

DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

VARIOUS ROUTES  
SECTION D4 GUARDRAIL REPAIRS 2017-MCHD

CONTRACT MAINTANACE  
TAZEWELL COUNTY

C-94-075-16

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR. D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	TAZEWELL	27	1
ILLINOIS		CONTRACT NO. 68D32		

D-94-043-16

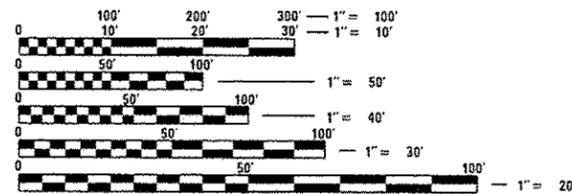


LOCATION OF SECTION INDICATED THUS: -

- 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
- 19-22 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6.75 FOOT POSTS STANDARD 630011-D4
- 23 EXISTING TRAFFIC BARRIER TERMINAL TYPE 8
- 24 EXISTING TRAFFIC BARRIER TERMINAL TYPE 9
- 25-27 EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES

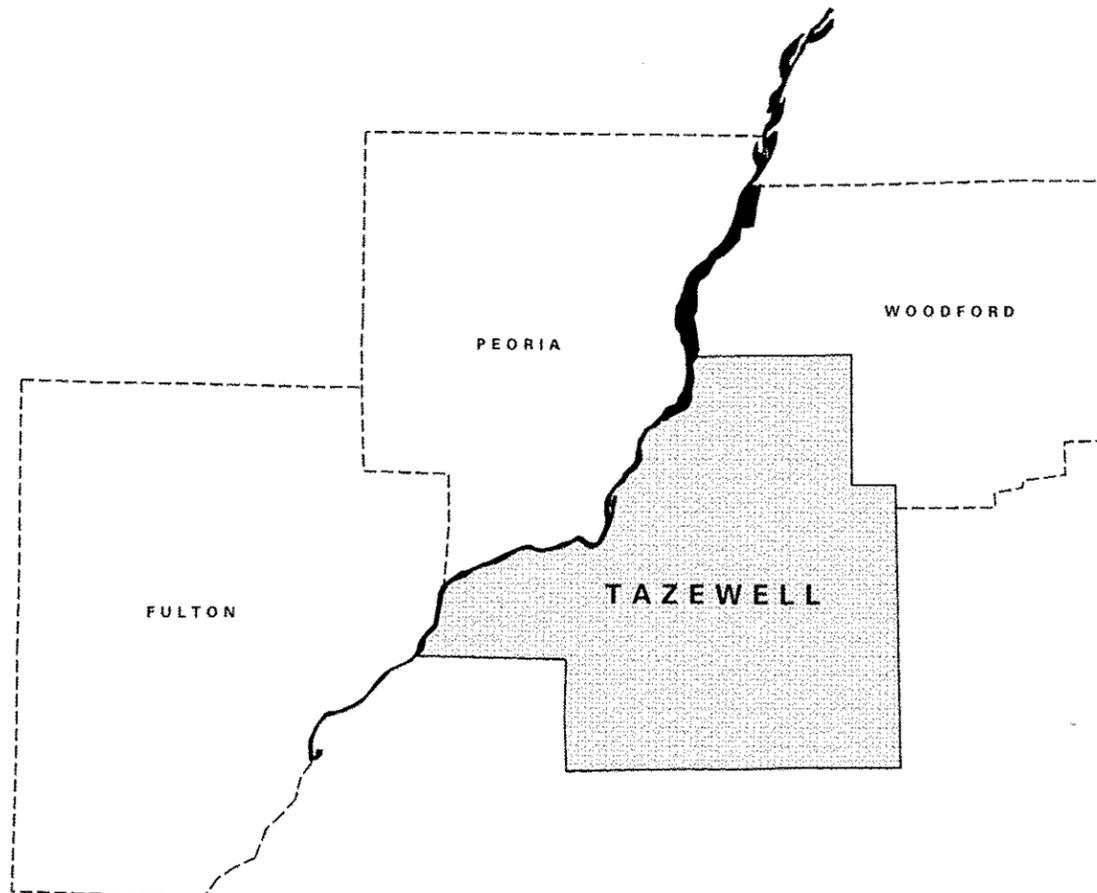
**HIGHWAY STANDARDS:**

630001-11	701011-04
630101-10	701101-05
630301-07	701201-04
631006-08	701301-04
631011-10	701400-09
631026-06	701406-11
631031-15	701411-09
631046-04	701428-01
635001-02	701456-04
	701601-09
	701606-10
664001-02	701701-10
665001-02	701901-06
701006-05	BLR-23-04
	725001
	782006



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



**DESCRIPTION:**

GUARDRAIL REPAIRS CAUSED BY MOTORISTS AT VARIOUS LOCATIONS THROUGHOUT TAZEWELL COUNTY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED February 9 20 17  
*James A. James*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Mar 24 20 17  
*Maureen M. Addis, PE*  
ENGINEER OF DESIGN AND ENVIRONMENT

Mar 24 20 17  
*Michael A. ...*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PROJECT ENGINEER CHRIS MAUSHARD (309) 671-3453  
PROJECT MANAGER RAYMOND SAMARA /SOBHI LABABIDI (309) 671-3459  
CATALOG NO. 035416-00D  
CONTRACT NO. 68D32

**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.

FILE NAME : 0468032-CA00.dgn	USER NAME : lababidjan	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>JOB SPECIFIC NOTES &amp; COMMITMENTS</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLLOT SCALE : 40.0000' / in.	DRAWN -	REVISED -			VAR 04 GUARDRAIL REPAIRS 2017-MCH	TAZEWELL	27	2	
Default	CHECKED -	REVISED -	SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.		CONTRACT NO. 68032		ILLINOIS FED. AIG PROJECT			
PLLOT DATE : 2/10/2017	DATE -	REVISED -								

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				TAZEWELL COUNTY	TAZEWELL COUNTY	TAZEWELL COUNTY
				100 % STATE ✓	100 % STATE ✓	100 % STATE ✓
				MCHD ✓	CONT. MAINT. ✓	HTMCB ✓
				0021 ✓	0021 ✓	0021 ✓
63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	50	50		
63000003	STEEL PLATE BEAM GUARD RAIL, TYPE A, 9 FOOT POSTS	FOOT	50	50		
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	6	4	2	
63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	6	4	2	
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	3	1	
63100095	TRAFFIC BARRIER TERMINAL, TYPE 8	EACH	6	4	2	
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	2	1	1	
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	21	13	8	
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	5	4	1	
63400105	GUARD POSTS	EACH	7	5	2	
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		

14

FILE NAME : 0468032-CADD.dgn	USER NAME : lababidam	DESIGNED -	REVISED -
		DRAWN -	REVISED -
		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 2017-MCHD	TAZEWELL	27	3
			CONTRACT NO. 68032	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	RURAL TOTAL QUANTITY	CONSTRUCTION CODE		
				TAZEWELL COUNTY	TAZEWELL COUNTY	TAZEWELL COUNTY
				100 % STATE	100 % STATE	100 % STATE
				MCHD	CONT. MAINT.	HTMCB
				0021	0021	0021
64300370	IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	2	1	1	
64300450	IMPACT ATTENUATORS (NON- REDIRECTIVE), TEST LEVEL 3	EACH	4	3	1	
64300770	IMPACT ATTENUATORS (SEVERE USE, NARROW), TEST LEVEL 3	EACH	3	2	1	
66400105	CHAIN LINK FENCE, 4'	FOOT	7	5	2	
66400305	CHAIN LINK FENCE, 6'	FOOT	400	280	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	
X0325264	REPAIR IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	6	4	2	
X0325899	REPAIR HIGH TENSION CABLE (GIBRALTAR)	FOOT	800			800
X0325900	REPAIR HIGH TENSION BARRIER TERMINAL (GIBRALTAR)	EACH	2			2
X0325902	REMOVE AND REPLACE POSTS (GIBRALTAR)	EACH	80			80
X0325903	REPAIR CABLE ROAD GUARD, THREE STRANDS	FOOT	150			150

M

FILE NAME * 0468032-CA00.dgn	USER NAME * lababidien	DESIGNED - DRAWN -	REVISED - REVISED -
		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 2017-MCHD	TAZEWELL	27	4
CONTRACT NO. 68032			ILLINOIS FED. AID PROJECT	

CODE NO.	ITEM	UNIT	RURAL TOTAL QUANTITY	CONSTRUCTION CODE		
				TAZEWELL COUNTY	TAZEWELL COUNTY	TAZEWELL COUNTY
				100 % STATE	100 % STATE	100 % STATE
				MCHD 0021	CONT. MAINT. 0021	HTMCB 0021
X0327382	REPAIR HAIRPINS (GIBRALTAR)	EACH	100			100
X0327383	REPAIR LOCK PLATES (GIBRALTAR)	EACH	100			100
X6300210	GUARDRAIL BLOCKS	EACH	200	140	60	
X6300215	RAIL ELEMENT PLATES	EACH	64	48	16	
X6300230	STEEL POSTS	EACH	100	70	30	
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 RESETTING POSTS	EACH	100	70	30	
Z0052410	REPAIR TRAFFIC BARRIER TERMIAL, TYPE I SPECIAL (TANGENT)	EACH	26	20	6	

14

FILE NAME : 0468032-CA00.dgn	USER NAME : labobidm	DESIGNED - DRAWN -	REVISED - REVISED -
		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 2017-MCHD	TAZEWELL	27	5
CONTRACT NO. 68032			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: \_\_\_\_\_

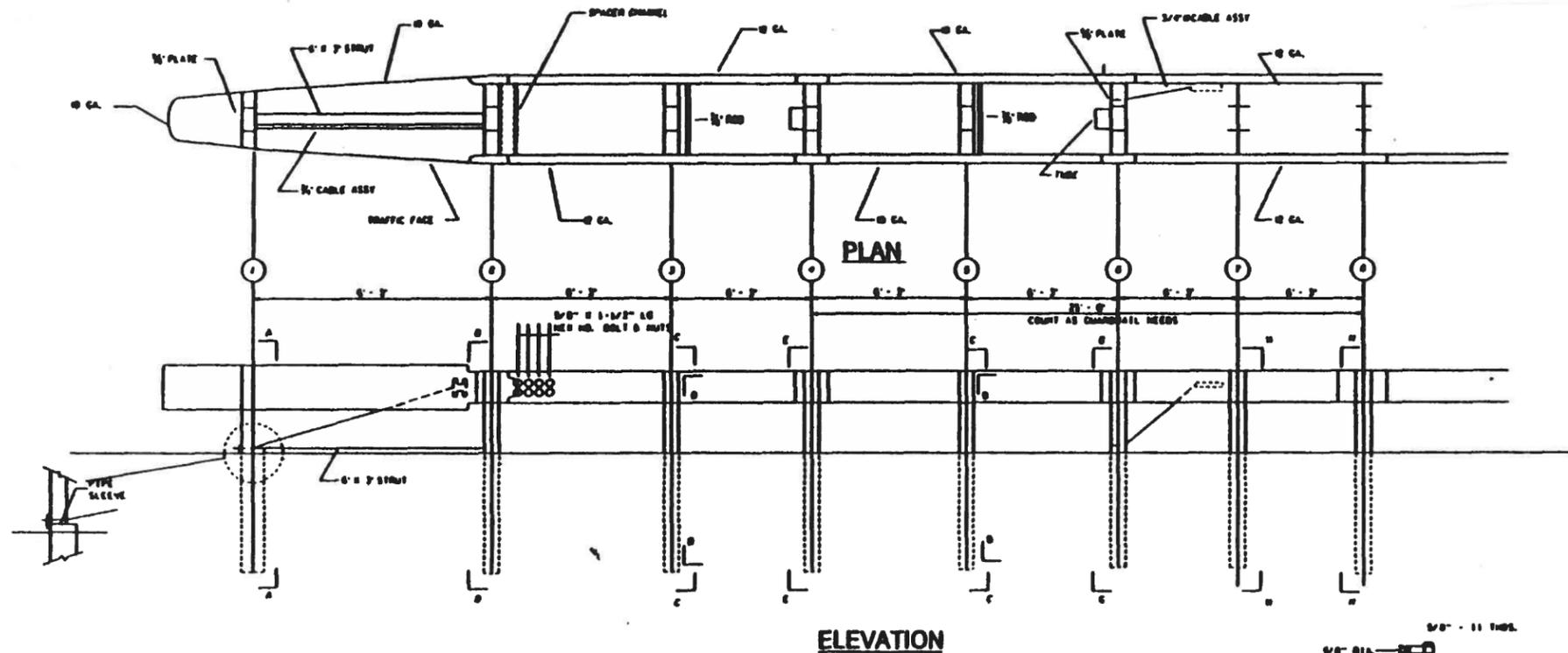
VERIFICATION OF WORK ORDER COMPLETED: \_\_\_\_\_ BY: \_\_\_\_\_

APPROVED FOR PAYMENT

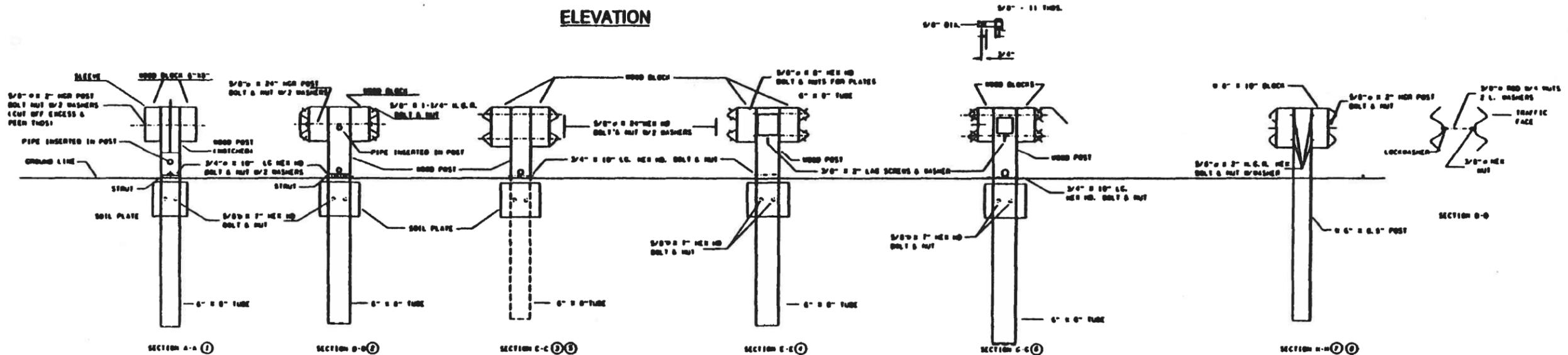
DATE

FILE NAME = D468032-CADD.dgn	USER NAME = labbidism	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT 4 - SAMPLE WORK ORDER</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	PLOT SCALE = 40.0000' / in.	DRAWN -	REVISED -					VAR	D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	7
	PLOT DATE = 2/10/2017	CHECKED -	REVISED -		SCALE:	SHEET 1	OF 1	SHEETS	STA.	TO STA.	CONTRACT NO. 68032	
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT							





**DETAIL INCLUDED  
FOR REPAIR ONLY**



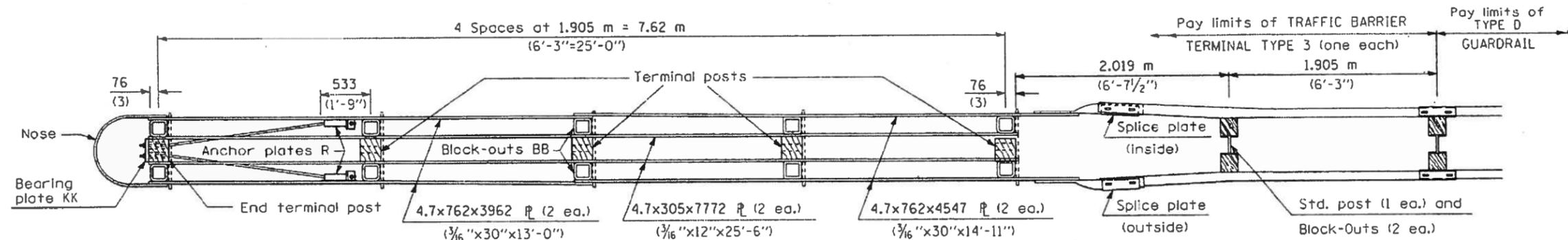
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		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

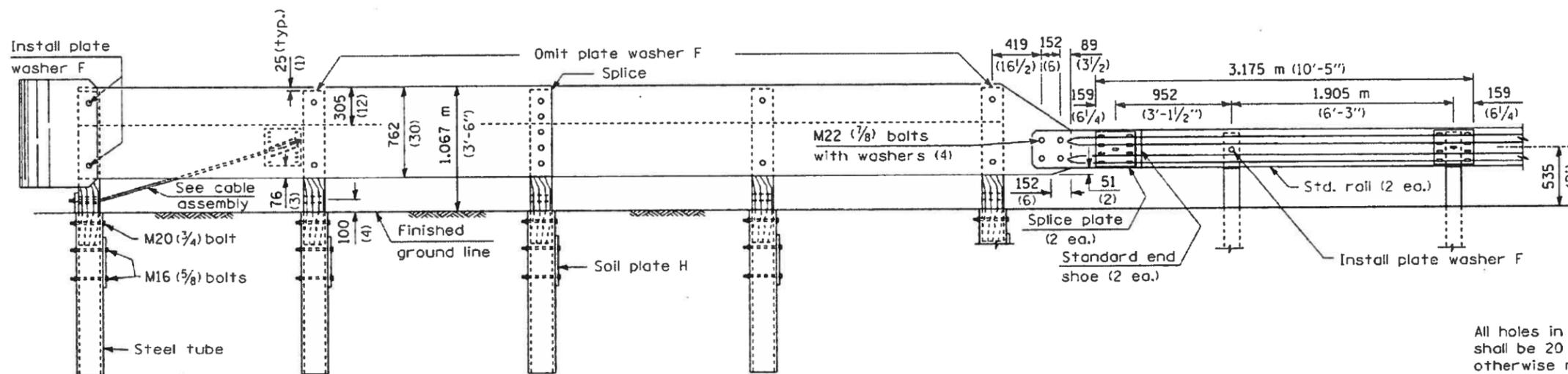
**PROPOSED C.A.T. SYSTEM**

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

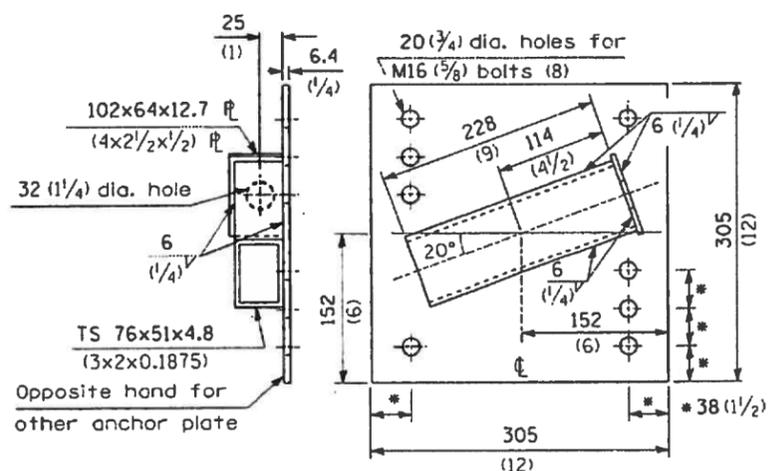
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR D4	GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	9
			CONTRACT NO. 68D32	
ILLINOIS FED. AID PROJECT				



PLAN - TRAFFIC BARRIER TERMINAL TYPE 3

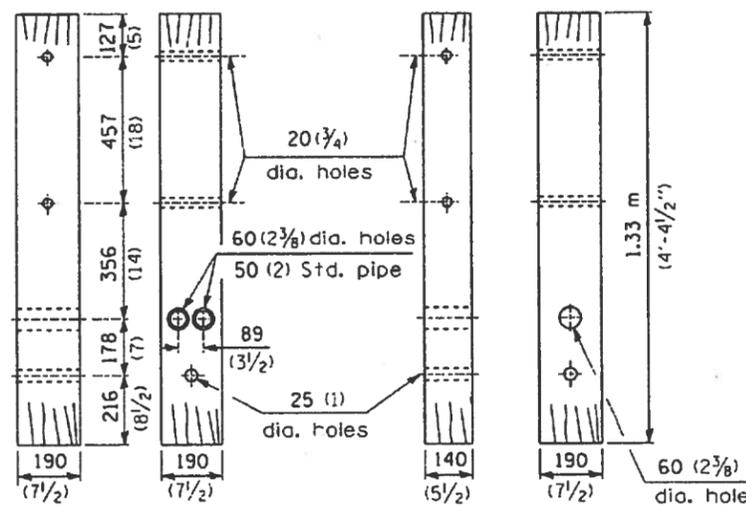


ELEVATION



ANCHOR PLATE R

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



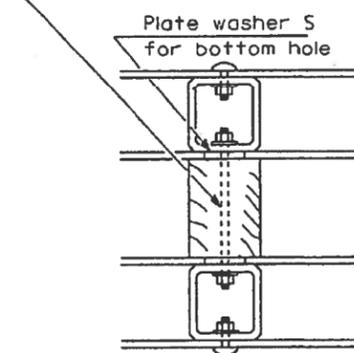
END TERMINAL POST

(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.

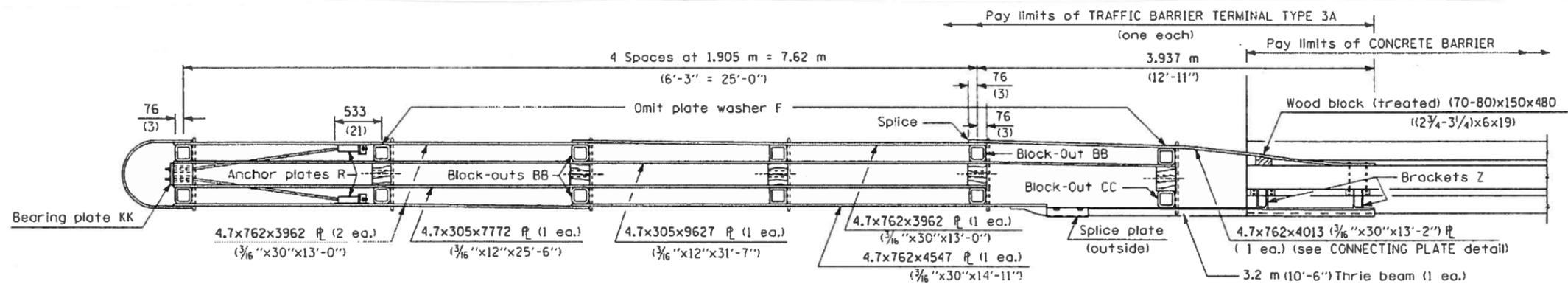
Unless otherwise shown all bolts and nuts shall be Standard Post and Splice Bolts and Nuts (See Standard 630001).

Block-Out AA shall be used at all locations unless otherwise noted.

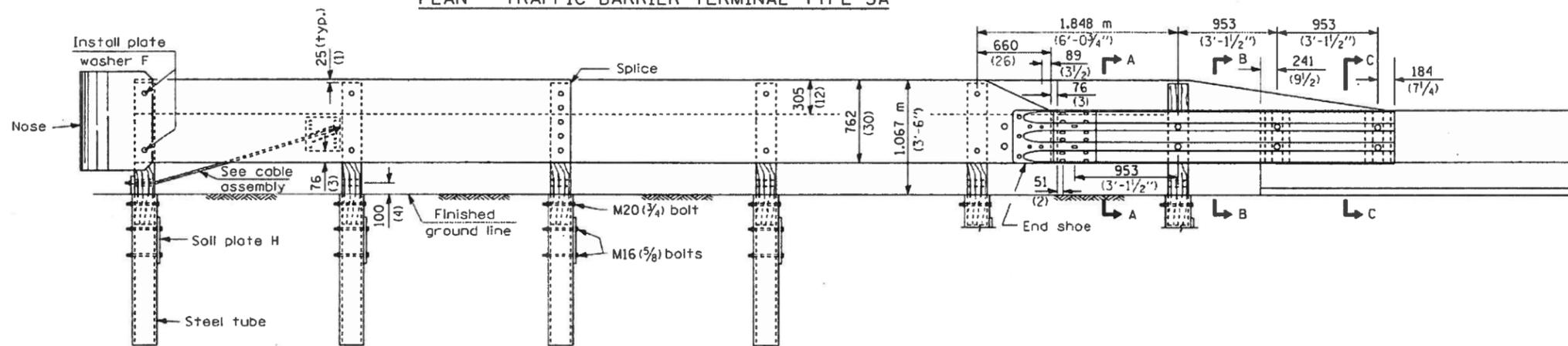
**DETAIL INCLUDED FOR REPAIR ONLY**

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

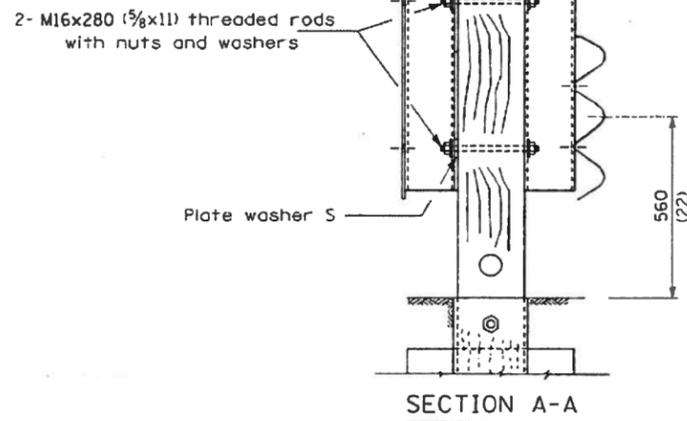
FILE NAME = D468032-CADD.dgn	USER NAME = lababidism	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TRAFFIC BARRIER TERMINAL TYPE 3 &amp; TYPE 3A</b>	F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 48.0000' / in.	CHECKED -	REVISED -	VAR			D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	10	
Default	DATE -	REVISED -	CONTRACT NO. 68D32							
PLOT DATE = 2/10/2017	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							
SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.										



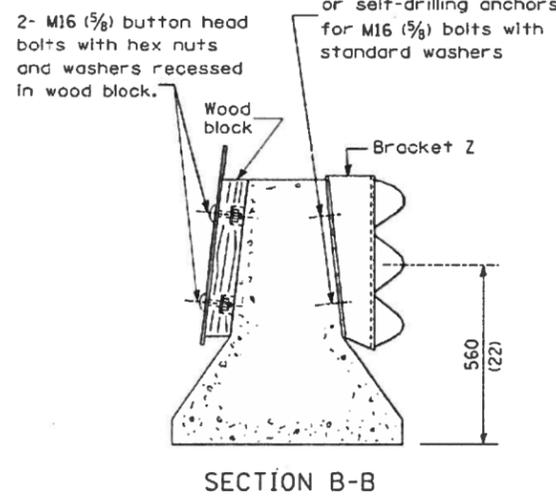
PLAN - TRAFFIC BARRIER TERMINAL TYPE 3A



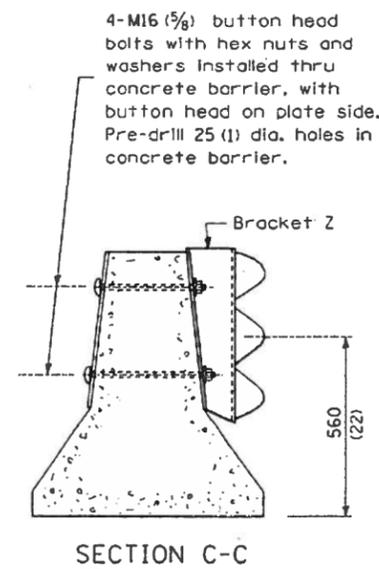
ELEVATION



SECTION A-A



SECTION B-B



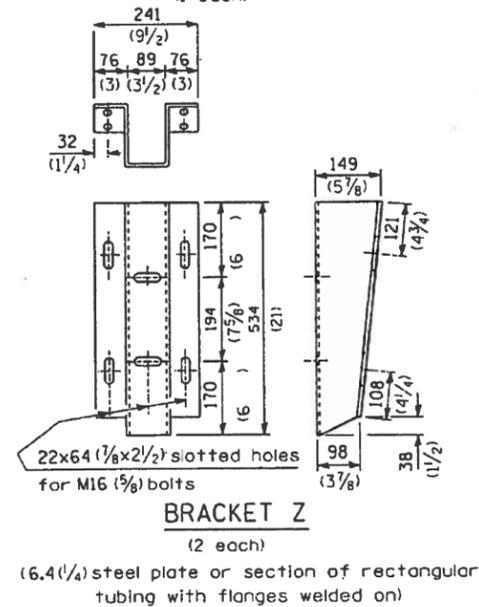
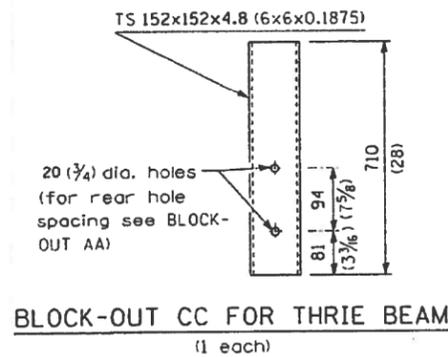
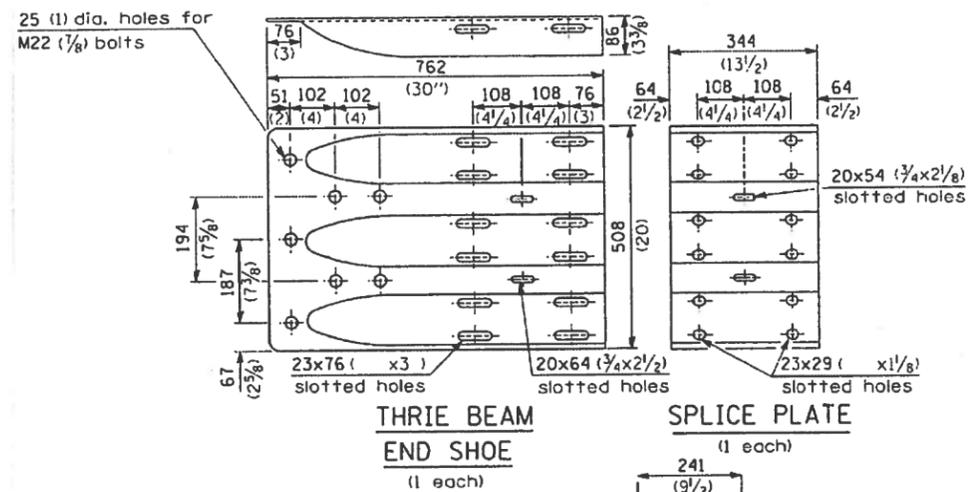
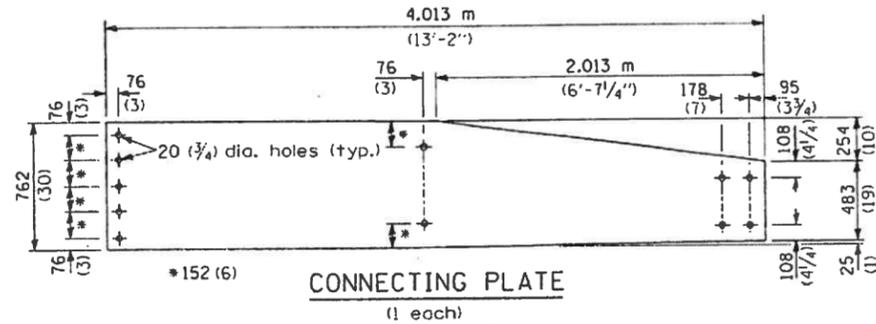
SECTION C-C

**DETAIL INCLUDED FOR REPAIR ONLY**

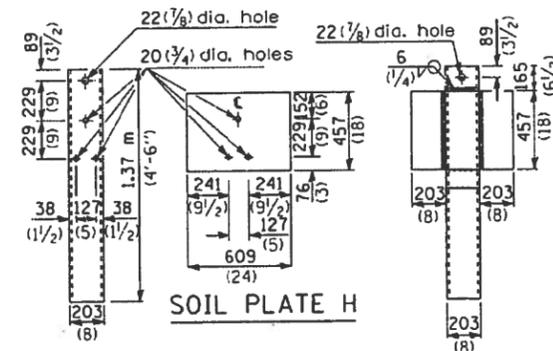
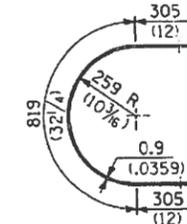
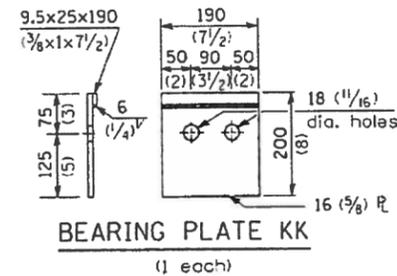
All dimensions are in millimeters (inches) unless otherwise shown.

FILE NAME = D468032-CADD.dgn	USER NAME = lababidism	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TRAFFIC BARRIER TERMINAL TYPE 3 &amp; TYPE 3A</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
Default	PLOT SCALE = 48.0000' / in.	DRAWN -	REVISED -		SCALE:	SHEET 2	OF 3	SHEETS	STA.	TO STA.	VAR	D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	11
	PLOT DATE = 2/10/2017	CHECKED -	REVISED -								CONTRACT NO. 68032				
		DATE -	REVISED -								ILLINOIS FED. AID PROJECT				

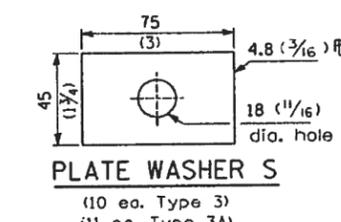
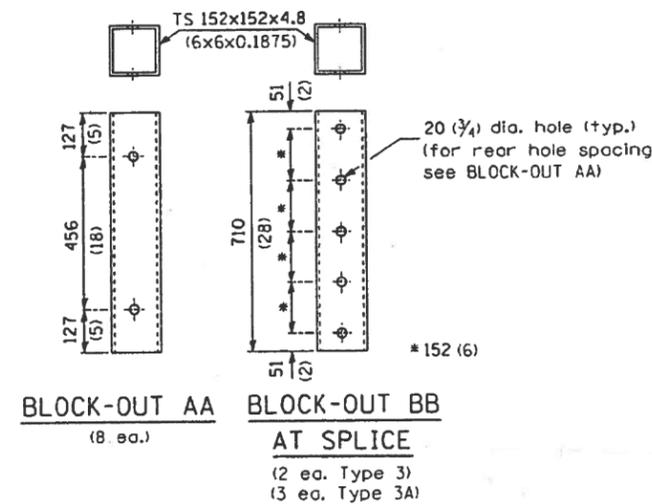
**TYPE 3A ONLY**



**TYPE 3 & 3A**

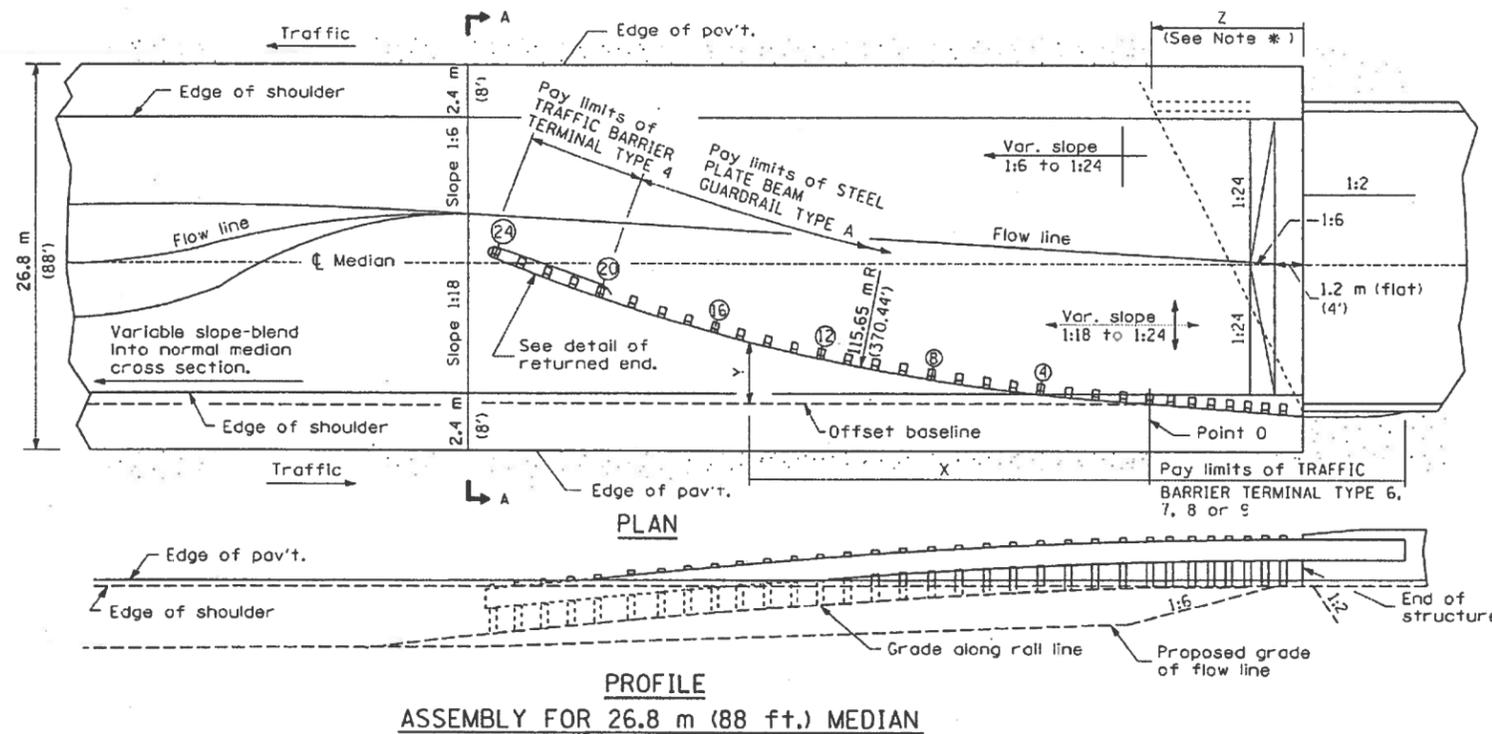


**STEEL TUBE**  
TS 203x203x4.8 (8x8x0.1875) (end terminal post) (1 ea.)  
TS 203x152x4.8 (8x6x0.1875) (terminal post) (4 ea. Type 3) (5 ea. Type 3A)



**DETAIL INCLUDED FOR REPAIR ONLY**

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



OFFSETS TO FACE OF RAIL		
POST	DISTANCE X (m)	OFFSET Y (m)
POINT 0	0 (0)	0 (0)
④	7.60 (24.93)	0.56 (1.83)
⑧	15.14 (49.68)	1.60 (5.28)
⑫	22.60 (74.16)	3.16 (10.37)
⑯	29.94 (98.23)	5.20 (17.05)
⑳	37.13 (121.83)	7.71 (25.3)
㉔	44.14 (144.83)	10.70 (35.09)

Offsets (Y) are measured between the face of rail and the offset baseline, which is parallel to the pavement edge and passes through point 0.

The location of point 0 will vary, being dependent on structure details and the type of traffic barrier terminal utilized.

**GENERAL NOTES**

See Standard 630001 for details of guard-rail not shown.

\*For dual structures skewed right forward, the nose of the Type 4 terminal shall be positioned longitudinally away from the structure for a distance equal to dimension Z. Appropriate adjustments to the length of the Type A guardrail and its offsets (Y) shall be calculated and used. All additional lengths of guardrail shall be in increments of 3.87 m (12'-6").

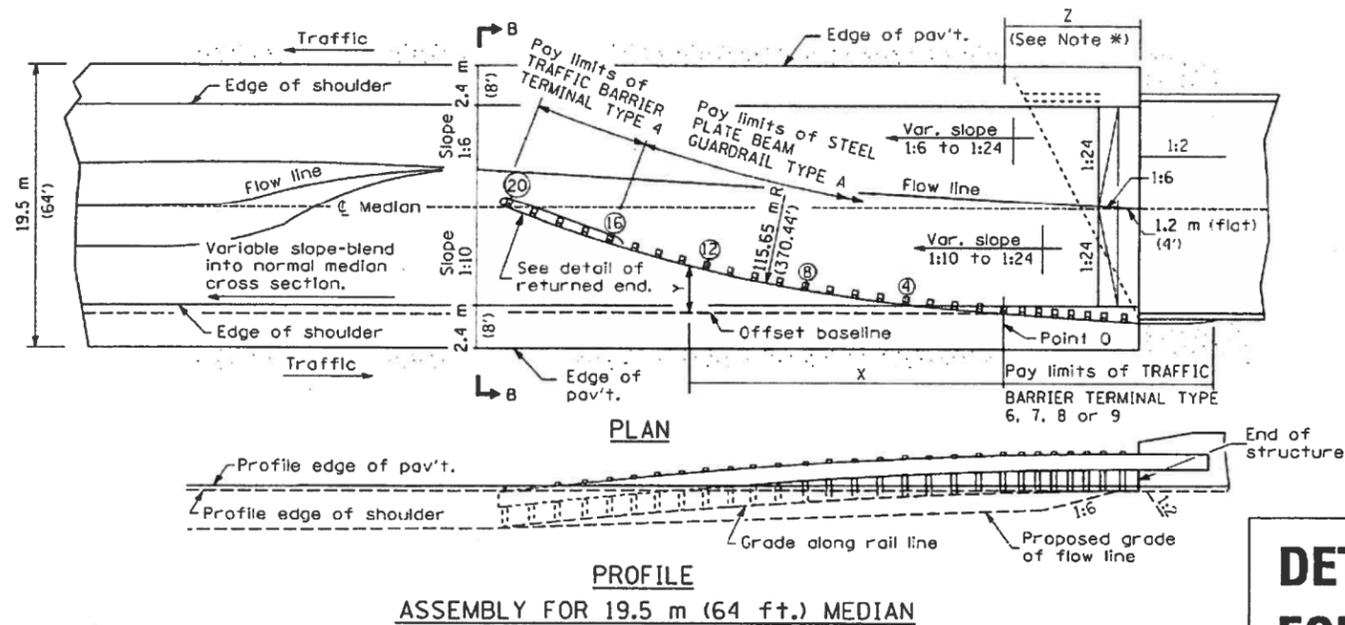
For dual structures that are 90° or skewed left forward, the length of guardrail is appropriate.

The bearing plate K shall be held in position by (2) two eight penny nails driven into the post and bent over the top of the plate.

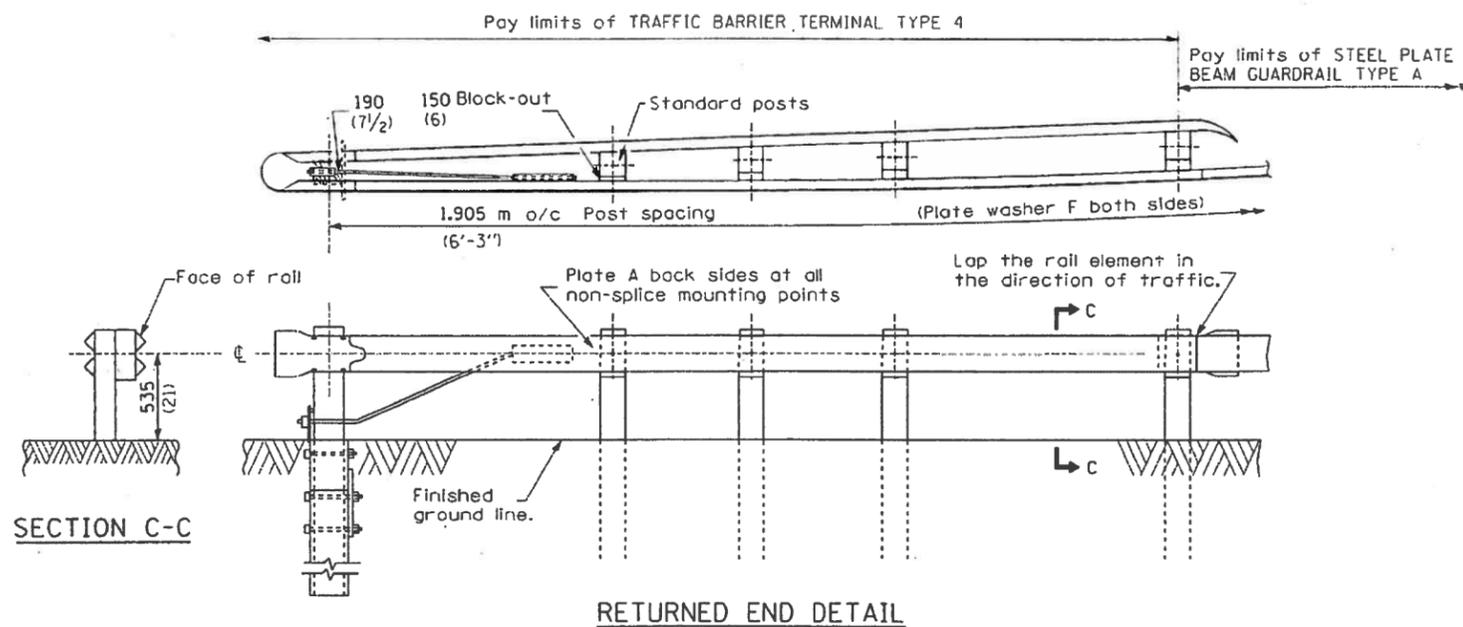
All slopes are expressed as units of vertical displacement to units of horizontal displacement (V:H).

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

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

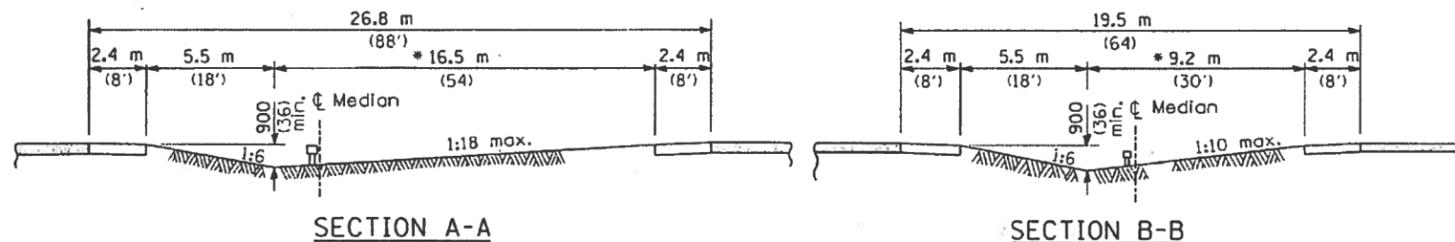


**DETAIL INCLUDED FOR REPAIR ONLY**



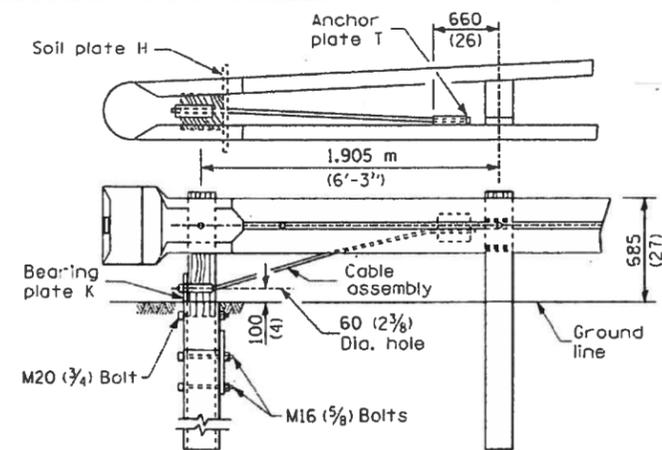
RETURNED END DETAIL

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

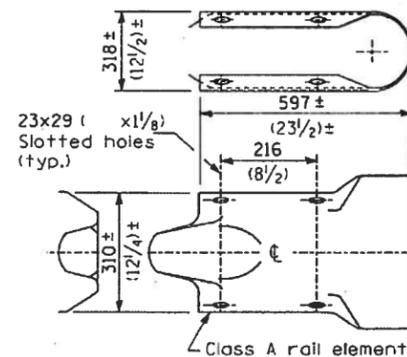


SECTION A-A

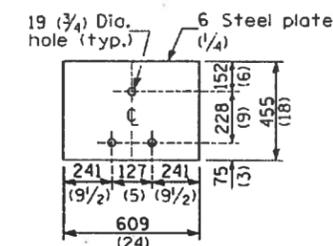
SECTION B-B



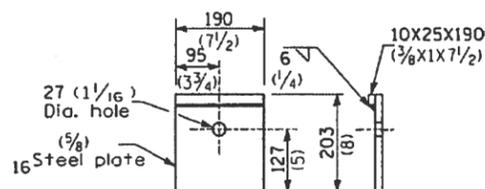
WOOD POST TUBULAR STEEL FOUNDATION



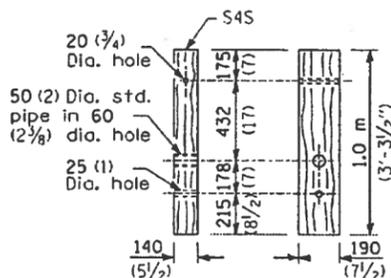
RETURN END SECTION



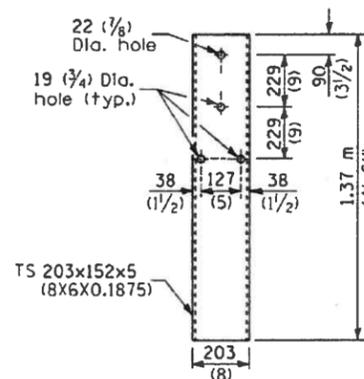
SOIL PLATE H



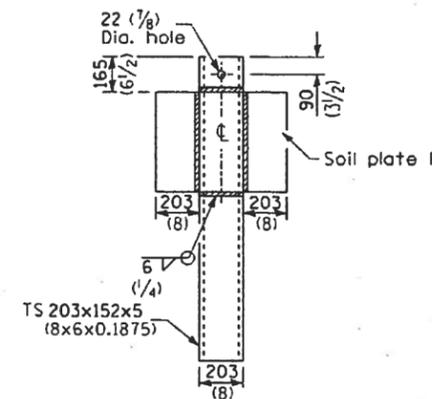
BEARING PLATE K



WOOD BREAKAWAY POST



STEEL TUBE

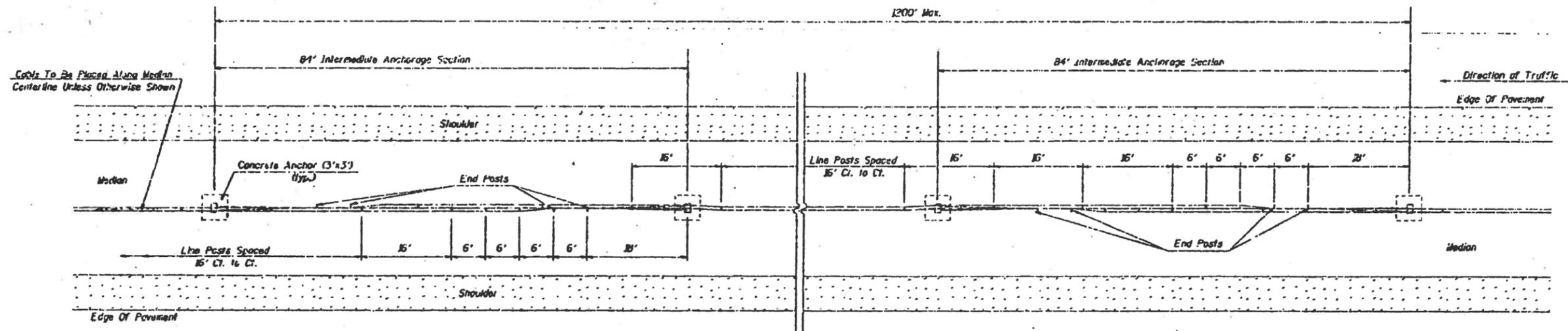


ALTERNATE SOIL PLATE CONNECTION

**DETAIL INCLUDED FOR REPAIR ONLY**

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

FILE NAME = D468032-CADD.dgn	USER NAME = lababidism	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TYPE 4 TERMINAL</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
Default	PLOT SCALE = 48.0000' / in.	DRAWN -	REVISED -		SCALE:	SHEET 2	OF 2	SHEETS	STA.	TO STA.	VAR	D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	14
	PLOT DATE = 2/10/2017	CHECKED -	REVISED -									CONTRACT NO. 68D32			
		DATE -	REVISED -									ILLINOIS FED. AID PROJECT			



TYPICAL CABLE MEDIAN BARRIER ANCHORAGE LAYOUT  
 PLAN VIEW  
 Not to Scale

GENERAL NOTE

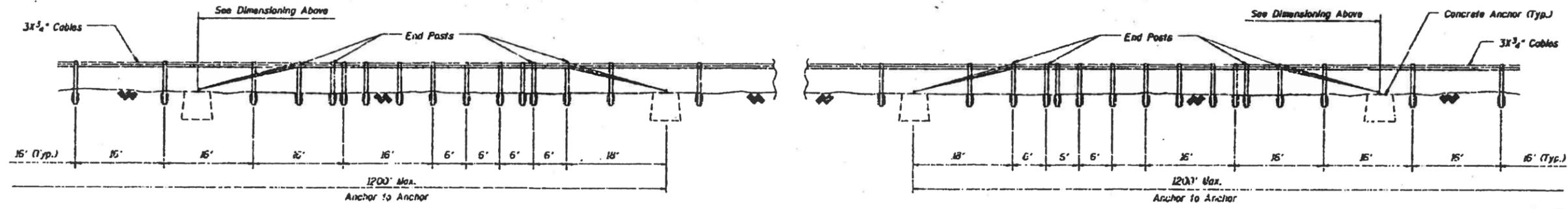
**DELINEATORS:** Two reflectors, placed back to back, shall be required for each delineator post.

**NOTE:** This work shall be done in accordance with Section 835 and no additional compensation will be allowed for two single reflector units placed back to back.

The delineator shall be installed adjacent to a cable road guard post at 80 foot centers.

**DETAIL INCLUDED FOR REPAIR ONLY**

Notes:  
 1. All posts are line posts unless otherwise specified.  
 2. See detail sheets for Post, Concrete Anchor and Assembly Parts specifications.



TYPICAL CABLE MEDIAN BARRIER ANCHORAGE LAYOUT  
 ELEVATION VIEW  
 Not to Scale

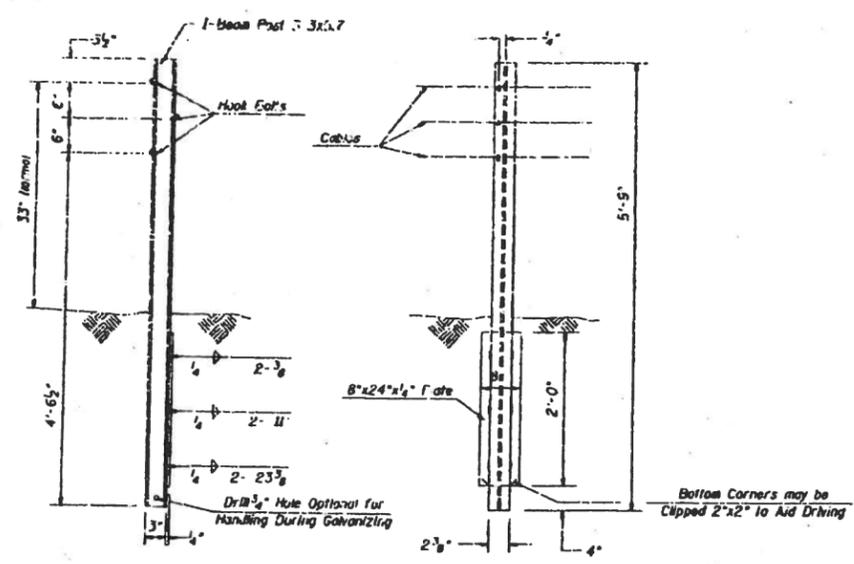
FILE NAME = D468032-CADD.dgn	USER NAME = lababidism	DESIGNED -	REVISED -
Default	PLOT SCALE = 48.0000' / in.	DRAWN -	REVISED -
	PLOT DATE = 2/10/2017	CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

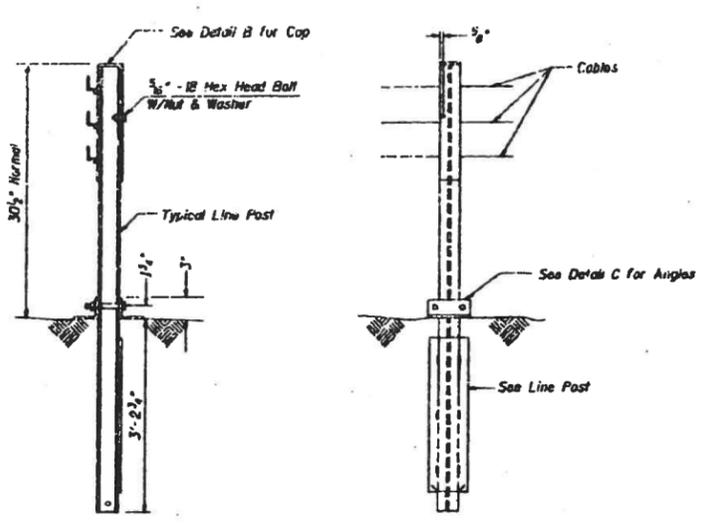
EXISTING CABLE MEDIAN BARRIER ( CABLE ROAD GUARD )

SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

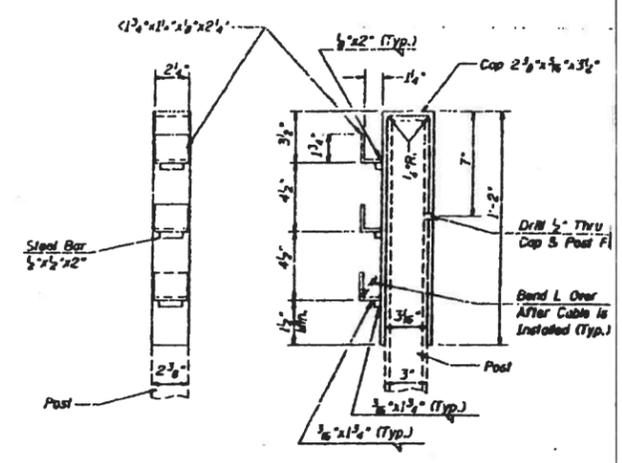
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	15	
CONTRACT NO. 68D32				
ILLINOIS FED. AID PROJECT				



LINE POST DETAIL



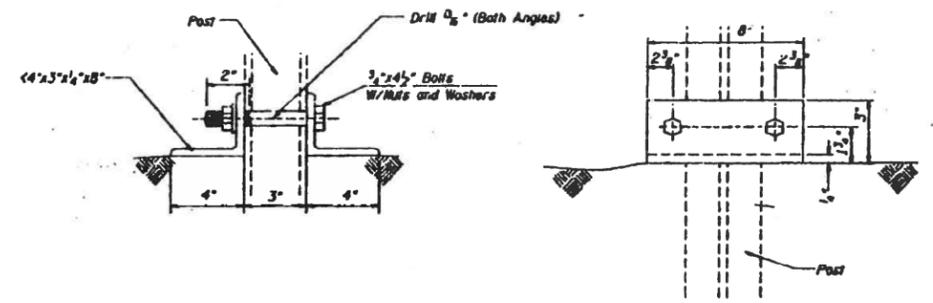
END POST DETAIL



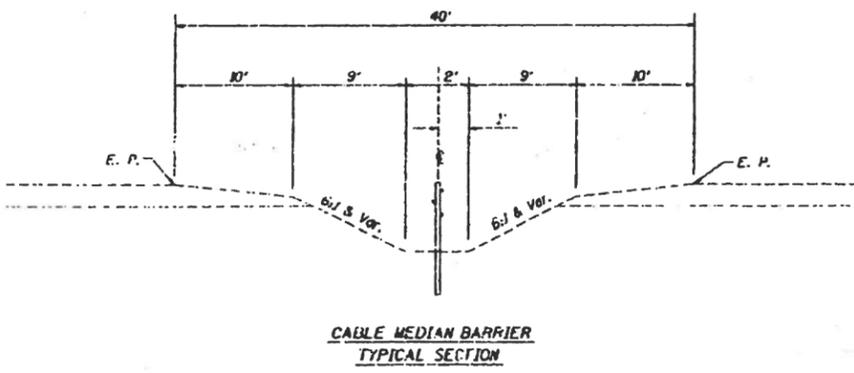
DETAIL B

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.S.I. E11). 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 inch 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 and 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° 99° 79° 59° 39° 19° 1°  
10 10 10 10 10 10 10  
105° 80° 60° 40° 20° 1° -20°  
Spring Compression from unloaded position in each spring: 1 1/2" 2" 2 1/2" 3" 3 1/2" 4"



DETAIL C



CABLE MEDIAN BARRIER TYPICAL SECTION

**DETAIL INCLUDED FOR REPAIR ONLY**

FILE NAME = D468032-CADD.dgn  
Default

USER NAME = lababidism  
PLOT SCALE = 48.0000' / in.  
PLOT DATE = 2/10/2017

DESIGNED -  
DRAWN -  
CHECKED -  
DATE -

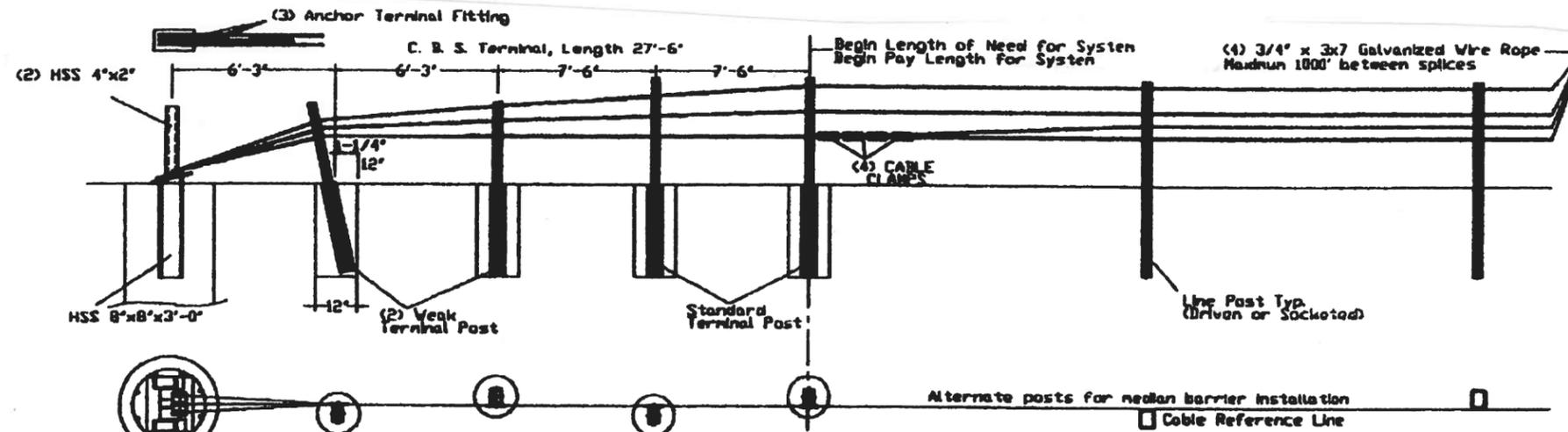
REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING CABLE MEDIAN BARRIER ( CABLE ROAD GUARD )  
SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR D4	GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	16
CONTRACT NO. 68D32				
ILLINOIS FED. AID PROJECT				

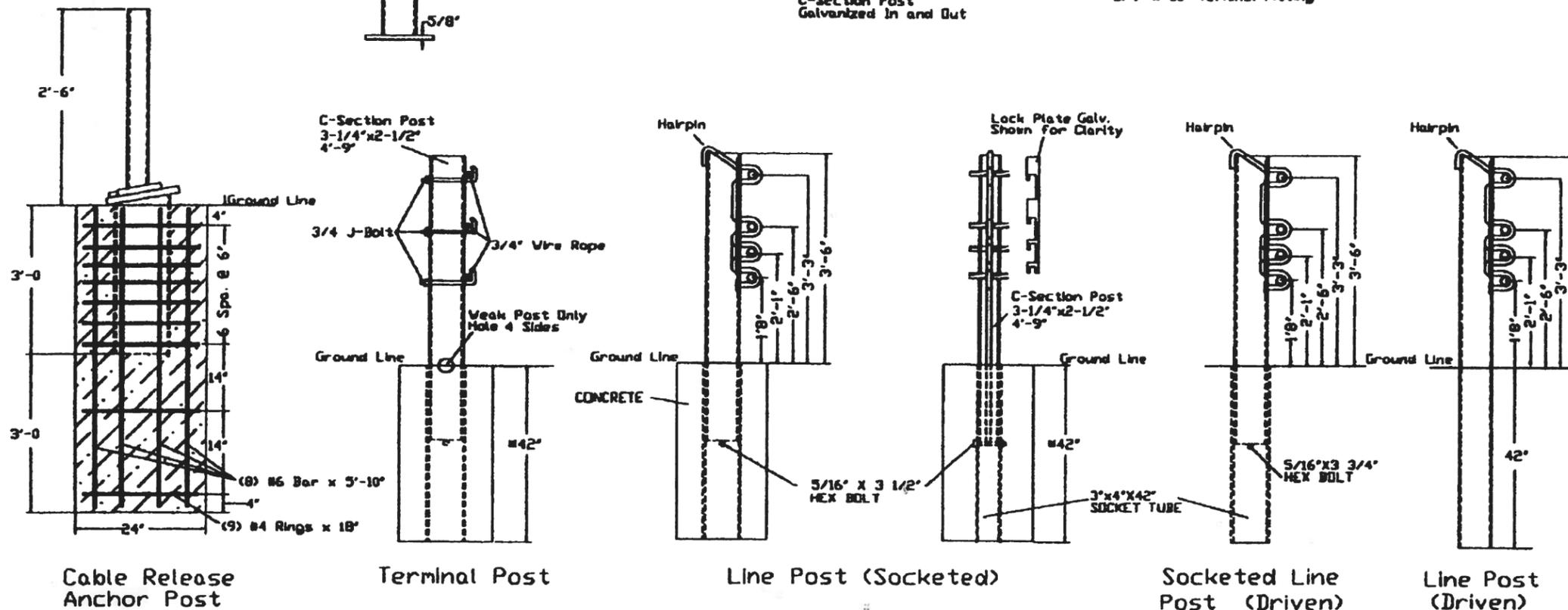
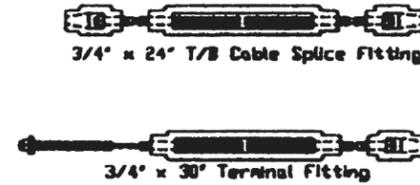
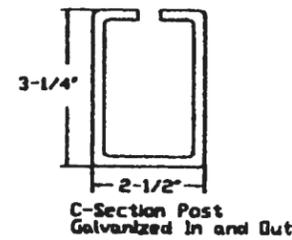
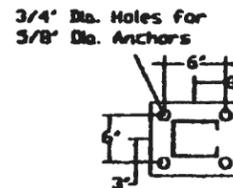




**GENERAL NOTES**

1. For additional information contact Gibraltar, Inc. at 1-800-493-8937, or see the manufacturer's product manual.
2. All concrete shall be minimum 2500 PSI.
3. Alternate Post for bi-directional traffic flow. If installed for traffic in one direction install cables on traffic side of posts.
4. The Cable Barrier System shall be installed on median shoulders or on depressed medians with slopes of 6:1 or flatter.
5. The Cable Barrier System is accepted by the FHWA Test Level - 4
6. See the MUTCD for proper "Barrier" delineation
7. Rock Clause: Where solid rock is encountered
  - a. For socketed post, continue digging 12" diameter, 15' deep into rock or the required plan depth whichever comes first.
  - b. For driven post, core drill a 4" diameter hole 10' deep into rock or the required plan depth, whichever comes first.
  - c. For Anchor post, continue digging 24" diameter, 30' deep into rock or the required plan depth, whichever comes first.
8. Every component to be galvanized.

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



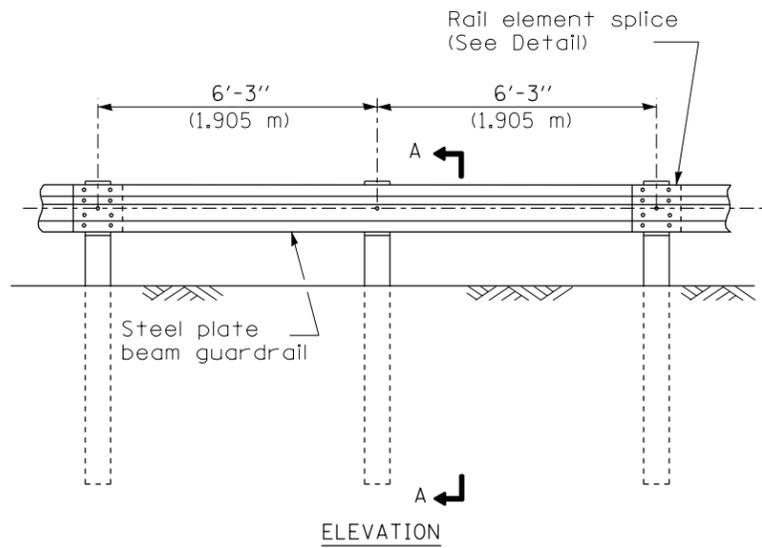
Cable Tension	
-10F	8000
0	7600
10	7200
20	6800
30	6400
40	6000
50	5600
60	5200
70	4800
80	4400
90	4000
100	3600
110	3200

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

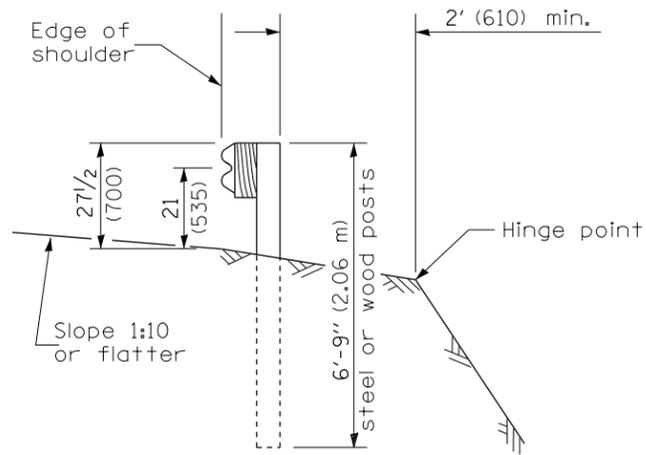
**DETAIL INCLUDED FOR REPAIR ONLY**

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.

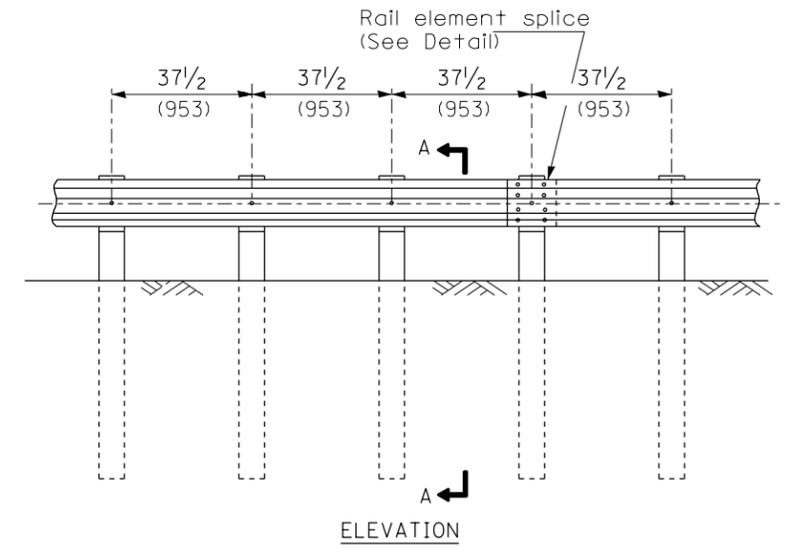


**TYPE A**

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

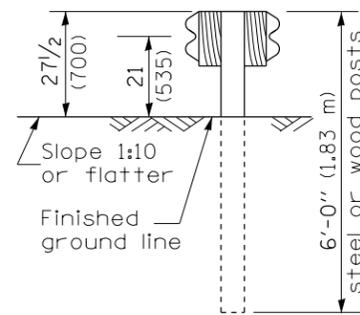


SECTION A-A

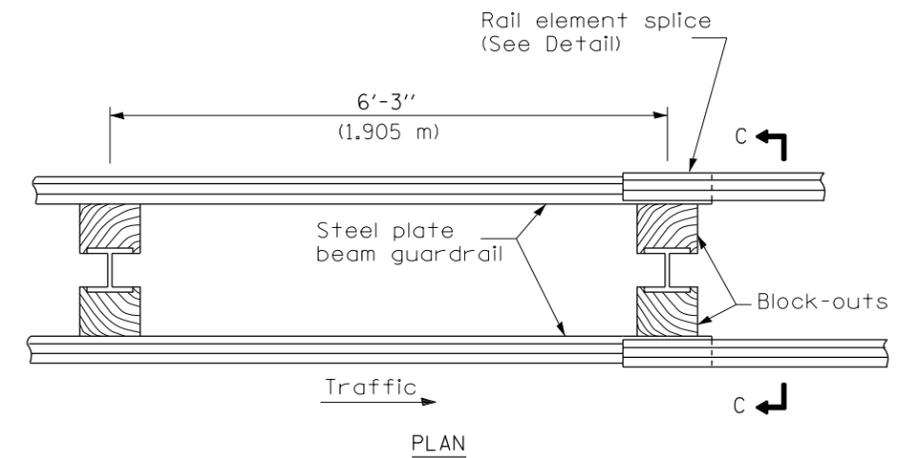


**TYPE B**

37 1/2 (953) Closed post spacing

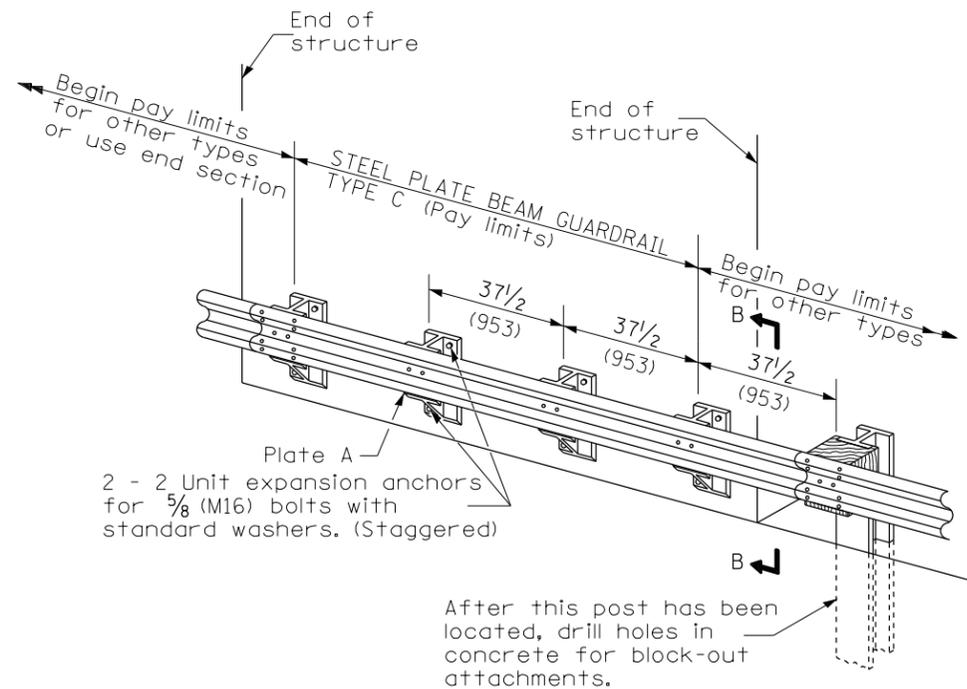


SECTION C-C



**TYPE D**

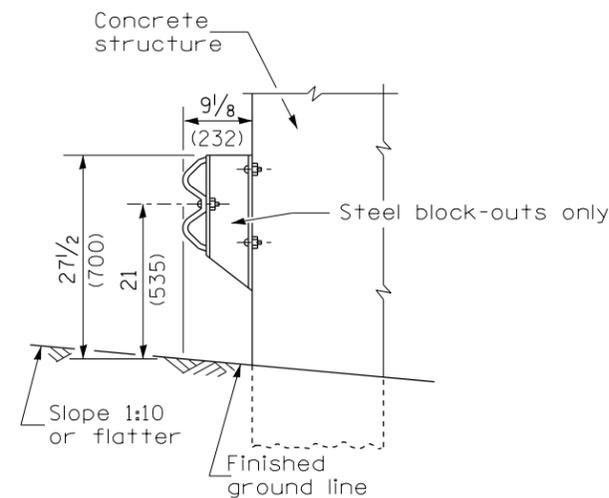
Double steel plate beam guardrail  
6'-3" (1.905 m) typical post spacing



**TYPE C**

37 1/2 (953) Block-out spacing

After this post has been located, drill holes in concrete for block-out attachments.



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			

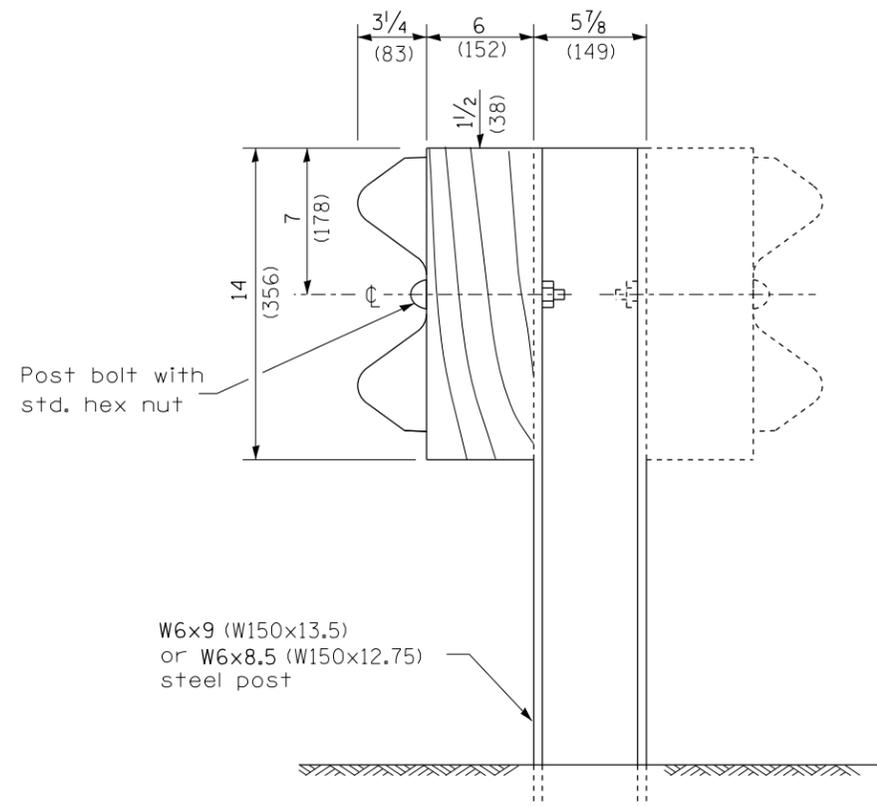
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

NOT TO SCALE

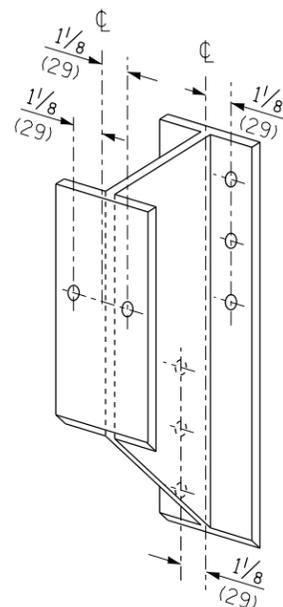
**STEEL PLATE BEAM GUARDRAIL, TYPE A,  
6.75 FOOT POSTS**

SHT. 1 OF 4  
CADD STD. 630011-D4

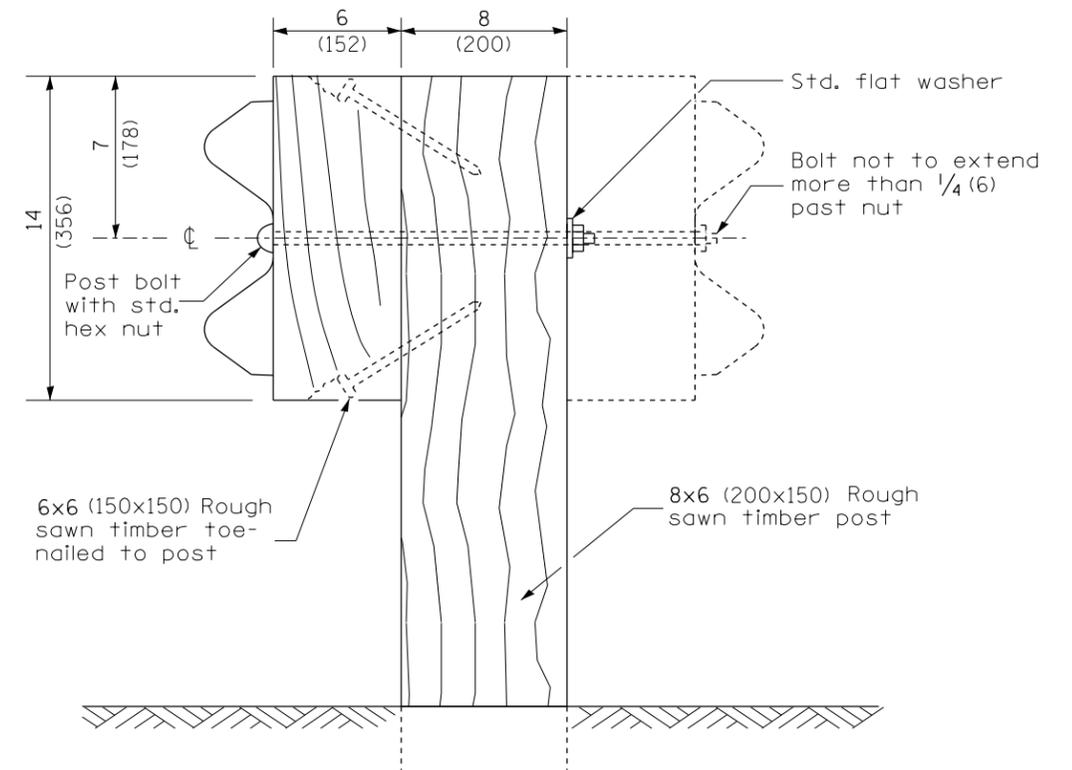
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	19
FED. ROAD DIST. NO.			CONTRACT NO. 68D32	
ILLINOIS FED. AID PROJECT				



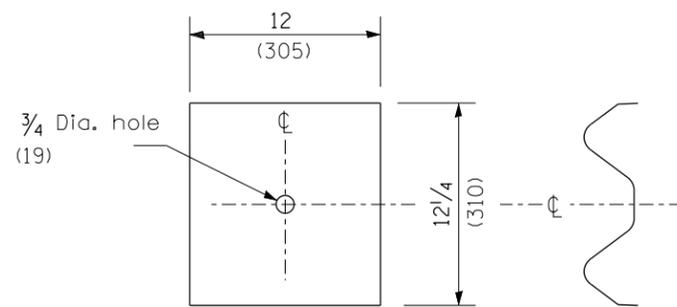
**STEEL POST CONSTRUCTION**



**STEEL BLOCK-OUT DETAIL**



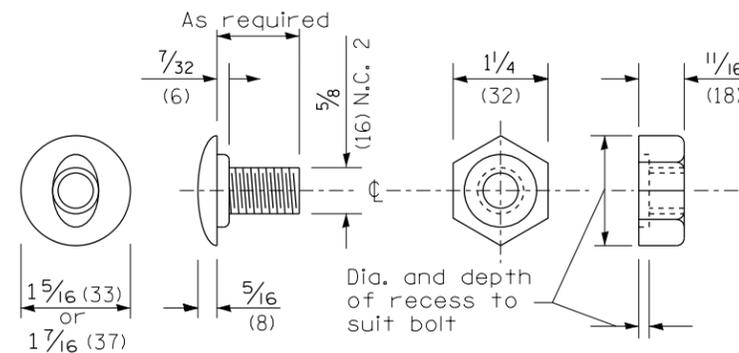
**WOOD POST CONSTRUCTION**



**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.


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

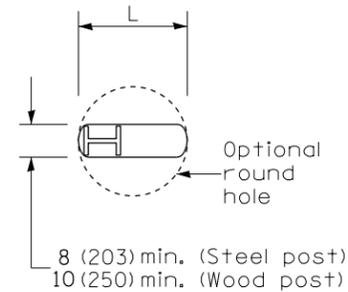
STEEL PLATE BEAM GUARDRAIL, TYPE A,  
6.75 FOOT POSTS

NOT TO SCALE

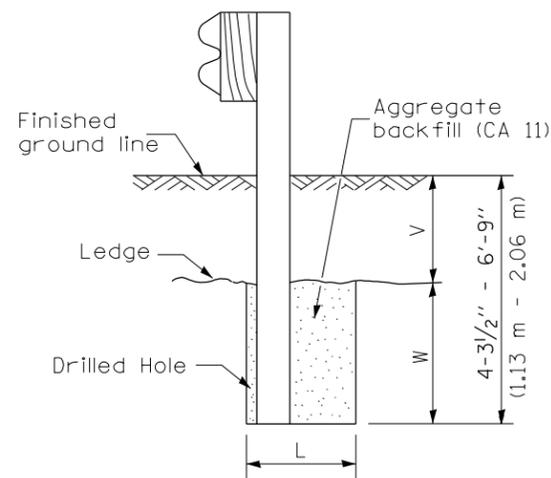
SHT. 2 OF 4  
CADD STD. 630011-D4

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR D4	GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	20
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68D32	



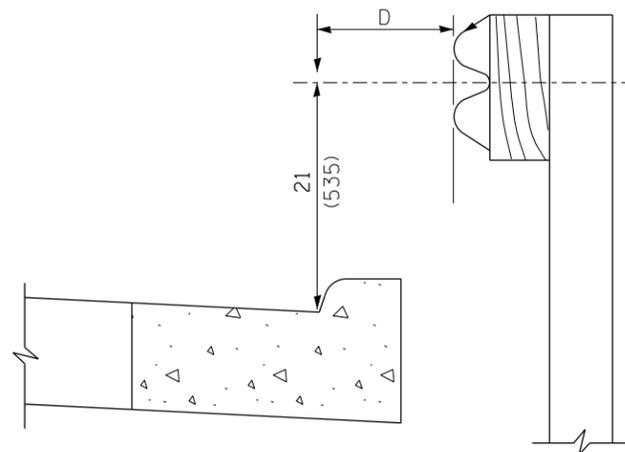


PLAN



ELEVATION

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

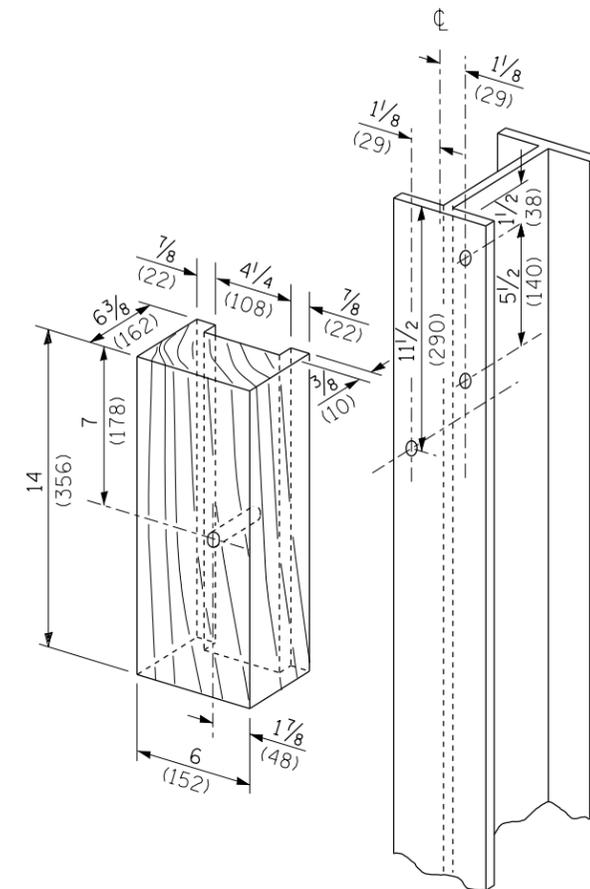


Note:

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

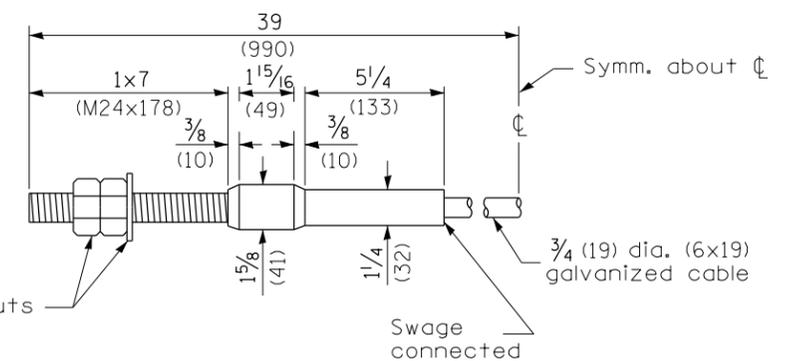
**GUARDRAIL PLACED BEHIND CURB**

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



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

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)



**CABLE ASSEMBLY**

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

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

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

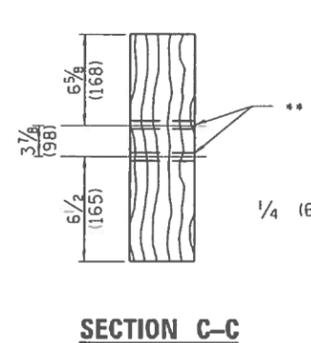
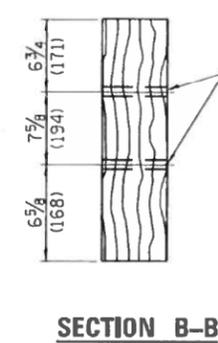
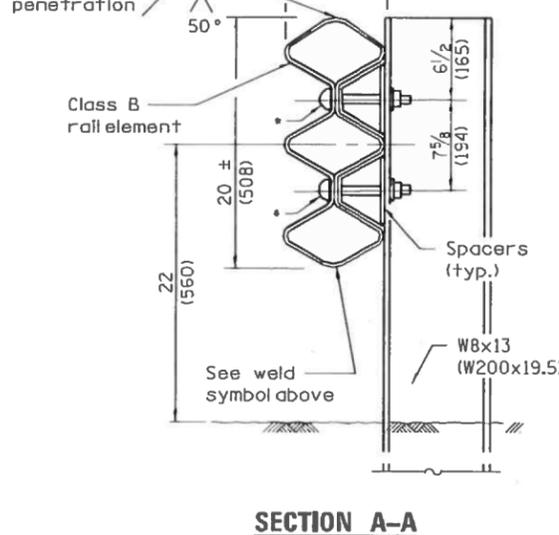
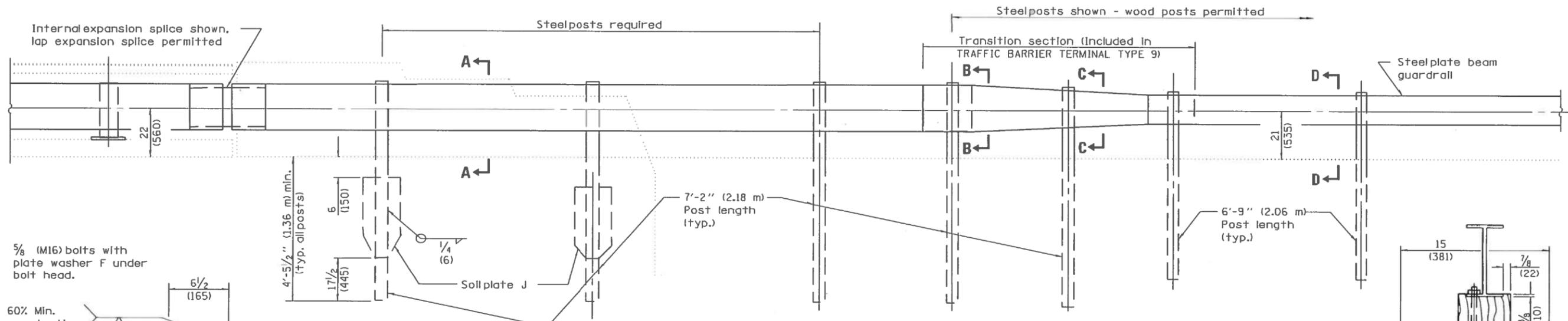
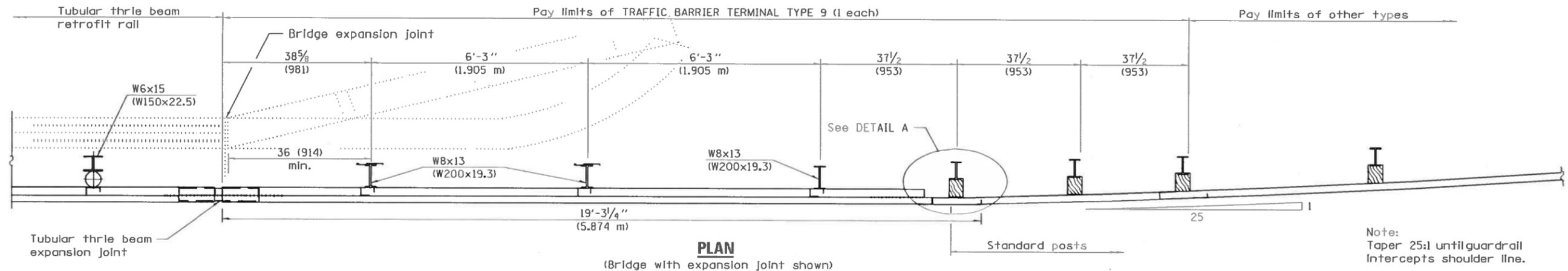
NOT TO SCALE

STEEL PLATE BEAM GUARDRAIL, TYPE A,  
6.75 FOOT POSTS

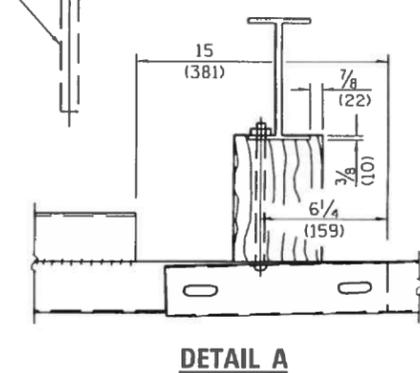
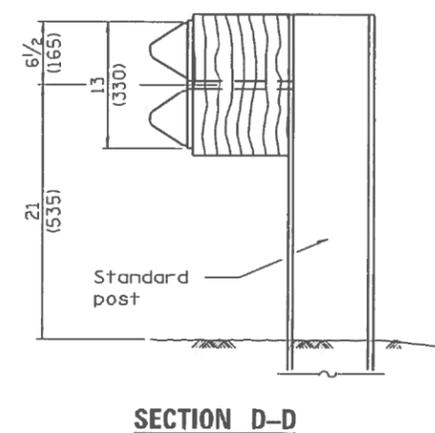
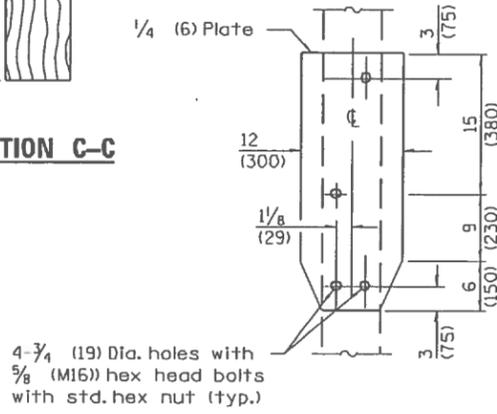
SHT. 4 OF 4  
CADD STD. 630011-D4

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR D4	GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	22
CONTRACT NO. 68D32				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				





**DETAILS of BLOCK-OUTS**  
 \*\* ⌀ 3/4 (19) Dia. hole



**GENERAL NOTES**

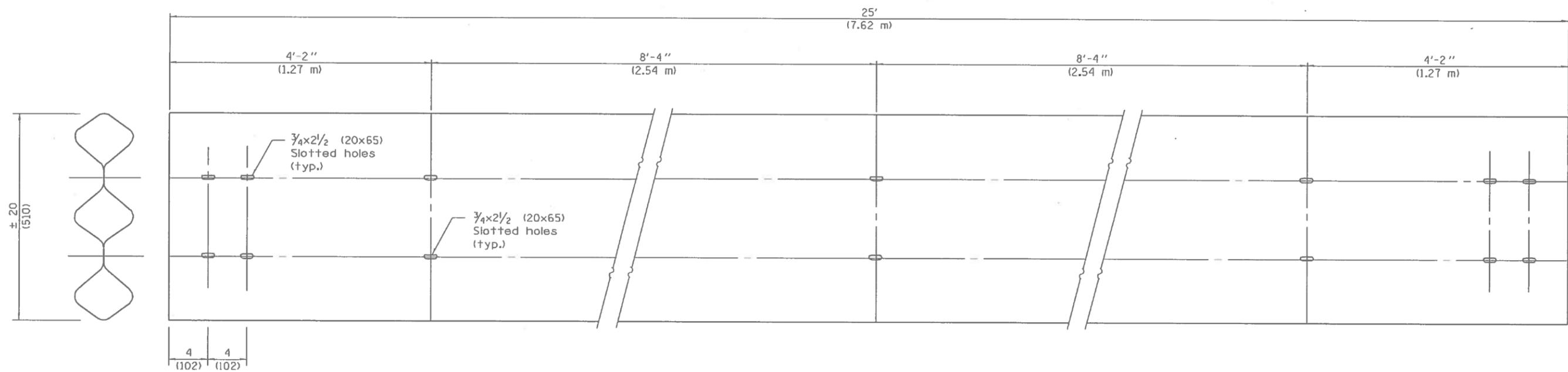
See Standards 509001 and 630001 for details of guardrail elements not shown.

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

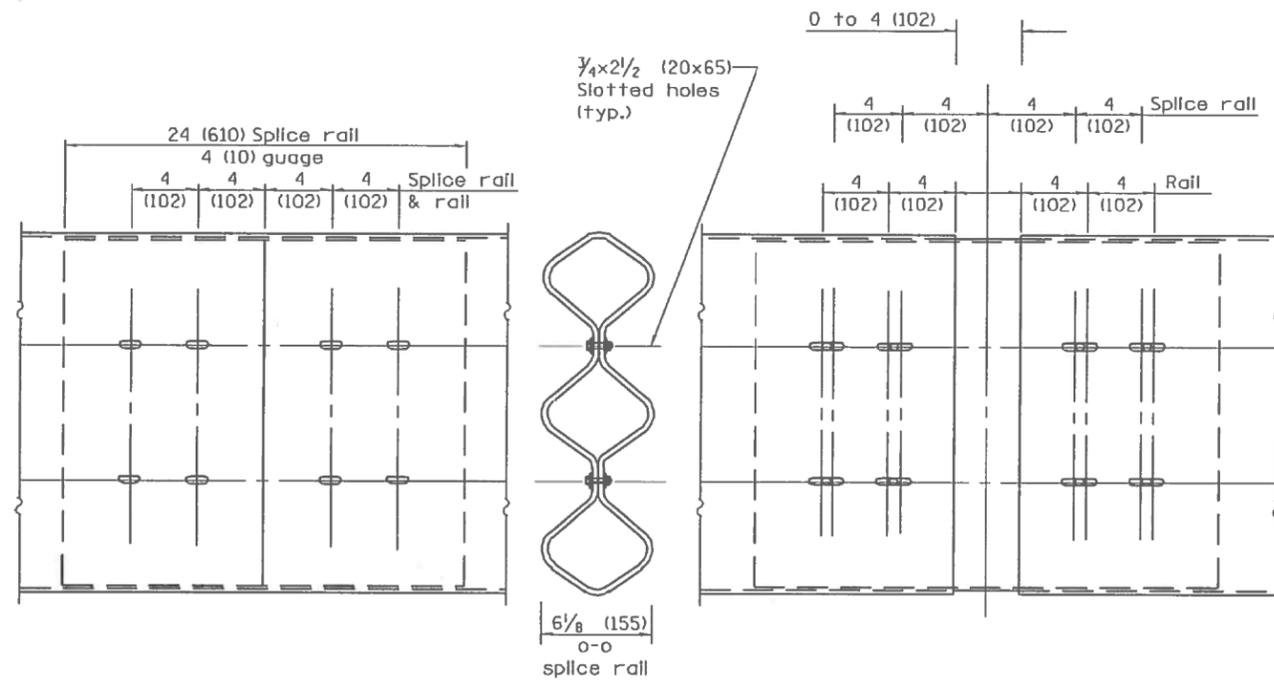
All dimensions are in inches (millimeters) unless otherwise shown.

**DETAIL INCLUDED FOR REPAIR ONLY**

FILE NAME = D468032-CADD.dgn	USER NAME = lababidism	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TRAFFIC BARRIER TERMINAL TYPE 9 (STANDARD 631041)</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	PLOT SCALE = 48.0000' / in.	DRAWN -	REVISED -		SCALE:	SHEET 1	OF 1 SHEETS	STA.	TO STA.	VAR	D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27 24
	PLOT DATE = 2/10/2017	CHECKED -	REVISED -										CONTRACT NO. 68D32
		DATE -	REVISED -										ILLINOIS FED. AID PROJECT

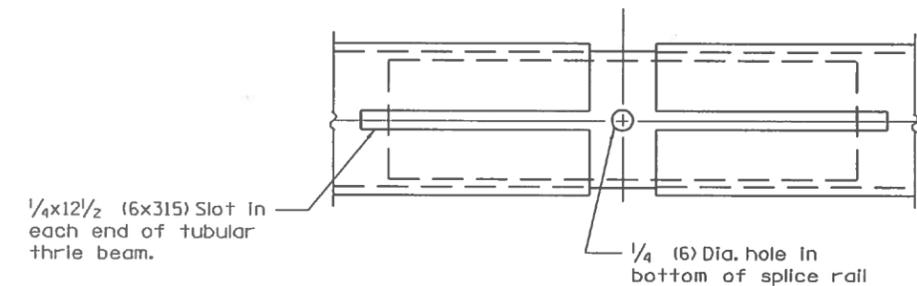


**TUBULAR THRIE BEAM FOR INTERNAL SPLICE JOINT**



**INTERNAL SPLICE JOINT**

**INTERNAL EXPANSION SPLICE JOINT**



**BOTTOM VIEW OF INTERNAL EXPANSION SPLICE JOINT**

**DETAIL INCLUDED FOR REPAIR ONLY**

**GENERAL NOTES**

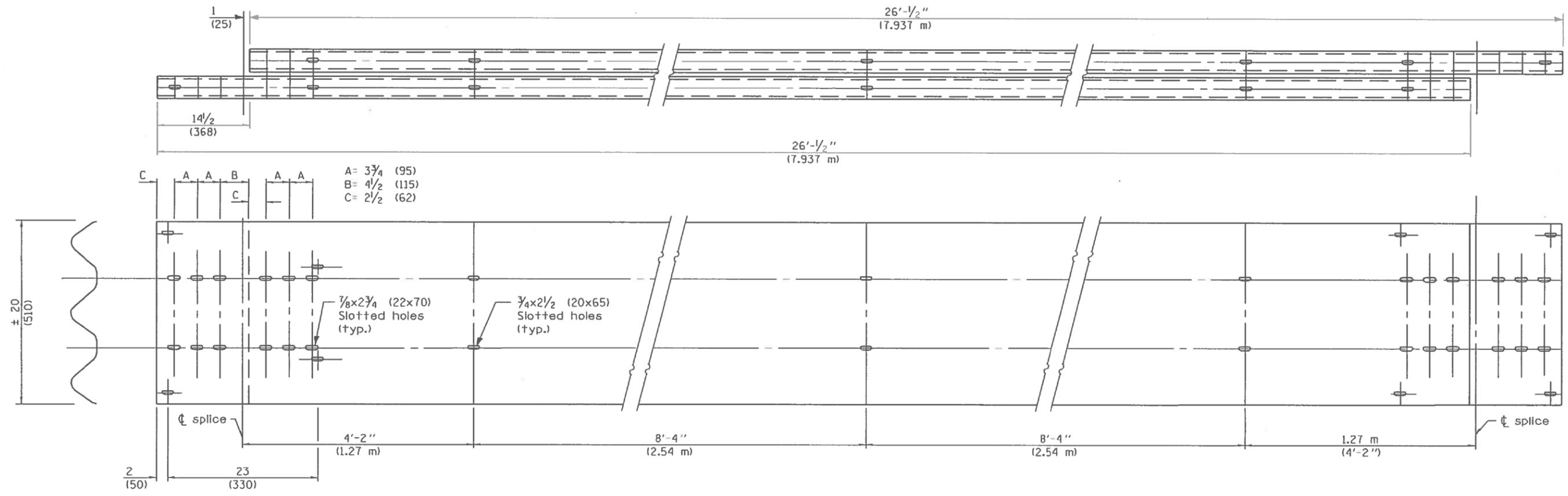
Plate Washers B are to be placed under both heads and nuts of splicing bolts for internal splice and internal expansion splice joint.

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.

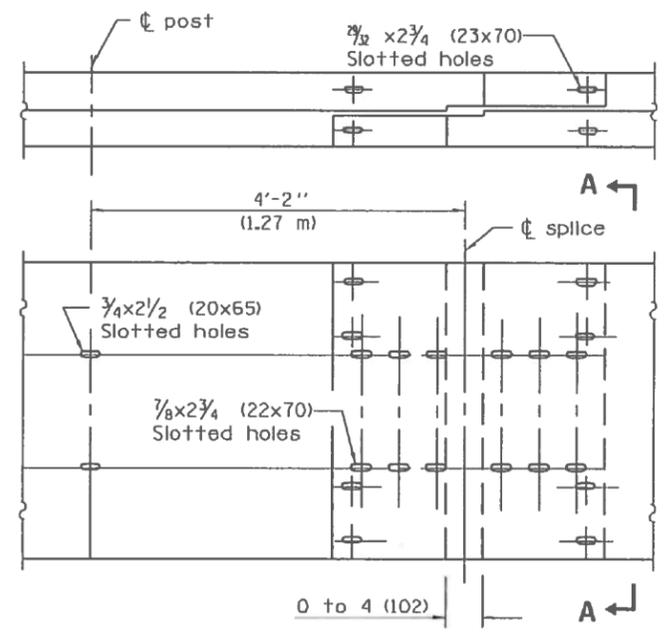
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME = D468032-CADD.dgn	USER NAME = lababidism	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES (STANDARD 509001)</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	PLOT SCALE = 48.0000' / in.	DRAWN -	REVISED -					VAR	D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	25
	PLOT DATE = 2/10/2017	CHECKED -	REVISED -		SCALE:	SHEET 1	OF 3 SHEETS	STA.	TO STA.	CONTRACT NO. 68D32		
		DATE -	REVISED -							ILLINOIS FED. AID PROJECT		

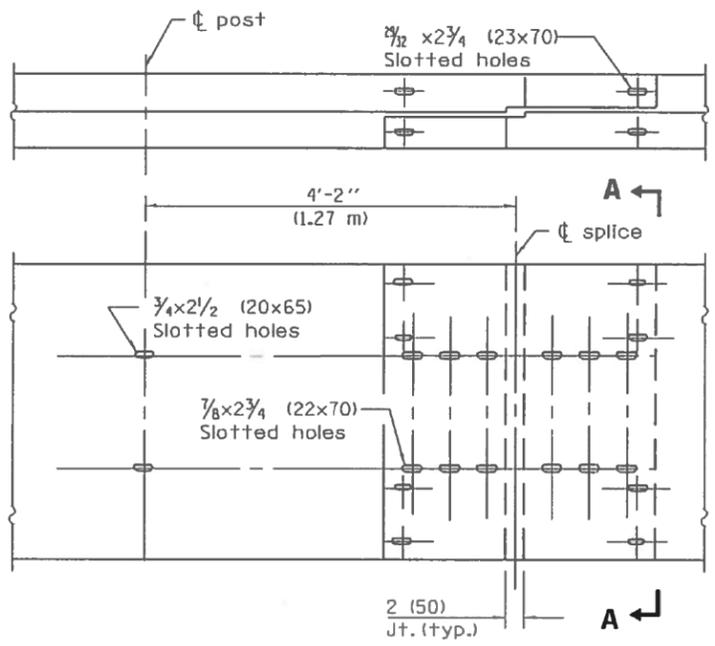


A = 3 3/4 (95)  
 B = 4 1/2 (115)  
 C = 2 1/2 (62)

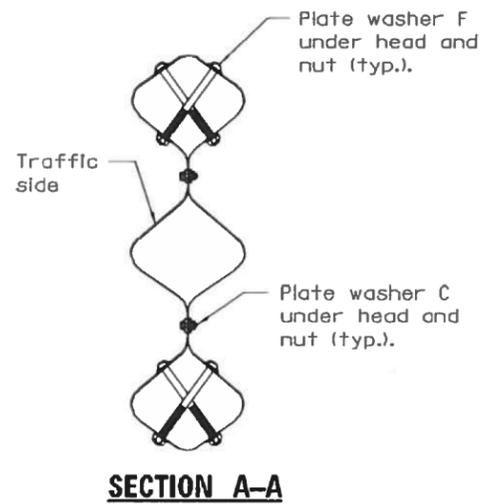
**TUBULAR THRIE BEAM FOR LAP SPICE JOINT**



**LAP EXPANSION SPICE JOINT**

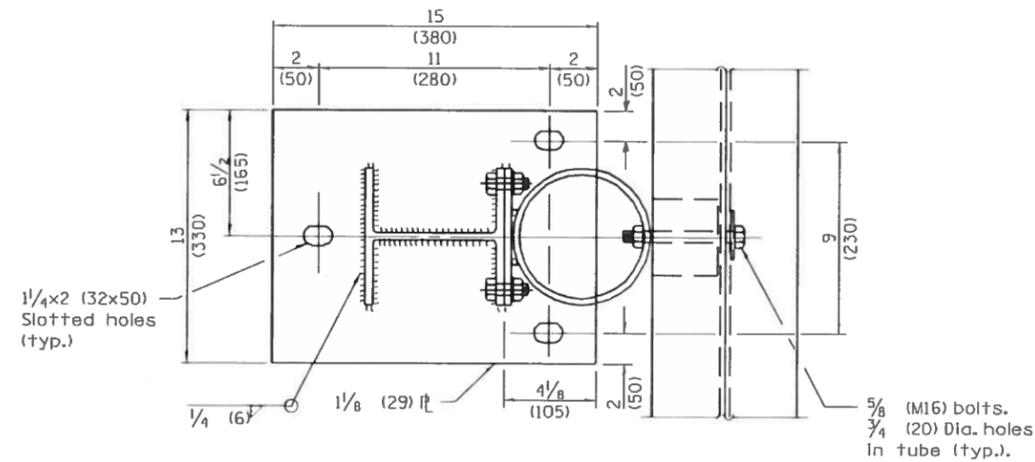


**LAP SPICE JOINT**

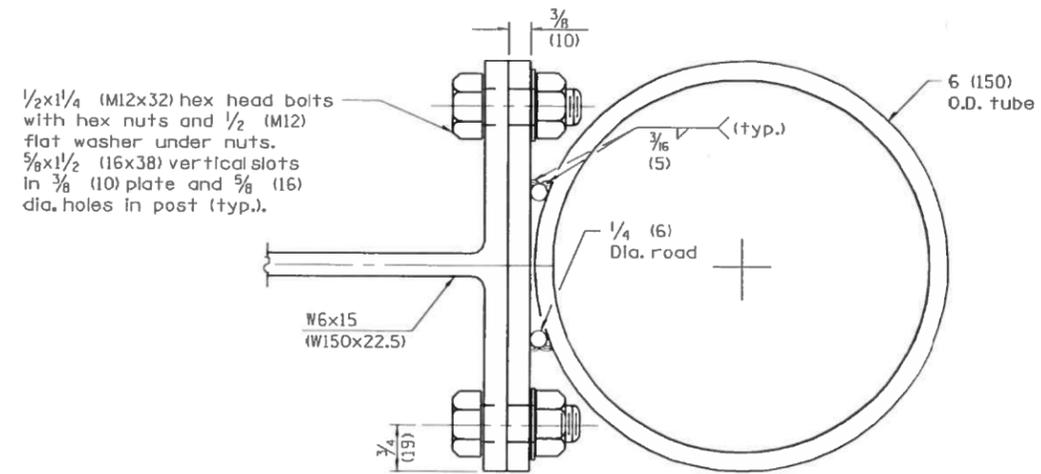


**DETAIL INCLUDED FOR REPAIR ONLY**

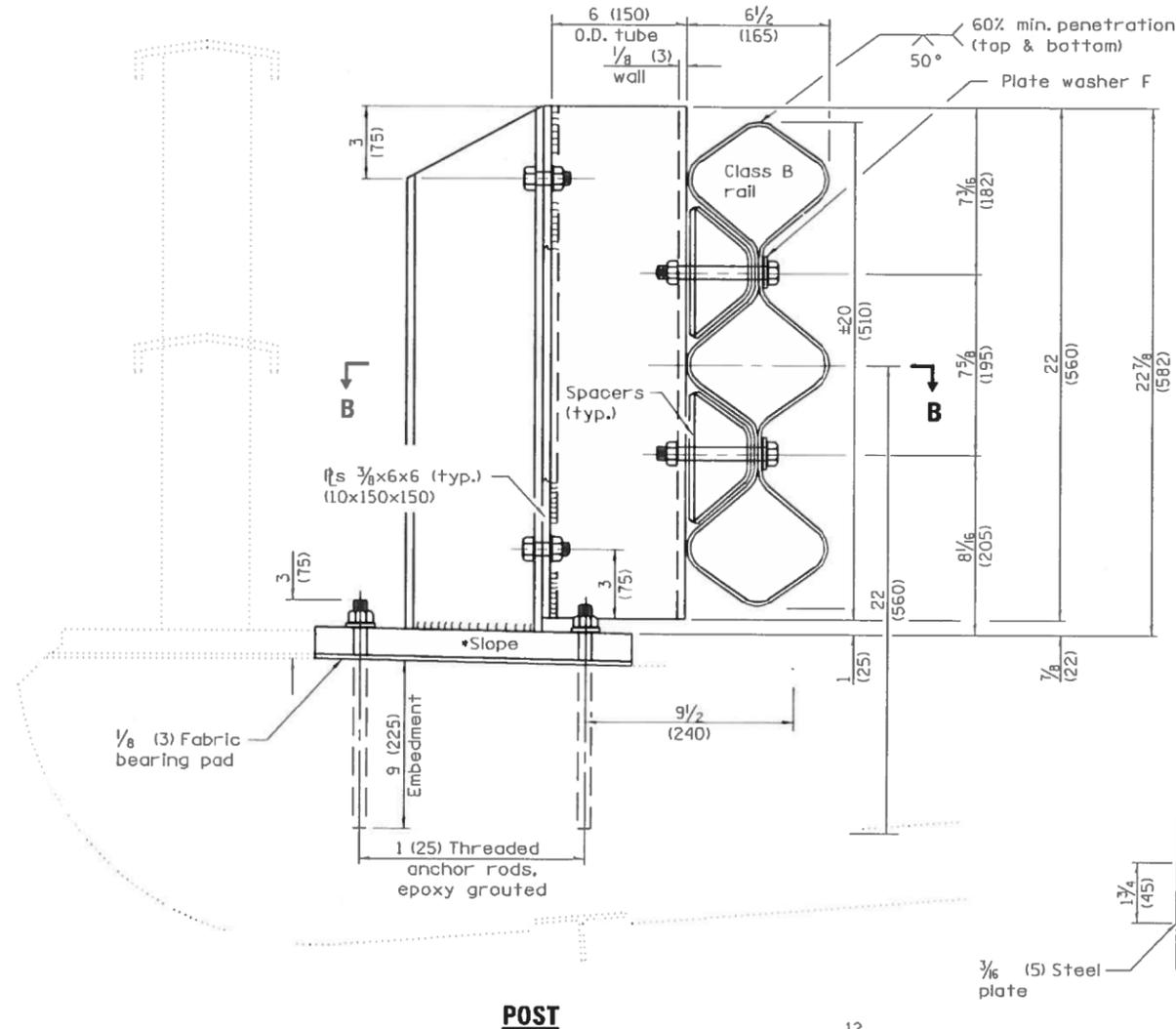
FILE NAME = D468032-CADD.dgn	USER NAME = lababidism	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES (STANDARD 509001)			F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	Default	PLOT SCALE = 48.0000' / in.	DRAWN -		REVISED -	SCALE:	SHEET 2	OF 3	SHEETS	STA.	TO STA.	VAR D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27
	PLOT DATE = 2/10/2017	CHECKED -	REVISED -								CONTRACT NO. 68032		ILLINOIS FED. AID PROJECT	



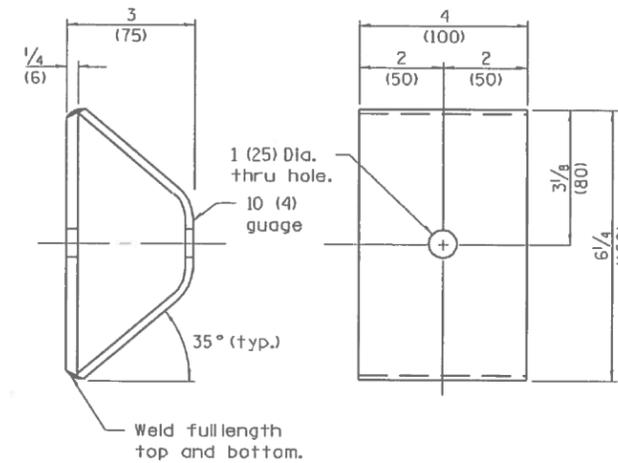
**SECTION B-B**



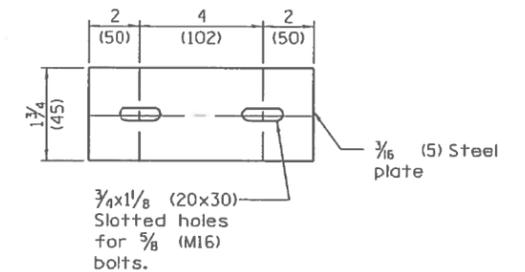
**TUBE TO POST ATTACHMENT**



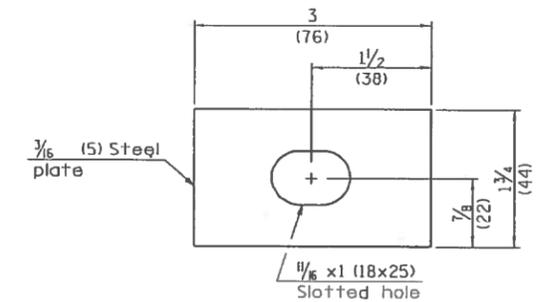
**POST**



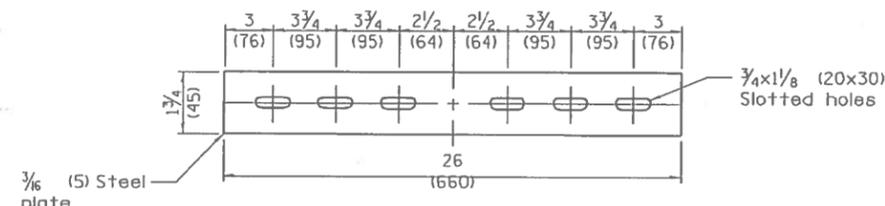
**SPACER**



**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 = D468032-CADD.dgn	USER NAME = lababidism	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES (STANDARD 509001)</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	PLOT SCALE = 48.0000' / in.	DRAWN -	REVISED -					VAR	D4 GUARDRAIL REPAIRS 2017-MCHD	TAZEWELL	27	27	
	PLOT DATE = 2/10/2017	CHECKED -	REVISED -					SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.			CONTRACT NO. 68D32		
		DATE -	REVISED -					ILLINOIS FED. AID PROJECT					