

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	VARIOUS	35	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 66B29	
* D-3 HIGHWAY DAMAGE REPAIR 2011				

**INDEX OF SHEETS**

- 1 COVER SHEET
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- 13-14 TRAFFIC BARRIER TERMINAL, TYPE 4
- 15-35 PRE-MGS GUARDRAIL STANDARDS EFFECTIVE APRIL 1, 2006

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

**PROPOSED**  
**HIGHWAY PLANS**

**VARIOUS ROUTES**  
**D-3 HIGHWAY DAMAGE REPAIR 2012**  
**VARIOUS COUNTIES**

C - 93 - 094 - 11  
**REPAIRING MOTORIST CAUSED DAMAGE TO HIGHWAY FACILITIES**

**HIGHWAY STANDARDS**

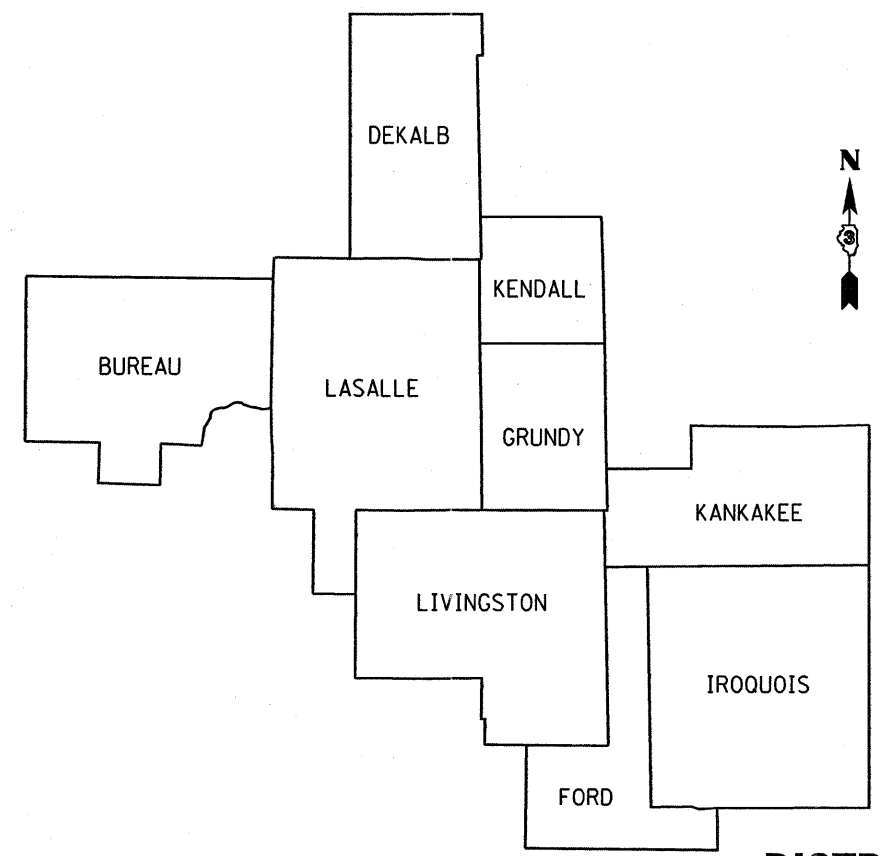
**SEE PAGE 2 FOR LIST OF HIGHWAY STANDARDS**  
EFFECTIVE JANUARY 1, 2011

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS \_\_\_\_\_

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

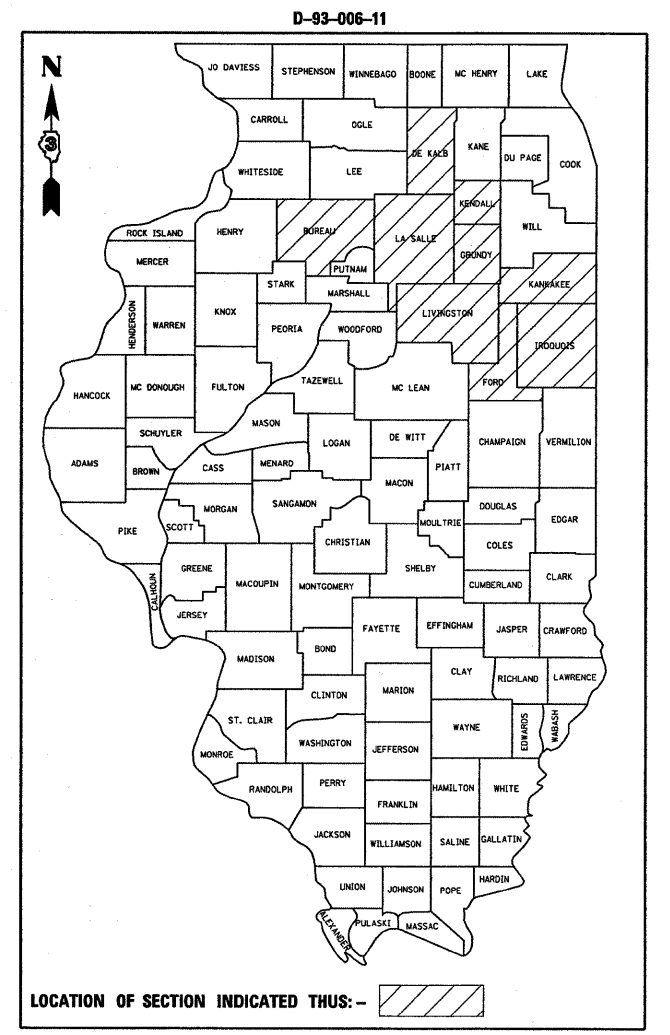
**SAFETY AND CLAIMS MANAGER : KRIS FOGARTY**  
**UNIT CHIEF : MARK JONES, P.E.**

**DISTRICT 3 NO. (815) 434-6131**  
**CONTRACT NO. 66B29**



**LOCATION MAP**  
**NOT TO SCALE**

**DISTRICT 3**



**LOCATION OF SECTION INDICATED THUS: -** [Hatched Box]

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

SUBMITTED \_\_\_\_\_ 20 \_\_\_\_\_

*Eric S. Thealdemery*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 13 20 11  
*Scott E. Stitt P.E.*  
acting ENGINEER OF DESIGN AND ENVIRONMENT

May 13 20 11  
*Christine M. Road*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

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**HIGHWAY STANDARDS**  
EFFECTIVE JANUARY 1, 2011

509001-02	TUBULAR THREE BEAM RETROFIT RAIL FOR BRIDGES
630001-09	STEEL PLATE BEAM GUARDRAIL
630101-09	GUARDRAIL MOUNTED ON EXISTING CULVERTS
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-07	TRAFFIC BARRIER TERMINAL, TYPE 2
631026-05	TRAFFIC BARRIER TERMINAL, TYPE 5
631031-09	TRAFFIC BARRIER TERMINAL, TYPE 6
631032-06	TRAFFIC BARRIER TERMINAL, TYPE 6A
631033-04	TRAFFIC BARRIER TERMINAL, TYPE 6B
631036-05	TRAFFIC BARRIER TERMINAL, TYPE 8
631041-03	TRAFFIC BARRIER TERMINAL, TYPE 9
631046-04	TRAFFIC BARRIER TERMINAL, TYPE 10
631056-02	TRAFFIC BARRIER TERMINAL, TYPE 12
635001-01	DELINEATORS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
664001-02	CHAIN LINK FENCE
665001-02	WOVEN WIRE FENCE
701001-02	OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 15' (4.5 m) AWAY
701006-03	OFF-ROAD OPERATIONS 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701101-02	OFF-ROAD OPERATIONS MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 m) AWAY
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701400-05	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-06	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701411-07	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP FOR SPEEDS ≥ 45 MPH
701421-03	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55 MPH
701426-04	LANE CLOSURE, MULTILANE INTERMITTENT OR MOVING OPERATION, FOR SPEEDS ≥ 45 MPH
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701502-04	URBAN LANE CLOSURE 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701601-07	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701602-05	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
701606-07	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-07	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701801-04	LANE CLOSURE, MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
701901-01	TRAFFIC CONTROL DEVICES

**GENERAL NOTES**  
(Revised May 13, 2009)

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.

THE CONTRACTOR IS ADVISED THAT THERE MAY BE PRESENCE OF DEPARTMENT-OWNED UNDERGROUND ELECTRICAL CABLE WITHIN THE LIMITS OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR SHALL REQUEST THE ILLINOIS DEPARTMENT OF TRANSPORTATION IN OTTAWA (815-434-8417) TO LOCATE THE UNDERGROUND FACILITIES, PROVIDING A MINIMUM OF 72 HOURS NOTICE. THE DEPARTMENT IS NOT A MEMBER OF THE JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS (JULIE) SYSTEM.

ALL DAMAGE TO DEPARTMENT OWNED UNDERGROUND FACILITIES, CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE DEPARTMENT AT THE CONTRACTOR'S EXPENSE. THIS SHALL INCLUDE ALL TEMPORARY REPAIRS REQUIRED TO KEEP THE FACILITY OPERATIONAL WHILE MATERIAL IS BEING OBTAINED TO MAKE PERMANENT REPAIRS. SPLICING OF ELECTRIC CABLE SHALL NOT BE ALLOWED. ELECTRIC CABLE SHALL BE REPLACED FROM POLE TO POLE OR CONTROLLER.

THE CONTRACTOR IS REMINDED TO CAREFULLY EXAMINE THIS CONTRACT FOR NEW OR CHANGED CONDITIONS FROM ANY PREVIOUS VERSION HE MAY HAVE EXAMINED.

THE REMOVAL OF DAMAGED GUARDRAIL AND DAMAGED POSTS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE VARIOUS REPLACEMENT PAY ITEMS.

THE TRAFFIC CONTROL REQUIRED FOR THE REPAIRS OR INSTALLATION OF GUARDRAIL OR FENCE SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS OF WORK, AND SHALL BE IN ACCORDANCE WITH THE TRAFFIC CONTROL STANDARDS INCLUDED HEREIN.

ALL HARDWARE (NUTS, BOLTS, WASHERS, STAPLES, WIRES, TIES, ETC.) REQUIRED FOR THE REPAIRS TO OR INSTALLATION OF GUARDRAIL AND FENCE SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS OF WORK IN THIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE J.U.L.I.E. NUMBER IS 1-800-892-0123. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED.

**HIGH TENSION CABLE BARRIER SYSTEM REPAIR SCHEDULE**

SYSTEM	REPAIR HTC	REPLACE HTC END SECTION	HTC SYSTEM MAINTENANCE	REMOVE & REPLACE HTC POST	REMOVE & REPLACE HTC POST (HEAVY DUTY)	F&I HTC FOUNDATION & POST	FURNISH & DRIVE METAL SOCKET with POST	SYSTEM TYPE
Brifen	1	2	3	4		6	7	socketed
US High Tension	1	2	3	4				driven
Gibraltar	1	2	3	4				driven
Trinity	1	2	3		5			driven (heavy duty)

TABLE SHOWS WHAT PAY ITEMS GET USED FOR REPAIRING EACH SYSTEM

**REPAIR PAY ITEMS**

- 1 = REPAIR HIGH TENSION CABLE
- 2 = REPLACE HIGH TENSION CABLE END SECTION
- 3 = HIGH TENSION CABLE SYSTEM MAINTENANCE
- 4 = REMOVE AND REPLACE HIGH TENSION CABLE POST
- 5 = REMOVE AND REPLACE HIGH TENSION CABLE POST (HEAVY DUTY)
- 6 = FURNISH AND INSTALL HIGH TENSION CABLE FOUNDATION AND POST
- 7 = FURNISH AND DRIVE METAL SOCKET WITH POST

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DISTRICT THREE

PREPARED BY: Don Brouil  
DISTRICT STUDIES & PLANS ENGINEER

DATE: 4-6-11

EXAMINED BY: [Signature]  
DISTRICT CONSTRUCTION ENGINEER

Wayne L. Phillips  
DISTRICT MATERIALS ENGINEER

[Signature]  
DISTRICT OPERATIONS ENGINEER

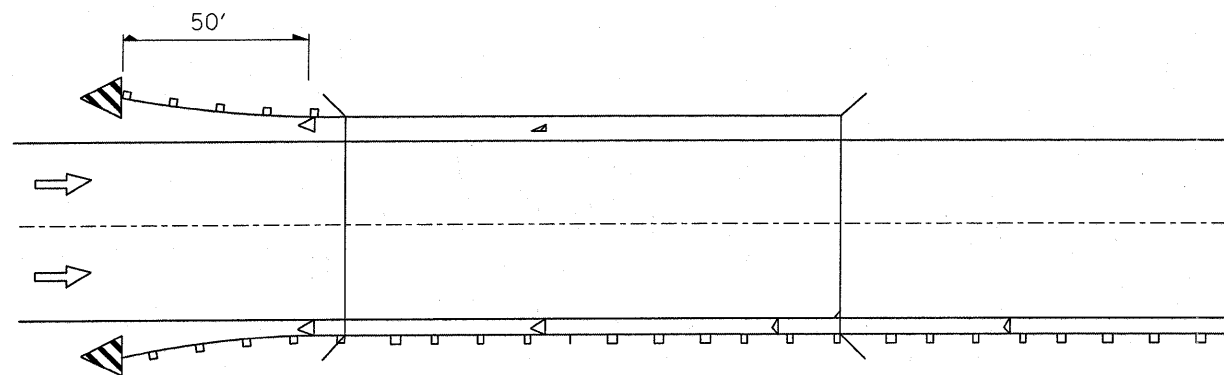
SUMMARY OF QUANTITIES					
CODE NO.	CONSTRUCTION CODE TYPE:			100% MCHD	100% STATE
	ITEM	UNIT	TOTAL QUANTITY	MCHD 0021 QUANTITY	CONTR. MAINT. QUANTITY
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2	2	
63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	1	1	
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	1	1	
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	1	1	
63100089	TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	1	1	
63100095	TRAFFIC BARRIER TERMINAL, TYPE 8	EACH	1	1	
63100101	TRAFFIC BARRIER TERMINAL, TYPE 9	EACH	1	1	
63100105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	1	1	
63100115	TRAFFIC BARRIER TERMINAL, TYPE 12	EACH	1	1	
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	17	15	2
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	3	2	1
63301000	REMOVE AND REERECT STEEL PLATE BEAM GUARD RAIL	FOOT	50		50
63400105	GUARD POSTS	EACH	100	50	50
X6640200	HOT-MIX ASPHALT CURB REPAIR	FOOT	100	100	
66400105	CHAIN LINK FENCE, 4'	FOOT	300	150	150
66400305	CHAIN LINK FENCE, 6'	FOOT	350	200	150
X6640560	CHAIN LINK FENCE, 6' (SPECIAL)	FOOT	300		300
66500105	WOVEN WIRE FENCE, 4'	FOOT	9800	8550	1250
67100100	MOBILIZATION	L SUM	1	0.5	0.5
78200410	GUARDRAIL MARKERS, TYPE A	EACH	102	90	12
X0321563	REPAIR TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL	EACH	10	7	3
X0322878	TIMBER CURB	FOOT	32	32	
X0326126	WOOD TERMINAL POST	EACH	1	1	
X6640502	CHAIN LINK FENCE POST	EACH	21	15	6
Z0008760	EMERGENCY WORK CALL OUT	EACH	115	90	25
Z0012752	CONCRETE STRUCTURE REPAIR	CU FT	15	15	
Z0020210	PULL POST ARRANGEMENT	EACH	22	20	2
Z0025550	FURNISHING AND INSTALLING RAIL ELEMENT PLATES	FOOT	7550	6550	1000
Z0026260	FURNISHING AND INSTALLING TUBULAR THRIE BEAM	FOOT	150	100	50

• D-3 HIGHWAY DAMAGE REPAIR 2011

SUMMARY OF QUANTITIES						
CODE NO.	CONSTRUCTION CODE TYPE: ITEM	UNIT	TOTAL QUANTITY	0021		100% STATE HTC BARRIER REPAIR 0021 QUANTITY
				100% MCHD MCHD 0021 QUANTITY	100% STATE CONTR. MAINT. QUANTITY	
Z0026305	FURNISHING AND MAINTAINING AUTOMOTIVE VEHICLES	CAL MO	12	12		
Z0026700	FURNISHING AND SETTING STEEL POSTS	EACH	600	500	100	
Z0026800	FURNISHING AND SETTING STEEL POSTS (MODIFIED)	EACH	5	5		
Z0026900	FURNISHING AND SETTING STEEL POSTS (SPECIAL)	EACH	50		50	
Z0030030	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	1	1	
Z0030390	IMPACT ATTENUATORS, REPLACEMENT (NON- REDIRECTIVE), TEST LEVEL 3	EACH	195	175	20	
Z0052400	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2	1	1	
Z0052600	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1	1		
Z0052700	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 3	EACH	1	1		
Z0052800	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 3A	EACH	1	1		
Z0052900	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 4	EACH	1	1		
Z0053000	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	1	1		
Z0053200	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2	2		
Z0053210	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	2	2		
Z0053220	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	2	2		
Z0053400	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 8	EACH	1	1		
Z0053500	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 9	EACH	1	1		
Z0053575	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 12	EACH	1	1		
X0327278	REPAIR HIGH TENSION CABLE	FOOT	60	50		10
X0327279	REPLACE HIGH TENSION CABLE END SECTION	EACH	1	1		
X0327280	HIGH TENSION CABLE SYSTEM MAINTENANCE	EACH	500	400		100
X0327281	REMOVE AND REPLACE HIGH TENSION CABLE POST	EACH	1100	1000		100
X0327282	REMOVE AND REPLACE HTC POST (HEAVY DUTY)	EACH	150	100		50
X0327283	FURNISH AND INSTALL HIGH TENSION CABLE FOUNDATION AND POST	EACH	20	10		10
X0327284	FURNISH AND DRIVE METAL SOCKET WITH POST	EACH	20	10		10
Z0029665	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL RAIL ELEMENT PLATE	FOOT	500	500		

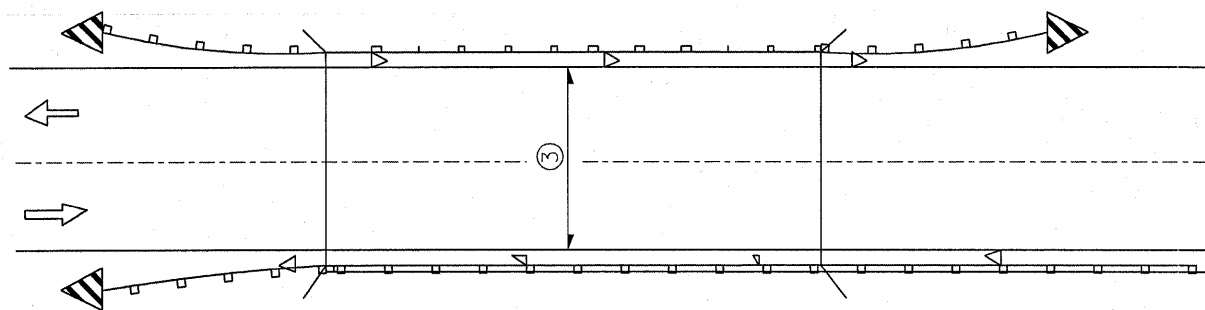
Rev.

• D-3 HIGHWAY DAMAGE REPAIR 2011



Reflectors are not to be placed on Terminal End Sections.  
(min. 3 reflectors regardless of length).  
After 400 ft transition, match existing delineator spacing.

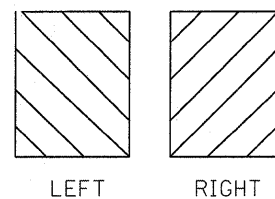
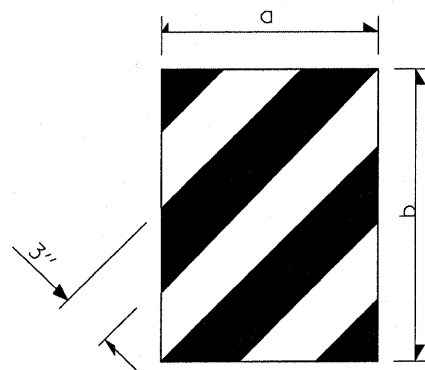
ONE-WAY TRAFFIC



③ Bidirectional silver/silver should be used in lieu of monodirectional silver on both sides of two-lane bridges where the pavement is less than 24' wider than the pavement approaching the bridge.

- ◁ Monodirectional silver
- ▷ Monodirectional amber
- ▤ Terminal Marker - Black/Yellow  
Left or Right as appropriate

TWO-WAY TRAFFIC



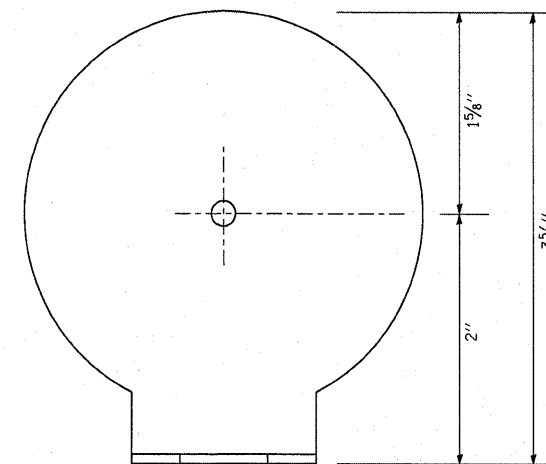
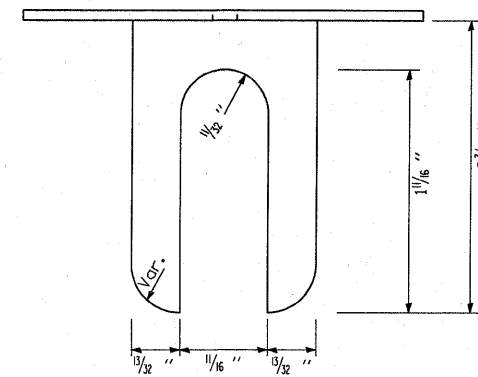
DIMENSION	CASE I	CASE II
a	*	450 (18)
b	*	406 (16)

\* The width and height (a, b) of the terminal marker shall be within approximately 25 mm (1 inch) of the outer edge of the terminal end, with a minimum reflective area of 0.18 m<sup>2</sup> (288 sq. in.)

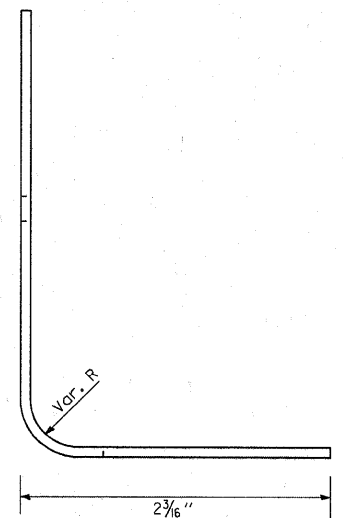
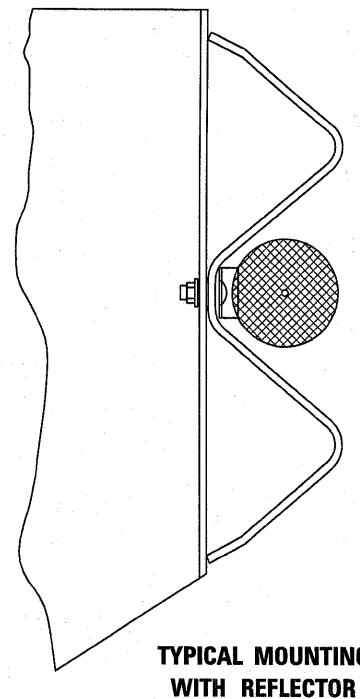
TERMINAL MARKER DETAILS

Color: Black / Yellow reflectorized

REFLECTOR AND TERMINAL MARKER PLACEMENT



REFLECTOR MARKER TYPE A



NOTES:

1. BRACKET IS TO BE FABRICATED FROM 12 GA. (MIN) STEEL GALVANIZED IN ACCORDANCE WITH AASHTO M III.
2. MIN. 3 REFLECTORS PER SIDE.
3. BRACKET "FOOT" SHALL BE PLACED BETWEEN THE BOLT HEAD AND THE PLATE WASHER (IF PRESENT).
4. ON THRIE BEAM RAIL, THE BRACKETS SHALL BE ATTACHED TO THE UPPER SPLICE BOLTS.
5. USE CRYSTAL COLOR, BI-DIRECTIONAL REFLECTORS USE AMBER (LEFT) AND CRYSTAL (RIGHT), MONODIRECTIONAL REFLECTORS ON INTERSTATES
6. ALL DIMENSIONS SHOWN ARE MINIMUM

REFLECTOR DETAIL

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		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

REFLECTOR AND TERMINAL MARKER PLACEMENT DETAIL

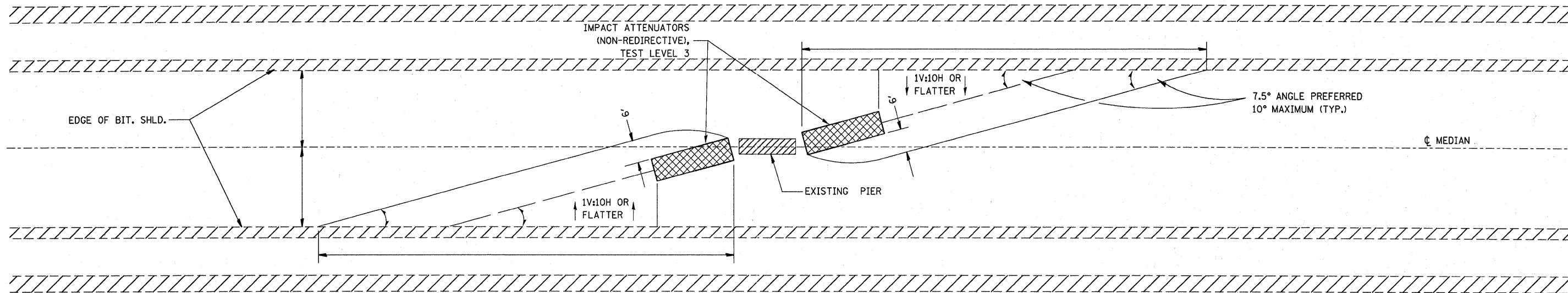
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	*	VAR.	35	5
CONTRACT NO. 66B29				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

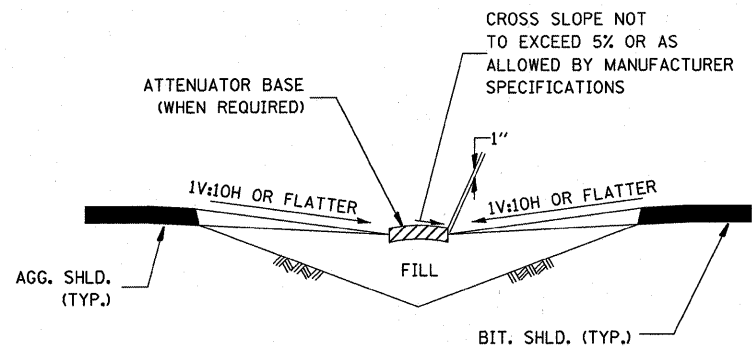
D-3 HIGHWAY DAMAGE REPAIR 2011

## GENERAL NOTES

1. THE 10:1 SLOPE CONTROLS NOSE OF ATTENUATOR BASE ELEVATION.
2. ATTENUATOR BASE GRADE PARALLELS EDGE OF PAVEMENT GRADE.
3. SLOPE ADJACENT TO ATTENUATOR BASE SHALL BE 10:1 OR FLATTER.



## IMPACT ATTENUATOR LAYOUT AND GRADING PLAN

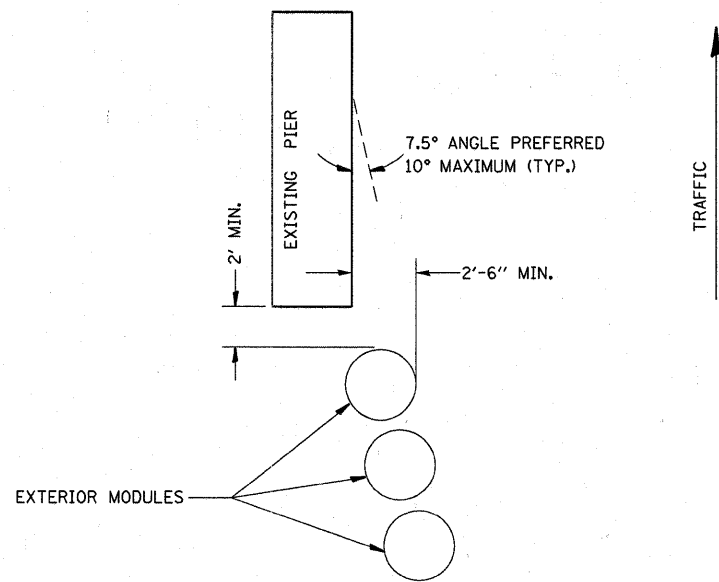


**SECTION A - A**

**NOTE:**

ATTENUATOR BASE SHALL BE PER MANUFACTURER SPECIFICATIONS EXCEPT SAND MODULE SYSTEMS SHALL HAVE THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. ATTENUATOR BASE SHALL PROVIDE A 1' BUFFER ALONG THE SIDES AND FRONT OF THE ARRAY.
2. SAND MODULE SYSTEMS SHALL BE PLACED ON A HMA OR CONCRETE BASE.



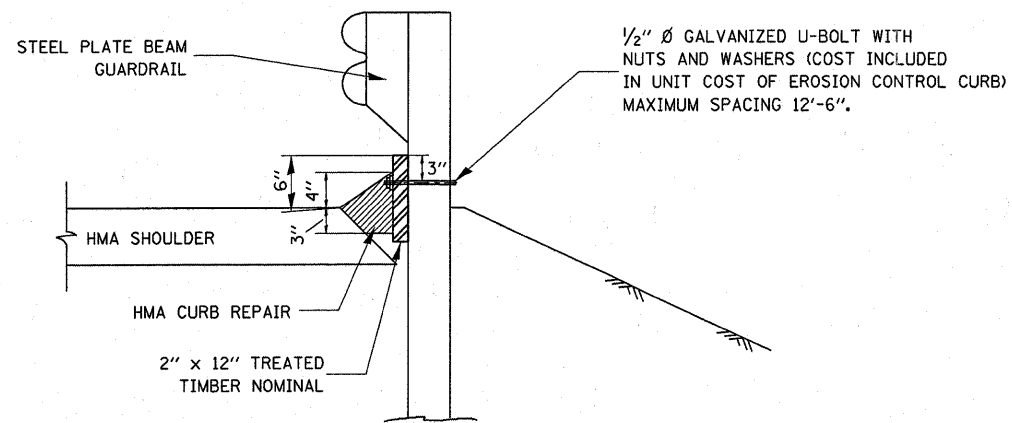
**TYPICAL EXTERIOR MODULE LAYOUT**

**NOTES:**

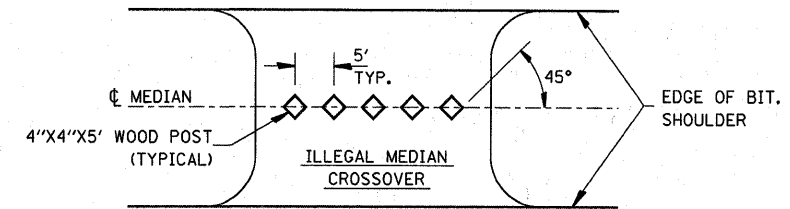
1. THE PAY ITEM "IMPACT ATTENUATORS, REPLACEMENT (NON-REDIRECTIVE), TEST LEVEL 3" HAS BEEN INCLUDED TO REPLACE INDIVIDUAL DAMAGED SAND MODULES.
2. REPLACEMENT MODULES SHALL MATCH THE KIND OF MODULES THAT ARE REMAINING.
3. IMPACT ATTENUATORS SHALL BE IN ACCORDANCE WITH THE BDE SPECIAL PROVISION FOR IMPACT ATTENUATORS, EFFECTIVE: NOVEMBER 1, 2003 REVISED NOVEMBER 1, 2008
4. THIS SHEET SHOWS THE LAYOUT INFORMATION FOR REPLACEMENT OF SAND MODULES (IMPACT ATTENUATORS) AT A TYPICAL INTERSTATE LOCATION.
5. ADJACENT SAND MODULE IMPACT ATTENUATORS THAT ARE NOT DAMAGED, BUT HAVE BEEN SHIFTED LATERALLY FROM THEIR ORIGINAL POSITION SHALL BE REALIGNED OR MOVED BACK TO THEIR ORIGINAL POSITION, AS DIRECTED BY THE ENGINEER. REALIGNMENT OR MOVING OF ADJACENT UNDAMAGED MODULES SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF REPLACEMENT. THE WORK TO REALIGN OR SHIFT UP TO 2 MODULES SHALL BE INCLUDED WITH EACH REPLACED SAND MODULE IMPACT ATTENUATOR.

• D-3 HIGHWAY DAMAGE REPAIR 2011

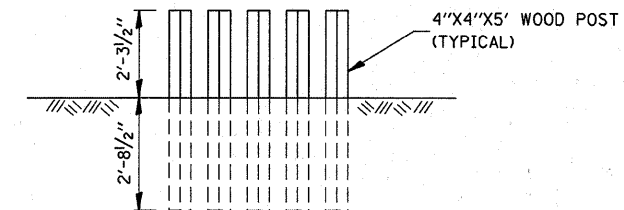
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PLT DATE = Apr 07, 2011 - 11:42:47 AM	DATE -	CHECKED -	REVISED -			CONTRACT NO. 66B29				
						SCALE: SHEET NO. OF SHEETS STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		



**SIDE VIEW**

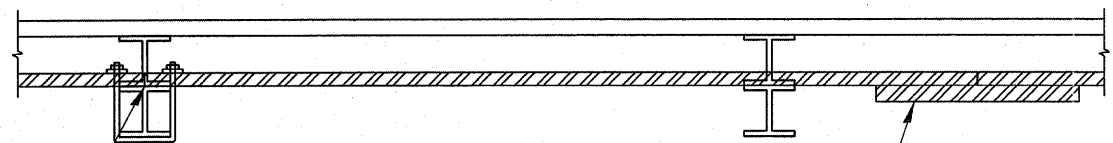


**PLAN**



**ELEVATION**

**WOOD POST DETAIL**



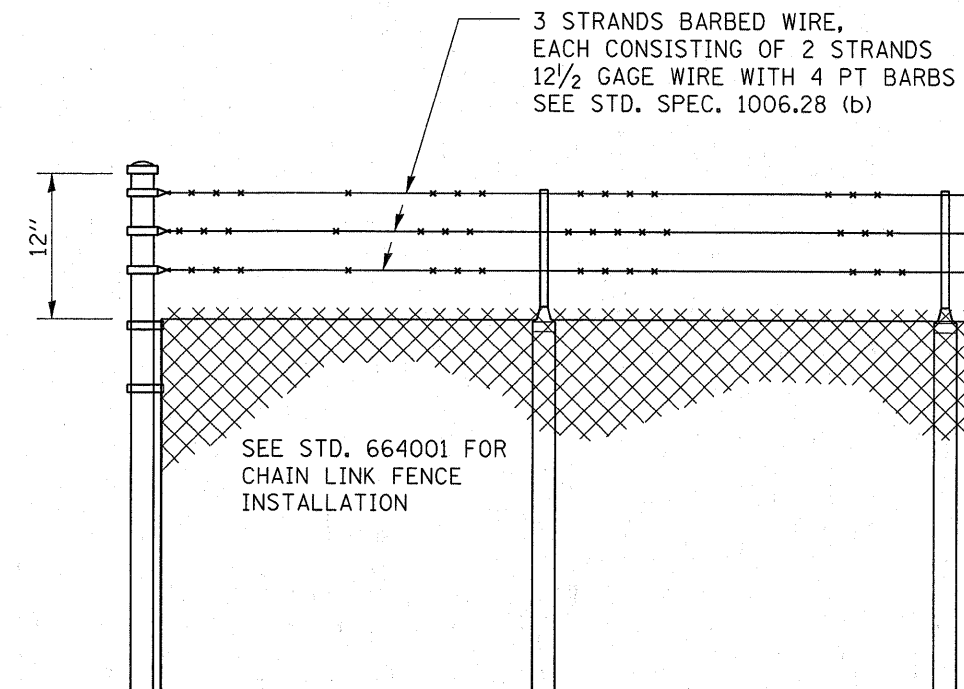
**TOP VIEW**

SPLICE AT GUARDRAIL POST (U-BOLT MUST BE USED)

SPLICE PLATE 2" x 12", 2' LONG WITH #16 GALVANIZED NAIL TO THE TREATED TIMBER CURB (COST INCLUDED). SPLICE PLATE TO BE TREATED TIMBER.

NOTE:  
 THE TREATED TIMBER SHALL BUTT TOGETHER AT THE GUARDRAIL POST OR SPLICED AS SHOWN ON THE DETAIL.  
 THE TREATED TIMBER SHALL BE TREATED IN ACCORDANCE TO ARTICLE 1007.12 AND ALL PRESERVATIVES SPECIFIED IN THE ARTICLE WILL BE ALLOWED.  
 THE PRICE FOR EROSION CONTROL CURB SHALL INCLUDE THE U-BOLTS ATTACHING THE TREATED TIMBER TO THE GUARDRAIL POSTS, TREATED TIMBER, AND THE NECESSARY GRADING TO COMPLETE THIS WORK.  
 HMA CURB REPAIR SHALL BE MEASURED AND PAID FOR AT CONTRACT UNIT PRICE PER TON.  
 HMA CURB REPAIR SHALL BE IN ACCORDANCE WITH SECTION 408 OF THE STANDARD SPECIFICATIONS.

**TIMBER CURB & HMA CURB REPAIR**



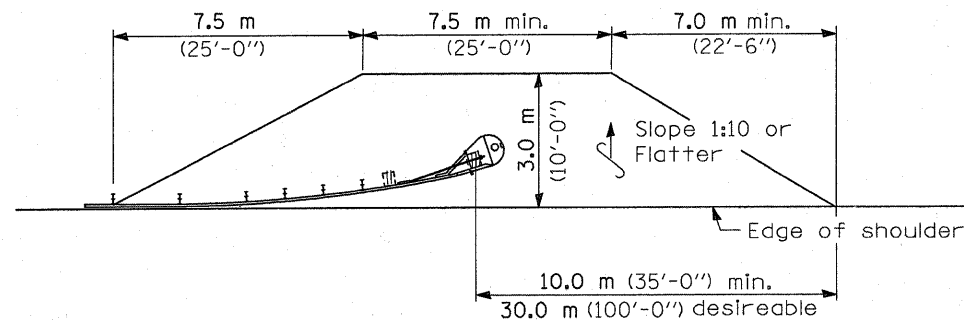
**CHAIN LINK FENCE, 6' (SPECIAL)**

• D-3 HIGHWAY DAMAGE REPAIR 2011

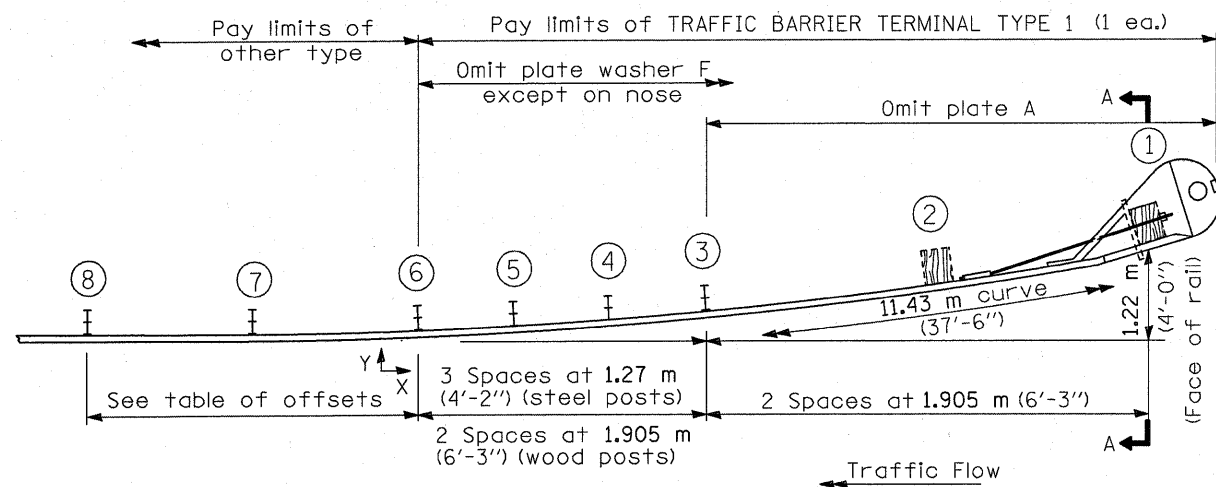
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c:\pwwork\pwwork\quigleyml\d02588015\036829-sh-t-DETAILS.dgn	PLOT SCALE = 50,0000' / IN.	DRAWN -	REVISED -					VAR.		VAR.	35	7
	PLOT DATE = Apr 07, 2011 - 11:42:39 AM	CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO. 66B29				
		DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

OFFSETS TO FACE OF RAIL

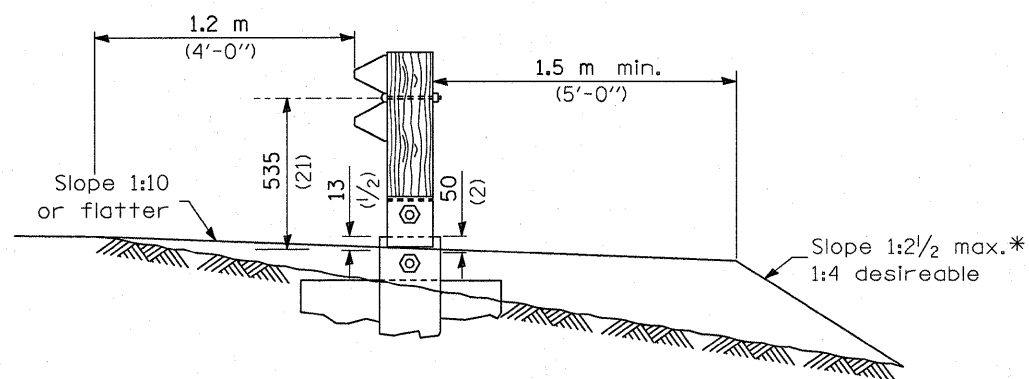
Post	X <sup>m</sup> (ft)	Y <sup>m</sup> (ft)
①	11.345 (37.22)	1.22 (4.0)
②	9.475 (31.09)	0.850 (2.79)
③	7.595 (24.92)	0.545 (1.79)
④	6.335 (20.79)	0.380 (1.25)
⑤	5.070 (16.64)	0.245 (0.80)
⑥	3.805 (12.49)	0.135 (0.45)
⑦	1.905 (6.25)	0.035 (0.11)
⑧	0 (0.00)	0 (0.00)



SHOULDER WIDENING TRANSITION

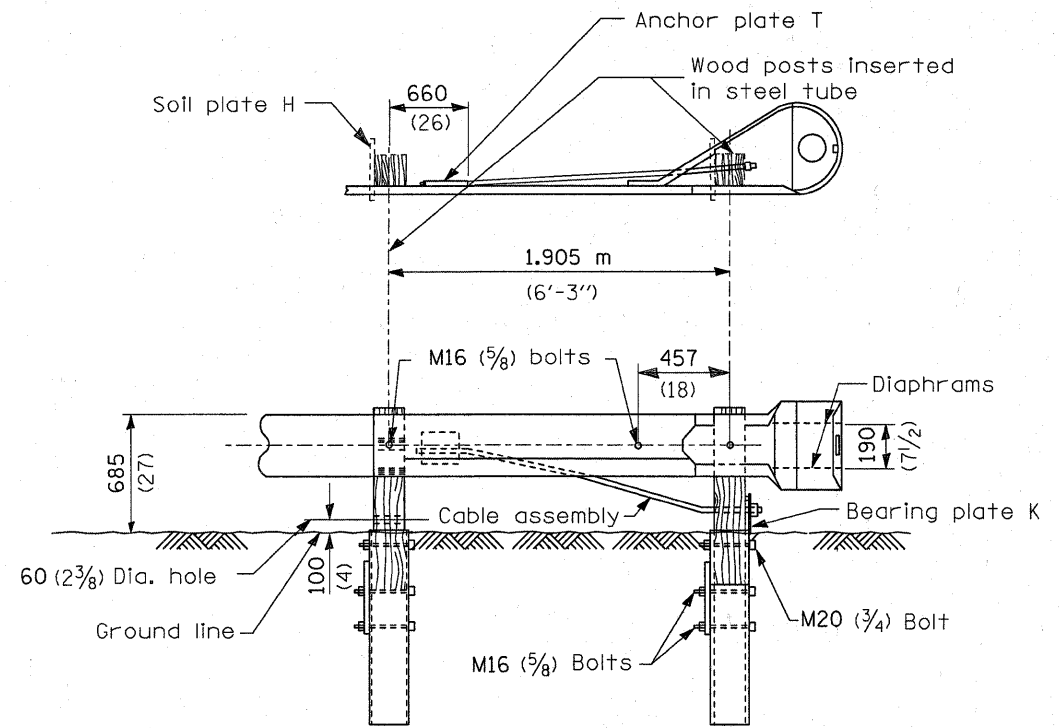


PLAN



SECTION A-A

\* If fill height exceeds 1.5 m (5'-0") use 1:3 max.



WOOD BREAKAWAY POSTS  
TUBULAR STEEL FOUNDATIONS

GENERAL NOTES

See Standard 630001 for details of guardrail not shown.

Posts at location 1 & 2 shall be wood breakaway posts. Posts other than 1 & 2 may be either standard wood posts or steel posts, at the option of the Contractor. If standard wood posts are used, one post shall be located midway between and in lieu of posts 4 & 5. The offset (Y) for this post shall be 300 mm (12 inches).

A two-piece assembly may be substituted for the one piece nose shown above.

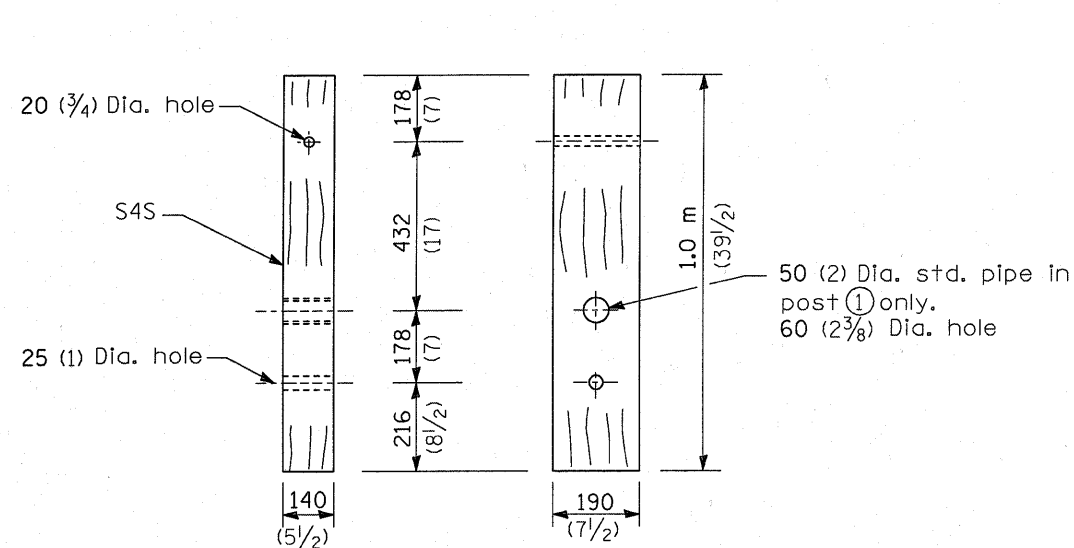
The bearing plate K shall be held in position by (2) two eightpenny nails driven into the post and bent over the top of the plate.

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

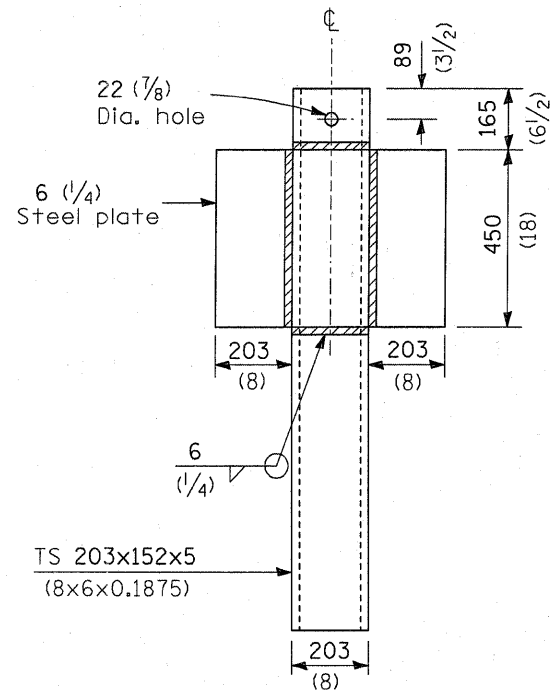
All dimensions are in millimeters (inches) unless otherwise shown.

**DETAIL INCLUDED  
FOR REPAIR ONLY**

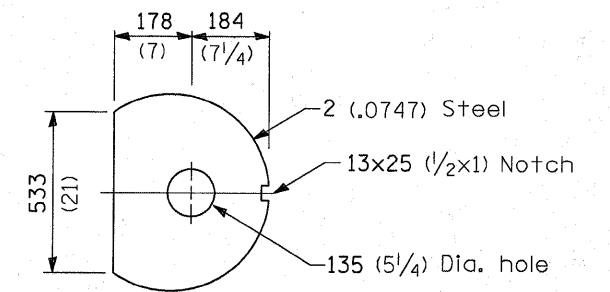




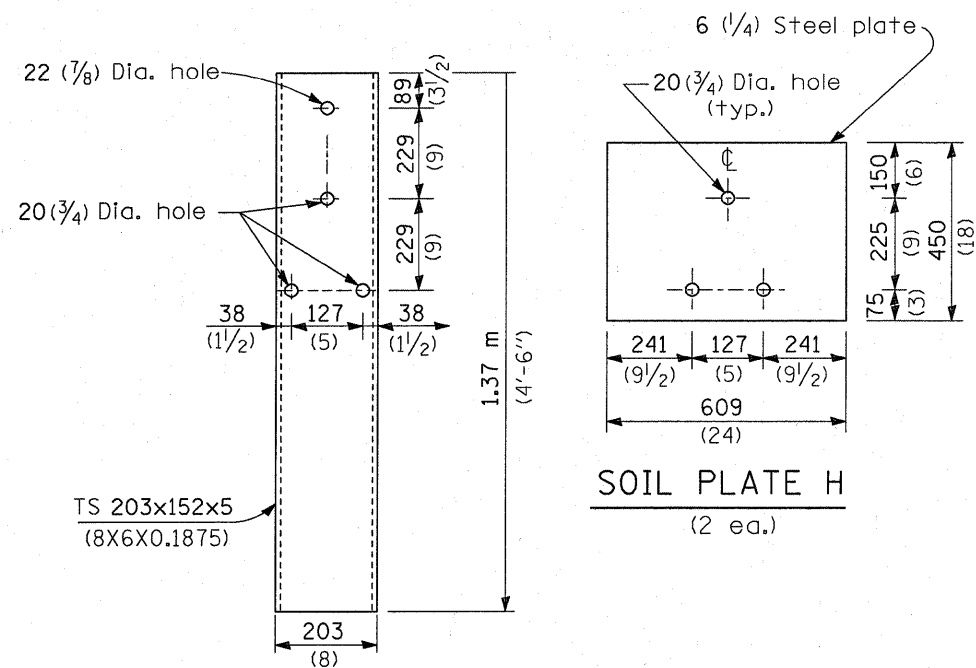
**WOOD BREAKAWAY POST**  
(2 ea.)



**ALTERNATE SOIL PLATE CONNECTION**

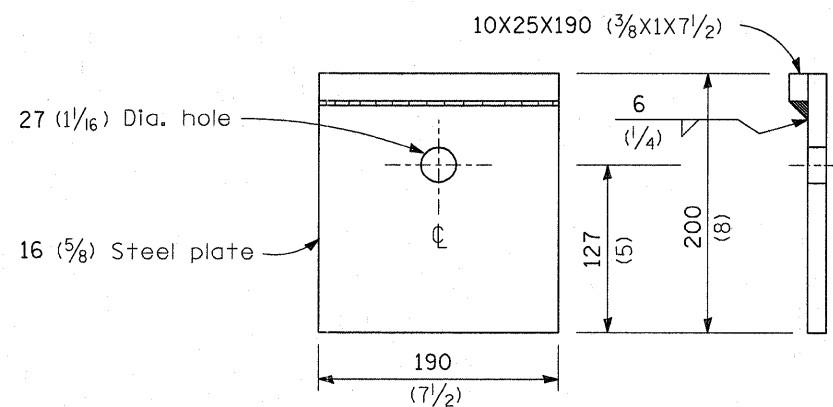


**DIAPHRAGM**  
(2 ea.)

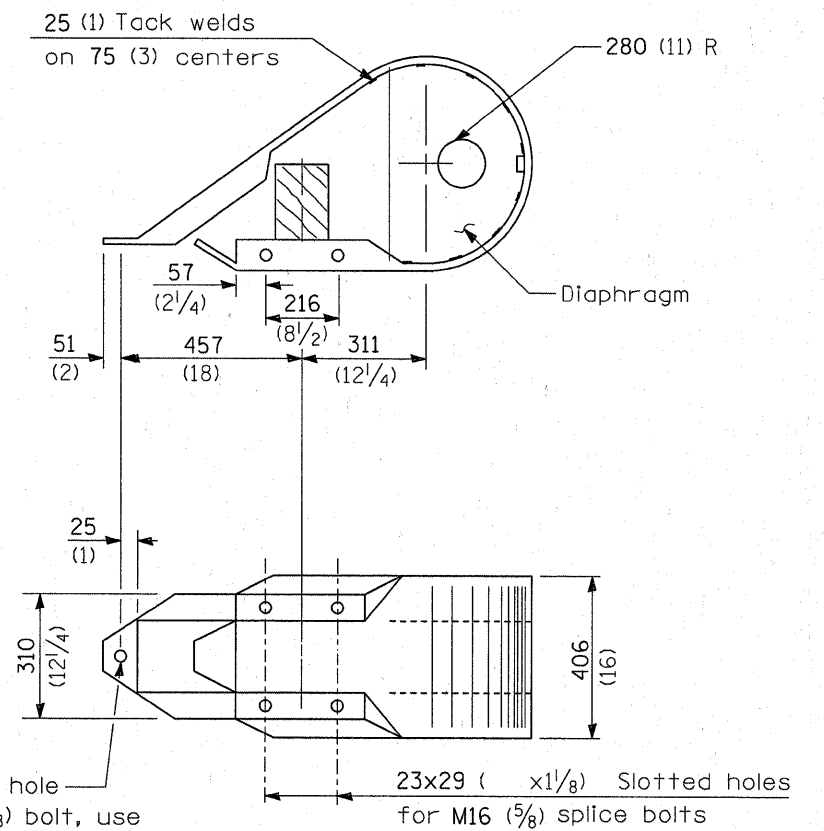


**STEEL TUBE**  
(2 ea.)

**SOIL PLATE H**  
(2 ea.)



**BEARING PLATE K**  
(1 ea.)



**NOSE**  
(1 ea.)

**DETAIL INCLUDED  
FOR REPAIR ONLY**

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

• D-3 HIGHWAY DAMAGE REPAIR 2011

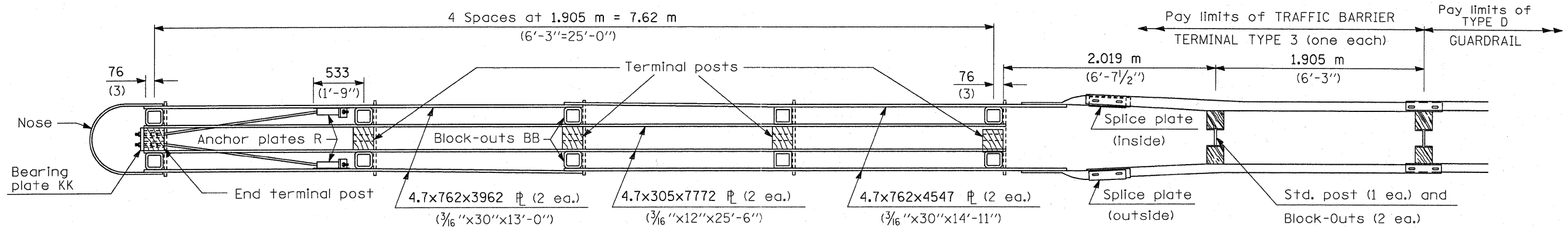
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	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = Apr 07, 2011 - 11:42:13 AM	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

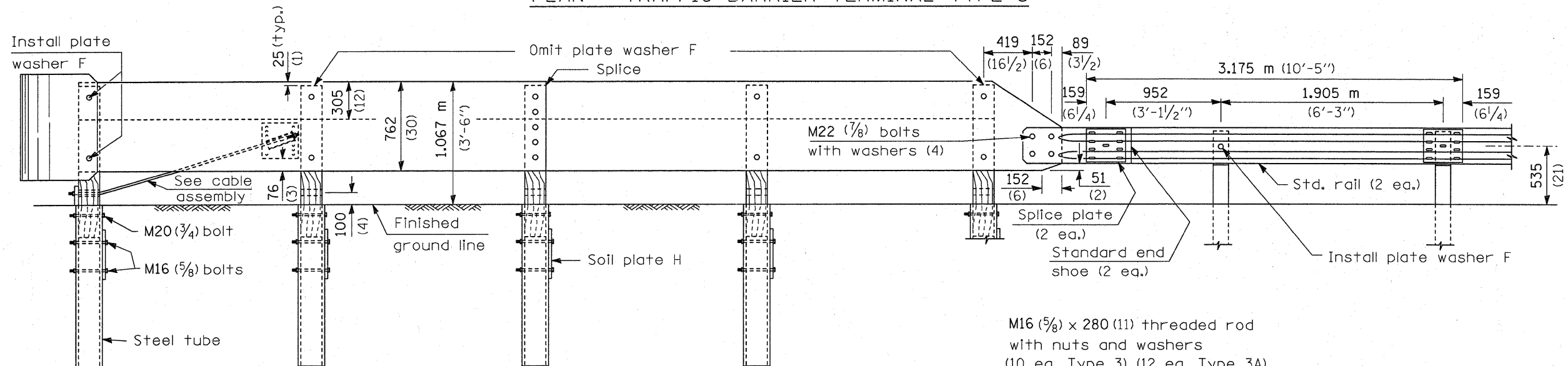
**TRAFFIC BARRIER TERMINAL TYPE 1  
STANDARD B.L.R. 23**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.		VAR.	35	9
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 66B29	

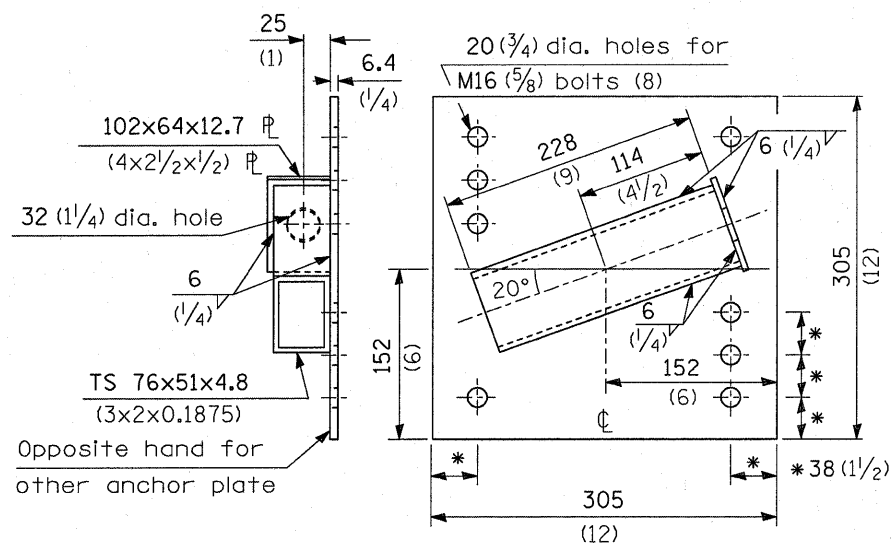
SCALE: SHEET NO. OF SHEETS STA. TO STA.



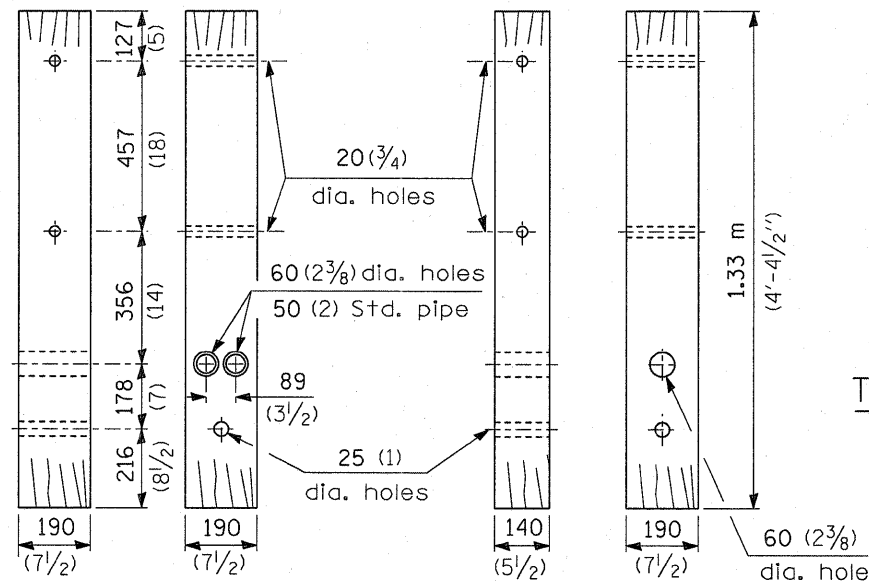
PLAN - TRAFFIC BARRIER TERMINAL TYPE 3



ELEVATION

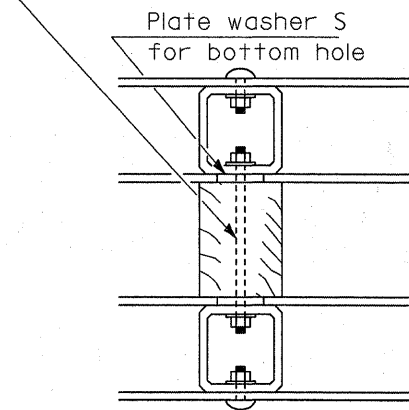


ANCHOR PLATE R  
(1 ea. lt. hd. & 1 ea. rt. hd.)



END TERMINAL POST  
(1 ea.)

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



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.

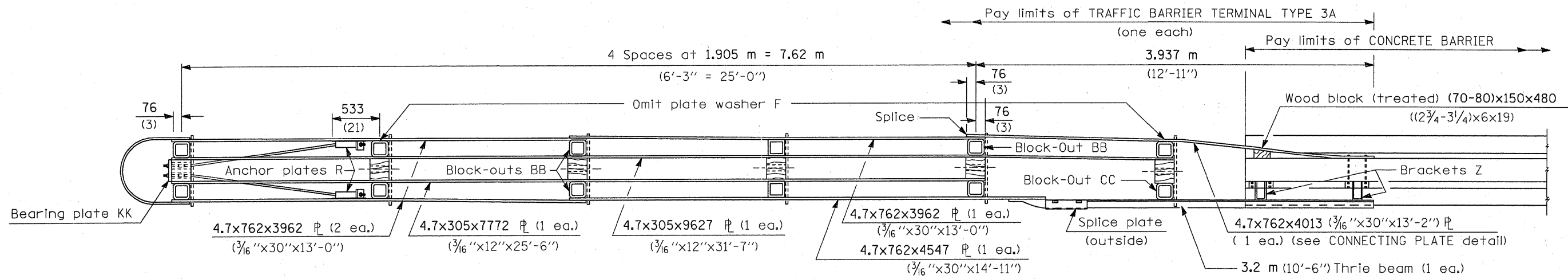
Unless otherwise shown all bolts and nuts shall be Standard Post and Splice Bolts and Nuts (See Standard 630001).

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

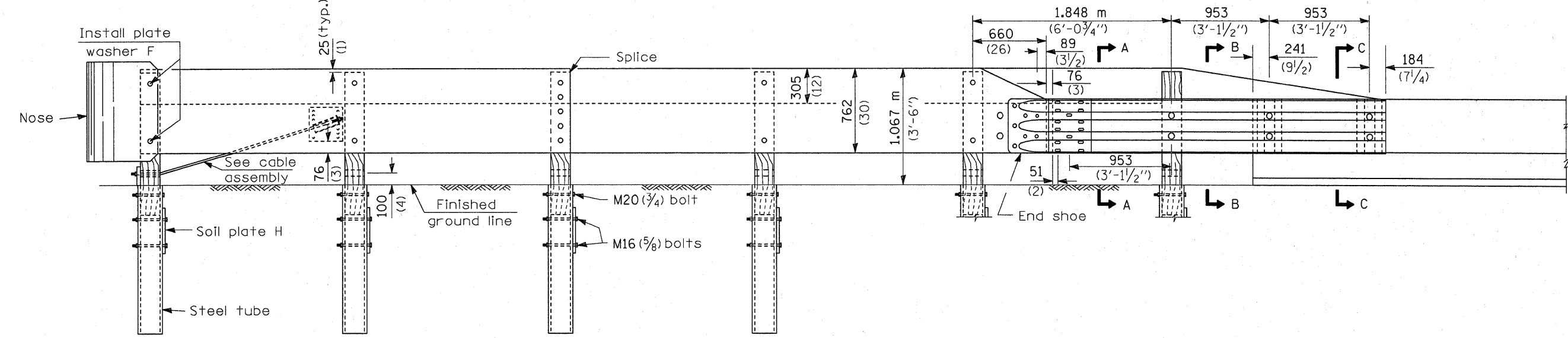
**DETAIL INCLUDED FOR REPAIR ONLY**

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

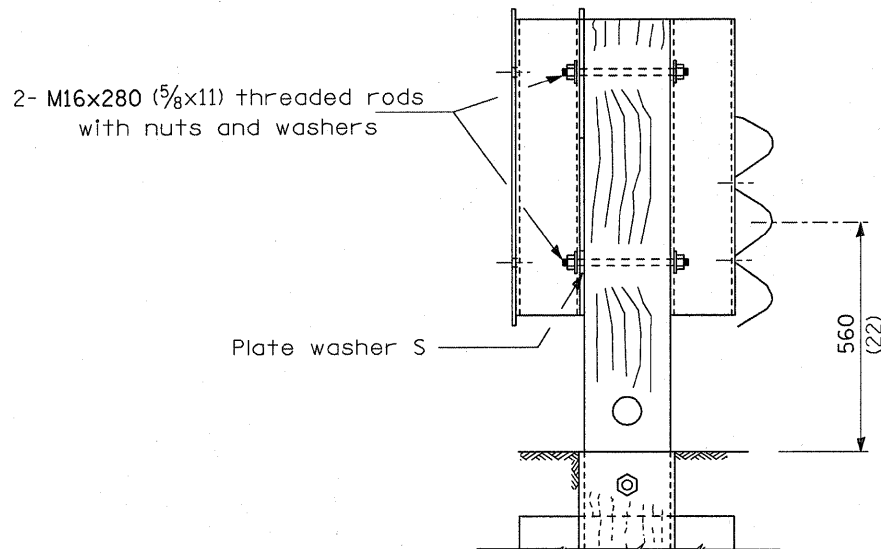
FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC BARRIER TERMINAL TYPE 3 &amp; 3A</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
cr:\pv_work\pwidot\quigleyml\d0258015\036829-ahd-DETAILS.dgn	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -			VAR.		VAR.	35	10	
	PLOT DATE = Apr 07, 2011 - 11:42:07 AM	CHECKED -	REVISED -			SCALE: SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO. 66B29		ILLINOIS FED. AID PROJECT	
		DATE -	REVISED -								



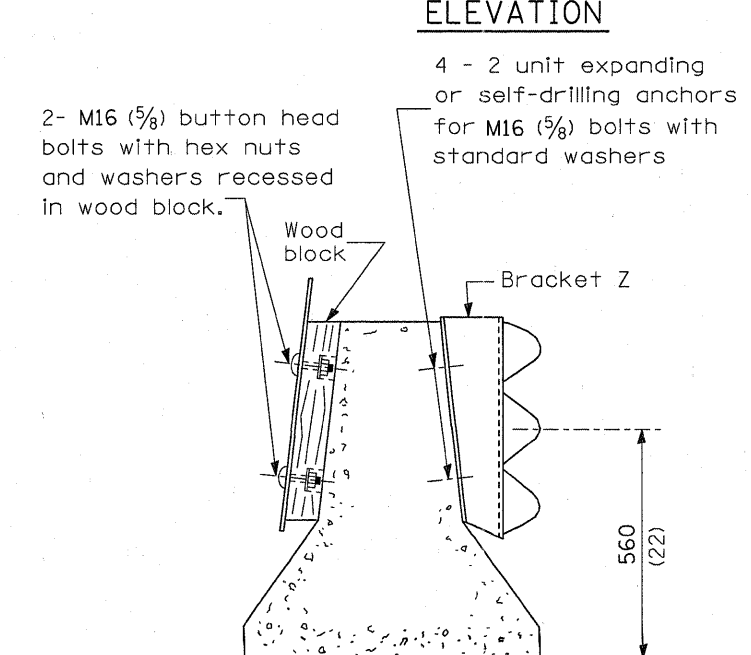
PLAN - TRAFFIC BARRIER TERMINAL TYPE 3A



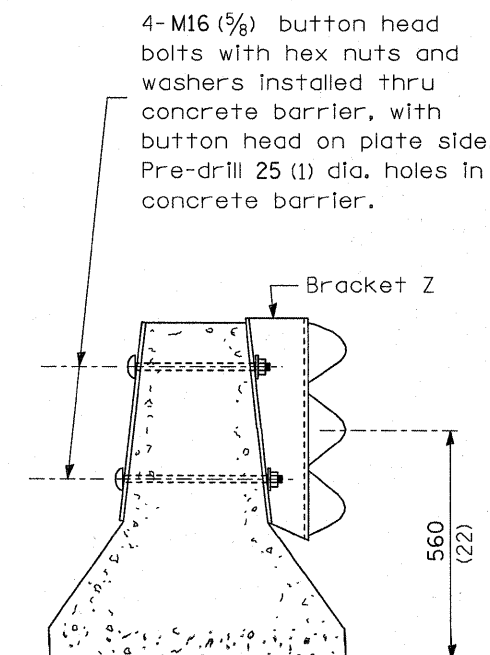
ELEVATION



SECTION A-A



SECTION B-B



SECTION C-C

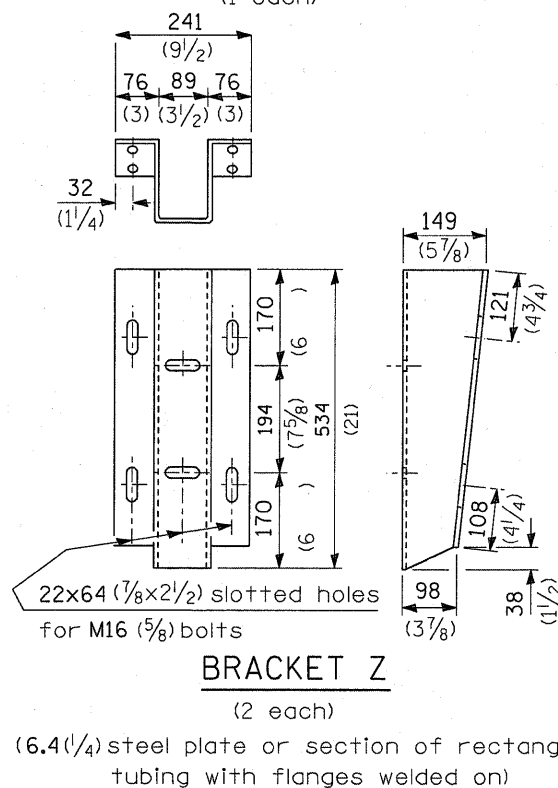
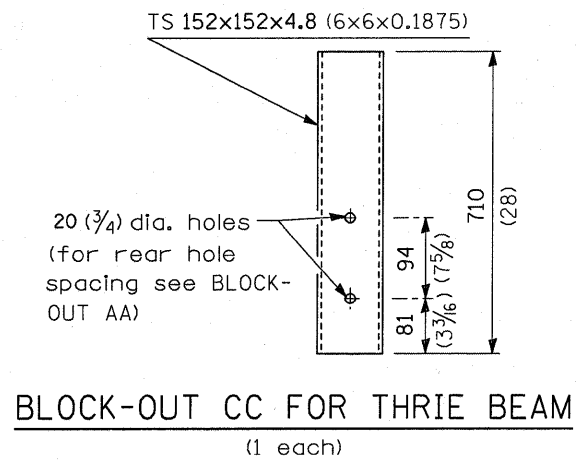
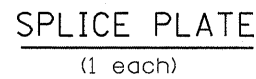
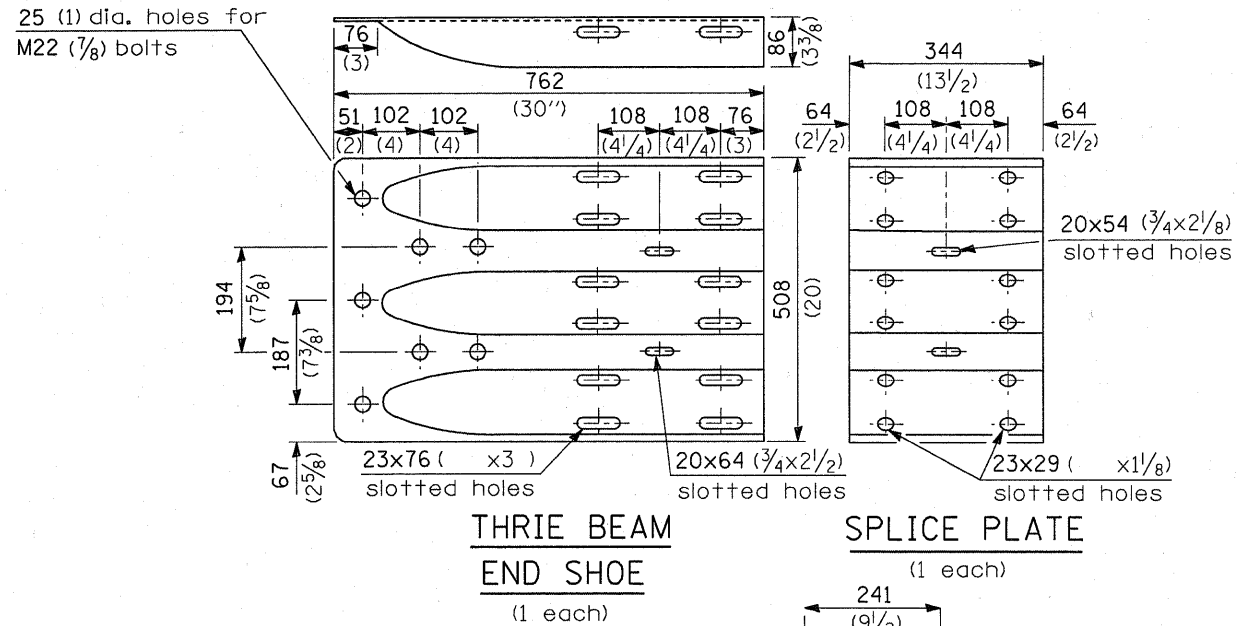
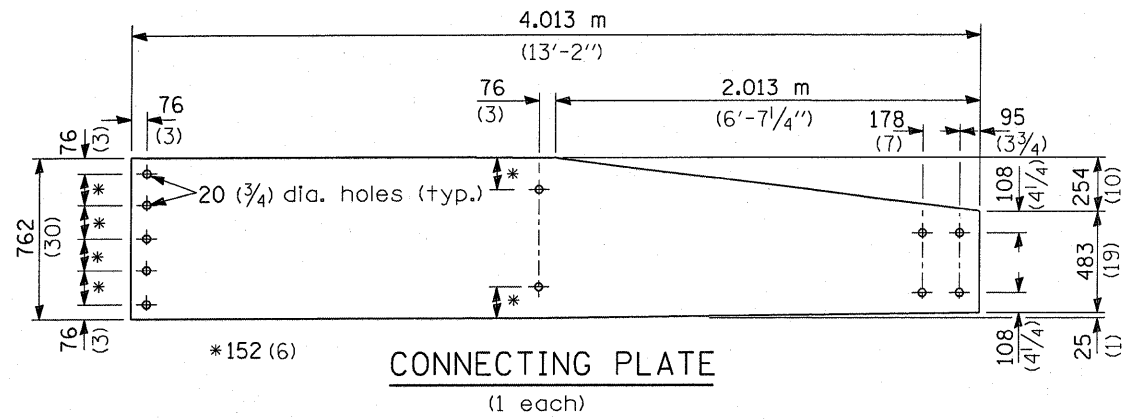
**DETAIL INCLUDED FOR REPAIR ONLY**

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

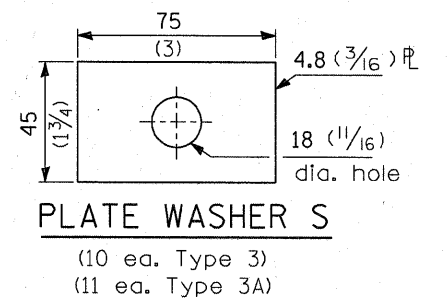
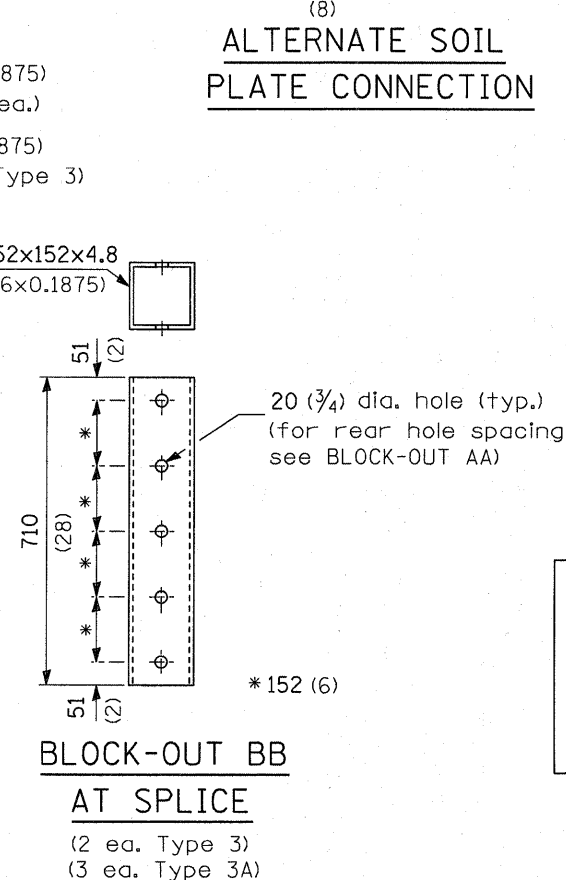
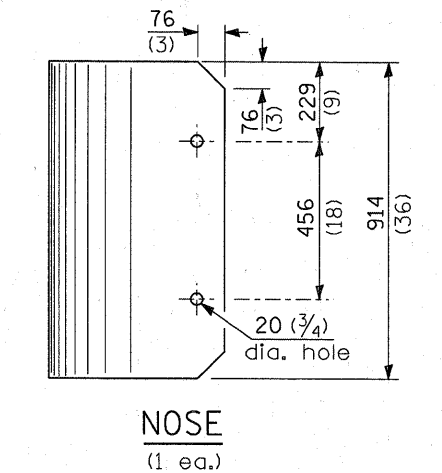
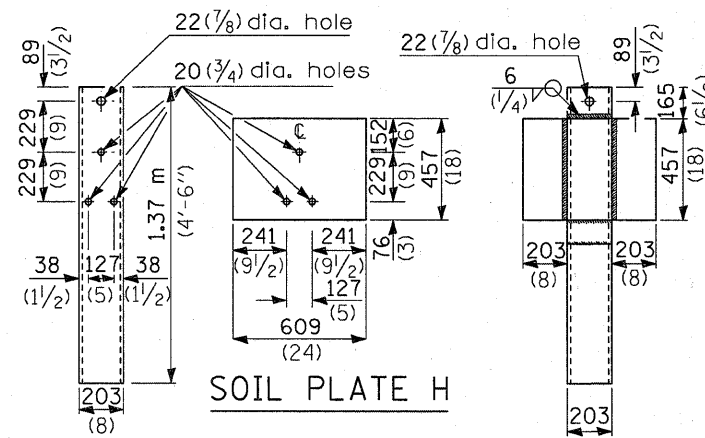
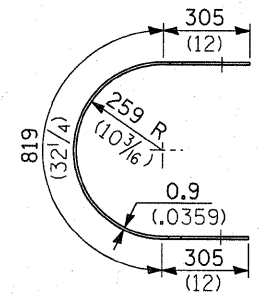
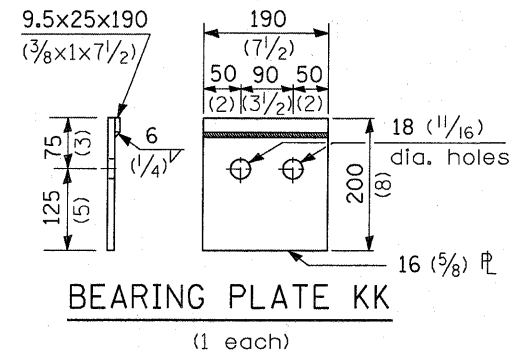
FILE NAME =		USER NAME = quigleyml		DESIGNED -		REVISED -		<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>		<b>TRAFFIC BARRIER TERMINAL TYPE 3 &amp; 3A</b>				F.A. RTE.		SECTION		COUNTY		TOTAL SHEETS		SHEET NO.	
c:\pwr_work\pwr\dot\quigleyml\d02588015\0368829-ah-t-DETAILS.dgn		DRAWN -		REVISED -		REVISED -								VAR.		VAR.		VAR.		35		11	
PLOT SCALE = 50.0000 / IN.		CHECKED -		REVISED -		REVISED -								CONTRACT NO. 66B29		FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT			
PLOT DATE = Apr 07, 2011 - 11:42:00 AM		DATE -		REVISED -		REVISED -								SCALE:		SHEET NO. OF SHEETS STA.		TO STA.					

• D-3 HIGHWAY DAMAGE REPAIR 2011

**TYPE 3A ONLY**



**TYPE 3 & 3A**

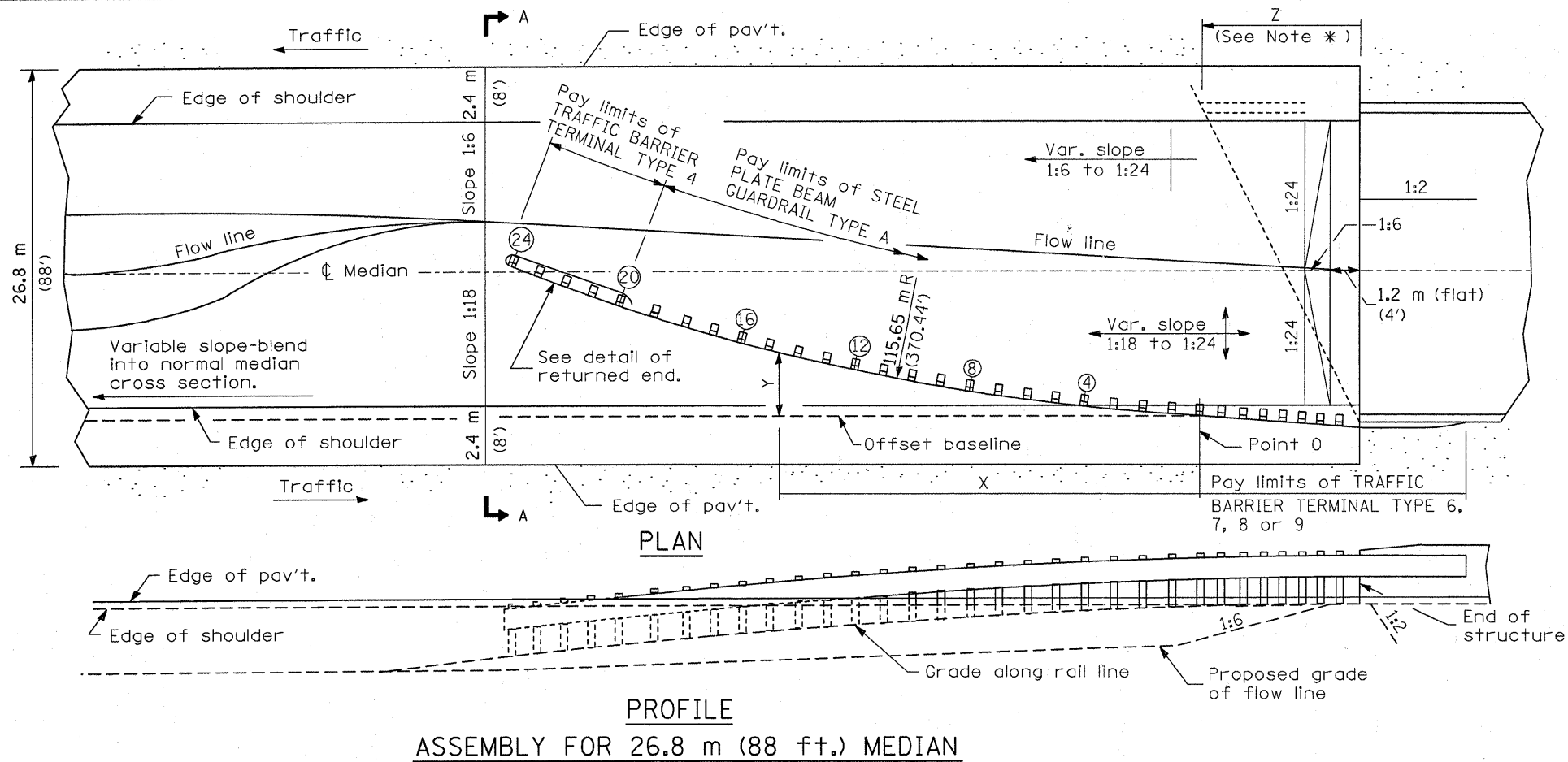


**DETAIL INCLUDED FOR REPAIR ONLY**

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

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC BARRIER TERMINAL TYPE 3 &amp; 3A</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
cr\pwork\pwork\quigleyml\d0258015\036829-ah-t-DETAILS.dgn		DRAWN -	REVISED -			VAR.		VAR.	35	12
		CHECKED -	REVISED -						CONTRACT NO. 66B29	
		DATE -	REVISED -							
				SCALE: SHEET NO. OF SHEETS STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

• D-3 HIGHWAY DAMAGE REPAIR 2011



OFFSETS TO FACE OF RAIL		
POST	DISTANCE X m (ft.)	OFFSET Y m (ft.)
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.

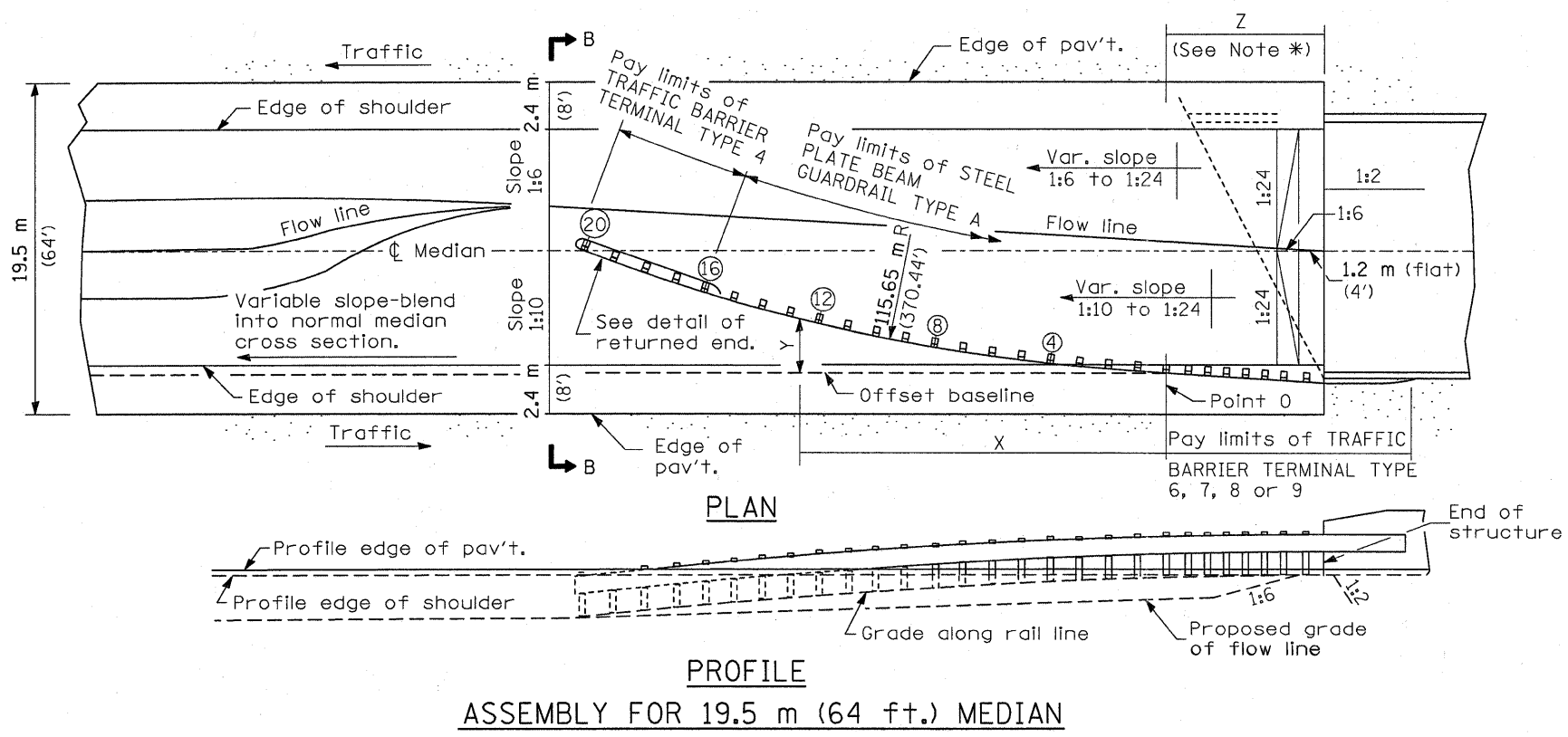
\*For dual structures skewed right forward, the nose of the Type 4 terminal shall be positioned longitudinally away from the structure for a distance equal to dimension Z. Appropriate adjustments to the length of the Type A guardrail and its offsets (Y) shall be calculated and used. All additional lengths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

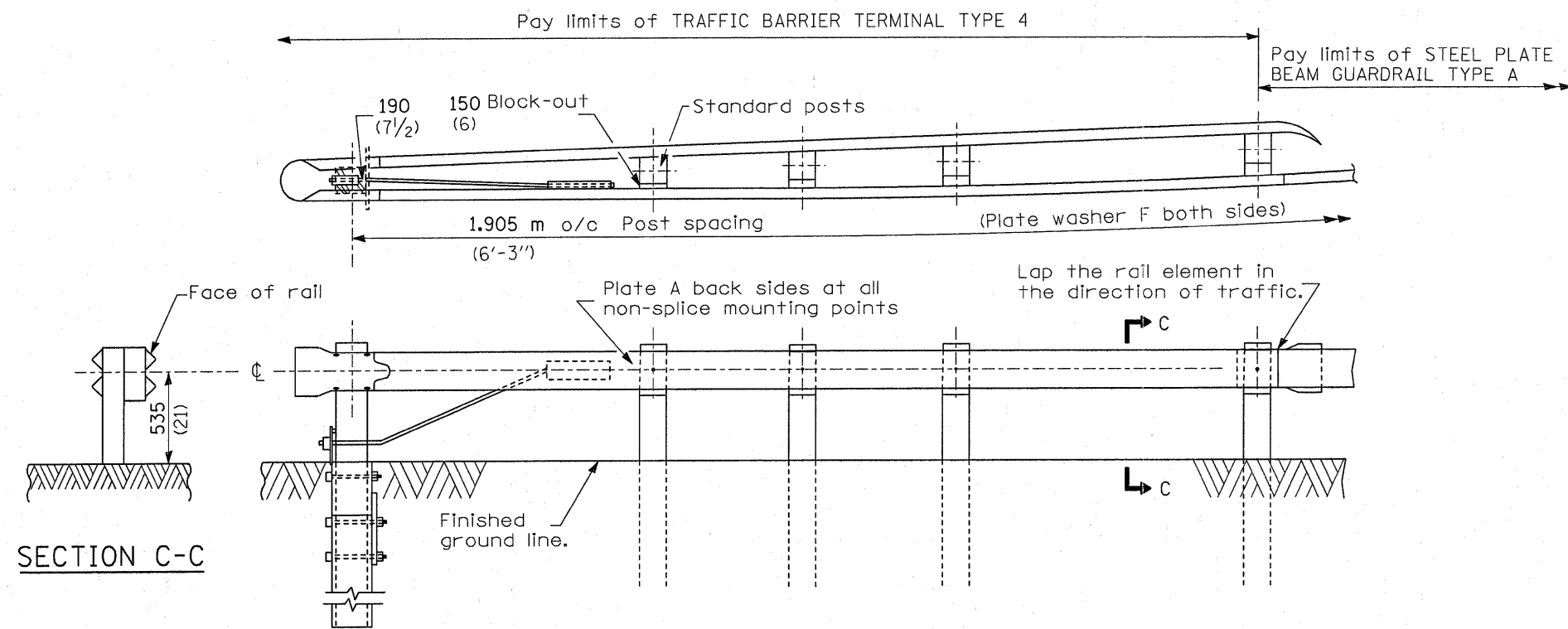


**DETAIL INCLUDED  
FOR REPAIR ONLY**

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

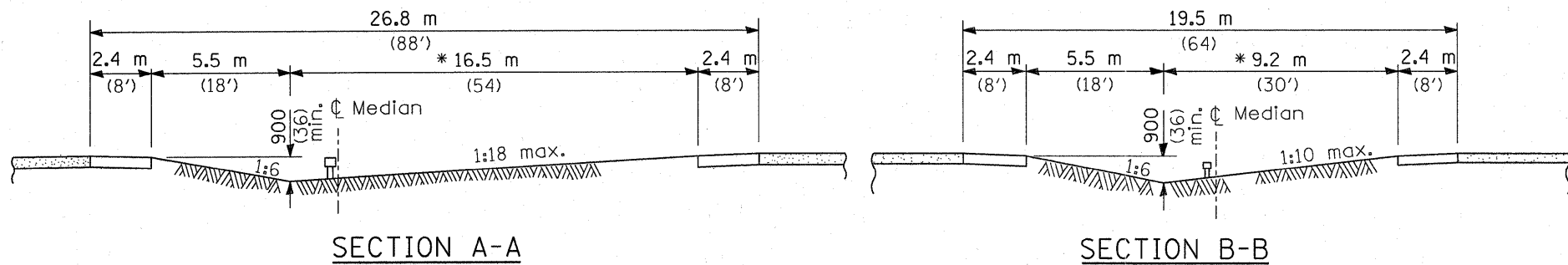
• 0-3 HIGHWAY DAMAGE REPAIR 2011

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC BARRIER TERMINAL TYPE 4</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = Apr 07, 2011 - 11:41:39 AM	CHECKED -	REVISED -						CONTRACT NO. 66B29		
						SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.



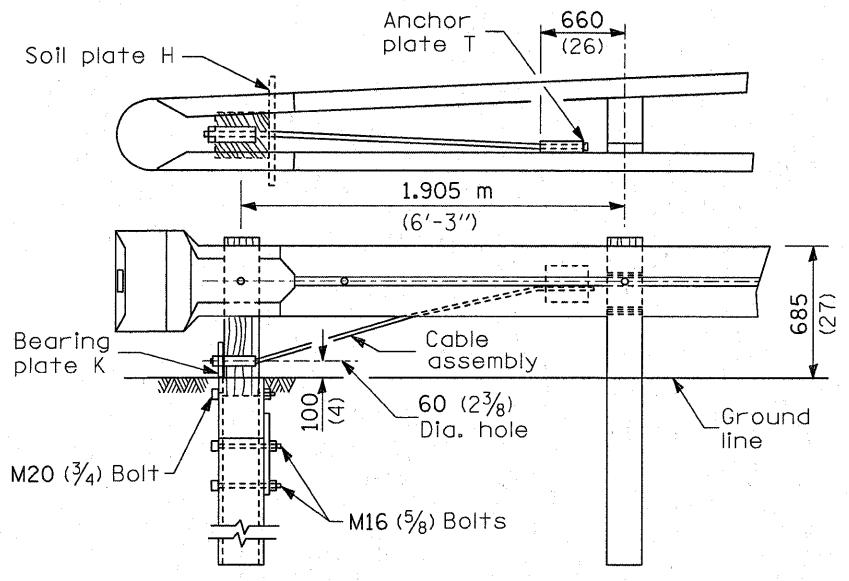
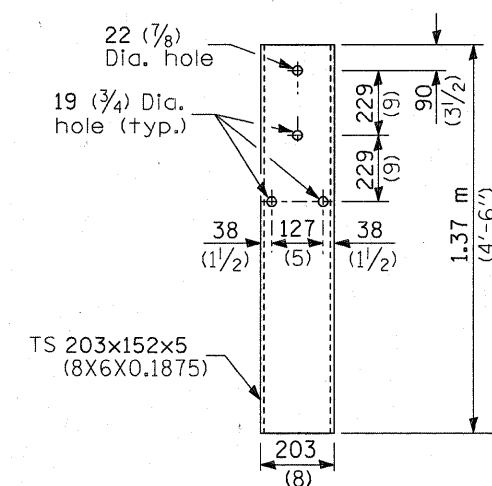
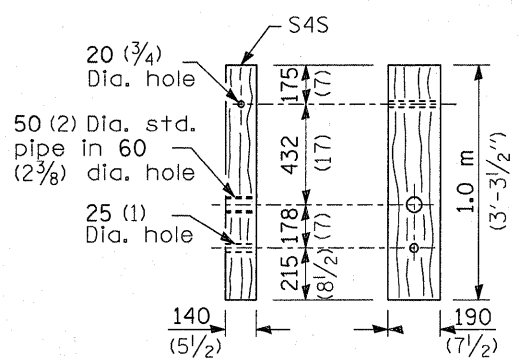
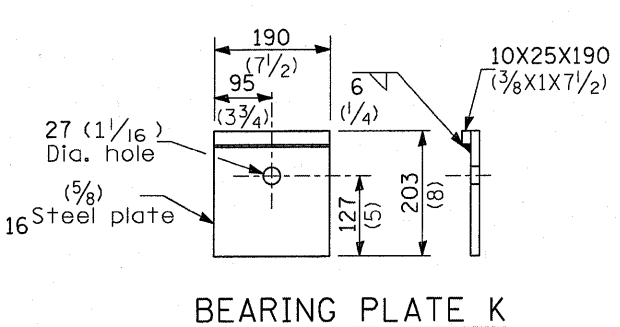
RETURNED END DETAIL

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

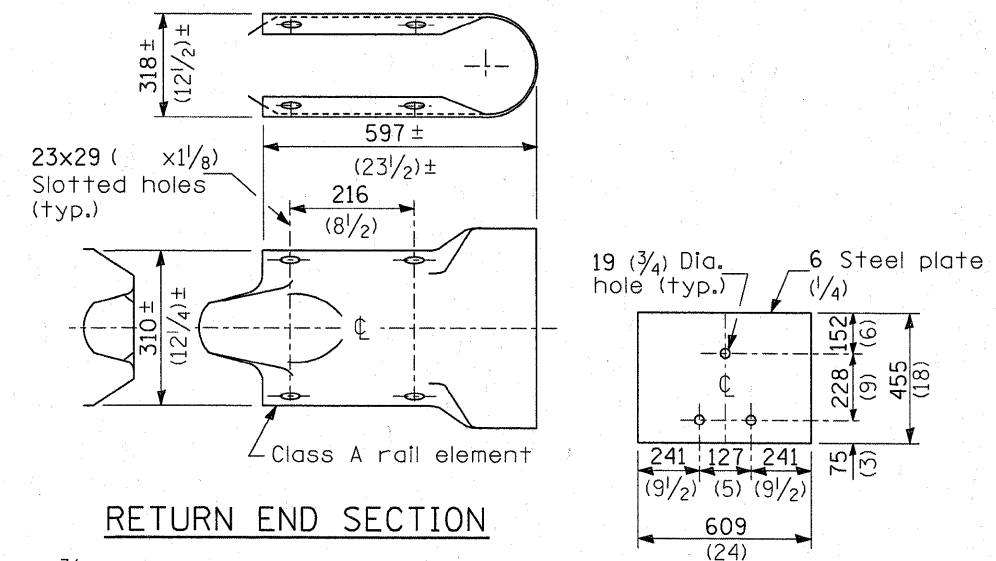


SECTION A-A

SECTION B-B

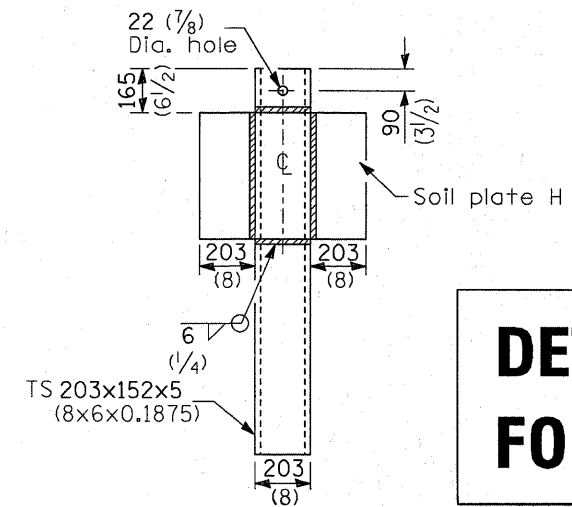


WOOD POST TUBULAR STEEL FOUNDATION



RETURN END SECTION

SOIL PLATE H



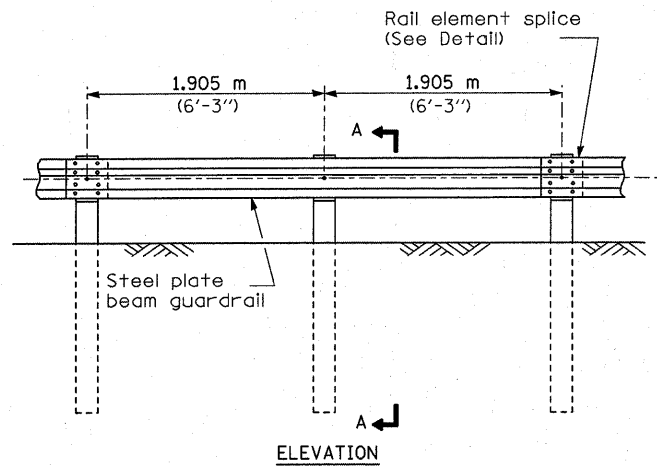
ALTERNATE SOIL PLATE CONNECTION

**DETAIL INCLUDED FOR REPAIR ONLY**

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

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC BARRIER TERMINAL TYPE 4</b>				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		DATE -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.				

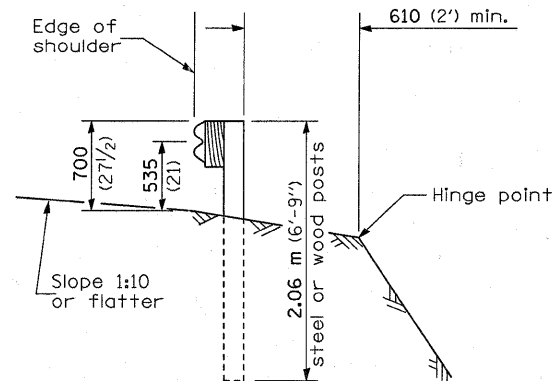
D-3 HIGHWAY DAMAGE REPAIR 2011



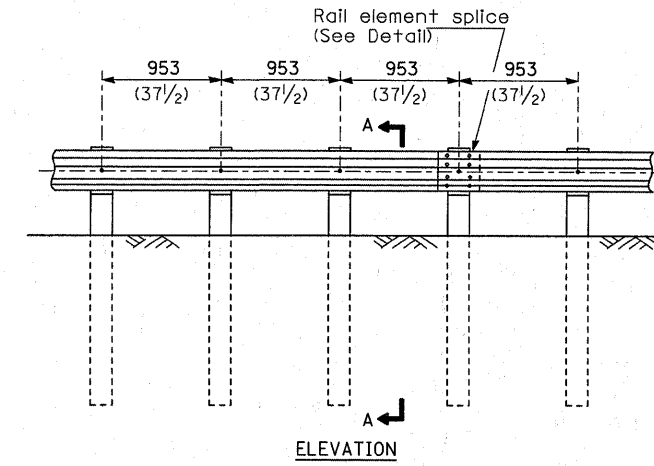
ELEVATION

**TYPE A**

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



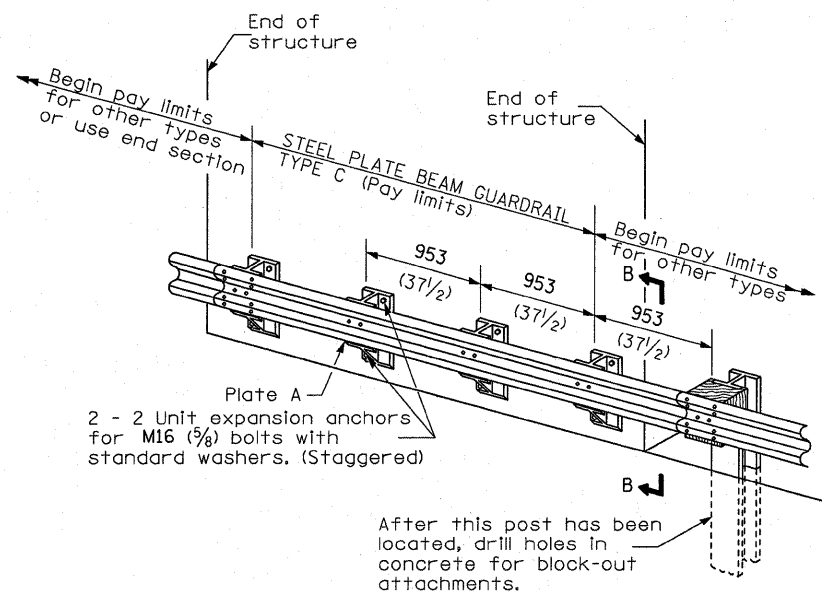
SECTION A-A



ELEVATION

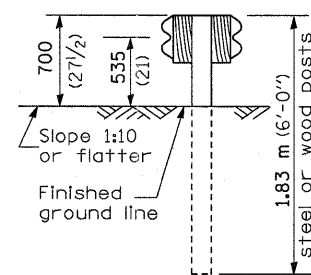
**TYPE B**

953 (37 1/2) Closed post spacing

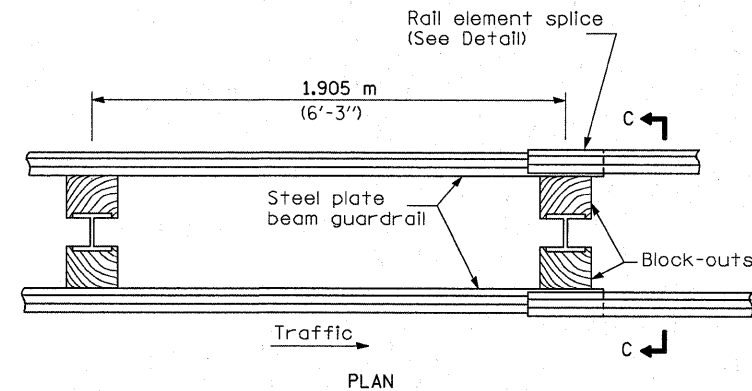


**TYPE C**

953 (37 1/2) Block-out spacing



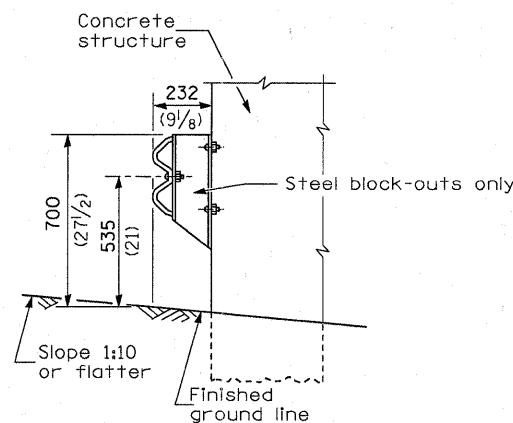
SECTION C-C



PLAN

**TYPE D**

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



SECTION B-B

**GENERAL NOTES**

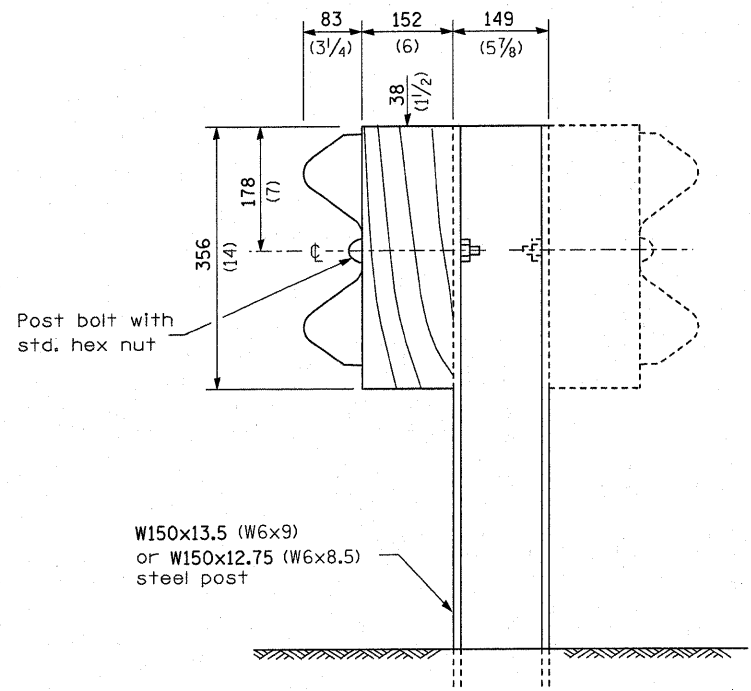
All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

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

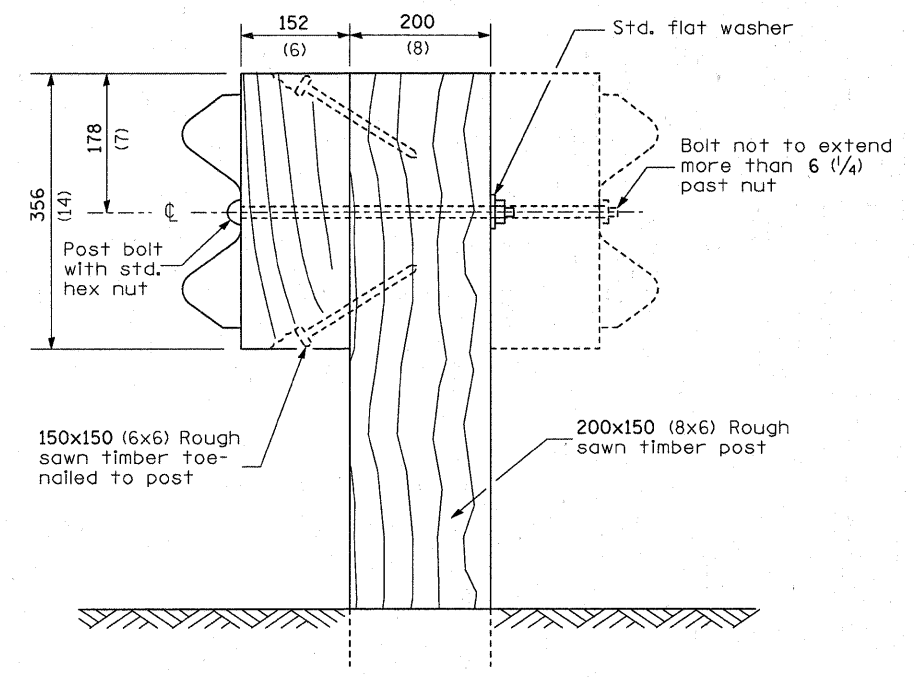
FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 STEEL PLATE BEAM GUARDRAIL STANDARD 630001-06</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pw_work\pwsdot\quigleyml\d0258015\036829-sht-DETAILS.dgn	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -			VAR.			VAR.	35	15
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		DATE -	REVISED -			SCALE:	SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		

• D-3 HIGHWAY DAMAGE REPAIR 2011

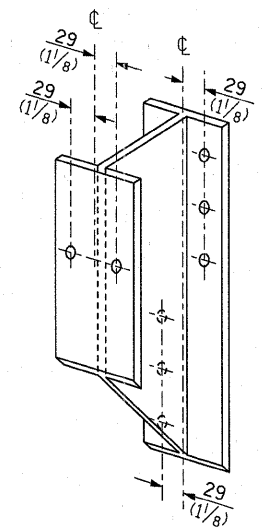




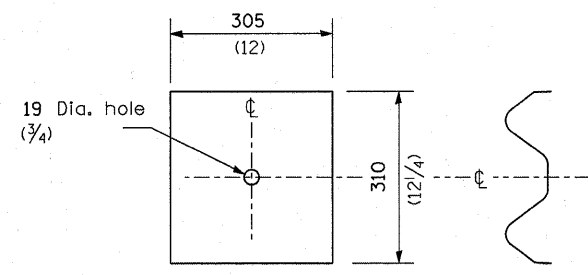
**STEEL POST CONSTRUCTION**



**WOOD POST CONSTRUCTION**



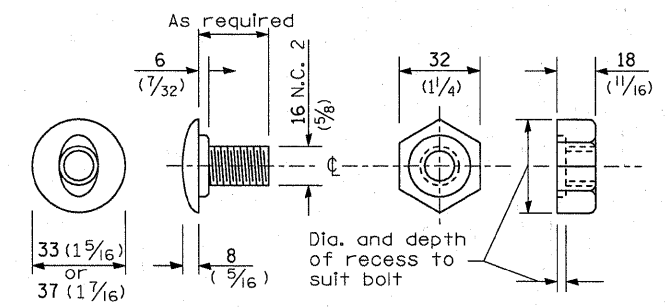
**STEEL BLOCK-OUT DETAIL**



**NOTE**

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

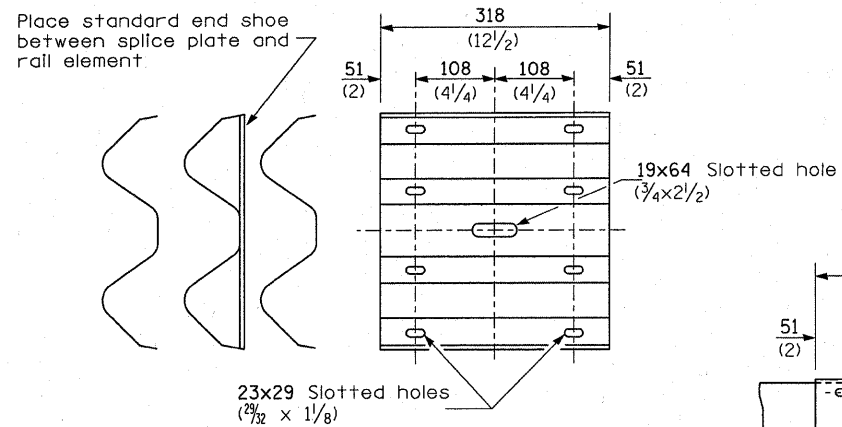
**PLATE A**



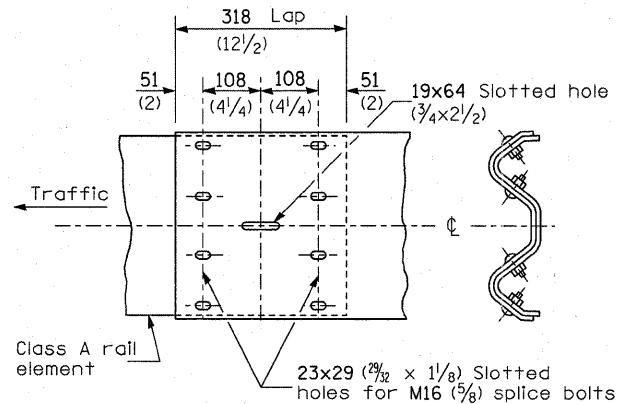
**POST OR SPLICE BOLT & NUT**

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 STEEL PLATE BEAM GUARDRAIL STANDARD 630001-06</b> <small>(Sheet 2 of 4)</small>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\pw_work\p\dot\quigleyml\d0258015\036829-ahd-DETAILS.dgn	DRAWN -	REVISED -	VAR.			.	VAR.	35	16	
PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	CONTRACT NO. 66B29							
PLOT DATE = Apr 07, 2011 - 11:40:07 AM	DATE -	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

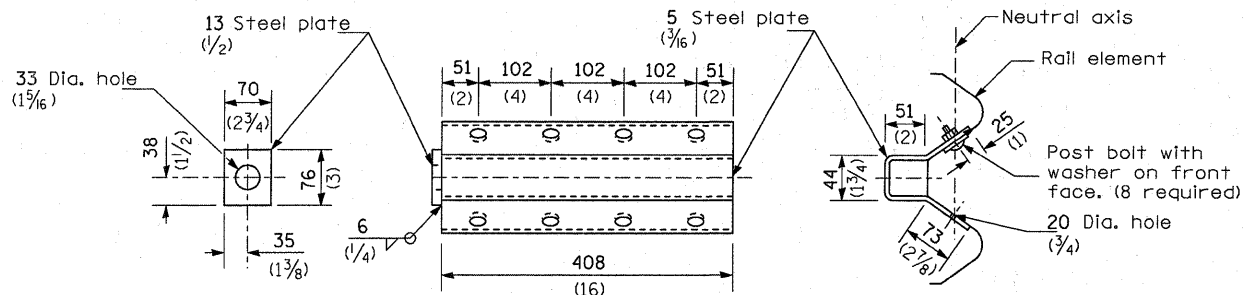




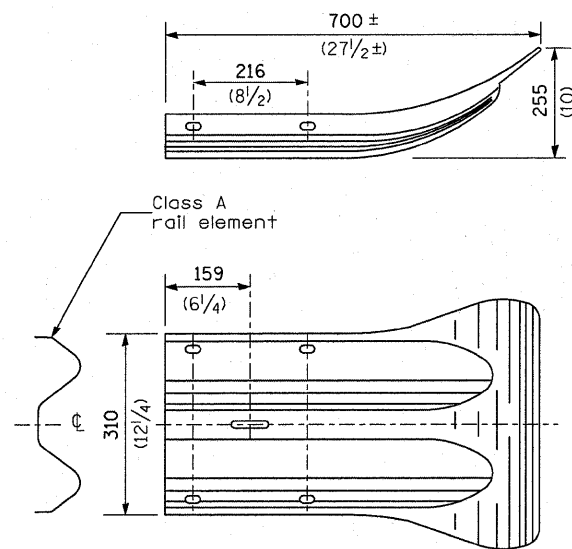
**SPLICE PLATE**



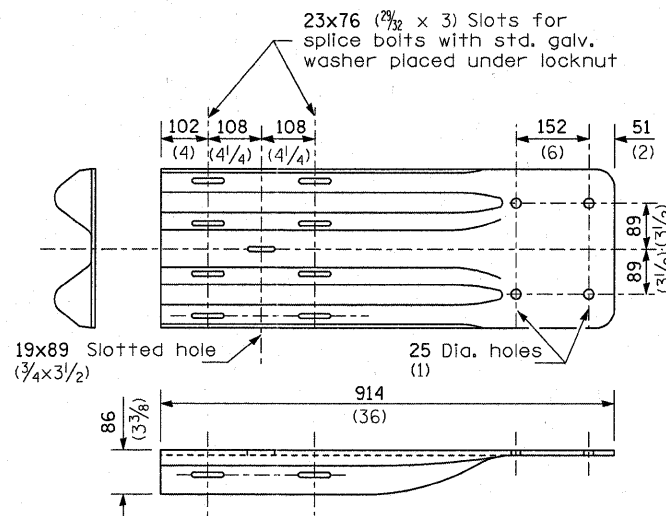
**RAIL ELEMENT SPLICE**



**ANCHOR PLATE T DETAILS**



**END SECTION**



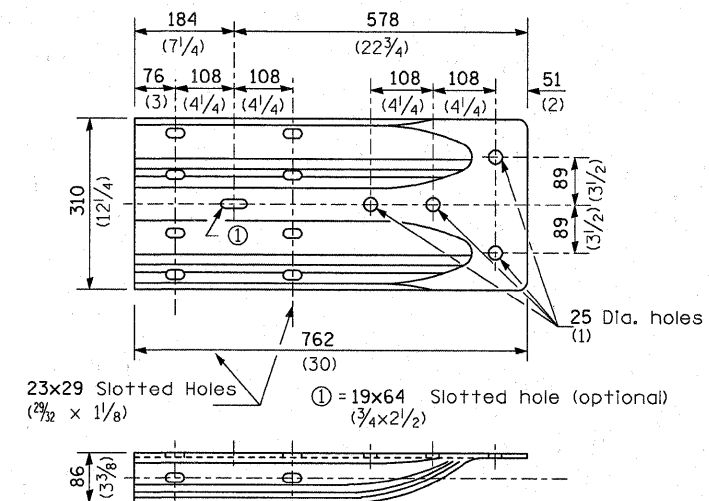
NOTE

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**



**ALTERNATE END SHOE**

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -
c:\pwork\pwork\quigleyml\d0258015\036829-ahh-DETAILS.dgn		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

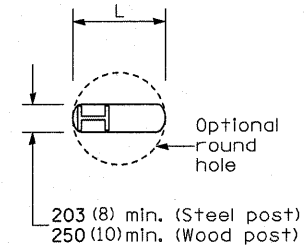
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PRE-MGS EFFECTIVE 4-1-06  
STEEL PLATE BEAM GUARDRAIL  
STANDARD 630001-06**

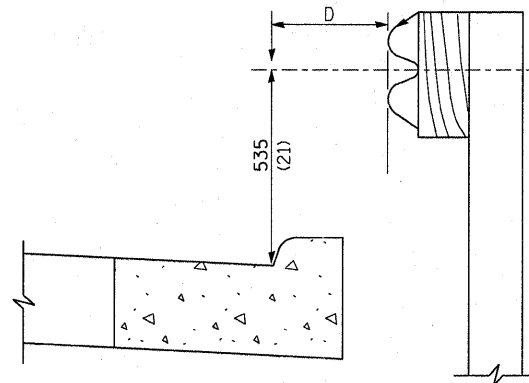
(Sheet 3 of 4)

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.			35	17
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 66B29	



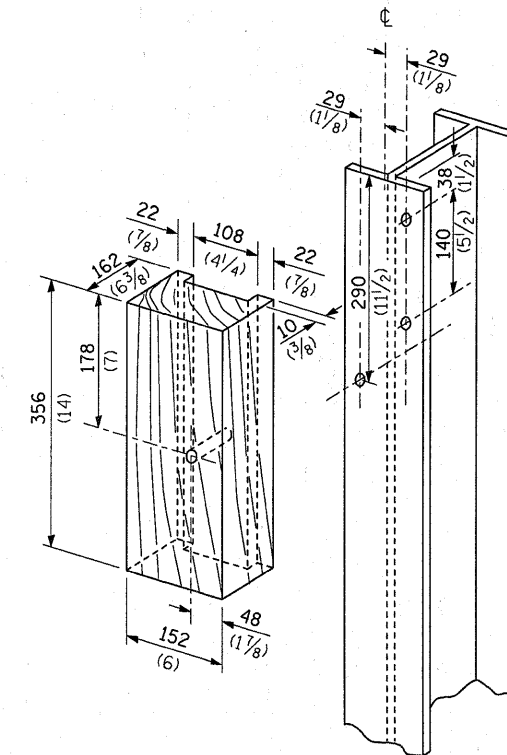
PLAN



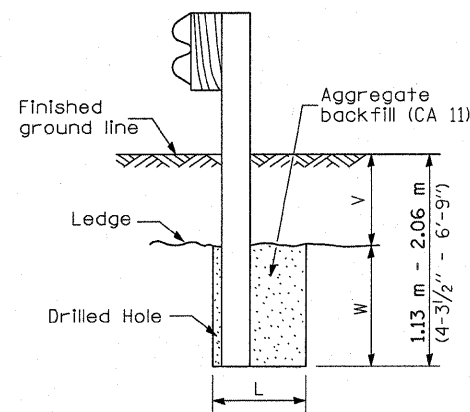
Note:  
If it is necessary for D to be more than 300 (12) and less than 3.0 m (10'-0") type M-5 (M-2) curb and gutter (Std. 606001) shall be used in front of and in advance of the guardrail.

GUARDRAIL PLACED BEHIND CURB

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



WOOD BLOCK-OUT AND STEEL POST DETAILS

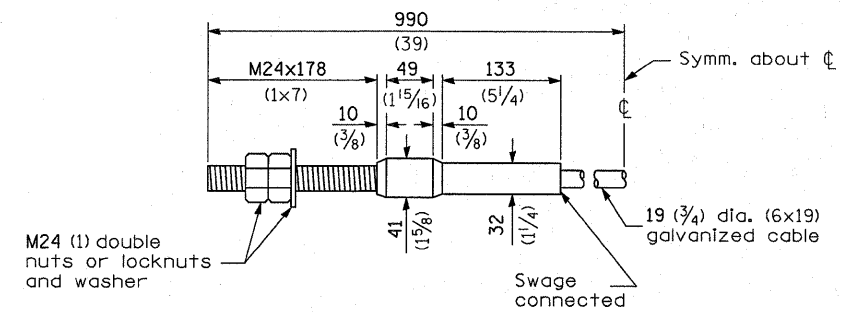


Note:  
Ledge line is top of rock ledge or hard slag fill.

ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED

V	W	L	
		Steel Post	Wood Post
0 - 460 (0 - 18)	610 (24)	530 (21)	580 (23)
>460 - 825 (>18 - 41.5)	305 (12)	203 (8)	250 (10)
>825 - 1.13 m (>41.5 - 53.5)	305 - 0 (12 - 0)	203 (8)	250 (10)

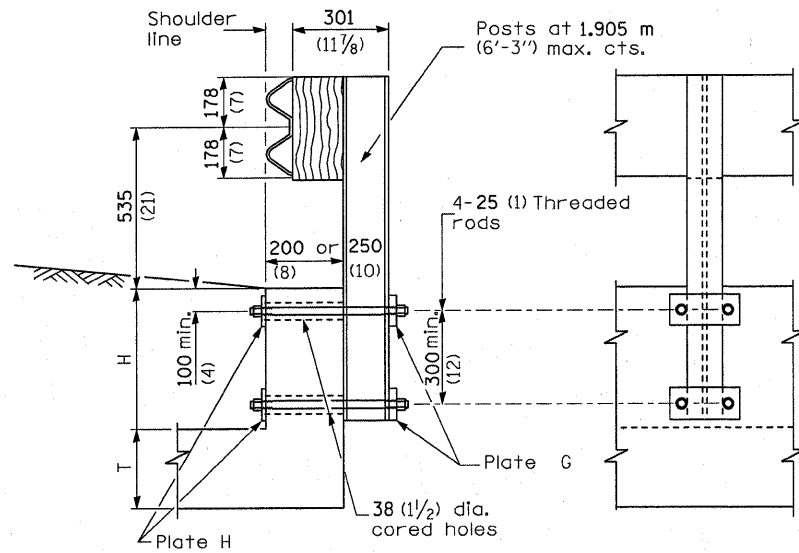


CABLE ASSEMBLY

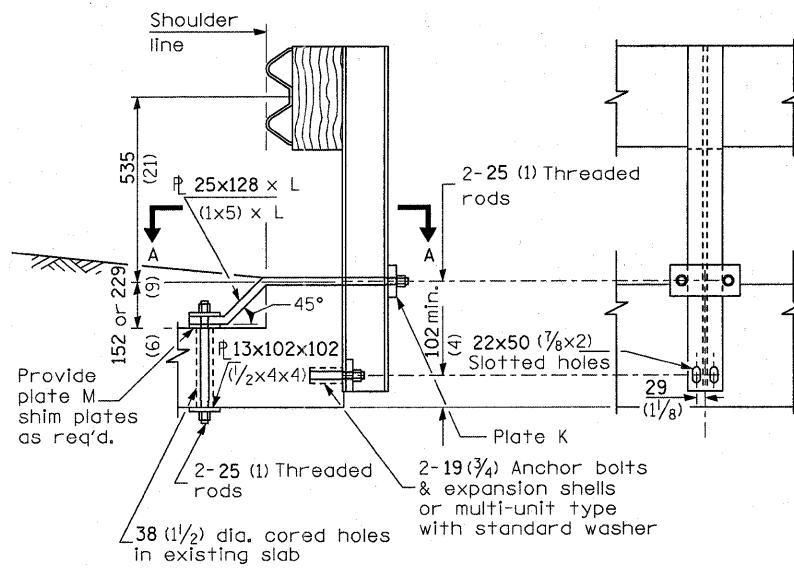
(18,100 kg (40,000 lbs.) min. breaking strength)  
Tighten to taut tension.

• D-3 HIGHWAY DAMAGE REPAIR 2011

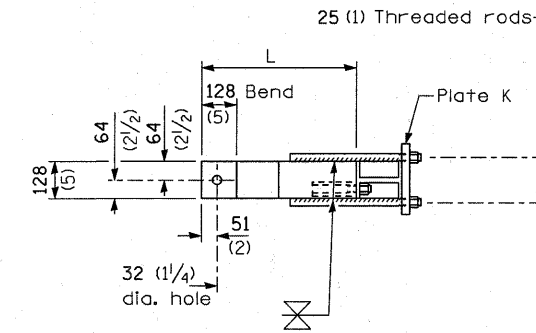
FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 STEEL PLATE BEAM GUARDRAIL STANDARD 630001-06</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ci:\pwork\pwork\quigleyml\d0258015\036829-ahh-DETAILS.dgn	DRAWN -	REVISED -	VAR.			*	VAR.	35	18	
PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	(Sheet 4 of 4)			CONTRACT NO. 66B29				
PLOT DATE = Apr 07, 2011 - 11:39:41 AM	DATE -	REVISED -	SCALE: SHEET NO. OF SHEETS STA. TO STA.			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



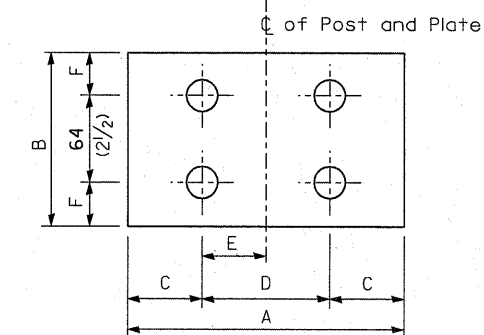
**CROSS SECTION** **ELEVATION**  
**CONDITION H > 450 (18)**



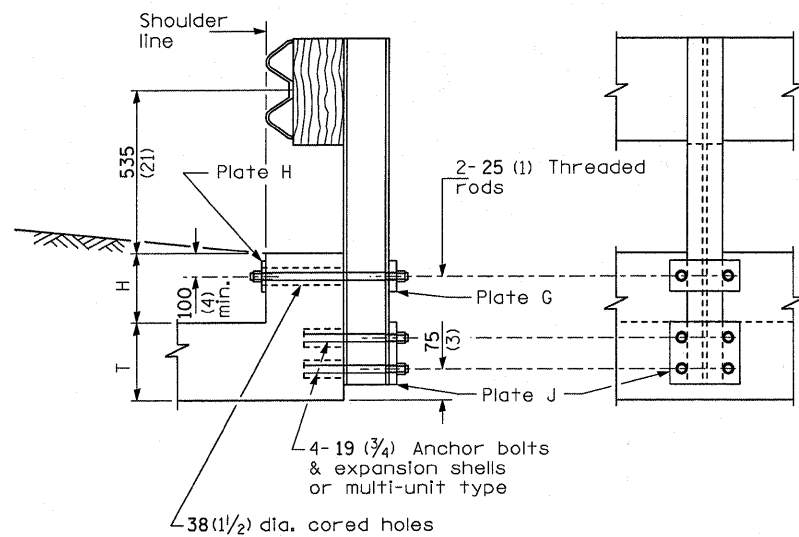
**CROSS SECTION** **ELEVATION**  
**CASE II**  
**MOUNTED ON TOP HEADWALL**  
**WITH SQUARE TIP**



**SECTION A-A**



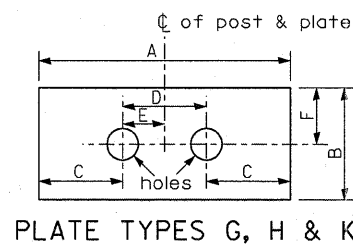
**PLATE TYPE J**



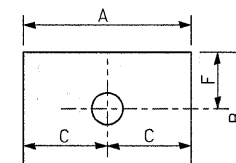
**CROSS SECTION** **ELEVATION**  
**CONDITION H < 450 (18) & H+T ≥ 510 (20)**

**CASE I**  
**MOUNTED ON**  
**RAISED HEADWALL**

PLATE DIMENSIONS								
Type	A	B	C	D	E	F	Hole Dia.	Thick-ness
G	230 (9)	100 (4)	40 (1 1/2)	150 (6)	75 (3)	50 (2)	29 (1 1/8)	25 (1)
H	230 (9)	100 (4)	40 (1 1/2)	150 (6)	75 (3)	50 (2)	29 (1 1/8)	13 (1/2)
J	230 (9)	126 (5)	40 (1 1/2)	150 (6)	75 (3)	31 (1 1/4)	22 (7/8)	25 (1)
K	230 (9)	100 (4)	40 (1 1/2)	150 (6)	75 (3)	50 (2)	29 (1 1/8)	32 (1 1/4)
M	100 (4)	100 (4)	50 (2)	N/A	N/A	50 (2)	32 (1 1/8)	13 (1/2)



**PLATE TYPES G, H & K**



**PLATE TYPE M**

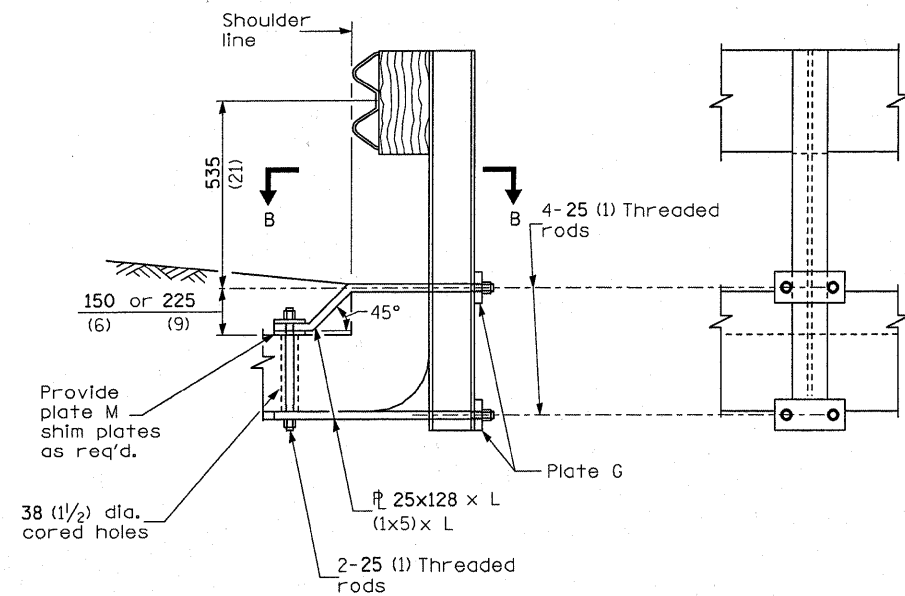
**GENERAL NOTES**

Except as noted, dimensions and notes specified for case II, III, and IV are the same as specified for case I.

For details of guardrail elements not shown, see Standard 630001.

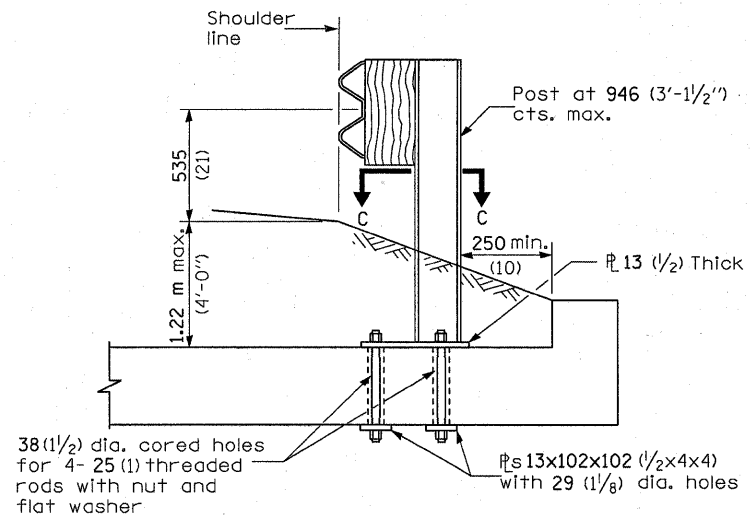
All threaded rods shall be installed with heavy hex nuts and standard washers.

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

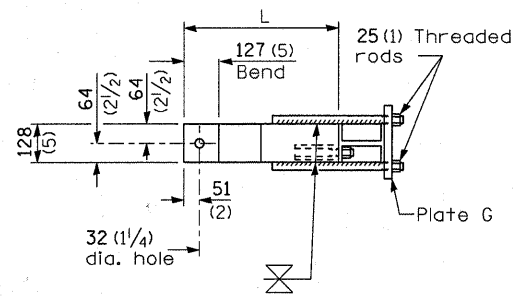


CROSS SECTION

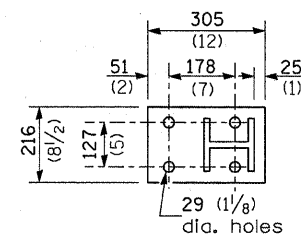
ELEVATION



CROSS SECTION



SECTION B-B



SECTION C-C

CASE III  
MOUNTED ON HEADWALL  
WITH CURVED OR DEMOLISHED TIP

CASE IV  
MOUNTED ON SLAB

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

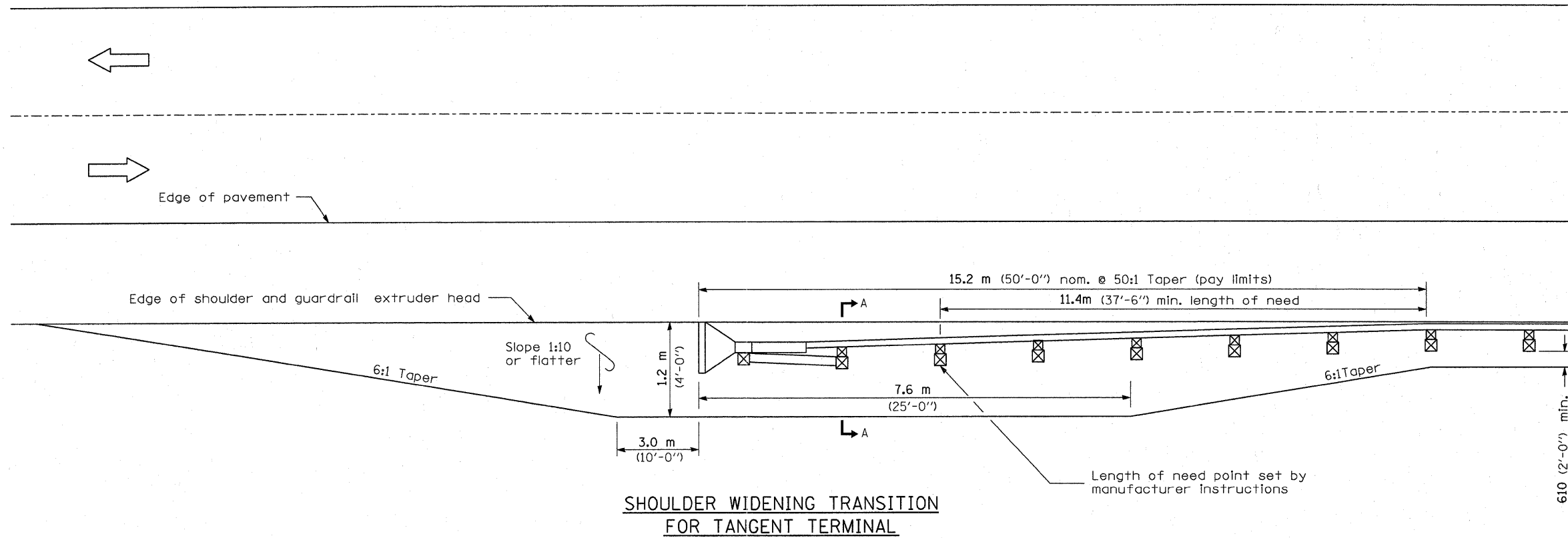
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	PLOT DATE = Apr 07, 2011 - 11:39:27 AM	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

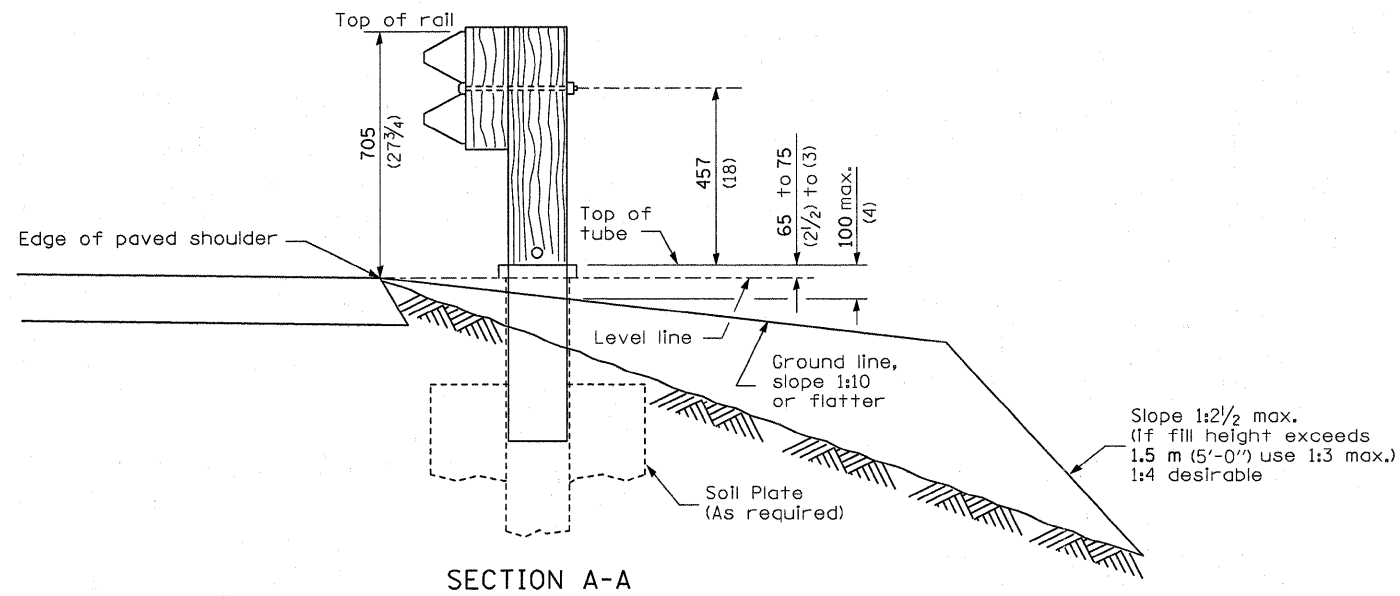
PRE-MGS EFFECTIVE 4-1-06  
GUARDRAIL MOUNTED ON EXISTING CULVERTS  
STANDARD 630101-06 (Sheet 2 of 2)

F.A. RTE. VAR.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			35	20
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 66B29	

• D-3 HIGHWAY DAMAGE REPAIR 2011



**SHOULDER WIDENING TRANSITION  
FOR TANGENT TERMINAL**



**SECTION A-A**

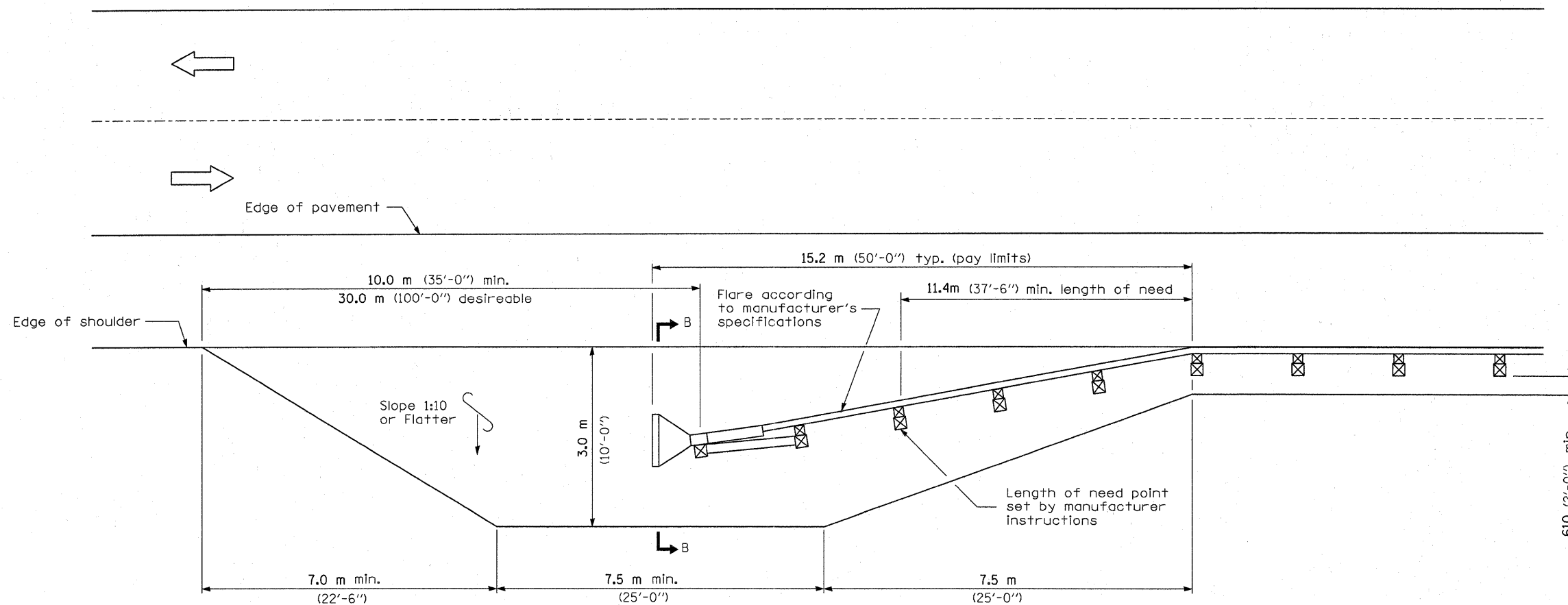
**GENERAL NOTES**

50:1 Taper required so the guardrail head will not encroach on the shoulder.

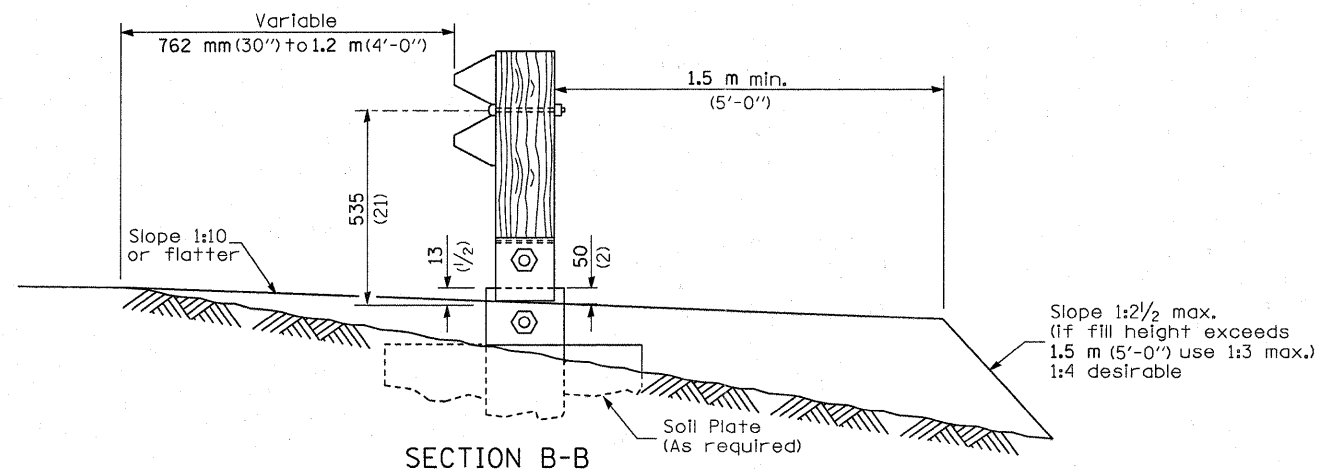
All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

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

FILE NAME =				USER NAME = quigleyml				DESIGNED -				REVISED -				<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>				<b>PRE-MGS EFFECTIVE 4-1-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS STANDARD 630301-03</b> <small>(Sheet 1 of 2)</small>				F.A. RTE.		SECTION		COUNTY		TOTAL SHEETS		SHEET NO.	
c:\pwork\pwork\quigleyml\d0258015\036829-ahd-DETAILS.dgn				DRAWN -				REVISED -				VAR.		VAR.										VAR.		35		21					
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																SCALE:		SHEET NO. OF SHEETS		STA. TO STA.		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT									



**SHOULDER WIDENING TRANSITION  
FOR FLARED TERMINAL**

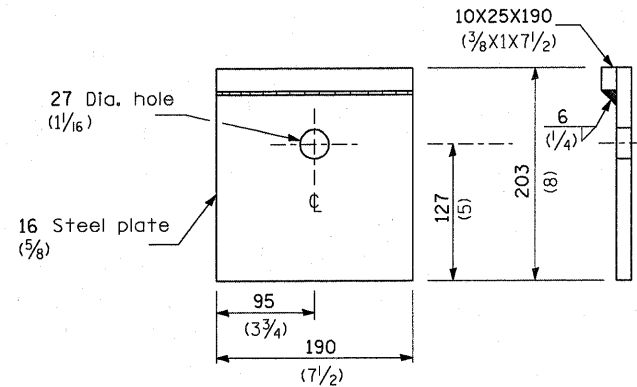


**SECTION B-B**

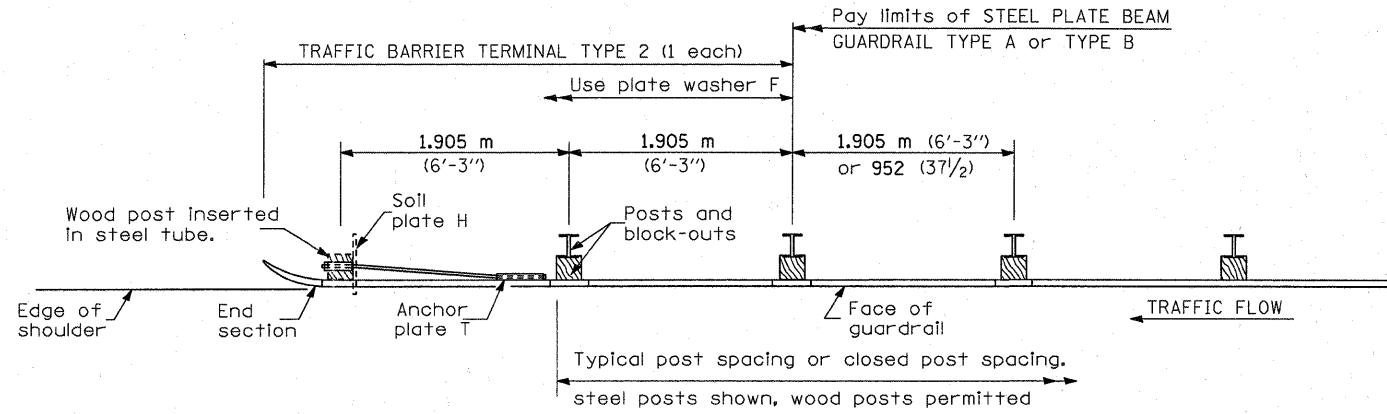
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• D-3 HIGHWAY DAMAGE REPAIR 2011

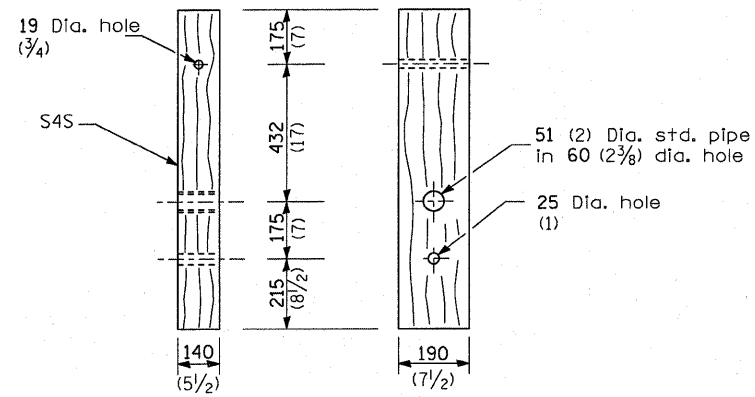
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	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -										
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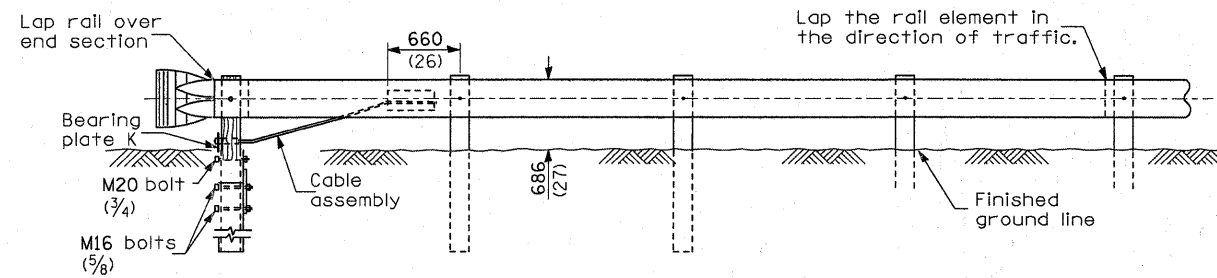
**BEARING PLATE K**



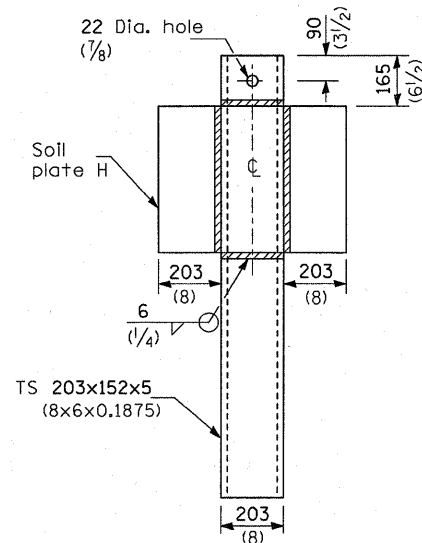
**PLAN**



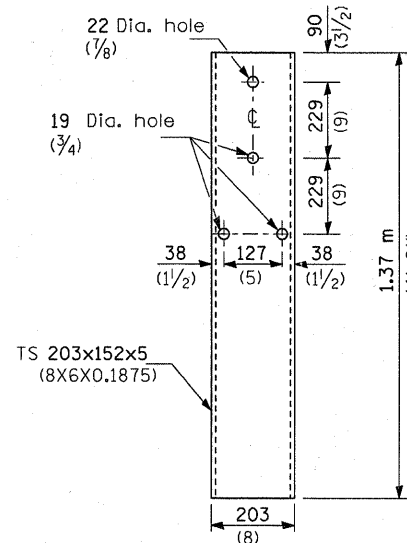
**WOOD POST**



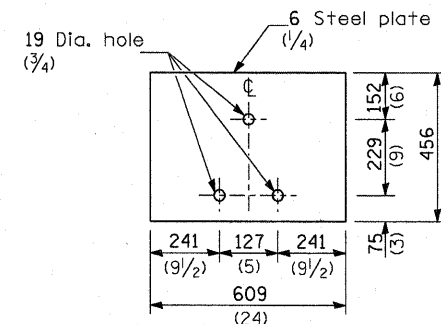
**ELEVATION**



**ALTERNATE SOIL PLATE CONNECTION**



**STEEL TUBE**



**SOIL PLATE H**

**GENERAL NOTES**

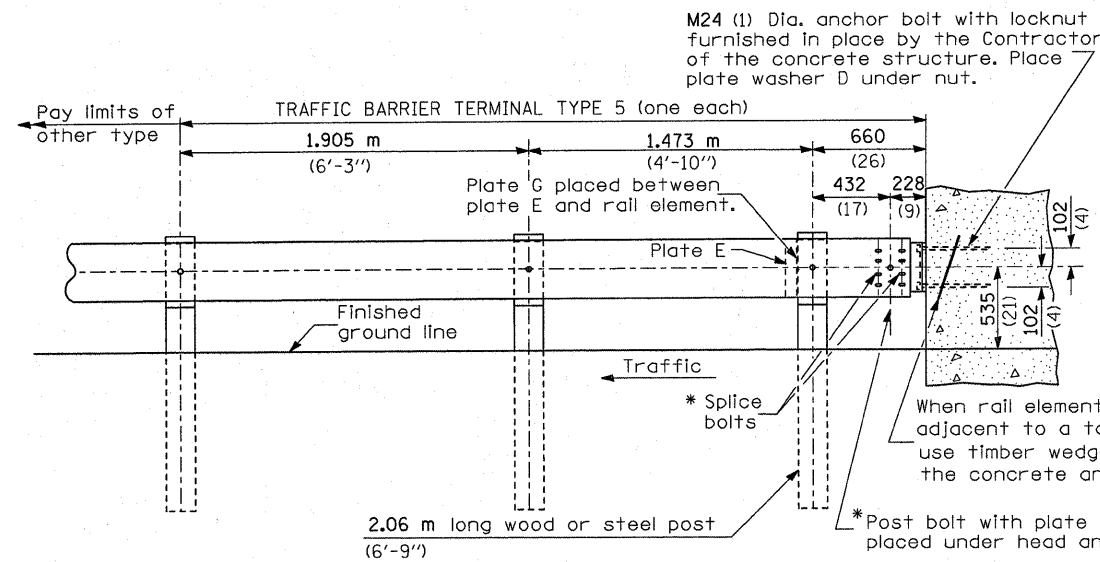
See Standard 630001 for details of guardrail not shown.

Use plate washer F at all posts.

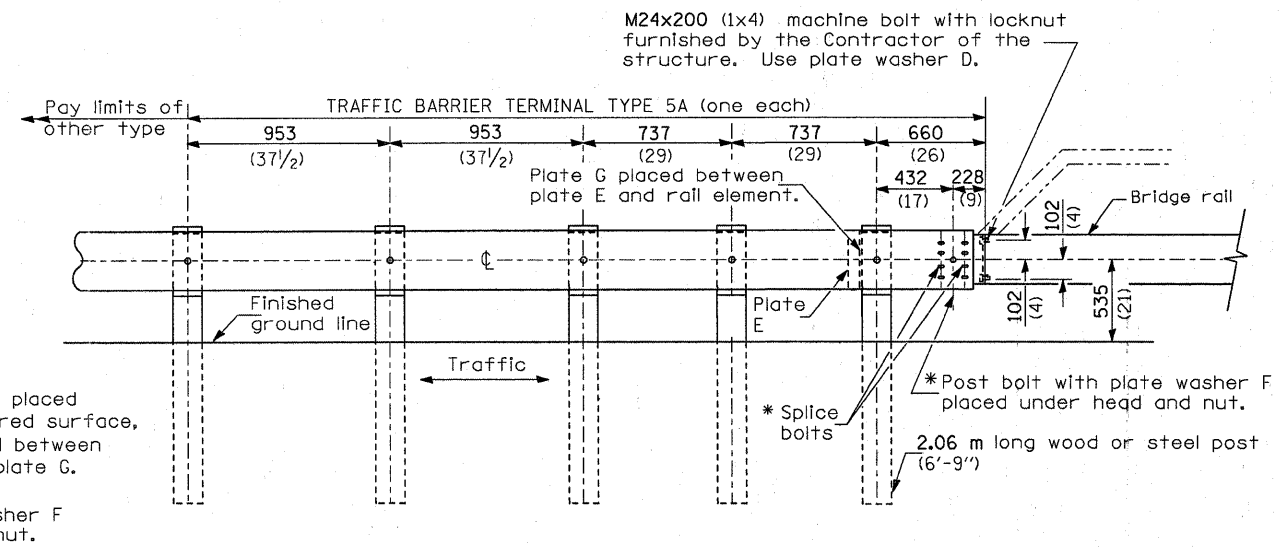
The bearing plate K shall be held in position by (2) two eight penny nails driven into the post and bent over the top of the plate.

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

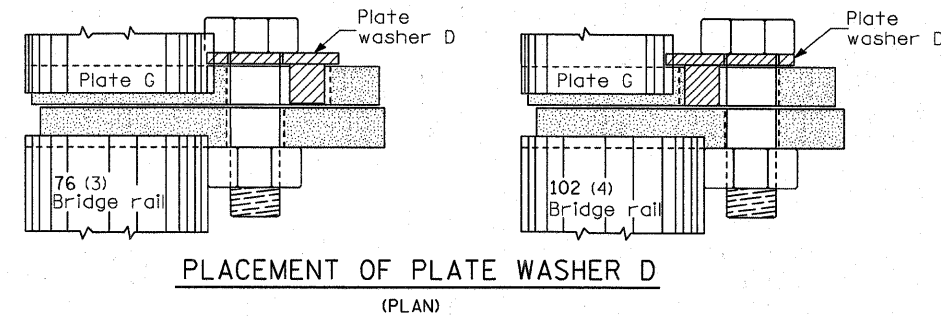
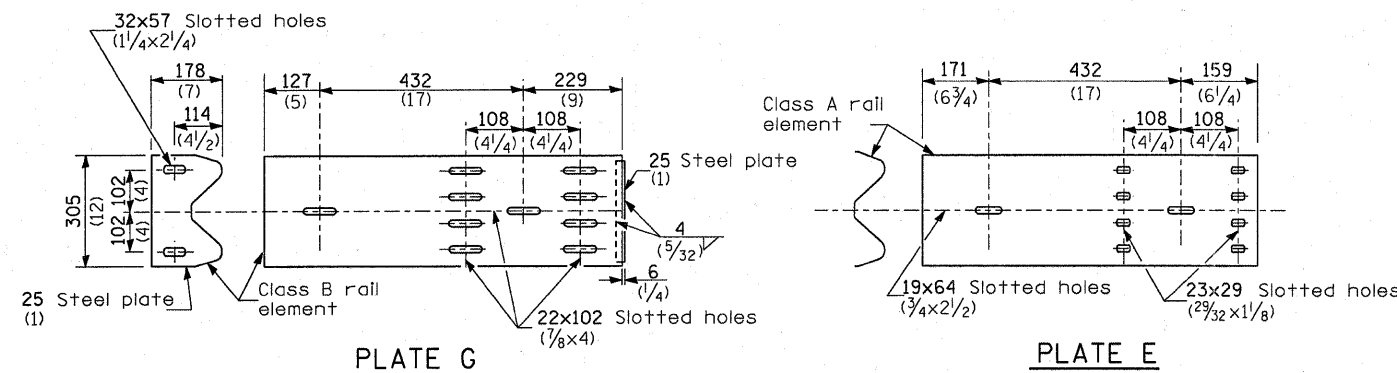
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PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -								
PLOT DATE = Apr 07, 2011 - 11:39:00 AM	DATE -	REVISED -								
						SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
						FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 66B29



**TYPE 5 - CONCRETE BRIDGE PARAPET**



**TYPE 5A - STEEL BRIDGE RAIL**



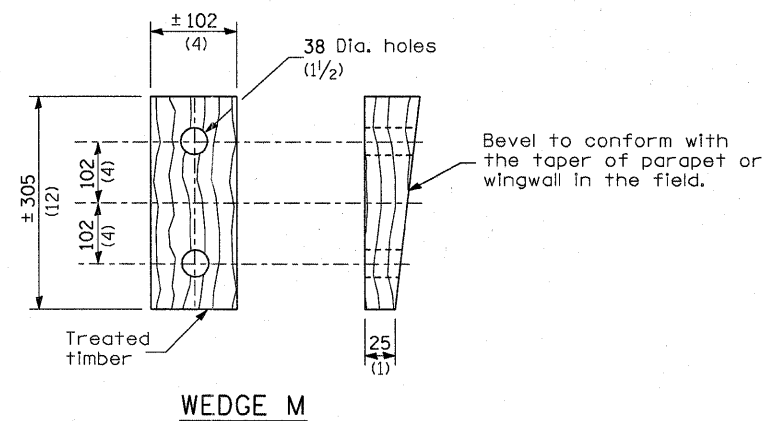
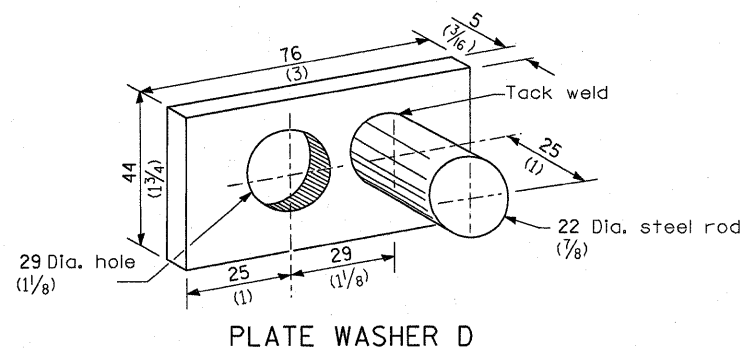
**GENERAL NOTES**

Install plate washer D so that the 25 mm (1") projection fills the remainder of the slotted holes in the 25 mm (1") end plate on plate G after the M24 (1") dia. bolts are in place.

\* Bolts shall be provided with locknut or double nut and shall be tightened only to a point that will allow plate G to be free to move when an expansion joint exists below the connector.

See Standard 630001 for details of guardrail not shown.

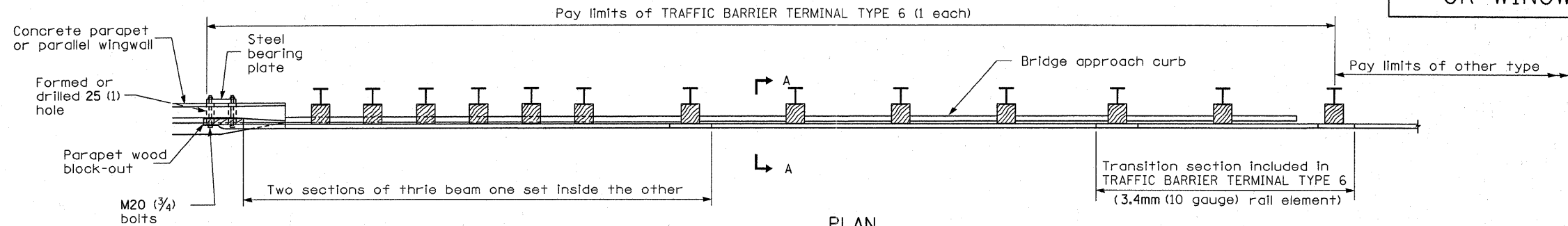
All dimensions are in millimeters (inches) unless otherwise shown.



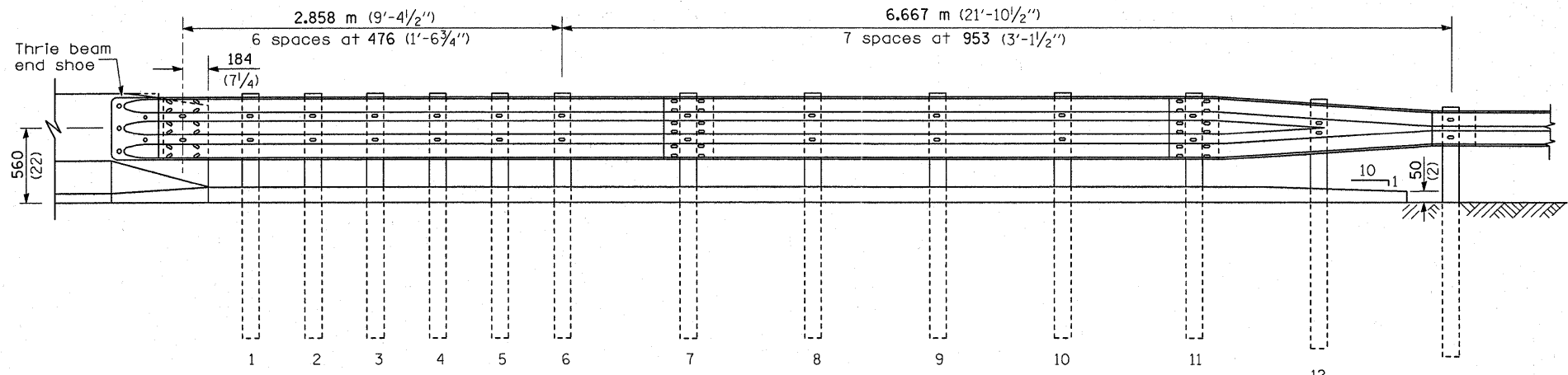
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PLDT DATE = Apr 07, 2011 - 11:38:49 AM		DATE -	REVISED -						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
					SCALE:	SHEET NO. OF SHEETS STA. TO STA.				



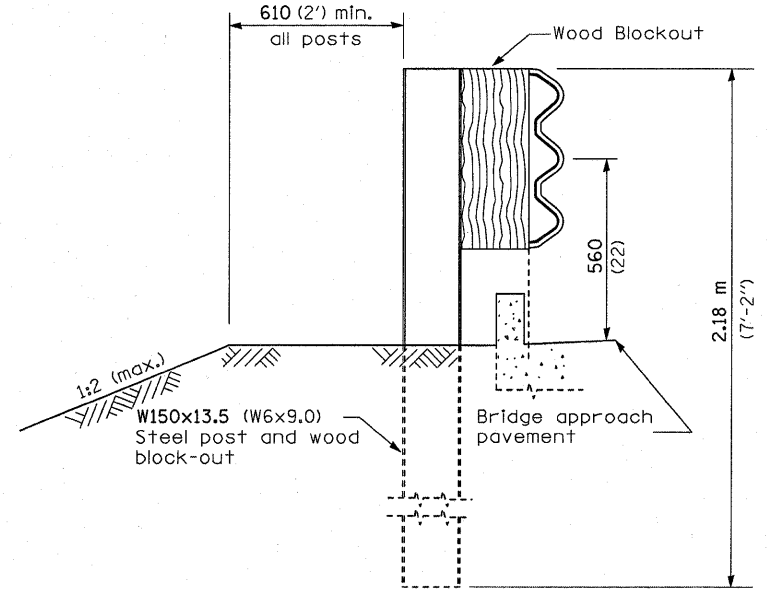
PARAPET OR WINGWALL



PLAN



ELEVATION



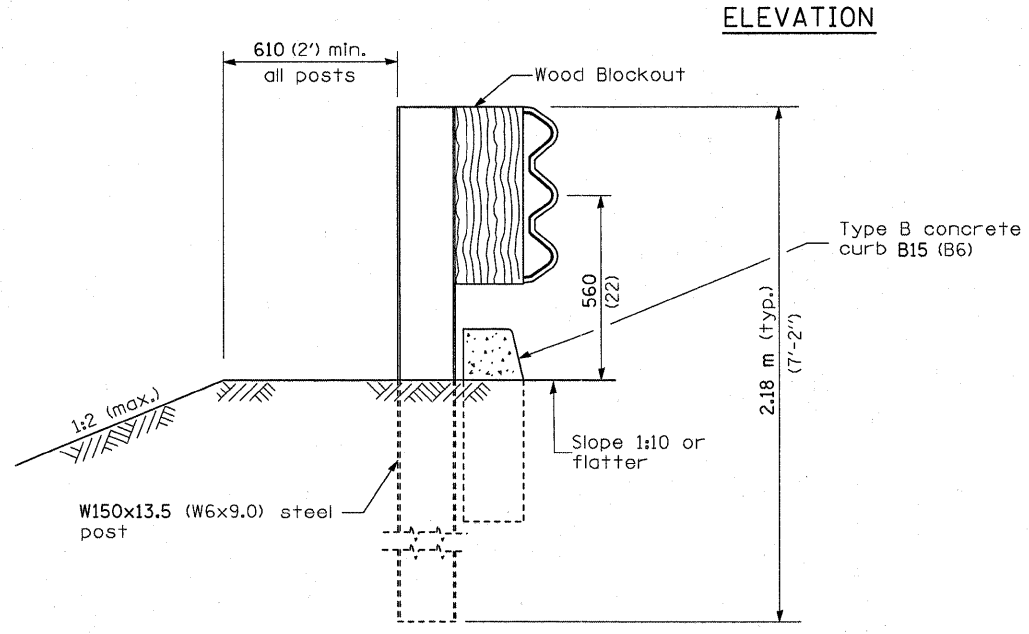
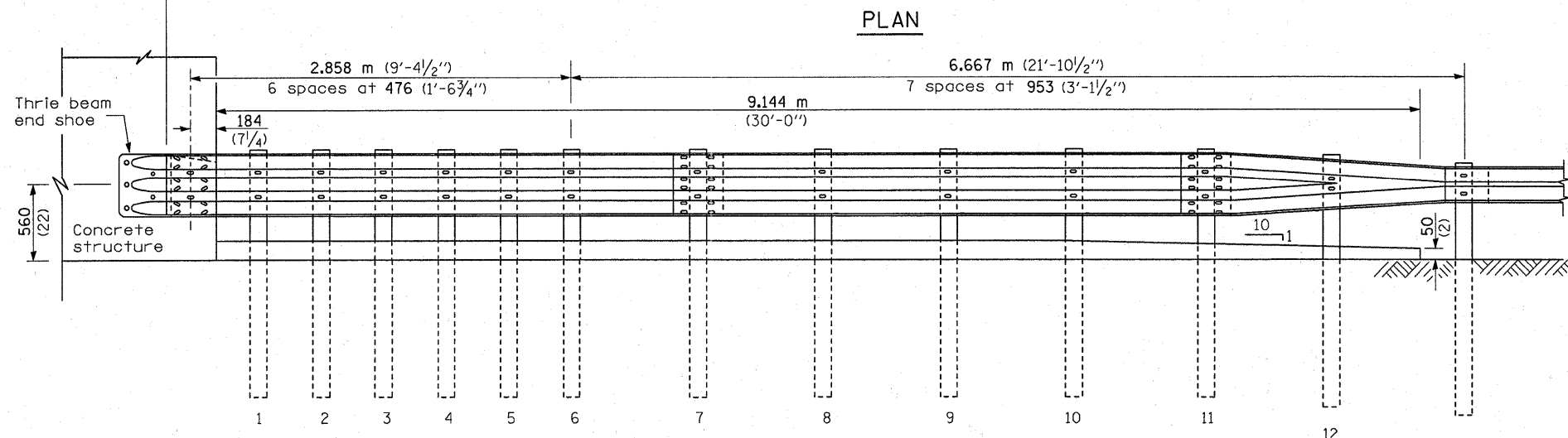
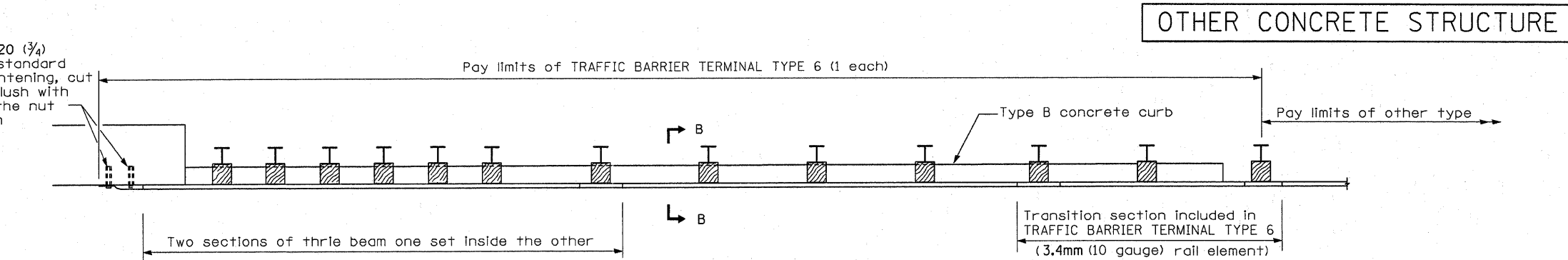
SECTION A-A

GENERAL NOTES

- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- See Standard 420401 for details of bridge approach pavement.
- 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.

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 TRAFFIC BARRIER TERMINAL TYPE 6 STANDARD 631031-05</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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		DATE -	REVISED -			SHEET 1 of 3		FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			

5 Epoxy grouted M20 (3/4") anchor bolts with standard washers. After tightening, cut the anchor bolts flush with nuts, and damage the nut to prevent it from loosening.



SECTION B-B

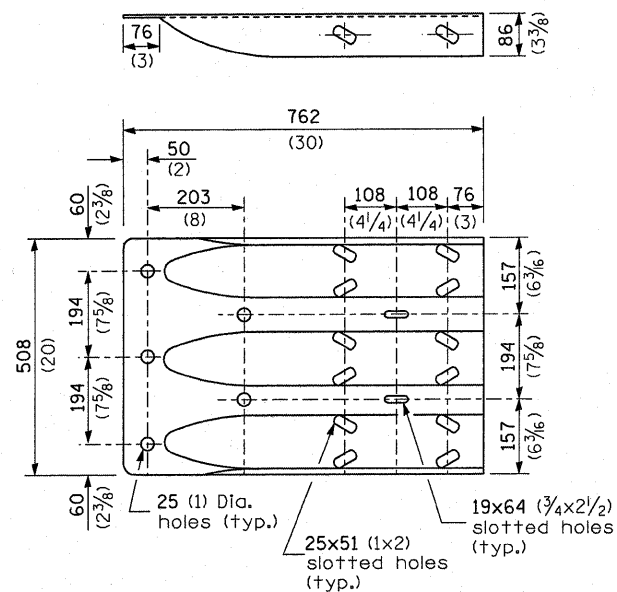
• 0-3 HIGHWAY DAMAGE REPAIR 2011

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -
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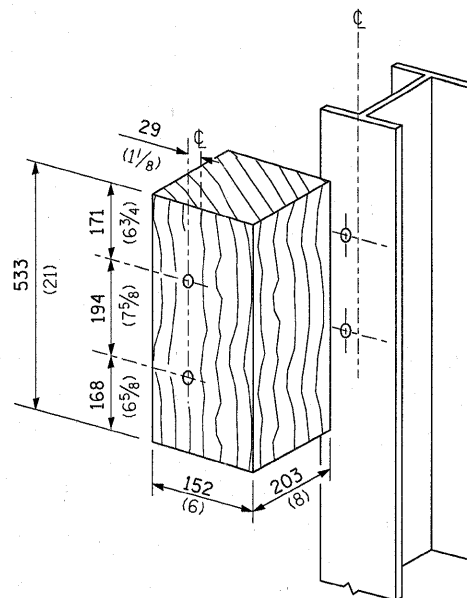
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PRE-MGS EFFECTIVE 4-1-06			
TRAFFIC BARRIER TERMINAL TYPE 6			
STANDARD 631031-05			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.
			Sheet 2 of 3

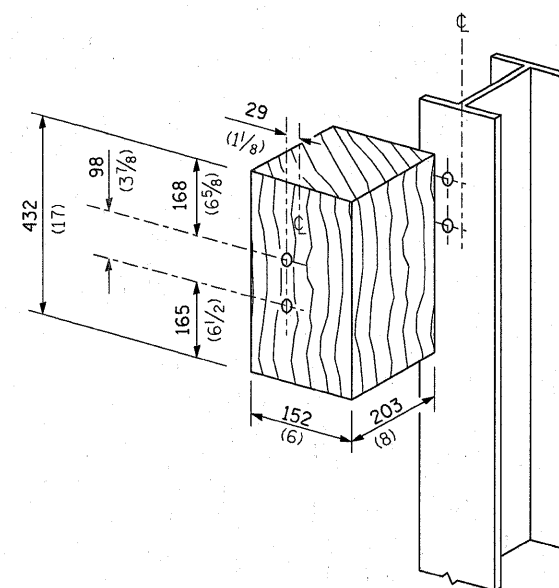
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FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 66B29	



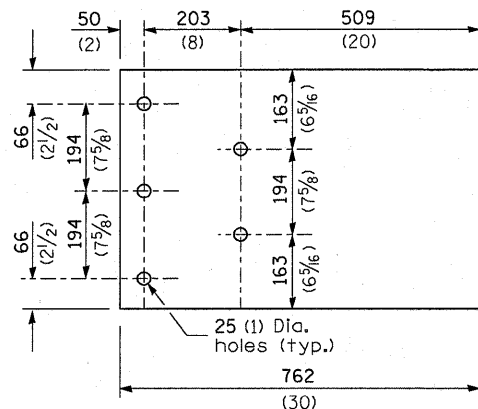
THRIE BEAM END SHOE DETAIL



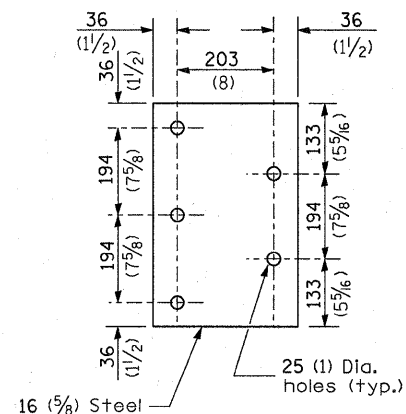
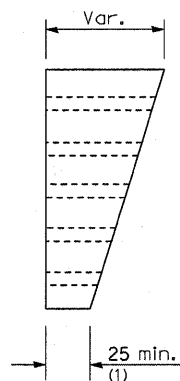
POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL



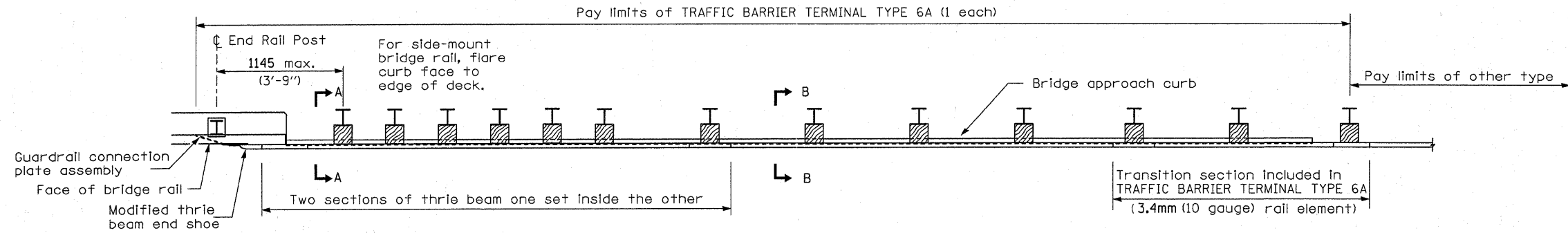
PARAPET WOOD BLOCK-OUT DETAIL



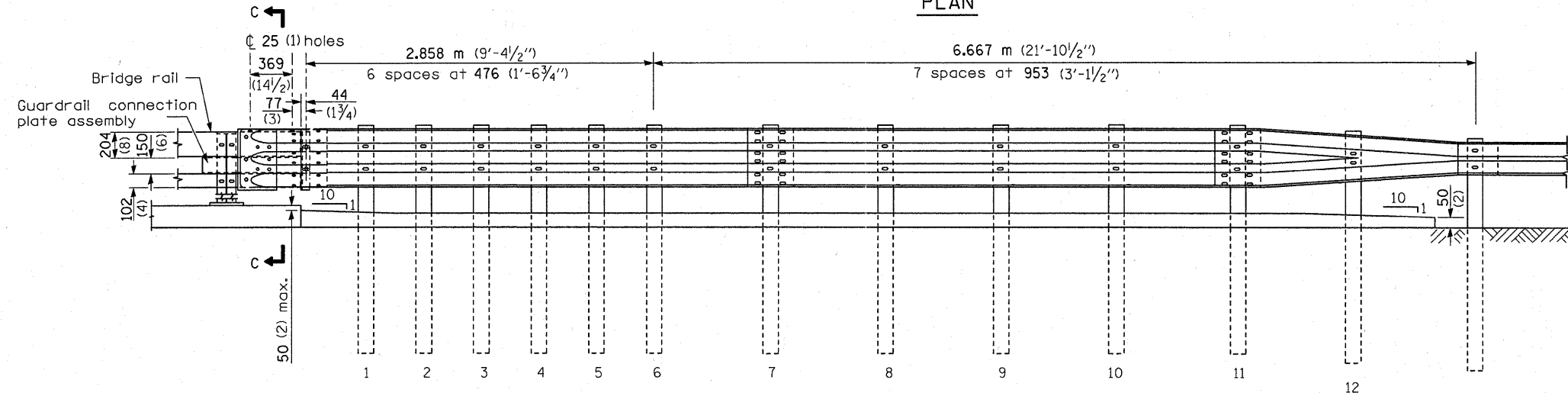
PARAPET STEEL BEARING PLATE DETAIL

(5 each individual 125x125x16 (5x5x5/8) steel plates with centered 25 (1) holes may be substituted for the plate shown.)

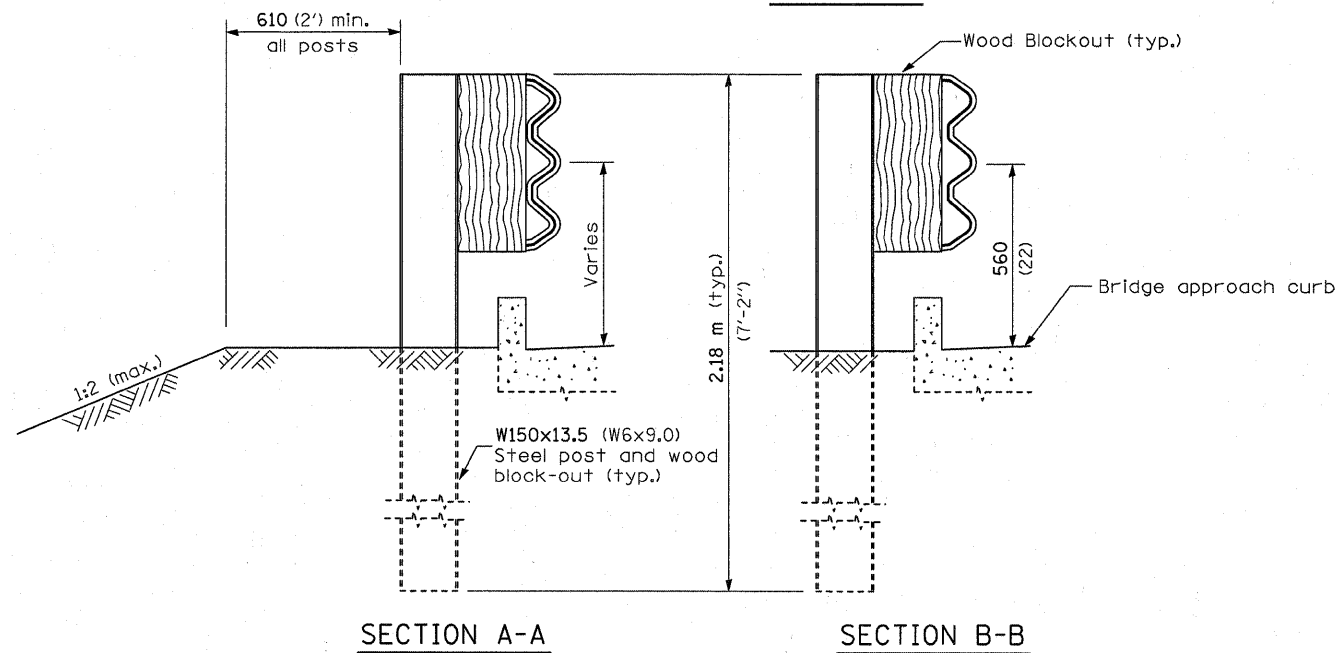
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					SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT



PLAN



ELEVATION



GENERAL NOTES

This standard shows attachment to curb mounted bridge rail. Attachment to side mounted bridge rail is similar.

See Standard 630001 for details of guardrail not shown.

Thrie beam rail shall be bolted to block-out at all posts.

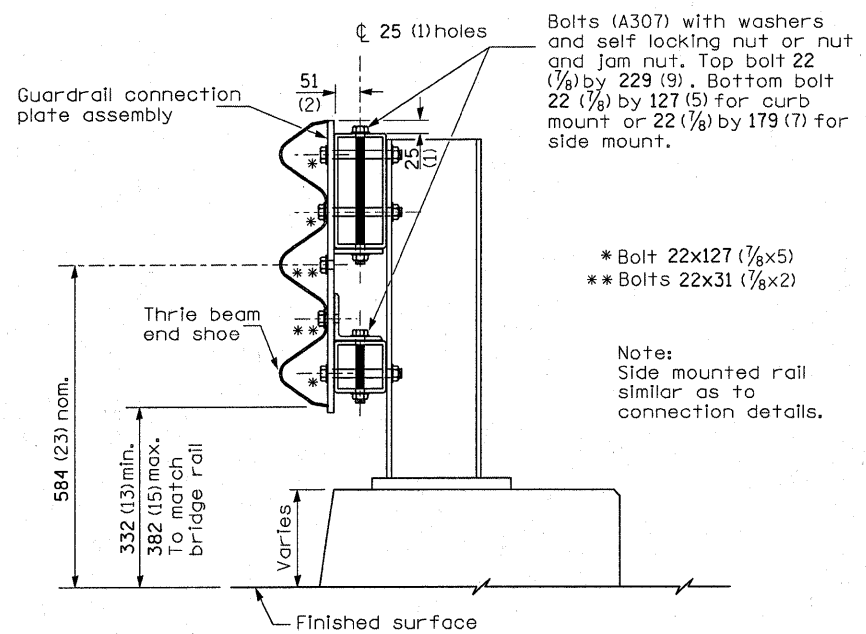
See Standard 420401 for details of bridge approach pavement.

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

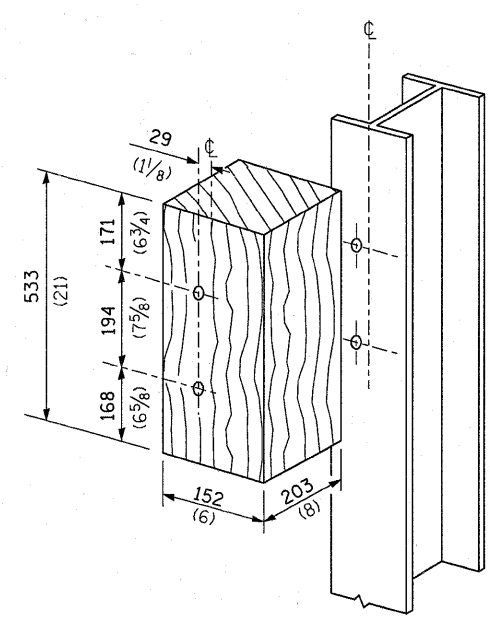
All dimensions are in millimeters (Inches) unless otherwise shown.

FILE NAME =	USER NAME = quigley.m	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 TRAFFIC BARRIER TERMINAL, TYPE 6A STANDARD 631032-02</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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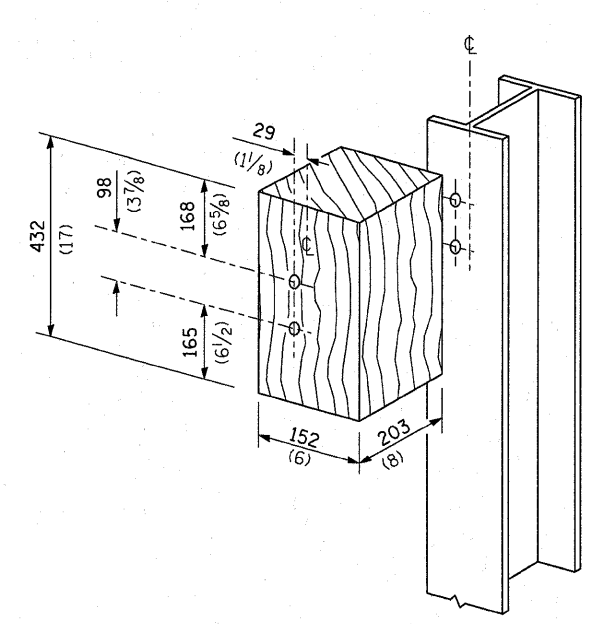
• D-3 HIGHWAY DAMAGE REPAIR 2011



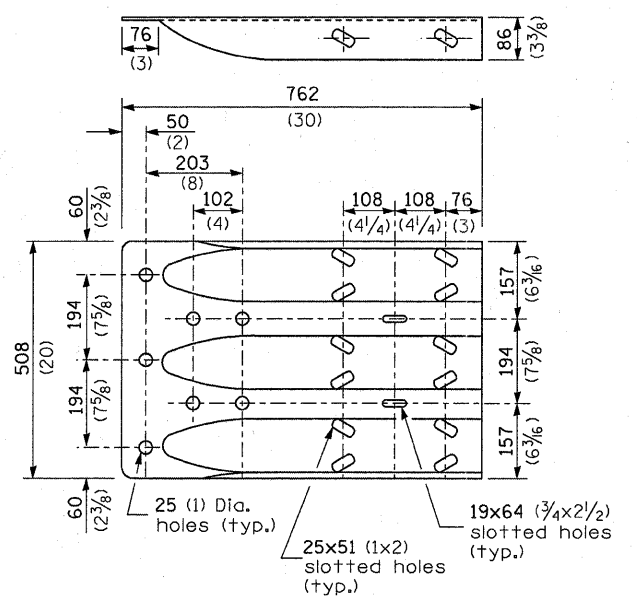
SECTION C-C



POSTS 1-11 WOOD BLOCKOUT DETAIL



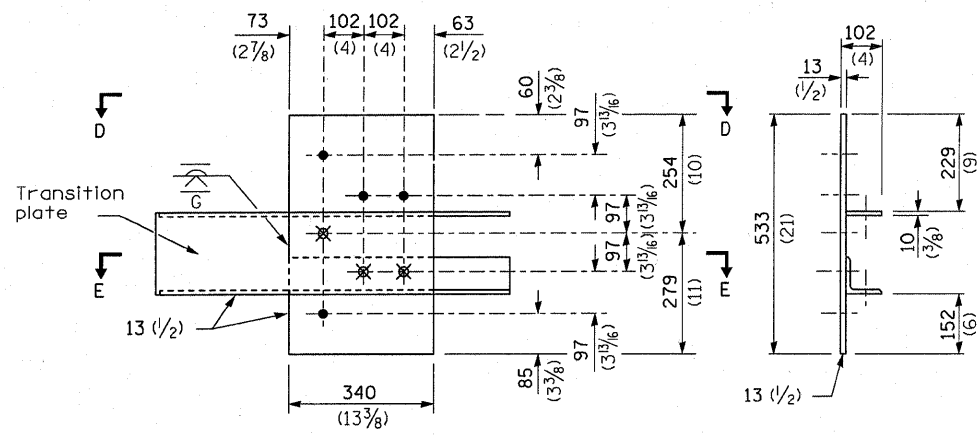
POST 12 WOOD BLOCKOUT DETAIL



MODIFIED THRIE BEAM END SHOE DETAIL

FILE NAME =	USER NAME = quigley.m	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 TRAFFIC BARRIER TERMINAL, TYPE 6A STANDARD 631032-02</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		DATE -	REVISED -			Sheet 2 of 3		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

• D-3 HIGHWAY DAMAGE REPAIR 2011

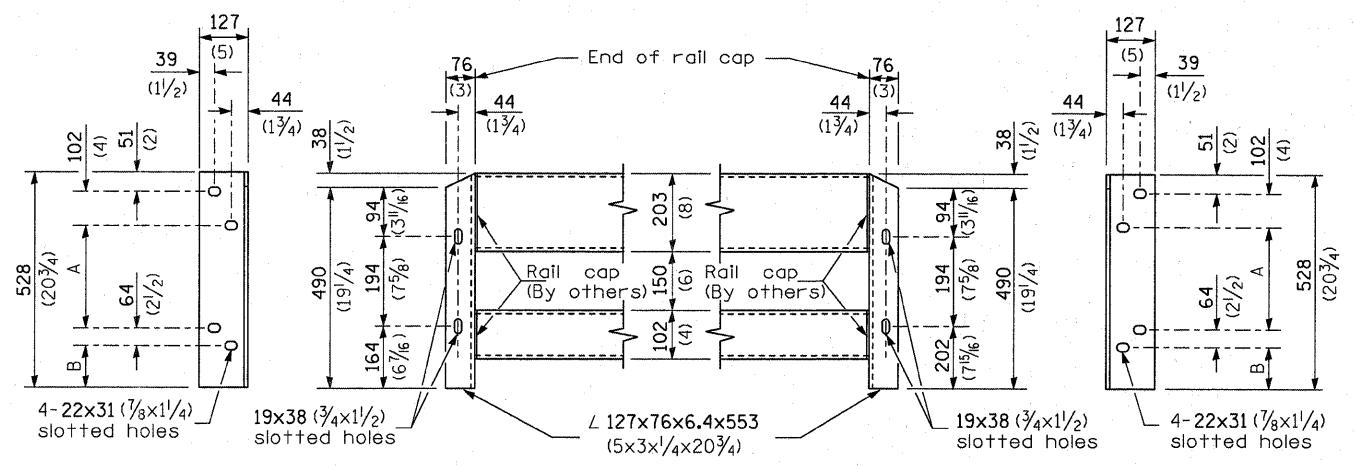
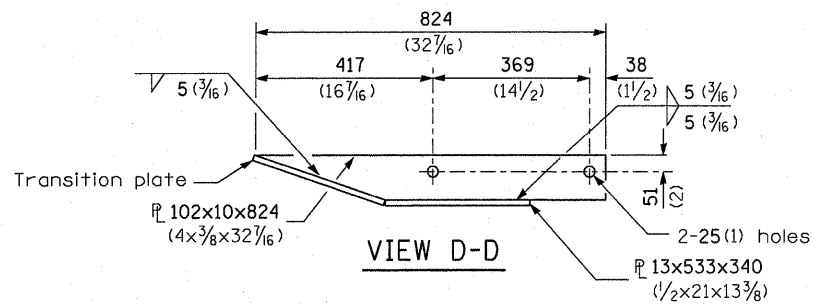


- $\varnothing$  4-25 (1) holes for 22 (7/8) H.S. bolts and nuts
- ✕ Drill and tap 3 holes for 22 (7/8) H.S. bolts.

**LEGEND**

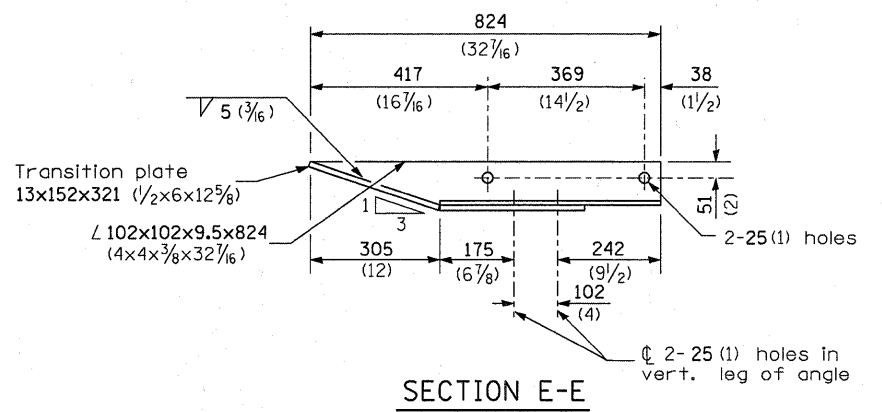
Dimensions	A	B
For Curb Mounted Rail	222 (8 3/4)	89 (3 1/2)
For Side Mounted Rail	247 (9 3/4)	64 (2 1/2)

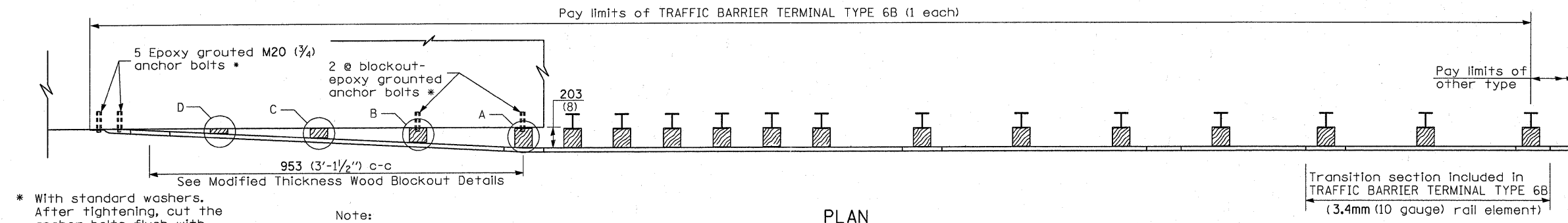
**GUARDRAIL CONNECTION PLATE ASSEMBLY DETAILS**  
(Mirror for opposite end)



**CONNECTION ANGLES**

(Install angles to rail caps using 19 (3/8) washers and self-locking nuts or nuts and jam nuts, to be provided by others)

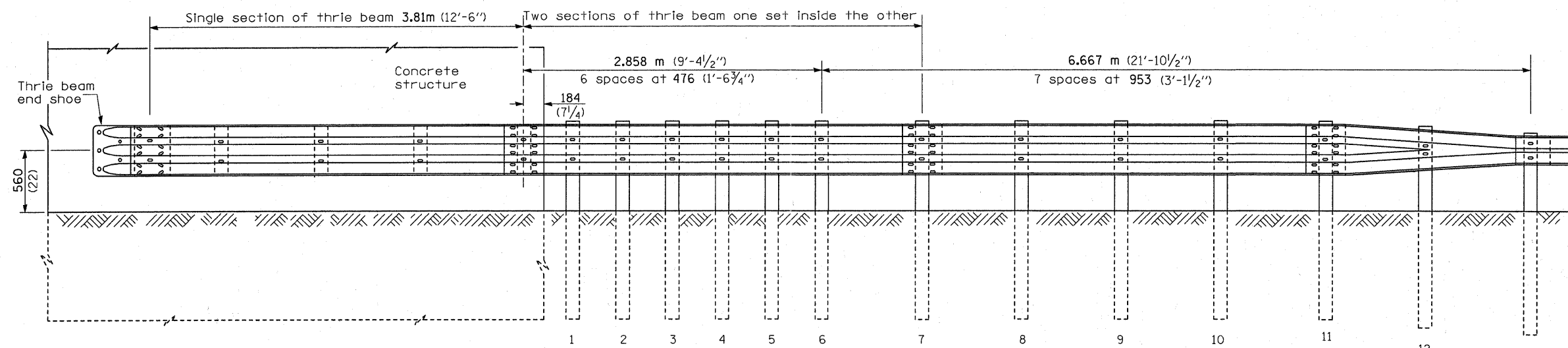




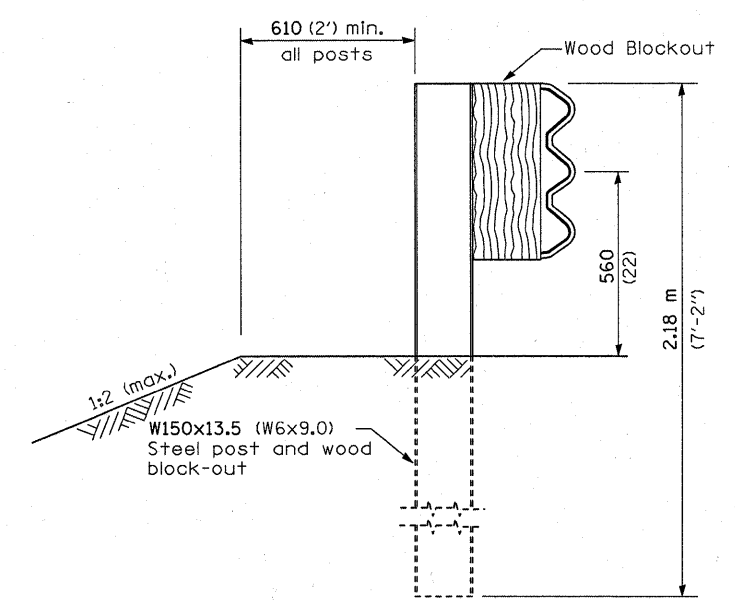
\* With standard washers. After tightening, cut the anchor bolts flush with nuts, and damage the nut to prevent it from loosening.

Note: See wood block details A, B, C & D

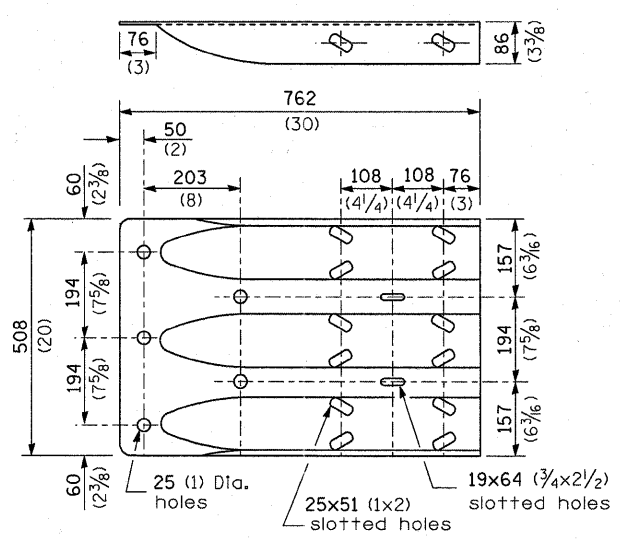
PLAN



ELEVATION



SECTION A-A



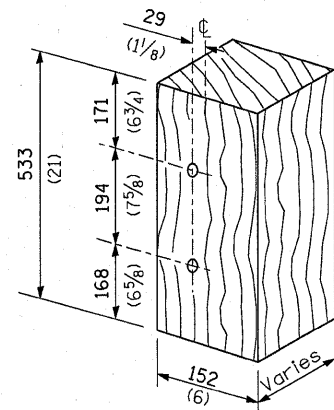
THRIE BEAM END SHOE DETAIL

GENERAL NOTES

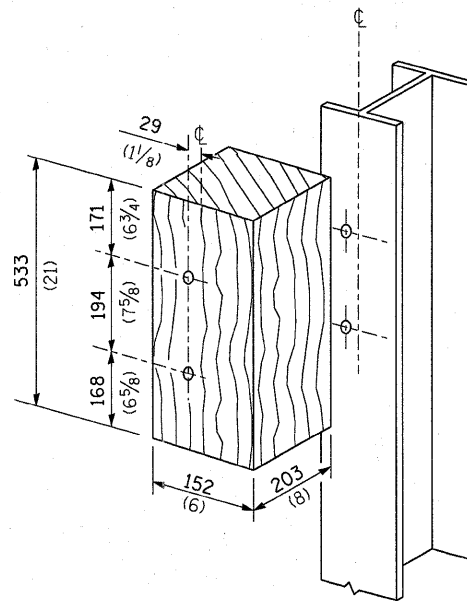
- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
- All dimensions are in millimeters (Inches) unless otherwise shown.

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 TRAFFIC BARRIER TERMINAL, TYPE 6B STANDARD 631033-01</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = Apr 07, 2011 - 11:35:05 AM	DATE -	REVISED -	Sheet 1 of 2							
					SCALE:	SHEET NO. OF SHEETS STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

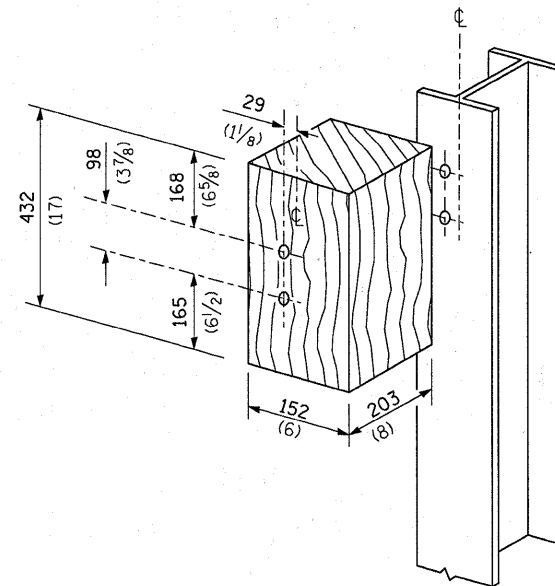
D-3 HIGHWAY DAMAGE REPAIR 2011



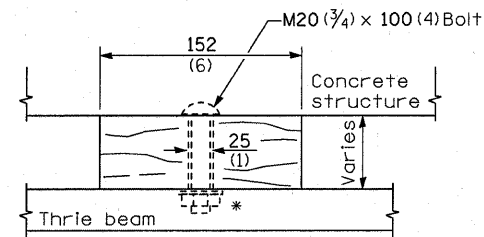
MODIFIED THICKNESS WOOD BLOCKOUT DETAIL



POSTS 1-11 WOOD BLOCKOUT DETAIL

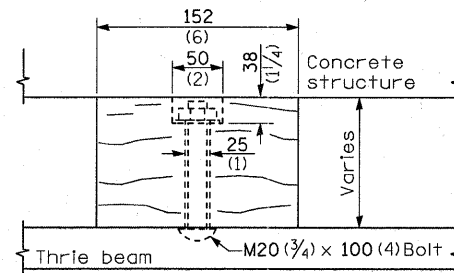


POST 12 WOOD BLOCKOUT DETAIL

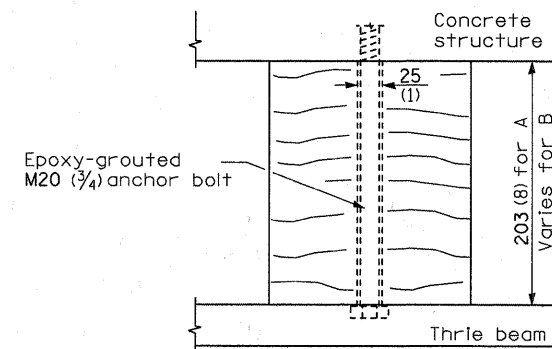


WOOD BLOCKOUT D

Bolt to thrie beam with M20 (3/4) by 100 (4) bolt, washer & nut. Reverse direction of insertion. \*



WOOD BLOCKOUT C

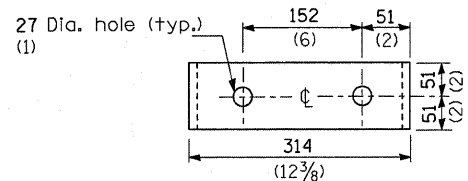
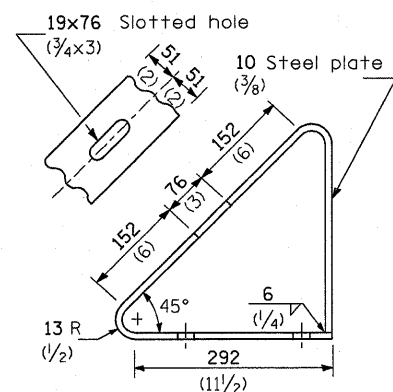
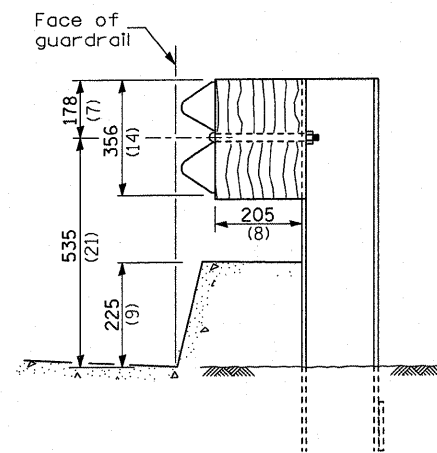
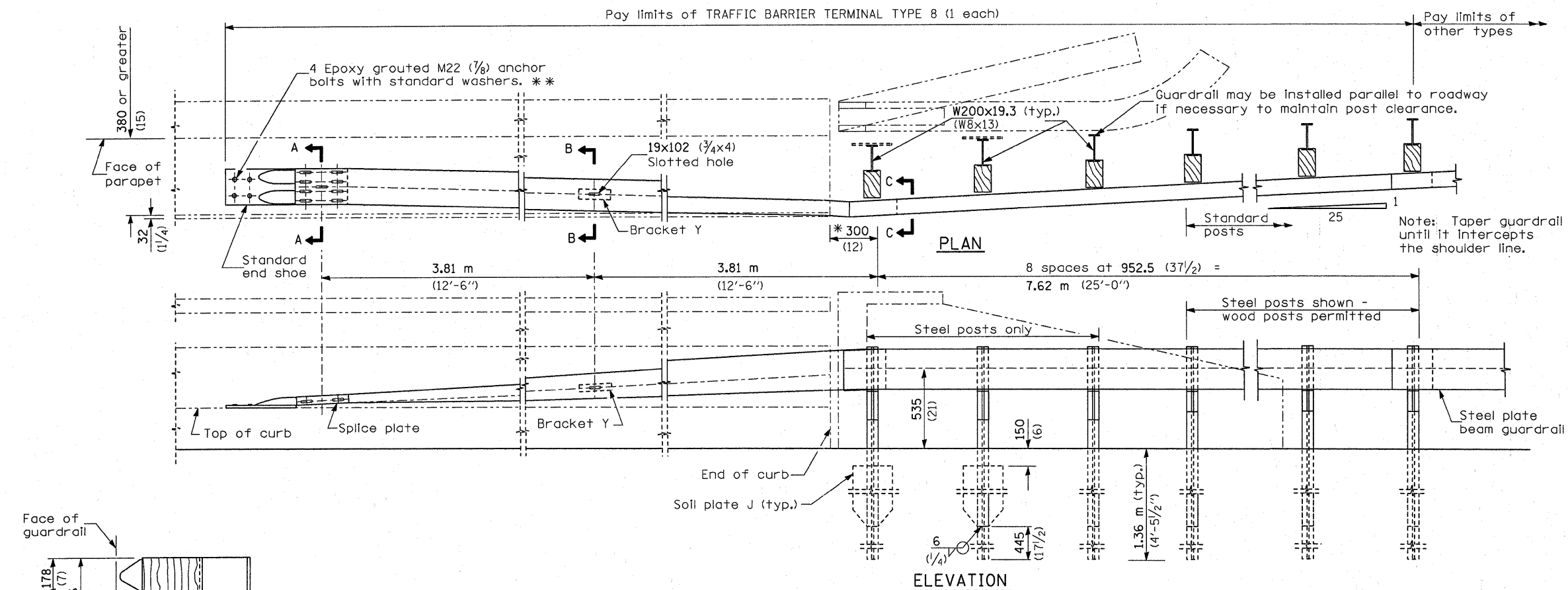


WOOD BLOCKOUT A & B

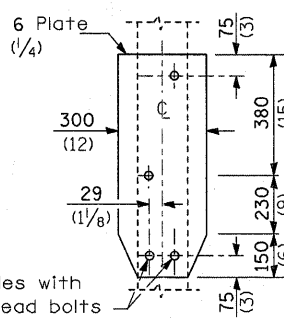
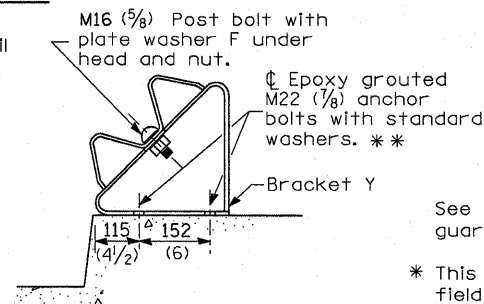
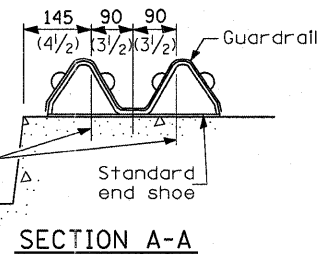
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SCALE:				SHEET NO. OF SHEETS STA. TO STA.								Sheet 2 of 2				FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		CONTRACT NO. 66B29					

• D-3 HIGHWAY DAMAGE REPAIR 2011





⌀ Epoxy grouted M22 (7/8) anchor bolts with standard washers. \*\*



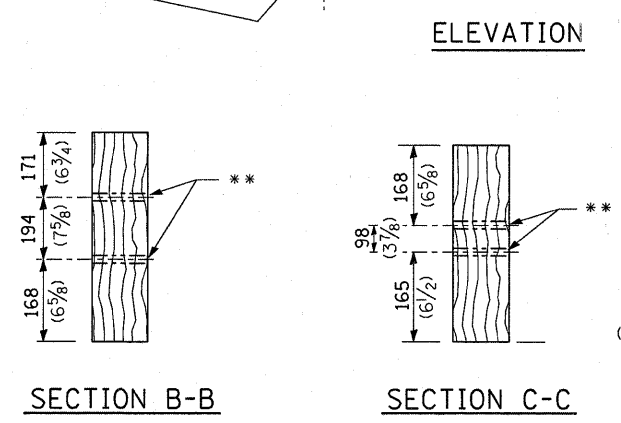
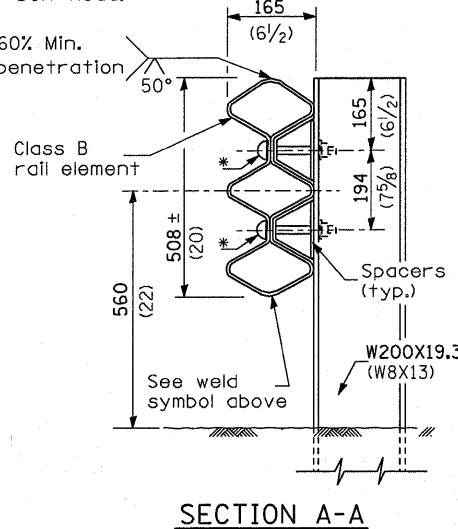
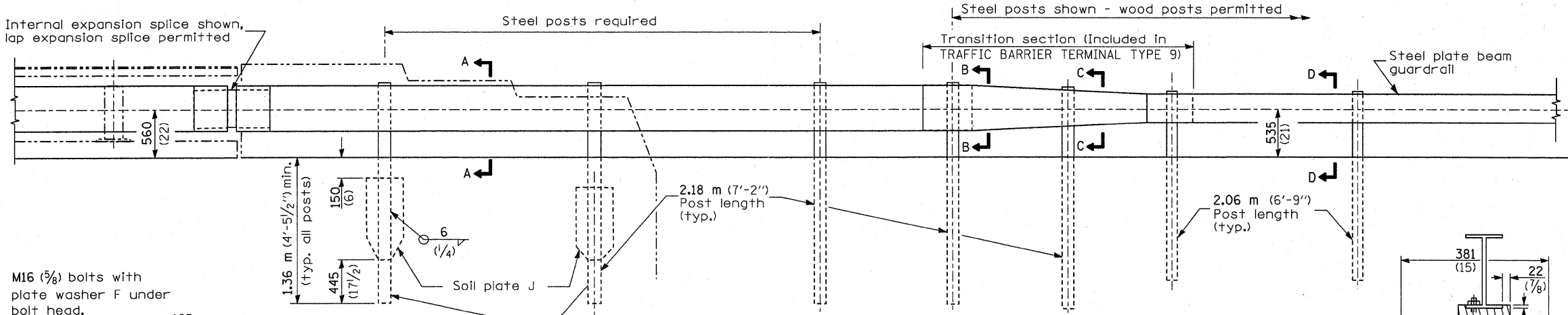
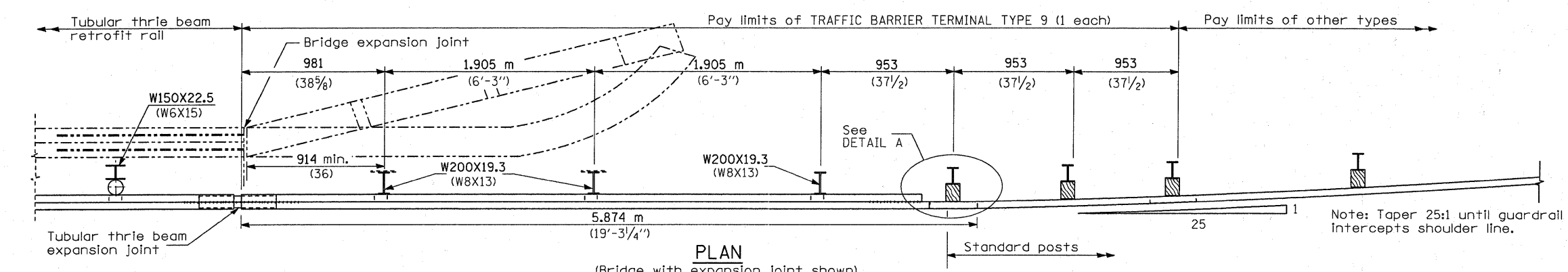
4-19 (3/4) Dia. holes with M16 (5/8) hex head bolts with std. hex nut (typ.)

SOIL PLATE J & ALTERNATE CONNECTION DETAILS

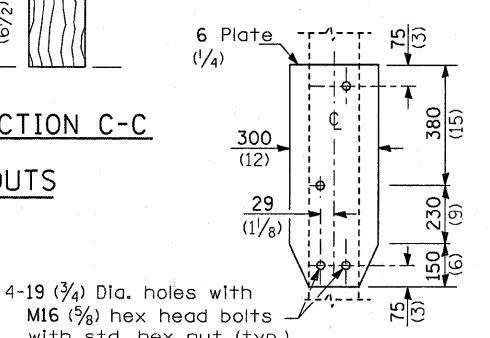
**GENERAL NOTES**

- 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 millimeters (Inches) unless otherwise shown.

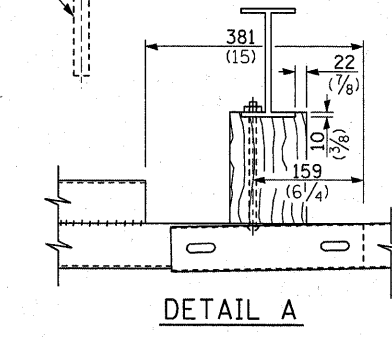
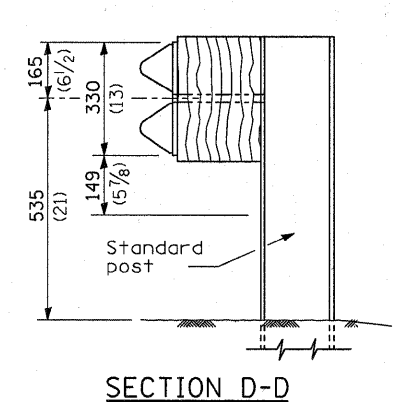
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						SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



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



SOIL PLATE J &  
 ALTERNATE CONNECTION DETAILS

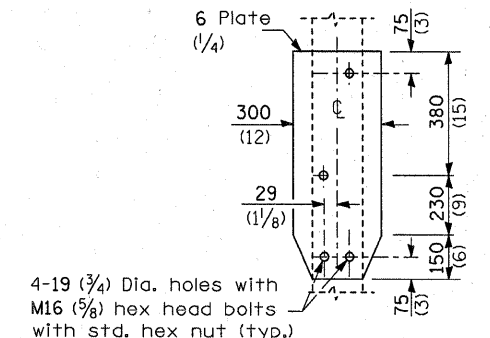
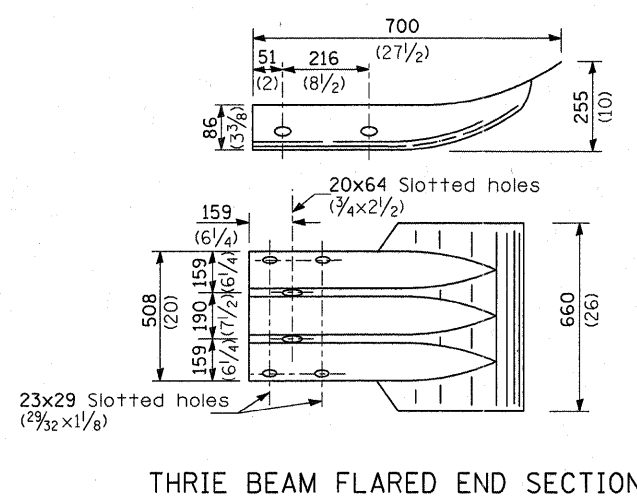
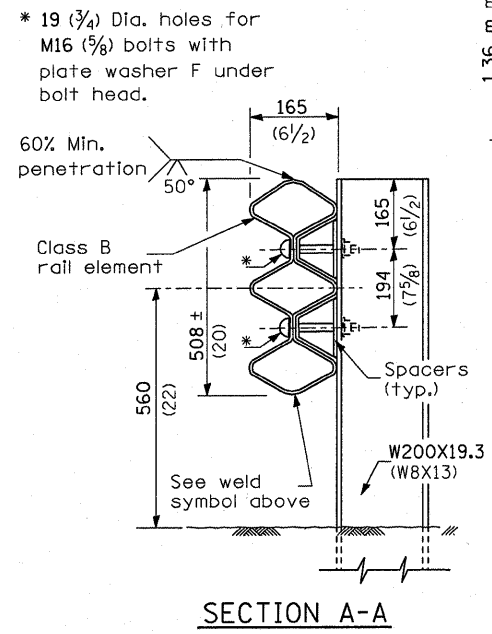
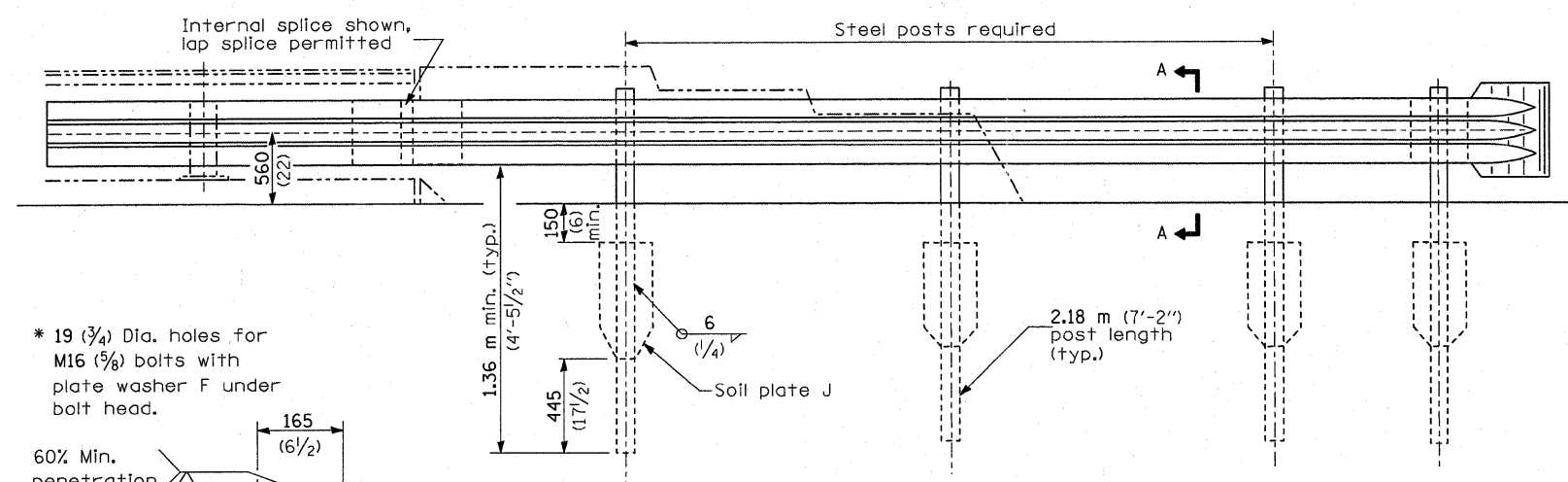
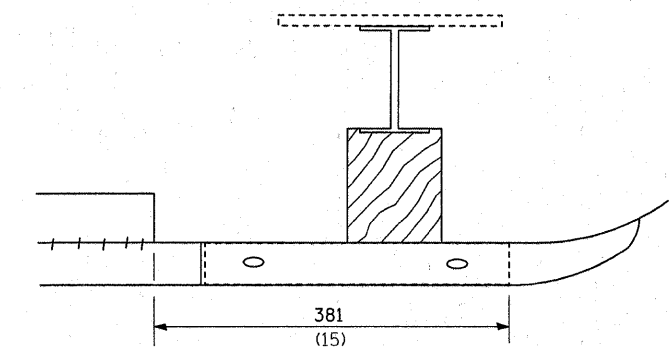
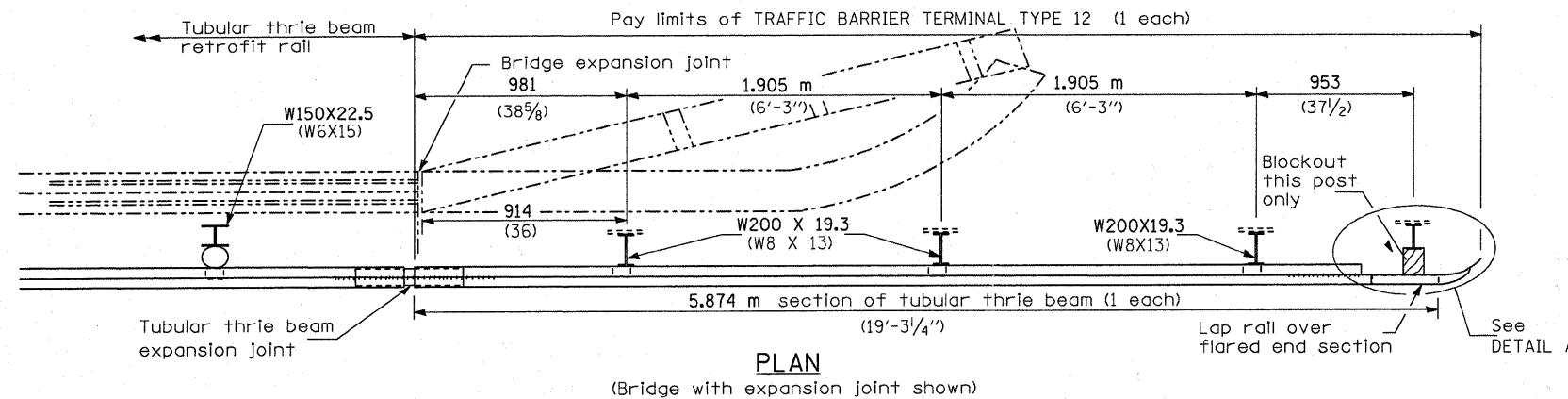


GENERAL NOTES

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 millimeters (Inches) unless otherwise shown.

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 TRAFFIC BARRIER TERMINAL TYPE 9 STANDARD 631041-01</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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						FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

• D-3 HIGHWAY DAMAGE REPAIR 2011



**GENERAL NOTES**

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

The type 12 terminal shall be installed after the posts for the bridge retrofit rail have been located as shown on Standard 509001.

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

FILE NAME =	USER NAME = quigleyml	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRE-MGS EFFECTIVE 4-1-06 TRAFFIC BARRIER TERMINAL TYPE 12 STANDARD 631056-01</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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