

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	ILLINOIS	27	1
CONTRACT NO. 68E64				

D-94-077-18

INDEX OF SHEETS:

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- 15-17 EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)
- 18 EXISTING GIBRALTAR CABLE BARRIER
- 19 EXISTING TRAFFIC BARRIER TERMINAL TYPE 8
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- 21-23 EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES
- 24-27 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6.75 FOOT POSTS

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED HIGHWAY PLANS

VARIOUS ROUTES SECTION D4 GUARDRAIL REPAIRS 2019-MCHD CONTRACT MAINTENANCE VARIOUS COUNTIES

C-94-102-18

HIGHWAY STANDARDS:

630001-12	631046-04	701201-05	701601-09
630101-10	635001-02	701301-04	701606-10
630301-09	664001-02	701400-09	701701-10
631006-08	665001-05	701406-12	701901-08
631011-10	701006-02	701411-09	725001-01
631026-06	701011-04	701428-01	782006
631031-15	701101-05	701456-05	BLR-23-04

DISTRICT STANDARDS:

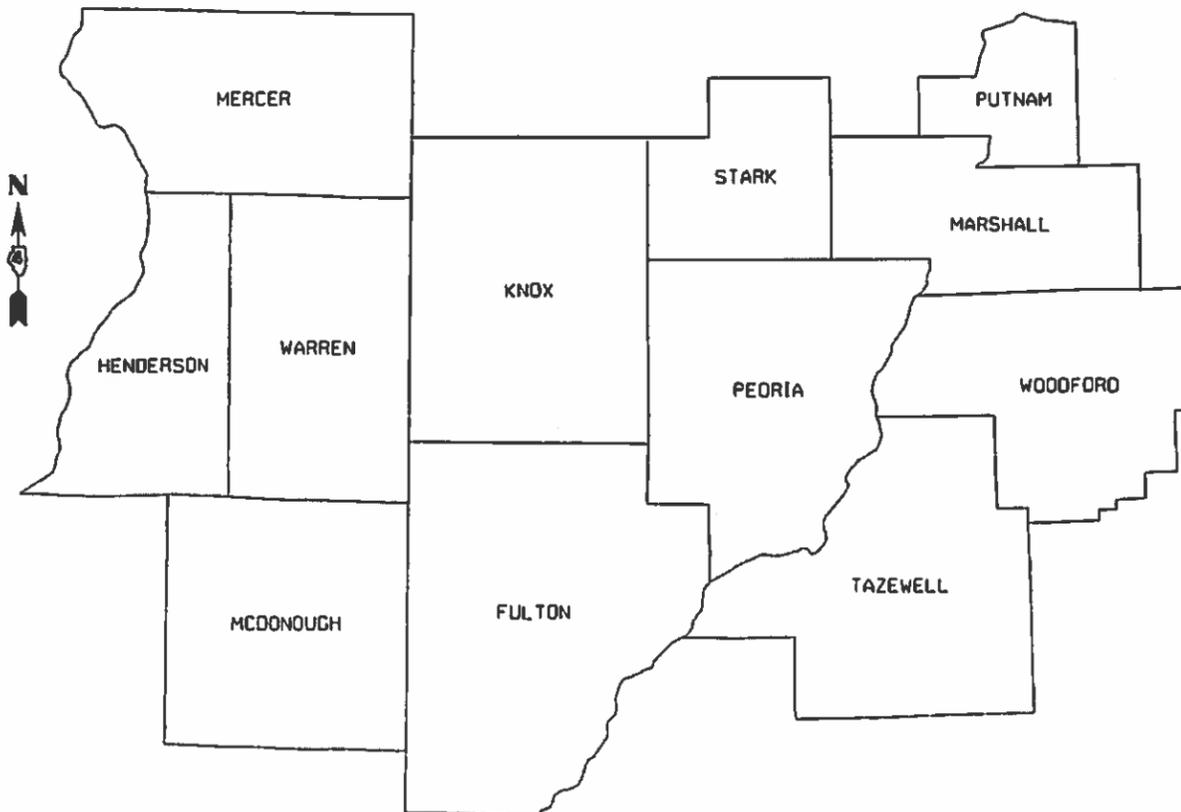
630011-D4



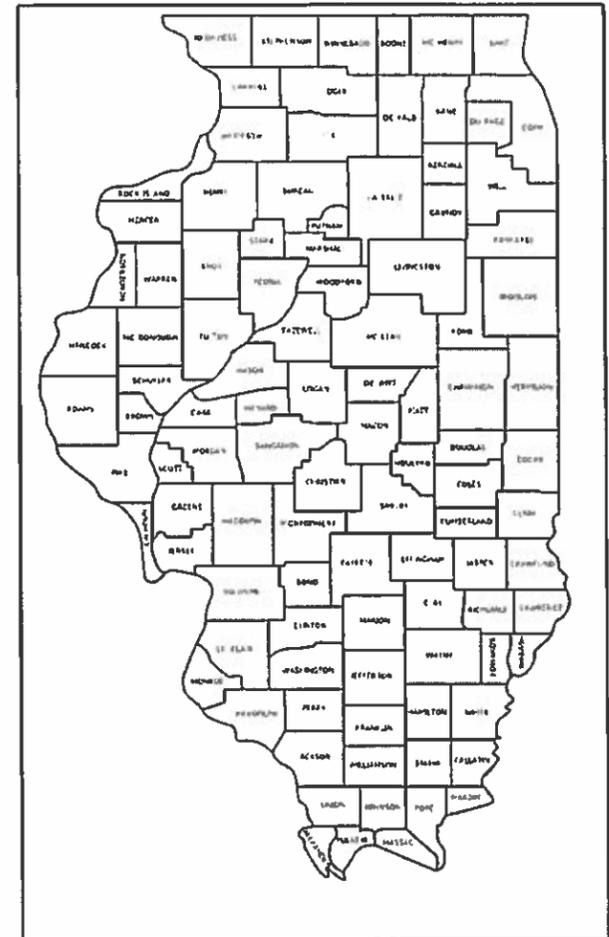
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER: RICHARD DOTSON (309) 671-3455
PROJECT MANAGER: RAYMOND SAMARA (309) 671-3460
SQUAD LEADER: MICHAEL JACOBS (309) 671-3460
 CATALOG NO. 035656-00D
 CONTRACT NO. 68E64



GROSS LENGTH = NA
NET LENGTH = NA



PROJECT DESCRIPTION:

GUARDRAIL REPAIRS CAUSED BY MOTORISTS (MCHD) AND CABLE GUARDRAIL REPAIRS (HIGH TENSION CABLE BARRIER) AT VARIOUS LOCATIONS IN DISTRICT 4.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED December 11, 2018

Raymond Samara
REGIONAL ENGINEER

Paul P. Chafin
ENGINEER OF DESIGN AND ENVIRONMENT

Paul P. Chafin
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

COMMITMENTS

Commitments are not to be altered without the written approval of all parties to which the commitment was made.

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.

MODEL: \\MODELNAME\$
FILE: \\NAME\$.STB

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	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = \$DATE\$	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

COMMITMENTS, GENERAL NOTES, AND JOB SPECIFIC NOTES

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

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	27	2
			CONTRACT NO. 68E64	
		ILLINOIS	FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				VARIOUS COUNTIES	VARIOUS COUNTIES	VARIOUS COUNTIES
				100% STATE	100% STATE	100% STATE
				MCHD 0021	CONT. MAINT. 0021	HTMCB 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	5	4	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	32	20	12	
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	7	5	2	
63400105	GUARD POSTS	EACH	7	5	2	
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	4	3	1	
64300320	IMPACT ATTENUATORS (FULLY REDIRECTIVE, RESETTABLE), TEST LEVEL 3	EACH	2	2		

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	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = \$DATE\$	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	3
			CONTRACT NO. 68E64	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				VARIOUS COUNTIES	VARIOUS COUNTIES	VARIOUS COUNTIES
				100% STATE	100% STATE	100% STATE
				MCHD 0021	CONT. MAINT. 0021	HTMCB 0021
64300370	IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	3	2	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	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	9	6	3	
X0325899	REPAIR HIGH TENSION CABLE (GIBRALTAR)	FOOT	950			950
X0325900	REPAIR HIGH TENSION BARRIER TERMINAL (GIBRALTAR)	EACH	2			2

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	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = \$DATE\$	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	4
			CONTRACT NO. 68E64	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				VARIOUS COUNTIES	VARIOUS COUNTIES	VARIOUS COUNTIES
				100% STATE	100% STATE	100% STATE
				MCHD 0021	CONT. MAINT. 0021	HTMCB 0021
X0325902	REMOVE AND REPLACE POSTS (GIBRALTAR)	EACH	100			100
X0325903	REPAIR CABLE ROAD GUARD, THREE STRANDS	FOOT	150			150
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	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	

MODEL: #MODELNAME\$
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	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = \$DATE\$	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	5
			CONTRACT NO. 68E64	
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
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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

MODEL: 140DELMAMES
FILE NAME: 07113

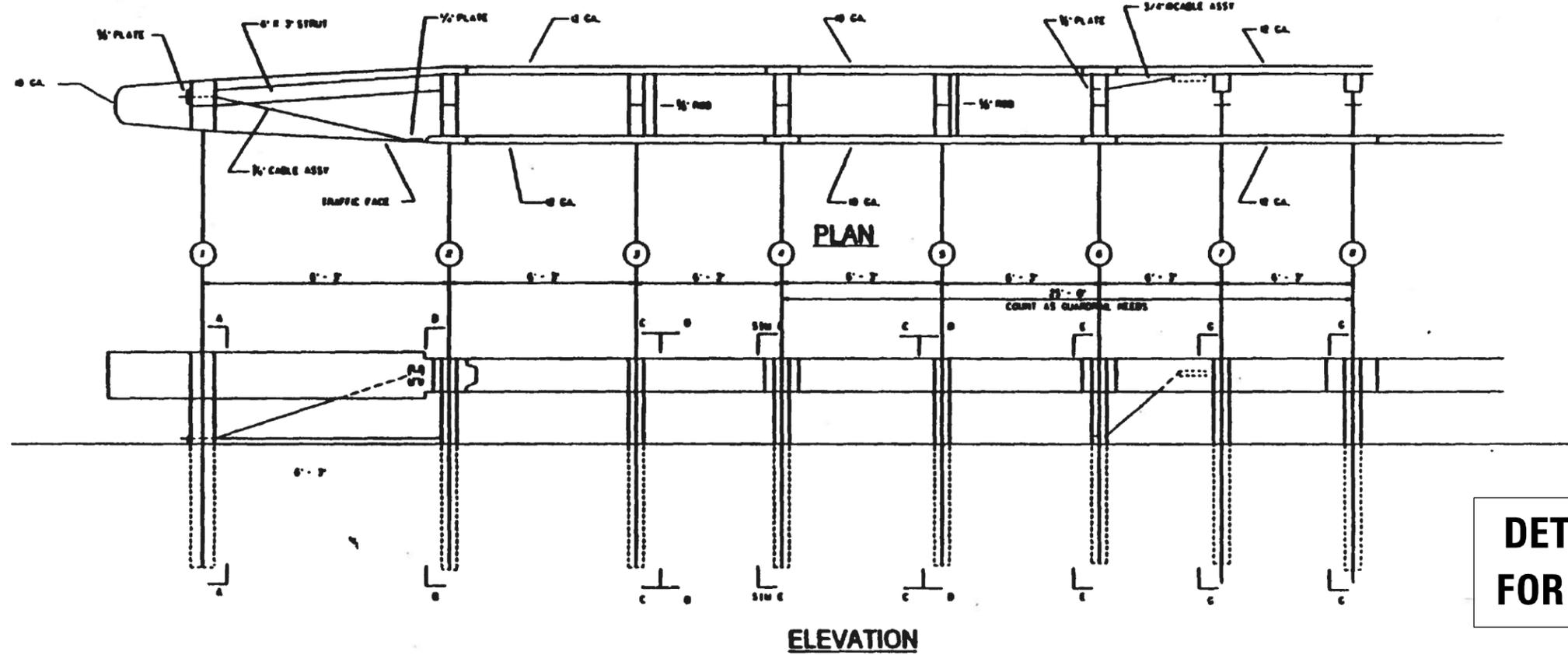
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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

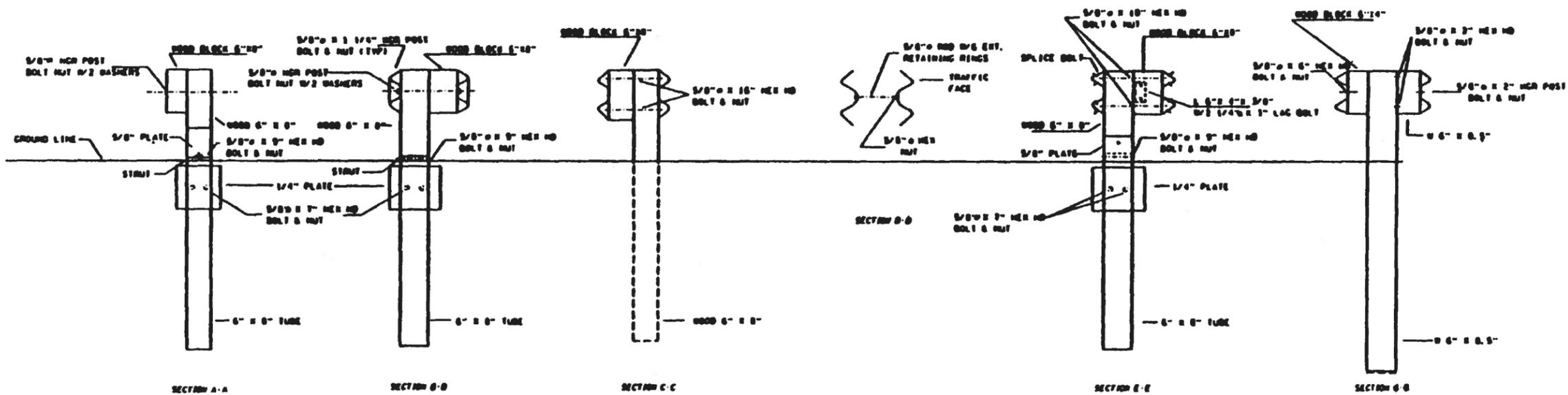
SAMPLE WORK ORDER (DISTRICT 4)

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

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS		27	7
			CONTRACT NO. 68E64	
		ILLINOIS	FED. AID PROJECT	



**DETAIL INCLUDED
FOR REPAIR ONLY**



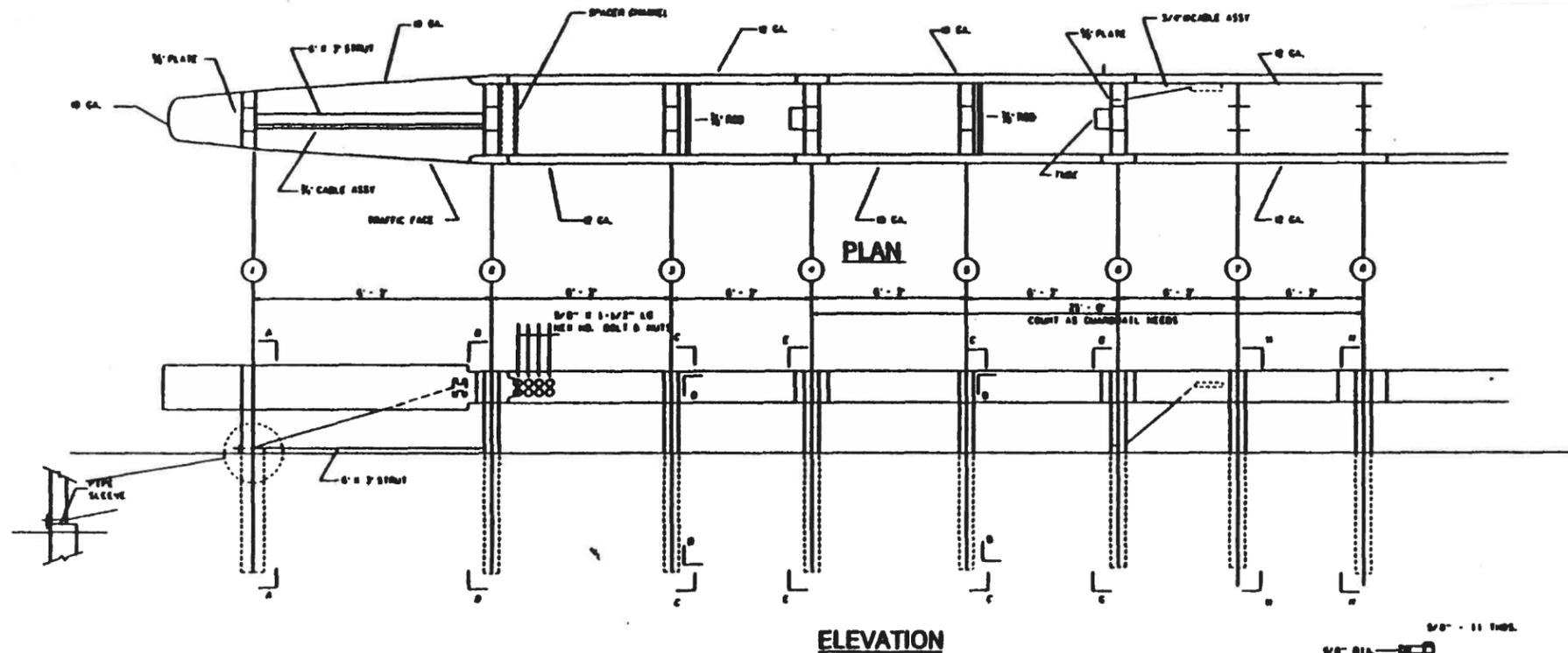
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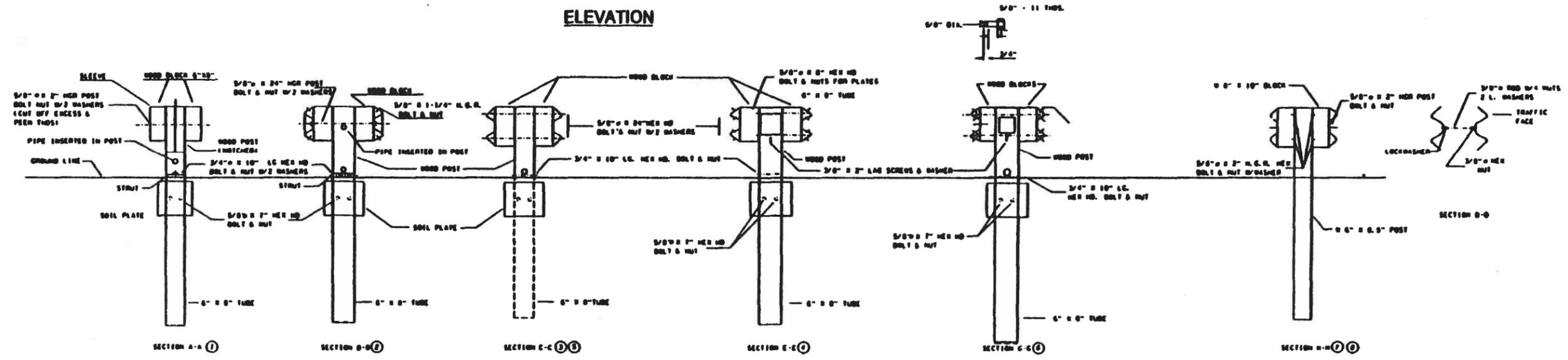
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING V.A.T. SYSTEM
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	ILLINOIS	27	8
CONTRACT NO. 68E64			ILLINOIS FED. AID PROJECT	



**DETAIL INCLUDED
FOR REPAIR ONLY**



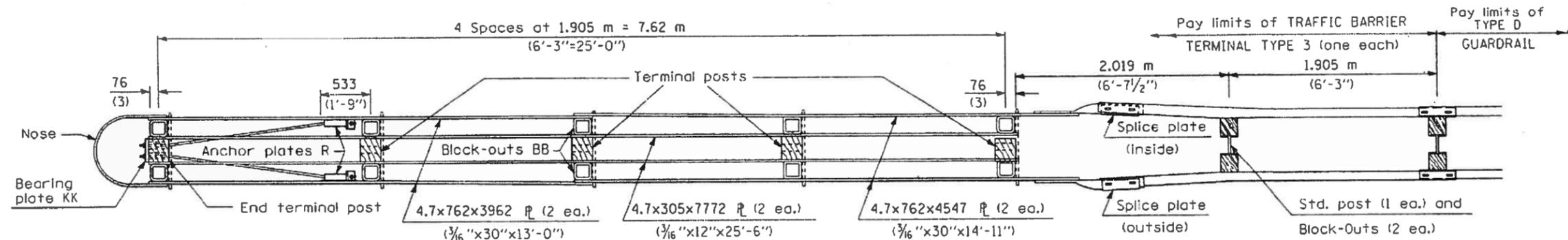
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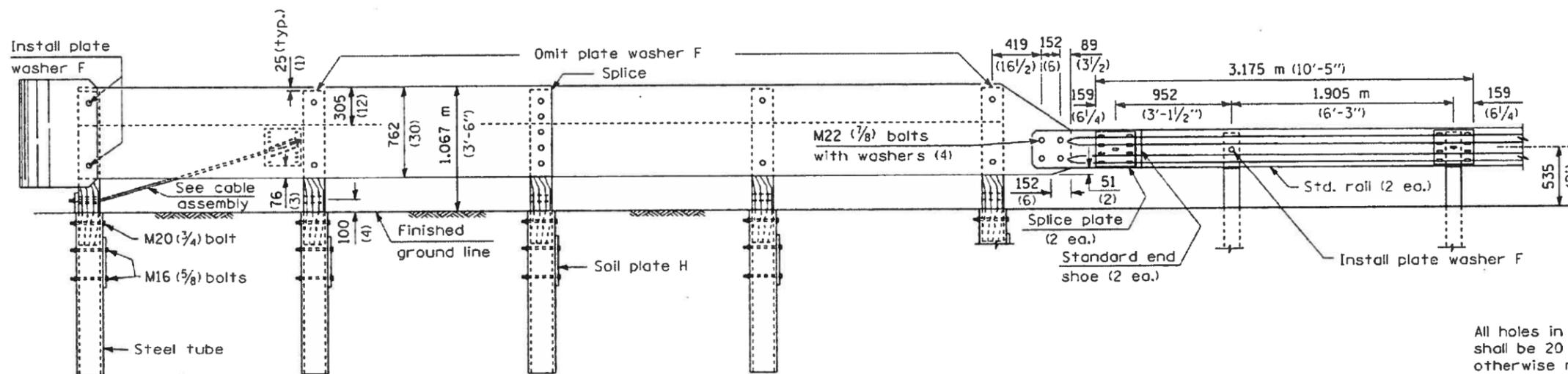
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED C.A.T. SYSTEM
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	ILLINOIS	27	9
CONTRACT NO. 68E64			ILLINOIS FED. AID PROJECT	



PLAN - TRAFFIC BARRIER TERMINAL TYPE 3



ELEVATION

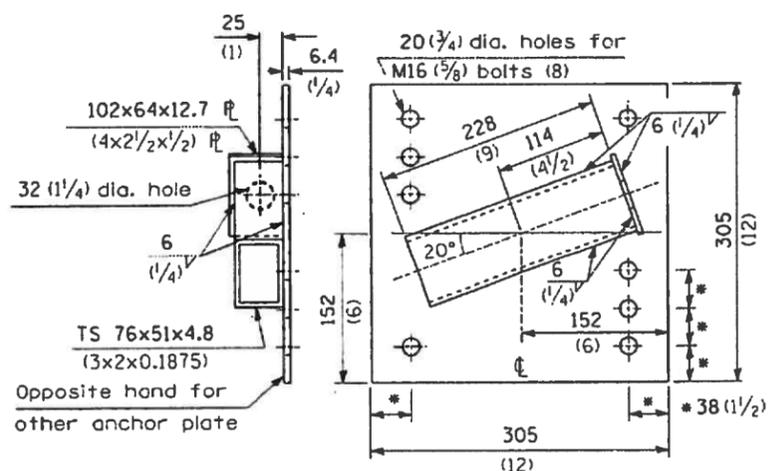
GENERAL NOTES

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.

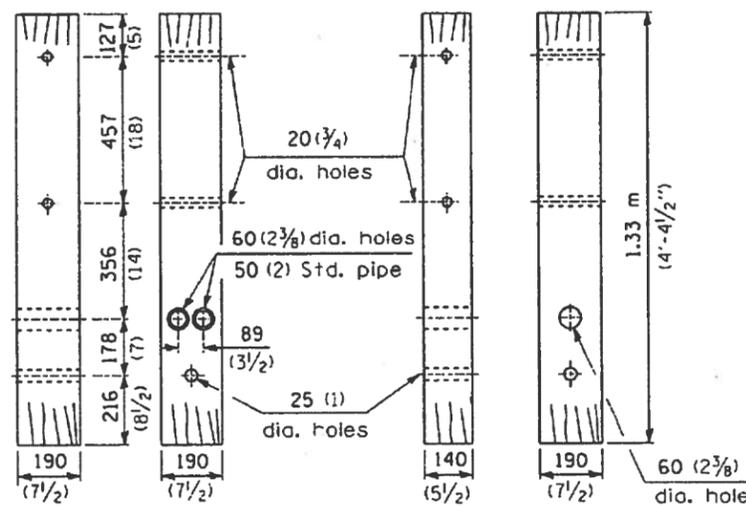
Unless otherwise shown all bolts and nuts shall be Standard Post and Splice Bolts and Nuts (See Standard 630001).

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



ANCHOR PLATE R

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



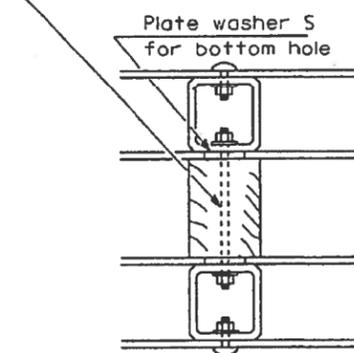
END TERMINAL POST

(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

DETAIL INCLUDED FOR REPAIR ONLY

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

MODEL: SHOBENAMES
FILE: SHOBENAMES.DWG

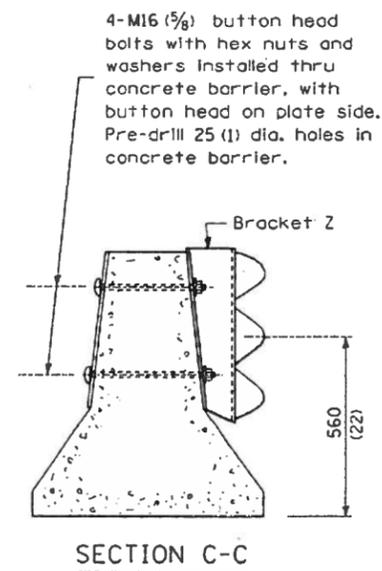
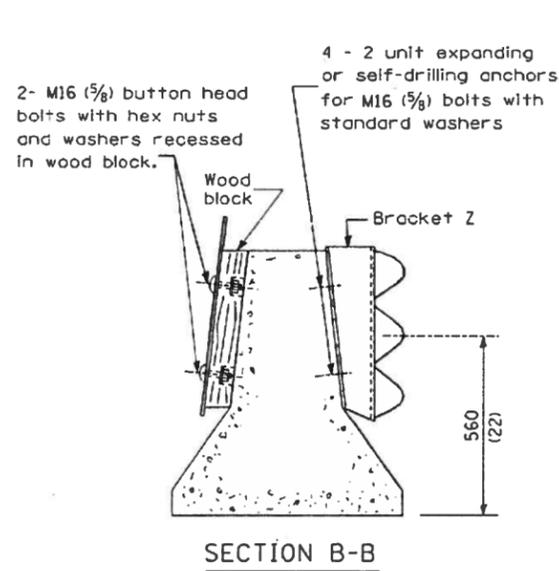
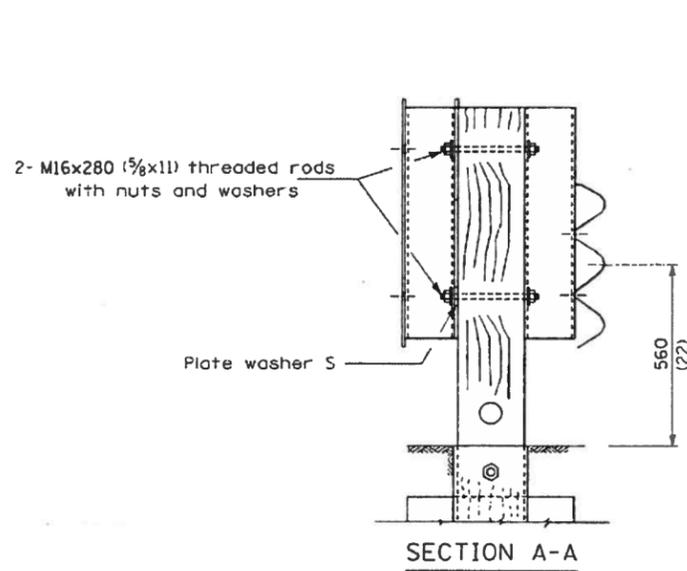
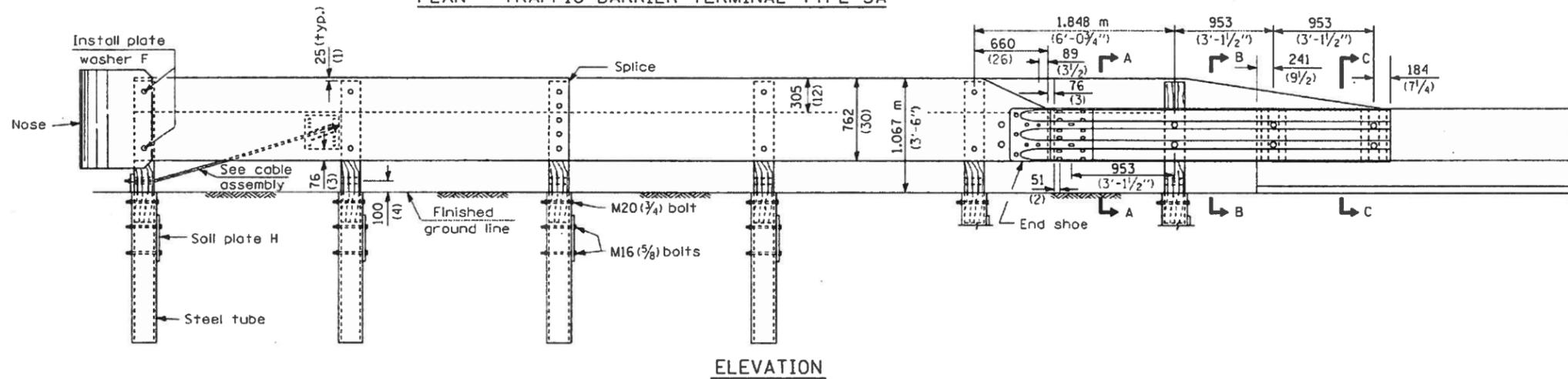
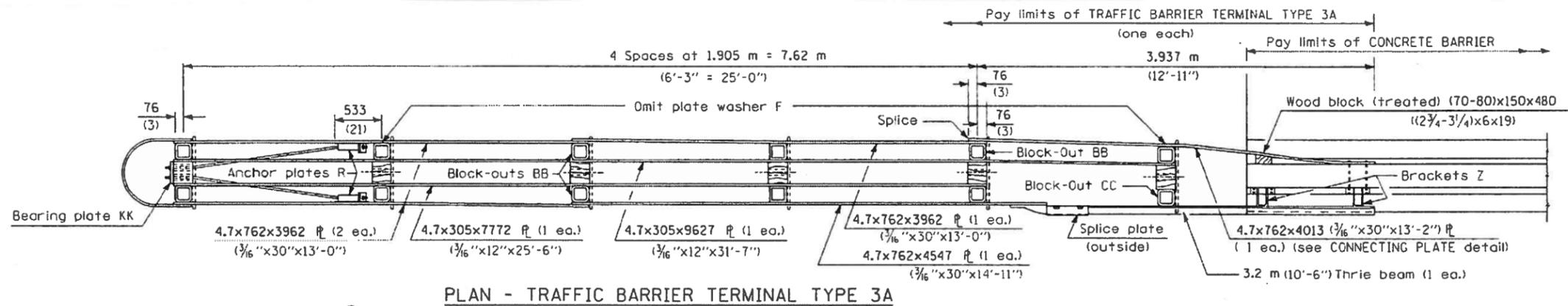
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DRAWN -	REVISIONS -	
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PLOT DATE = SDATE	DATE -	REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC BARRIER TERMINAL TYPE 3 AND TYPE 3A

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

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	10
CONTRACT NO. 68E64				
ILLINOIS		FED. AID PROJECT		



DETAIL INCLUDED FOR REPAIR ONLY

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

MODEL: SH06L0M0105
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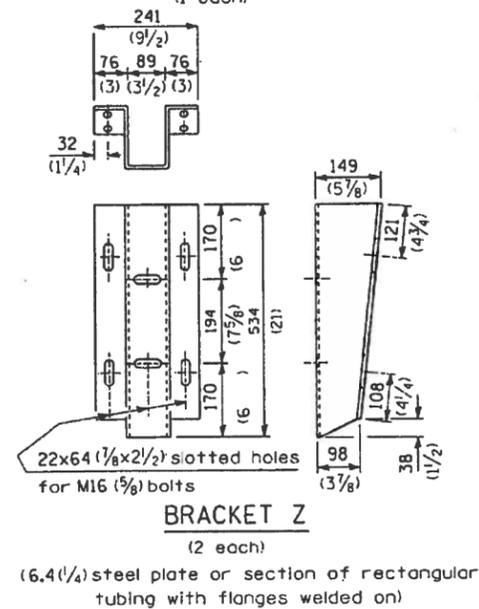
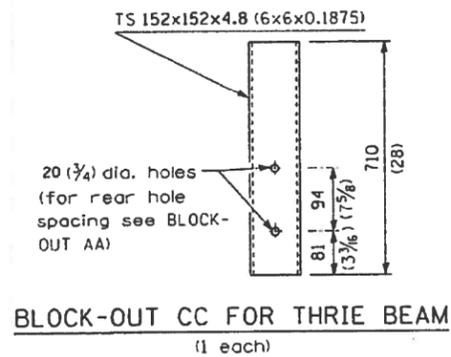
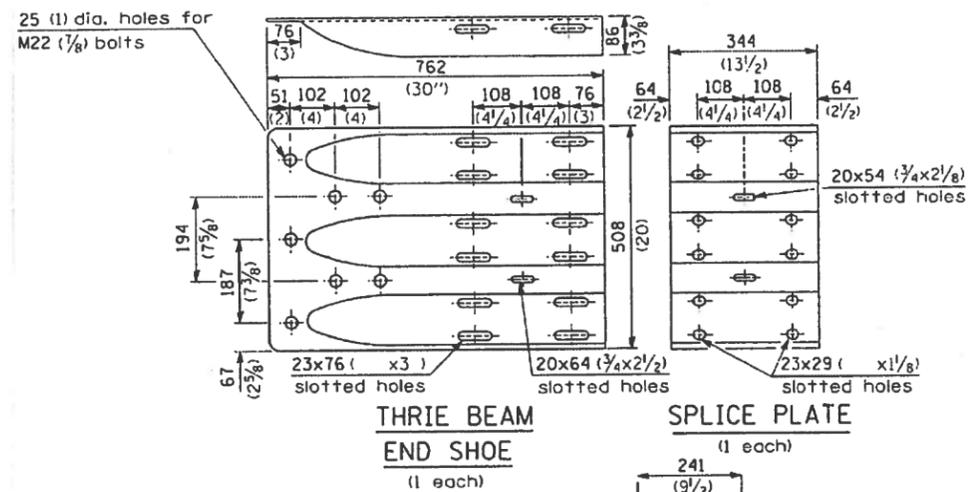
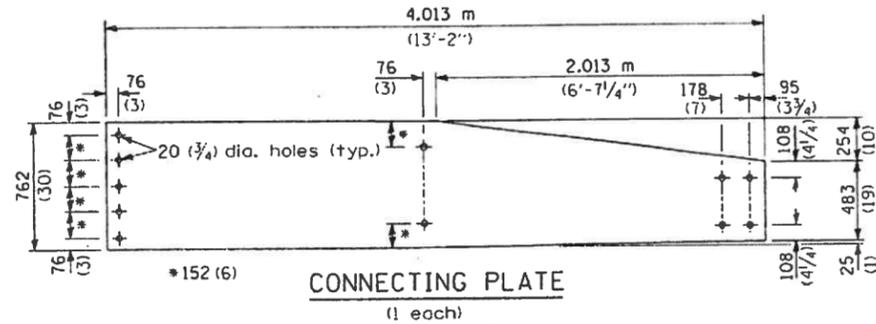
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC BARRIER TERMINAL TYPE 3 AND TYPE 3A

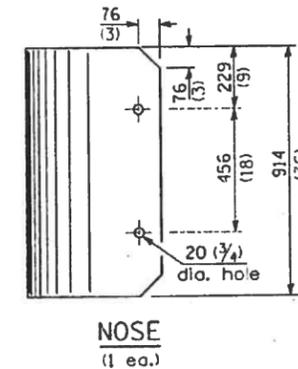
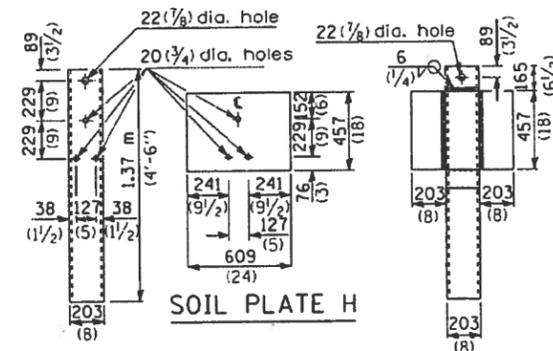
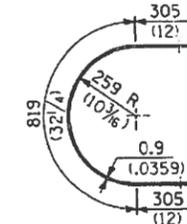
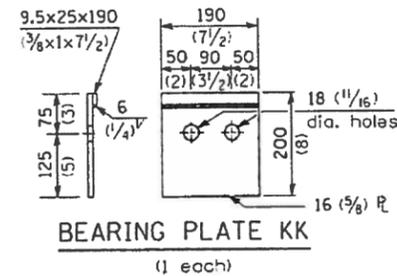
SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD			27	11
			CONTRACT NO. 68E64	
		ILLINOIS	FED. AID PROJECT	

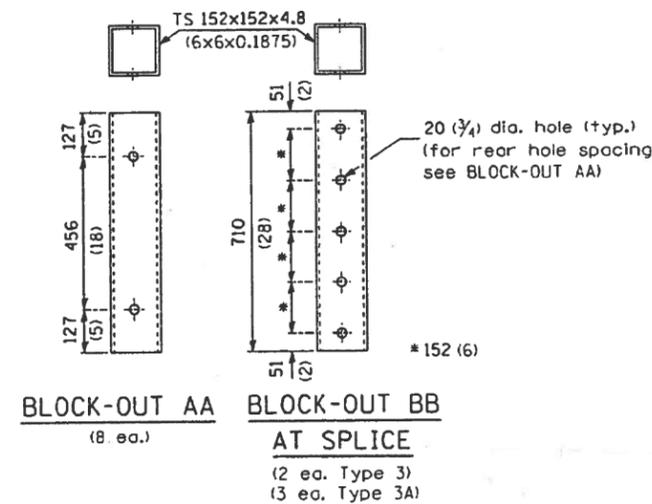
TYPE 3A ONLY



TYPE 3 & 3A



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.

MODEL: SHOBELNAMES
FILE: SHOBELNAMES.DWG

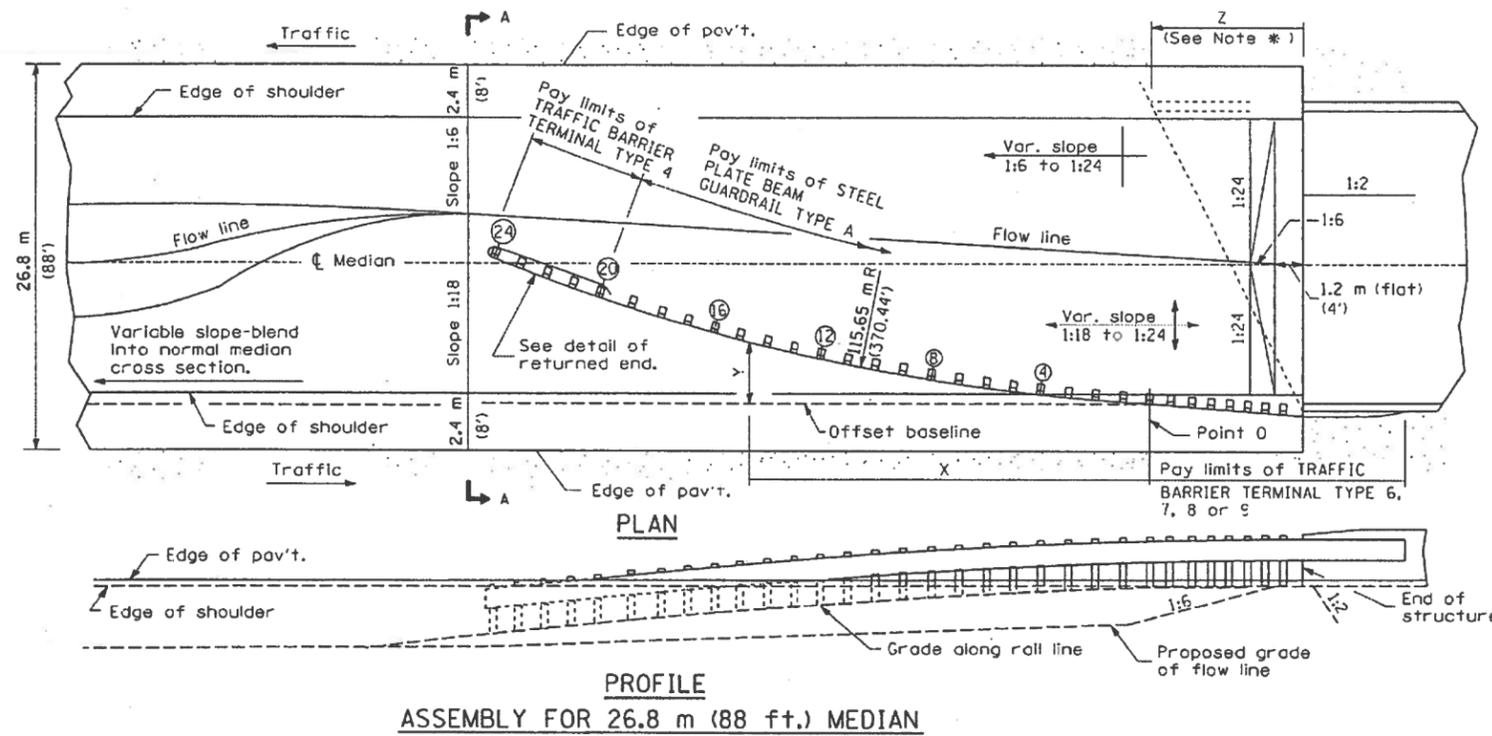
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DRAWN -	REVISOR -	
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PLOT DATE = \$DATES	DATE -	REVISOR -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC BARRIER TERMINAL TYPE 3 AND TYPE 3A

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

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	12
CONTRACT NO. 68E64				
ILLINOIS		FED. AID PROJECT		



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").

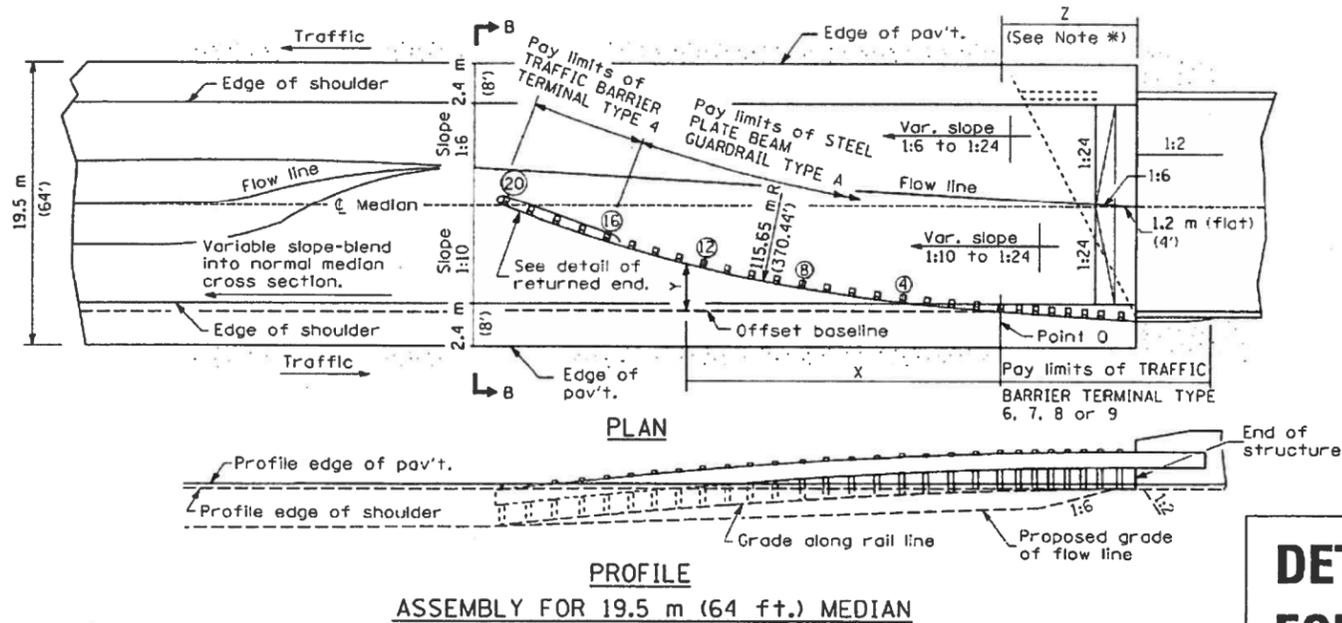
For dual structures that are 90° or skewed left forward, the length of guardrail is appropriate.

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

MODEL: SHOBELNAMES
FILE: SHOBELNAMES

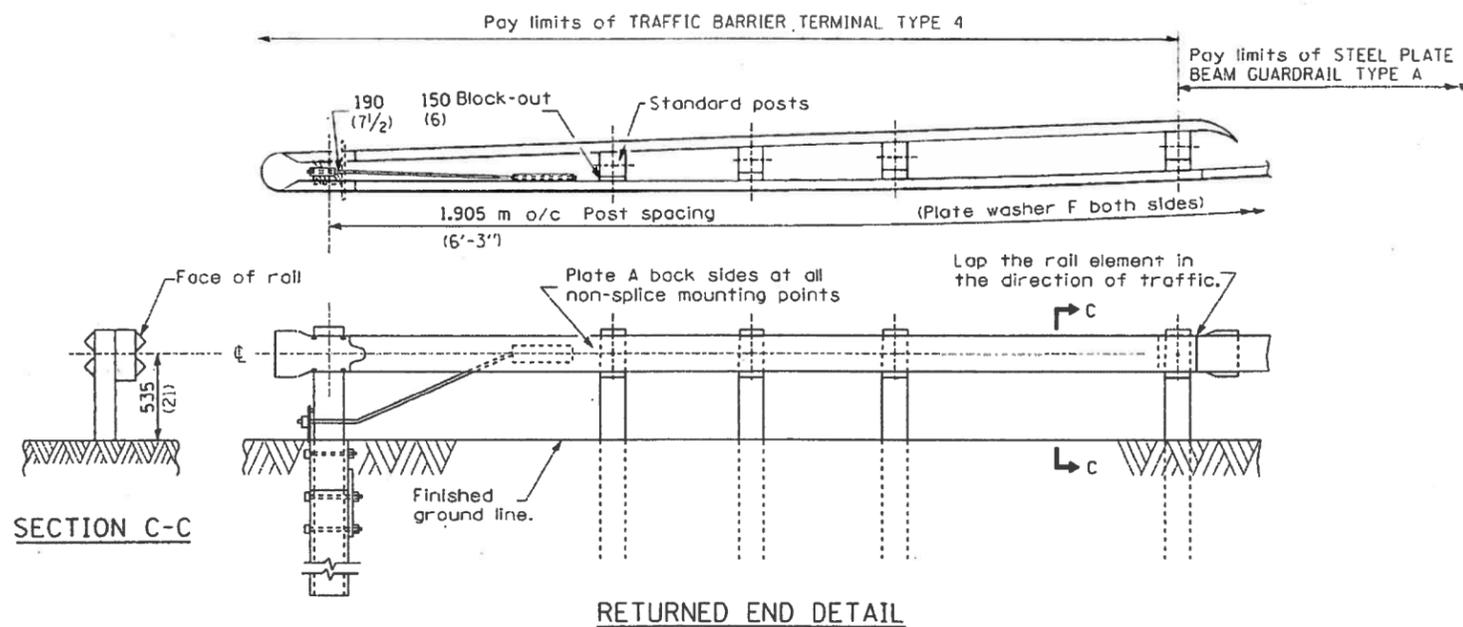
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	DRAWN -	REVISED -
PLOT SCALE = \$SCALES	CHECKED -	REVISED -
PLOT DATE = \$DATES	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING TYPE 4 TERMINAL

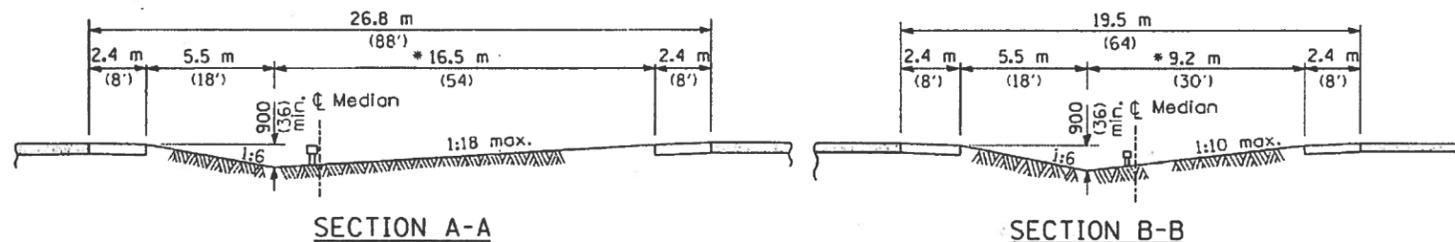
SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	13
			CONTRACT NO. 68E64	
		ILLINOIS FED. AID PROJECT		



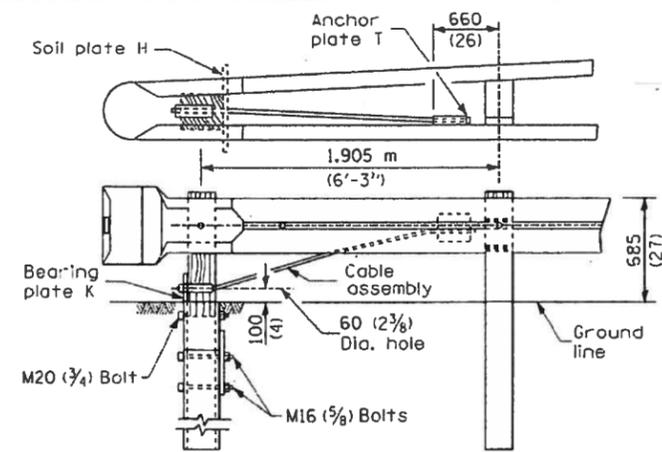
RETURNED END DETAIL

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

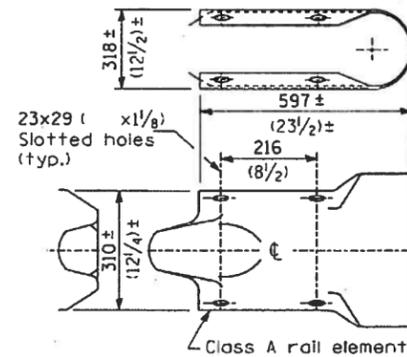


SECTION A-A

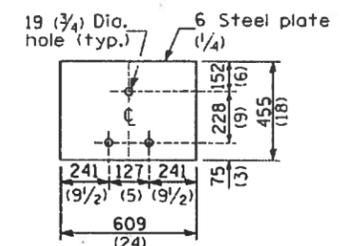
SECTION B-B



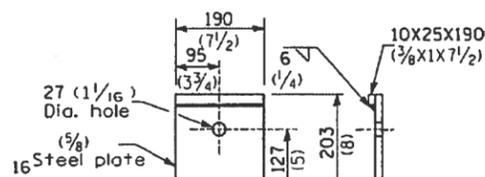
WOOD POST TUBULAR STEEL FOUNDATION



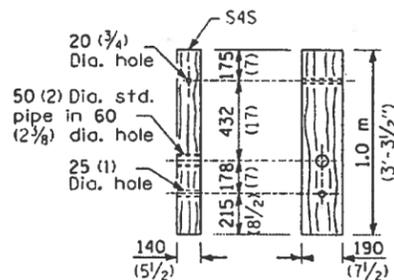
RETURN END SECTION



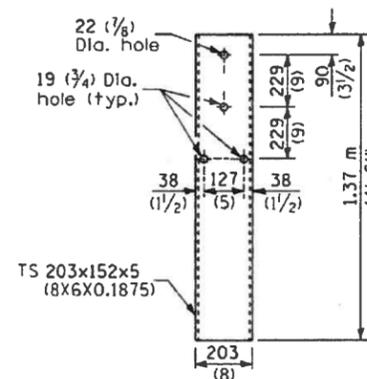
SOIL PLATE H



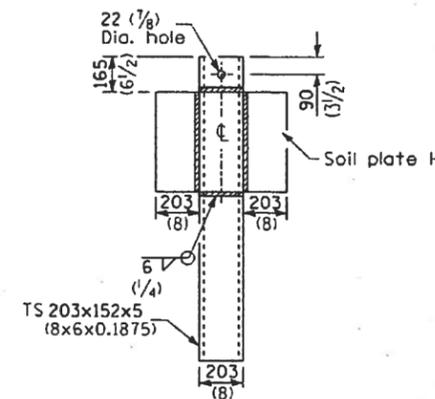
BEARING PLATE K



WOOD BREAKAWAY POST



STEEL TUBE



ALTERNATE SOIL PLATE CONNECTION

DETAIL INCLUDED FOR REPAIR ONLY

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

MODEL: SHOBELNAMES
FILE: SHOBELNAMES

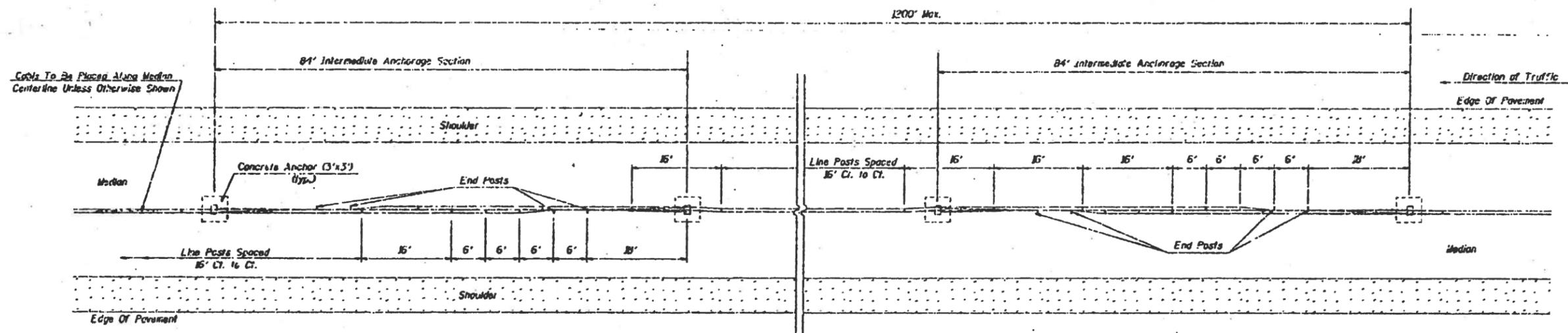
USER NAME = \$USERS	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = \$SCALES	CHECKED -	REVISED -
PLOT DATE = \$DATES	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TYPE 4 TERMINAL

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

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	VARIOUS	27	14
CONTRACT NO. 68E64				
ILLINOIS FED. AID PROJECT				



TYPICAL CABLE MEDIAN BARRIER ANCHORAGE LAYOUT
 PLAN VIEW
 Not to Scale

GENERAL NOTE

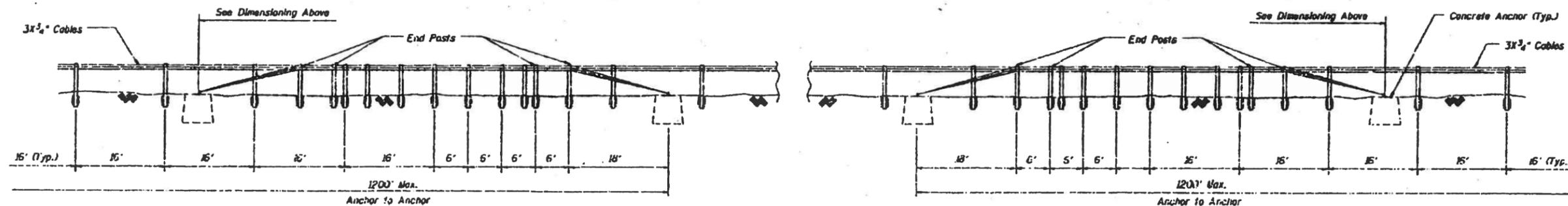
DELINEATORS: Two reflectors, placed back to back, shall be required for each delineator post.

NOTE: This work shall be done in accordance with Section 635 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

MODEL: STDDELEMATES
 FILE NUMBER: STILES

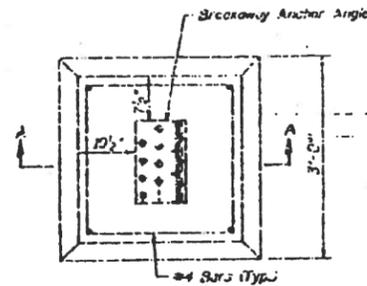
USER NAME = SUSERS	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = SSCALE5	CHECKED -	REVISED -
PLOT DATE = SDATES	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

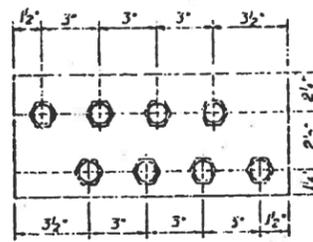
EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)

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

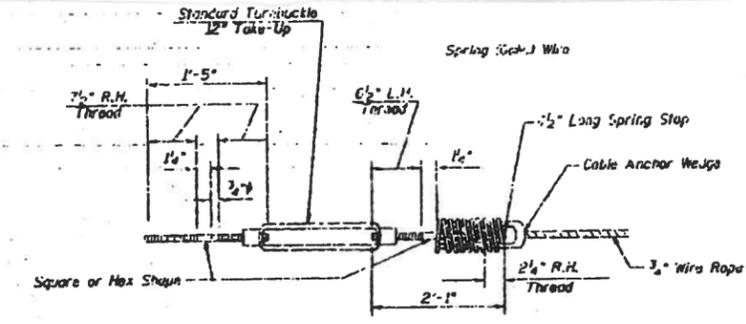
VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	VARIOUS	27	15
			CONTRACT NO. 68E64	
		ILLINOIS FED. AID PROJECT		



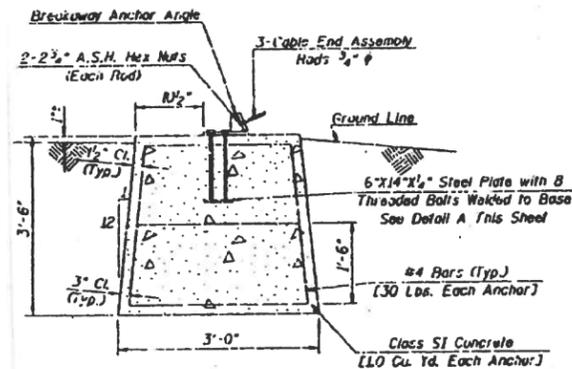
PLAN
CONCRETE ANCHOR



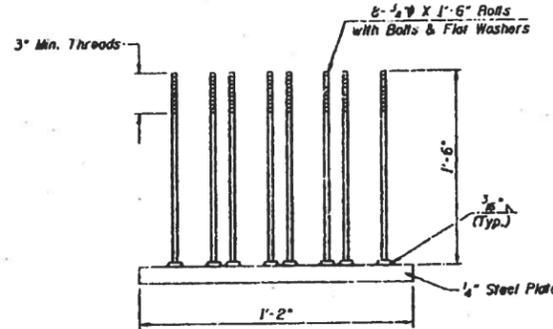
DETAIL A



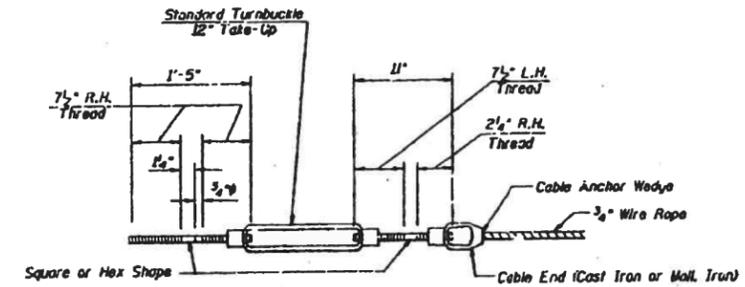
COMPENSATING CABLE END ASSEMBLY



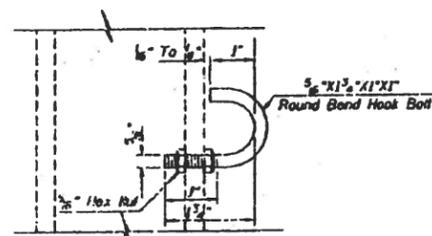
SECTION A-A



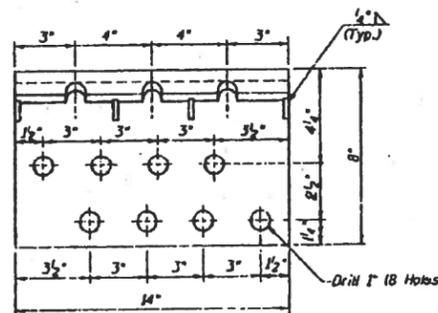
DETAIL A



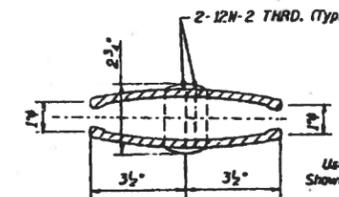
TURNBUCKLE CABLE END ASSEMBLY



5/8" ϕ HOOK BOLT

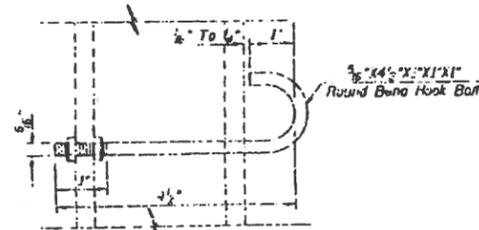


TOP VIEW

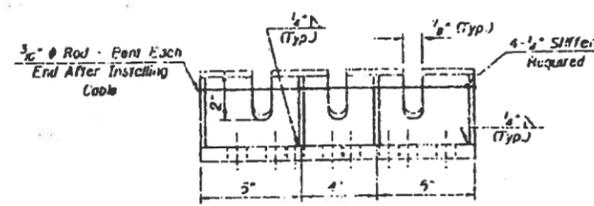


CABLE SPLICE

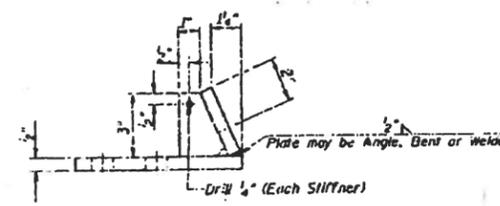
3/4" 3X7 WIRE ROPE



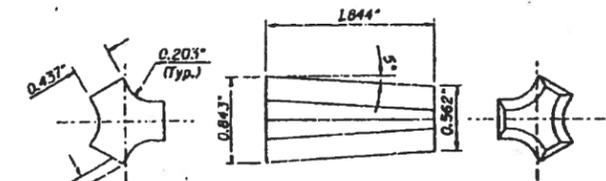
ALTERNATE 5/8" ϕ HOOK BOLT



FRONT VIEW



SIDE VIEW



WEDGE DETAIL

**DETAIL INCLUDED
FOR REPAIR ONLY**

MODEL: SH06ELNAMES
FILE: N00001: ST1E15

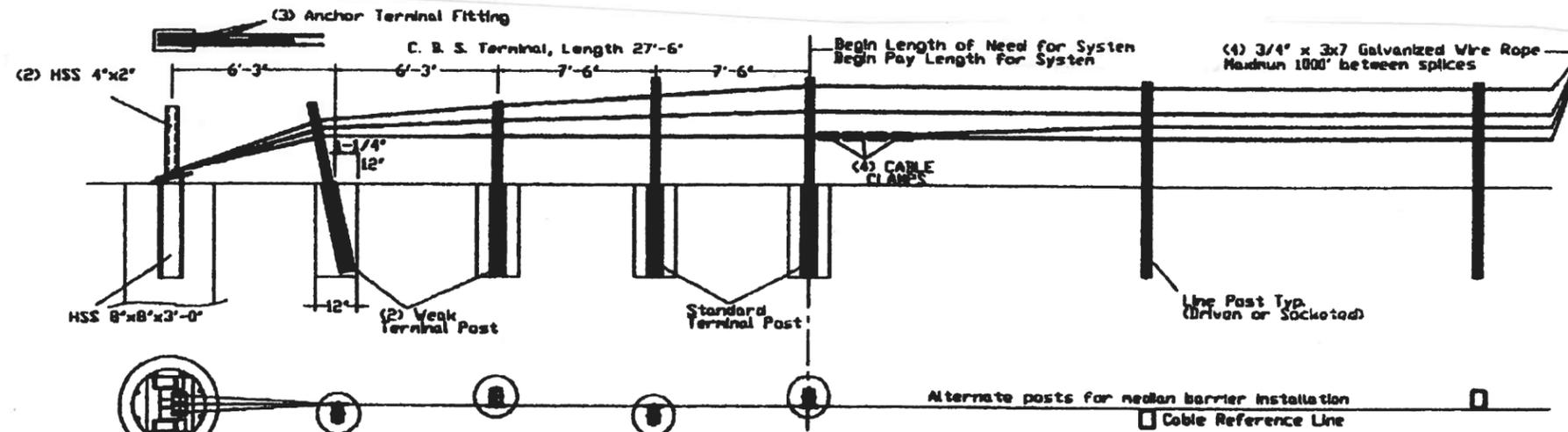
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DRAWN -	REVISIONS -	
PLOT SCALE = SSCALE5	CHECKED -	REVISED -
PLOT DATE = SDATE5	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)

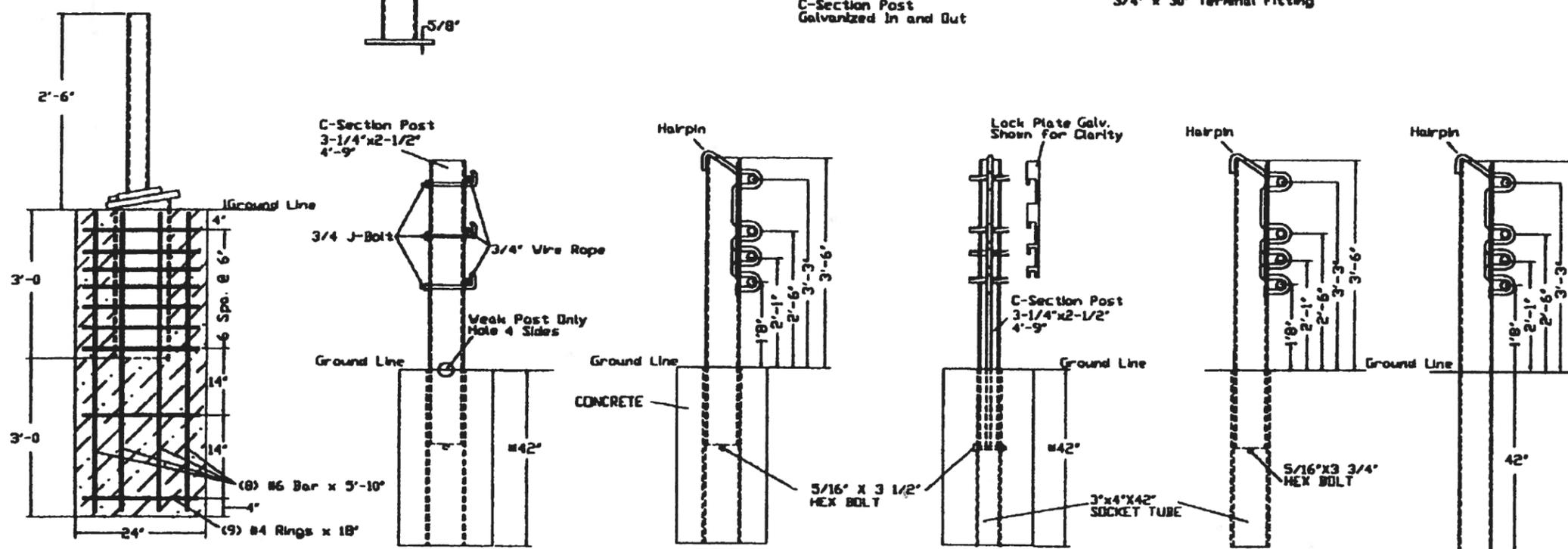
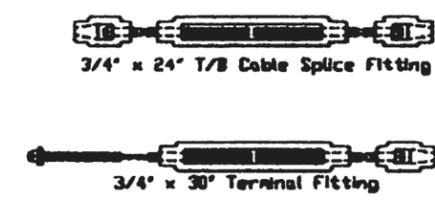
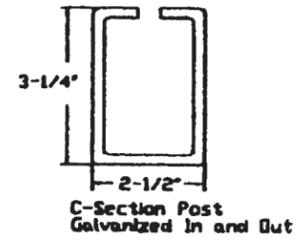
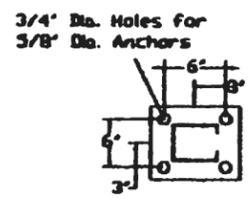
SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4	GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	27	17
			CONTRACT NO. 68E64	
		ILLINOIS FED. AID PROJECT		



- ### 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 10' deep into rock or the required plan depth, whichever comes first.
 - For Anchor post, continue digging 24" diameter, 30' deep into rock or the required plan depth, whichever comes first.
 - Every component to be galvanized.

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



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

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

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

**DETAIL INCLUDED
 FOR REPAIR ONLY**

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

MODEL: SH06DELNAMES
 FILE: SH06P: STILES

USER NAME = SUSERS	DESIGNED -	REVISED -
PLOT SCALE = SSCALES	DRAWN -	REVISED -
PLOT DATE = SDATES	CHECKED -	REVISED -
	DATE -	REVISED -

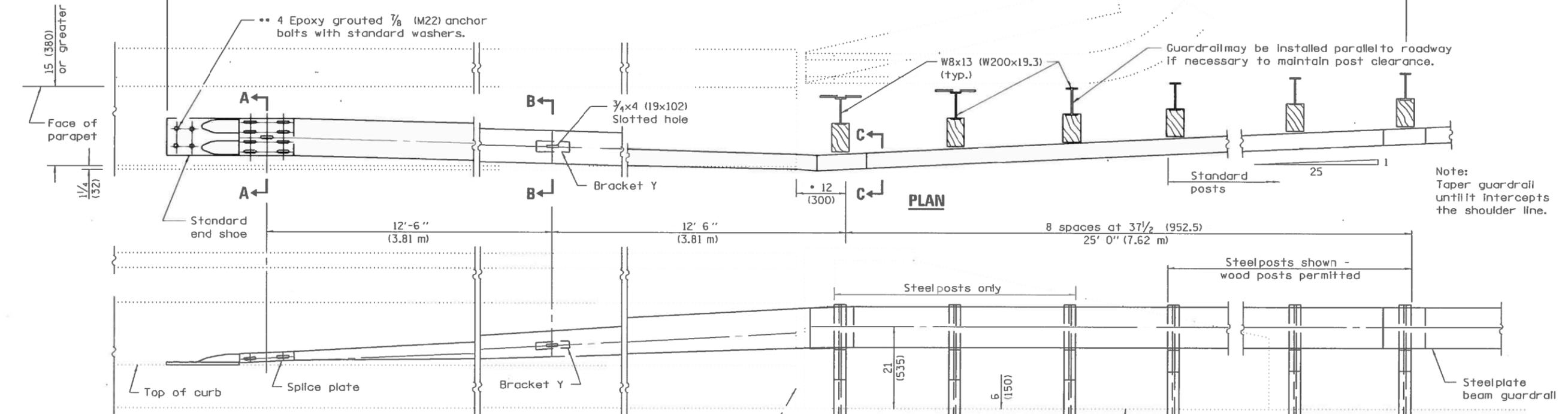
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING GIBRALTAR CABLE BARRIER
 SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

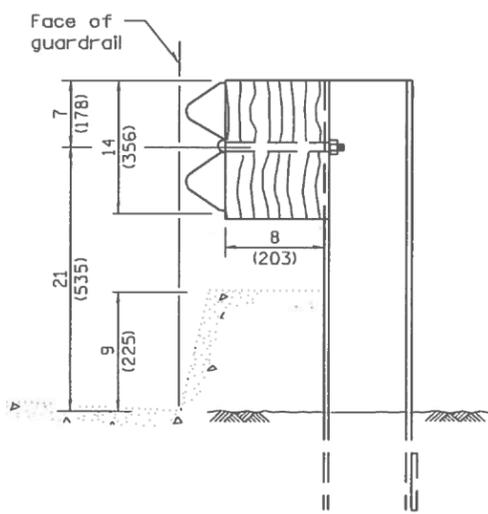
VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	18
			CONTRACT NO. 68E64	
			ILLINOIS FED. AID PROJECT	

Pay limits of TRAFFIC BARRIER TERMINAL TYPE 8 (1 each)

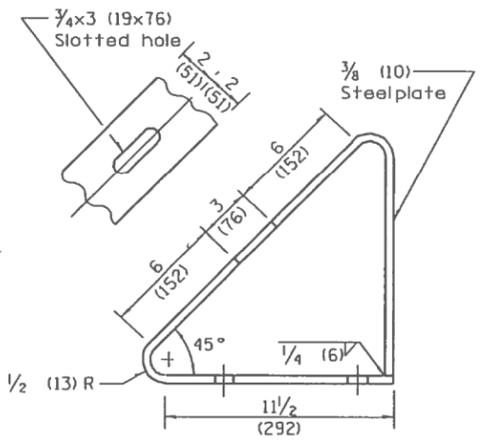
Pay limits of other types



Note:
Taper guardrail
until it intercepts
the shoulder line.

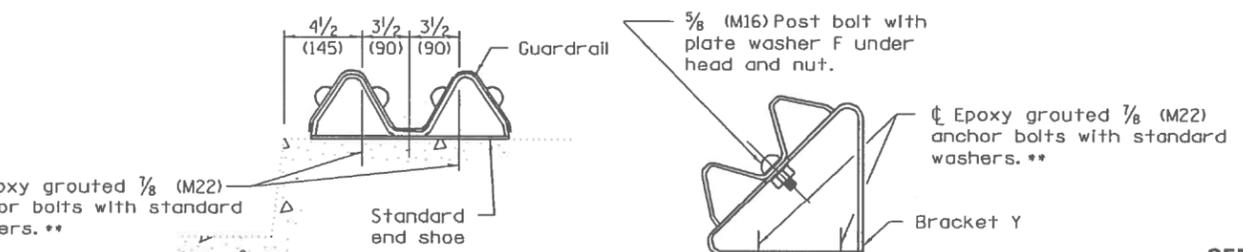


SECTION C-C

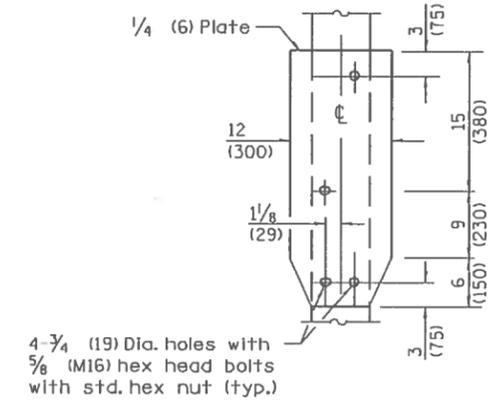


BRACKET Y

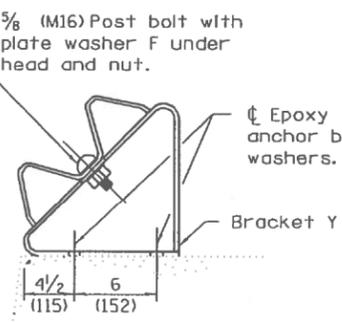
ELEVATION



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

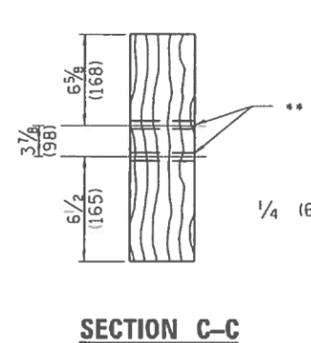
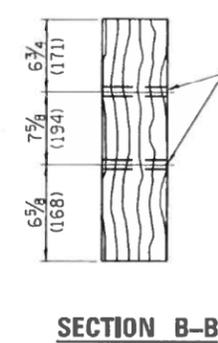
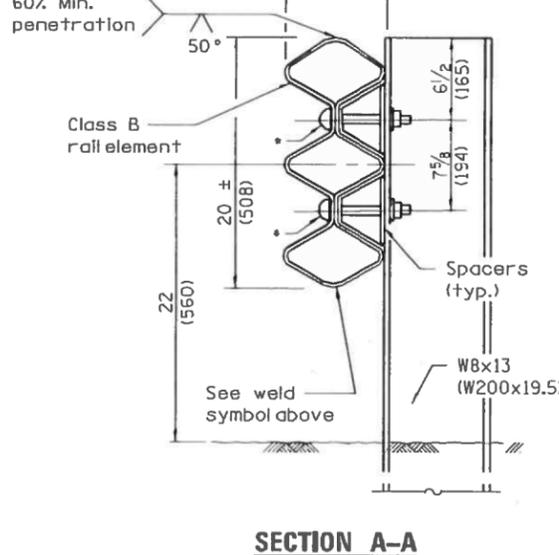
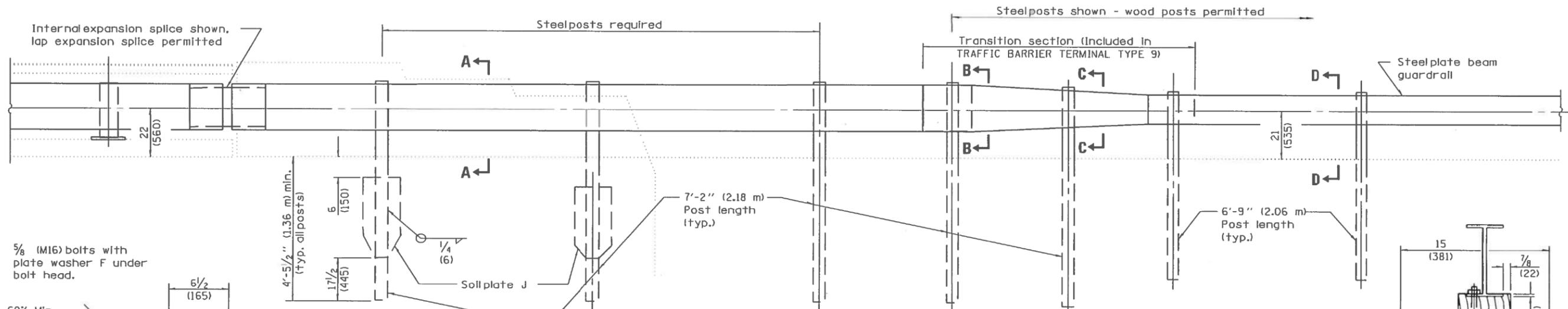
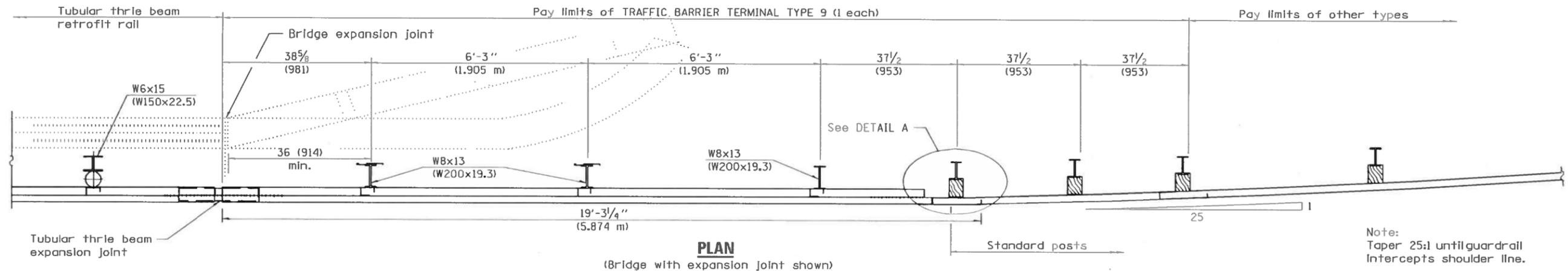
MODEL NUMBER
FILE NUMBER

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PLOT SCALE = \$SCALES	DRAWN -	REVISED -
PLOT DATE = \$DATES	CHECKED -	REVISED -
	DATE -	REVISED -

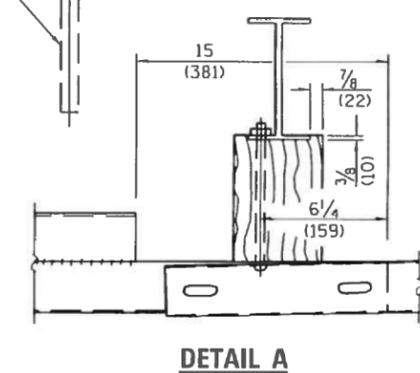
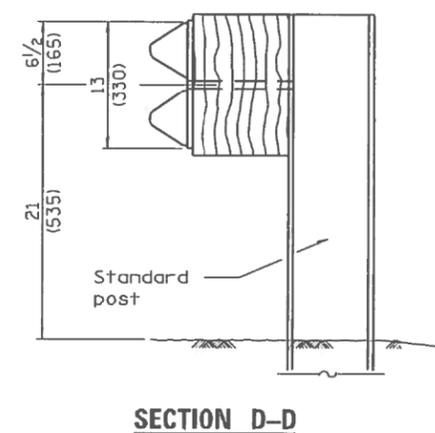
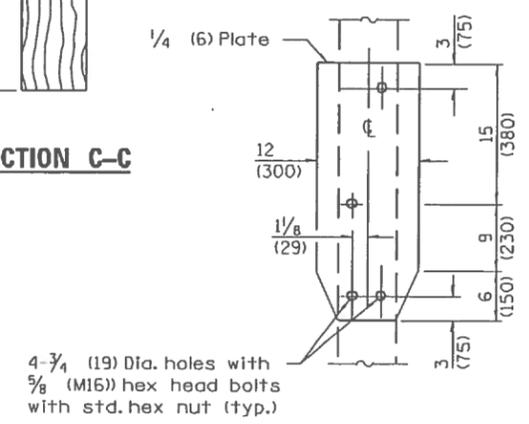
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING TRAFFIC BARRIER TERMINAL TYPE 8 (STANDARD 631036)
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	19
			CONTRACT NO. 68E64	
			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

MODEL: 340DELMAMES
FILE NAME: 311E5

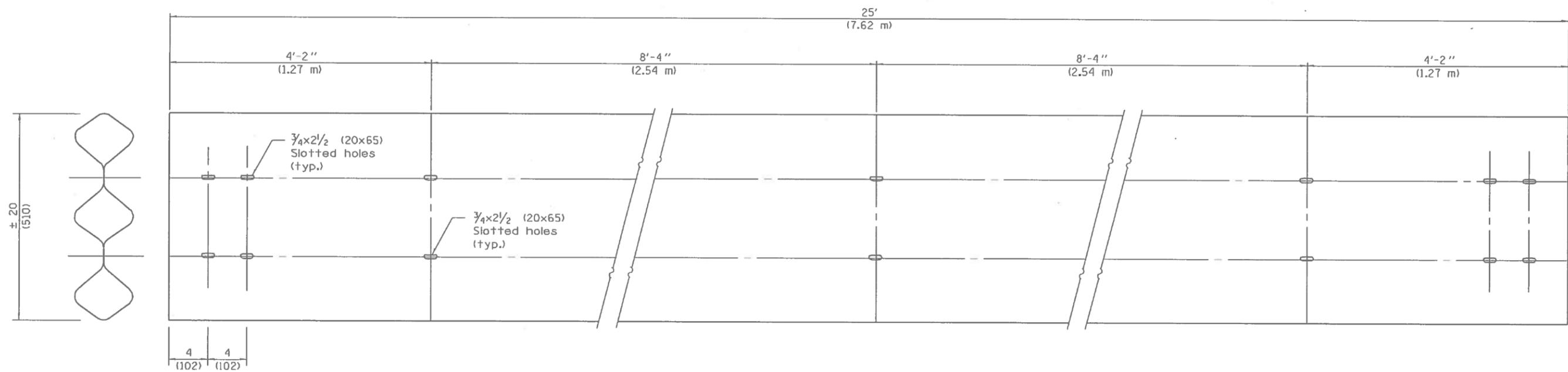
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PLOT SCALE = \$SCALE\$	DRAWN -	REVISED -
PLOT DATE = \$DATE\$	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

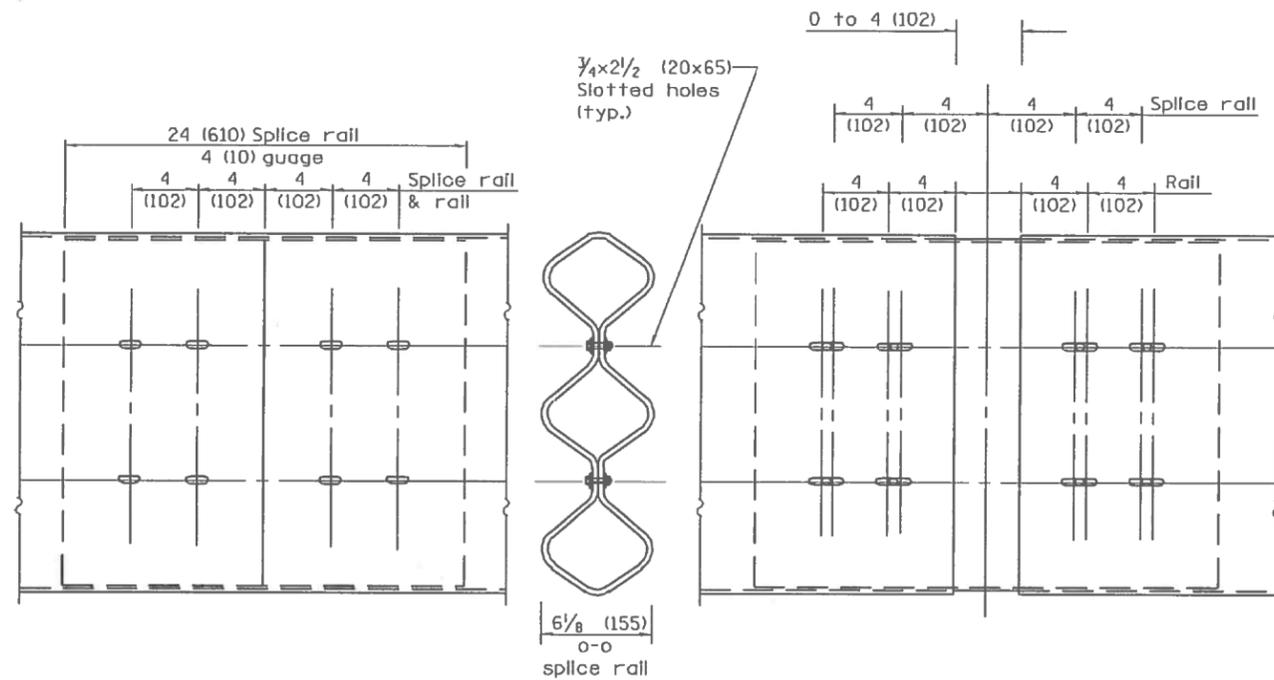
EXISTING TRAFFIC BARRIER TERMINAL TYPE 9 (STANDARD 631041)

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

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	ILLINOIS	27	20
CONTRACT NO. 68E64			ILLINOIS FED. AID PROJECT	

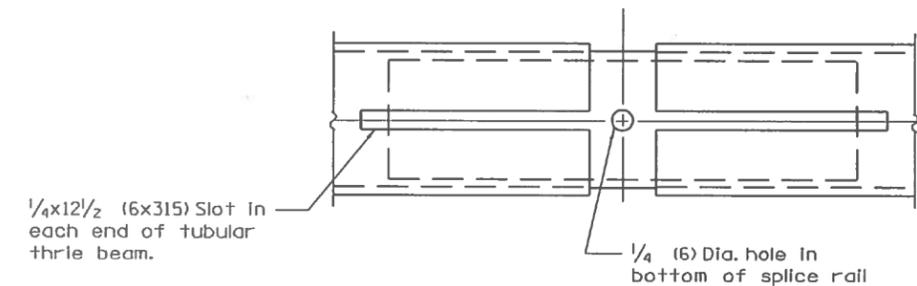


TUBULAR THRIE BEAM FOR INTERNAL SPLICE JOINT



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.

MODEL: 340DELMAMES
FILE NAME: STILES

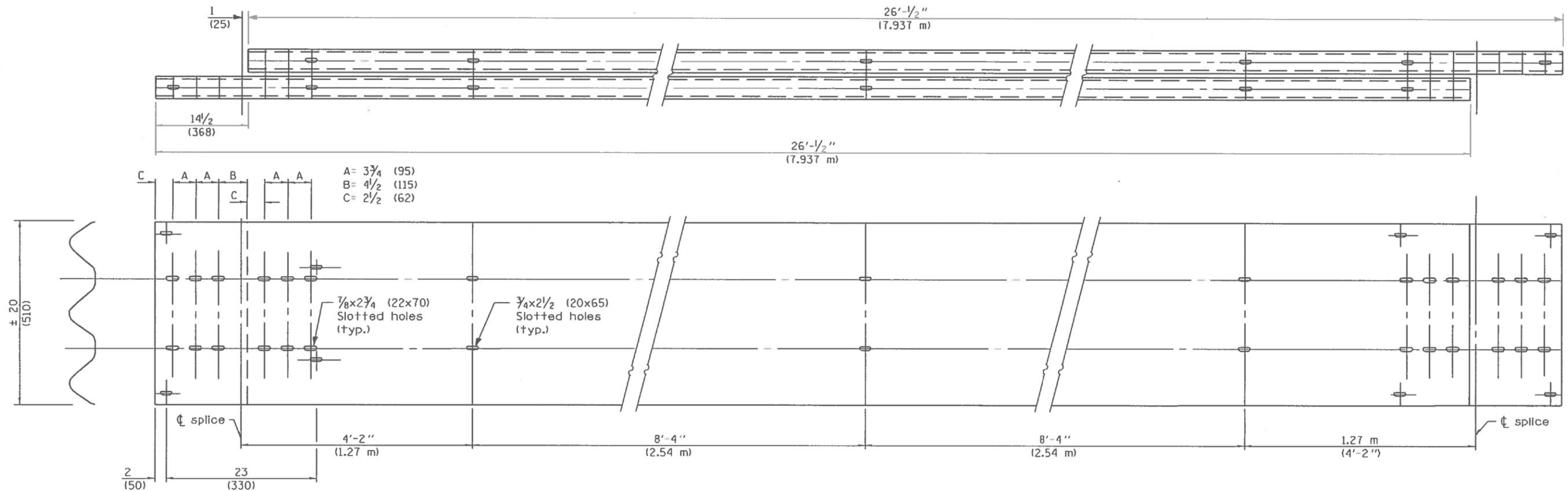
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PLOT SCALE = \$SCALE\$	DRAWN -	REVISED -
PLOT DATE = \$DATES	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

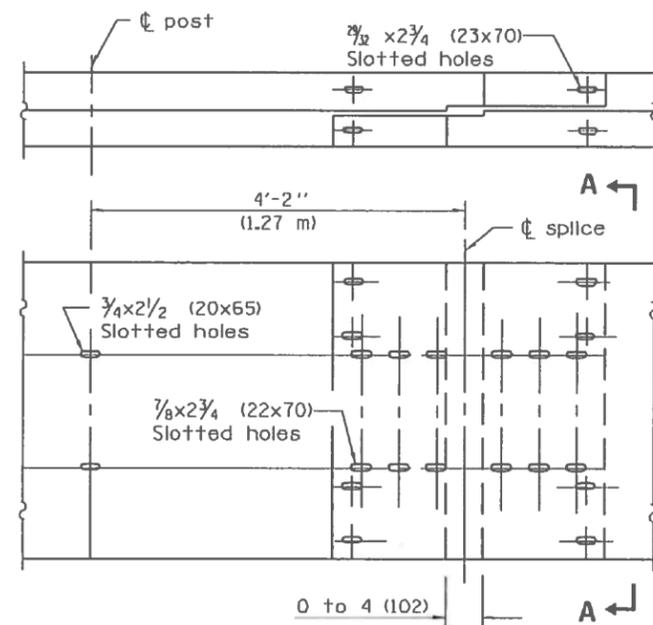
**EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES
(STANDARD 509001)**

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

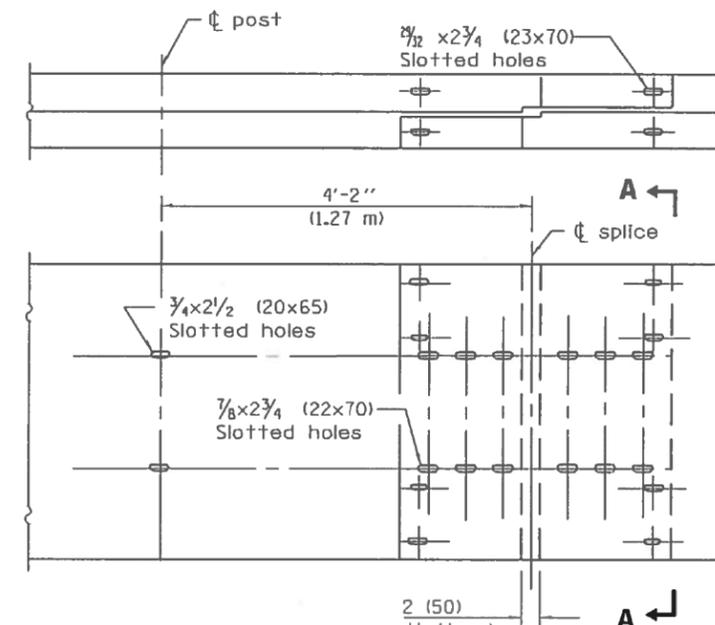
VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		ILLINOIS	27	21
CONTRACT NO. 68E64			ILLINOIS FED. AID PROJECT	



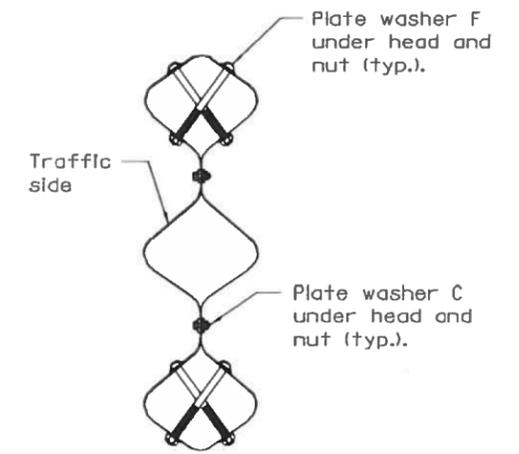
TUBULAR THRIE BEAM FOR LAP SPLICE JOINT



LAP EXPANSION SPLICE JOINT



LAP SPLICE JOINT



SECTION A-A

DETAIL INCLUDED FOR REPAIR ONLY

MODEL: S40BELNAMES
FILE: S40BES: STEELS

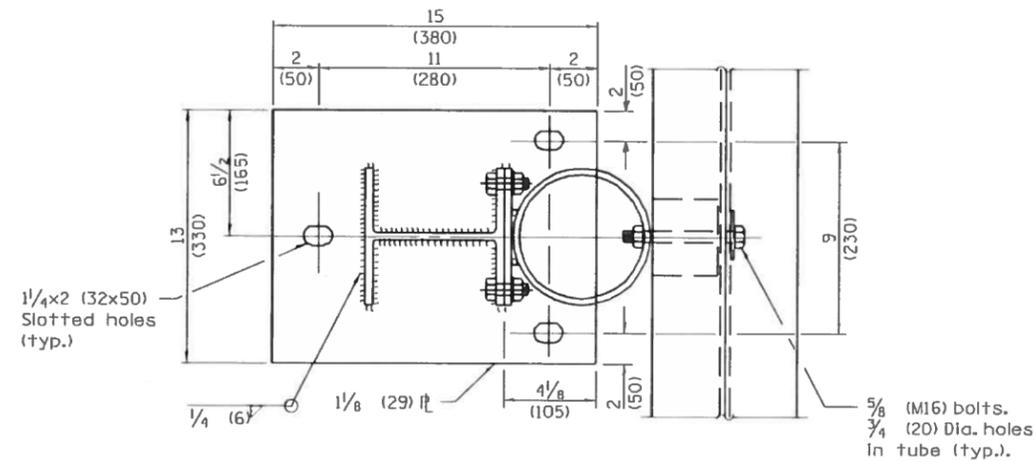
USER NAME = SUSERS	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = S\$CALES	CHECKED -	REVISED -
PLOT DATE = S\$DATES	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

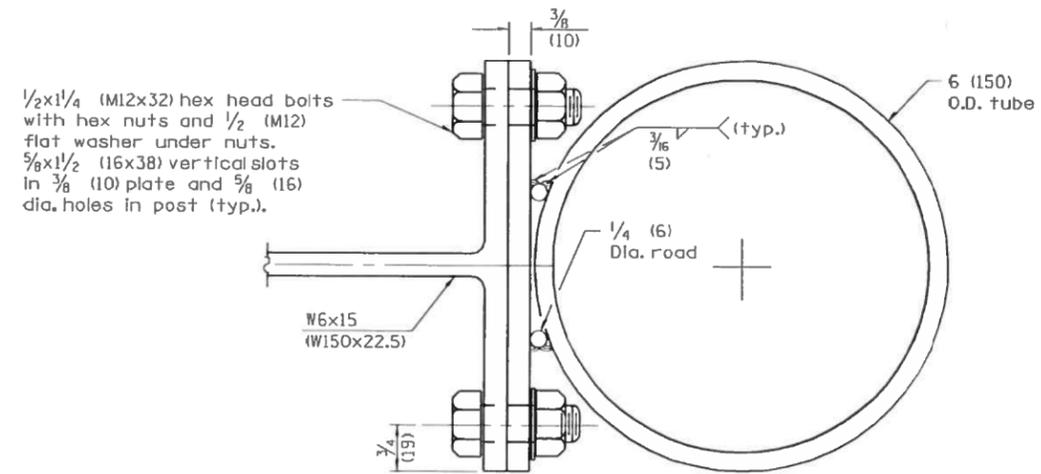
**EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES
(STANDARD 509001)**

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

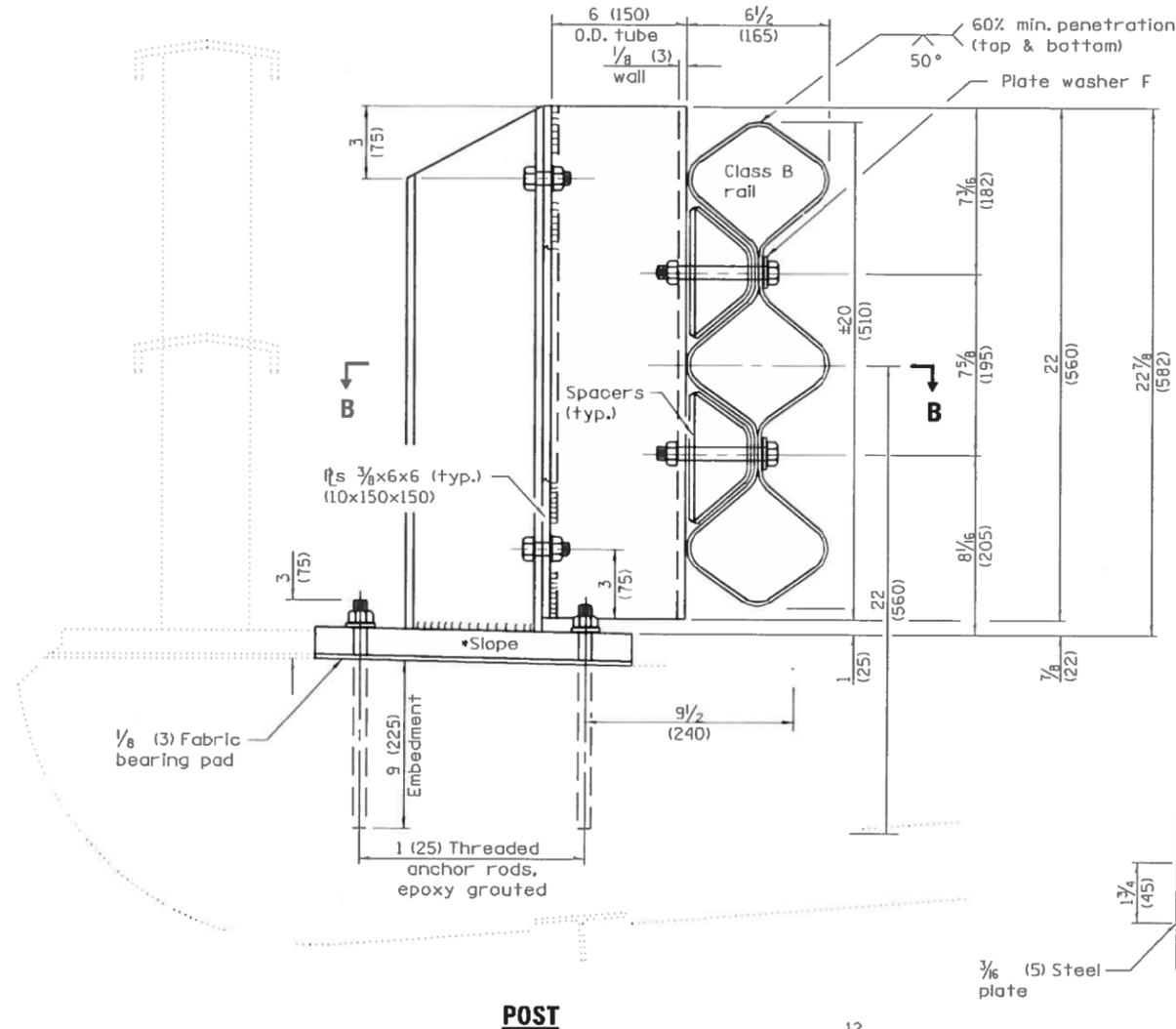
VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	27	22	
CONTRACT NO. 68E64			ILLINOIS FED. AID PROJECT	



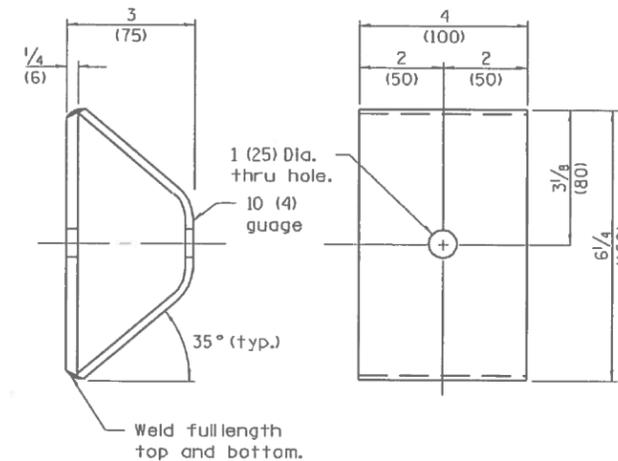
SECTION B-B



TUBE TO POST ATTACHMENT



POST



SPACER

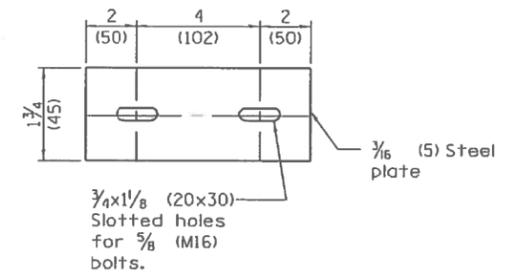


PLATE WASHER B

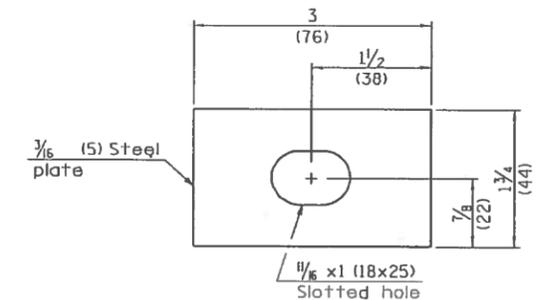


PLATE WASHER F

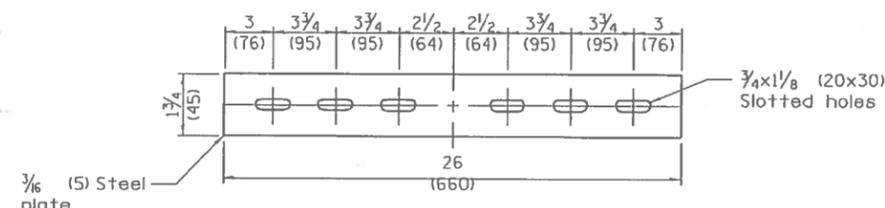


PLATE WASHER C

DETAIL INCLUDED FOR REPAIR ONLY

12
1/4
• Cut bottom of post to slope

MODEL: 340DELMAMES
FILE NAME: 31125

USER NAME = \$USERS	DESIGNED -	REVISED -
PLOT SCALE = \$SCALES	DRAWN -	REVISED -
PLOT DATE = \$DATES	CHECKED -	REVISED -
	DATE -	REVISED -

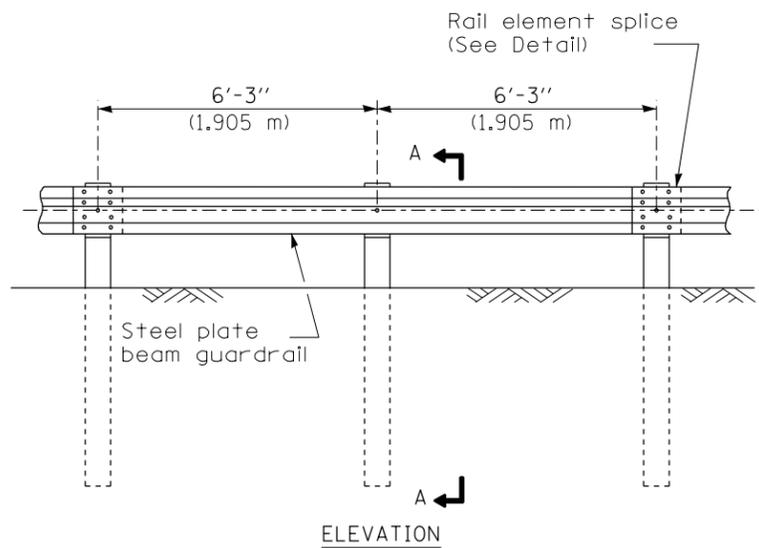
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

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

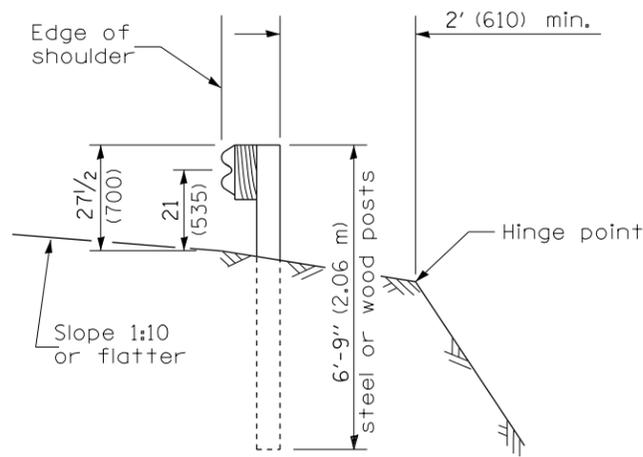
VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2019-MCHD		VARIOUS	27	23
			CONTRACT NO. 68E64	
			ILLINOIS FED. AID PROJECT	

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.

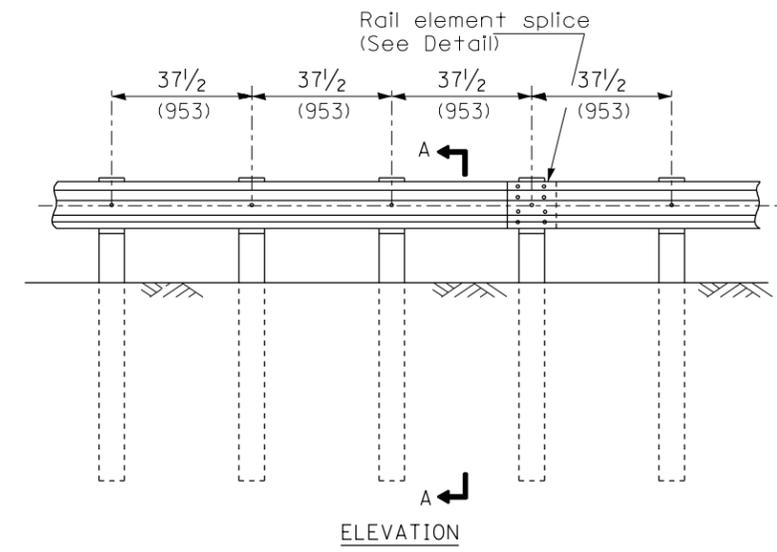


TYPE A

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

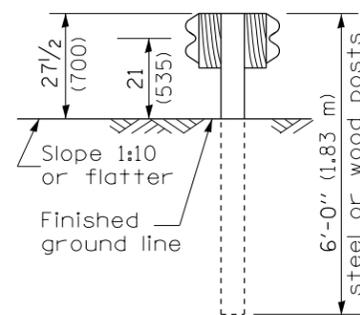


SECTION A-A

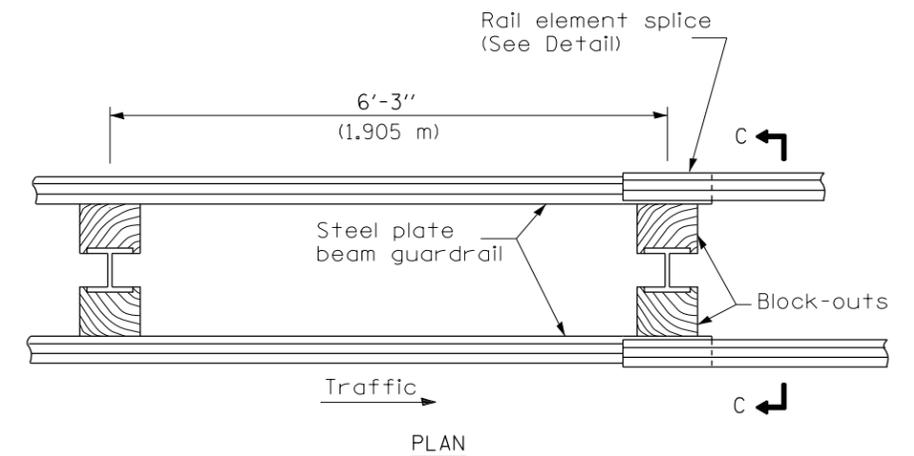


TYPE B

37 1/2 (953) Closed post spacing

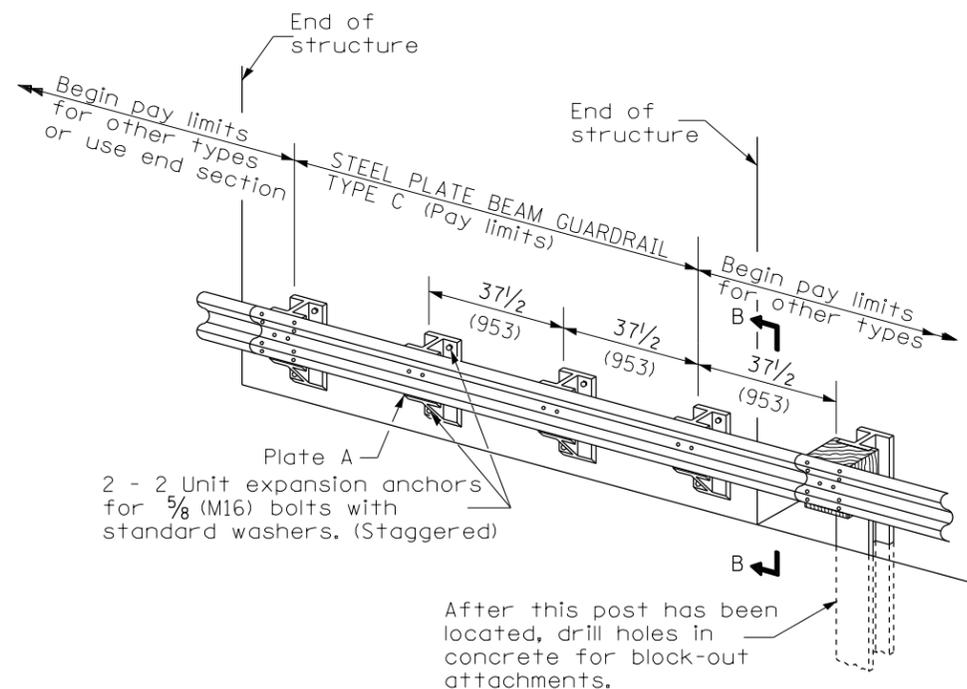


SECTION C-C



TYPE D

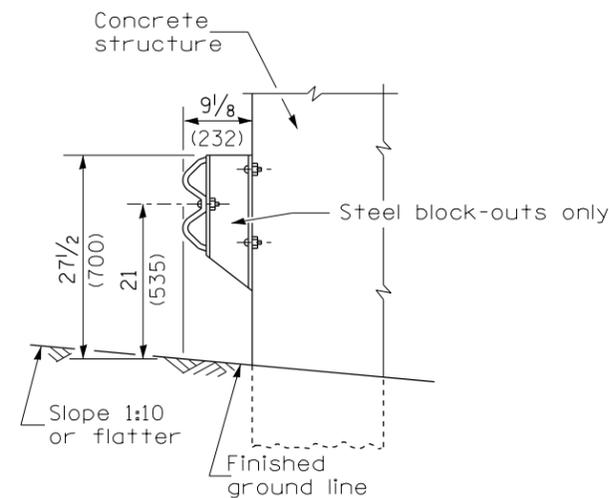
Double steel plate beam guardrail
6'-3" (1.905 m) typical post spacing



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			

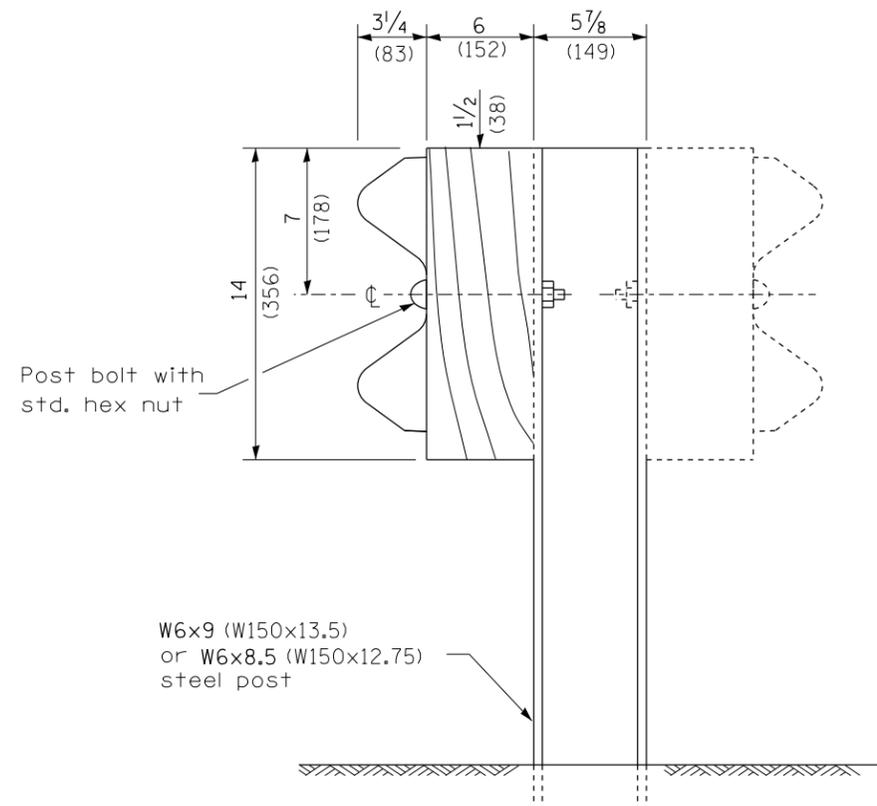
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

NOT TO SCALE

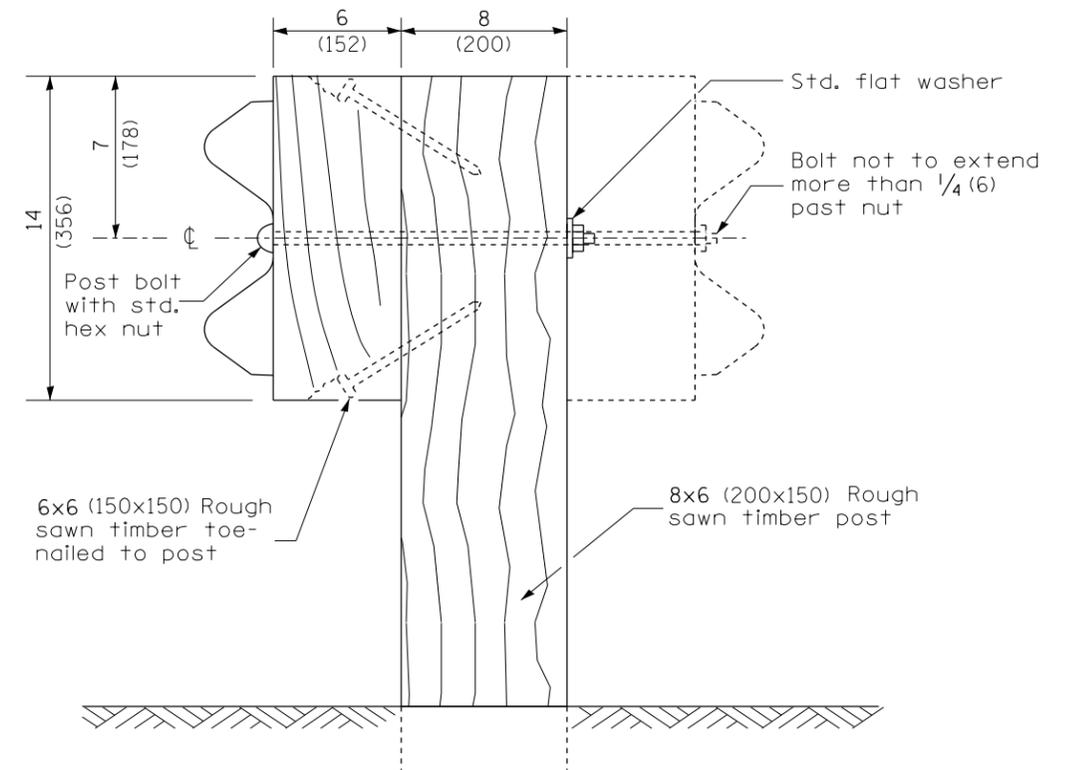
**STEEL PLATE BEAM GUARDRAIL, TYPE A,
6.75 FOOT POSTS**

SHT. 1 OF 4
CADD STD. 630011-D4

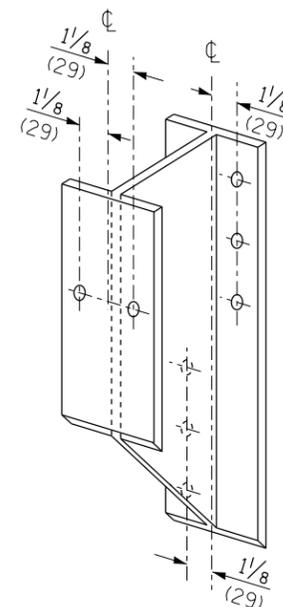
VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4	GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	27	24
			CONTRACT NO. 68E64	
ILLINOIS FED. AID PROJECT				



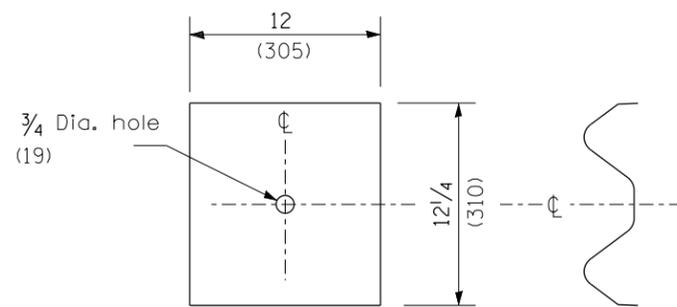
STEEL POST CONSTRUCTION



WOOD POST CONSTRUCTION



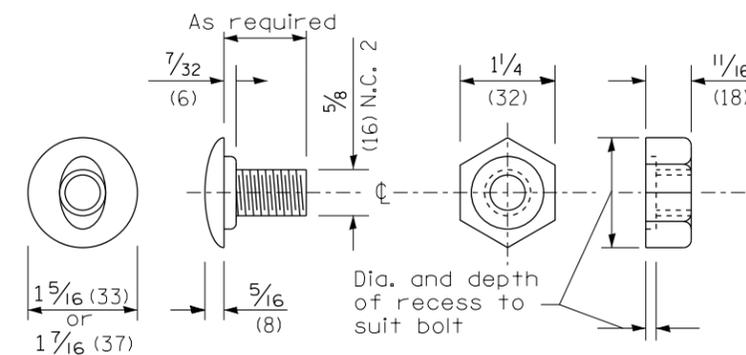
STEEL BLOCK-OUT DETAIL



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

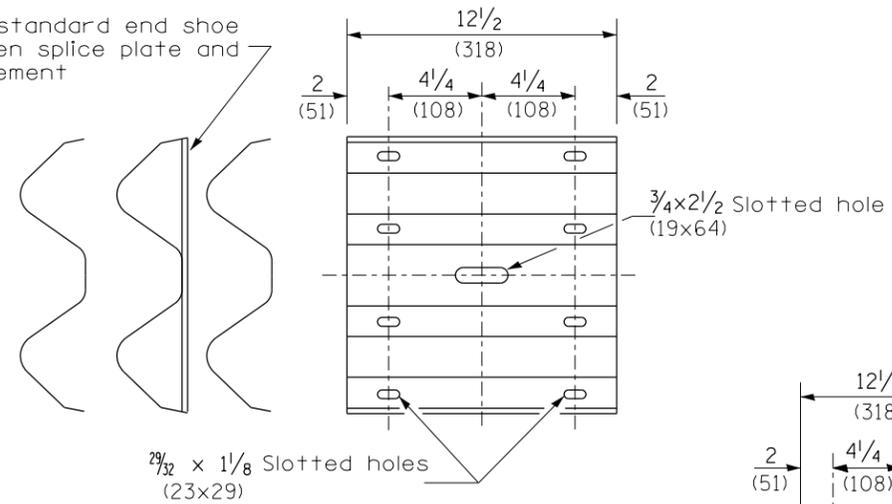
NOT TO SCALE

STEEL PLATE BEAM GUARDRAIL, TYPE A,
6.75 FOOT POSTS

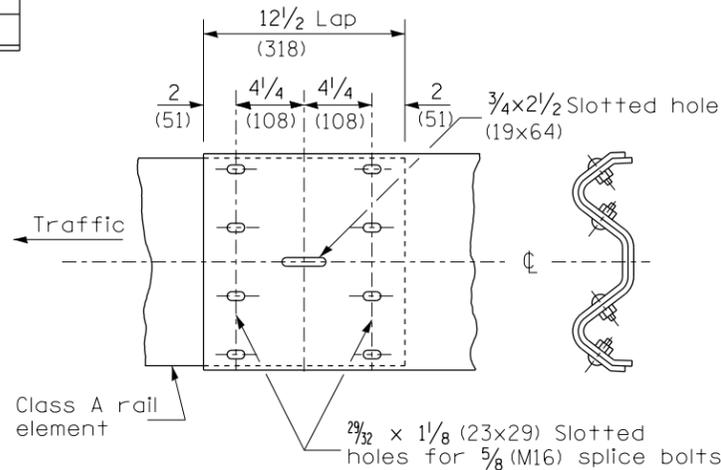
SHT. 2 OF 4
CADD STD. 630011-D4

VAR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	D4 GUARDRAIL REPAIRS 2019-MCHD	VARIOUS	27	25
			CONTRACT NO. 68E64	
ILLINOIS FED. AID PROJECT				

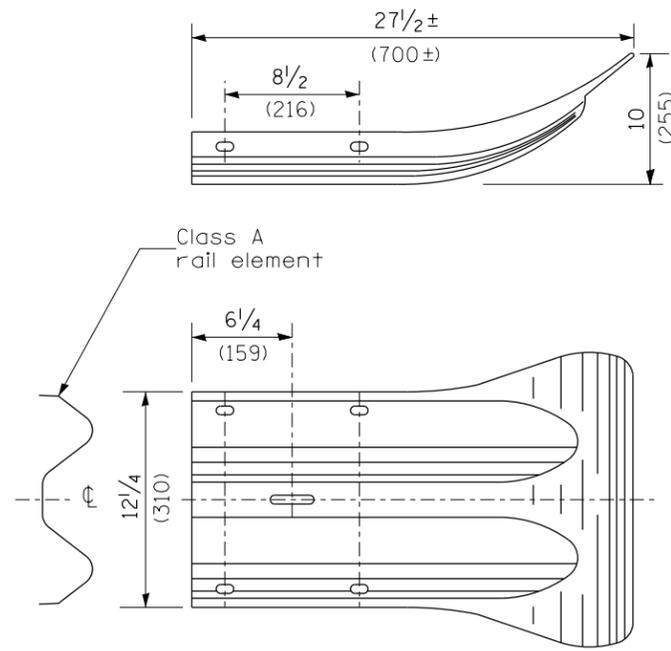
Place standard end shoe between splice plate and rail element



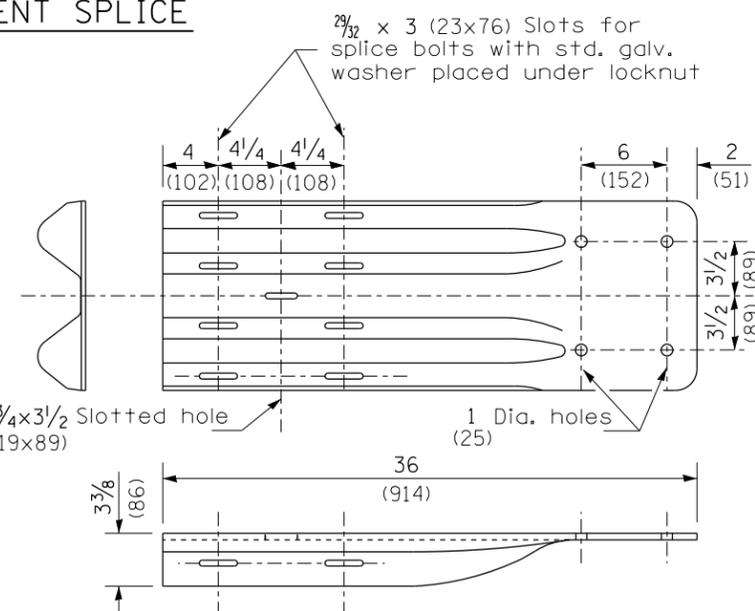
SPLICE PLATE



RAIL ELEMENT SPLICE



END SECTION



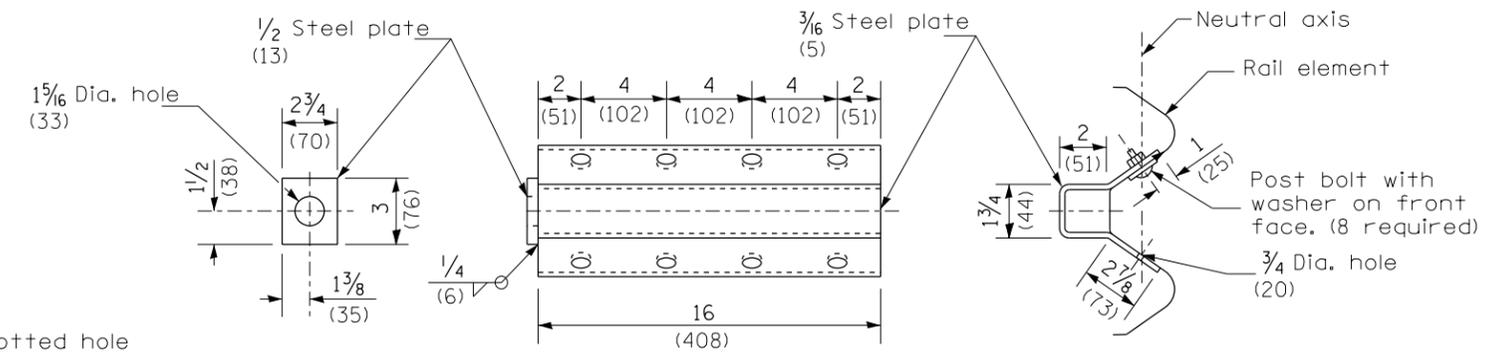
NOTE

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.

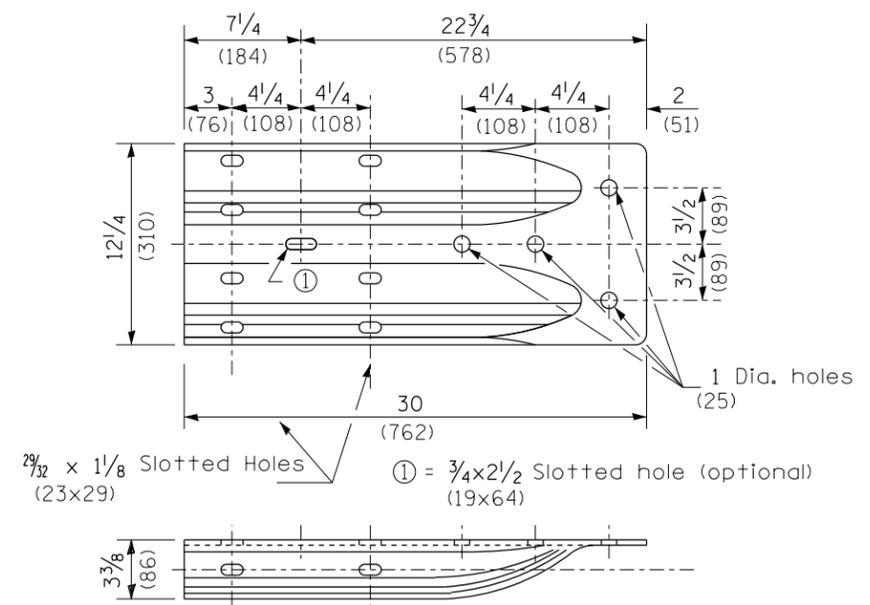
END SHOE



NOTE

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

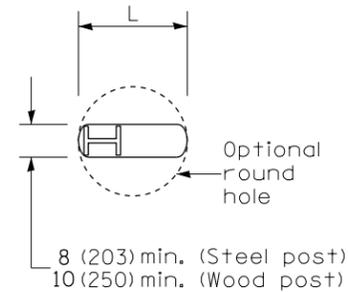
ANCHOR PLATE T DETAILS



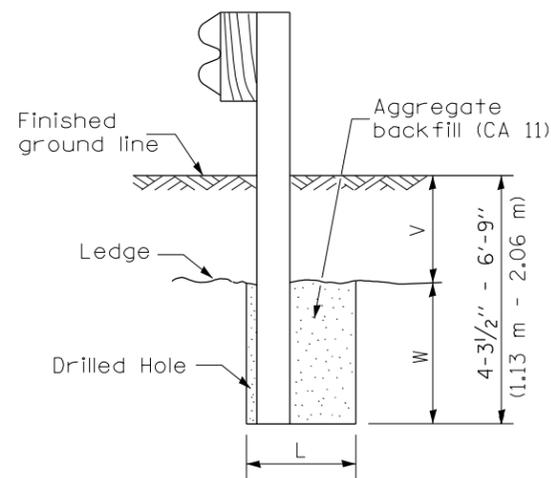
ALTERNATE END SHOE

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

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		STEEL PLATE BEAM GUARDRAIL, TYPE A, 6.75 FOOT POSTS		VAR. SHEETS	TOTAL SHEETS	SHEET NO.
		NOT TO SCALE		D4 GUARDRAIL REPAIRS 2019-MCHD	27	26
		SHT. 3 OF 4 CADD STD. 630011-D4		CONTRACT NO. 68E64		
				ILLINOIS FED. AID PROJECT		

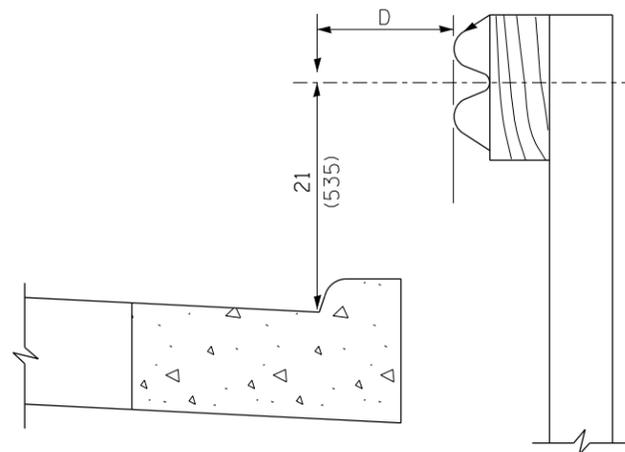


PLAN



ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



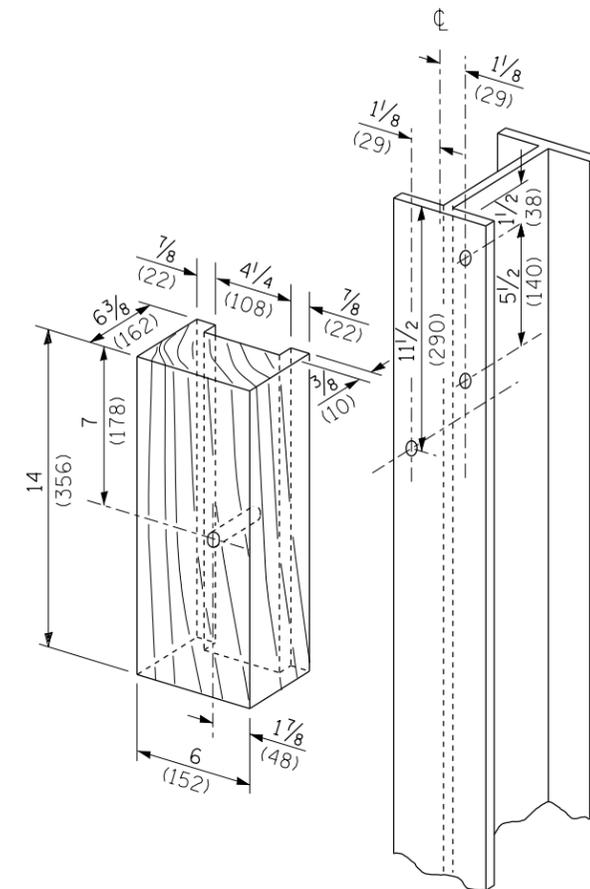
Note:

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.

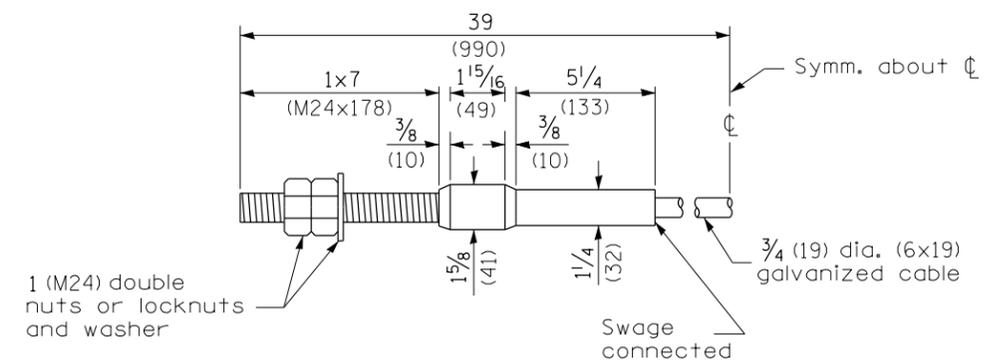
GUARDRAIL PLACED BEHIND CURB

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

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.