

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

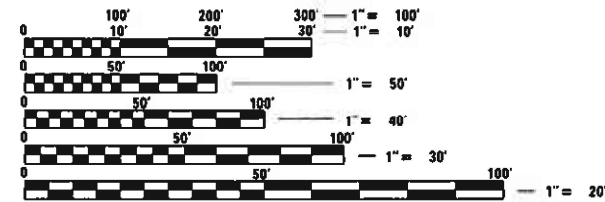
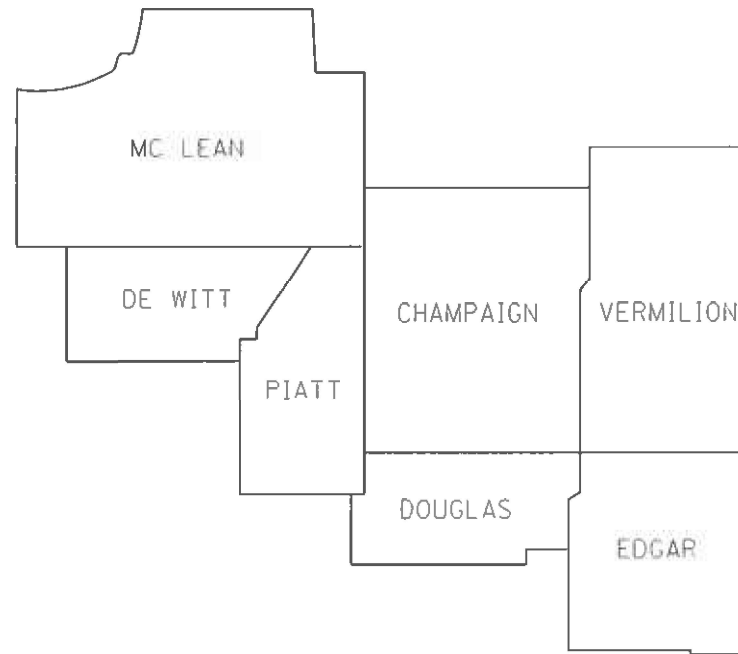
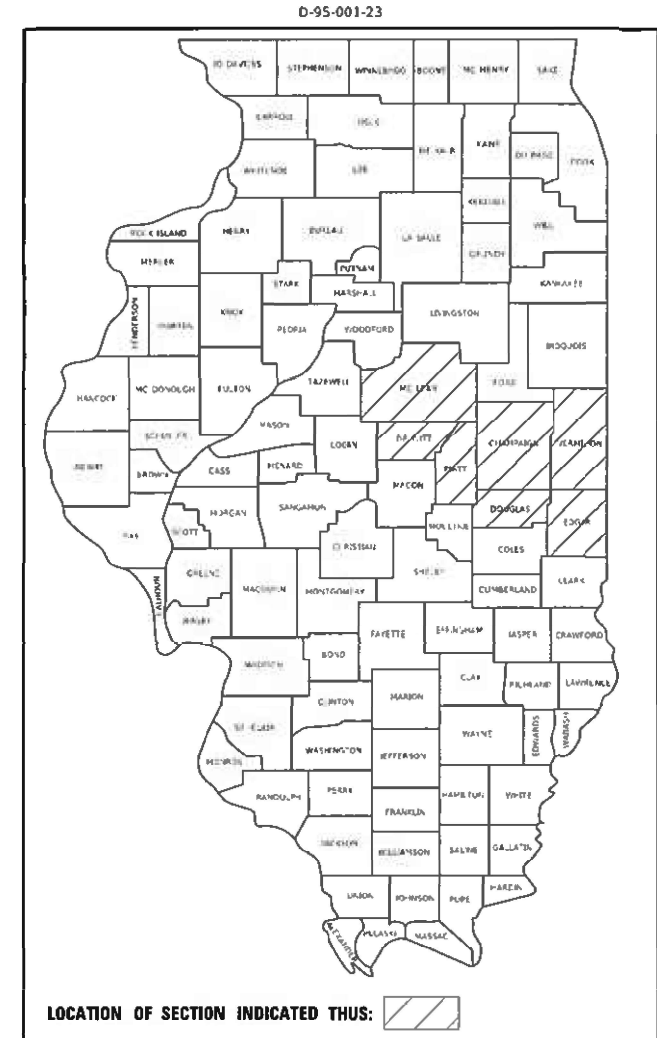
F.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		ILLINOIS	10	1
CONTRACT NO. 70F97				
* D5 GR & FENCE REPAIR 2023-1				

FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3-6

PROPOSED  
HIGHWAY PLANS

VARIOUS ROUTES  
SECTION D5 GR & FENCE REPAIR 2023-1  
GUARDRAIL & FENCE REPAIR  
VARIOUS COUNTIES

C-95-044-22



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 EXCAVATORS  
1-800-892-0123  
OR 811

PROJECT ENGINEER: JASON STULTS, PE  
PROJECT LEADER: JASON GOBLE  
DESIGNER: MATTHEW MURPHY  
PHONE NUMBER: 217-465-4181  
CONTRACT NO. 70F97

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED 4/19 20 22

*Kenneth A. Hannett*  
REGIONAL ENGINEER

June 10, 2022 *John A. Etk*  
ENGINEER OF DESIGN AND ENVIRONMENT

June 10, 2022 *Stephen M. Smith*  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

## INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS
2	HIGHWAY STANDARDS
2	GENERAL NOTES
3 TO 6	SUMMARY OF QUANTITIES
7 TO 10	PLAN DETAILS

## GENERAL NOTES

G.N.-100A  
ELECTRONIC FILES AND/OR ELECTRONIC SURVEY INFORMATION INCLUDING CADD FILES WILL NOT BE AVAILABLE TO THE CONTRACTOR.

## HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
630001-12	STEEL PLATE BEAM GUARDRAIL
630101-10	STRONG POST GUARDRAIL ATTACHED TO CULVERT
630106-02	LONG-SPAN GUARDRAIL OVER CULVERT
630111-01	WEAK POST GUARDRAIL ATTACHED TO CULVERT
630201-07	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-10	TRAFFIC BARRIER TERMINAL, TYPE 2
631026-06	TRAFFIC BARRIER TERMINAL, TYPE 5
631031-17	TRAFFIC BARRIER TERMINAL, TYPE 6
631032-09	TRAFFIC BARRIER TERMINAL, TYPE 6A
631033-08	TRAFFIC BARRIER TERMINAL, TYPE 6B
631046-04	TRAFFIC BARRIER TERMINAL, TYPE 10
643001-02	SAND MODULE IMPACT ATTENUATORS
664001-02	CHAIN LINK FENCE
665001-02	WOVEN WIRE FENCE
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5M) TO 24" (600MM) FROM PAVEMENT EDGE
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5M) TO 24" (600MM) FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5M) AWAY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701206-05	LANE CLOSURE, 2L, 2W, NIGHT ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701400-11	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-13	LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-13	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701411-09	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS ≥ 45 MPH
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ MPH TO 55 MPH
701422-10	LANE CLOSURE, MULTILANE, FOR SPEEDS ≥ 45 MPH TO 55 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701456-05	PARTIAL EXIT RAMP CLOSURE FREEWAY/EXPRESSWAY
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701502-09	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701602-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
701606-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-08	TRAFFIC CONTROL DEVICES

## COMMITMENTS

THERE ARE NO COMMITMENTS FOR THIS CONTRACT

\* D5 GR & FENCE REPAIR 2023-1

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, GENERAL NOTES  
HIGHWAY STANDARDS, COMMITMENTS**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	VARIOUS	10	2
			CONTRACT NO. 70F97	
		ILLINOIS	FED. AID PROJECT	

# SUMMARY OF QUANTITIES

LOCATION OF WORK: VARIOUS ROUTES VARIOUS ROUTES VARIOUS ROUTES  
 COUNTY: VARIOUS VARIOUS VARIOUS  
 FUNDING BREAKOUT: 100% STATE 100% STATE 100% STATE  
 CONSTRUCTION TYPE CODE: 0021 0021 0021

CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD	CONTRACT MAINT.	HTCB
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	100.0	75.0	25.0	
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	4.0	2.0	2.0	
63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	1.0	1.0		
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	1.0	1.0		
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	1.0	1.0		
63100089	TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	1.0	1.0		
63100105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	1.0	1.0		
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	55.0	43.0	12.00	
63400105	GUARD POSTS	EACH	10.0	10.0		
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1.0	1.0		
64300370	IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	1.0	1.0		
66400105	CHAIN LINK FENCE, 4'	FOOT	300.0	200.0	100.0	
66400305	CHAIN LINK FENCE, 6'	FOOT	450.0	250.0	200.0	
66500105	WOVEN WIRE FENCE, 4'	FOOT	2,500.0	2,300.0	200.0	

\*SPECIALTY ITEM

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	**	*	10	3
			CONTRACT NO. 70F97	



# SUMMARY OF QUANTITIES

LOCATION OF WORK:      VARIOUS ROUTES    VARIOUS ROUTES    VARIOUS ROUTES

COUNTY:    VARIOUS

FUNDING BREAKOUT:    100% STATE    100% STATE    100% STATE

CONSTRUCTION TYPE CODE:    0021    0021    0021

CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD	CONTRACT MAINT.	HTCB
X2300004	SPLICING HIGH TENSION CABLE (GIBRALTAR)	EACH	5.0			5.0
X2300005	SPLICING HIGH TENSION CABLE (TRINITY)	EACH	2.0			2.0
X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	50.0	25.0	25.0	
X6331110	STEEL POS'S, SPECIAL	EACH	2.0	2.0		
X6340205	GUARD POSTS REMOVAL	EACH	10.0	10.0		
X6432110	REPLACE IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	80.0	70.0	10.0	
X6640594	CHAIN LINK FENCE POST 4'	EACH	24.0	15.0	9.0	
X6640601	CHAIN LINK FENCE POST 6'	EACH	24.0	15.0	9.0	
Z0008760	EMERGENCY WORK CALL OUT	EACH	40.0	25.0	15.0	
Z0012752	CONCRETE STRUCTURE REPAIR	CU FT	11.0	11.0		
Z0020210	PULL POST ARRANGEMENT	EACH	28.0	20.0	8.0	
Z0052000	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	6,500.0	5,250.0	1,250.0	
Z0052100	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE B	FOOT	25.0	25.0		
Z0052410	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	20.0	14.0	6.0	

\*SPECIALTY ITEM

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PLOT DATE = 4/19/2022	DATE -	REVISED -		SCALE: NTS	SHEET 3	OF 4	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

# SUMMARY OF QUANTITIES

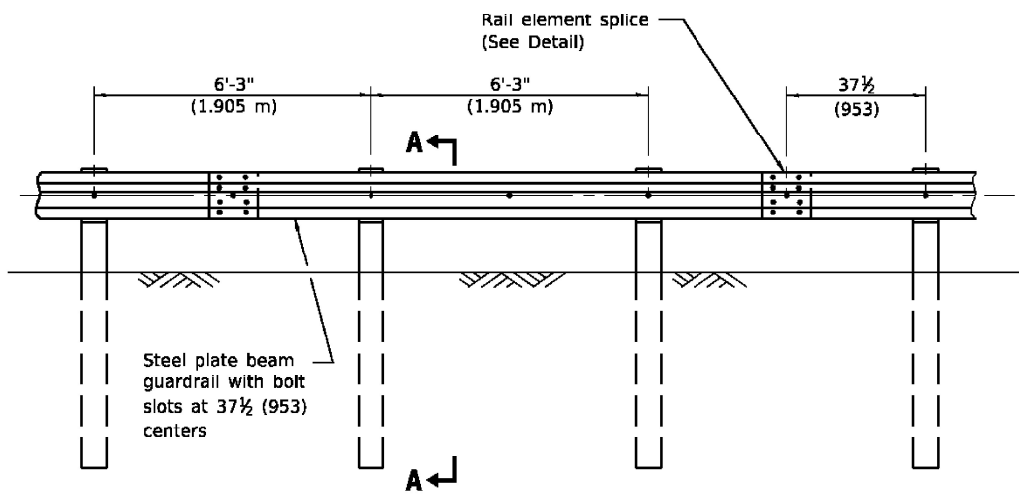
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CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD	CONTRACT MAINT.	HTCB
Z0052600	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	4.0	4.0		
Z0053000	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	1.0	1.0		
Z0053200	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4.0	4.0		
Z0053210	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	1.0	1.0		
Z0053220	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	1.0	1.0		

\*SPECIALTY ITEM

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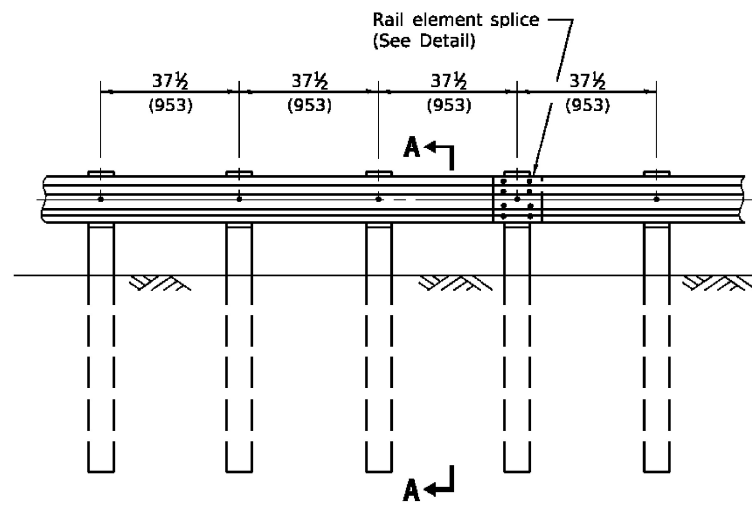
\*\* D5 GR & FENCE REPAIR 2023-1      † DISTRICT WIDE



**ELEVATION**

**TYPE A**

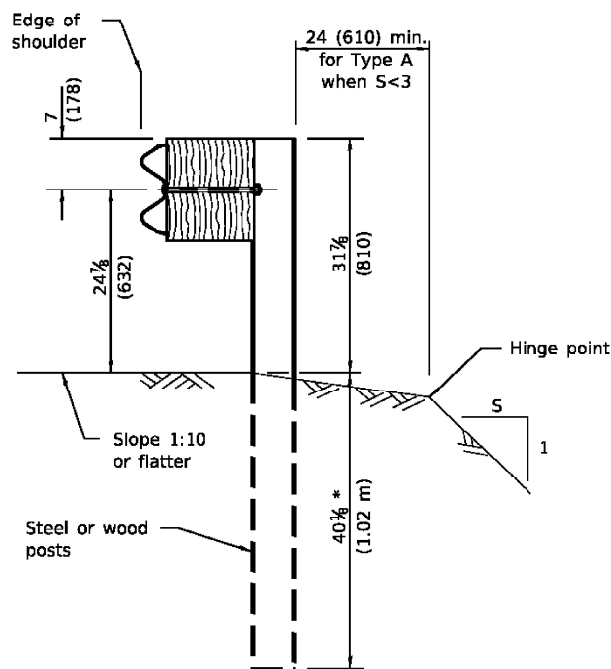
6'-3" (1.905 m) Typical post spacing



**ELEVATION**

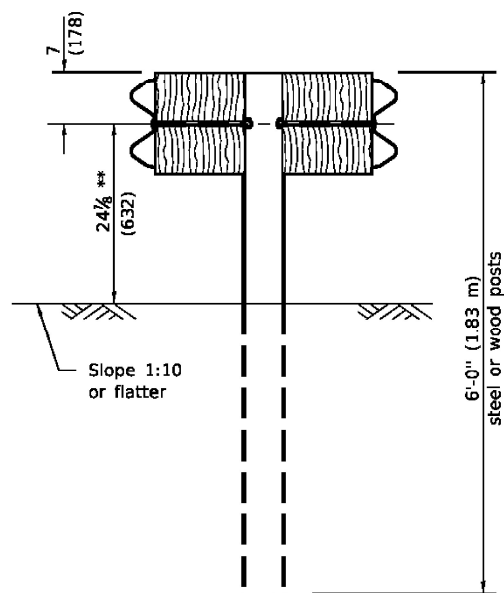
**TYPE B**

37 1/2 (953) Closed post spacing



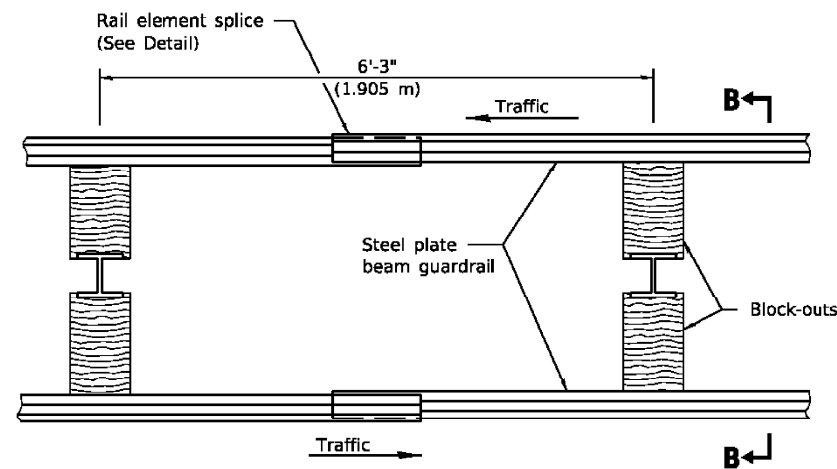
**SECTION A-A**

\* When "S" is less than 3 and the distance from the back of post is less than 24 (610), the post shall be steel and the embedment shall be 76 1/8 (1.93 m) and the minimum top of rail height shall be 31 (787).



**SECTION B-B**

\*\* When connecting Type D guardrail to an impact attenuator, adjust this dimension to match over a distance of 25'-0" (7.62 m) from point of connection if necessary.



**PLAN**

**TYPE D**

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

**GENERAL NOTES**

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

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

Illinois Department of Transportation

APPROVED January 1, 2018  
*Michael Beard*  
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018  
*Thomas M. Bales*  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-18	Revised steel post to have four holes in each flange.
1-1-17	Added detail for leave-out.
	Rev. 'D' to less than 6 (150) for guardrail behind curb.

**STEEL PLATE BEAM GUARDRAIL**

(Sheet 1 of 4)

**STANDARD 630001-12**

\* DISTRICT WIDE  
\*\* D5.GR & FENCE REPAIR 2023-1

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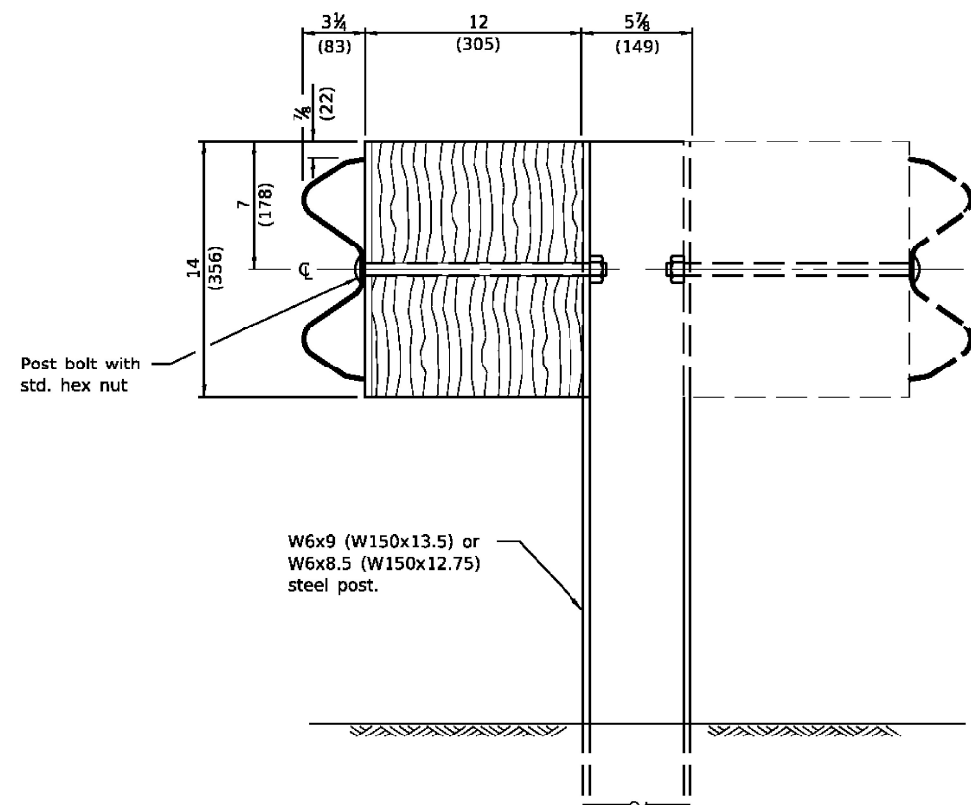
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

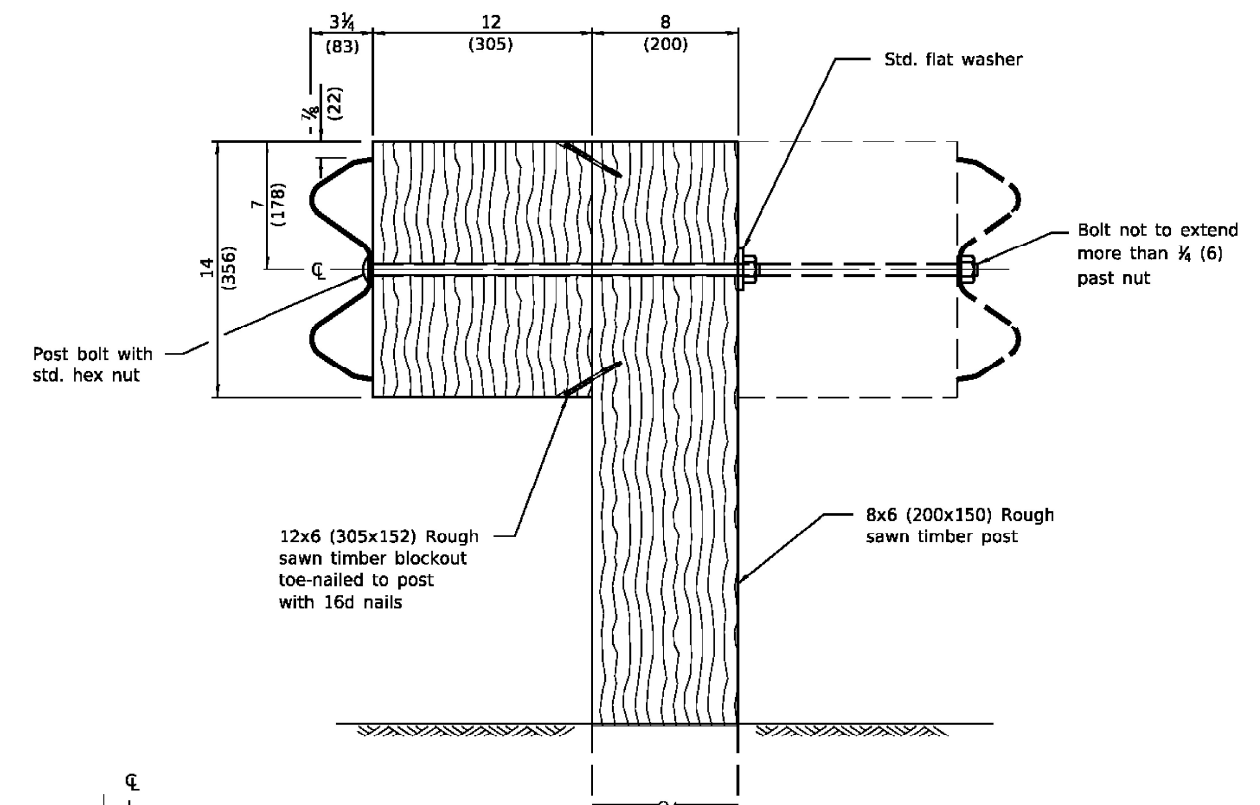
STEEL PLATE BEAM GUARDRAIL DETAIL

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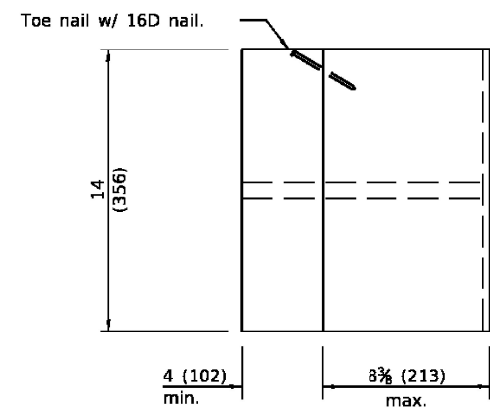
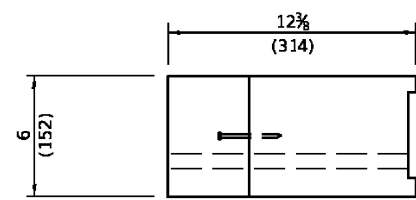
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VAR.	**	-	10	7
			CONTRACT NO. 70F97	
ILLINOIS FED. AID PROJECT				



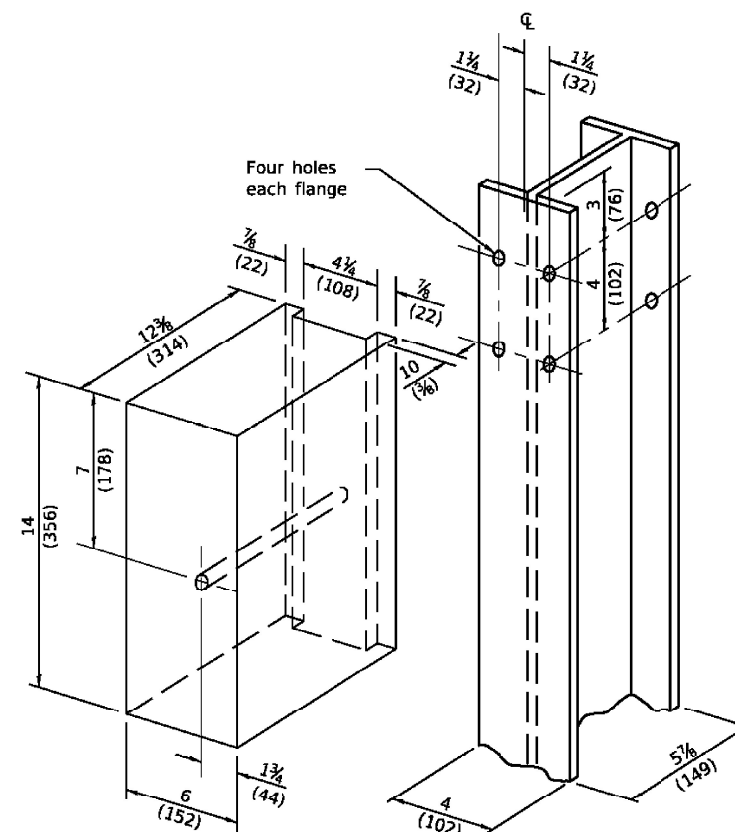
**STEEL POST CONSTRUCTION**



**WOOD POST CONSTRUCTION**

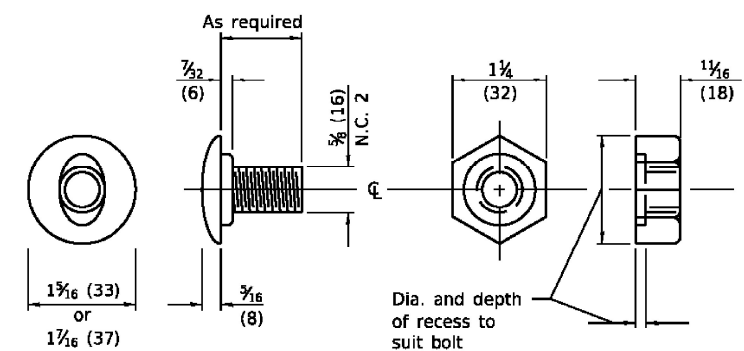


**TWO-PIECE WOOD BLOCKOUT OPTION**



Note:  
All holes 3/4 (20) dia.

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



**POST OR SPLICE BOLT & NUT**

**STEEL PLATE BEAM GUARDRAIL**

(Sheet 2 of 4)

**STANDARD 630001-12**

Illinois Department of Transportation  
APPROVED January 1, 2018  
*Michael Beard*  
ENGINEER OF POLICY AND PROCEDURES  
APPROVED January 1, 2018  
*Monica M. White*  
ENGINEER OF DESIGN AND ENVIRONMENT

6/1-1 GEN/SEI

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**STEEL PLATE BEAM GUARDRAIL DETAIL**

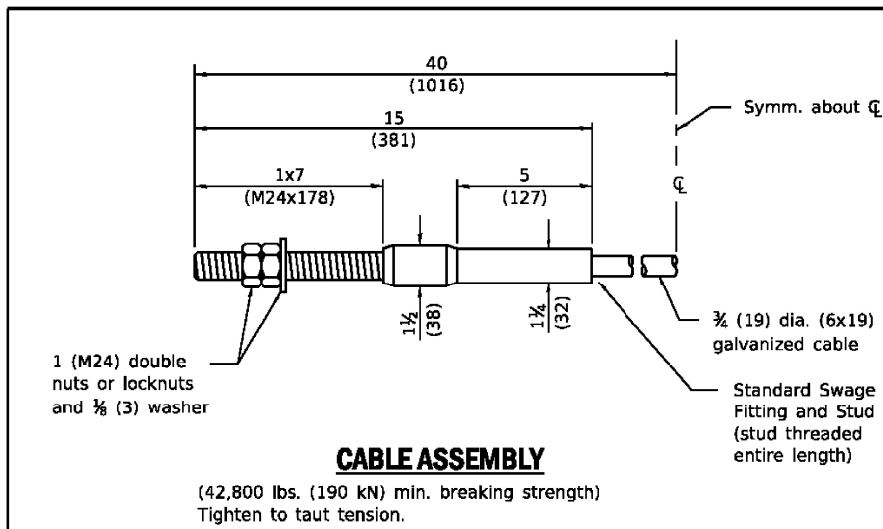
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 70F97				
ILLINOIS FED. AID PROJECT				

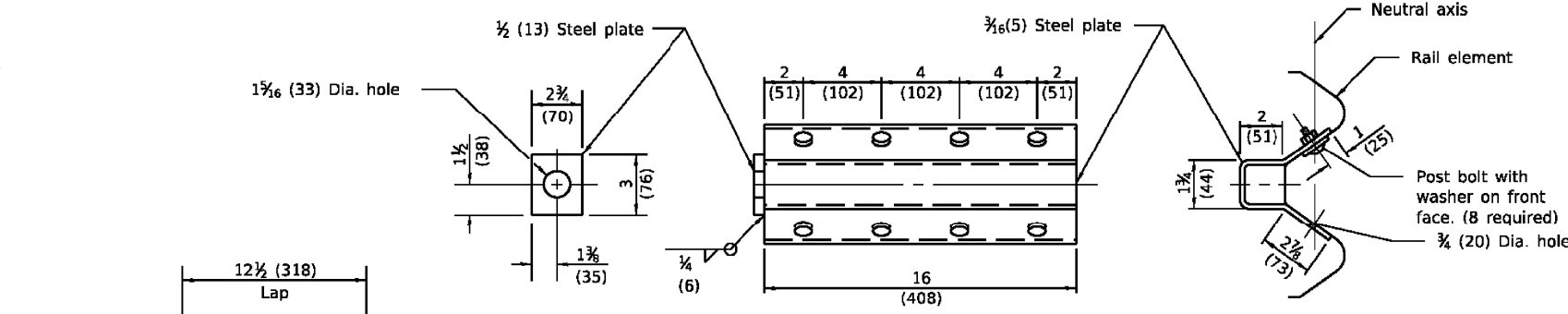
\* DISTRICT WIDE  
\*\* D5 GR & FENCE REPAIR 2023-1





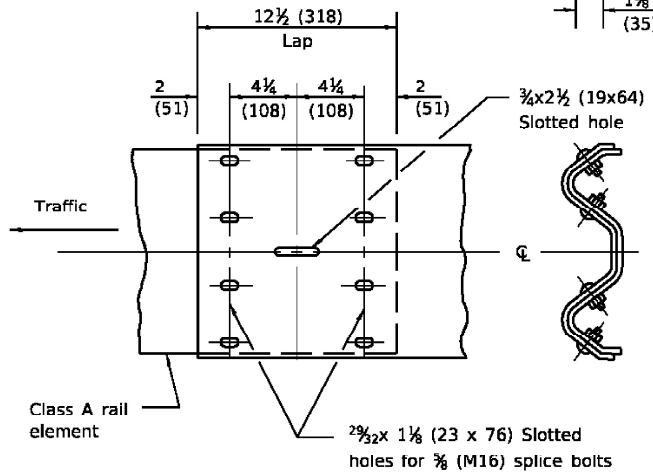
**CABLE ASSEMBLY**

(42,800 lbs. (190 kN) min. breaking strength)  
Tighten to taut tension.

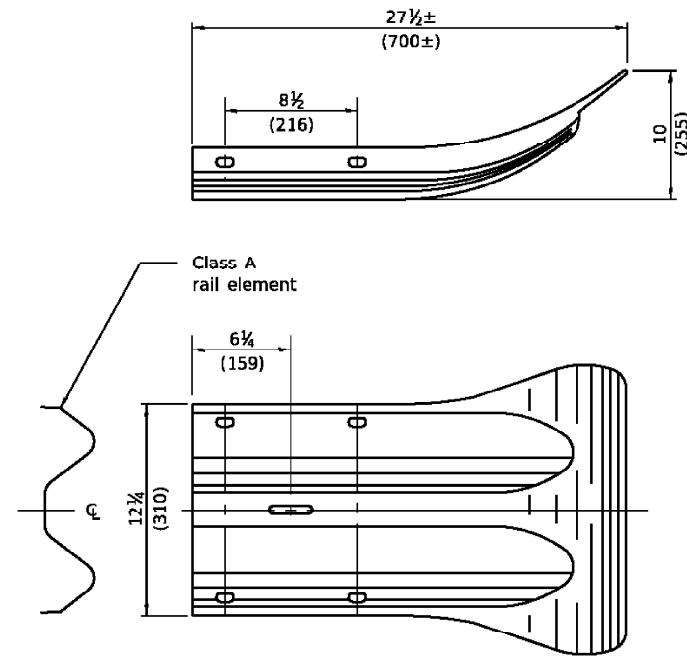


NOTE  
Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

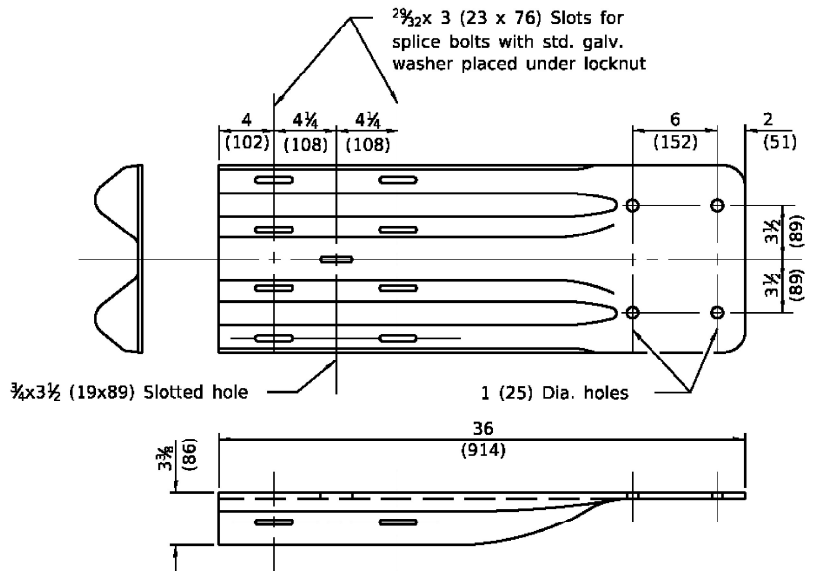
**ANCHOR PLATE T DETAILS**



**RAIL ELEMENT SPLICE**



**END SECTION**

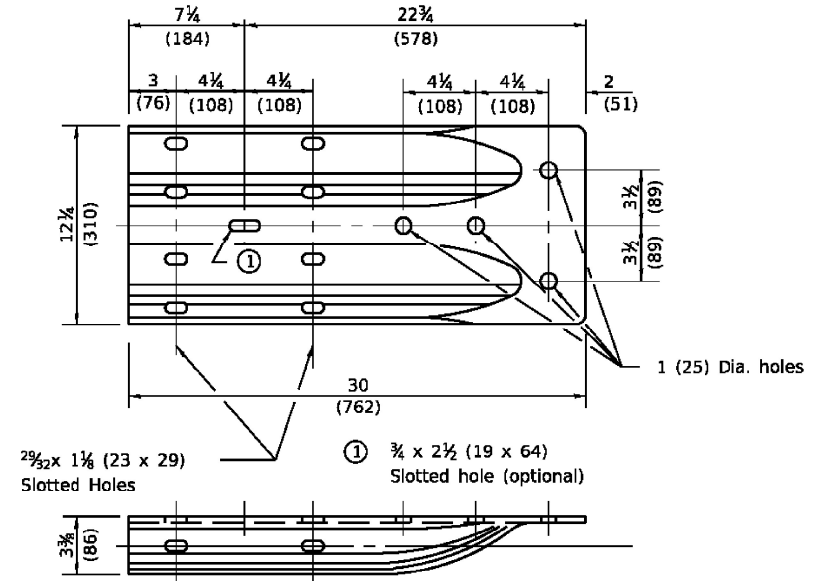


NOTE  
When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

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**



**ALTERNATE END SHOE**

Illinois Department of Transportation

APPROVED January 1, 2018  
*Michael Beard*  
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018  
*Monica M. Bell*  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

**STEEL PLATE BEAM GUARDRAIL**

(Sheet 3 of 4)

**STANDARD 630001-12**

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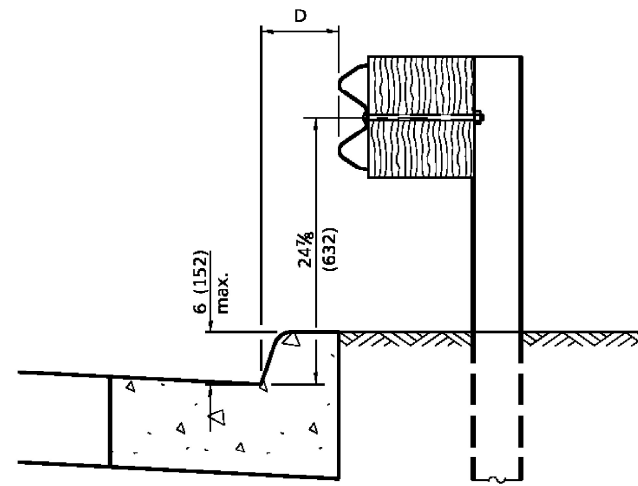
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STATE OF ILLINOIS  
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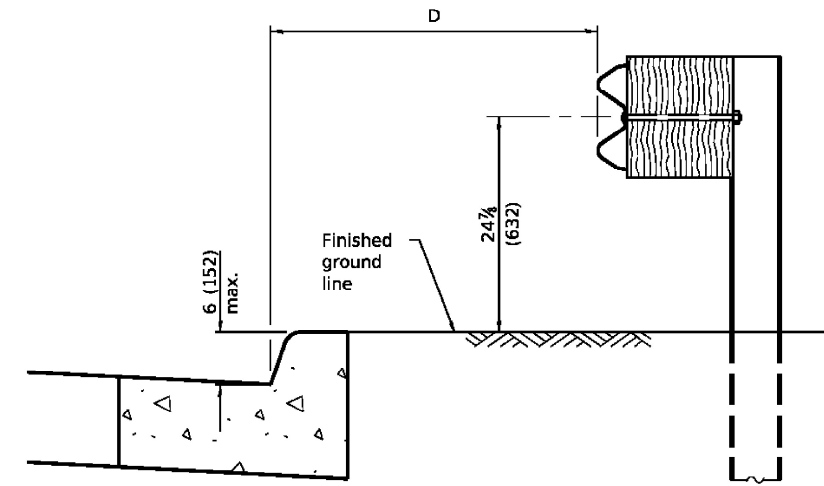
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	**	-	10	9
CONTRACT NO. 70F97				
ILLINOIS FED. AID PROJECT				

\* DISTRICT WIDE  
\*\* D5 GR & FENCE REPAIR 2023-1



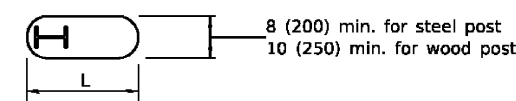
**0 ≤ D < 6 (150 m)**



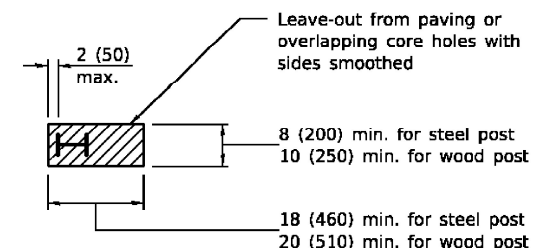
**4'-0" (1.2 m) ≤ D ≤ 12'-0" (3.7 m)**

**GUARDRAIL PLACED BEHIND CURB**

Note: 'D' shall not exceed 6 (152) for design speeds greater than 45 mph.

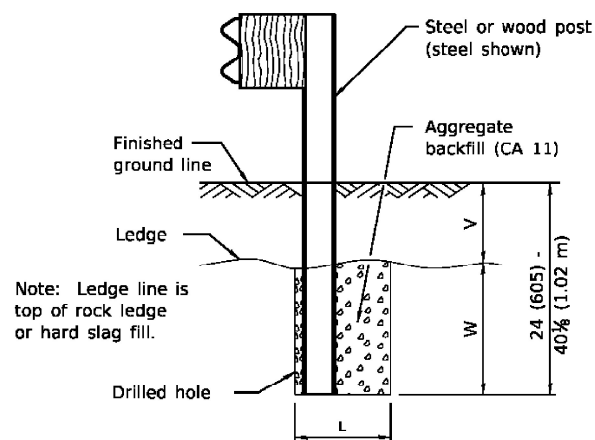


**PLAN**



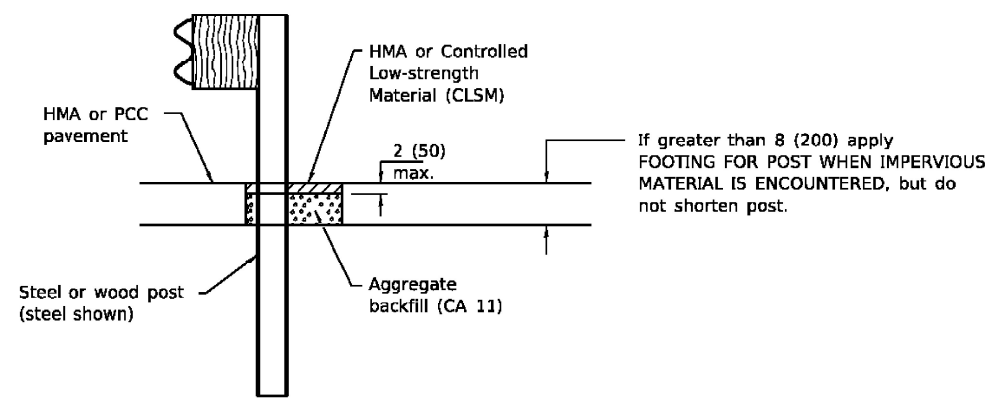
**PLAN**

V	W	L	
		Steel Post	Wood Post
0 - 6 (0 - 152)	24 (610)	21 (530)	23 (580)
> 6 - 18 (> 152 - 458)	18 (458)	14 1/2 (368)	16 1/2 (419)
> 18 - 31 (> 458 - 787)	12 (305)	8 (203)	10 (250)
> 31 - 40 1/2 (> 787 - 1.02 m)	12 - 0 (305 - 0)	8 (203)	10 (250)



**ELEVATION**

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



**ELEVATION**

**LEAVE-OUT FOR POST WHEN PAVED MATERIAL IS ENCOUNTERED**

Illinois Department of Transportation

APPROVED January 1, 2018  
*Michael Beard*  
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018  
*Walter J. ...*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-17

**STEEL PLATE BEAM GUARDRAIL**

(Sheet 4 of 4)

**STANDARD 630001-12**

MODEL: I:\MODEL\NAME FILE: NAME.dwg PLOT DATE: 4/19/2022

USER NAME = goblejr	DESIGNED -	REVISED -
PLOT SCALE = 40,0000 */ in.	DRAWN -	REVISED -
PLOT DATE = 4/19/2022	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL DETAIL

SCALE: NONE SHEET 4 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	**		10	10
CONTRACT NO. 70F97				
ILLINOIS FED. AID PROJECT				

\* DISTRICT WIDE  
\*\* D5 GR & FENCE REPAIR 2023-1