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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

VARIOUS ROUTES
SECTION D4 GUARDRAIL REPAIRS 2022-MCHD
PROJECT COVD-C6BQ(976)
CONTRACT MAINTENANCE
TYPE of IMPROVEMENT
VARIOUS COUNTIES

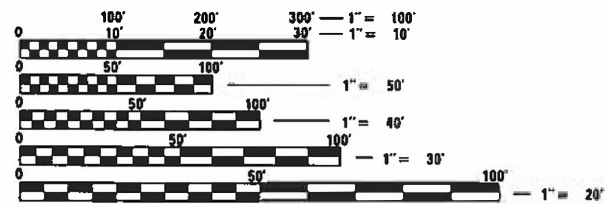
C-94-083-21

HIGHWAY STANDARDS:

630001-12	631046-04	701201-05	701456-05
630101-10	635001-02	701301-04	701601-09
630301-09	664001-02	701400-11	701606-10
631006-08	665001-02	701406-13	701701-10
631011-10	701006-05	701411-09	701901-08
631026-06	701011-04	701428-01	BLR-23-04
631031-17	701101-05		

DISTRICT STANDARDS:

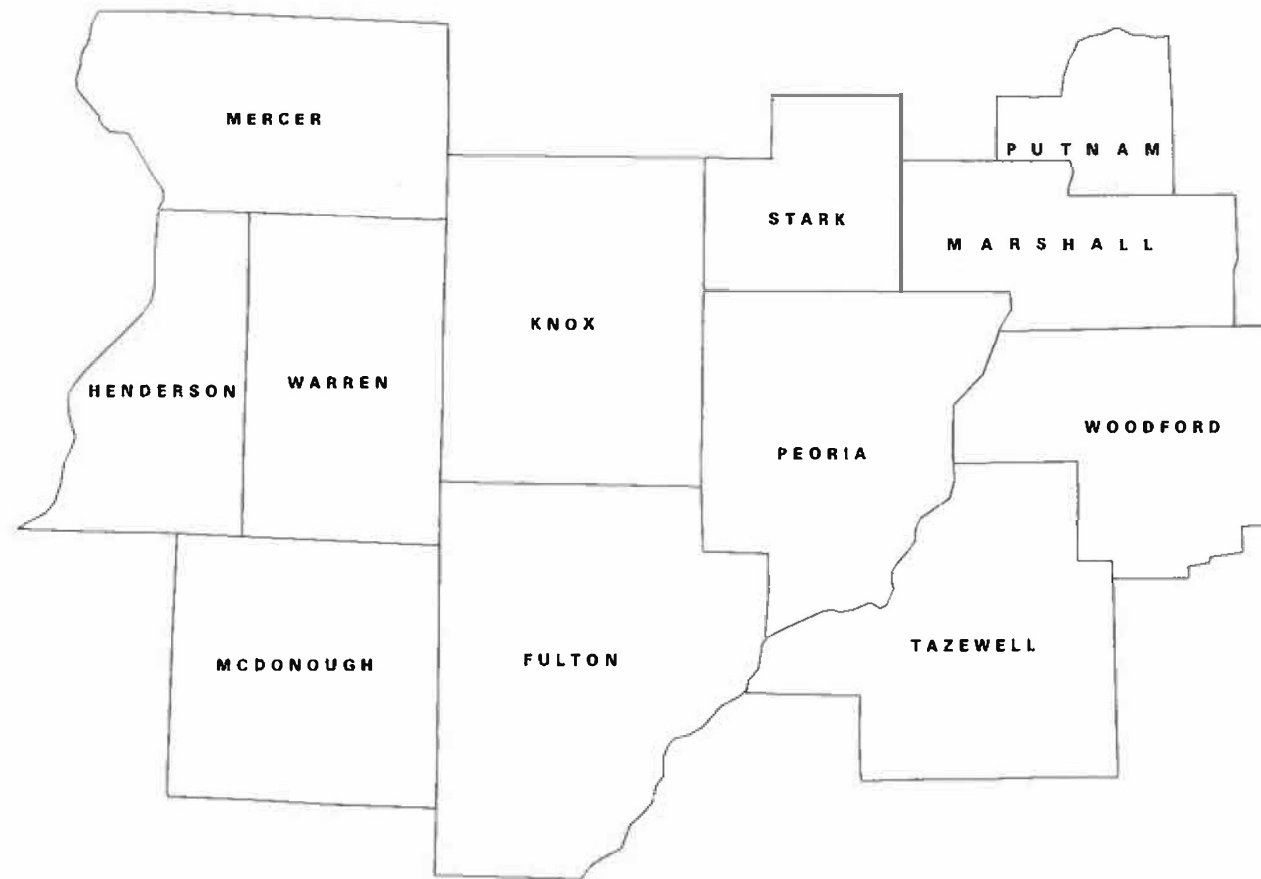
630011-D4



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.

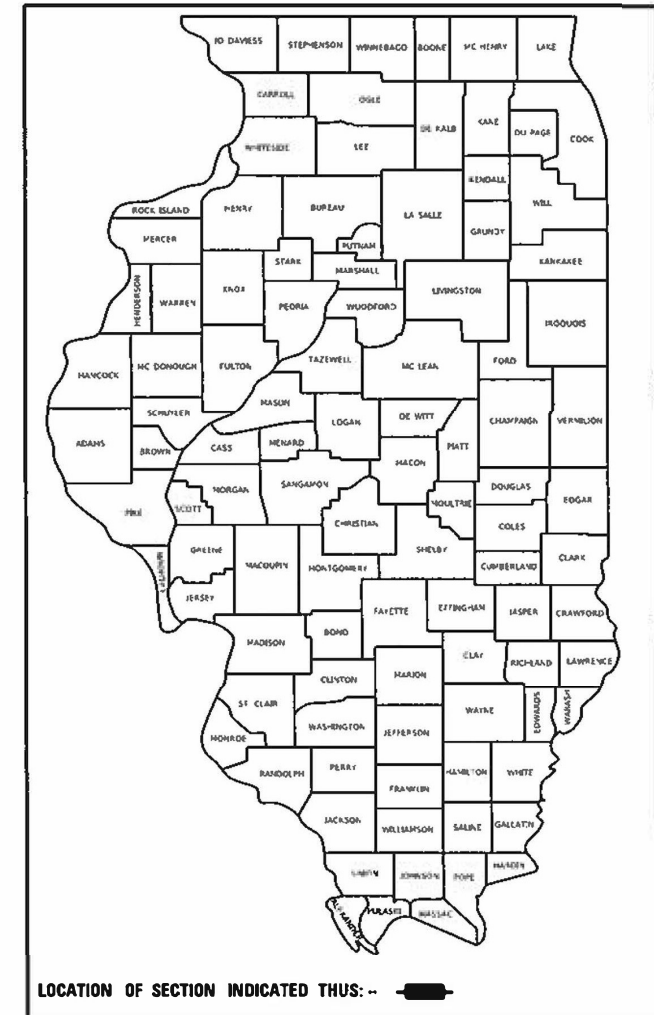
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER RICH DOTSON (309) 671-3455
PROJECT MANAGER MIKE JACOBS (309) 671-3460
CATALOG NO. 036235-00D
CONTRACT NO. 68G60



GROSS LENGTH = NA
NET LENGTH = NA

D-94-062-21



DESCRIPTION:
GUARDRAIL REPAIRS CAUSED BY MOTORISTS
AND CABLE GAURDRAIL REPAIRS AT
VARIOUS LOCATIONS IN DISTRICT 4

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED December 1, 2021
[Signature] REGIONAL ENGINEER

February 4, 2022
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT

February 1, 2022
[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**PRINTED BY THE AUTHORITY
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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DRAWN -	REVISED -	
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PLOT DATE = 6/8/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

JOB SPECIFIC NOTES AND COMMITMENTS

FA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
VAR	D4 GUARDRAIL REPAIRS 2022-MCHD	VARIOUS	27	2
				CONTRACT NO. 68G60
ILLINOIS FED. AID PROJECT				

SCALE: SHEET OF SHEETS STA. TO STA.

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				VARIOUS COUNTIES	VARIOUS COUNTIES	VARIOUS COUNTIES	VARIOUS COUNTIES
				100 % STATE	100 % STATE	100 % STATE	100 % FED
				MCHD 0021	CONT. MAINT. 0021	HTMCB 0021	COVID RELIEF 0021
63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	450	350			100
63000003	STEEL PLATE BEAM GUARD RAIL, TYPE A, 9 FOOT POSTS	FOOT	50	50			
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	9	4	2		3
63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	6	4	2		
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	5	1	4		
63100101	TRAFFIC BARRIER TERMINAL, TYPE 9	EACH	6	4	2		
63100105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	6	4	2		
63100115	TRAFFIC BARRIER TERMINAL, TYPE 12	EACH	6	4	2		
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	60	30	24		6
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	10	7	2		1
63400105	GUARD POSTS	EACH	27	5	2		20
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2		1		1
64300320	IMPACT ATTENUATORS (FULLY REDIRECTIVE, RESETTABLE), TEST LEVEL 3	EACH	1				1
64300370	IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	2		1		1

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USER NAME	DESIGNED	REVISED
PLOT SCALE	DRAWN	REVISED
PLOT DATE	CHECKED	REVISED
	DATE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2022-MCHD	VARIOUS	27	3
CONTRACT NO. 68G60			ILLINOIS FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
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				100 % STATE	100 % STATE	100 % STATE	100 % FED
				MCHD	CONT. MAINT.	HTMCB	COVID RELIEF
				0021	0021	0021	0021
64300450	IMPACT ATTENUATORS (NON- REDIRECTIVE), TEST LEVEL 3	EACH	4	3	1		
64300770	IMPACT ATTENUATORS (SEVERE USE, NARROW), TEST LEVEL 3	EACH	2		1		1
66400105	CHAIN LINK FENCE, 4'	FOOT	7	5	2		
66400305	CHAIN LINK FENCE, 6'	FOOT	480	360	120		
66500105	WOVEN WIRE FENCE, 4'	FOOT	500	350	150		
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	40	28	12		
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	20	14	6		
X0301372	REPAIR/UPGRADE EXISTING VAT TO CAT	EACH	6	4	2		
X0320013	REPAIR IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	1	1			
X0320014	REPAIR IMPACT ATTENUATORS (SEVERE USE, NARROW), TEST LEVEL 3	EACH	1	1			
X0325264	REPAIR IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	5	2	3		
X0325899	REPAIR HIGH TENSION CABLE (GIBALTAR)	FOOT	500			500	
X0325900	REPAIR HIGH TENSION BARRIER TERMINAL (GIBALTAR)	EACH	2			2	
X0325902	REMOVE AND REPLACE POSTS (GIBALTAR)	EACH	36			36	

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PLOT DATE : 11/23/2021	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR 04	GUARDRAIL REPAIRS 2022-MCHD	VARIOUS	27	4
			CONTRACT NO. 68060	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
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				100 % STATE	100 % STATE	100 % STATE	100 % FED
				MCHD	CONT. MAINT.	HTMCB	COVID RELIEF
				0021	0021	0021	0021
X0325903	REPAIR CABLE ROAD GUARD, THREE STRANDS	FOOT	50			50	
X0327382	REPAIR HAIRPINS (GIBRALTAR)	EACH	50			50	
X0327383	REPAIR LOCK PLATES (GIBRALTAR)	EACH	100			100	
X6300210	GUARDRAIL BLOCKS	EACH	200	140	60		
X6300215	RAIL ELEMENT PLATES	EACH	80	60	20		
X6300230	STEEL POSTS	EACH	130	90	40		
X6330900	VERTICAL ADJUSTMENT OF GUARDRAIL	FOOT	400	280	120		
X6331101	TUBULAR THRIE BEAM	FOOT	200	140	60		
X6331110	STEEL POSTS, SPECIAL	EACH	6	4	2		
X6640502	CHAIN LINK FENCE POST	EACH	10	6	4		
X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1			
Z0008760	EMERGENCY WORK CALL OUT	EACH	20	14	6		
Z0020210	PULL POST ARRANGEMENT	EACH	6	4	2		
Z0051400	REMOVING AND RESETTNG POSTS	EACH	100	70	30		

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PLOT DATE = 11/23/2021	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	24 GUARDRAIL REPAIRS 2022-MCHD	VARIOUS	27	5
			CONTRACT NO. 68G60	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				VARIOUS COUNTIES	VARIOUS COUNTIES	VARIOUS COUNTIES	VARIOUS COUNTIES
				100 % STATE	100 % STATE	100 % STATE	100 % FED
				MCHD 0021	CONT. MAINT. 0021	HTMCB 0021	COVID RELIEF 0021
Z0052410	REPAIR TRAFFIC BARRIER TERMIAL, TYPE 1 SPECIAL (TANGENT)	EACH	25	18	7		
Z0052415	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (FLARED)	EACH	7	4	3		
Z0052600	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	6	5	1		
Z0052700	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 3	EACH	4	3	1		
Z0052900	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 4	EACH	6	4	2		
Z0053000	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	7	5	2		
Z0053200	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	9	6	3		
Z0053400	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 8	EACH	7	5	2		
Z0053500	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 9	EACH	7	5	2		

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PLOT DATE - 11/23/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2022 MCHD	VARIOUS	27	6
CONTRACT NO. 68G60				

ILLINOIS FED. AID PROJECT

ILLINOIS DEPT OF TRANSPORTATION - DIST 4 - WORK ORDER

TO: _____
 D/A: _____

MOTORIST-CAUSED DAMAGE REPAIR

FY

JOB NUM: _____

CONTRACT NUM: _____

CLAIM NUM: _____

ROAD: _____

LOCATION: _____

COUNTY: _____

CODE NUM

ITEM

UNIT

QTY

UNIT PRICE

AMOUNT

TOTAL CHARGES (This Work Order)\$

SPECIAL INSTRUCTIONS:

WORK ORDER ISSUED: _____ BY: _____ ACCEPTED: _____ BY: _____

WORK ORDER COMPLETED: _____ DATE: _____

I/WE CERTIFY WORK HAS BEEN PERFORMED ACCORDING TO THE CONTRACT AND HEREBY REQUEST

PAYMENT: _____ BY: _____ ACCEPTED: _____ BY: _____

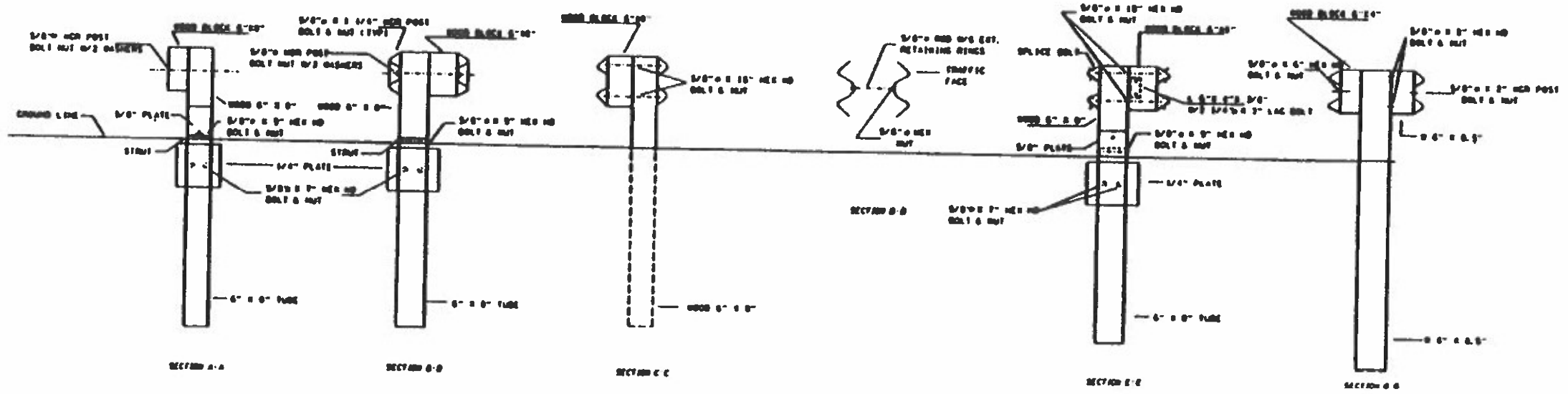
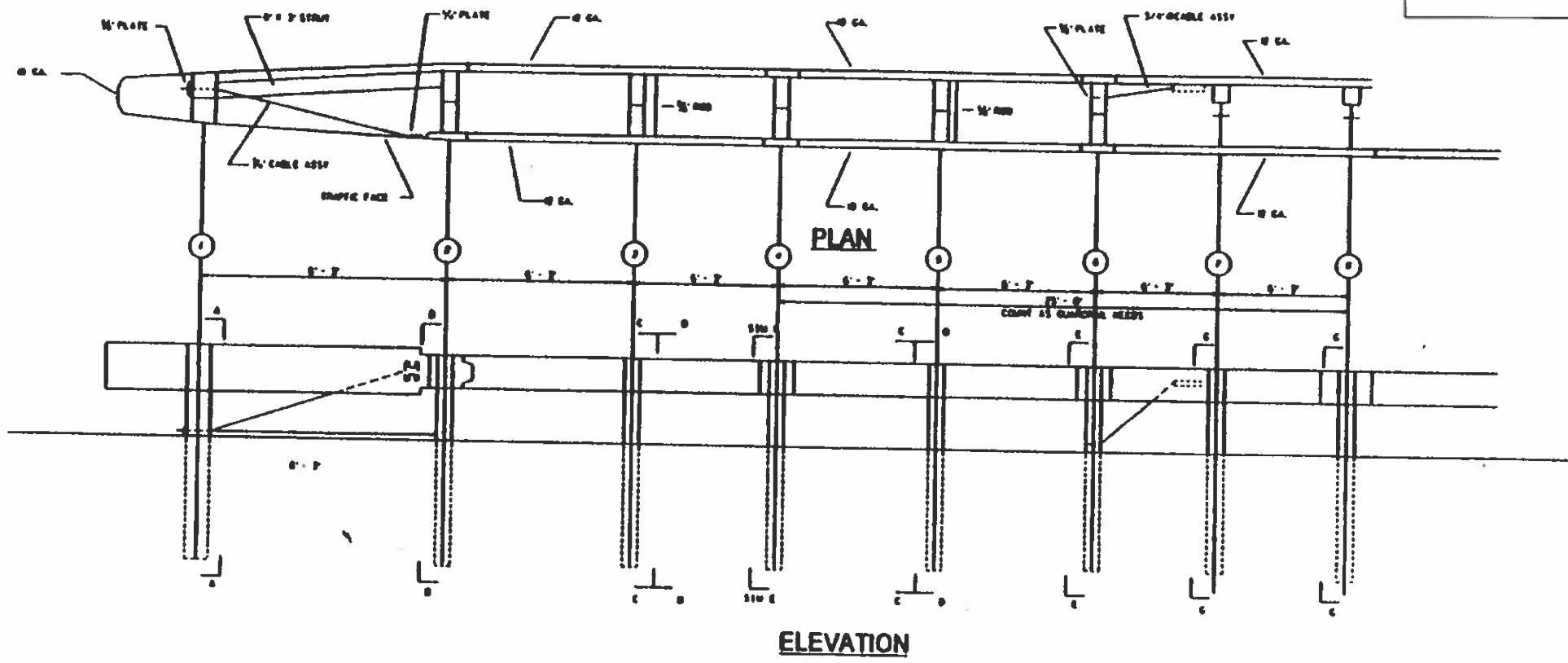
VERIFICATION OF WORK ORDER COMPLETED: _____ BY: _____

APPROVED FOR PAYMENT

DATE

FILE NAME :	USER NAME : KHANALS	DESIGNED =	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 4 - SAMPLE WORK ORDER			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pa:\planroom\del\illinois.gov\PI1001\Docu	https://DOT.Officials/District 4/Projects/04.68	DRAWN =	REVISED -					VAR	D4 QUORRAIL REPAIRS 2022-MCHD	VARIOUS	27	7
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**DETAIL INCLUDED
FOR REPAIR ONLY**



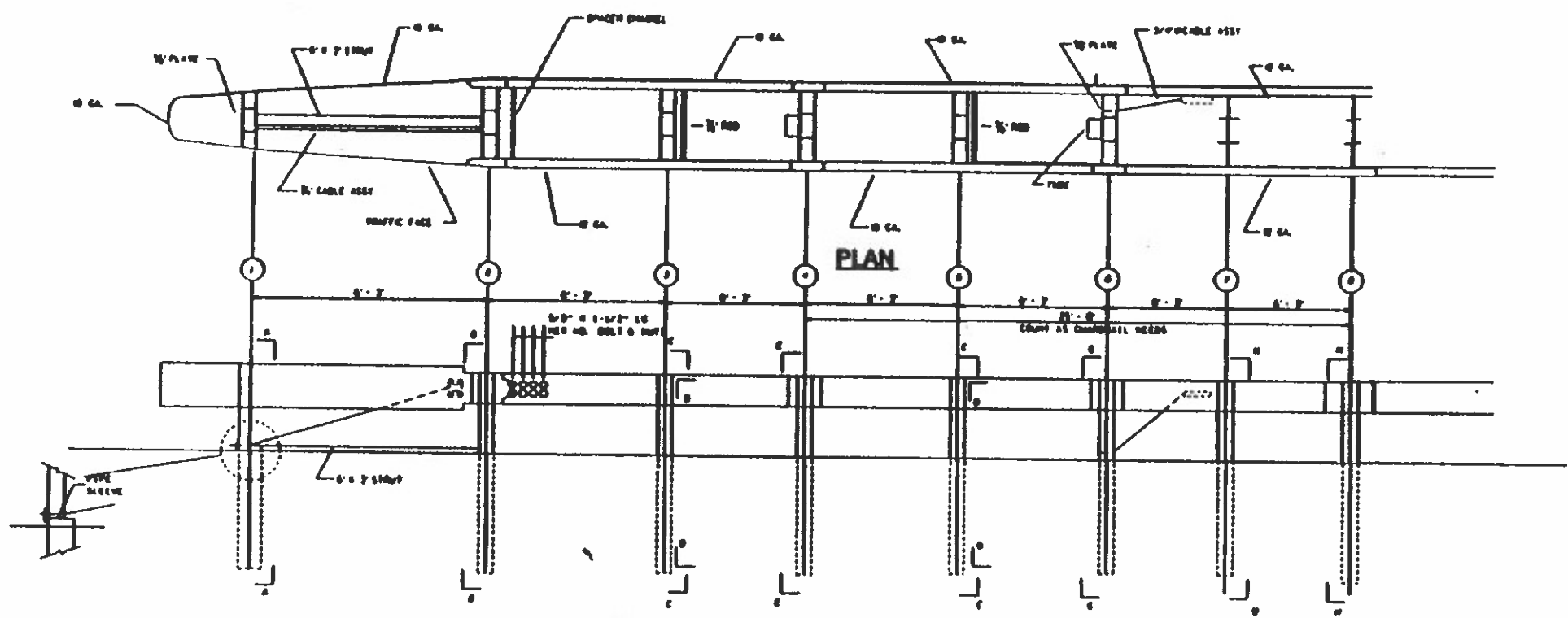
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

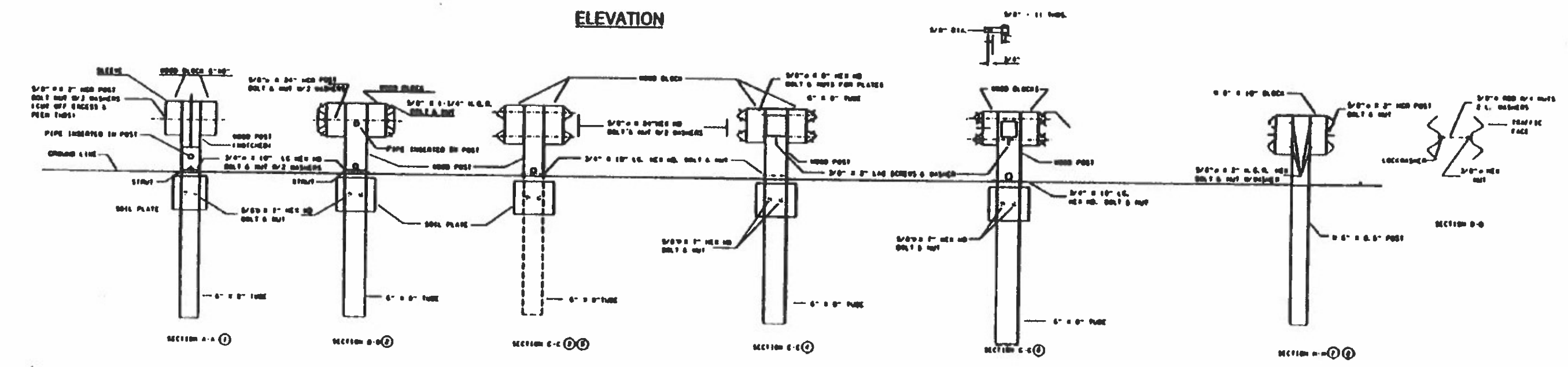
EXISTING V.A.T. SYSTEM

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

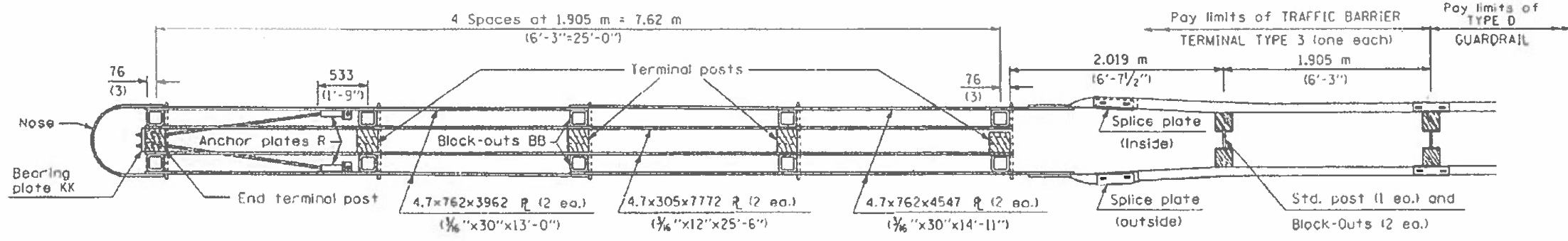
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VAR	D4 QUADRAIL REPAIRS 2022-MCHD	VARIOUS	27	8
			CONTRACT NO. 68G60	
ILLINOIS FED. AID PROJECT				



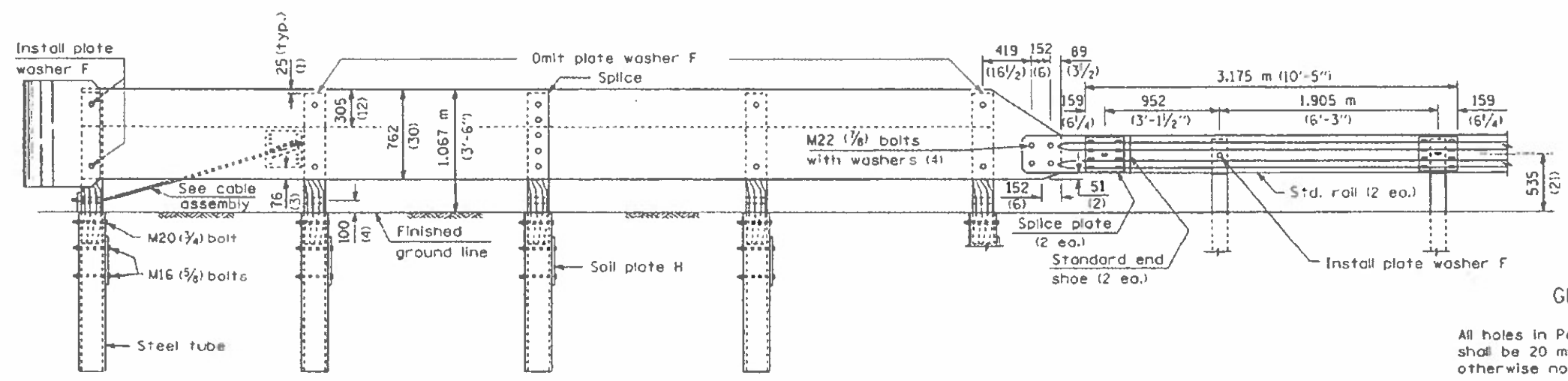
**DETAIL INCLUDED
FOR REPAIR ONLY**



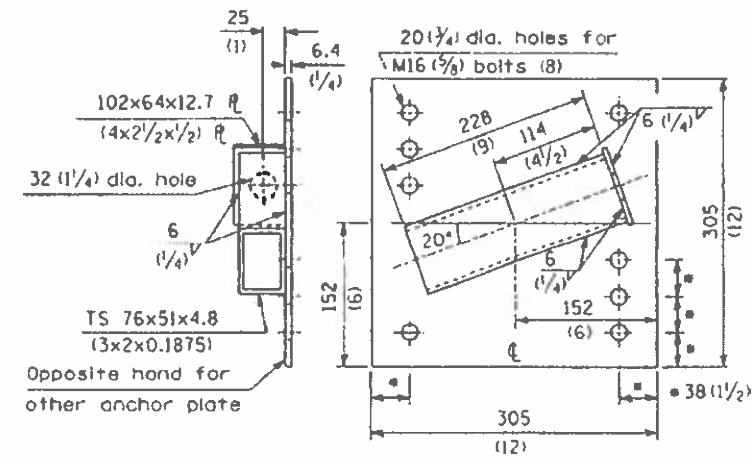
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						ILLINOIS FED. AID PROJECT					



PLAN - TRAFFIC BARRIER TERMINAL TYPE 3

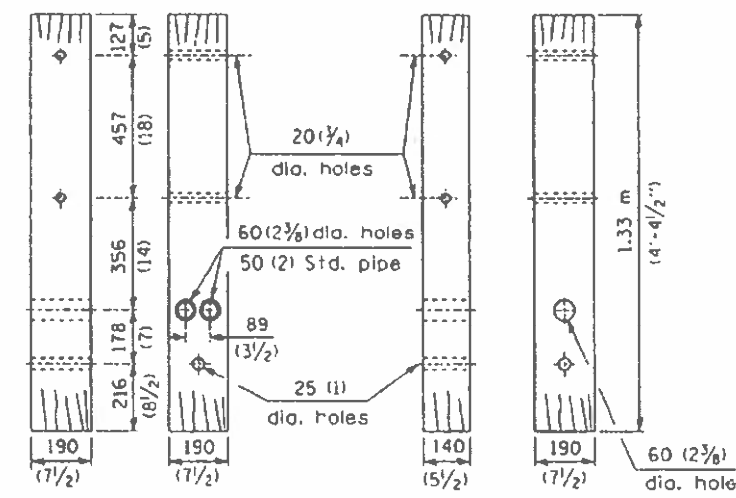


ELEVATION



ANCHOR PLATE R

(1 ea. lt. hd. & 1 ea. rt. hd.)



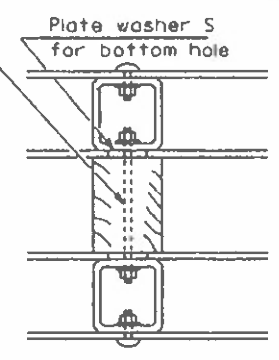
END TERMINAL POST

(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)



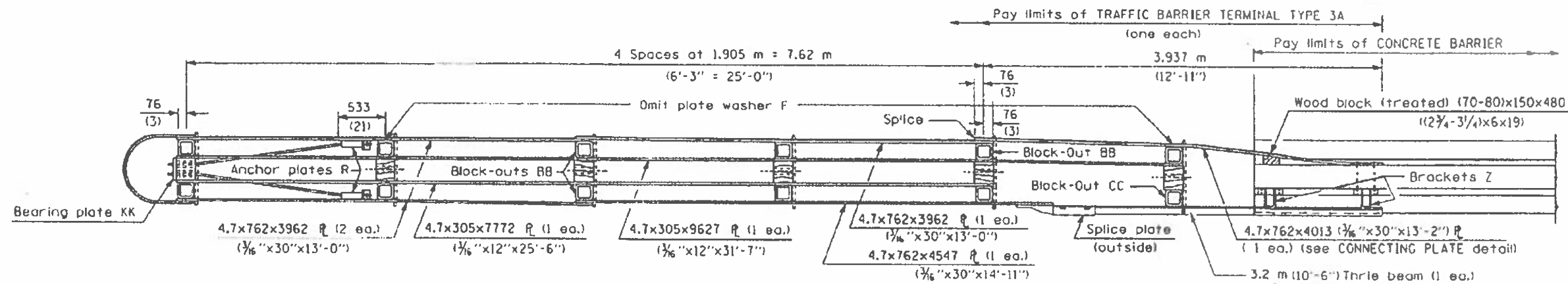
TYPICAL BLOCK-OUT/POST ATTACHMENT

GENERAL NOTES

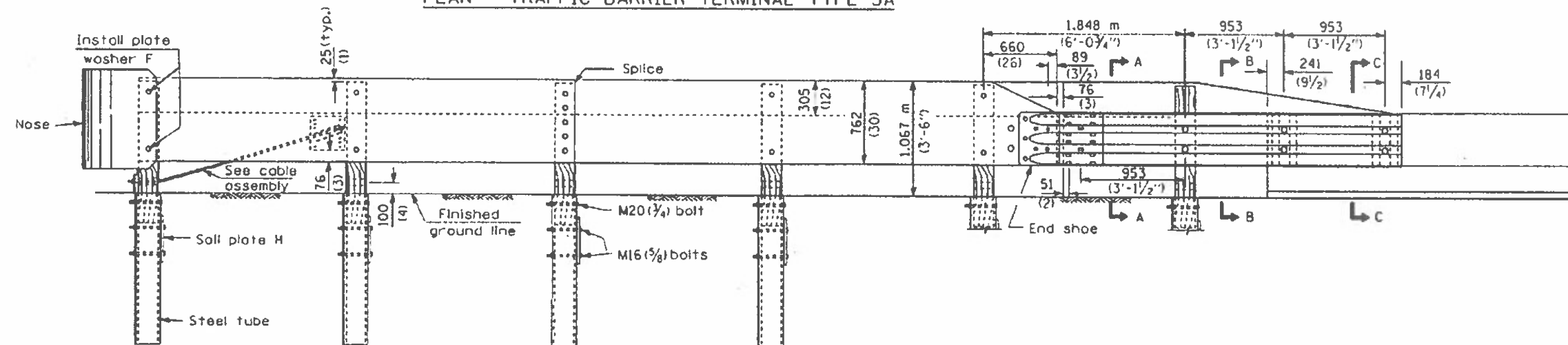
- All holes in Posts, Block-Outs and Plates shall be 20 mm (3/4") diameter unless otherwise noted.
- See Standard 630001 for details of guardrail elements not shown.
- Unless otherwise shown all bolts and nuts shall be Standard Post and Splice Bolts and Nuts (See Standard 630001).
- Block-Out AA shall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

DETAIL INCLUDED FOR REPAIR ONLY

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



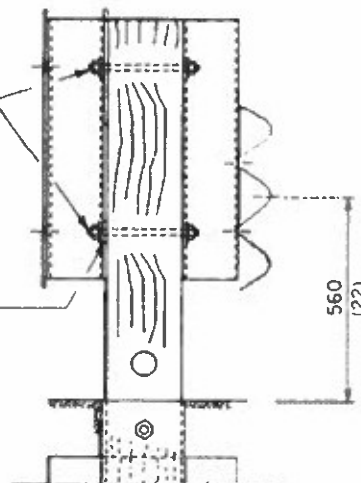
PLAN - TRAFFIC BARRIER TERMINAL TYPE 3A



ELEVATION

2- M16x280 (5/8x11) threaded rods with nuts and washers

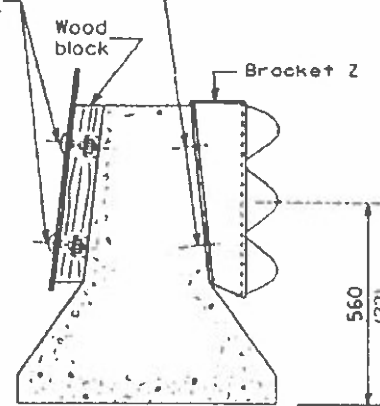
Plate washer S



SECTION A-A

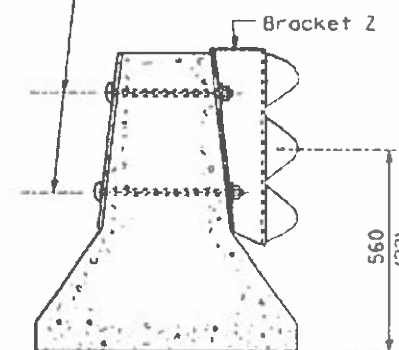
2- M16 (5/8) button head bolts with hex nuts and washers recessed in wood block.

4 - 2 unit expanding or self-drilling anchors for M16 (5/8) bolts with standard washers



SECTION B-B

4- M16 (5/8) button head bolts with hex nuts and washers installed thru concrete barrier, with button head on plate side. Pre-drill 25 (1) dia. holes in concrete barrier.



SECTION C-C

DETAIL INCLUDED FOR REPAIR ONLY

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

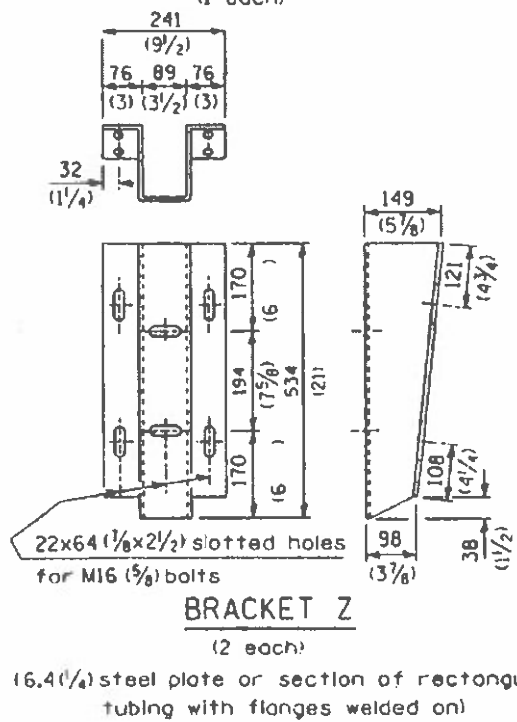
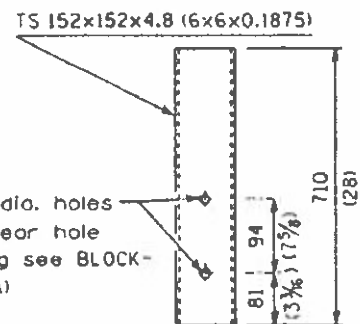
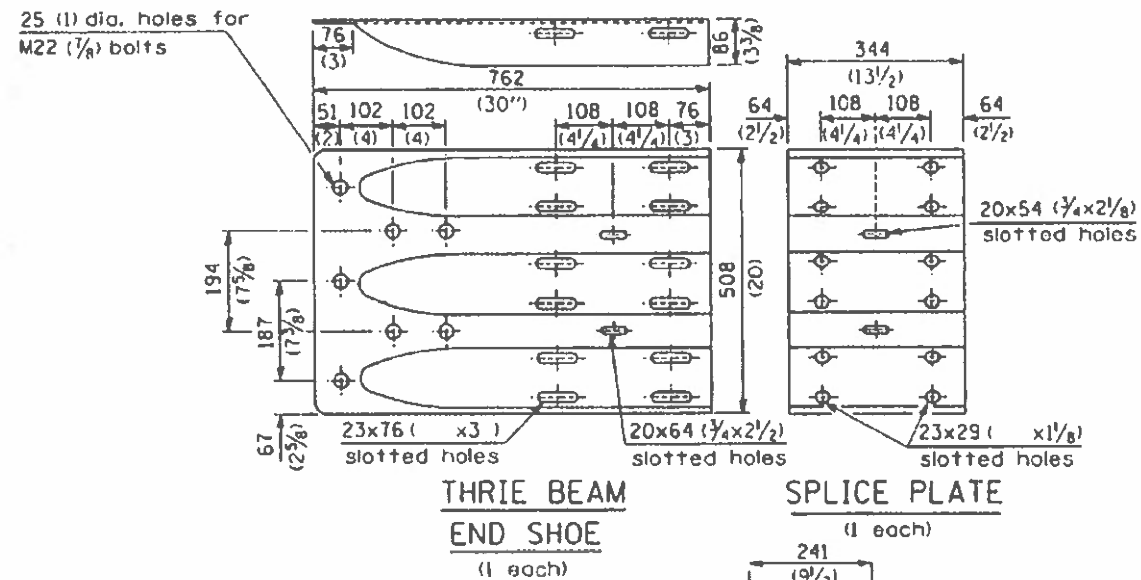
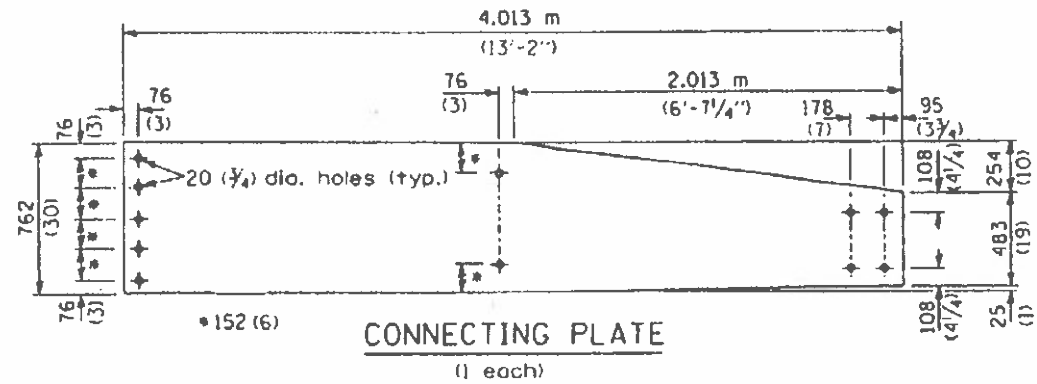
EXISTING TRAFFIC BARRIER TERMINAL
TYPE 3 & TYPE 3A

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 68G60	
ILLINOIS FED. AID PROJECT				

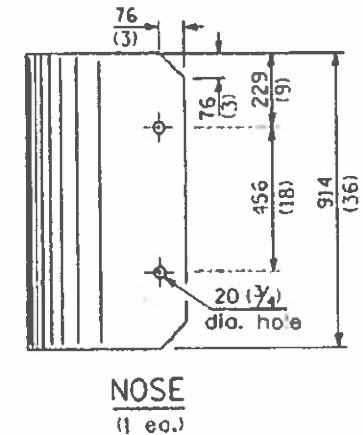
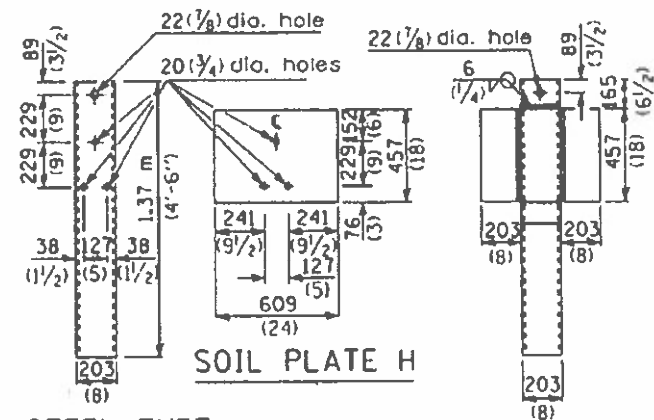
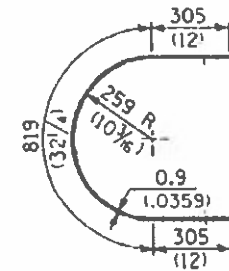
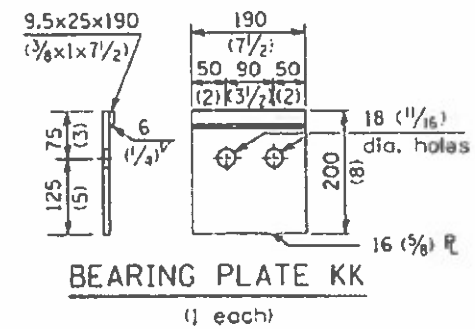
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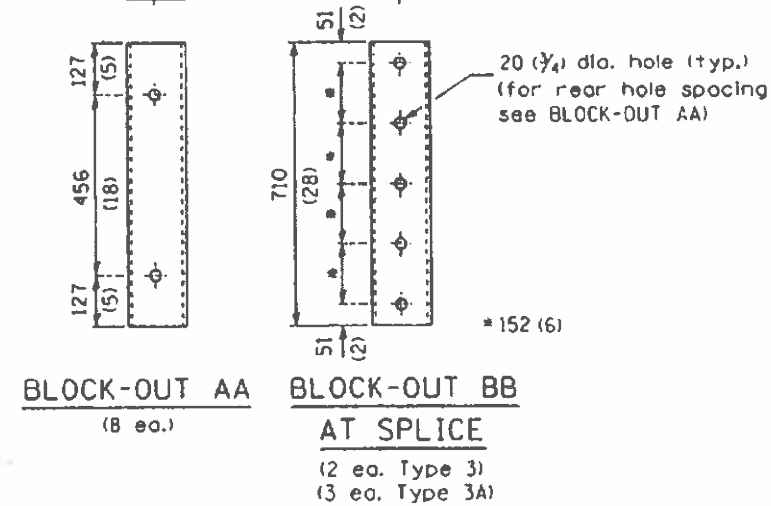
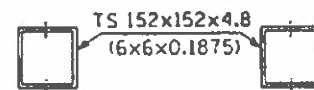
TYPE 3A ONLY



TYPE 3 & 3A

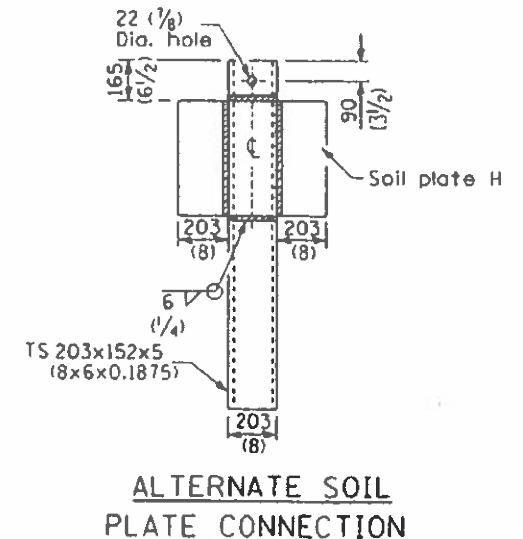
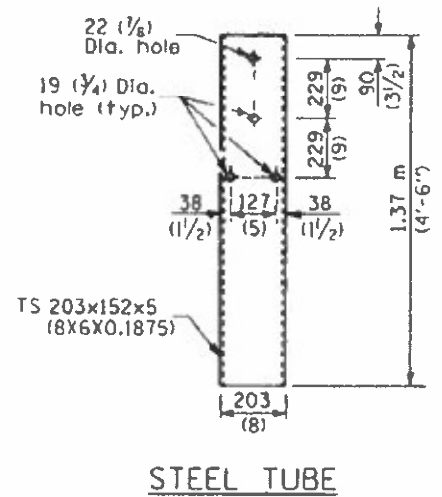
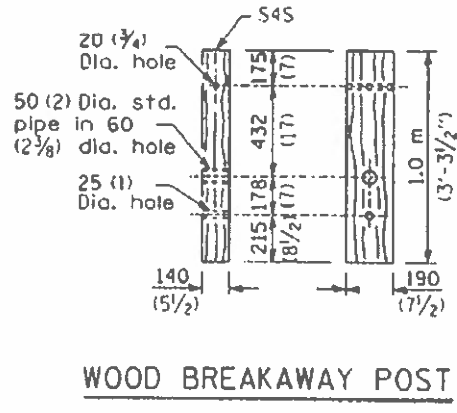
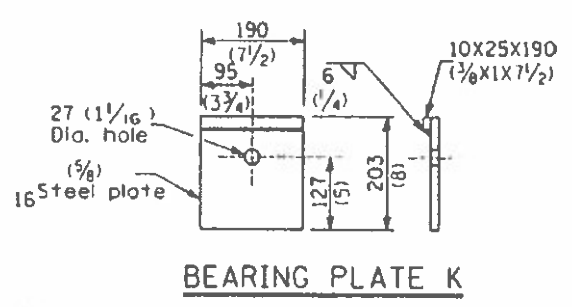
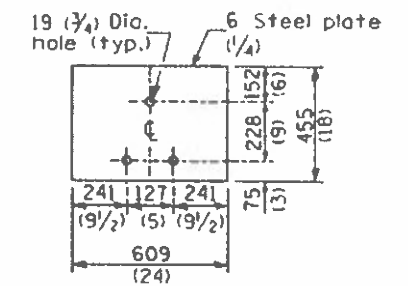
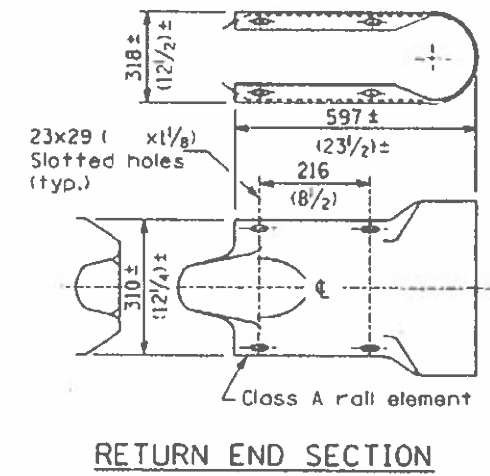
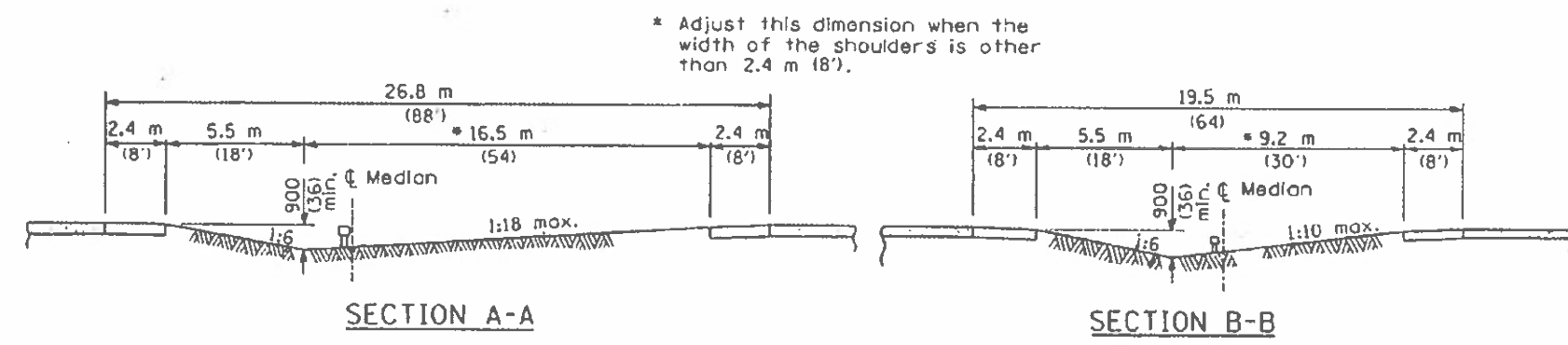
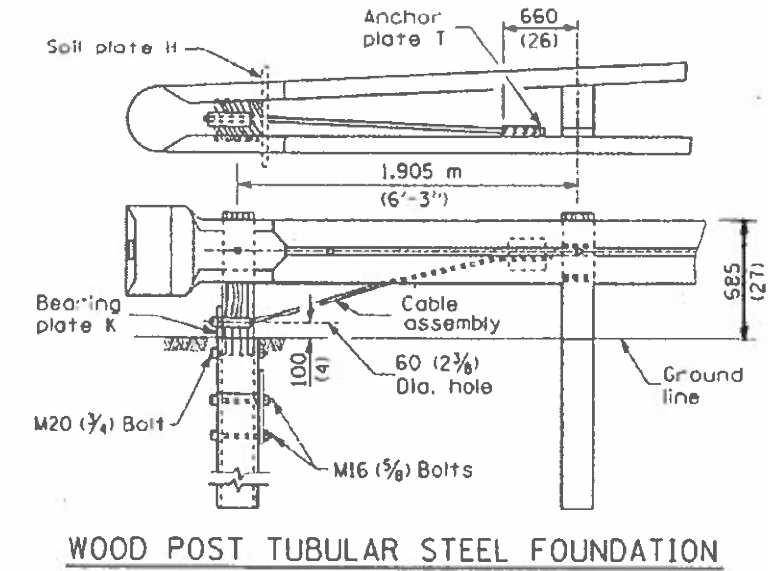
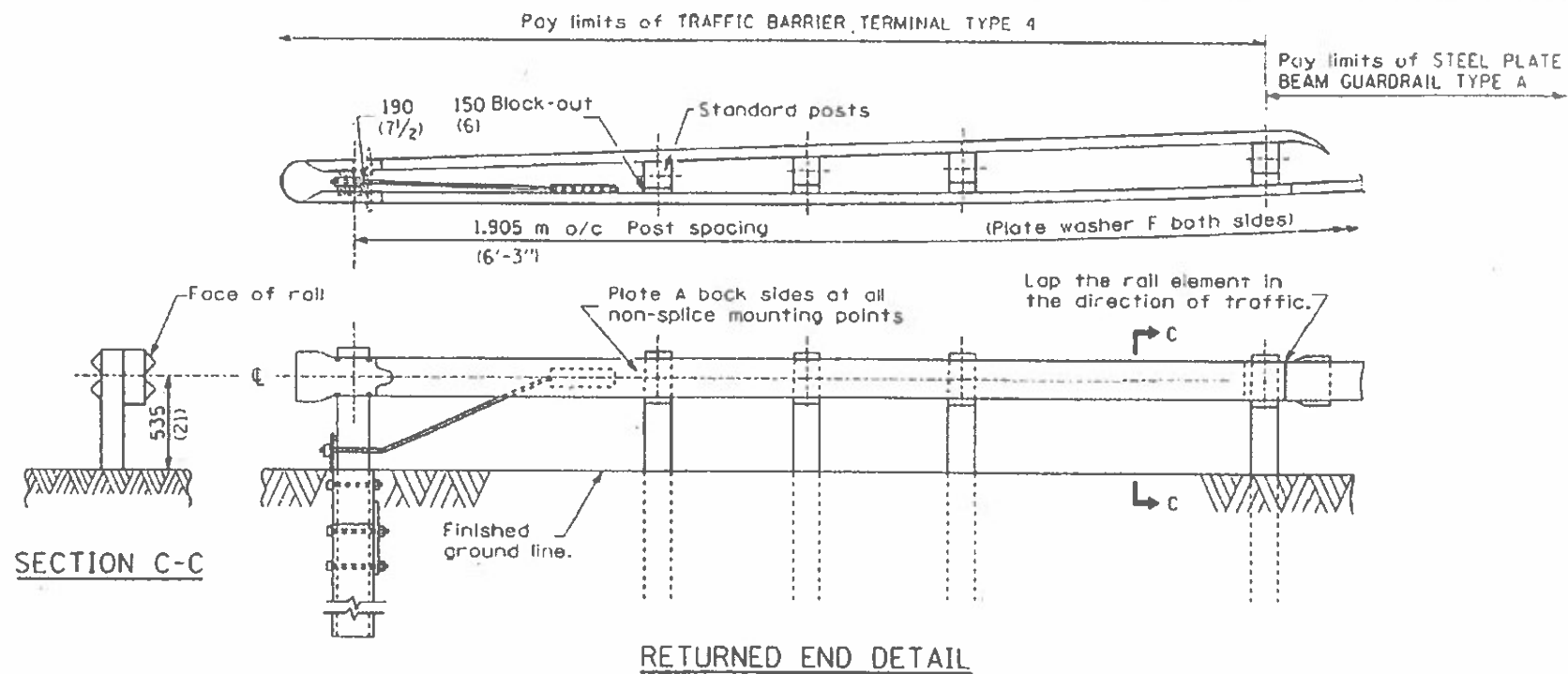


STEEL TUBE
 TS 203x203x4.8 (8x8x0.1875) (end terminal post) (1 ea.)
 TS 203x152x4.8 (8x6x0.1875) (terminal post) (4 ea. Type 3) (5 ea. Type 3A)



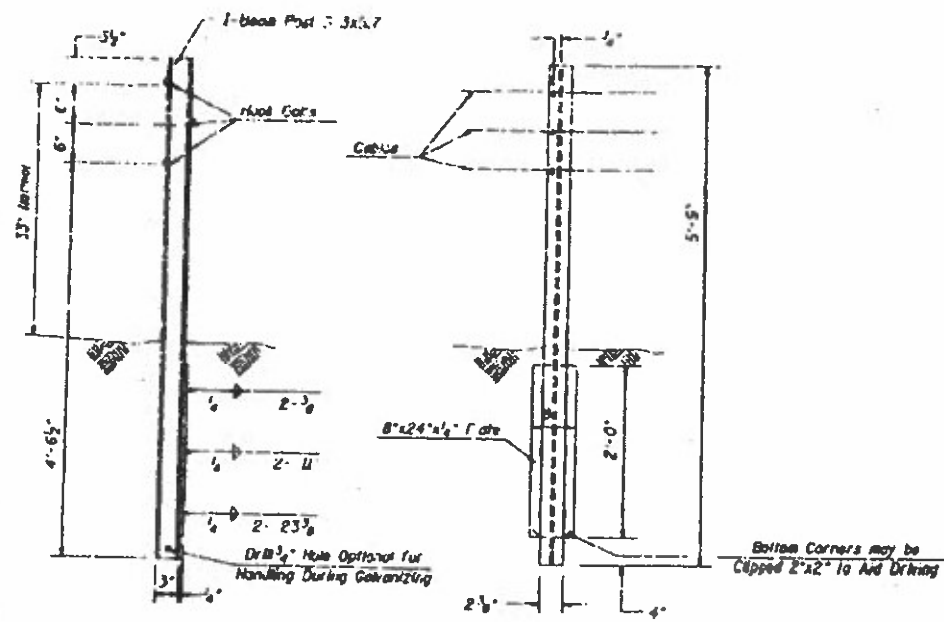
DETAIL INCLUDED FOR REPAIR ONLY

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

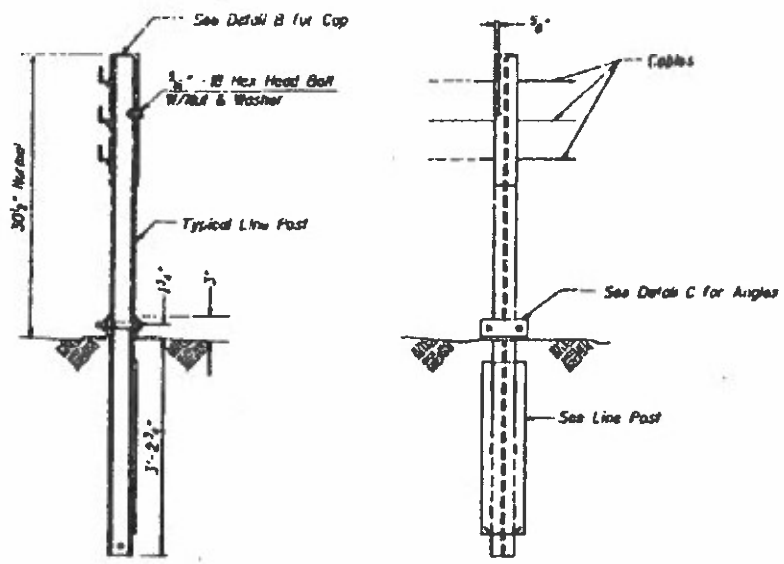


DETAIL INCLUDED FOR REPAIR ONLY

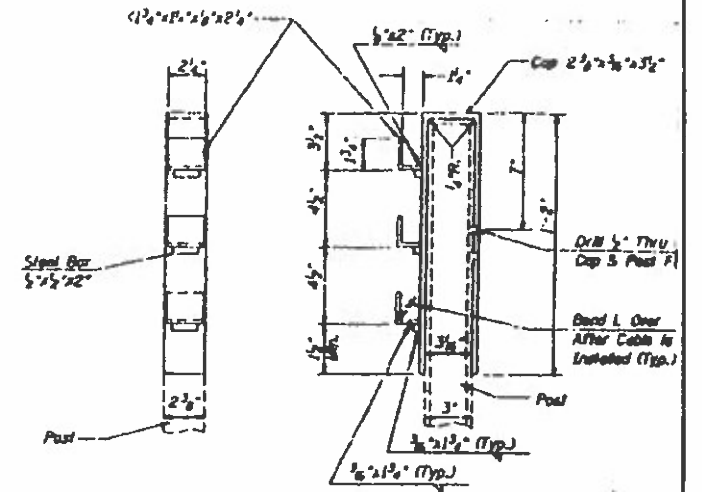
All dimensions are in millimeters (inches) unless otherwise shown.



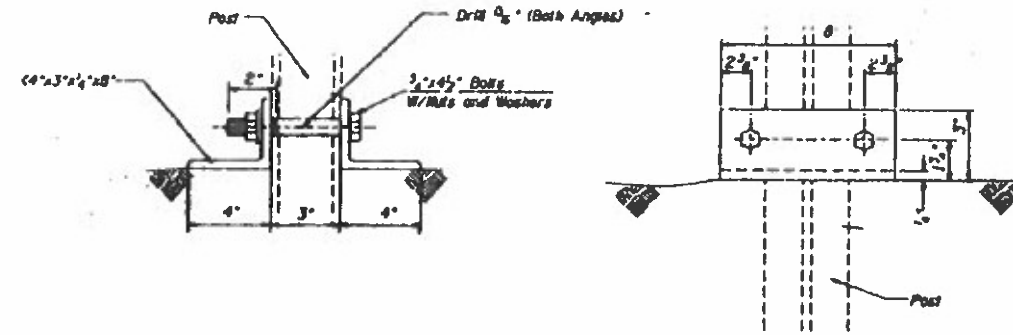
LINE POST DETAIL



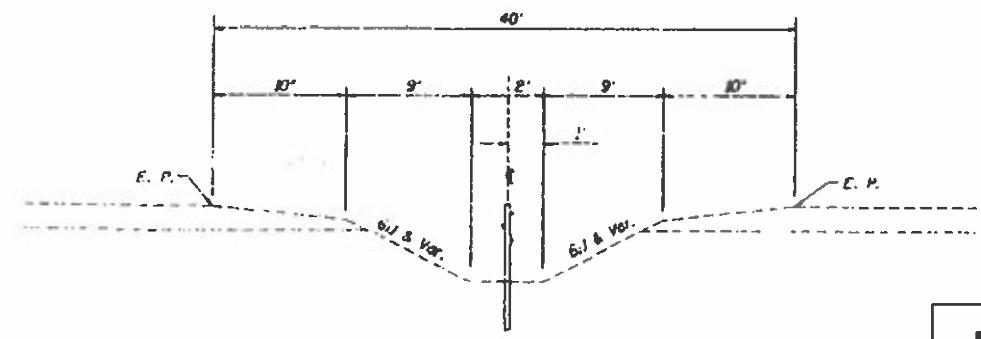
END POST DETAIL



DETAIL B



DETAIL C

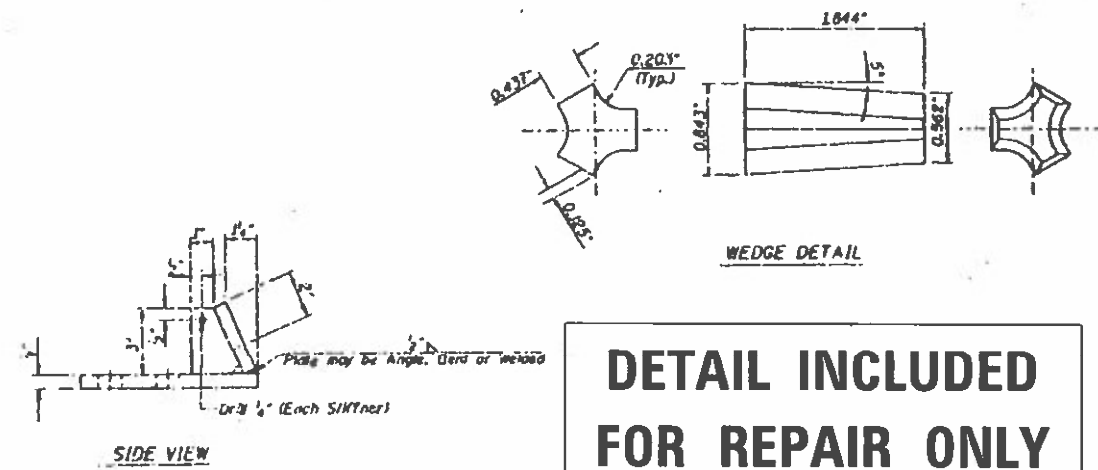
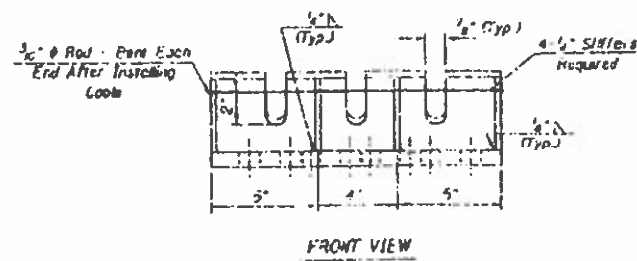
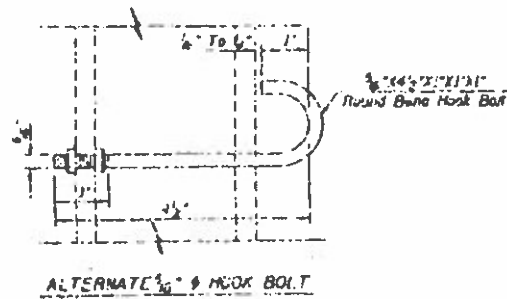
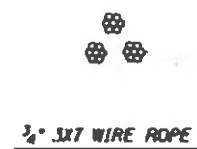
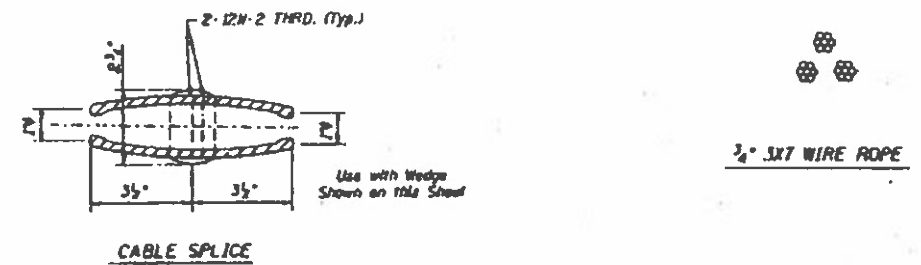
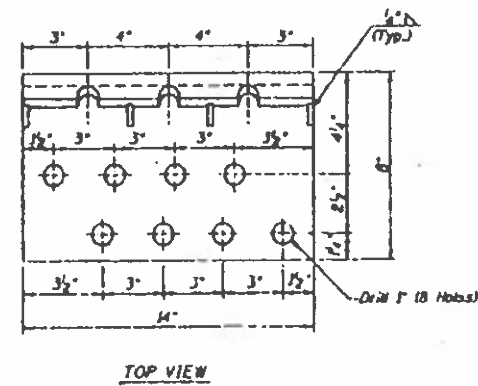
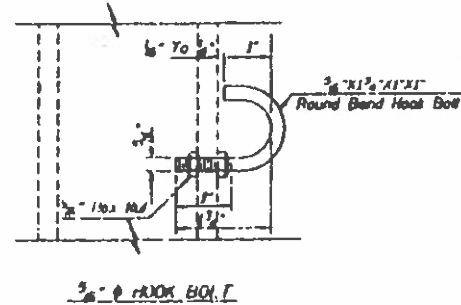
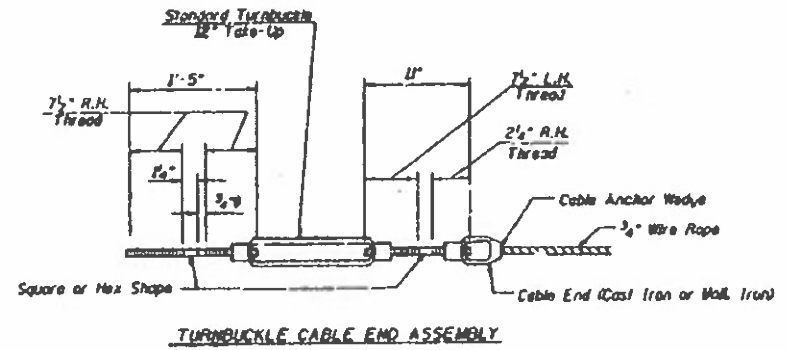
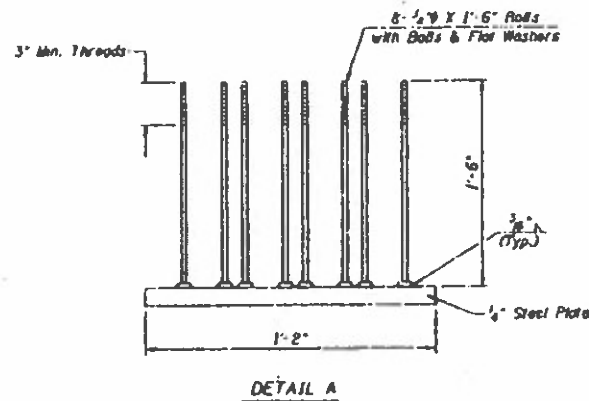
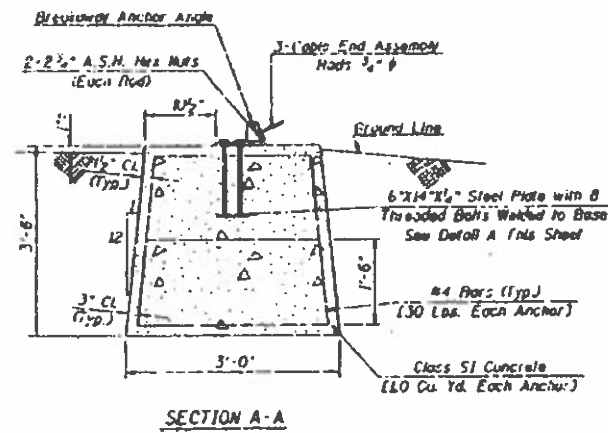
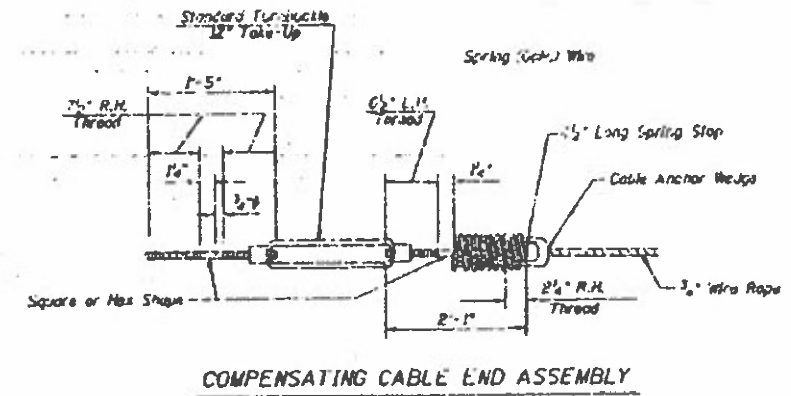
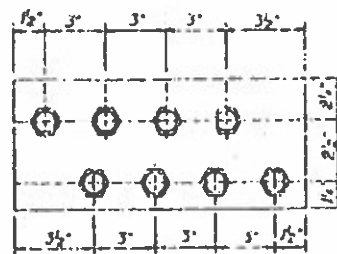
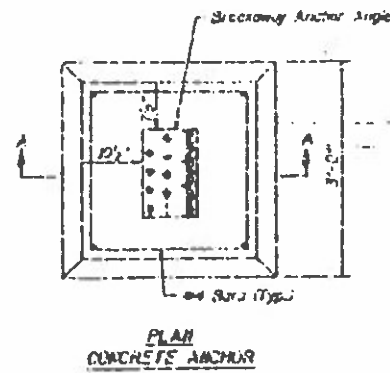


CABLE MEDIAN BARRIER TYPICAL SECTION

DETAIL INCLUDED FOR REPAIR ONLY

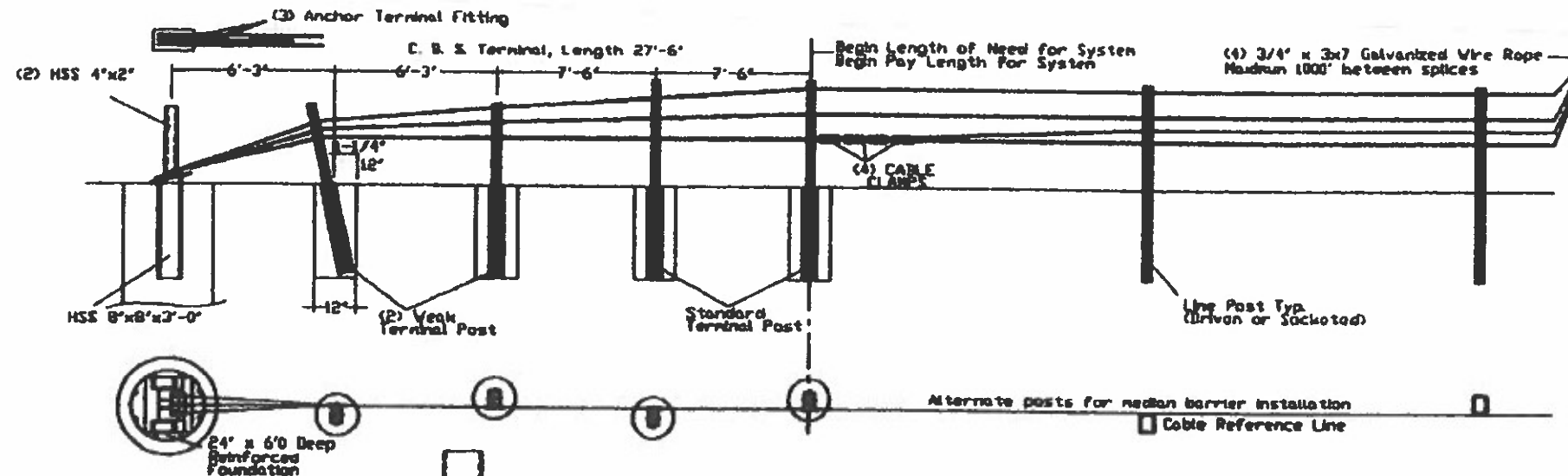
NOTES

- 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 1/2" round cable (25,000 Lbs.).
- For arrangement of spring cable end assemblies (compensating devices) and turnbuckle cable end assemblies, the following criteria shall apply:
Length of Cable Runs
To 1000' - Use compensating cable end assembly on one end, and turnbuckle cable end assembly on the other end of each individual cable.
Over 1000' to 2000' - Use compensating cable end assembly on each end of each individual cable.
- All assembly parts and posts 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 tighten the turnbuckles, depending on the temperature at the time of adjustment in accordance with the following table:
Temperature
120° 95° 79° 59° 39° 19° 1°
10 10 10 10 10 10 10
100° 80° 63° 49° 29° 11° 20°
Spring Compression
from unloaded position
in each spring
1 1 1/2 2 2 1/2 3 3 1/2 4

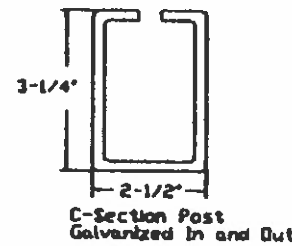
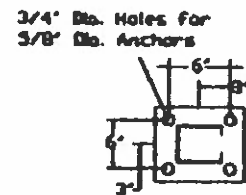


**DETAIL INCLUDED
FOR REPAIR ONLY**

FILE NAME :	USER NAME : KHALILS	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Path: \\planroom\dos\illinois.gov\PMIDOT\Docu...	ents\DOT Offices\District 4\Projects\04.68...	DRAWN	REVISED -			VAR	D4 GUARDRAIL REPAIRS 2022-MCHD	VARIOUS	27	17	
Default	PLOT SCALE : 40.0014	CHECKED -	REVISED -			CONTRACT NO. 68G60					
	PLOT DATE : 6/9/2021	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



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

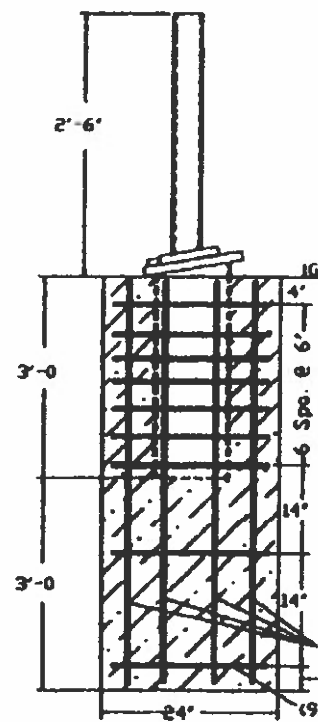


- GENERAL NOTES**
- For additional information contact Gibraltar, Inc. at 1-800-493-8937, or see the manufacturer's product manual.
 - All concrete shall be minimum 2500 PSI.
 - Alternate Post for bi-directional traffic flow. If installed for traffic in one direction install cables on traffic side of 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.

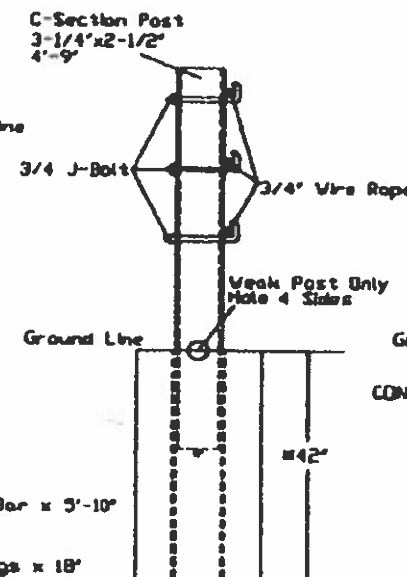
Cable Tension	
-10F	8000
0	7600
10	7200
20	6800
30	6400
40	6000
50	5600
60	5200
70	4800
80	4400
90	4000
100	3600
110	3200

Allowable Deviation from Chart +/- 200 lbs/force

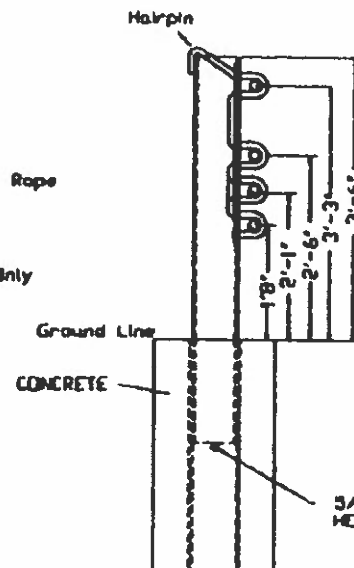
Deflection	Post Spacing
9'3"	30.FT
9'	28.FT
8'	20.FT
7'	12.FT
6'8"	10.FT



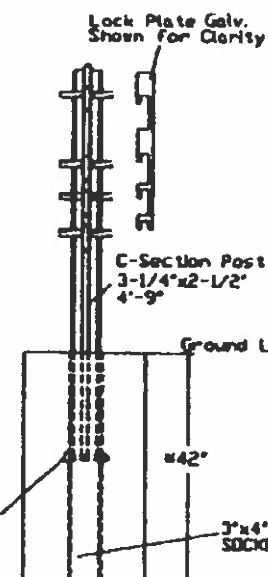
Cable Release Anchor Post



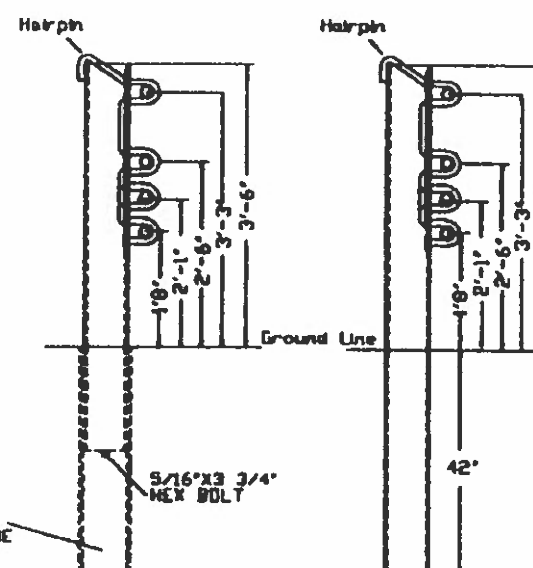
Terminal Post



Line Post (Socketed)



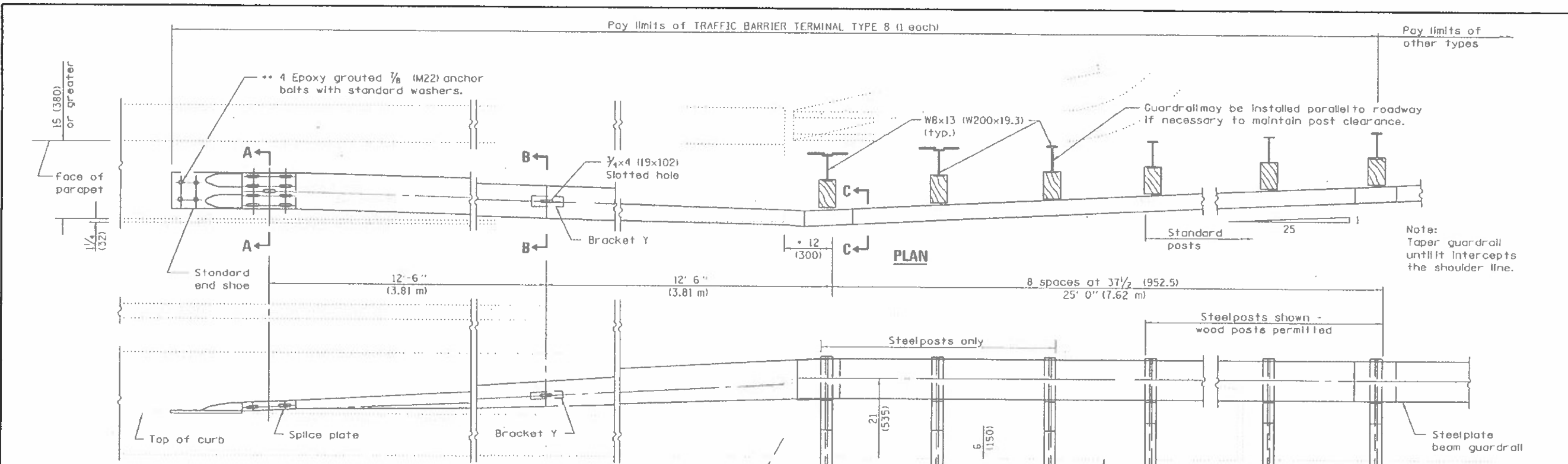
Socketed Line Post (Driven)



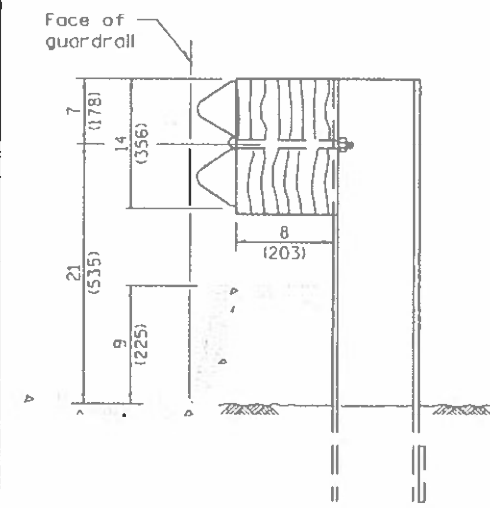
Line Post (Driven)

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

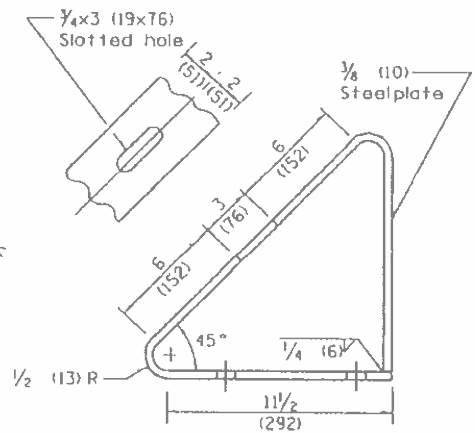
DETAIL INCLUDED FOR REPAIR ONLY



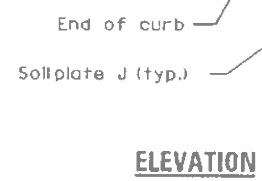
Note:
Taper guardrail
until it intercepts
the shoulder line.



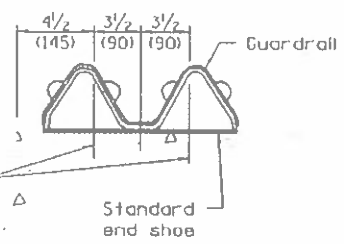
SECTION C-C



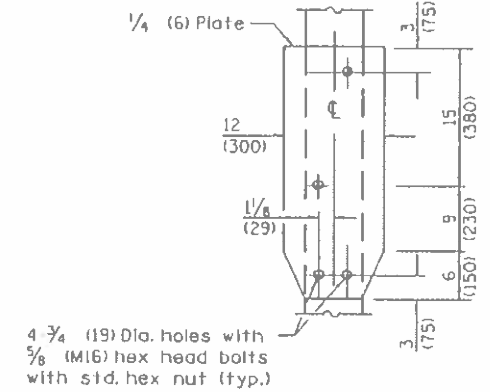
BRACKET Y



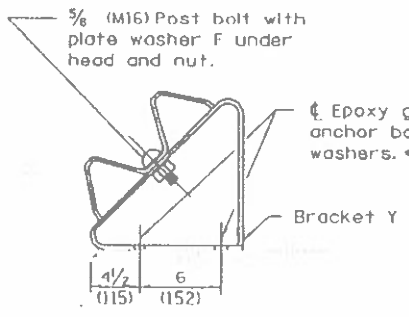
ELEVATION



SECTION A-A



SOIL PLATE J & ALTERNATE CONNECTION DETAILS



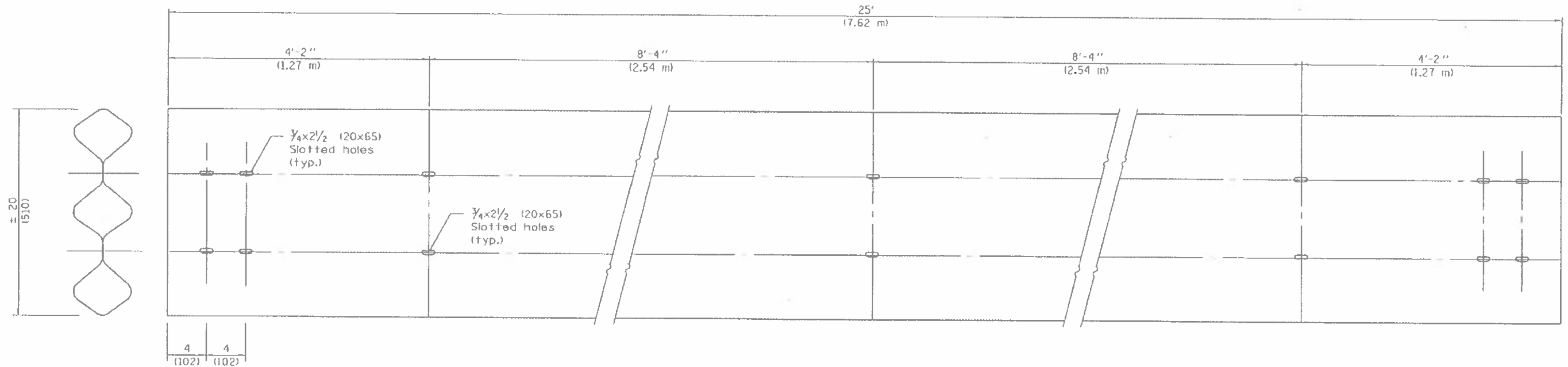
SECTION B-B

GENERAL NOTES

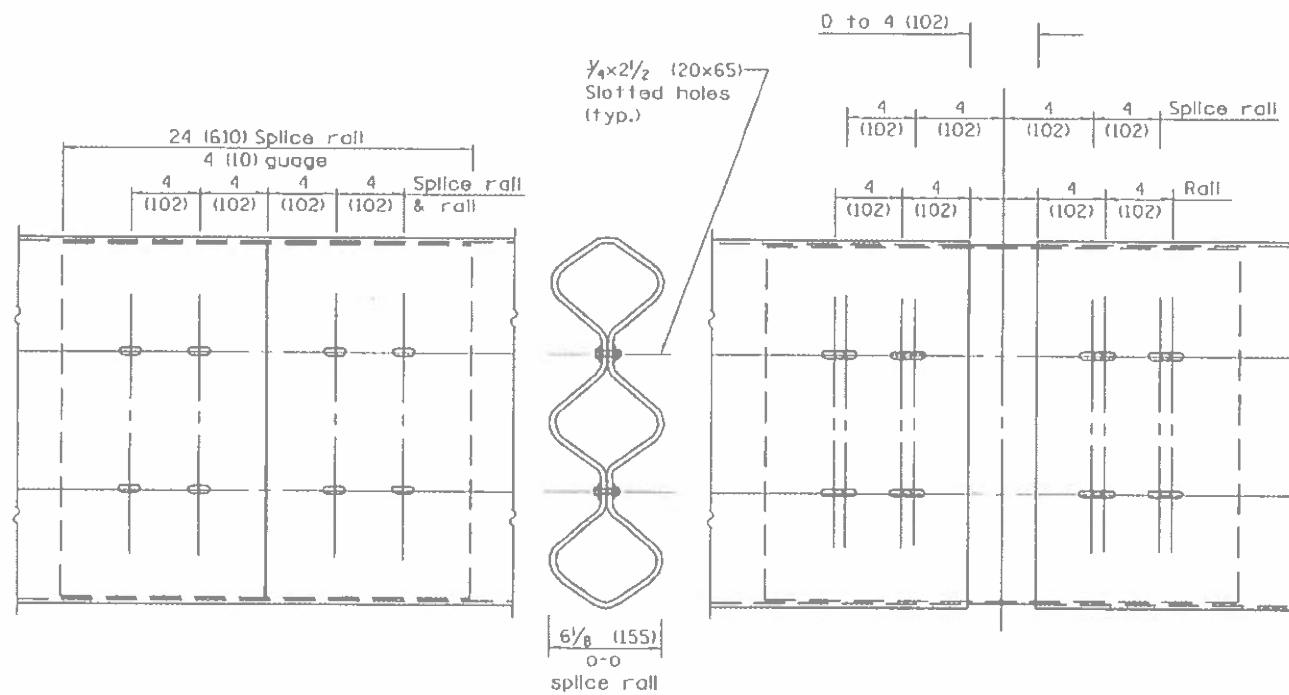
- See Standard 630001 for details of guardrail not shown.
 - This dimension may be increased to fit field conditions. This post shall be located first. The layout of the terminal shall be determined by its location.
 - After tightening, cut the anchor bolts flush with nuts, and damage the bolt head to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

DETAIL INCLUDED FOR REPAIR ONLY

FILE NAME *	USER NAME * #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING TRAFFIC BARRIER TERMINAL TYPE 8 (STANDARD 631036)			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -					VAR	D4 GUARDRAIL REPAIRS 2022-MCHD	VARIOUS	27	19
#MODEL#		CHECKED -	REVISED -					CONTRACT NO. 68CG0				
		DATE -	REVISED -					ILLINOIS FED. AID PROJECT				
				SCALE:	SHEET 1	OF 1	SHEETS	STA.	TO STA.			

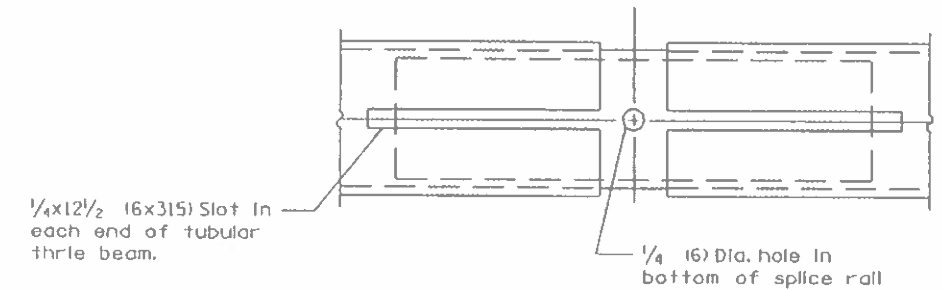


TUBULAR THRIE BEAM FOR INTERNAL SPLICE JOINT



INTERNAL SPLICE JOINT

INTERNAL EXPANSION SPLICE JOINT



BOTTOM VIEW OF INTERNAL EXPANSION SPLICE JOINT

DETAIL INCLUDED FOR REPAIR ONLY

GENERAL NOTES

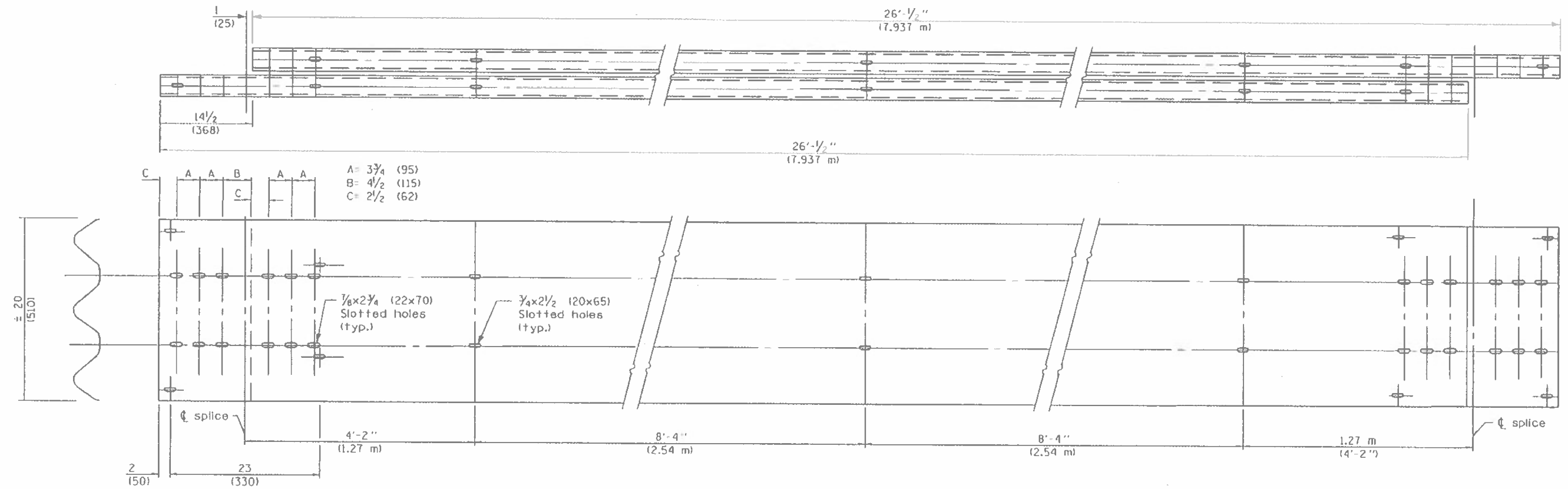
Plate Washers B are to be placed under both heads and nuts of splicing bolts for internal splice and internal expansion splice joint.

Plate Washers C are to be placed under both heads and nuts of splicing bolts for lap expansion and internal lap splice joint.

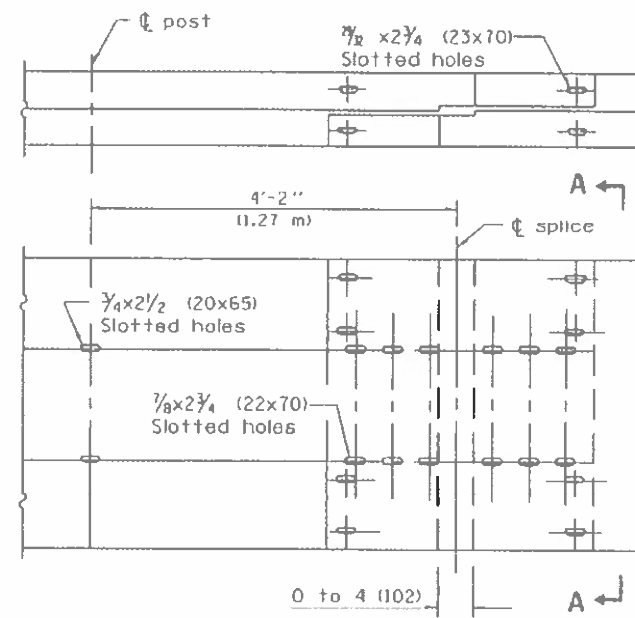
See Standard 630001 for details of guardrail not shown.

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

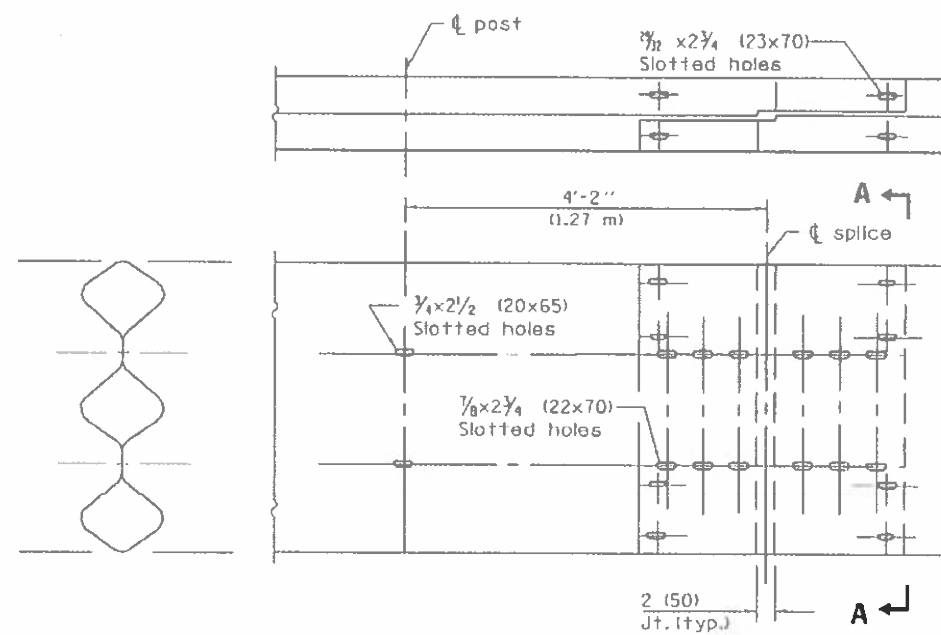
FILE NAME *	USER NAME * USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES (STANDARD 509001)	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -			VAR 04 GUARDRAIL REPAIRS 2022-MCHD	VARIOUS	27	21		
MODELNAME#		CHECKED -	REVISED -			CONTRACT NO. 6BG60					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET 1 OF 3 SHEETS STA. TO STA.					



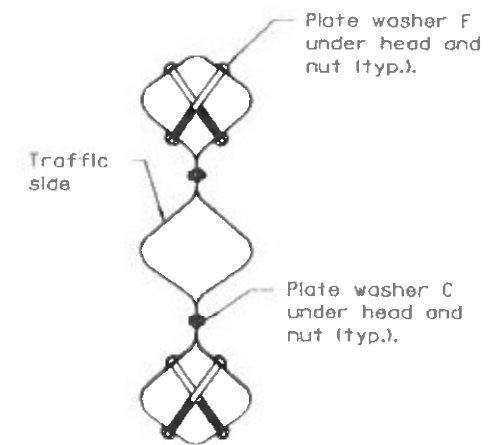
TUBULAR THRIE BEAM FOR LAP SPLICE JOINT



LAP EXPANSION SPLICE JOINT



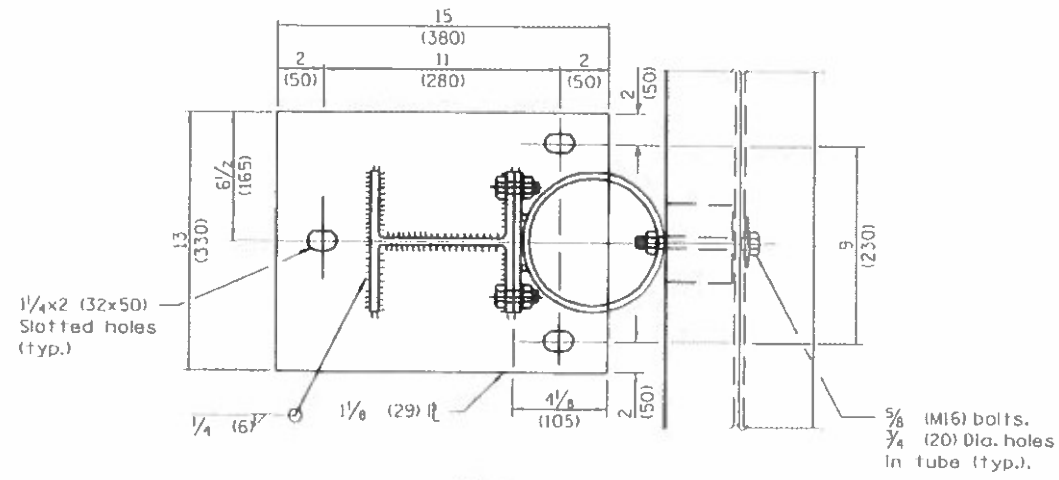
LAP SPLICE JOINT



SECTION A-A

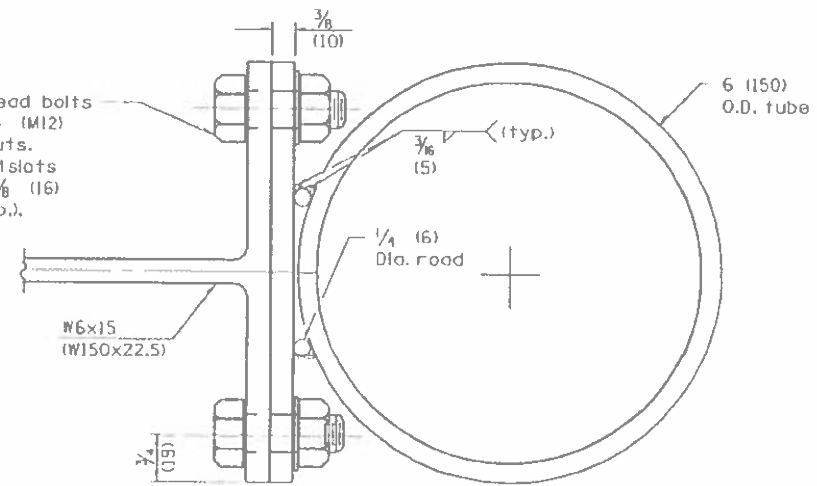
DETAIL INCLUDED FOR REPAIR ONLY

FILE NAME :	USER NAME : #USERS	DESIGNED :	REVISED :	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES (STANDARD 509001)			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN :	REVISED :					VAR	D4 GUARDRAIL REPAIRS 2022-MCHD	VARIOUS	27	22
MODELNAME#		CHECKED :	REVISED :					CONTRACT NO. 68G60				
		DATE :	REVISED :					ILLINOIS FED. AID PROJECT				
				SCALE:			SHEET 2 OF 3 SHEETS STA. TO STA.					

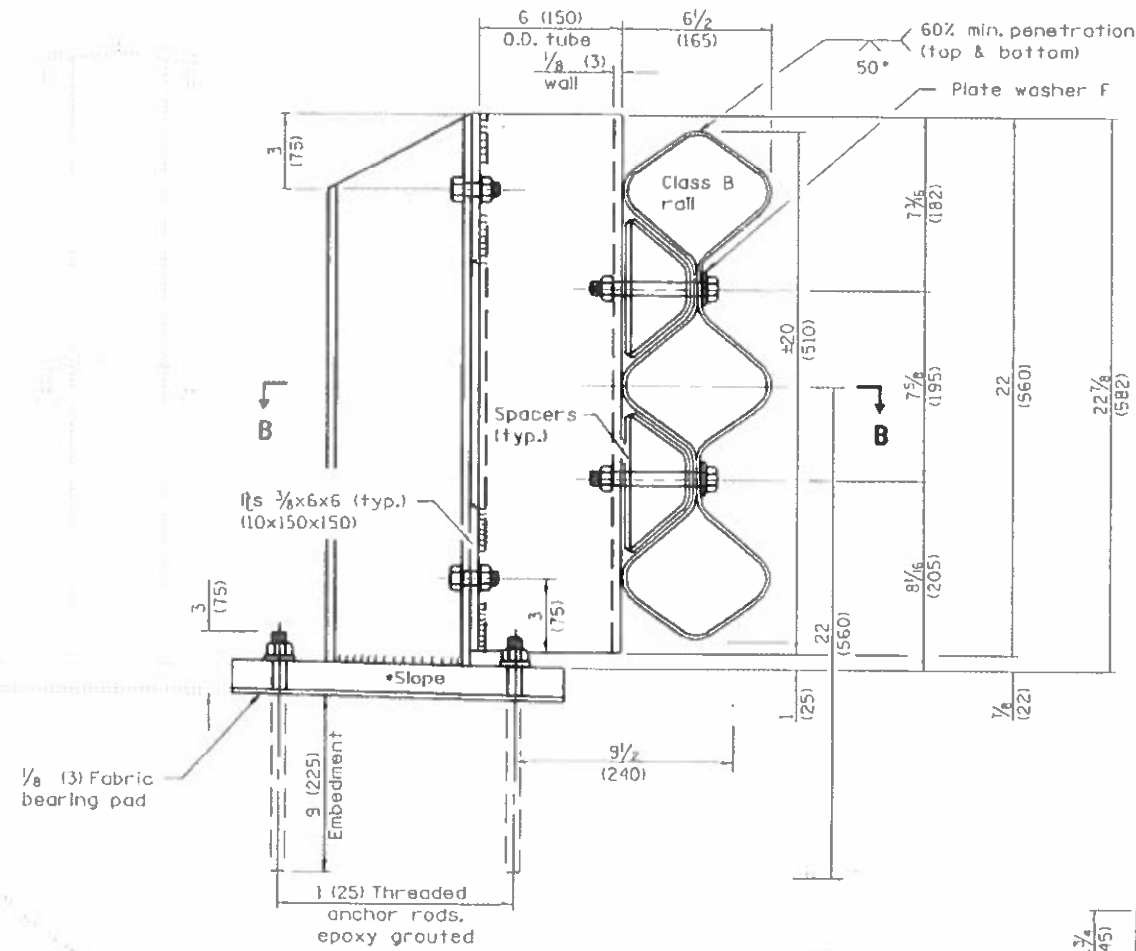


SECTION B-B

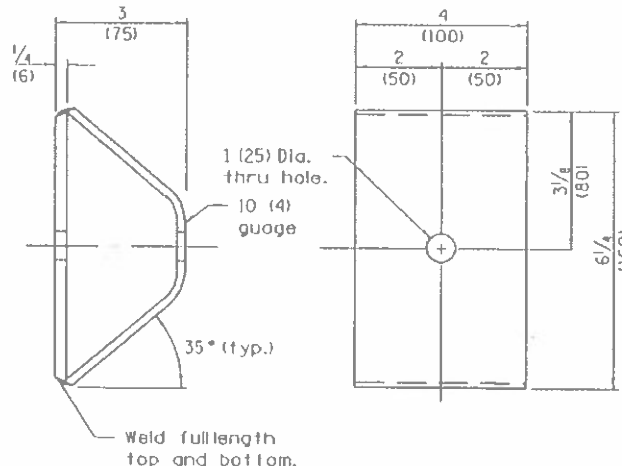
1/2 x 1/4 (M12x32) hex head bolts with hex nuts and 1/2 (M12) flat washer under nuts.
 3/8 x 1/2 (16x38) vertical slots in 3/8 (10) plate and 5/8 (16) dia. holes in post (typ.).



TUBE TO POST ATTACHMENT



POST



SPACER

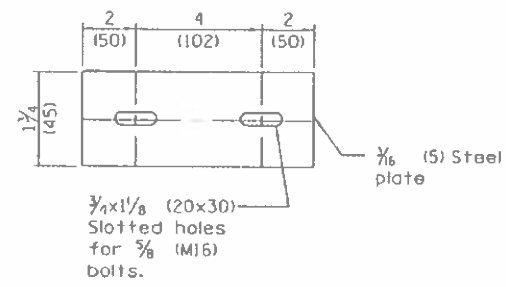


PLATE WASHER B

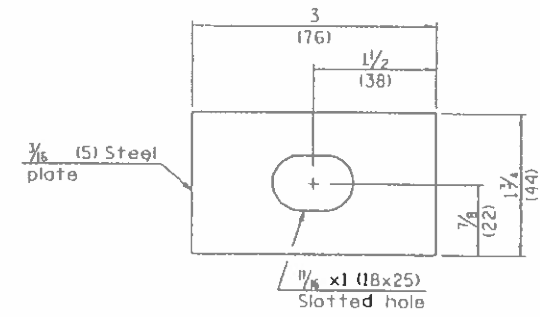


PLATE WASHER F

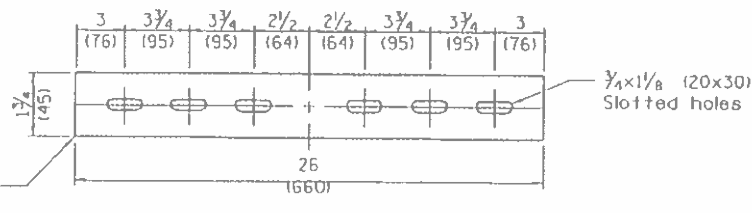


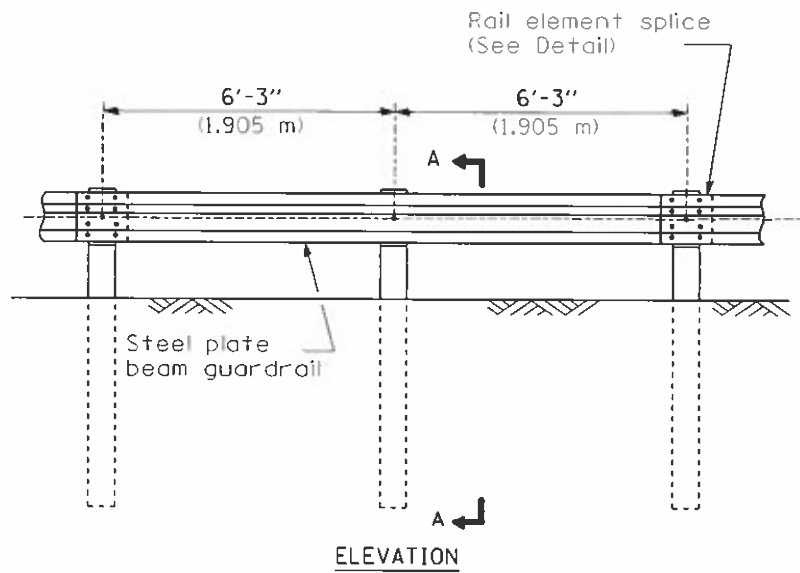
PLATE WASHER C

DETAIL INCLUDED FOR REPAIR ONLY

12
 1/4
 • Cut bottom of post to slope

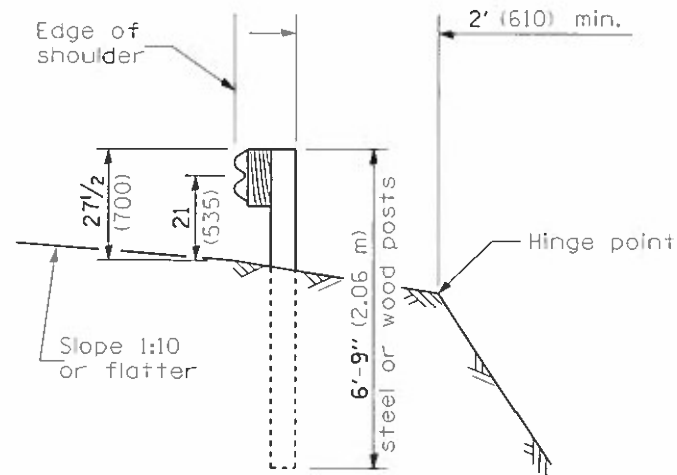
FILE NAME *	USER NAME * KHANALS	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES (STANDARD 509001)	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	PLDT SCALE = 48.8673 / in.	CHECKED -	REVISED -			VAR	D4 GUARDRAIL REPAIRS 2022-MCMO	VARIOUS	27	23	
	PLDT DATE = 6/9/2021	DATE -	REVISED -			CONTRACT NO. 68G60					
						ILLINOIS FED. AID PROJECT					

DESIGNER NOTE: Use this CADD Standard when removing and re-erecting existing non-MGS guardrail that was originally installed prior to January 1, 2007 or to replace existing rail to match existing non-MGS rail. Note this is removing and re-erecting so the 27 1/2" height is maintained. If installing the new style MGS guardrail use the State Standard.

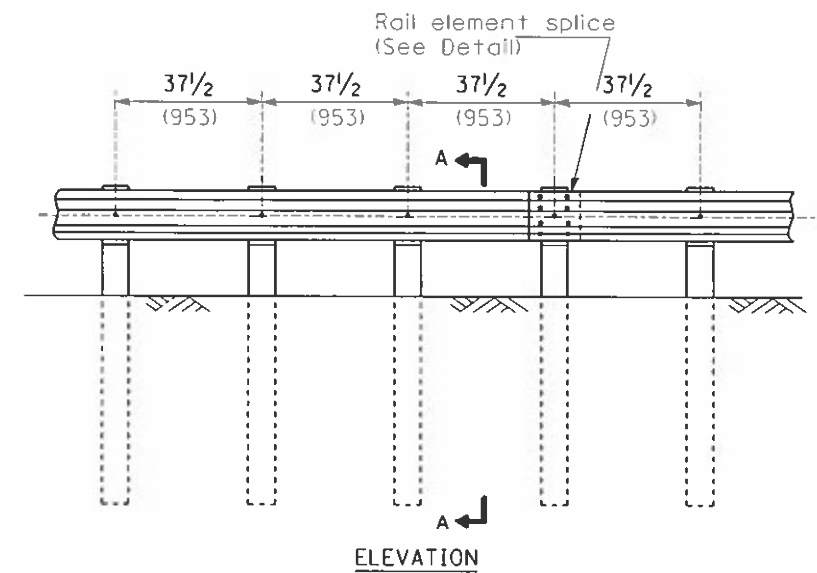


TYPE A

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

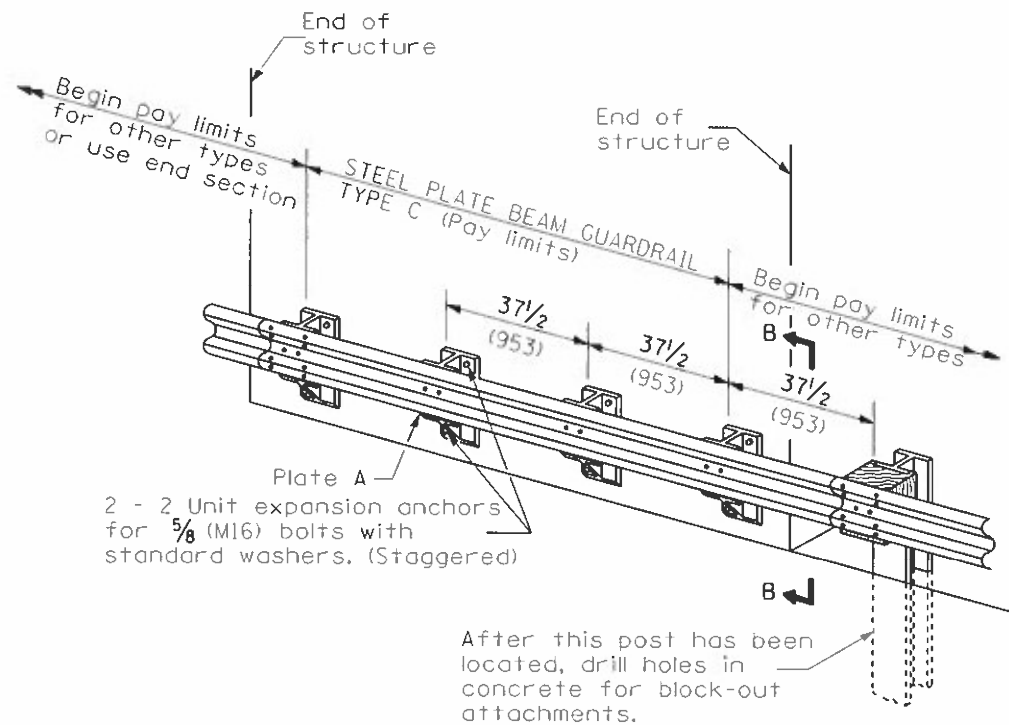


SECTION A-A



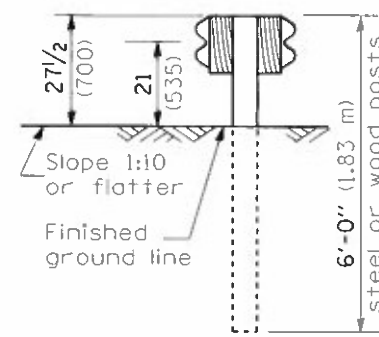
TYPE B

37 1/2 (953) Closed post spacing

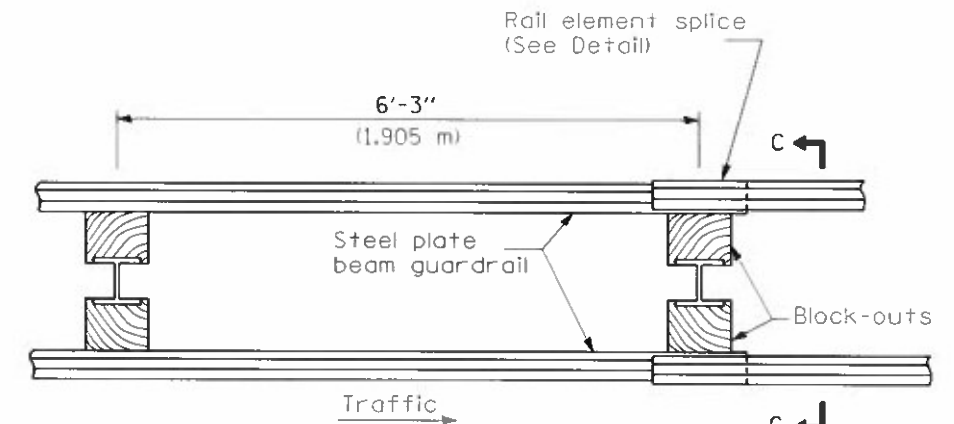


TYPE C

37 1/2 (953) Block-out spacing

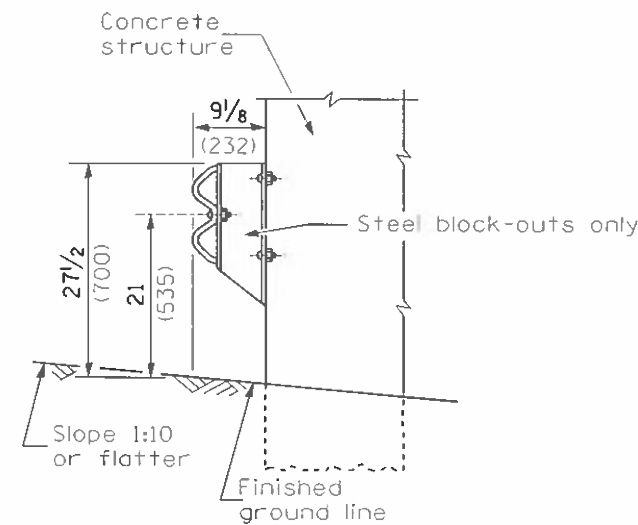


SECTION C-C



PLAN TYPE D

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

03-01-07	NEW DETAIL	RJD			
03-07-11	Revised designer note	RJD			

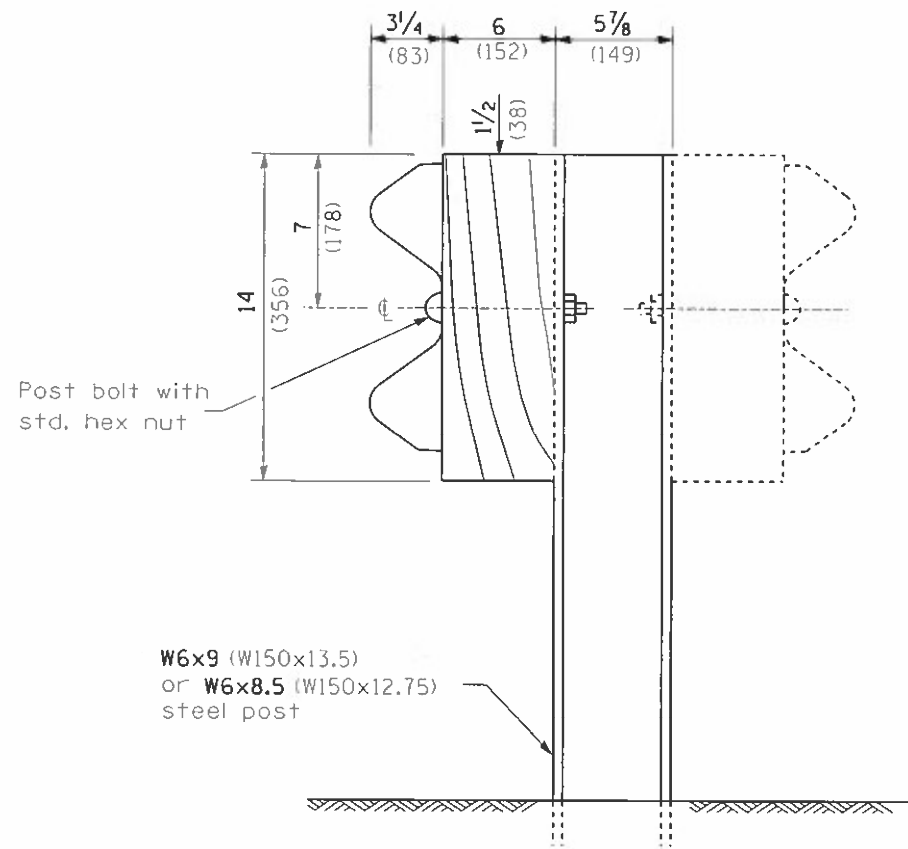
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

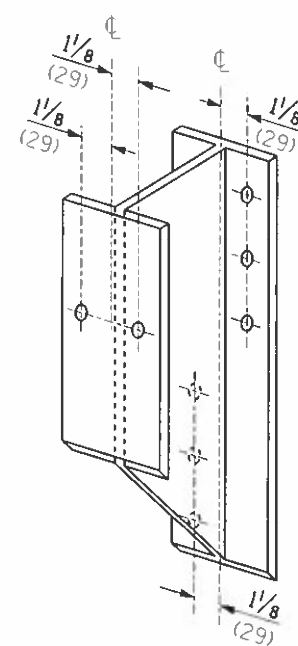
NOT TO SCALE

SHT. 1 OF 4
CADD STD. 630011-04

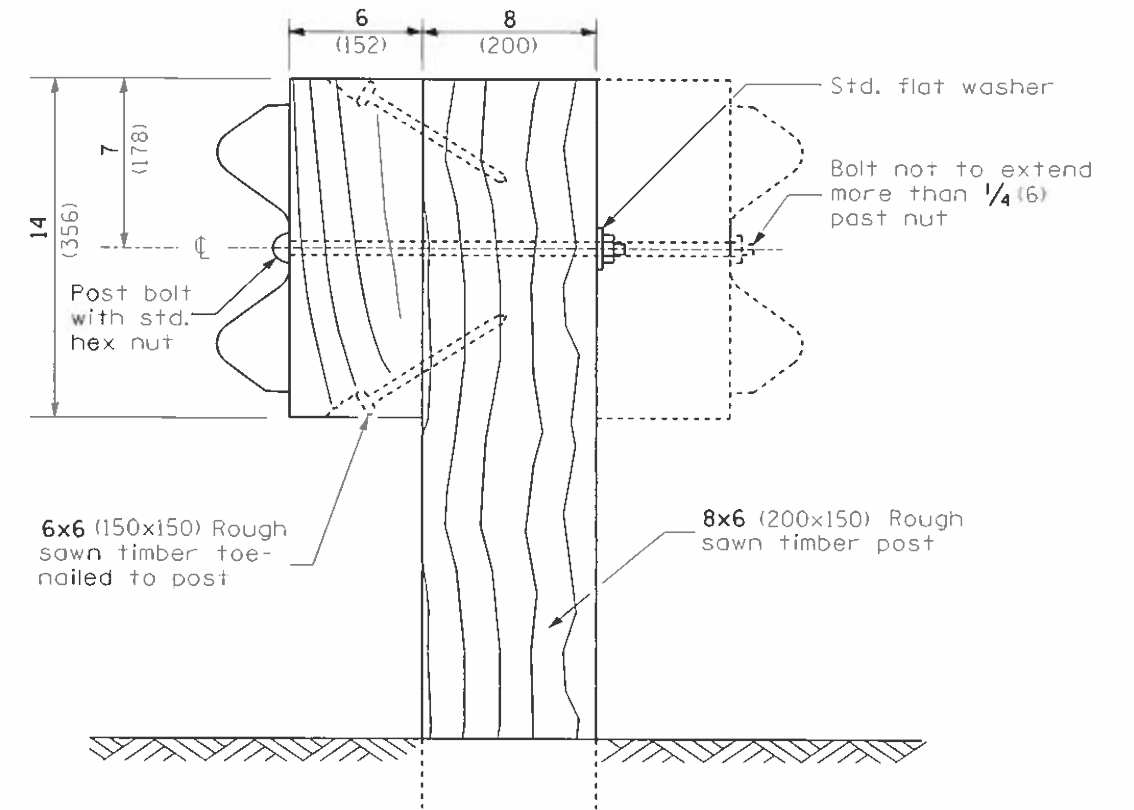
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			27	24
VAR 04 GUARDRAIL REPAIRS 2022MCHD		VAR	CONTRACT NO. 68G60	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



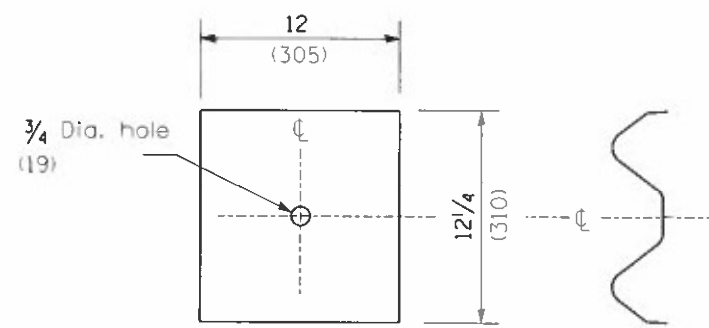
STEEL POST CONSTRUCTION



STEEL BLOCK-OUT DETAIL



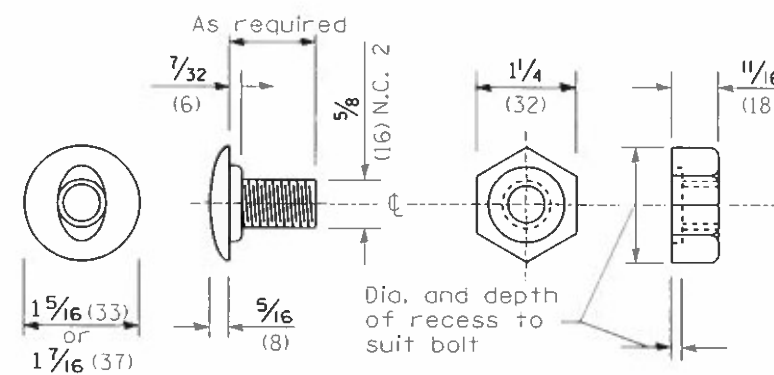
WOOD POST CONSTRUCTION



NOTE

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

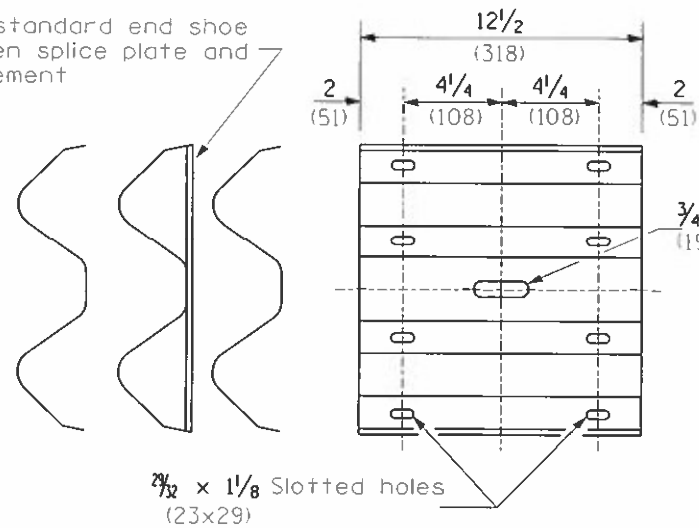
PLATE A



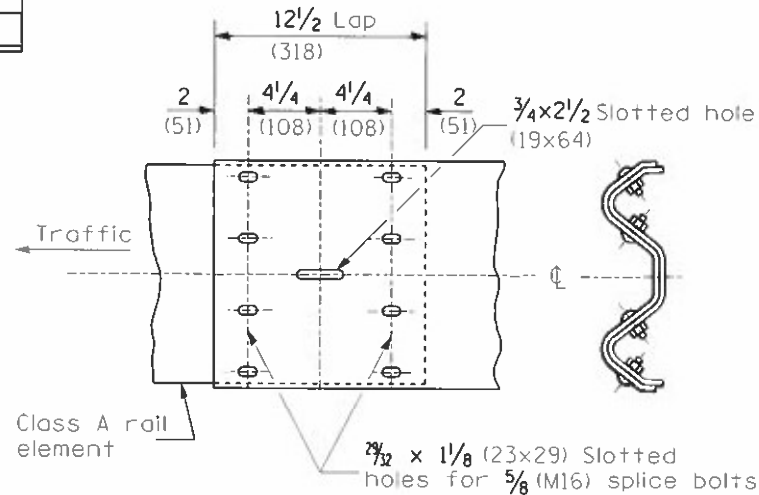
POST OR SPLICE BOLT & NUT

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

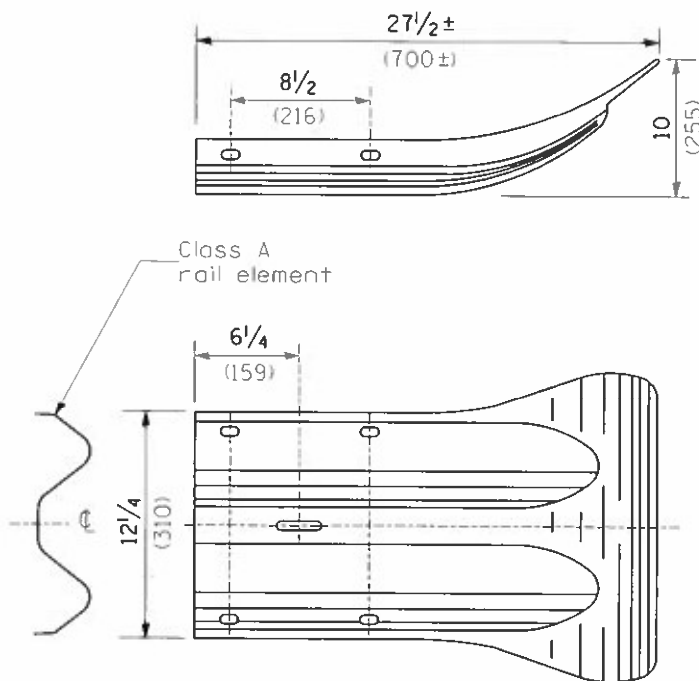
Place standard end shoe between splice plate and rail element



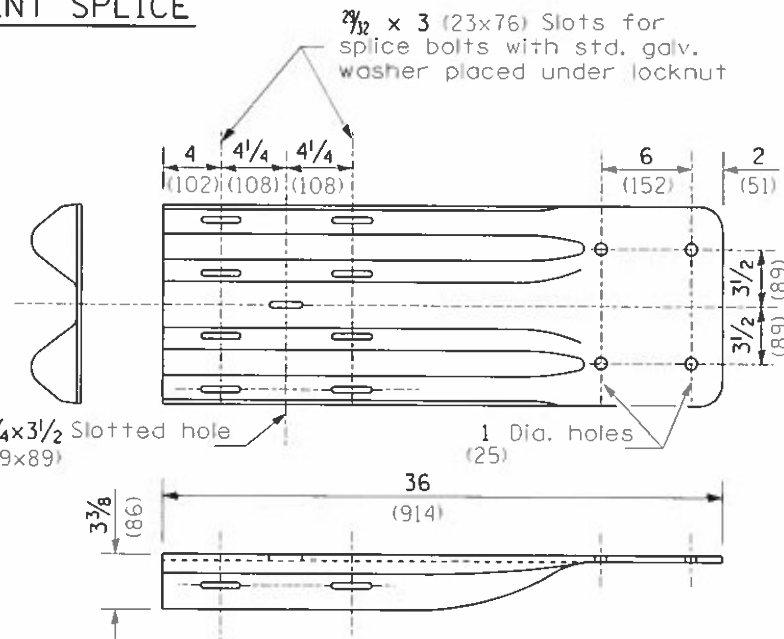
SPLICE PLATE



RAIL ELEMENT SPLICE



END SECTION



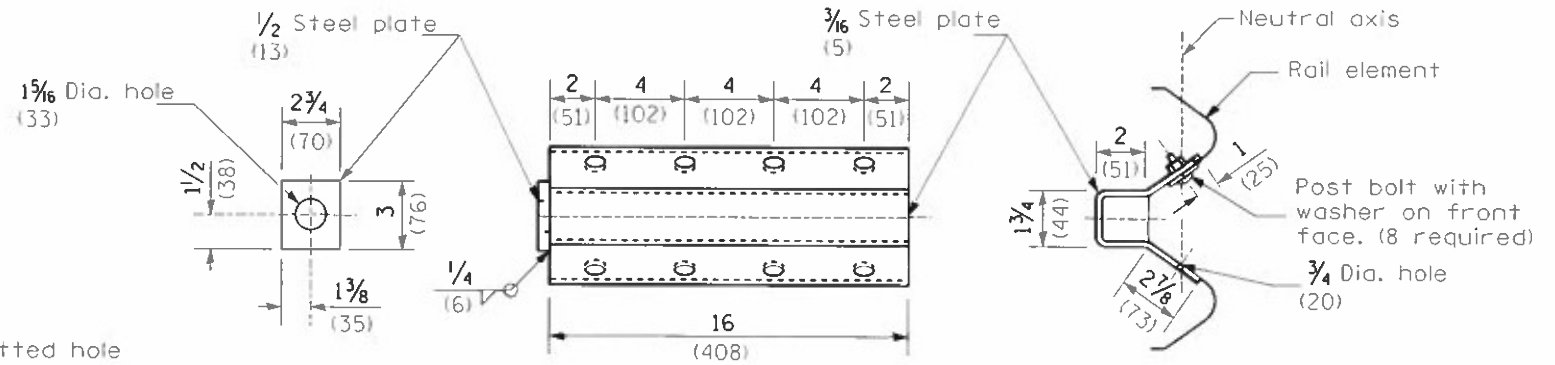
NOTE

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.

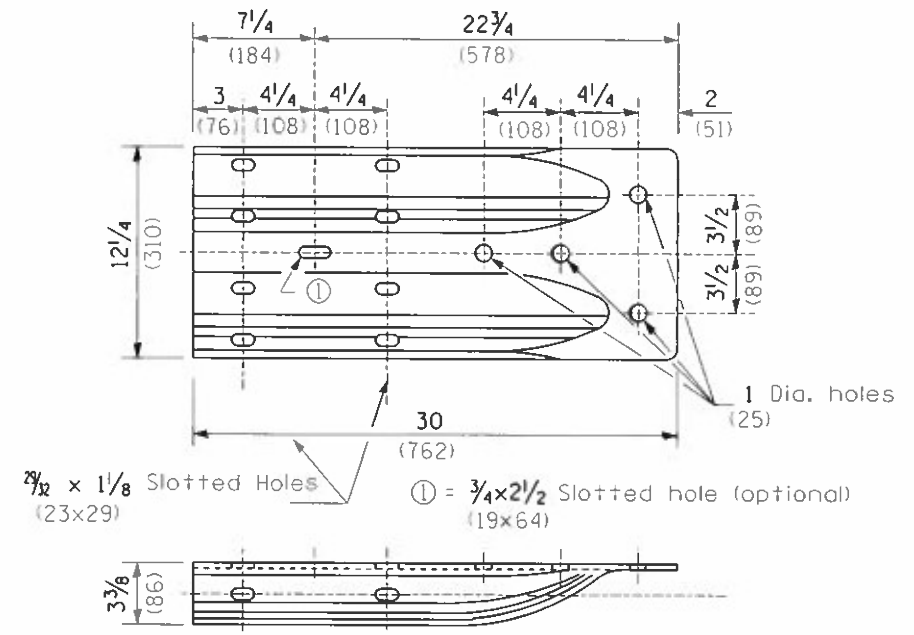
END SHOE



NOTE

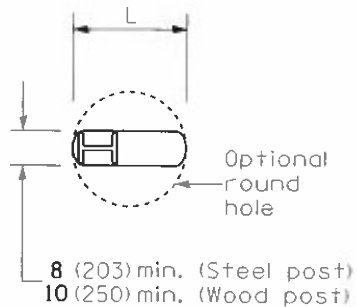
Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

ANCHOR PLATE T DETAILS

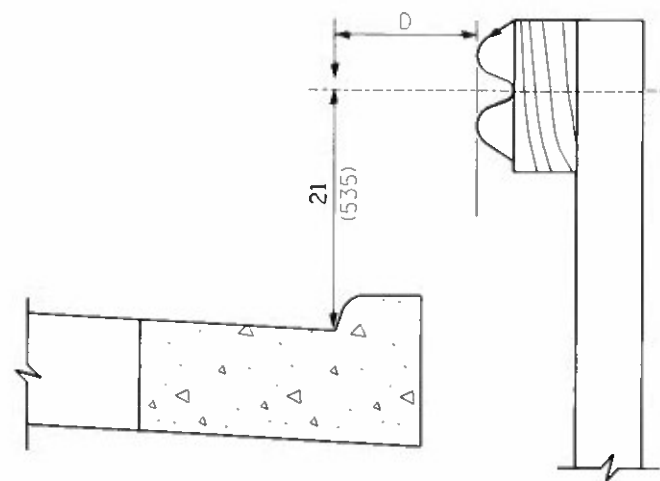


ALTERNATE END SHOE

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



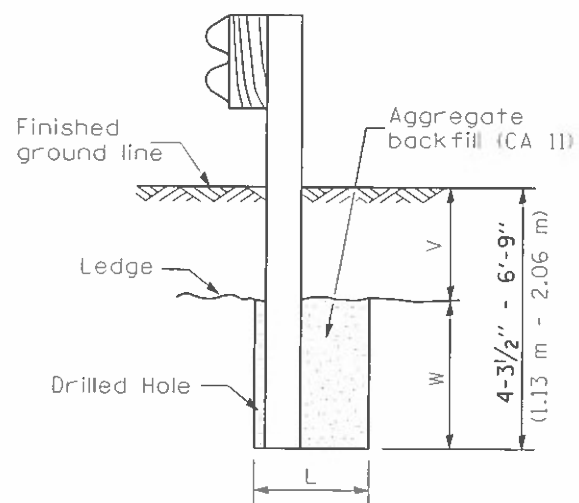
PLAN



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. 606001) shall be used in front of and in advance of the guardrail.

GUARDRAIL PLACED BEHIND CURB

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

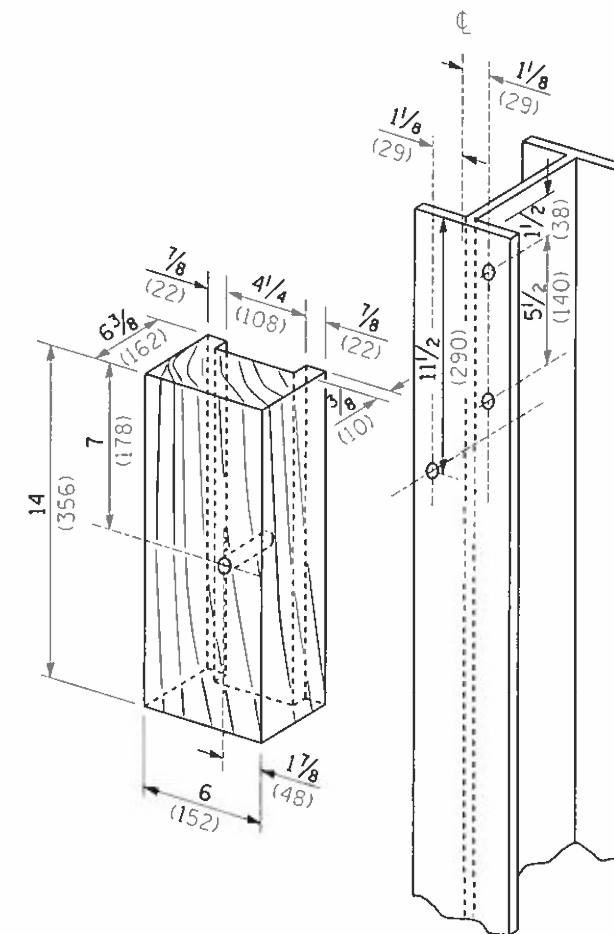


Note:
Ledge line is top of rock ledge or hard slag fill.

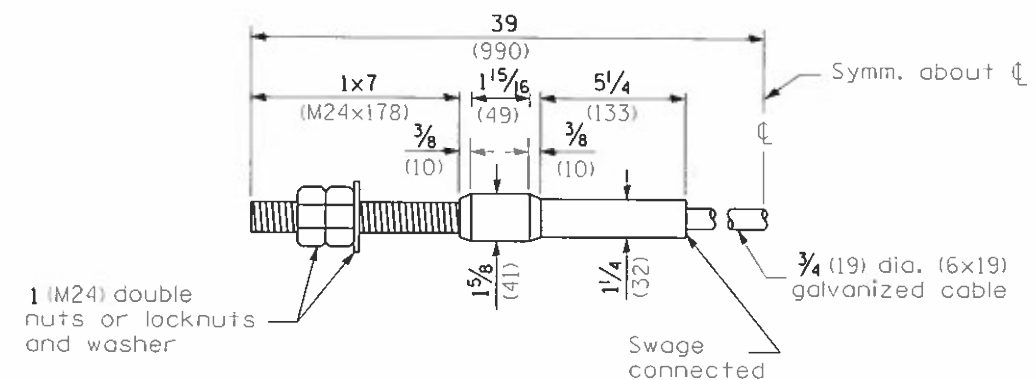
ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED

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.