

11-9-12 LETTING ITEM 064

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FOR INDEX OF SHEETS, SEE SHEET NO. 2

**ROUTE: VARIOUS EXPRESSWAYS AND ARTERIAL
HIGHWAYS – NORTHERN PART, DISTRICT ONE
GUARDRAIL REPAIR
SECTION: 2012-022 GRR
COUNTY: VARIOUS
C-91-423-12**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 60T74		

D-91-423-12



THIS SECTION IS LOCATED ALONG VARIOUS ROUTES WITHIN COOK, KANE, DUPAGE AND WILL COUNTIES.

**SEE LOCATION MAPS
SHEETS 4 THRU 8**

C.U.A.N.
CHICAGO UTILITY ALERT NETWORK
1-312-744-7000

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

PROJECT ENGINEER: ROBERT BORO (847) 705-4237
PROJECT MANAGER: ISSAM RAYYAN

CONTRACT NO. 60T74

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *August 22 20 12*

John F. Johnson
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 5 20 12
John D. Baranzelli P.E.
acting ENGINEER OF DESIGN AND ENVIRONMENT

October 5 20 12
William R. Frazer
acting DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

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- 20-22. T6 TERMINAL FOR USE WITH 21" HIGH SPBGR (BM-22)
23. TRAFFIC CONTROL DETAIL FOR SHOULDER CLOSURE AND
PARTIAL RAMP CLOSURES (TC-17)

LIST OF STATE STANDARDS

- | | |
|-----------|---|
| 630001-10 | STEEL PLATE BEAM GUARDRAIL |
| 630301-05 | SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS |
| 631006-08 | TRAFFIC BARRIER TERMINAL, TYPE 1B |
| 631011-08 | TRAFFIC BARRIER TERMINAL, TYPE 2 |
| 631026-05 | TRAFFIC BARRIER TERMINAL, TYPE 5 |
| 631031-10 | TRAFFIC BARRIER TERMINAL, TYPE 6 |
| 631036-05 | TRAFFIC BARRIER TERMINAL, TYPE 8 |
| 635006-03 | REFLECTOR AND TERMINAL MARKER PLACEMENT |
| 635011-02 | REFLECTOR MARKER AND MOUNTING DETAILS |
| 701006-03 | OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE |
| 701011-02 | OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY |
| 701101-02 | OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE |
| 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 |
| 701401-06 | LANE CLOSURE, FREEWAY/EXPRESSWAY |
| 701406-06 | LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY |
| 701411-08 | LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEED ≥ 45 MPH |
| 701501-06 | URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED |
| 701606-08 | URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN |
| 701701-08 | URBAN LANE CLOSURE, MULTILANE INTERSECTION |
| 701801-05 | LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE |
| 701901-02 | TRAFFIC CONTROL DEVICES |
| 720011-01 | METAL POSTS FOR SIGNS, MARKERS & DELINEATORS |

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 OR 811 OR "CUAN" AT (312) 744-700 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

ALL WORK IS TO BE REPLACED IN KIND OR AS INDICATED ON THE CONTRACT QUANTITY SHEET.

GUARDRAIL WORK WILL INCLUDE ALIGNMENT AS NECESSARY TO RESTORE THE RAIL TO THE ORIGINAL CONDITIONS.

REMOVAL OF DAMAGED MATERIALS WILL INCLUDE DISMANTLING, LOADING, HAULING AND DISPOSAL. THE WORK SITE WILL BE LEFT IN A SAFE AND ORDERLY CONDITION.

NO MATERIAL SHOULD BE LEFT ON OR NEAR THE ROADWAY DURING NON-WORKING HOURS.

ANY NECESSARY TRAFFIC CONTROL WILL BE PROVIDED BY THE CONTRACTOR; APPROPRIATE STANDARDS ARE HEREWITH ATTACHED.

THE LIMITS OF THE DAMAGED GUARDRAIL WILL BE MARKED WITH PAINT. THE REPLACEMENT PARTS AND THE QUANTITIES INDICATED ARE WITHIN THESE LIMITS AS MARKED.

REMOVED GUARDRAIL THAT IS NOT REPLACED ON THE SAME DAY MUST BE DELINEATED WITH LIGHTED BARRICADES. NO LOCATIONS WILL BE LEFT WITHOUT EITHER LIGHTED BARRICADES OR RESTORED GUARDRAIL AT ANY TIME.

GUARDRAIL MARKERS SHALL NOT BE ATTACHED TO TERMINAL SECTIONS.

THE CONTRACTOR SHALL TELEPHONE THE IDOT BUREAU OF TRAFFIC OPERATIONS, ELECTRICAL MAINTENANCE SECTION AT 708-524-2145 TO REQUEST THE LOCATE FOR UNDERGROUND ELECTRICAL AND/OR FIBER CABLE PRIOR TO ANY DIGGING AS PER THE CONTRACT.

REMOVAL OF EXISTING TERMINAL SECTIONS INCLUDED IN COST OF NEW TERMINAL SECTIONS

FILE NAME =	USER NAME = pyrzanowski	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT SCALE = 100.0000 / in.	CHECKED -	REVISED -		SCALE:	SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO. 60174		
	PLOT DATE = 6/14/2012	DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

SUMMARY OF QUANTITIES				URBAN		CONSTRUCTION TYPE CODE 0021				SUMMARY OF QUANTITIES				URBAN		CONSTRUCTION TYPE CODE 0021			
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	100% STATE	100% MCHD					CODE NO	ITEM	UNIT	TOTAL QUANTITIES	100% STATE	100% MCHD				
				0021	0021									0021	0021				
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	360	288	72					x6300225	SINGLE END SECTION	EACH	13	11	2				
63100041	TRAFFIC BARRIER TERMINAL, TYPE 1B	EACH	2	1	1					x6300230	STEEL POSTS	EACH	639	511	128				
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	7	5	2					x6300610	THRIE BEAM GUARDRAIL ELEMENT PLATES	EACH	5	4	1				
63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	2	1	1					x6300620	THRIE-BEAM MODIFIED BLOCKS	EACH	5	4	1				
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	3	1					x6300630	THRIE-BEAM POSTS	EACH	5	4	1				
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	40	32	8					x6300640	THRIE BEAM RADIUS ELEMENT PLATES	EACH	2	1	1				
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	5	4	1					x6310163	TRAFFIC BARRIER TERMINAL, TYPE 1, NOSE	EACH	6	5	1				
78200410	GUARDRAIL MARKERS, TYPE A	EACH	257	221	36					x6310177	TRAFFIC BARRIER TERMINAL, TYPE 3 (SPECIAL)	EACH	2	1	1				
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	18	16	2					x6310203	TRAFFIC BARRIER TERMINAL, TYPE 3 SPECIAL, NOSE	EACH	2	1	1				
x0321563	REPAIR TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL	EACH	167	134	33					x6330800	GUARDRAIL POST VERTICAL ADJUSTMENT	EACH	11	9	2				
x4402302	CURB REMOVAL (PARTIAL)	FOOT	90	72	18					x6331105	STEEL POSTS, MODIFIED	EACH	20	16	4				
x6300210	GUARDRAIL BLOCKS	EACH	900	720	180					x6331110	STEEL POSTS, SPECIAL	EACH	8	6	2				
x6300215	RAIL ELEMENT PLATES	EACH	1170	936	234					Z0007124	STEEL RAILING (SPECIAL)	FOOT	23	18	5				
x6300217	RAIL ELEMENT PLATES (RADIUS)	EACH	47	38	9					Z0029656	REPAIR TRAFFIC BARRIER TERMINAL TYPE 3 SPECIAL	EACH	4	3	1				
x6300222	CONNECTING ENC SECTION	EACH	2	1	1					Z0029658	REPAIR TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL - POST	EACH	189	151	38				
x6300224	RETURN END SECTION	O23	3	2	1					Z0051400	REMOVING AND RESETTNG POSTS	EACH	45	36	9				

FILE NAME : c:\p\work\142312\142312.dwg	USER NAME : pyrzanowski	DESIGNED : -	REVISED : -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		SUMMARY OF QUANTITIES				F.A. RTE. : VAR.	SECTION : 2012-022 GRR	COUNTY : VARIOUS	TOTAL SHEETS : 23	SHEET NO. : 3						
PLOT SCALE : 1/8" = 1'-0"	CHECKED : -	REVISED : -	SCALE :							SHEET NO. :	OF :	SHEETS :	STA. :	TO STA. :	CONTRACT NO. 60174					
PLOT DATE : 8/24/2012	DATE : -	REVISED : -	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT																	

URBAN CONT. MAIN

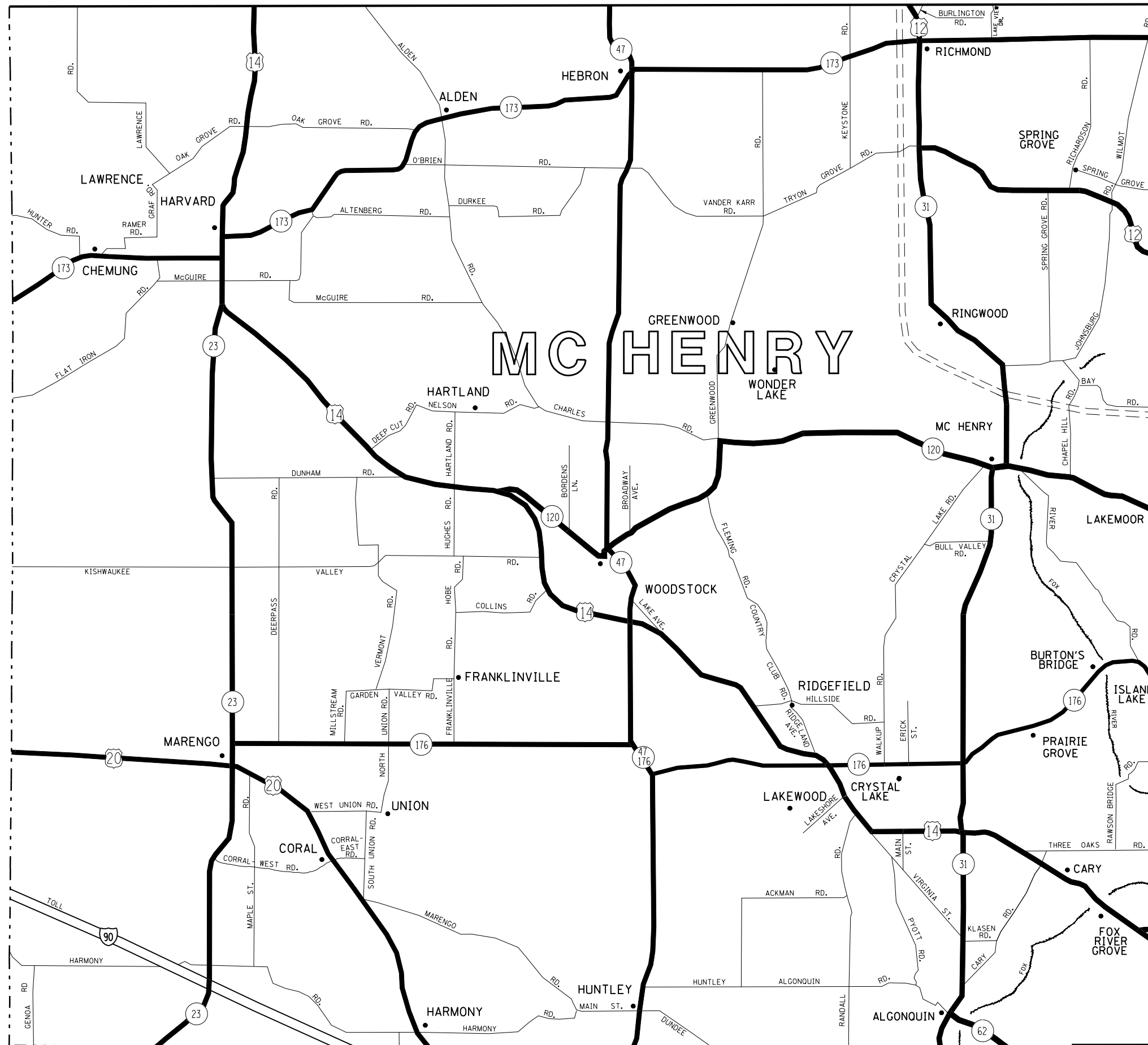
SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE 0021						SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	100% STATE	100% MCHD					CODE NO	ITEM	UNIT	TOTAL QUANTITIES							
Z0052100	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE B	FOOT	90	72	18															
Z0052200	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE C	FOOT	45	36	9															
Z0052400	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	8	6	2															
Z0052550	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1B	EACH	2	1	1															
Z0052600	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	16	14	2															
Z0052900	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 4	EACH	2	1	1															
Z0053000	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	2	1	1															
Z0053200	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	3	2	1															
Z0059660	REPAIR TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL - RAIL ELEMENT PLATE	EACH	54	43	11															
Z0078000	WOOD RAIL	FOOT	200	160	40															
X6300310	REMOVE GUARDRAIL CHANNEL AND REPLACE	EACH	27	22	5															

FILE NAME:
 USER NAME:
 DESIGNED:
 DRAWN:
 CHECKED:
 DATE:
 REVISIONS:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

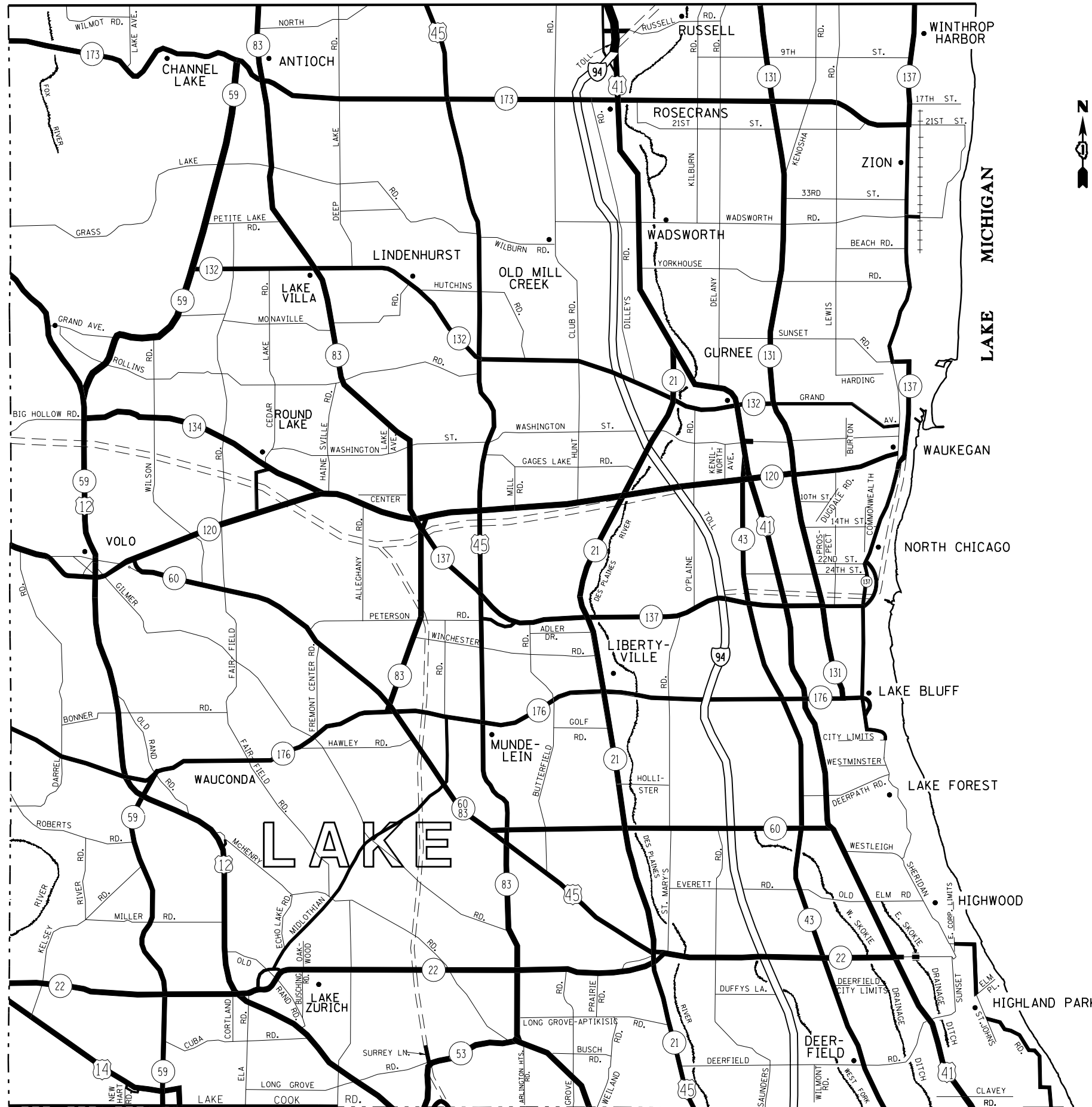
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DISTRICT NO. 1

- STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION, (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION**
- FUTURE HIGHWAYS**
- VARIOUS AGENCIES HIGHWAYS**

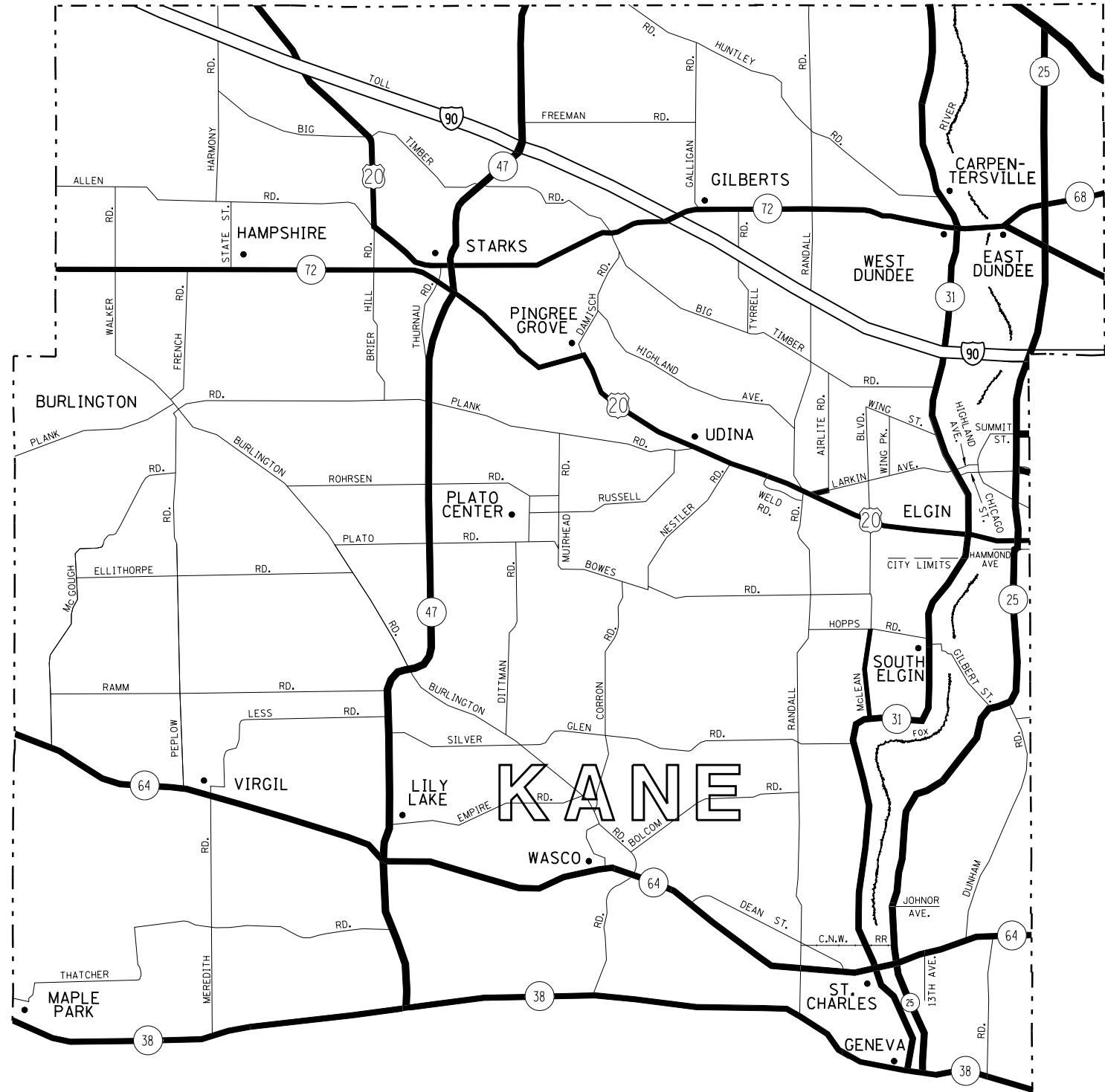
FILE NAME =	USER NAME = pyzranowskirb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL REPAIR LOCATION MAP McHENRY COUNTY			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 8/8/2012	DATE -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.			



DISTRICT NO. 1

- STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION**
- FUTURE HIGHWAYS**
- VARIOUS AGENCIES HIGHWAYS**

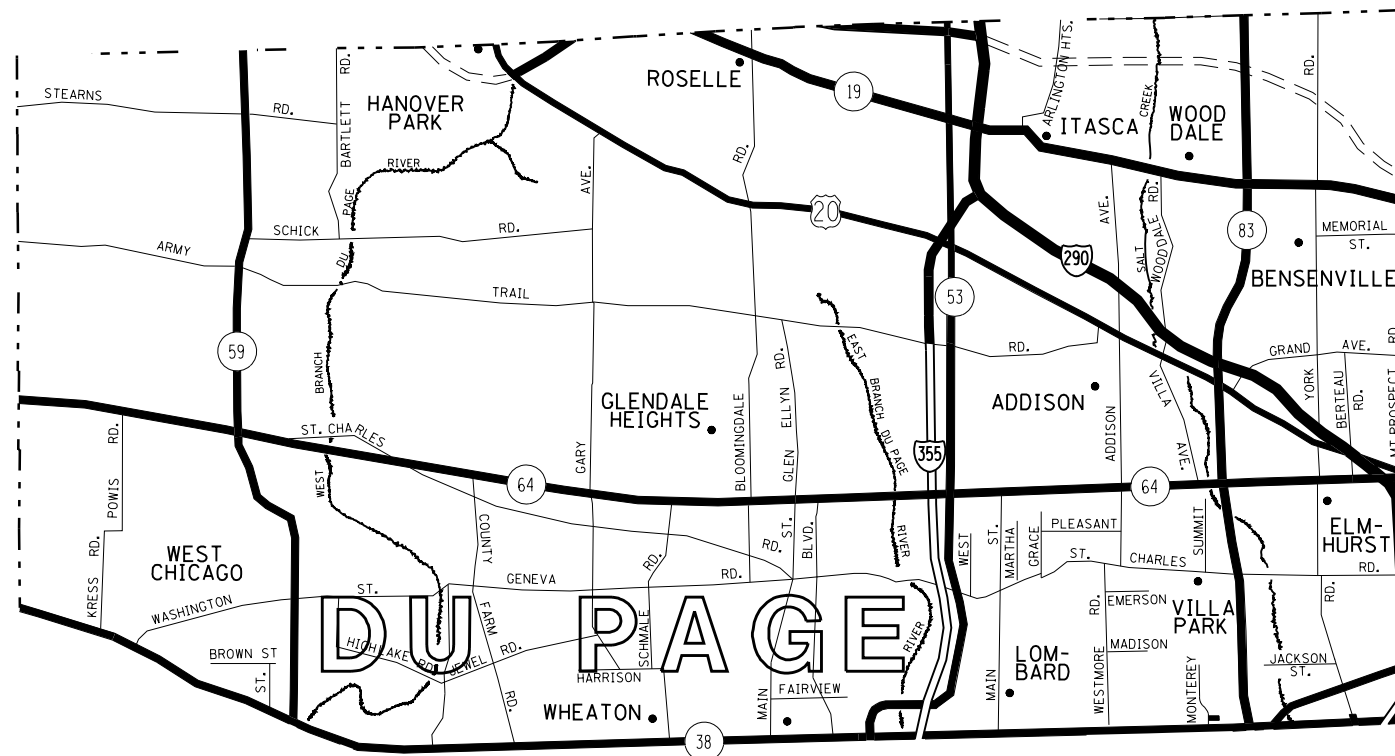
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	PLOT DATE = 8/8/2012	DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							




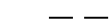
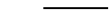
DISTRICT NO. 1

- STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION
- FUTURE HIGHWAYS
- VARIOUS AGENCIES HIGHWAYS

FILE NAME =	USER NAME = pyrzanowskirb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL REPAIR LOCATION MAP KANE COUNTY NORTH OF AND INCLUDING IL RTE 38	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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DISTRICT NO. 1

-  STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION
-  FUTURE HIGHWAYS
-  VARIOUS AGENCIES HIGHWAYS

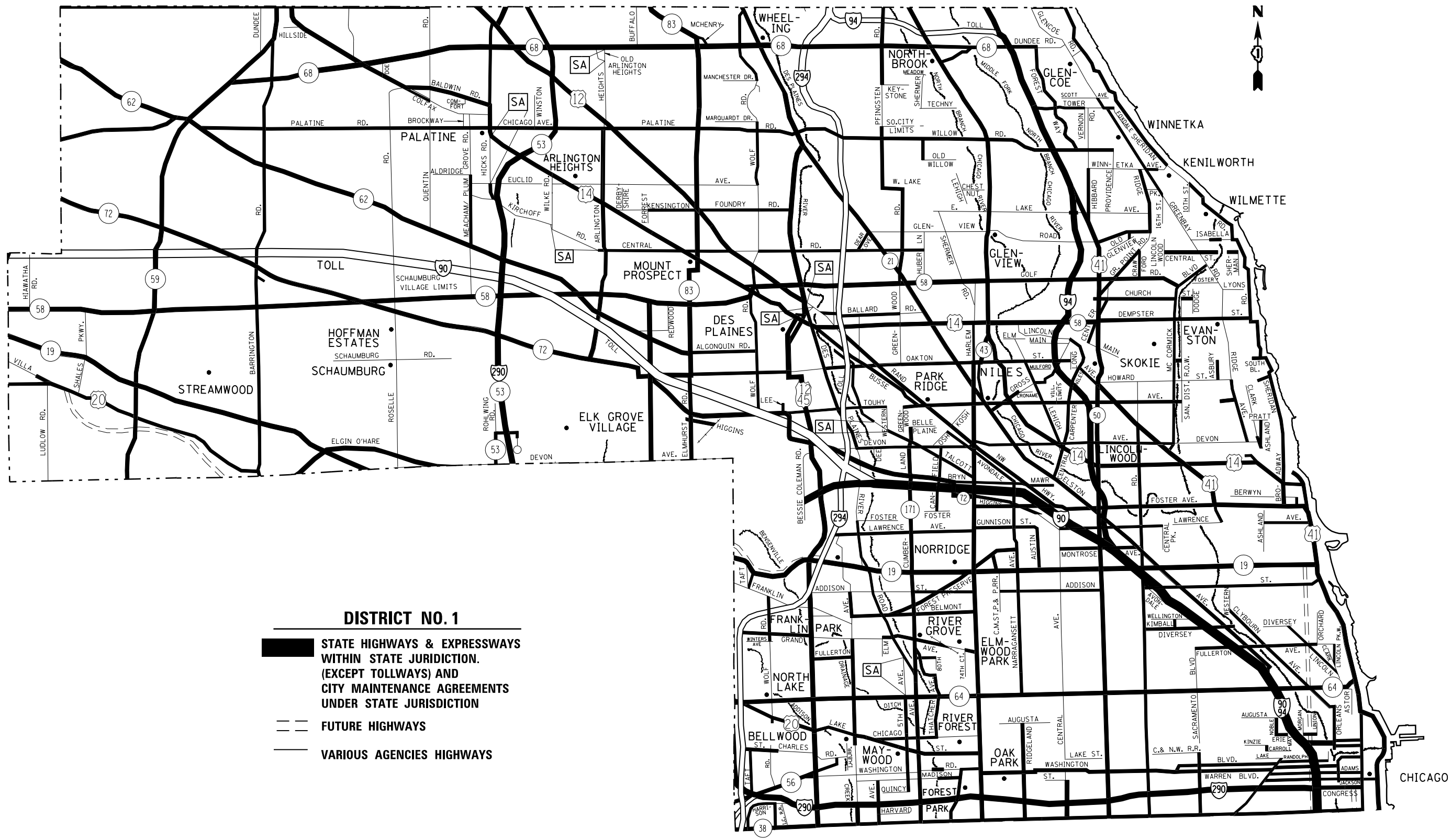
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION




GUARDRAIL REPAIR LOCATION MAP DuPAGE COUNTY
NORTH OF AND INCLUDING IL RTE 38

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	8
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 60T74	



DISTRICT NO. 1

-  STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION
-  FUTURE HIGHWAYS
-  VARIOUS AGENCIES HIGHWAYS

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	PLOT DATE = 8/8/2012	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL REPAIR LOCATION MAP COOK COUNTY
NORTH OF AND INCLUDING IL. RTE 38**

SCALE:	SHEET NO.	OF	SHEETS	STA.	TO	STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	9
CONTRACT NO. 60174				
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

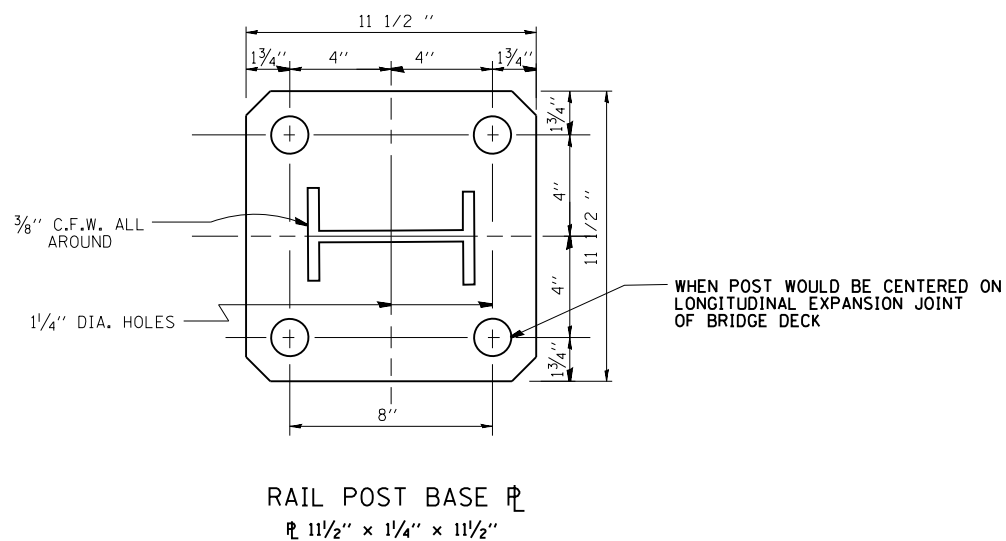
NOTE:
FOR DETAILS OF RAIL ELEMENTS, RAIL SPLICING, NUT, BOLT AND SIDE VIEW OF RAIL, SEE STANDARD 630001

ALL WELDS SHALL BE GROUND SMOOTH

POSTS SHALL BE CUT AND WELDED TO THE BASE PLATE SO THAT THE POST WILL BE PLUMB WHEN ERECTED.

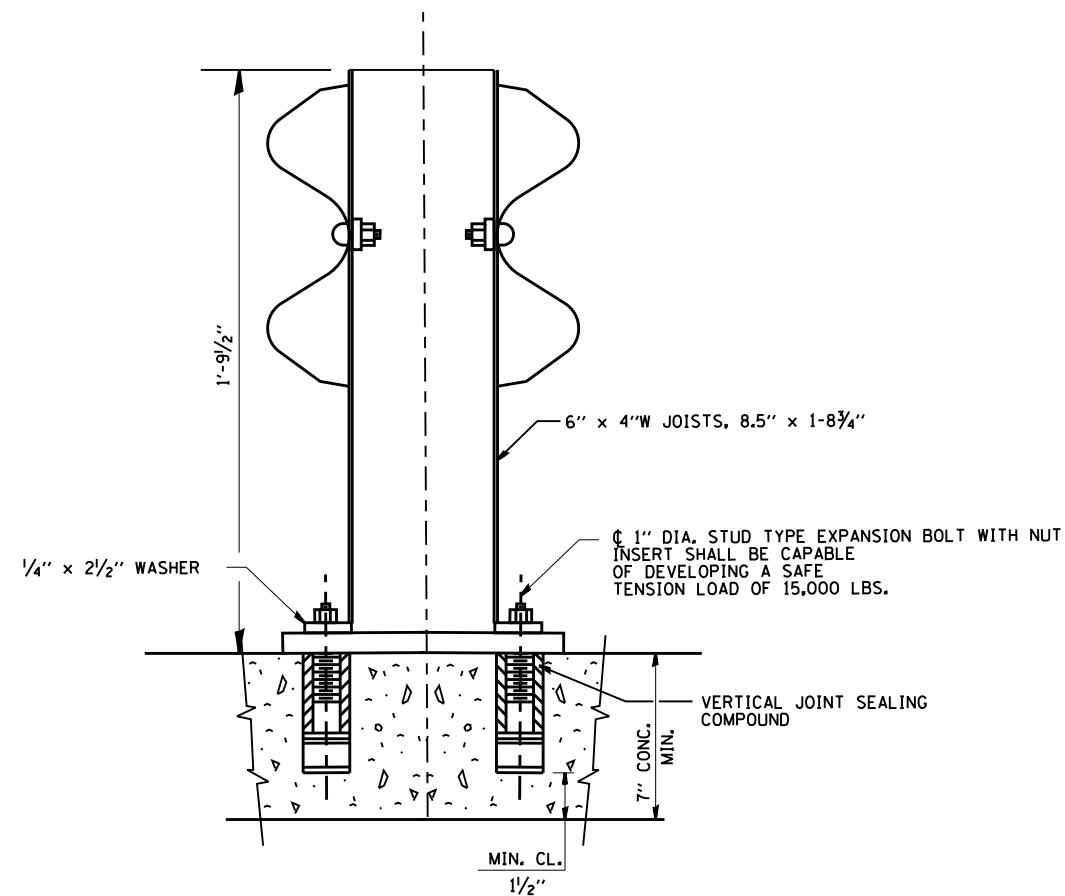
TWO PERCENT (2%) OF ALL ANCHOR BOLTS SHALL BE TEST LOADED IN PLACE, MINIMUM TEST LOAD=8 KIPS. IF ONE ANCHOR BOLT FAILS DURING THE TEST, TWO OTHER ANCHOR BOLTS SHALL BE TESTED. TESTING EQUIPMENT SHALL BE BOLT COMPANIES.

PROVIDE 1/8" AND 2/16" GALVANIZED SHIMS FOR 25% OF THE POSTS.



NOTE:

ALL WELDS SHALL BE GROUND SMOOTH. POSTS SHALL BE CUT AND WELDED TO THE TO THE BASE PLATE SO THAT THE POSTS WILL BE PLUMB WHEN ERECTED.



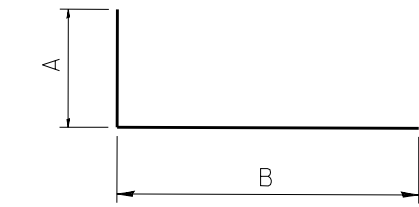
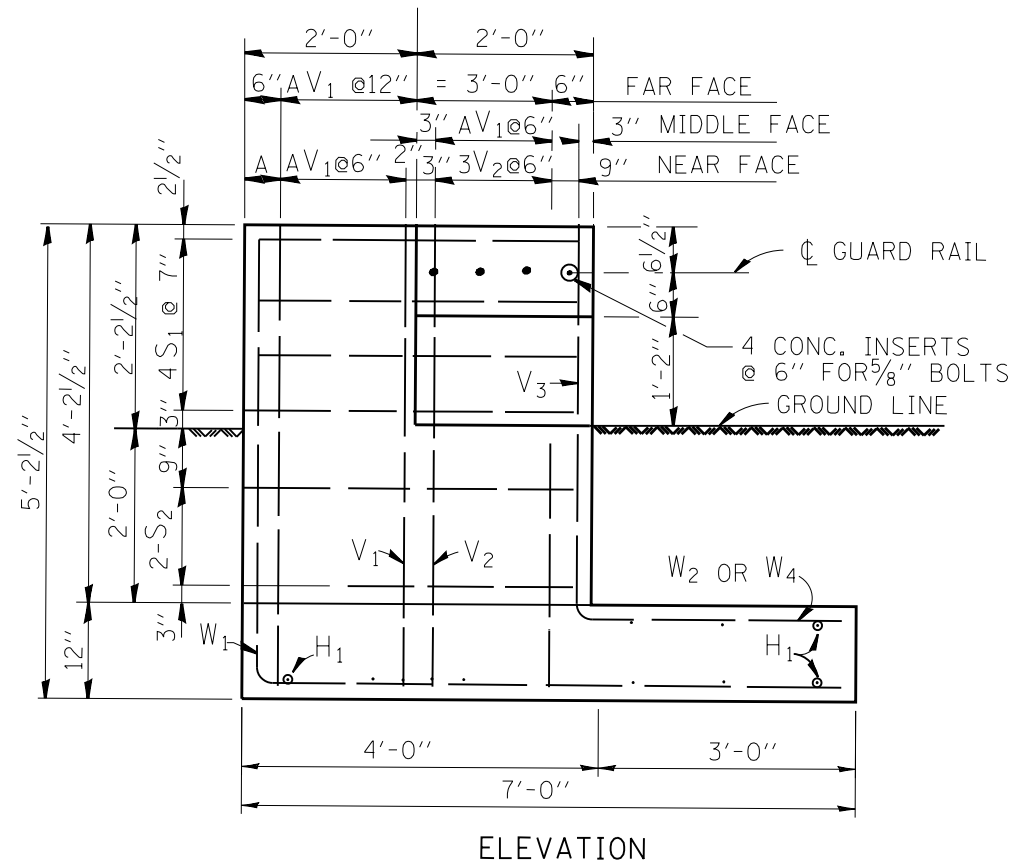
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

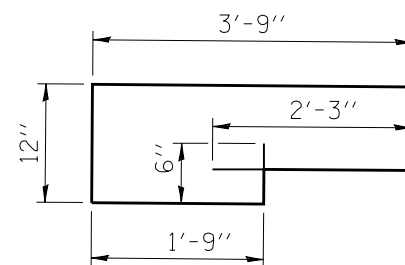
ANCHOR DETAIL FOR STEEL PLATE BEAM RAIL ON CONCRETE

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

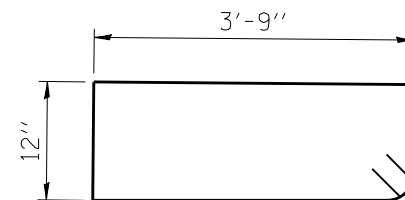
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	10
	BM-02		CONTRACT NO. 60T74	
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



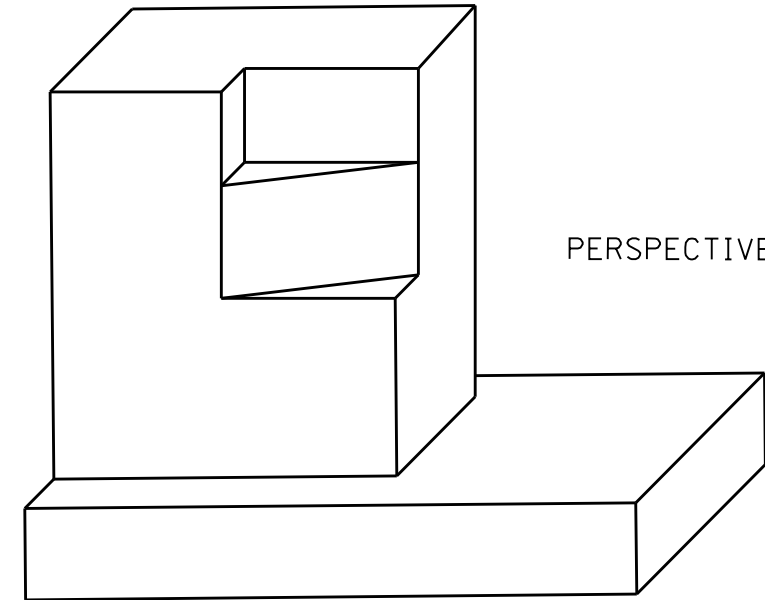
BAR	A	B	A+B
V ₁	4'-8"	6"	5'-2"
V ₂	2'-6"	6"	3'-0"
W ₁	4'-8"	6'-6"	11'-2"
W ₂	2'-0"	3'-0"	5'-0"
W ₄	4'-2"	3'-0"	7'-2"



S₁ BAR

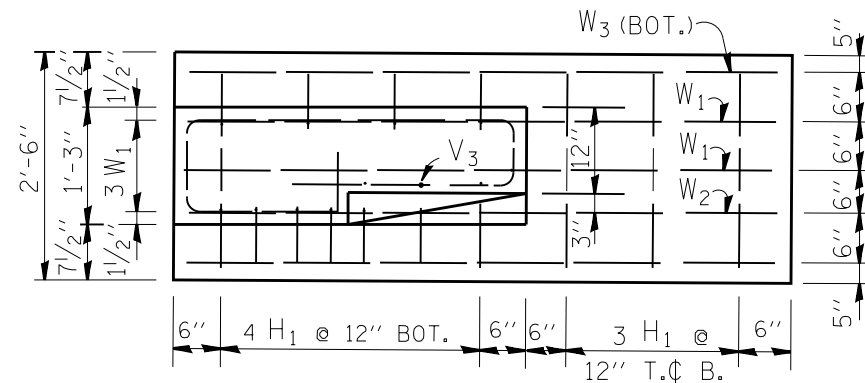


S₂ BAR



PERSPECTIVE VIEW

NOTES: CLASS SI CONCRETE SHALL BE USED THROUGHOUT
REINFORCEMENT TO BE SIZE #4 UNLESS OTHERWISE NOTED



FOOTING PLAN

BAR SCHEDULE

BAR	NO.	LENGTH
V ₁	8	5'-2"
V ₂	3	3'-0"
V ₃	4	3'-0"
W ₁	3	11'-2"
W ₂	1	5'-0"
W ₃	2	6'-6"
W ₄	2	7'-2"
S ₁	4	10'-0"
S ₂	2	10'-0"
H ₁	1	2'-3"

THIS SHEET IS FOR INFORMATION ONLY

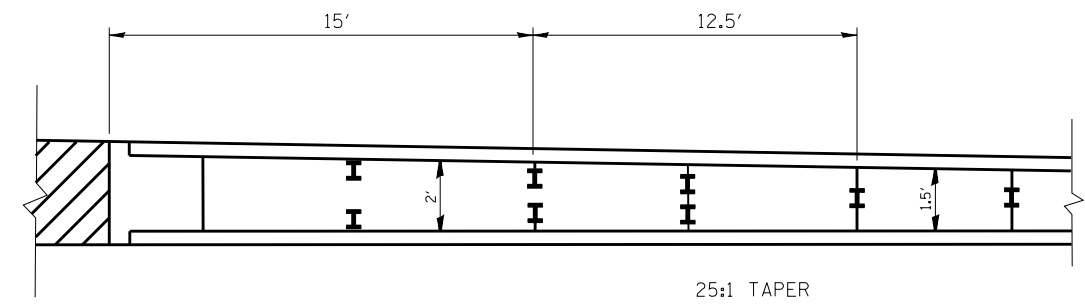
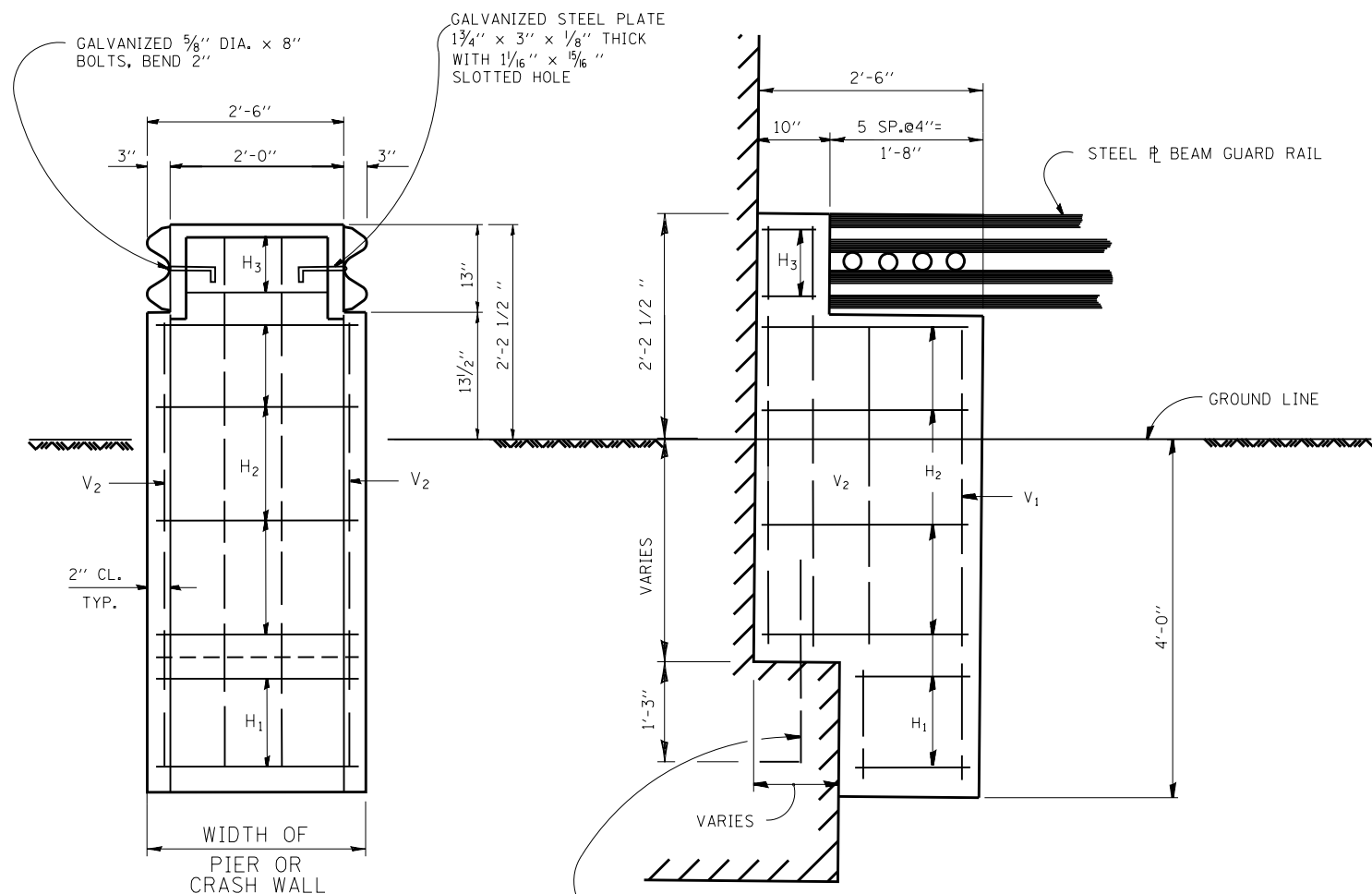
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ct:\pw\work\p\d0142312-sht-plan.dgn	ND142312-sht-plan.dgn	DRAWN - RFL	REVISED -
PLOT SCALE = 100.0000' / 111.		CHECKED -	REVISED -
PLOT DATE = 8/8/2012		DATE - 10-31-88	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL DETAIL FOR GUARDRAIL ANCHOR BLOCK REPAIR

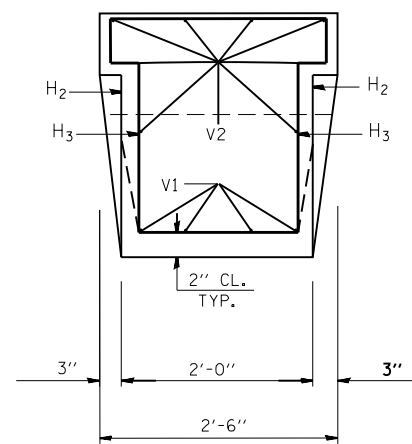
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	11
BM-03			CONTRACT NO. 60T74	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

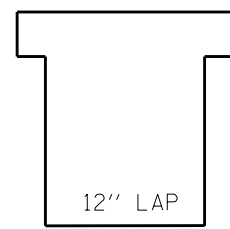


GUARD RAIL TRANSITIONS

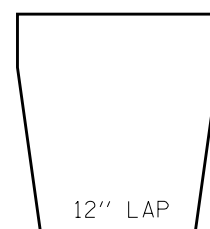
NOTES: CLASS SI CONCRETE SHALL BE USED THROUGHOUT REINFORCEMENT TO BE SIZE #4 UNLESS OTHERWISE NOTED



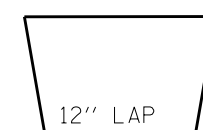
#6 DOWEL BARS DRILL AND GROUT ON ROW OF THREE BARS



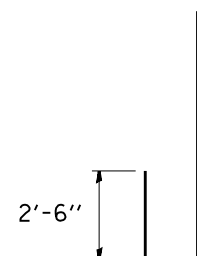
H₃-2 EACH



H₂-4 EACH



H₁-2 EACH



V₁-4 EACH



V₂-8 EACH

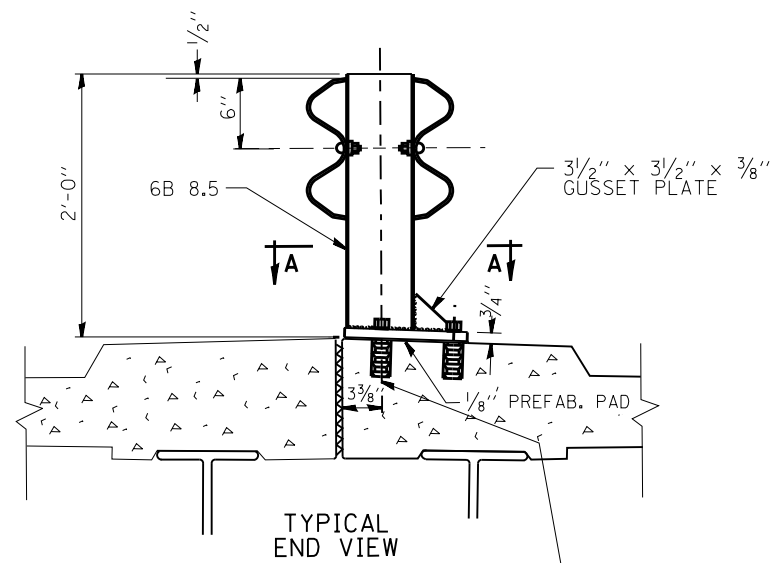
FILE NAME =	USER NAME = pyrzanowskirb	DESIGNED -	REVISED - R. RITCHIE 05-02-00
et:\pw\work\p1dot\pyrzanowskirb\d030700	D142312-sht-plan.dgn	DRAWN - RFL	REVISED -
	PLOT SCALE = 100.0000' / 1"	CHECKED -	REVISED -
	PLOT DATE = 8/8/2012	DATE - 10-31-88	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

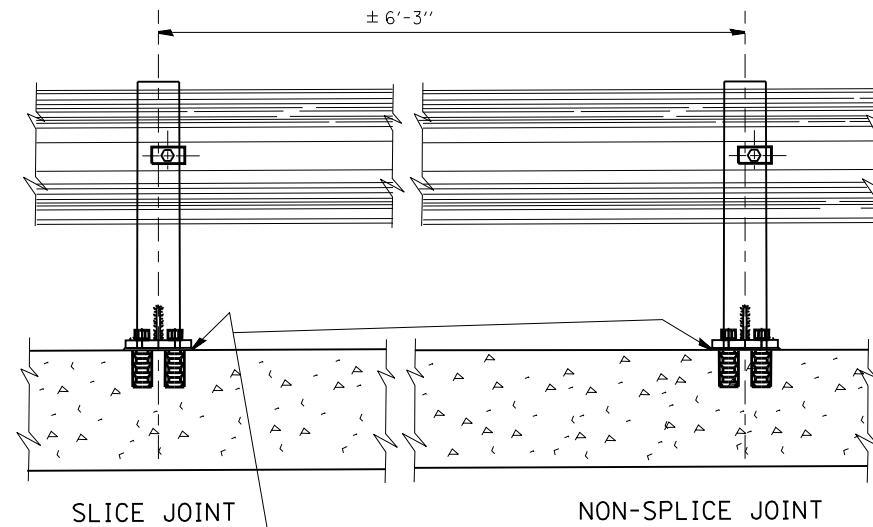
TYPICAL DETAILS FOR STEEL PLATE BEAM GUARDRAIL
ANCHORAGE REPAIR

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

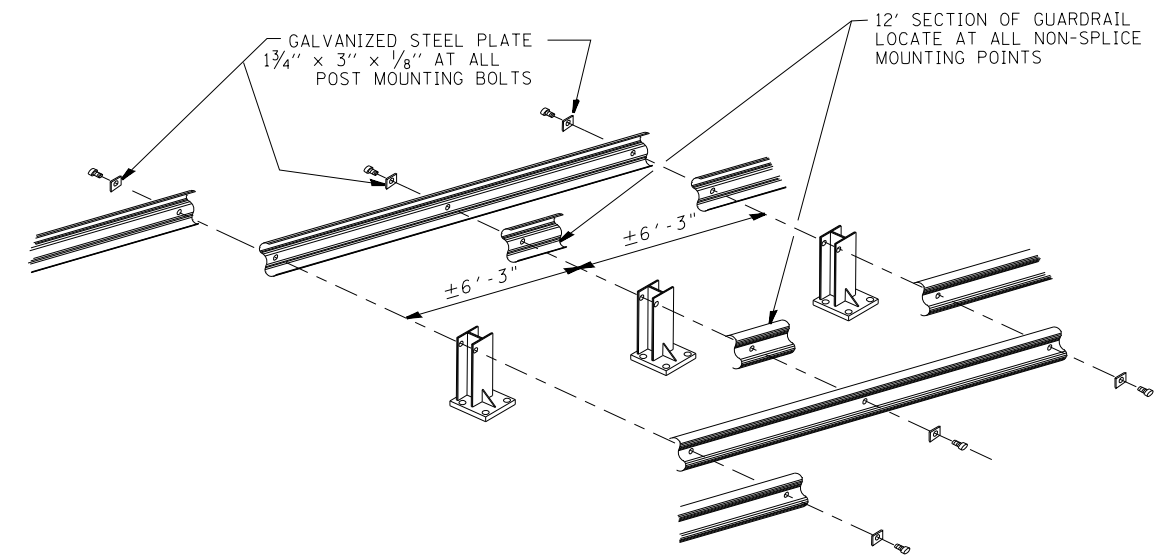
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	12
	BM-04		CONTRACT NO. 60T74	
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



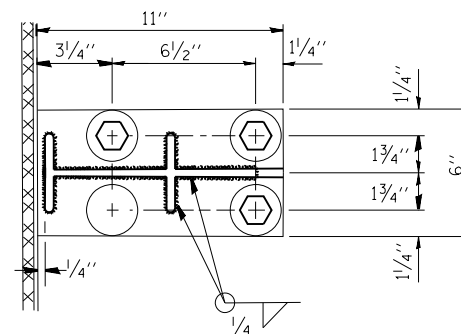
3 1/2" x 3 1/2" x 3/8" GUSSET PLATE
 1/8" GALVANIZED ANCHOR BOLTS AND SELF DRILLING EXPANSION SHELLS OR MULTI UNIT TYPE ANCHORS
 1/8" HOLES THRU BASE PLATE



SEAL PERIMETER OF BASE OF POST TO MEDIAN WITH TWO COMPONENT NON-STAINING GRAY SEALING COMPOUND WITH POLYSULFIDE LIQUID POLYMERS - GUN GRADE WITH PRIMER



NOTE:
 DIAMOND TIPPED DRILL SHALL BE USED TO DRILL THRU REINFORCEMENT BARS



SEC. A-A

NOTE:

POSTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM DESIGNATIONS A-123 AND A-385.
 TWO PERCENT (2%) OF ALL ANCHOR BOLTS SHALL BE TEST LOADED IN PLACE. MIN. TEST LOAD = 8 KIPS.
 ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION A-153.
 FOR MATERIAL COMPOSITION OF PREFABRICATED PAD, SEE ARTICLE 54.9(F), (BEARING AND ANCHORAGE), OF THE STANDARD SPECIFICATIONS.
 PROVIDE 1-1/8" AND 2-1/16" GALVANIZED STEEL SHIMS FOR 25% OF THE POSTS.
 IF ONE ANCHOR BOLT FAILS DURING TEST, TWO OTHER ANCHOR BOLTS SHALL BE TESTED. TESTING EQUIPMENT CAN BE OBTAINED FROM BOLT COMPANIES.

THIS SHEET IS FOR INFORMATION ONLY

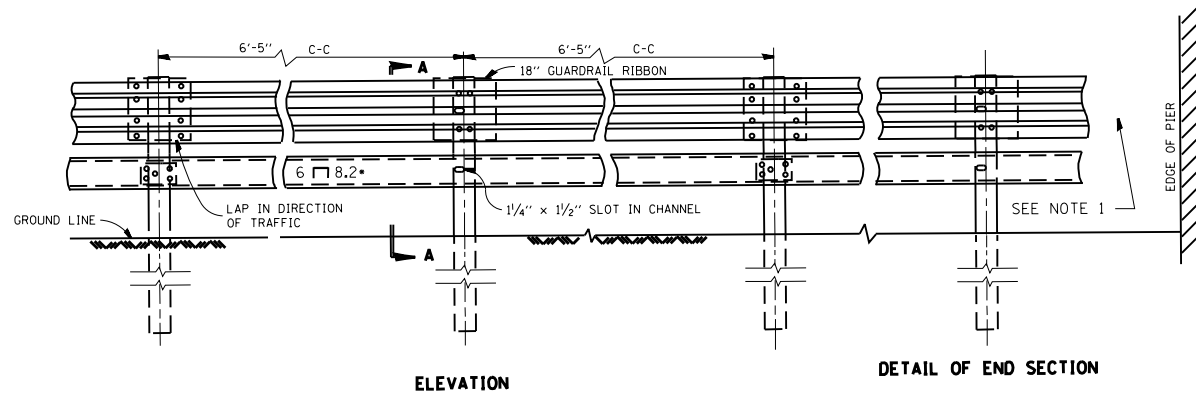
FILE NAME =	USER NAME = pyrzanowskirb	DESIGNED -	REVISED - R. RITCHIE 05-02-00
et:\pw\work\p\dot\pyrzanowskirb\d030700	ND142312-sht-plan.dgn	DRAWN - RFL	REVISED -
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/8/2012	DATE - 10-31-88	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL DETAIL FOR CENTER LONGITUDINAL JOINT
 GUARDRAIL JOINT

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

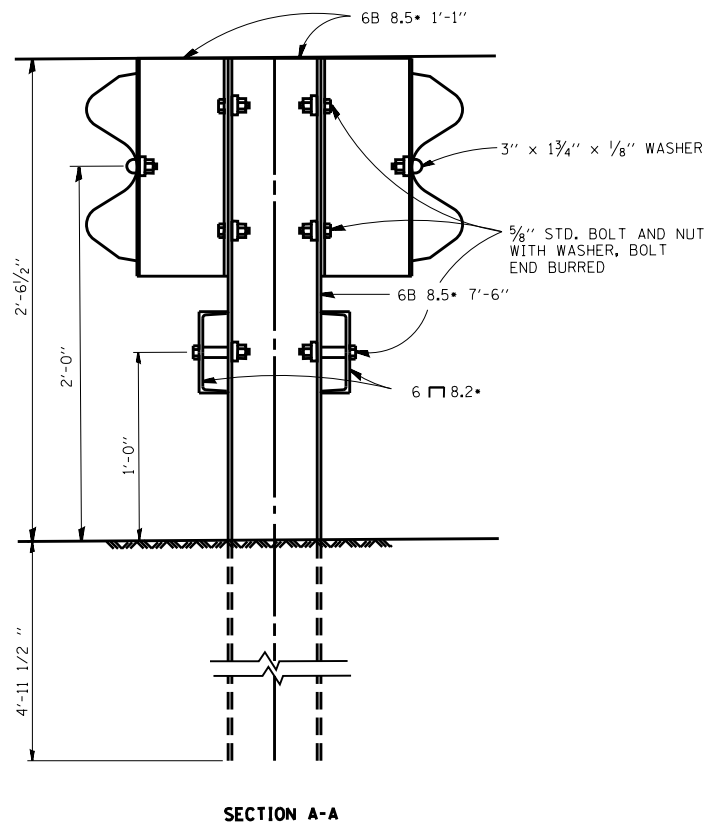
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	13
	BM-05		CONTRACT NO. 60T74	
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



ELEVATION

DETAIL OF END SECTION

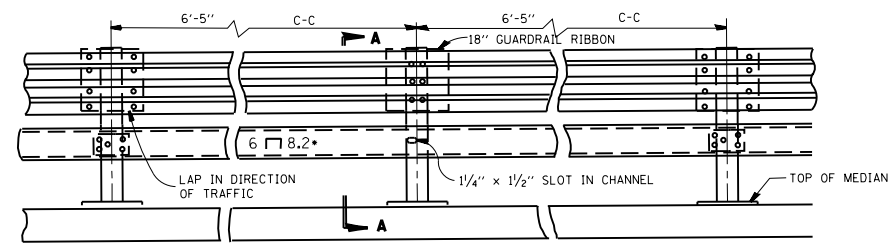
NOTE 1:
FOR DETAILS OF GUARDRAIL END ANCHORAGE
AT PIERS, SEE SHEET NO. ___



SECTION A-A

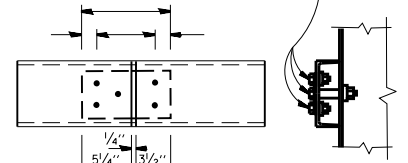
18" GUARDRAIL ELEMENT SPLICE

NOTE:
FOR DETAIL OF RAIL ELEMENT, RAIL SPLICING, BOLT,
AND NUT, SEE STATE STANDARD 630001.
A 1 3/8" x 3" x 1/8" STEEL PLATE WASHER AS SHOWN ON THIS
DRAWING SHALL BE PLACED BETWEEN THE BOLT HEAD
AND THE GUARDRAIL RIBBON AT ALL MOUNTING POINTS.
AN 18" PIECE OF GUARDRAIL RIBBON SHALL BE INSERTED
BETWEEN THE CONTINUOUS RIBBON AND THE POST AT
NON-SLICE MOUNTING POINTS.
RAIL, CHANNELS, POSTS, BASE PLATES, FASTENINGS,
AND ALL OTHER EXPOSED ACCESSORIES SHALL BE
GALVANIZED.

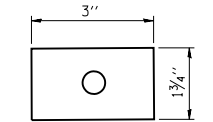


ELEVATION

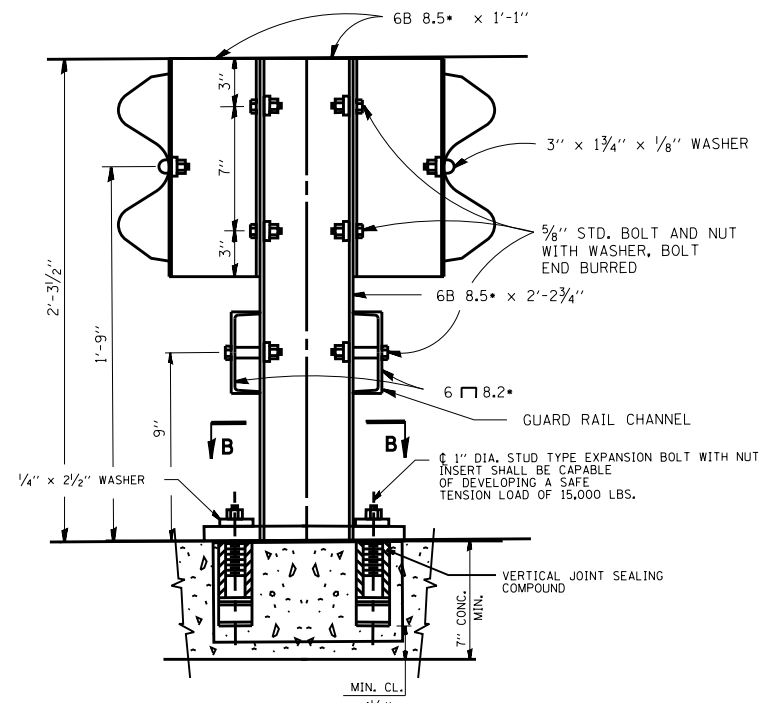
5/8" STD. BOLT AND NUT
WITH WASHER, BOLT
END BURRED



CHANNEL SPLICE
PLATE 8 3/4" x 4 1/2" x 1/4"

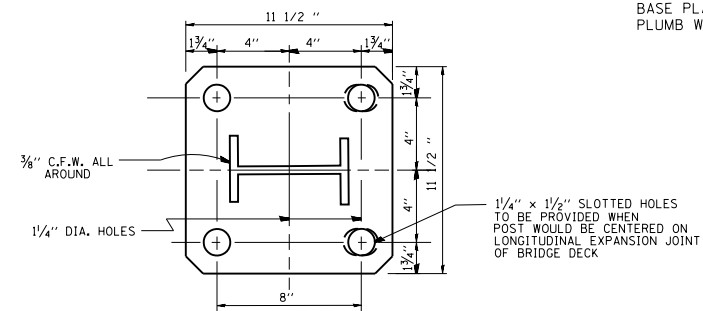


WASHER
PLATE 3" x 1 3/4" x 1/8"



SECTION A-A
ANCHORAGE DETAIL

NOTE:
ALL WELDS SHALL BE GROUND SMOOTH.
POSTS SHALL BE CUT AND WELDED TO THE
BASE PLATE SO THAT THE POSTS WILL BE
PLUMB WHEN ERECTED.

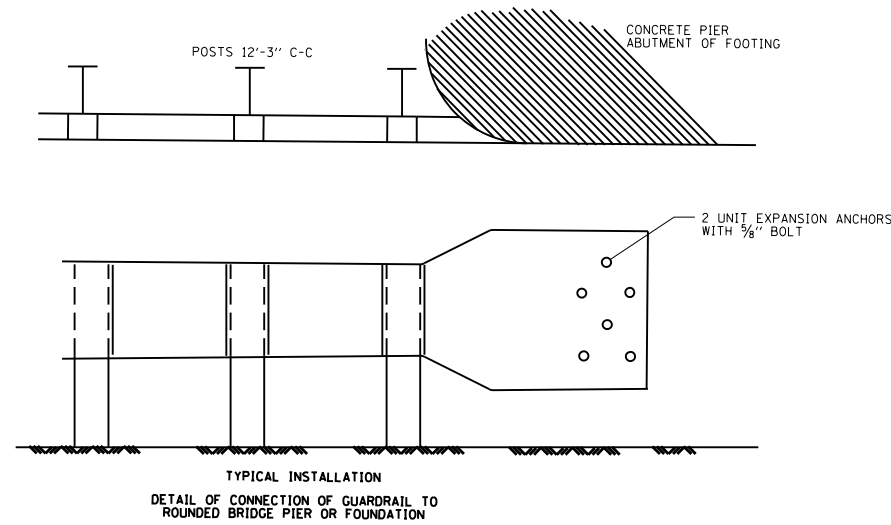
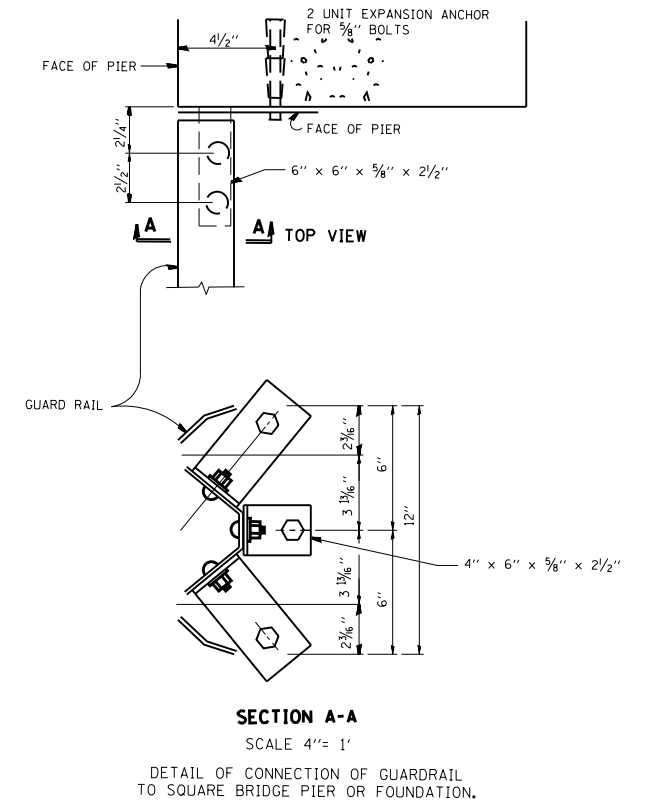
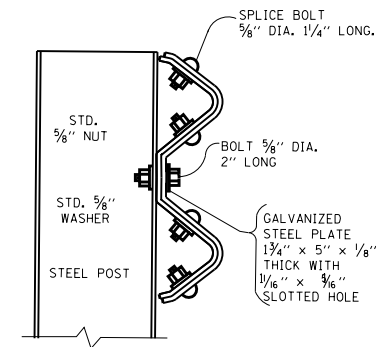
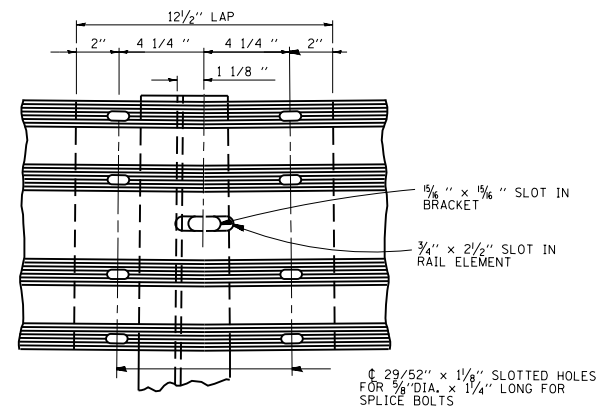
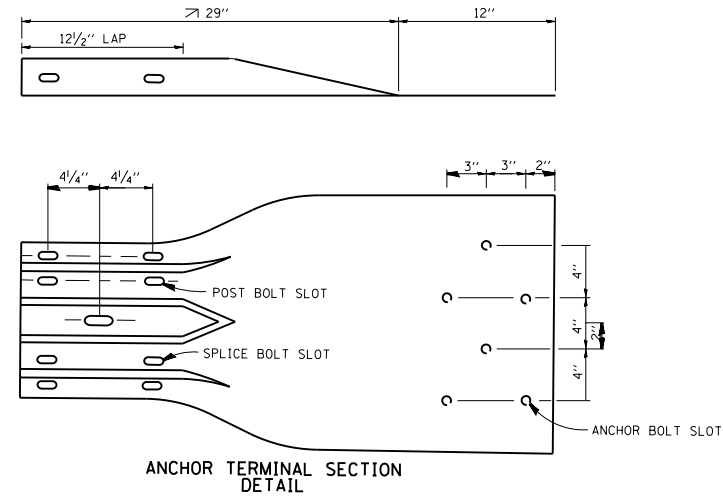


RAIL POST BASE PLATE
R 11 1/2" x 1 1/4" x 11 1/2"

SECTION B-B

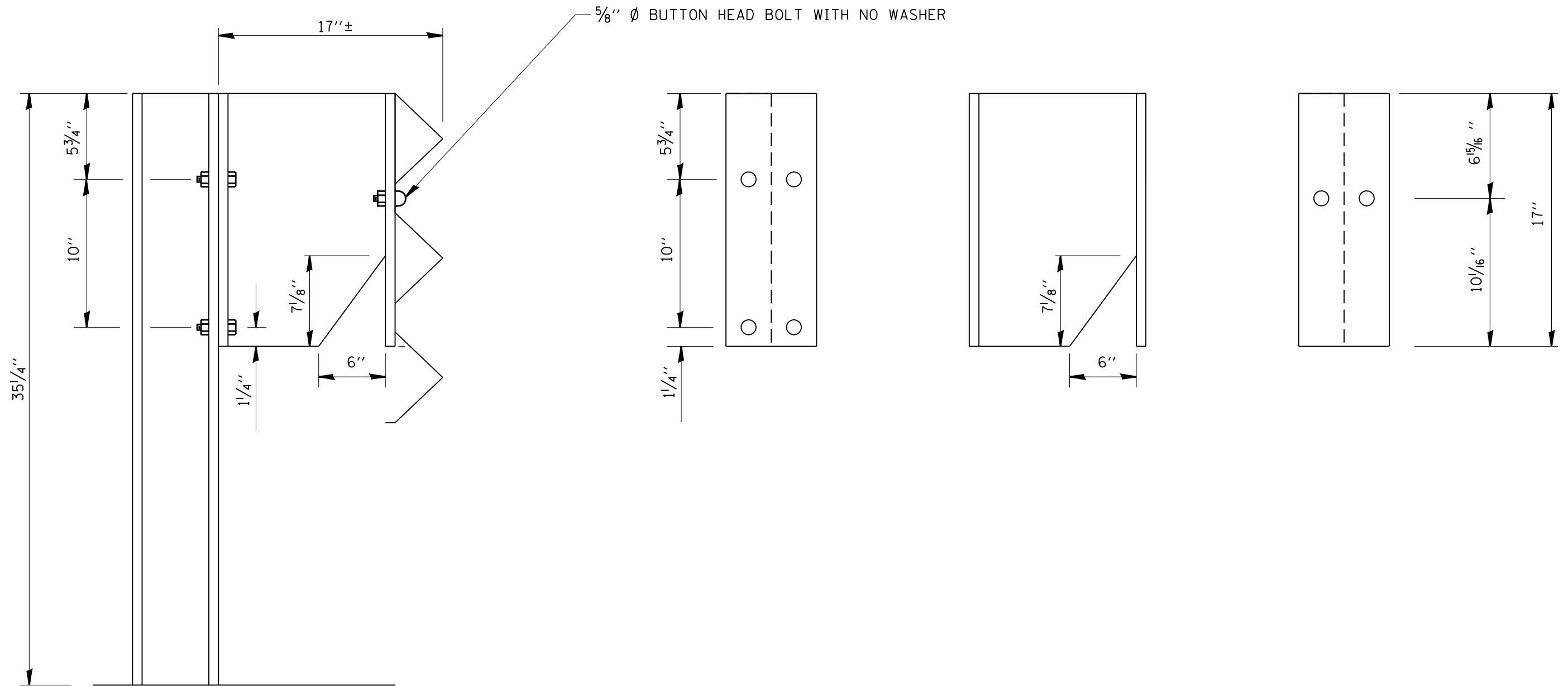
THIS SHEET IS FOR INFORMATION ONLY

FILE NAME =	USER NAME = pyzranowskirb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL PLATE BEAM GUARDRAIL SPECIAL			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pw\work\p\id\pyzranowskirb\d030700	ND142312-sht-plan.dgn	DRAWN -	REVISED -					VAR.	2012-022 GRR	VARIOUS	23	14
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	PLOT DATE = 8/8/2012	DATE -	REVISED -					FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



THIS SHEET IS FOR INFORMATION ONLY

FILE NAME =	USER NAME = pyrzanowskirb	DESIGNED -	REVISED - R. RITCHIE 05-02-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF GUARDRAIL SUPPORT AND END ANCHORAGE			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
et:\pw\work\p\id\pyrzanowskirb\d030700	ND142312-sht-plan.dgn	DRAWN - RFL	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	VAR.	2012-022 GRR	VARIOUS	23	15
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	PLOT DATE = 8/8/2012	DATE - 10-31-88	REVISED -											CONTRACT NO. 60T74
										FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



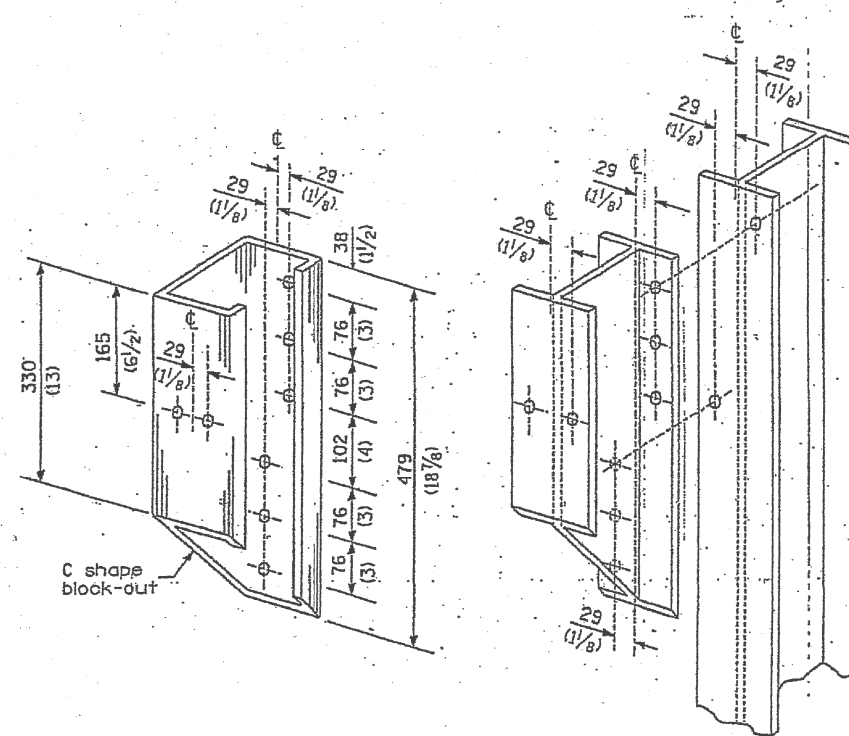
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ct:\pw\work\p\dot\pyrzeznowskirb\d030700	D142312-sht-plan.dgn	DRAWN -	REVISED -
	PLOT SCALE = 100.0000' / 1"	CHECKED -	REVISED -
	PLOT DATE = 8/8/2012	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETAIL THRIE BEAM GUARDRAIL
WITH MODIFIED OFFSET BLOCK**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	16
CONTRACT NO. 60T74				
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.
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STEEL BLOCK-OUT AND
STEEL POST DETAILS

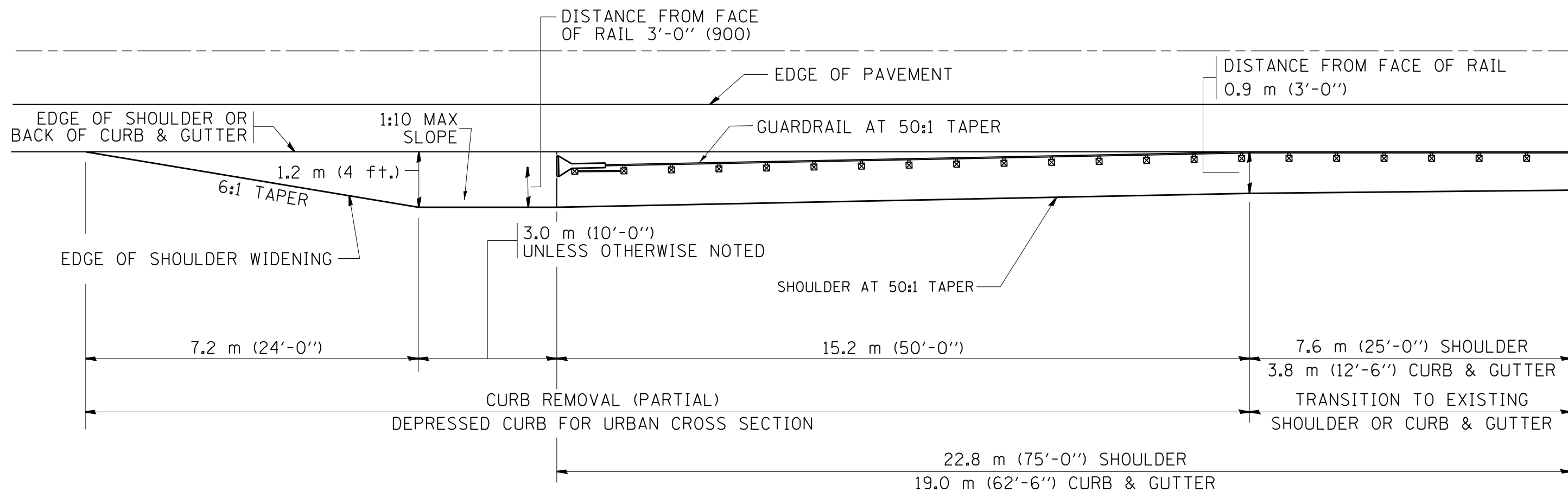
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Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/8/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL
STEEL BLOCK-OUT DETAIL

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	17
			CONTRACT NO. 60T74	
ILLINOIS FED. AID PROJECT				

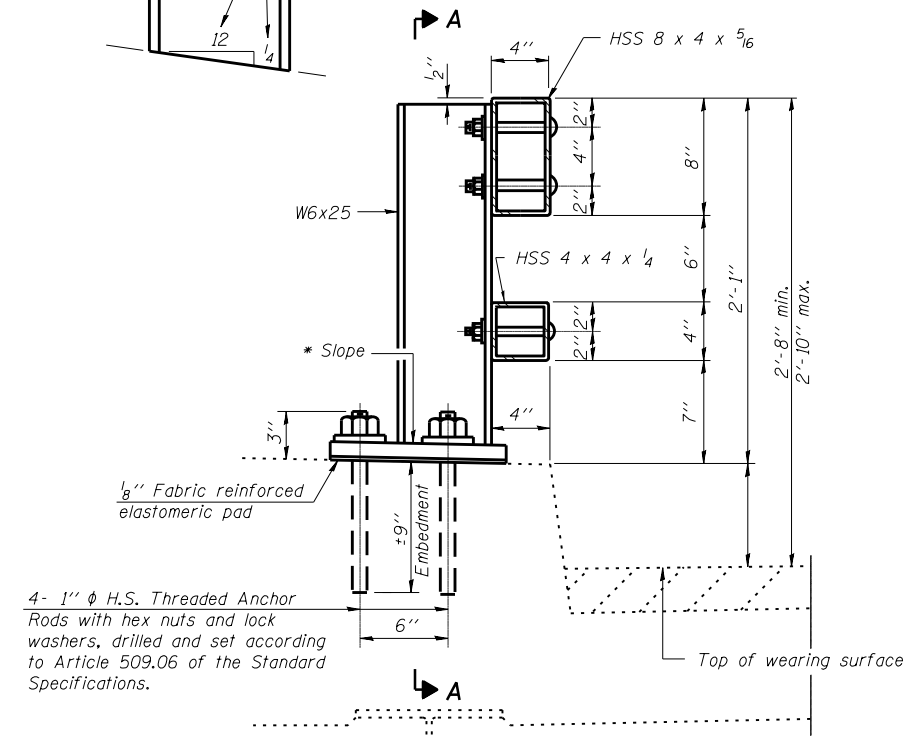


NOTES: THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

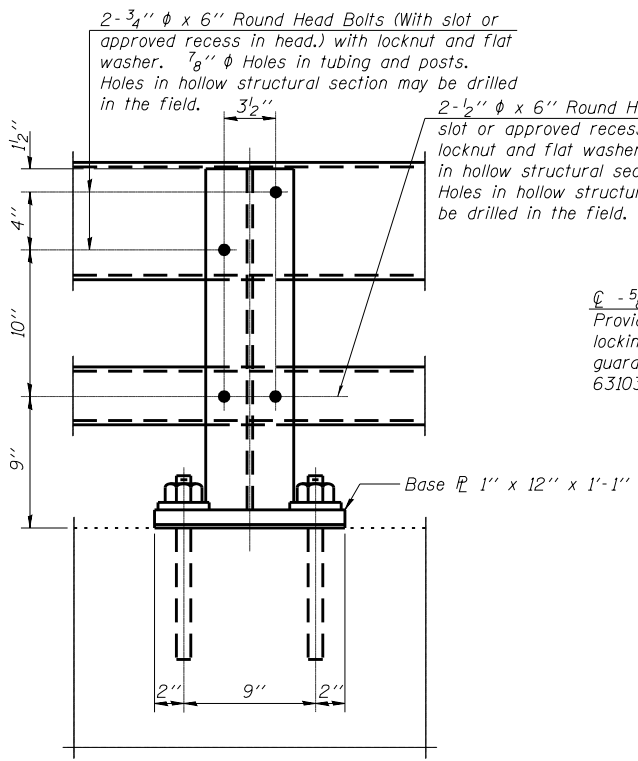
SHOULDER WIDENING SHALL BE IN ACCORDANCE WITH STATE STANDARD 630301

FILE NAME =	USER NAME = pyrzanowski	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CURB REMOVAL (PARTIAL) FOR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	Plot Scale = 100.0000' / in.	DRAWN -	REVISED -			VAR.	2012-022 GRR	VARIOUS	23	18	
	PLOT DATE = 8/8/2012	CHECKED -	REVISED -			CONTRACT NO. 60774					
		DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO

* Cut bottom end of post to curb slope.

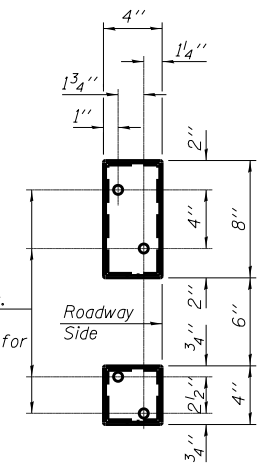


SECTION AT RAIL POST

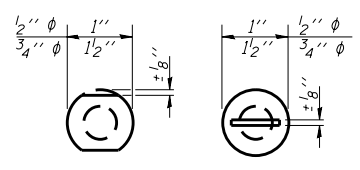


SECTION A-A

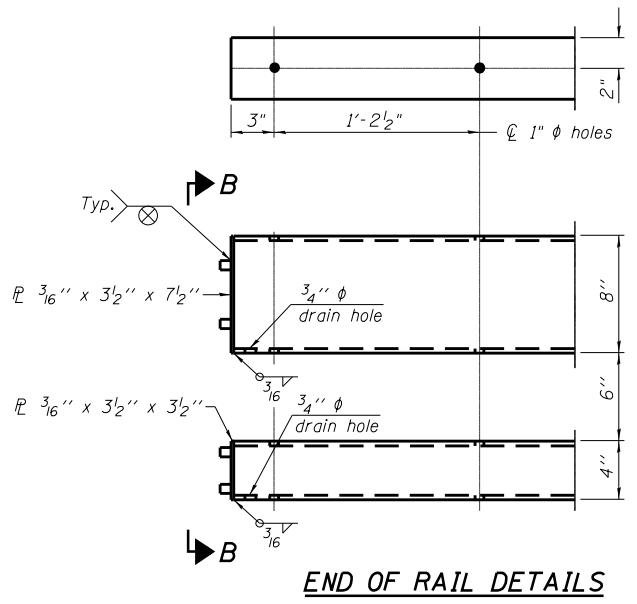
Ø - 5/8" reduced base welded studs. Provide 4 - 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



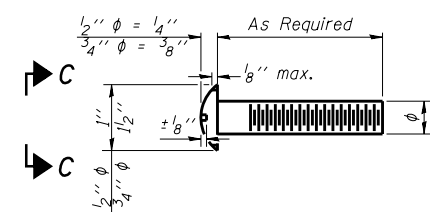
VIEW B-B



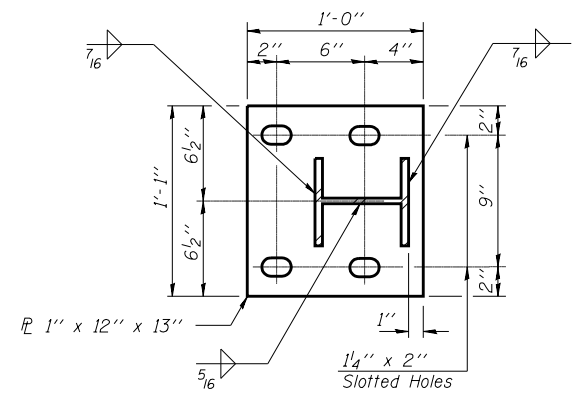
VIEW C-C



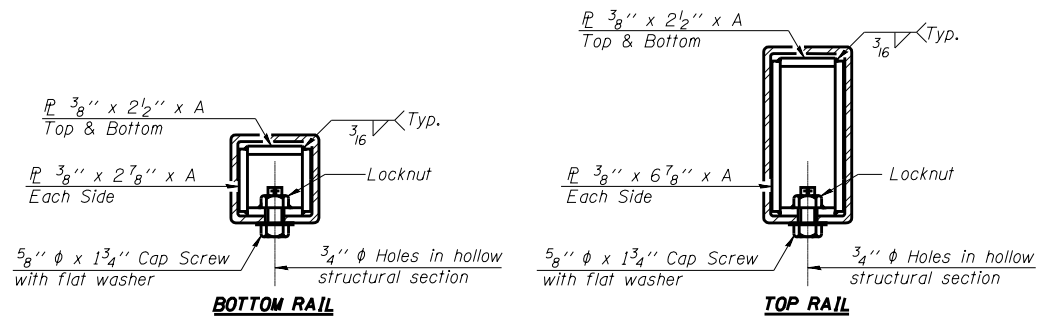
END OF RAIL DETAILS



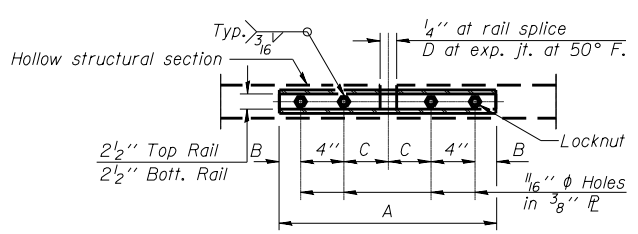
DETAIL OF 1/2" Ø & 3/4" Ø ROUND HEAD BOLTS



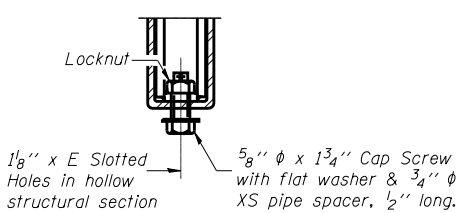
BASE PLATE DETAIL



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤4"	2 1/2"	1'-8"	2"	4"	2 1/2"
>4" ≤6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
>6 1/2" ≤9"	5"	2'-4"	3 1/2"	6 1/2"	9"
>9" ≤13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	23

R-31

7-1-10

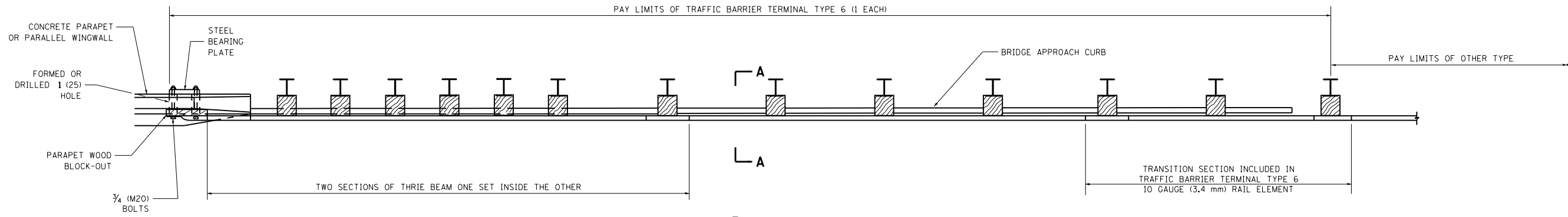
(6'-3" Maximum Post Spacing)

**STEEL RAILING, TYPE 2399
STRUCTURE NO.**

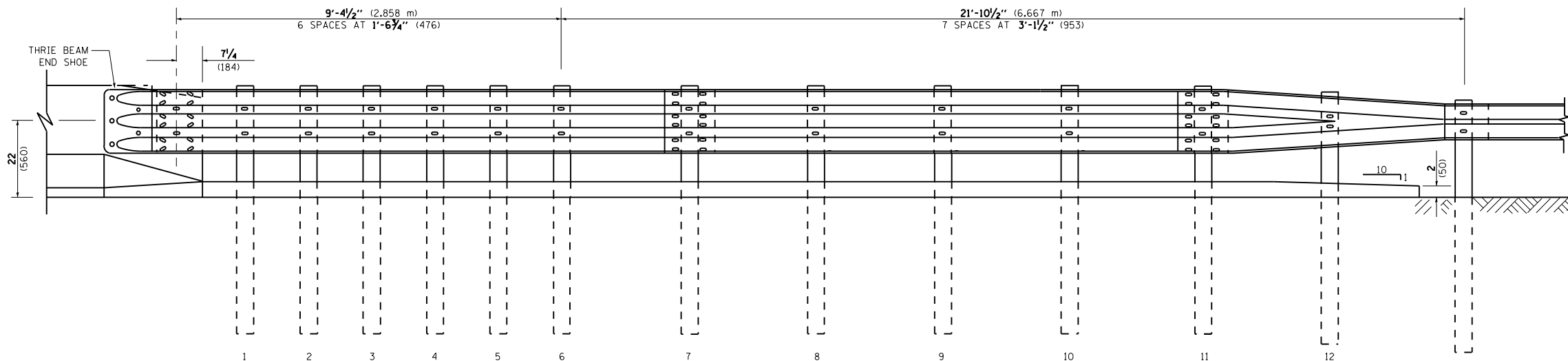
FILE NAME =	USER NAME = pyrzenowskirb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL RAILING, TYPE 2399			F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pwork\p1dot\pyrzenowskirb\d030700	ND142312-sht-plan.dgn	DRAWN -	REVISED -					VAR.	2012-022 GRR	VARIOUS	23	19
	PLOT SCALE = 100.0000' / 11.	CHECKED -	REVISED -					CONTRACT NO. 60174				
	PLOT DATE = 8/8/2012	DATE -	REVISED -					FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
				SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.				

PARAPET OR WINGWALL

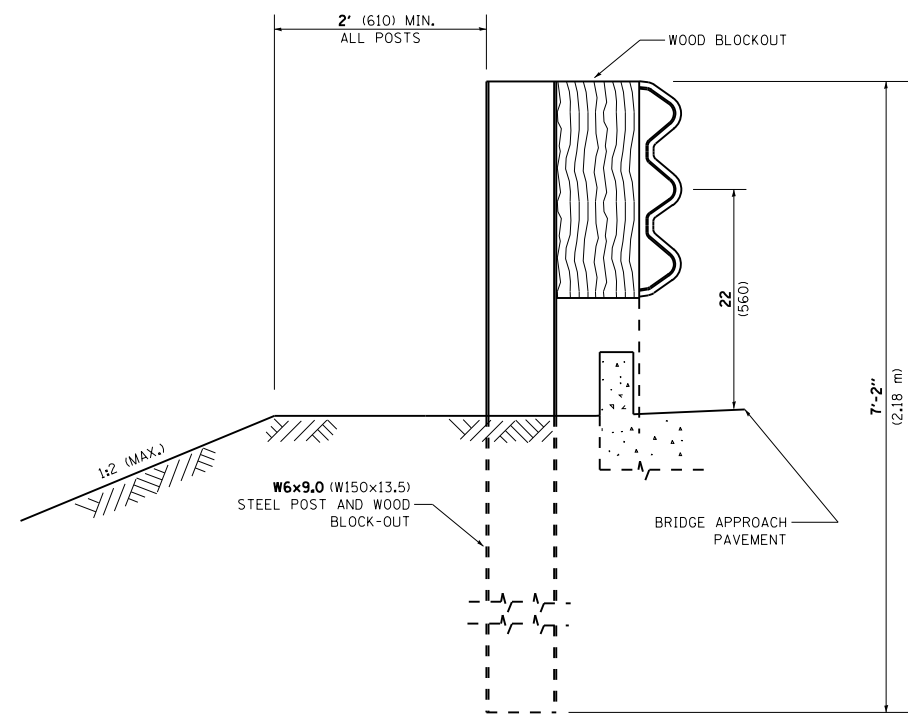
PAY LIMITS OF TRAFFIC BARRIER TERMINAL TYPE 6 (1 EACH)



PLAN



ELEVATION



SECTION A-A

GENERAL NOTES

TO BE USED WHEN CONNECTING TO EXISTING GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.

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).

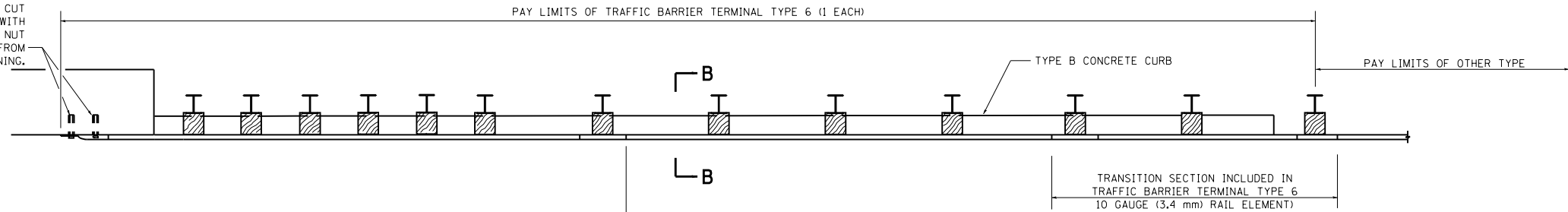
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = pyrzanowskirb	DESIGNED -	REVISED - STATE STANDARD;	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPE 6 TERMINAL FOR USE WITH 21" HIGH SPBGR			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pw\work\p\dot\pyrzanowskirb\d030700	ND142312-sht-plan.dgn	DRAWN -	631031-05 - 02/19/2008		SCALE: NONE	SHEET NO. 1 OF 3 SHEETS	STA.	TO STA.	VAR.	2012-022 GRR	VARIOUS	23	20
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -		BM 22			CONTRACT NO. 60T74					
	PLOT DATE = 8/8/2012	DATE -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								

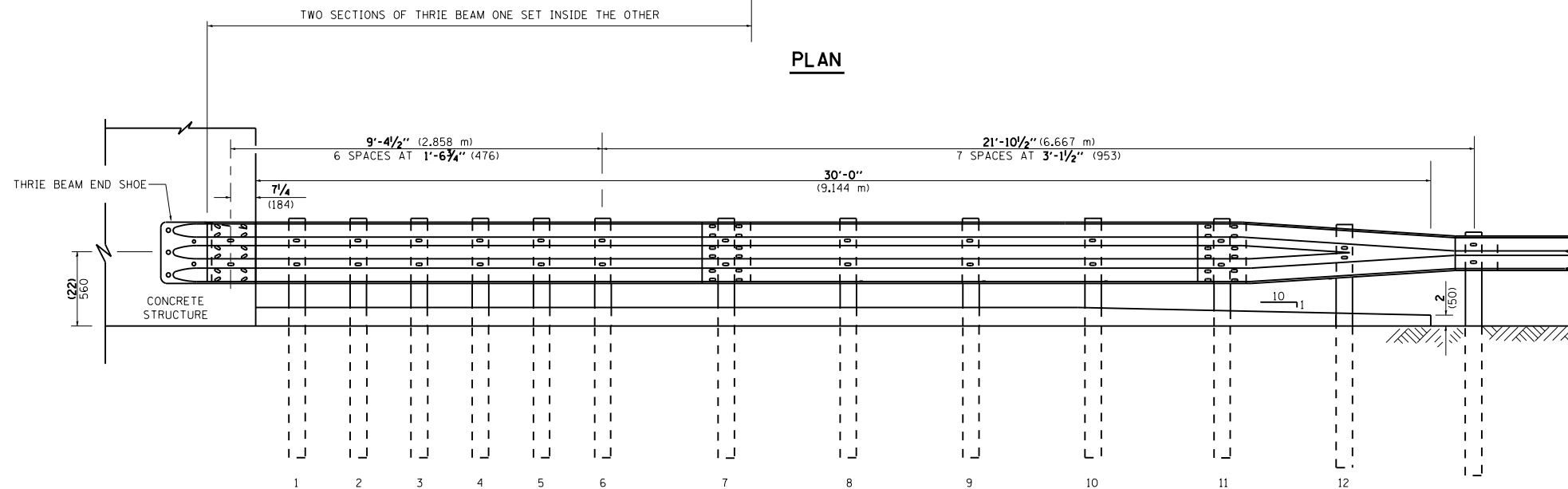
OTHER CONCRETE STRUCTURE

5 EPOXY GROUTED 3/4" (M20) ANCHOR BOLTS WITH STANDARD WASHERS. AFTER TIGHTENING, CUT THE ANCHOR BOLTS FLUSH WITH NUTS, AND DAMAGE THE NUT TO PREVENT IT FROM LOOSENING.

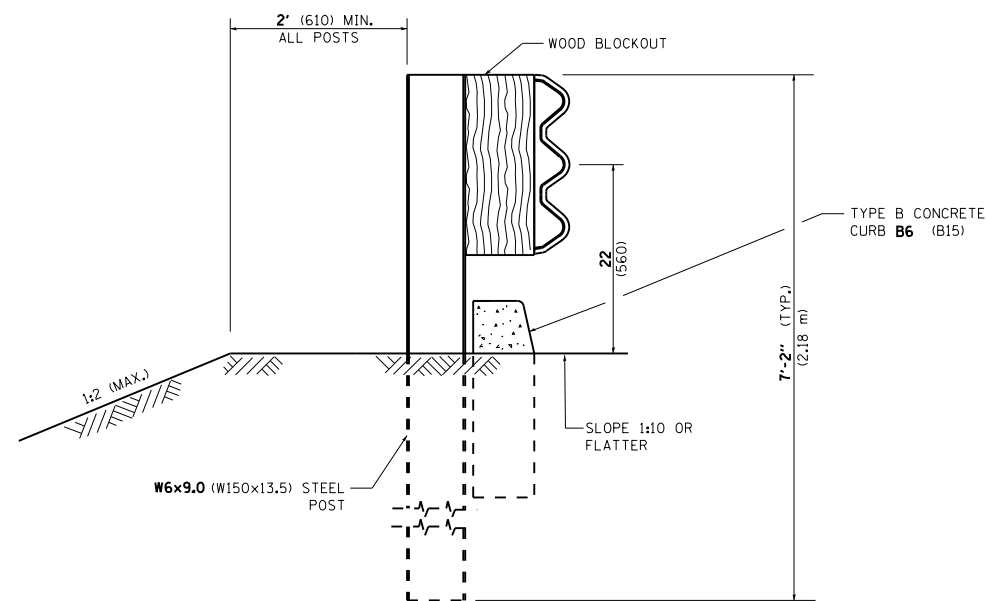
PAY LIMITS OF TRAFFIC BARRIER TERMINAL TYPE 6 (1 EACH)



PLAN

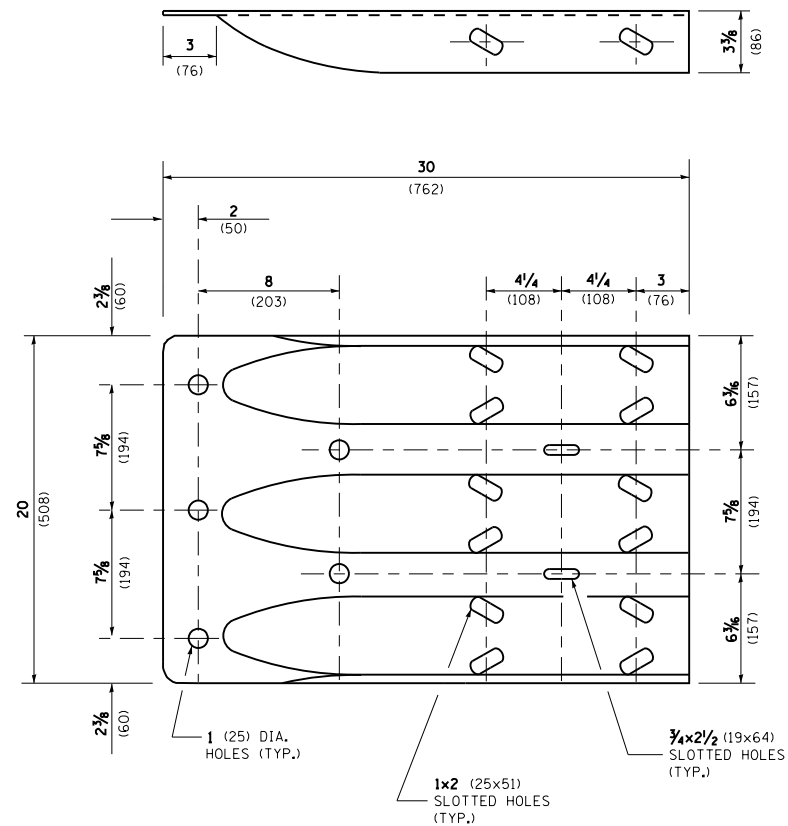


ELEVATION

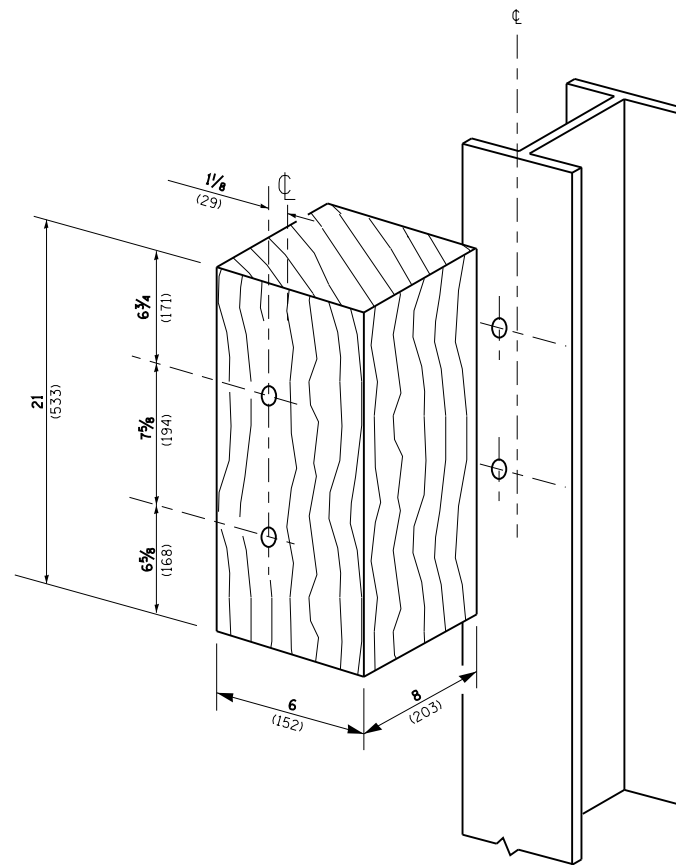


SECTION B-B

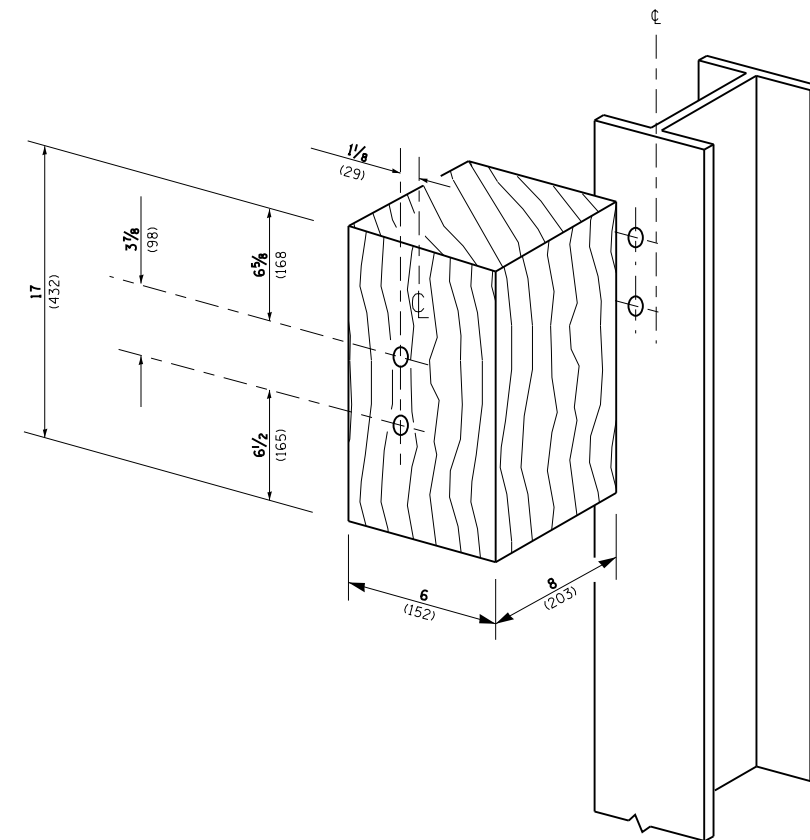
FILE NAME =	USER NAME = pyrzanowskirb	DESIGNED -	REVISED - STATE STANDARD;	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPE 6 TERMINAL FOR USE WITH 21" HIGH SPBGR			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pw\work\p\idot\pyrzanowskirb\d030700	ND142312-sht-plan.dgn	DRAWN -	631031-05 - 02/19/2008		SCALE: NONE	SHEET NO. 2 OF 3 SHEETS	STA.	TO STA.	VAR.	2012-022 GRR	VARIOUS	23	21
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -					BM 22		CONTRACT NO. 60T74			
	PLOT DATE = 8/8/2012	DATE -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								



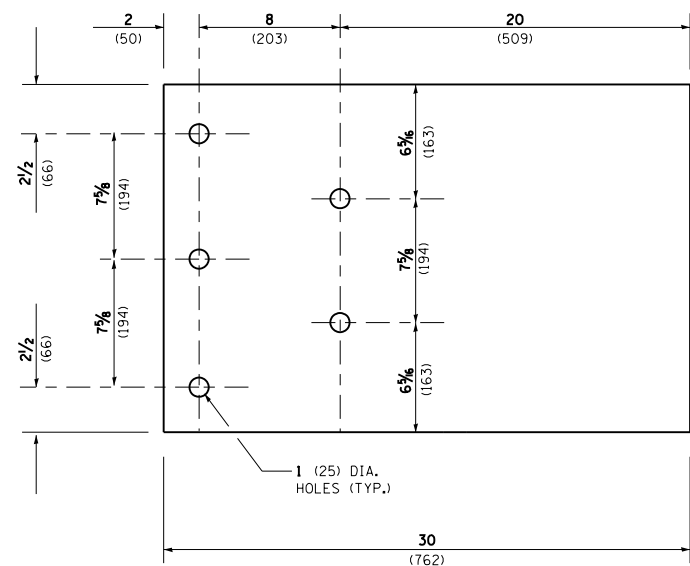
THRIE BEAM END SHOE DETAIL



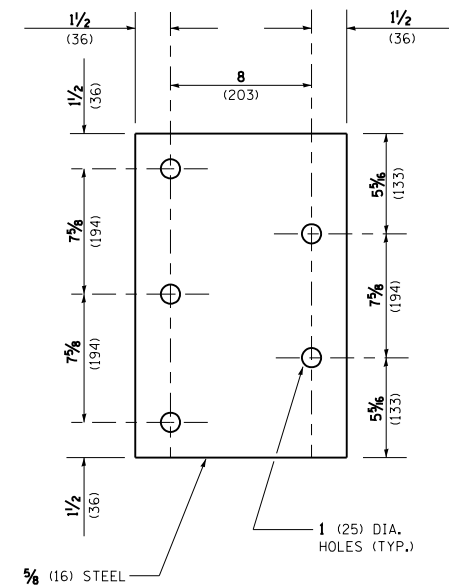
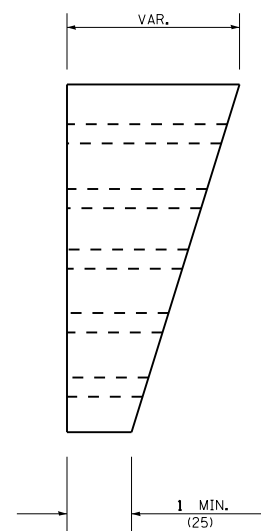
POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL



PARAPET WOOD BLOCK-OUT DETAIL



PARAPET STEEL BEARING PLATE DETAIL

(5 EACH INDIVIDUAL 5x5x3/8 (125x125x16) STEEL PLATES WITH CENTERED 1 (25) HOLES MAY BE SUBSTITUTED FOR THE PLATE SHOWN.)

FILE NAME =	USER NAME = pyrzanowskirb	DESIGNED -	REVISED - STATE STANDARD:
et:\pw_work\p1dot\pyrzanowskirb\d030700	ND142312-sht-plan.dgn	DRAWN -	631031-05 - 02/19/2008
	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -
	PLOT DATE = 8/8/2012	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

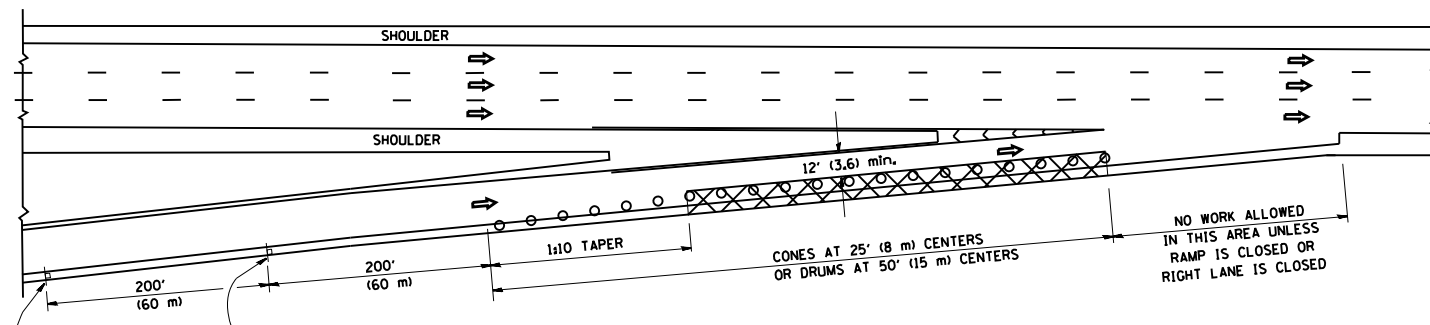
**TYPE 6 TERMINAL
FOR USE WITH 21" HIGH SPBGR**

SCALE: NONE SHEET NO. 3 OF 3 SHEETS STA. TO STA.

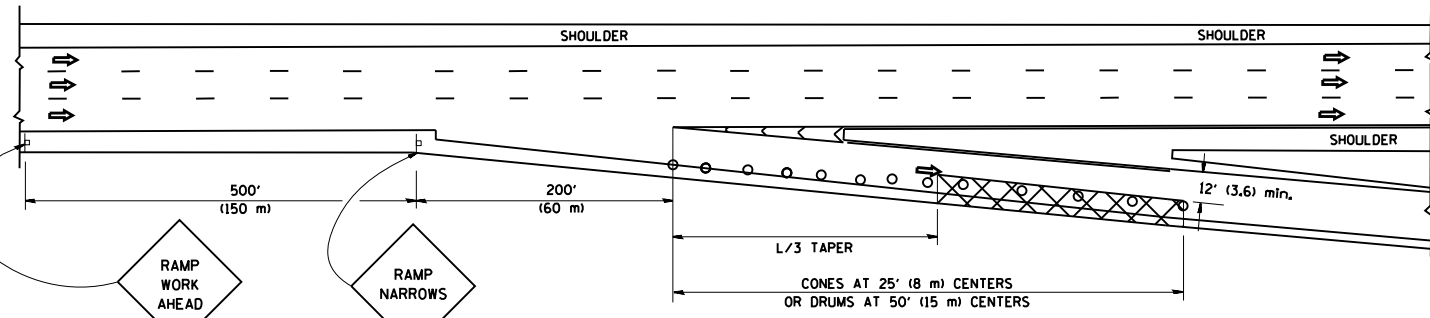
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-022 GRR	VARIOUS	23	22
BM 22		CONTRACT NO. 60T74		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

PARTIAL RAMP CLOSURE DETAILS

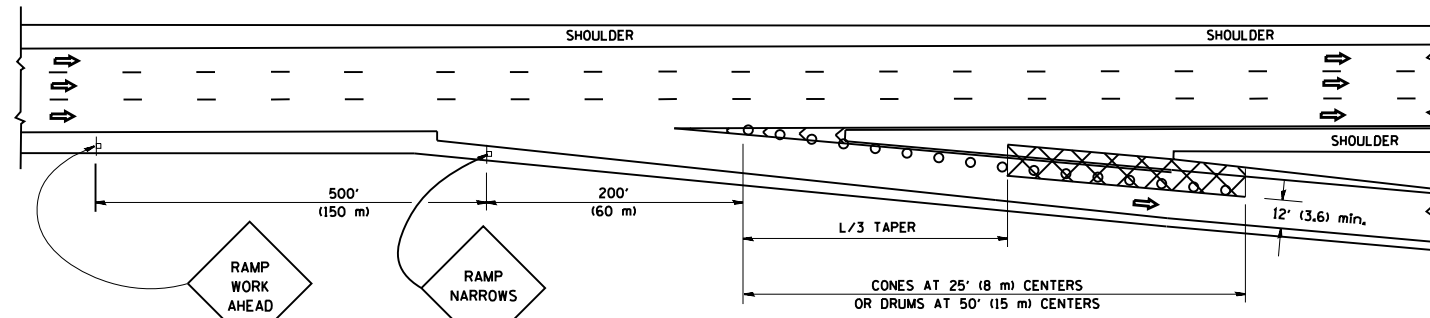
SHOULDER CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

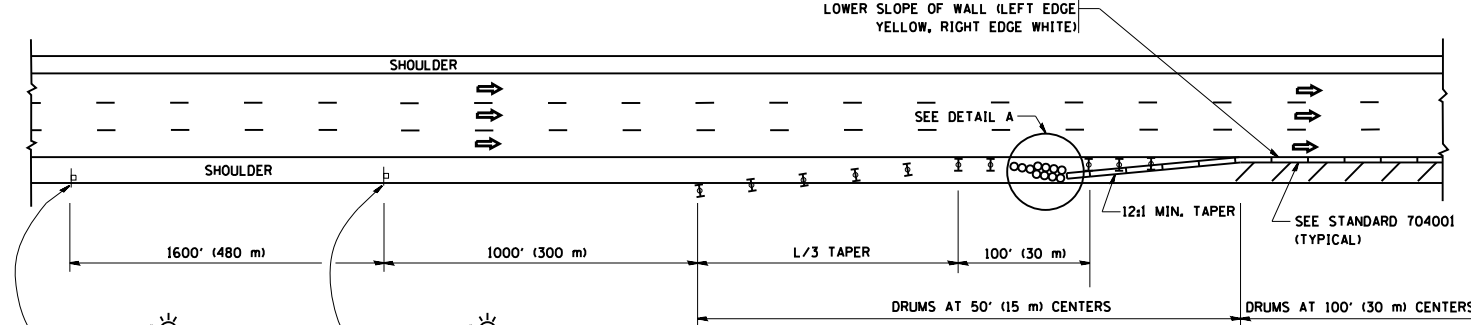
SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

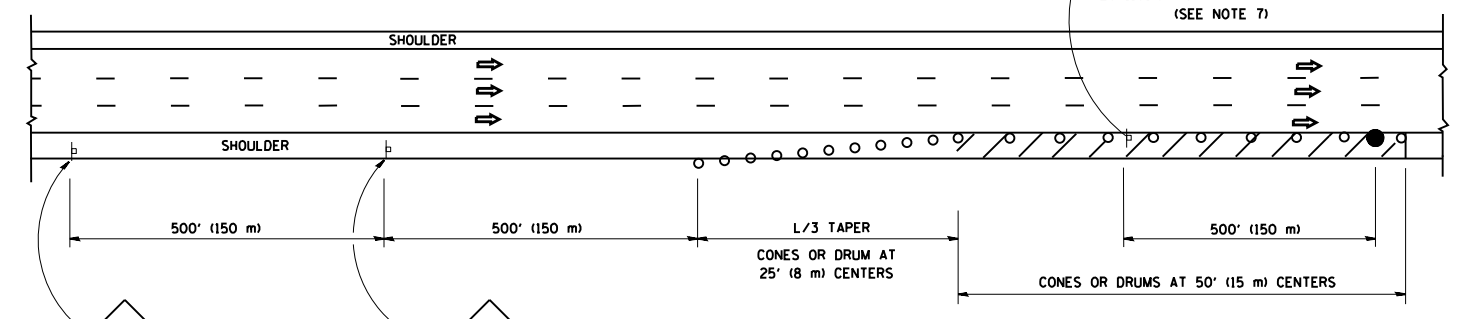
GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC ENGLISH L=0.65(WXS) L=(WXS)
W = WIDTH OF OFFSET IN FEET (METERS)	
S = NORMAL POSTED SPEED MPH (KM/H)	
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

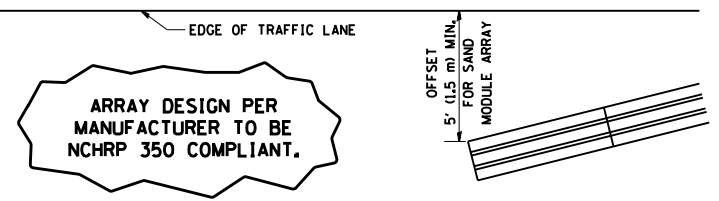


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



**DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)**

5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
 - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
 - b. THE WORK ACTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = pyzranowski	DESIGNED -	REVISED - 04-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pw\work\p\dot\pyzranowski\142312-sht-plan.dgn	ND142312-sht-plan.dgn	DRAWN - D.W.S.	REVISED - J.A.F. 12-06		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	VAR.	2012-022 GRR	VARIOUS	23	23
	PLOT SCALE = 100.0000' / 1"	CHECKED -	REVISED - S.P.B. 01-07						TC-17				
	PLOT DATE = 8/8/2012	DATE - 11-96	REVISED - S.P.B. 12-09										
								CONTRACT NO. 60T74					
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT													