06-14-2024 LETTING ITEM 056

FOR INDEX OF SHEETS, SEE SHEET NO. 2

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

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# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

\*D5 GR & FENCE REPAIR 2025-1

D-95-005-25

## PROPOSED HIGHWAY PLA

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CHAMPAIGN

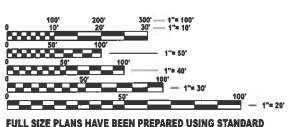
VERMILION

DOUGLAS

EDGAR

HIGHWAY PLANS

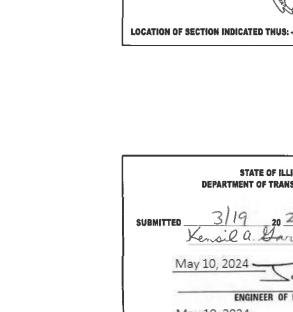
VARIOUS ROUTES
SECTION D5 GR & FENCE REPAIR 2025-1
GUARDRAIL & FENCING MEDIAN CABLE
VARIOUS COUNTIES
C-95-018-25

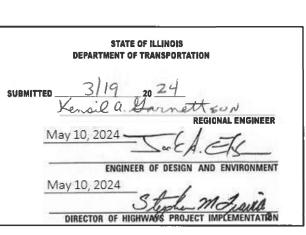


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER: RYAN CARROLL SQUAD LEADER: TYLER PIERSON DESIGNER: AARON FARNHAM PHONE NUMBER: 217-465-4181 CONTRACT NO. 70H35





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### **INDEX OF SHEETS**

SHEET NO. DESCRIPTION COVER SHEET INDEX OF SHEETS HIGHWAY STANDARDS **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.	<u>DESCRIPTION</u>
000001-08	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
630001 <b>-</b> 13	STEEL PLATE BEAM GUARDRAIL
630101-11	STRONG POST GUARDRAIL ATTACHED TO CULVERT
630106-02	LONG-SPAN GUARDRAIL OVER CULVERT
630111-01	WEAK POST GUARDRAIL ATTACHED TO CULVERT
630201 <b>-</b> 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
631031-18	TRAFFIC BARRIER TERMINAL, TYPE 6
631032-10	TRAFFIC BARRIER TERMINAL, TYPE 6A
631033-09	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 <b>-</b> 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
701400-12	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 <del>-</del> 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
701901-09	TRAFFIC CONTROL DEVICES

### **COMMITMENTS**

SCALE:

THERE ARE NO COMMITMENTS FOR THIS CONTRACT

USER NAME = Bradley.Farnham	DESIGNED -	REVISED -	_
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 3/5/2024	DATE -	REVISED -	

	INDEX OF SHEETS, HIGHWAY STANDARDS, & GENERAL NOTES						SECTION	SECTION		
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	& GLNERAL HOTES								CONTR	
	SHEET 1	OF 1	SHEETS	STA	TO STA.		II LINOIS	EED A	ID DDO IECT	

SHEE

D5 GR & FENCE REPAIR 2025-1

LOCATION: VARIOUS VARIOUS ROUTES ROUTES COUNTY: **VARIOUS VARIOUS** FUNDING BREAKOUT: 100% STATE 100% STATE CONSTRUCTION CODE: 0021 0021

CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY	MCHD	GUARDRAIL
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	150.0	75.0	75.
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	4.0	2.0	2.
63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	2.0	1.0	1.
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2.0	1.0	1.0
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	2.0	1.0	1.
63100089	TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	2.0	1.0	1
63100105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	2.0	1.0	1
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	60.0	40.0	20.0
63400105	GUARD POSTS	EACH	11.0	10.0	
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2.0	1.0	
64300370	IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	2.0	1.0	
66400105	CHAIN LINK FENCE, 4'	FOOT	300.0	200.0	100
66400305	CHAIN LINK FENCE, 6'	FOOT	400.0	200.0	200
66500105	WOVEN WIRE FENCE, 4'	FOOT	3000.0	2,000,0	4.000
00000100	WOVEN WIRE FEINCE, 4	15001	3000.0	2,000.0	1,000
NOTES SPECIALT	Y ITEM				

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SCALE:

F.A.P RTE. VAR COUNTY TOTAL SHEET NO.

VARIOUS 10 3 SECTION SUMMARY OF QUANTITIES CONTRACT NO. 70H35 SHEET 1 OF 4 SHEETS STA. TO STA. ILLINOIS FED. AID PROJECT
D5 GR & FENCE REPAIR 2025-1

LOCATION: VARIOUS VARIOUS ROUTES ROUTES COUNTY: VARIOUS **VARIOUS** FUNDING BREAKOUT: 100% STATE 100% STATE CONSTRUCTION CODE: 0021 0021

CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY	MCHD	GUARDRAIL
66501200	WOVEN WIRE GATES, 4' X 8' DOUB_E	EACH	2.0	1.0	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	28.0	14.0	14
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	14.0	8.0	6
X2300003	SPLICING HIGH TENSION CABLE (BRIFEN)	EACH	2.0	1.0	
X2300004	SPLICING HIGH TENSION CABLE (GIBRALTAR)	EACH	5.0	3.0	2
X2300005	SPLICING HIGH TENSION CABLE (TRINITY)	EACH	3.0	2.0	,
X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	50.0	25.0	29
X6331110	STEEL POSTS (SPECIAL)	EACH	3.0	2.0	1
X6340205	GUARD POSTS REMOVAL	EACH	11.0	10.0	
X6432110	REPLACE IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	90.0	75.0	1
X6432223	REPAIR IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2.0	1.0	
X6440130	REPAIR HIGH TENSION CABLE (GIBRALTAR)	FOOT	700.0	550.0	15
X6440132	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (GIBRALTAR)	EACH	30.0	10.0	2
X6440133	REPAIR POSTS (GIBRALTAR)	EACH	415.0	300.0	44
A044U 133	NEFAIN FOOTO (GIBRALIAN)	EACH	415.0	300.0	11
NOTES SPECIALT	Y ITEM				

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SCALE:

F.A.P RTE. VAR COUNTY TOTAL SHEETS NO.

VARIOUS 10 4 SECTION SUMMARY OF QUANTITIES CONTRACT NO. 70H35 SHEET 2 OF 4 SHEETS STA. TO STA. ILLINOIS FED. AID PROJECT
D5 GR & FENCE REPAIR 2025-1

LOCATION: VARIOUS VARIOUS ROUTES ROUTES COUNTY: **VARIOUS VARIOUS** FUNDING BREAKOUT: 100% STATE 100% STATE CONSTRUCTION CODE: 0021 0021

CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY	<u>MCHD</u>	GUARDRAIL
X6440150	REPAIR HIGH TENSION CABLE (BRIFEN)	FOOT	70.0	40.0	30
X6440153	REPAIR POSTS (BRIFEN)	EACH	11.0	6.0	5
X6440156	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (BRIFEN)	EACH	2.0	1.0	1
X6440160	REPAIR HIGH TENSION CABLE (TRINITY)	FOOT	200.0	150.0	50
X6440163	REPAIR POSTS (TRINITY)	EACH	85.0	60.0	25
X6440166	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (TRINITY)	EACH	15.0	2.0	13
X6640594	CHAIN LINK FENCE POST 4'	EACH	24.0	15.0	(
X6640601	CHAIN LINK FENCE POST 6'	EACH	24.0	15.0	9
Z0008760	EMERGENCY WORK CALL OUT	EACH	36.0	23.0	1;
Z0012752	CONCRETE STRUCTURE REPAIR	CU FT	11.0	8.0	:
Z0020210	PULL POST ARRANGEMENT	EACH	28.0	20.0	
Z0052000	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	6,800.00	5,500.0	1,30
Z0052100	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE B	FOOT	26.0	25.0	
Z0052410	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	10.0	7.0	
NOTES SPECIALT	Y ITEM				

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USER NAME = Bradley.Farnham DESIGNED -REVISED -REVISED -DRAWN -CHECKED -REVISED -PLOT DATE = 3/5/2024 DATE REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SCALE:

F.A.P RTE. VAR COUNTY TOTAL SHEET NO.

VARIOUS 10 5 SECTION SUMMARY OF QUANTITIES CONTRACT NO. 70H35 SHEET 3 OF 4 SHEETS STA. TO STA. ILLINOIS FED. AID PROJECT
D5 GR & FENCE REPAIR 2025-1

LOCATION: VARIOUS VARIOUS ROUTES ROUTES COUNTY: **VARIOUS VARIOUS** FUNDING BREAKOUT: 100% STATE 100% STATE CONSTRUCTION CODE: 0021 0021

CODE NO.	PAY ITEM	<u>u</u>	<u>IIT</u>	TOTAL QUANTITY	<u>MCHD</u>	GUARDRAIL
Z0052415	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (FLARED)	EA	СП	2.0	1.0	1
20052415	REPAIR TRAFFIC BARRIER TERMINAL, TIPE I SPECIAL (FLARED)			2.0	1.0	<u>'</u>
Z0052600	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 2	EA	СН	4.0	2.0	2
Z0053000	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 5	EA	СН	2.0	1.0	1
Z0053200	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6	EA	СН	2.0	1.0	1
Z0053210	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6A	EA	СН	2.0	1.0	
Z0053220	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6B	EA	СН	2.0	1.0	i
			+			
ECIALTY ITEM						

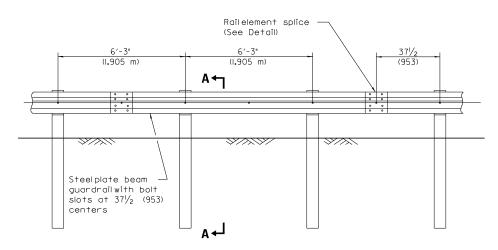
USER NAME = Bradley.Farnham DESIGNED -REVISED -DRAWN -REVISED -CHECKED -REVISED -PLOT DATE = 3/5/2024 DATE REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SCALE:

F.A.P RTE. VAR COUNTY TOTAL SHEET NO.

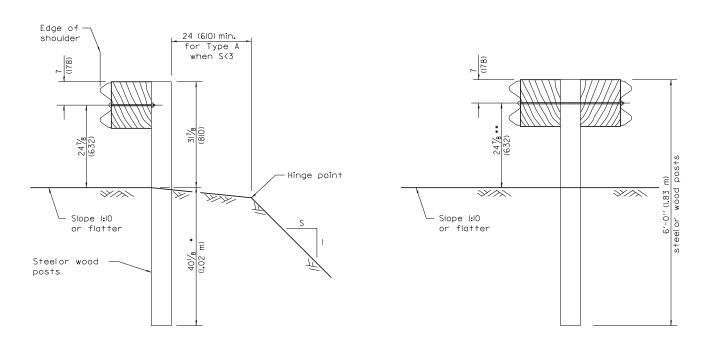
VARIOUS 10 6 SECTION SUMMARY OF QUANTITIES CONTRACT NO. 70H35 SHEET 4 OF 4 SHEETS STA. TO STA. ILLINOIS FED. AID PROJECT
D5 GR & FENCE REPAIR 2025-1



#### **ELEVATION**

TYPE A

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

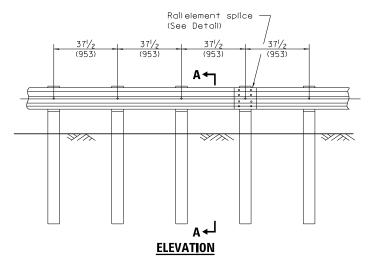


#### SECTION A-A

• 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  $76\frac{1}{8}$  (1934).

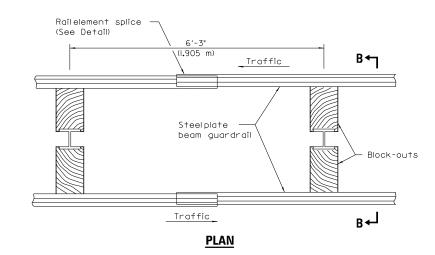
#### SECTION B-B

\*\* When connecting Type D guardrail to an impact attenuator, adjust this dimension to 21% (556) over a distance of 25'-0' (7.62 m) from point of connection.



#### TYPE B

371/2 (953) Closed post spacing



#### TYPE D

Double steelplate 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.

#### STEEL PLATE BEAM GUARDRAIL

(Sheet lof 4)

STANDARD 630001-10

USER NAME = Bradley.Famham	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 3/5/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL OF 27 1/2" STEEL PLATE BEAM GUARDRAIL

SHEET 1 OF 4 SHEETS STA. TO STA.

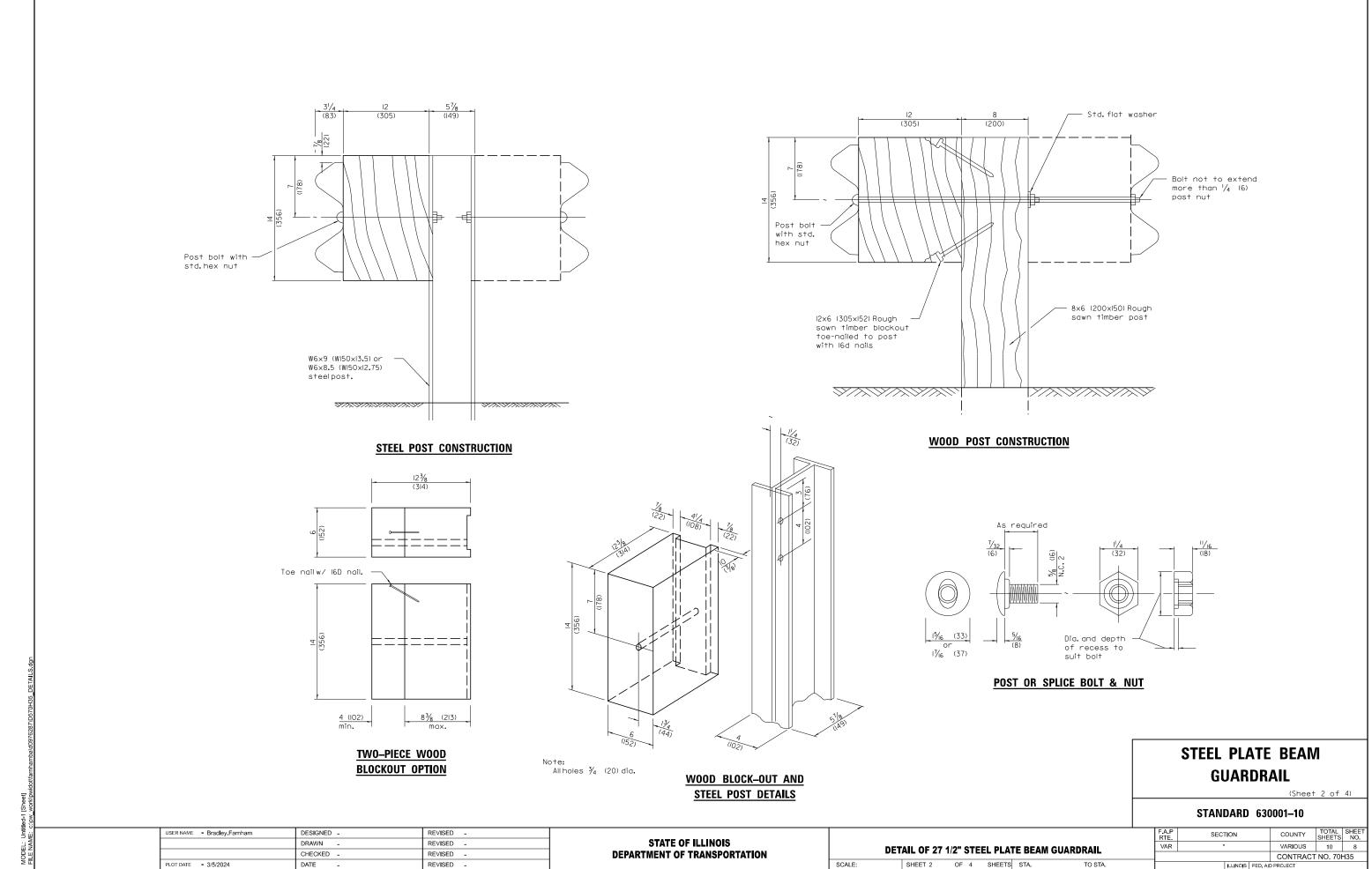
SCALE:

 F.A.P. RTE.
 SECTION
 COUNTY SHEETS NO.
 TOTAL SHEETS NO.

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 CONTRACT NO. 70H35

D5 GR & FENCE REPAIR 2025-1

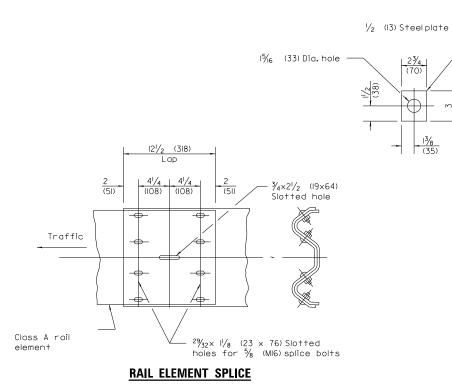


**DEPARTMENT OF TRANSPORTATION** 

DATE

SHEET 2 OF 4 SHEETS STA.

CONTRACT NO. 70H35 ILLINOIS FED. AID PROJECT
D5 GR & FENCE REPAIR 2025-1



# Anchor plate T shallbe used to attach cable assembly to guardrailwhen required on traffic barrier terminals.

0

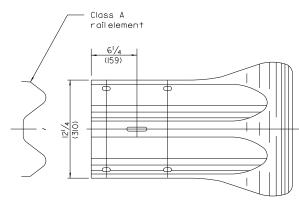
(102)

⅓(5) Steelplate

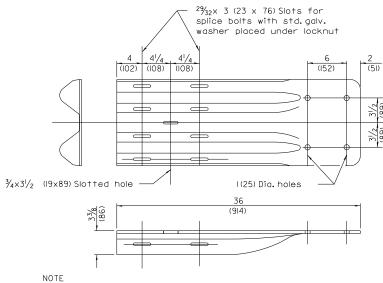
(102)

#### **ANCHOR PLATE T DETAILS**

### 271/2: (700:) 81/2 (216) Class A rail element



END SECTION

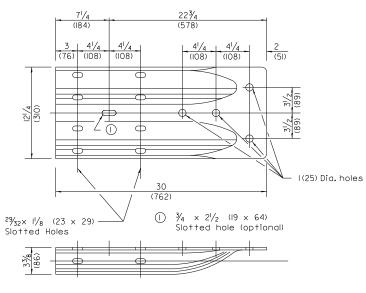


NOTE
When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

The standard end shoe shallbe attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shallbe set flush with the surface of the concrete.

Externally threaded studs protruding from the surface of the concrete will not be permitted.

#### **END SHOE**



Neutralaxis

Post bolt with washer on front face.(8 required)

 $-\frac{3}{4}$  (20) Dia. hole

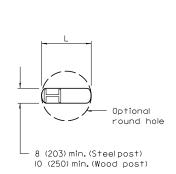
#### ALTERNATE END SHOE

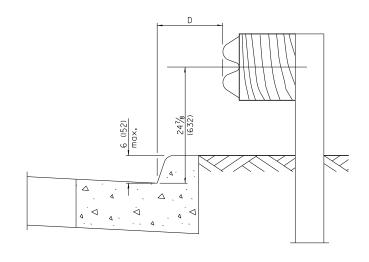
# STEEL PLATE BEAM GUARDRAIL

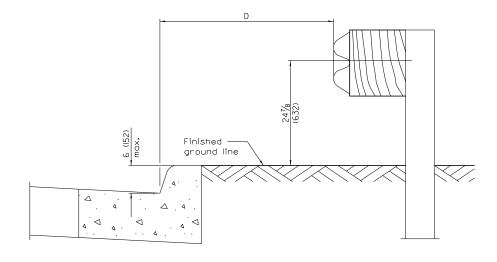
(Sheet 3 of 4)

#### STANDARD 630001-10

USER NAME = Bradley.Farnham	DESIGNED -	REVISED -								F.A.P RTE	SECTION	COUNT	Y TOTA	TAL SHEET	1	
	DRAWN -	REVISED -	STATE OF ILLINOIS	TE OF ILLINOIS						ADDDAIL	VAR	*	VARIOU	S 10	0 9	1
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION	DETAIL OF 27 1/2" STEEL PLATE BEAM GUARDRAIL						CONTR	ACT NO.	70H35	1			
PLOT DATE = 3/5/2024	DATE -	REVISED -	SCALE: SHEET 3 OF 4 SHEETS STA. TO STA.				TO STA.		ILLINOIS FE	D. AID PROJECT			1			
·									•		D5 GR & FENCE REPAIR 2025-1					_



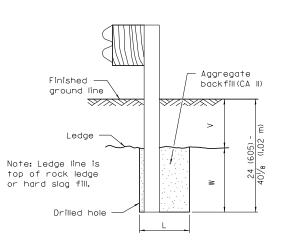




 $0 \le D < 4'-0'' (1.2 m)$ 

4'-0" (1.2 m)  $\leq$  D  $\leq$  12'-0" (3.7 m)

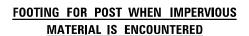
#### <u>PLAN</u>



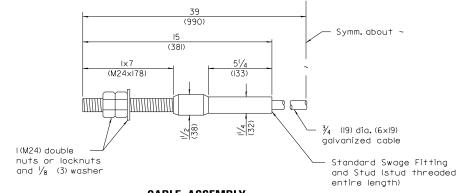
#### **GUARDRAIL PLACED BEHIND CURB**

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

#### **ELEVATION**



V	W	L			
V	w	SteelPost	Wood Post		
0 - 6	24	2I	23		
(0 - 152)	(610)	(530)	(580)		
> 6 - 18	18	14½	16½		
(> 152 - 458)	(458)	(368)	(419)		
> 18 - 31	12	8	10		
(> 458 - 787)	(305)	(203)	(250)		
> 31 - 40½	12 - 0	8	10		
(> 787 - 1.02 m)	(305 - 0)	(203)	(250)		



#### **CABLE ASSEMBLY**

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

#### STEEL PLATE BEAM GUARDRAIL

(Sheet 4 of 4)

STA	NDARD	630001–10

	USER NAME = Bradley.Farnham	DESIGNED -	REVISED -				F.A.P RTE	SECTION	COUNTY	TOTAL	SHEET
L		DRAWN -	REVISED -	STATE OF ILLINOIS	DETAIL OF 27 1/2" STEEL PLATE BEAM GUARDRAIL		VAR	*	VARIOUS	10	10
		CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION					CONTRACT NO. 70H3/		H35
	PLOT DATE = 3/5/2024	DATE -	REVISED -		SCALE:	SHEET 4 OF 4 SHEETS STA. TO STA.		ILLINOIS FED. AID PR		PROJECT	

TIEL INGINIE. C. DW WOLKID

D5 GR & FENCE REPAIR 2025-1