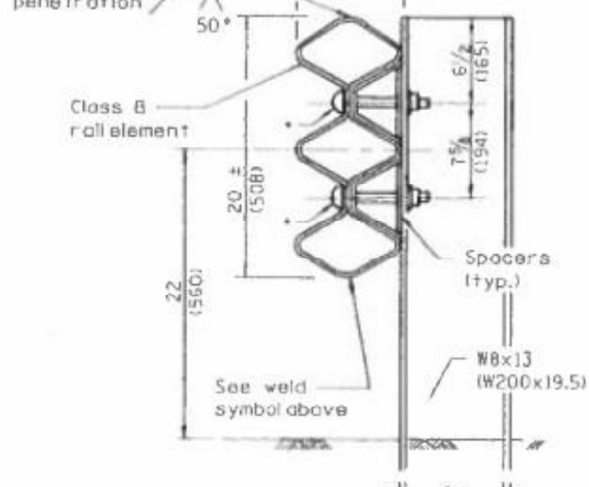
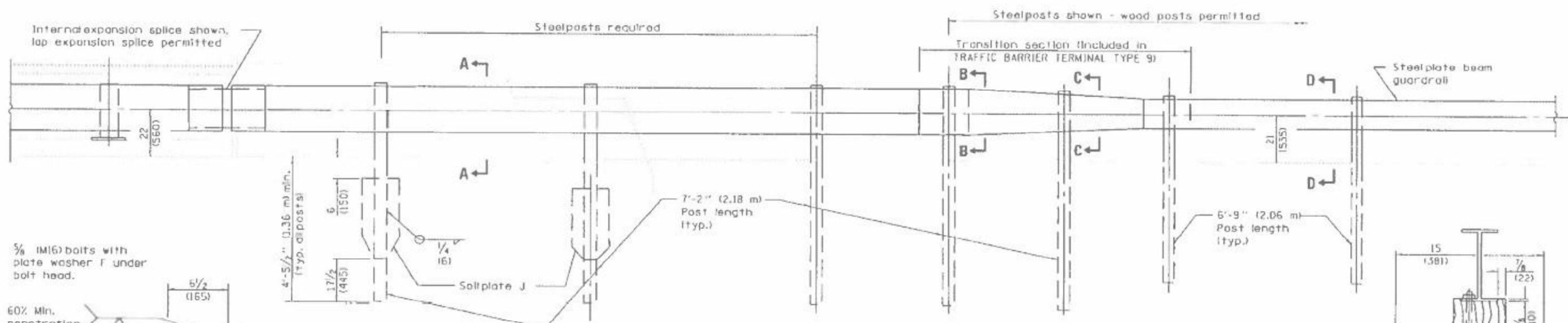
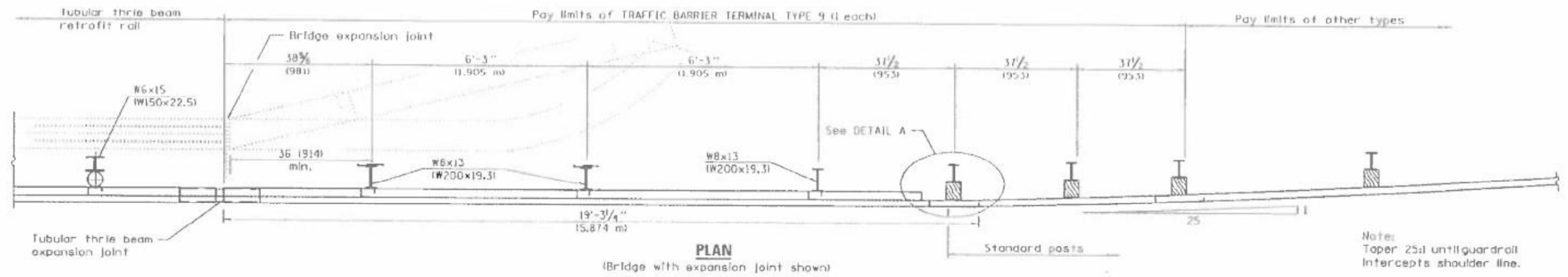
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	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

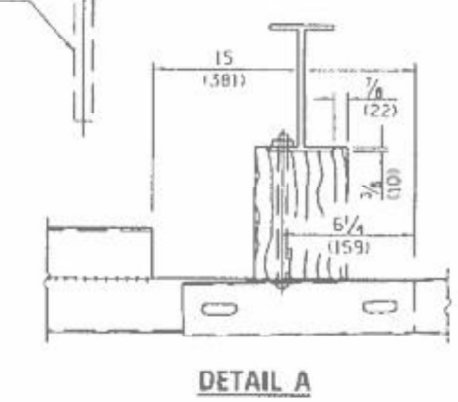
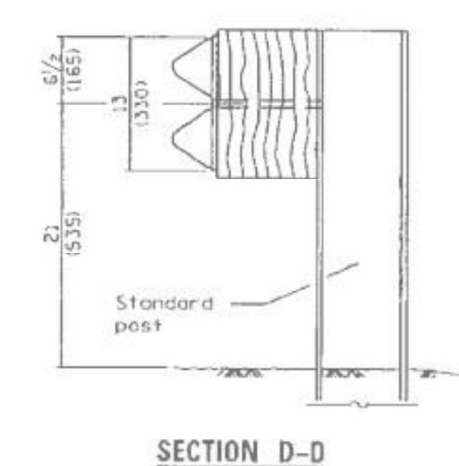
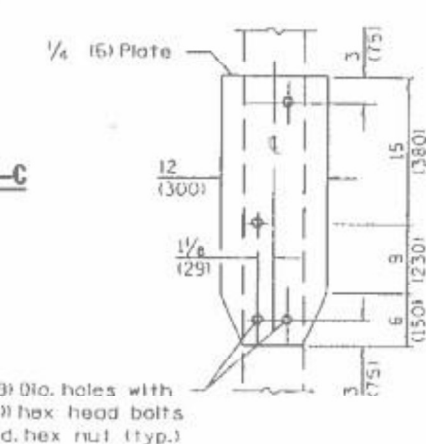
EXISTING TRAFFIC BARRIER TERMINAL TYPE B  
(STANDARD 631036)

SCALE: SHEET 1 OF 1 SHEETS, STA. TO STA.

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	19
		ILLINOIS	CONTRACT NO. 68H90	



**DETAILS of BLOCK-OUTS**  
 ••  $\varnothing$  1/4 (19) Dia. hole



**GENERAL NOTES**

See Standards 509001 and 630001 for details of guardrail elements not shown.

The Type 9 terminal shall be installed after the posts for the bridge retrofit rail have been located as shown on Standard 509001.

All dimensions are in inches (millimeters) unless otherwise shown.

**DETAIL INCLUDED FOR REPAIR ONLY**

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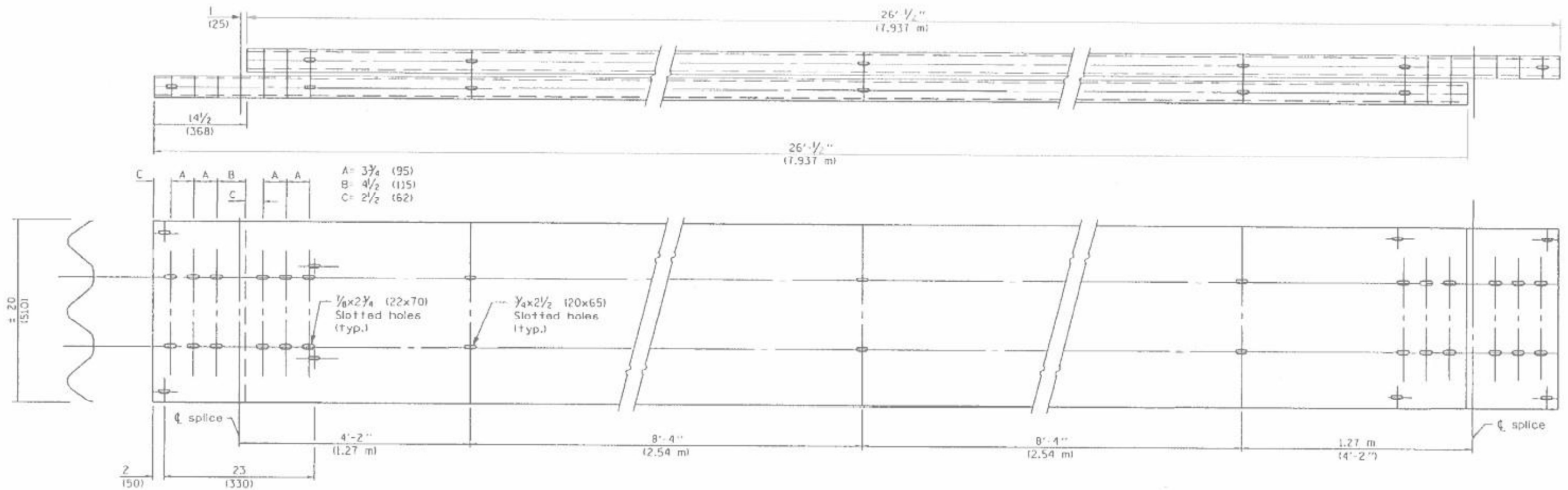
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC BARRIER TERMINAL TYPE 9  
 (STANDARD 631041)

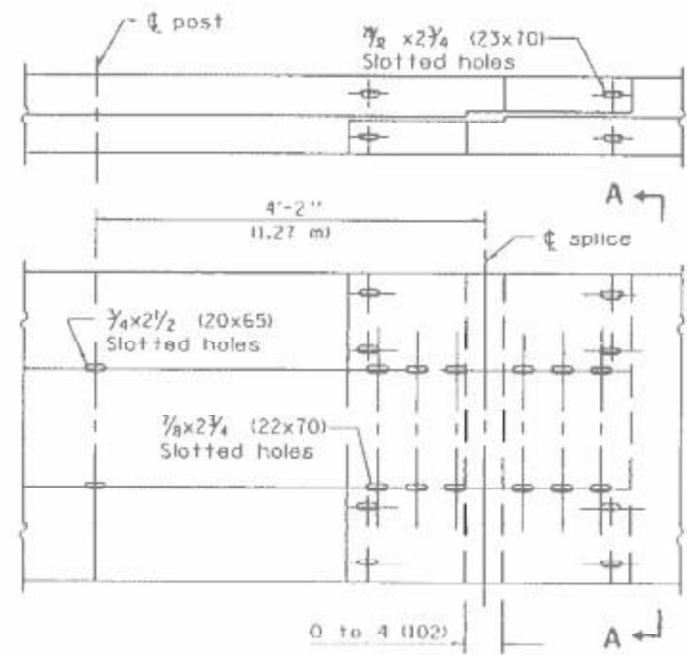
SCALE: SHEET 1 OF 1 SHEETS, STA. TO STA.

P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	20
		ILLINOIS	CONTRACT NO. 68H90	

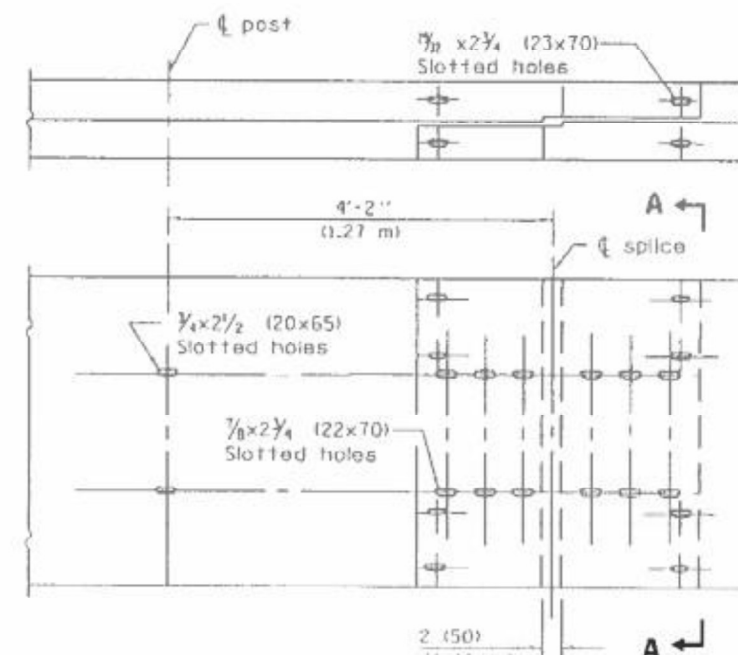
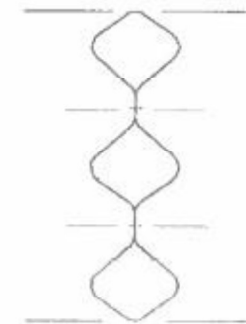




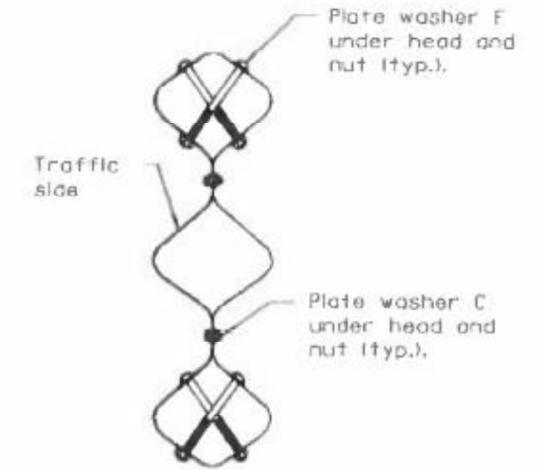
**TUBULAR THRIE BEAM FOR LAP SPLICE JOINT**



**LAP EXPANSION SPLICE JOINT**



**LAP SPLICE JOINT**



**SECTION A-A**

**DETAIL INCLUDED FOR REPAIR ONLY**

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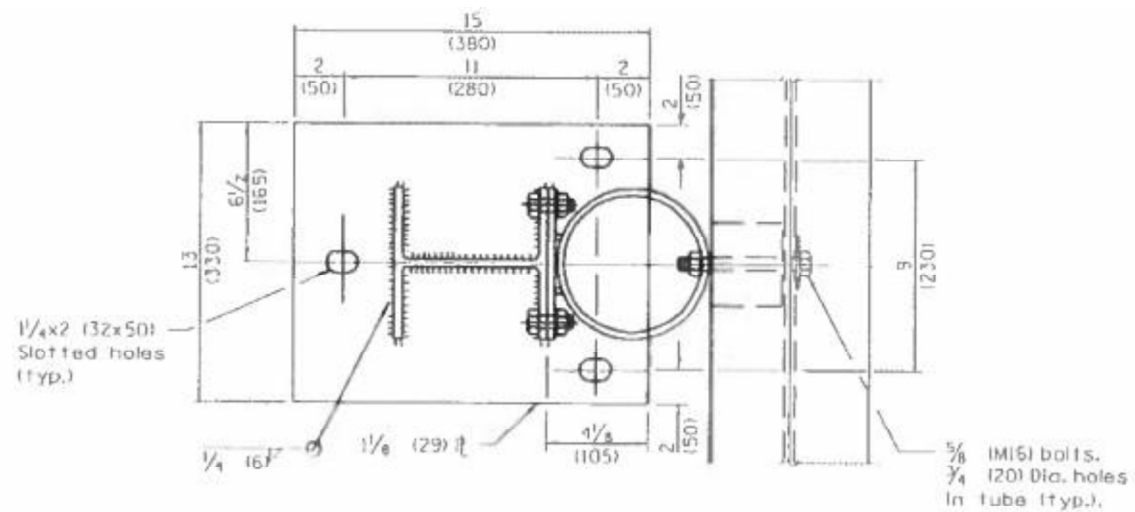
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

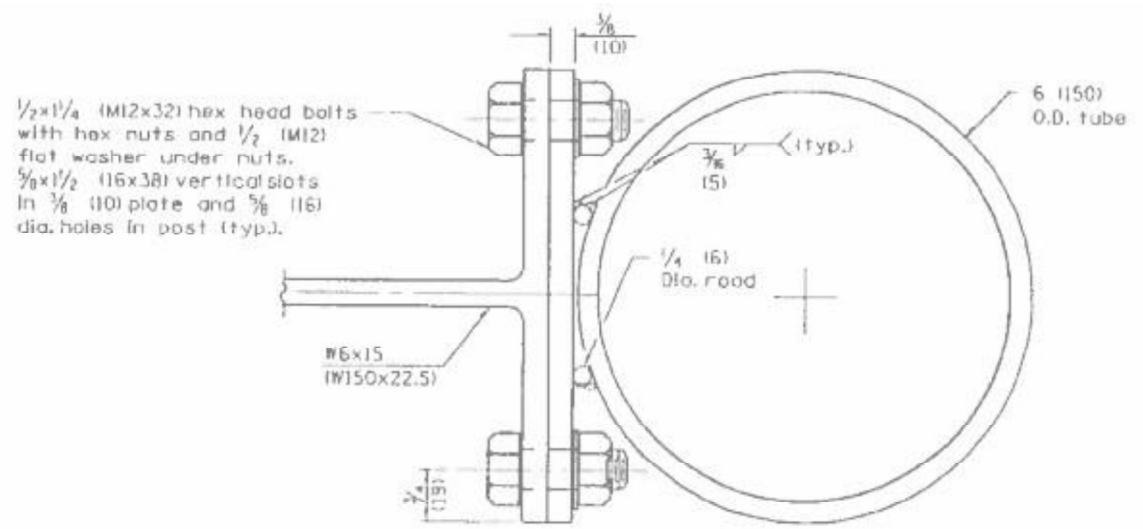
**EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES  
(STANDARD 509001)**

SCALE: SHEET 2 OF 3 SHEETS, STA. TO STA.

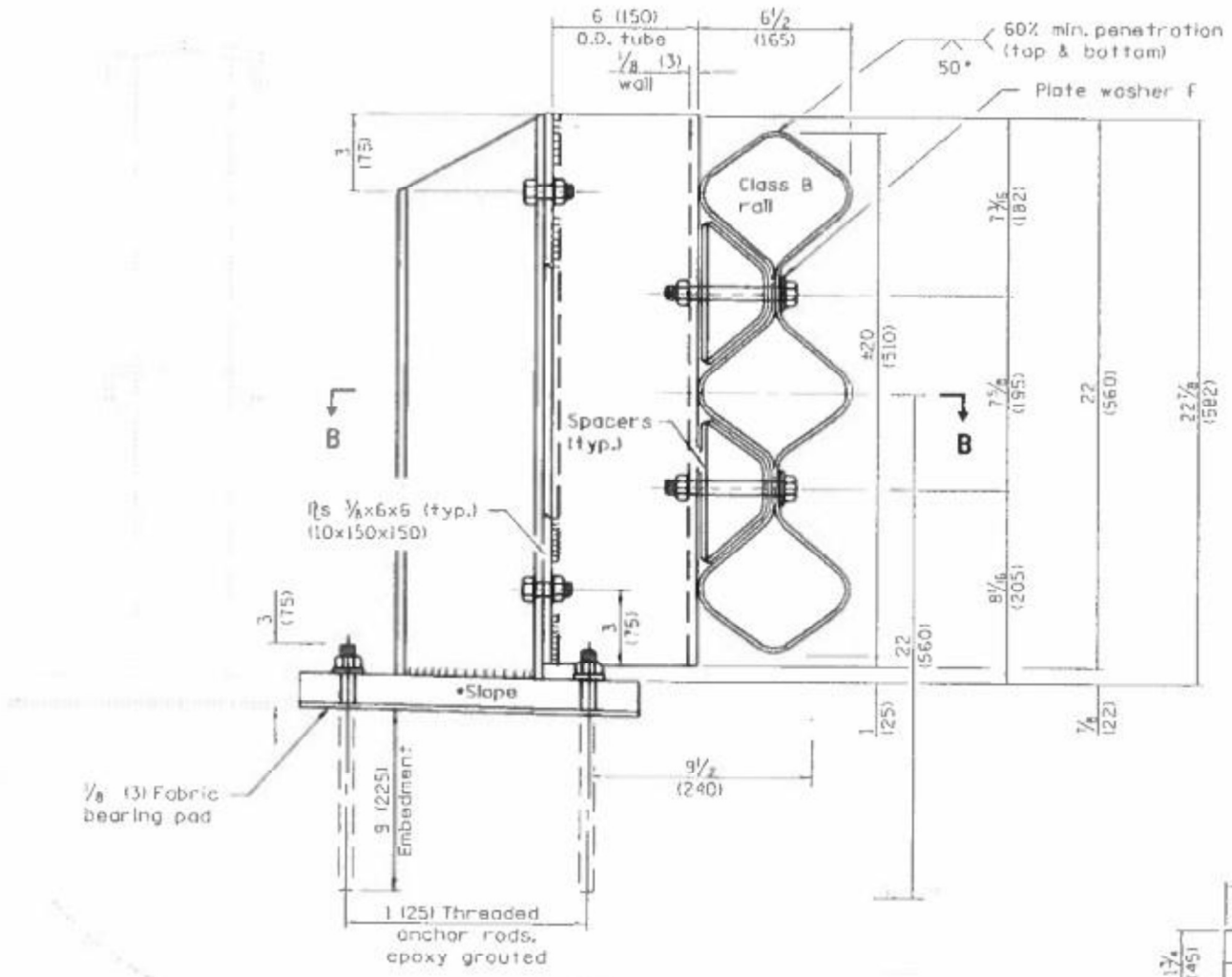
PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	22
		ILLINOIS	CONTRACT NO. 68H90	



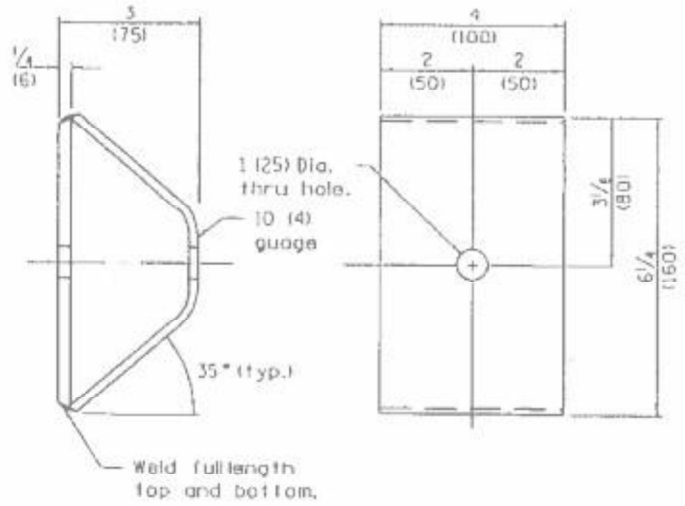
**SECTION B-B**



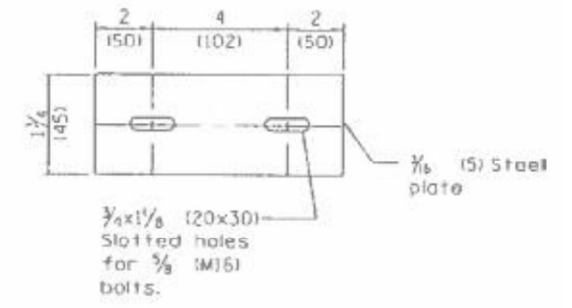
**TUBE TO POST ATTACHMENT**



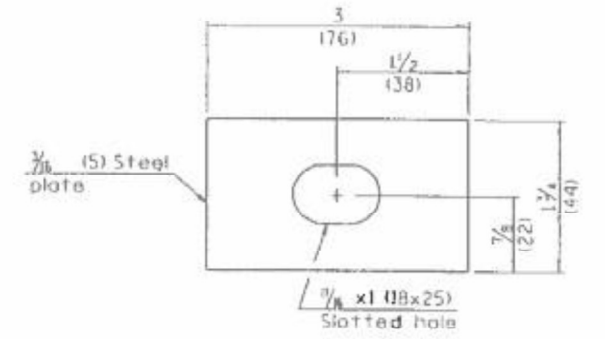
**POST**



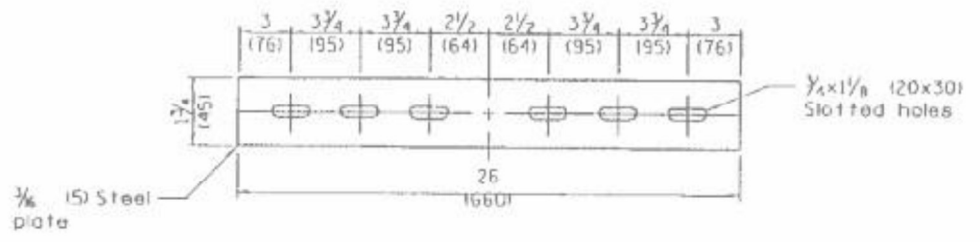
**SPACER**



**PLATE WASHER B**



**PLATE WASHER F**



**PLATE WASHER C**

**DETAIL INCLUDED FOR REPAIR ONLY**

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 SHEET: 23 OF 27  
 DATE: 10/21/2022

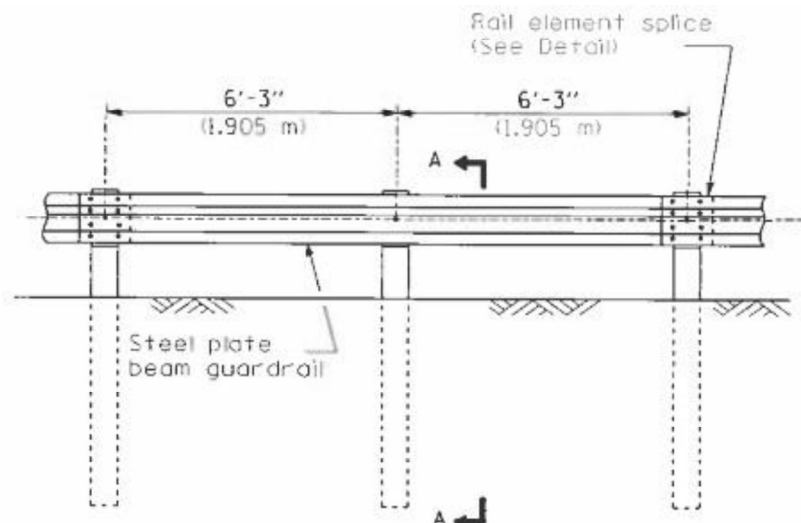
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PLOT DATE = 10/21/2022	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES  
(STANDARD 509001)**

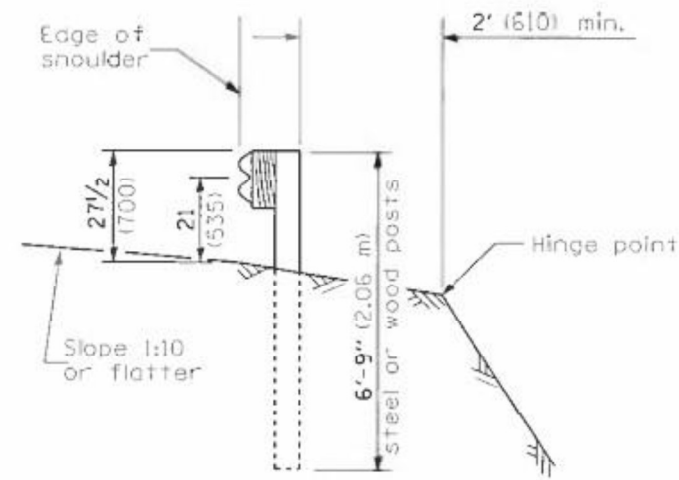
SCALE: SHEET 3 OF 3 SHEETS, STA. TO STA.

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	ILLINOIS	27	23
CONTRACT NO. 68H90				

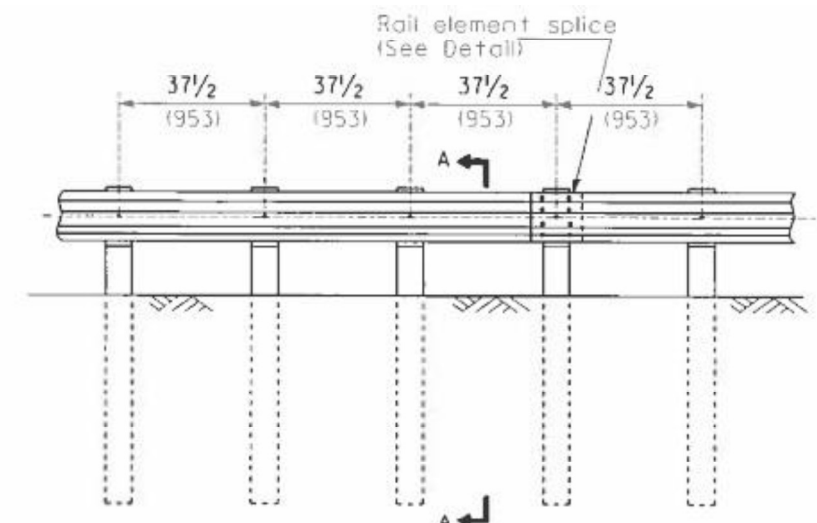


**TYPE A**

6'-3" (1.905 m) Typical post spacing

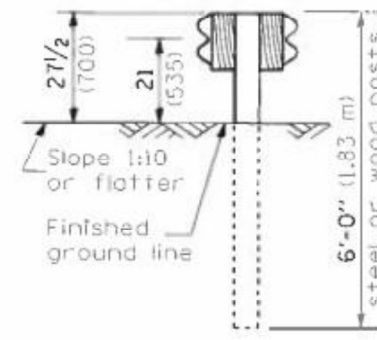


**SECTION A-A**

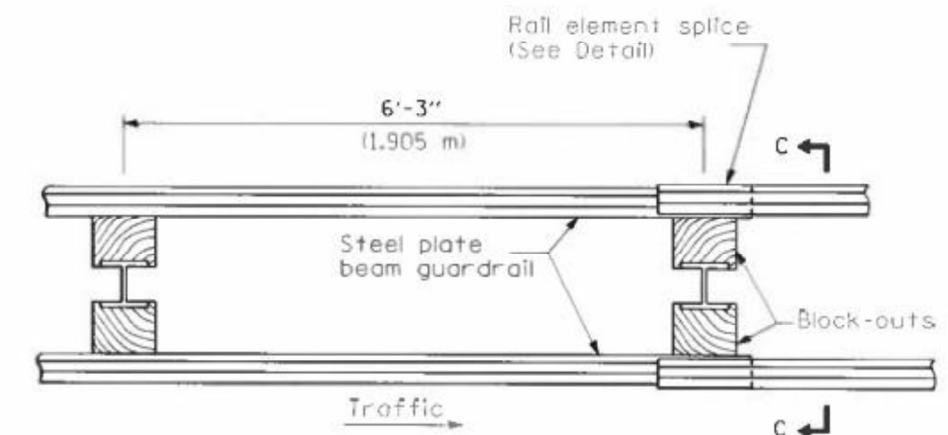


**TYPE B**

37 1/2 (953) Closed post spacing

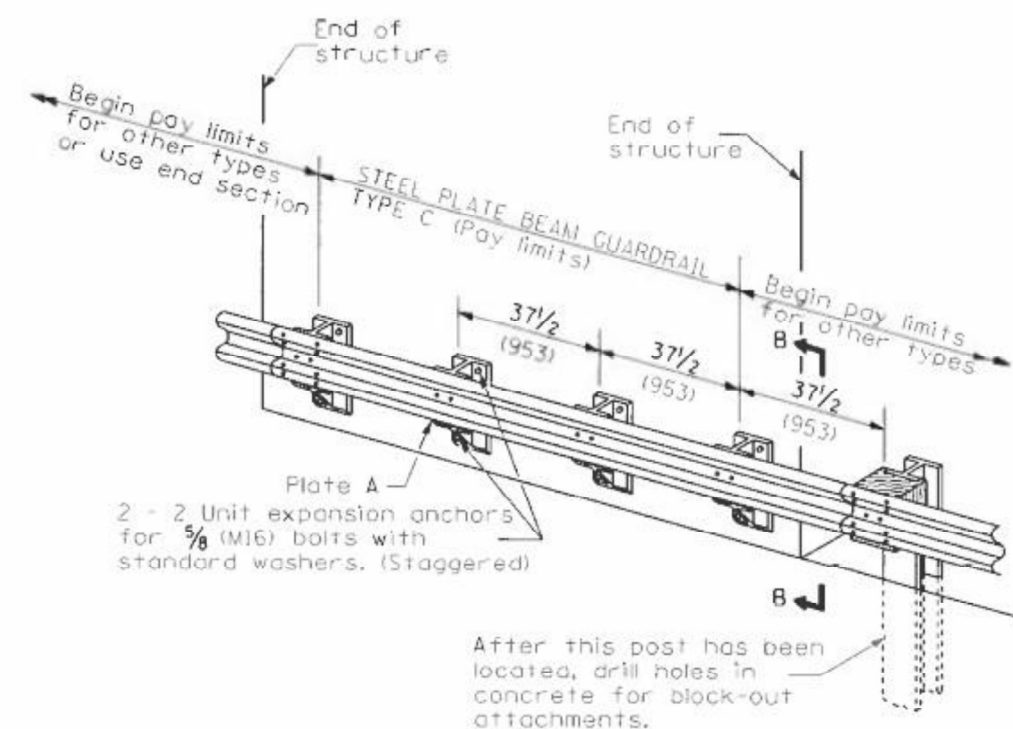


**SECTION C-C**



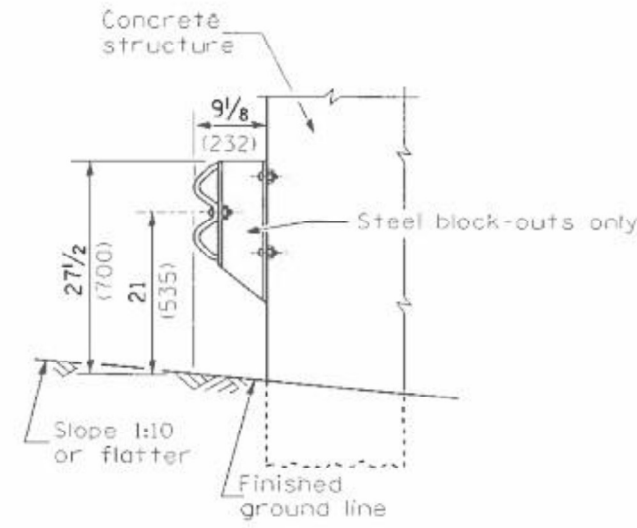
**TYPE D**

Double steel plate beam guardrail  
6'-3" (1.905 m) typical post spacing



**TYPE C**

37 1/2 (953) Block-out spacing



**SECTION B-B**

**GENERAL NOTES**

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).  
All dimensions are in millimeters (inches) unless otherwise shown.  
The existing steel posts may be drilled to match the bolt pattern shown herein for the wood block-out, or a new steel post shall be provided.  
This detail is applicable to the guardrail system used prior to January 1, 2007. For details on the Midwest Guardrail System, see Standard 630001.

All dimensions are in inches (millimeters) unless otherwise noted.

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	DATE -	REVISED -

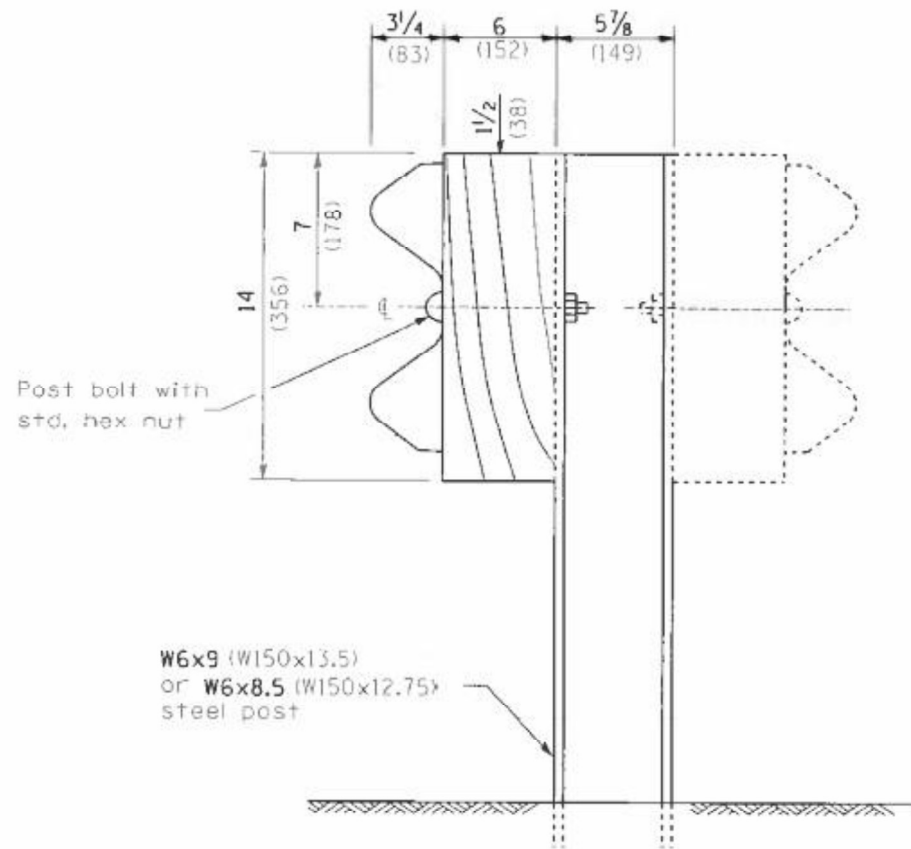
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STEEL PLATE BEAM GUARDRAIL, TYPE A,  
6.75 FOOT POSTS**

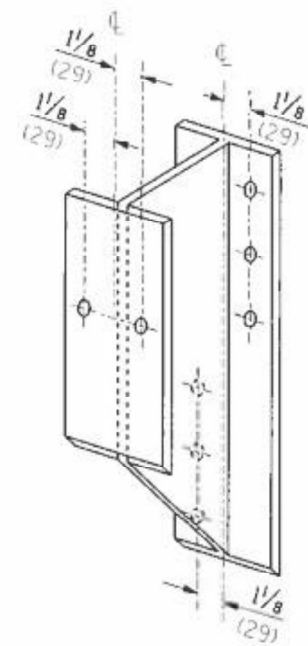
SCALE: SHEET 1 OF 4 SHEETS, STA. TO STA.

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	24
		ILLINOIS	CONTRACT NO. 68H90	

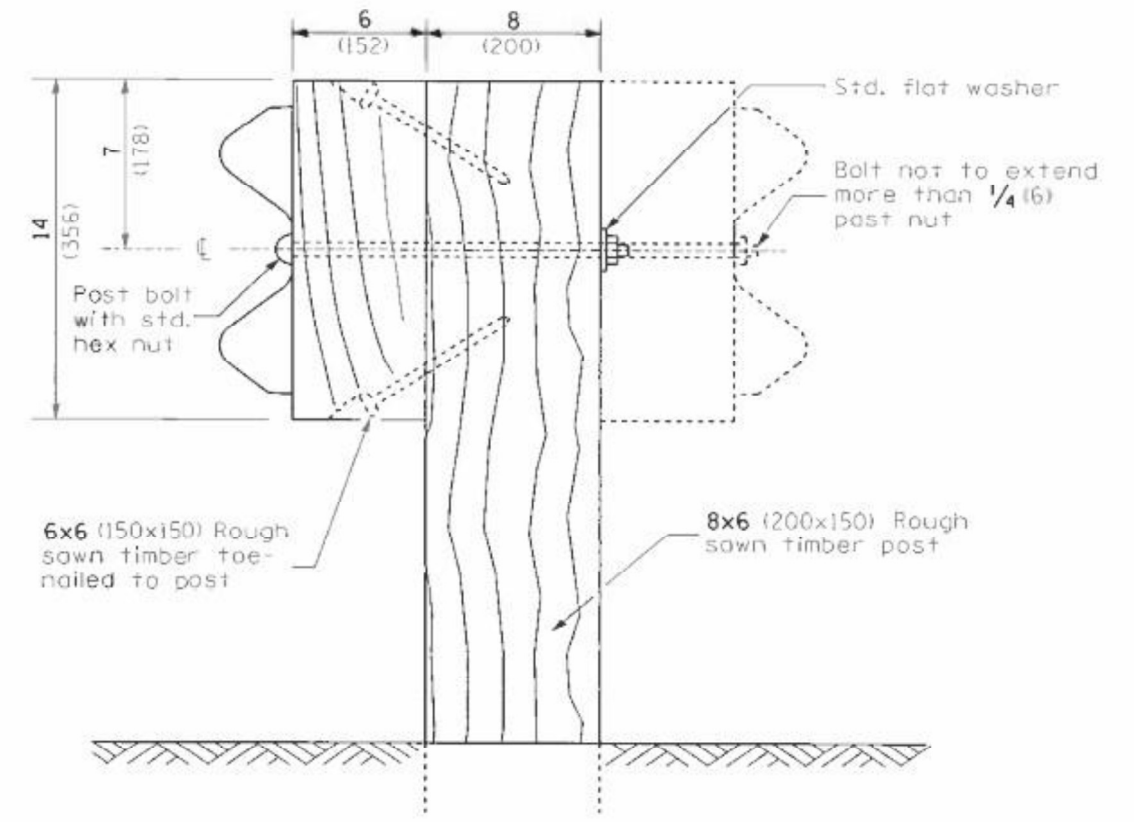




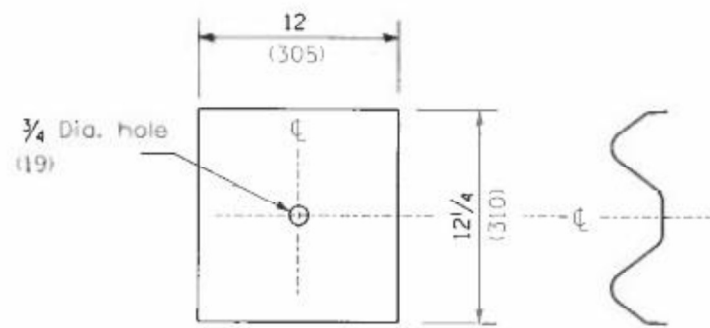
**STEEL POST CONSTRUCTION**



**STEEL BLOCK-OUT DETAIL**



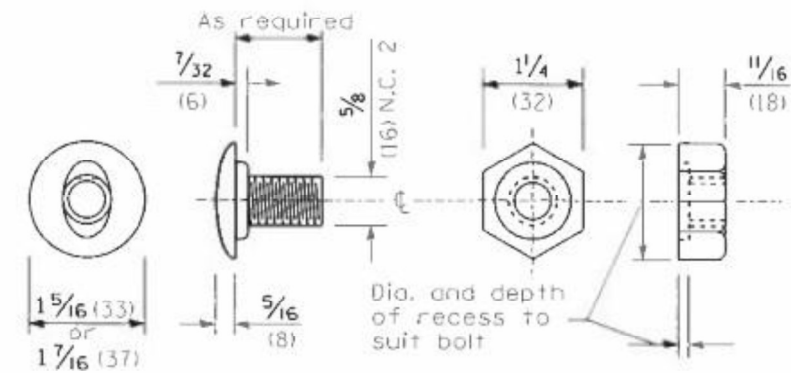
**WOOD POST CONSTRUCTION**



**NOTE**

Plate A shall be placed between rail element and block-out at non-splice mounting points only when steel block-outs are used.

**PLATE A**



**POST OR SPLICE BOLT & NUT**

All dimensions are in inches (millimeters) unless otherwise noted.

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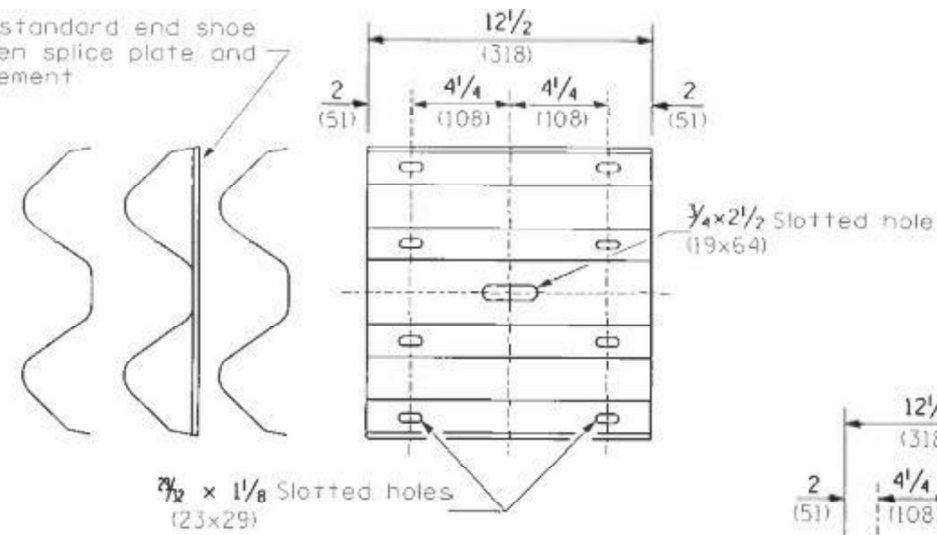
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL, TYPE A,  
6.75 FOOT POSTS

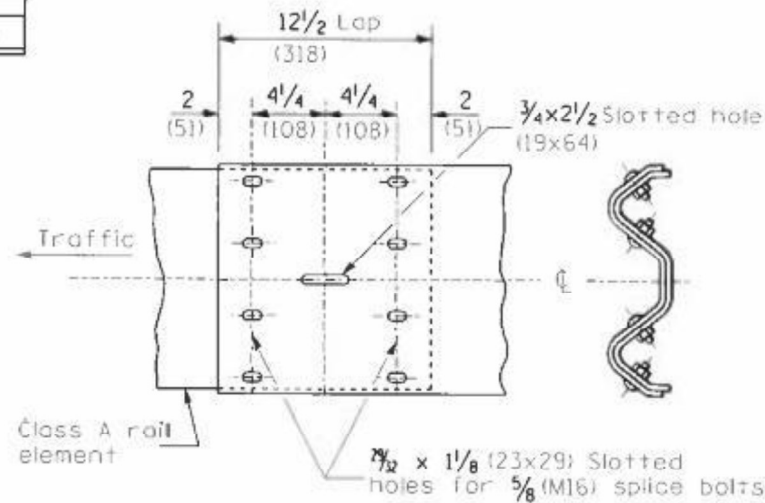
SCALE: SHEET 2 OF 4 SHEETS, STA. TO STA.

P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	25
		ILLINOIS	CONTRACT NO. 68H90	

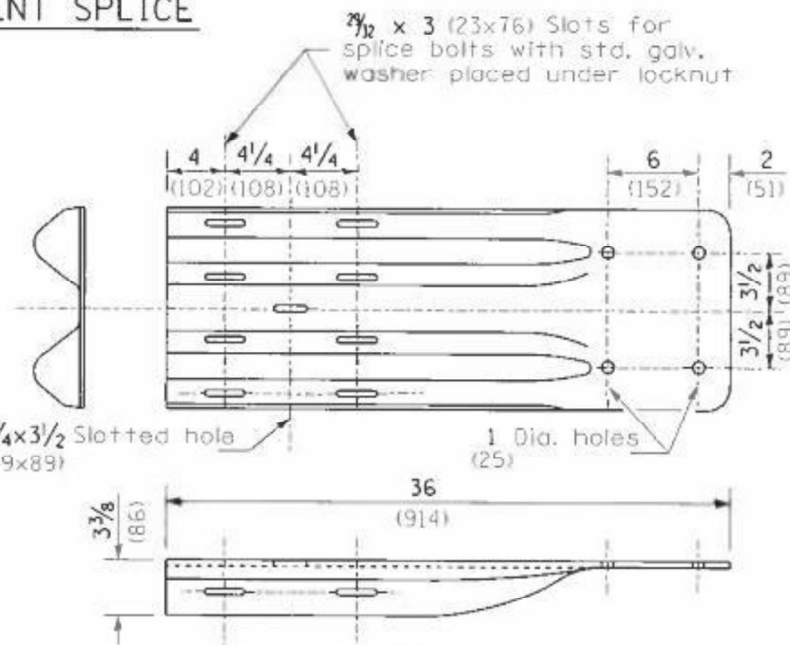
Place standard end shoe between splice plate and rail element



**SPLICE PLATE**



**RAIL ELEMENT SPLICE**

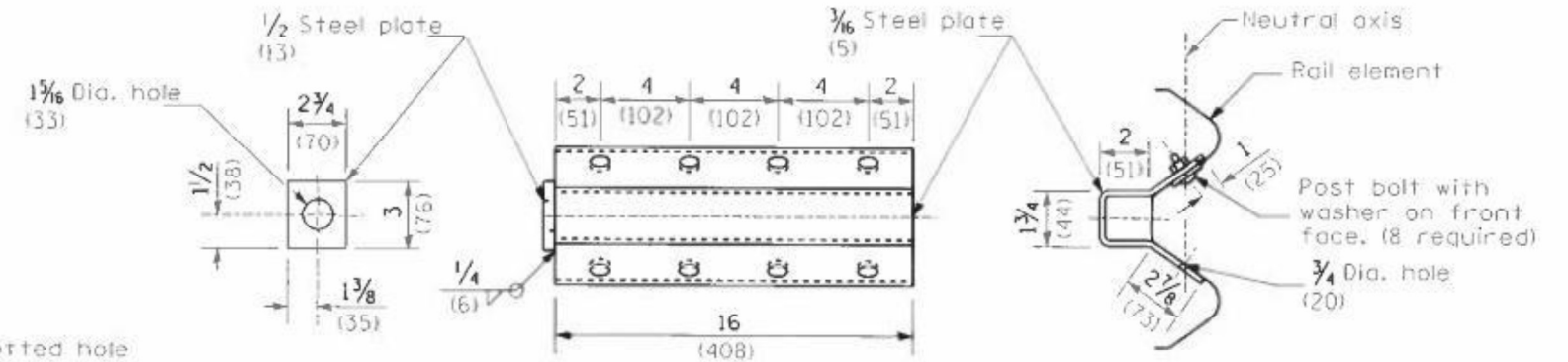


When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

The standard end shoe shall be attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.

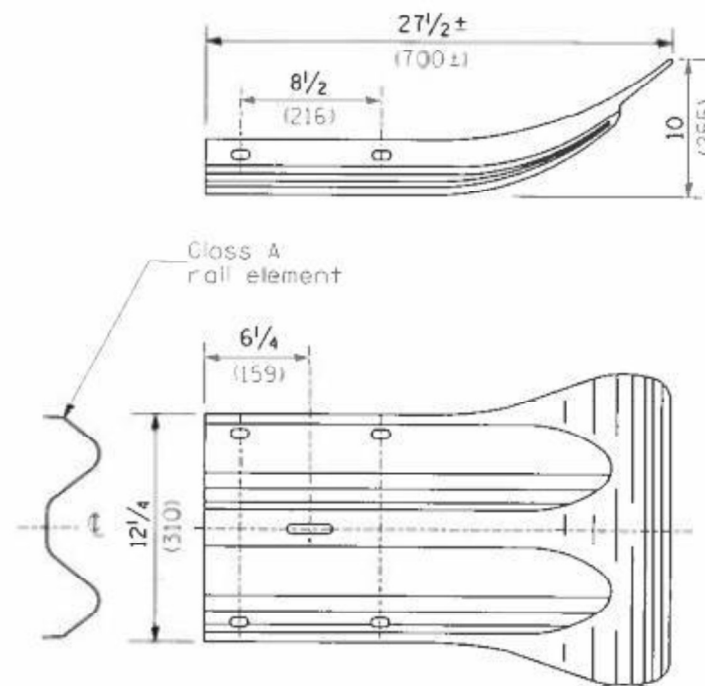
Externally threaded studs protruding from the surface of the concrete will not be permitted.

**END SHOE**

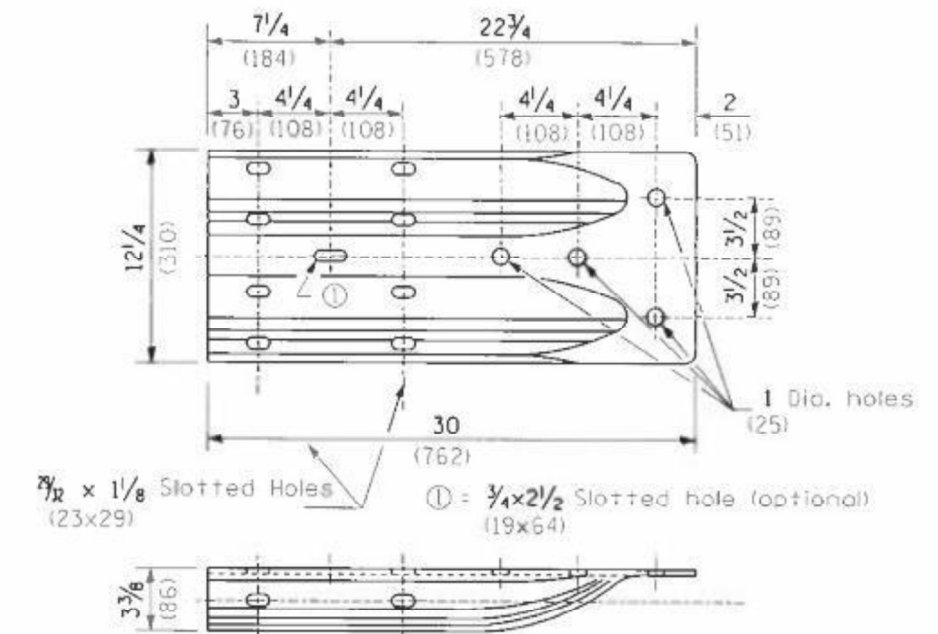


**NOTE**  
Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

**ANCHOR PLATE T DETAILS**



**END SECTION**



**ALTERNATE END SHOE**

MODEL: Default  
FILE: M:\MS: P:\ulidoc-cw\_bentley.com\P\INDOT\Documents\DOT\_Offices\District\_68E4P\CADData\CADsheets\68E4P-shc-cover.dgn

USER NAME = \$USERS	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

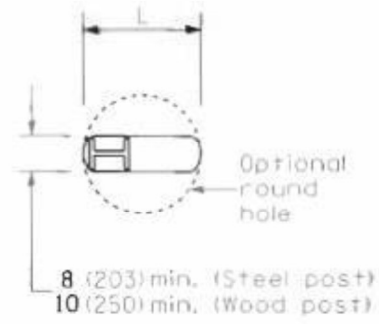
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL, TYPE A,  
6.75 FOOT POSTS

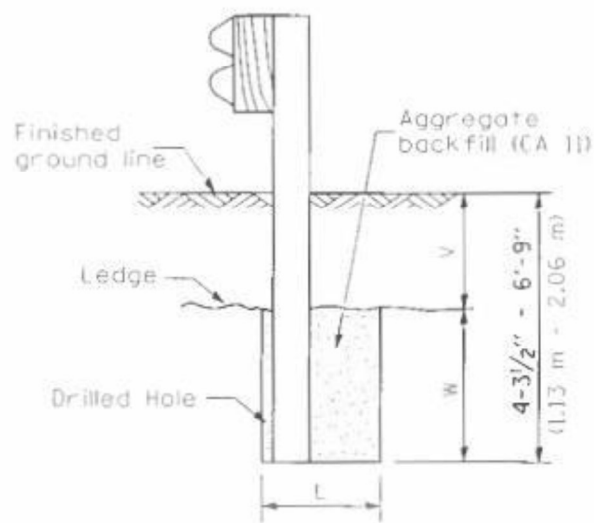
SCALE: SHEET 3 OF 4 SHEETS, STA. TO STA.

All dimensions are in inches (millimeters) unless otherwise noted.

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	26
		ILLINOIS	CONTRACT NO. 68H90	



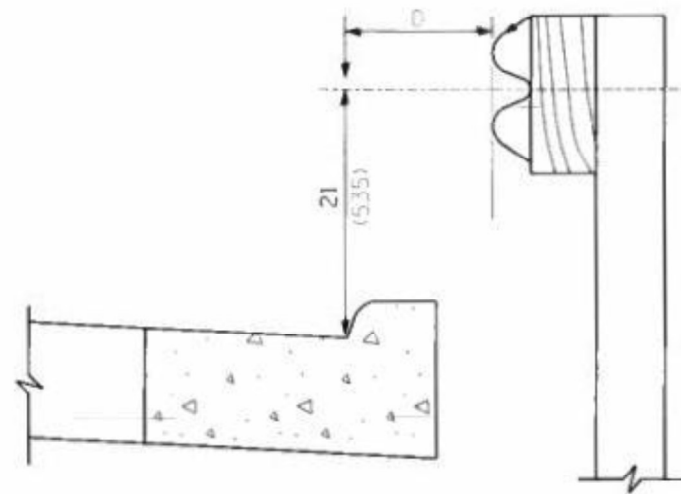
PLAN



Note:  
Ledge line is top of rock ledge or hard slag fill.

ELEVATION

**FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED**



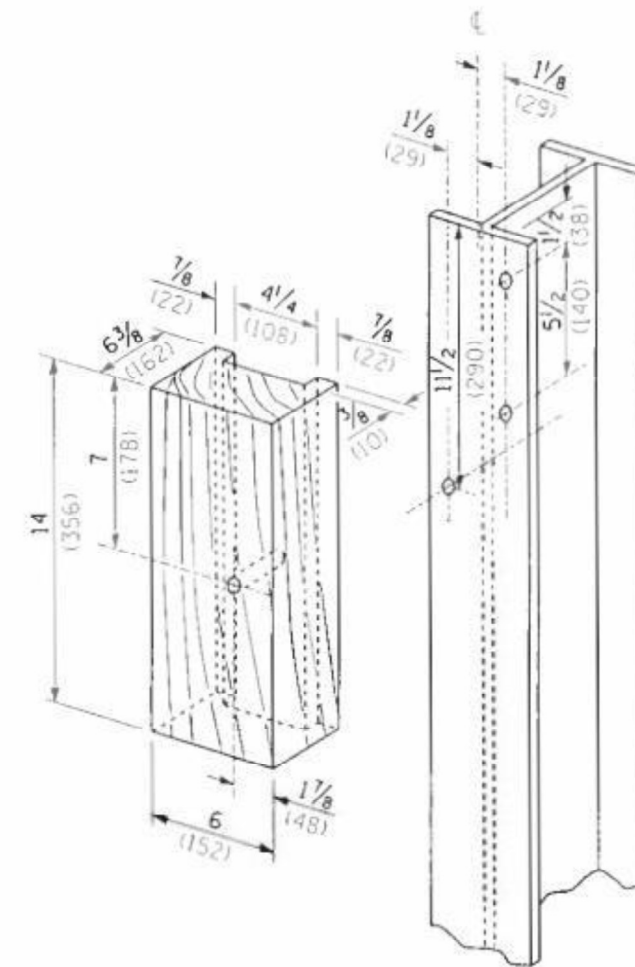
Note:

If it is necessary for D to be more than 12 (300) and less than 10'-0" (3.0 m) type M-2 (M-5) curb and gutter (Std. 60600) shall be used in front of and in advance of the guardrail.

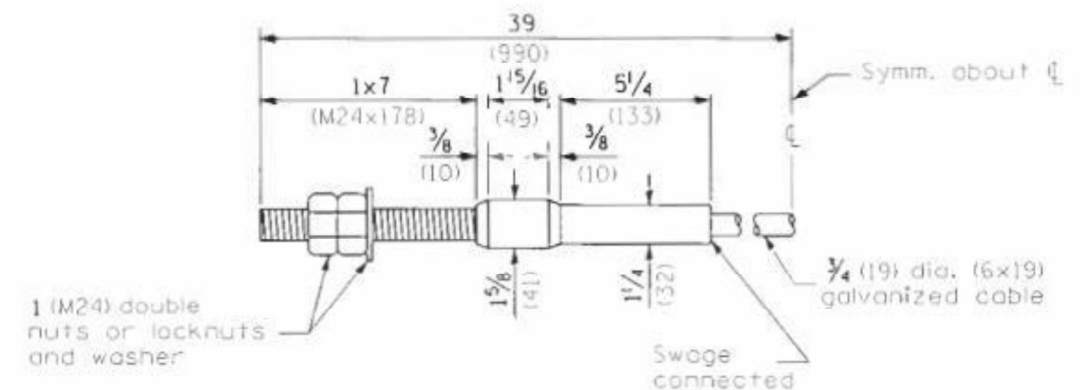
**GUARDRAIL PLACED BEHIND CURB**

(D = 0 desirable to 12 (300) maximum)

V	W	L	
		Steel Post	Wood Post
0 - 18 (0 - 460)	24 (610)	21 (530)	23 (580)
>18 - 41.5 (>460 - 825)	12 (305)	8 (203)	10 (250)
>41.5 - 53.5 (>825 - 1,13 m)	12 - 0 (305 - 0)	8 (203)	10 (250)



**WOOD BLOCK-OUT AND STEEL POST DETAILS**



**CABLE ASSEMBLY**

(18,100 kg (40,000 lbs.) min. breaking strength)  
Tighten to taut tension.

All dimensions are in inches (millimeters) unless otherwise noted.

MODEL: Default  
FILE: M:\MS\_Plan\guardrail-repairs\DOT Office\Documents\DOT Office\Drawings\68H90\SteelPlateBeamGuardrailTypeA\68H90-27.sht cover.cgm

USER NAME = \$USERS	DESIGNED -	REVISED -
PLOT SCALE = 1:100	DRAWN -	REVISED -
PLOT DATE = 10/21/2022	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL, TYPE A,  
6.75 FOOT POSTS

SCALE: SHEET 4 OF 4 SHEETS, STA. TO STA.

P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2024	VARIOUS	27	27
ILLINOIS CONTRACT NO. 68H90				