INDEX OF DRAWINGS

GENERAL NOTES

Structural steel for soldier piles shall be AASHTO M270 Grade 50.

Reinforcement bars designated (E) shall be epoxy coated.

PILE DATA

Type - HP 14x73

SUMMARY BILL OF MATERIALS

	DESCRIPTION	UNIT	QUANTITY
	Structure Excavation	Cu. Yd.	408
	Concrete Structures	Cu. Yd.	167.4
*	Form Liner Textured Surface	Sq. Ft.	4067
	Stud Shear Connectors	Each	725
	Reinforcement Bars, Epoxy Coated	Pound	20,210
	Name Plates	Each	1
	Geocomposite Wall Drain	Sq. Yd.	312
	Pipe Underdrains for Structures, 4"	Foot	450
	Concrete Gutter, Type B	Foot	450
	Driving Soldier Piles	Foot	2054
	Chain Link Fence, 42" Attached to Structure (Special)	Foot	450
	Untreated Timber Lagging	Sq. Ft.	3752
	Furnishing Soldier Piles (HP Section)	Foot	2054

* Ashlar Stone pattern, minimum $\frac{3}{4}$" relief

PILE DATA TABLE

Pile No.	Measured along ℄ Pile				Dist.	Top of Wall	Top of Pile	Bott. of Pile	Length	Shear Studs
	Northing	Easting	Station	Offset						
100	1,106,338.68	1,941,144.29	175+19.84	83.13	0.00	640.21	638.54	618.00	20.54	5
101	1,106,334.92	1,941,149.39	175+24.97	79.42	5.13	640.84	639.17	618.00	21.17	6
102	1,106,331.16	1,941,154.48	175+30.10	75.70	5.13	641.47	639.80	618.00	21.80	6
103	1,106,327.40	1,941,159.58	175+35.23	71.99	5.13	642.10	640.43	618.00	22.43	7
104	1,106,323.64	1,941,164.68	175+40.36	68.28	5.13	642.73	641.06	618.00	23.06	8
105	1,106,319.93	1,941,169.80	175+45.52	64.61	5.16	643.36	641.69	618.00	23.69	8
106	1,106,316.42	1,941,175.09	175+50.84	61.15	5.32	643.99	642.32	618.00	24.32	9
107	1,106,316.37	1,941,180.25	175+55.99	61.15	5.16	644.24	642.57	618.00	24.57	9
108	1,106,316.32	1,941,186.25	175+61.99	61.15	6.00	644.27	642.60	618.00	24.60	9
109	1,106,316.26	1,941,192.24	175+67.99	61.15	6.00	644.30	642.63	618.00	24.63	9
110	1,106,316.21	1,941,198.24	175+73.99	61.15	6.00	644.34	642.67	618.00	24.67	9
111	1,106,316.15	1,941,204.24	175+79.99	61.15	6.00	644.37	642.70	618.00	24.70	9
112	1,106,316.10	1,941,210.24	175+85.99	61.15	6.00	644.40	642.73	618.00	24.73	9
113	1,106,316.04	1,941,216.24	175+91.99	61.15	6.00	644.44	642.77	618.00	24.77	9
114	1,106,315.99	1,941,222.24	175+97.99	61.15	6.00	644.47	642.80	618.00	24.80	9
115	1,106,315.93	1,941,228.24	176+03.99	61.15	6.00	644.50	642.83	618.00	24.83	9
116	1,106,315.88	1,941,234.24	176+09.99	61.15	6.00	644.54	642.87	618.00	24.87	9
117	1,106,315.82	1,941,240.24	176+15.99	61.15	6.00	644.58	642.91	618.00	24.91	9
118	1,106,315.77	1,941,246.24	176+21.99	61.15	6.00	644.61	642.94	618.00	24.94	9
119	1,106,315.71	1,941,252.24	176+27.99	61.15	6.00	644.65	642.98	618.00	24.98	9
120	1,106,315.66	1,941,258.24	176+33.99	61.15	6.00	644.68	643.01	618.00	25.01	10
121	1,106,315.60	1,941,264.24	176+39.99	61.15	6.00	644.71	643.04	618.00	25.04	10
122	1,106,315.55	1,941,270.24	176+45.99	61.15	6.00	644.75	643.08	618.00	25.08	10
123	1,106,315.49	1,941,276.24	176+51.99	61.15	6.00	644.78	643.11	618.00	25.11	10
124	1,106,315.44	1,941,282.24	176+57.99	61.15	6.00	644.82	643.15	618.00	25.15	10
125	1,106,315.38	1,941,288.24	176+63.99	61.15	6.00	644.85	643.18	618.00	25.18	10
126	1,106,315.33	1,941,294.24	176+69.99	61.15	6.00	644.88	643.21	618.00	25.21	10
127	1,106,315.28	1,941,300.24	176+75.99	61.15	6.00	644.92	643.25	618.00	25.25	10
128	1,106,315.22	1,941,306.24	176+81.99	61.15	6.00	644.95	643.28	618.00	25.28	10
129	1,106,315.17	1,941,312.24	176+87.99	61.15	6.00	644.99	643.32	618.00	25.32	10
130	1,106,315.11	1,941,318.24	176+93.99	61.15	6.00	645.02	643.35	618.00	25.35	10
131	1,106,315.06	1,941,324.24	176+99.99	61.15	6.00	645.06	643.39	618.00	25.39	10
132	1,106,315.00	1,941,330.24	177+05.99	61.15	6.00	645.09	643.42	618.00	25.42	10
133	1,106,314.95	1,941,336.24	177+11.99	61.15	6.00	645.12	643.45	618.00	25.45	10
134	1,106,314.90	1,941,341.24	177+16.99	61.15	5.00	645.14	643.47	618.00	25.47	10
135	1,106,314.86	1,941,346.24	177+21.99	61.15	5.00	645.17	643.50	618.00	25.50	10
136	1,106,314.81	1,941,351.24	177+26.99	61.15	5.00	645.20	643.53	618.00	25.53	10
137	1,106,314.76	1,941,356.24	177+31.99	61.15	5.00	645.23	643.56	618.00	25.56	10
138	1,106,314.72	1,941,361.24	177+36.99	61.15	5.00	645.26	643.59	618.00	25.59	10
139	1,106,314.67	1,941,366.24	177+41.99	61.15	5.00	645.29	643.62	618.00	25.62	10

PILE DATA TABLE

Pile No.	Measured along ℄ Pile				Dist.	Top of Wall	Top of Pile	Bott. of Pile	Length	Shear Studs
	Northing	Easting	Station	Offset						
140	1,106,314.63	1,941,371.24	177+46.99	61.15	5.00	645.31	643.64	618.00	25.64	10
141	1,106,314.58	1,941,376.24	177+51.99	61.15	5.00	645.34	643.67	618.00	25.67	10
142	1,106,314.54	1,941,381.24	177+56.99	61.15	5.00	645.37	643.70	618.00	25.70	10
143	1,106,314.49	1,941,386.24	177+61.99	61.15	5.00	645.40	643.73	618.00	25.73	10
144	1,106,314.44	1,941,391.24	177+66.99	61.15	5.00	645.43	643.76	618.00	25.76	10
145	1,106,314.40	1,941,396.24	177+71.99	61.15	5.00	645.46	643.79	618.00	25.79	10
146	1,106,314.35	1,941,401.24	177+76.99	61.15	5.00	645.48	643.81	618.00	25.81	10
147	1,106,314.31	1,941,406.24	177+81.99	61.15	5.00	645.46	643.79	618.00	25.79	10
148	1,106,314.26	1,941,411.24	177+86.99	61.15	5.00	645.41	643.74	618.00	25.74	10
149	1,106,314.22	1,941,416.24	177+91.99	61.15	5.00	645.34	643.67	618.00	25.67	10
150	1,106,314.17	1,941,421.24	177+96.99	61.15	5.00	645.28	643.61	618.00	25.61	10
151	1,106,314.12	1,941,426.24	178+01.99	61.15	5.00	645.22	643.55	618.00	25.55	10
152	1,106,314.08	1,941,431.23	178+06.99	61.15	5.00	645.16	643.49	618.00	25.49	10
153	1,106,314.03	1,941,436.23	178+11.99	61.15	5.00	645.09	643.42	618.00	25.42	10
154	1,106,313.99	1,941,441.23	178+16.99	61.15	5.00	645.03	643.36	618.00	25.36	10
155	1,106,313.94	1,941,446.23	178+21.99	61.15	5.00	644.96	643.29	618.00	25.29	10
156	1,106,313.90	1,941,451.23	178+26.99	61.15	5.00	644.90	643.23	618.00	25.23	10
157	1,106,313.85	1,941,456.23	178+31.99	61.15	5.00	644.84	643.17	618.00	25.17	10
158	1,106,313.81	1,941,461.23	178+36.99	61.15	5.00	644.78	643.11	618.00	25.11	10
159	1,106,313.76	1,941,466.23	178+41.99	61.15	5.00	644.72	643.05	618.00	25.05	10
160	1,106,313.71	1,941,471.23	178+46.99	61.15	5.00	644.65	642.98	618.00	24.98	9
161	1,106,313.67	1,941,476.23	178+51.99	61.15	5.00	644.59	642.92	618.00	24.92	9
162	1,106,313.62	1,941,481.23	178+56.99	61.15	5.00	644.53	642.86	618.00	24.86	9
163	1,106,313.58	1,941,486.23	178+61.99	61.15	5.00	644.47	642.80	618.00	24.80	9
164	1,106,313.53	1,941,491.23	178+66.99	61.15	5.00	644.41	642.74	618.00	24.74	9
165	1,106,313.49	1,941,496.23	178+71.99	61.15	5.00	644.34	642.67	618.00	24.67	9
166	1,106,313.44	1,941,501.23	178+76.99	61.15	5.00	644.28	642.61	618.00	24.61	9
167	1,106,313.39	1,941,506.23	178+81.99	61.15	5.00	644.22	642.55	618.00	24.55	9
168	1,106,313.35	1,941,511.23	178+86.99	61.15	5.00	644.16	642.49	618.00	24.49	9
169	1,106,313.30	1,941,516.23	178+91.99	61.15	5.00	644.10	642.43	618.00	24.43	9
170	1,106,313.24	1,941,523.23	178+98.99	61.15	7.00	644.00	642.33	618.00	24.33	9
171	1,106,313.18	1,941,530.23	179+05.99	61.15	7.00	643.92	642.25	618.00	24.25	9
172	1,106,313.09	1,941,537.23	179+12.99	61.15	7.00	643.83	642.16	618.00	24.16	9
173	1,106,313.05	1,941,544.23	179+19.99	61.15	7.00	643.74	642.07	618.00	24.07	9
174	1,106,312.98	1,941,551.23	179+26.99	61.15	7.00	643.65	641.98	618.00	23.98	8
175	1,106,312.92	1,941,558.23	179+33.99	61.15	7.00	643.57	641.90	618.00	23.90	8
176	1,106,312.86	1,941,565.23	179+40.99	61.15	7.00	643.17	641.50	618.00	23.50	8
177	1,106,312.79	1,941,572.23	179+47.99	61.15	7.00	640.90	639.23	618.00	21.23	6
178	1,106,312.73	1,941,579.23	179+54.99	61.15	7.00	638.62	636.95	618.00	18.95	3

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PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIAL AND GENERAL NOTES
STRUCTURE NO. 016-Z009
SHEET NO. 2 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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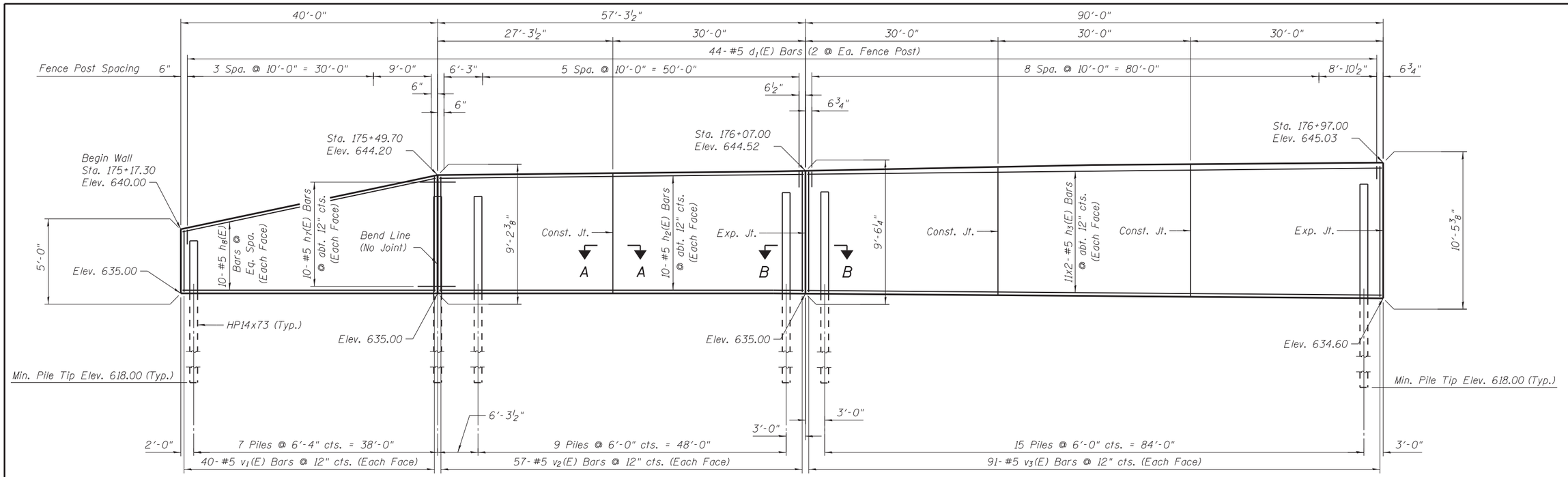
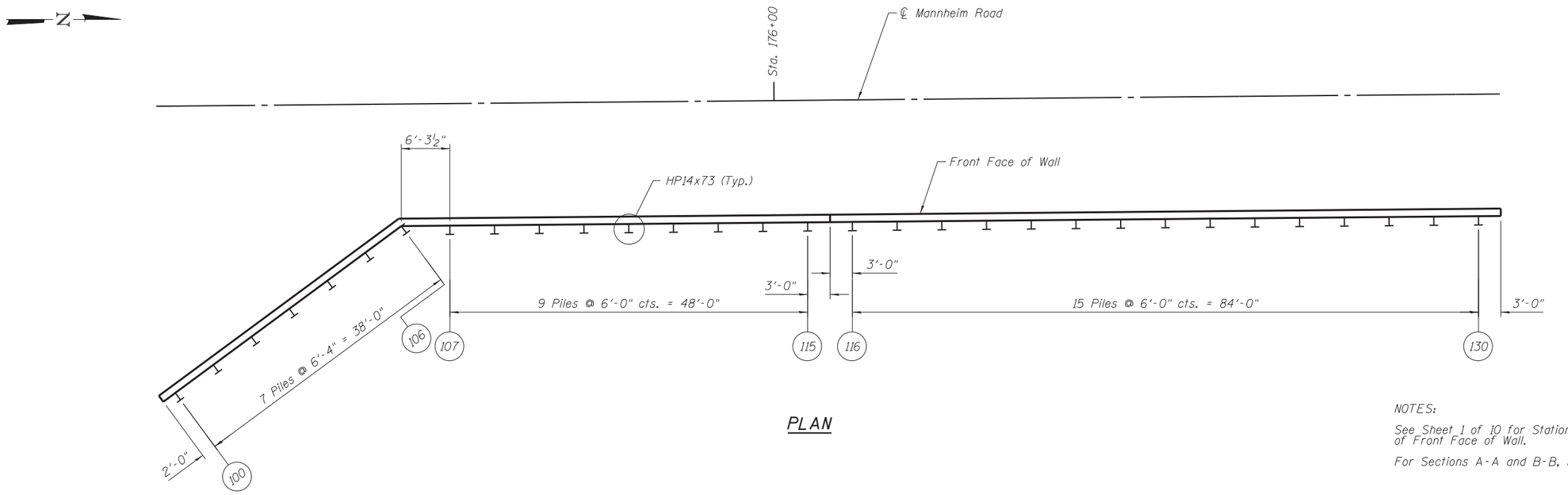
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			



ELEVATION

Minimum lap for #5 h bars shall be 2'-7".



PLAN

NOTES:

See Sheet 1 of 10 for Station and Offset Locations of Front Face of Wall.

For Sections A-A and B-B, see Sheet 5 of 10.

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	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
STRUCTURE NO. 016–Z009
SHEET NO. 3 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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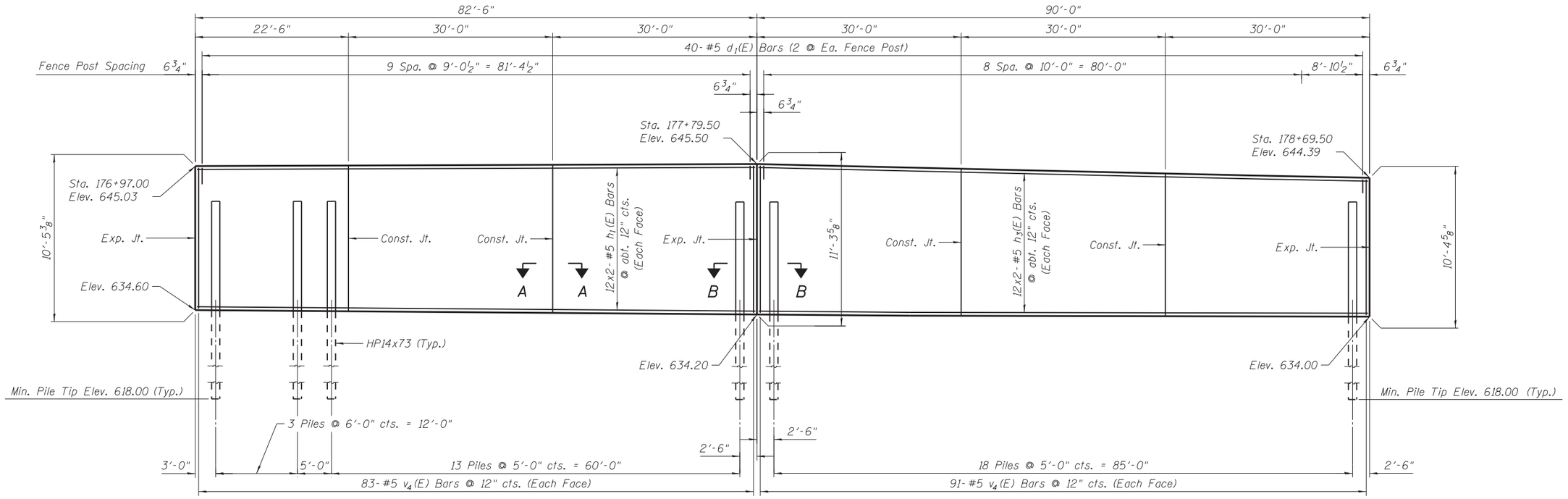
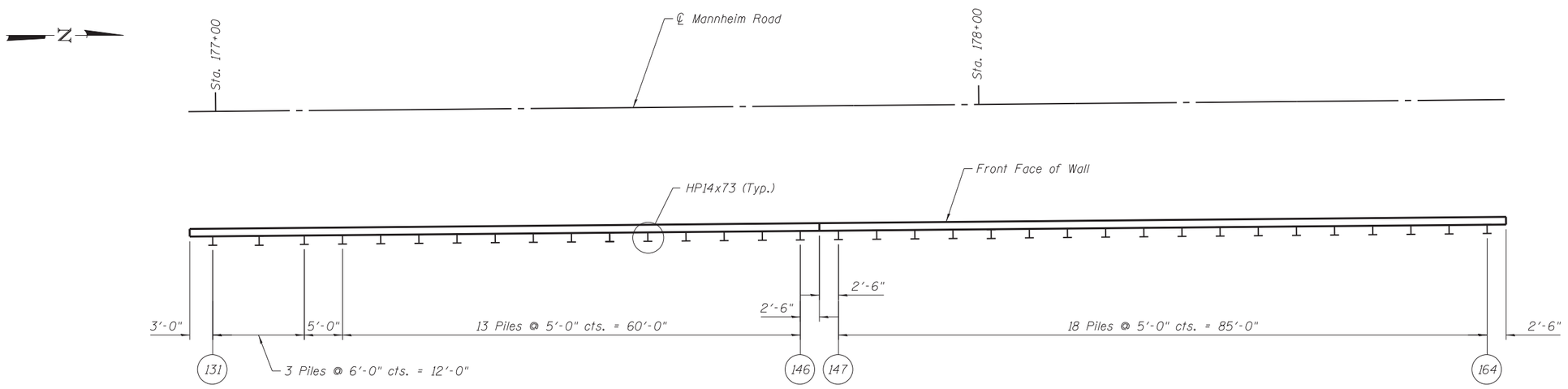
	ILLINOIS	FED. AID PROJECT		



ELEVATION

Minimum lap for #5 h bars shall be 2'-7".



PLAN

NOTES:

See Sheet 1 of 10 for Station and Offset Locations of Front Face of Wall.

For Sections A-A and B-B, see Sheet 5 of 10.

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PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
STRUCTURE NO. 016–Z009
SHEET NO. 4 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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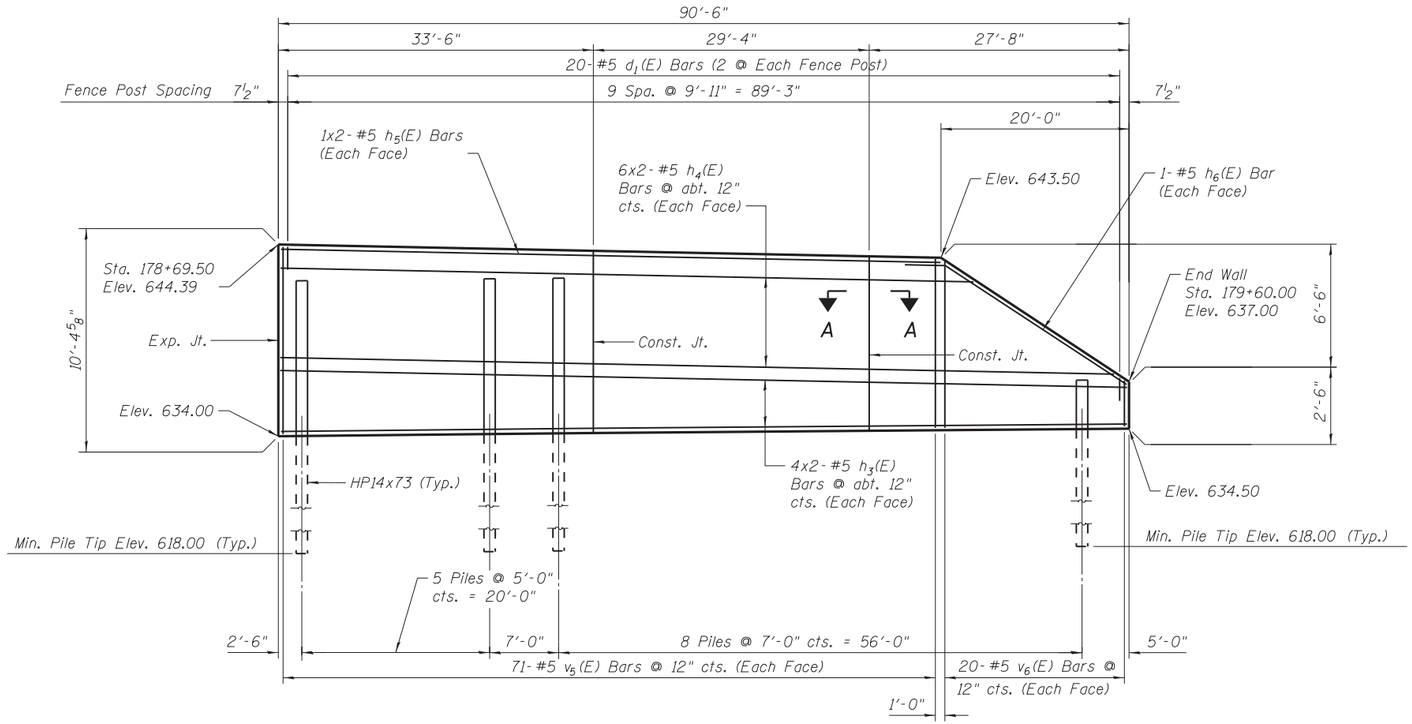
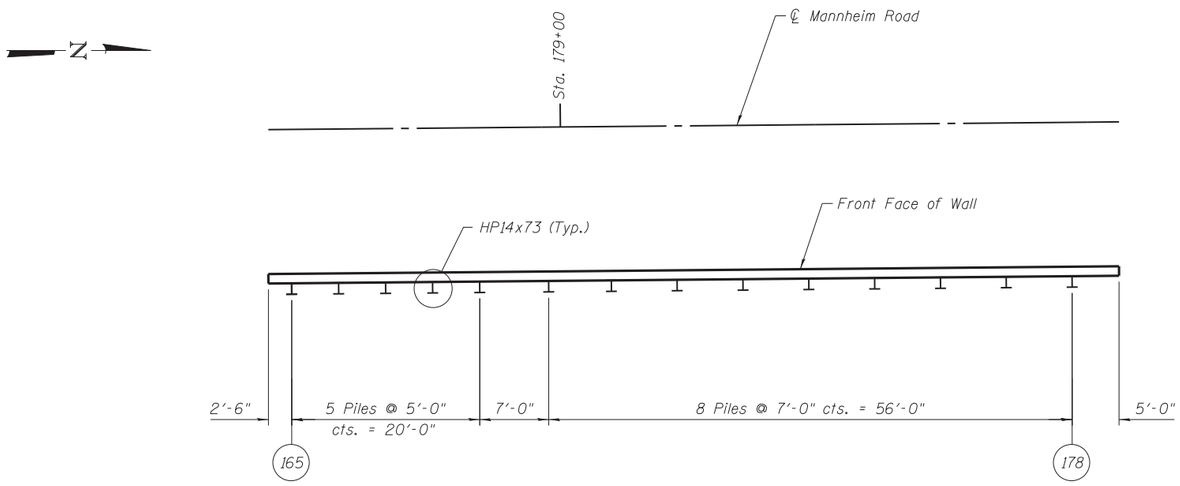
	ILLINOIS	FED. AID PROJECT		

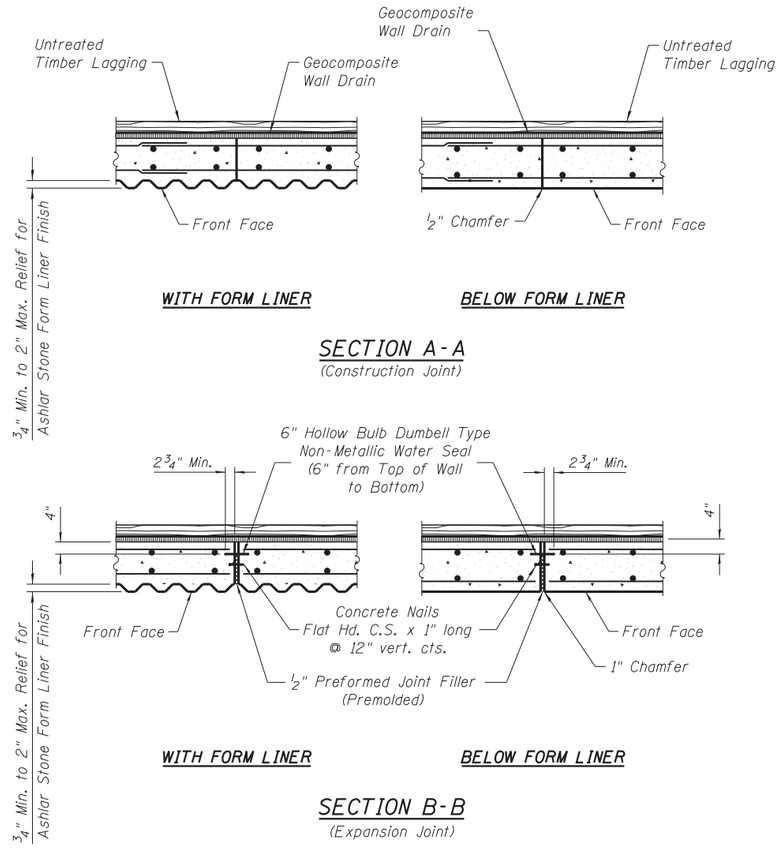


ELEVATION

Minimum lap for #5 h bars shall be 2'-7".



PLAN



SECTION A-A

(Construction Joint)

SECTION B-B

(Expansion Joint)

Cost of Preformed Joint Filler, Water Seal and Concrete Nails shall be included in cost for Concrete Structures.

NOTES:

See Sheet 1 of 10 for Station and Offset Locations of Front Face of Wall.

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ABNA

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PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
STRUCTURE NO. 016–Z009

SHEET NO. 5 OF 10 SHEETS

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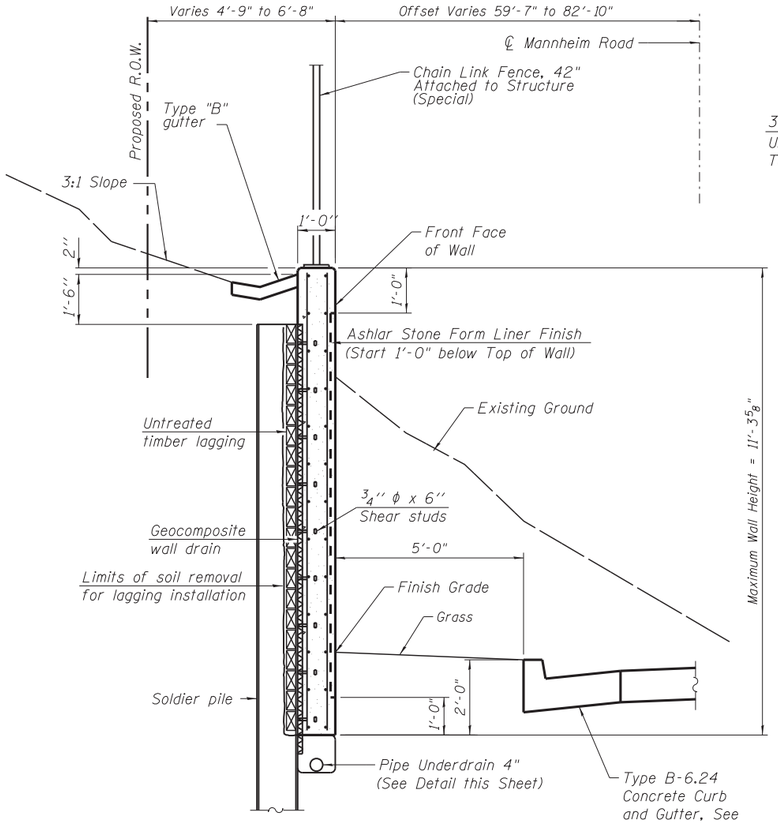
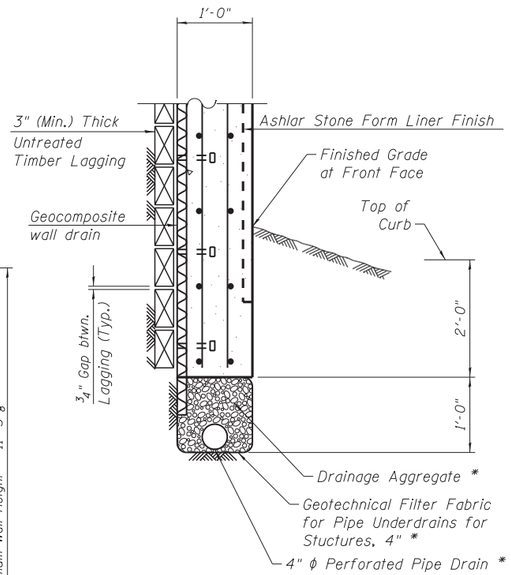
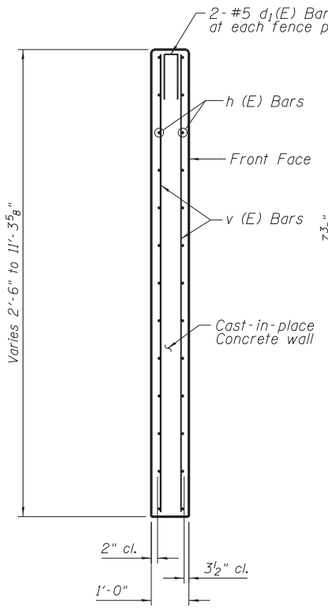


VERTICAL SECTION THRU SOLDIER PILE WALL WITH TYPE "B" GUTTER

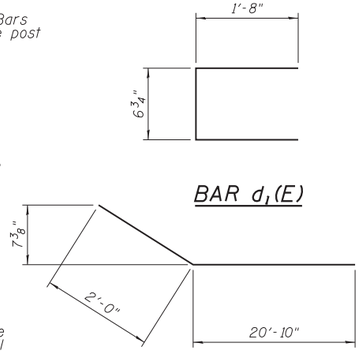


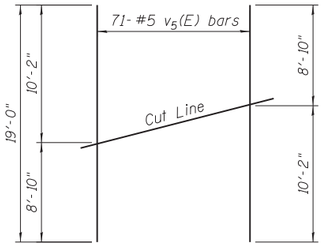
PIPE UNDERDRAIN DETAIL

* Included in the cost of Pipe Underdrains for Structures



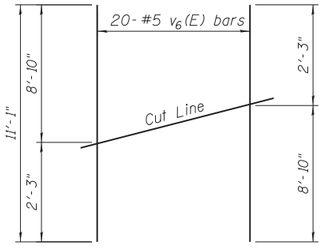
TYPICAL WALL REINFORCING SECTION





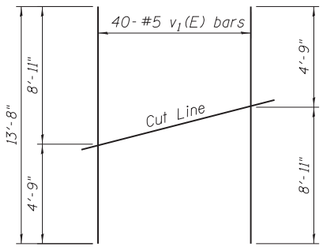
FIELD CUTTING DIAGRAM

Order $v_5(E)$ full length. Cut as shown and use remainder of bars in opposite face.



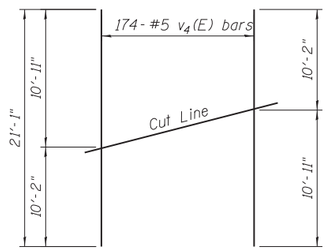
FIELD CUTTING DIAGRAM

Order $v_6(E)$ full length. Cut as shown and use remainder of bars in opposite face.



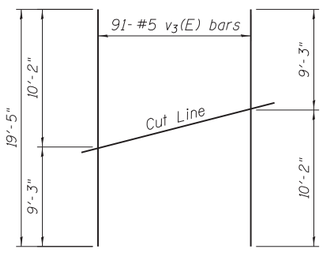
FIELD CUTTING DIAGRAM

Order $v_1(E)$ full length. Cut as shown and use remainder of bars in opposite face.



FIELD CUTTING DIAGRAM

Order $v_4(E)$ full length. Cut as shown and use remainder of bars in opposite face.

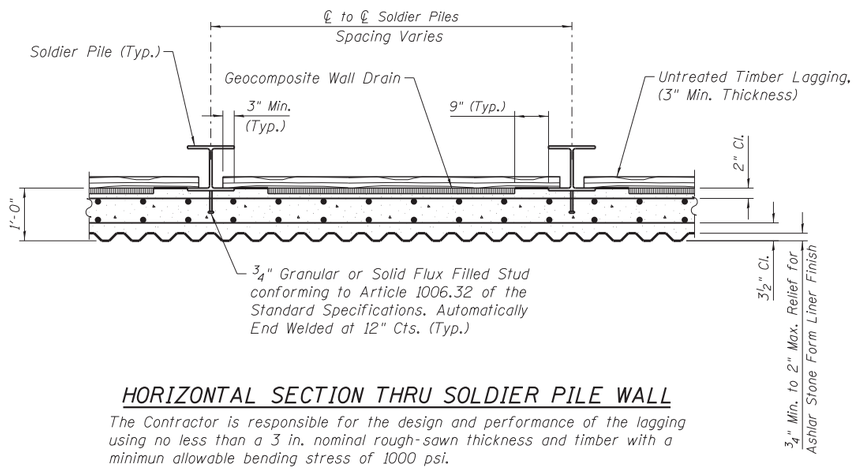


FIELD CUTTING DIAGRAM

Order $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.

BILL OF MATERIAL STRUCTURE NO. 016-Z009

Bar	No.	Size	Length	Shape
$d_1(E)$	104	#5	3'-11"	⊏
$h_1(E)$	48	#5	42'-5"	—
$h_2(E)$	20	#5	57'-0"	—
$h_3(E)$	108	#5	46'-3"	—
$h_4(E)$	24	#5	46'-0"	—
$h_5(E)$	4	#5	36'-5"	—
$h_6(E)$	2	#5	22'-10"	⌒
$h_7(E)$	20	#5	6'-4"	⌒
$h_8(E)$	20	#5	39'-8"	—
$v_1(E)$	40	#5	13'-8"	—
$v_2(E)$	114	#5	9'-0"	—
$v_3(E)$	91	#5	19'-5"	—
$v_4(E)$	174	#5	21'-1"	—
$v_5(E)$	71	#5	19'-0"	—
$v_6(E)$	20	#5	11'-1"	—
Reinforcement bars, epoxy coated			Pounds	20,210
Concrete Structures			Cu. Yds.	167.4



HORIZONTAL SECTION THRU SOLDIER PILE WALL

The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimun allowable bending stress of 1000 psi.

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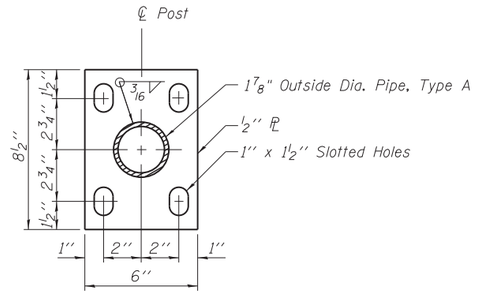
ABNA

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS AND DETAILS
STRUCTURE NO. 016-Z009
SHEET NO. 6 OF 10 SHEETS

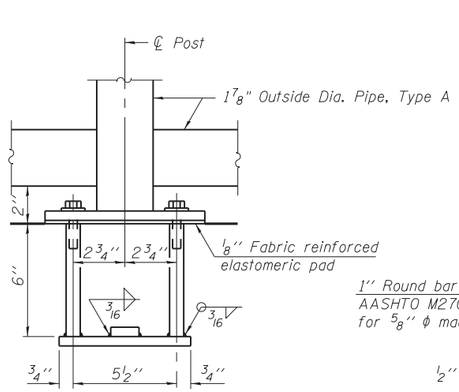
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	305
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

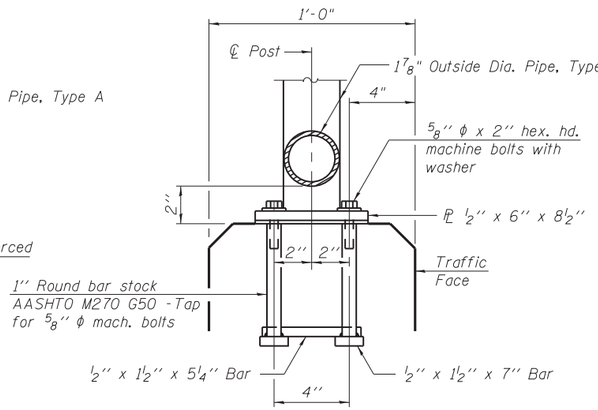


BASE PL FOR CHAIN LINK FENCE ATTACHED TO STRUCTURE

(10'-0" Maximum Post Spacing)

All post, railing, splices, anchor devices, and bent plates shall be painted using the Inorganic Zinc/Acrylic System, color "Black".





ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Chain Link Fence, 42" Attached to Structure (Special)	Foot	450

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ABNA

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS
STRUCTURE NO. 016-Z009
SHEET NO. 7 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	306
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

Wang Engineering, INC.
Consulting Geotechnical and Environmental Engineers
wangeng3@wangeng.com
1145 N Main Streert
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG RW1-1

County:
Road No.:
Item No.:
Project No.:
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.

Datum: NGVD
Elevation: 640.11 ft
North: 1941141.85 ft
East: 1106313.46 ft
Station: 175+17.6
Offset: 57.9 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
639.7	5-inch thick, black and brown SILTY CLAY --TOPSOIL--						
	Stiff to very stiff, black, brown, and gray SILTY CLAY, trace gravel --FILL--			1	2 3 4	2.21 B	21
		5		2	9 6 7	1.25 B	21
				3	2 4 4	1.00 B	20
632.1	Stiff to hard, brown and gray SILTY CLAY, trace gravel			4	10 15 22	4.59 B	17
		10		5	9 13 16	6.23 B	18
				6	4 16 17	3.77 B	18
		15		7	8 9 9	1.72 B	16
622.1	Very soft, reddish gray SILTY						
621.1	CLAY, trace gravel (Qu=0.25 tsf)			8	3 3 4	2.79 B	12
620.1	Very stiff, gray SILTY CLAY, trace gravel	20					
	Boring terminated at 20.00 ft	25					

GENERAL NOTES

Begin Drilling 12-15-2011 Complete Drilling 12-15-2011
Drilling Contractor WTS Drill Rig D-50 ATV
Driller R&K Logger A. KURNIA Checked by N. BODDY
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling DRY
At Completion of Drilling DRY
Time After Drilling NA
Depth to Water NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG RW1-2

County:
Road No.:
Item No.:
Project No.:
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.

Datum: NGVD
Elevation: 640.00 ft
North: 1941236.50 ft
East: 1106292.86 ft
Station: 176+12.5
Offset: 38.2 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
639.0	12-inch thick, black and brown SILTY CLAY --TOPSOIL--						
	Very stiff, black and brown SILTY CLAY, trace gravel and root --FILL--			1	3 21 10	3.50 P	20
		5		2	3 4 6	2.62 B	27
634.5	Very stiff, brown and gray SILTY CLAY LOAM to SILT			3	2 3 5	2.38 B	25
632.0	Hard, gray SILTY CLAY, trace gravel			4	2 6 11	7.46 B	19
		10					
628.5	(Qu > 4.5 tsf) Medium dense, gray fine SAND			5	7 9 7	NP	11
626.0	Very stiff to hard, gray SILTY CLAY, trace gravel	15		6	2 6 14	4.26 B	20
				7	6 9 11	6.48 B	13
620.0	Boring terminated at 20.00 ft	20		8	4 5 7	2.71 B	15
		25					

GENERAL NOTES

Begin Drilling 12-15-2011 Complete Drilling 12-15-2011
Drilling Contractor WTS Drill Rig D-50 ATV
Driller R&K Logger A. KURNIA Checked by N. BODDY
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling DRY
At Completion of Drilling 17.00 ft
Time After Drilling NA
Depth to Water NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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WEIKY_GDT 12/19/11
WEIKY 456104.GPJ

USER NAME =	DESIGNED - SEA	REVISED	
	CHECKED - CJE	REVISED	
PLOT SCALE =	DRAWN - SCS	REVISED	
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED	

ABNA

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOG OF BORINGS
STRUCTURE NO. 016-Z009
SHEET NO. 8 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	307
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

Wang Engineering, INC.
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1145 N Main Streert
Lombard, IL 60148
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Fax: 630 953-9938

BORING LOG RW1-3

County:
Road No.:
Item No.:
Project No.:
Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Datum: NGVD
Elevation: 643.66 ft
North: 1941315.73 ft
East: 1106310.68 ft
Station: 176+91.5
Offset: 56.7 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	642.7	12-inch thick, black and brown SILTY CLAY						
		--TOPSOIL--						
		Stiff to very stiff, black, brown, and gray SILTY CLAY, trace gravel			1	5 4 4	1.31 B	21
		--FILL--	5		2	3 3 4	1.56 B	15
					3	3 5 6	1.25 P	28
			10		4	2 3 4	3.28 B	18
	633.2	Very stiff to hard, brown to gray SILTY CLAY, trace gravel			5	5 9 15	4.18 B	18
			15		6	4 7 10	6.07 B	17
					7	4 8 11	3.03 B	18
			20		8	4 9 12	7.05 B	15
	623.7	Boring terminated at 20.00 ft						
			25					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	12-15-2011	Complete Drilling	12-15-2011	While Drilling	DRY
Drilling Contractor	WTS	Drill Rig	D-50 ATV	At Completion of Drilling	16.00 ft
Driller	R&K	Logger	A. KURNIA	Time After Drilling	NA
Drilling Method	3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer	Checked by	N. BODDY	Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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Fax: 630 953-9938

BORING LOG RW1-4

County:
Road No.:
Item No.:
Project No.:
Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Datum: NGVD
Elevation: 647.00 ft
North: 1941367.40 ft
East: 1106327.08 ft
Station: 177+43.0
Offset: 73.6 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	646.1	11-inch thick, black SILTY CLAY						
		--TOPSOIL--						
		Stiff to very stiff, black, brown, and gray SILTY CLAY, trace gravel			1	2 3 4	2.50 P	18
		--FILL--	5		2	2 2 2	1.75 P	20
					3	2 1 1	1.75 P	20
			10		4	1 2 3	1.72 B	18
					5	2 2 3	1.39 B	24
	632.0	Hard, gray SILTY CLAY, trace gravel	15		6	2 2 4	1.97 B	24
					7	8 11 15	4.92 B	18
	627.0		20		8	3 7 9	4.10 B	18
		Boring terminated at 20.00 ft						
			25					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	12-16-2011	Complete Drilling	12-16-2011	While Drilling	DRY
Drilling Contractor	WTS	Drill Rig	D-50 ATV	At Completion of Drilling	DRY
Driller	R&K	Logger	N. BODDY	Time After Drilling	NA
Drilling Method	3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer	Checked by	A. KURNIA	Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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ABNA

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOG OF BORINGS
STRUCTURE NO. 016-Z009
SHEET NO. 9 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	308
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

Wang Engineering, INC.
Consulting Geotechnical and Environmental Engineers
wangeng3@wangeng.com
1145 N Main Streert
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG RW1-5

County:
Road No.:
Item No.:
Project No.:
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.

Datum: NGVD
Elevation: 647.00 ft
North: 1941431.63 ft
East: 1106327.90 ft
Station: 178+07.3
Offset: 75.0 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	646.2	10-inch thick, black SILTY CLAY --TOPSOIL--															
		Stiff to very stiff, black, brown, and gray SILTY CLAY, trace gravel --FILL--			1	3 3 4	3.50 P	20									
			5		2	2 2 3	2.25 P	20									
					3	3 3 4	1.56 B	21									
			10		4	1 2 5	1.25 P	20									
					5	3 3 3	1.75 P	23									
			15		6	1 2 3	1.25 P	21									
	631.0	Hard, gray SILTY CLAY, trace gravel			7	3 6 12	4.76 B	19									
			20		8	6 10 14	4.51 B	17									
	627.0	Boring terminated at 20.00 ft															
			25														

GENERAL NOTES

Begin Drilling 12-16-2011 Complete Drilling 12-16-2011
Drilling Contractor WTS Drill Rig D-50 ATV
Driller R&K Logger N. BODDY Checked by A. KURNIA
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling 16.00 ft
At Completion of Drilling 18.00 ft
Time After Drilling NA
Depth to Water NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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Lombard, IL 60148
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Fax: 630 953-9938

BORING LOG RW1-6

County:
Road No.:
Item No.:
Project No.:
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.

Datum: NGVD
Elevation: 643.50 ft
North: 1941553.30 ft
East: 1106342.44 ft
Station: 179+28.8
Offset: 90.6 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	642.5	12-inch thick, black SILTY CLAY --TOPSOIL--															
		Medium stiff to very stiff, black, brown, and gray SILTY CLAY, trace gravel --FILL--			1	4 4 3	0.82 B	19									
			5		2	2 7 4	1.56 B	23									
					3	3 4 15	0.90 B	26									
			10		4	3 4 7	3.53 B	24									
	633.0	Very stiff to hard, gray SILTY CLAY, trace gravel			5	4 3 4	2.54 B	20									
			15		6	2 5 9	5.17 B	17									
					7	6 7 11	2.71 B	16									
	623.5		20		8	3 4 8	2.30 B	16									
		Boring terminated at 20.00 ft															
			25														

GENERAL NOTES

Begin Drilling 12-16-2011 Complete Drilling 12-16-2011
Drilling Contractor WTS Drill Rig D-50 ATV
Driller R&K Logger N. BODDY Checked by A. KURNIA
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling DRY
At Completion of Drilling DRY
Time After Drilling NA
Depth to Water NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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ABNA

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

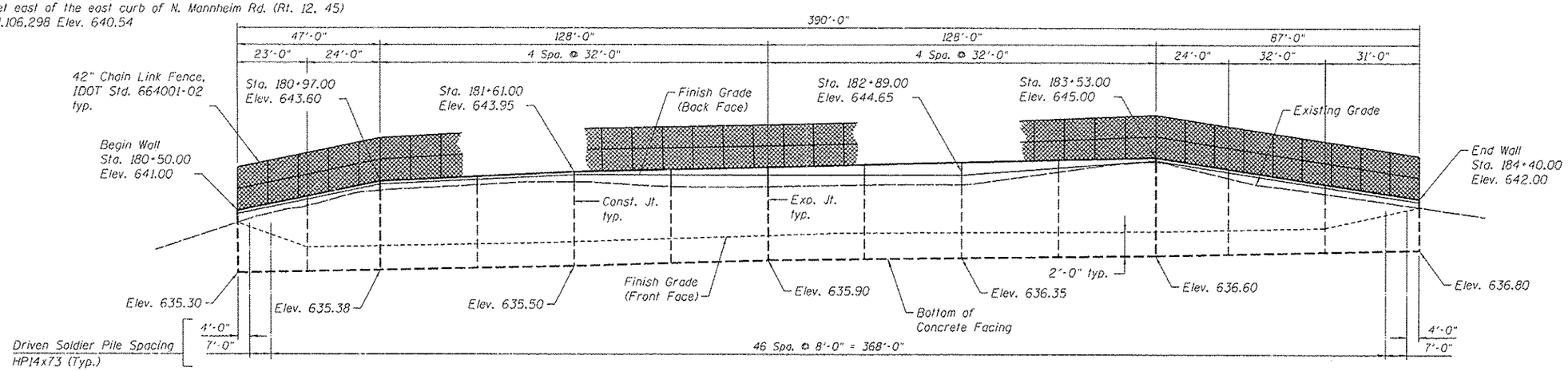
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOG OF BORINGS
STRUCTURE NO. 016-Z009
SHEET NO. 10 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	309
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

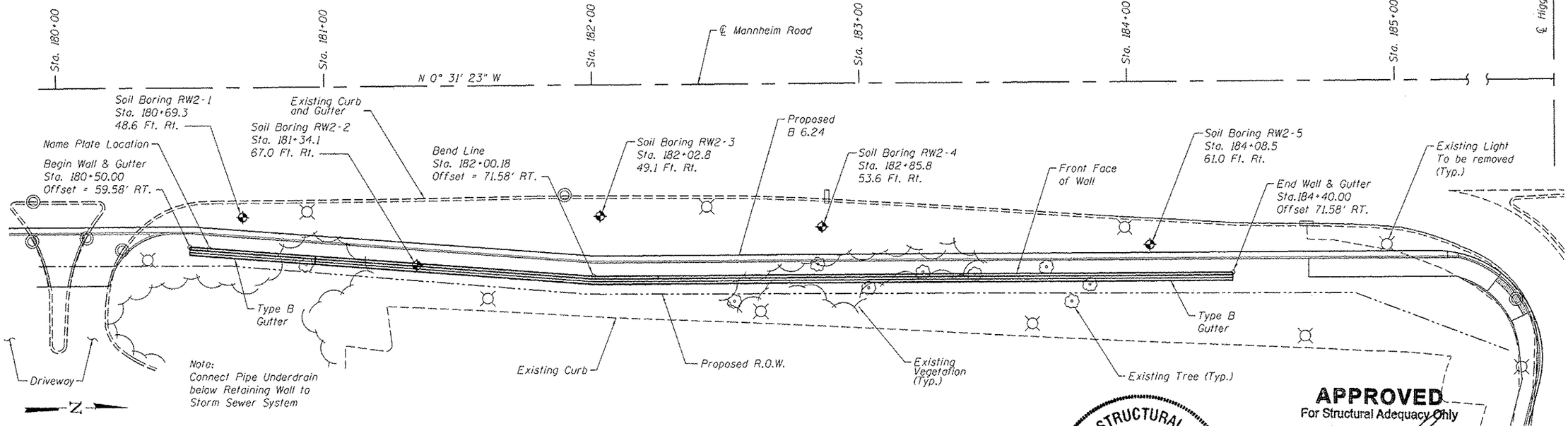
BENCH MARKS

TBM "C" "East Flange Bolt of top flange of fire hydrant that reads #6 and #0 stamped into steel tag. Fire Hydrant is ±340 feet north of Zemke Blvd. and about 8 feet east of the east curb of N. Mannheim Rd. (Rt. 12, 45)
N 1,941,439 E 1,106,298 Elev. 640.54

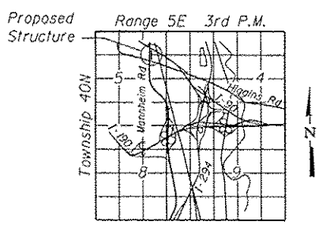


DEVELOPED ELEVATION

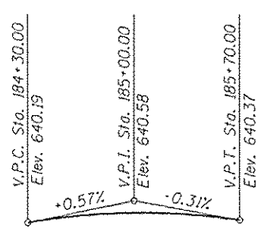
(Looking at Back Face of Wall)



PLAN



LOCATION SKETCH



PROFILE GRADE

(along ℄ Mannheim Rd.)

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

STATION 180+50.00
BUILT 201 BY
STATE OF ILLINOIS
F.A.P. RTE. 330
SECTION 0105-WRS
STRUCTURE NO. 016-Z010

NAME PLATE

See Std. 515001

LICENSED STRUCTURAL ENGINEER
STEPHEN E. ALSBURY
081-5261
STATE OF ILLINOIS

STEPHEN E. ALSBURY, P.E., S.E.
DATE: 10/19/2012
EXP. 11/30/2014

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

GENERAL PLAN & ELEVATION
MANNHEIM ROAD
F.A.P. RTE. 330 - SEC. 0105-WRS
COOK COUNTY
STATION 180+50.00 TO 184+40.00
STRUCTURE NO. 016-Z010

9901 S. Western Ave.
Chicago, IL 60643
Ph. 773-881-4788

ABNA
DESIGN FIRM REG. 184.002117

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537310	
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

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INDEX OF DRAWINGS

GENERAL NOTES

Structural steel for soldier piles shall be AASHTO M270 Grade 50.

Reinforcement bars designated (E) shall be epoxy coated.

PILE DATA

Type - HP 14x73

SUMMARY BILL OF MATERIALS

	DESCRIPTION	UNIT	QUANTITY
	Structure Excavation	Cu. Yd.	300
	Concrete Structures	Cu. Yd.	112.6
*	Form Liner Textured Surface	Sq. Ft.	2630
	Stud Shear Connectors	Each	377
	Reinforcement Bars, Epoxy Coated	Pound	14,090
	Name Plates	Each	1
	Geocomposite Wall Drain	Sq. Yd.	211
	Pipe Underdrains for Structures, 4"	Foot	390
	Concrete Gutter, Type B	Foot	390
	Driving Soldier Piles	Foot	1200
	Chain Link Fence, 42" Attached to Structure (Special)	Foot	390
	Untreated Timber Lagging	Sq. Ft.	2358
	Furnishing Soldier Piles (HP Section)	Foot	1200

* Ashlar Stone pattern, minimum $\frac{3}{4}$" relief

PILE DATA TABLE

Pile No.	Measured along ℄ Pile				Dist.	Top of Wall	Top of Pile	Bott. of Pile	Length	Shear Studs
	Northing	Easting	Station	Offset						
200	1,106,312.12	1,941,678.10	180+53.86	61.45	3.86	641.21	639.54	618.00	21.54	5
201	1,106,312.62	1,941,685.08	180+60.84	62.01	6.98	641.60	639.93	618.00	21.93	5
202	1,106,313.18	1,941,693.06	180+68.81	62.64	7.97	642.04	640.37	618.00	22.37	6
203	1,106,313.75	1,941,701.04	180+76.79	63.28	7.97	642.48	640.81	618.00	22.81	6
204	1,106,314.31	1,941,709.02	180+84.76	63.92	7.97	642.92	641.25	618.00	23.25	7
205	1,106,314.88	1,941,717.00	180+92.74	64.56	7.97	643.36	641.69	618.00	23.69	7
206	1,106,315.44	1,941,724.98	181+00.71	65.20	7.97	643.62	641.95	618.00	23.95	7
207	1,106,316.01	1,941,732.96	181+08.69	65.83	7.97	643.66	641.99	618.00	23.99	7
208	1,106,316.58	1,941,740.94	181+16.66	66.47	7.97	643.71	642.04	618.00	24.04	8
209	1,106,317.14	1,941,748.92	181+24.64	67.11	7.97	643.75	642.08	618.00	24.08	8
210	1,106,317.71	1,941,756.90	181+32.61	67.75	7.97	643.79	642.12	618.00	24.12	8
211	1,106,318.27	1,941,764.88	181+40.59	68.39	7.97	643.84	642.17	618.00	24.17	8
212	1,106,318.84	1,941,772.86	181+48.56	69.02	7.97	643.88	642.21	618.00	24.21	8
213	1,106,319.40	1,941,780.84	181+56.53	69.66	7.97	643.92	642.25	618.00	24.25	8
214	1,106,319.97	1,941,788.82	181+64.51	70.30	7.97	643.97	642.30	618.00	24.30	8
215	1,106,320.53	1,941,796.80	181+72.48	70.94	7.97	644.01	642.34	618.00	24.34	8
216	1,106,321.10	1,941,804.78	181+80.46	71.58	7.97	644.05	642.38	618.00	24.38	8
217	1,106,321.66	1,941,812.76	181+88.43	72.21	7.97	644.10	642.43	618.00	24.43	8
218	1,106,322.23	1,941,820.74	181+96.41	72.85	7.97	644.14	642.47	618.00	24.47	8
219	1,106,322.45	1,941,829.00	182+04.66	73.15	8.25	644.19	642.52	618.00	24.52	8
220	1,106,322.38	1,941,836.85	182+12.52	73.15	7.85	644.23	642.56	618.00	24.56	8
221	1,106,322.30	1,941,844.85	182+20.52	73.15	8.00	644.28	642.61	618.00	24.61	8
222	1,106,322.23	1,941,852.85	182+28.52	73.15	8.00	644.31	642.64	618.00	24.64	8
223	1,106,322.16	1,941,860.85	182+36.52	73.15	8.00	644.36	642.69	618.00	24.69	8
224	1,106,322.08	1,941,868.85	182+44.52	73.15	8.00	644.41	642.74	618.00	24.74	8
225	1,106,322.01	1,941,876.85	182+52.52	73.15	8.00	644.45	642.78	618.00	24.78	8
226	1,106,321.94	1,941,884.85	182+60.52	73.15	8.00	644.49	642.82	618.00	24.82	8
227	1,106,321.86	1,941,892.85	182+68.52	73.15	8.00	644.54	642.87	618.00	24.87	8
228	1,106,321.79	1,941,900.85	182+76.52	73.15	8.00	644.58	642.91	618.00	24.91	8
229	1,106,321.72	1,941,908.85	182+84.52	73.15	8.00	644.63	642.96	618.00	24.96	8
230	1,106,321.65	1,941,916.85	182+92.52	73.15	8.00	644.67	643.00	618.00	25.00	8
231	1,106,321.57	1,941,924.85	183+00.52	73.15	8.00	644.71	643.04	618.00	25.04	9
232	1,106,321.50	1,941,932.85	183+08.52	73.15	8.00	644.76	643.09	618.00	25.09	9
233	1,106,321.43	1,941,940.85	183+16.52	73.15	8.00	644.80	643.13	618.00	25.13	9
234	1,106,321.35	1,941,948.85	183+24.52	73.15	8.00	644.84	643.17	618.00	25.17	9
235	1,106,321.28	1,941,956.84	183+32.52	73.15	8.00	644.89	643.22	618.00	25.22	9
236	1,106,321.21	1,941,964.84	183+40.52	73.15	8.00	644.93	643.26	618.00	25.26	9
237	1,106,321.13	1,941,972.84	183+48.52	73.15	8.00	644.98	643.31	618.00	25.31	9
238	1,106,321.06	1,941,980.84	183+56.52	73.15	8.00	644.88	643.21	618.00	25.21	9
239	1,106,320.99	1,941,988.84	183+64.52	73.15	8.00	644.60	642.93	618.00	24.93	8
240	1,106,320.91	1,941,996.84	183+72.52	73.15	8.00	644.32	642.65	618.00	24.65	8
241	1,106,320.84	1,942,004.84	183+80.52	73.15	8.00	644.05	642.38	618.00	24.38	8
242	1,106,320.77	1,942,012.84	183+88.52	73.15	8.00	643.77	642.10	618.00	24.10	8
243	1,106,320.70	1,942,020.84	183+96.52	73.15	8.00	643.50	641.83	618.00	23.83	7
244	1,106,320.62	1,942,028.84	184+04.52	73.15	8.00	643.22	641.55	618.00	23.55	7
245	1,106,320.55	1,942,036.84	184+12.52	73.15	8.00	642.95	641.28	618.00	23.28	7
246	1,106,320.48	1,942,044.84	184+20.52	73.15	8.00	642.67	641.00	618.00	23.00	6
247	1,106,320.40	1,942,052.84	184+28.52	73.15	8.00	642.40	640.73	618.00	22.73	6
248	1,106,320.34	1,942,059.84	184+35.51	73.15	7.00	642.15	640.48	618.00	22.48	6

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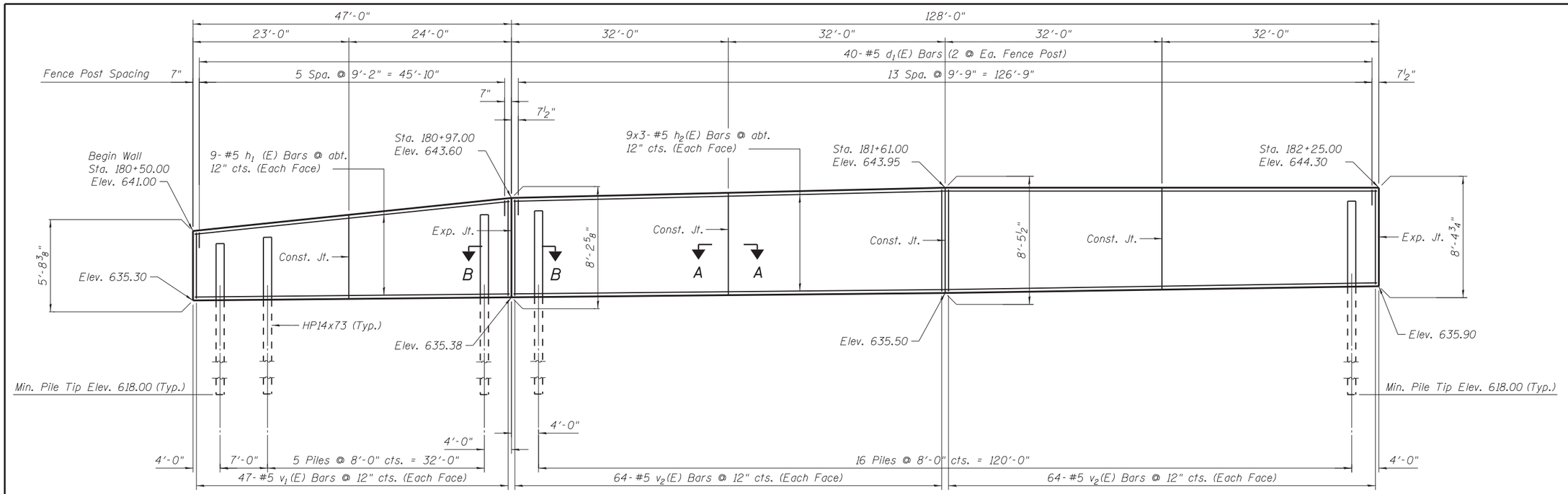
ABNA

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

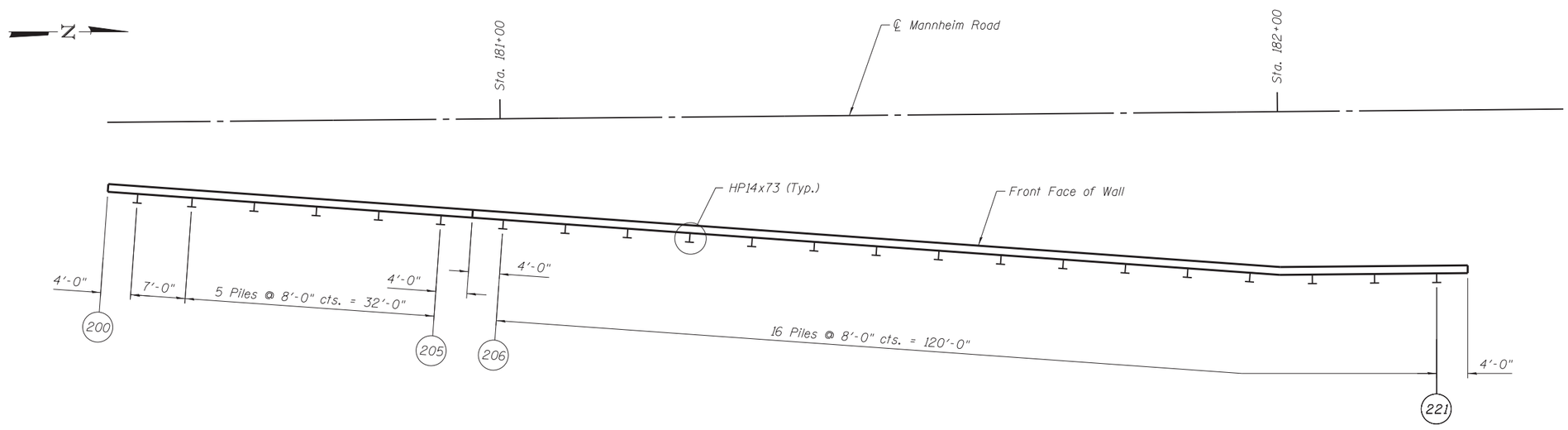
BILL OF MATERIAL AND GENERAL NOTES
STRUCTURE NO. 016-Z010
SHEET NO. 2 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	311
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		



ELEVATION

Minimum lap for #5 h bars shall be 2'-7".



PLAN

NOTES:

See Sheet 1 of 10 for Station and Offset Locations of Front Face of Wall.

For Sections A-A and B-B, see Sheet 5 of 10.

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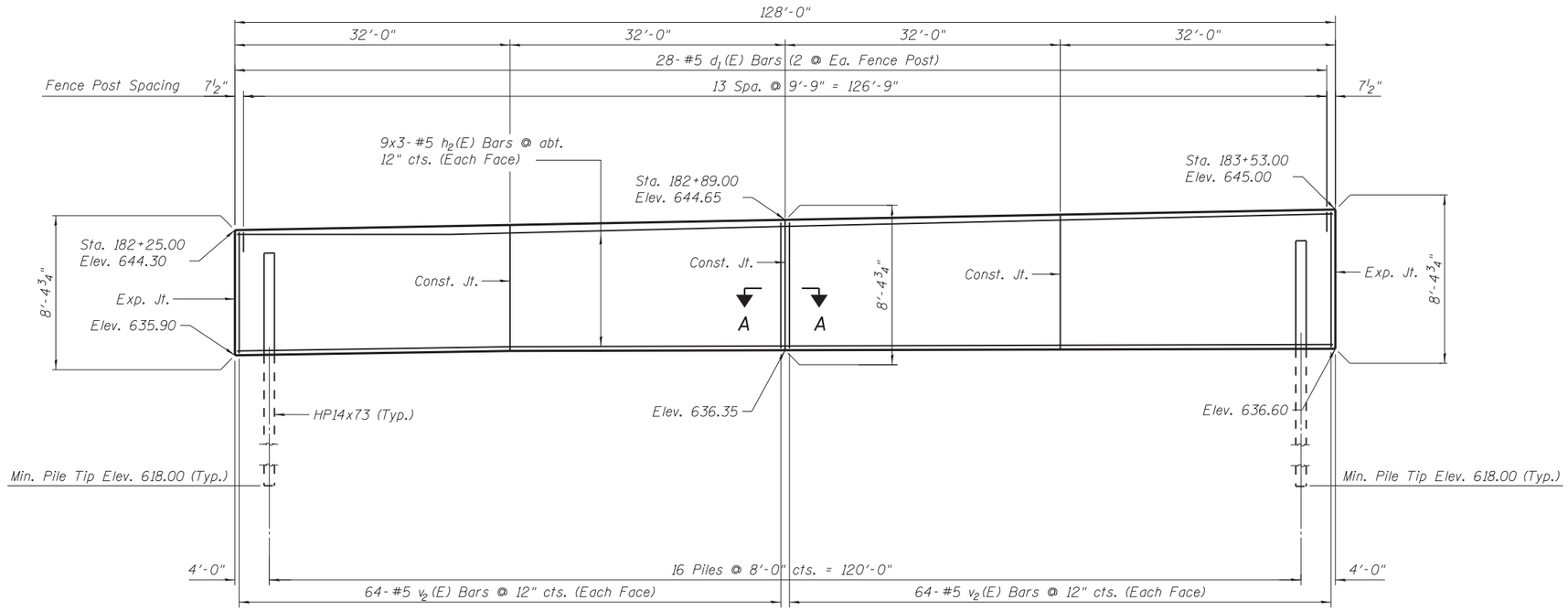
ABNA	USER NAME =	DESIGNED - SEA	REVISED
		CHECKED - CJE	REVISED
	PLOT SCALE =	DRAWN - SCS	REVISED
	PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

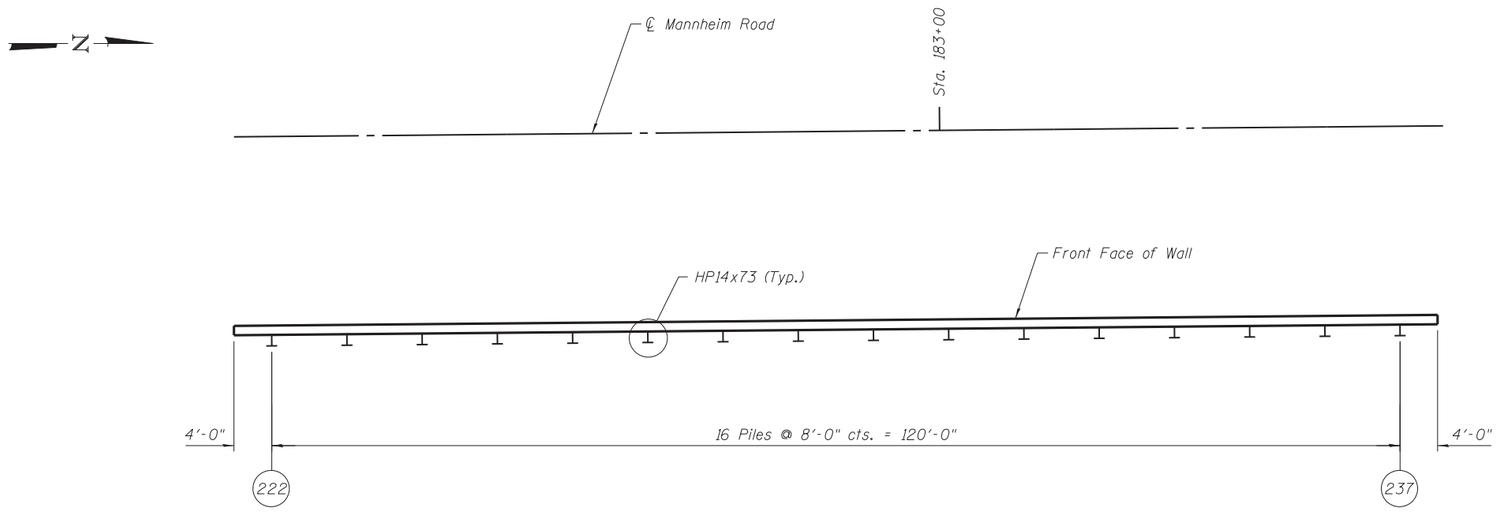
PLAN AND ELEVATION
STRUCTURE NO. 016–Z010
SHEET NO. 3 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	312
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		



ELEVATION

Minimum lap for #5 h bars shall be 2'-7".



PLAN

NOTES:

See Sheet 1 of 10 for Station and Offset Locations of Front Face of Wall.

For Section A-A, see Sheet 5 of 10.

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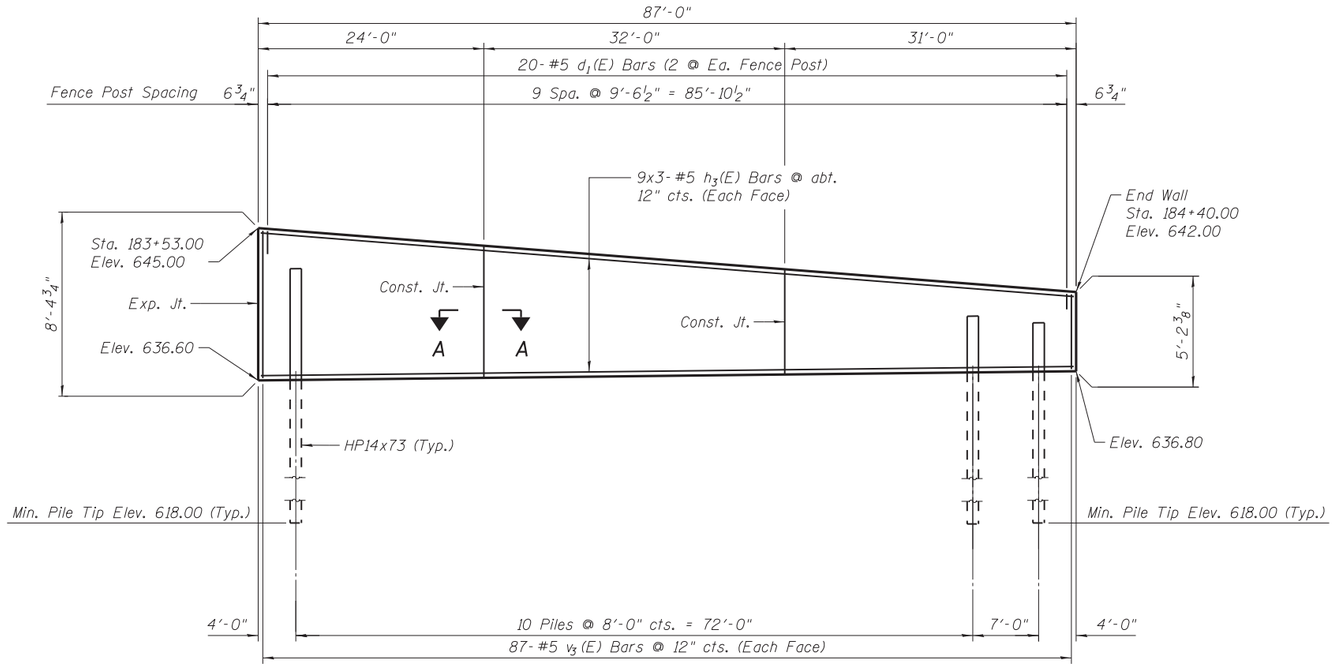
ABNA	USER NAME =	DESIGNED - SEA	REVISED
		CHECKED - CJE	REVISED
	PLOT SCALE =	DRAWN - SCS	REVISED
	PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

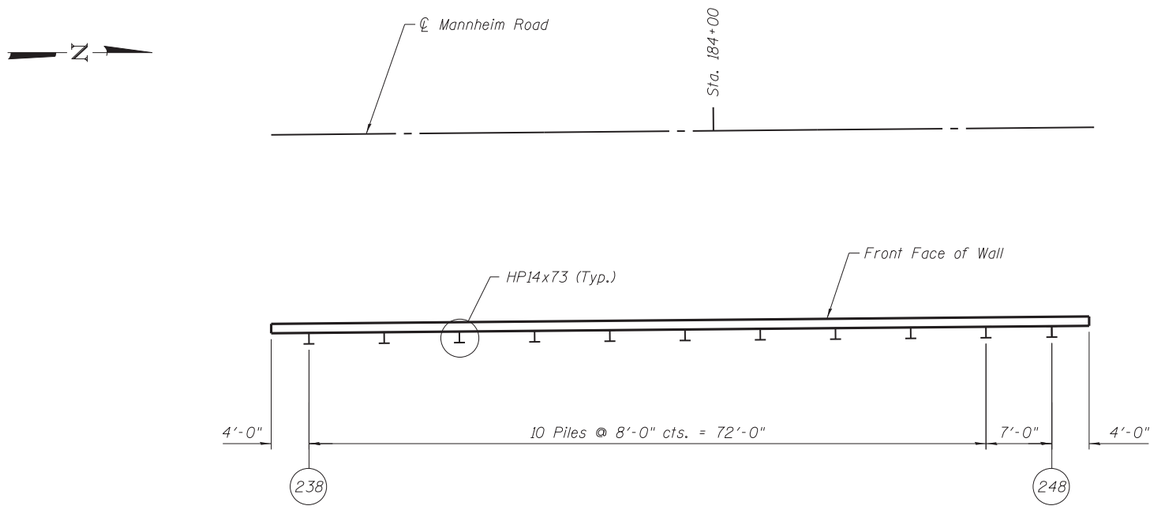
PLAN AND ELEVATION
STRUCTURE NO. 016–Z010
SHEET NO. 4 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	313
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

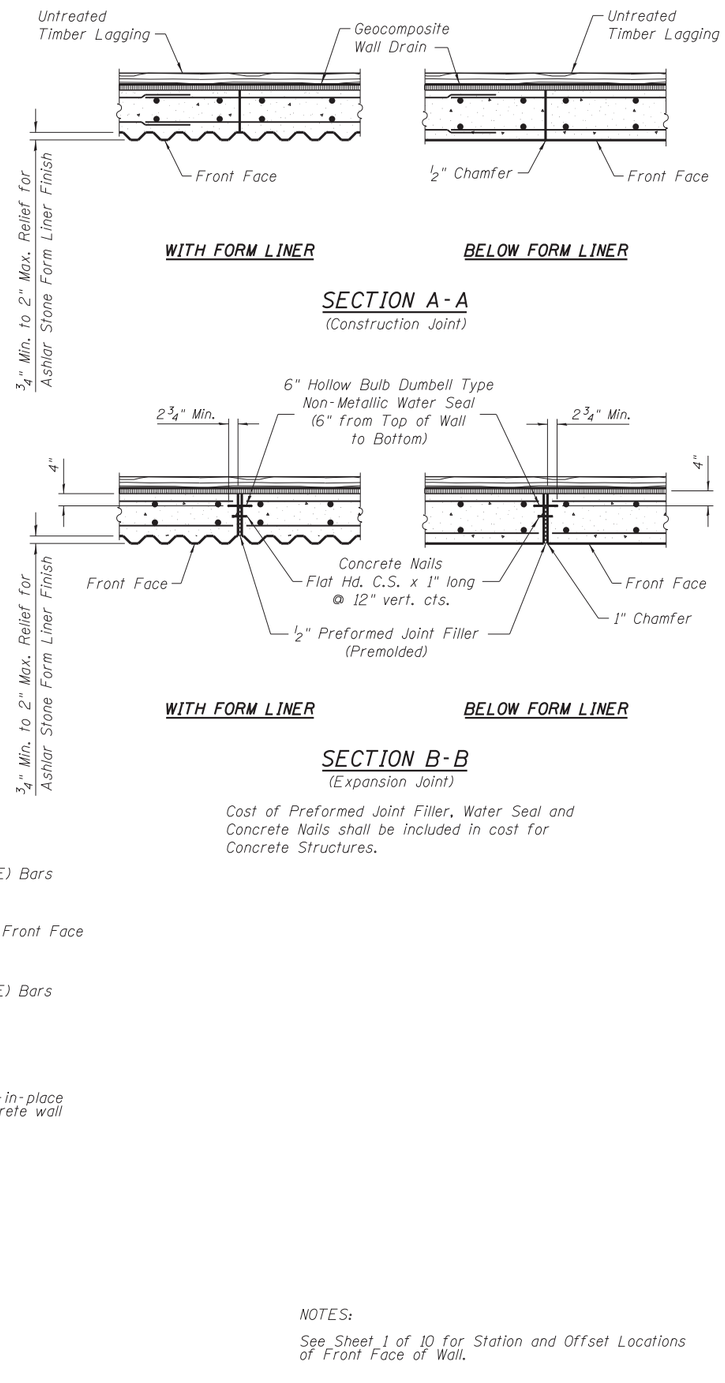


ELEVATION

Minimum lap for #5 h bars shall be 2'-7".



PLAN



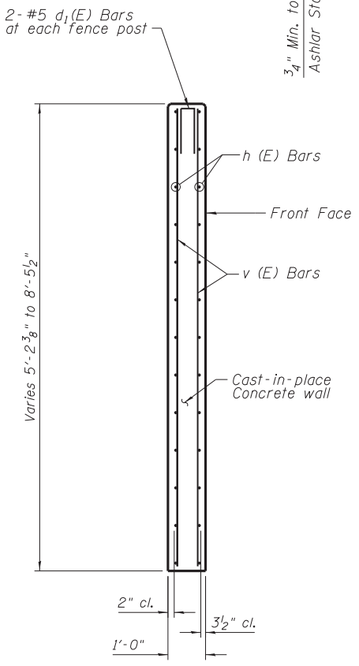
SECTION A-A

(Construction Joint)

SECTION B-B

(Expansion Joint)

Cost of Preformed Joint Filler, Water Seal and Concrete Nails shall be included in cost for Concrete Structures.



TYPICAL WALL REINFORCING SECTION

NOTES:

See Sheet 1 of 10 for Station and Offset Locations of Front Face of Wall.

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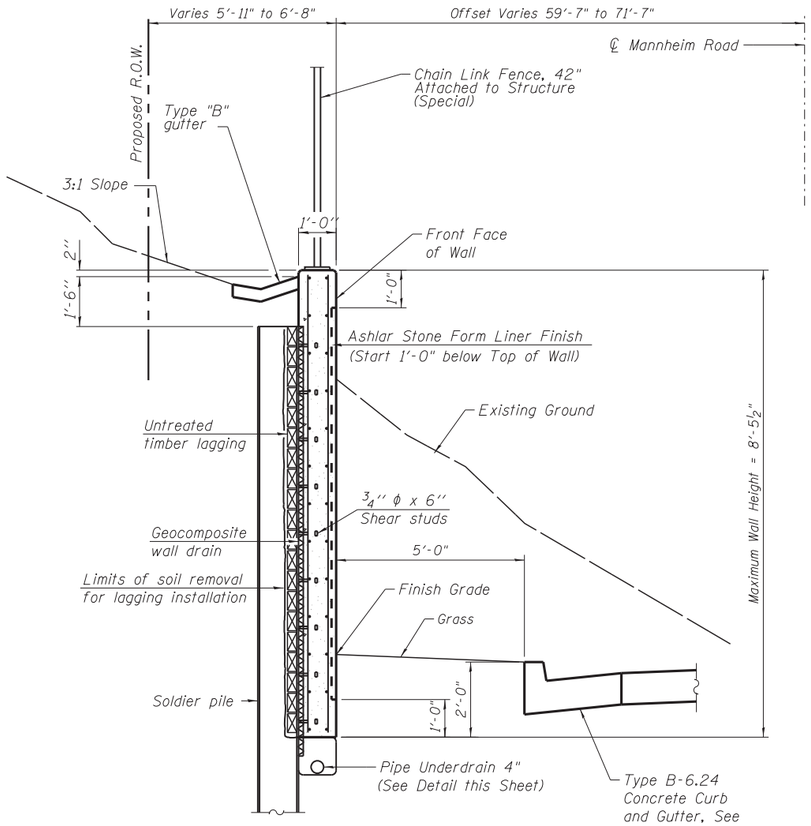
ABNA	USER NAME =	DESIGNED - SEA	REVISED
		CHECKED - CJE	REVISED
	PLOT SCALE =	DRAWN - SCS	REVISED
	PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

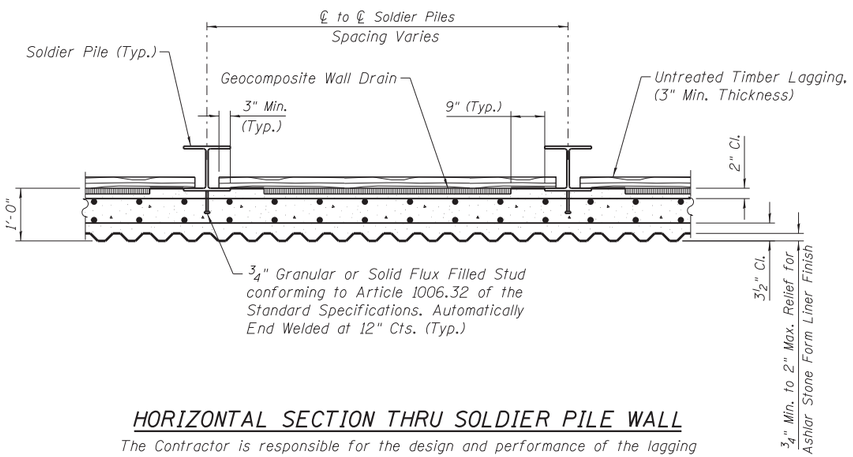
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
STRUCTURE NO. 016-Z010
SHEET NO. 5 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	314
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

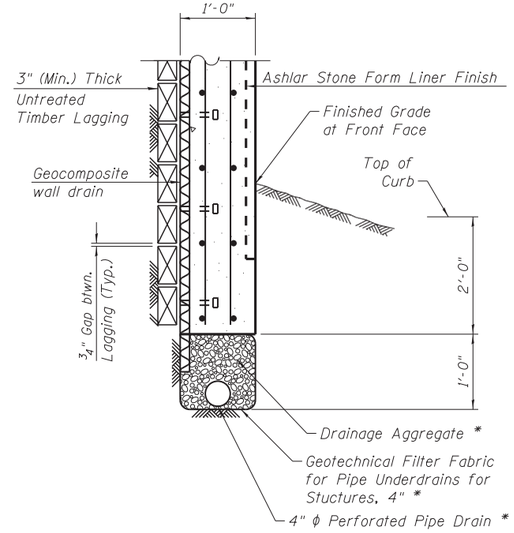


VERTICAL SECTION THRU SOLDIER PILE WALL WITH TYPE "B" GUTTER



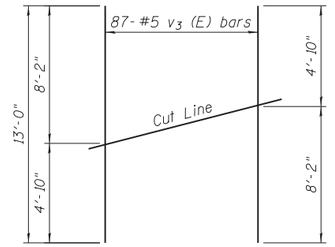
HORIZONTAL SECTION THRU SOLDIER PILE WALL

The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimun allowable bending stress of 1000 psi.



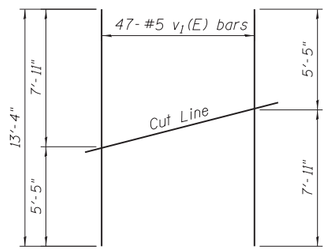
PIPE UNDERDRAIN DETAIL

* Included in the cost of Pipe Underdrains for Structures



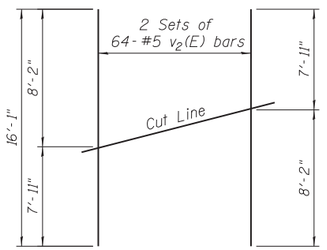
FIELD CUTTING DIAGRAM

Order v_3 (E) full length. Cut as shown and use remainder of bars in opposite face.



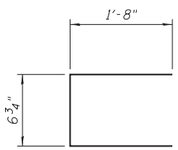
FIELD CUTTING DIAGRAM

Order v_1(E) full length. Cut as shown and use remainder of bars in opposite face.



FIELD CUTTING DIAGRAM

Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR d_1(E)

BILL OF MATERIAL
STRUCTURE NO. 016-Z010

Bar	No.	Size	Length	Shape
d_1(E)	88	#5	3'-11"	⊏
h_1 (E)	18	#5	46'-9"	—
h_2 (E)	108	#5	44'-4"	—
h_3 (E)	54	#5	30'-8"	—
v_1(E)	47	#5	13'-4"	—
v_2(E)	256	#5	16'-1"	—
v_3 (E)	87	#5	13'-0"	—
Reinforcement bars, epoxy coated			Pounds	14,090
Concrete Structures			Cu. Yds.	112.6

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ABNA

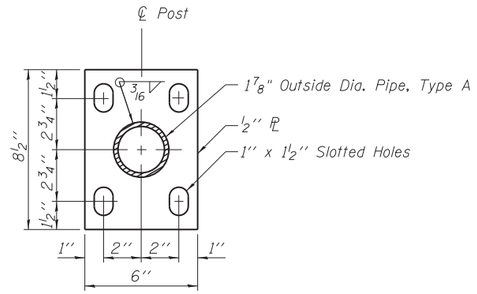
USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS AND DETAILS
STRUCTURE NO. 016-Z010

SHEET NO. 6 OF 10 SHEETS

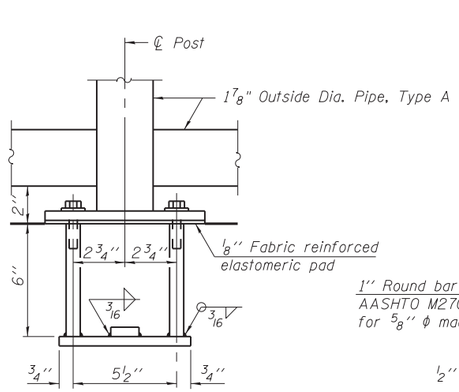
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	315
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

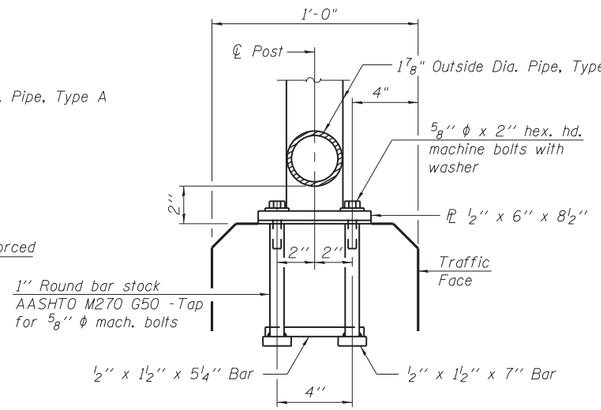


BASE PL FOR CHAIN LINK FENCE ATTACHED TO STRUCTURE

(10'-0" Maximum Post Spacing)

All post, railing, splices, anchor devices, and bent plates shall be painted using the Inorganic Zinc/Acrylic System, color "Black".





ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Chain Link Fence, 42" Attached to Structure (Special)	Foot	390

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ABNA	USER NAME =	DESIGNED - SEA	REVISED
		CHECKED - CJE	REVISED
	PLOT SCALE =	DRAWN - SCS	REVISED
	PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS
STRUCTURE NO. 016-Z010
SHEET NO. 7 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	316
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

BORING LOG RW2-1

wangeng3@wangeng.com
1145 N Main Streert
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

County:
Road No.:
Item No.:
Project No.:
Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Datum: NGVD
Elevation: 638.50 ft
North: 1941693.40 ft
East: 1106299.10 ft
Station: 180+69.3
Offset: 48.6 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	637.5	12-inch thick, brown, SILTY CLAY						
		--TOPSOIL--						
		Medium stiff to stiff, brown and gray, SILTY CLAY			1	3 4 4	0.50 P	21
		--FILL--						
			5		2	10 5 6	1.25 P	21
	632.5	Loose, gray GRAVELLY SAND			3	1 2 1	NP	16
		--FILL--						
		--POSSIBLE FILL FROM AT&T BURIED CABLE--			4	1 2 1	NP	13
			10					
	628.0	Stiff to hard, gray SILTY CLAY, trace gravel			5	4 7 7	5.66 S	22
			15		6	2 4 6	1.64 B	24
					7	3 4 7	1.89 B	19
			20		8	2 3 3	1.07 B	21
	618.5	Boring terminated at 20.00 ft						
			25					

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)

GENERAL NOTES

Begin Drilling 12-12-2011 Complete Drilling 12-15-2011
Drilling Contractor ___ WTS ___ Drill Rig D-50 ATV
Driller R&N Logger B.WILSON Checked by A. KURNIA
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling	___	DRY	___
At Completion of Drilling	___	17.00 ft	___
Time After Drilling	NA		
Depth to Water	NA		

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

BORING LOG RW2-2

wangeng3@wangeng.com
1145 N Main Streert
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

County:
Road No.:
Item No.:
Project No.:
Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Datum: NGVD
Elevation: 644.66 ft
North: 1941758.34 ft
East: 1106316.97 ft
Station: 181+34.1
Offset: 67.0 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	643.7	12-inch thick, black and brown SILTY CLAY						
		--TOPSOIL--						
		Stiff to very stiff, black and gray SILTY CLAY, trace gravel			1	4 7 9	1.64 B	20
		--FILL--						
			5		2	4 6 8	1.89 B	21
					3	4 5 7	2.15 B	26
			10		4	3 4 5	1.50 P	18
	634.2	--NO RECOVERY--						
		Brown SILTY CLAY (from cutting)			5	7 10 15	NR	22
		Very stiff to hard, brown and gray SILTY CLAY, trace gravel	15		6	3 8 12	6.23 B	18
					7	5 7 9	2.38 B	20
			20		8	4 4 8	2.38 B	15
	624.9	Sand at the end of spoon						
	624.7	Boring terminated at 20.00 ft						
			25					

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)

GENERAL NOTES

Begin Drilling 12-15-2011 Complete Drilling 12-15-2011
Drilling Contractor ___ WTS ___ Drill Rig D-50 ATV
Driller R&K Logger A. KURNIA Checked by N. BODDY
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling	___	DRY	___
At Completion of Drilling	___	DRY	___
Time After Drilling	NA		
Depth to Water	NA		

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WERK 456010A.GPJ WERK.GDT 12/19/11

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ABNA

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOG OF BORINGS
STRUCTURE NO. 016-Z010
SHEET NO. 8 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	317
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

BORING LOG RW2-3

wangeng3@wangeng.com
1145 N Main Streert
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

County:
Road No.:
Item No.:
Project No.:
Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Datum: NGVD
Elevation: 639.50 ft
North: 1941826.87 ft
East: 1106298.40 ft
Station: 182+02.8
Offset: 49.1 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	638.5	12-inch thick, brown, SILTY CLAY --TOPSOIL--							
		Medium stiff, brown and gray, SILTY CLAY LOAM, and crushed stone --FILL--			1	8 7 4		0.75 P	28
	635.5	Medium stiff to hard, brown to gray SILTY CLAY, trace gravel	5		2	2 3 3		0.75 P	25
					3	3 5 6		2.54 B	19
			10		4	4 7 10		5.74 B	18
					5	7 8 10		3.44 B	20
			15		6	3 4 6		3.28 B	20
					7	5 8 12		3.28 B	16
	619.5		20		8	3 5 7		2.30 B	18
		Boring terminated at 20.00 ft	25						

GENERAL NOTES

Begin Drilling 12-12-2011 Complete Drilling 12-12-2011
Drilling Contractor ___ WTS ___ Drill Rig D-50 ATV
Driller R&N Logger B.WILSON Checked by A. KURNIA
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling	15.50 ft	
At Completion of Drilling	18.00 ft	
Time After Drilling	NA	
Depth to Water	NA	

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

BORING LOG RW2-4

wangeng3@wangeng.com
1145 N Main Streert
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

County:
Road No.:
Item No.:
Project No.:
Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Datum: NGVD
Elevation: 640.00 ft
North: 1941909.93 ft
East: 1106302.13 ft
Station: 182+85.8
Offset: 53.6 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		18-inch thick, brown, SILTY CLAY							
	638.5	--TOPSOIL--							
		Stiff, brown and gray, SILTY CLAY LOAM, some gravel --FILL--			1	4 5 6		1.75 P	12
	636.0	Stiff to hard, brown to gray SILTY CLAY, trace gravel	5		2	2 3 3		1.00 P	21
					3	3 6 9		3.20 B	18
			10		4	4 8 11		5.90 B	17
					5	6 8 11		4.02 B	20
			15		6	2 3 5		1.89 B	21
					7	7 8 11		2.87 B	18
	620.0		20		8	3 4 5		2.62 B	16
		Boring terminated at 20.00 ft	25						

GENERAL NOTES

Begin Drilling 12-12-2011 Complete Drilling 12-12-2011
Drilling Contractor ___ WTS ___ Drill Rig D-50 ATV
Driller R&N Logger B.WILSON Checked by A. KURNIA
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling	DRY	
At Completion of Drilling	DRY	
Time After Drilling	NA	
Depth to Water	NA	

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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ABNA

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOG OF BORINGS
STRUCTURE NO. 016-Z010
SHEET NO. 9 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	318
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

BORING LOG RW2-5

wangeng3@wangeng.com
1145 N Main Streert
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

County:
Road No.:
Item No.:
Project No.:
Quadrangle:
Mars No.:
WEI Job No.: 456-01-04
Client: ABNA of Illinois, Inc.
Project Type: Mannheim Road Retraining Walls, PTB 153/21

Datum: NGVD
Elevation: 640.50 ft
North: 1942032.68 ft
East: 1106308.46 ft
Station: 184+08.5
Offset: 61.0 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	639.5	12-inch thick, brown, SILTY CLAY --TOPSOIL--						
		Stiff, brown, SILTY CLAY LOAM, trace gravel --FILL--			1	6 12 7	1.56 B	47
	636.5	Stiff to hard, brown to gray SILTY CLAY, trace gravel	5		2	4 5 6	1.50 P	22
					3	4 6 7	3.12 B	19
			10		4	9 12 15	5.17 B	18
					5	8 12 15	5.00 B	18
	627.0	Medium dense, gray SILT	15		6	4 8 8	NP	19
	625.0	Medium dense, gray, fine to medium SAND			7	7 9 9	NP	22
	622.5	Very stiff, gray SILTY CLAY, trace gravel			8	9 10 10	3.36 B	11
	620.5	Boring terminated at 20.00 ft	20					
			25					

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)

GENERAL NOTES

Begin Drilling 12-12-2011 Complete Drilling 12-12-2011
Drilling Contractor ___ WTS ___ Drill Rig D-50 ATV
Driller R&N Logger B.WILSON Checked by A. KURNIA
Drilling Method 3.25 IDA HSA; Boring backfilled upon completion; Diedrich Auto Hammer

WATER LEVEL DATA

While Drilling	___	DRY	___
At Completion of Drilling	___	DRY	___
Time After Drilling	NA		
Depth to Water	NA		

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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ABNA

USER NAME =	DESIGNED - SEA	REVISED
	CHECKED - CJE	REVISED
PLOT SCALE =	DRAWN - SCS	REVISED
PLOT DATE = 10/19/2012	CHECKED - SEA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

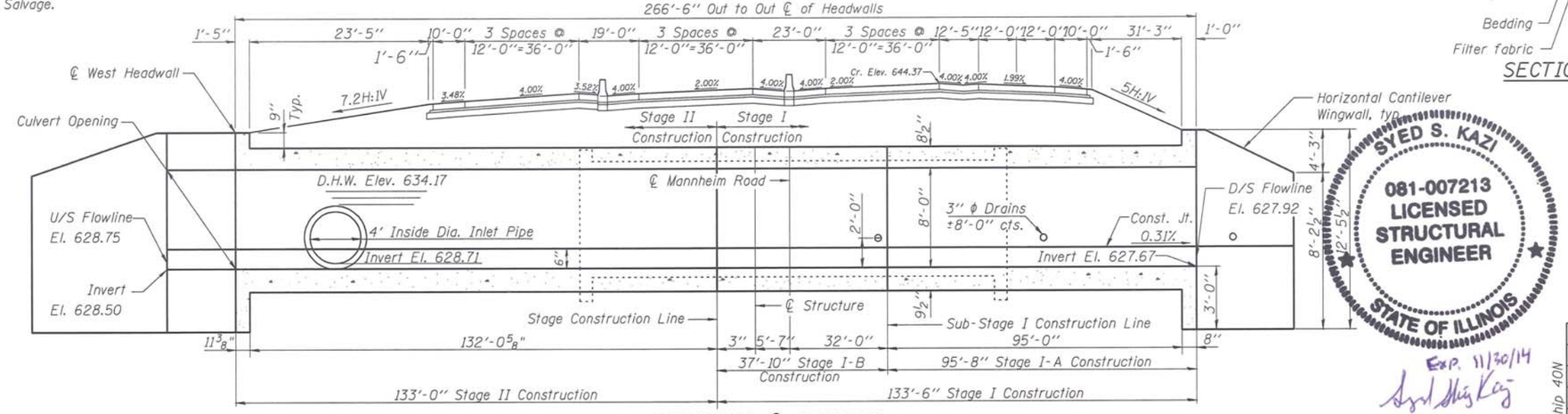
LOG OF BORINGS
STRUCTURE NO. 016-Z010
SHEET NO. 10 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	319
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

Temporary Benchmark: 8" inch Nail in west face of 10th power pole north of I-190 and 50 feet west of C.N. Railroad and 1st power pole north of Drainage creek. Nail is about 2 feet above ground. Pole Number is 81 N.=1,938,308 E=1,108,049, El. 636.91.

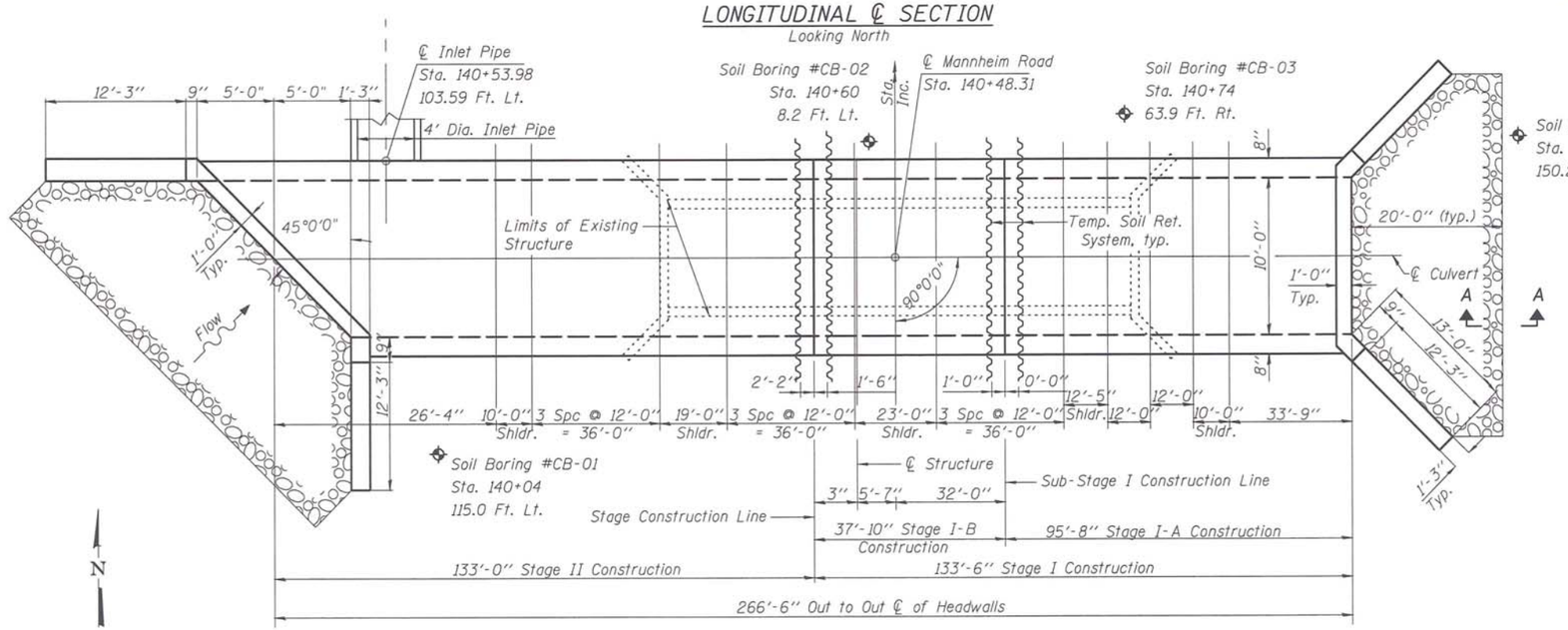
Existing Structure: The existing structure was originally built in 1960 in Cook County over O'hare Ditch located underneath Mannheim Rd. approximately 2,300 ft north of I-190. The existing structure is a 5 ft wide x 8 ft high reinforced concrete single cell box culvert measuring 154'-10" out to out of headwalls.

No Salvage.

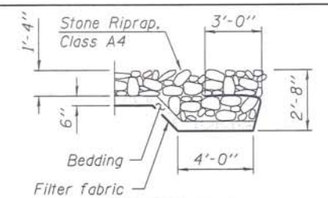


LONGITUDINAL ℄ SECTION

Looking North



PLAN



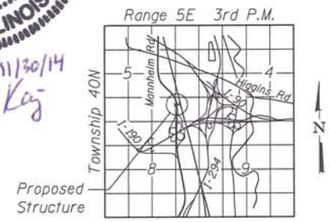
SECTION A-A

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu Yd	1,329.2
Stone Riprap, Class A4	Sq Yd	123
Filter Fabric	Sq Yd	123
Removal of Existing Structures	Each	1
Reinforcement Bars	Pound	60,530
Bar Splicers	Each	94
Concrete Box Culverts	Cu Yd	304.9
Temporary Soil Retention System	Sq Ft	1,734

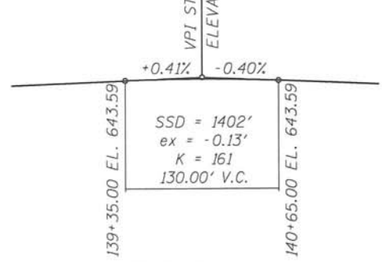
SYED S. KAZI
081-007213
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS
Exp. 11/30/14
Syed Shiq Kazi



LOCATION SKETCH

PROP. CURVE PRMAN-4
PI STA. = 137+18.87
Δ = 9° 53' 04" (LT)
D = 1° 00' 00"
R = 5,729.58'
T = 495.45'
L = 988.44'
E = 21.38'
e = 2.00%
T.R. = 96'
S.E. RUN = 96'
P.C. STA = 132+23.42
P.T. STA = 142+11.87

HORIZ. CURVE DATA



PROFILE GRADE
(along ℄ Mannheim Rd.)

LOADING HS20-44

DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES
FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
Max Soil Pressure Under Footing = 3000 psf

GENERAL NOTES:

1. A cantilevered sheet piling design does not appear to be feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan, details and calculations for review and acceptance by the Engineer.
2. Locate Inlet Pipe connecting to north wall of box culvert in field. Cut horizontal and vertical reinforcement in field to accomodate pipe and see 'Bar Splicers and Pipe Opening Details' sheet for additional opening reinforcement.
3. Roadway profile shown in the longitudinal section is for the ultimate condition to be completed after construction of culvert.

WATERWAY INFORMATION

Drainage Area = 0.47 sq. mi.

Existing Low Grade Elev. 642.68 @ Sta. 140+08
Proposed Low Grade Elev. 642.21 @ Sta. 140+08

Flood	Freq. Yr.	Q C.F.S. Exist.	Q C.F.S. Prop.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
10-YR	10	188	140	20.45	37.40	632.23	2.36	0.18	634.59	632.41
Design	50	302	224	24.40	45.30	633.02	4.14	1.15	637.16	634.17
Base	100	384	262	25.90	48.30	633.32	6.17	1.64	639.49	634.96
Overtopping	>500	-	-	-	-	-	-	-	-	-
Max. Calc.	500	614	445	32.75	62.00	634.70	8.70	5.65	643.40	640.35

Velocities at upstream face for 10-Year Flood Event: Existing - 5.84 f/s, Proposed - 3.58 f/s

GENERAL PLAN & ELEVATION
MANNHEIM ROAD OVER O'HARE DITCH
COOK COUNTY
STATION 140+48.31

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED SK	REVISED -
		DRAWN SK	REVISED -
	PLOT SCALE = $SCALE$	CHECKED GBC	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

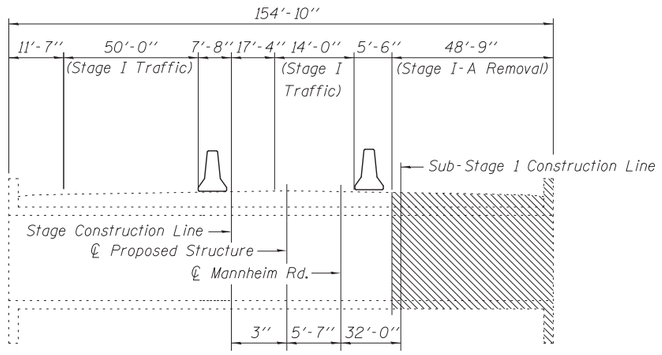
FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms4784\60P35-S1-GPE.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

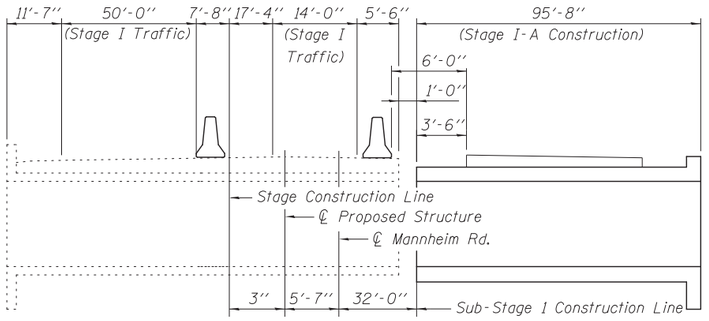
MANNHEIM RD OVER O'HARE DITCH CULVERT
GENERAL PLAN AND ELEVATION

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

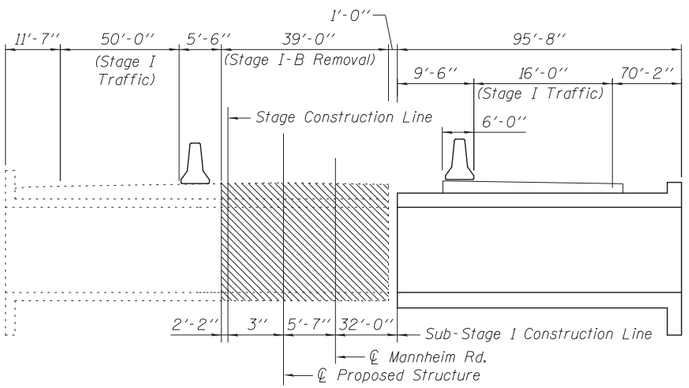
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK		
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		



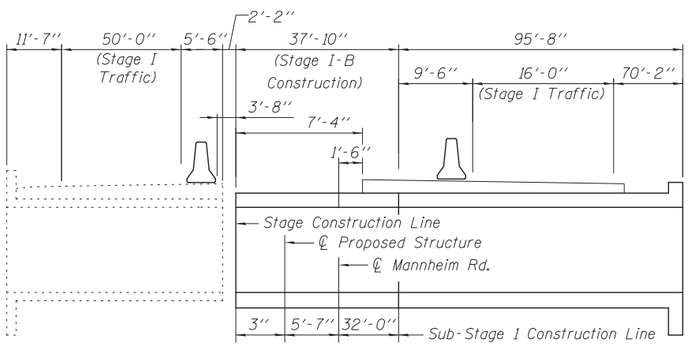
STAGE I-A REMOVAL



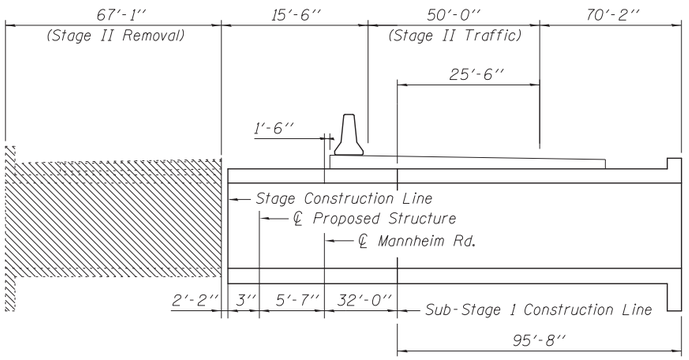
STAGE I-A CONSTRUCTION



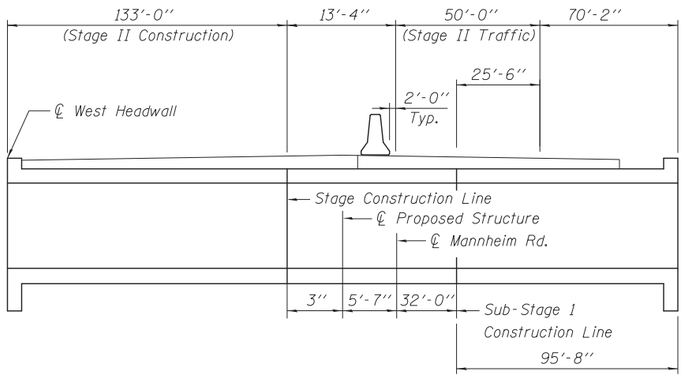
STAGE I-B REMOVAL



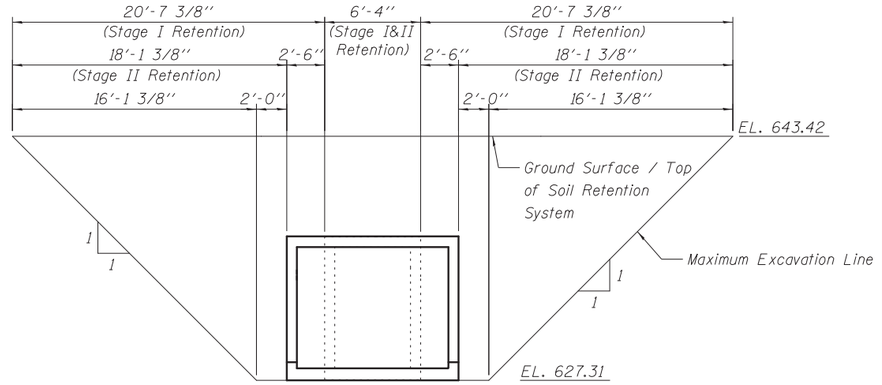
STAGE I-B CONSTRUCTION



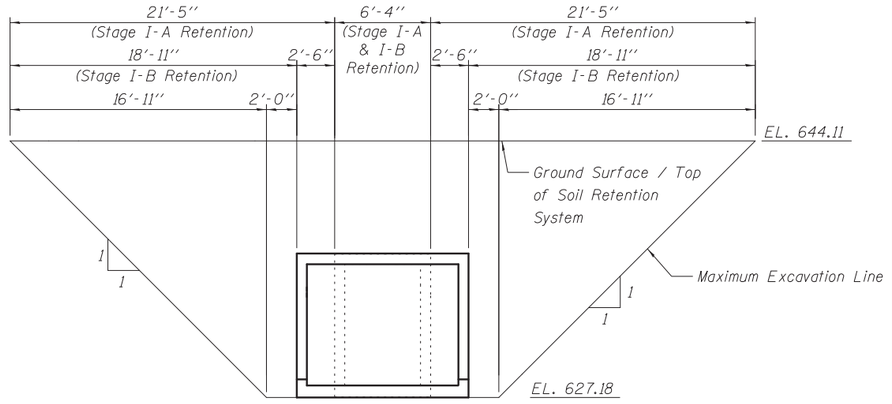
STAGE II REMOVAL



STAGE II CONSTRUCTION



TEMPORARY SOIL RETENTION SYSTEM AT STAGE CONSTRUCTION LINE



TEMPORARY SOIL RETENTION SYSTEM AT SUB-STAGE 1 CONSTRUCTION LINE

BILL OF MATERIAL

Item	Unit	Total
Temporary Soil Retention System.	Sq Ft	1,734

USER NAME = kkhan	DESIGNED SK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN SK	REVISED -	
PLOT SCALE = $SCALE$	CHECKED GBC	REVISED -	
PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -	

DELTA ENGINEERING GROUP, LLC

MANNHEIM RD OVER O'HARE DITCH CULVERT STAGE CONSTRUCTION

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	321
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

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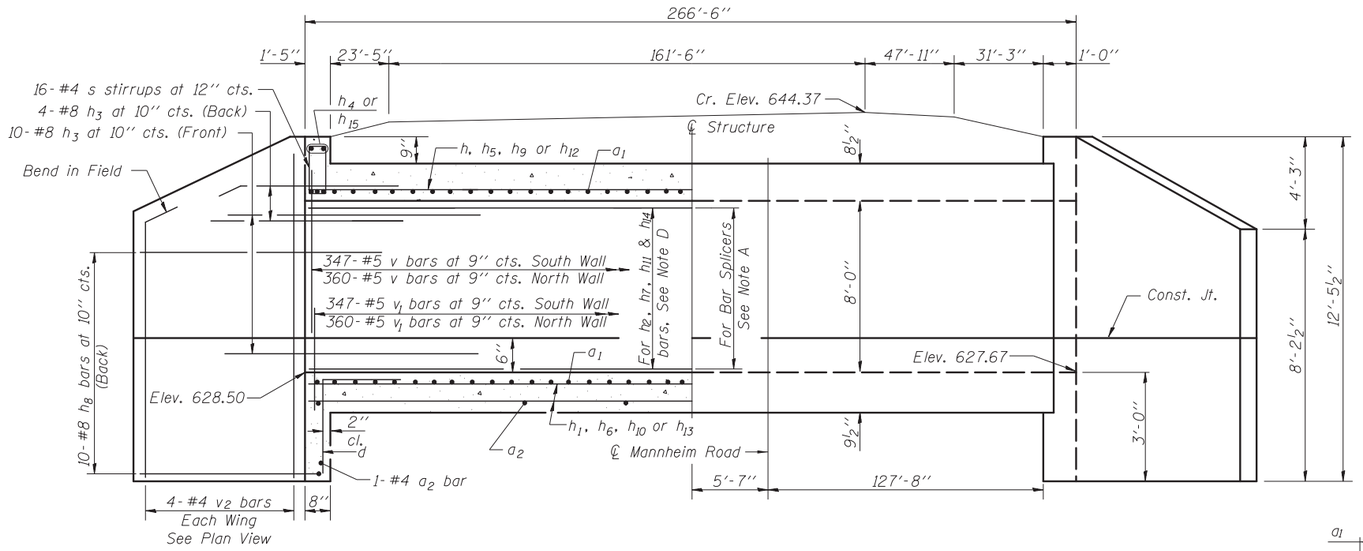
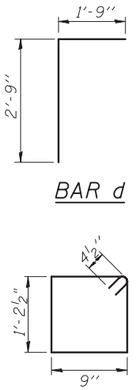


HALF LONG. SECTION

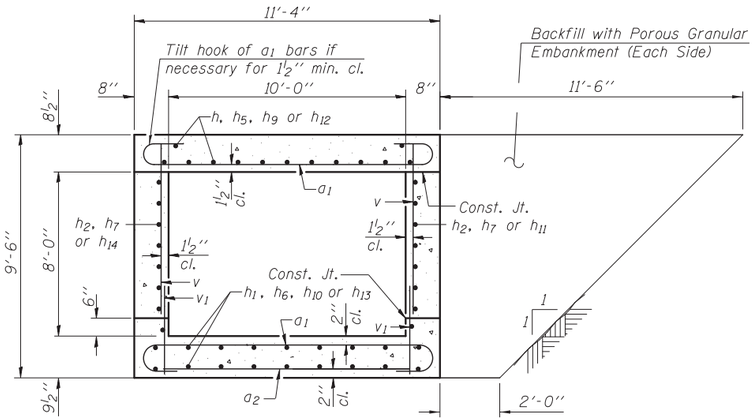
HALF ELEVATION

* a bars in skew portion of slab shall be ordered full length & cut to fit.



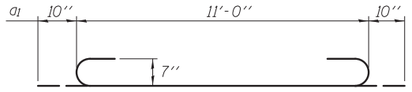
BAR d

s STIRRUPS



SECTION THRU BARREL

Looking East



BAR a1

NOTES

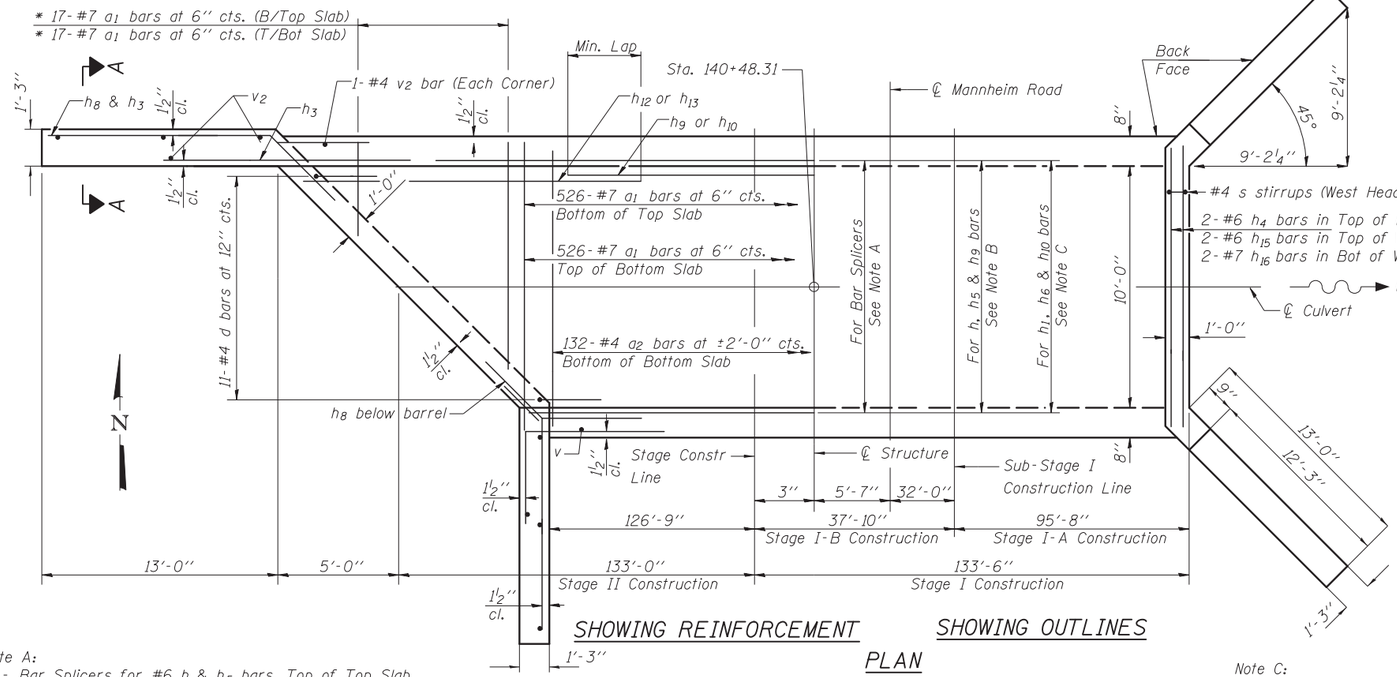
A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Bars indicated thus 11 x 5-#6 etc. indicates 11 lines of bars with 5 lengths per line.

All construction joints shall be bonded.

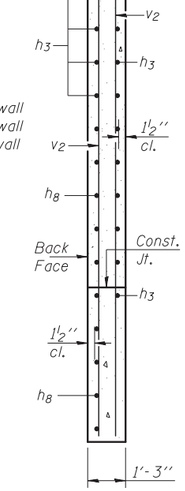
Precast concrete culvert alternate will not be allowed.



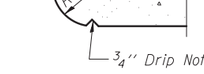
SHOWING REINFORCEMENT

SHOWING OUTLINES

PLAN

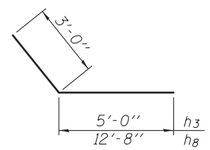


SECTION A-A



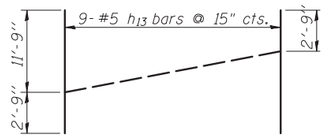
SECTION THRU HEADWALL

(Up Stream End Only)



BARS h3 & h8

Bend in Field



BAR CUTTING DIAGRAM

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1	1086	#7	12'-8"	
a2	134	#4	11'-0"	
d	22	#4	4'-6"	
h	39	#6	33'-2"	
h1	54	#5	33'-0"	
h2	48	#6	33'-3"	
h3	56	#8	8'-0"	
h4	2	#6	11'-0"	
h5	26	#6	19'-10"	
h6	36	#5	19'-8"	
h7	32	#6	19'-11"	
h8	40	#8	16'-0"	
h9	65	#6	27'-0"	
h10	90	#5	26'-9"	
h11	40	#6	27'-3"	
h12	13	#6	12'-1"	
h13	9	#5	14'-6"	
h14	48	#6	24'-8"	
h15	2	#6	15'-2"	
h16	2	#7	15'-2"	
s	16	#4	4'-8"	
v	707	#5	8'-0"	
v1	707	#5	2'-3"	
v2	20	#4	12'-2"	
z	8	#6	9'-0"	
Bar Splicers			Each	94
Reinforcement Bars			Pound	60,530
Concrete Box Culverts			Cu. Yd.	304.9

Note A:
2 - Bar Splicers for #6 h & h5 bars, Top of Top Slab
11 - Bar Splicers for #6 h & h5 bars, Bottom of Top Slab
9 - Bar Splicers for #5 h1 bars & h6 bars, Top of Bottom Slab
9 - Bar Splicers for #5 h1 bars & h6 bars, Bottom of Bottom Slab
2 - Bar Splicers for #6 h5 & h9 bars, Top of Top Slab
11 - Bar Splicers for #6 h5 & h9 bars, Bottom of Top Slab
9 - Bar Splicers for #5 h6 bars & h10 bars, Top of Bottom Slab
9 - Bar Splicers for #5 h6 bars & h10 bars, Bottom of Bottom Slab
8 - Bar Splicers for #6 h2 bars & h7 bars, Each Wall
8 - Bar Splicers for #6 h7 bars & h11 bars, Each Wall

Note B:
11x3-#6 h bars @ 12" cts. Bottom of Top Slab. 2'-1" Min. Lap. Stage I-A
2x3-#6 h bars at Top of Top Slab. Place as shown in Cross sect. Stage I-A
11x2-#6 h5 bars @ 12" cts. Bottom of Top Slab. 2'-1" Min. Lap. Stage I-B
2x2-#6 h5 bars at Top of Top Slab. Place as shown in Cross sect. Stage I-B
11x5-#6 h9 bars @ 12" cts. Bottom of Top Slab. 2'-1" Min. Lap. Stage II
2x5-#6 h9 bars at Top of Top Slab. Place as shown in Cross sect. Stage II
11-#6 h12 bars @ 12" cts. Bottom of Top Slab. 2'-1" Min. Lap. Stage II
2-#6 h12 bars at Top of Top Slab. Place as shown in Cross sect. Stage II

Note C:
18x3-#5 h1 bars @ 15" cts. Top & Bottom of Bottom Slab. 1'-9" Min. Lap. Stage I-A
18x2-#5 h6 bars @ 15" cts. Top & Bottom of Bottom Slab. 1'-9" Min. Lap. Stage I-B
18x5-#5 h10 bars @ 15" cts. Top & Bottom of Bottom Slab. 1'-9" Min. Lap. Stage II
18-#5 h13 bars @ 15" cts. Top & Bottom of Bottom Slab. 1'-9" Min. Lap. Stage II

Note D:
8x3-#6 h2 bars @ 12" cts. Each Wall. 2'-1" Min. Lap. Stage I-A
8x2-#6 h7 bars @ 12" cts. Each Wall. 2'-1" Min. Lap. Stage I-B
8x5-#6 h11 bars @ 12" cts. Each Wall. 2'-1" Min. Lap. Stage II South Wall
8x6-#6 h14 bars @ 12" cts. Each Wall. 2'-1" Min. Lap. Stage II North Wall

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MANNHEIM RD OVER O'HARE DITCH CULVERT
REINFORCEMENT DETAILS

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	322
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

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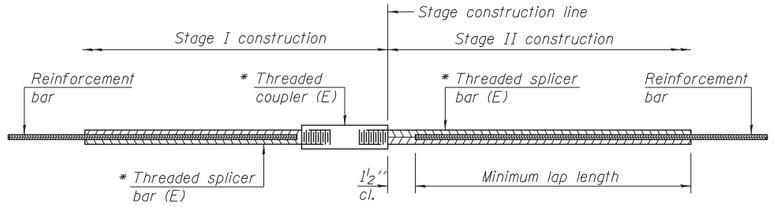


STANDARD BAR SPLICER ASSEMBLY

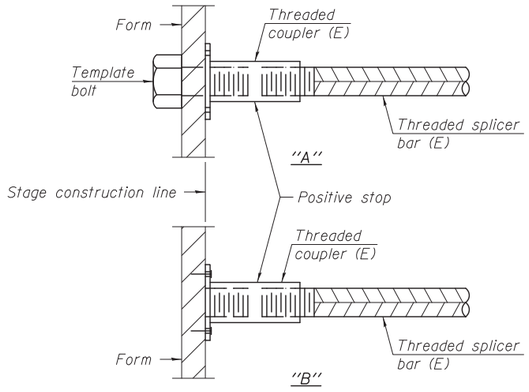
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

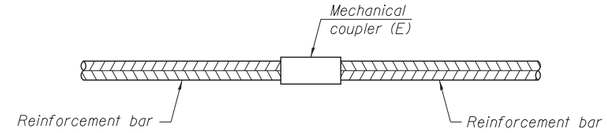
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Sub-Stage I Constr. Line, top slab	#6	13	1
Sub-Stage I Constr. Line, bottom slab	#5	18	1
Sub-Stage I Constr. Line, walls	#5	16	1
Stage I Construction Line, top slab	#6	13	1
Stage I Construction Line, bottom slab	#5	18	1
Stage I Construction Line, walls	#5	16	1



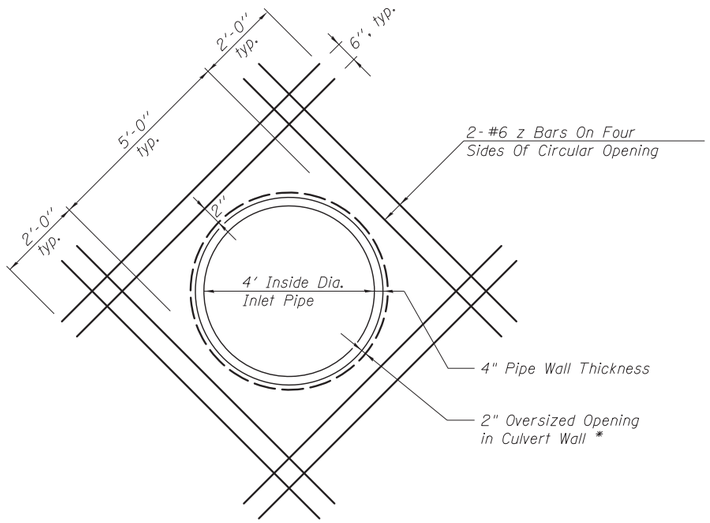
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



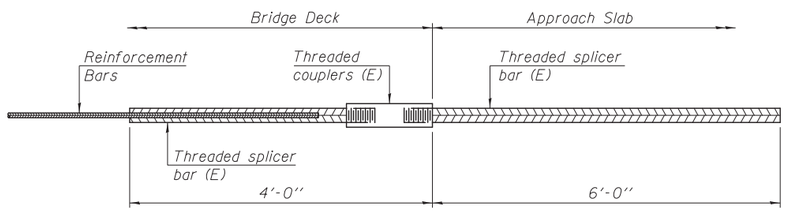
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



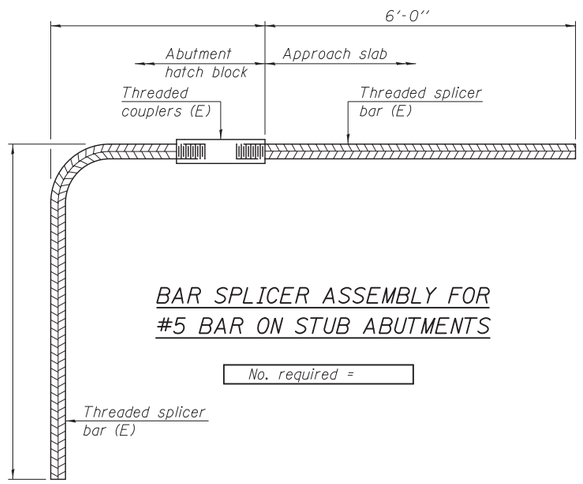
Additional Reinforcement Around Pipe Opening

* Void to be filled with non-shrink grout, shall be included in the cost of Concrete Box Culverts



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See special provision for Mechanical Splicers.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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DEPARTMENT OF TRANSPORTATION

MANNHEIM RD OVER O'HARE DITCH CULVERT
BAR SPLICER AND PIPE OPENING DETAILS

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	323
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\60P35-S4-Bar Splicer.dgn

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SOIL BORING LOG

PAGE 1 of 2
DATE August 18, 2011
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OBA JOB No. 11585

ROUTE Mannheim Road
SECTION Sectionxx
COUNTY Cook
DESCRIPTION I-190 Collector-Culvert
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
DRILLING METHOD Rotary Mud
HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. CB-01
Station 140+04
Offset 115 ft Left
Ground Surface Elev. 639.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				6.0" Black TOPSOIL FILL 638.7
	4			SILTY CLAY-brown & black-
	7			hard (A-6) Fill
	9	4.5+P	20	
				635.7
	3			Black TOPSOIL wet
-5	5			
	7	3.25P	26	
				633.2
	3		102	
	5			SILTY CLAY-brown & gray-
	6	2.9B	21	stiff to hard (A-6)
	3		103	
-10	3			
	3	1.0B	23	
	4		113	
	8			
	14	4.6B	16	
				625.7
	5		103	
-15	7			CLAY-gray-
	10	4.1B	23	stiff to hard (A-6)
	8			
	13			
	13	4.5+P	13	
	4		116	
-20	4			
	6	3.5B	15	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3		112	CLAY-gray-
	4			stiff to hard (A-6)
	5	1.2B	17	
	6		109	
-25	6			
	8	1.8B	19	
	5		113	
	8			
	14	5.3B	17	
				610.7
	18			SILTY LOAM-gray-
	29			dense to very dense (A-4)
-30	32	NP	13	
	12			
	14			
-35	19	NP	13	
	8		121	
	14			SILTY CLAY-gray-
-40	16	9.1B	13	hard (A-6)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) NP=Non-Plastic VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery LL=Liquid Limit PL=Plastic Limit PI=Plasticity Index

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SOIL BORING LOG

PAGE 2 of 2
DATE August 18, 2011
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ROUTE Mannheim Road
SECTION Sectionxx
COUNTY Cook
DESCRIPTION I-190 Collector-Culvert
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
DRILLING METHOD Rotary Mud
HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. CB-01
Station 140+04
Offset 115 ft Left
Ground Surface Elev. 639.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				SILTY CLAY-gray-
				hard (A-6)
	11		127	
	19			
-45	23	5.9B	11	
	19		122	
	21			
-50	23	6.1B	13	
				End of Boring @ -50.0'
				4.0" Hollow Stem to -6.0'
				Rotary Drilling Started at -6.0'
				CME Automatic Hammer
-55				
-60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-65			
-70			
-75			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) NP=Non-Plastic VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery LL=Liquid Limit PL=Plastic Limit PI=Plasticity Index

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	PLOT DATE = 10/10/2012	CHECKED - GBC	REVISED -
		DATE - 06/25/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MANNHEIM RD OVER O'HARE DITCH CULVERT
SOIL BORING LOGS 1

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	0105-WRS	COOK	537	324
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 2
DATE August 18, 2011
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OBA JOB No. 11585

ROUTE Mannheim Road
DESCRIPTION I-190 Collector-Culvert
SECTION Sectionxx
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook
DRILLING METHOD Rotary Mud
HAMMER TYPE CME Automatic
STRUCT. NO. xx
Station xx
BORING NO. CB-02
Station 140+60
Offset 8.2 ft Left
Ground Surface Elev. 642.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
641.7			
6.0" Black TOPSOIL FILL			
	6		
	6		
	8	3.5P	17
SILTY CLAY-brown & gray-			
stiff to hard (A-6)	4		108
	5		
-5	7	4.4B	19
	4		105
	6		
	9	1.9B	22
	3		112
	3		
-10	5	2.4B	18
	2		110
	3		
	5	1.0B	20
	2		104
	2		
-15	3	1.2B	22
626.2			
	5		113
CLAY-gray-	8		
stiff to very stiff (A-6)	10	2.5B	18
	8		
	9		
-20	11	--	21

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-			
stiff to very stiff (A-6)	5		
	6		
	8	--	21
	4		11
-25	6		
	8	1.9B	16
	6		
	6		
	9	--	25
	5		10
	9		
-30	13	3.3B	19
608.7			
	6		
	9		
-35	10	NP	16
SILTY LOAM-gray-			
medium dense (A-4)			
603.7			
	6		11
SILTY CLAY-gray-	5		
stiff (A-6)	6	1.8B	16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) NP=Non-Plastic VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery LL=Liquid Limit PL=Plastic Limit PI=Plasticity Index

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SOIL BORING LOG

PAGE 2 of 2
DATE August 18, 2011
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OBA JOB No. 11585

ROUTE Mannheim Road
DESCRIPTION I-190 Collector-Culvert
SECTION Sectionxx
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook
DRILLING METHOD Rotary Mud
HAMMER TYPE CME Automatic
STRUCT. NO. xx
Station xx
BORING NO. CB-02
Station 140+60
Offset 8.2 ft Left
Ground Surface Elev. 642.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY-gray-			
hard (A-6)			
	8		121
	8		
-45	9	7.9B	14
	8		121
	8		
592.2	8	5.9B	14
-50			
End of Boring @ -50.0'			
4.0" Hollow Stem to -6.0'			
Rotary Drilling Started at -6.0'			
CME Automatic Hammer			
-55			
-60			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-65			
-70			
-75			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) NP=Non-Plastic VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery LL=Liquid Limit PL=Plastic Limit PI=Plasticity Index

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MANNHEIM RD OVER O'HARE DITCH CULVERT
SOIL BORING LOGS 2

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	0105-WRS	COOK	537	325
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 2
DATE September 1, 2011
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OBA JOB No. 11585

ROUTE Mannheim Road
SECTION Sectionxx
COUNTY Cook
DESCRIPTION I-190 Collector-Culvert
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
DRILLING METHOD 2.25" Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. xx
Station xx
BORING NO. CB-03
Station 140+74
Offset 63.9 ft Right
Ground Surface Elev. 641.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				Black TOPSOIL
640.2				
	1		*103*	
	1			
	2	0.6B	22	
				SILTY CLAY-brown & gray-
				medium stiff to stiff (A-6)
	2		*109*	
	2			
-5	3	1.5B	18	
	2			
	1			
	1	1.5P	27	
	2		*108*	
	3			
-10	5	2.0B	21	
630.2				
	3			
	4			
	6	NP	23	
				SILTY LOAM-gray-
				medium dense (A-4)
627.7				
	5		*111*	
	7			
-15	12	2.8B	19	
	5			
	7			
	8	2.5P	18	
				CLAY-gray-
				very stiff to hard (A-6)
	5		*118*	
	6			
-20	10	2.8B	16	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4		*114*	CLAY-gray-
	5			very stiff to hard (A-6)
	8	2.6B	17	
	4		*109*	
	5			
-25	8	2.9B	20	
	6		*120*	
	8			
	12	4.6B	15	
	7		*107*	
	7			
-30	10	2.0B	21	
607.7				
	12			
	12			
-35	16	NP	11	
				SILTY LOAM-gray-
				medium dense (A-4)
602.7				
	5		*119*	
	7			
-40	13	3.0B	15	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) NP=Non-Plastic VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery LL=Liquid Limit PL=Plastic Limit PI=Plasticity Index

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SOIL BORING LOG

PAGE 2 of 2
DATE September 1, 2011
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OBA JOB No. 11585

ROUTE Mannheim Road
SECTION Sectionxx
COUNTY Cook
DESCRIPTION I-190 Collector-Culvert
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
DRILLING METHOD Rotary Mud HAMMER TYPE Diedrich Automatic

STRUCT. NO. xx
Station xx
BORING NO. CB-03
Station 140+74
Offset 63.9 ft Right
Ground Surface Elev. 641.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY CLAY-gray-
				very stiff to hard (A-6)
	4		*109*	
	9			
-45	15	4.8B	11	
	5		*131*	
	10			
591.2 -50	13	7.7B	11	
				End of Boring @ -50.0'
				4.0" Hollow Stem to -6.0'
				Rotary Drilling Started at -6.0'
				Diedrich Automctic Hammer
-55				
-60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-65			
-70			
-75			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) NP=Non-Plastic VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery LL=Liquid Limit PL=Plastic Limit PI=Plasticity Index

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		DATE - 06/25/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MANNHEIM RD OVER O'HARE DITCH CULVERT
SOIL BORING LOGS 3

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	0105-WRS	COOK	537	326
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)398-1441 * FAX(847) 398-2376

SOIL BORING LOG

PAGE 1 of 1
DATE August 17, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE Mannheim Road
SECTION Sectionxx
COUNTY Cook
DESCRIPTION I-190 Collector-Culvert
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
DRILLING METHOD Rotary Mud
HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. CB-04
Station 140+70
Offset 150.2 ft Right
Ground Surface Elev. *635.6 ft*

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter *n/a*
Upon Completion *n/a*
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				10.0" TOPSOIL FILL *634.8*
	5			
	6			CLAY-brown & gray-
	9	3.75P	19	very stiff to hard (A-6)
	5		*112*	
	7			
-5	11	3.8B	19	
	3		*113*	
	4			
	10	3.8B	18	
	8		*118*	
	18			
-10	18	4.5B	16	
624.6	5		*111*	
	9			CLAY-gray-
	13	4.5B	19	hard (A-6)
621.6	7		*114*	
	9			
-15	12	NP	18	LOAM-gray-
	7		*109*	medium dense (A-2)
	7			
	7	NP	20	
617.1				
	5			CLAY-gray-
	5			stiff to very stiff (A-6)
-20	8	1.0P	17	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray-
	5		*117*	stiff to very stiff (A-6)
	9			
	11	2.6B	16	
	6		*113*	
	11			sandy
-25	13	3.4B	17	
609.6				
	20			
	29			SANDY LOAM-gray-
	30	NP	19	medium to very dense (A-2)
	18			
	27			
-30	33		NR	
	11		*116*	
	8			
-35	9	NP	17	
598.6				
				SILTY CLAY-gray-
				hard (A-6)
	11			End of Boring @ -40'
				4.0' Hollow Stem to -5.0'
	24			Rotary Drilling Started at -5.0'
-40	37	4.5+P	12	CME Automatic Hammer *595.6*

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) NP=Non-Plastic VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery LL=Liquid Limit PL=Plastic Limit PI=Plasticity Index

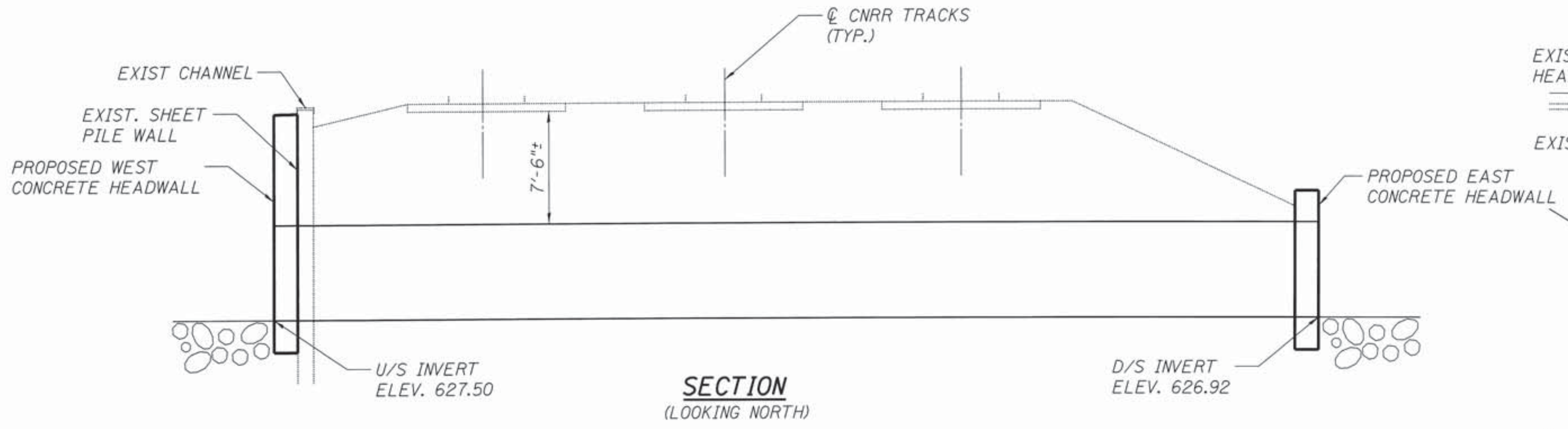
FILE NAME = c:\caddlib\pw\kkhan.great_lakes\dms47849\60P35-S8-Soil Borings 4.dgn	USER NAME = kkhan	DESIGNED - SK	REVISED -
		DRAWN - SK	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - GBC	REVISED -
DELTA ENGINEERING GROUP, LLC	PLOT DATE = 10/10/2012	DATE - 06/25/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

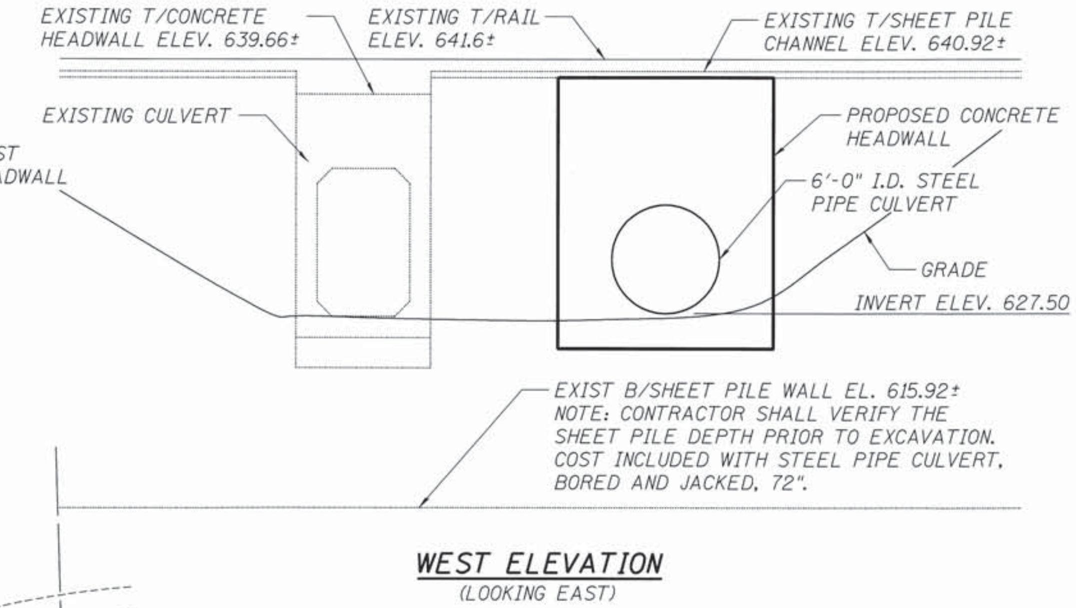
MANNHEIM RD OVER O'HARE DITCH CULVERT
SOIL BORING LOGS 4

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

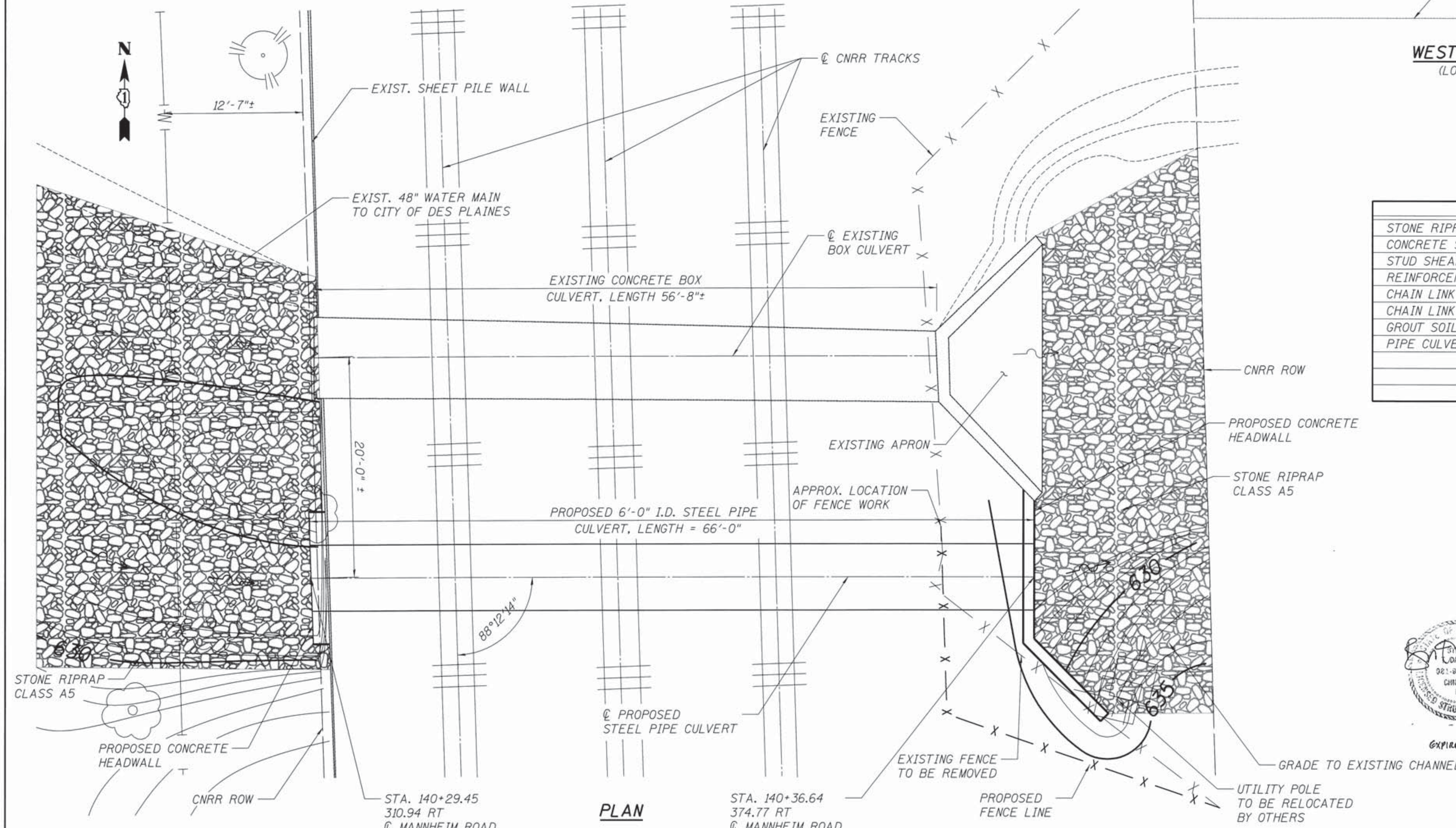
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	0105-WRS	COOK	537	327
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			



SECTION
(LOOKING NORTH)



WEST ELEVATION
(LOOKING EAST)



PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
STONE RIPRAP, CLASS A5	SQ YD	190
CONCRETE STRUCTURES	CU YD	18.1
STUD SHEAR CONNECTORS	EACH	184
REINFORCEMENT BARS, EPOXY COATED	POUND	6,080
CHAIN LINK FENCE (SPECIAL)	FOOT	44
CHAIN LINK FENCE REMOVAL	FOOT	39
GROUT SOIL MIXING	CU FT	2,772
PIPE CULVERTS, CLASS C 72" (JACKED)	FOOT	66

DESIGN STRESSES

f'c = 3,500 psi
fy = 36,000 psi (M270, GRADE 36)
fy = 60,000 psi (REINFORCEMENT)

LEGEND

- TRACKS
- FENCE
- FLOW LINE
- RIPRAP
- ROW

STATE OF ILLINOIS LICENSED STRUCTURAL ENGINEER 081-004737 CHICAGO IL
10/31/12
EXPIRES 11/30/14

CLV-01

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - TCG	REVISED -
		DRAWN - TCG	REVISED -
TENG — TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TMH	REVISED -
	PLOT DATE = $DATE$	DATE - 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED CULVERT UNDER CNRR
GENERAL PLAN

SCALE: 3/16"=1'-0" | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	0105-WRS	COOK	537	328
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

..\D16@P35-TOPO.DGN, ..\D16@P35-BORDER.DGN, ..\D16@P35-ROW.DGN, ..\D16@P35-SUE.DGN, ..\CP-UTILITIES - COMPLETION PHASE - NESTED REFERENCE.DGN, ..\D16@P35-REMOVALS.DGN, ..\D16@P35-3D-SURVEY.DGN, ..\D16@P35-2D-SURVEY.DGN, ..\CP-UTILITIES - PHASE I - NESTED REFERENCE.DGN, ..\D16@P35-DRAIN1.DGN, ..\D16@P35-DRAIN2.
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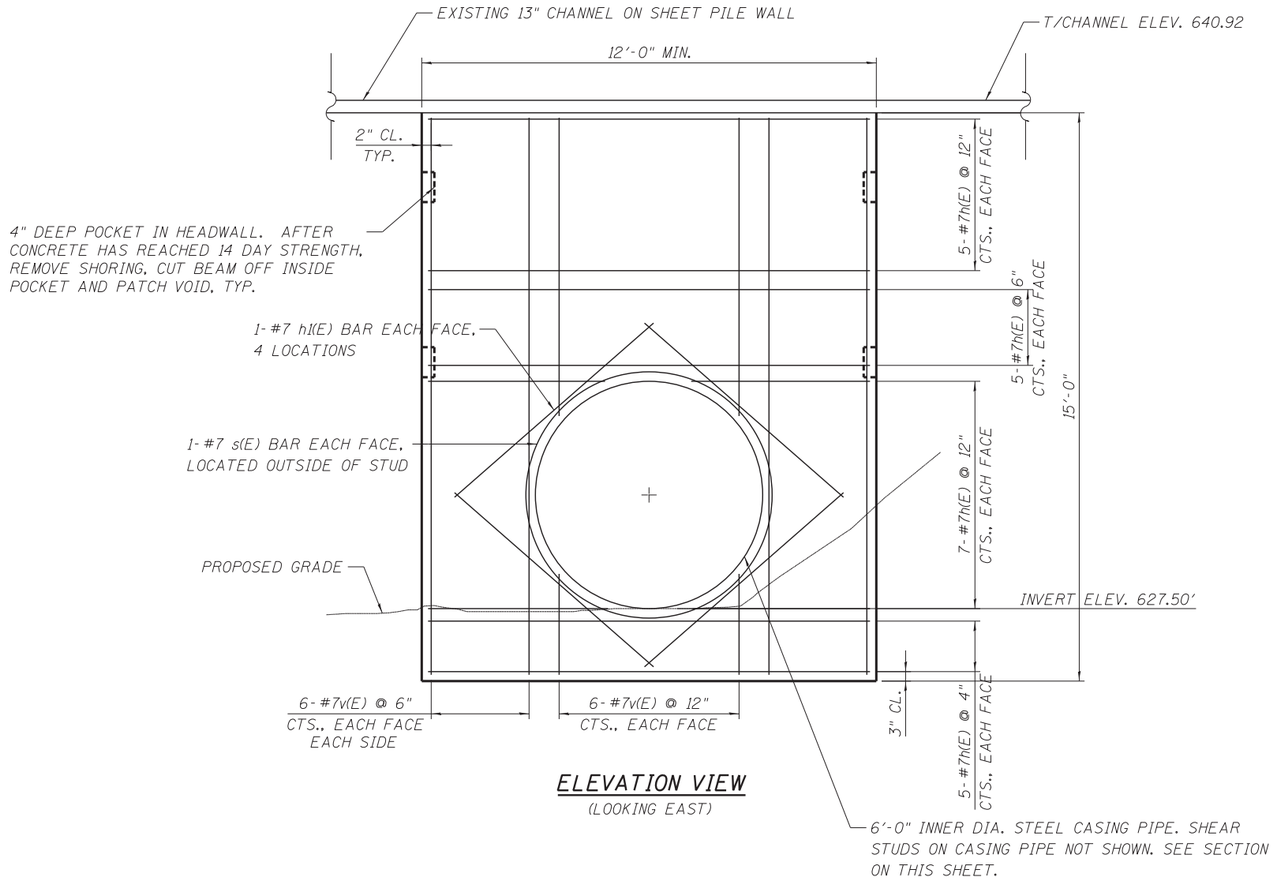
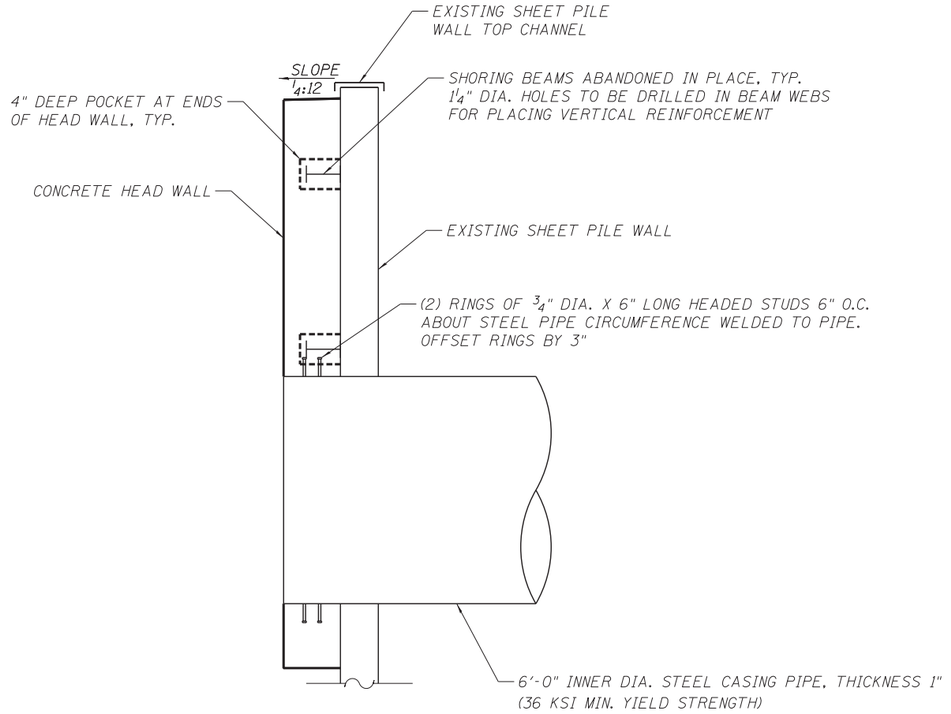
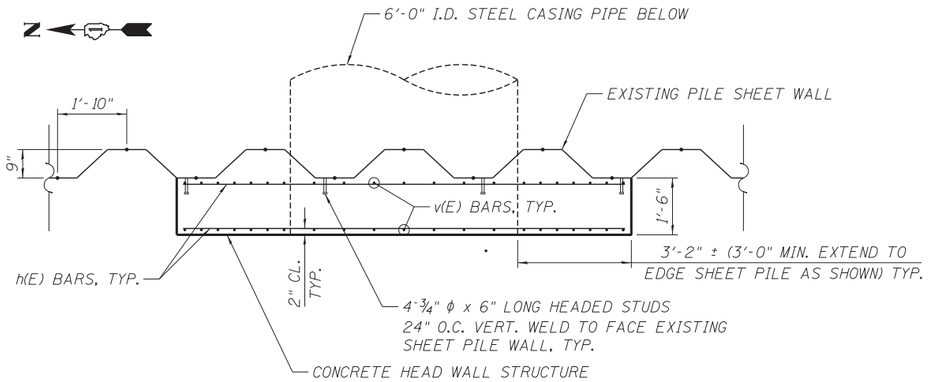


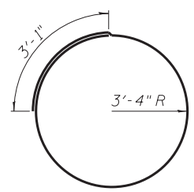
ELEVATION VIEW
(LOOKING EAST)



SECTION VIEW
(LOOKING NORTH)



PLAN VIEW



s(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	44	#7	11'-8"	—
h1(E)	8	#7	7'-0"	—
v(E)	36	#7	14'-7"	—
s(E)	2	#7	24'-1"	O
CONCRETE STRUCTURES			CU. YD.	10.7
REINFORCEMENT BARS, EPOXY COATED			POUND	2,340

NOTES:

1. LENGTH PROVIDED IS APPROXIMATE. ACTUAL HEADWALL WIDTH MAY BE DIFFERENT FROM SHOWN BASED ON SHEET PILE SPACING. ADJUST BAR LENGTHS ACCORDINGLY.
2. CUT v(E) AND h(E) BARS TO FIT AROUND CULVERT PIPE. MAINTAIN 2" CLEAR COVER FROM EDGE OF CONCRETE AND 2" CLEAR FROM CULVERT PIPE.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. 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.

CLV-02

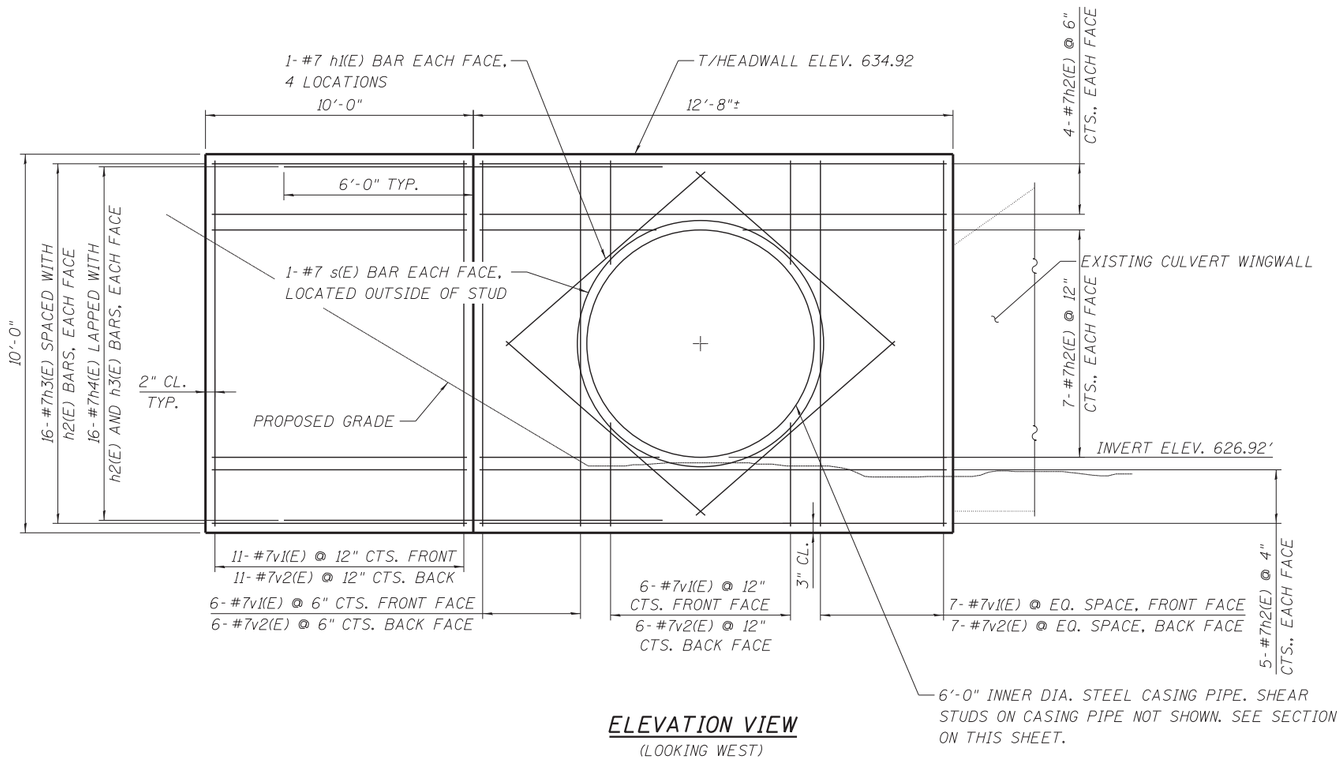
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - TCG	REVISED -
		DRAWN - TCG	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TMH	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

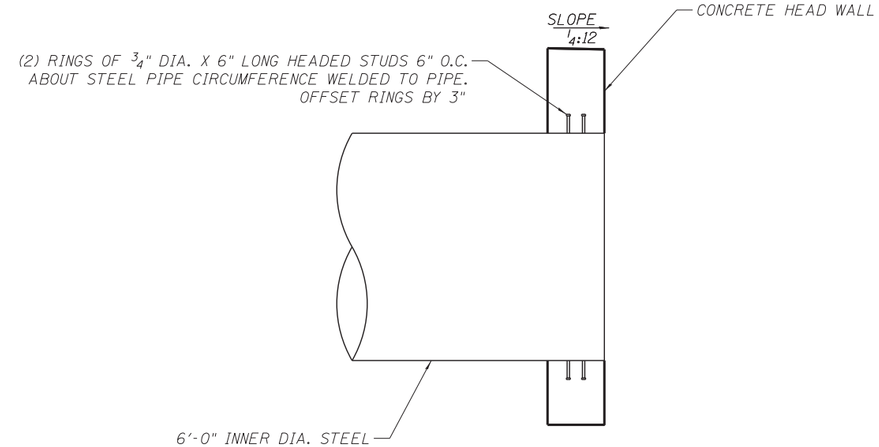
PROPOSED CULVERT UNDER CNRR
WEST HEADWALL DETAILS

SCALE: 1/2"=1'-0" | SHEET NO. OF SHEETS | STA. | TO STA.

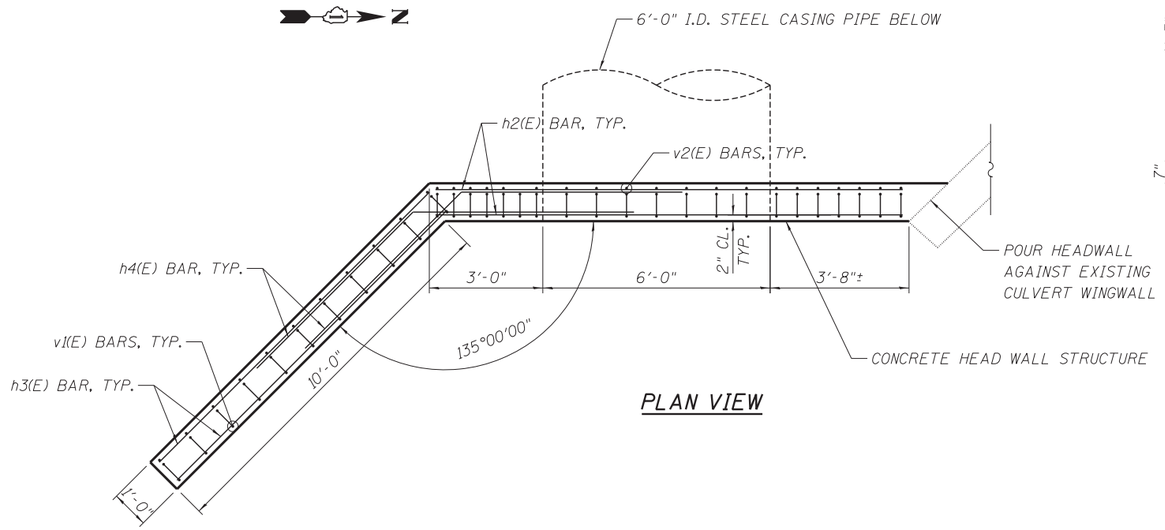
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	0105-WRS	COOK	537	329
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			



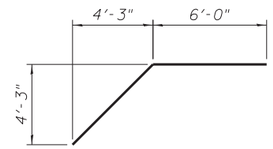
ELEVATION VIEW
(LOOKING WEST)



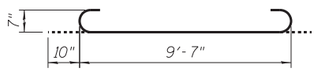
SECTION VIEW
(LOOKING NORTH)



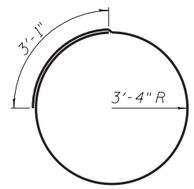
PLAN VIEW



h3(E)



v2(E)



s(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	8	#7	7'-0"	—
h2(E)	32	#7	12'-4"	—
h3(E)	32	#7	10'-1"	—
h4(E)	32	#7	12'-0"	⌐
v1(E)	30	#7	9'-7"	—
v2(E)	30	#7	11'-3"	⊔
s(E)	2	#7	24'-1"	○
CONCRETE STRUCTURES			CU. YD.	7.4
REINFORCEMENT BARS, EPOXY COATED			POUND	3,740

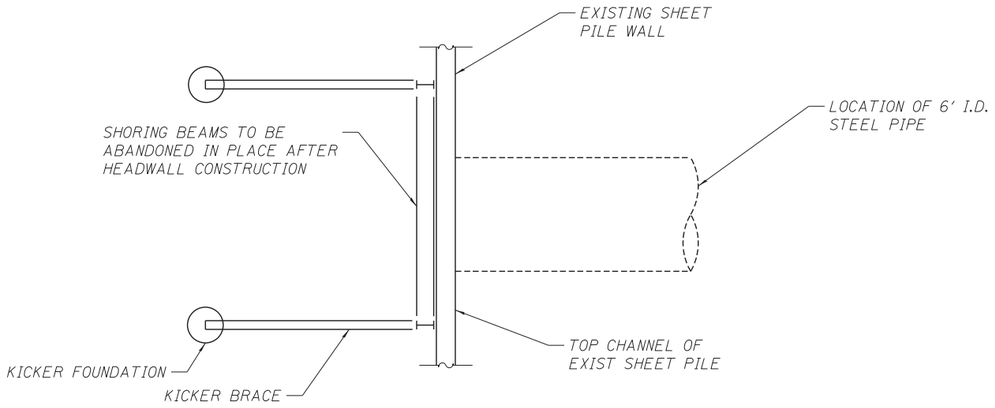
NOTES:

1. LENGTH PROVIDED IS APPROXIMATE. ACTUAL HEADWALL WIDTH MAY BE DIFFERENT FROM SHOWN BASED ON SHEET PILE SPACING. ADJUST BAR LENGTHS ACCORDINGLY.
2. CUT v1(E), h2(E) AND h4(E) BARS TO FIT AROUND CULVERT PIPE. MAINTAIN 2" CLEAR COVER FROM EDGE OF CONCRETE AND 2" CLEAR FROM CULVERT PIPE.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. 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.

CLV-03

$$$$-ref_list_name$$$$ 10-05-2012,15:14:59 BAJZEKKJ F:\DOC_EXP\CHI-00012584-02\COMMON_PSET\TEMPSHEETPLOTS\D1602P35-SHT-CULV-DETAIL.11.DGN

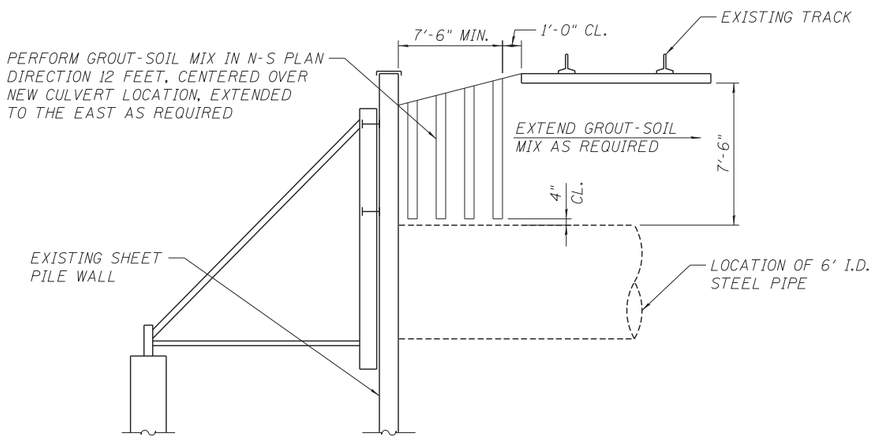
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - TCG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED CULVERT UNDER CNRR EAST HEADWALL DETAILS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - TCG	REVISED -				0105-WRS	COOK	537	330
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TMH	REVISED -					CONTRACT NO. 60P35		
	PLOT DATE = $DATE$	DATE - 10/19/12	REVISED -		SCALE: 1/2"=1'-0" SHEET NO. OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		



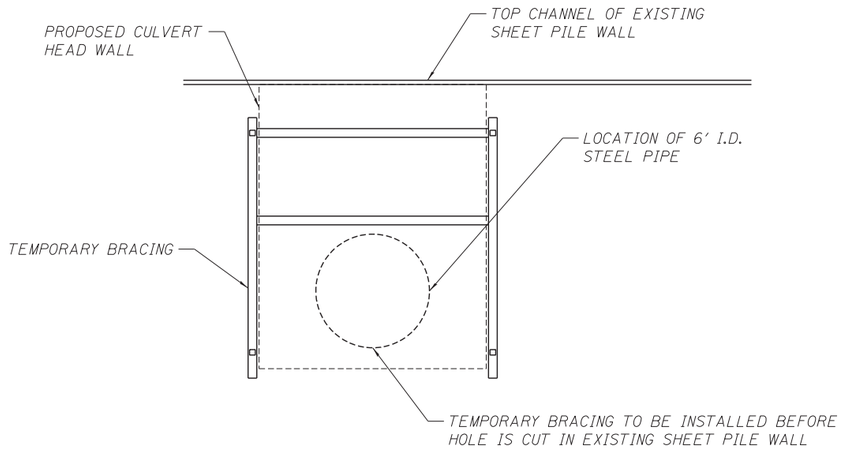
PLAN

SUGGESTED CONSTRUCTION PROCEDURE

1. TO STABILIZE SOIL ABOVE LOCATION WHERE PIPE CULVERT IS TO BE JACKED, PERFORM GROUT-SOIL MIXING EAST SIDE OF EXISTING SHEET PILE. GROUT-SOIL MIX SHALL BE 12' WIDE IN NORTH-SOUTH DIRECTION CENTERED ON PIPE AND EXTENDED DOWN TO AN ELEVATION ROUGHLY 4" ABOVE TOP OF WHERE STEEL CASING PIPE WILL BE. START GROUT SOIL MIX DIRECTLY EAST OF EXISTING SHEET PILE AND EXTEND A MINIMUM OF 7'-6" EAST. CONTRACTOR SHALL COMPLETE A GEOTECH INVESTIGATION AS REQUIRED TO DETERMINE IF GRANULAR SOILS ARE PRESENT ABOVE PIPE JACKING LOCATION, GROUT SOIL MIX MAY NEED TO EXTEND FURTHER EAST AND DOWN DEEPER AS REQUIRED. CONTRACTOR SHALL COORDINATE SOIL INVESTIGATION AND GROUT-SOIL INSTALLATION WITH RAILROAD. SEE SECTION (LOOKING NORTH).
2. INSTALL WALER TEMPORARY SUPPORTS, KICKERS, AND DEADMEN ON OUTSIDE (WEST) FACE OF EXISTING SHEET PILE WALL. COORDINATE TEMPORARY SYSTEM AND LOCATION WITH JACKING PIT REQUIREMENTS. SEE THE SECTION & ELEVATION ON THIS SHEET.
3. INSTALL JACKING PIT FOR ALL EQUIPMENT REQUIRED FOR JACKING PROCESS. CONTRACTOR IS RESPONSIBLE FOR ALL DESIGN AND DETAILS OF THE JACKING OPERATION INCLUDING, BUT NOT LIMITED TO, TEMPORARY SHORING AND JACKING EQUIPMENT SUPPORTS. CONTRACTOR SHALL REVIEW ALL EXISTING CONDUITS AND WATER MAIN IN AREA AND COORDINATE ANY MEANS AS REQUIRED AS TO NOT DAMAGE EXISTING UTILITIES.
4. CUT APPROXIMATELY 6'-3" DIAMETER HOLE IN EXISTING SHEET PILE WALL. PORTIONS OF CUT MAY BE PHASED IN ALONG WITH INITIAL EXCAVATION AS WARRANTED BY GOOD EXCAVATION TECHNIQUE AND ANY APPLICABLE OSHA STANDARDS.
5. PERFORM JACKING INSTALLATION OF STEEL PIPE.
6. CONSTRUCT WEST AND EAST HEADWALL STRUCTURES.
7. THE CONSTRUCTION SEQUENCE AND SCHEMATIC DETAILS SHOWN REPRESENT A SUGGESTED SEQUENCE. THE SEQUENCE SHOWN IS SCHEMATIC IN NATURE AND IF USED BY CONTRACTOR, MUST BE VERIFIED.



SECTION
(LOOKING NORTH)



ELEVATION
(LOOKING EAST)

CLV-04

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - TCG	REVISED -
		DRAWN - TMH	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCG	REVISED -
	PLOT DATE = $DATE$	DATE - 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED CULVERT UNDER CNRR
JACKING PROCEDURE

SCALE: 1/4"=1'-0" | SHEET NO. OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	0105-WRS	COOK	537	331
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAWS ST./ARLINGTON HTS., IL 60005
(847)398-1441 • FAX(847) 398-2376

SOIL BORING LOG

PAGE 1 of 1
DATE August 25, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. NMR-01
Station 122+02
Offset 56.6 ft Left
Ground Surface Elev. 639.6 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 631.6
Upon Completion 632.1
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
639.1			
Black SAND & GRAVEL FILL			
	2		91
Black TOPSOIL wet	4		
	6	2.7B	27
636.1			
	2		107
	3		
CLAY-brown & gray-	−5 6	3.1B	19
very stiff (A-6)			
	3		109
	4		
	8	3.1B	19
	4		106
629.6	−10 6 9	3.1B	22
End of Boring @ −10.0'			
CME Automatic Hammer			
	−15		
	−20		
	−25		
	−30		
	−35		
	−40		

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAWS ST./ARLINGTON HTS., IL 60005
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SOIL BORING LOG

PAGE 1 of 1
DATE August 25, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. NMR-02
Station 125+06
Offset 53.7 ft Left
Ground Surface Elev. 637.7 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black TOPSOIL FILL			
Organic Content = 5.8%			
636.2	3		98
	6		
	10	3.2B	23
CLAY-brown & gray-			
very stiff to hard (A-6)	3		97
	4		
wet	−5 5	2.0B	25
	5		106
	9		
	12	5.0B	19
639.2			
	8		110
CLAY-gray-	9		
hard (A-6)	627.7 −10 12	4.9B	18
End of Boring @ −10.0'			
CME Automatic Hammer			
	−15		
	−20		
	−25		
	−30		
	−35		
	−40		

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAWS ST./ARLINGTON HTS., IL 60005
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SOIL BORING LOG

PAGE 1 of 1
DATE August 10, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. NMR-03
Station 128+01
Offset 57.6 ft Right
Ground Surface Elev. 636.8 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	4		109
Misc. CLAY, SILT & STONE-brown-	6		
stiff to very stiff (FILL)	7	2.8B	20
	3		
	4		
631.8	−5 4	1.25P	16
SILTY CLAY-brown & gray-			
hard (A-6)	4		111
	5		
	5	5.7B	18
628.3			
	7		117
SILTY CLAY-gray-	12		
hard (A-6)	626.8 −10 12	7.0B	16
End of Boring @ −10.0'			
CME Automatic Hammer			
	−15		
	−20		
	−25		
	−30		
	−35		
	−40		

BOR-1

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	332
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-01.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 25, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. - Station -
BORING NO. NMR-04 Station 132+47 Offset 52.7 ft Left
Ground Surface Elev. 638.7 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 630.7
Upon Completion 630.7
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
638.2 Black SAND & GRAVEL FILL			
CLAY-brown & gray- very stiff (A-6) Fill	3		
636.7	7		
Black TOPSOIL wet	11	3.0P	16
	4		
Organic Content = 4.7%	6		
-5	8	3.0P	29
632.7	3		88
CLAY-brown & gray- stiff to very stiff (A-6) wet	3		
	5	1.3B	28
	4		118
628.7 -10	6 10	2.1B	16
End of Boring @ -10.0' CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 10, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. - Station -
BORING NO. NMR-05 Station 134+17 Offset 12.4 ft Right
Ground Surface Elev. 639.3 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SANDY LOAM-brown- very stiff (A-2-4) Fill	5		
	5		
LL=35 PL=25 PI=10	5	NP	9
	6		
	12		
-5	9	NP	14
633.3	2		97
SILTY CLAY-brown & gray- stiff (A-6) wet	3		
	4	1.4B	27
	2		100
629.3 -10	3 3	1.0B	25
End of Boring @ -10.0' CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

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SOIL BORING LOG

PAGE 1 of 1
DATE September 7, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. - Station -
BORING NO. NMR-06 Station 136+94 Offset 6.5 ft Left
Ground Surface Elev. 641.1 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
640.6 Black SAND & GRAVEL FILL			
CLAY-brown & gray- very stiff (A-6) Fill	5		109
	5		
	6	3.5B	20
637.6	2		
Organic Content = 4.7%	4		
Black SANDY TOPSOIL -5	5	2.5B	22
635.6	5		116
CLAY-brown & gray- hard (A-6)	7		
	10	5.8B	16
	3		110
631.1 -10	6 10	5.0B	20
End of Boring @ -10.0' CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

BOR-2

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	333
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-02.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-07
Station 141+08
Offset 11.3 ft Right
Ground Surface Elev. 641.3 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
640.3			
12.0" GRAVEL FILL			
	4		114
LL=38 PL=21 PI=17	6		
	9	6.0B	18
SILTY CLAY LOAM-brown & gray-very stiff to hard (A-6)			
	2		110
	4		
-5	7	3.4B	20
	4		100
wet	6		
	8	2.4B	25
	3		101
630.3	4		
-10	4	2.3B	24
End of Boring @ -10.0' CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 25, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-08
Station 143+97
Offset 57.7 ft Left
Ground Surface Elev. 639.1 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SAND & GRAVEL FILL 638.5			
CLAY-brown & gray, spotted black-very stiff (A-6) Fill	3		
	4		
	7	3.25P	22
635.1	4		
	6		
-5	7	3.5P	16
	6		
CLAY-brown & gray-very stiff to hard (A-6)	6		
	8	4.5P	18
	3		108
629.1	8		
-10	9	3.5B	18
End of Boring @ -10.0' CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-09
Station 147+17
Offset 15.5 ft Right
Ground Surface Elev. 638.0 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
637.0			
12.0" GRAVEL FILL			
	5		110
CLAY-dark gray to black-hard (A-6) 636.0	5		
	5	5.4B	17
LL=37 PL=19 PI=18			
SILTY CLAY LOAM-brown & gray-very stiff to hard (A-6)	4		103
	6		
-5	6	2.8B	23
	4		111
	5		
	7	4.4B	19
	5		107
628.0	8		
-10	10	4.9B	21
End of Boring @ -10.0' CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

BOR-3

DELTA ENGINEERING GROUP, LLC

USER NAME = kkhan	DESIGNED	REVISED -
	DRAWN	REVISED -
PLOT SCALE = $SCALE$	CHECKED	REVISED -
PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	334
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-03.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 24, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-10
Station 150+25
Offset 97.0 ft Left
Ground Surface Elev. 637.5 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SAND & GRAVEL FILL			
636.0	4		111
	5		
	6	3.2B	19
CLAY-brown & gray- very stiff to hard (A-6)	4		111
	6		
–5	6	4.3B	18
	5		113
	10		
	14	6.0B	18
	6		106
	9		
627.5 –10	14	5.7B	20
End of Boring @ –10.0' CME Automatic Hammer			
–15			
–20			
–25			
–30			
–35			
–40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-11
Station 153+11
Offset 42.0 ft Right
Ground Surface Elev. 639.8 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6.0" Black TOPSOIL & GRAVEL FILL			
639.3	5		
CLAY-brown, spotted black- hard (A-6) FILL	5		
637.3	7	4.5P	16
CLAY-brown & gray- very stiff to hard (A-6)	4		113
	5		
–5	7	3.5B	18
	5		111
	7		
	7	4.9B	19
	5		111
	8		
629.8 –10	10	4.2B	19
End of Boring @ –10.0' CME Automatic Hammer			
–15			
–20			
–25			
–30			
–35			
–40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-12
Station 156+03
Offset 54.2 ft Right
Ground Surface Elev. 640.4 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6.0" Black TOPSOIL & GRAVEL FILL			
639.9	3		109
CLAY-mottled brown & gray- hard (A-6) FILL	3		
637.9	3	4.4B	20
CLAY-brown & gray- very stiff to hard (A-6)	3		
wet	4		
–5	5	2.25P	28
	4		111
	6		
	8	6.6B	19
	4		109
	6		
630.4 –10	9	4.2B	20
End of Boring @ –10.0' CME Automatic Hammer			
–15			
–20			
–25			
–30			
–35			
–40			

BOR-4

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	335
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-04.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330
DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook
DRILLING METHOD Straight Flight Auger
HAMMER TYPE CME Automatic
STRUCT. NO. -
Station -
BORING NO. NMR-13
Station 159+02
Offset 9.3 ft Right
Ground Surface Elev. 641.3 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
640.8			
6.0" Black TOPSOIL FILL			
	4		
	9		
	4	2.5P	22
	4		
wet	5		
-5	6	3.0P	25
635.3			
	4		108
CLAY-brown & gray-	5		
very stiff to hard (A-6)	9	4.4B	20
	5		107
631.3	8		
-10	8	2.8B	21
End of Boring @ -10.0'			
CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330
DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook
DRILLING METHOD Straight Flight Auger
HAMMER TYPE CME Automatic
STRUCT. NO. -
Station -
BORING NO. NMR-14
Station 162+01
Offset 9.2 ft Left
Ground Surface Elev. 642.3 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
641.8			
6.0" Black TOPSOIL & GRAVEL FILL			
SILTY CLAY-brown & gray, spotted black-	4		116
hard (A-7) FILL	6		
LL=43 PL=21 PI=22	7	6.9B	16
638.8			
	3		102
CLAY-brown & gray-	5		
very stiff to hard (A-6)	5	2.3B	24
	6		115
	9		
	10	7.2B	17
	2		110
63.2.3	5		
-10	9	6.9B	20
End of Boring @ -10.0'			
CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330
DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook
DRILLING METHOD Straight Flight Auger
HAMMER TYPE CME Automatic
STRUCT. NO. -
Station -
BORING NO. NMR-15
Station 165+19
Offset 49.7 ft Right
Ground Surface Elev. 642.1 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
641.6			
6.0" Black TOPSOIL FILL			
	4		
CLAY-brown & black-	5		
very stiff (A-6) FILL	6	4.0P	18
638.1			
	3		97
Black TOPSOIL wet	5		
Organic Content = 3.8%	7	2.8B	27
636.6			
	7		115
CLAY-brown & gray-	10		
hard (A-6)	14	8.7B	17
	4		112
632.1	8		
-10	14	6.9B	19
End of Boring @ -10.0'			
CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

BOR-5

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	336
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-05.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-16
Station 168+28
Offset 49.0 ft Left
Ground Surface Elev. 641.7 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
641.2			
6.0" Black GRAVEL FILL			
	3		97
SILTY CLAY LOAM-brown, spotted black-very stiff (A-6) FILL	3		
LL=34 PL=18 PI=16	3	2.1B	17
	3		95
wet	5		
–5	6	2.4B	27
635.7			
	1		101
CLAY-brown & gray-stiff to hard (A-6)	2		
	3	1.1B	24
	3		112
	6		
631.7 –10	7	4.4B	18
End of Boring @ –10.0' CME Automatic Hammer			
–15			
–20			
–25			
–30			
–35			
–40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-17
Station 171+01
Offset 41.9 ft Right
Ground Surface Elev. 639.4 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
638.9			
6.0" Black TOPSOIL FILL			
	4		122
CLAY-brown-hard (A-6) Possible Fill	5		
	7	9.1B	14
635.9			
	3		97
wet	4		
–5	5	2.1B	26
CLAY-brown & gray-stiff to hard (A-6)			
	4		116
	5		
sandy @ –6.0'	6	1.8B	17
	7		113
629.4 –10	14 18	7.6B	18
End of Boring @ –10.0' CME Automatic Hammer			
–15			
–20			
–25			
–30			
–35			
–40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 12, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-18
Station 174+04
Offset 66.1 ft Left
Ground Surface Elev. 638.4 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 630.4
Upon Completion 630.4
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black TOPSOIL FILL			
636.9	4		
SILTY CLAY, trace brick-brown-hard (A-6) Fill	5		
	6	4.0P	11
634.9			
	3		102
CLAY-brown & gray-very stiff to hard (A-6)	5		
–5	5	4.0B	22
	3		104
	4		
	6	2.7B	22
629.4	7		111
CLAY-gray-hard (A-6)	11		
628.4 –10	15	5.7B	19
End of Boring @ –10.0' CME Automatic Hammer			
–15			
–20			
–25			
–30			
–35			
–40			

BOR-6

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	337
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-06.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-19
Station 177+03
Offset 33.5 ft Right
Ground Surface Elev. 638.9 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 630.4
Upon Completion 628.9
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
638.1			
10.0" Black TOPSOIL FILL			
	4		112
SILTY CLAY LOAM-brown, spotted black-stiff (A-6) Fill	4		
LL=36 PL=19 PI=17	4	1.9B	19
635.9			
	3		94
wet	4		
–5 CLAY-brown & gray-	4	1.5B	29
stiff to hard (A-6)			
	5		109
	6		
	6	2.5B	20
	8		109
628.9 –10	11 15	5.6B	20
End of Boring @ –10.0' CME Automatic Hammer			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 22, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-20
Station 180+00
Offset 44.4 ft Left
Ground Surface Elev. 637.9 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 631.9
Upon Completion 631.9
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black TOPSOIL wet	3		
	5		
Organic Content = 6.8%	5	3.5P	29
634.4			
	3		93
CLAY-brown & gray-	1		
–5 medium stiff (A-6) wet	1	0.8B	29
631.9			
	4		105
CLAY-brown & gray-	4		
hard (A-6)	11	4.0B	21
629.4			
	3		111
CLAY-gray-	7		
very stiff (A-6) 627.9 –10	10	3.5B	19
End of Boring @ –10.0' CME Automatic Hammer			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-21
Station 182+99
Offset 47.5 ft Right
Ground Surface Elev. 638.8 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 633.8
Upon Completion 628.8
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
638.0			
10.0" Black TOPSOIL FILL			
	3		
SILTY CLAY LOAM-brown and black-stiff (A-7) Fill wet	3		
LL=51 PL=31 PI=20 Organic=6.3%	3	1.5P	28
635.3			
	2		
	2		
–5 CLAY-brown & gray-	4	1.0P	16
stiff (A-6)			
	3		106
	5		
	7	1.2B	22
	2		
wet	3		
628.8 –10	4	--	26
End of Boring @ –10.0' CME Automatic Hammer			

BOR-7

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	338
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-07.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 22, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330
DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook
DRILLING METHOD Straight Flight Auger
HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-22
Station 185+76
Offset 56.4 ft Left
Ground Surface Elev. 639.4 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 635.9
Upon Completion 636.4
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
637.9			
Black TOPSOIL FILL	4		
	2		
CLAY-brown and black-very stiff (A-6) Fill	4	3.75P	17
635.9 ▼			
	1		106
	2		
CLAY-brown & gray-medium to very stiff (A-6)	2	0.4B	22
	3		
	17		
	10	2.0P	23
630.4	3		
CLAY-gray-very stiff (A-6)	5		
629.4	8	3.25P	19
End of Boring @ -10.0' CME Automatic Hammer			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 25, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330
DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook
DRILLING METHOD Straight Flight Auger
HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-23
Station 188+61
Offset 0.5 ft Right
Ground Surface Elev. 639.3 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
638.0			
3.0" ASPHALT, 9.0" CONCRETE, 4.0" STONE	5		
	4		
Black TOPSOIL Fill	2	3.25P	15
635.8			
End of Boring @ -3.5': obstruction CME Automatic Hammer			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 22, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330
DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS
LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook
DRILLING METHOD Straight Flight Auger
HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-24
Station 191+75
Offset 3.9 ft Left
Ground Surface Elev. 638.8 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
637.5			
3.0" ASPHALT, 8.0" CONCRETE, 5.0" STONE	3		101
	4		
LL=51 PL=31 PI=20	5	2.7B	22
SILTY CLAY LOAM-brown and gray-stiff to very stiff (A-7) Fill	2		
wet	4		
	7	1.0P	26
632.8	3		
CLAY-brown & gray-stiff (A-6)	4	1.0P	21
	2		96
wet 627.8	3		
	4	1.7B	26
End of Boring @ -10.0' CME Automatic Hammer			

BOR-8

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	339
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-08.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 26, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. -
Station -
BORING NO. NMR-25
Station 195+21
Offset 28.3 ft Left
Ground Surface Elev. 638.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
637.2			
ASPHALT, CONCRETE			
	4		
	4		
Fine SAND-brown-	8	NP	14
medium dense (A-3) Fill			
	4		
633.2	5		
-5	7	NP	7
End of Boring @ -5.0': obstruction			
CME Automatic Hammer			
-10			
-15			
-20			
-25			
-30			
-35			
-40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 10, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. -
Station -
BORING NO. NMR-26
Station 121+29
Offset 63.1 ft Right
Ground Surface Elev. 640.6 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY-brown-	2		
very stiff (A-5) Fill	5		
LL=46 PL=39 PI=7	6	2.0P	23
636.6	3		
	5		
SILTY CLAY-brown & gray-	-5 7	4.5+P	19
hard (A-6)	6		
	8		
	9	4.5+P	18
	6		112
630.6	-10 9		
End of Boring @ -10.0'	11	4.0P	18
CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

O'BRIEN & ASSOCIATES, INC.
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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. -
Station -
BORING NO. NMR-27
Station 135+94
Offset 70.6 ft Right
Ground Surface Elev. 641.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 631.2
Upon Completion 631.2
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6.0" TOPSOIL FILL 640.7			
	4		
CLAY-brown-	4		
hard (A-6) Fill	4	4.5P	17
637.7			
	2		103
	2		
CLAY-brown & gray-	-5 2	1.5B	23
medium stiff to stiff (A-6)			
wet below -6.0'	4		95
	4		
	3	0.9B	28
	4		94
	3		
631.2	-10 3	0.9B	29
End of Boring @ -10.0'			
CME Automatic Hammer			
-15			
-20			
-25			
-30			
-35			
-40			

BOR-9

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	340
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-09.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 24, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-28
Station 157+05
Offset 57.0 ft Left
Ground Surface Elev. 640.5 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SAND & GRAVEL FILL	2		105
639.0			
	4		
CLAY-brown and black- very stiff (A-6) Fill	4	2.0B	20
637.0			
	3		101
	5		
CLAY-brown & gray- very stiff to hard (A-6)	7	2.4B	24
	5		105
	8		
	10	5.0B	20
	7		
630.5	11		
	14	4.0P	18
End of Boring @ –10.0' CME Automatic Hammer			

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SOIL BORING LOG

PAGE 1 of 1
DATE September 7, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-29
Station 147+17
Offset 85.0 ft Left
Ground Surface Elev. 635.1 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
			95
Black ORGANIC TOPSOIL/PEAT 634.1	5		114
	6		
CLAY-brown & gray- hard (A-6)	8	5.0B	18
	5		117
	10		
629.1	12	7.6B	16
	6		112
CLAY-gray- stiff to very stiff (A-6)	6		
	9	2.2B	18
	4		
625.1	5		
	7	1.0P	18
End of Boring @ –10.0' CME Automatic Hammer			

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
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SOIL BORING LOG

PAGE 1 of 1
DATE September 7, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. NMR-30
Station 148+17
Offset 85.0 ft Left
Ground Surface Elev. 634.8 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
			60
Black ORGANIC TOPSOIL/PEAT 633.8	1		114
	3		
CLAY-brown & gray- hard (A-6)	5	4.2B	17
	3		111
	5		
628.8	9	5.7B	19
	3		111
CLAY-gray- very stiff (A-6)	6		
	8	2.7B	18
	3		105
624.8	5		
	6	2.4B	22
End of Boring @ –10.0' CME Automatic Hammer			

BOR-10

DELTA ENGINEERING GROUP, LLC

USER NAME = kkhan	DESIGNED	REVISED -
	DRAWN	REVISED -
PLOT SCALE = $SCALE$	CHECKED	REVISED -
PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	341
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-10.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE September 7, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. NMR-31
Station 143+89
Offset 79.3 ft Left
Ground Surface Elev. 634.7 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
			33
Black TOPSOIL FILL wet	2		115
633.2	5		
	5	3.5B	17
SILTY CLAY-brown &/or gray-	3		112
very stiff (A-6) Possible FILL	5		
	6	2.9B	19
	3		117
	6		
	8	3.7B	16
626.2			
	4		103
SILTY CLAY-brown-	4		
very stiff (A-6)	6	2.5B	23
624.7			
End of Boring @ -10.0'			
CME Automatic Hammer			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 22, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. ZB-01
Station 15+22
Offset 57.1 ft Right
Ground Surface Elev. 638.1 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-dark brown (A-6) FILL 637.6			
	2		98
CLAY-brown & gray-	1		
stiff to hard (A-6)	2	1.8B	23
	2		99
	3		
	6	2.1B	23
	5		
	9		
	15	4.5+P	20
629.6			
	5		110
CLAY-gray-	5		
very stiff (A-6) 628.1	9	3.2B	20
End of Boring @ -10.0'			
CME Automatic Hammer			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 16, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. ZB-02
Station 20+11
Offset 1.8 ft Left
Ground Surface Elev. 639.9 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM (Topsoil)-black-	3		
very stiff (A-7) Fill wet	4		
LL=41 PL=23 PI=18	4	2.0P	28
636.4			
	3		103
CLAY-mottled brown & gray-	5		
very stiff (A-6)	8	3.8B	23
633.9			
	3		110
CLAY-brown & gray-	3		
very stiff to hard (A-6)	3	3.0B	20
	5		114
	7		
629.9	10	6.1B	17
End of Boring @ -10.0'			
CME Automatic Hammer			

BOR-11

DELTA ENGINEERING GROUP, LLC

USER NAME = kkhan	DESIGNED	REVISED -
	DRAWN	REVISED -
PLOT SCALE = $SCALE$	CHECKED	REVISED -
PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD AND ZEMKE BLVD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	342
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-11.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 22, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. HR-01
Station 494+83
Offset 39.6 ft Right
Ground Surface Elev. 638.8 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
637.6 4.0" ASPHALT, 8.0" CONCRETE, 3.0" STONE			
	5		
SANDY CLAY-brown & black stiff (A-6) Fill	4		
	5	1.5P	10
635.3			
	1		93
wet	2		
–5	4	1.8B	26
CLAY-brown & gray- stiff (A-6)			
	2		103
	2		
	4	1.9B	23
630.3			
	6		112
CLAY-gray- hard (A-6)	10		
628.8 –10	16	8.2B	17
End of Boring @ –10.0' CME Automatic Hammer			
–15			
–20			
–25			
–30			
–35			
–40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 22, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. HR-02
Station 498+01
Offset 45.7 ft Right
Ground Surface Elev. 639.4 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM (Topsoil)-black- very stiff (A-7) wet			
	3		
LL=41 PL=19 PI=22	5		
	6	2.0P	26
635.4			
	2		
	4		
–5	5	1.5P	18
CLAY-brown & gray- stiff to very stiff (A-6)			
	3		110
	5		
	6	3.5B	18
630.9			
	7		117
CLAY-gray- hard (A-6)	12		
629.4 –10	12	4.7B	15
End of Boring @ –10.0' CME Automatic Hammer			
–15			
–20			
–25			
–30			
–35			
–40			

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SOIL BORING LOG

PAGE 1 of 1
DATE August 22, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. HR-03
Station 502+07
Offset 47.5 ft Right
Ground Surface Elev. 638.8 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black TOPSOIL 637.8			
	1		
wet	2		
	5	1.5P	26
CLAY-brown & gray- stiff to hard (A-6)			
	3		113
	6		
–5	6	5.4B	16
	5		106
	14		
630.8	11	4.6B	16
End of Boring @ –8.0': obstruction CME Automatic Hammer			
–10			
–15			
–20			
–25			
–30			
–35			
–40			

BOR–12

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
HIGGINS ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	343
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-12.dgn

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SOIL BORING LOG

PAGE 1 of 1
DATE August 22, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Straight Flight Auger HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. HR-04
Station 504+84
Offset 0.6 ft Right
Ground Surface Elev. 636.7 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				ASPHALT, CONCRETE, STONE 635.7
	4		109	
	6			LL=40 PL=21 PI=19
	7	4.9B	19	SILTY CLAY-brown & gray-hard (A-6)
	4		109	
–5	6 9	4.7B	19	
	5		107	
	7 11	7.3B	20	
	5		105	
626.7 –10	7 10	4.8B	22	
				End of Boring @ –10.0' CME Automatic Hammer
–15				
–20				
–25				
–30				
–35				
–40				

BOR–13

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
HIGGINS ROAD

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	344
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 2
DATE August 18, 2011
LOGGED BY AO
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Culvert
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Rotary Mud HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. CB-01
Station 140+04
Offset 115 ft Left
Ground Surface Elev. 639.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6.0" Black TOPSOIL FILL 638.7			
SILTY CLAY-brown & black-hard (A-6) Fill	4		
	7		
	9	4.5+P	20
635.7			
	3		109
Black TOPSOIL wet	5		
	7	3.25P	26
633.2			
	3		102
SILTY CLAY-brown & gray-stiff to hard (A-6)	5		
	6	2.9B	21
	3		103
	3	1.0B	23
	4		113
	8	4.6B	16
625.7			
	5		103
CLAY-gray-stiff to hard (A-6)	7		
	10	4.1B	23
	8		
	13		
	13	4.5+P	13
	4		116
	6	3.5B	15

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to hard (A-6)	3		112
	4		
	5	1.2B	17
	6		109
	8		
	14	5.3B	17
610.7			
SILTY LOAM-gray-dense to very dense (A-4)	18		
	29		
	32	NP	13
	12		
	14		
	19	NP	13
600.7			
SILTY CLAY-gray-hard (A-6)	8		121
	14		
	16	9.1B	13

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SOIL BORING LOG

PAGE 2 of 2
DATE August 18, 2011
LOGGED BY AO
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Culvert
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Rotary Mud HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. CB-01
Station 140+04
Offset 115 ft Left
Ground Surface Elev. 639.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY-gray-hard (A-6)			
	11		127
	19		
	23	5.9B	11
	19		122
589.2			
	21		
	23	6.1B	13
End of Boring @ -50.0'			
4.0" Hollow Stem to -6.0'			
Rotary Drilling Started at -6.0'			
CME Automatic Hammer			

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SOIL BORING LOG

PAGE 1 of 2
DATE August 18, 2011
LOGGED BY AO
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Culvert
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Rotary Mud HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. CB-02
Station 140+60
Offset 8.2 ft Left
Ground Surface Elev. 642.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6.0" Black TOPSOIL FILL 641.7			
	6		
	6		
	8	3.5P	17
SILTY CLAY-brown & gray-stiff to hard (A-6)	4		108
	5		
	7	4.4B	19
	4		105
	6		
	9	1.9B	22
	3		112
	3		
	5	2.4B	18
	2		110
	3		
	5	1.0B	20
	2		104
	2		
	3	1.2B	22
	5		113
	8		
	10	2.5B	18
	8		
	9		
	11	--	21

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to very stiff (A-6)	5		
	6		
	8	--	21
	4		116
	6		
	9	--	25
	5		109
	9		
	13	3.3B	19
608.7			
	6		
	9		
SILTY LOAM-gray-medium dense (A-4)	10	NP	16
603.7			
	6		118
SILTY CLAY-gray-stiff (A-6)	5		
	6	1.8B	16

DELTA ENGINEERING GROUP, LLC

USER NAME = kkhan	DESIGNED	REVISED -
	DRAWN	REVISED -
PLOT SCALE = $SCALE$	CHECKED	REVISED -
PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
BOX CULVERT

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	345
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

BOR-14

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-14.dgn

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SOIL BORING LOG

PAGE 2 of 2
DATE August 18, 2011
LOGGED BY AO
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Culvert
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Rotary Mud HAMMER TYPE CME Automatic
STRUCT. NO. - Station -
BORING NO. CB-02 Station 140+60 Offset 8.2 ft Left
Ground Surface Elev. 642.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY-gray- hard (A-6)			
	8		121
-45	8 9	7.9B	14
	8		121
592.2	8 8	5.9B	14
End of Boring @ -50.0' 4.0" Hollow Stem to -6.0' Rotary Drilling Started at -6.0' CME Automatic Hammer			
-55			
-60			
-65			
-70			
-75			
-80			

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SOIL BORING LOG

PAGE 1 of 2
DATE September 1, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Culvert
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD 2.25" Hollow Stem Auger HAMMER TYPE Diedrich Automatic
STRUCT. NO. - Station -
BORING NO. CB-03 Station 140+74 Offset 63.9 ft Right
Ground Surface Elev. 641.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black TOPSOIL 640.2			
	1		103
	1		
	2	0.6B	22
SILTY CLAY-brown & gray- medium stiff to stiff (A-6)			
	2		109
-5	2 3	1.5B	18
	2		
	1		
	1	1.5P	27
	2		108
	3		
-10	5	2.0B	21
630.2			
	3		
SILTY LOAM-gray- medium dense (A-4)	4		
	6	NP	23
627.7			
	5		111
	7		
-15	12	2.8B	19
CLAY-gray- very stiff to hard (A-6)	5		
	7		
	8	2.5P	18
	5		118
	6		
-20	10	2.8B	16
-25			
CLAY-gray- very stiff to hard (A-6)			
	4		114
	5		
	8	2.6B	17
	4		109
	5		
	8	2.9B	20
	6		120
	8		
	12	4.6B	15
	7		107
	7		
-30	10	2.0B	21
607.7			
	12		
SILTY LOAM-gray- medium dense (A-4)	12		
-35	16	NP	11
602.7			
	5		119
SILTY CLAY-gray- very stiff to hard (A-6)	7		
-40	13	3.0B	15

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SOIL BORING LOG

PAGE 2 of 2
DATE September 1, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Culvert
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Rotary Mud HAMMER TYPE Diedrich Automatic
STRUCT. NO. - Station -
BORING NO. CB-03 Station 140+74 Offset 63.9 ft Right
Ground Surface Elev. 641.2 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY-gray- very stiff to hard (A-6)			
	4		109
-45	9 15	4.8B	11
	5		131
591.2	10 13	7.7B	11
End of Boring @ -50.0' 4.0" Hollow Stem to -6.0' Rotary Drilling Started at -6.0' Diedrich Automatic Hammer			
-55			
-60			
-65			
-70			
-75			
-80			

BOR-15

DELTA ENGINEERING GROUP, LLC

USER NAME = kkhan	DESIGNED	REVISED -
	DRAWN	REVISED -
PLOT SCALE = $SCALE$	CHECKED	REVISED -
PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
BOX CULVERT

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	346
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 1
DATE August 17, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Culvert
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Rotary Mud HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. CB-04
Station 140+70
Offset 150.2 ft Right
Ground Surface Elev. 635.6 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
634.8			
10.0" TOPSOIL FILL			
	5		
	6		
	9	3.75P	19
CLAY–brown & gray– very stiff to hard (A-6)			
	5		112
	7		
–5	11	3.8B	19
	3		113
	4		
	10	3.8B	18
	8		118
	18		
–10	18	4.5B	16
624.6			
	5		111
CLAY–gray– hard (A-6)	9		
	13	4.5B	19
621.6			
	7		114
	9		
–15	12	NP	18
LOAM–gray– medium dense (A-2)			
	7		109
	7		
	7	NP	20
617.1			
	5		
CLAY–gray– stiff to very stiff (A-6)	5		
–20	8	1.0P	17

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	5		117
CLAY–gray– stiff to very stiff (A-6)			
	9		
	11	2.6B	16
	6		113
sandy	11		
–25	13	3.4B	17
609.6			
	20		
	29		
	30	NP	19
SANDY LOAM–gray– medium to very dense (A-2)			
	18		
	27		
–30	33		NR
	11		116
	8		
–35	9	NP	17
598.6			
SILTY CLAY–gray– hard (A-6)			
End of Boring @ –40'			
4.0" Hollow Stem to –5.0'			
Rotary Drilling Started at –5.0'			
CME Automatic Hammer 595.6	11		
–40	24		
	37	4.5+P	12

O'BRIEN & ASSOCIATES, INC.
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SOIL BORING LOG

PAGE 1 of 1
DATE September 1, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Jacking Pit Structure
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD Rotary Mud HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. JP-01
Station 140+16
Offset 310.4 ft Right
Ground Surface Elev. 636.4 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 618.9 ft
Upon Completion 618.9 ft
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
635.8			
7.0" Black TOPSOIL FILL			
	2		
CLAY–brown & black– stiff (A-6) Fill	2		
	2	1.5P	22
632.9			
	2		98
	4		
–5	4	2.0P	25
CLAY–brown & gray– stiff to hard (A-6) wet –3.5' to –8.5'			
	2		95
	3		
	4	1.75P	28
	4		107
	8		
–10	10	5.2P	19
625.4			
	4		108
CLAY–gray– very stiff (A-6)	7		
	4	3.3B	20
622.9			
	9		
Fine to Coarse SAND–gray– medium dense (A-3)	10		
–15	13	NP	11
620.4			
	3		119
SILTY CLAY–gray– hard (A-6)	6		
▽▼	16	5.3B	15
617.9			
	4		
Fine to Coarse SAND–gray– medium dense (A-3)	6		
617.9 –20	4	NP	15

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	6		116
SILTY CLAY–gray– very stiff (A-6)	8		
	19	3.5B	17
	6		109
sandy	6		
–25	10	2.6B	20
609.9			
	10		
	15		
	15	NP	19
SILTY LOAM–gray– dense (A-4)			
	10		
	17		
606.4 –30	20	NP	23
End of Boring @ –30.0' CME Automatic Hammer			
–35			
–40			

BOR–16

DELTA ENGINEERING GROUP, LLC	USER NAME = kkhan	DESIGNED	REVISED -
		DRAWN	REVISED -
	PLOT SCALE = $SCALE$	CHECKED	REVISED -
	PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
BOX CULVERT AND JACKING PIT

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	347
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-16.dgn

O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAWS ST./ARLINGTON HTS., IL 60005
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SOIL BORING LOG

PAGE 1 of 1
DATE August 10, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 — DESCRIPTION I-190 Collector-Distribution Roadway Improvements: Cantilever Sign
SECTION 0105-WRS — LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook — DRILLING METHOD 2.25" Hollow Stem Auger — HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. SG-CN2
Station 122+03
Offset 76.3 ft Right
Ground Surface Elev. 637.9 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 605.9 ft
Upon Completion Dry
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Misc. CLAY, SILT & STONE FILL	6		120
	7		
	12	7.2B	15
633.9			
	5		119
SANDY LOAM-brown-	6		
medium dense (A-2) Possible Fill	6	NP	21
631.9			
	3		115
CLAY-brown & gray-	7		
very stiff (A-6)	9	3.3B	17
	4		
	5		
	7	3.0P	21
	4		106
	4		
	7	2.1B	22
	4		111
	5		
	6	2.8B	19
622.4			
SANDY LOAM-gray-	8		
medium dense (A-2)	6		
	6	NP	16
619.4			
	5		116
CLAY-gray-	5		
very stiff to hard (A-6)	7	2.3B	17
CLAY-gray-	3		115
very stiff to hard (A-6)	6		
	8	2.3B	17
	5		119
	9		
	13	6.2B	15
611.9			
SANDY LOAM-gray-	27		
medium to very dense (A-2)	42		
	50/4"	NP	16
	32		
	50/5"	NP	14
wet			
	8		
	7	NP	30
600.9			
SILTY CLAY-gray-			
hard (A-6)	6		123
End of Boring @ -40.0'	8		
CME Automatic Hammer 597.9	15	5.6B	14

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SOIL BORING LOG

PAGE 1 of 2
DATE August 24, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 — DESCRIPTION I-190 Collector-Distribution Roadway Improvements: Cantilever Sign
SECTION 0105-WRS — LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook — DRILLING METHOD Rotary Mud — HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. SG-CS1
Station 164+14
Offset 53.5 ft Left
Ground Surface Elev. 643.5 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black SAND & GRAVEL FILL	4		
642.5			
CLAY-brown & black-	5		
hard (A-6) FILL	7	4.5P	18
639.5			
	3		
Black TOPSOIL wet	4		
638.0			
CLAY-brown & gray-	3		101
stiff to hard (A-6)	4		
	5	2.4B	24
	3		106
	5		
	8	3.5P	20
	7		113
	11		
	16	4.8B	17
629.5	7		116
CLAY-gray-	9		
very stiff to hard (A-6)	13	3.8B	17
	6		114
	8		
	8	2.0B	17
	3		101
	7		
	13	3.7B	24
CLAY-gray-	11		
very stiff (A-6)			
622.5			
SILTY LOAM-gray-	9		
medium dense (A-2)	8	NP	21
620.0			
	5		119
CLAY-gray-	9		
hard (A-6)	11	4.0B	15
616.5			
SILTY LOAM-gray-	50/5.5"		NR
medium to very dense (A-4)	40		
	50/5"	NP	15
	42		
	50/5.5"	NP	16
	4		
	8		
	6	NP	19

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SOIL BORING LOG

PAGE 2 of 2
DATE August 24, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 — DESCRIPTION I-190 Collector-Distribution Roadway Improvements: Cantilever Sign
SECTION 0105-WRS — LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook — DRILLING METHOD Rotary Mud — HAMMER TYPE CME Automatic

STRUCT. NO. –
Station –
BORING NO. SG-CS1
Station 164+14
Offset 53.5 ft Left
Ground Surface Elev. 643.5 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY LOAM-gray-			
medium to very dense (A-4)			
600.0			
	20		127
SILTY CLAY-gray-	40		
very stiff to hard (A-6)	40	4.7B	11
	12		116
	16		
593.5	22	3.3B	16
End of Boring @ -50'			
4.0" Hollow Stem to -6.0'			
Rotary Drilling Started at -6.0'			
CME Automatic Hammer			

BOR-17

DELTA ENGINEERING GROUP, LLC

USER NAME = kkhan	DESIGNED	REVISED -
	DRAWN	REVISED -
PLOT SCALE = $SCALE$	CHECKED	REVISED -
PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD SIGN STRUCTURE

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	348
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-17.dgn

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O'BRIEN & ASSOCIATES, INC.
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SOIL BORING LOG

PAGE 1 of 1
DATE September 7, 2011
LOGGED BY TOB
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements: Truss Sign
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD 2.25" Hollow Stem Auger HAMMER TYPE Diedrich Automatic
STRUCT. NO. –
Station –
BORING NO. SG-TS2-1
Station 144+82
Offset 100 ft Left
Ground Surface Elev. 635.3 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.3 ft
Upon Completion 625.3 ft
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
			39	Black ORGANIC TOPSOIL wet
	2		112	
633.3				
	4			
	4	2.7B	18	
				CLAY-brown & gray- very stiff (A-6)
	3		113	
	6			
–5	7	3.8B	18	
	5		110	
	7			
	8	3.5B	20	
626.8				
	4		114	CLAY-gray- very stiff (A-6)
	6			
–10	7	2.7B	17	
623.8				
	7			SANDY LOAM-gray- medium dense (A-2)
	6	NP	20	
621.8				
	3			
	4			
–15	6	NP	23	SILTY LOAM-gray- medium dense (A-4)
	3			
	7			
	5	NP	12	
617.3				
	4		113	CLAY-gray- very stiff to hard (A-6)
	6			
–20	9	4.0B	18	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray- very stiff to hard (A-6)
	12		125	
	21			
	35	3.3B	13	
611.8				
	21			SILTY LOAM-gray- very dense (A-4)
	16			
–25	42	NP	16	
	25			
	33			
	36	NP	17	
	22			
	37			
605.3 –30	47	NP	15	End of Boring @ –30.0' Dierdrich Automatic Hammer
–40				

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SOIL BORING LOG

PAGE 1 of 1
DATE August 24, 2011
LOGGED BY JW
OBA JOB No. 11585

ROUTE F.A.P. RTE. 330 DESCRIPTION I-190 Collector-Distribution Roadway Improvements: Truss Sign
SECTION 0105-WRS LOCATION Mannheim Road Reconstruction, I-190 to North of Higgins, Chicago, IL
COUNTY Cook DRILLING METHOD 2.25" Hollow Stem Auger HAMMER TYPE CME Automatic
STRUCT. NO. –
Station –
BORING NO. SG-TS2-2
Station 144+91
Offset 68.1 ft Left
Ground Surface Elev. 638.1 ft

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 622.6 ft
Upon Completion 620.1 ft
After n/a Hrs. n/a

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				Black SAND & GRAVEL FILL
637.1				
	5			CLAY-brown & gray- hard (A-6) FILL
636.1				
	5			
	7	4.5+P	20	
				CLAY-brown & gray- stiff to hard (A-6)
	2		92	
	4			wet
–5	6	1.8B	27	
	2		113	
	5			SANDY LOAM-gray- very dense (A-2)
	6	3.6B	16	
	4		113	
	9			CLAY-gray- hard (A-6)
–10	11	6.2B	18	
	5		106	
	8			
	11	4.2B	21	
624.6				
	4		97	
	6			wet
–15	9	2.7B	25	CLAY-gray- stiff to very stiff (A-6)
	4		116	
	5			
	7	2.7B	16	
	4		117	
	5			
–20	9	2.3B	16	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY-gray- stiff to very stiff (A-6)
	3		114	
	5			
	7	1.3B	16	
	3			
	6			
–25	13	2.5P	16	
612.1				
	8			SANDY LOAM-gray- very dense (A-2)
	23			
	28	NP	18	
609.6				
	15		125	CLAY-gray- hard (A-6)
	18			
–30	23	5.9B	13	
				End of Boring @ –30.0' CME Automatic Hammer
–40				

BOR–18

DELTA ENGINEERING GROUP, LLC

USER NAME = kkhan	DESIGNED	REVISED -
	DRAWN	REVISED -
PLOT SCALE = $SCALE$	CHECKED	REVISED -
PLOT DATE = 10/10/2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG
MANNHEIM ROAD SIGN STRUCTURE

SCALE: 1" = 50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	349
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = c:\caddlib\pw\kkhan\pwgreat_lakes\dms47849\D160P35-sht-bor-18.dgn

GENERAL I.T.S. NOTES

1. THE CONTRACTOR SHALL EXERCISE CARE WITH THE INSTALLATION OF UNDERGROUND EQUIPMENT AS THERE MAY BE EXISTING PRIVATELY OWNED FACILITIES WITHIN THE PROJECT LIMITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ANY UTILITIES IN THE WORK ZONE AND REQUEST UTILITY LOCATES.
2. FIBER OPTIC CABLE SLACK SHALL BE AS FOLLOWS: 100 FEET FOR EACH CABLE (96 AND 12 FIBER) AT HANDHOLES AND COMMUNICATIONS VAULTS WHERE SPLICING IS INDICATED. FIBER OPTIC CABLE SLACK SHALL BE 50 FEET FOR EACH CABLE AT HANDHOLES WHERE NO SPLICING IS INVOLVED.
3. THE ELECTRICAL MAINTENANCE CONTRACTOR (EMC) SHALL BE CONTACTED FOR EXISTING STATE OWNED FACILITIES LOCATES.
4. NO END TO END SPLICES OF THE 96 STRAND FIBER OPTIC CABLE SHALL BE PERMITTED UNLESS APPROVED BY THE RESIDENT ENGINEER. ANY END TO END SPLICES SHALL BE DONE IN A COMMUNICATIONS VAULT. ANY COSTS TO INSTALL ADDITIONAL COMMUNICATIONS VAULTS, SPLICE CLOSURES, AND FIBER SPLICES TO ACCOMMODATE END TO END SPLICING SHALL BE AT NO ADDITIONAL COST TO THE DEPARTMENT.
5. ALL CONDUIT SHALL BE INSTALLED A MINIMUM OF 30" BELOW GRADE.
6. WHERE ELECTRIC POWER IS INDICATED FROM AN EXISTING CONTROLLER, THE CONTRACTOR SHALL EXPEDITIOUSLY INSTALL THE REQUIRED CIRCUIT BREAKER(S) AND UNDERGROUND WORK. MAINTENANCE OF THE TRAFFIC SIGNAL INSTALLATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY DURING THE MODIFICATION OF THE CONTROLLER.

CONDUIT AND CABLE LEGEND

REMOVAL	EXISTING	PROPOSED	
			CONDUIT AS LABLED ON PLANS
		FO	FIBER OPTIC CABLE AS LABLED ON PLANS
		E	POWER CABLES AS LABELED ON PLANS
		EMB	CONDUIT EMBEDDED IN STRUCTURE
R			DYNAMIC MESSAGE SIGN ON STRUCTURE
		PTZ	CCTV CAMERA
			ELECTRICAL SERVICE INSTALLATION
R			ITS CABINET, GROUND MOUNTED
			HANDHOLE
		H	HEAVY DUTY HANDHOLE
	V	V	COMMUNICATION VAULT
		J	JUNCTION BOX, COMPOSITE CONCRETE, EMBEDDED IN STRUCTURE, 20"X18"X10"
		J	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 24" X 24" X 10"

COMMUNICATIONS DIAGRAM LEGEND

	SPLICE CLOSURE
FOIC	FIBER OPTIC INTERCONNECT CENTER
CNTRL	DYNAMIC MESSAGE SIGN CONTROLLER
DVE	DIGITAL VIDEO ENCODER
DMS	DYNAMIC MESSAGE SIGN
CCTV	CCTV CAMERA
SWE	ETHERNET SWITCH

ABBREVIATIONS

PREFIX	COMPONENT
CSF	CABLE SPLICE, FIBER OPTIC, FUSION
CTD	CCTV CAMERA, DOME
CNTRL	DYNAMIC MESSAGE SIGN CONTROLLER
DCF	DISTRIBUTION CABLE, FIBER OPTIC
DMS	DYNAMIC MESSAGE SIGN
DVE	DIGITAL VIDEO ENCODER
ECC	ELECTRICAL CABLE IN CONDUIT
EMB	CONDUIT EMBEDDED IN STRUCTURE
ETH	ETHERNET CABLE
FOC	FIBER OPTIC CABLE
FOIC	FIBER OPTIC INTERCONNECT CENTER
GSC	GALVANIZED STEEL CONDUIT
HHL	HANDHOLE
IDT	INNERDUCT
LCF	LATERAL CABLE, FIBER OPTIC
SWE	SWITCH, ETHERNET
TCF	TRUNK CABLE, FIBER OPTIC
US12	FIBER OPTIC CABLE DESIGNATOR, MANNHEIM ROAD
N	FIBER OPTIC CABLE DESIGNATOR, NORTH OF PUMP STATION NO. 24
PS24	FIBER OPTIC CABLE DESIGNATOR, PUMP STATION NO. 24

ITS–01

HNTB

USER NAME = mkosir	DESIGNED DJJ	REVISED -
	DRAWN BCC	REVISED -
PLOT SCALE = 50:1	CHECKED YJ	REVISED -
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS GENERAL NOTES AND LEGEND

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	350
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

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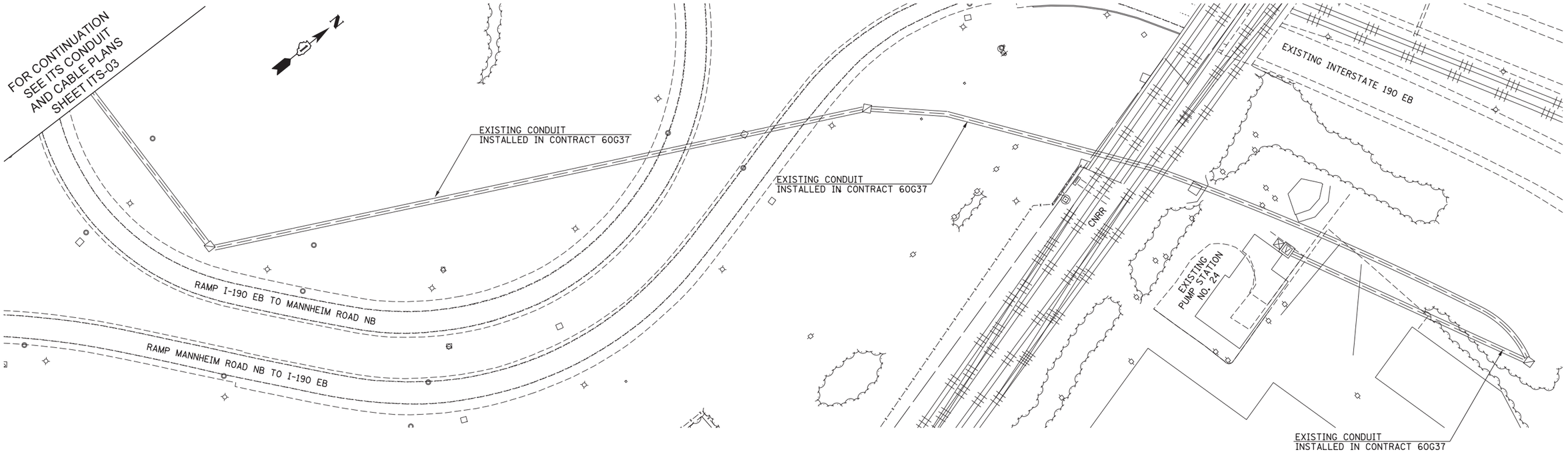
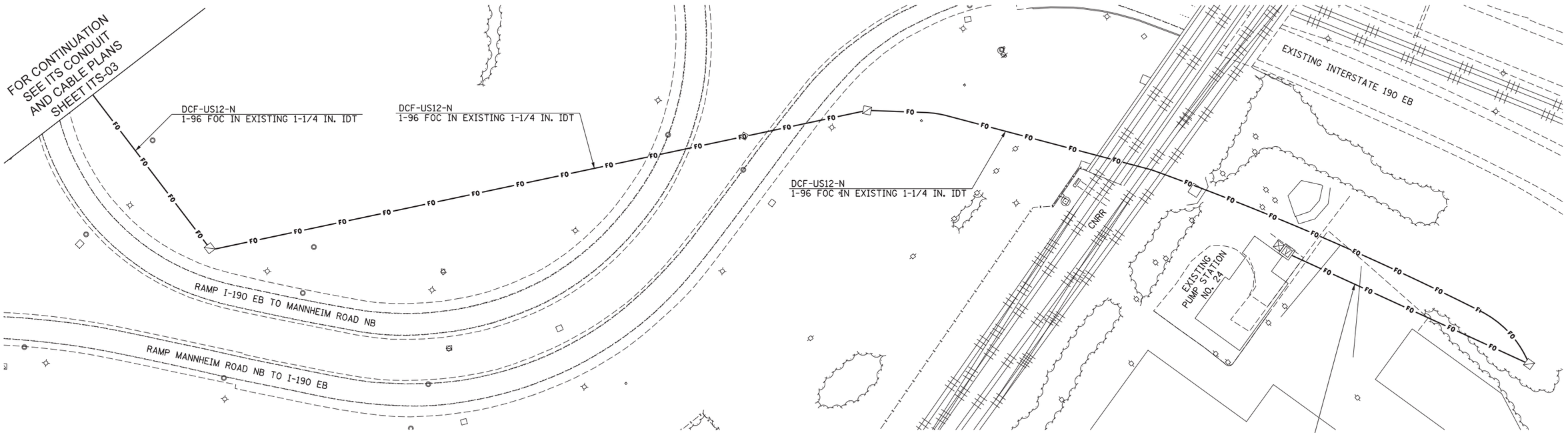


CONDUIT PLAN VIEW



CABLE PLAN VIEW

ITS–02

HNTB	USER NAME = mkosir	DESIGNED DJJ	REVISED -
		DRAWN BCC	REVISED -
	PLOT SCALE = 50:1	CHECKED YJ	REVISED -
	PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

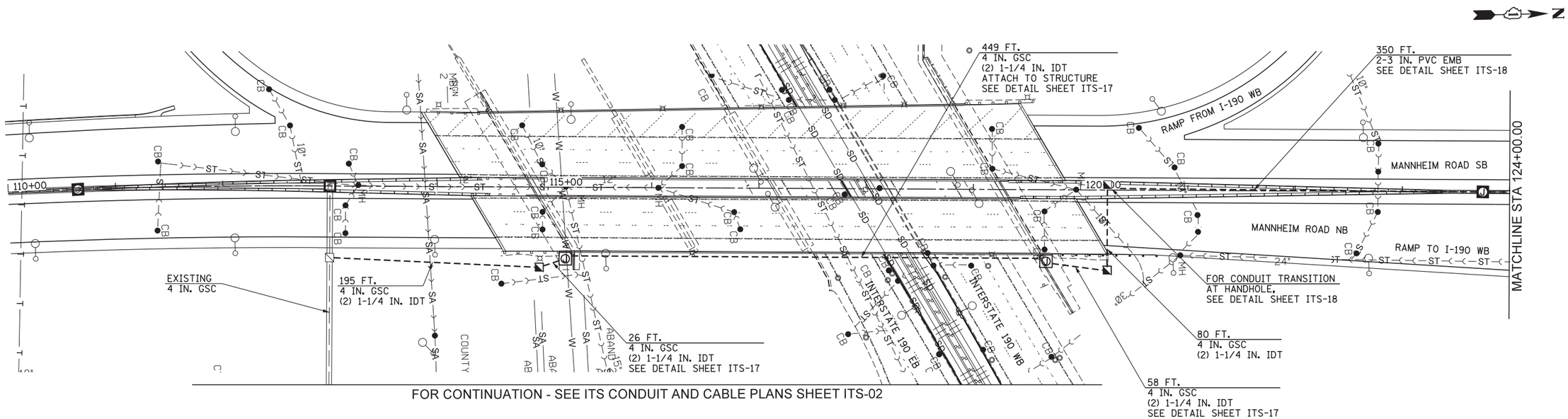
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS CONDUIT AND CABLE PLANS
MANNHEIM ROAD

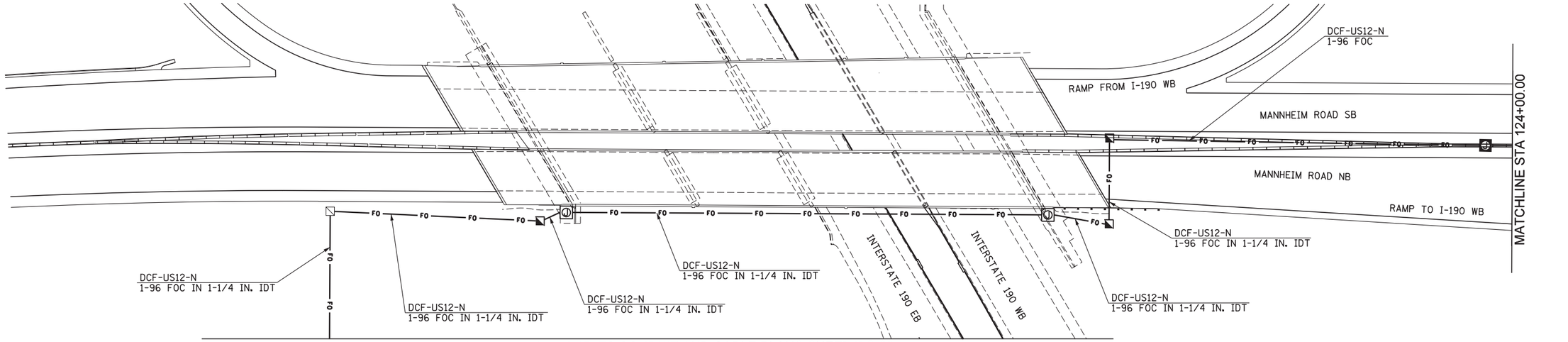
SCALE: 1" = 50' | SHEET NO. 1 OF 7 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	351
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_01.dgn



CONDUIT PLAN VIEW



CABLE PLAN VIEW

ITS–03

HNTB	USER NAME = mkosir	DESIGNED DJJ	REVISED -
		DRAWN BCC	REVISED -
	PLOT SCALE = 50:1	CHECKED YJ	REVISED -
	PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

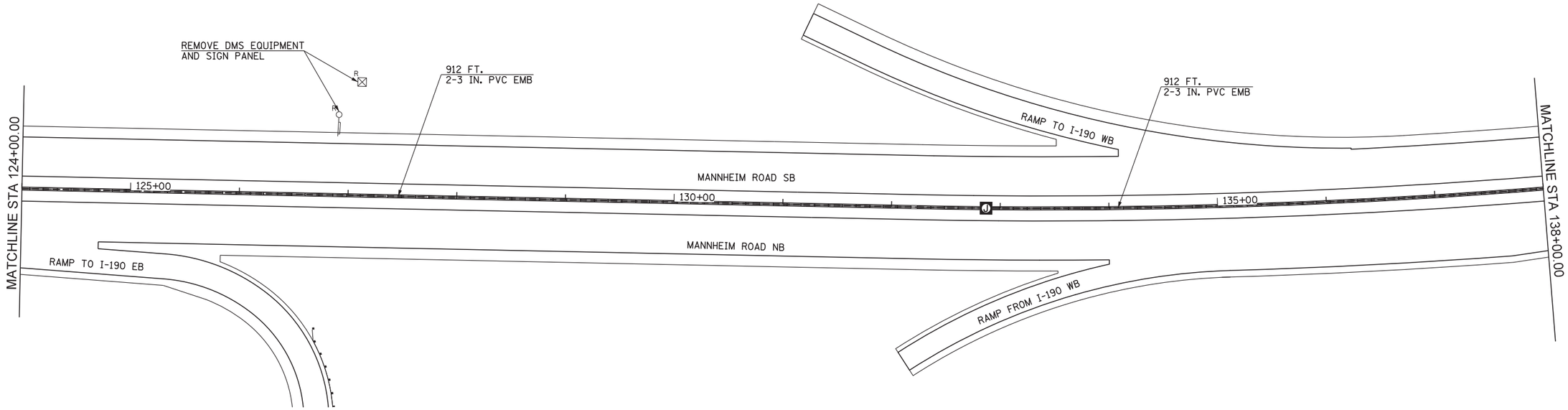
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS CONDUIT AND CABLE PLANS
MANNHEIM ROAD

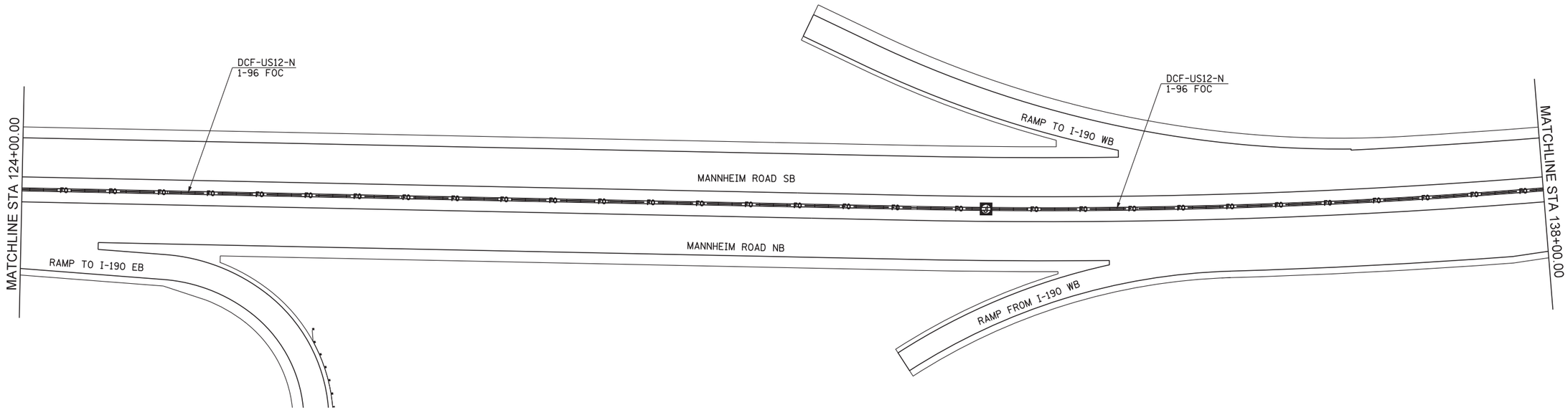
SCALE: 1" = 50' | SHEET NO. 2 OF 7 SHEETS | STA. | TO STA. 124+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	352
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_02.dgn



CONDUIT PLAN VIEW



CABLE PLAN VIEW

ITS–04

HNTB

USER NAME = mkosir	DESIGNED DJJ	REVISED -
	DRAWN BCC	REVISED -
PLOT SCALE = 50:1	CHECKED YJ	REVISED -
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

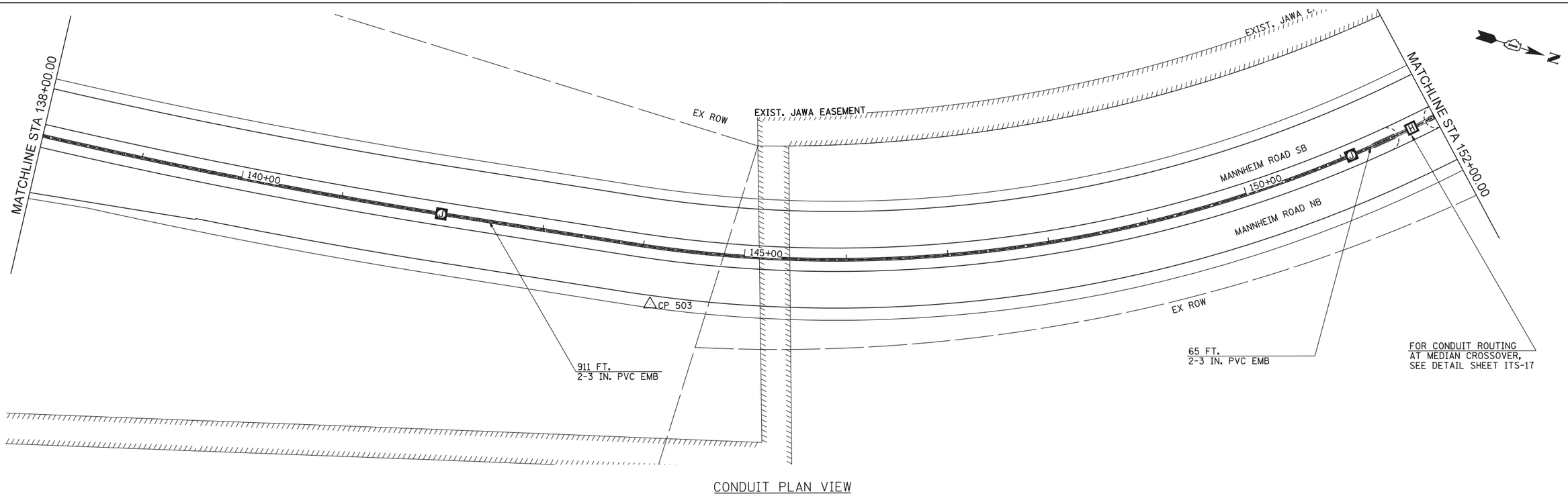
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS CONDUIT AND CABLE PLANS
MANNHEIM ROAD

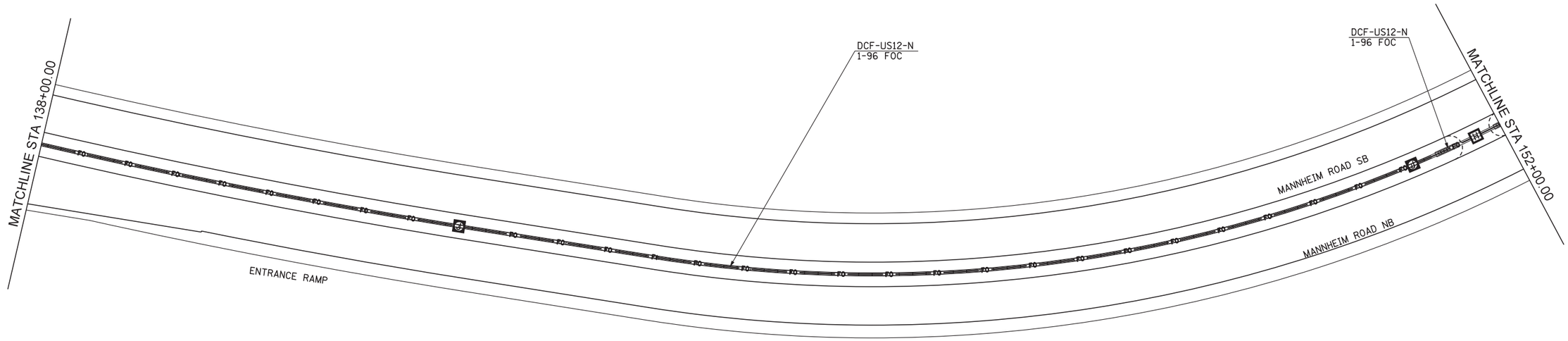
SCALE: 1" = 50' | SHEET NO. 3 OF 7 SHEETS | STA. 124+00.00 TO STA. 138+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	353
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_03.dgn



CONDUIT PLAN VIEW

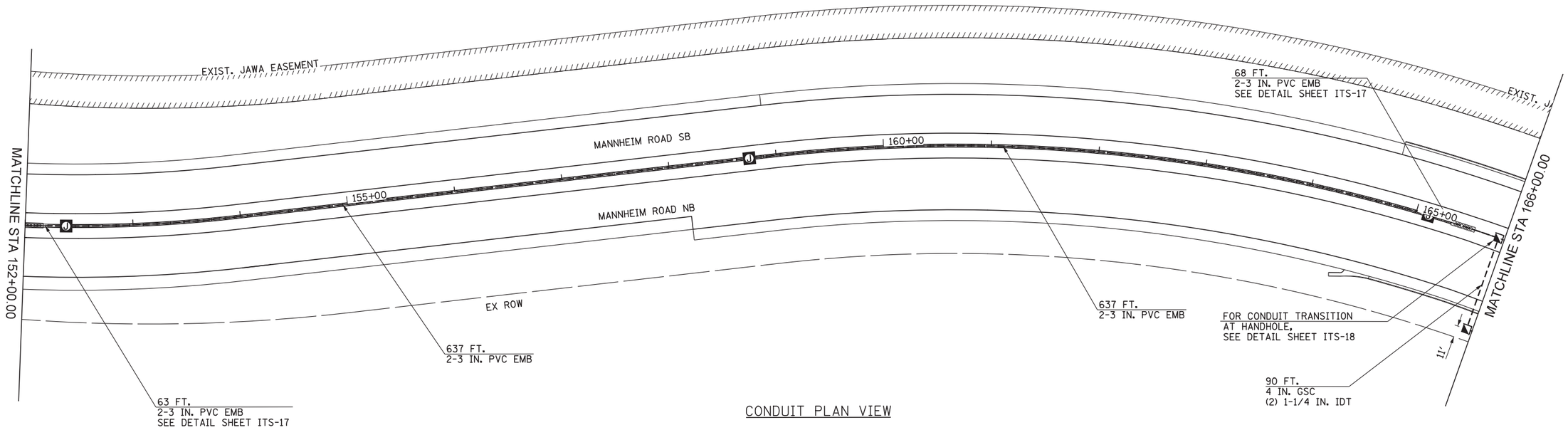


CABLE PLAN VIEW

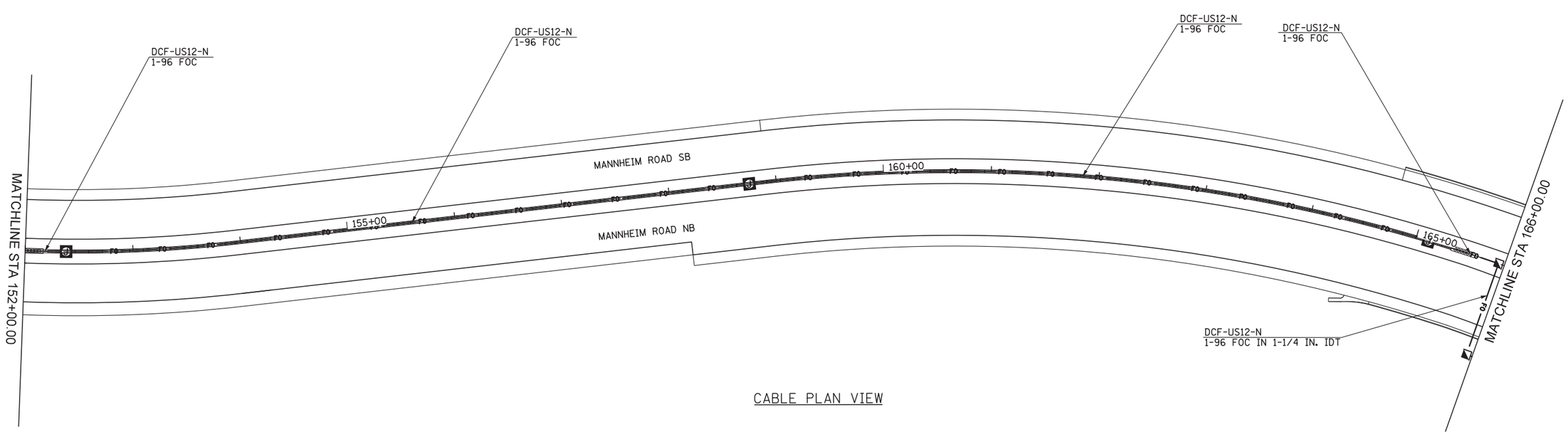
ITS–05

HNTB	USER NAME = mkosir	DESIGNED DJJ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ITS CONDUIT AND CABLE PLANS MANNHEIM ROAD			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN BCC	REVISED -					330	0105-WRS	COOK	537	354
	PLOT SCALE = 50:1	CHECKED YJ	REVISED -							CONTRACT NO. 60P35		
	PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -		SCALE: 1" = 50'	SHEET NO. 4 OF 7 SHEETS	STA. 138+00.00 TO STA. 152+00.00			ILLINOIS FED. AID PROJECT		

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_04.dgn



CONDUIT PLAN VIEW



CABLE PLAN VIEW

ITS–06

HNTB	USER NAME = mkosir	DESIGNED DJJ	REVISED -
		DRAWN BCC	REVISED -
	PLOT SCALE = 50:1	CHECKED YJ	REVISED -
	PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

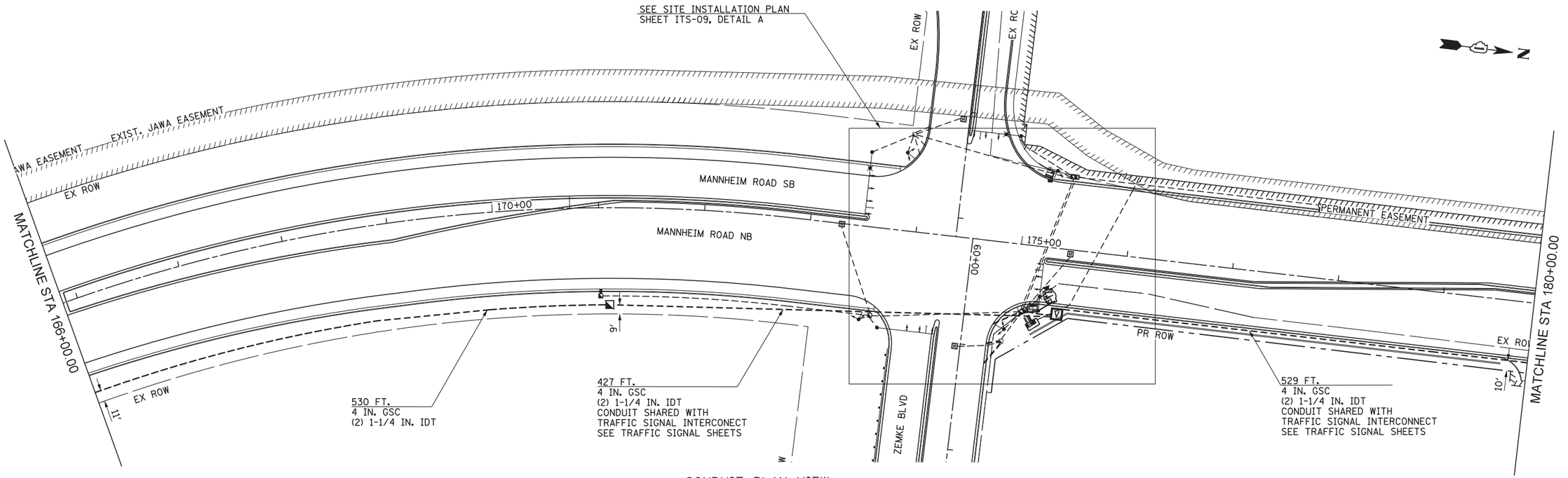
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS CONDUIT AND CABLE PLANS
MANNHEIM ROAD

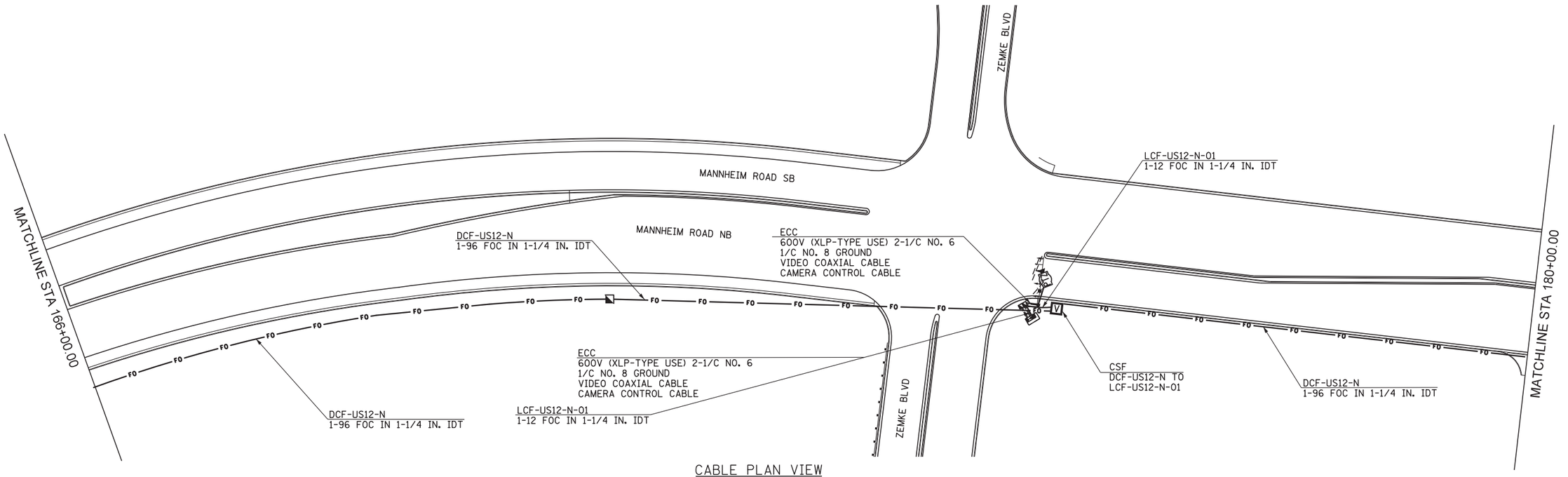
SCALE: 1" = 50' | SHEET NO. 5 OF 7 SHEETS | STA. 152+00.00 TO STA. 166+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	355
		CONTRACT NO. 60P35		
		ILLINOIS	FED. AID PROJECT	

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_05.dgn



CONDUIT PLAN VIEW



CABLE PLAN VIEW

ITS–07

HNTB	USER NAME = mkosir	DESIGNED DJJ	REVISED -
		DRAWN BCC	REVISED -
	PLOT SCALE = 50:1	CHECKED YJ	REVISED -
	PLOT DATE = 29-NOV-2012	DATE	REVISED -

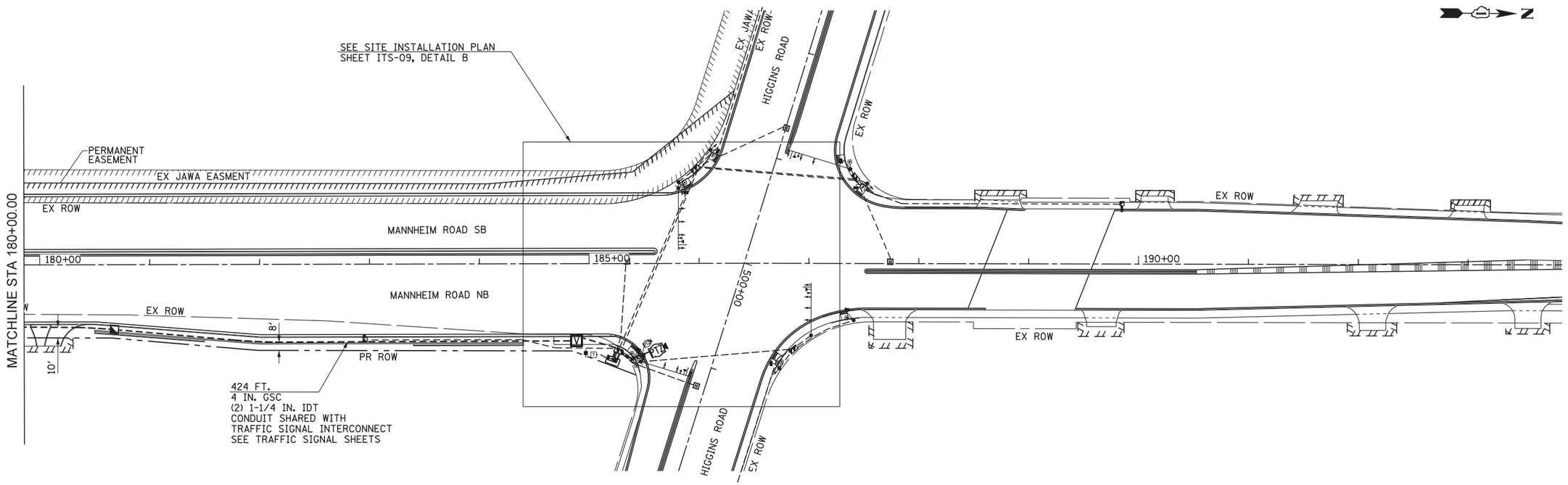
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS CONDUIT AND CABLE PLANS
MANNHEIM ROAD

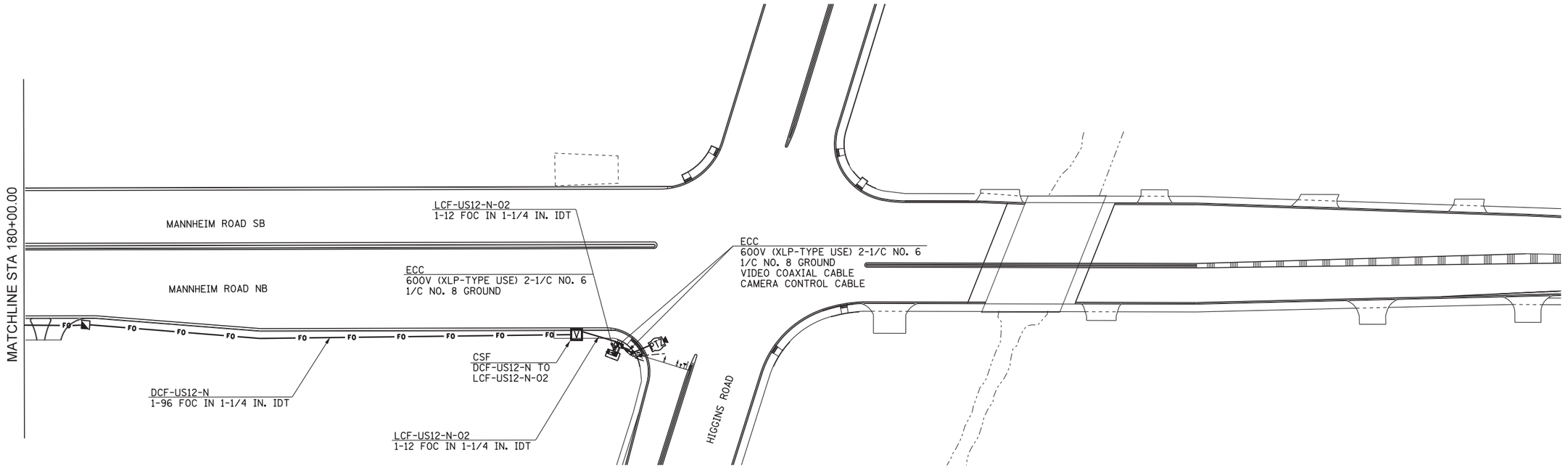
SCALE: 1" = 50' | SHEET NO. 6 OF 7 SHEETS | STA. 166+00.00 TO STA. 180+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	356
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_06.dgn



CONDUIT PLAN VIEW



CABLE PLAN VIEW

ITS–08

HNTB	USER NAME = mkosir	DESIGNED DJJ	REVISED -
		DRAWN BCC	REVISED -
	PLOT SCALE = 50:1	CHECKED YJ	REVISED -
	PLOT DATE = 29-NOV-2012	DATE	REVISED -

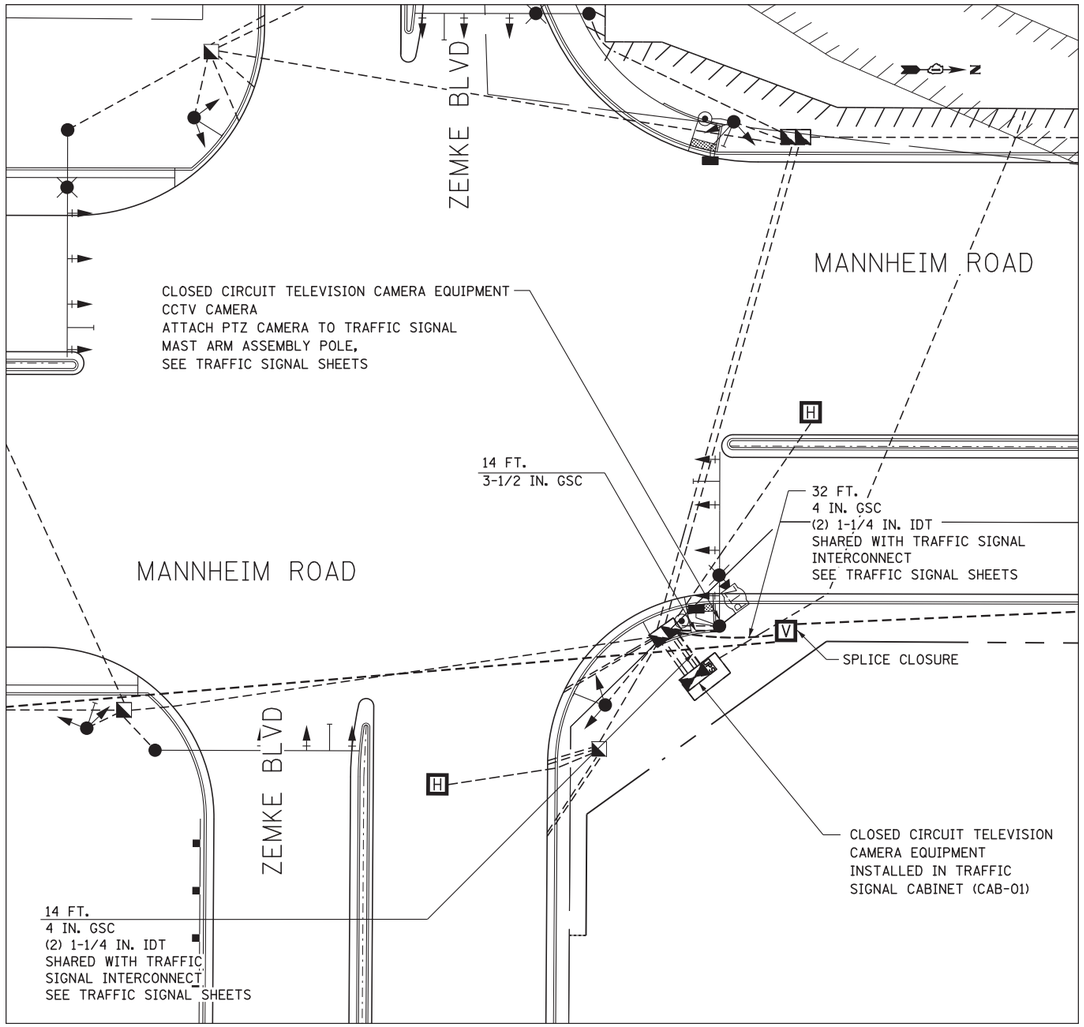
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS CONDUIT AND CABLE PLANS
MANNHEIM ROAD

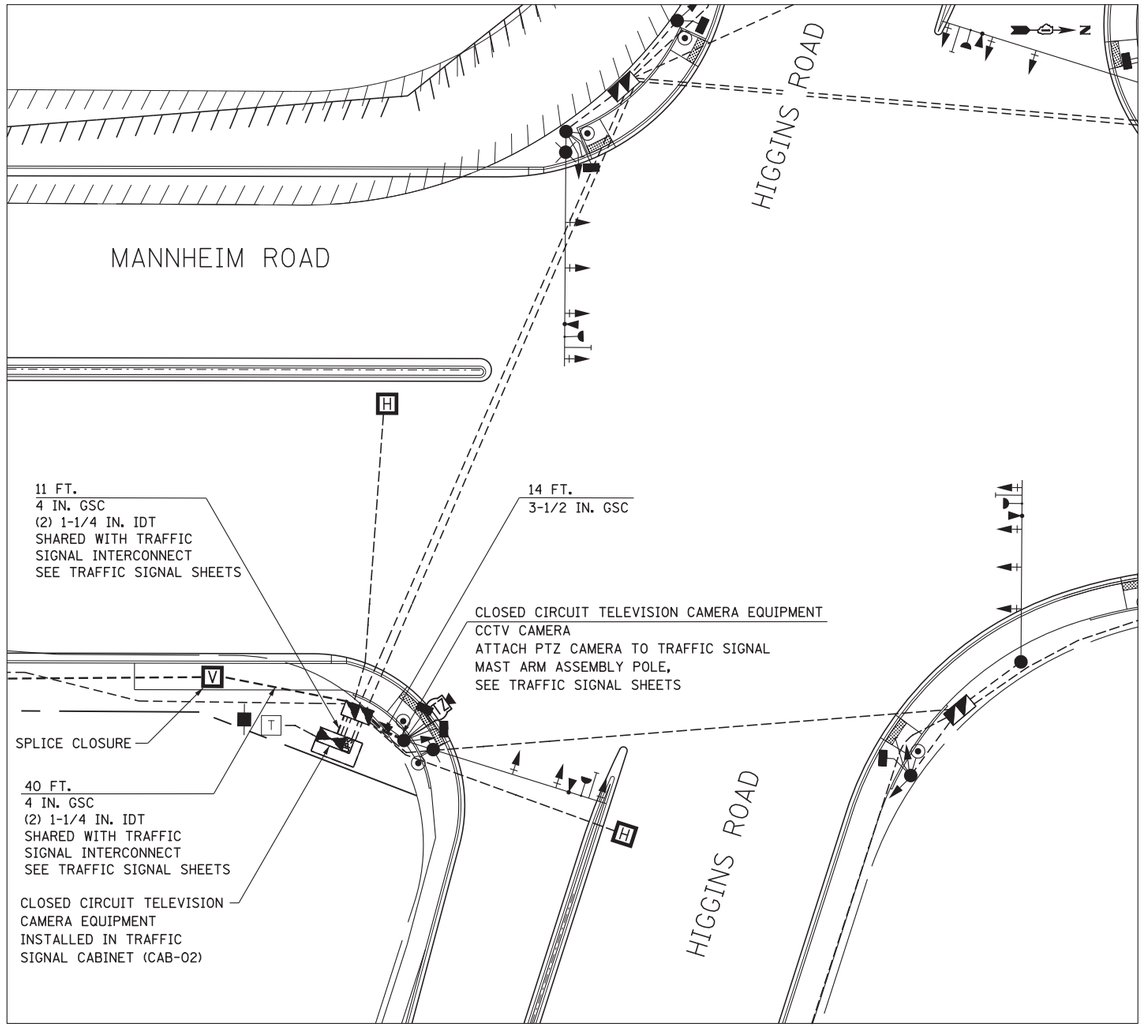
SCALE: 1" = 50' | SHEET NO. 7 OF 7 SHEETS | STA. 180+00.00 TO STA. 194+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	357
		CONTRACT NO. 60P35		
		ILLINOIS	FED. AID PROJECT	

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_07.dgn



CONDUIT DETAIL A

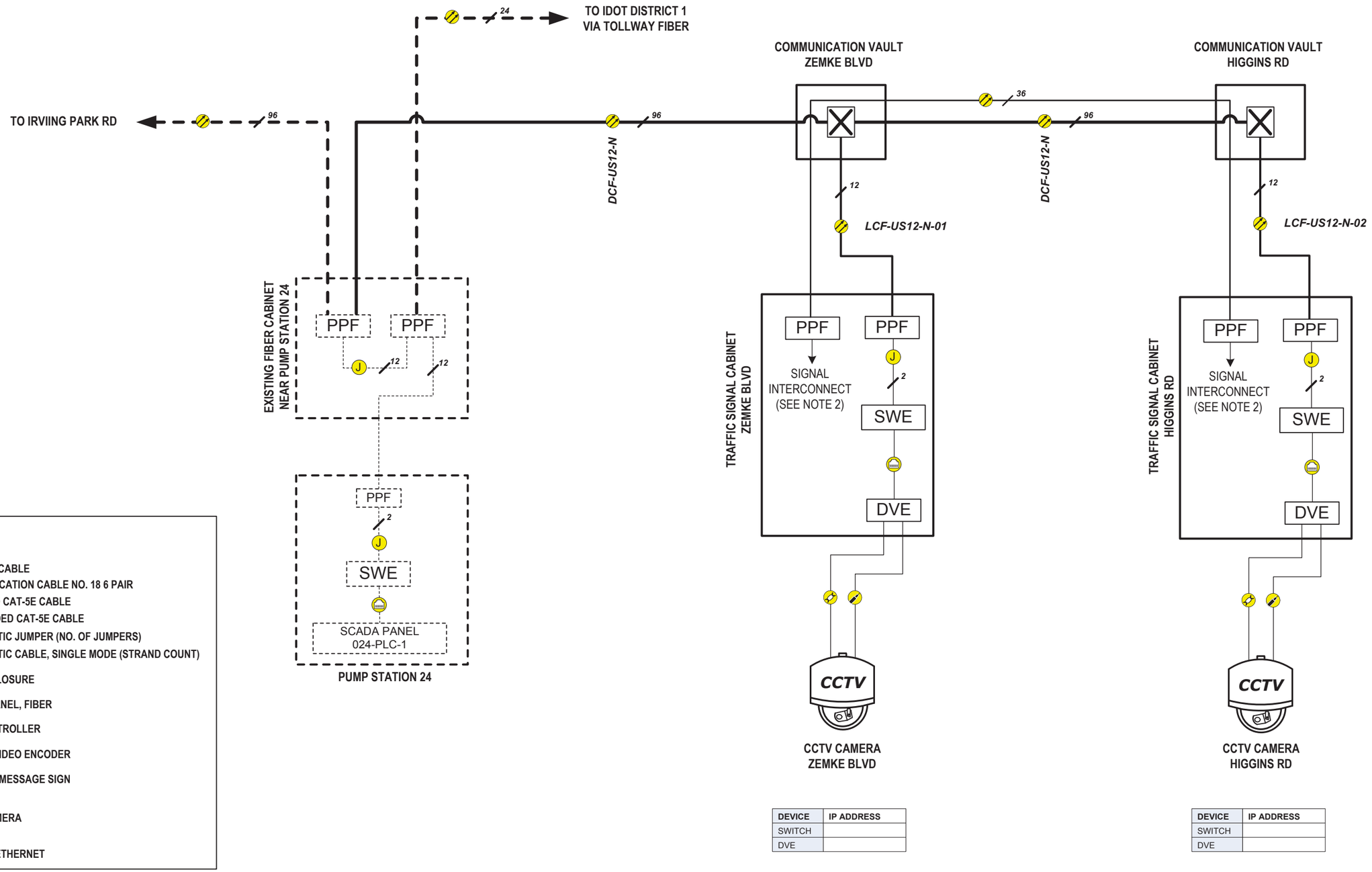


CONDUIT DETAIL B

ITS–09

HNTB	USER NAME = mkosir	DESIGNED DJJ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SITE INSTALLATION PLANS MANNHEIM ROAD	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN BCC	REVISED -			330	0105-WRS	COOK	538	356
	PLOT SCALE = 20:1	CHECKED YJ	REVISED -						CONTRACT NO. 60P35	
	PLOT DATE = 29-NOV-2012	DATE	REVISED -		SCALE: 1" = 20' SHEET NO. 1 OF 1 SHEETS STA. TO STA.			ILLINOIS	FED. AID PROJECT	

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_08.dgn



LEGEND

	COAXIAL CABLE
	COMMUNICATION CABLE NO. 18 6 PAIR
	SHIELDED CAT-5E CABLE
	UNSHIELDED CAT-5E CABLE
J — 2	FIBER OPTIC JUMPER (NO. OF JUMPERS)
2	FIBER OPTIC CABLE, SINGLE MODE (STRAND COUNT)
	SPLICE CLOSURE
PPF	PATCH PANEL, FIBER
CNTRL	DMS CONTROLLER
DVE	DIGITAL VIDEO ENCODER
DMS	DYNAMIC MESSAGE SIGN
CCTV	CCTV CAMERA
SWE	SWITCH, ETHERNET

DEVICE	IP ADDRESS
SWITCH	
DVE	

DEVICE	IP ADDRESS
SWITCH	
DVE	

NOTES:
1. DASHED LINES INDICATED EXISITNG EQUIPMENT, CABLES, AND ENCLOSURES
2. SEE TRAFFIC SIGNAL INTERCONNECT SHEETS FOR INFORMATION ON TRAFFIC SIGNAL FIBER OPTIC CABLE

ITS-10

HNTB

USER NAME = $USER$	DESIGNED JJZ	REVISED -
	DRAWN JJZ	REVISED -
PLOT SCALE = $SCALE$	CHECKED YJ	REVISED -
PLOT DATE = $DATE$	DATE 10/19/2012	REVISED -

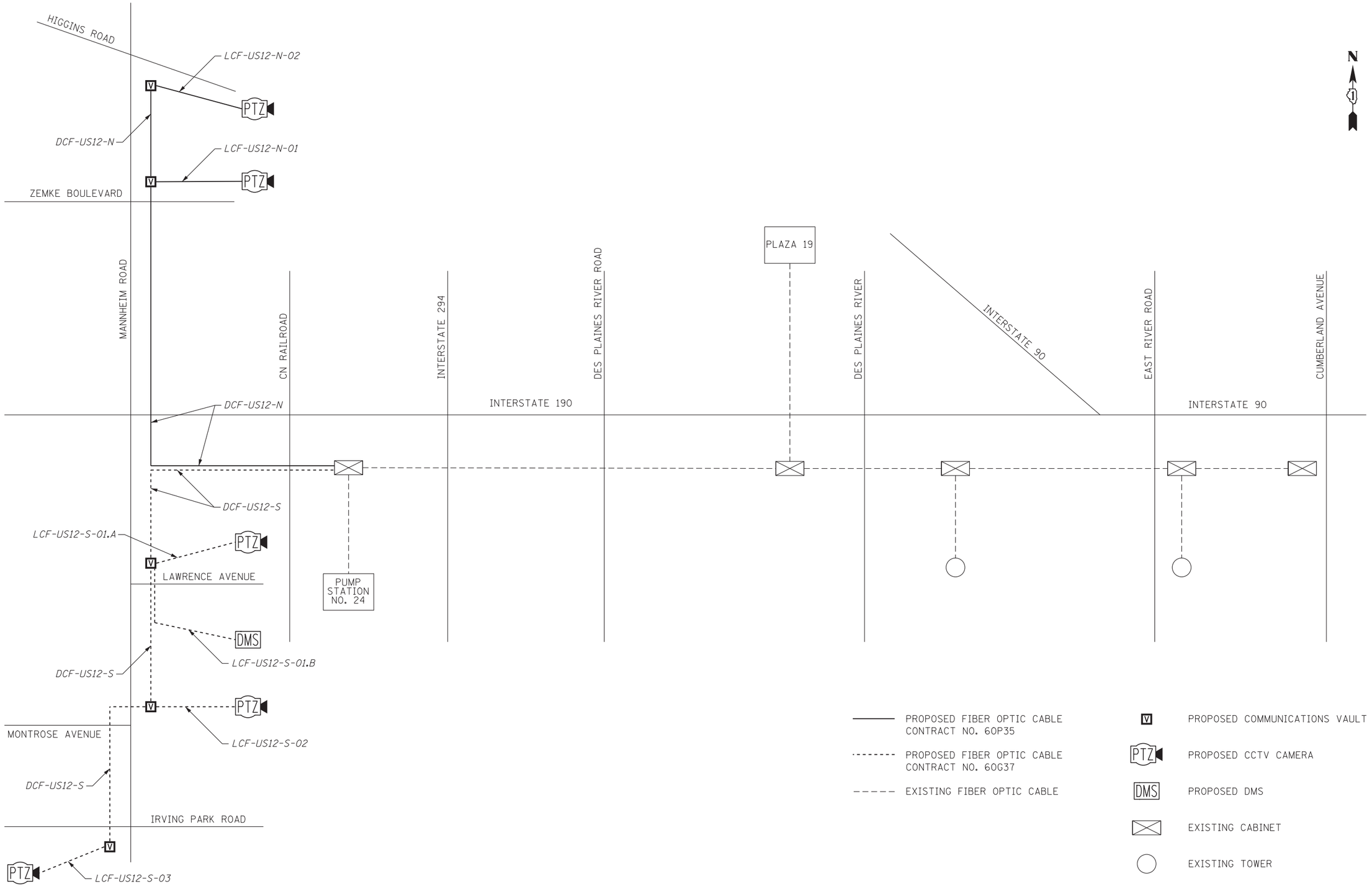
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORATION

COMMUNICATION OVERVIEW PLAN

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS-1	COOK	537	359
		CONTRACT NO. 60P35		
		ILLINOIS	FED. AID PROJECT	

FILE NAME = $FILE$



ITS–11

USER NAME = mkosir	DESIGNED DJJ	REVISED -	
	DRAWN BCC	REVISED -	
PLOT SCALE = 50:1	CHECKED YJ	REVISED -	
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SINGLE LINE FIBER DIAGRAM
MANNHEIM ROAD AND PS NO. 24 TO PLAZA 19

SCALE: NTS | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	360
		CONTRACT NO. 60P35		
	ILLINOIS FED. AID PROJECT			

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_diagram_01.dgn

DISTRIBUTION CABLE FIBER ASSIGNMENTS				ORIGINATION	EXISTING PUMP STATION NO. 24 FIBER OPTIC CABLE		
DISTRIBUTION CABLE DESIGNATION		DCF-US12-N		DESTINATION	HIGGINS ROAD COMMUNICATIONS VAULT		
BUFFER TUBE	FIBER	FIBER NO.	ASSIGNMENT	BUFFER TUBE	FIBER	FIBER NO.	ASSIGNMENT
BLUE	Blue 1	1	TCF-PS24, ORA/BLU 1	SLATE	Blue 1	49	UNASSIGNED-DARK
	Orange 2	2	TCF-PS24, ORA/ORA 2		Orange 2	50	UNASSIGNED-DARK
	Green 3	3	TCF-PS24, ORA/GRE 3		Green 3	51	UNASSIGNED-DARK
	Brown 4	4	TCF-PS24, ORA/BRO 4		Brown 4	52	UNASSIGNED-DARK
	Slate 5	5	TCF-PS24, ORA/SLA 5		Slate 5	53	UNASSIGNED-DARK
	White 6	6	TCF-PS24, ORA/WHI 6		White 6	54	UNASSIGNED-DARK
	Red 7	7	TCF-PS24, ORA/RED 7		Red 7	55	UNASSIGNED-DARK
	Black 8	8	TCF-PS24, ORA/BLA 8		Black 8	56	UNASSIGNED-DARK
	Yellow 9	9	TCF-PS24, ORA/YEL 9		Yellow 9	57	UNASSIGNED-DARK
	Violet 10	10	TCF-PS24, ORA/VIO 10		Violet 10	58	UNASSIGNED-DARK
	Rose 11	11	TCF-PS24, ORA/ROS 11		Rose 11	59	UNASSIGNED-DARK
	Aqua 12	12	TCF-PS24, ORA/AQU 12		Aqua 12	60	UNASSIGNED-DARK
ORANGE	Blue 1	13	UNASSIGNED-DARK	WHITE	Blue 1	61	UNASSIGNED-DARK
	Orange 2	14	UNASSIGNED-DARK		Orange 2	62	UNASSIGNED-DARK
	Green 3	15	UNASSIGNED-DARK		Green 3	63	UNASSIGNED-DARK
	Brown 4	16	UNASSIGNED-DARK		Brown 4	64	UNASSIGNED-DARK
	Slate 5	17	UNASSIGNED-DARK		Slate 5	65	UNASSIGNED-DARK
	White 6	18	UNASSIGNED-DARK		White 6	66	UNASSIGNED-DARK
	Red 7	19	UNASSIGNED-DARK		Red 7	67	UNASSIGNED-DARK
	Black 8	20	UNASSIGNED-DARK		Black 8	68	UNASSIGNED-DARK
	Yellow 9	21	UNASSIGNED-DARK		Yellow 9	69	UNASSIGNED-DARK
	Violet 10	22	UNASSIGNED-DARK		Violet 10	70	UNASSIGNED-DARK
	Rose 11	23	UNASSIGNED-DARK		Rose 11	71	UNASSIGNED-DARK
	Aqua 12	24	UNASSIGNED-DARK		Aqua 12	72	UNASSIGNED-DARK
GREEN	Blue 1	25	UNASSIGNED-DARK	RED	Blue 1	73	UNASSIGNED-DARK
	Orange 2	26	UNASSIGNED-DARK		Orange 2	74	UNASSIGNED-DARK
	Green 3	27	UNASSIGNED-DARK		Green 3	75	UNASSIGNED-DARK
	Brown 4	28	UNASSIGNED-DARK		Brown 4	76	UNASSIGNED-DARK
	Slate 5	29	UNASSIGNED-DARK		Slate 5	77	UNASSIGNED-DARK
	White 6	30	UNASSIGNED-DARK		White 6	78	UNASSIGNED-DARK
	Red 7	31	UNASSIGNED-DARK		Red 7	79	UNASSIGNED-DARK
	Black 8	32	UNASSIGNED-DARK		Black 8	80	UNASSIGNED-DARK
	Yellow 9	33	UNASSIGNED-DARK		Yellow 9	81	UNASSIGNED-DARK
	Violet 10	34	UNASSIGNED-DARK		Violet 10	82	UNASSIGNED-DARK
	Rose 11	35	UNASSIGNED-DARK		Rose 11	83	UNASSIGNED-DARK
	Aqua 12	36	UNASSIGNED-DARK		Aqua 12	84	UNASSIGNED-DARK
BROWN	Blue 1	37	UNASSIGNED-DARK	BLACK	Blue 1	85	UNASSIGNED-DARK
	Orange 2	38	UNASSIGNED-DARK		Orange 2	86	UNASSIGNED-DARK
	Green 3	39	UNASSIGNED-DARK		Green 3	87	UNASSIGNED-DARK
	Brown 4	40	UNASSIGNED-DARK		Brown 4	88	UNASSIGNED-DARK
	Slate 5	41	UNASSIGNED-DARK		Slate 5	89	UNASSIGNED-DARK
	White 6	42	UNASSIGNED-DARK		White 6	90	UNASSIGNED-DARK
	Red 7	43	UNASSIGNED-DARK		Red 7	91	UNASSIGNED-DARK
	Black 8	44	UNASSIGNED-DARK		Black 8	92	UNASSIGNED-DARK
	Yellow 9	45	UNASSIGNED-DARK		Yellow 9	93	UNASSIGNED-DARK
	Violet 10	46	UNASSIGNED-DARK		Violet 10	94	UNASSIGNED-DARK
	Rose 11	47	UNASSIGNED-DARK		Rose 11	95	UNASSIGNED-DARK
	Aqua 12	48	UNASSIGNED-DARK		Aqua 12	96	UNASSIGNED-DARK

ITS–12

HNTB

USER NAME = mkosir	DESIGNED DJJ	REVISED -
	DRAWN BCC	REVISED -
PLOT SCALE = 50:1	CHECKED YJ	REVISED -
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRIBUTION CABLE FIBER ASSIGNMENTS
FIBER CABINET NEAR PUMP STATION NO. 24

SCALE: NTS | SHEET NO. 1 OF 5 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	361
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_splice_01.dgn

DISTRIBUTION CABLE FIBER ASSIGNMENTS				ORIGINATION	EXISTING PUMP STATION NO. 24 FIBER OPTIC CABLE		
DISTRIBUTION CABLE DESIGNATION		DCF-US12-N		DESTINATION	HIGGINS ROAD COMMUNICATIONS VAULT		
BUFFER TUBE	FIBER	FIBER NO.	ASSIGNMENT	BUFFER TUBE	FIBER	FIBER NO.	ASSIGNMENT
BLUE	Blue 1	1	LCF-US12-N-01, BLU/BLU 1 - COMMUNICATIONS VAULT	SLATE	Blue 1	49	UNASSIGNED-DARK
	Orange 2	2	LCF-US12-N-01, BLU/ORA 2 - COMMUNICATIONS VAULT		Orange 2	50	UNASSIGNED-DARK
	Green 3	3	LCF-US12-N-01, BLU/GRE 3 - COMMUNICATIONS VAULT		Green 3	51	UNASSIGNED-DARK
	Brown 4	4	LCF-US12-N-01, BLU/BRO 4 - COMMUNICATIONS VAULT		Brown 4	52	UNASSIGNED-DARK
	Slate 5	5	DCF-US12-N, BLU/SLA - FUSION SPLICE PASS THROUGH		Slate 5	53	UNASSIGNED-DARK
	White 6	6	DCF-US12-N, BLU/WHI - FUSION SPLICE PASS THROUGH		White 6	54	UNASSIGNED-DARK
	Red 7	7	DCF-US12-N, BLU/RED - FUSION SPLICE PASS THROUGH		Red 7	55	UNASSIGNED-DARK
	Black 8	8	DCF-US12-N, BLU/BLA - FUSION SPLICE PASS THROUGH		Black 8	56	UNASSIGNED-DARK
	Yellow 9	9	DCF-US12-N, BLU/YEL - FUSION SPLICE PASS THROUGH		Yellow 9	57	UNASSIGNED-DARK
	Violet 10	10	DCF-US12-N, BLU/VIO - FUSION SPLICE PASS THROUGH		Violet 10	58	UNASSIGNED-DARK
	Rose 11	11	DCF-US12-N, BLU/ROS - FUSION SPLICE PASS THROUGH		Rose 11	59	UNASSIGNED-DARK
	Aqua 12	12	DCF-US12-N, BLU/AQU - FUSION SPLICE PASS THROUGH		Aqua 12	60	UNASSIGNED-DARK
ORANGE	Blue 1	13	UNASSIGNED-DARK	WHITE	Blue 1	61	UNASSIGNED-DARK
	Orange 2	14	UNASSIGNED-DARK		Orange 2	62	UNASSIGNED-DARK
	Green 3	15	UNASSIGNED-DARK		Green 3	63	UNASSIGNED-DARK
	Brown 4	16	UNASSIGNED-DARK		Brown 4	64	UNASSIGNED-DARK
	Slate 5	17	UNASSIGNED-DARK		Slate 5	65	UNASSIGNED-DARK
	White 6	18	UNASSIGNED-DARK		White 6	66	UNASSIGNED-DARK
	Red 7	19	UNASSIGNED-DARK		Red 7	67	UNASSIGNED-DARK
	Black 8	20	UNASSIGNED-DARK		Black 8	68	UNASSIGNED-DARK
	Yellow 9	21	UNASSIGNED-DARK		Yellow 9	69	UNASSIGNED-DARK
	Violet 10	22	UNASSIGNED-DARK		Violet 10	70	UNASSIGNED-DARK
	Rose 11	23	UNASSIGNED-DARK		Rose 11	71	UNASSIGNED-DARK
	Aqua 12	24	UNASSIGNED-DARK		Aqua 12	72	UNASSIGNED-DARK
GREEN	Blue 1	25	UNASSIGNED-DARK	RED	Blue 1	73	UNASSIGNED-DARK
	Orange 2	26	UNASSIGNED-DARK		Orange 2	74	UNASSIGNED-DARK
	Green 3	27	UNASSIGNED-DARK		Green 3	75	UNASSIGNED-DARK
	Brown 4	28	UNASSIGNED-DARK		Brown 4	76	UNASSIGNED-DARK
	Slate 5	29	UNASSIGNED-DARK		Slate 5	77	UNASSIGNED-DARK
	White 6	30	UNASSIGNED-DARK		White 6	78	UNASSIGNED-DARK
	Red 7	31	UNASSIGNED-DARK		Red 7	79	UNASSIGNED-DARK
	Black 8	32	UNASSIGNED-DARK		Black 8	80	UNASSIGNED-DARK
	Yellow 9	33	UNASSIGNED-DARK		Yellow 9	81	UNASSIGNED-DARK
	Violet 10	34	UNASSIGNED-DARK		Violet 10	82	UNASSIGNED-DARK
	Rose 11	35	UNASSIGNED-DARK		Rose 11	83	UNASSIGNED-DARK
	Aqua 12	36	UNASSIGNED-DARK		Aqua 12	84	UNASSIGNED-DARK
BROWN	Blue 1	37	UNASSIGNED-DARK	BLACK	Blue 1	85	UNASSIGNED-DARK
	Orange 2	38	UNASSIGNED-DARK		Orange 2	86	UNASSIGNED-DARK
	Green 3	39	UNASSIGNED-DARK		Green 3	87	UNASSIGNED-DARK
	Brown 4	40	UNASSIGNED-DARK		Brown 4	88	UNASSIGNED-DARK
	Slate 5	41	UNASSIGNED-DARK		Slate 5	89	UNASSIGNED-DARK
	White 6	42	UNASSIGNED-DARK		White 6	90	UNASSIGNED-DARK
	Red 7	43	UNASSIGNED-DARK		Red 7	91	UNASSIGNED-DARK
	Black 8	44	UNASSIGNED-DARK		Black 8	92	UNASSIGNED-DARK
	Yellow 9	45	UNASSIGNED-DARK		Yellow 9	93	UNASSIGNED-DARK
	Violet 10	46	UNASSIGNED-DARK		Violet 10	94	UNASSIGNED-DARK
	Rose 11	47	UNASSIGNED-DARK		Rose 11	95	UNASSIGNED-DARK
	Aqua 12	48	UNASSIGNED-DARK		Aqua 12	96	UNASSIGNED-DARK

HNTB

USER NAME = mkosir	DESIGNED DJJ	REVISED -
	DRAWN BCC	REVISED -
PLOT SCALE = 50:1	CHECKED YJ	REVISED -
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRIBUTION CABLE FIBER ASSIGNMENTS
ZEMKE BOULEVARD

SCALE: NTS | SHEET NO. 2 OF 5 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	362
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_splice_02.dgn

LATERAL CABLE FIBER ASSIGNMENTS		
LCF-US12-N-01		
FIBER NO.	FUNCTION	CONNECTION
1	CCTV CAMERA - SWE	DCF-US12-N-BLU/BLU 1
2	CCTV CAMERA - SWE	DCF-US12-N-BLU/ORA 2
3	CCTV CAMERA - CABINET SPARE	DCF-US12-N-BLU/GRE 3
4	CCTV CAMERA - CABINET SPARE	DCF-US12-N-BLU/BRO 4
5	UNASSIGNED - DARK	
6	UNASSIGNED - DARK	
7	UNASSIGNED - DARK	
8	UNASSIGNED - DARK	
9	UNASSIGNED - DARK	
10	UNASSIGNED - DARK	
11	UNASSIGNED - DARK	
12	UNASSIGNED - DARK	

LATERAL CABLE FIBER ASSIGNMENTS		
LCF-		
FIBER NO.	FUNCTION	CONNECTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

LATERAL CABLE FIBER ASSIGNMENTS		
LCF-		
FIBER NO.	FUNCTION	CONNECTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

LATERAL CABLE FIBER ASSIGNMENTS		
LCF-		
FIBER NO.	FUNCTION	CONNECTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

ITS-14

HNTB

USER NAME = mkosir	DESIGNED DJJ	REVISED -	
	DRAWN BCC	REVISED -	
PLOT SCALE = 50:1	CHECKED YJ	REVISED -	
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TWELVE FIBER LATERAL CABLE FIBER ASSIGNMENTS
ZEMKE BOULEVARD

SCALE: NTS | SHEET NO. 3 OF 5 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	363

CONTRACT NO. 60P35

ILLINOIS FED. AID PROJECT

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_splice_03.dgn

DISTRIBUTION CABLE FIBER ASSIGNMENTS				ORIGINATION	EXISTING PUMP STATION NO. 24 FIBER OPTIC CABLE		
DISTRIBUTION CABLE DESIGNATION		DCF-US12-N		DESTINATION	HIGGINS ROAD COMMUNICATIONS VAULT		
BUFFER TUBE	FIBER	FIBER NO.	ASSIGNMENT	BUFFER TUBE	FIBER	FIBER NO.	ASSIGNMENT
BLUE	Blue 1	1	UNASSIGNED-DARK	SLATE	Blue 1	49	UNASSIGNED-DARK
	Orange 2	2	UNASSIGNED-DARK		Orange 2	50	UNASSIGNED-DARK
	Green 3	3	UNASSIGNED-DARK		Green 3	51	UNASSIGNED-DARK
	Brown 4	4	UNASSIGNED-DARK		Brown 4	52	UNASSIGNED-DARK
	Slate 5	5	LCF-US12-N-02, BLU/BLU 1 - COMMUNICATIONS VAULT		Slate 5	53	UNASSIGNED-DARK
	White 6	6	LCF-US12-N-02, BLU/ORA 2 - COMMUNICATIONS VAULT		White 6	54	UNASSIGNED-DARK
	Red 7	7	LCF-US12-N-02, BLU/GRE 3 - COMMUNICATIONS VAULT		Red 7	55	UNASSIGNED-DARK
	Black 8	8	LCF-US12-N-02, BLU/BRO 4 - COMMUNICATIONS VAULT		Black 8	56	UNASSIGNED-DARK
	Yellow 9	9	UNASSIGNED-DARK		Yellow 9	57	UNASSIGNED-DARK
	Violet 10	10	UNASSIGNED-DARK		Violet 10	58	UNASSIGNED-DARK
	Rose 11	11	UNASSIGNED-DARK		Rose 11	59	UNASSIGNED-DARK
	Aqua 12	12	UNASSIGNED-DARK		Aqua 12	60	UNASSIGNED-DARK
ORANGE	Blue 1	13	UNASSIGNED-DARK	WHITE	Blue 1	61	UNASSIGNED-DARK
	Orange 2	14	UNASSIGNED-DARK		Orange 2	62	UNASSIGNED-DARK
	Green 3	15	UNASSIGNED-DARK		Green 3	63	UNASSIGNED-DARK
	Brown 4	16	UNASSIGNED-DARK		Brown 4	64	UNASSIGNED-DARK
	Slate 5	17	UNASSIGNED-DARK		Slate 5	65	UNASSIGNED-DARK
	White 6	18	UNASSIGNED-DARK		White 6	66	UNASSIGNED-DARK
	Red 7	19	UNASSIGNED-DARK		Red 7	67	UNASSIGNED-DARK
	Black 8	20	UNASSIGNED-DARK		Black 8	68	UNASSIGNED-DARK
	Yellow 9	21	UNASSIGNED-DARK		Yellow 9	69	UNASSIGNED-DARK
	Violet 10	22	UNASSIGNED-DARK		Violet 10	70	UNASSIGNED-DARK
	Rose 11	23	UNASSIGNED-DARK		Rose 11	71	UNASSIGNED-DARK
	Aqua 12	24	UNASSIGNED-DARK		Aqua 12	72	UNASSIGNED-DARK
GREEN	Blue 1	25	UNASSIGNED-DARK	RED	Blue 1	73	UNASSIGNED-DARK
	Orange 2	26	UNASSIGNED-DARK		Orange 2	74	UNASSIGNED-DARK
	Green 3	27	UNASSIGNED-DARK		Green 3	75	UNASSIGNED-DARK
	Brown 4	28	UNASSIGNED-DARK		Brown 4	76	UNASSIGNED-DARK
	Slate 5	29	UNASSIGNED-DARK		Slate 5	77	UNASSIGNED-DARK
	White 6	30	UNASSIGNED-DARK		White 6	78	UNASSIGNED-DARK
	Red 7	31	UNASSIGNED-DARK		Red 7	79	UNASSIGNED-DARK
	Black 8	32	UNASSIGNED-DARK		Black 8	80	UNASSIGNED-DARK
	Yellow 9	33	UNASSIGNED-DARK		Yellow 9	81	UNASSIGNED-DARK
	Violet 10	34	UNASSIGNED-DARK		Violet 10	82	UNASSIGNED-DARK
	Rose 11	35	UNASSIGNED-DARK		Rose 11	83	UNASSIGNED-DARK
	Aqua 12	36	UNASSIGNED-DARK		Aqua 12	84	UNASSIGNED-DARK
BROWN	Blue 1	37	UNASSIGNED-DARK	BLACK	Blue 1	85	UNASSIGNED-DARK
	Orange 2	38	UNASSIGNED-DARK		Orange 2	86	UNASSIGNED-DARK
	Green 3	39	UNASSIGNED-DARK		Green 3	87	UNASSIGNED-DARK
	Brown 4	40	UNASSIGNED-DARK		Brown 4	88	UNASSIGNED-DARK
	Slate 5	41	UNASSIGNED-DARK		Slate 5	89	UNASSIGNED-DARK
	White 6	42	UNASSIGNED-DARK		White 6	90	UNASSIGNED-DARK
	Red 7	43	UNASSIGNED-DARK		Red 7	91	UNASSIGNED-DARK
	Black 8	44	UNASSIGNED-DARK		Black 8	92	UNASSIGNED-DARK
	Yellow 9	45	UNASSIGNED-DARK		Yellow 9	93	UNASSIGNED-DARK
	Violet 10	46	UNASSIGNED-DARK		Violet 10	94	UNASSIGNED-DARK
	Rose 11	47	UNASSIGNED-DARK		Rose 11	95	UNASSIGNED-DARK
	Aqua 12	48	UNASSIGNED-DARK		Aqua 12	96	UNASSIGNED-DARK

HNTB

USER NAME = mkosir	DESIGNED DJJ	REVISED -
	DRAWN BCC	REVISED -
PLOT SCALE = 50:1	CHECKED YJ	REVISED -
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRIBUTION CABLE FIBER ASSIGNMENTS
HIGGINS ROAD

SCALE: NTS | SHEET NO. 4 OF 5 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	364
		CONTRACT NO. 60P35		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_splice_04.dgn

LATERAL CABLE FIBER ASSIGNMENTS		
LCF-US12-N-02		
FIBER NO.	FUNCTION	CONNECTION
1	CCTV CAMERA-SWE	DCF-US12-N, BLU/SLA 5
2	CCTV CAMERA-SWE	DCF-US12-N, BLU/WHI 6
3	CCTV CAMERA-CABINET SPARE	DCF-US12-N, BLU/RED 7
4	CCTV CAMERA-CABINET SPARE	DCF-US12-N, BLU/BLA 8
5	UNASSIGNED-DARK	
6	UNASSIGNED-DARK	
7	UNASSIGNED-DARK	
8	UNASSIGNED-DARK	
9	UNASSIGNED-DARK	
10	UNASSIGNED-DARK	
11	UNASSIGNED-DARK	
12	UNASSIGNED-DARK	

LATERAL CABLE FIBER ASSIGNMENTS		
LCF-		
FIBER NO.	FUNCTION	CONNECTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

LATERAL CABLE FIBER ASSIGNMENTS		
LCF-		
FIBER NO.	FUNCTION	CONNECTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

LATERAL CABLE FIBER ASSIGNMENTS		
LCF-		
FIBER NO.	FUNCTION	CONNECTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

ITS-16

HNTB

USER NAME = mkosir	DESIGNED DJJ	REVISED -
	DRAWN BCC	REVISED -
PLOT SCALE = 50:1	CHECKED YJ	REVISED -
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TWELVE FIBER LATERAL CABLE FIBER ASSIGNMENTS
HIGGINS ROAD

SCALE: NTS | SHEET NO. 5 OF 5 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	365

CONTRACT NO. 60P35

ILLINOIS FED. AID PROJECT

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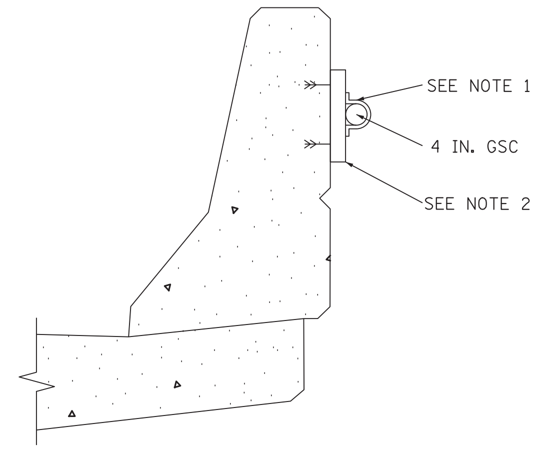
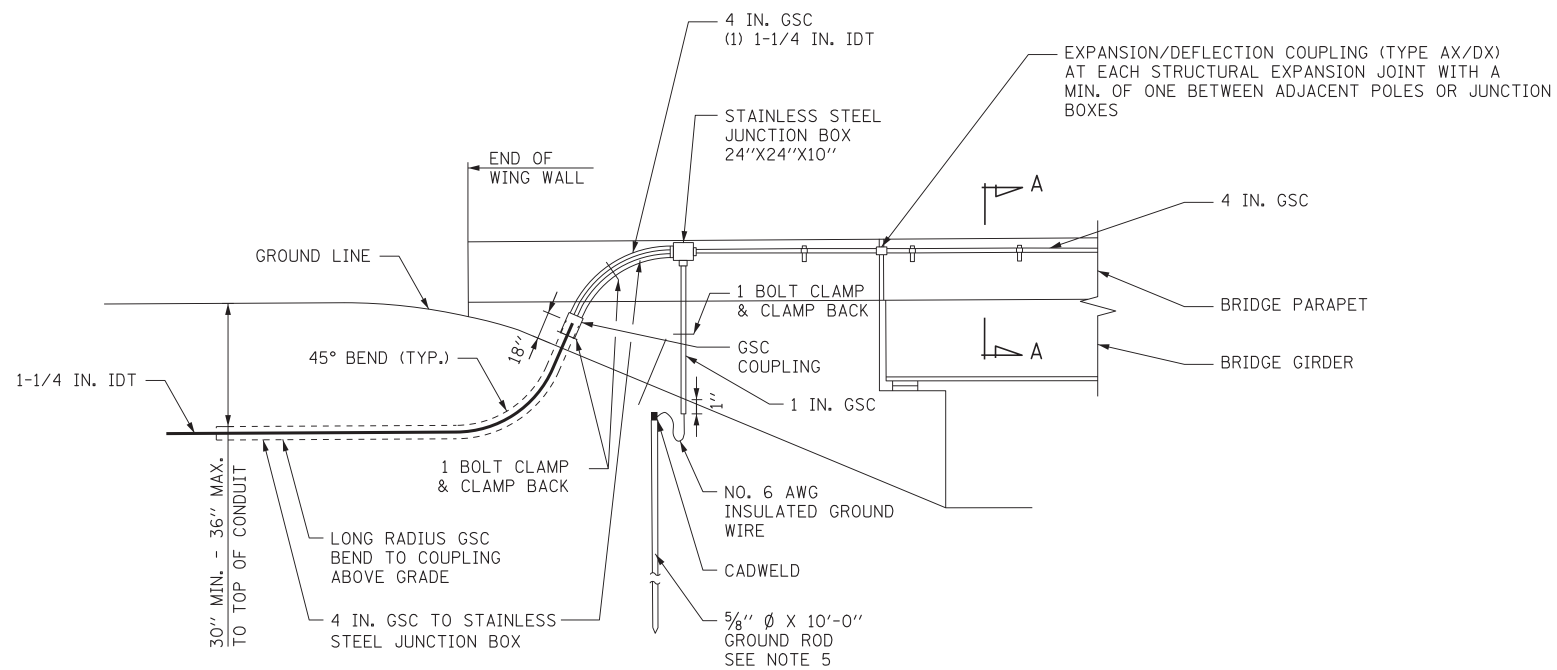


SECTION A-A

NOT TO SCALE

NOTES:

1. UNISTRUT #P2558-20 PIPE SUPPORT (HOT DIPPED GALVANIZED AFTER FABRICATION), MINIMUM SIZE EQUAL TO PIPE DIAMETER. MOUNT TO CHANNEL WITH TWO 3/8" STAINLESS STEEL CLAMPING NUTS, HEX HEAD CAP SCREW & LOCK WASHER, MOUNTED ON 5 FOOT CENTERS.
2. ALLIED #P.S.200EH STEEL CHANNEL (HOT DIPPED GALVANIZED AFTER FABRICATION), 10" LONG MOUNTED EXTERNALLY ON BRIDGE PARAPET. INSTALL ON 5'-0" CENTERS. ATTACH TO BRIDGE PARAPET WITH 1/2" DIAMETER EXPANSION ANCHORS, MINIMUM 2" LONG EXPANSION ANCHOR SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION AND SHALL BE MADE BY PARABOLT, KWICK-BOLT OR WEJ-IT.
3. WEEPHOLES SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO DRAIN ANY MOISTURE IN THE CONDUIT SYSTEM.
4. LOCATE REINFORCEMENT IN SAFETY BARRIER CURB WITH A PACHOMETER AND EXERCISE EXTREME CAUTION DURING THE INSTALLATION OF THE ANCHOR SYSTEM.
5. MATERIAL AND INSTALLATION FOR THE GROUND ROD SHALL BE INCLUDED WITH THE JUNCTION BOX ATTACHED TO STRUCTURE.



TYPICAL WINGWALL CONDUIT TRANSITION

NOT TO SCALE

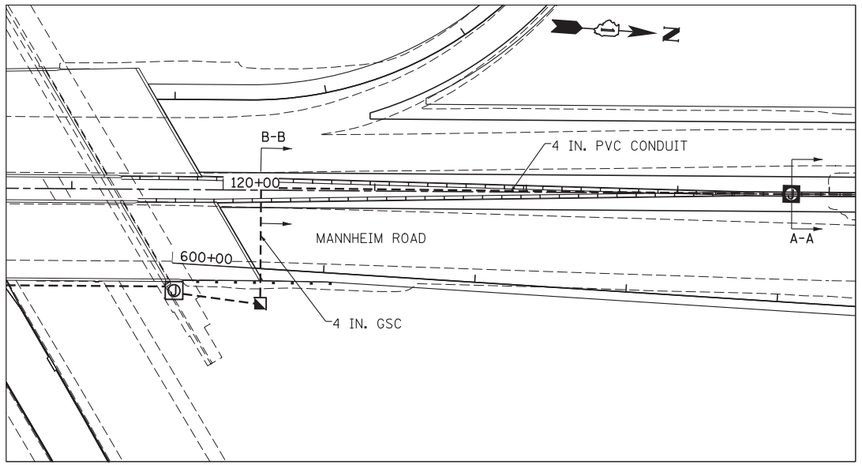
ITS-17

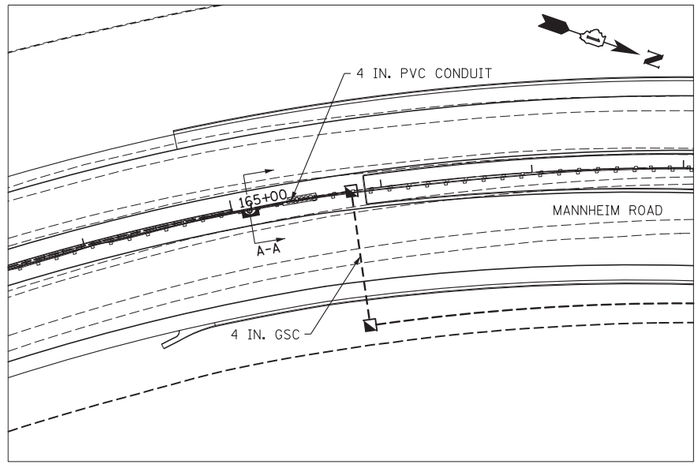
HNTB

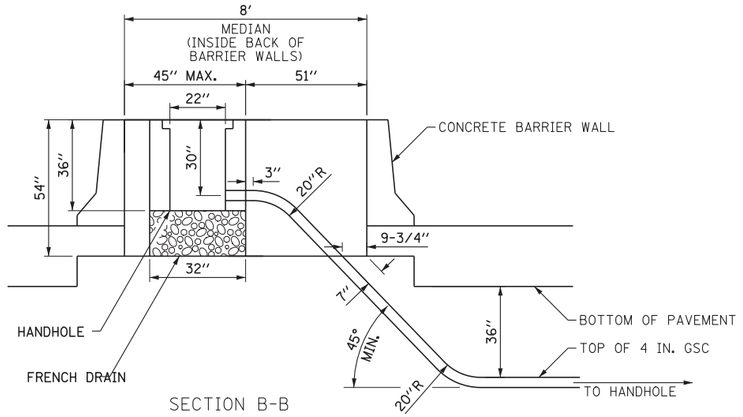
USER NAME = mkosir	DESIGNED DJJ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONDUIT ATTACHED TO STRUCTURE DETAIL
	DRAWN BCC	REVISED -		
PLOT SCALE = 50:1	CHECKED YJ	REVISED -		
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -		SCALE: N.T.S. SHEET NO. 1 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	366
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = IP_PW:dms47849\D160P35-sht-its_det_01.dgn

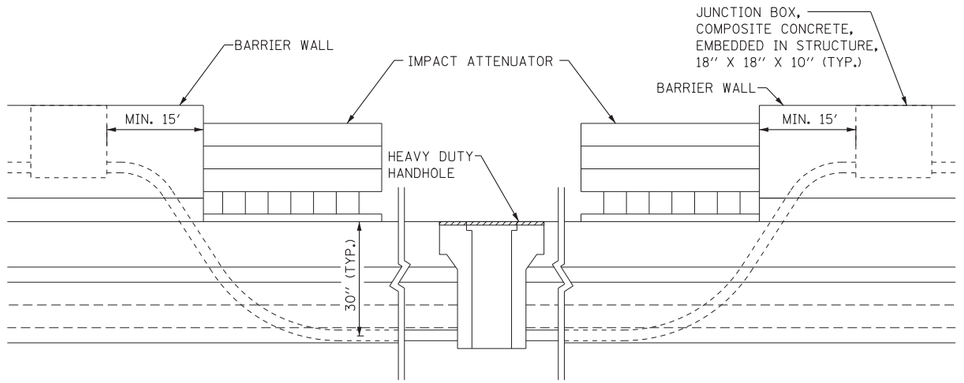




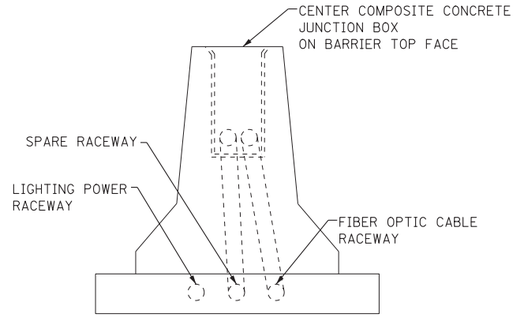


SECTION B-B

HANDHOLE IN MEDIAN
STATION 120+25

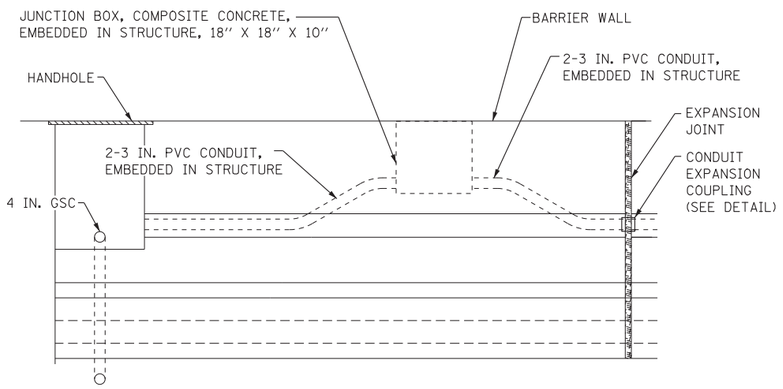


CONDUIT ROUTING AT MEDIAN CROSSOVER
STATION 151+75

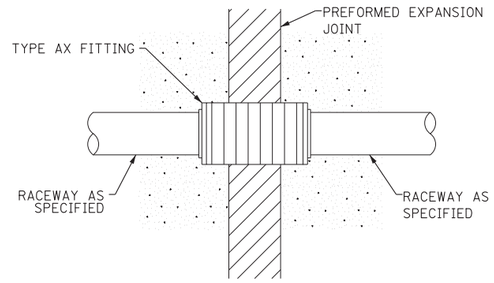


SECTION A-A

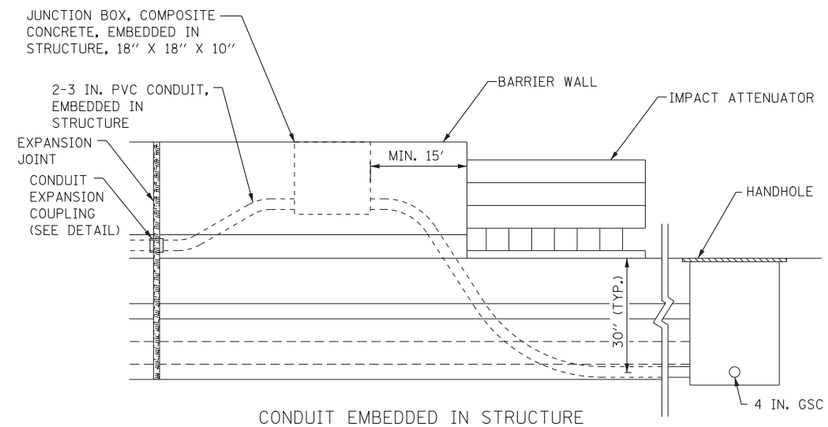
JUNCTION BOX EMBEDDED IN BARRIER WALL



CONDUIT EMBEDDED IN STRUCTURE
ENTRY DETAIL - SOUTH END



CONDUIT EXPANSION COUPLING DETAIL



CONDUIT EMBEDDED IN STRUCTURE
ENTRY DETAIL - NORTH END

ITS–18

USER NAME = mkosir	DESIGNED DJJ	REVISED -	
	DRAWN BCC	REVISED -	
PLOT SCALE = 50:1	CHECKED YJ	REVISED -	
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -	

HNTB

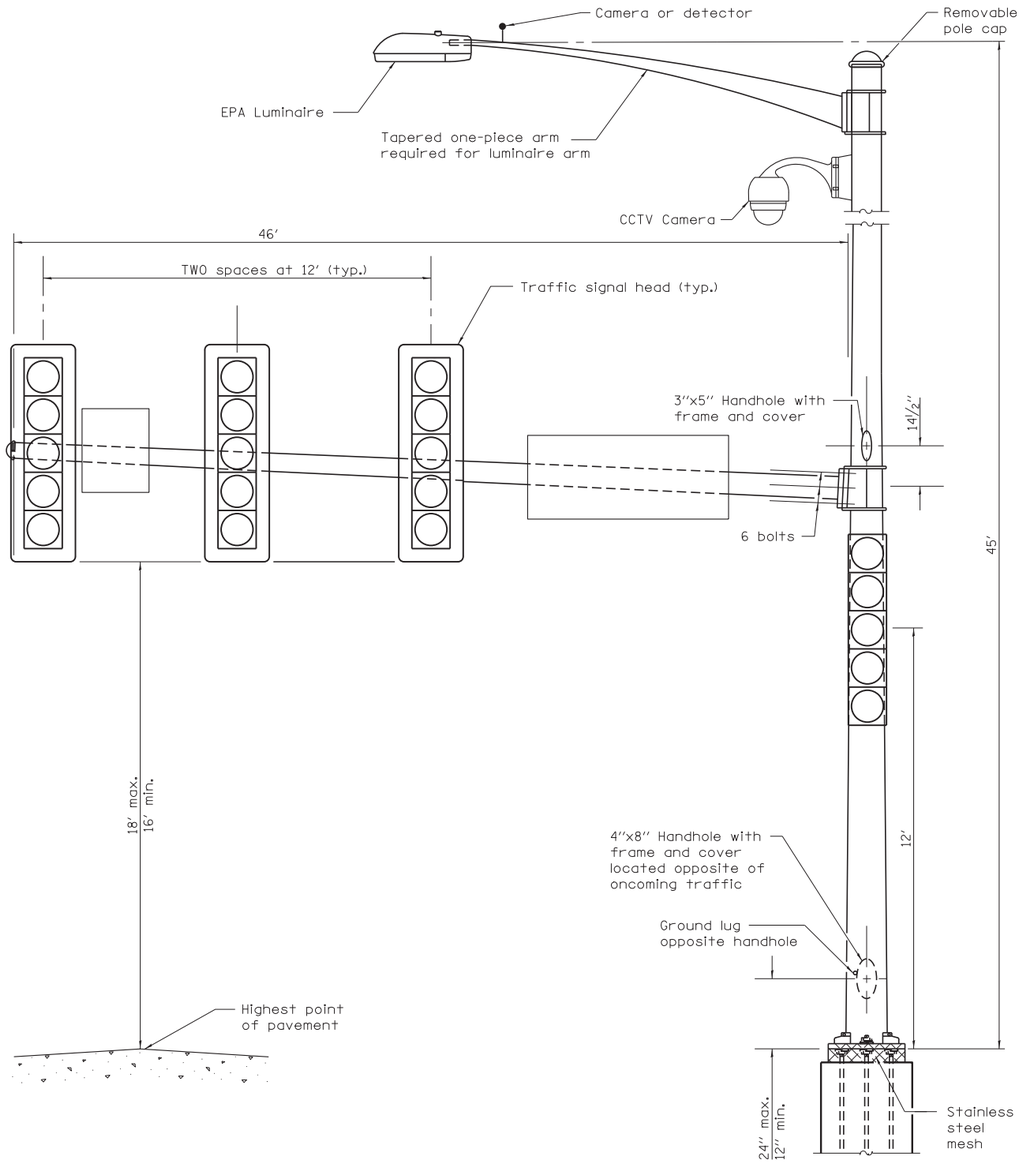
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONDUIT TRANSITION
UNDERGROUND /CONCRETE BARRIER DETAIL

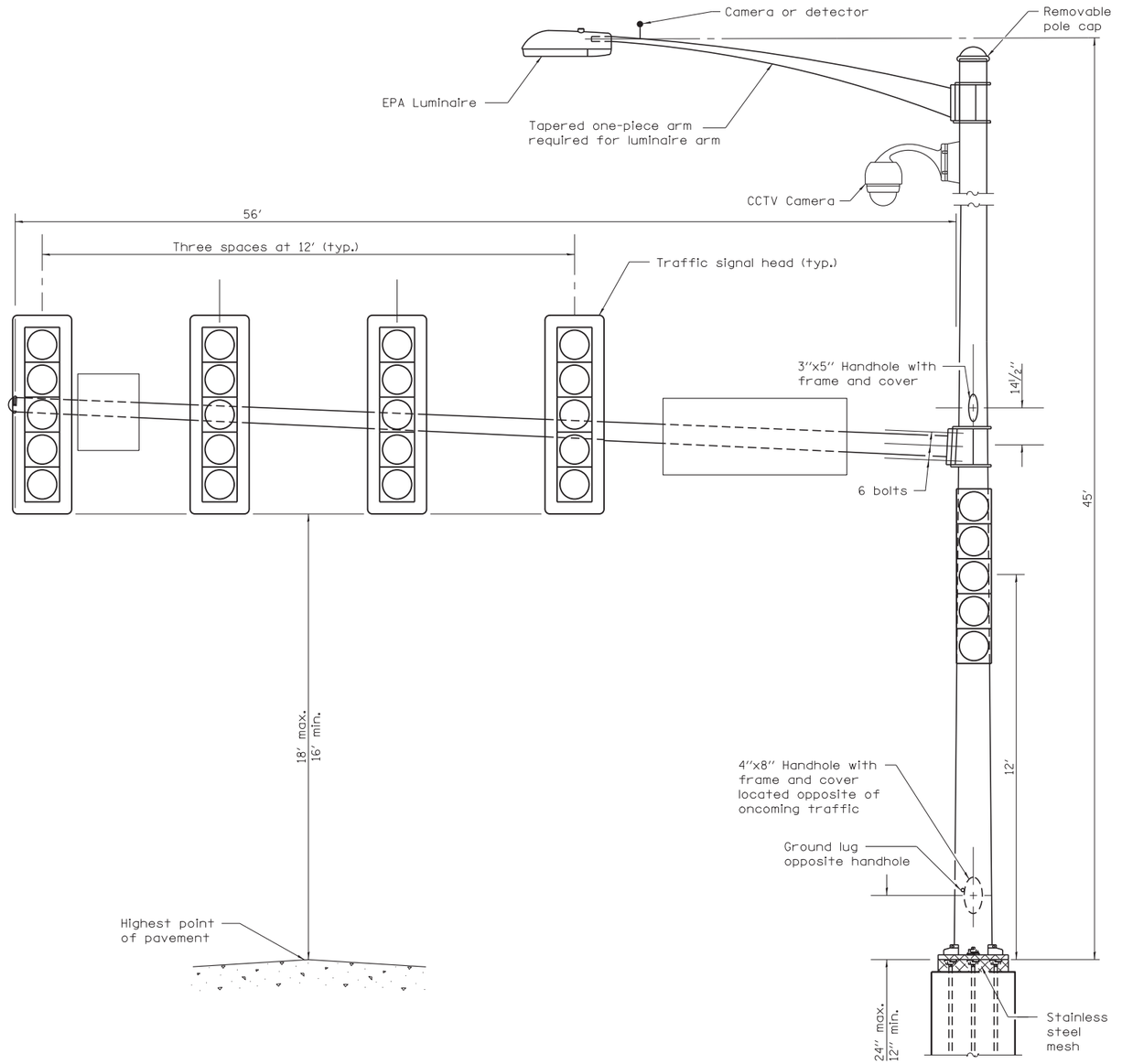
SCALE: N.T.S. | SHEET NO. 2 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	367
		CONTRACT NO. 60P35		
		ILLINOIS FED. AID PROJECT		

FILE NAME = IP_PWP:dms47849\D160P35-sht-its_det_02.dgn



CCTV CAMERA MOUNTING
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE
ZEMKE BLVD



CCTV CAMERA MOUNTING
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE
HIGGINS ROAD

ITS–19

HNTB

USER NAME = mkosir	DESIGNED DJJ	REVISED -
	DRAWN BCC	REVISED -
PLOT SCALE = 50:1	CHECKED YJ	REVISED -
PLOT DATE = 08-OCT-2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CCTV CAMERA MOUNTING
TRAFFIC SIGNAL POLES

SCALE: N.T.S. | SHEET NO. 3 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105-WRS	COOK	537	368
		CONTRACT NO. 60P35		
		ILLINOIS	FED. AID PROJECT	

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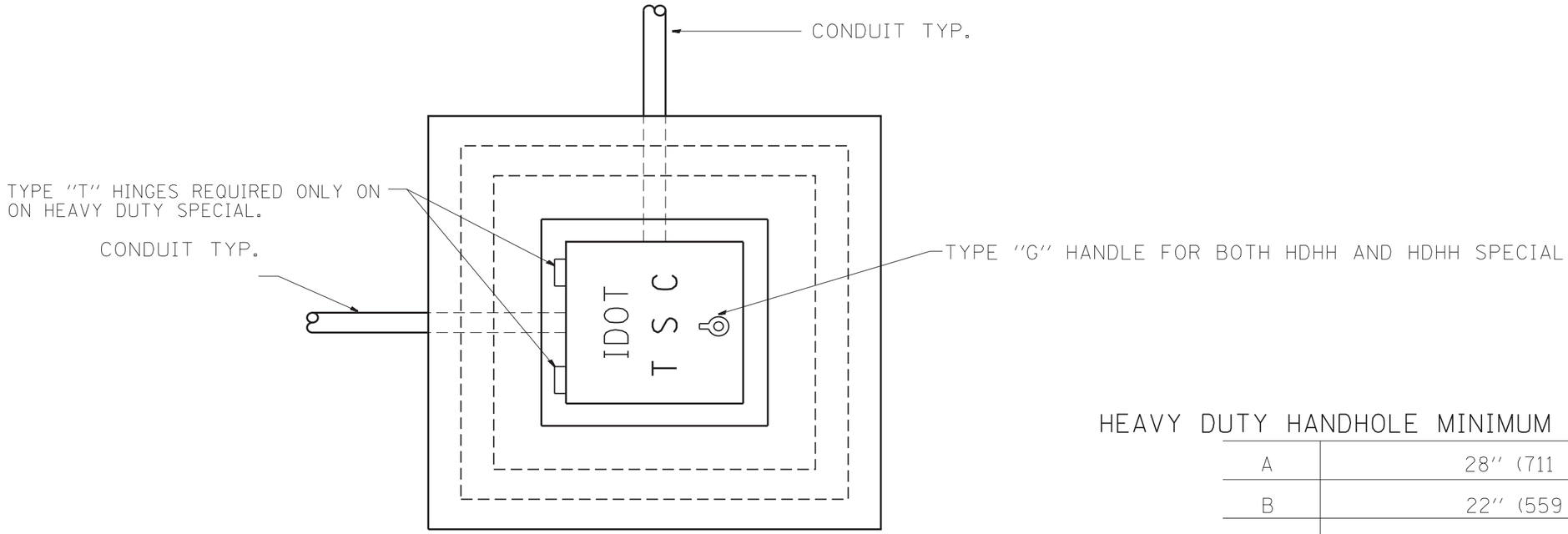
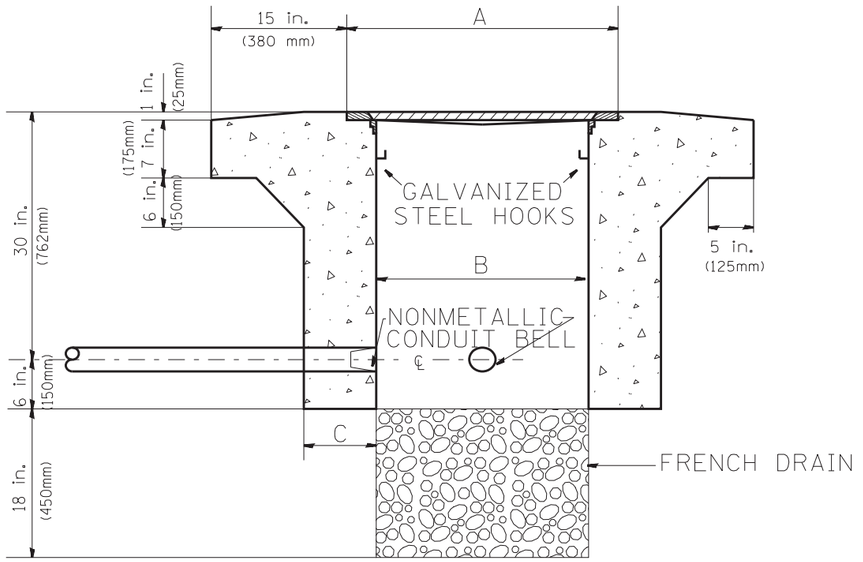


PLAN

HEAVY DUTY HANDHOLE MINIMUM DIMENSIONS (UNHINGED)

A	28'' (711 mm)
B	22'' (559 mm)
C	8'' (200 mm)

(FRAME AND COVER 260 LBS. (118 Kg.) MIN.)



ELEVATION

HEAVY DUTY HANDHOLE SPECIAL MINIMUM DIMENSIONS

A	31.5'' (800 mm)
B	30'' (762 mm)
C	10'' (250 mm)

(FRAME AND COVER 405 LBS. (184 Kg. (405))

PC CONCRETE - HEAVY DUTY HAND HOLE

FILE NAME = c:\pw_work\pwidot\mezag\d0287541\TSCTYP.dgn	USER NAME = mezag	DESIGNED - R.L.	REVISED - 04/97
		DRAWN - G.M.	REVISED -
	PLOT SCALE = 100.0000 '/ in.	CHECKED - R.L.	REVISED -
	PLOT DATE = 2/17/2012	DATE - 09/11/96	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

PC CONCRETE - HEAVY DUTY HAND HOLE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	369
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-400#15)

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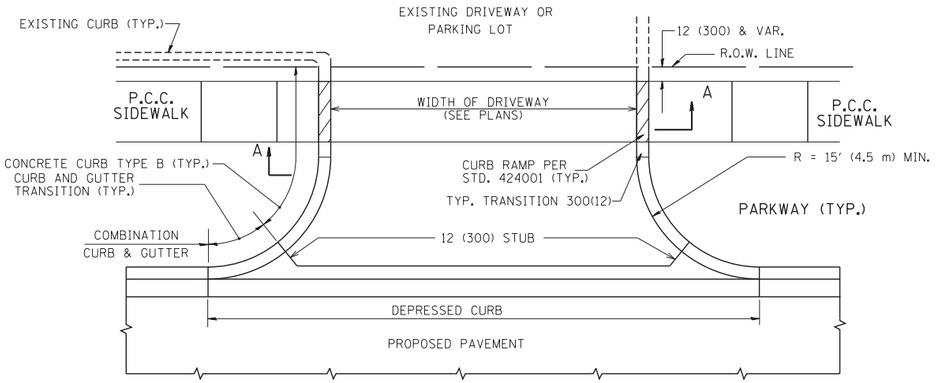
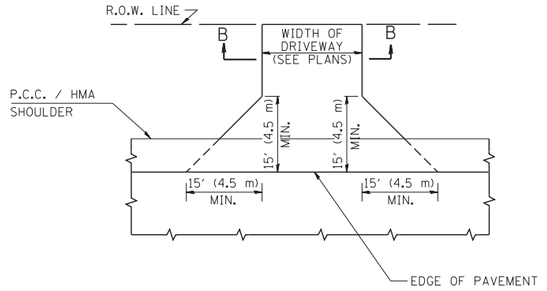
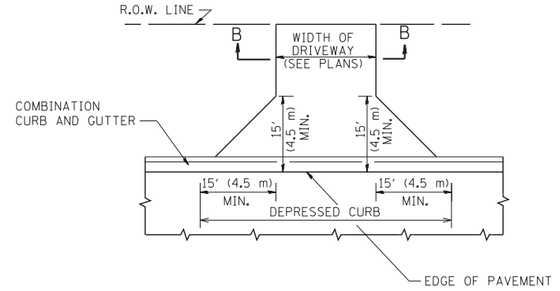


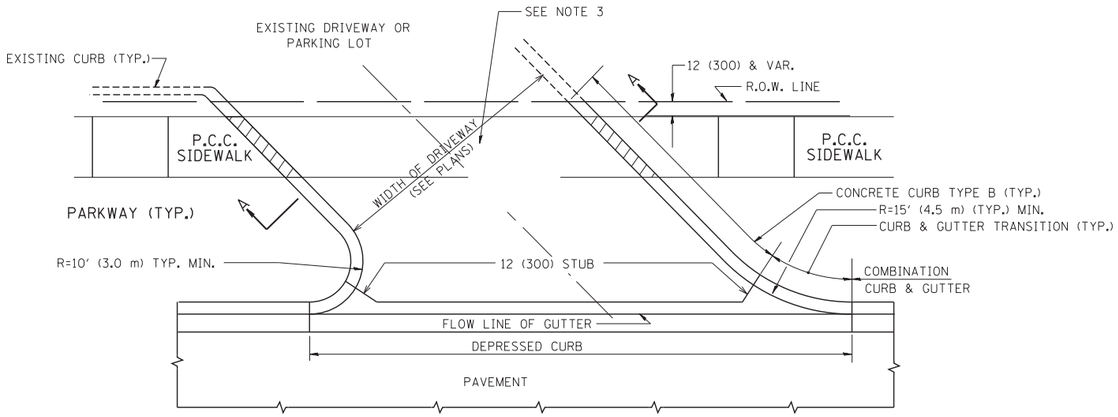
WITH CONCRETE CURB, TYPE B



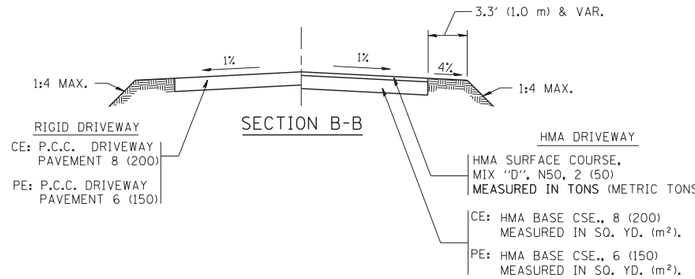
ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



WITH CONCRETE CURB, TYPE B

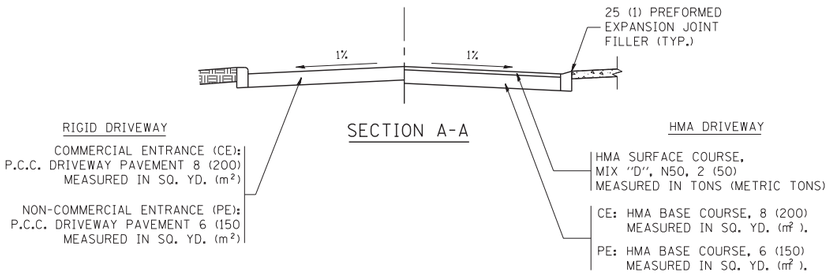


SECTION B-B

RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE,
MIX "D", N50, 2 (50)
MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE B, 8 (200)
MEASURED IN SQ. YD. (m²).



SECTION A-A

GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

FILE NAME = c:\pw_work\pwidot\leysa\d0108315\bd01.dgn	USER NAME = leysa	DESIGNED - R. SHAH	REVISED - P. LaFLUER 04-15-03
		DRAWN -	REVISED - R. BORO 01-01-07
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - R. BORO 06-11-08
	PLOT DATE = 9/6/2011	DATE - 11-04-95	REVISED - R. BORO 09-06-11

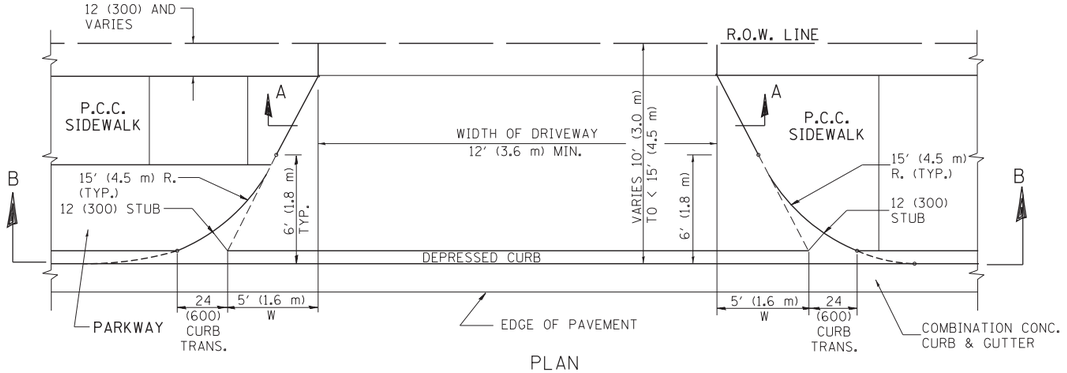
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS – DISTANCE BETWEEN R.O.W. AND FACE OF CURB & EDGE OF SHOULDER >= 15' (4.5 m)

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

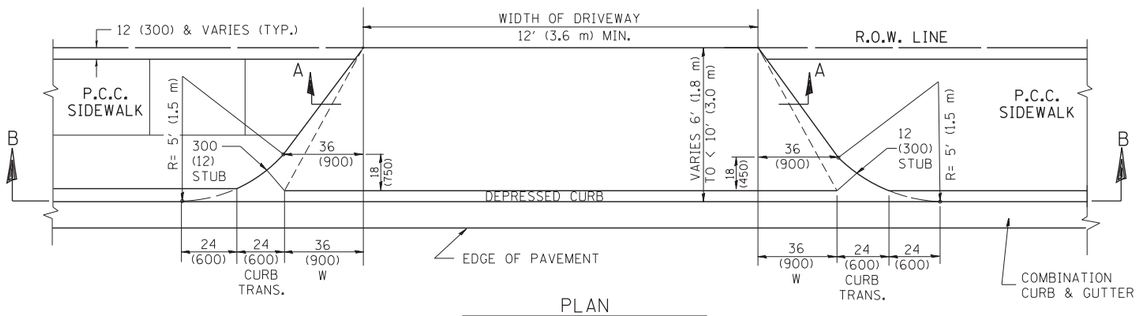
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	370
	BD0156-07 (BD-01)	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

bd01.dgn 9/6/2011 11:50:24 AM User=leysa



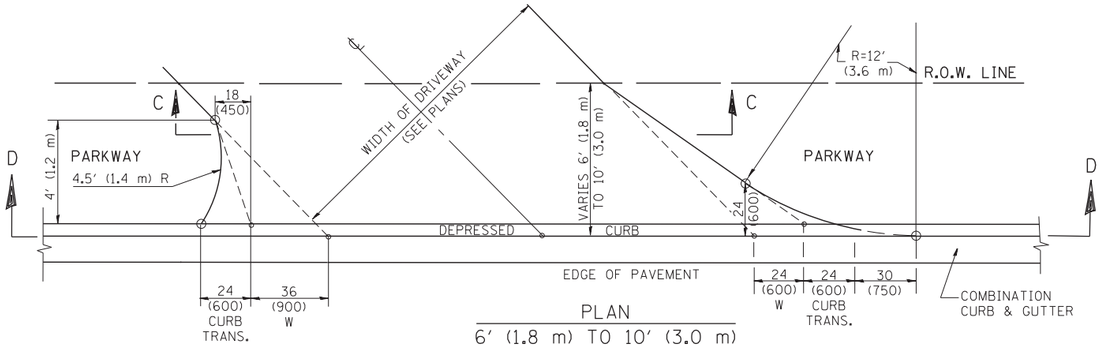
PLAN

10' (3.0 m) TO < 15' (4.5 m)



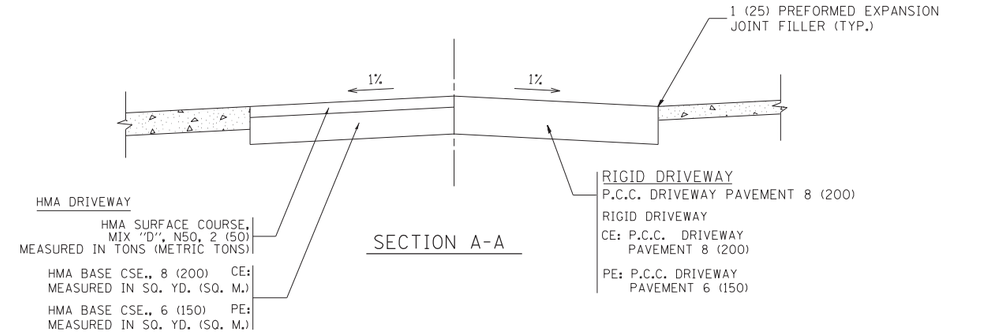
PLAN

6' (1.8 m) TO < 10' (3.0 m)

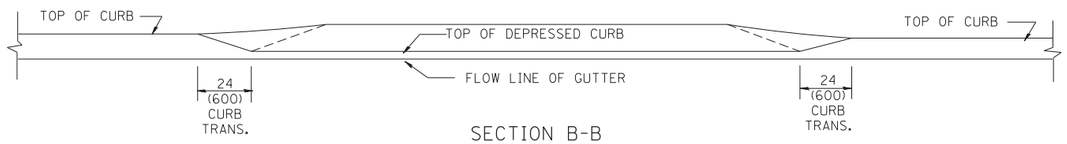


PLAN

6' (1.8 m) TO 10' (3.0 m)



SECTION A-A



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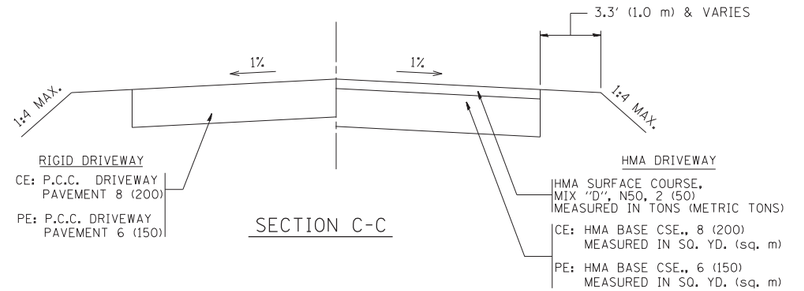
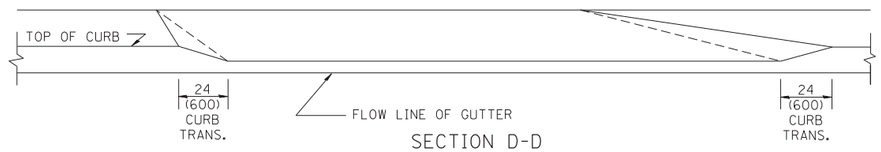


SECTION C-C



SECTION D-D

GENERAL NOTES

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATION 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 8' (2.4 m), THE P.C.C. SIDEWALK SHALL EXTEND TO THE BACK OF CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

THE 1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

"W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

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

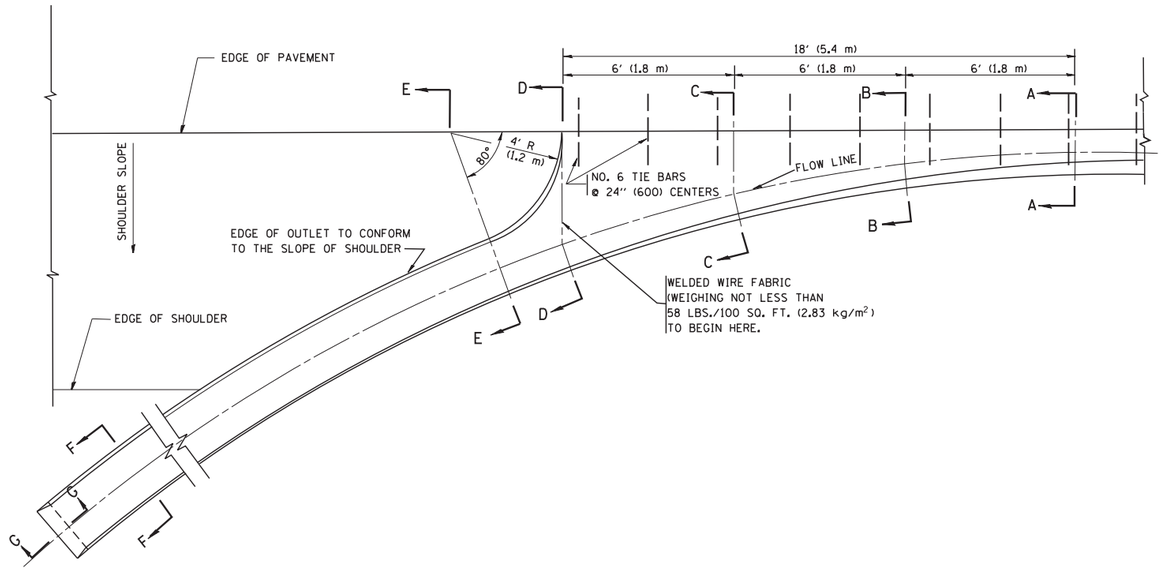
FILE NAME = c:\pw_work\pwidot\leysa\d0108315\bd02.dgn	USER NAME = leysa	DESIGNED - R. SHAH	REVISED - M. GOMEZ 04-06-01
		DRAWN -	REVISED - P. LaFLEUR 04-15-03
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - R. BORO 01-01-07
	PLOT DATE = 10/28/2011	DATE - 11-06-95	REVISED - R. BORO 09-06-11

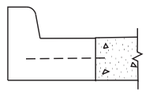
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS
DISTANCE BETWEEN ROW AND FACE OF CURB < 15' (4.5 m)

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

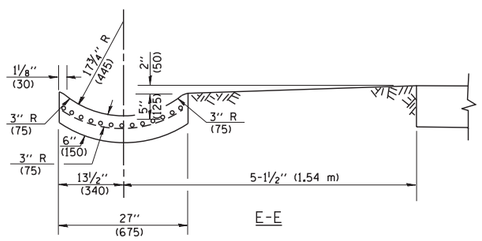
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	371
	BD400-02 (BD-02)		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



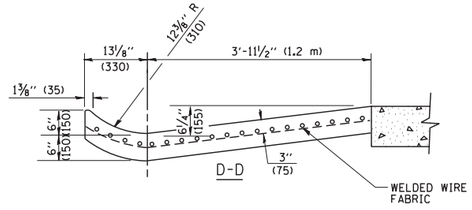


A-A *

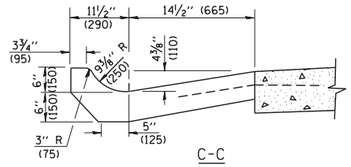
* DIMENSIONS OF THE CURB & GUTTER AT SECTION A-A ARE SHOWN ON STATE STANDARD 606001.
FOR DETAILS OF OUTLET FOR CONCRETE CURB & GUTTER, TYPE B-6.24 (B-15.60) SEE STATE STANDARD 606006.



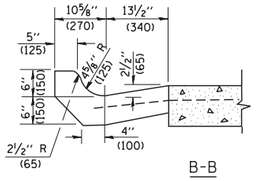
E-E



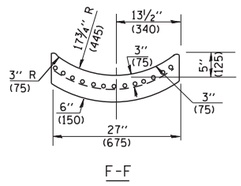
D-D



C-C



B-B



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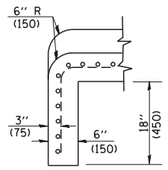


G-G

GENERAL NOTES

GUTTER OUTLET SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001.

TIE BARS SHALL BE NO. 20 (NO.6) AT 24" (600) CENTERS UNLESS OTHERWISE SHOWN.

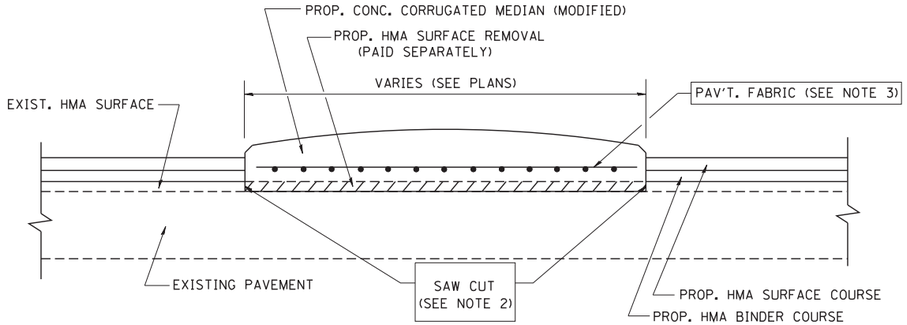
IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE FROM SECTION A-A TO D-D EXCEEDS 2%, THIS DISTANCE SHALL BE INCREASED 6' (1.8 m) FOR EACH 1% INCREASE IN GRADE.

QUANTITIES

FOR SECTION A-A TO E-E AND CURTAIN WALL=
1.25 CU. YDS. (0.96 m^3) CLASS SI CONCRETE (OUTLET) FOR 9" (225) PAV'T.
1.27 CU. YDS. (0.96 m^3) CLASS SI CONCRETE (OUTLET) FOR 10" (250) PAV'T.
FOR SECTION F-F=
0.045 CU. YDS. (0.03 m^3) CLASS SI CONCRETE PER ft. (m).

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

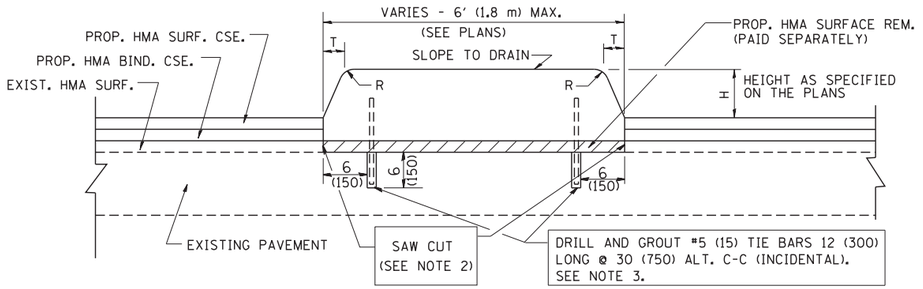
FILE NAME = W:\diststd\22x34\bd03.dgn	USER NAME = gaglianobt	DESIGNED - M. DE YONG	REVISED - R. SHAH 09-09-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OUTLET FOR CONCRETE CURB AND GUTER			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. SHAH 10-25-94								537	372
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - E. GOMEZ 12-21-00					BD600-01	(BD-03)	CONTRACT NO.		
	PLOT DATE = 1/4/2008	DATE - 08-04-86	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:
1. CORRUGATED MEDIAN (MODIFIED) SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE PORTIONS OF STATE STANDARD 606306.
2. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY DELETE THE SAW CUT IF A NEAT JOINT CAN BE OBTAINED BY MILLING THE HMA SURFACE TO BE REMOVED. SAW CUT WILL BE INCLUDED IN THE COST OF CORRUGATED MEDIAN (MODIFIED)
3. PAVEMENT FABRIC WILL BE INCLUDED IN THE COST OF CORRUGATED MEDIAN (MODIFIED)

DETAILS FOR CORRUGATED MEDIAN (MODIFIED)

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT (SQUARE METER) FOR "CORRUGATED MEDIAN (MODIFIED)"



H	R	T
6(150)	1(25)	1(25)
9(225)	1(25)	2(50)

NOTES:
1. CONCRETE MEDIAN TYPE SB (DOWELLED) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STATE STANDARD 606301 AND SECTION 606 OF THE STANDARD SPECIFICATIONS.
2. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY DELETE THE SAW CUT IF A NEAT JOINT CAN BE OBTAINED BY MILLING THE HMA SURFACE TO BE REMOVED. SAW CUT WILL BE INCLUDED IN THE COST OF "CONCRETE MEDIAN TYPE SB (DOWELLED)"
3. FOR MEDIAN WIDTH LESS THAN 4' (1.2 m) USE ONE ROW OF #5 (15) BARS @ 30 (750) C-C ALONG THE MEDIAN CENTERLINE. TIE BARS WILL BE INCLUDED IN THE COST OF "CONCRETE MEDIAN TYPE SB (DOWELLED)"

DETAILS FOR CONCRETE MEDIAN TYPE SB (DOWELLED)

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT (SQUARE METER) FOR "CONCRETE MEDIAN TYPE SB (DOWELLED)"

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

FILE NAME = W:\diststd\22x34\bd05.dgn	USER NAME = gaglianobt	DESIGNED - M. DE YONG	REVISED - R. SHAH 09-09-94	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DETAILS FOR CONCRETE MEDIAN TYPE SB (DOWELLED) CORRUGATED MEDIAN (MODIFIED)**
		DRAWN -	REVISED - R. SHAH 10-25-94		
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - E. GOMEZ 08-28-00		
	PLOT DATE = 1/4/2008	DATE - 05-14-90	REVISED - R. BORO 01-01-07		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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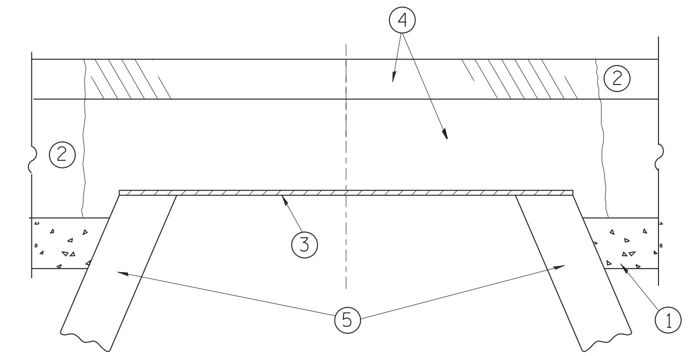
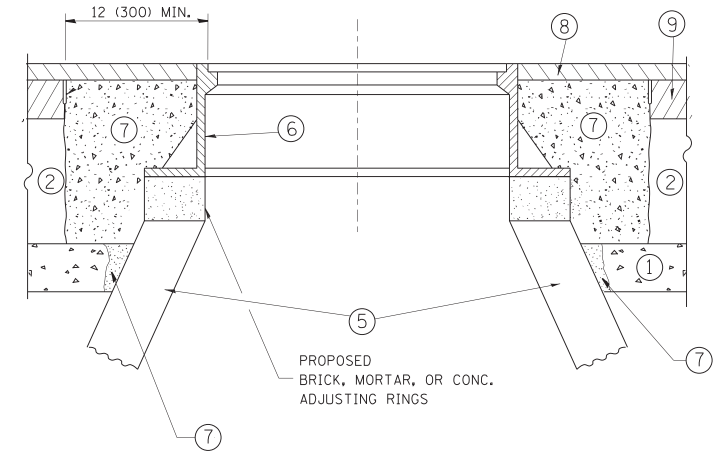
	BD600-02 (BD-5)	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		





CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
D) BACKFILL WITH CRUSHED STONE AND A MINIMUM $1\frac{1}{2}$ (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

STAGE 2 (AFTER PAVEMENT MILLING)

A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-1* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

LEGEND

1. SUB-BASE GRANULAR MATERIAL
2. EXISTING PAVEMENT
3. 36 (900) DIAMETER METAL PLATE
4. PROPOSED CRUSHED STONE AND HMA SURFACE MIX
5. EXISTING STRUCTURE
6. FRAME AND LID (SEE NOTES)
7. CLASS PP-1* CONCRETE
8. PROPOSED HMA SURFACE COURSE
9. PROPOSED HMA BINDER COURSE

NOTES:

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

LOCATION OF STRUCTURES:

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

BASIS OF PAYMENT:

REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."

THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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		DRAWN -	REVISED - R. BORO 01-01-07
	PLOT SCALE = 1968.5000 '/ m	CHECKED -	REVISED - R. BORO 03-09-11
	PLOT DATE = 12/6/2011	DATE - 10-25-94	REVISED - R. BORO 12-06-11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS FOR
FRAMES AND LIDS ADJUSTMENT WITH MILLING

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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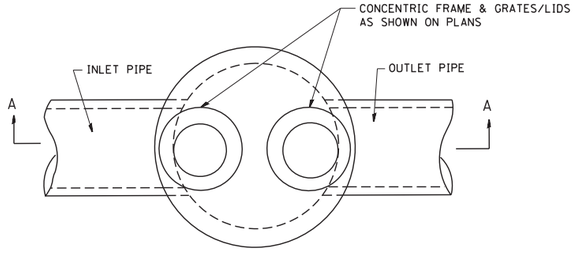
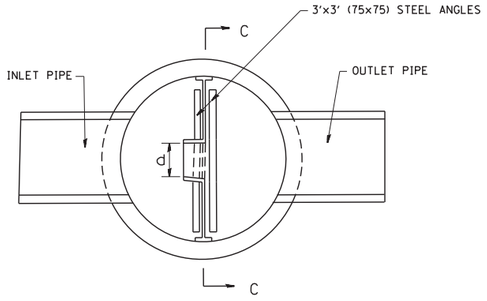
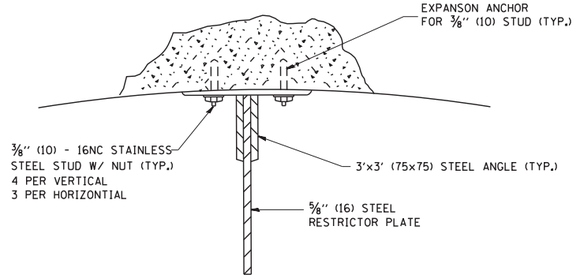
BD600-03 (BD-8)		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



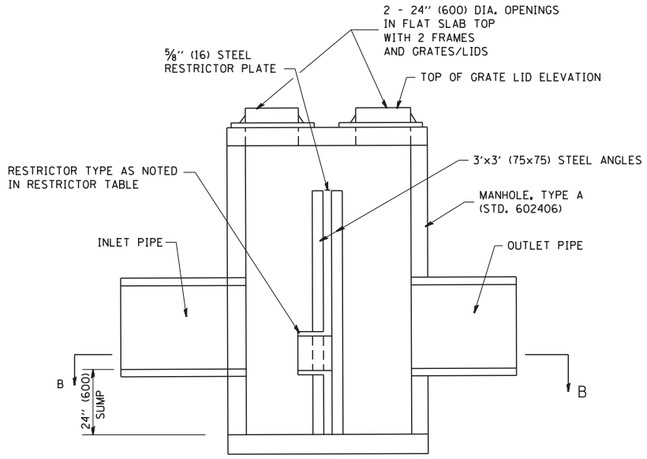
PLAN



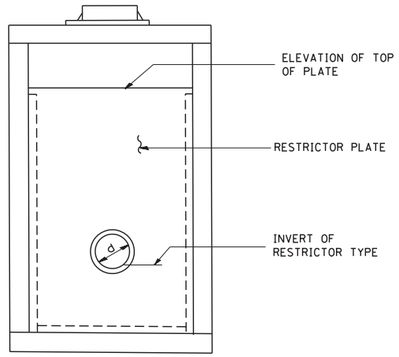
SECTION B-B



ANGLE FASTENER DETAIL



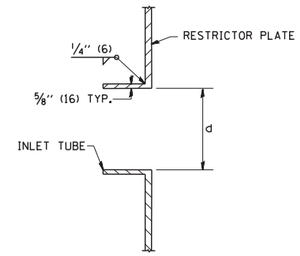
SECTION A-A



SECTION C-C

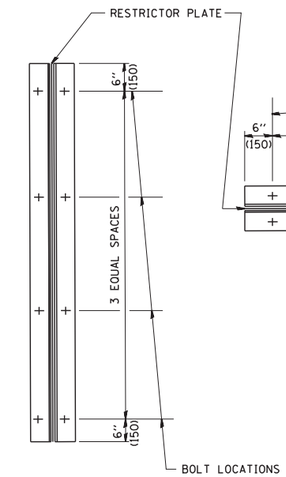
NOTES:

1. ALL STEEL ANGLES AND PLATES TO BE GALVANIZED AFTER FABRICATION.
2. ALL RESTRICTOR PLATES, ANGLES AND HARDWARE TO BE INCLUDED IN THE COST OF THE MANHOLE.
3. BASIS OF PAYMENT: "MANHOLES ,TYPE A, 6 FT. (1.8 m)-DIAMETER, TYPE 1 FRAME, CLOSED LID, RESTRICTOR PLATE" EACH

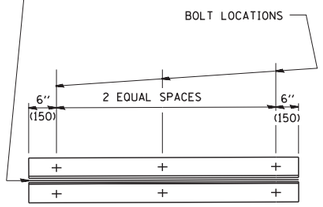


INLET TUBE DETAIL

STATION	MANHOLE DIAMETER	FRAME AND GRATE	RESTRICTOR TYPE	INSIDE RESTRICTOR TYPE DIAMETER in. (mm) (d)	INVERT OF RESTRICTOR TYPE	ELEVATION OF TOP OF PLATE OVERFLOW



TYPICAL VERTICAL ANGLES
LOOKING TOWARD MANHOLE WALL



TYPICAL HORIZONTIAL
ANGLES LOOKING TOWARD
BOTTOM OF MANHOLE

TOTAL BOLTS REQUIRED: 22

NOTE:

1. ANGLES SHOULD BE 3x3x⅜ (75x75x75)
2. VERTICAL ANGLES SHOULD EXTEND FROM THE BOTTOM OF THE RESTRICTOR PLATE TO THE TOP.
3. HORIZONTIAL ANGLES SHOULD EXTEND FROM VERTICAL ANGLE TO VERTICAL ANGLE.

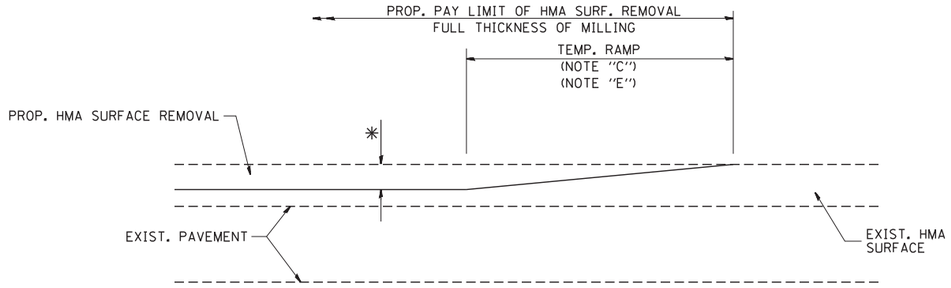
RESTRICTOR TYPE					
1	2	3	4	5	6
RE-ENTRANT TUBE	SHARP EDGED	SQUARE EDGED	RE-ENTRANT TUBE	SQUARE EDGED	ROUNDED
LENGTH: ½ TO 1 DIA.		STREAM CLEARS SIDES	LENGTH: 2-½ DIA.	LENGTH: 2-½ DIA.	
C=.52	C=.61	C=.61	C=.73	C=.82	C=.98

VALUES OF "C" FOR CIRCULAR
AND SQUARE ORIFICES

STEEL ANGLE BOLTING DETAILS

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

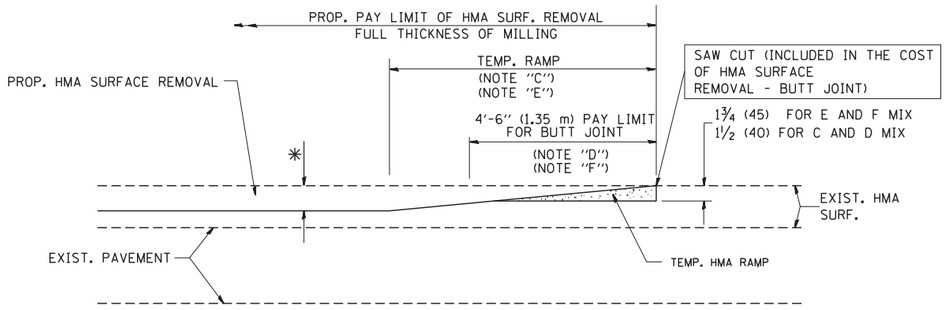
FILE NAME = W:\diststd\22x34\bd12.dgn	USER NAME = gaglianobt	DESIGNED - R. SHAH	REVISED - R. SHAH 10-25-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MANHOLE WITH RESTRICTOR PLATE	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - E. GOMEZ 08-28-00						537	375
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - M. GOMEZ 01-08-01				BD600-04 (BD-12)		CONTRACT NO.	
	PLOT DATE = 1/4/2008	DATE - 09-09-94	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

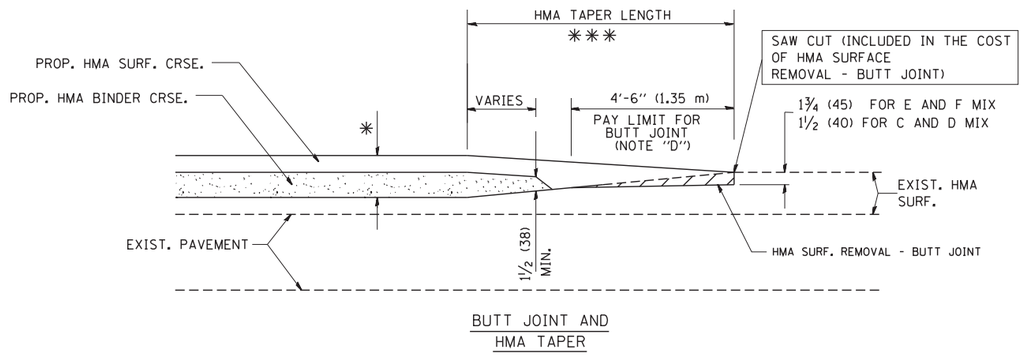


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

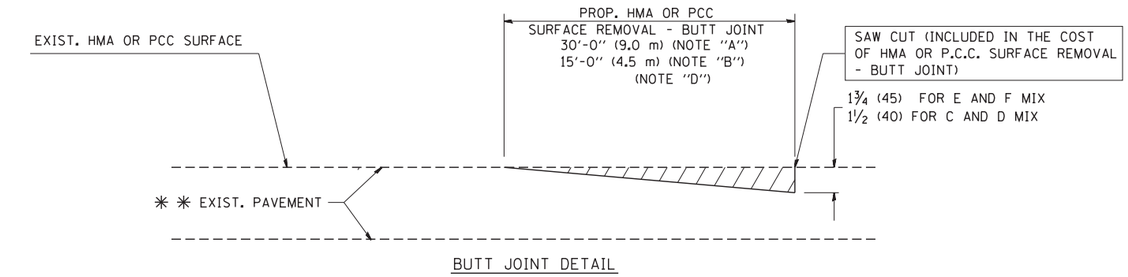
OPTION 2

TYPICAL TEMPORARY RAMP

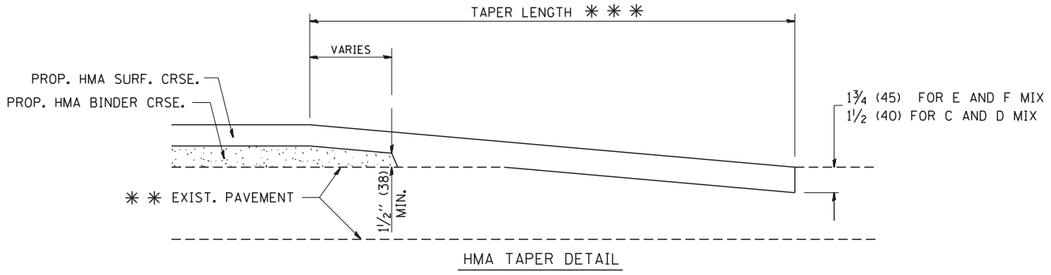


BUTT JOINT AND HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.

B: MINOR SIDE ROADS.

C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.

D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.

E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.

F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT

G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".

* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".

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

FILE NAME = W:\diststd\22x34\bd32.dgn	USER NAME = gaglianobt	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
		DRAWN -	REVISED - A. ABBAS 03-21-97
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 1/4/2008	DATE - 06-13-90	REVISED - R. BORO 01-01-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND HMA TAPER DETAILS

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

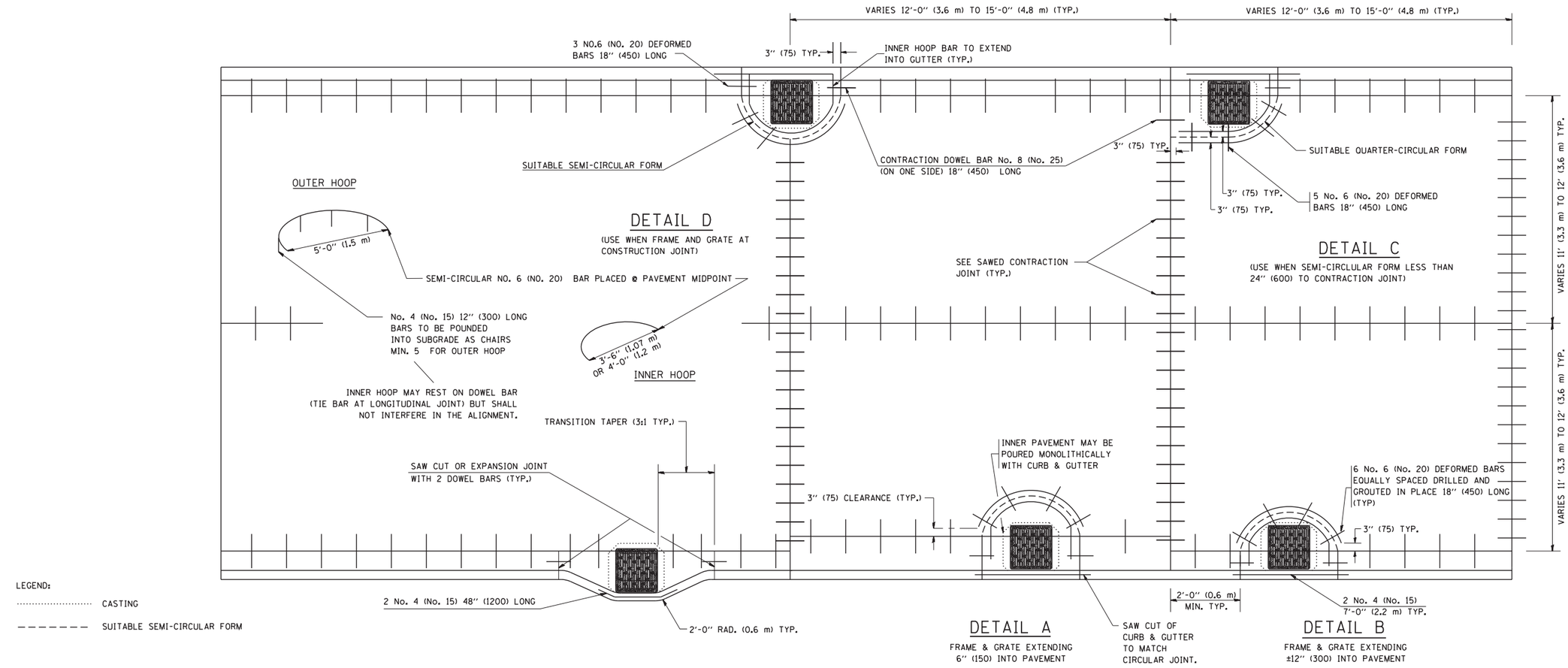
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	376
	BD400-05 BD32		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

FRAME EXTENSION INTO PAVEMENT	INNER HOOP REINFORCEMENT DIAMETER	SEMI CIRCULAR FORM DIAMETER	OUTER HOOP REINFORCEMENT DIAMETER
UP TO 8" (200)	3'-6" (1.1 m)	4'-0" (1.2 m)	5'-0" (1.5 m)
> 8" (200) TO 14" (360)	4'-0" (1.2 m)	4'-6" (1.4 m)	5'-0" (1.5 m)

DESIGNER NOTE:
THIS DETAIL IS TO BE USED WHEN THE GUTTER FLAG IS LESS THAN 24"

NOTES :

1. THE ROUNDOUT AND ADDED REINFORCEMENT WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE PAVEMENT.
2. TRANSVERSE JOINTS MAY BE MOVED TO ACCOMMODATE ROUNDOUT, EDGE OF CIRCULAR JOINT SHALL BE MINIMUM 12" (300) FROM TRANSVERSE JOINT. RELOCATED TRANSVERSE JOINT SHALL BE CONTINUOUS FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
3. SEMI-CIRCULAR FORM SHALL BE REMOVED PRIOR TO DRILL AND GROUT OF TIE BARS.
4. ALL REINFORCED BARS SHALL BE EPOXY COATED.
5. DRILL AND GROUT IS PREFERRED, HOWEVER TIE BARS CAN BE POURED IN PLACE IF CLEARANCE IS PROVIDED TO OUTER EDGE OF FRAME. MINIMUM 2" (50) CLEARANCE.
6. WOOD SHIMS SHALL BE USED TO ADJUST ALL FRAMES. AFTER ADJUSTING MORTAR HAS CURED, THE WOOD SHIMS SHALL BE REMOVED AND THE VOIDS UNDER THE FRAMES FILLED WITH NON SHRINK GROUT.
7. HOOP REINFORCEMENT SHALL BE ONE PIECE CONSTRUCTION.
8. CIRCULAR FRAMES AND GRATES MAY BE SUBSTITUTED.
9. CURB DOWELS MUST BE PLACED LEVEL & TRUE TO ALLOW CONTRACTION MOVEMENT.



DETAIL D
(USE WHEN FRAME AND GRATE AT CONSTRUCTION JOINT)

DETAIL C
(USE WHEN SEMI-CIRCLULAR FORM LESS THAN 24" (600) TO CONTRACTION JOINT)

DETAIL A
FRAME & GRATE EXTENDING 6" (150) INTO PAVEMENT

DETAIL B
FRAME & GRATE EXTENDING ±12" (300) INTO PAVEMENT

LEGEND:
..... CASTING
– – – – – – – SUITABLE SEMI-CIRCULAR FORM

TRANSITION CURB & AND GUTTER INTO PARKWAY
(PREFERRED BECAUSE PAVING OF MAINLINE NOT AFFECTED.)

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED

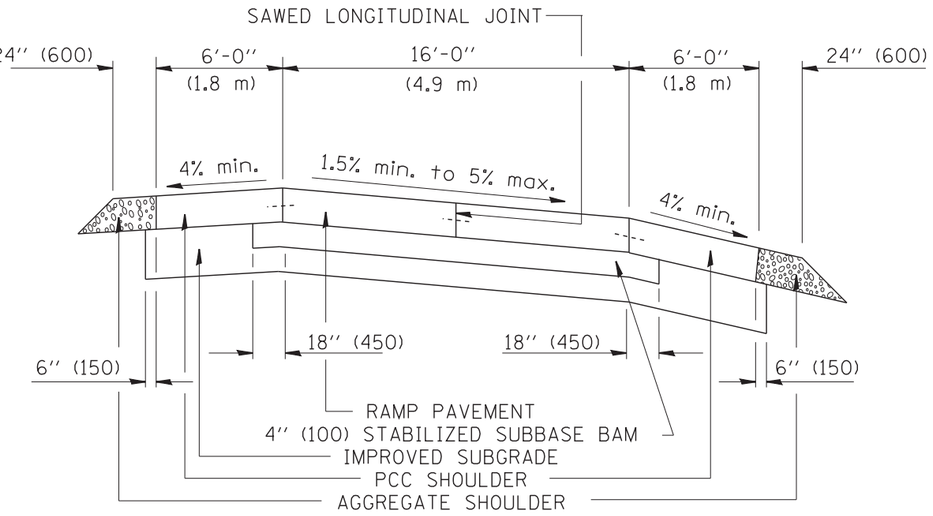
FILE NAME = W:\diststd\22x34\bd48.dgn	USER NAME = gaglianobt	DESIGNED - A. ABBAS	REVISED - T. MATOUSEK 08-28-00
		DRAWN - TOM MATOUSEK	REVISED - T. MATOUSEK 10-02-00
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - A. ABBAS	REVISED - T. MATOUSEK 04-25-02
	PLOT DATE = 1/4/2008	DATE - 01-04-99	REVISED - P. LAFLEUR 08-27-02

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

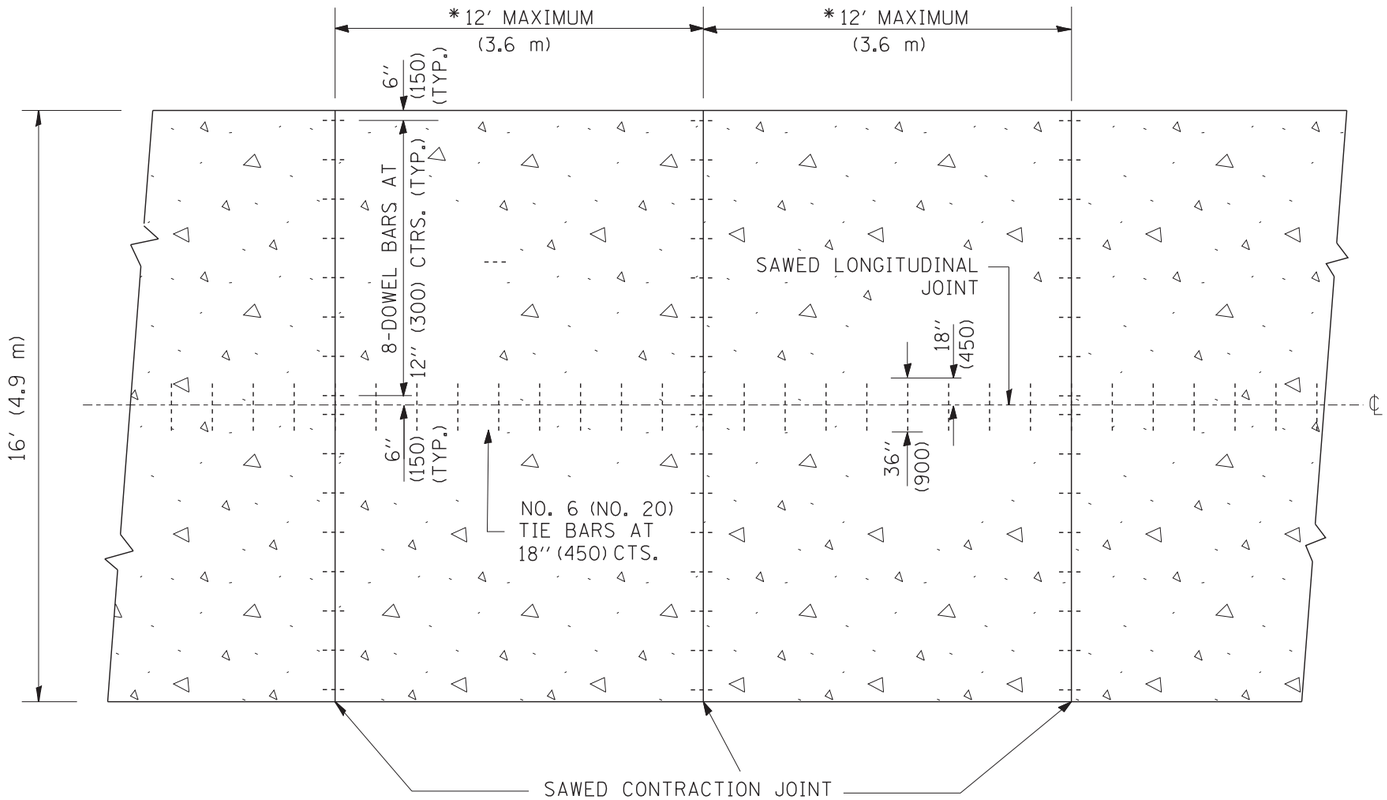
PCC PAVEMENT ROUNDOUTS AT CURB AND GUTTER

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	377
	BD-48		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



SECTION

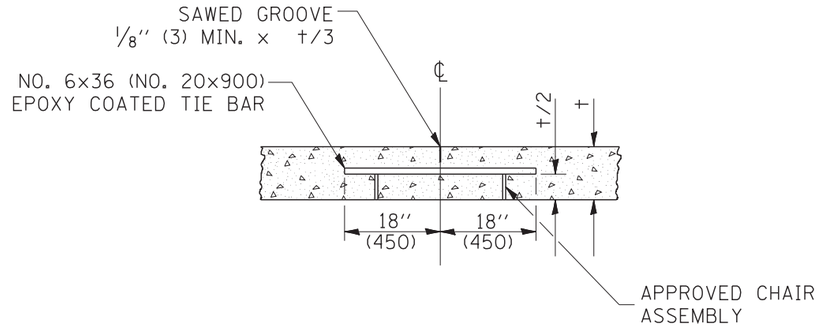


PLAN

NOTES:

1. CENTERLINE JOINT REMAINS IN THE CENTER WHEN RAMP TRANSITIONS TO TWO (2) RAMPS AT 12' (3.6 m).

2. ALL BARS TO BE EPOXY COATED.



SAWED LONGITUDINAL JOINT

ALL DIMENSIONS ARE IN INCHES
(MILLIMETERS) UNLESS OTHERWISE NOTED

FILE NAME = W:\diststd\22x34\bd49.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED -
		DRAWN - TOM MATOUSEK	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - A. ABBAS	REVISED -
	PLOT DATE = 1/4/2008	DATE - 10-18-02	REVISED -

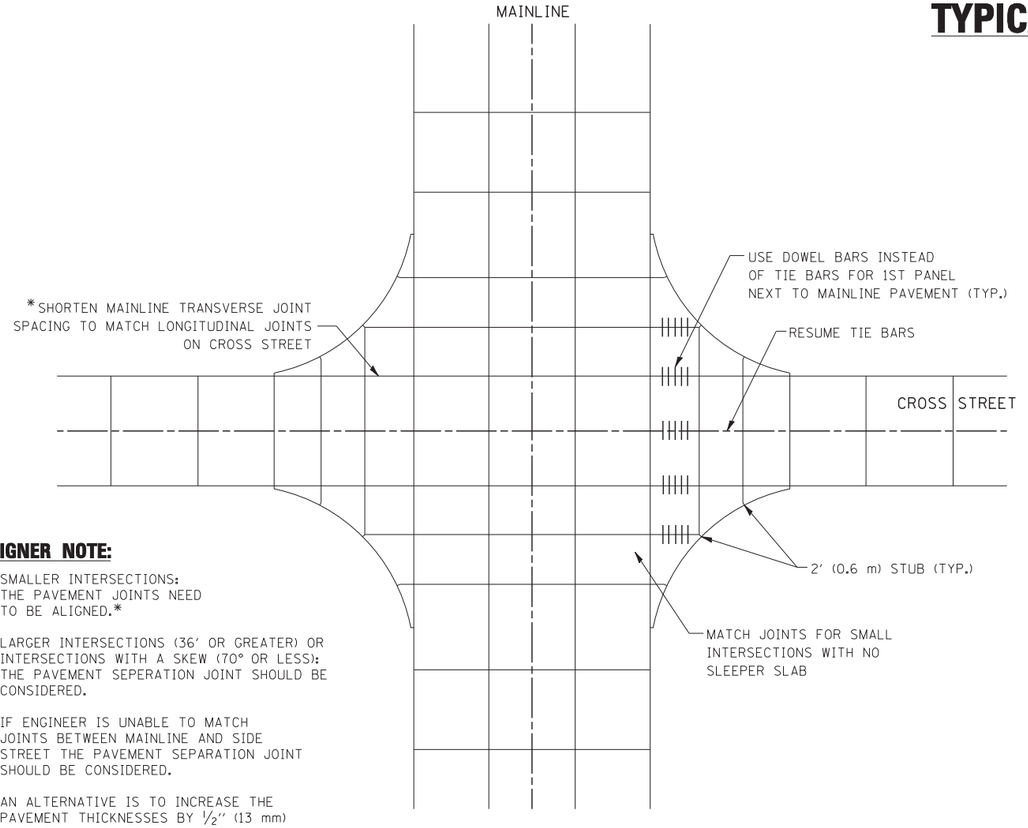
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL FOR CENTERLINE SAW CUT 16' (4.9 m) AND VARIABLE JOINTED PCC PAVEMENT FOR RAMPS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	378
	BD49	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TYPICAL APPLICATION

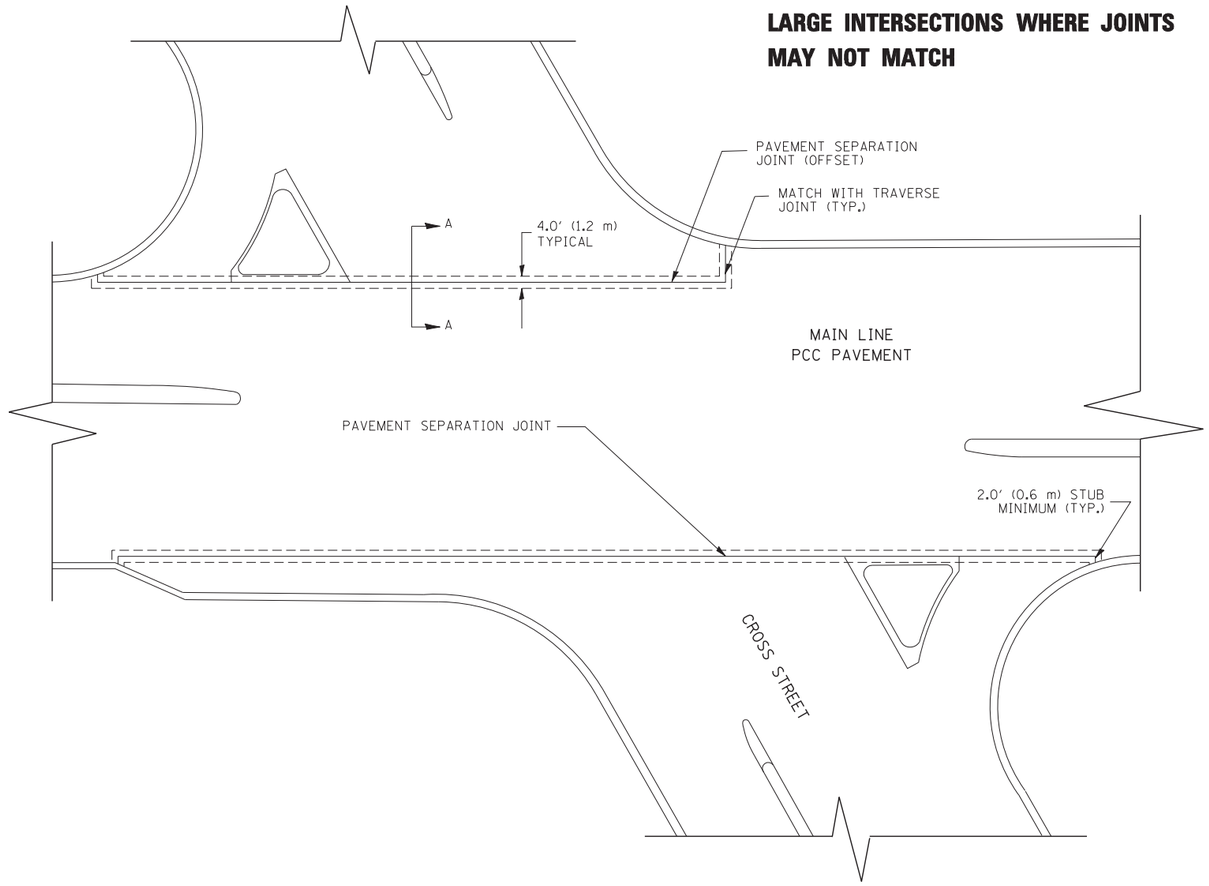


PLAN

DESIGNER NOTE:

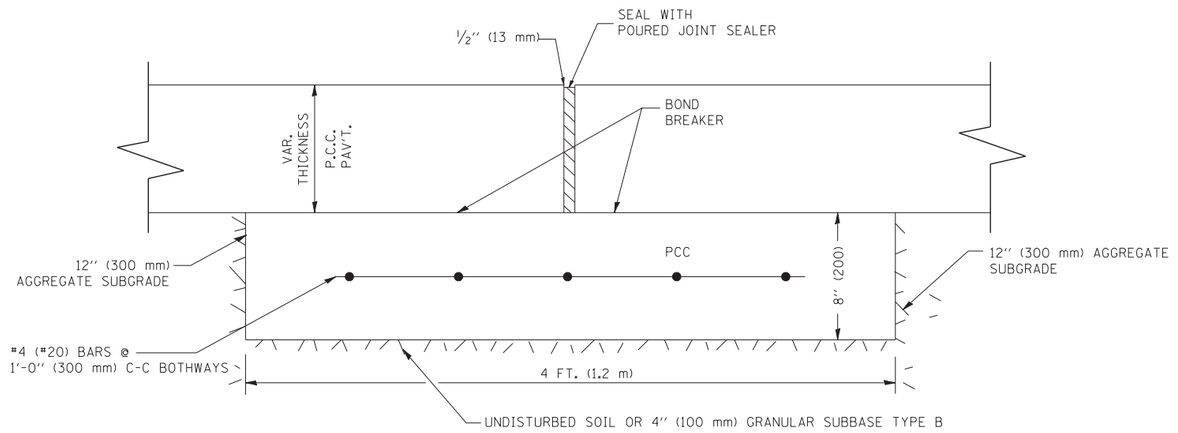
1. SMALLER INTERSECTIONS: THE PAVEMENT JOINTS NEED TO BE ALIGNED.*
2. LARGER INTERSECTIONS (36' OR GREATER) OR INTERSECTIONS WITH A SKEW (70° OR LESS): THE PAVEMENT SEPERATION JOINT SHOULD BE CONSIDERED.
3. IF ENGINEER IS UNABLE TO MATCH JOINTS BETWEEN MAINLINE AND SIDE STREET THE PAVEMENT SEPARATION JOINT SHOULD BE CONSIDERED.
4. AN ALTERNATIVE IS TO INCREASE THE PAVEMENT THICKNESSES BY 1/2" (13 mm) FOR THE LENGTH OF THE AFFECTED PANELS AT THE INTERSECTION. FOR LARGE INTERSECTIONS (6 LANES
5. OR MORE) WHERE JOINTS CAN BE MATCHED, USE #8 (25) DOWEL BARS INSTEAD OF #8 (25) TIE BARS AT EDGE OF MAINLINE PAVEMENT WHEN NO PAVEMENT SEPARATION JOINTS USED.

THE USE OF CROSS STREET PAVEMENT SEPARATION JOINTS FOR SKEWED OR LARGE INTERSECTIONS WHERE JOINTS MAY NOT MATCH



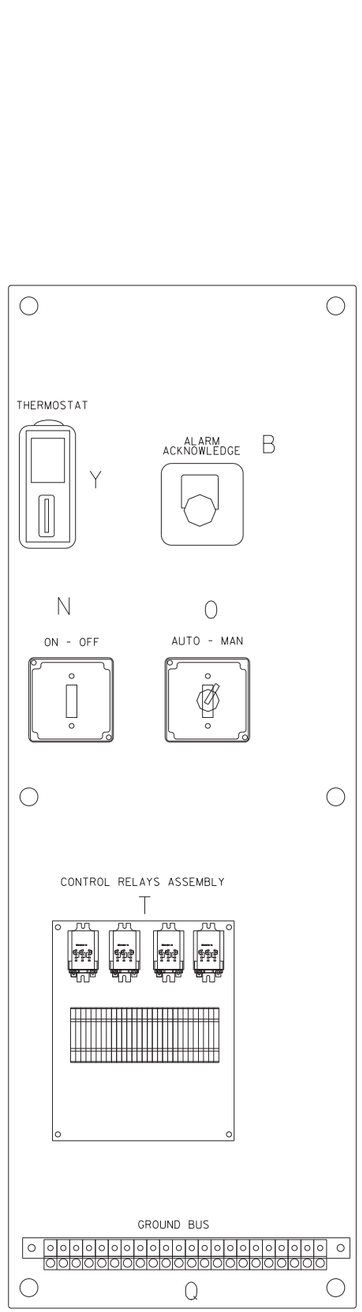
NOTE:

1. JOINT FILLER SHALL CONSIST OF A SHEET OF 1/2" (13 mm) BITUMINOUS PREFORMED FIBER JOINT FILLER CONFORMING TO ARTICLE 1051.03 OF THE STANDARD SPECIFICATIONS.
2. THE JOINT SHALL BE SEALED WITH A HOT POUR JOINT SEALER CONFORMING TO ARTICLE 1050.02 OF THE STANDARD SPECIFICATIONS.
3. A SINGLE LAYER OF FELT ROOFING PAPER SHALL SERVE AS A BOND BREAKER.
4. JOINT SHALL CONTINUE THROUGH COMBINATION CURB & GUTTER OR PCC SHOULDER.
5. PAVEMENT SEPARATION JOINT IS TO BE PAID FOR AS "SLEEPER SLAB" AND IS TO BE MEASURED IN PLACE BY THE LINEAL FOOT.
6. BOND BREAKER AND 1/2" (13 mm) JOINT AND FILLER SHALL BE INCIDENTAL TO THE PAY ITEM "SLEEPER SLAB".

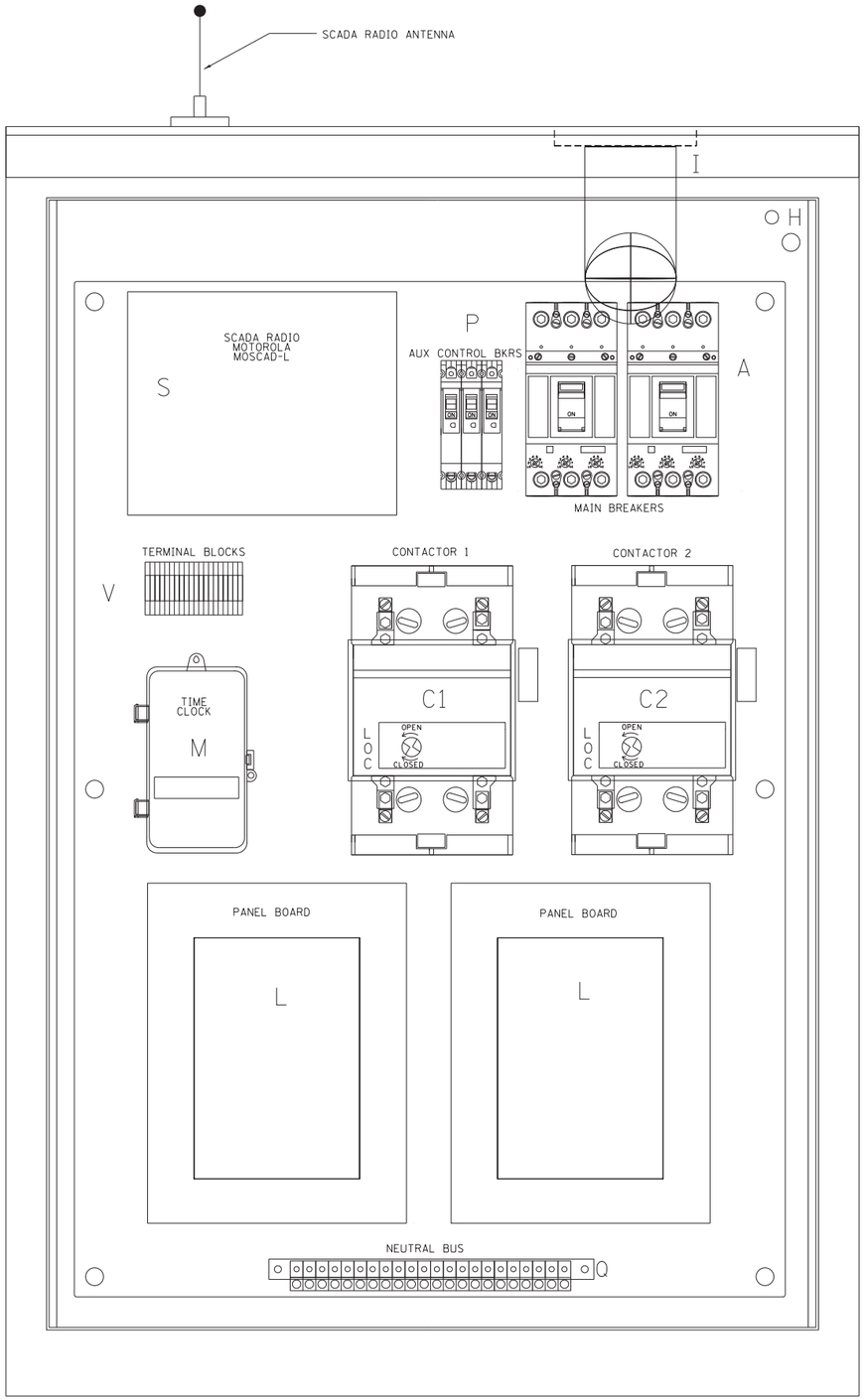


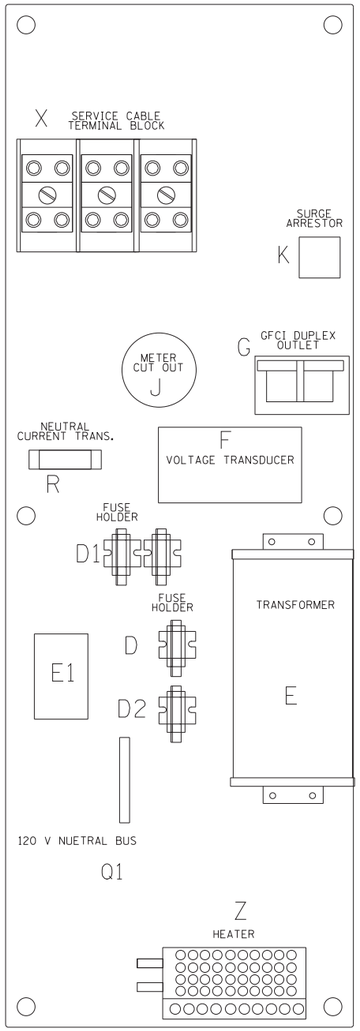
PROPOSED SECTION A–A

FILE NAME = bd52.dgn	USER NAME = leyso	DESIGNED -	REVISED - CADD 06-18-10	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DETAIL OF PAVEMENT SEPARATION JOINT FOR JOINTED PCC PAVEMENTS AT INTERSECTIONS**	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -						537	379
	PLOT SCALE = 49.9999 '/ IN.	CHECKED -	REVISED -				BD52	CONTRACT NO.		
	PLOT DATE = 2/25/2011	DATE -	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		



LEFT SIDE PANEL





RIGHT SIDE PANEL

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2 *	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20 FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-½ FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK-2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120 - 24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER WITH COVERED TERMINALS
G	1	20 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 9001KS11BH13, 2 POSITION SWITCH IN 9001KY1 ENCLOSURE OR APPROVED EQUAL
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 #6 AND 8 #12 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA MOSCAD-L RADIO, 240 V
T *	1	CONTROL RELAY ASSEMBLEY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4). QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X *	1	620 AMP SLPICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

* TERMINALS SHALL BE COVERED WITH CLEAR PLEXIGLASS SHEET

FILE NAME = c:\pw_work\pwidot\drivakosgn\d0108315\be205.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED - R. TOMSONS 08-19-04
		DRAWN -	REVISED - R. TOMSONS 05-11-09
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - R. TOMSONS 03-10-10
	PLOT DATE = 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12

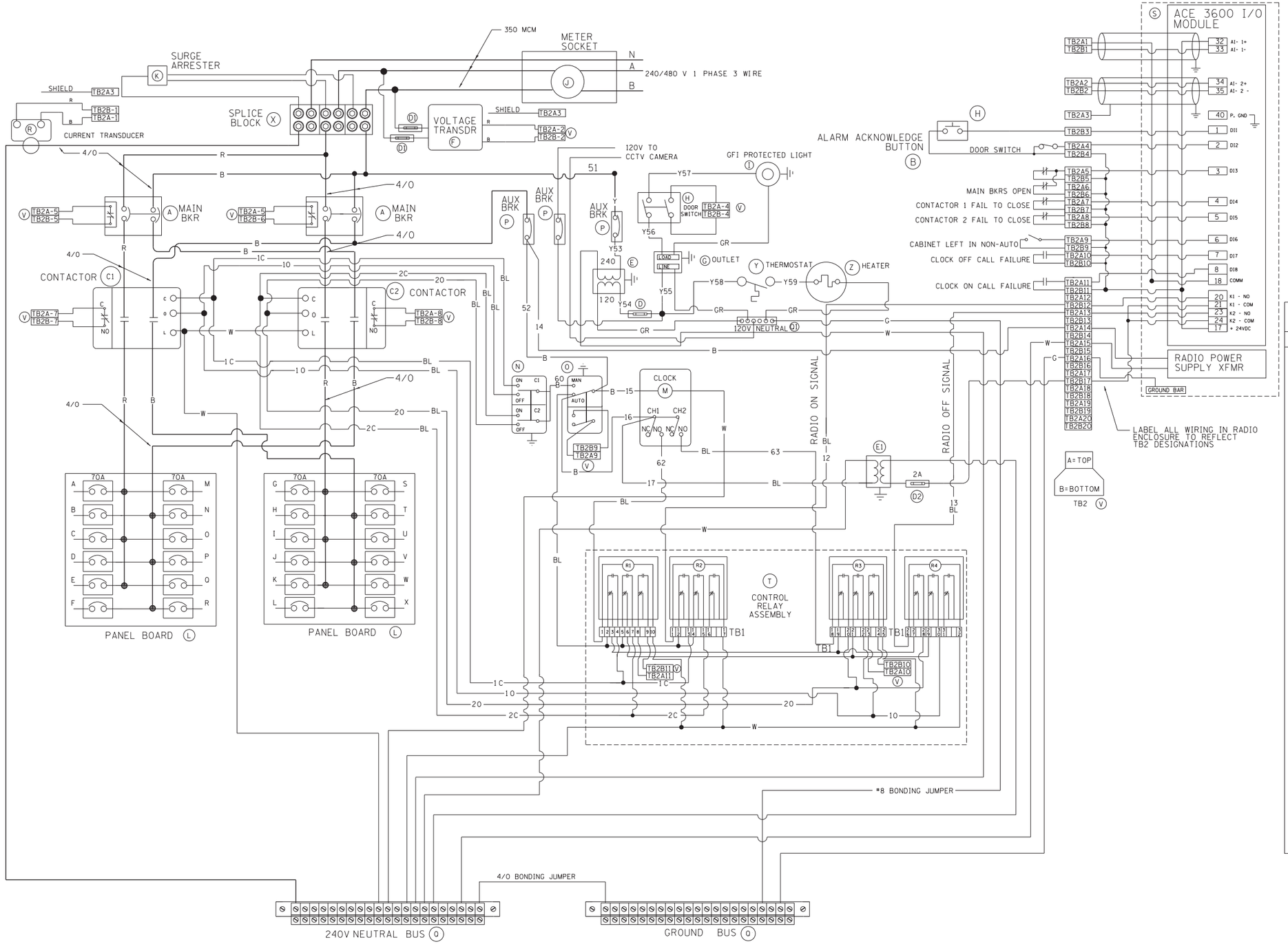
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	380
BE-205		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

be205.dgn 7/29/2012 11:14:45 AM User=dr'ia'1sgn



BILL OF MATERIALS

ITEM *	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20A FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-½ FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK- 2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120-24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER
G	1	15 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH A-20GQ-B7-K
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 9001KS11BH13, 2 POSITION SWITCH IN 9001KY1 ENCLOSURE
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 1/0 AND #6 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA ACE 3600
T	1	CONTROL RELAY ASSEMBLEY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) . QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X	1	620 AMP SLPICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

*

FILE NAME = c:\pw_work\pwidot\drivakosgn\d0108315\be205.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED - R. TOMSONS 08-19-04
		DRAWN -	REVISED - R. TOMSONS 05-11-09
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - R. TOMSONS 03-10-10
	PLOT DATE = 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

SCALE: NONE | SHEET NO. 2 OF 4 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	381
	BE-205	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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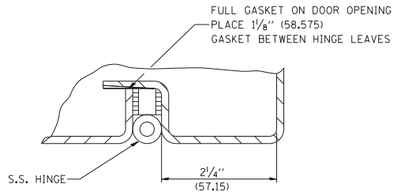
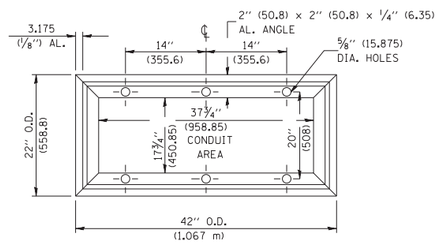
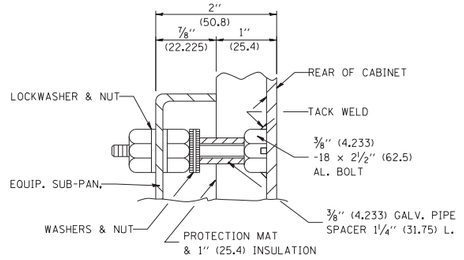


DETAIL "Y"



BASE MTG. DETAIL



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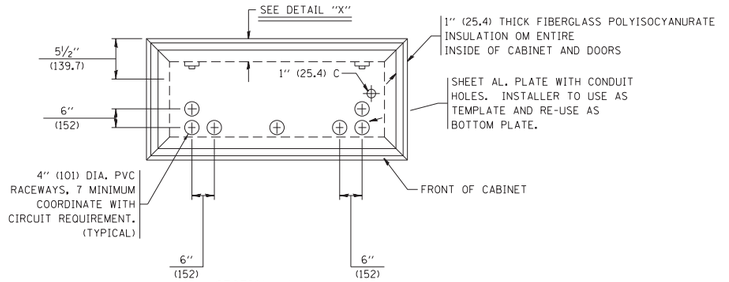
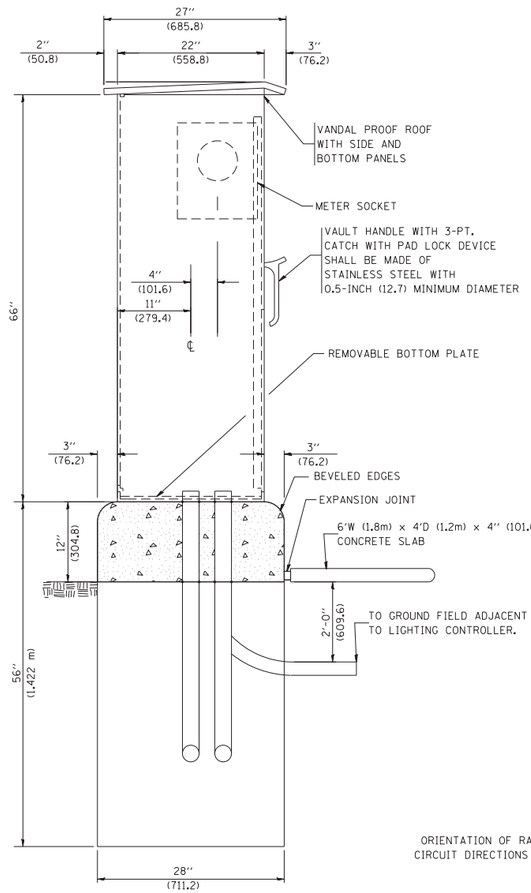
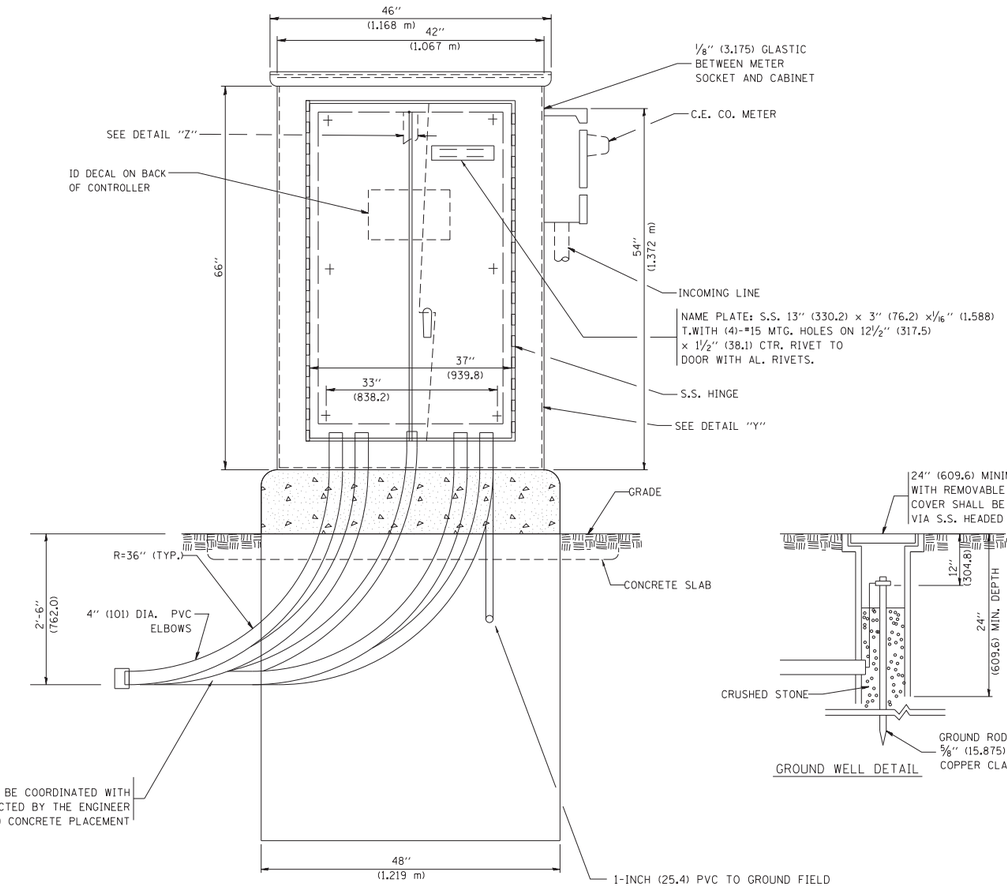


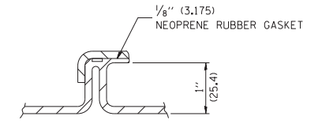
SECTION "A-A"



LEFT SIDE ELEVATION



FRONT ELEVATION



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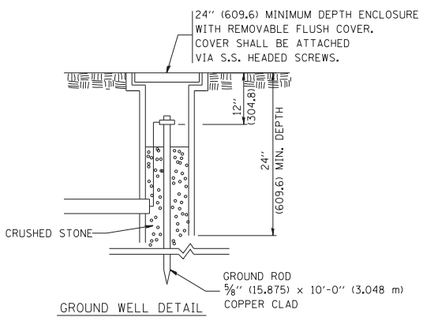
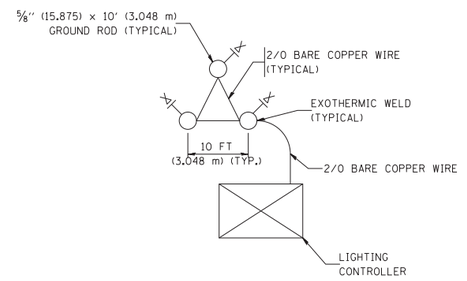


GROUND WELL DETAIL



GROUND FIELD DETAIL
(N.T.S.)

THE CONTRACTOR SHALL
VERIFY EXACT LOCATION
WITH THE ENGINEER

FILE NAME = c:\pw_work\pwidot\drivakosgn\d0108315\be205.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED - R. TOMSONS 08-19-04
		DRAWN -	REVISED - R. TOMSONS 05-11-09
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - R. TOMSONS 03-10-10
	PLOT DATE = 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

SCALE: NONE | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	382
	BE-205	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

NOTES

1. CABINET SHALL BE FABRICATED FROM 0.125-INCH (3.175) SHEET ALUMINUM #3003H14, FORMED AND ARC WELDED.
2. ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL, UNLESS OTHERWISE NOTED.
3. NAME PLATE SHALL HAVE ENGRAVED 0.75-INCH (19.05) HIGH LETTERS FILLED IN BLACK: "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
4. ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALL AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
5. CABINET SHALL BE PRIMED AND PAINTED AS SPECIFIED.
6. ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
7. THE COMPLETED CONTROLLER SHALL BE U.L. LISTED AS AN INDUSTRIAL CONTROL PANEL UNDER UL508.
8. METAL MOUNTING PANEL SHALL BE FABRICATED FROM THE SAME MATERIAL AS THE CABINET AND SHALL BE FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
9. CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 0.125-INCH (3.175) THICK GLASTIC INSULATION BACK PANEL.
10. ALL DEVICES SHALL BE FRONT REMOVABLE.
11. TIME CLOCK CHANNEL 1 N.O. CONTACT IS CLOSED NIGHT AND OPEN DAY (LIGHTS ON).
12. SET LATITUDE TO 42 DEGREES. SET CH.1 TO 23 MINUTES AFTER ASTRONOMICAL SUNSET, 50 MINUTES BEFORE ASTRONOMICAL SUNRISE. SET CH.2 TO 60 MINUTES AFTER ASTRONOMICAL SUNSET (WITH A SIGNAL LENGTH OF 1 SECOND), +28 MINUTES AFTER ASTRONOMICAL SUNRISE (WITH A SIGNAL LENGTH OF 7 SECONDS.)
13. BUS BAR SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. 240V NEUTRAL BUS SHALL BE PAINTED WHITE, GROUND BUS SHALL BE PAINTED GREEN, AND THE 120V NEUTRAL BUS SHALL BE PAINTED GREY.
14. ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
15. ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE.
16. ALL CONTROL WIRING SHALL BE 600V #12 TYPE MTW, SCADA WIRING SHALL BE #18.
17. ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
18. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:

    R - RED Y - YELLOW
    B - BLACK W - WHITE
    BL- BLUE G - GREEN
    G - GREY

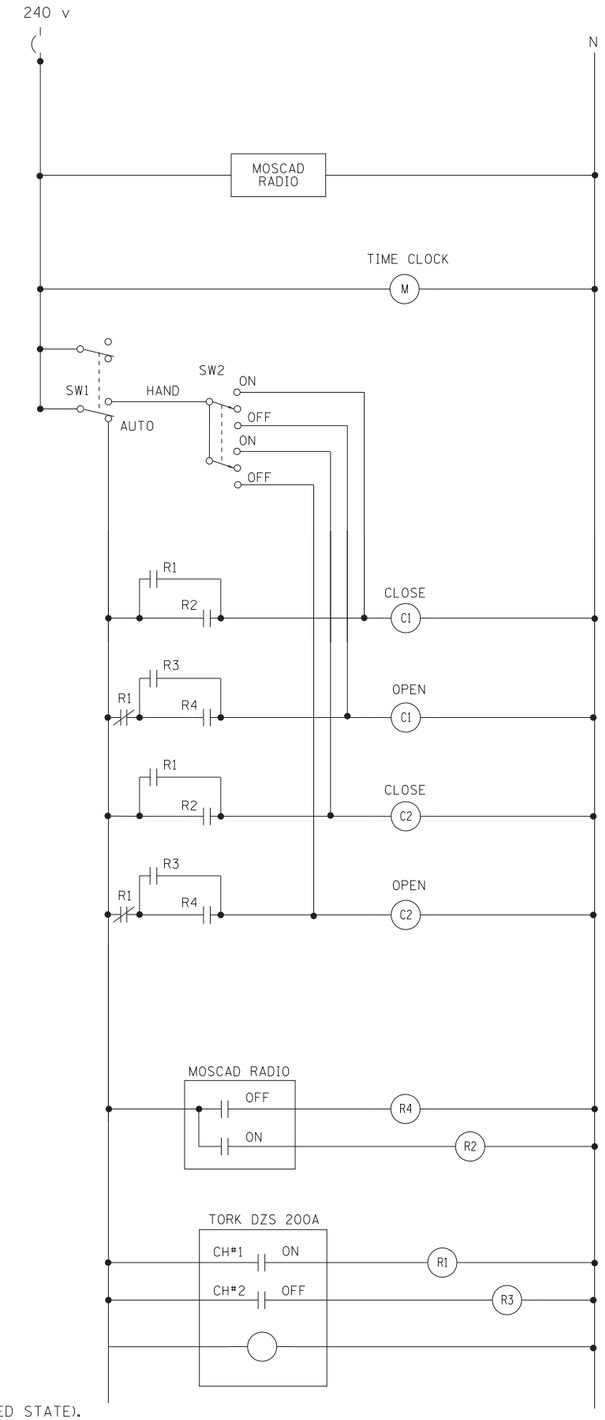
19. MOSCAD I/O WIRING SHALL BE:

    DIGITAL INPUT (DI) WIRING SHALL BE #18 MTW PURPLE.

    ANALOG INPUT (AI) WIRING SHALL BE #18, 2/C SHIELDED.

    AI AND DI WIRING MAY BE BUNDLED TOGETHER, BUT SHALL NOT BE BUNDLED WITH OTHER WIRING.

20. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
21. SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE (DE-ENERGIZED STATE).
22. A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM (NO SMALLER THAN 11"x17" EACH) SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER WITH STAINLESS STEEL SCREWS.



CONTROL CIRCUIT LADDER LOGIC DIAGRAM

MOSCAD I/O ASSIGNMENTS		
TERM	MOSCAD DESTINATION	DESCRIPTION OF INPUT
1	DIGITAL INPUT 1	ALARM KNOWLEDGE
2	DIGITAL INPUT 2	DOOR OPEN
3	DIGITAL INPUT 3	MAIN(S) BREAKER OPEN
4	DIGITAL INPUT 4	CONTACTOR 1 OPEN
5	DIGITAL INPUT 5	CONTACTOR 2 OPEN
6	DIGITAL INPUT 6	CABINET IN NON-AUTO
7	DIGITAL INPUT 7	BACK-UP CLOCK OFF CALL
8	DIGITAL INPUT 8	BACK-UP CLOCK ON CALL
17	24 V+	24+VDC
18	DI COMMON	COMMON
21	K1 C	K1 COMMON
22	K1 NO	LIGHTS ON CALL
24	K2 C	K2 COMMON
25	K2 NO	LIGHTS OFF CALL
32	ANALOG INPUT 1 (+)	CABINET NEUTRAL CURRENT
33	ANALOG INPUT 1 (-)	CABINET NEUTRAL CURRENT
34	ANALOG INPUT 2 (+)	CABINET SERVICE VOLTAGE
35	ANALOG INPUT 2 (-)	CABINET SERVICE VOLTAGE
40	P. GROUND	GROUND

ALL ANALOG INPUTS WILL BE 4-20 MA ONLY. DIGITAL OUTPUT RELAYS WILL BE ELECTRICALLY ENERGIZED AND MOMENTARILY HELD

MIXED I/O MODULE MODEL NUMBER V436

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	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED - R. TOMSONS 03-10-10
	PLOT DATE = 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	383
	BE-205	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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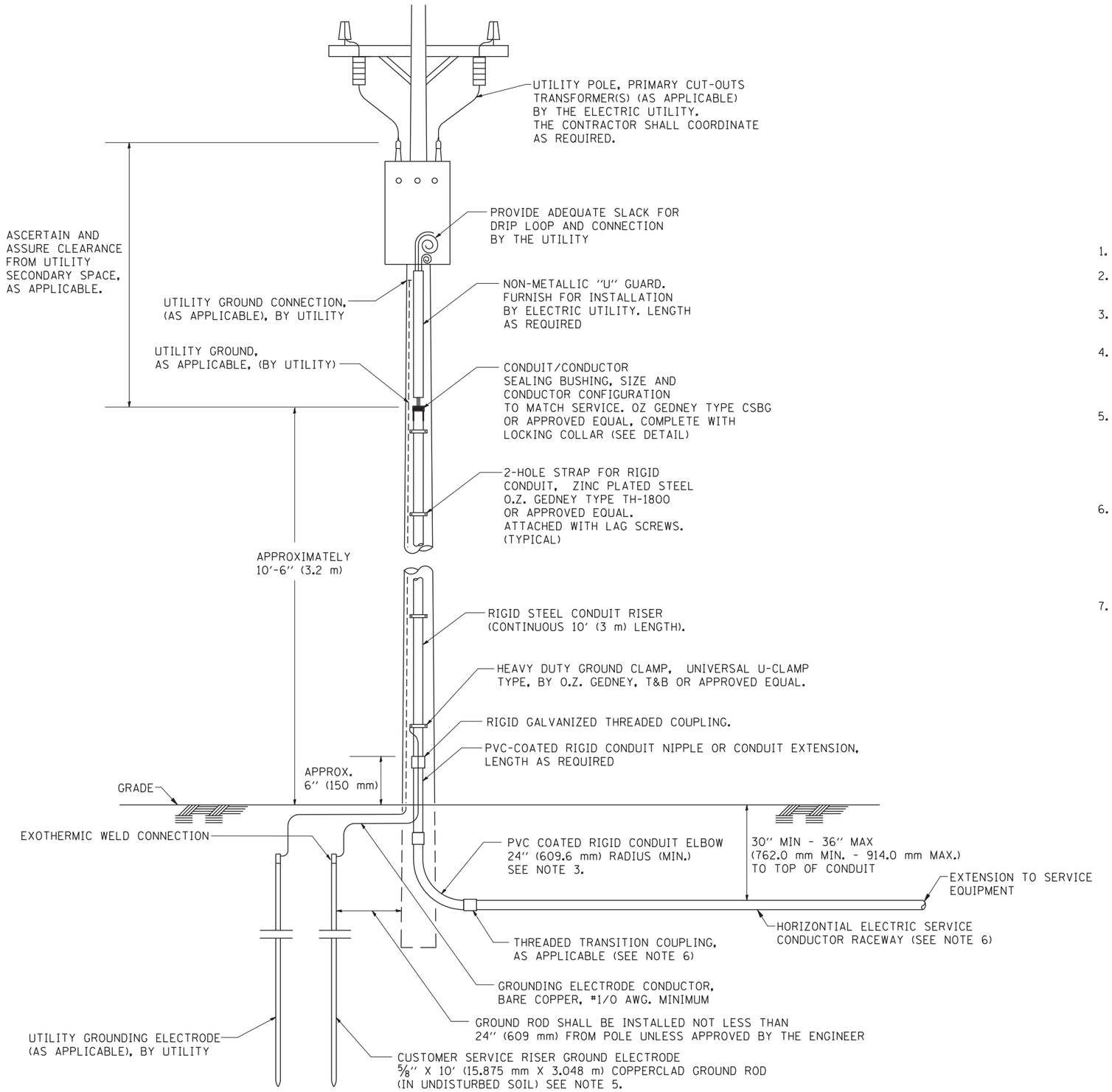
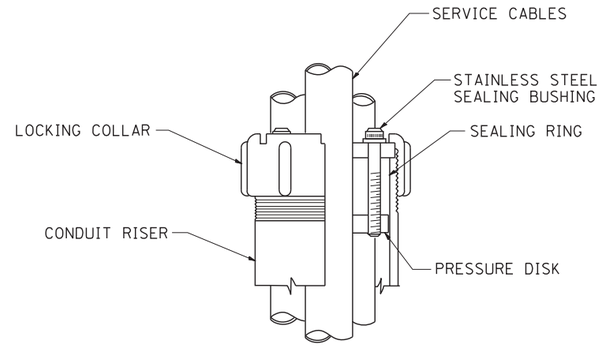


APPLICATION

THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

NOTES

1. SERVICE VOLTAGE SHALL BE AS INDICATED ELSEWHERE IN THE DRAWINGS.
2. UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.
3. CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED ON THE PLANS.
4. PVC COATED RACEWAYS AND ACCESSORIES SHALL BE CAREFULLY INSTALLED WITH MFR RECOMMENDED TOOLS AND PROCEDURES TO AVOID DAMAGE. ANY DAMAGE SHALL BE REPAIRED WITH COMPATIBLE PVC TOUCH-UP MATERIAL TO THE SATISFACTION OF THE ENGINEER OR THE DAMAGED MATERIAL SHALL BE REPLACED AT NO ADDITIONAL COST.
5. THE CONTRACTOR SHALL OBTAIN INSPECTION AND APPROVAL BY THE ENGINEER OF SERVICE RISER GROUND ELECTRODE, RISER ELBOW, NIPPLE AND CONNECTION TO SERVICE CONDUCTOR RACEWAY EXTENSION BEFORE BACKFILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
6. THE HORIZONTAL ELECTRIC SERVICE CONDUCTOR RACEWAY SHALL BE AS INDICATED AND SHALL BE MEASURED SEPARATELY FOR PAYMENT. WHEN THE RACEWAY IS PVC-COATED RIGID GALVANIZED STEEL, THE COUPLING SHALL BE THE SAME. WHEN THE RACEWAY IS PVC CONDUIT (IN CONCRETE), THE COUPLING SHALL BE A METALIC TO NON METALIC ADAPTER. WHEN THE RACEWAY IS ENCASED IN CONCRETE, THE CONCRETE SHALL EXTEND TO COVER THE COUPLING.
7. PLANS AND DETAILS INDICATE THE GENERAL NATURE AND REQUIREMENTS. THEY DO NOT SHOW EVERY ACCESSORY AND ATTACHMENT, AND THEY DO NOT RELIEVE THE CONTRACTOR OF THE REQUIREMENTS OF THE SPECIFICATIONS AND SPECIAL PROVISIONS TO ASCERTAIN UTILITY REQUIREMENTS AND TO COORDINATE ACCORDINGLY, FURNISHING ALL ITEMS AND WORK NOT PROVIDED BY THE UTILITY, BUT NECESSARY FOR A COMPLETE SERVICE INSTALLATION IS REQUIRED AND SHALL BE INCLUDED IN THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.



SEALING BUSHING DETAIL

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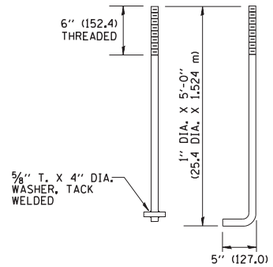
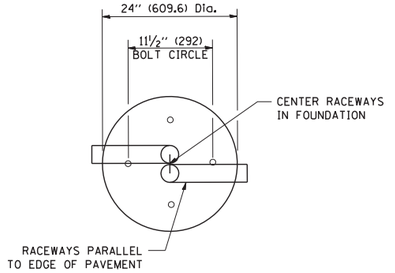
		DRAWN -	REVISED -				COUNTY
	PLOT SCALE = 50.0000 '/ IN.	CHECKED - MEA	REVISED -				TOTAL SHEETS: 537
	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE / SHEET NO. 1 OF 1 SHEETS / STA. / TO STA.		SHEET NO.: 384
							CONTRACT NO.
							FED. ROAD DIST. NO. 1 / ILLINOIS / FED. AID PROJECT

LIGHT POLE FOUNDATION DEPTH TABLE
30 FT. (9.144 m) TO 35 FT. (10.668 m) MOUNTING HEIGHT

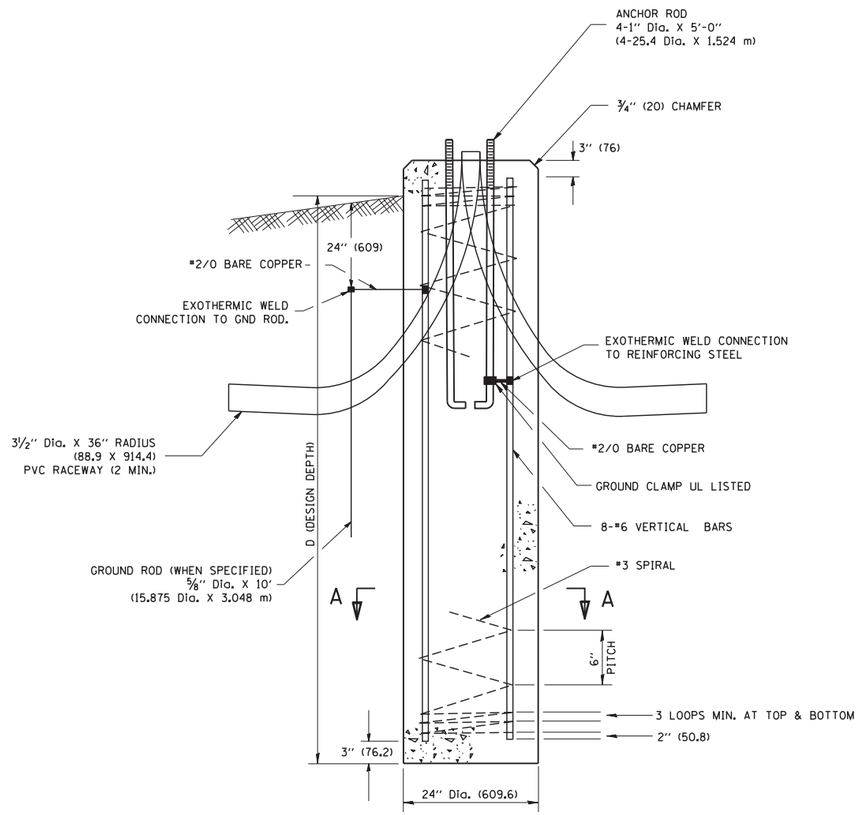
SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Qu = 0.375 TON/SQ. FT.	11'-0" (3.35 m)	12'-8" (3.85 m)
MEDIUM CLAY Qu = 0.75 TON/SQ.FT	9'-0" (2.74 m)	14'-10" (4.52 m)
STIFF CLAY Qu = 1.50 TON/SQ. FT.	7'-6" (2.29 m)	8'-7" (2.61 m)
LOOSE SAND Ø = 34°	9'-6" (2.90 m)	10'-7" (3.22 m)
MEDIUM SAND Ø = 37.5°	9'-0" (2.74 m)	9'-10" (2.99 m)
DENSE SAND Ø = 40°	8'-3" (2.51 m)	9'-7" (2.91 m)



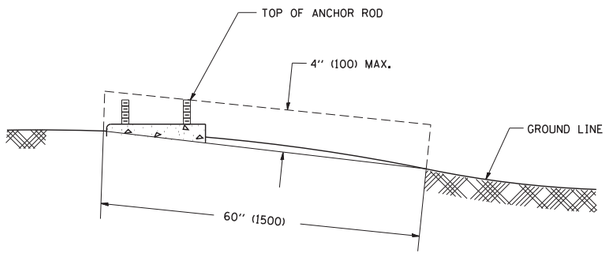
ANCHOR BOLT DETAIL



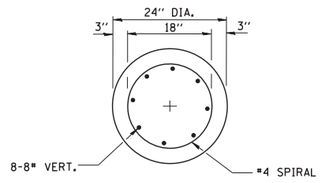
TOP VIEW



FOUNDATION DETAIL



FOUNDATION EXTENSION DETAIL



SECTION A-A

NOTES

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IN PLACED.
3. THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 4 IN. (100 mm) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED. IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
4. THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
5. THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED ¾-IN. (20 mm).
6. THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
7. THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
8. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
9. ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
10. THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
11. ANCHOR RODS SHALL PROJECT 2¾" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
12. THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
13. THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
14. THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

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		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

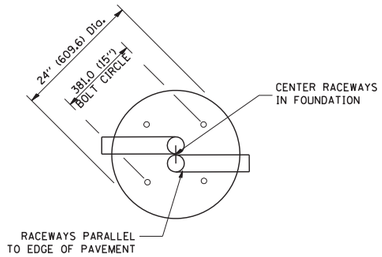
LIGHT POLE FOUNDATION
30' (9.144 m) TO 35' (10.668 m) M.H. 11 1/2" (292 mm) BOLT CIRCLE

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

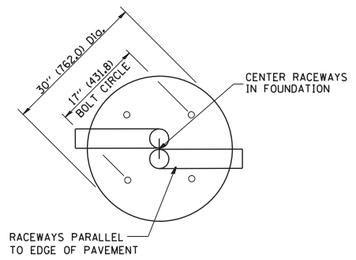
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	385
	BE-300		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

LIGHT POLE FOUNDATION DEPTH TABLE
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

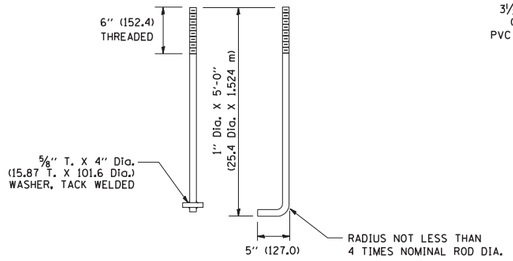
SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Qu = 0.375 TON/SQ. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY Qu = 0.75 TON/SQ.FT	9'-6" (2.09 m)	10'-9" (3.23 m)
STIFF CLAY Qu = 1.50 TON/SQ. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND Ø = 34°	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND Ø = 37.5°	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND Ø = 40°	7'-9" (2.36 m)	9'-0" (2.74 m)



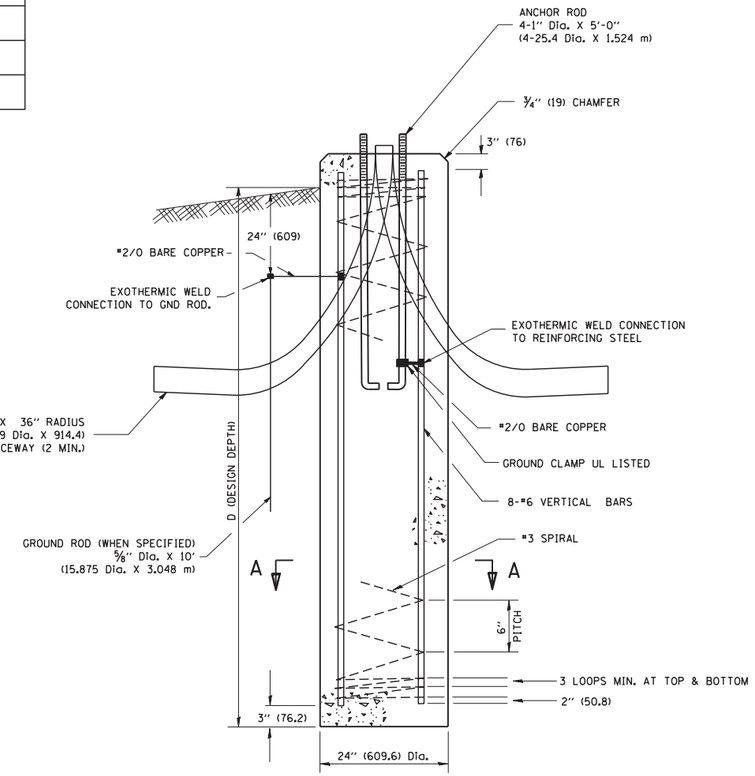
TOP VIEW



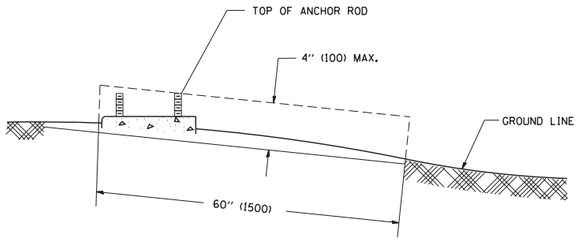
TOP VIEW



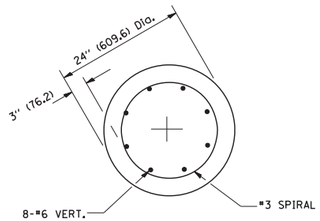
ANCHOR ROD DETAIL



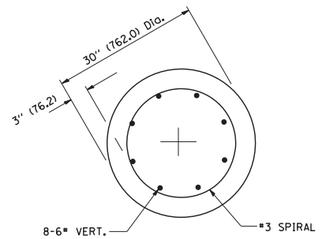
FOUNDATION DETAIL



FOUNDATION EXTENSION DETAIL



SECTION A-A



SECTION A-A

NOTES

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IN PLACED.
3. THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
4. THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
5. THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3/4-IN. (20 mm).
6. THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
7. THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
8. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
9. ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
10. THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
11. ANCHOR RODS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
12. THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
13. THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
14. THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

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		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT POLE FOUNDATION
40' (12.192 m) TO 47 1/2' (14.478 m) M.H. 15" (381 mm) BOLT CIRCLE

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

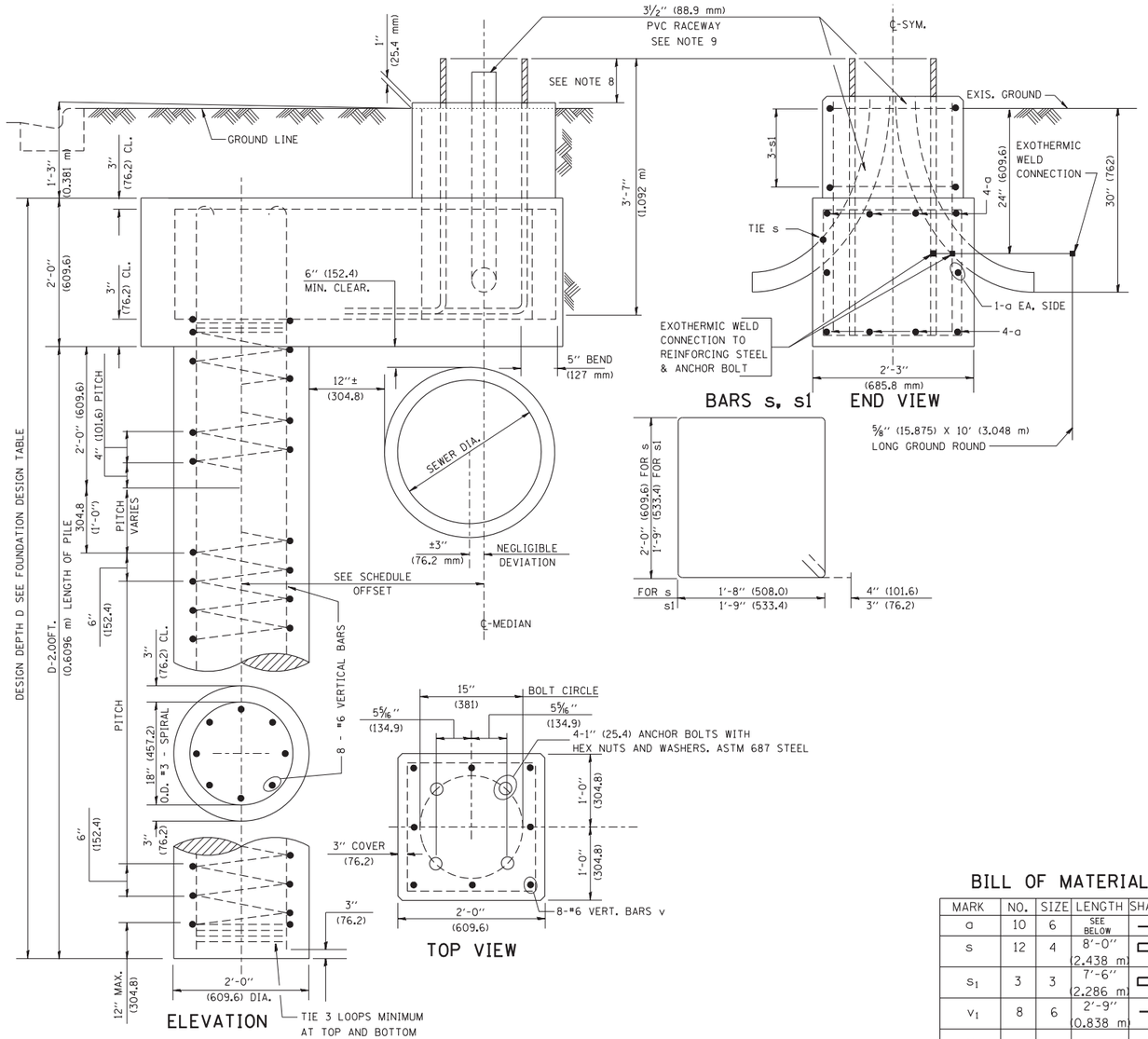
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	386
	BE-301	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

FOUNDATION DESIGN TABLE

TYPE OF SOIL	DESIGN DEPTH OF FOUNDATION		REINFORCEMENT IN FOUNDATION			
	SINGLE ARM D	TWIN ARM D	SINGLE ARM		TWIN ARM	
			VERT BARS	SPIRAL	VERT BARS	SPIRAL
SOFT CLAY	13′-0″ (3.962 m)	15′-0″ (4.572 m)	8-#6X12′-6″ (3.810 m)	#3X122′ (37.186 m)	8-#6X14′-3″ (4.343 m)	#3X141′ (42.977 m)
MEDIUM CLAY	9′-6″ (2.896 m)	10′-9″ (3.277 m)	8-#6X9′-0″ (2.743 m)	#3X90′ (27.432 m)	8-#6X10′-0″ (3.048 m)	#3X100′ (30.480 m)
STIFF CLAY	7′-0″ (2.134 m)	8′-0″ (2.438 m)	8-#6X6′-6″ (1.981 m)	#3X66′ (20.112 m)	8-#6X7′-6″ (2.286 m)	#3X76′ (23.165 m)
LOOSE SAND	9′-0″ (2.743 m)	10′-0″ (3.048 m)	8-#6X8′-6″ (2.591 m)	#3X85′ (25.908 m)	8-#6X9′-6″ (2.896 m)	#3X94′ (28.651 m)
MEDIUM SAND	8′-3″ (2.515 m)	9′-0″ (2.743 m)	8-#6X8′-0″ (2.438 m)	#3X78′ (23.774 m)	8-#6X8′-6″ (2.591 m)	#3X85′ (25.908 m)
DENSE SAND	7′-9″ (2.362 m)	9′-0″ (2.743 m)	8-#6X7′-6″ (2.286 m)	#3X73′ (22.250 m)	8-#6X8′-6″ (2.591 m)	#3X85′ (25.908 m)
ROCK OR SOLIDIFIED SLAG	5′-0″ (1.524 m)	5′-0″ (1.524 m)	NONE	NONE	NONE	NONE

NOTES

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. THE ENGINEER SHALL DETERMINE THE CLASS OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE.
3. EXCAVATION OF THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER, 24″ (609.6 mm) OR 30″ (762.0 mm) IN DIAMETER.
4. THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
5. THE ANCHOR BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORM.
6. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
7. THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF FOUNDATION WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS. IF LIGHT POLE IS MOUNTED WITHOUT BREAKAWAY DEVICE, ANCHOR BOLTS SHALL PROJECT 2¾″ (69.9 mm) ABOVE TOP OF THE FOUNDATION. THE CONTRACTOR SHALL CONFIRM ANCHOR BOLT EXTENTION WITH ENGINEER.
8. RACEWAYS SHALL PROJECT 1″ (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
9. THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE LIGHT IS ERECTED.



BILL OF MATERIAL

MARK	NO.	SIZE	LENGTH	SHAPE
a	10	6	SEE BELOW	—
s	12	4	8′-0″ (2.438 m)	▭
s_1	3	3	7′-6″ (2.286 m)	▭
v_1	8	6	2′-9″ (0.838 m)	—
v_2				

OFFSET SCHEDULE

SEWER DIAM. d IN.	PILE OFFSET from℄-MED'N FT.	LENGTH of BAR a FT.
UP TO 24″ (609.6 mm)	3′-3″ (0.991 m)	#6 x 5′-3″ (1.600 m)
27″ (685.8 m)TO 36″ (914.4 mm)	3′-9″ (1.143 m)	5′-9″ (1.753 m)
42″ (1066.8 mm) TO 48″ (1219.2 mm)	4′-6″ (1.372 m)	6′-6″ (1.981 m)
54″ (1371.6 mm) TO 60″ (1524.0 mm)	5′-0″ (1.524 m)	7′-0″ (2.134 m)
66″ (1676.4 mm) TO 72″ (1828.8 mm)	5′-6″ (1.676 m)	7′-6″ (2.286 m)

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		DRAWN -	REVISED -
	PLOT SCALE = 50.000 ′ / IN.	CHECKED -	REVISED -
	PLOT DATE = 6/16/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT POLE FOUNDATION OFFSET
40′ (12.192 m) TO 47 1/2 ′ (14.478 m) M.H.
15″ (381 mm) BOLT CIRCLE

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	387
	BE-310	CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

6/16/2008
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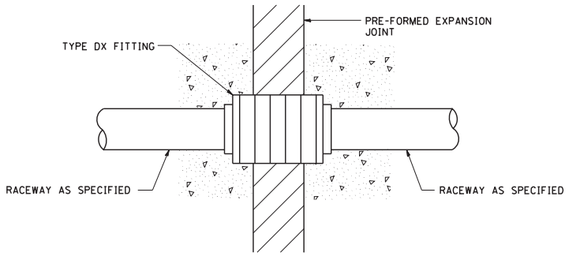
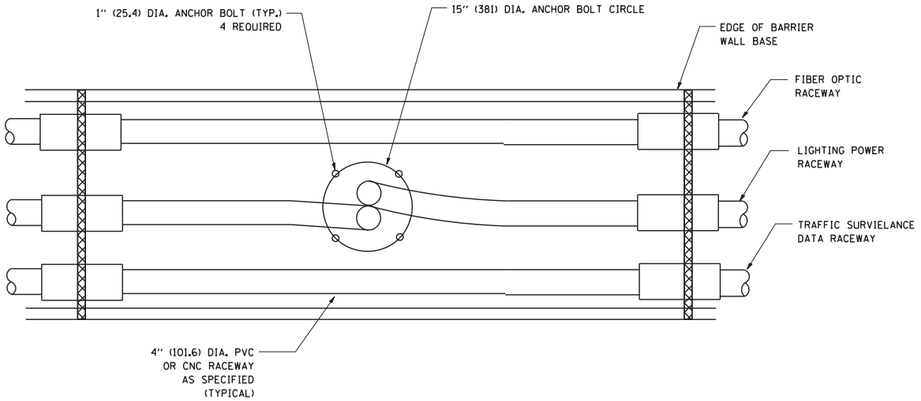
bauerdl

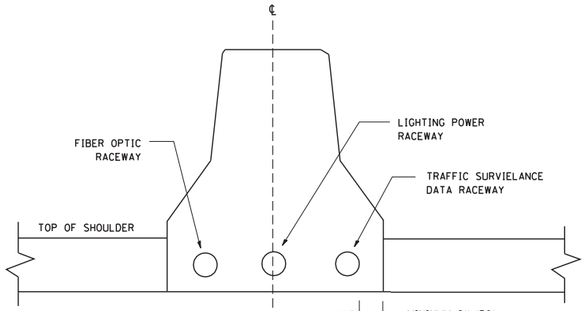
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. THE ANCHOR BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORMS.
3. THE CONTRACTOR AT HIS OPTION MAY SUBSTITUTE #4 (15 m) TIES AT 12" (304.8 m) CTRS. FOR THE #3 (3 m) SPIRAL. TACKWELDED TYPE BOLT MAY BE SUBSTITUTED FOR THE HOOK TYPE BOLT.
4. COLD BENDING OF THE HOOK BOLT SHALL NOT BE ALLOWED.
5. EXCAVATION FOR THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER 24 INCHES (609.6 m) IN DIAMETER.
6. THE ENGINEER SHALL DETERMINE THE TYPE OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE USING THE DOMINANT CHARACTERISTIC OF THE SOIL ENCOUNTERED.
7. BARRIER WALL EXPANSION AND CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH STANDARD DETAIL 637001-02 AND 637006 AS APPLICABLE.

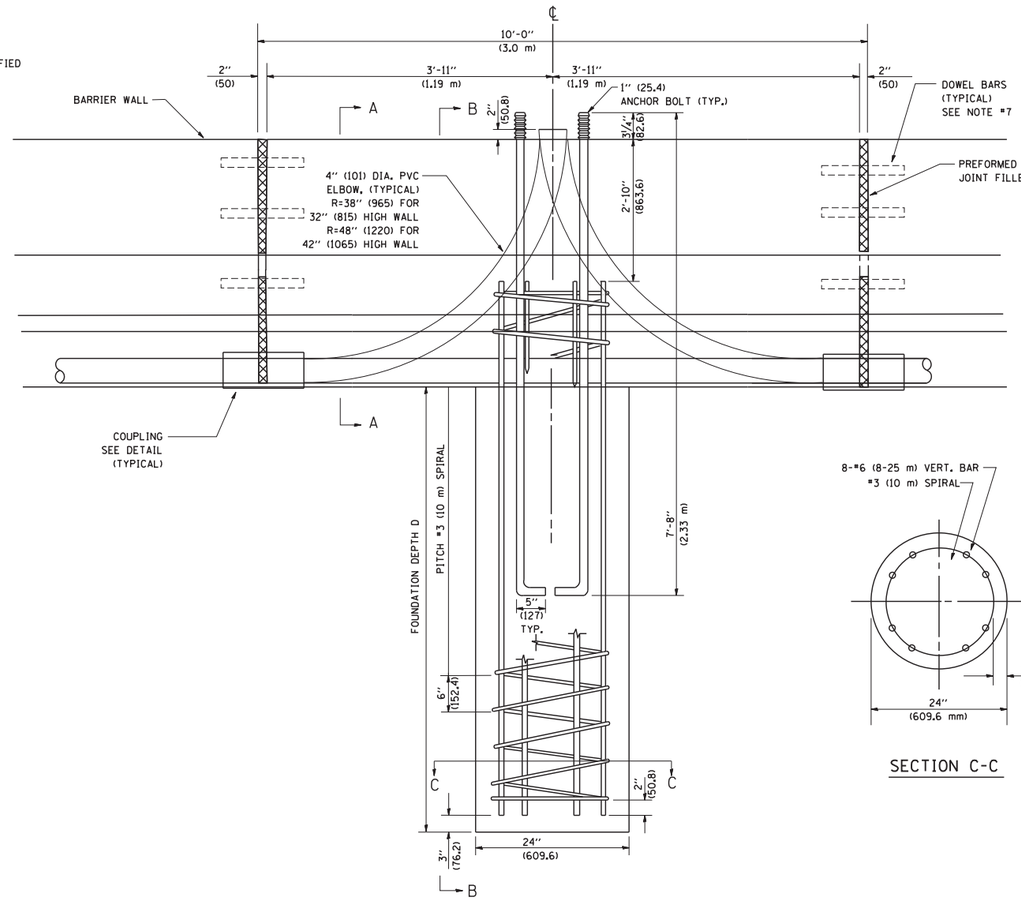


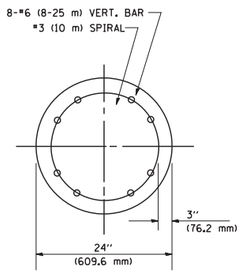
CONDUIT DEFLECTION FITTING DETAIL



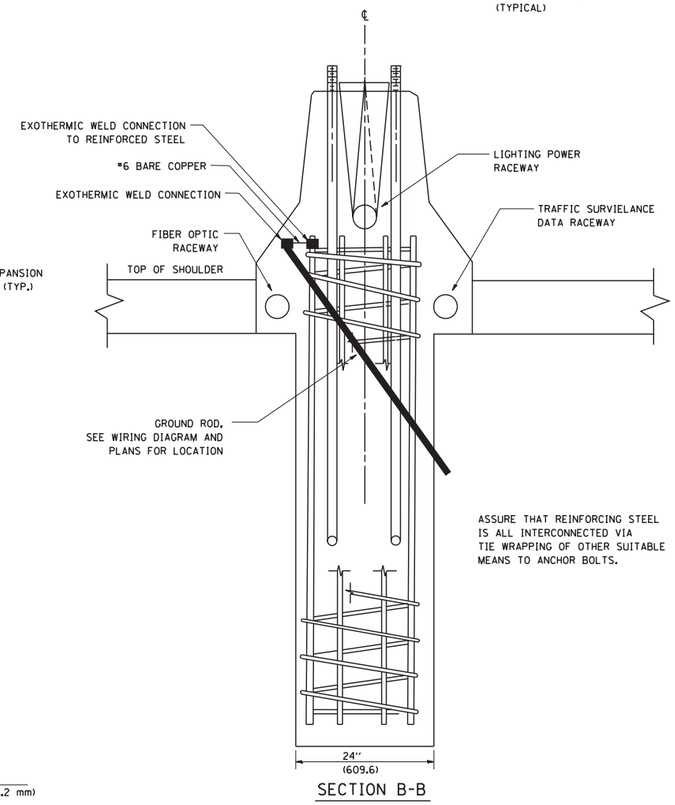


SECTION A-A





SECTION C-C



SECTION B-B

ASSURE THAT REINFORCING STEEL IS ALL INTERCONNECTED VIA TIE WRAPPING OF OTHER SUITABLE MEANS TO ANCHOR BOLTS.

FOUNDATION DEPTH

TYPE OF SOIL	FOUND FEPTH D	REINFORCEMENT IN FOUNDATION	
		VERTICAL BARS	SPIRAL
ROCK OR SOLIDIFIED SLAG	5'-0" (1.52 m)	NONE	NONE
DENSE SAND	7'-9" (2.36 m)	8-#6 x 9'-0" (8-20 m x 2.74 m)	#3 x 90' (3 m x 27.43 m)
MEDIUM SAND	8'-3" (2.51 m)	8-#6 x 9'-5" (8-20 m x 2.87 m)	#3 x 94' (3 m x 28.65 m)
LOOSE SAND	9'-0" (2.74 m)	8-#6 x 10'-2" (8-20 m x 3.09 m)	#3 x 100' (3 m x 30.48 m)
STIFF CLAY	7'-0" (2.13 m)	8-#6 x 10'-8" (8-20 m x 2.48 m)	#3 x 80' (3 m x 24.38 m)
MEDIUM CLAY	9'-6" (2.89 m)	8-#6 x 10'-8" (8-20 m x 3.25 m)	#3 x 104' (3 m x 31.69 m)
SOFT CLAY	13'-0" (3.96 m)	8-#6 x 14'-2" (8-20 m x 4.32 m)	#3 x 144' (3 m x 43.89 m)

DESIGN: 80 MPH AASHTO

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	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

24" (609.6 mm) DIA. LIGHT POLE FOUNDATION INTEGRAL WITH DOUBLE FACE BARRIER WALL

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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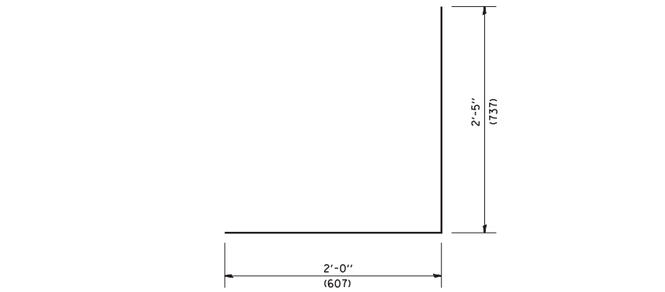
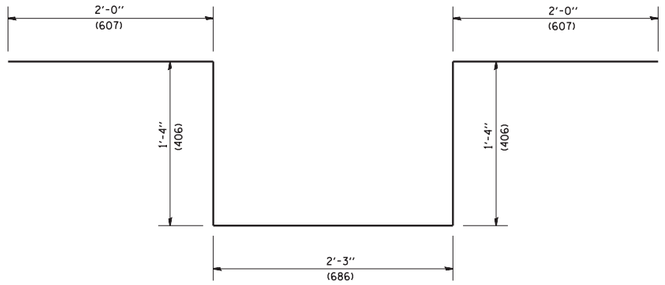
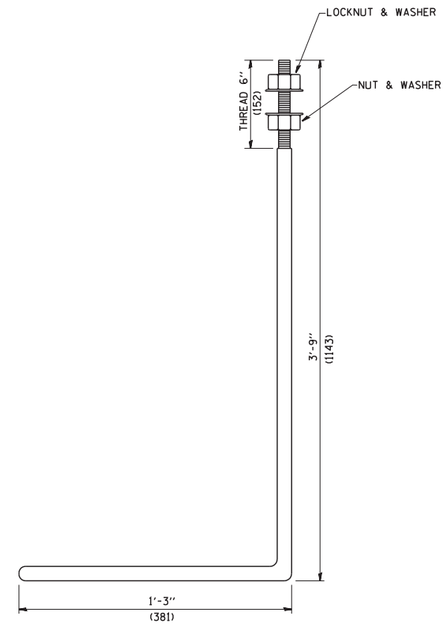
	BE-322		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



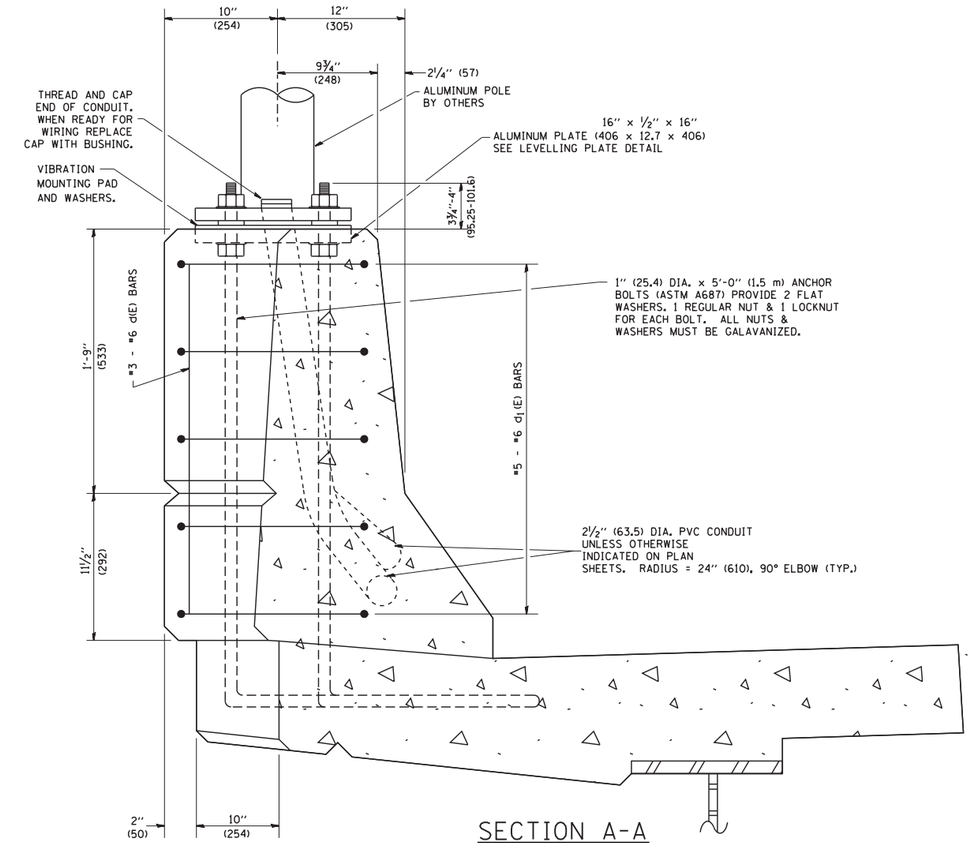
BAR d (E)



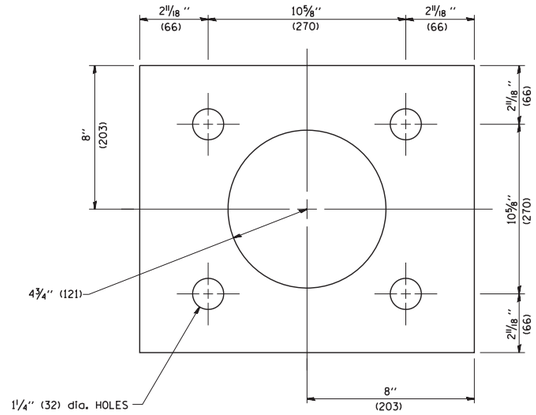
BAR d_1 (E)



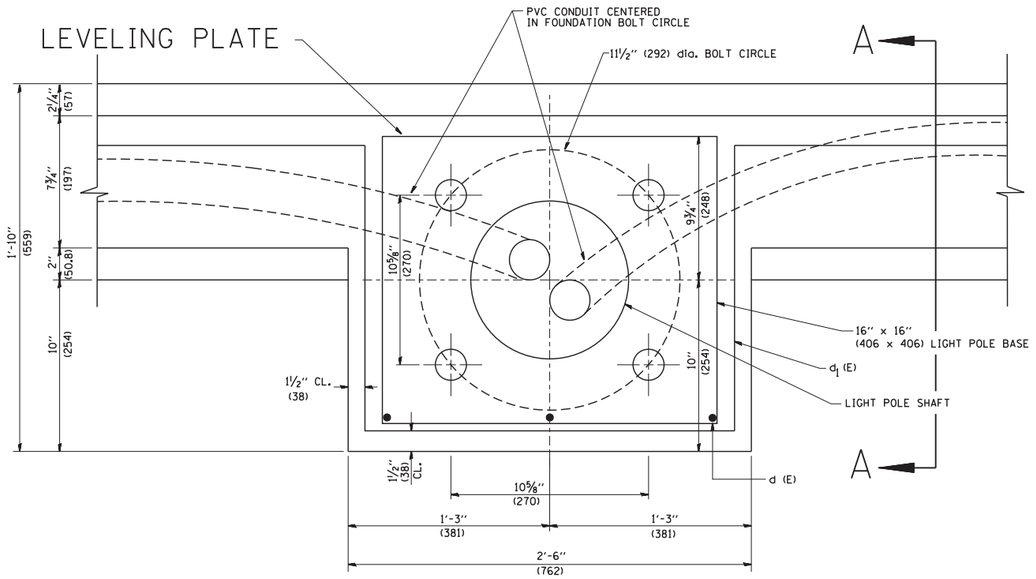
1" (25.4) dia. ANCHOR BOLT



SECTION A-A



LEVELING PLATE DETAIL



PLAN

NOTES

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. LEVEL LIGHT POLE PLATES, USING THE FLANGE NUTS, PRIOR TO POURING THE PARAPET WALL. THE TOP OF THE PLATE SHALL BE AT THE SAME ELEVATION AS THE FINISHED CONCRETE PARAPET.
3. THE COST OF ANCHOR BOLTS, CONDUIT, LEVELLING PLATE AND FOUNDATION IS INCLUDED IN THE COST OF THE BRIDGE STRUCTURE.

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	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT POLE MOUNTED ON CONCRETE PARAPET WALL
11 1/2" (292 mm) BOLT CIRCLE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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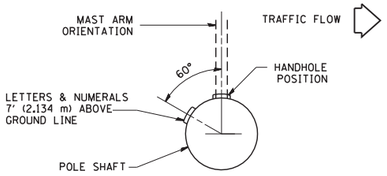
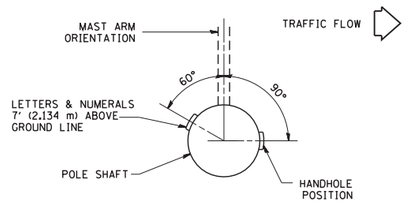
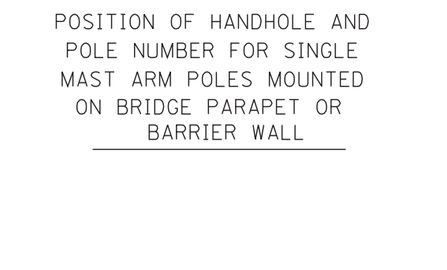
	BE-329	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



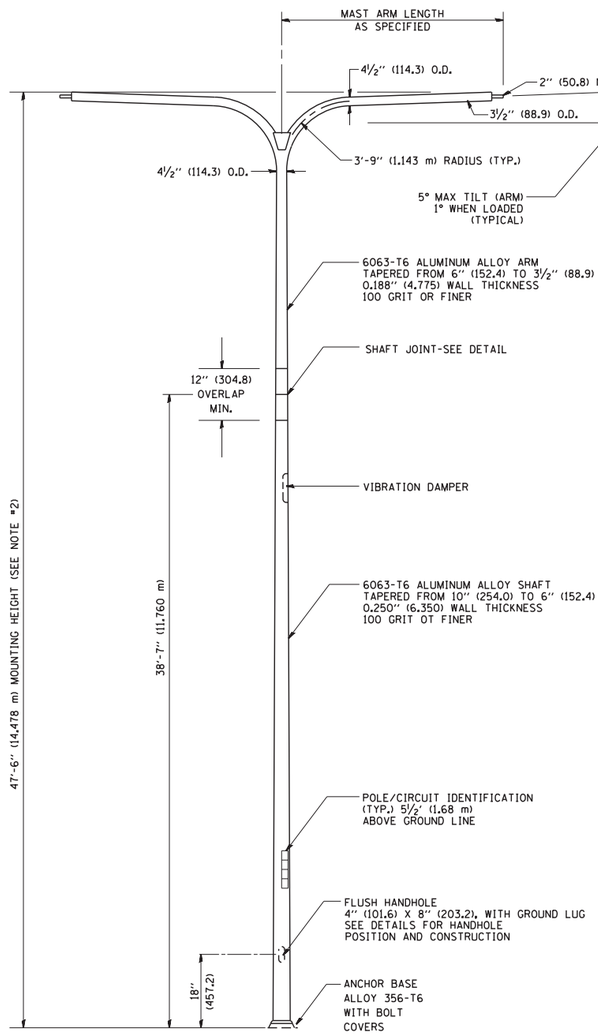
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



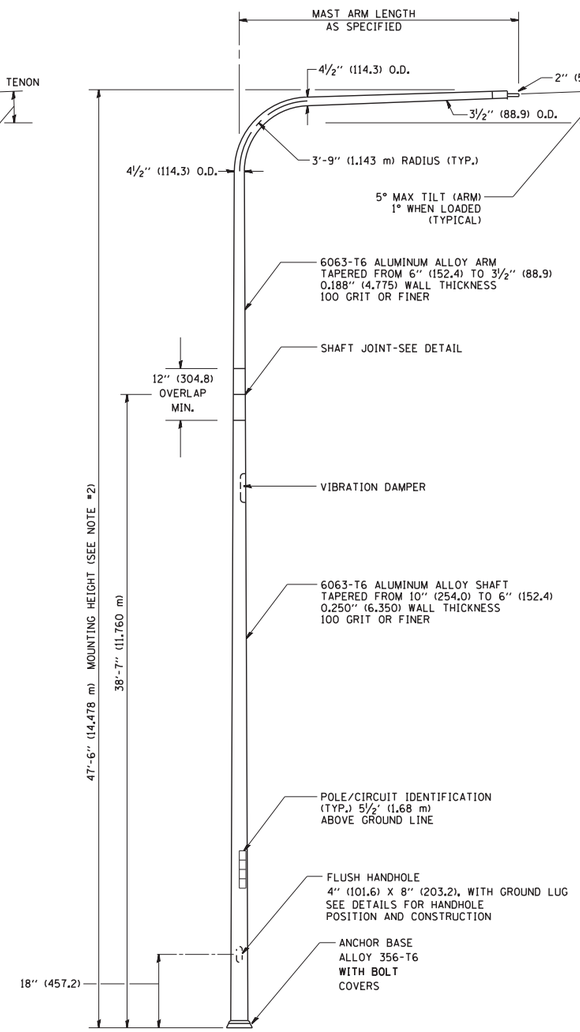
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES



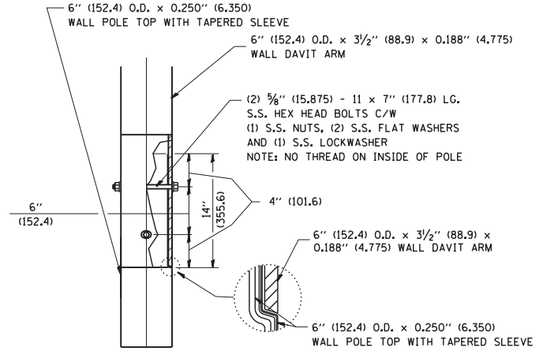
TWIN ARM POLE



SINGLE ARM POLE

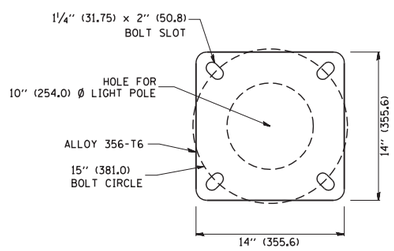
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



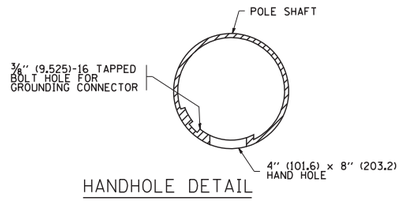
DAVIT ARM CONNECTION

[14" (355.6) OVERLAP SHOWN]



LIGHT POLE BASE PLATE DETAIL

(FOR POLE MOUNTED ON 15 INCH (381.0) BOLT CIRCLE FOUNDATION)



HANDHOLE DETAIL

(N.T.S.)

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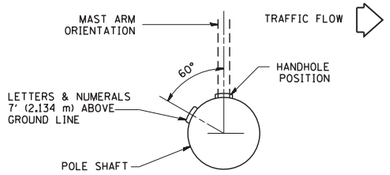
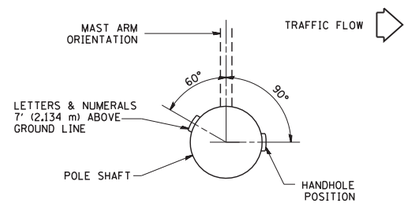
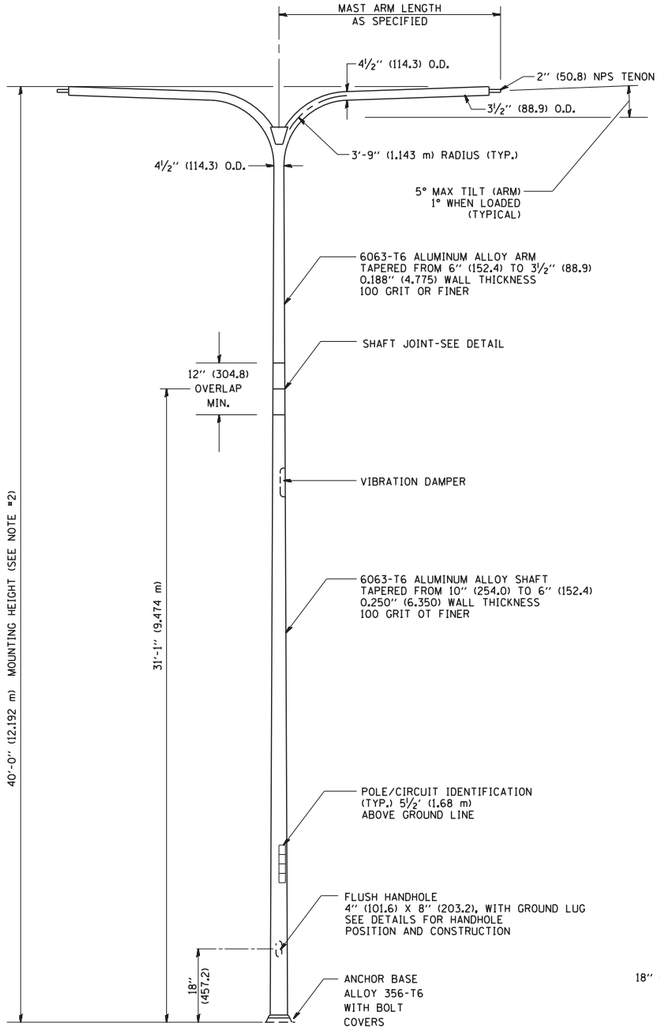
		DRAWN - LEY	REVISED - D. DREW 05-07-92						537	390
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - R. TOMSONS 09-06-00				BE-410	CONTRACT NO.		
	PLOT DATE = 1/4/2008	DATE -	REVISED - R. TOMSONS 09-02-03		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



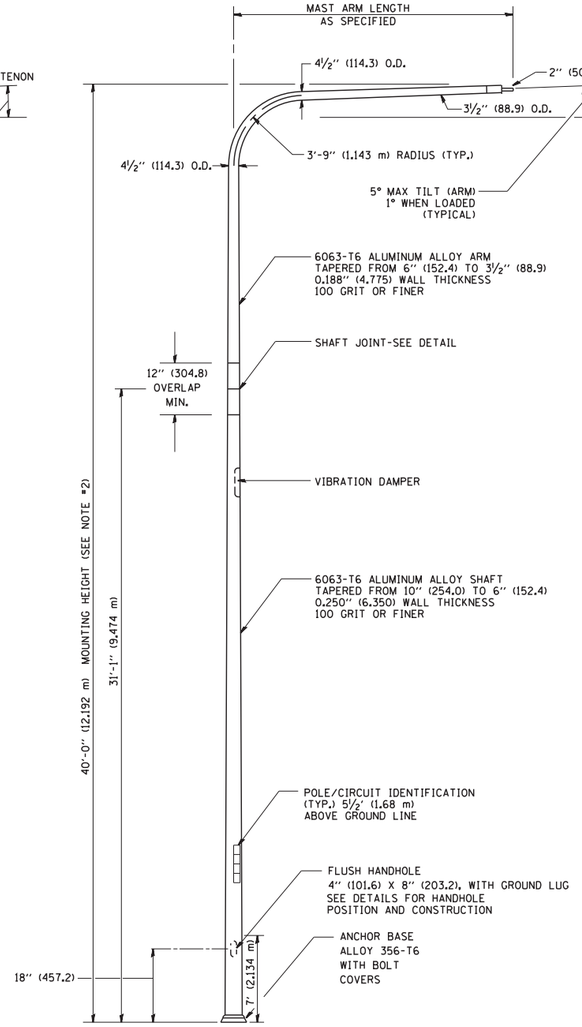
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



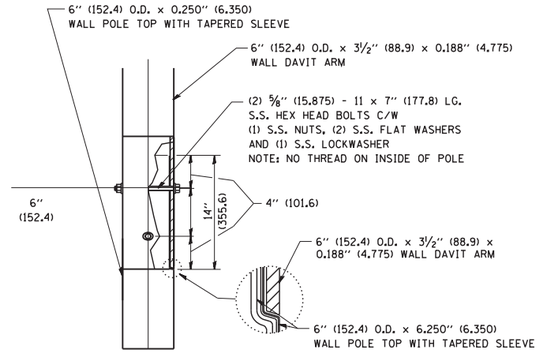
TWIN ARM POLE



SINGLE ARM POLE

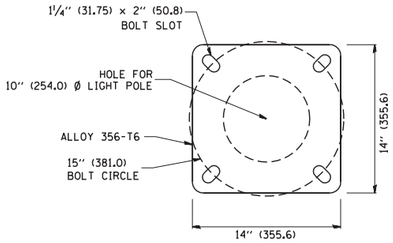
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS, OR SHIMS
8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



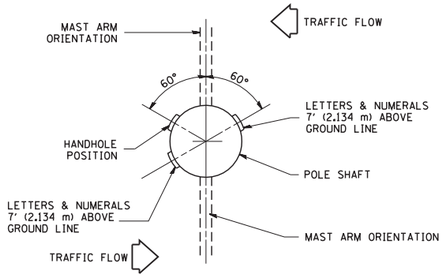
DAVIT ARM CONNECTION

[14" (355.6) OVERLAP SHOWN]

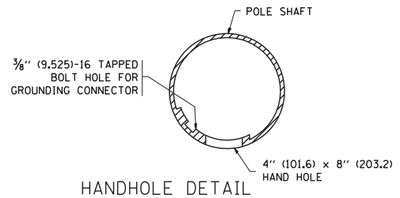


LIGHT POLE BASE PLATE DETAIL

(FOR POLE MOUNTED ON 15 INCH (381.0) BOLT CIRCLE FOUNDATION)



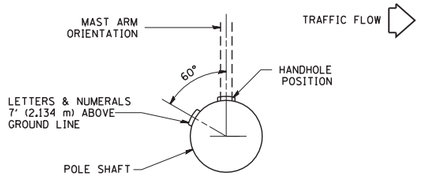
POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES



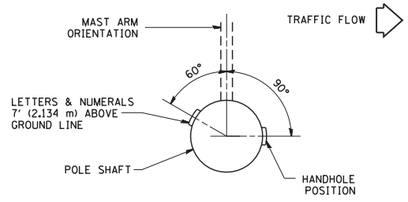
HANDHOLE DETAIL

(N.T.S.)

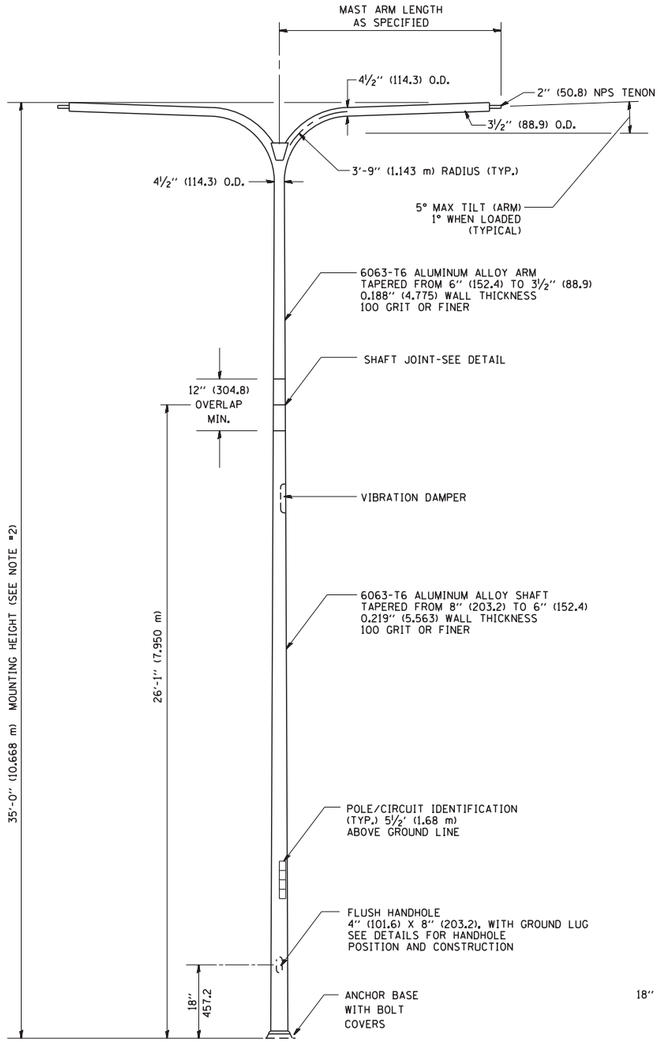
FILE NAME = W:\diststd\22x34\be411.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - D. DREW 04-02-92	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DAVIT LIGHT POLE 40'-0" (12.192 m) MOUNTING HEIGHT**		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - LEY	REVISED - D. DREW 05-07-92							537	391
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - R. TOMSONS 09-06-00					BE-411		CONTRACT NO.	
	PLOT DATE = 1/4/2008	DATE -	REVISED - R. TOMSONS 09-02-03		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



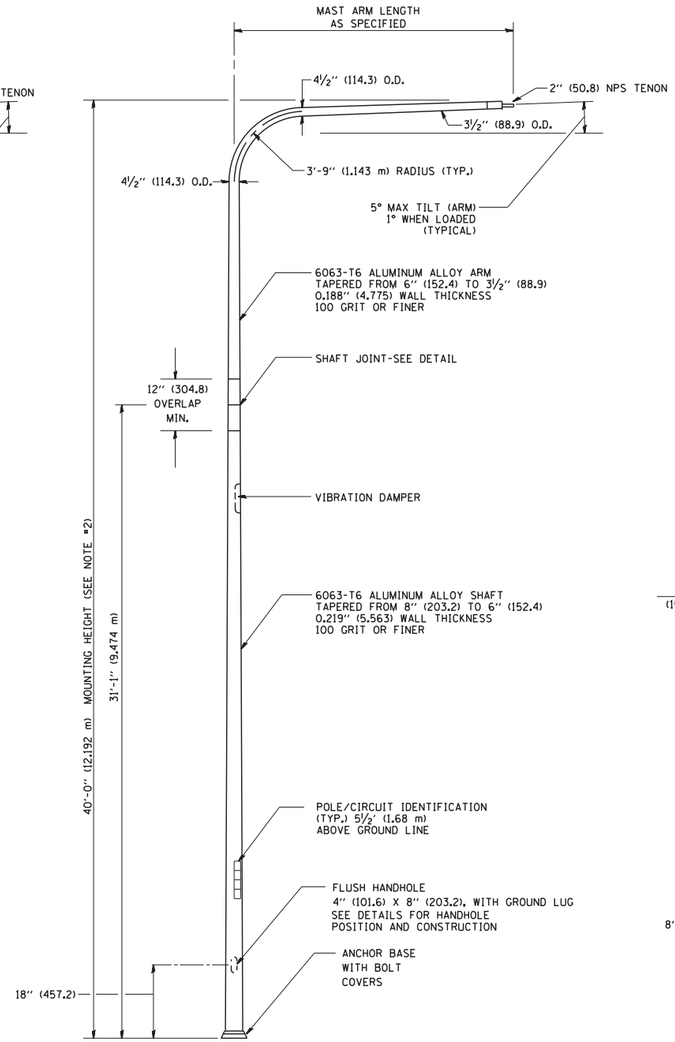
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



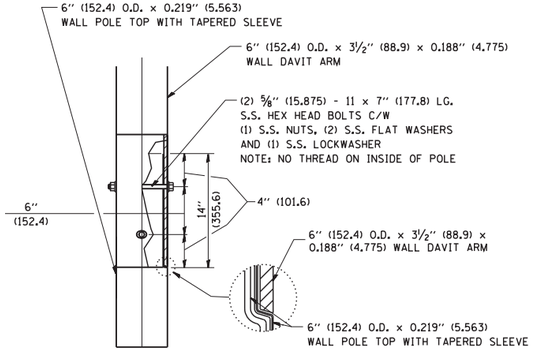
TWIN ARM POLE



SINGLE ARM POLE

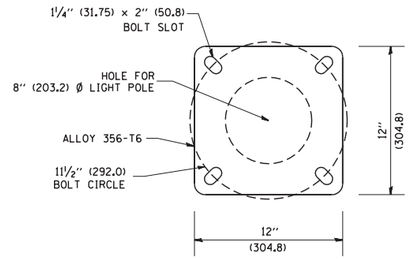
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
5. **THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.**
6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



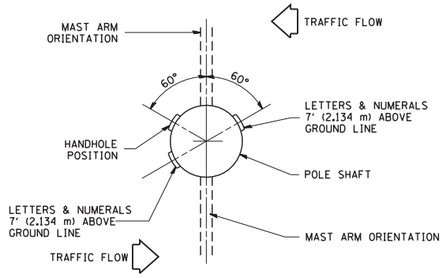
DAVIT ARM CONNECTION

[14" (355.6) OVERLAP SHOWN]

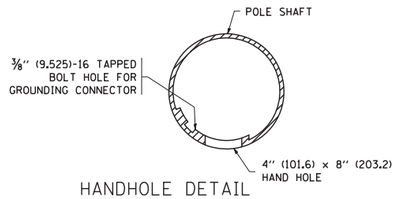


LIGHT POLE BASE PLATE DETAIL

11½" (292.0) BOLT CIRCLE



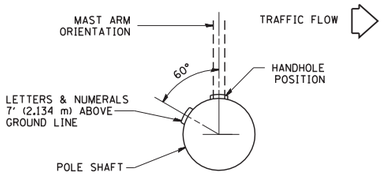
POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES



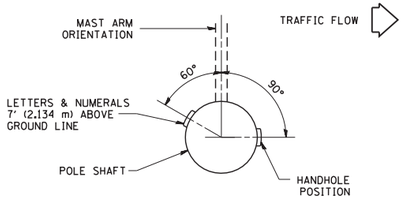
HANDHOLE DETAIL

(N.T.S.)

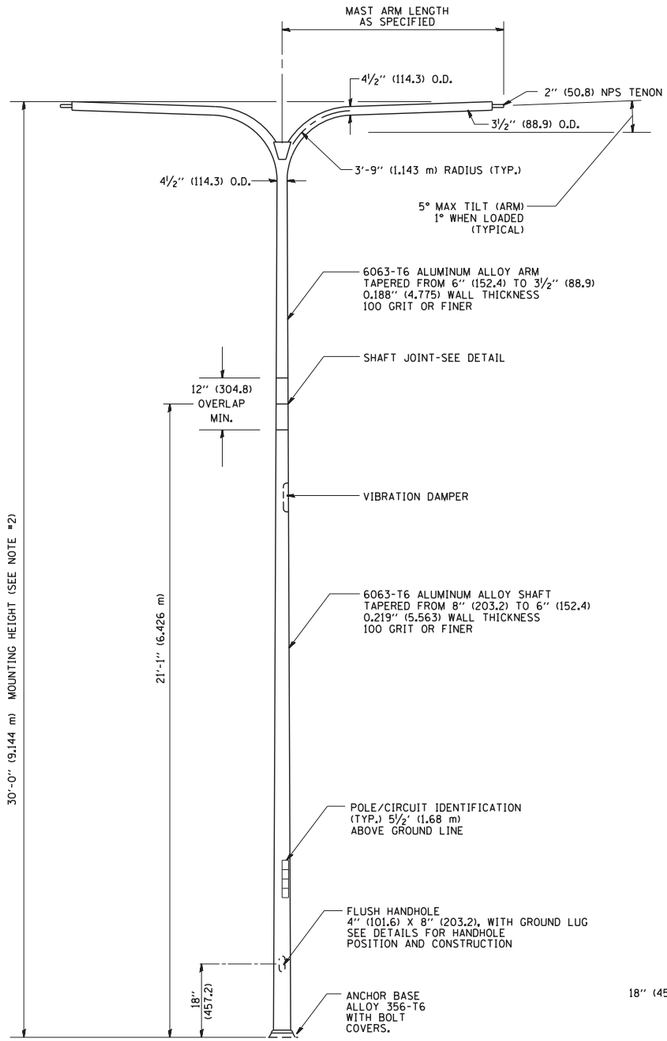
FILE NAME = W:\diststd\22x34\be412.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - D. DREW 04-02-92	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DAVIT LIGHT POLE 35'-0" (10.668 m) MOUNTING HEIGHT**	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		DRAWN - RL	REVISED - D. DREW 05-07-92				537 / 392
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - R. TOMSONS 09-06-00				BE-412 / CONTRACT NO.
	PLOT DATE = 1/4/2008	DATE -	REVISED - R. TOMSONS 09-02-03		SCALE: NONE / SHEET NO. 1 OF 1 SHEETS / STA. / TO STA.		FED. ROAD DIST. NO. 1 / ILLINOIS / FED. AID PROJECT



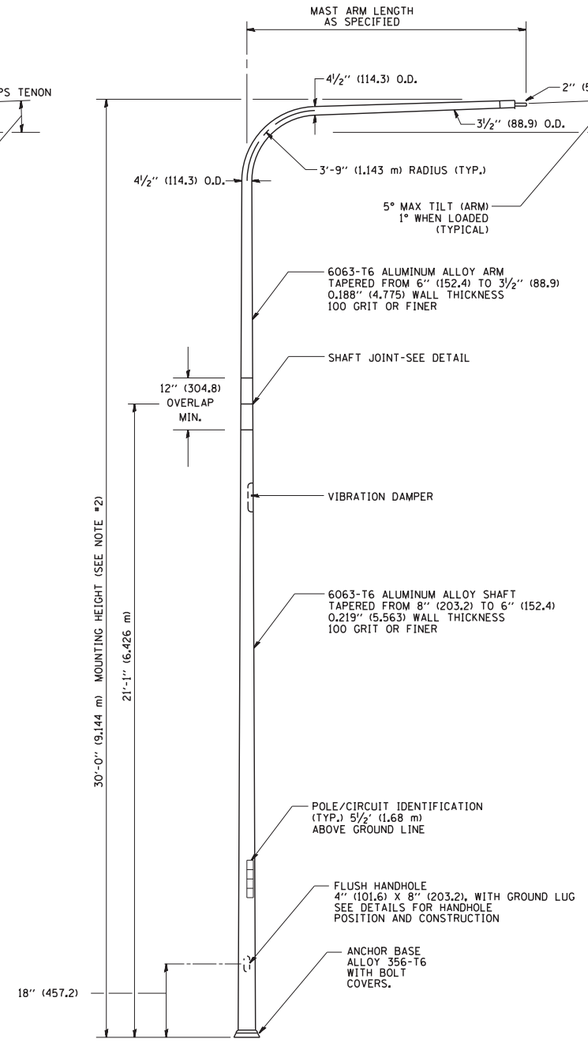
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



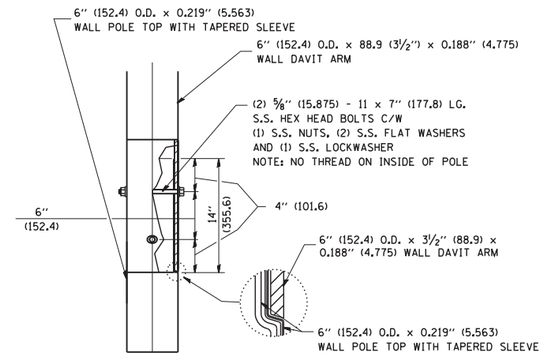
TWIN ARM POLE



SINGLE ARM POLE

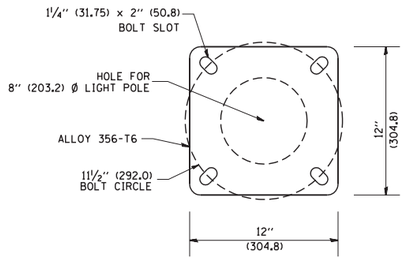
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



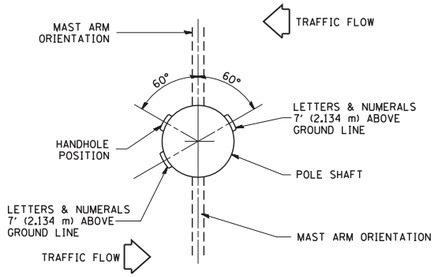
DAVIT ARM CONNECTION

[14" (355.6) OVERLAP SHOWN]

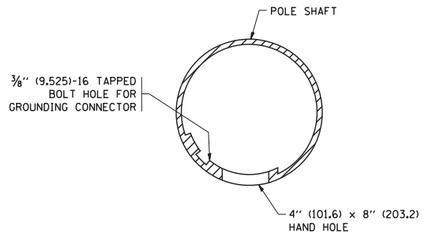


LIGHT POLE BASE PLATE DETAIL

11½" (292.0) BOLT CIRCLE



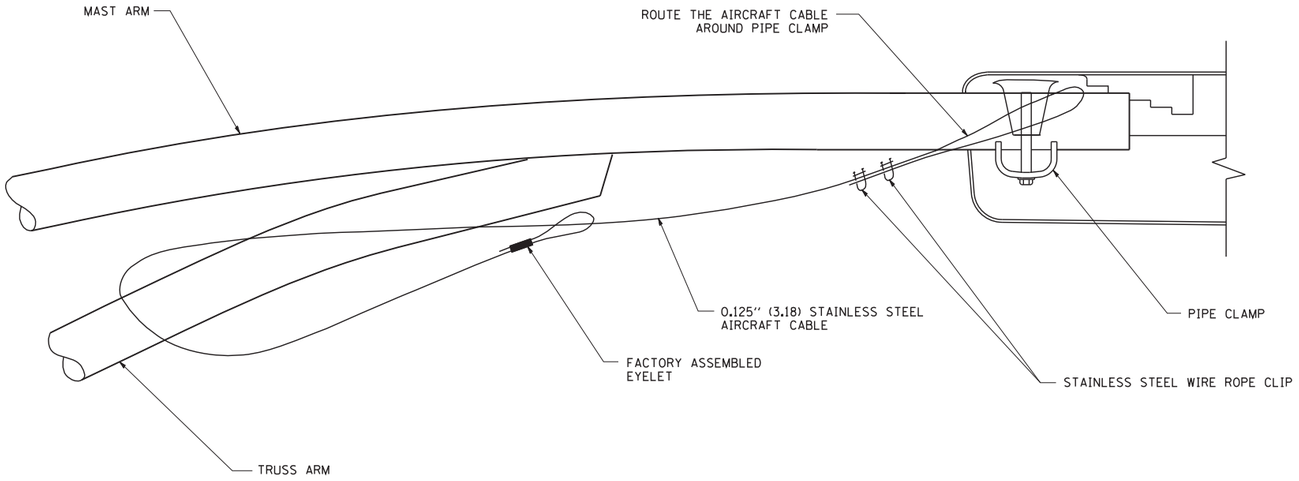
POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES



HANDHOLE DETAIL

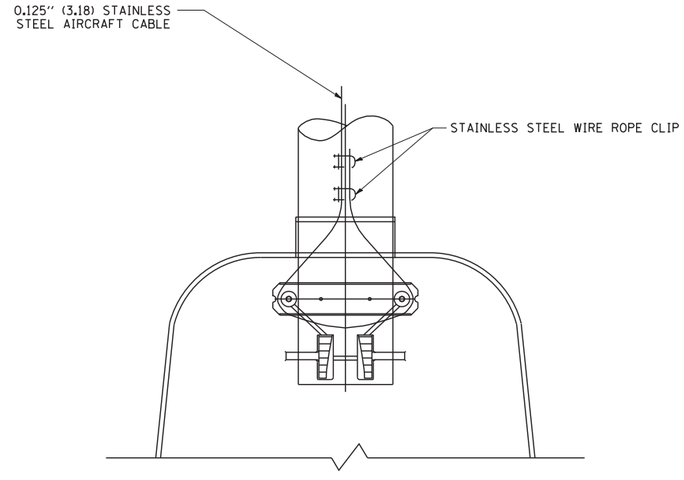
(N.T.S.)

FILE NAME = W:\diststd\22x34\be413.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - D. DREW 04-02-92	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DAVIT LIGHT POLE 30'-0" (9.144 m) MOUNTING HEIGHT		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RL	REVISED - D. DREW 05-07-92							537	393
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - R. TOMSONS 09-06-00					BE-413	CONTRACT NO.		
	PLOT DATE = 1/4/2008	DATE -	REVISED - R. TOMSONS 09-02-03		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



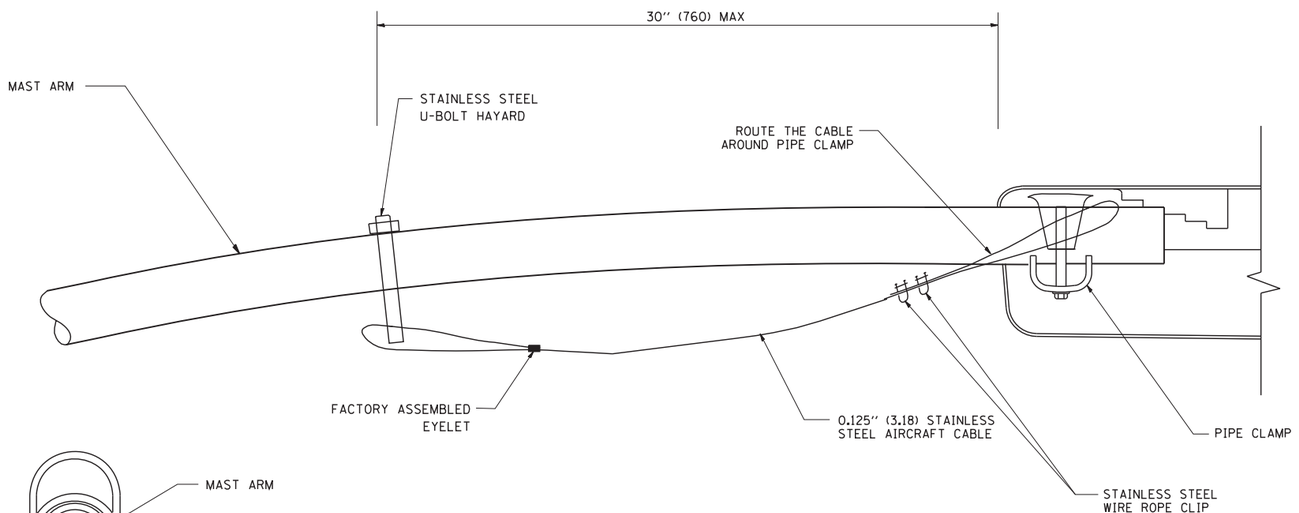
SIDE VIEW (TRUSS ARM)

N.T.S.



BOTTOM VIEW

N.T.S.



SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)

N.T.S.

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.

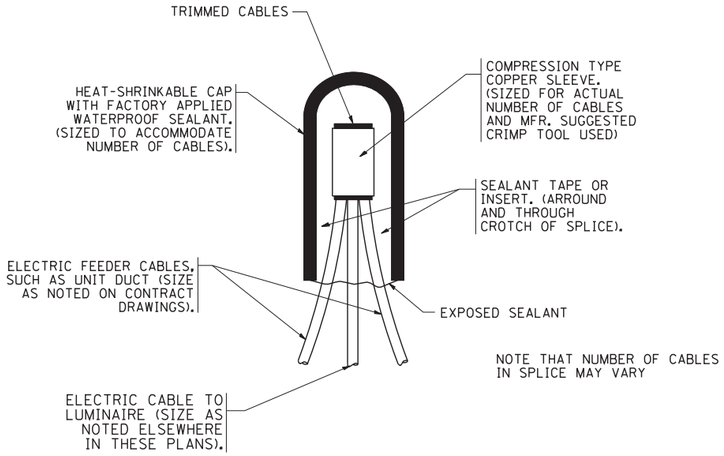
FILE NAME = W:\diststd\22x34\be701.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03
		DRAWN -	REVISED -
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LUMINAIRE SAFETY CABLE ASSEMBLY

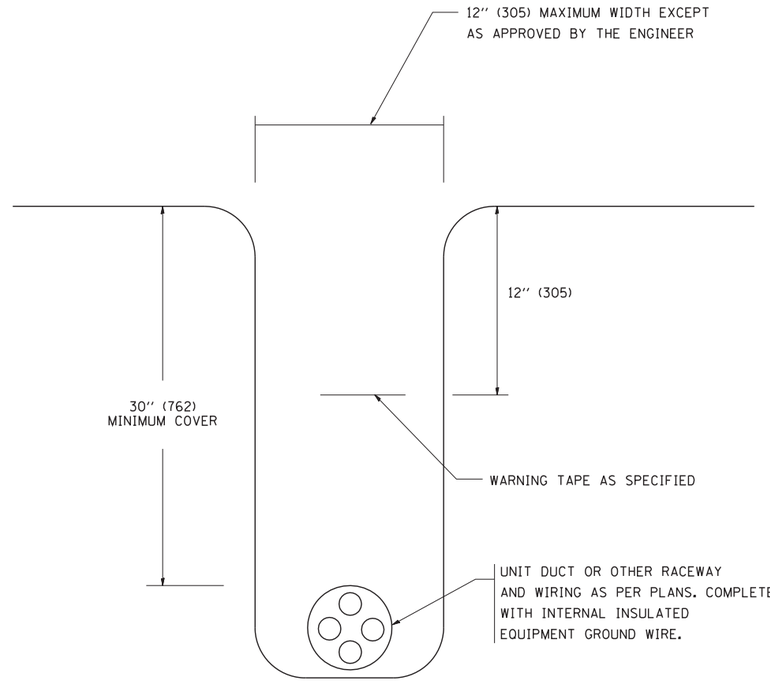
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	394
	BE-701		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



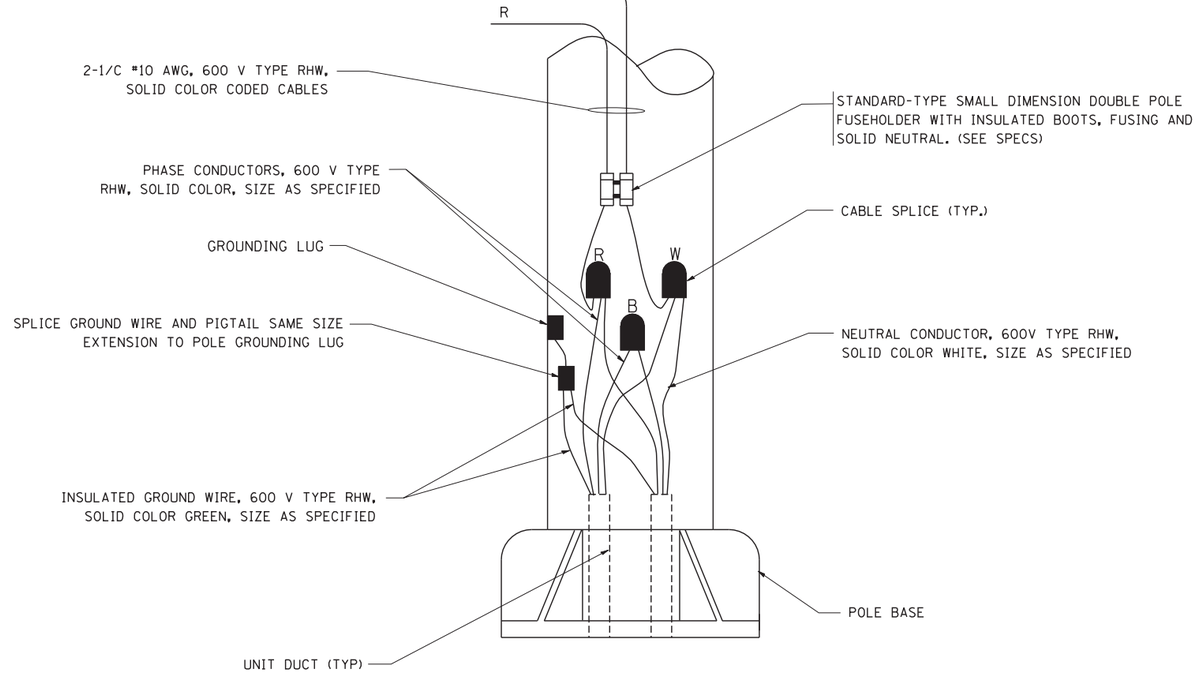
TYPICAL SPLICE DETAIL

N.T.S.



TYPICAL WIRING IN TRENCH DETAIL

N.T.S.



POLE WIRING DETAIL

N.T.S.

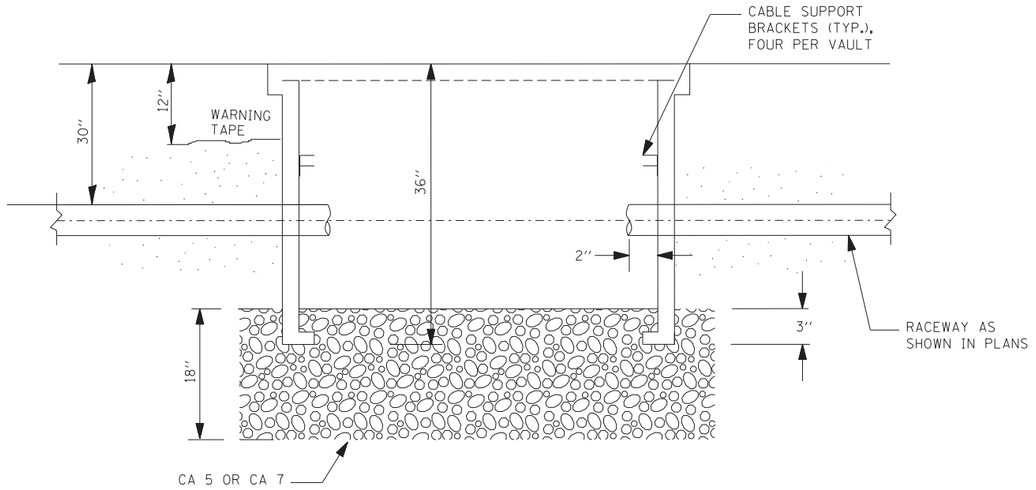
FILE NAME = W:\diststd\22x34\be702.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03
		DRAWN -	REVISED -
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

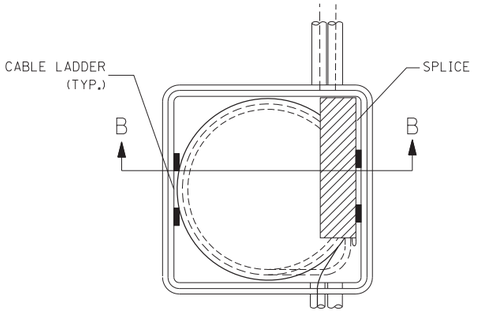
MISC. ELECTRICAL DETAILS
SHEET A

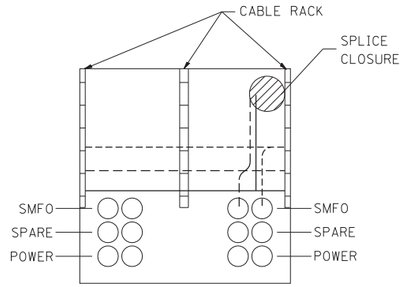
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	395
	BE-702		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

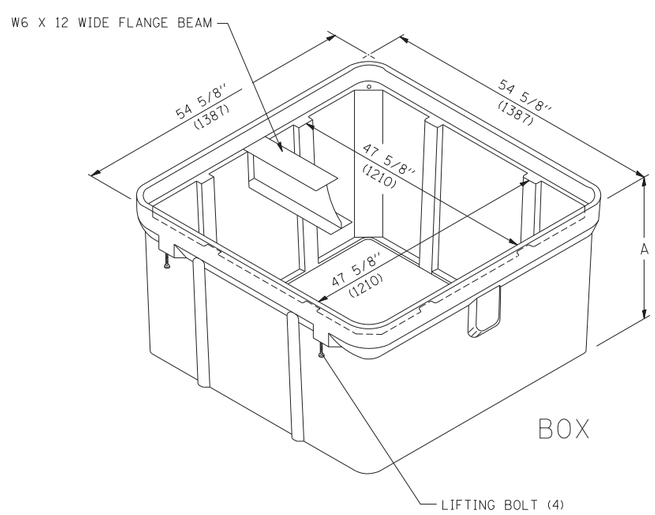


SECTION A-A



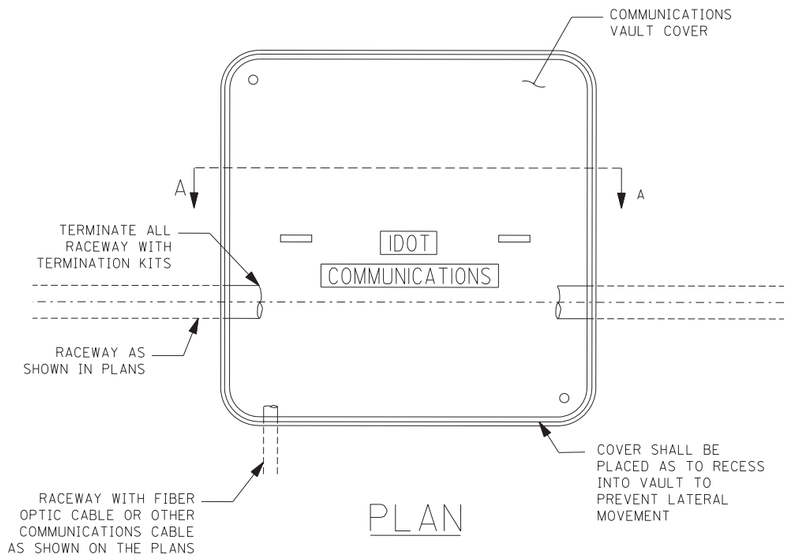


SECTION B-B



ISOMETRIC

BOX



PLAN

NOTES:

1. BOX SHALL HAVE AN OPEN BASE.
2. COVER SHALL WITHSTAND A 22,500/33,750 DESIGN/TEST LOADING AND SHALL LOCK.
3. ALL OPENINGS IN STRUCTURE MUST BE MACHINED AT TIME OF FABRICATION OR PUNCH DRIVEN AT TIME OF PLACEMENT. IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
4. FIELD PLACEMENT OF COMMUNICATIONS VAULT SHALL BE AS DIRECTED BY THE ENGINEER.
5. ALL DIMENSIONS ARE MINIMUM AND A LARGER SIZE HANDHOLE MAY BE USED, WITH THE APPROVAL OF THE ENGINEER, TO FACILITATE USING A MANUFACTURER'S STANDARD PRODUCT.

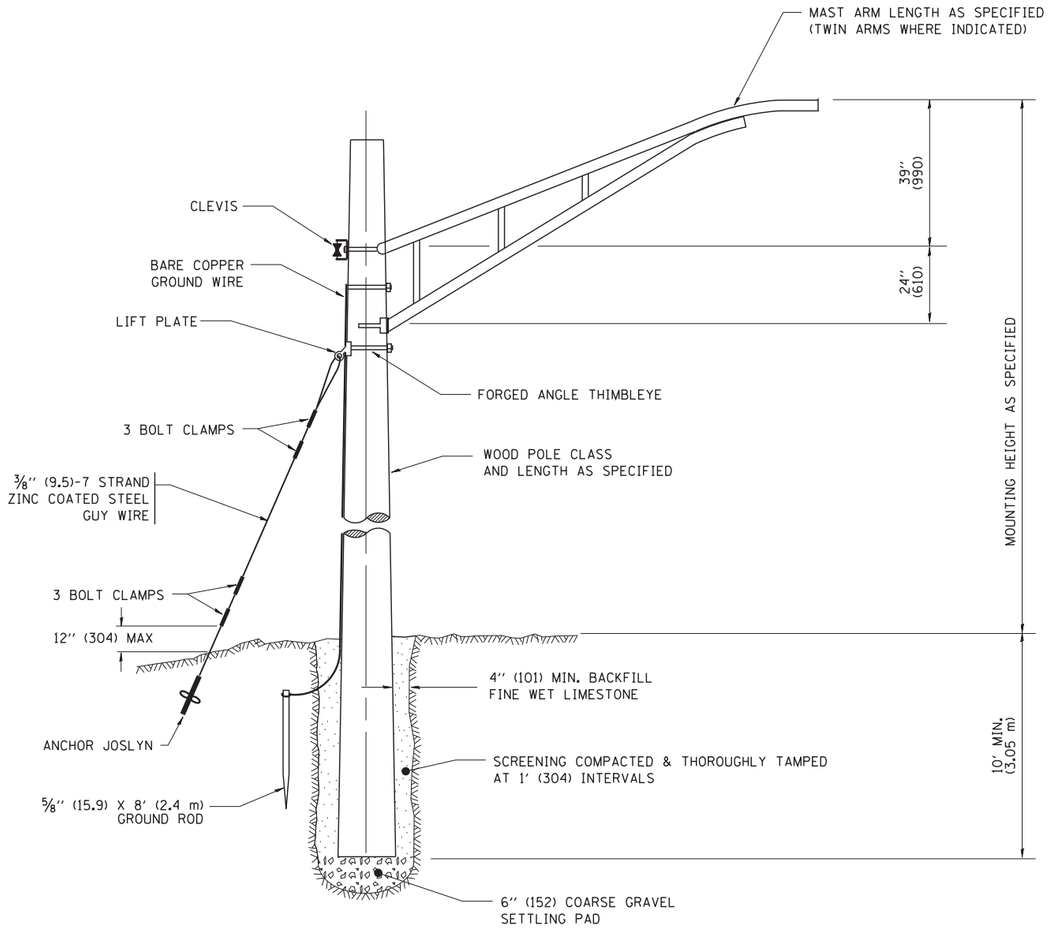
FILE NAME = c:\pw_work\PWIDOT\LEYSA\d0108315\be705.dgn	USER NAME = leysa	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 3/29/2010	DATE - 03-22-10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

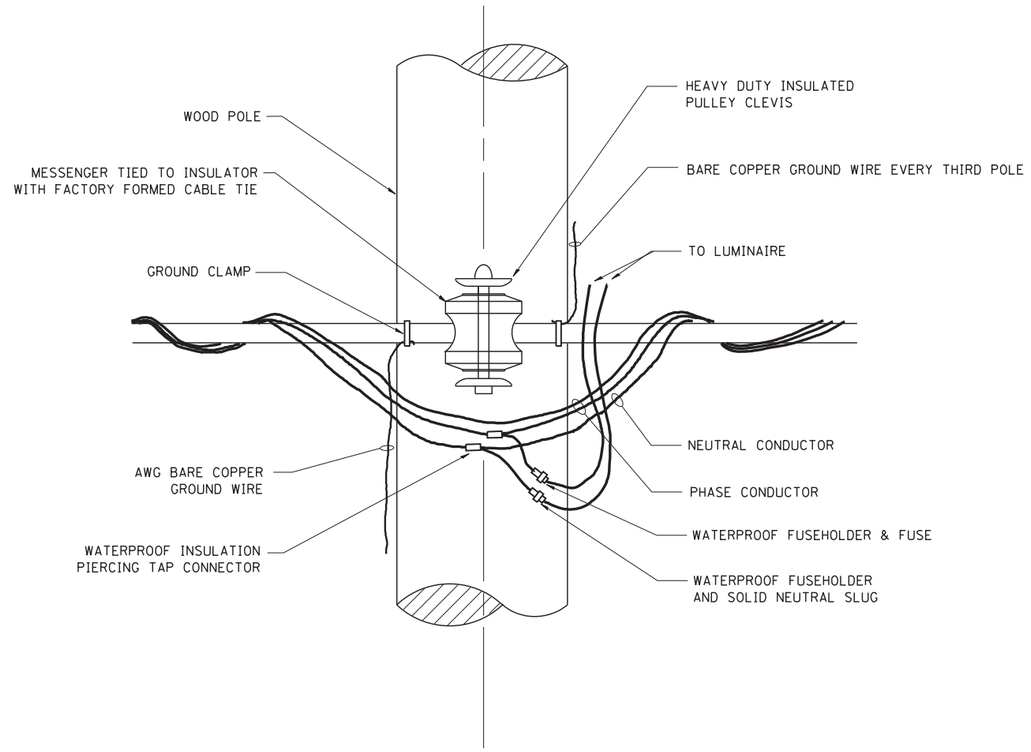
COMMUNICATIONS VAULT, COMPOSITE CONCRETE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		*	537	390
	BE-705	CONTRACT NO. 60E01		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY LIGHT POLE DETAIL



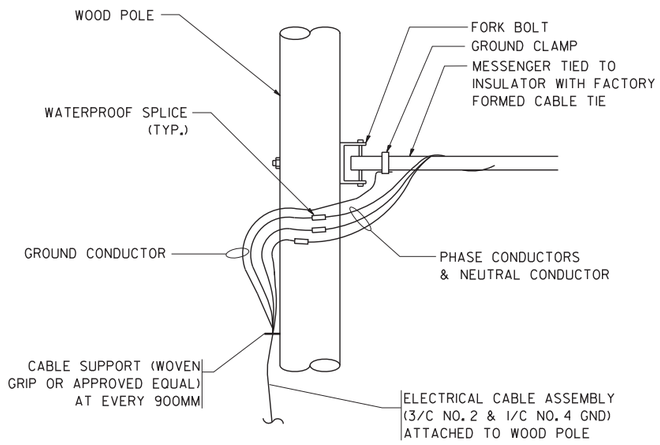
TEMPORARY LIGHT POLE ATTACHMENT DETAIL

NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED

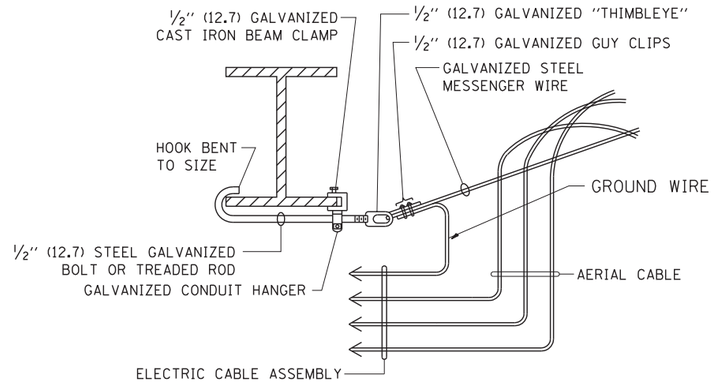
FILE NAME = W:\diststd\22x34\be800.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY LIGHT POLE DETAILS
		DRAWN -	REVISED -		
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED -		
	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE / SHEET NO. 1 OF 1 SHEETS / STA. / TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	397
	BE-800		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



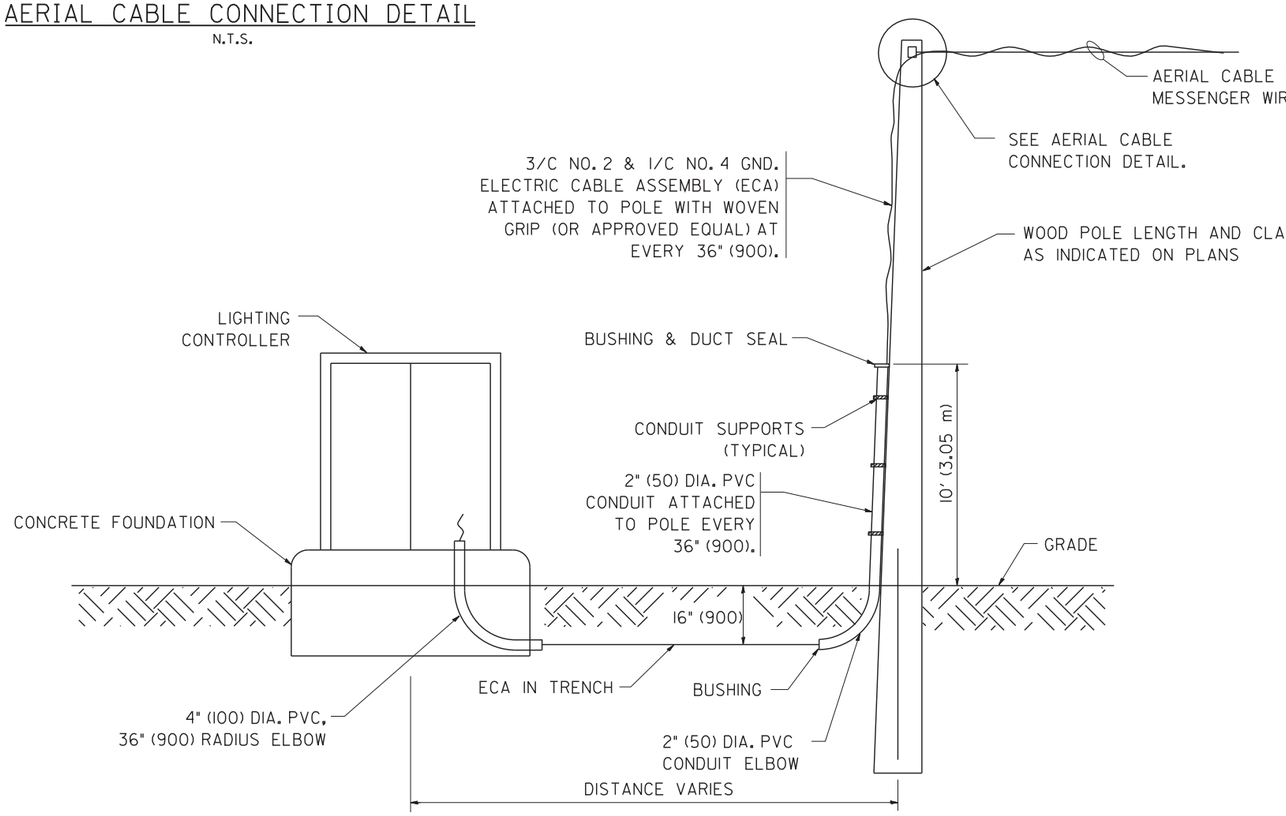
AERIAL CABLE CONNECTION DETAIL

N.T.S.



AERIAL CABLE ATTACHED TO STRUCTURE

NOT TO SCALE



WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL

N.T.S.

NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
2. SEE PROPOSED LIGHTING PLAN FOR CONDUIT, CABLE AND ROUTING.
3. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE SUPPORTS TO MAINTAIN MINIMUM CLEARANCES. REFER TO AERIAL AERIAL CABLE ATTACHED TO STRUCTURE DETAIL.
4. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.

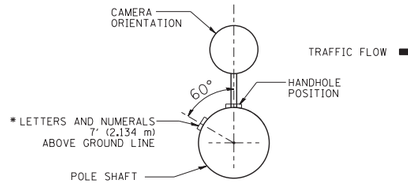
FILE NAME = W:\diststd\22x34\be801.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03
		DRAWN -	REVISED -
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

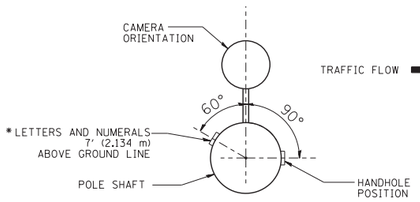
TEMPORARY AERIAL CABLE INSTALLATION

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

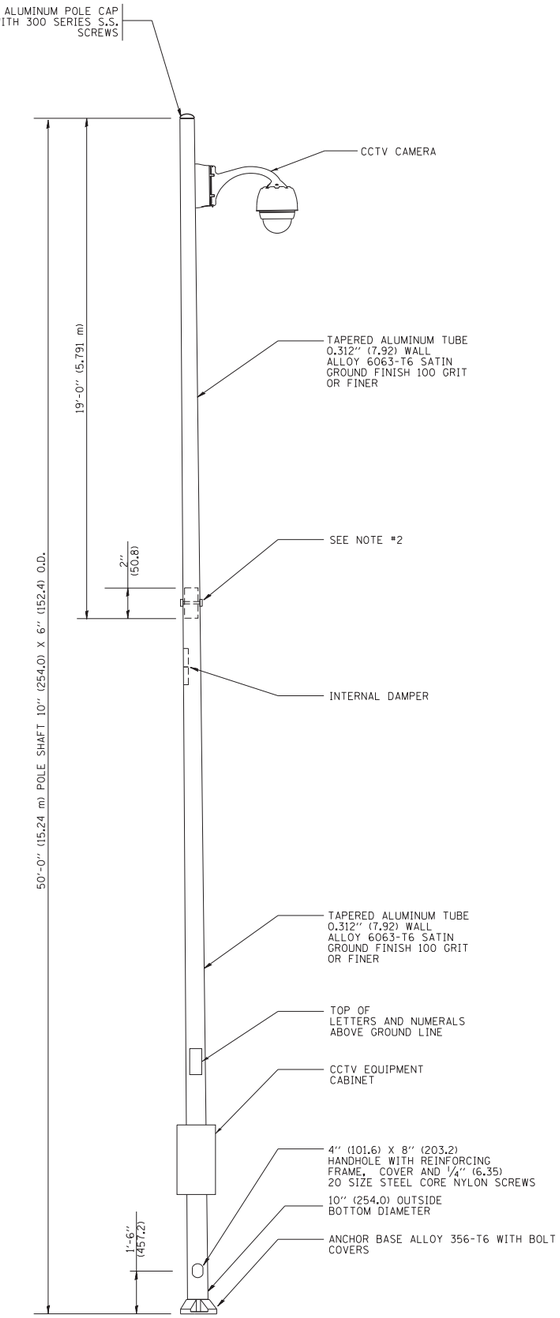
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	398
	BE-801	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



POSITION OF HANDHOLE AND CAMERA NUMBER FOR POLE MOUNTED ON BRIDGE PARAPET OR BARRIER WALL

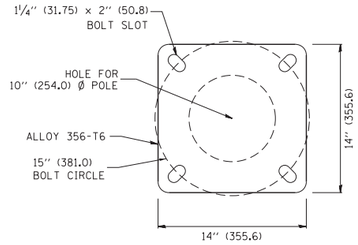


POSITION OF HANDHOLE AND CAMERA NUMBER



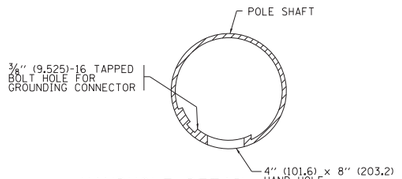
NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
3. THE POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
4. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
5. POLES WILL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS.
6. POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.



POLE BASE PLATE DETAIL

15 INCH (381.0) BOLT CIRCLE

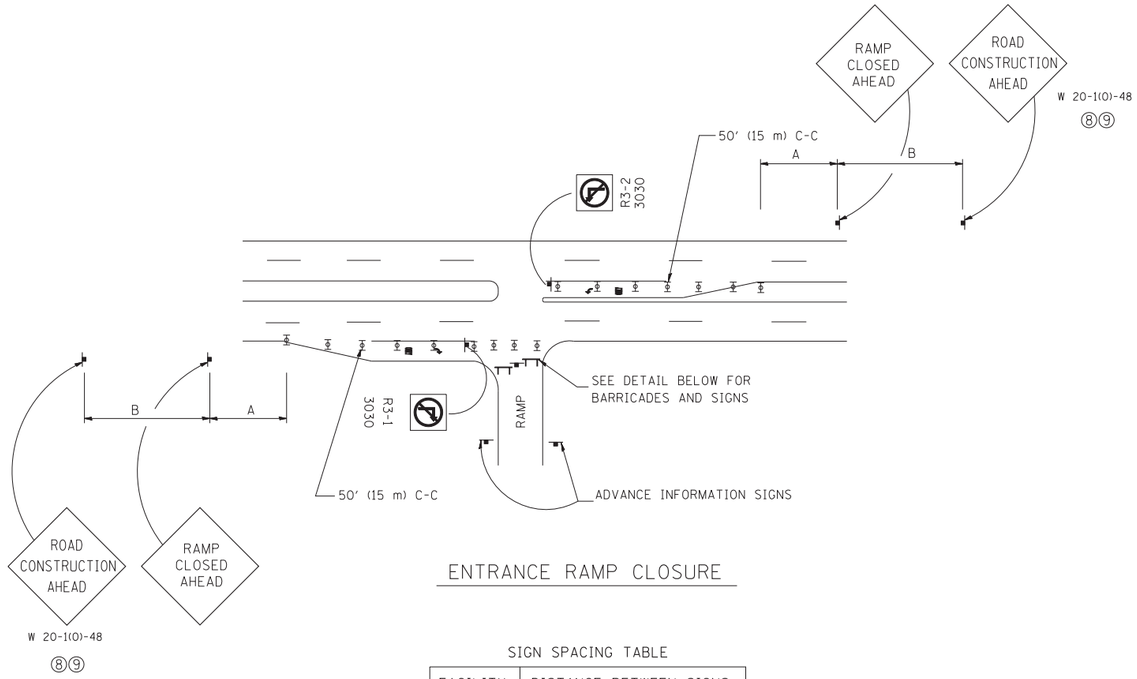


HANDHOLE DETAIL

(N.T.S.)

FILE NAME = c:\pw_work\pwidot\leysa\d0108315\bel000.dgn	USER NAME = leysa	DESIGNED -	REVISED - R. TOMSONS 09-06-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CCTV CAMERA STRUCTURE 50' (15.24 m) MOUNTING HEIGHT			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. TOMSONS 09-03-03								537	399
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED -						BE-1000		CONTRACT NO.	
	PLOT DATE = 4/24/2012	DATE -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.		FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	

bel000.dgn 4/24/2012 11:: 2:29 AM User=leysa

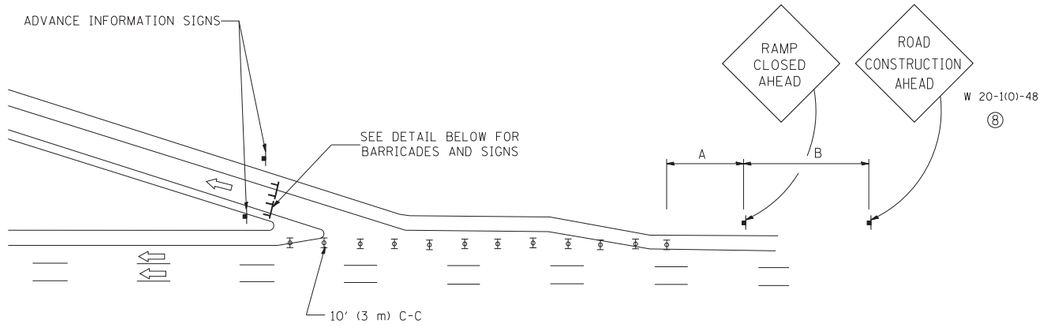


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS A	DISTANCE BETWEEN SIGNS B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL ≥45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	150' (45 m)	150' (45 m)

DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.

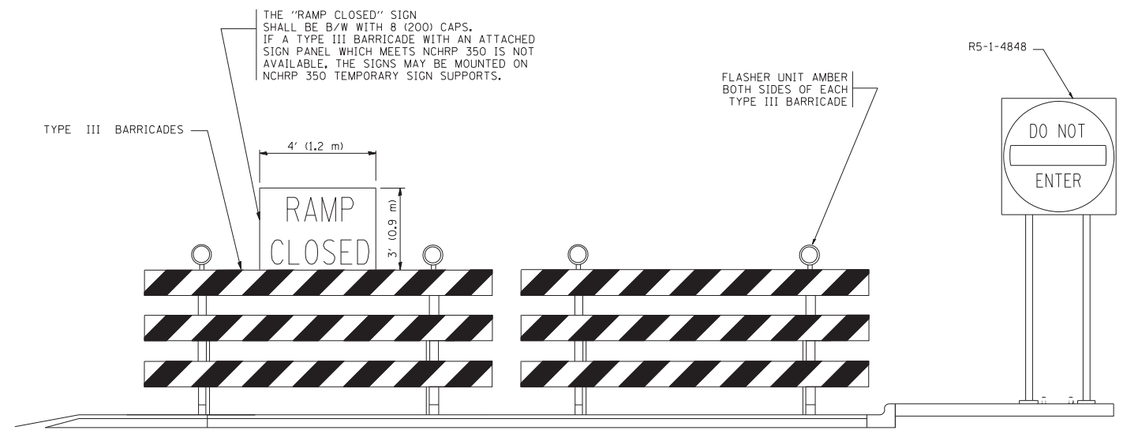


EXIT RAMP CLOSURE

SYMBOLS

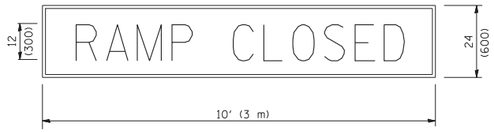
TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT

TYPE III BARRICADE WITH FLASHING LIGHT



DETAIL FOR REQUIRED BARRICADES & SIGNS

RAMP CLOSURE ADVANCE WARNING SIGN

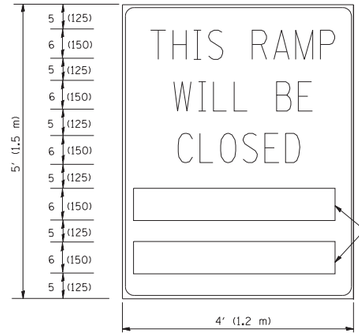


BLACK LEGEND ON ORANGE REFLECTORIZED BACKGROUND

1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR THE CLOSED EXIT RAMPS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



BLACK LEGEND ON WHITE REFLECTORIZED BACKGROUND

1/2 (12) BORDER

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

GENERAL NOTES:

1. CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
2. STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
3. A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES.
4. ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.
5. THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
7. THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY- FOUR 24 HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED TWENTY FOUR 24 HOURS IN LENGTH.
8. ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
9. ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED ON CLOSURES LESS THAN 24 HOURS IN DURATION.

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

FILE NAME = W:\diststd\22x34\tc08.dgn	USER NAME = leysa	DESIGNED - DWS	REVISED - DWS/JAF 12-02
		DRAWN -	REVISED - JAF 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - SPB 01-07
	PLOT DATE = 11/3/2010	DATE - 02-83	REVISED - SPB 12-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FREEWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			537	400
	TC-08	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		