

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0312-708W-I	COOK	17	1
		ILLINOIS	CONTRACT NO. 60N81	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

**FAP 332 / ILLINOIS ROUTE 394
SECTION 0312-708W-I
OVER EQUESTRIAN TRAIL (2.2 MI. S. OF I-80)
WING WALL REPAIR
COOK COUNTY**

FOR INDEX OF SHEETS, SEE SHEET NO. 2

DESIGN DESIGNATION

**MINOR FREEWAY AND EXPRESSWAY (URBAN)
ADT 64900 (2009)
SPEED LIMIT 55**

**IMPROVEMENT LOCATED
IN THE BLOOM TOWNSHIP**

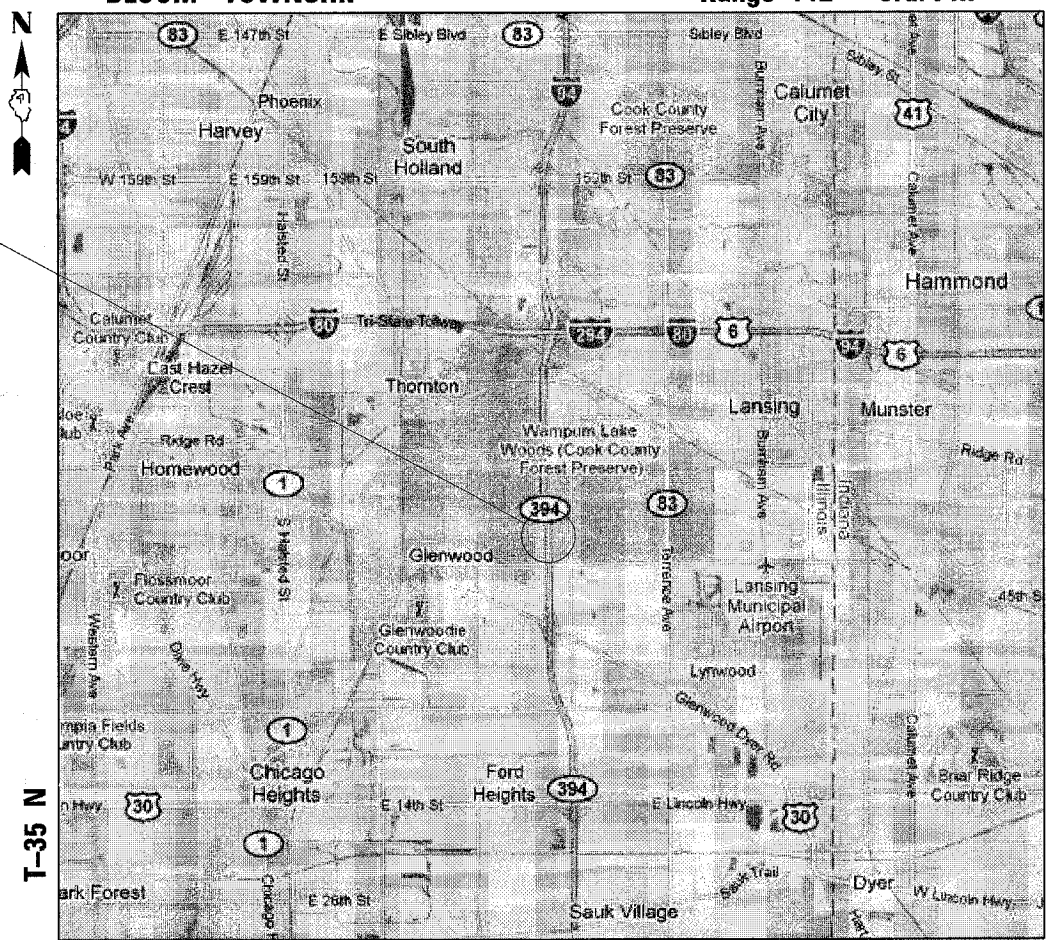
D-91-396-11



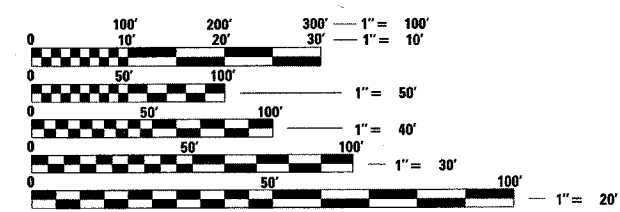
LOCATION OF SECTION INDICATED THUS: - [black rectangle] -

C-91-396-11

BLOOM TOWNSHIP Range 14E - 3rd. PM



**IMPROVEMENT LOCATION
ILLINOIS ROUTE 394
OVER EQUESTRIAN TRAIL
STRUCTURE NO: 016-1211**



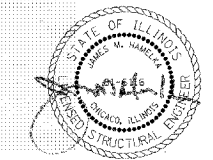
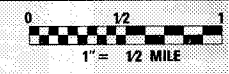
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

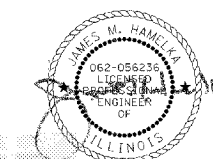
**PROJECT MANAGER: MR. ISSAM RAYYAN, P.E. (847) 705-4178
PROJECT ENGINEER: MR. ROBERT T. BORO, P.E. (847) 705-4237**

CONTRACT NO. 60N81

GROSS LENGTH = 68.5 FT. = 0.013 MILE
NET LENGTH = 68.5 FT. = 0.013 MILE



COLLINS ENGINEERS, INC.
JAMES M. HAMELKA
NO. 81-6116
EXPIRES 11-30-2012



COLLINS ENGINEERS, INC.
JAMES M. HAMELKA
NO. 062-056236
EXPIRES 11-30-2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED MARCH 2, 20 11

Diana M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 4 20 11
Scott E. Stitt, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

March 4 20 11
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

COLLINS ENGINEERS
123 N. WACKER DR., SUITE 300
CHICAGO, IL 60606
(312) 704-9300
ILLINOIS PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-000993

Rev.

INDEX OF SHEETS

- 1 Title Sheet
- 2 General Notes, Index of Sheets, and Highway Standards
- 3 Summary of Quantities
- 4 Maintenance of Traffic
- 5-9 Structure Plans S1-S5
- 10-13 Remove and Reerect Steel Plate Beam Guardrail
- 14-15 Multi-Lane Freeway Pavement Marking Detail
- 16 Traffic Control Details for Freeway Shoulder Closures and Partial Ramp Closures
- 17 Arterial Road Information Sign

INDEX OF HIGHWAY STANDARDS

Standard No.	Description
442201-03	Class C and D Patches
515001-03	Name Plate For Bridge
630001-09	Steel Plate Beam Guardrail
635011-02	Reflector Marker and Mounting Details
701400-05	Approach to Lane Closure, Freeway/Expressway
701401-06	Lane Closure, Freeway/Expressway
701901-01	Traffic Control Devices
704001-06	Temporary Concrete Barrier

GENERAL NOTES

1. These plans have been prepared from notes received from IDOT Field Maintenance Engineers.
2. 10 ft (3 m) transitions shall be used to match proposed items of work to existing items in the field, unless otherwise shown. The transitions shall be paid for at the contract unit price for the proposed item of work specified.
3. The Resident Engineer must contact the Traffic Control Supervisor at (847)705-4155 at least 72 hours prior to installation of the temporary control devices.
4. The Contractor will not be allowed to set up a yard or field office on State property without written permission from the Department.
5. Do not scale these plans for construction purposes.
6. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work. However, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
7. During construction operations, loose material deposits that obstruct the flow of water in draining the area shall be removed before the end of each work day. At the conclusion of construction operations, all drainage structures (new and existing) shall be free from all dirt and debris. This work will not be paid for separately but shall be considered incidental to the contract.
8. The plans do not represent a complete depiction of all utilities that may be impacted by the proposed work. The Contractor shall conduct his or her own investigation to determine the ownership of impacted utilities. The Contractor shall coordinate with the utility owners and may be required to provide temporary support, adjust, relocate or remove utilities that are impacted by the proposed improvement. This work shall be considered incidental to the project.
9. Temporary Information Signing shall be provided on the Equestrian Trail to alert users of potential trail closures during construction. The trail closures shall be coordinated with the Forest Preserve District (or other appropriate party). The trail will not be allowed to be closed throughout the entire duration of the project. The signing shown in TC-22 (Sheet 17) shall be modified from "Expect Delays" to "Trail Closed". This work shall be included in the pay item for Temporary Information Signing.

FILE NAME =	USER NAME = asmbler	DESIGNED - AMS DRAWN - DR	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, INDEX OF SHEETS, AND HIGHWAY STANDARDS STRUCTURE NO. 016-1211	F.A.P. RTE. 332	SECTION 0312-708W-1	COUNTY COOK	TOTAL SHEETS 17	SHEET NO. 2		
						CONTRACT NO. 60N81						
						ILLINOIS FED. AID PROJECT						
						SCALE: SHEET NO. OF SHEETS STA. TO STA.						

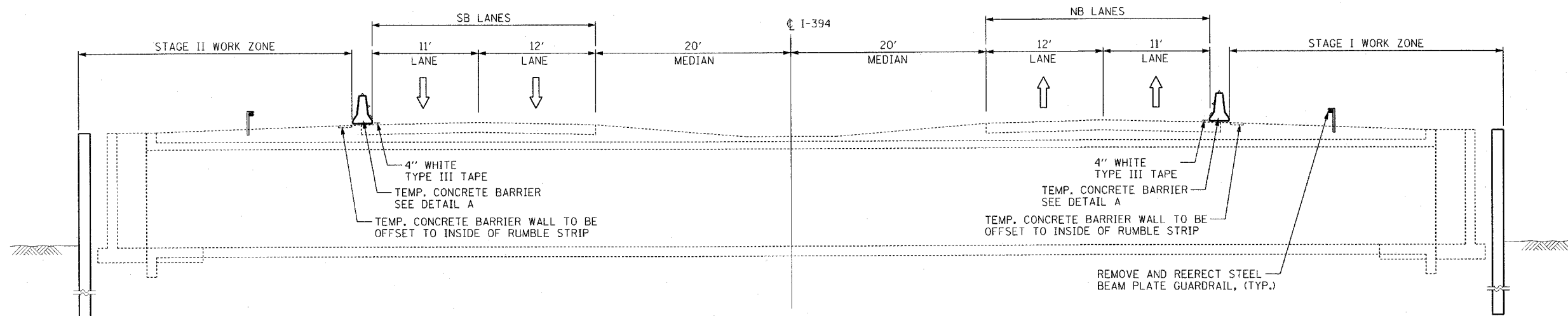
URBAN

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	CONSTR. TYPE CODE
				STRUCTURE 0040 STATE 100%
20100110	Tree Removal (6 to 15 Units Diameter)	Unit	39	39
20100210	Tree Removal (Over 15 Units Diameter)	Unit	16	16
20700220	Porous Granular Embankment	Cu. Yd.	81.2	81.2
28100107	Stone Riprap, Class A4	Sq. Yd.	39	39
28200200	Filter Fabric	Sq. Yd.	39	39
42001300	Protective Coat	Sq. Yd.	86	86
44201670	Class D Patches, Type 1, 2 Inch	Sq. Yd.	9	9
50200100	Structure Excavation	Cu. Yd.	6	6
50300225	Concrete Structures	Cu. Yd.	14	14
50500505	Stud Shear Connectors	Each	48	48
50800205	Reinforcement Bars, Epoxy Coated	Pound	1460	1460
59100100	Geocomposite Wall Drain	Sq. Yd.	615	615
* 63301210	Remove and Reerect Steel Plate Beam Guardrail, Type A	Foot	232	232
67000400	Engineer's Field Office, Type A	Cal. Mo.	6	6
67100100	Mobilization	L. Sum	1	1
70300240	Temporary Pavement Marking-Line 6"	Foot	168	168
70301000	Work Zone Pavement Marking Removal	Sq. Ft.	112	112
70400100	Temporary Concrete Barrier	Foot	168	168
70400200	Relocate Temporary Concrete Barrier	Foot	168	168
78200530	Barrier Wall Markers, Type C	Each	14	14
X5121800	Permanent Steel Sheet Piling	Sq. Ft.	2931	2931
X7011015	Traffic Control and Protection, (Expressways)	L. Sum	1	1
X7030030	Wet Reflective Temporary Tape Type III, 4 Inch	Foot	336	336
Z0030250	Impact Attenuators, Temporary (Non-Redirective), Test Level 3	Each	1	1
Z0030350	Impact Attenuators, Relocate (Non-Redirective), Test Level 3	Each	1	1
Z0030850	Temporary Information Signing	Sq. Ft.	41	41
Z0046304	Pipe Underdrains for Structures 4"	Foot	145	145

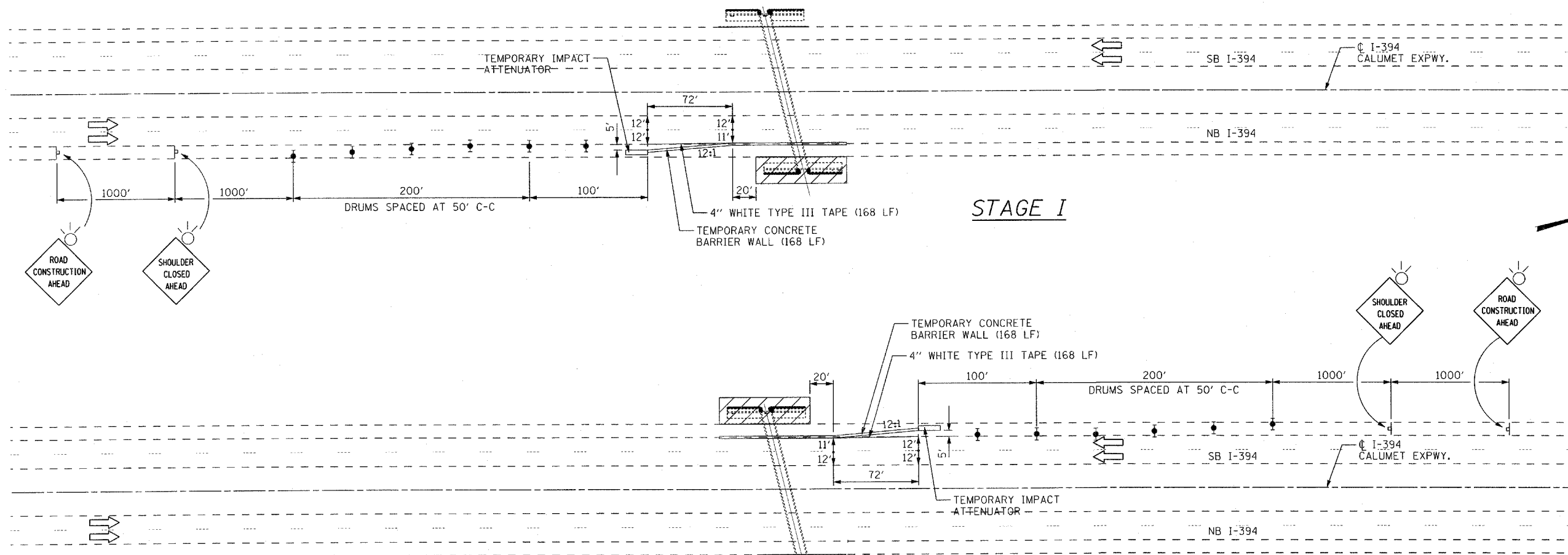
*Specialty Item

FILE #	FILE NAME =	USER NAME = #USER#	DESIGNED - AMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES STRUCTURE NO. 016-1211				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		PLOT SCALE = #SCALE#	DRAWN - DR	REVISED -		332	0312-708W-1	COOK	17	3				
		PLOT DATE = #DATE#	CHECKED - JMH	REVISED -		CONTRACT NO. 60N81								
		DATE - FEBRUARY, 2011	REVISED -	SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT							

Rev.



ELEVATION



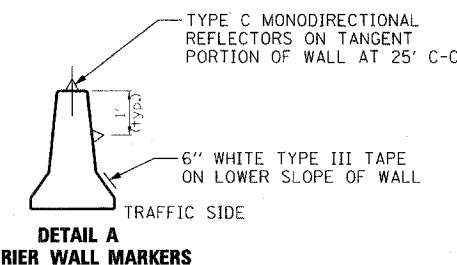
STAGE I

STAGE II

SYMBOLS

- WORK AREA
- TRAFFIC FLOW
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- SIGN

NOTES:
1. SEE STD. TC-17 FOR ADDITIONAL DETAILS

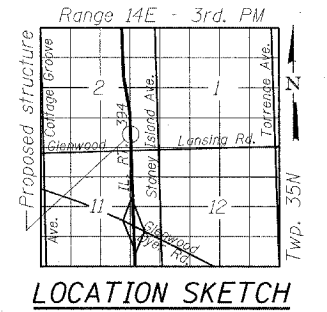
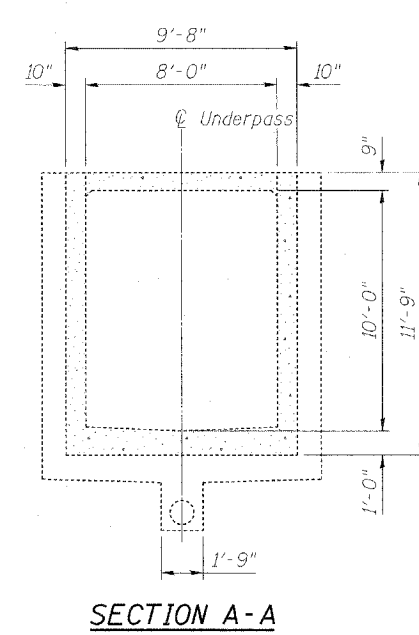
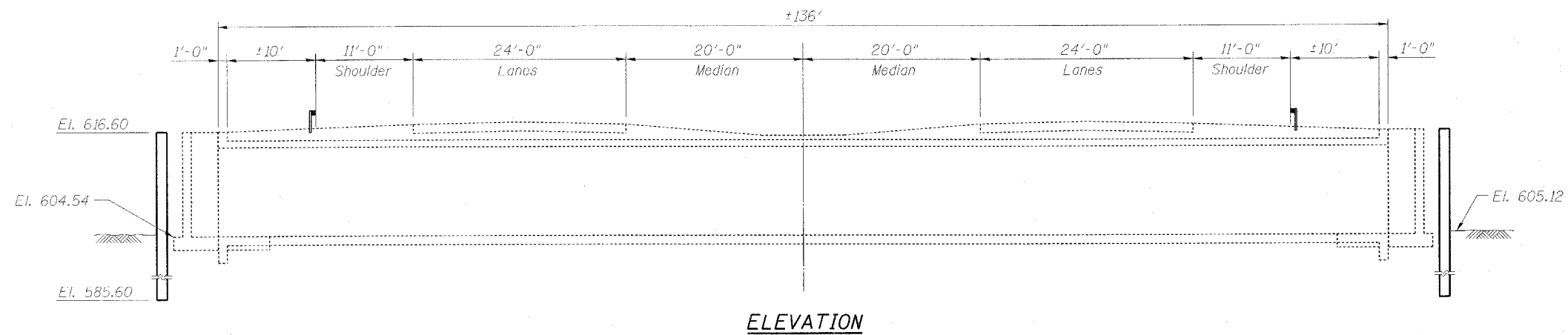


DETAIL A
BARRIER WALL MARKERS

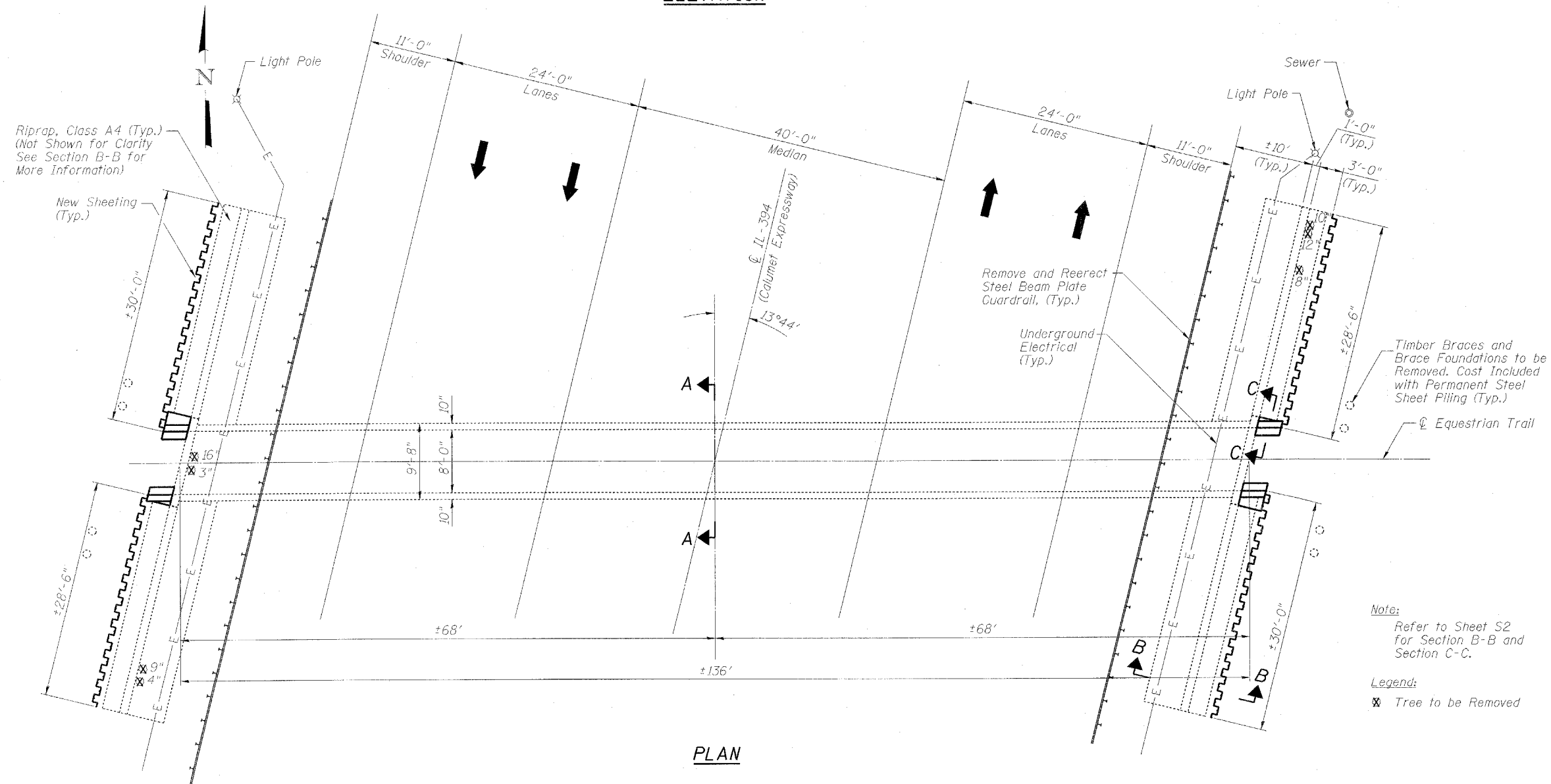
FILE NAME #	USER NAME = aseiber	DESIGNED - AMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC STRUCTURE NO. 016-1211			F.A.P. RTE. 332	SECTION 0312-708W-I	COUNTY COOK	TOTAL SHEETS 17	SHEET NO. 4
	PLOT SCALE = 50.0000' / in.	CHECKED - JMH	REVISED -					CONTRACT NO. 60N81				
	PLOT DATE = 4/8/2011	DATE - MARCH, 2011	REVISED -					ILLINOIS FED. AID PROJECT				
				SCALE: 1" = 50'	SHEET NO.	OF SHEETS	STA.	TO STA.				

Existing Structure: S.N. 016-1211 was built in 1950 as Section No. 066-102.2.

No Salvage.



SCOPE OF WORK
1. Wingwall Repair.



DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications for Highway Bridges (17th Edition)

LOADING HS20-44

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

Note:
Refer to Sheet S2 for Section B-B and Section C-C.

Legend:
⊗ Tree to be Removed

GENERAL PLAN AND ELEVATION
IL. RT. 394 OVER EQUESTRIAN TRAIL
F.A.P. RT. 332 - SEC. 0312-708W-I
WILL COUNTY
STRUCTURE NO. 016-1211

FILE NAME =	USER NAME =	DESIGNED - AMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION STRUCTURE NO. 016-1211	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - AMS	REVISED -			332	0312-708W-I	COOK	17	5	
		DRAWN - DR	REVISED -			CONTRACT NO. 60N81					
		CHECKED - JMH	REVISED -			ILLINOIS FED. AID PROJECT					

INDEX OF SHEETS

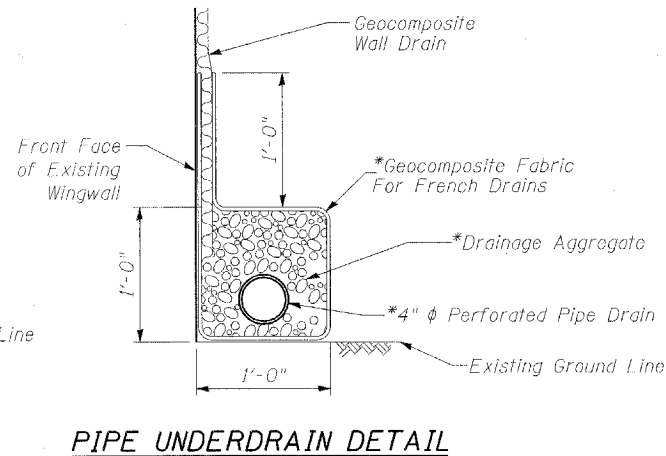
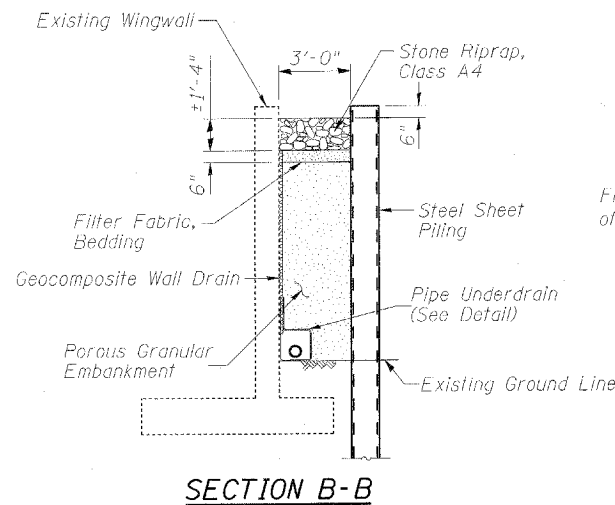
- S1. General Plan and Elevation
- S2. General Notes, Bill of Materials and Index of Sheets
- S3. Steel Sheet Pile Wall Details
- S4. Culvert Wall Extension Details
- S5. Soil Boring Logs

GENERAL NOTES:

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60. See Special Provisions.
2. All reinforcement bars shall be epoxy coated.
3. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. The Contractor shall make his own investigation to determine the existence, nature, and exact location of all utility lines and appurtenances within the limits of the work. The cost of this work shall be incidental to the contract.
5. The Contractor shall exercise caution during excavation around the existing culvert and wingwalls to avoid undermining the foundation.
6. The Contractor shall contact IDOT electrical maintenance contractor to field locate electrical conduit for street lighting.
7. Contractor shall core weep holes at 5 foot centers in all four existing wingwalls 2 feet above the ground level prior to placing steel sheet piling. Cost is included with Porous Granular Embankment.

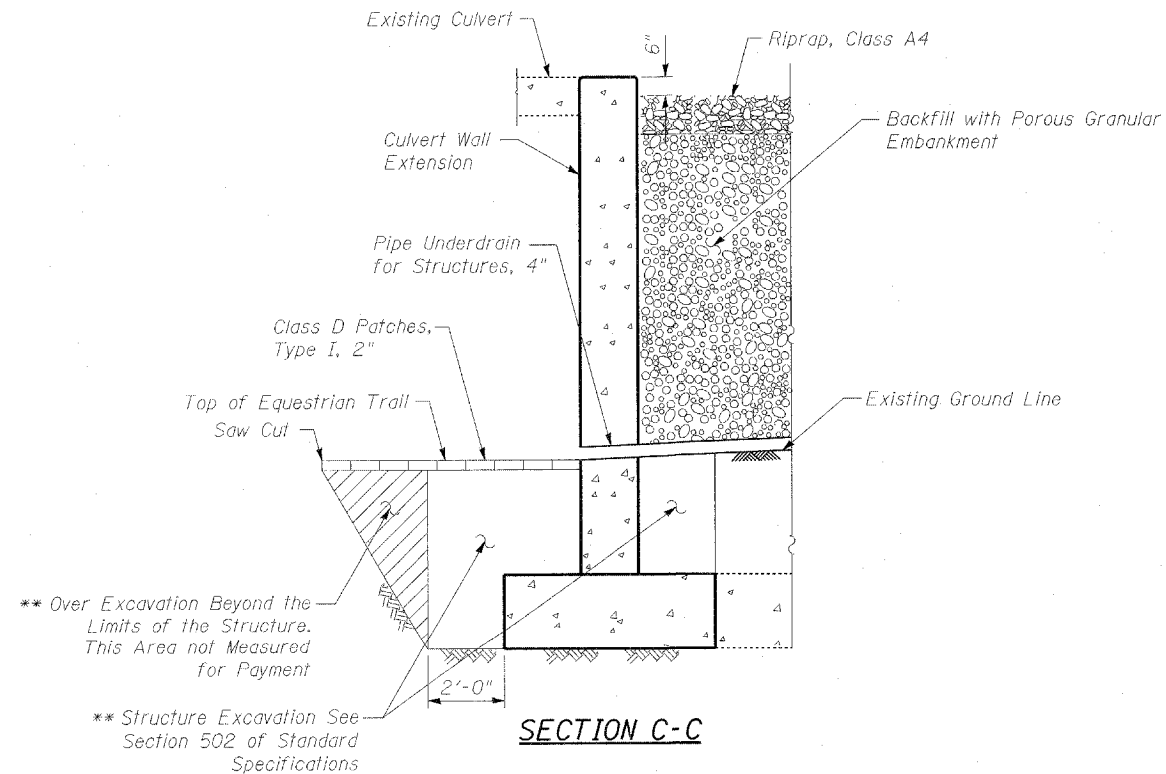
TOTAL BILL OF MATERIAL

ITEM DESCRIPTION	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	81.2
Stone Rip Rap, Class A4	Sq. Yd.	39
Filter Fabric	Sq. Yd.	39
Protective Coat	Sq. Yd.	86
Concrete Structures	Cu. Yd.	14.0
Reinforcing Bars, Epoxy Coated	Pound	1,460
Remove and Reerect Steel Plate Beam Guardrail, Type A	Foot	232
Permanent Steel Sheet Piling	Sq. Ft.	2,931
Structure Excavation	Cu. Yd.	6.0
Stud Shear Connectors	Each	48
Geocomposite Wall Drain	Sq. Yd.	615
Class D Patches, Type I, 2"	Sq. Yd.	9
Pipe Underdrain for Structures, 4"	Foot	145
Tree Removal (6 to 15 Units Diameter)	Unit	39
Tree Removal (Over 15 Units Diameter)	Unit	16



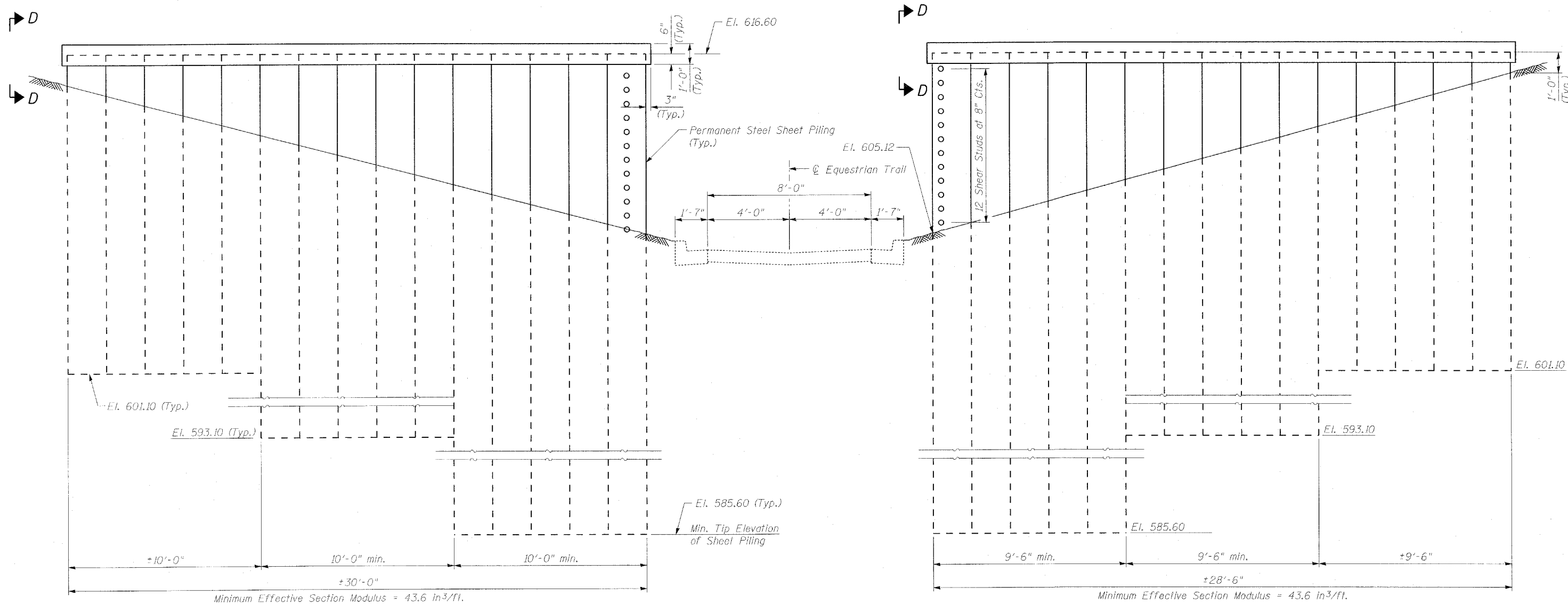
* Cost Included With "Pipe Underdrain for Structures 4"

** Backfill Remainder of Structure excavation and over excavation with Porous Granular Embankment.



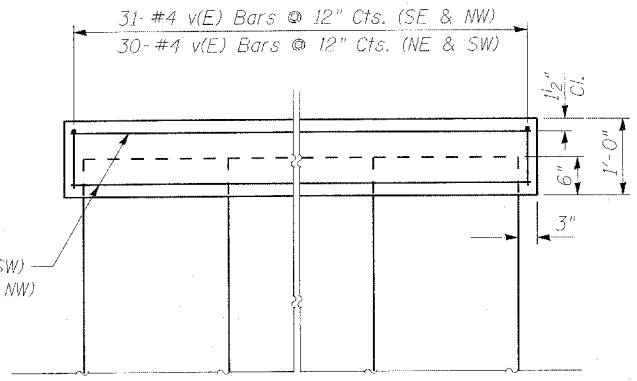
** Over Excavation Beyond the Limits of the Structure. This Area not Measured for Payment

** Structure Excavation See Section 502 of Standard Specifications

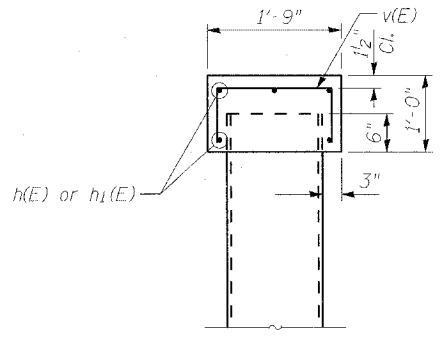


TYPICAL WING WALL SHEETING

(East Wing Walls Sheetting Shown, West Wing Walls Sheetting Opposite Hand)

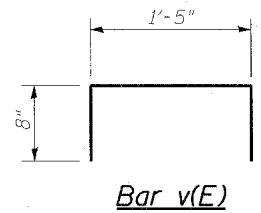


CAP DETAIL



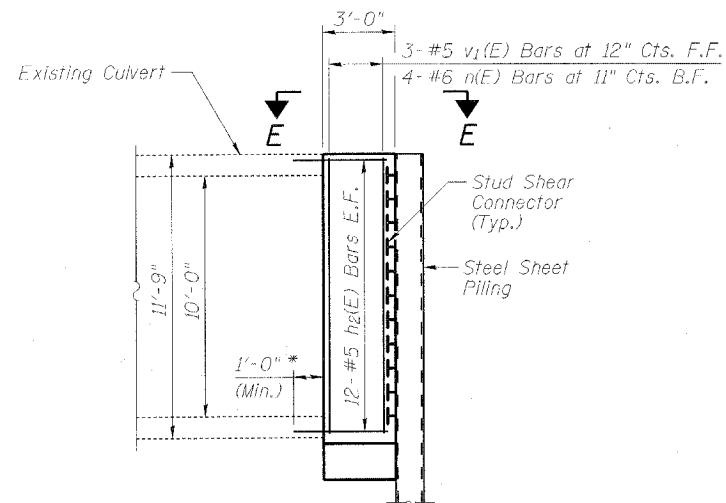
SECTION D-D

Note:
 Maximum Surcharge = 250 psf.
 Protective Coat Shall be Applied to the Concrete Cap.
 Contractor shall begin driving sheets at the ends of the wingwalls away from the Equestrian underpass. Porous granular embankment shall be backfilled behind the proposed wall as the sheeting installation progress to provide additional support to the existing leaning wingwalls. Contractor shall leave existing wingwall bracing in place as long as possible, until prohibited by the driving of sheeting at the bracing locations.

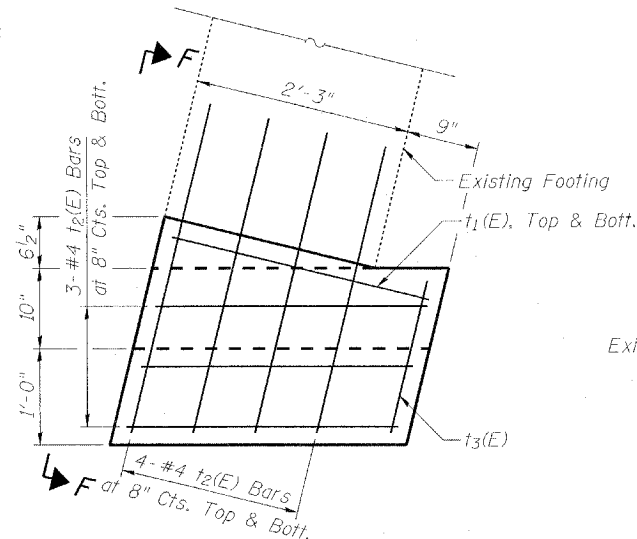


BILL OF MATERIAL

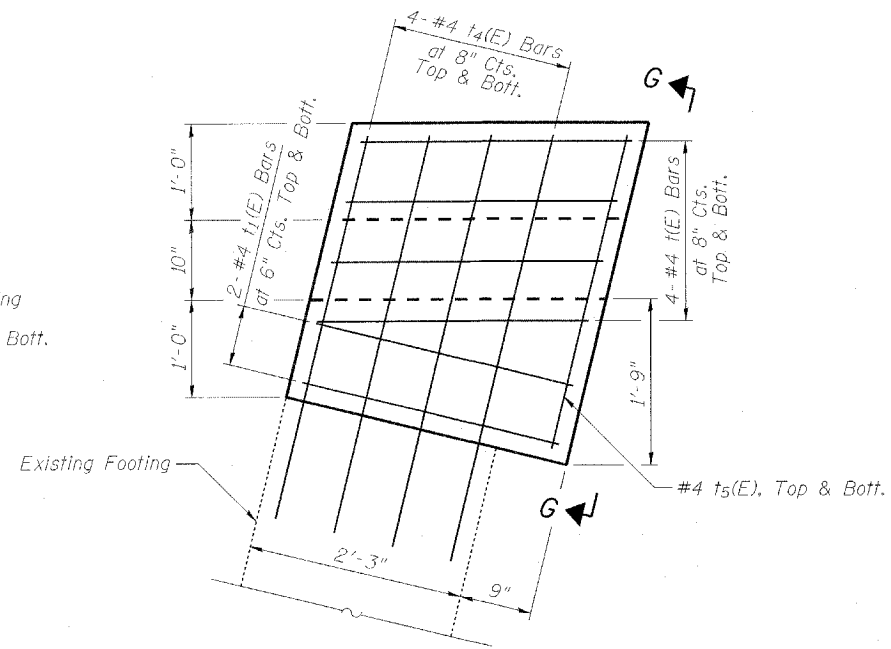
Bar	No.	Size	Length	Shape	
h(E)	10	#4	28'-8"	—	
h1(E)	10	#4	30'-2"	—	
v(E)	122	#4	2'-1"	U	
Concrete Structures				Cu. Yd.	7.8
Permanent Steel Sheet Piling				Sq. Ft.	2931
Reinforcement Bars, Epoxy Coated				Pound	620
Stud Shear Connector				Each	48
Protective Coat				Sq. Yd.	52
Porous Granular Embankment				Cu. Yd.	81.2



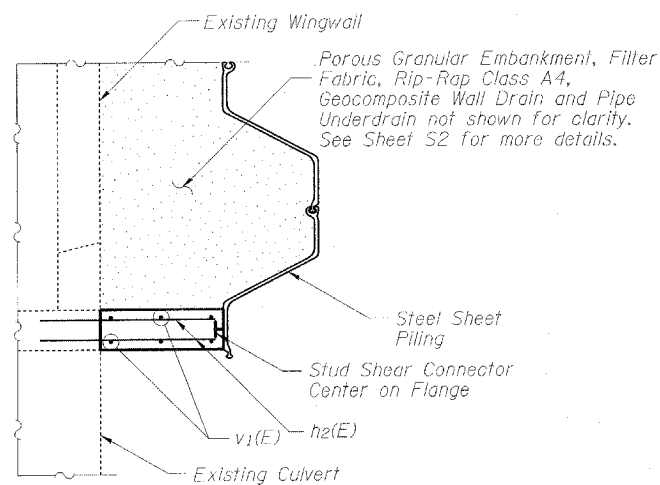
CULVERT WALL EXTENSION



NORTHEAST AND SOUTHWEST FOOTING PLAN

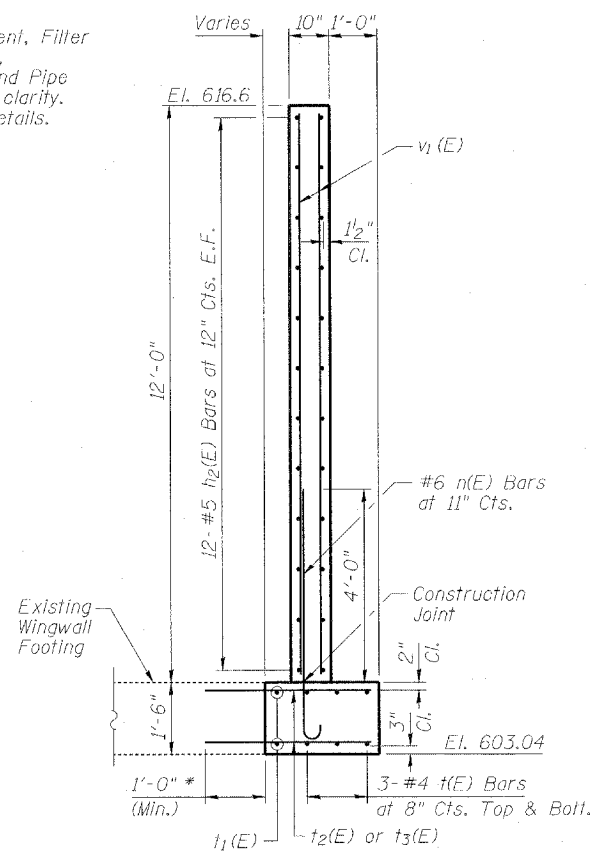


SOUTHEAST AND NORTHWEST FOOTING PLAN

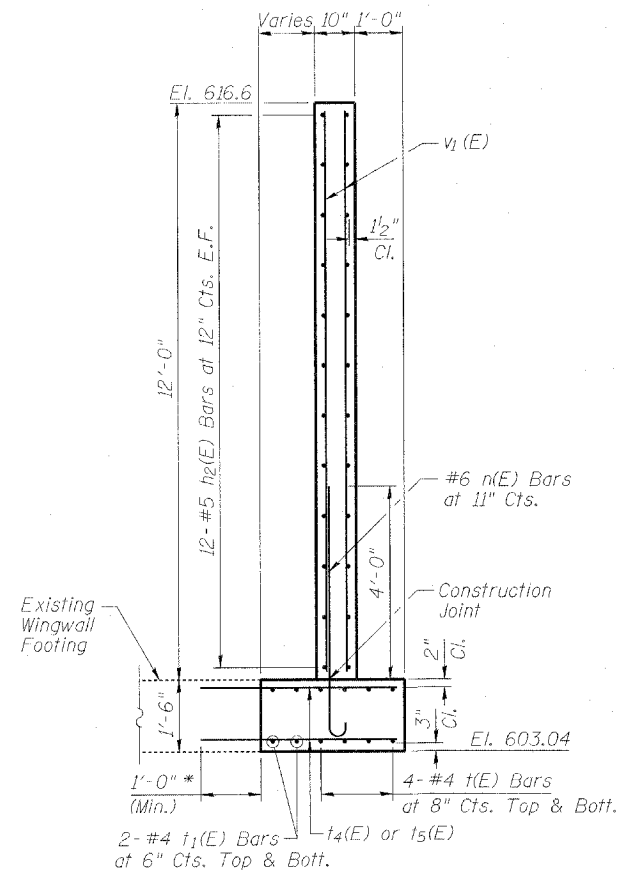


SECTION E-E

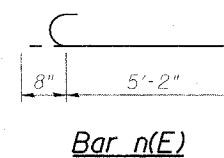
* Bars shall be drilled and grouted into the existing concrete according to Section 584 of the Standard Specifications. This work shall be included in the cost of Reinforcement Bars, Epoxy Coated. Contractor shall adjust spacing as required to miss existing reinforcement.



SECTION F-F



SECTION G-G



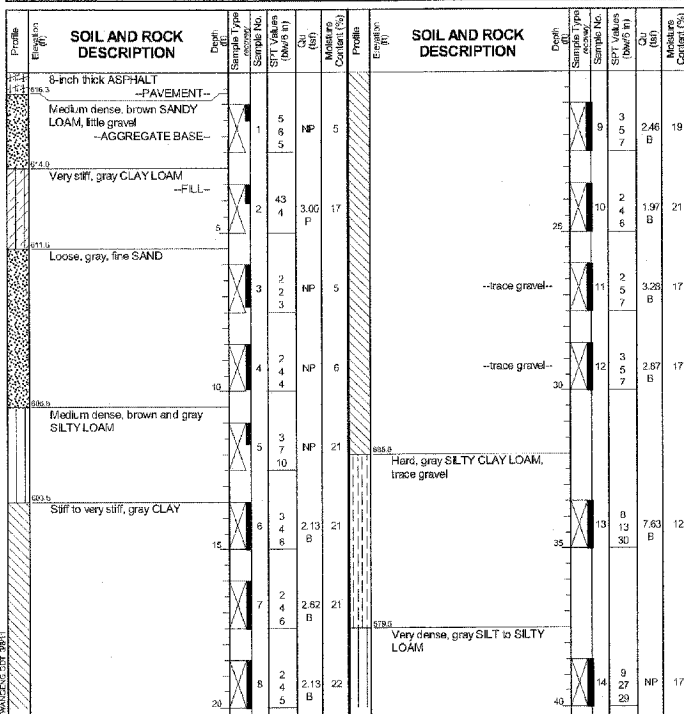
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₂ (E)	96	#5	3'-10"	—
n(E)	16	#6	5'-10"	C
t(E)	28	#4	2'-10"	—
t ₁ (E)	12	#4	2'-8"	—
t ₂ (E)	16	#4	3'-3"	—
t ₃ (E)	4	#4	1'-7"	—
t ₄ (E)	16	#4	3'-9"	—
t ₅ (E)	4	#4	3'-3"	—
v ₁ (E)	24	#5	11'-8"	—
Concrete Structures			Cu. Yd.	6.2
Reinforcement Bars, Epoxy Coated			Pound	840
Structure Excavation			Cu. Yd.	6.0
Protective Coat			Sq. Yd.	34

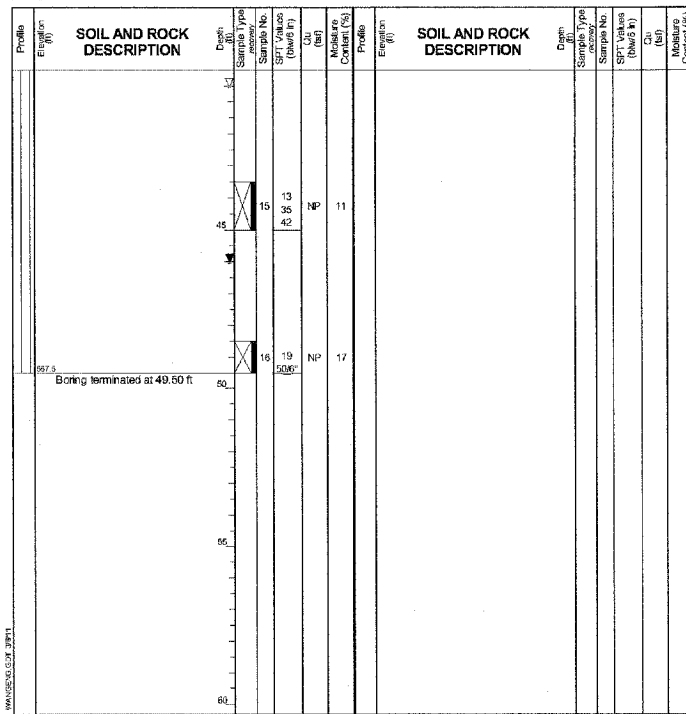
Notes:

Protective coat shall be applied to both side and top faces of the culvert extension wall.

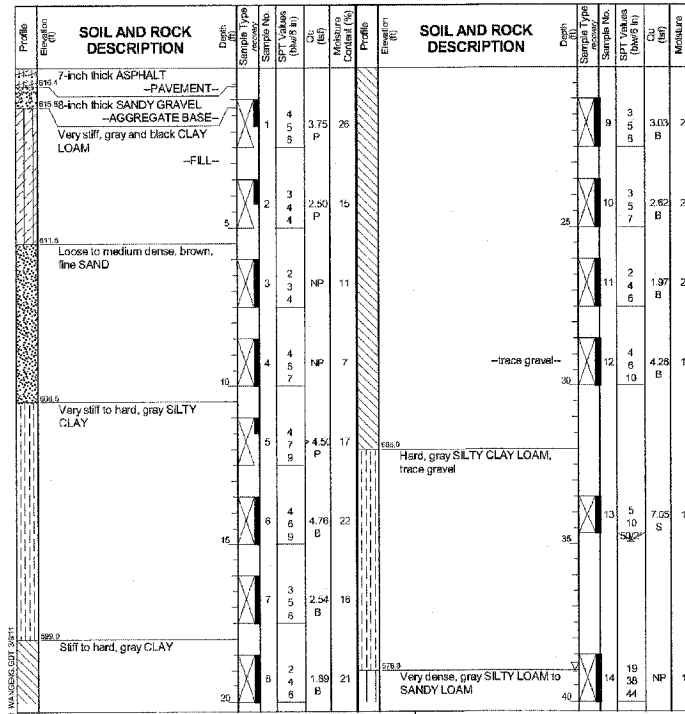
Excavated soil shall be stored on-site and used to fill void from brace foundation removal. Cost shall be included in the item for Permanent Steel Sheet Piling.

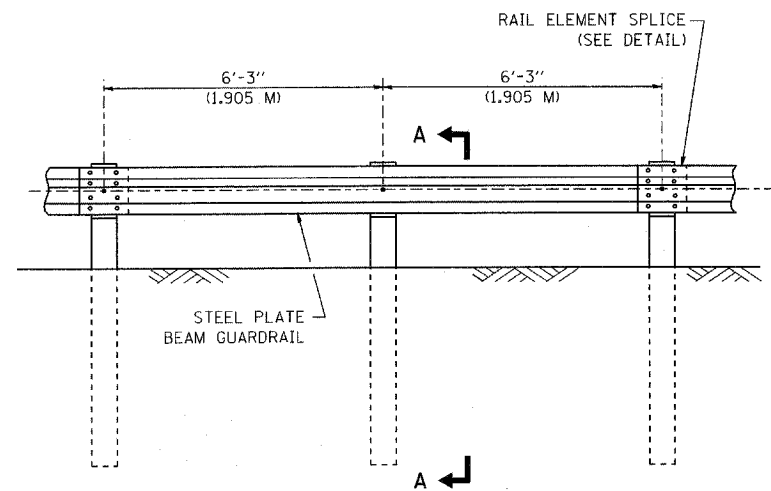


GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	02-28-2011	Complete Drilling	02-28-2011
Drilling Contractor	GSG	Drill Rig	Diedrich D-50
Driller	Jerry	Logger	F. Borzsa
Checked by	M. Snider	Depth to Water	NA
Drilling Method	3.25-inch Diameter HSA; Boring backfilled with bentonite upon completion.	At Completion of Drilling	46.00 ft
		Time After Drilling	NA
		Depth to Water	NA



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	02-28-2011	Complete Drilling	02-28-2011
Drilling Contractor	GSG	Drill Rig	Diedrich D-50
Driller	Jerry	Logger	F. Borzsa
Checked by	M. Snider	Depth to Water	NA
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		Time After Drilling	NA
		Depth to Water	NA

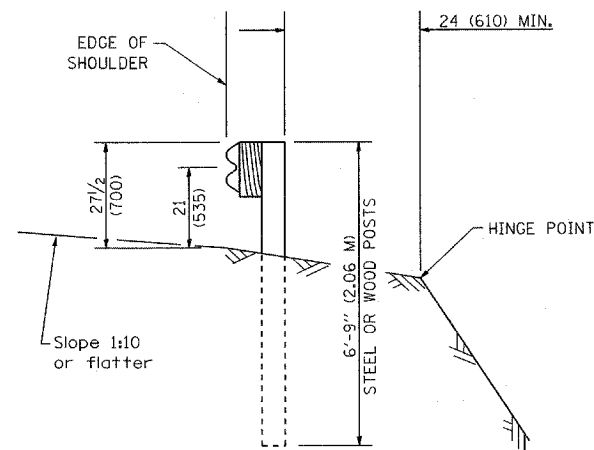




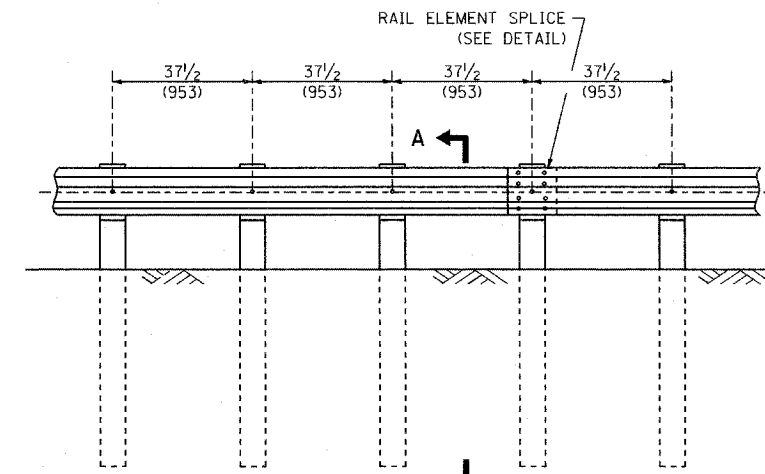
ELEVATION

TYPE A

6'-3" (1.905 M) TYPICAL POST SPACING



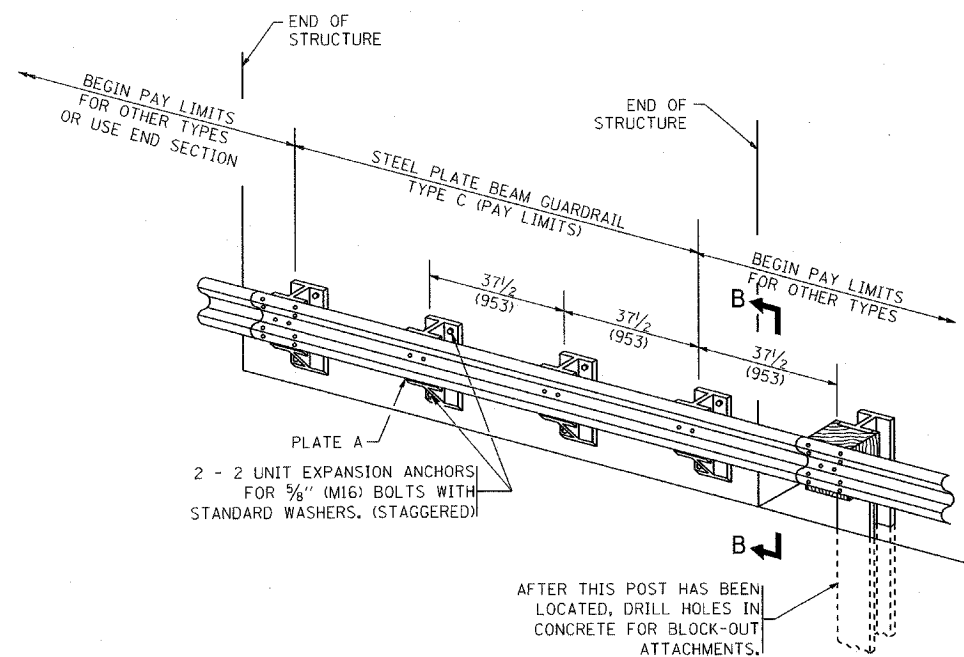
SECTION A-A



ELEVATION

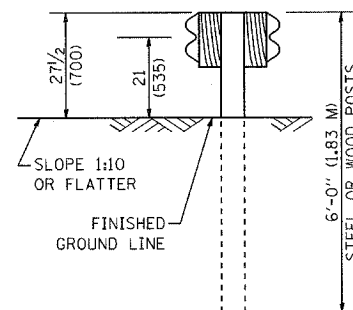
TYPE A

37 1/2 (953) CLOSED POST SPACING

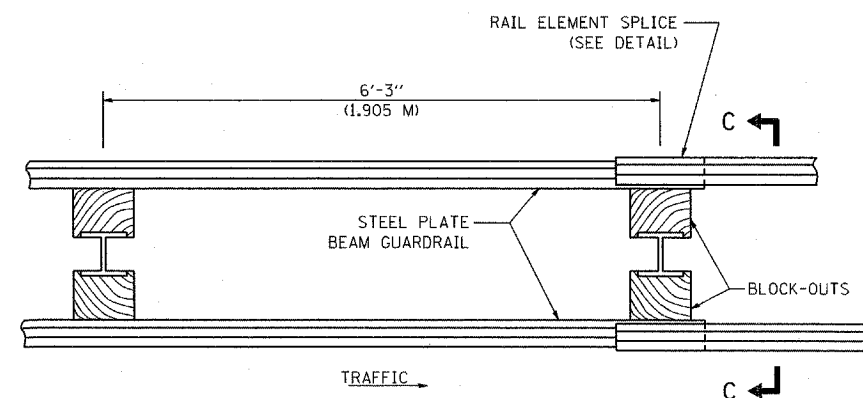


TYPE C

37 1/2 (953) BLOCK-OUT SPACING



SECTION C-C

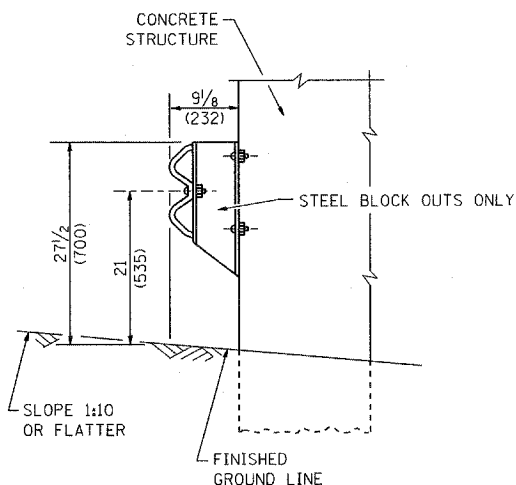


TRAFFIC

PLAN

TYPE D

DOUBLE STEEL PLATE BEAM GUARDRAIL
6'-3" (1.905 M) 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 INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

THE EXISTING STEEL POSTS MAY BE DRILLED TO MATCH THE BOLT PATTERN SHOWN HEREIN FOR THE WOOD BLOCK-OUT, OR A NEW STEEL POST SHALL BE PROVIDED.

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL SYSTEM USED PRIOR TO JANUARY 1, 2007. FOR DETAILS ON THE MIDWEST GUARDRAIL SYSTEM, SEE STANDARD 630001.

FILE NAME =	USER NAME = geglano
W:\d\ststd\22x34\bm21.dgn	

DESIGNED -	REVISIONS
DRAWN -	10-31-06
PLOT SCALE = 50.0000' / IN.	REVISIONS
PLOT DATE = 1/4/2008	REVISIONS

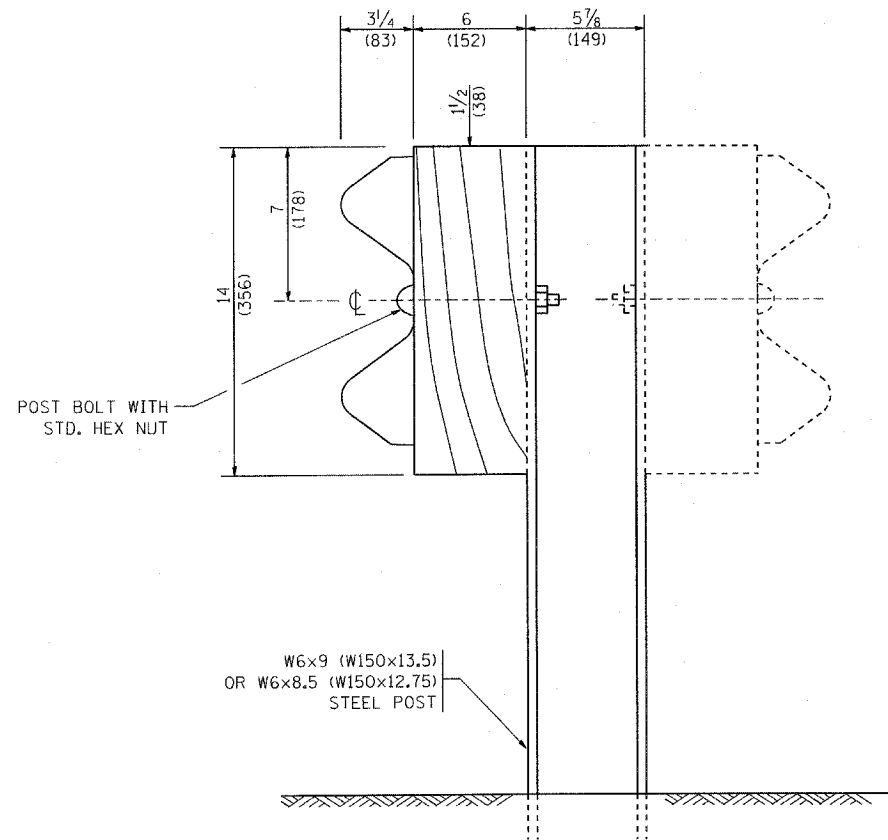
CHECKED -	REVISIONS
DATE -	REVISIONS

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

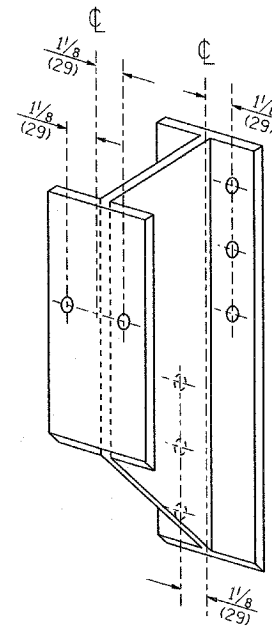
**REMOVE AND REERECT
STEEL PLATE BEAM GUARDRAIL**

SCALE: NONE SHEET NO. 1 OF 4 SHEETS STA. TO STA.

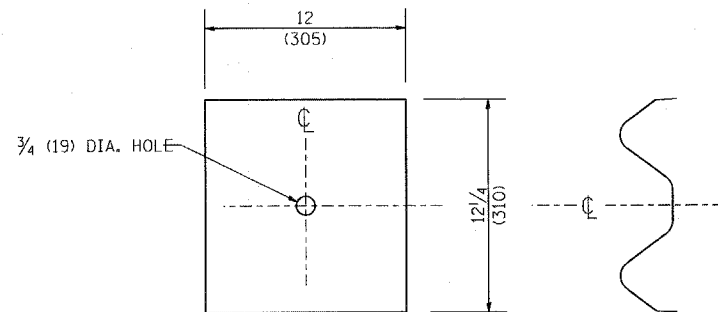
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0312-708W-I	Cook	17	10
BM-21		CONTRACT NO.	60N81	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



STEEL POST CONSTRUCTION



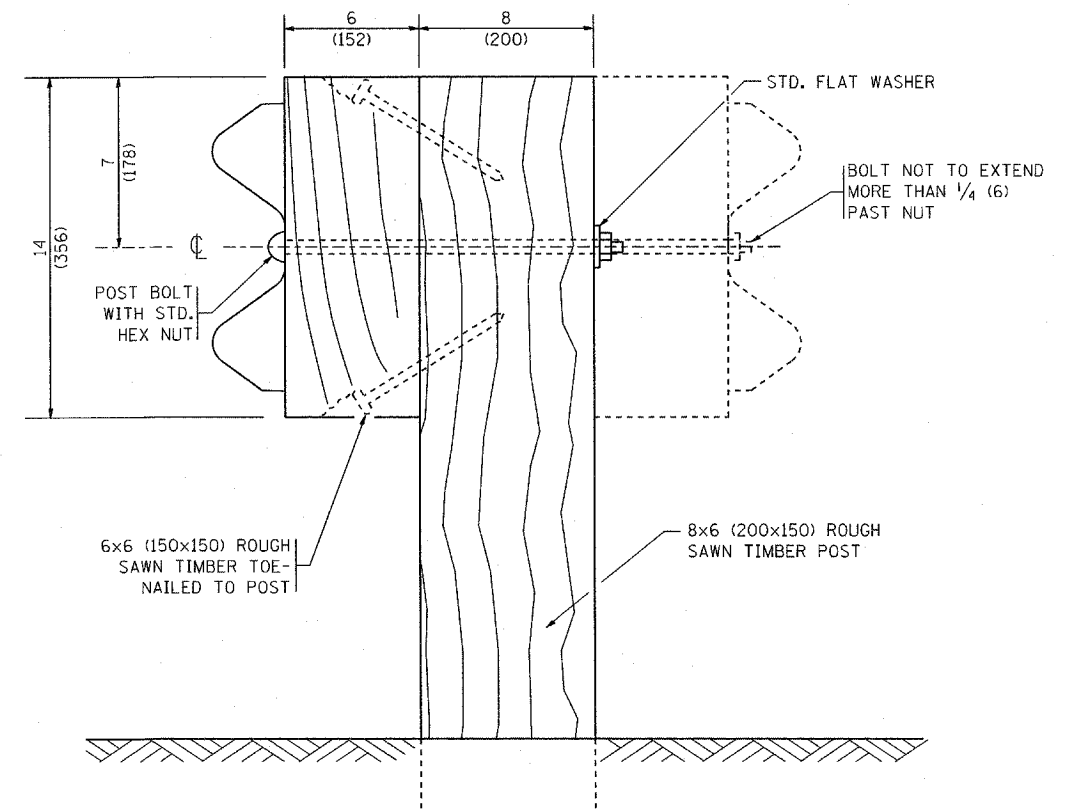
STEEL BLOCK-OUT DETAIL



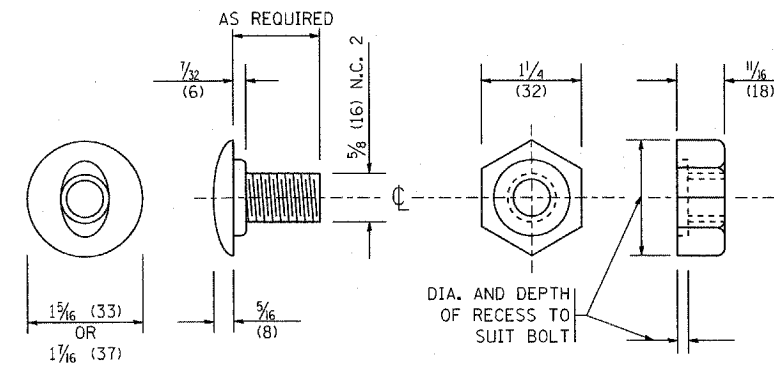
NOTE:

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



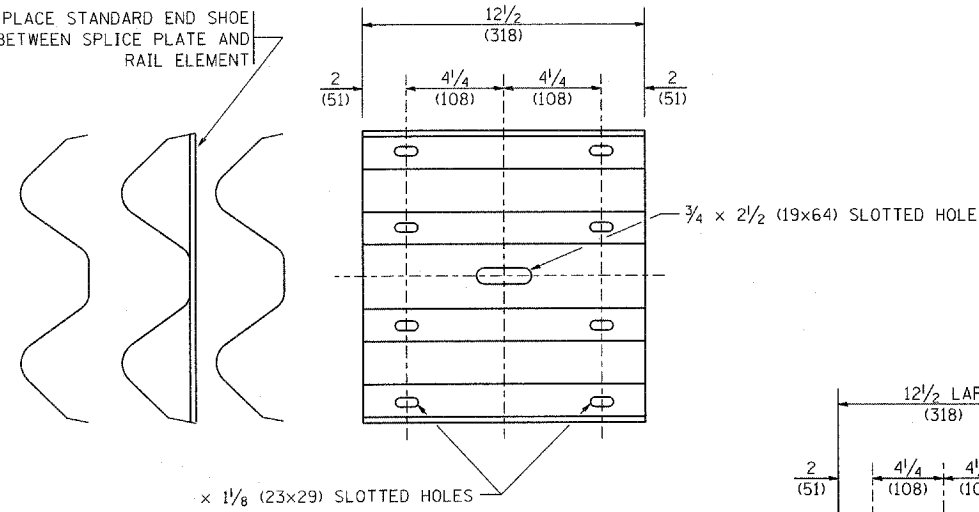
WOOD POST CONSTRUCTION



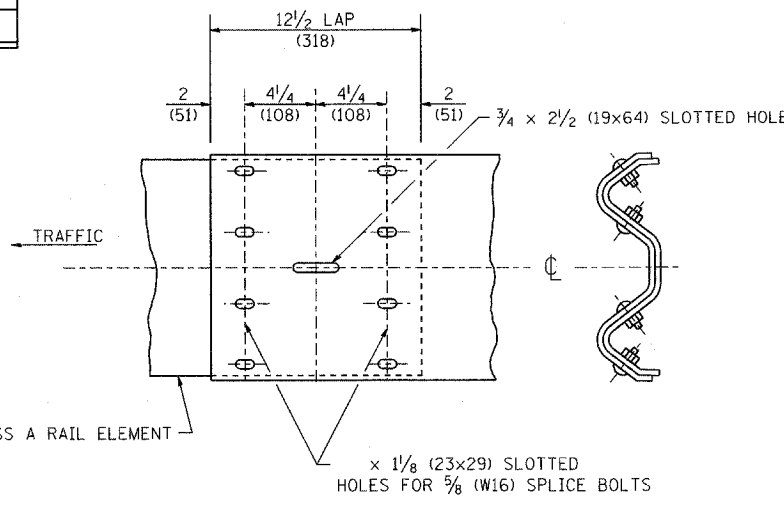
POST OR SPLICE BOLT & NUT

FILE NAME = W:\diststd\22x34\bm21.dgn	USER NAME = geglianobt	DESIGNED -	REVISED - 10-31-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL			F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -					332	0312-708W-I	Cook	17	11
	PLOT DATE = 1/4/2008	CHECKED -	REVISED -					BM-21			CONTRACT NO. 60N81	
		DATE -	REVISED -					FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				
				SCALE: NONE			SHEET NO. 2 OF 4 SHEETS		STA. TO STA.			

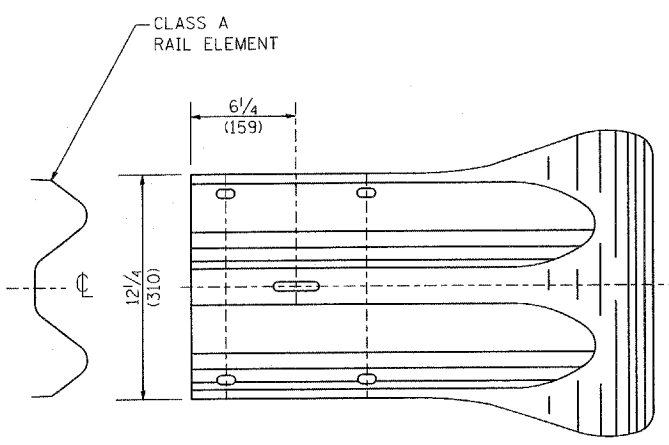
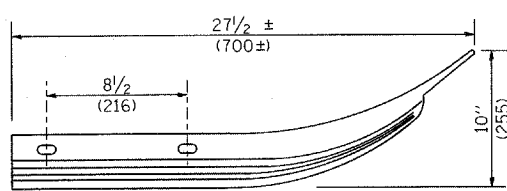
PLACE STANDARD END SHOE BETWEEN SPLICE PLATE AND RAIL ELEMENT



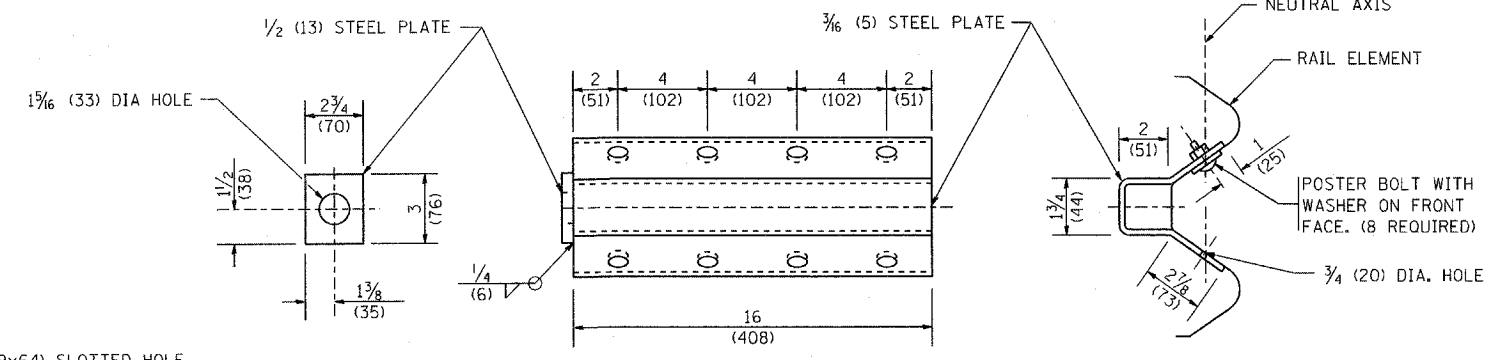
SPLICE PLATE



RAIL ELEMENT SPLICE



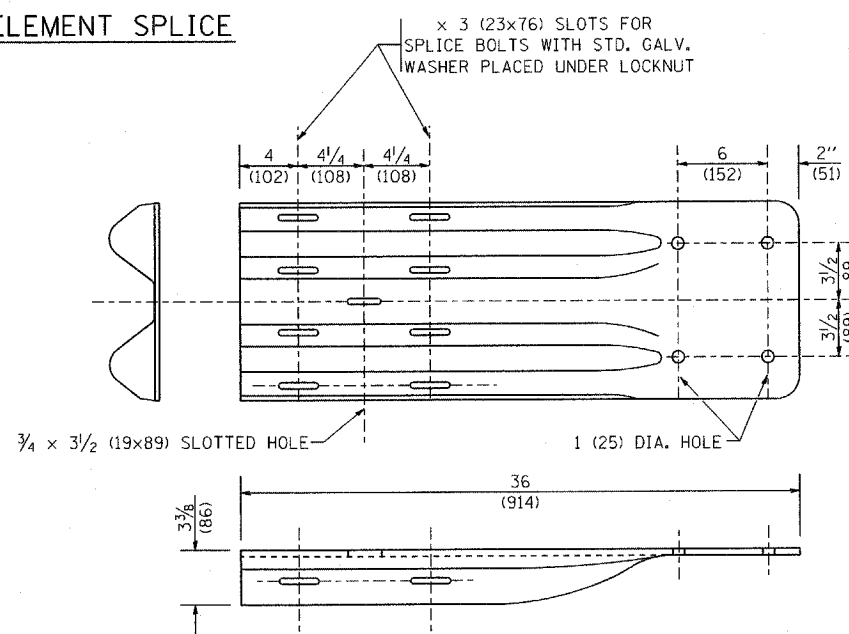
END SECTION



NOTE:

ANCHOR PLATE T SHALL BE USED TO ATTACH CABLE ASSEMBLY TO GUARDRAIL WHEN REQUIRED ON TRAFFIC BARRIER TERMINALS.

ANCHORE PLATE T DETAILS



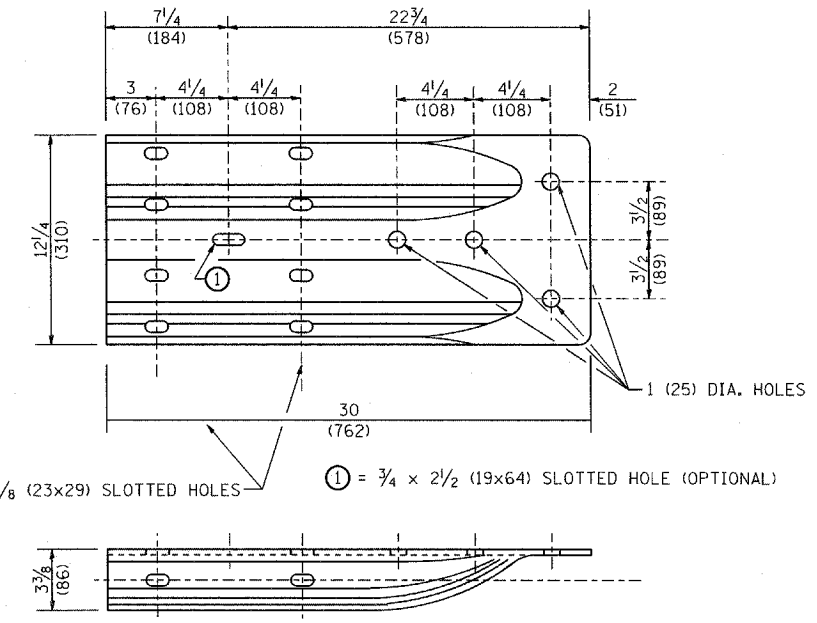
END SHOE

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.

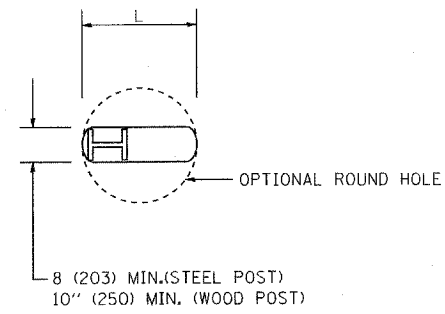
THE STANDARD END SHOE SHALL BE ATTACHED TO THE CONCRETE WITH PRE-DRILLED OR SELF-DRILLING ANCHOR BOLTS. THE ANCHOR CONE SHALL BE SET FLUSH WITH THE SURFACE OF THE CONCRETE.

EXTERNALLY THREADED STUDS PROTRUDING FROM THE SURFACE OF THE CONCRETE WILL NOT BE PERMITTED.

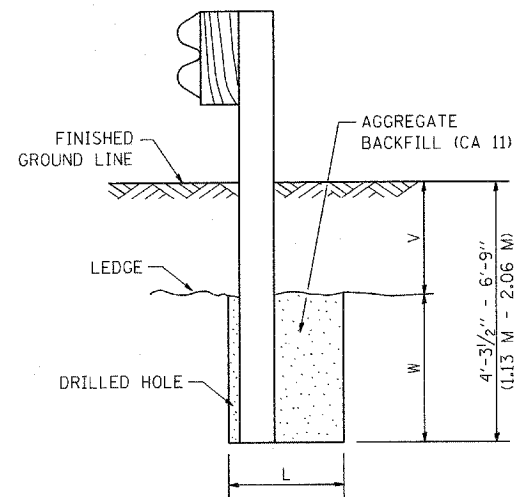


ALTERNATE END SHOE

FILE NAME = W:\dststd\22x34\bm21.dgn	USER NAME = geglennob	DESIGNED -	REVISED - 10-31-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL			F.A.B. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -		SCALE: NONE	SHEET NO. 3	OF 4 SHEETS	STA.	TO STA.	332	0312-708W-1	Cook
PLOT DATE = 1/4/2008	CHECKED -	REVISED -	REVISED -						BM-21		CONTRACT NO. 60N81	
	DATE -	REVISED -	REVISED -					FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



PLAN

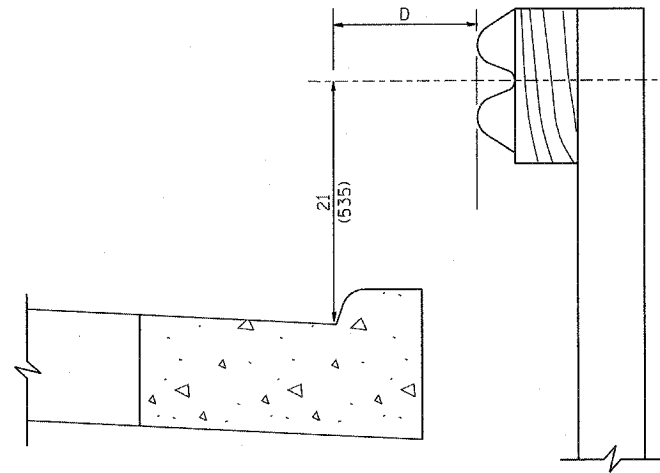


NOTE:

LEDGE LINE IS TOP OF ROCK LEDGE OR HARD SLAG FILL.

ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



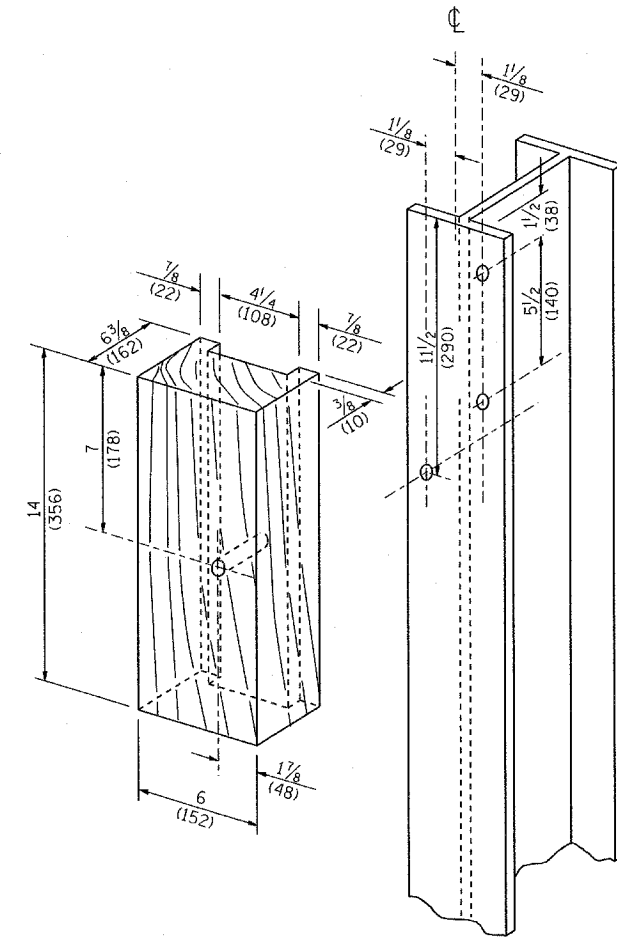
NOTE:

IF IT IS NECESSARY FOR D TO BE MORE THAN 12 (300) AND LESS THAN 10'-0" (3.0 M) TYPE M-2 (M-5) CURB AND GUTTER (STD. 606001) SHALL BE USED IN FRONT OF AND IN ADVANCE OF THE GUARDRAIL.

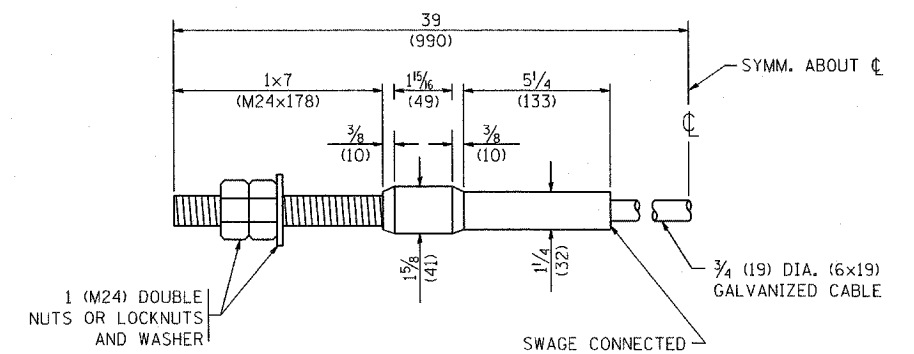
GUARDRAIL PLACED BEHIND CURB

(D = 0 DESIRABLE TO 12 (300) MAXIMUM)

V	W	L	
		STEEL POST	WOOD POST
0 - 18 (0 - 460)	24 (610)	21 (530)	23 (580)
>18 - 41.5 (> 460 - 825)	12 (305)	8 (203)	10 (250)
>41.5 - 53.5 (> 825 - 1.13 M)	12 - 0 (350 - 0)	8 (203)	10 (250)

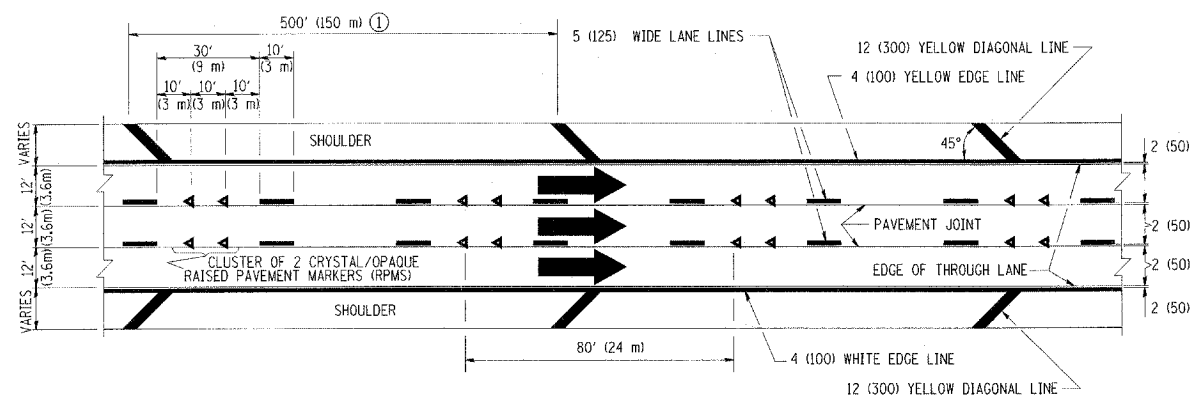


WOOD BLOCK-OUT AND STEEL POST DETAILS



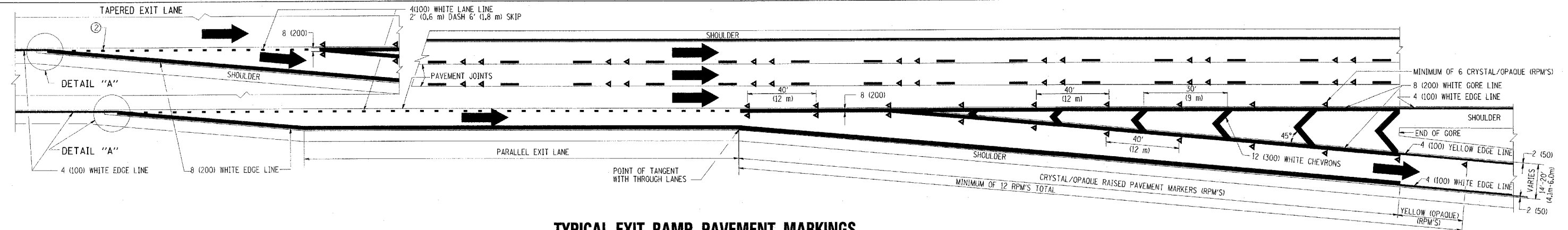
CABLE ASSEMBLY

(40,000 LBS (18,100 KG) MIN. BREAKING STRENGTH)
TIGHTEN TO TAUT TENSION

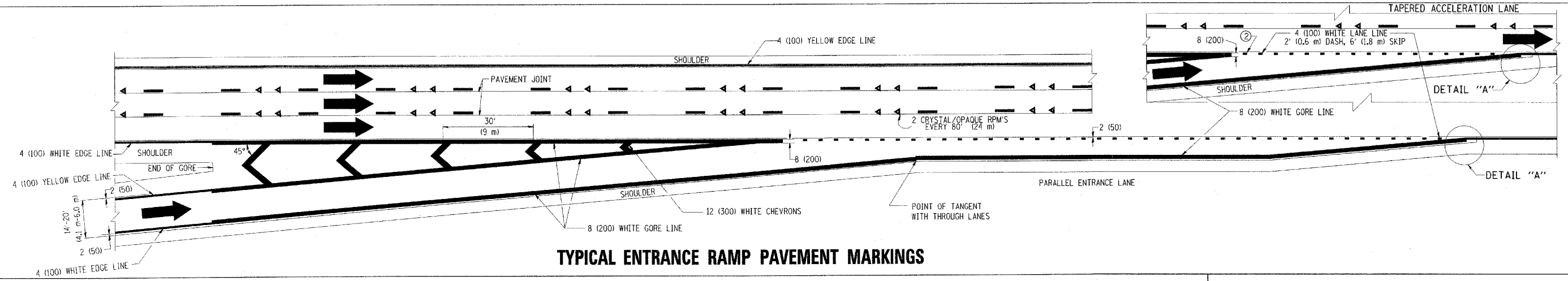


TYPICAL EDGE LINES & LANE LINES

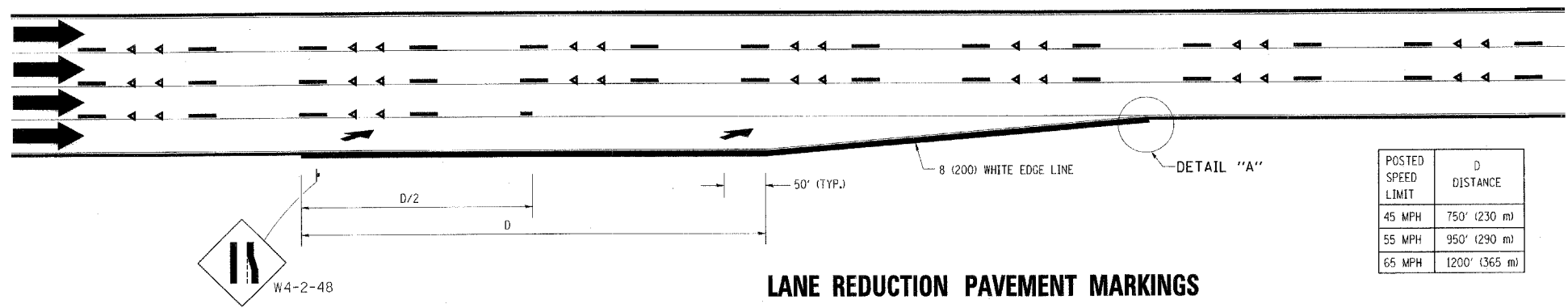
- PAVEMENT MARKING MATERIALS**
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, GORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
 2. PREFORMED PLASTIC TYPE B PAVEMENT MARKING LINE SHALL BE USED FOR ALL LANE LINES ON BITUMINOUS PAVEMENT.
 3. POLYUREA PAVEMENT MARKING SHALL BE USED FOR ALL MARKINGS ON PCC.



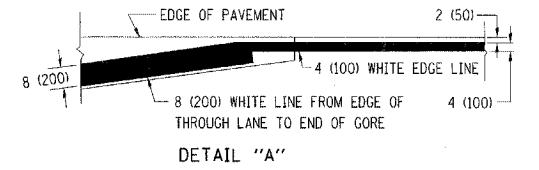
TYPICAL EXIT RAMP PAVEMENT MARKINGS



TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS

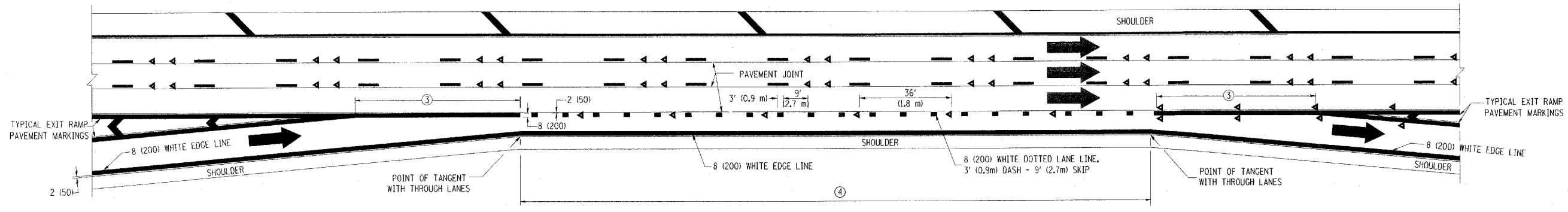


LANE REDUCTION PAVEMENT MARKINGS

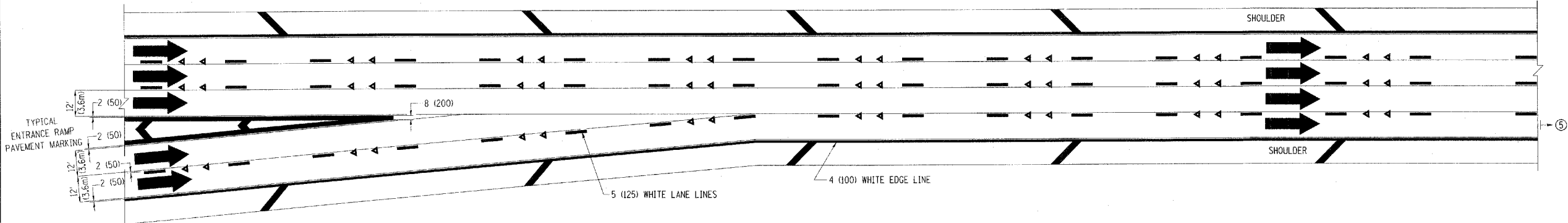


- NOTES:**
- ① THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.
 - ② 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

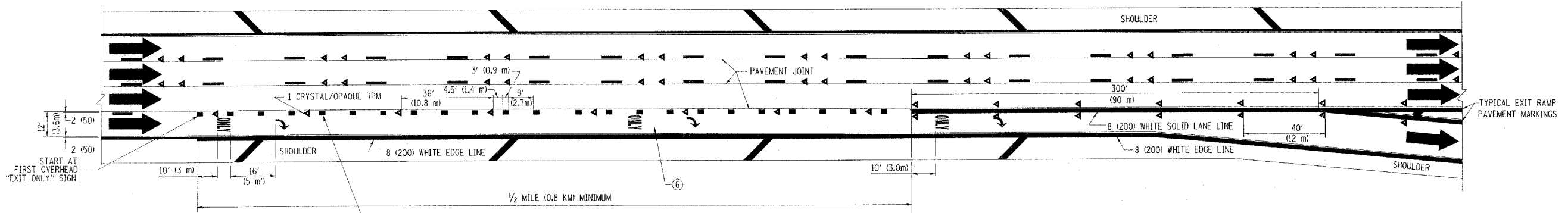
POSTED SPEED LIMIT	D DISTANCE
45 MPH	750' (230 m)
55 MPH	950' (290 m)
65 MPH	1200' (365 m)



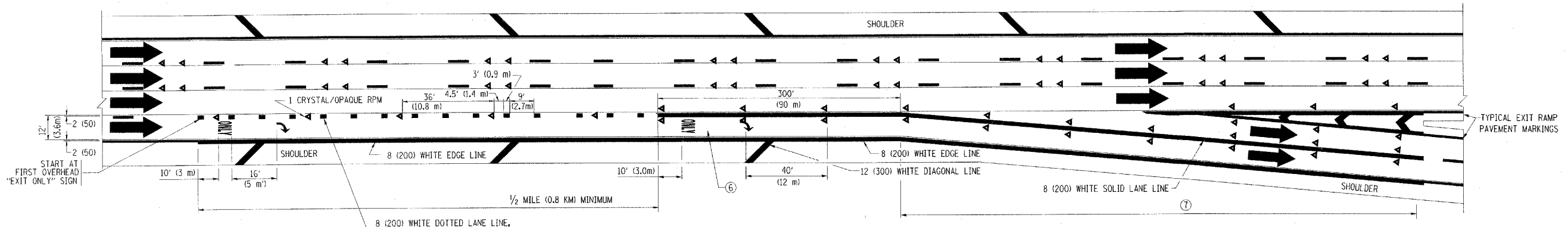
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



EXIT ONLY LANE MARKINGS



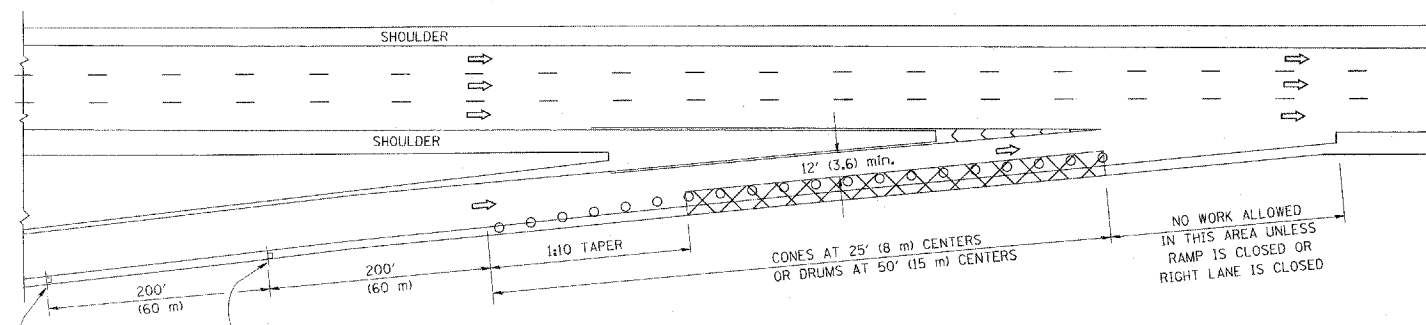
EXIT ONLY WITH OPTION LANE MARKINGS

- NOTES**
- ③ OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).
 - ④ 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.
 - ⑤ FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.
 - ⑥ ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED.
 - ⑦ CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED GORE.

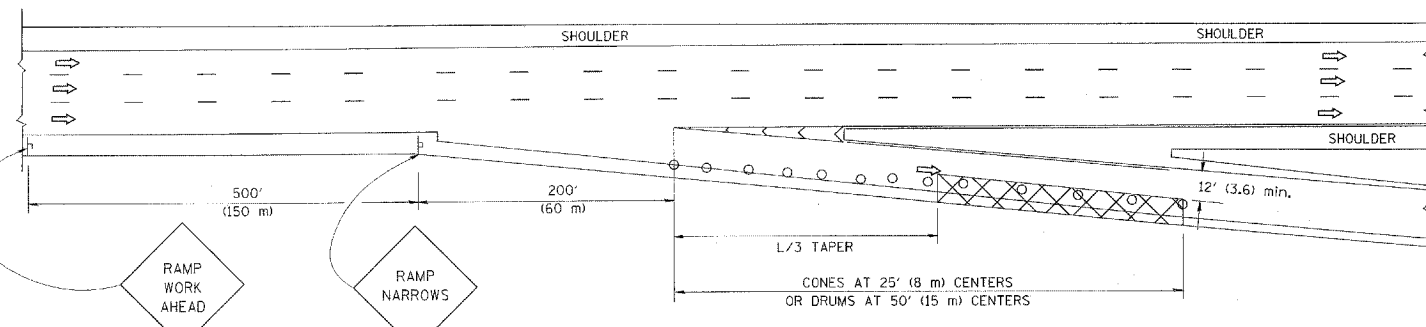
FILE NAME =	USER NAME = luyao	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS			F.A.P. RTE. 332	SECTION 0312-708W-I	COUNTY COOK	TOTAL SHEETS 17	SHEET NO. 15
CONTRACT NO. 60N81	SCALE: NONE	SHEET NO. 2 OF 2 SHEETS	STA. TO STA.		TC-12			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
PLOT SCALE = 50,000' / IN.	CHECKED -	DATE - 01-90	REVISED - J.A.F. 02-06									
PLOT DATE = 1/22/2010	DATE -	REVISED - S.P.B. 01-07	REVISED - S.P.B. 01-10									

PARTIAL RAMP CLOSURE DETAILS

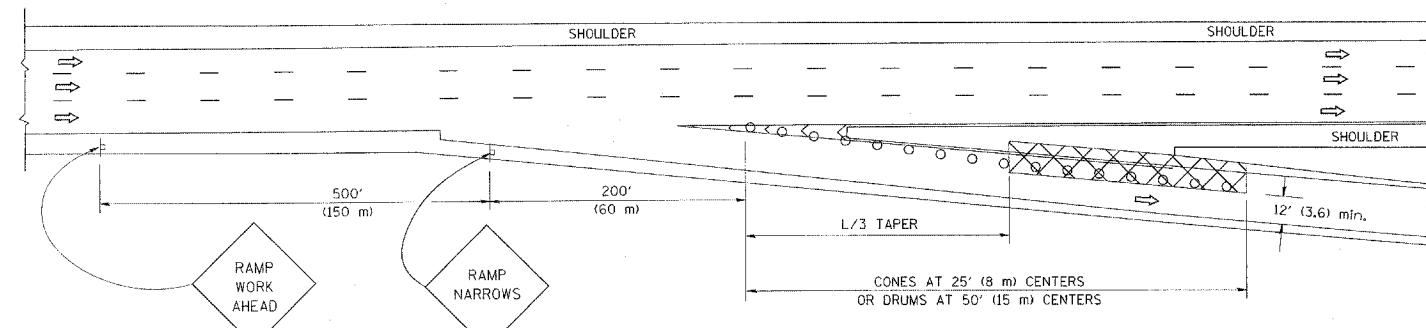
SHOULDER CLOSURE DETAILS



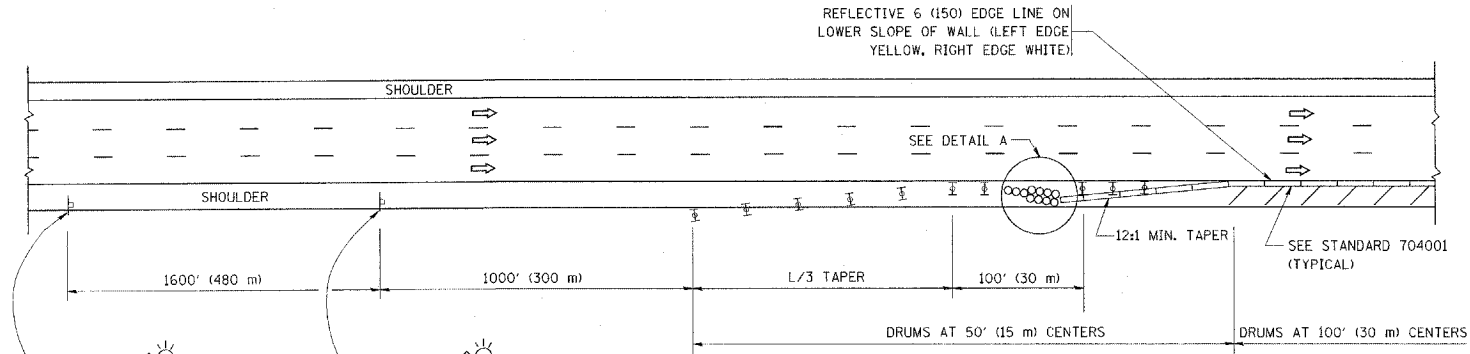
TYPICAL ENTRANCE RAMP



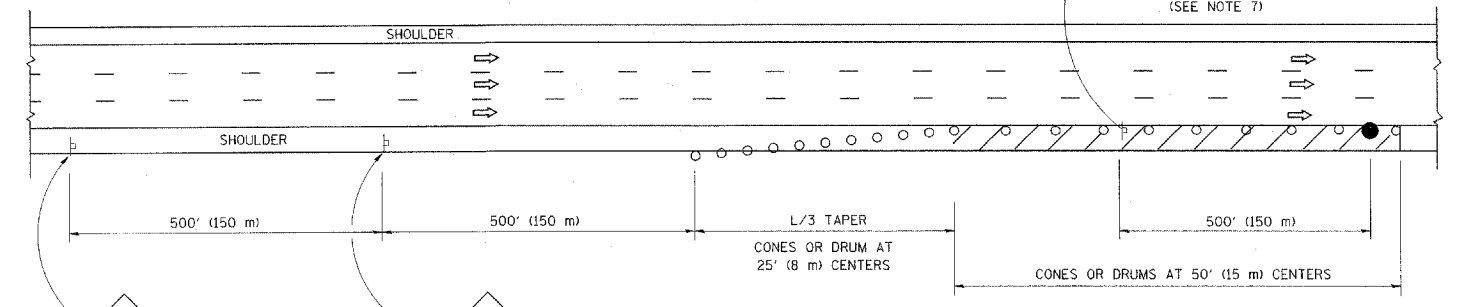
TYPICAL EXIT RAMP



TYPICAL EXIT RAMP



PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

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(W)(S) L=(W)(S)
	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.

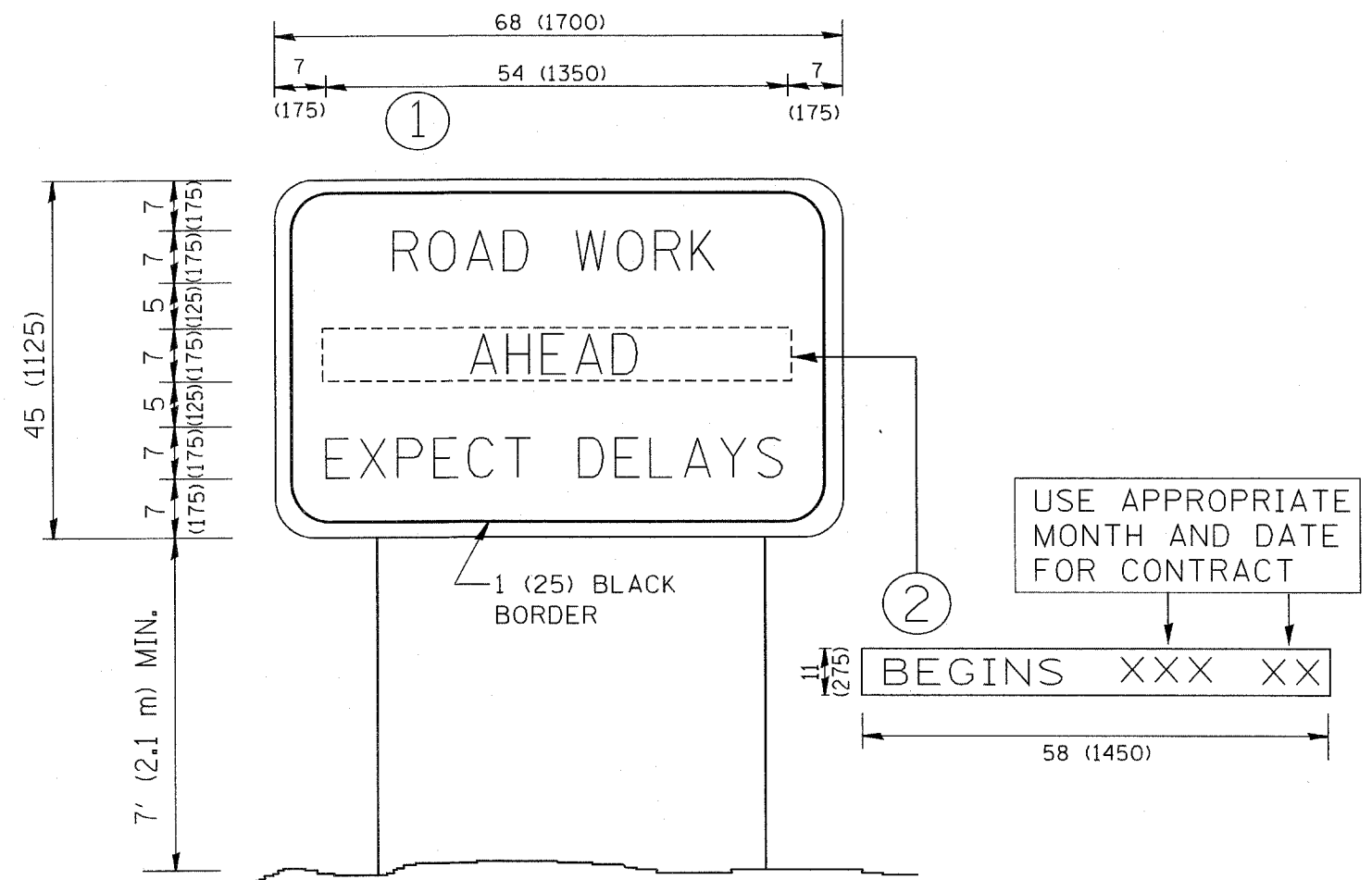
5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY 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.

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350 COMPLIANT.

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

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

FILE NAME = W:\diststd\22x34\te17.dgn	USER NAME = lsgsb	DESIGNED -	REVISED - 04-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES			F.A.P. RTE. 332	SECTION 0312-708W-I	COUNTY Cook	TOTAL SHEETS 17	SHEET NO. 16
PLOT SCALE = 5/8"=1'-0"	CHECKED - D.W.S.	REVISOR - J.A.F. 12-06	REVISOR - S.P.B. 01-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	TC-17		CONTRACT NO. 60N81		
PLOT DATE = 1/26/2010	DATE - 11-96	REVISOR - S.P.B. 12-09			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

FILE NAME = W:\dststd\22x34\to22.dgn	USER NAME = goglianobt	DESIGNED -	REVISED - R. MIRS 09-15-97	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ARTERIAL ROAD INFORMATION SIGN			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. MIRS 12-11-97					332	0312-708W-1	Cook	17	17
	PLOT SCALE = 50.000 / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99					TC-22			CONTRACT NO. 60N61	
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07					SCALE: NONE	SHEET NO. 1	OF 1 SHEETS	STA.	TO STA.