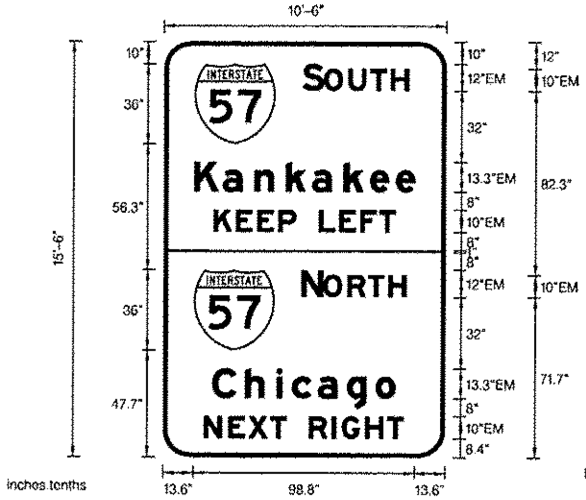
SIGN DETAIL
1:60



Dimensions are in inches.tenths

Letter locations are panel edge to lower left corner

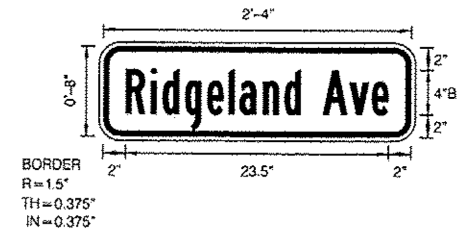
SIGN NUMBER	AN
WIDTH x HGHT.	10'-6" x 15'-6"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: AP Sheeting
	COLOR: Green
LEGEND/BORDER	TYPE: AP Sheeting
	COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
M1_1	0	13.6	140	36	36
M1_1	0	13.6	47.7	36	36

LETTER POSITIONS (X)

										LENGTH	SERIES/SIZE
S	O	U	T	H							EM 2000
61.6	71.3	82.1	92	101.2						47.7	12,10
K	a	n	k	a	k	e	e				EM 2000
13.6	26.2	40.3	54.4	66.1	80.2	91.9	103.6			98.8	13.3/10
K	E	E	P		L	E	F	T			EM 2000
22.4	32.2	41.7	51.2	59.3	69.3	78.3	87.8	96.3		81.3	10
N	O	R	T	H							EM 2000
61.6	71.3	82.1	91.3	100.5						47	12,10
C	h	i	c	a	g	o					EM 2000
22	36.5	50.6	57.4	69.1	82	94.9				81.9	13.3/10
N	E	X	T		R	I	G	H	T		EM 2000
18.4	29.3	38.1	47.9	55.3	65.3	75.5	79.9	90.4	100.3	89.3	10

SIGN DETAIL
1:10



BORDER
R=1.5"
TH=0.375"
IN=0.375"

Panel Style: Street Name 4-3in.ssl
Dimensions are in inches.tenths

Letter locations are panel edge to lower left corner

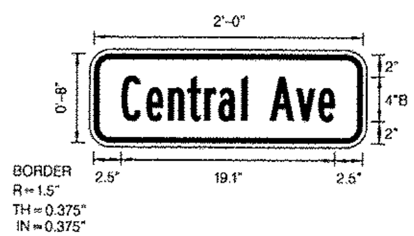
SIGN NUMBER	BF
WIDTH x HGHT.	2'-4" x 0'-8"
BORDER WIDTH	0.375"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: AZ Sheeting
	COLOR: Yellow
LEGEND/BORDER	TYPE: AZ Sheeting
	COLOR: Black/Black

SYMBOL	ROT	X	Y	WID	HT

LETTER POSITIONS (X)

													LENGTH	SERIES/SIZE
R	i	d	g	e	l	a	n	d		A	v	e		B 2000
2	4.3	5.3	7.3	9.3	11.2	12.2	14.3	16.2	17.7	19.7	22	24	23.5	4/3

SIGN DETAIL
1:10



BORDER
R=1.5"
TH=0.375"
IN=0.375"

Panel Style: Street Name 4-3in.ssl
Dimensions are in inches.tenths

Letter locations are panel edge to lower left corner

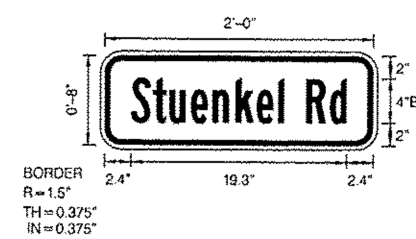
SIGN NUMBER	BD
WIDTH x HGHT.	2'-0" x 0'-8"
BORDER WIDTH	0.375"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: AZ Sheeting
	COLOR: Yellow
LEGEND/BORDER	TYPE: AZ Sheeting
	COLOR: Black/Black

SYMBOL	ROT	X	Y	WID	HT

LETTER POSITIONS (X)

											LENGTH	SERIES/SIZE
C	e	n	t	r	a	l		A	v	e		B 2000
2.5	4.7	6.6	8.3	9.9	11.1	13.2	13.7	15.7	18.1	20.1	19.1	4/3

SIGN DETAIL
1:10



BORDER
R=1.5"
TH=0.375"
IN=0.375"

Panel Style: Street Name 4-3in.ssl
Dimensions are in inches.tenths

Letter locations are panel edge to lower left corner

SIGN NUMBER	BC
WIDTH x HGHT.	2'-0" x 0'-8"
BORDER WIDTH	0.375"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: AZ Sheeting
	COLOR: Yellow
LEGEND/BORDER	TYPE: AZ Sheeting
	COLOR: Black/Black

SYMBOL	ROT	X	Y	WID	HT

LETTER POSITIONS (X)

											LENGTH	SERIES/SIZE
S	t	u	e	n	k	e	l		R	d		B 2000
2.4	4.3	5.8	7.7	9.7	11.7	13.6	15.5	16	18	20.1	19.3	4/3

TYLIN INTERNATIONAL

USER NAME -	DESIGNED - KJS	REVISED - 10/18/2013
	DRAWN - KJS	REVISED -
PLOT SCALE -	CHECKED - JPM	REVISED -
PLOT DATE -	DATE - 05/10/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD AT I-57 RIDGELAND AVENUE TO CENTRAL AVENUE
SIGN DETAILS

SCALE: N.T.S. | SHEET 4 OF 4 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	301

CONTRACT NO. 60L69

ILLINOIS | FED. AID PROJECT

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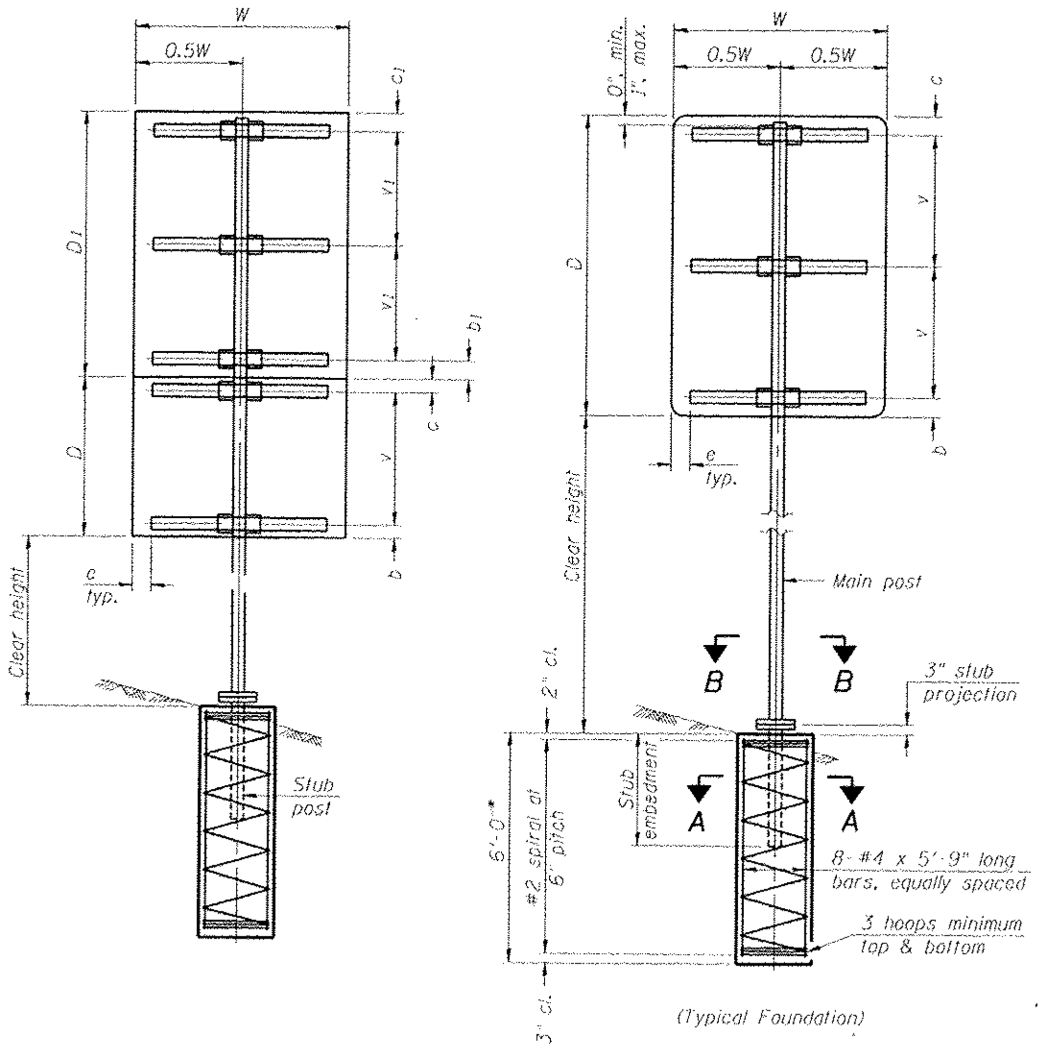
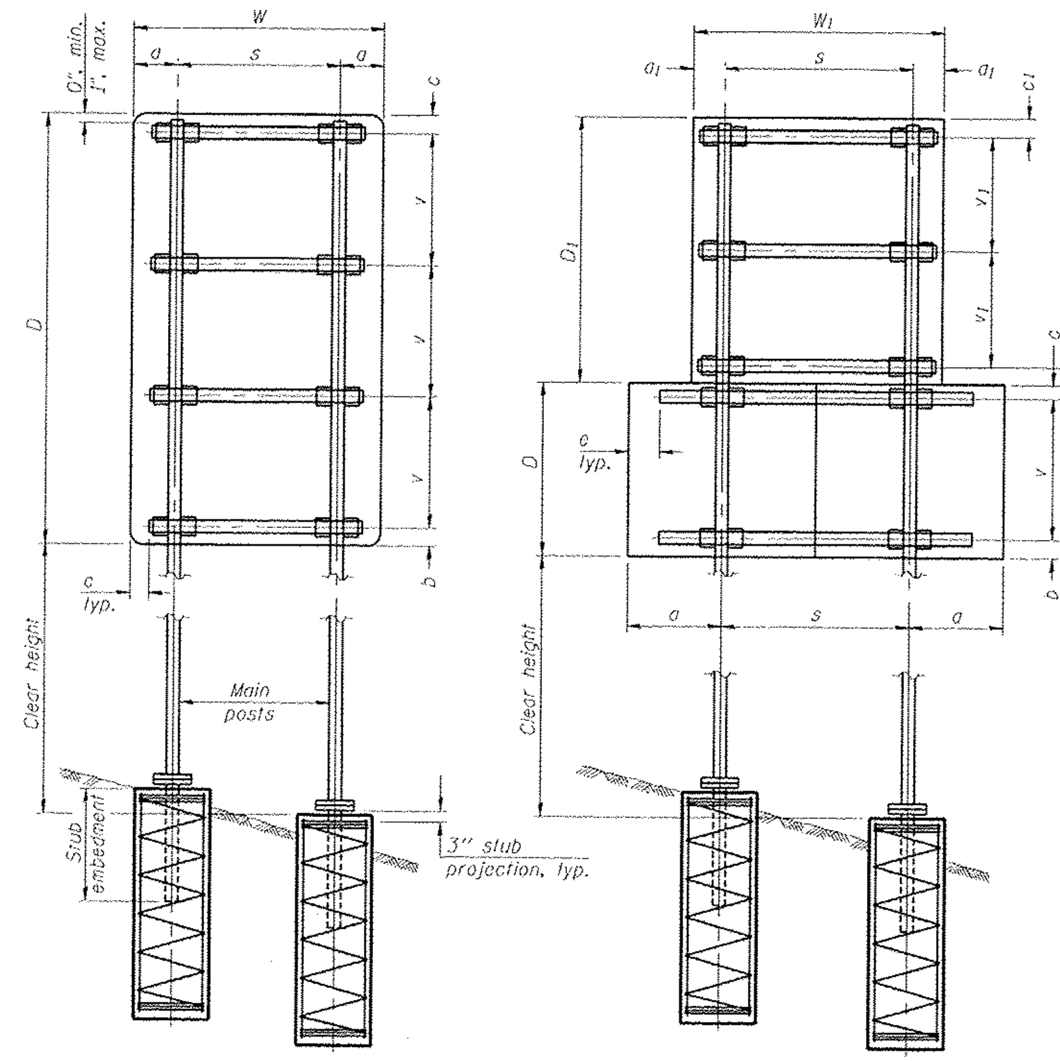


SINGLE POST ASSEMBLY EXAMPLES

* Dimensional changes required for varying site conditions shall be approved by the Engineer.



DUAL POST ASSEMBLY EXAMPLES

a or a_1 = 6" min. to 2'-0" max. (Approximately 0.2W or $0.2W_1$)
b or b_1 = 3" min. to 4" max
c or c_1 = 3" min. to 4" max
e = 0" min. to 6" max
s = 3'-0" min. to 6'-0" max. (Approximately 0.6W or $0.6W_1$)
v or v_1 = 2'-0" min. to 2'-11" max.

MAIN POST STEEL TUBING	WEIGHT PER FOOT (POUND)	STUB POST TABLE		MAIN POST TABLE				
		Stub Embedment	Stub Post Length	Bolt Size	A	t	R	Bolt Circle
3" x 2" x ¼"	7.11	2'-0"	2'-3"	½" x 2¾"	8¼"	⅝"	9/32"	6½"
4" x 2" x ¼"	8.81	2'-0"	2'-3"	½" x 2¾"	8¼"	⅝"	9/32"	6½"
4" x 3" x ¼"	10.51	2'-3"	2'-6"	⅝" x 3¼"	10"	¾"	11/32"	8"
5" x 3" x ¼"	12.21	2'-3"	2'-6"	⅝" x 3¼"	10"	¾"	11/32"	8"
6" x 3" x ¼"	13.91	2'-3"	2'-6"	⅝" x 3¼"	11½"	¾"	11/32"	9½"
6" x 4" x ¼"	15.62	2'-3"	2'-6"	¾" x 3½"	11½"	¾"	13/32"	9½"
6" x 4" x 5/16"	19.08	2'-3"	2'-6"	¾" x 3½"	11½"	¾"	13/32"	9½"
7" x 5" x ¼"	19.02	2'-6"	2'-9"	¾" x 3½"	1'-2"	¾"	13/32"	1'-0"
8" x 4" x ¼"	19.02	2'-6"	2'-9"	¾" x 3½"	1'-2"	¾"	13/32"	1'-0"
8" x 6" x ¼"	22.42	2'-6"	2'-9"	⅞" x 3½"	1'-2"	¾"	15/32"	1'-0"

GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

One foundation requires 0.7 cubic yards of concrete and 46 pounds of reinforcement bars and spiral hoops.

LOADING: 80 mph wind with 30% gust factor, normal to sign.

DESIGN STRESSES:
Structural steel - 20,000 psi
Reinforcing steel - 20,000 psi
Concrete - 1,400 psi
Footing soil pressure - 2,000 psf

After fabrication, the post, fuse plate, base plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

For Sections A-A and B-B, see Base Sheet BAT-A-2.

FOUNDATIONS:
All necessary excavation or drilling (except in rock); backfilling with excavated material; disposal of unsuitable or surplus material; formwork; and furnishing and placing the Class SI Concrete and reinforcement bars, shall be included in the pay item used for foundations.

The measurement of the tubular steel shall be computed on the basis of the weight per foot of the support, multiplied by the combined length of the main posts and stub posts.

BAT-A-1 6-1-12

(Sheet 1 of 2)

TYLININTERNATIONAL	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BREAK-AWAY TUBULAR STEEL SIGN POSTS AND FOUNDATIONS	F.A.I. RTE. 57	SECTION 99-1HB-RI	COUNTY WILL	TOTAL SHEETS 679	SHEET NO. 302
	PLOT SCALE =	DRAWN -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	CONTRACT NO. 60L69				
	PLOT DATE =	CHECKED -	REVISED -			ILLINOIS FED. AID PROJECT				
		DATE - 05/10/2013	REVISED -							

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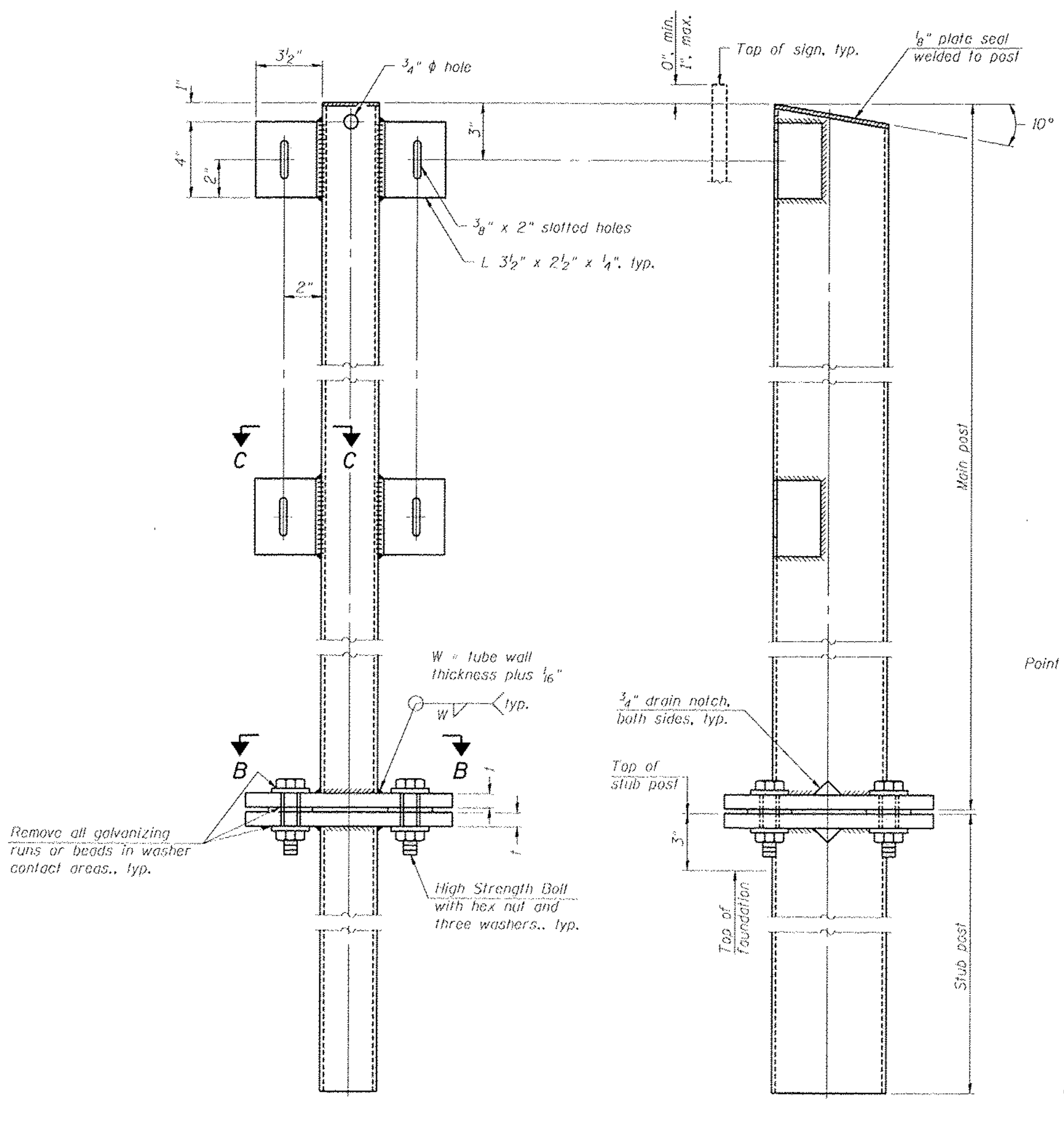
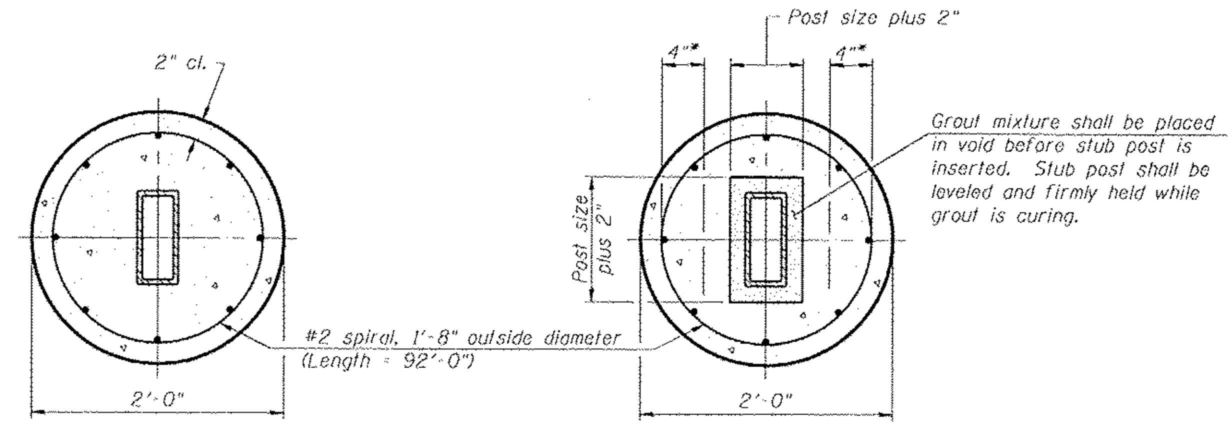


FRONT ELEVATION

SIDE ELEVATION

MAIN POST & STUB POST

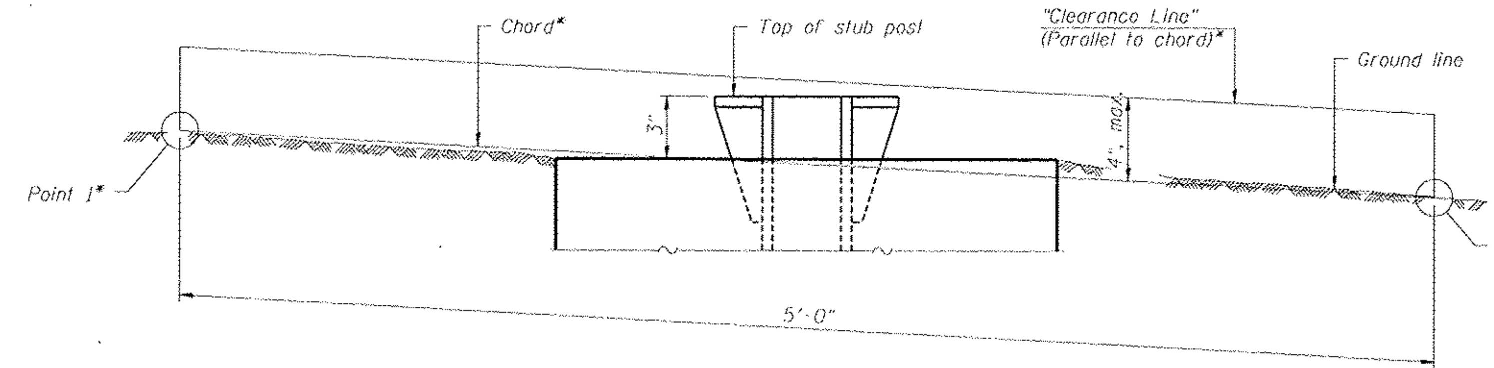


SECTION A-A (CAST-IN-PLACE)

OR

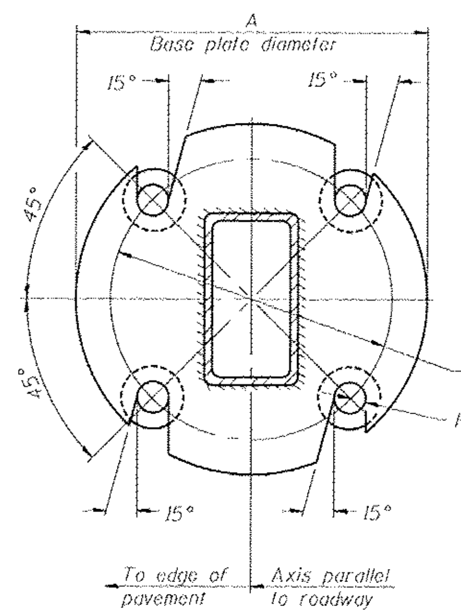
SECTION A-A (PRECAST)

* Hot dip galvanized lifting loops or inserts may be placed in precast foundation inside the spiral reinforcement but not within 6" of the long axis of the post. Inserts must be adequate for safely lifting a total of 3,000 pounds and must not interfere with installation of the stub post or proper functioning of the slip base.

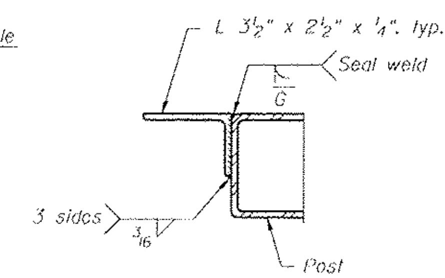


ELEVATION
GROUND LINE & STUB POST

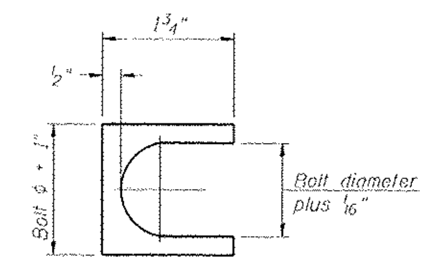
* For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.



SECTION B-B



SECTION C-C
Weld continuously around corners.



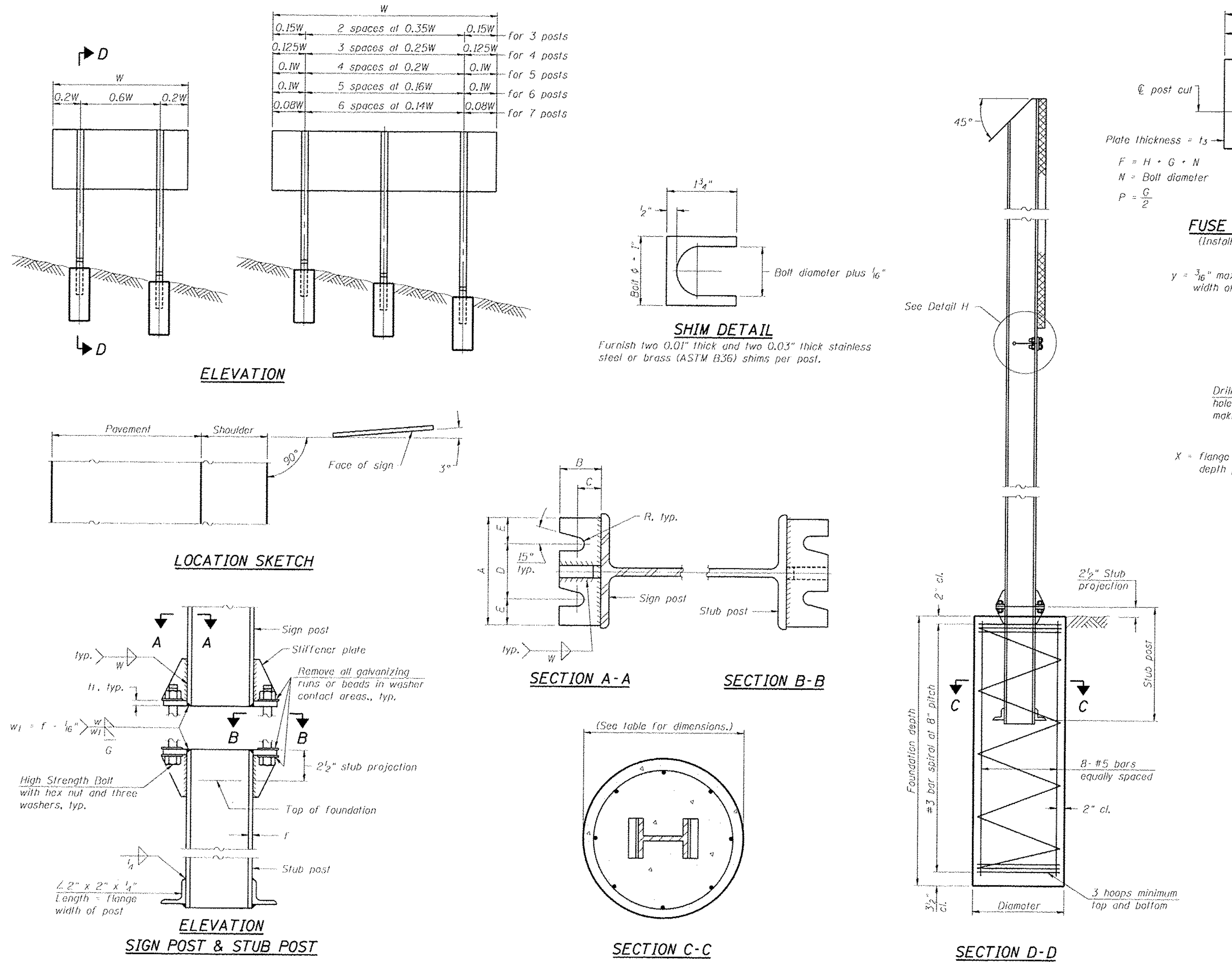
SHIM DETAIL
Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.

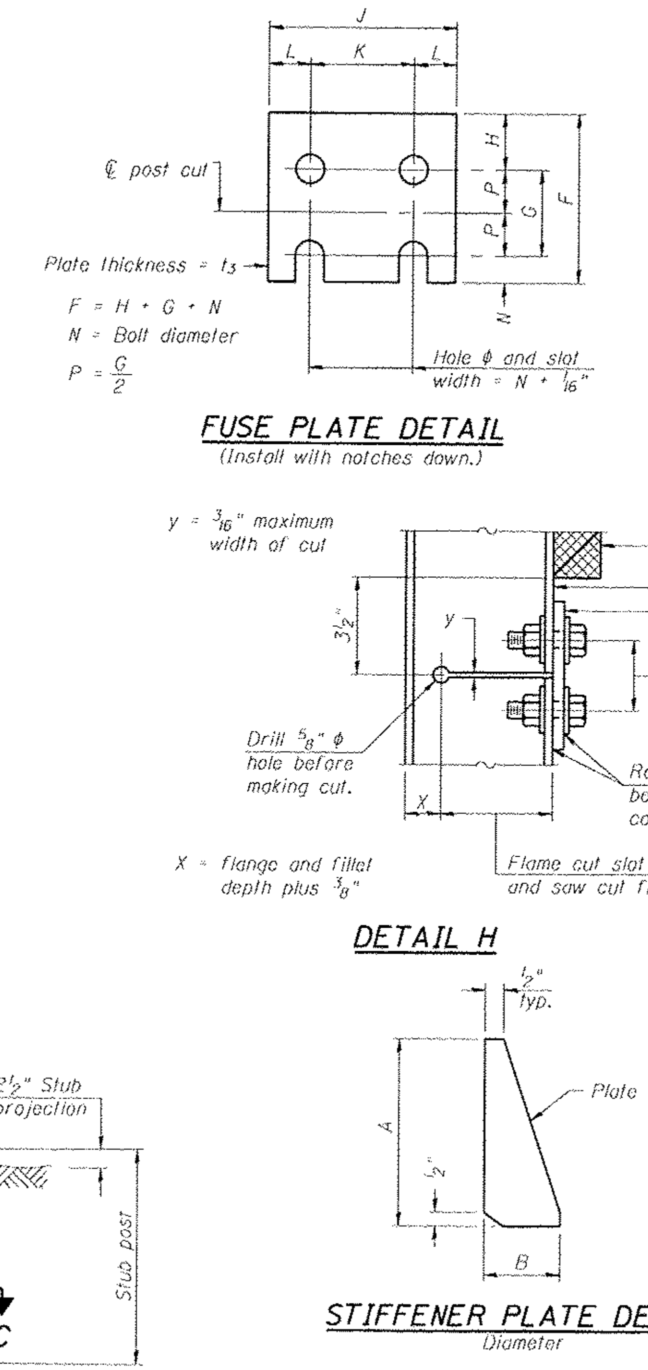
BAT-A-2 6-1-12

(Sheet 2 of 2)

TYLIN INTERNATIONAL	USER NAME = / PLOT SCALE = / PLOT DATE =	DESIGNED - / DRAWN - / CHECKED - / DATE - 05/10/2013	REVISED - / REVISED - / REVISED - / REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BREAK-AWAY TUBULAR STEEL SIGN POSTS AND DETAILS / SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-RI	WILL	679	303
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			





FUSE PLATE DATA		
N = Bolt Diameter	G	H
1/2"	2"	1 1/8"
5/8"	2 1/4"	1 1/4"
3/4"	2 1/2"	1 3/8"
7/8"	2 3/4"	1 1/2"
1"	3"	1 5/8"
1 1/8"	3 1/4"	1 3/4"
1 1/4"	3 1/2"	1 7/8"

Diameter

GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:
Structural steel - 20,000 p.s.i.
Reinforcing steel - 20,000 p.s.i.
Concrete - 1,400 p.s.i.
Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.

BAW-A-1 6-1-12

(Sheet 1 of 2)

TYLIN INTERNATIONAL

USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	DRAWN -	REVISED -
PLOT DATE =	CHECKED -	REVISED -
	DATE 05/10/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BREAK-AWAY WIDE FLANGE STEEL SIGN POST DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	304
		CONTRACT NO. 60L69		

ILLINOIS FED. AID PROJECT

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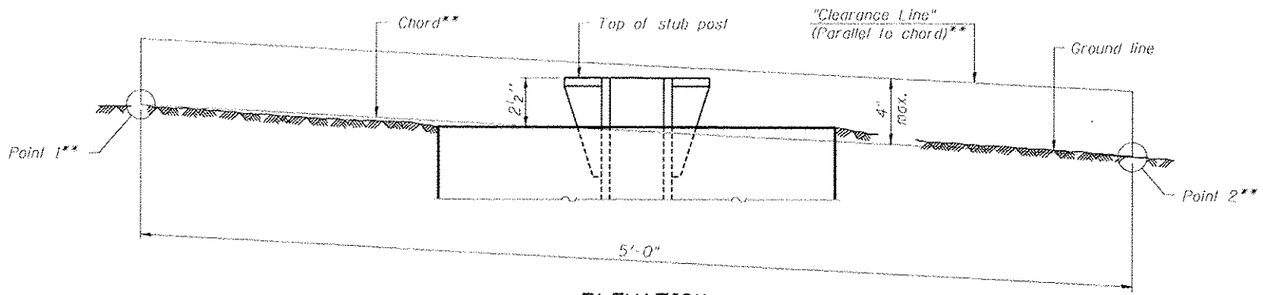
POST	CONCRETE FOUNDATION TABLE								POST TO STUB POST CONNECTION DATA										FUSE PLATE DATA			
	Foundation			Reinforcement				Stub Post														
	Diameter	* Minimum Depth	Concrete (1) cu. yds.)	Vertical Bars Length	Bar Spirals Diameter	Bar Spirals Length	lbs. (2)	Length	Bolt Size	A	B	C	D	E	t_1	t_2	R	W	J	K	L	t_3
W6x9	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-3"	⅝" x 3¼"	6"	2¼"	1¼"	3½"	1¼"	¾"	½"	11/32"	¼"	4"	2¼"	⅞"	1¼"
W6x15	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-6"	⅝" x 3¼"	6"	2¼"	1¼"	3½"	1¼"	¾"	½"	11/32"	¼"	6"	3½"	1¼"	⅜"
W8x18	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-6"	¾" x 3¾"	6"	2½"	1⅜"	3¼"	1⅜"	1"	½"	13/32"	5/16"	5¼"	2¾"	1¼"	⅜"
W10x22	2'-6"	6'-6"	1.18	6'-3"	2'-2½"	105'-0"	92	3'-0"	¾" x 3¾"	6"	2½"	1⅜"	3¼"	1⅜"	1"	½"	13/32"	5/16"	5¾"	2¾"	1½"	½"
W10x26	2'-6"	7'-0"	1.27	6'-9"	2'-2½"	112'-0"	98	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	15/32"	⅜"	5¾"	2¾"	1½"	⅝"
W12x26	2'-6"	7'-9"	1.41	7'-6"	2'-2½"	119'-0"	107	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	15/32"	⅜"	6½"	3½"	1½"	⅝"
W14x30	3'-0"	7'-3"	1.90	7'-0"	2'-8½"	145'-0"	113	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	15/32"	⅜"	6¾"	3½"	1⅝"	½"
W14x38	3'-0"	8'-0"	2.09	7'-9"	2'-8½"	153'-0"	122	3'-6"	1" x 4½"	7½"	3"	1¾"	4"	1¾"	1¼"	¾"	11/32"	⅜"	6¾"	3½"	1⅝"	½"
W16x45	3'-0"	8'-6"	2.23	8'-3"	2'-8½"	162'-0"	130	3'-6"	1" x 4½"	7½"	3"	1¾"	4"	1¾"	1¼"	¾"	11/32"	⅜"	7"	3½"	1¾"	½"

*Dimensional changes required for varying site conditions shall be approved by the Engineer.

POST	FUSE PLATE BOLT SIZE (Sign Height)																				
	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"
W6x9	½" x 1½"	½" x 1½"	½" x 1½"	½" x 1½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W6x15	½" x 1¾"	½" x 1¾"	½" x 1¾"	⅝" x 2"	⅝" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	—	—	—	—	—	—	—	—	—	—	—	—
W8x18	½" x 1¾"	½" x 1¾"	½" x 1¾"	½" x 1¾"	⅝" x 2"	⅝" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	—	—	—	—	—	—	—	—	—	—	—
W10x22	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	⅝" x 2"	⅝" x 2"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	—	—	—	—	—	—	—	—
W10x26	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	⅝" x 2¼"	⅝" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	—	—	—	—	—	—	—
W12x26	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	⅝" x 2¼"	⅝" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	—	—	—	—	—	—
W14x30	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	⅝" x 2"	⅝" x 2"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	—	—	—	—
W14x38	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	⅝" x 2¼"	⅝" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	⅞" x 2½"	⅞" x 2½"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"
W16x45	—	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	⅝" x 2¼"	⅝" x 2¼"	⅝" x 2¼"	¾" x 2½"	¾" x 2½"	⅞" x 2½"	⅞" x 2½"	⅞" x 2½"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"



ELEVATION
GROUND LINE & STUB POST

** For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

(1) Quantity includes all concrete necessary for one foundation.

(2) Includes reinforcement bars and spiral hooping for one foundation.

BAW-A-2 6-1-12

(Sheet 2 of 2)

TYLIN INTERNATIONAL	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BREAK-AWAY WIDE FLANGE STEEL SIGN POST TABLES
	PLOT SCALE =	DRAWN -	REVISED -		
	PLOT DATE =	CHECKED -	REVISED -		
		DATE 05/10/2013	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IHB-R1	WILL	679	305
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

P:\60260120 57 & Stateline\Road\C_3(Interchange)\C3_Stateline_SGNWP02.dgn

LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.

2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.

3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.

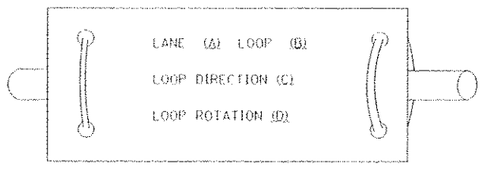
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.

6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.

7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

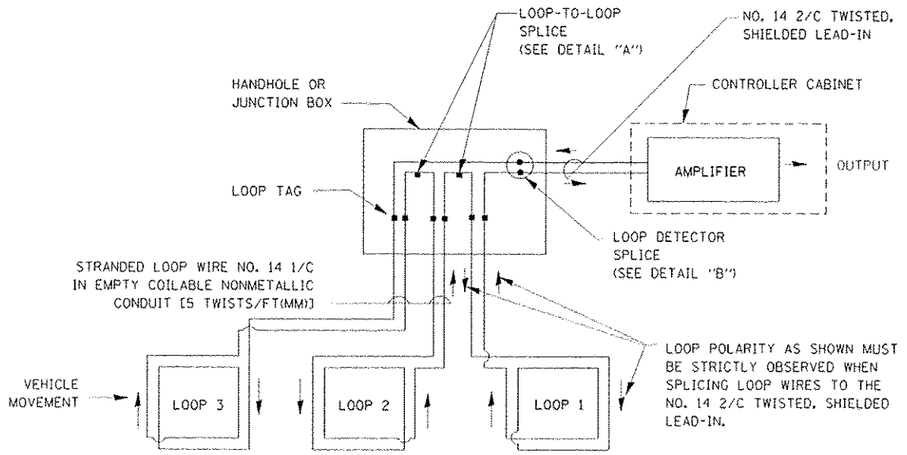


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.

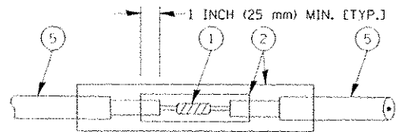
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

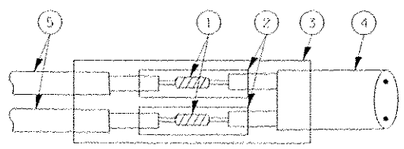


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm), IF IN CONCRETE. THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

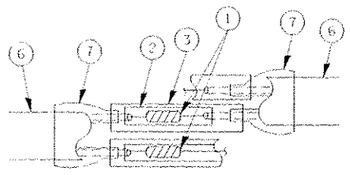


DETAIL "A"
LOOP-TO-LOOP SPLICE



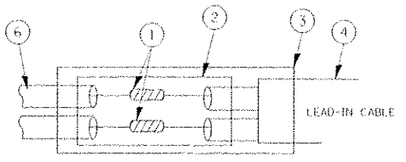
DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE

PRE-FORMED LOOP



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

(1) WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.

(2) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm). UNDERWATER GRADE.

(3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 6" (150 mm). UNDERWATER GRADE.

(4) NO. 14 2/C TWISTED, SHIELDED CABLE.

(5) LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

(6) PRE-FORMED LOOP

(7) XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

FILE NAME	USER NAME	DESIGNED - DAD	REVISED -
		DRAWN - BCK	REVISED -
		CHECKED - DAD	REVISED -
		DATE 10/26/09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

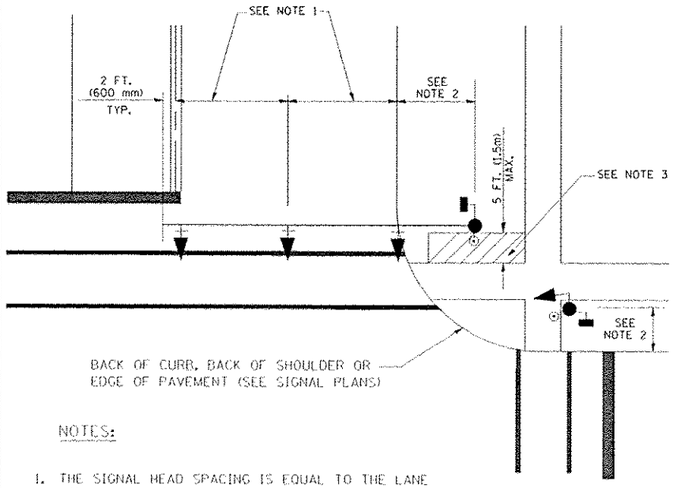
SCALE: | SHEET NO. 1 OF 6 SHEETS | STA. | TO STA.

C.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	306
		CONTRACT NO. 60L69		

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT

TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

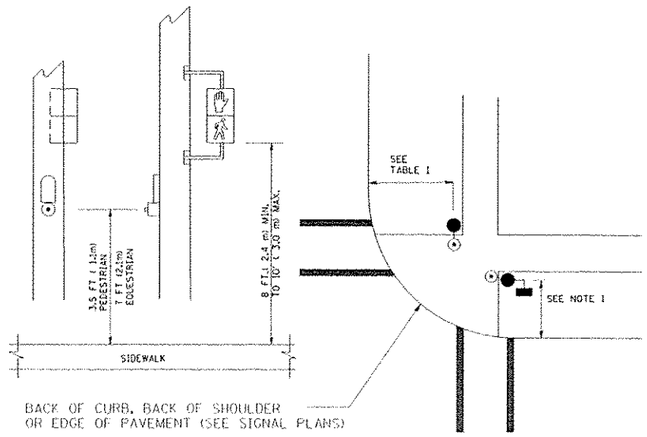
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



NOTES:

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

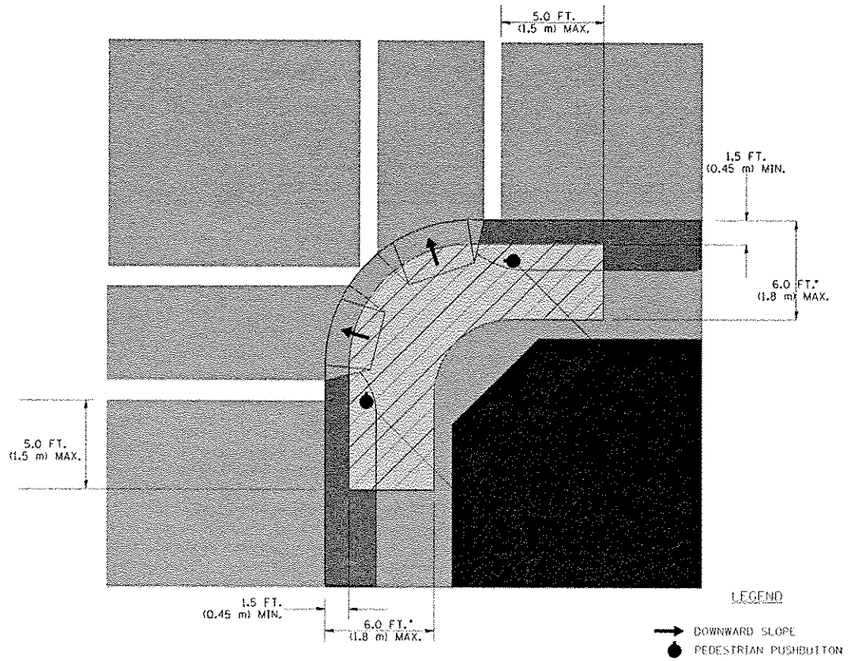
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



NOTES:

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

RECOMMENDED PUSHBUTTON LOCATIONS



* WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.

** WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

NOTES:

1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

TRAFFIC SIGNAL EQUIPMENT OFFSET

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

NOTES:

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

FILE NAME	USER NAME	DESIGNED - DAG	REVISED
		DRAWN - BCK	REVISED
		CHECKED - DAD	REVISED
		DATE - 10/28/09	REVISED

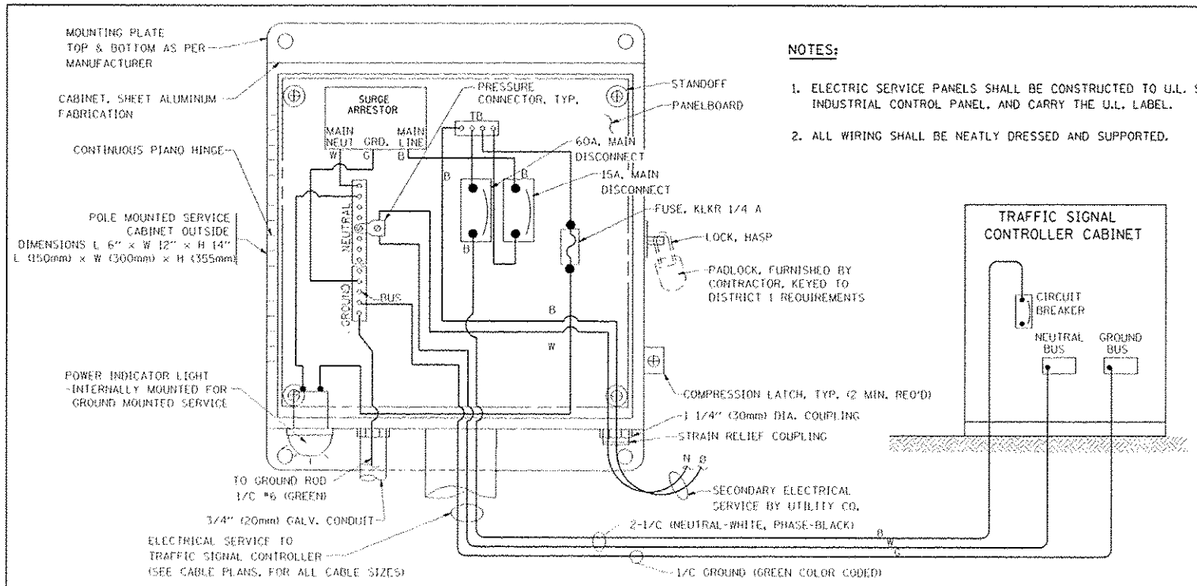
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: | SHEET NO. 2 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	307
		CONTRACT NO. 60L69		

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT



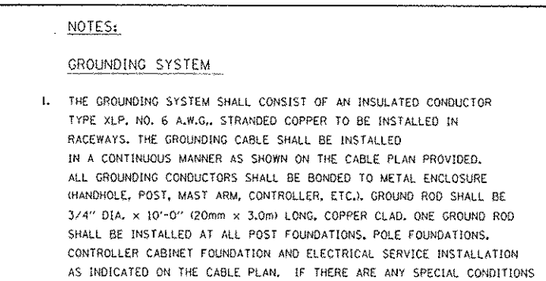
NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)



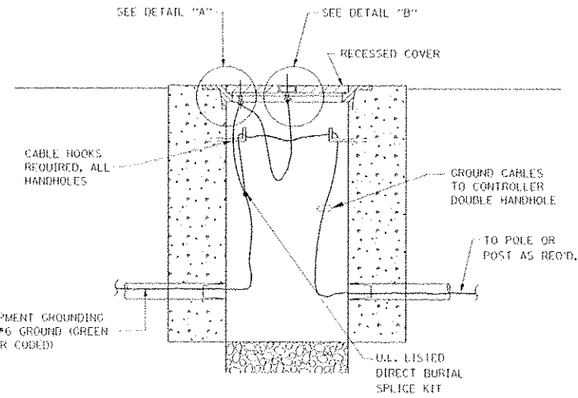
DETAIL "A"

DETAIL "B"

NOTES:

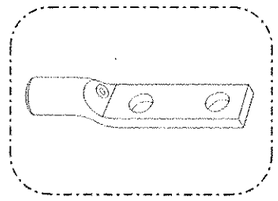
GROUNDING SYSTEM

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

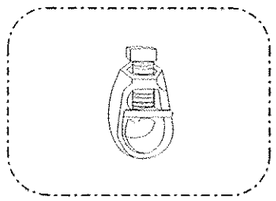


HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



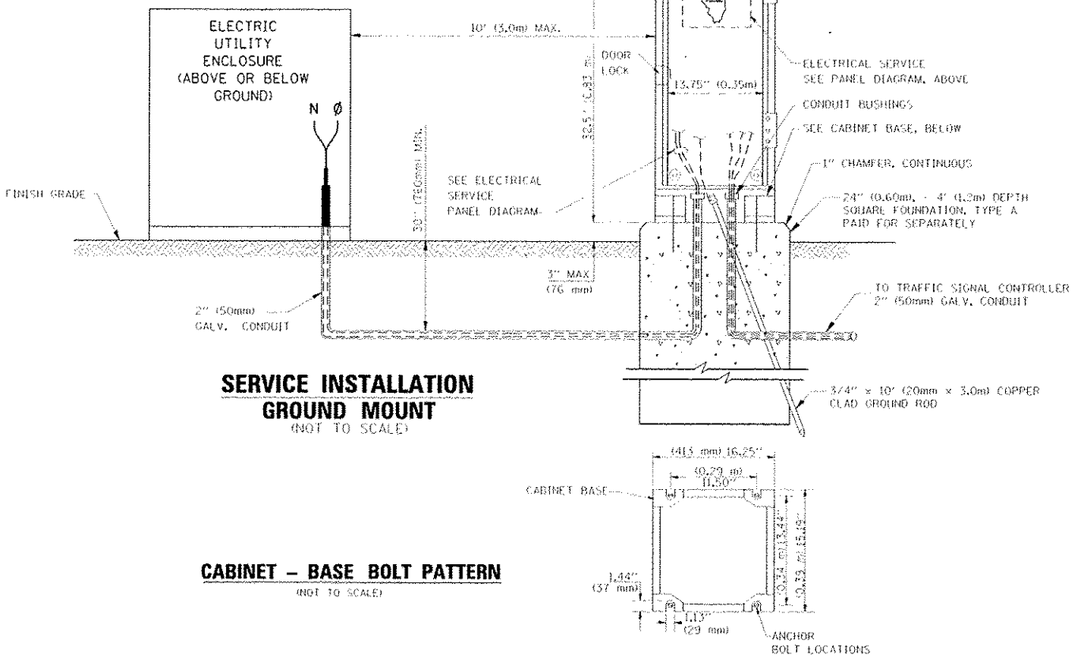
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YCHA OR APPROVED EQUAL)



¾" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EQUAL)

NOTES:

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.

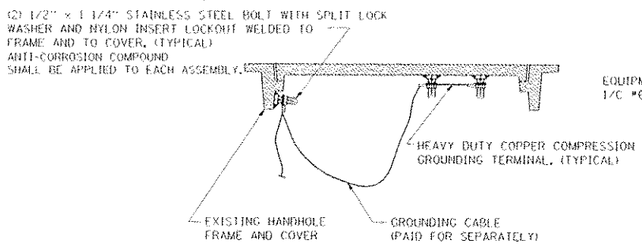


SERVICE INSTALLATION GROUND MOUNT

(NOT TO SCALE)

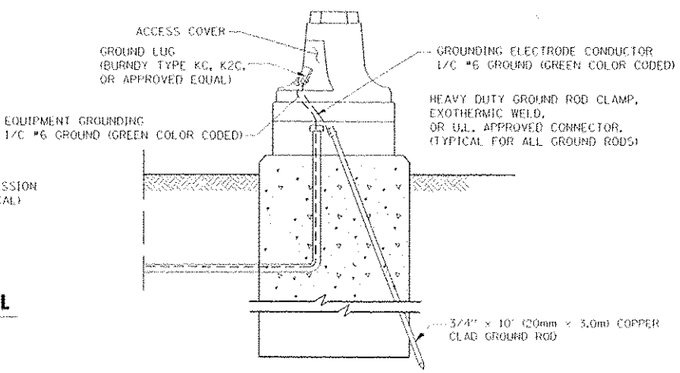
CABINET – BASE BOLT PATTERN

(NOT TO SCALE)



EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

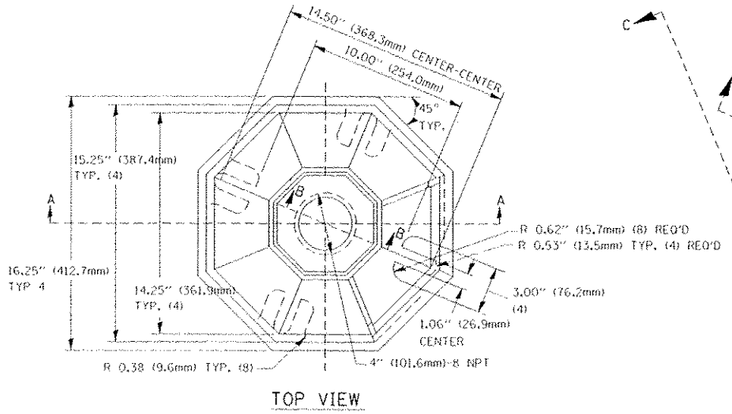
(NOT TO SCALE)



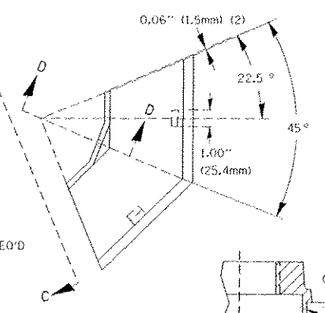
MAST ARM POLE / POST–GROUNDING DETAIL

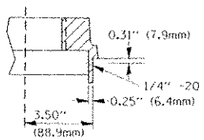
(NOT TO SCALE)

FILE NAME:	USER NAME:	DESIGNED DAD	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS	F.A.I. RTE. 57	SECTION 99-1HB-R	COUNTY WILL	TOTAL SHEETS 679	SHEET NO. 308
		DRAWN BCK	REVISED					CONTRACT NO. 60L69		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED DAD	REVISED		SCALE: SHEET NO. 5 OF 6 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
	PLOT DATE = 10/29/09	DATE 10/29/09	REVISED							

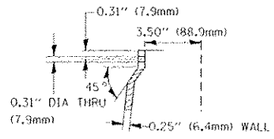


TOP VIEW

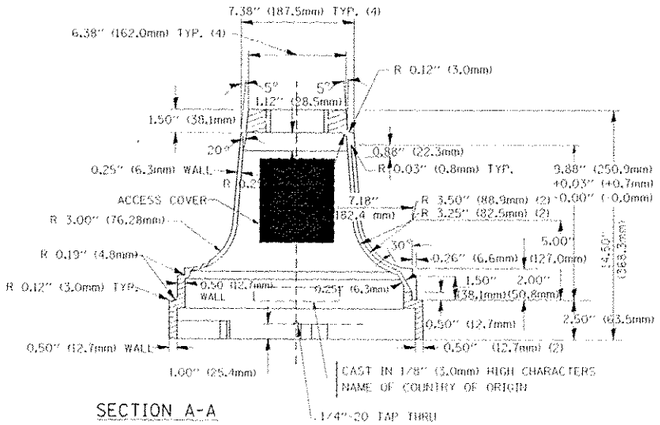




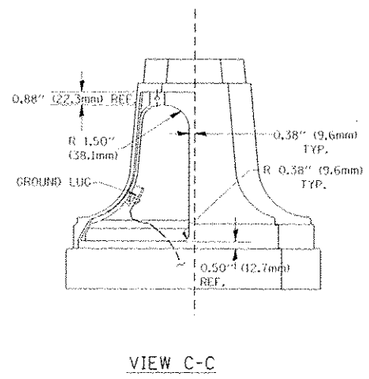
SECTION B-B



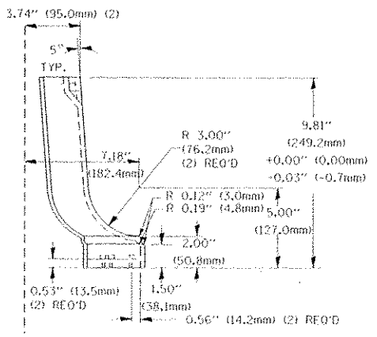
SECTION D-D



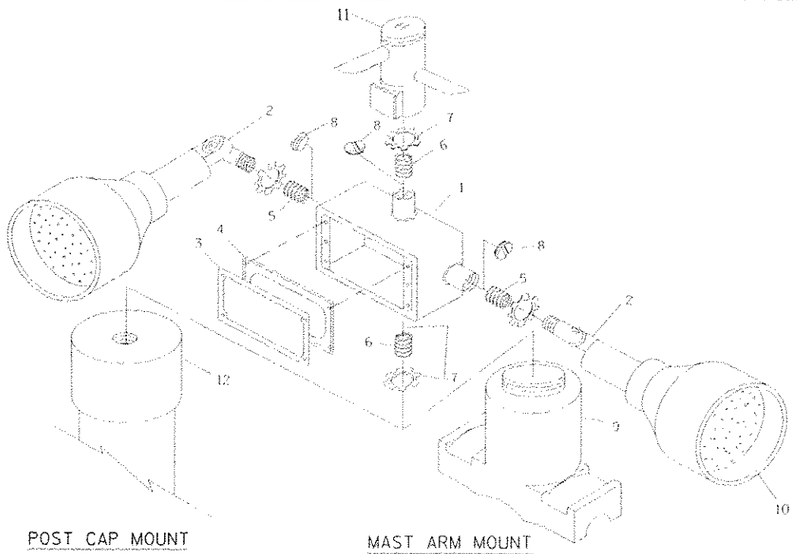
SECTION A-A



VIEW C-C



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



POST CAP MOUNT

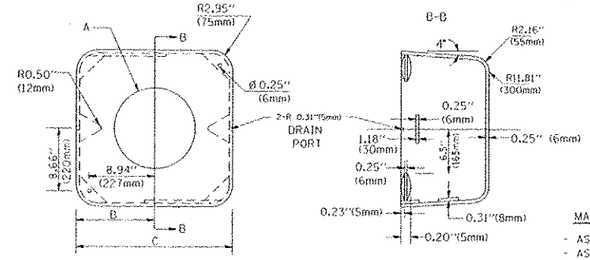
MAST ARM MOUNT

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	¾"(19 mm) CLOSE NIPPLE
7	¾"(19 mm) LOCKNIT
8	¾"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP (18 FT. (5.4 m) POST MIN.)

NOTES:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS "2 AND "11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM "1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
   ITEM "2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
   ITEM "9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM "9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A ¾"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



MATERIAL:
- ASTM A36 STEEL
- ASTM A-123 HOT DIPPED GALVANIZED

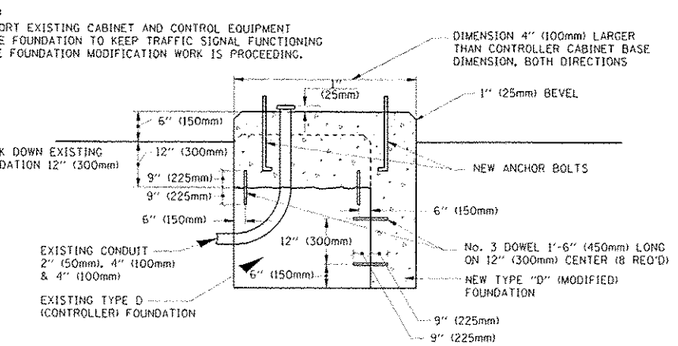
A	B	C	HEIGHT	WEIGHT
VARIES	9.5"(241mm)	19"(483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIES	10.75"(273mm)	21.5"(546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIES	13.0"(330mm)	26"(660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIES	18.5"(470mm)	37"(940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

SHROUD

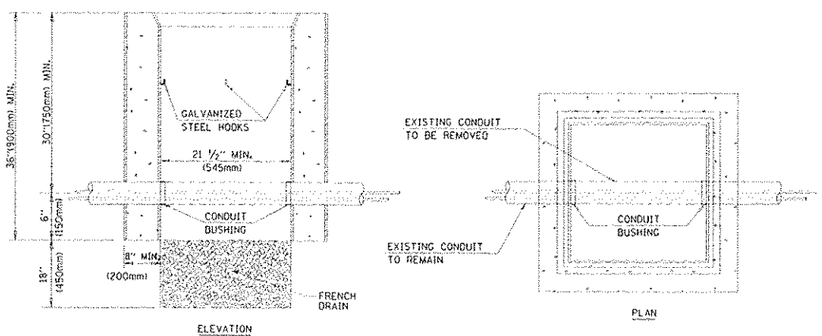
NOTES:

1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFIED THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

NOTE:
SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION



NOTES:

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

HANDHOLE TO INTERCEPT EXISTING CONDUIT

FILE NAME	USER NAME	DESIGNED - DAG	REVISED
		DRAWN - BCK	REVISED
		CHECKED - DAD	REVISED
		DATE - 10/26/04	REVISED

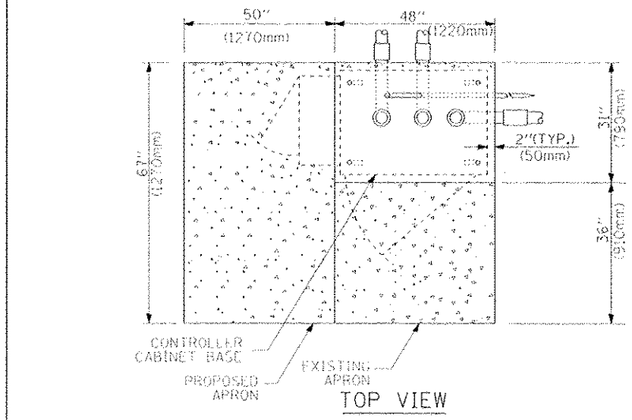
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

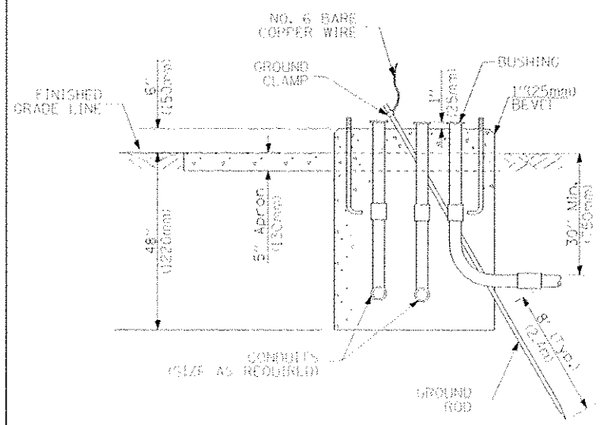
SCALE: | SHEET NO. 1 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	309
		CONTRACT NO. 60L69		

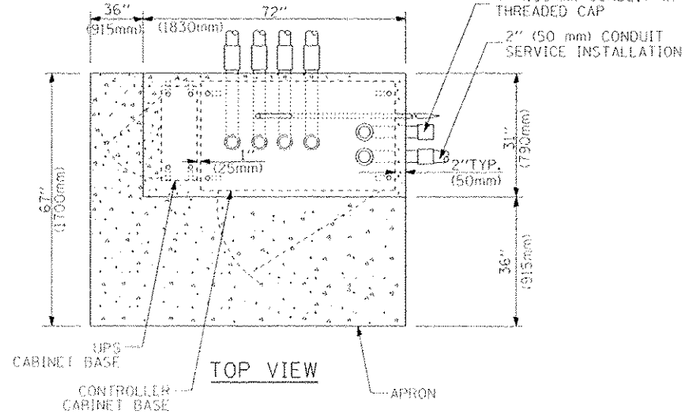
FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT



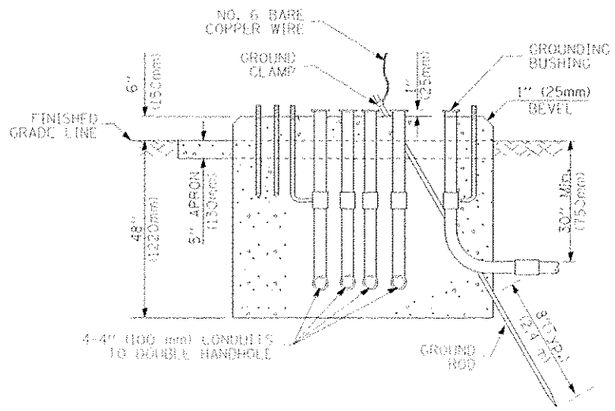
TOP VIEW



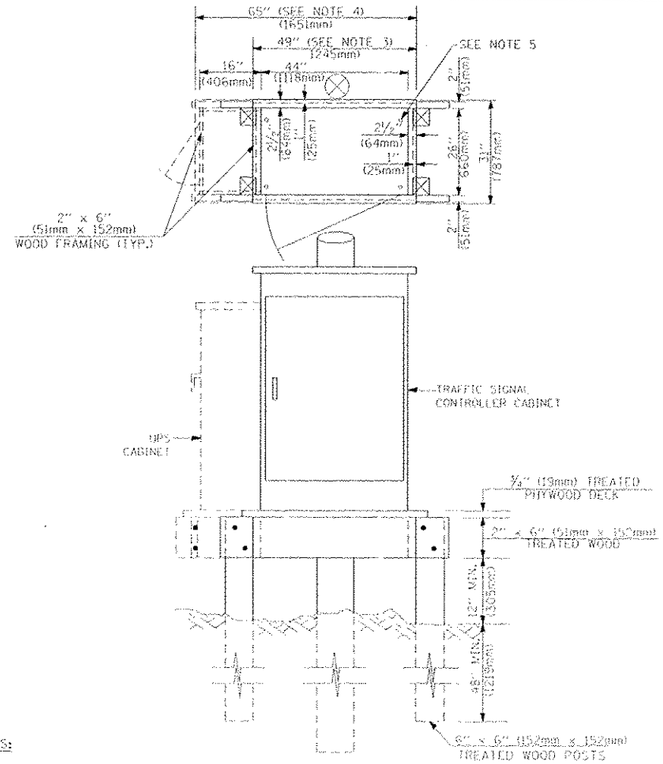
TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET



TOP VIEW



TYPE C
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET



NOTES:

1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

TEMPORARY SIGNAL CONTROLLER
WOOD SUPPORT PLATFORM

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

CABLE SLACK

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

VERTICAL CABLE LENGTH

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

DEPTH OF FOUNDATION

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(#19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(#19)
	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(#22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(#22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(#22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(#25)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(#25)

NOTES:

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Q_u) ≥ 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
4. For mast arm assemblies with dual arms refer to state standard 878001.

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

FILE NAME:	USER NAME =	DESIGNED - DAG	REVISED
		DRAWN - BCK	REVISED
		CHECKED - DAD	REVISED
		DATE 10/28/09	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: | SHEET NO. 5 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	310
		CONTRACT NO. 60L69		

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT

TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET	R		
RAILROAD CONTROL CABINET		R-R	R-R
COMMUNICATIONS CABINET	R	CC	CC
MASTER CONTROLLER		EMC	MC
MASTER MASTER CONTROLLER		EMMC	MMC
UNINTERRUPTIBLE POWER SUPPLY	R UPS	EUPS	UPS
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	R	P	P
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT	R T	P T	P T
STEEL MAST ARM ASSEMBLY AND POLE	R		
ALUMINUM MAST ARM ASSEMBLY AND POLE	R		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE	R		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA	R PTZ	PTZ	PTZ
SIGNAL POST	R		
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM	R		
GUY WIRE	R		
SIGNAL HEAD	R		
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)			2
SIGNAL HEAD WITH BACKPLATE	R		
SIGNAL HEAD OPTICALLY PROGRAMMED	R		"P"
FLASHER INSTALLATION (S DENOTES SOLAR POWER)	R	S	F
PEDESTRIAN SIGNAL HEAD	R		
PEDESTRIAN PUSHBUTTON DETECTOR	R		
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR	R APS	APS	APS
ILLUMINATED SIGN "NO LEFT TURN"	R		
ILLUMINATED SIGN "NO RIGHT TURN"	R		
DETECTOR LOOP, TYPE I			
PREFORMED DETECTOR LOOP		P	P
MICROWAVE VEHICLE SENSOR	R M	M	M
VIDEO DETECTION CAMERA	R V	V	V
VIDEO DETECTION ZONE			
PAN, TILT, ZOOM CAMERA	R PTZ	PTZ	PTZ
WIRELESS DETECTOR SENSOR	R W	W	W
WIRELESS ACCESS POINT	R		

ITEM	REMOVAL	EXISTING	PROPOSED
EMERGENCY VEHICLE LIGHT DETECTOR	R		
CONFIRMATION BEACON	R		
HANDHOLE	R		
HEAVY DUTY HANDHOLE	R		
DOUBLE HANDHOLE	R		
JUNCTION BOX	R		
GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)			
TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE	R		
COMMON TRENCH			CT
COILABLE NONMETALLIC CONDUIT (EMPTY)			CNC
SYSTEM ITEM		S	S
INTERSECTION ITEM		I	IP
REMOVE ITEM	R		
RELOCATE ITEM	RL		
ABANDON ITEM	A		
12" (300mm) TRAFFIC SIGNAL SECTION		R	R
12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE		R Y G	
SIGNAL FACE		R Y G ◄Y ◄G	R Y G ◄Y ◄G
SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD		R Y G ◄Y ◄G "P"	R Y G ◄Y ◄G "P"
12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL		DW W	
12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED		W	
12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID			
PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER		C D	C D
RADIO INTERCONNECT	R		
RADIO REPEATER	R ERR	ERR	RR
DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED		5	5
GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)		1	1

ITEM	REMOVAL	EXISTING	PROPOSED
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE		1	1
COAXIAL CABLE		C	C
VENDOR CABLE FOR CAMERA		V	V
COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED		6	6
FIBER OPTIC CABLE NO. 62.5/125, MM12F		12F	
FIBER OPTIC CABLE NO. 62.5/125, MM12F SMI2F		24F	24F
FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE		G	G
CONTROLLER CABINET AND FOUNDATION TO BE REMOVED	RCF		
STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED	RMF		
ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED	RMF		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED	RMF		
SIGNAL POST AND FOUNDATION TO BE REMOVED	RMF		
INTERSECTION & SAMPLING (SYSTEM) DETECTOR		IS	IS
SAMPLING (SYSTEM) DETECTOR		S	S
EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR		P	
EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR		PP	
PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR		PIS	PIS
PREFORMED SAMPLING (SYSTEM) DETECTOR		PS	PS

RAILROAD SYMBOLS

	EXISTING	PROPOSED
RAILROAD CONTROL CABINET	R-R	R-R
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

FILE NAME:	USER NAME =	DESIGNED - DAG/BCK	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS
	PLOT SCALE =	DRAWN - BCK	REVISED		SCALE: NONE | SHEET NO. 6 OF 6 SHEETS | STA. | TO STA.
	PLOT DATE =	CHECKED - DAD	REVISED		
		DATE - 10/28/09	REVISED		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	311
		CONTRACT NO. 60L69		
FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT				

TRAFFIC SIGNAL – BILL OF MATERIALS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	WEST RAMP INTERSECTION	EAST RAMP INTERSECTION	INTER-CONNECT	EMERGENCY VEHICLE PREEMPTION
72000100	SIGN PANEL - TYPE 1	SQ FT	50	32.5	17.5	-	-
72000200	SIGN PANEL - TYPE 2	SQ FT	37.5	18.75	18.75	-	-
80500020	SERVICE INSTALLATION - POLE MOUNTED	EACH	2	1	1	-	-
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	2745	954	833	958	-
81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	186	46	140	-	-
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	352	139	213	-	-
81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	863	461	402	-	-
81200230	CONDUIT EMBEDDED IN STRUCTURE, 2" DIA., PVC	FOOT	50	-	-	50	-
81304600	JUNCTION BOX EMBEDDED IN STRUCTURE 18" X 12" X 6"	EACH	2	-	-	2	-
81400100	HANDHOLE	EACH	14	5	7	2	-
81400200	HEAVY-DUTY HANDHOLE	EACH	3	2	1	-	-
81400300	DOUBLE HANDHOLE	EACH	3	2	1	-	-
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1	1	-	-	-
85700300	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1	-	1	-	-
86000100	MASTER CONTROLLER	EACH	1	-	-	1	-
86400100	TRANSCEIVER - FIBER OPTIC	EACH	2	1	1	-	-
87300925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	1878	-	-	1878	-
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	977	713	264	-	-
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2394	740	278	-	1376
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	5207	2522	2685	-	-
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	320	320	-	-	-
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	5127	3097	2030	-	-
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	185	118	67	-	-
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1792	842	950	-	-

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26-DEC-2013 14:56

SINGH
SINGH + ASSOCIATES, INC.
CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - MG	REVISED ⚠1 - ADDENDUM 1 1/03/14
	DRAWN - MG	REVISED -
PLOT SCALE = 40.0000000:1.000000	CHECKED - KDP/VO	REVISED -
PLOT DATE = 26-DEC-2013 14:56	DATE - 05/09/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES
STUENKEL ROAD
FROM I-57 WEST RAMP TO I-57 EAST RAMP

SCALE: AS NOTED | SHEET NO. 7 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IMB-R	WILL	679	312
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

⚠1 ENTIRE SHEET REVISED

TRAFFIC SIGNAL – BILL OF MATERIALS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	WEST RAMP INTERSECTION	EAST RAMP INTERSECTION	INTER-CONNECT	EMERGENCY VEHICLE PREEMPTION
87502460	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	5	2	3	-	-
87700140	STEEL MAST ARM ASSEMBLY AND POLE, 20 FT.	EACH	2	1	1	-	-
87700180	STEEL MAST ARM ASSEMBLY AND POLE 28 FT.	EACH	1	1	-	-	-
87700190	STEEL MAST ARM ASSEMBLY AND POLE 30 FT.	EACH	2	1	1	-	-
87702880	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 30 FT.	EACH	1	-	1	-	-
87702900	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 34 FT.	EACH	1	-	1	-	-
87702920	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 38 FT.	EACH	1	1	-	-	-
87702970	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 48 FT.	EACH	1	1	-	-	-
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	20	8	12	-	-
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	8	4	4	-	-
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	30	20	10	-	-
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	68	35	33	-	-
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	17	9	8	-	-
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	6	2	4	-	-
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2	2	-	-	-
88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1	1	-	-	-
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	19	11	8	-	-
88500100	INDUCTIVE LOOP DETECTOR	EACH	16	9	7	-	-
88600700	PREFORMED DETECTOR LOOP	FOOT	808	458	350	-	-
88700200	LIGHT DETECTOR	EACH	5	-	-	-	5
88700300	LIGHT DETECTOR AMPLIFIER	EACH	2	-	-	-	2
X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	1303			-	1303
X8620200	UNINTERRUPTABLE POWER SUPPLY,SPECIAL	EACH	2	1	1	-	-
X8710024	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F	FOOT	1904	-	-	1904	-
Z0033056	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1	-	-	1	-

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26-DEC-2013 14:57

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - MG	REVISED ⚠1 - ADDENDUM 1 1/03/14	
	DRAWN - MG	REVISED -	
PLOT SCALE = 40.0000000/1.000000	CHECKED - KGP/VO	REVISED -	
PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -	

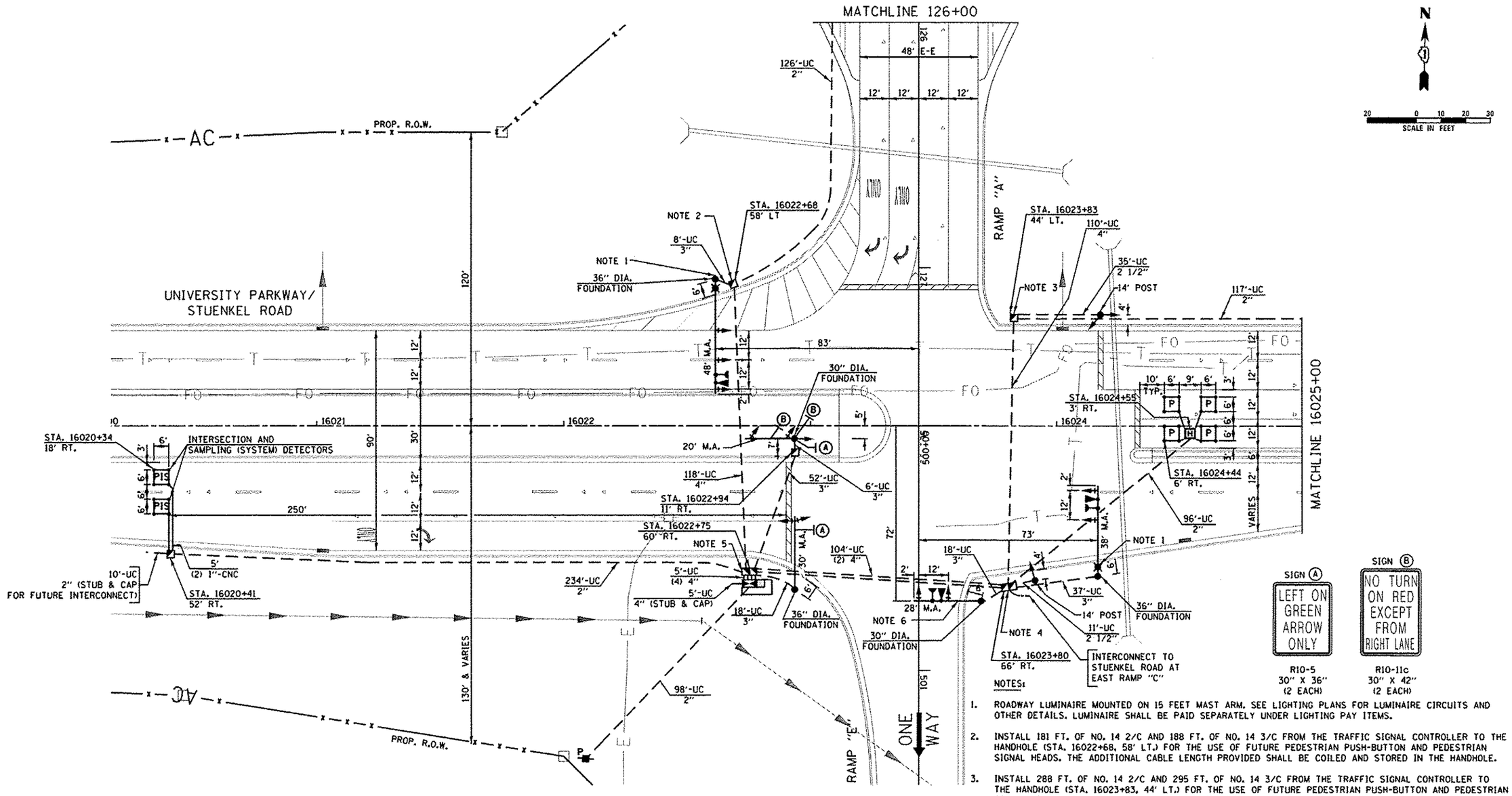
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES
STUENKEL ROAD
FROM I-57 WEST RAMP TO I-57 EAST RAMP

SCALE: AS NOTED | SHEET NO. 8 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1H8-R	WILL	679	313
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

⚠1 ENTIRE SHEET REVISED



RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, ETC. , AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGED TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

NOTES:

1. ROADWAY LUMINAIRE MOUNTED ON 15 FEET MAST ARM. SEE LIGHTING PLANS FOR LUMINAIRE CIRCUITS AND OTHER DETAILS. LUMINAIRE SHALL BE PAID SEPARATELY UNDER LIGHTING PAY ITEMS.
2. INSTALL 181 FT. OF NO. 14 2/C AND 188 FT. OF NO. 14 3/C FROM THE TRAFFIC SIGNAL CONTROLLER TO THE HANDHOLE (STA. 16022+68, 58' LT.) FOR THE USE OF FUTURE PEDESTRIAN PUSH-BUTTON AND PEDESTRIAN SIGNAL HEADS. THE ADDITIONAL CABLE LENGTH PROVIDED SHALL BE COILED AND STORED IN THE HANDHOLE.
3. INSTALL 288 FT. OF NO. 14 2/C AND 295 FT. OF NO. 14 3/C FROM THE TRAFFIC SIGNAL CONTROLLER TO THE HANDHOLE (STA. 16023+83, 44' LT.) FOR THE USE OF FUTURE PEDESTRIAN PUSH-BUTTON AND PEDESTRIAN SIGNAL HEADS. THE ADDITIONAL CABLE LENGTH PROVIDED SHALL BE COILED AND STORED IN THE HANDHOLE.
4. INSTALL 177 FT. OF NO. 14 2/C AND 183 FT. OF NO. 14 3/C FROM THE TRAFFIC SIGNAL CONTROLLER TO THE DOUBLE HANDHOLE (STA. 16023+80, 66' RT.) FOR THE USE OF FUTURE PEDESTRIAN PUSH-BUTTON AND PEDESTRIAN SIGNAL HEADS. THE ADDITIONAL CABLE LENGTH PROVIDED SHALL BE COILED AND STORED IN THE DOUBLE HANDHOLE.
5. INSTALL 67 FT. OF NO. 14 2/C AND 74 FT. OF NO. 14 3/C FROM THE TRAFFIC SIGNAL CONTROLLER TO THE DOUBLE HANDHOLE (STA. 16022+75, 60' RT.) FOR THE USE OF FUTURE PEDESTRIAN PUSH-BUTTON AND PEDESTRIAN SIGNAL HEADS. THE ADDITIONAL CABLE LENGTH PROVIDED SHALL BE COILED AND STORED IN THE HANDHOLE.
6. SEE MAST ARM MOUNTED STREET NAME SIGNS ON SHEET 18 OF 18.

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26-DEC-2013 14:57

SINGH
SINGH + ASSOCIATES INC
CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - MG	REVISED ⚠ - ADDENDUM 1 1/03/14
	DRAWN - MG	REVISED -
PLOT SCALE = 40.000000:1.000000	CHECKED - KGP/VO	REVISED -
PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -

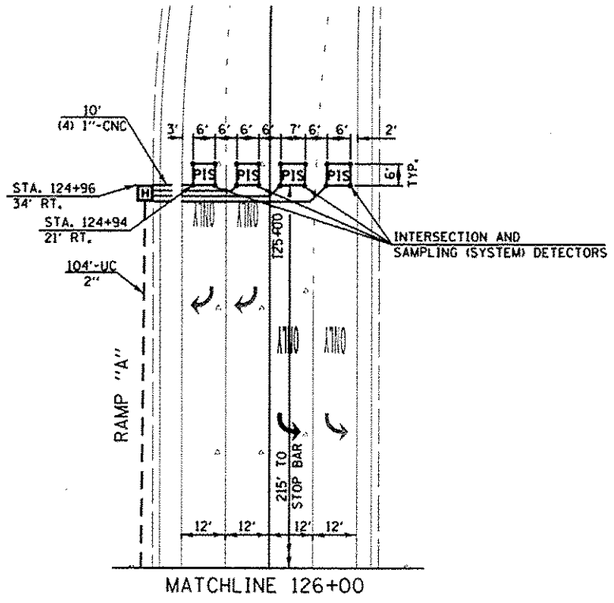
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

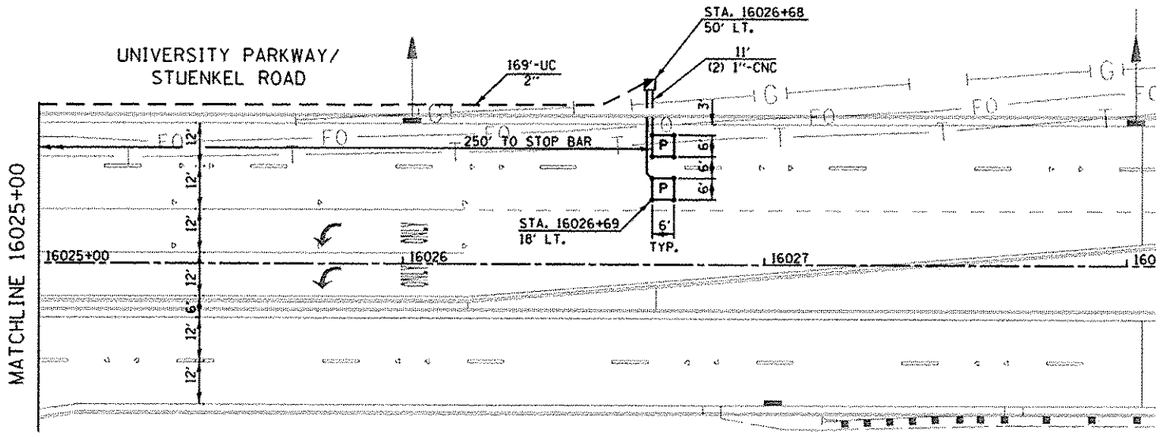
TRAFFIC SIGNAL INSTALLATION PLAN
STUENKEL ROAD AT I-57 RAMPS A AND E

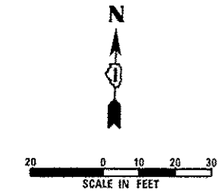
SCALE: AS NOTED | SHEET NO. 9 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	314
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

⚠ (ENTIRE SHEET REVISED)







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26-DEC-2013 14:57

SINGH
SINGH + ASSOCIATES, INC.
CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - MG	REVISED ⚠1 - ADDENDUM 1 1/03/14	
	DRAWN - MG	REVISED -	
PLOT SCALE = 48.000000in./in.	CHECKED - KGP/VO	REVISED -	
PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -	

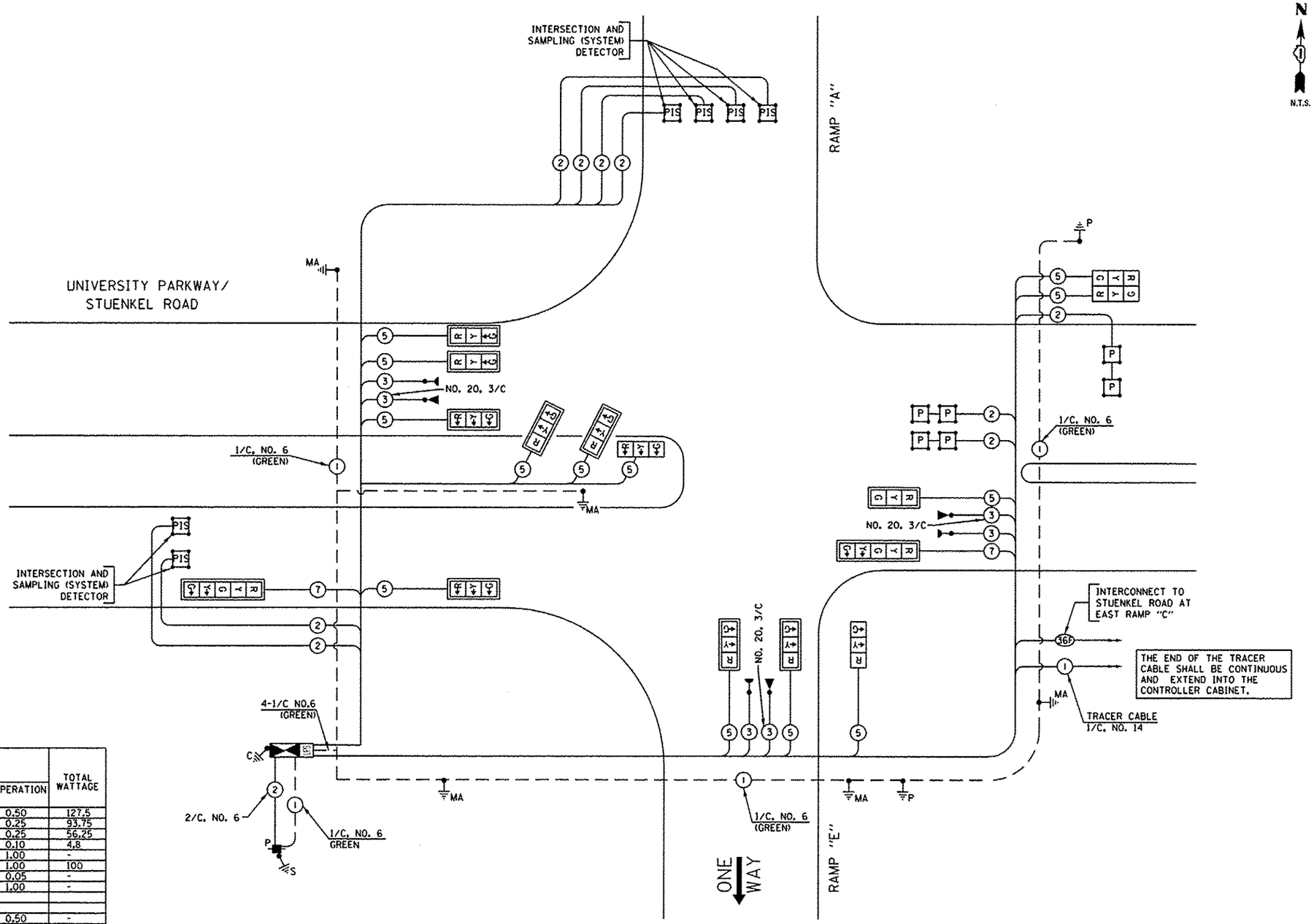
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION PLAN
STUENKEL ROAD AT I-57 RAMPS A AND E

SCALE: AS NOTED | SHEET NO. 10 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1H8-R	WILL	679	315
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

⚠1 (ENTIRE SHEET REVISED)



CABLE PLAN
(NOT TO SCALE)

I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	15		17	0.50	127.5
(YELLOW)	15		25	0.25	93.75
(GREEN)	15		15	0.25	56.25
ARROW	4		12	0.10	4.8
PED. SIGNAL	-		25	1.00	-
CONTROLLER	1		100	1.00	100
ILLUM. SIGN	-		25	0.05	-
VIDEO SYSTEM	-	150		1.00	-
FLASHER				0.50	-
ENERGY COSTS TO:				TOTAL =	382.3

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: VALERIE MURPHY
PHONE: (708) 235-2346
COMPANY: COMMONWEALTH EDISON

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26-DEC-2013 14:57

SINGH and ASSOCIATES INC. CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - MG	REVISED ⚠1 - ADDENDUM 1 1/03/14	
	DRAWN - MG	REVISED -	
PLOT SCALE = 40.000000 / 1.000000	CHECKED - KGP/VO	REVISED -	
PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CABLE PLAN
STUENKEL ROAD AT I-57 RAMPS A AND E

SCALE: AS NOTED | SHEET NO. 11 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IHB-R	WILL	679	316
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

⚠1 (ENTIRE SHEET REVISED)

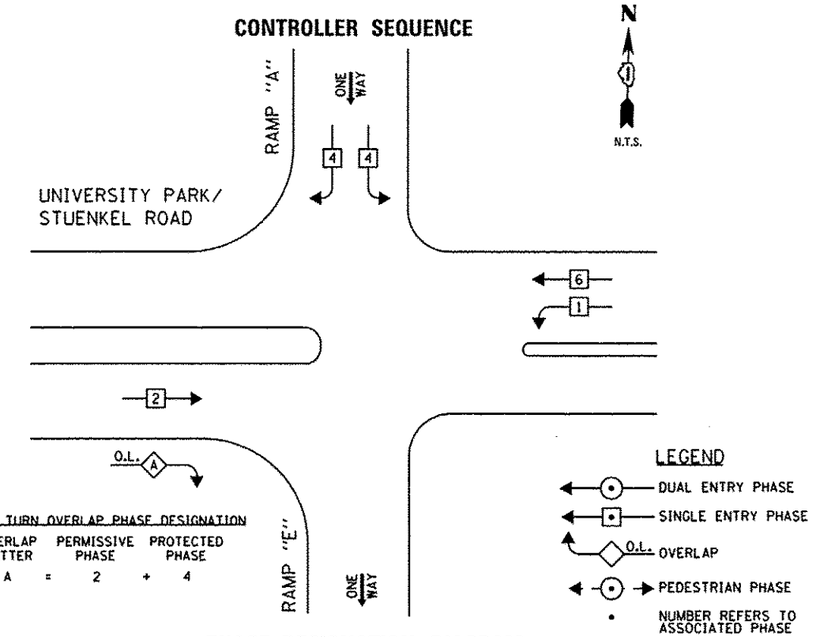
SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
32.5	SQ FT	SIGN PANEL - TYPE 1
18.75	SQ FT	SIGN PANEL - TYPE 2
1	EACH	SERVICE INSTALLATION - POLE MOUNTED
954	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
46	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2½" DIA.
139	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.
461	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.
5	EACH	HANDHOLE
2	EACH	HEAVY-DUTY HANDHOLE
2	EACH	DOUBLE HANDHOLE
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET
1	EACH	TRANSCEIVER-FIBER OPTIC
713	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
•• 1407	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
2522	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
320	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
3097	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
118	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
842	FOOT	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE 20 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE 28 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE 30 FT.
1	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 38 FT.
1	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 48 FT.
8	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
20	FOOT	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER
35	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
9	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3 SECTION, BRACKET MOUNTED
11	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
9	EACH	INDUCTIVE LOOP DETECTOR
458	FOOT	PREFORMED DETECTOR LOOP
• 3	EACH	LIGHT DETECTOR
• 1	EACH	LIGHT DETECTOR AMPLIFIER
• 667	FOOT	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

• 100% OF THE COST TO THE VILLAGE OF UNIVERSITY PARK

•• 667' IS USED FOR CONFIRMATION BEACONS (TO BE PAID FOR BY THE VILLAGE OF UNIVERSITY PARK) AND 740' IS USED FOR PEDESTRIAN SIGNAL HEADS

CONTROLLER SEQUENCE

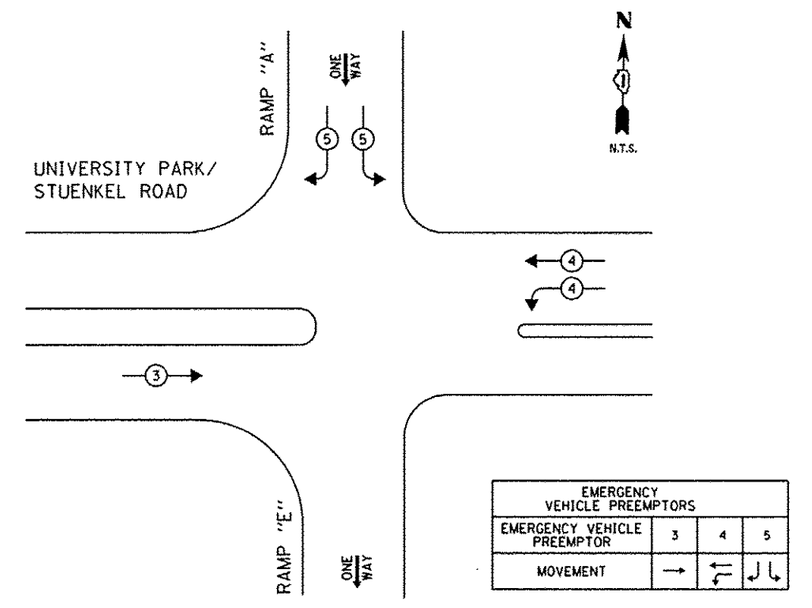


RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
A	=	2	+	4

PHASE DESIGNATION DIAGRAM

(NOT TO SCALE)



EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	↰↱	↲↳

EMERGENCY VEHICLE PREEMPTION SEQUENCE

(NOT TO SCALE)

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SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = kprojapati	DESIGNED - MG	REVISED ⚠1 - ADDENDUM 1 1/03/14	
	DRAWN - MG	REVISED -	
PLOT SCALE = 40.000000:1.000000	CHECKED - KGP/VO	REVISED -	
PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -	

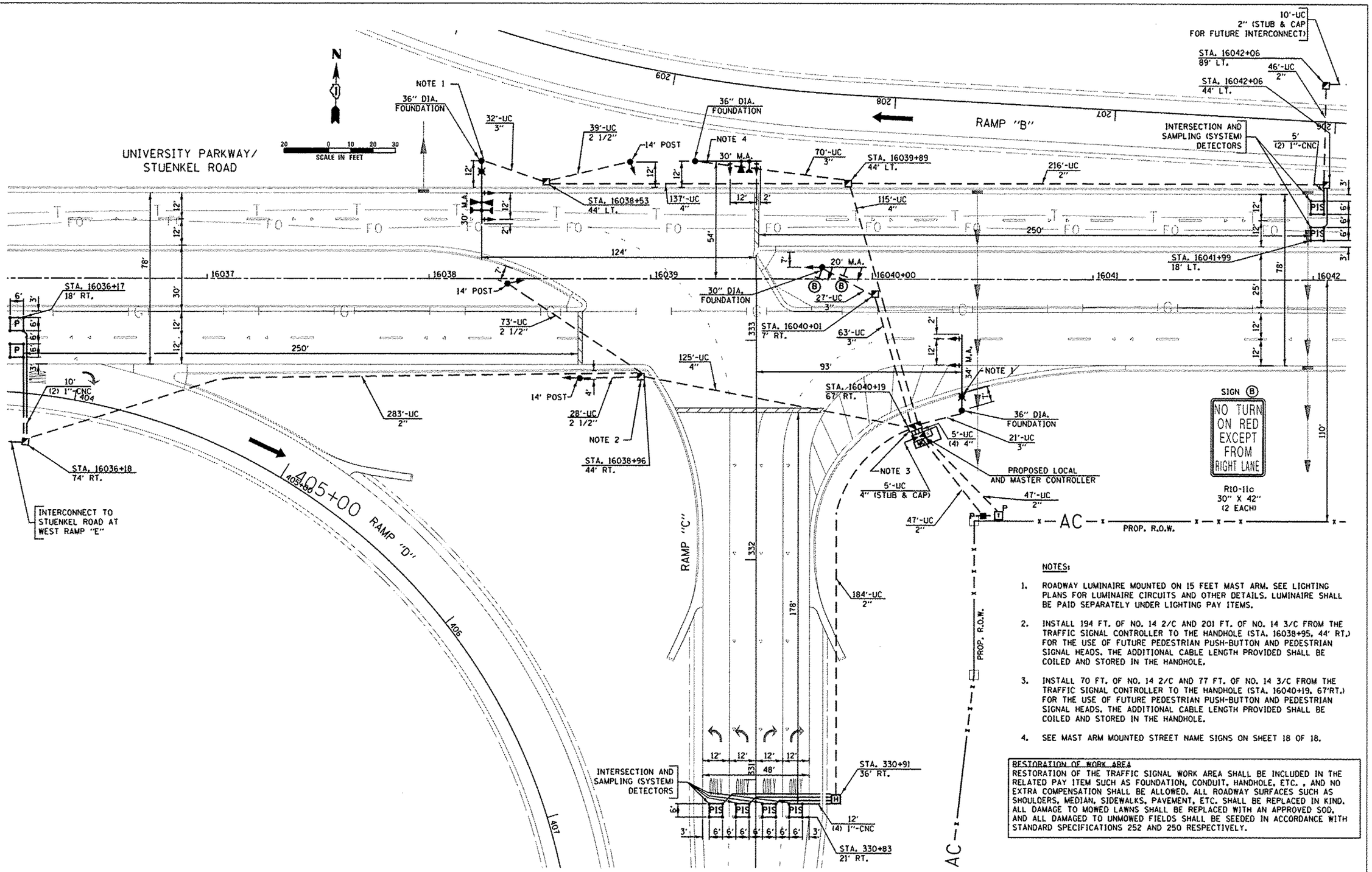
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, PHASE DESIGNATION DIAGRAM, AND EMERGENCY VEHICLE PREEMPTION SEQUENCE
STUENKEL ROAD AT I-57 RAMPS A AND E

SCALE: AS NOTED | SHEET NO. 12 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IHB-R	WILL	679	317
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

⚠1 (ENTIRE SHEET REVISED)



NOTES:

1. ROADWAY LUMINAIRE MOUNTED ON 15 FEET MAST ARM. SEE LIGHTING PLANS FOR LUMINAIRE CIRCUITS AND OTHER DETAILS. LUMINAIRE SHALL BE PAID SEPARATELY UNDER LIGHTING PAY ITEMS.
2. INSTALL 194 FT. OF NO. 14 2/C AND 201 FT. OF NO. 14 3/C FROM THE TRAFFIC SIGNAL CONTROLLER TO THE HANDHOLE (STA. 16038+95, 44' RT.) FOR THE USE OF FUTURE PEDESTRIAN PUSH-BUTTON AND PEDESTRIAN SIGNAL HEADS. THE ADDITIONAL CABLE LENGTH PROVIDED SHALL BE COILED AND STORED IN THE HANDHOLE.
3. INSTALL 70 FT. OF NO. 14 2/C AND 77 FT. OF NO. 14 3/C FROM THE TRAFFIC SIGNAL CONTROLLER TO THE HANDHOLE (STA. 16040+19, 67'RT.) FOR THE USE OF FUTURE PEDESTRIAN PUSH-BUTTON AND PEDESTRIAN SIGNAL HEADS. THE ADDITIONAL CABLE LENGTH PROVIDED SHALL BE COILED AND STORED IN THE HANDHOLE.
4. SEE MAST ARM MOUNTED STREET NAME SIGNS ON SHEET 18 OF 18.

RESTORATION OF WORK AREA

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, ETC. , AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGED TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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26-DEC-2013 14:57

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = kprojpati	DESIGNED - MG	REVISED ⚠1 - ADDENDUM 1 1/03/14	
	DRAWN - MG	REVISED -	
PLOT SCALE = 40.0000001.000000	CHECKED - KGP/VO	REVISED -	
PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -	

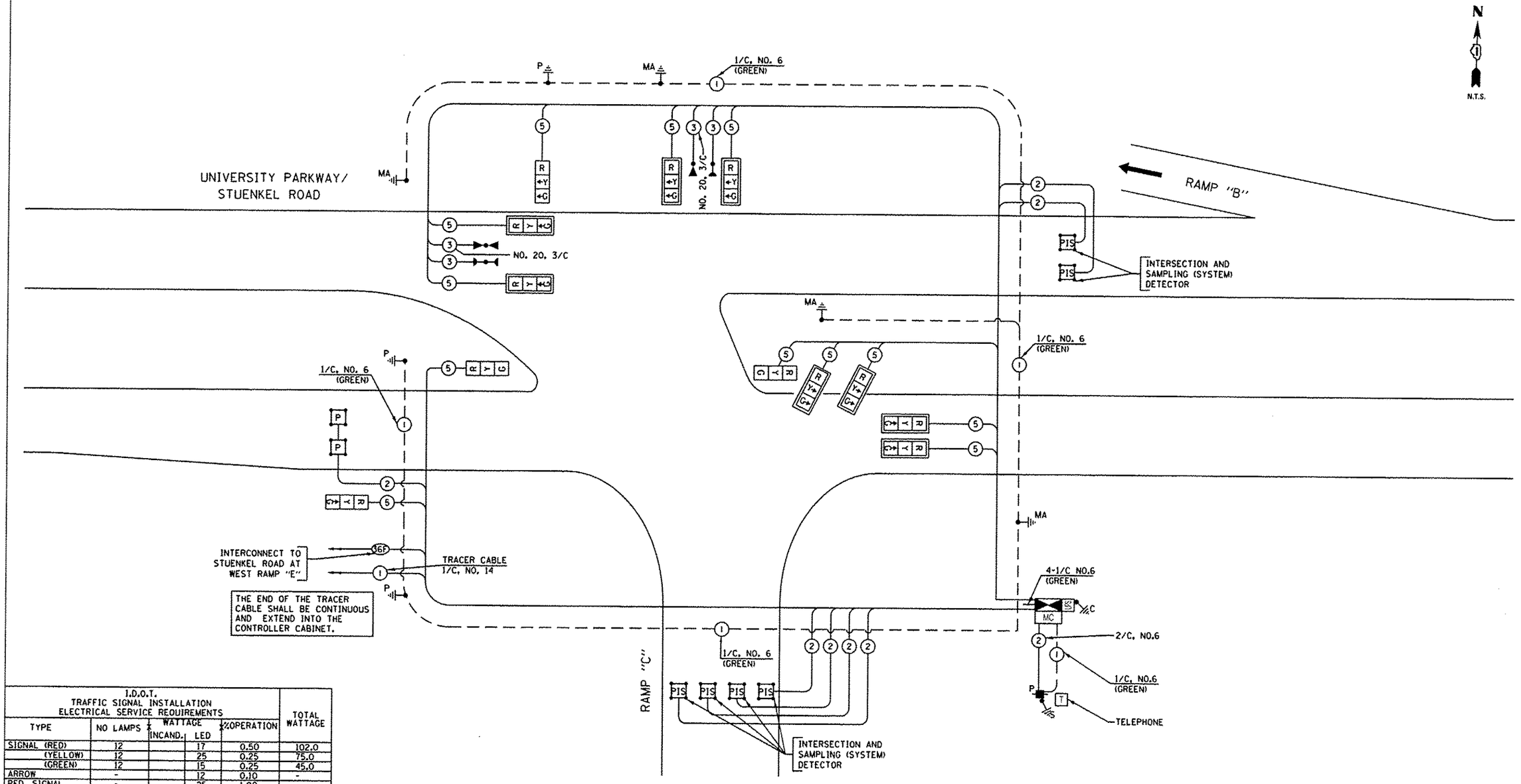
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION PLAN
STUENKEL ROAD AT I-57 RAMP C

SCALE: AS NOTED | SHEET NO. 13 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1H8-R	WILL	679	318
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

⚠1 (ENTIRE SHEET REVISED)



CABLE PLAN
(NOT TO SCALE)

I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	12		17	0.50	102.0
(YELLOW)	12		25	0.25	75.0
(GREEN)	12		15	0.25	45.0
ARROW	-		12	0.10	-
PED. SIGNAL	-		25	1.00	-
CONTROLLER	2		100	1.00	200.0
ILLUM. SIGN	-		25	0.05	-
VIDEO SYSTEM	-	150		1.00	-
FLASHER	-		25	0.50	-
ENERGY COSTS TO:				TOTAL =	422.0

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: VALERIE MURPHY
PHONE: (708) 235-2346
COMPANY: COMMONWEALTH EDISON

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SINGH + ASSOCIATES INC
CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - MC	REVISED ⚠1 - ADDENDUM 1 1/03/14	
	DRAWN - MG	REVISED -	
PLOT SCALE = 40.000000in.000000	CHECKED - KGP/VO	REVISED -	
PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CABLE PLAN
STUENKEL ROAD AT RAMP C

SCALE: AS NOTED | SHEET NO. 14 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1H8-R	WILL	679	319
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

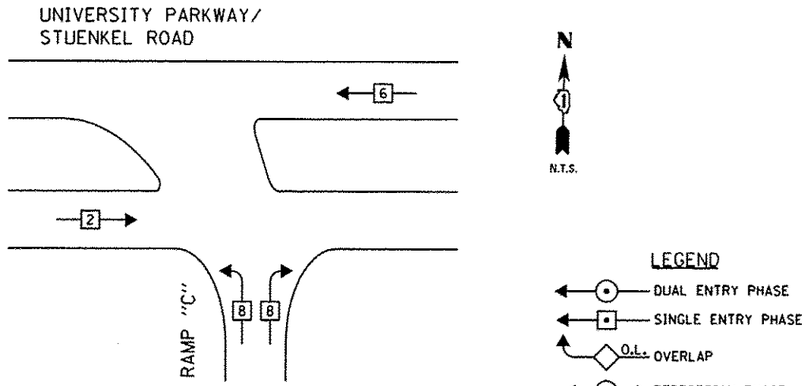
⚠1 ENTIRE SHEET REVISED

SCHEDULE OF QUANTITIES

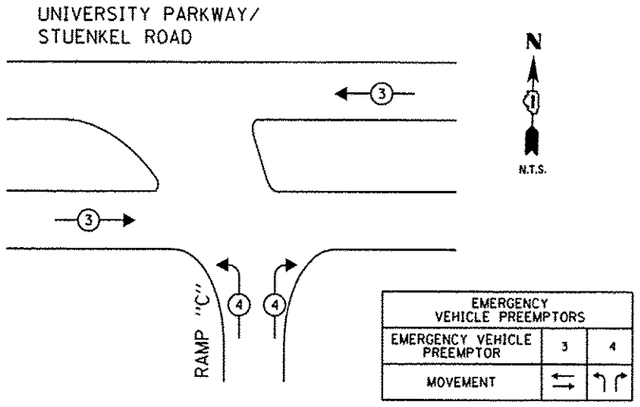
QUANTITY	UNIT	ITEM
17.5	SQ FT	SIGN PANEL - TYPE 1
18.75	SQ FT	SIGN PANEL - TYPE 2
1	EACH	SERVICE INSTALLATION - POLE MOUNTED
833	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
140	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2½" DIA.
213	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.
402	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.
7	EACH	HANDHOLE
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE V CABINET
1	EACH	HEAVY-DUTY HANDHOLE
1	EACH	DOUBLE HANDHOLE
1	EACH	TRANSCEIVER-FIBER OPTIC
264	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
•• 914	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
2685	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
2030	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
67	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
950	FOOT	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C
3	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE 20 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE 30 FT.
1	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 30 FT.
1	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 34 FT.
12	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
10	FOOT	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER
33	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
8	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
7	EACH	INDUCTIVE LOOP DETECTOR
350	FOOT	PREFORMED DETECTOR LOOP
• 2	EACH	LIGHT DETECTOR
• 1	EACH	LIGHT DETECTOR AMPLIFIER
• 636	FOOT	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

• 100% OF THE COST TO THE VILLAGE OF UNIVERSITY PARK
•• 636' IS USED FOR CONFIRMATION BEACONS (TO BE PAID FOR BY THE VILLAGE OF UNIVERSITY PARK) AND 278' IS USED FOR PEDESTRIAN SIGNAL HEADS

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE

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26-DEC-2013 14:57

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS	USER NAME = kprojects	DESIGNED - MG	REVISED 1 - ADDENDUM 1 1/03/14
		DRAWN - MG	REVISED -
	PLOT SCALE = 40.000000:1.000000	CHECKED - KGP/VO	REVISED -
	PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -

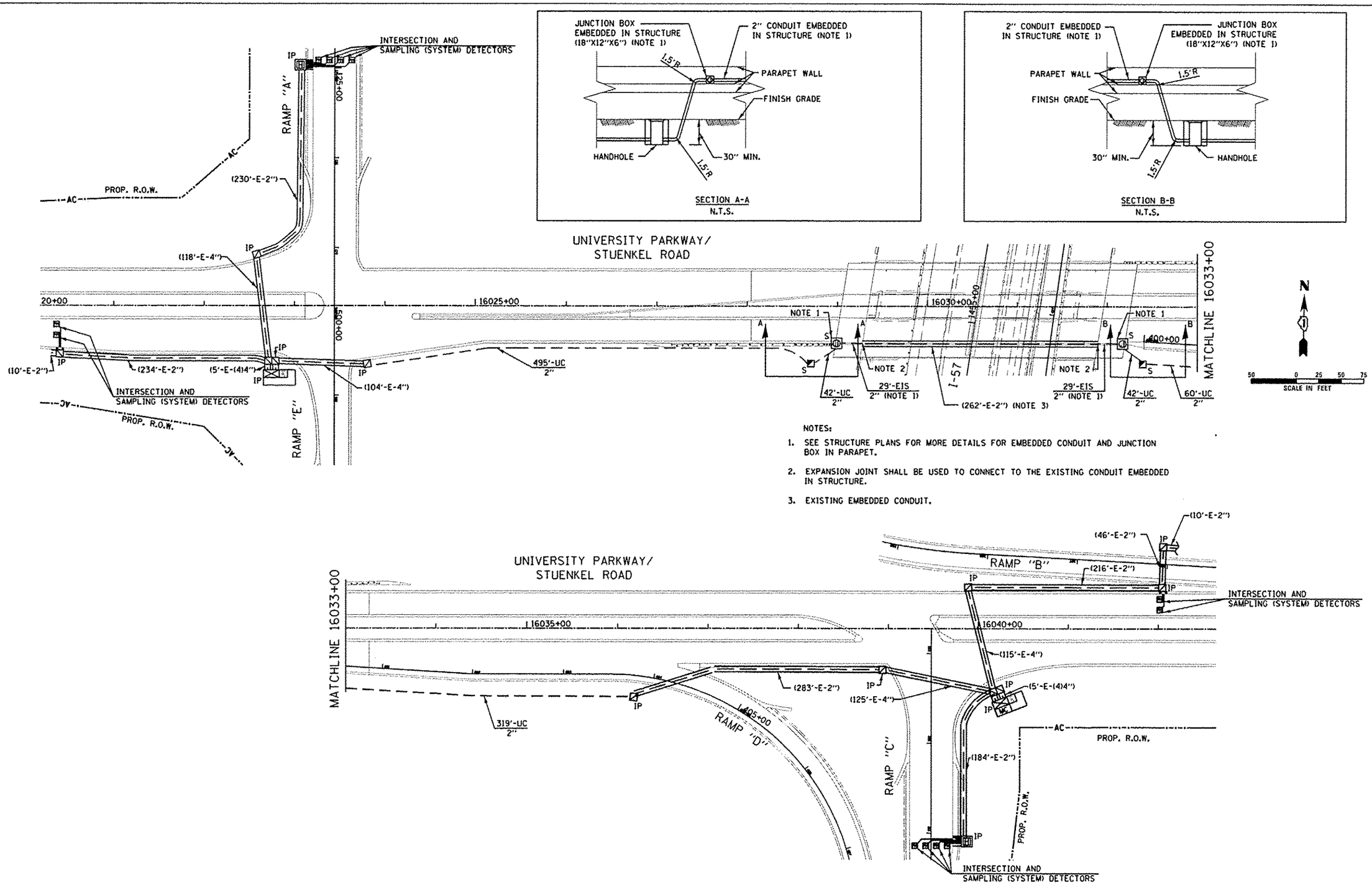
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, PHASE DESIGNATION DIAGRAM, AND EMERGENCY VEHICLE PREEMPTION SEQUENCE
STUENKEL ROAD AT RAMP C

SCALE: AS NOTED | SHEET NO. 15 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IHB-R	WILL	679	320
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

1 ENTIRE SHEET REVISED



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SINGH + ASSOCIATES INC CONSULTING ENGINEERS	USER NAME = kprajapati	DESIGNED - MG	REVISED ⚠ - ADDENDUM 1 1/03/14
		DRAWN - MG	REVISED -
	PLOT SCALE = 100.000000\1.000000	CHECKED - KGP/VO	REVISED -
	PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -

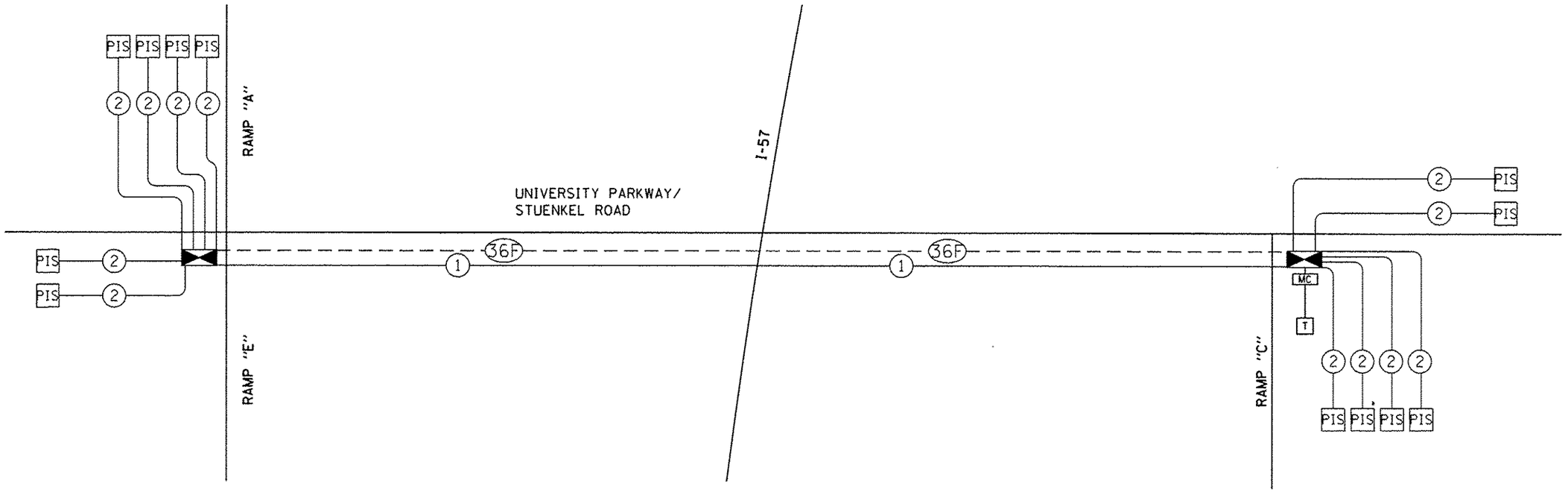
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SYSTEM INTERCONNECT PLAN
STUENKEL ROAD (I-57 WEST RAMP TO I-57 EAST RAMP)

SCALE: AS NOTED | SHEET NO. 16 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	321
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

⚠ (ENTIRE SHEET REVISED)



SCHEDULE OF INTERCONNECT QUANTITIES

QUANTITY	UNIT	ITEM
958	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
50	FOOT	CONDUIT EMBEDDED IN STRUCTURE, 2" DIA., PVC
2	EACH	JUNCTION BOX EMBEDDED IN STRUCTURE 18" X 12" X 6"
2	EACH	HANDHOLE
1	EACH	MASTER CONTROLLER
1878	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C
1904	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F
1	EACH	OPTIMIZE TRAFFIC SIGNAL SYSTEM

J:\327\06CNCAD0 Sheets\D060L69-sht-ts-17.dgn
26-DEC-2013 14:57

SINGH
SINGH + ASSOCIATES, INC
CONSULTING ENGINEERS

USER NAME = kpraja pati	DESIGNED - MG	REVISED ⚠1 - ADDENDUM 1 1/03/14	
	DRAWN - MG	REVISED -	
PLOT SCALE = 48.000000ti.000000	CHECKED - KGP/VO	REVISED -	
PLOT DATE = 26-DEC-2013 14:57	DATE - 05/09/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC
STUENKEL ROAD
FROM I-57 WEST RAMP TO I-57 EAST RAMP

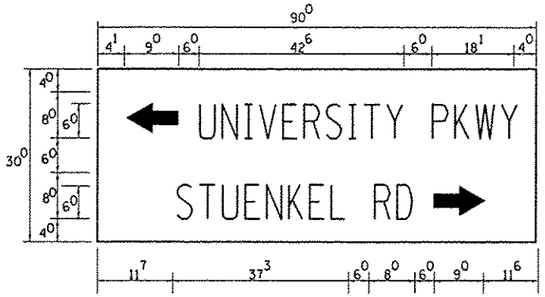
SCALE: AS NOTED | SHEET NO. 17 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-INB-R	WILL	679	322
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

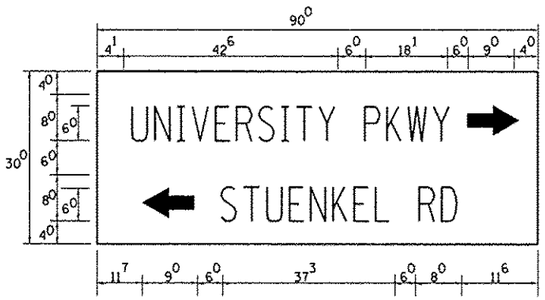
⚠1 ENTIRE SHEET REVISED

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

PANEL SIGN DESIGN TYPE 2

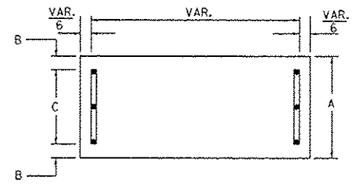


___ Sq. M. each
18.75 Sq. Ft. each
1 Required
Design Series C

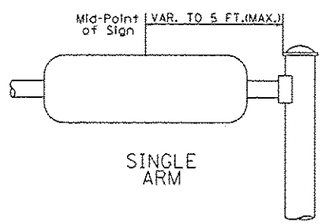


___ Sq. M. each
18.75 Sq. Ft. each
1 Required
Design Series C

SUPPORTING CHANNELS

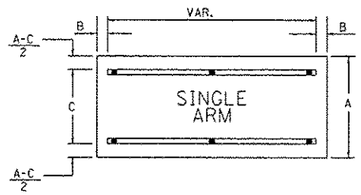


A	B	C
18"	2"	14"

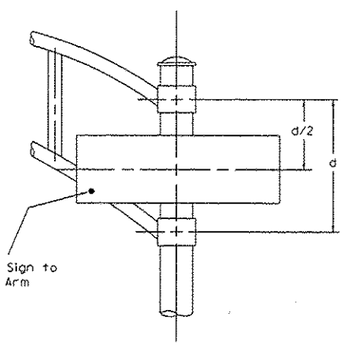


SINGLE ARM

SUPPORTING CHANNELS



A	B	C
18"	2"	12"
30"	2"	22"



DUAL ARM

SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM

Shall be used. See Note *5.

GENERAL NOTES

1. WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
4. ALL BORDERS SHALL BE ¾" WIDE AND CORNER RADIUS SHALL BE 2-1/4 ".
5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
   - * A.K.T. CORPORATION, SCHAUMBURG, IL
   - * AMERICAN FABRICATION CO., CHICAGO HEIGHTS, IL
   - * TUCKER COMPANY, INC., WAUWATOSA, WI
   - * WESTERN TRAFFIC CONTROL INC., CICERO, IL

PARTS LISTING:

SIGN CHANNEL	PART *HPN053 (MED. CHANNEL)
SIGN SCREWS	¼" x 14 x 1" H.W.H. *3 SELF TAPPING WITH NEOPRENE WASHER
BRACKETS	PART *HPN034 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.

Upper Case To Lower Case
Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2 (3) DENOTES 3"/8

FIRST LETTER	SECOND LETTER: acdegoq		bhiklmnpru		fw		j		st		vy		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
A W X	1²	1⁴	1⁴	1⁵	1²	1⁴	0⁶	1⁰	1¹	1⁴	0⁶	1⁰	1¹	1²	1²	1⁴
B	1⁴	1⁵	2⁰	2¹	1⁴	1⁵	1¹	1²	1⁴	1⁵	1²	1⁴	1²	1⁴	1⁶	1⁷
C E G	1⁴	1⁵	2⁰	2¹	1²	1⁴	0⁶	1⁰	1²	1⁴	1²	1⁴	1⁴	1⁵	1⁴	1⁵
D O Q R	1⁴	1⁵	2⁰	2¹	1⁴	1⁵	0⁶	1⁰	1²	1⁴	1²	1⁴	1⁴	1⁵	1⁴	1⁵
F	0⁵	0⁶	1⁴	1⁵	0⁶	1⁰	0⁵	0⁶	0⁶	1⁰	0⁶	1⁰	0⁶	1⁰	1¹	1²
H I M N	2⁰	2¹	2²	2⁴	2⁰	2¹	1⁴	1⁵	1⁶	1⁷	1⁶	1⁷	2⁰	2¹	2⁰	2¹
J U	2⁰	2¹	2⁰	2¹	1⁶	1⁷	1⁴	1⁵	1⁶	1⁷	1⁶	1⁷	1⁶	1⁷	2⁰	2¹
K L	1¹	1²	1⁶	1⁷	1¹	1²	0⁵	0⁶	1¹	1²	1¹	1²	1¹	1²	1²	1⁴
P	1²	1⁴	1⁴	1⁵	1²	1⁴	0⁵	0⁶	1¹	1²	1¹	1²	1²	1⁴	1²	1⁴
S	1²	1⁴	1⁶	1⁷	1²	1⁴	0⁶	1⁰	1²	1⁴	1²	1⁴	1²	1⁴	1²	1⁴
T	1¹	1²	1⁶	1⁷	0⁶	1⁰	0⁶	1⁰	1¹	1²	1¹	1²	1¹	1²	1²	1⁴
V	0⁶	1⁰	1⁴	1⁵	1¹	1²	0⁶	1⁰	1²	1⁴	1²	1⁴	1²	1⁴	1²	1⁴
Y	0⁵	0⁶	1⁴	1⁵	0⁶	1⁰	0	0⁶	0⁵	0⁷	0⁵	0⁶	0⁶	1⁰	1¹	1²
Z	1⁶	1⁷	2²	2⁴	1⁶	1⁷	1²	1⁴	1⁶	1⁷	1⁶	1⁷	1⁶	1⁷	2⁰	2¹

Lower Case To Lower Case
Spacing Chart 6 Inch Series "C & D"

FIRST LETTER	SECOND LETTER: acdegoq		bhiklmnpru		fw		j		st		vy		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
adhgijlmnqu	1⁶	1⁷	2²	2⁴	1⁶	1⁷	1²	1⁴	1⁴	1⁵	1⁴	1⁵	1⁶	1⁷	1⁶	1⁷
bfkops	1²	1⁴	1⁶	1⁷	1¹	1²	0⁵	0⁶	1¹	1²	1¹	1²	1²	1⁴	1²	1⁴
ce	1²	1⁴	1⁶	1⁷	1²	1⁴	0⁶	1⁰	1²	1⁴	1²	1⁴	1²	1⁴	1²	1⁴
r	0⁶	1⁰	1²	1⁴	0⁶	1⁰	0³	0³	0⁵	0⁶	0⁵	0⁶	0⁶	1⁰	0⁶	1⁰
tz	1²	1⁴	1⁶	1⁷	1²	1⁴	0⁶	1⁰	1¹	1²	1¹	1²	1²	1⁴	1²	1⁴
vy	1¹	1²	1⁴	1⁵	1¹	1²	0⁵	0⁶	0⁶	1⁰	0⁶	1⁰	1¹	1²	1¹	1²
w	1¹	1²	1⁴	1⁵	1¹	1²	0⁵	0⁶	1¹	1²	1¹	1²	1¹	1²	1²	1⁴
x	1²	1⁴	1⁶	1⁷	1¹	1²	0⁵	0⁶	1¹	1²	1¹	1²	1¹	1²	1²	1⁴

Number To Number
Spacing Chart 8 Inch Series "C & D"

FIRST NUMBER	SECOND NUMBER: 0		1		2		3		4		5		6		7		8		9	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1⁶	1⁷	1⁶	1⁷	1⁴	1⁵	1²	1⁴	1⁴	1⁵	1⁴	1⁵	1⁶	1⁷	1²	1⁴	1⁶	1⁷	1⁶	1⁷
1	2⁰	2¹	2⁰	2¹	2⁰	2¹	1⁶	1⁷	1⁴	1⁵	2⁰	2¹	2⁰	2¹	1⁴	1⁵	2⁰	2¹	2⁰	2¹
2 3 4	1⁴	1⁵	1⁴	1⁵	1⁴	1⁵	1²	1⁴	1²	1⁴	1⁴	1⁵	1⁴	1⁵	1¹	1²	1⁶	1⁷	1⁴	1⁵
5	1⁴	1⁵	1⁴	1⁵	1⁴	1⁵	1¹	1²	1¹	1²	1⁴	1⁵	1⁴	1⁵	1¹	1²	1⁴	1⁵	1⁴	1⁵
6	1⁶	1⁷	1⁴	1⁵	1⁴	1⁵	1²	1⁵	1²	1⁴	1⁴	1⁵	1⁴	1⁵	1¹	1²	1⁴	1⁵	1⁴	1⁵
7	1²	1⁴	1²	1⁴	1⁴	1⁵	1²	1⁵	0⁵	0⁶	1²	1⁴	1⁴	1⁵	1¹	1²	1⁴	1⁵	1²	1⁴
8	1⁶	1⁷	1⁶	1⁷	1⁴	1⁵	1²	1⁵	1²	1⁴	1⁴	1⁵	1⁶	1⁷	1²	1⁴	1⁶	1⁷	1⁴	1⁵

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS, SERIES C	6 INCH UPPER CASE LETTERS, SERIES D	8 INCH UPPER CASE LETTERS, SERIES C	8 INCH UPPER CASE LETTERS, SERIES D	LETTERS	6 INCH LOWER CASE LETTERS, SERIES C	6 INCH LOWER CASE LETTERS, SERIES D
A	3⁶	5⁰	5⁰	6⁵	a	3⁵	4²
B	3²	4⁰	4³	5³	b	3⁵	4²
C	3²	4⁰	4³	5³	c	3⁵	4¹
D	3²	4⁰	4³	5³	d	3⁵	4²
E	3⁰	3⁵	4⁰	4⁷	e	3⁵	4²
F	3⁰	3⁵	4⁰	4⁷	f	2³	2⁶
G	3²	4⁰	4³	5³	g	3⁵	4²
H	3²	4⁰	4³	5³	h	3⁵	4²
I	0⁷	0⁷	1¹	1²	i	1¹	1¹
J	3⁰	3⁶	4⁰	5⁰	j	2⁰	2²
K	3²	4¹	4³	5⁴	k	3⁵	4²
L	3⁰	3⁵	4⁰	4⁷	l	1¹	1¹
M	3⁷	4⁵	5¹	6¹	m	6⁰	7⁰
N	3²	4⁰	4³	5³	n	3⁵	4²
O	3⁴	4²	4⁵	5⁵	o	3⁶	4³
P	3²	4⁰	4³	5³	p	3⁵	4²
Q	3⁴	4²	4⁵	5⁵	q	3⁵	4²
R	3²	4⁰	4³	5³	r	2⁶	3²
S	3²	4⁰	4³	5³	s	3⁶	4²
T	3⁰	3⁵	4⁰	4⁷	t	2⁷	3²
U	3²	4⁰	4³	5³	u	3⁵	4²
V	3⁵	4⁴	4⁷	6⁰	v	4²	4⁷
W	4⁴	5²	6⁰	7⁰	w	5⁵	6⁴
X	3⁴	4⁰	4⁵	5³	x	4⁴	5¹
Y	3⁶	5⁰	5⁰	6⁶	y	4⁶	5³
Z	3²	4⁰	4³	5³	z	3⁶	4³

NUMBER	6 INCH SERIES, C	6 INCH SERIES, D	8 INCH SERIES, C	8 INCH SERIES, D
1	1²	1⁴	1⁵	2⁰
2	3²	4⁰	4³	5³
3	3²	4⁰	4³	5³
4	3⁵	4³	4⁷	5⁷
5	3²	4⁰	4³	5³
6	3²	4⁰	4³	5³
7	3²	4⁰	4³	5³
8	3²	4⁰	4³	5³
9	3²	4⁰	4³	5³
0	3⁴	4²	4⁵	5⁵

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SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGNS

SCALE: AS NOTED | SHEET NO. 18 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	323
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

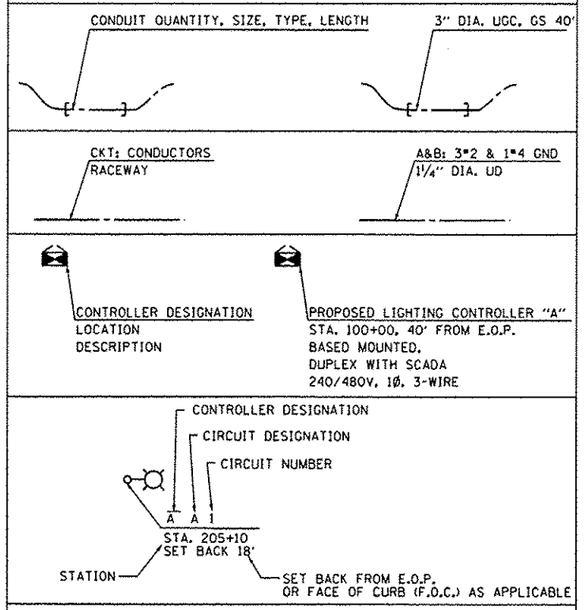
⚠ ENTIRE SHEET REVISED

LIGHTING AND ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
RR	EXISTING LIGHT UNIT TO BE REMOVED AND RELOCATED
E	EXISTING LIGHTING UNIT TO REMAIN IN PLACE
	PROPOSED LIGHTING UNIT MOUNTED ON BREAKAWAY TRANSFORMER BASE, 47.5FT M.H., 310W HPS TYPE M-C-III COBRAHEAD LUMINAIRE MOUNTED ON 15FT MAST ARM U.N.O.
	COMBINATION TRAFFIC SIGNAL AND LUMINAIRE LIGHTING UNIT: 45 FT. M.H., 15 FT. MAST ARM, 310W HPS M-C-III LUMINAIRE
ER	LIGHTING UNIT, TO BE REINSTALLED AS NOTED
T	TEMPORARY HIGH MAST LIGHTING UNIT, 90FT WOOD POLE, 15FT MAST ARM, 750W HPS TYPE III LUMINAIRE AT 80FT MOUNTING HEIGHT
RR/N	EXISTING LIGHT POLE TO REMAIN IN PLACE, EXISTING 310W HPS LUMINAIRE TO BE REPLACED BY TEMPORARY COBRAHEAD LUMINAIRE, 400W HPS TYPE M-C-III
	PROPOSED UNDERPASS LUMINAIRE, SUSPENDED MOUNT, 70W HPS TYPE M-C-III
	EXISTING LIGHTING CONTROLLER
	LIGHTING CONTROLLER, DUPLEX WITH SCADA, PROPOSED OR RELOCATED AS NOTED
	EXISTING UTILITY SERVICE CONNECTION, POLE MOUNTED
	EXISTING ELECTRIC UTILITY POLE
	PROPOSED UTILITY SERVICE CONNECTION, PAD MOUNTED
	PROPOSED ELECTRIC UTILITY POLE
E	EXISTING JUNCTION BOX
	PROPOSED JUNCTION BOX, SIZE AND TYPE AS NOTED
	ELECTRIC GROUND ROD
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	TEMPORARY WOOD POLE, CLASS 3, 40FT
---E---	EXISTING EMBEDDED CONDUIT, TO REMAIN
---R---	EXISTING UNDERGROUND UNIT DUCT TO BE ABANDONED
---E---	EXISTING UNDERGROUND UNIT DUCT TO REMAIN
	PROPOSED UNIT DUCT IN UNDERGROUND CONDUIT, SIZE AND TYPE AS NOTED
	PROPOSED CABLE OR UNIT DUCT IN EXPOSED OR EMBEDDED CONDUIT, SIZE AND TYPE AS NOTED
	PROPOSED UNIT DUCT,SIZE AND TYPE AS NOTED
---AC---	PROPOSED AERIAL LIGHTING CABLE WITH MESSENGER WIRE, SIZE AND TYPE AS NOTED

CALL-OUT SAMPLE

DEFINITION AND EXAMPLE



ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AC	ALTERNATING CURRENT
A/C	AERIAL CABLE
B.O.C.	BACK OF CURB
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CM	CENTIMETER
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
DA	DAVIT ARM
DC	DIRECT CURRENT
DIA	DIAMETER
DP	DISTRIBUTION PANEL
E	EXISTING UNIT TO REMAIN
ECA	ELECTRIC CABLE ASSEMBLY
E.O.P.	EDGE OF TRAVEL PAVEMENT
FT	FEET OR FOOT
FU	FUSE
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
JB	JUNCTION BOX
KVA	KILOVOLT-AMPERE
KW	KILOWATTS
M	METER
MA	MAST ARM
MC	MULTI-CONDUCTOR
MM	MILLIMETER
M.H.	MOUNTING HEIGHT
MW	MESSENGER WIRE
NO. #	NUMBER
N.T.S.	NOT TO SCALE
P	PROPOSED
PB	PUSH BUTTON
PNL	PANEL
PVC	POLYVINYL CHLORIDE
PVCC RGC	PVC COATED RIGID GALVANIZED CONDUIT
PT	POTENTIAL TRANSFORMER
R	EXISTING UNIT TO BE REMOVED (OWNER SALVAGED U.N.O.)
RR	EXISTING UNIT TO BE REMOVED AND REINSTALLED
RECP	RECEPTACLE
RGC	RIGID GALVANIZED CONDUIT
SEL SW	SELECTOR SWITCH
SPARE	SPARE
SPACE	SPACE
SS	STAINLESS STEEL
STA	STATION
T/F	TOP OF FOUNDATION
UD	UNIT DUCT
U.N.O.	UNLESS NOTED OTHERWISE
UGC, GS	UNDERGROUND CONDUCT, GALVANIZED STEEL
WP	WOOD POLE
XFMR	TRANSFORMER
HPS	HIGH PRESSURE SODIUM
LPS	LOW PRESSURE SODIUM
LTFM	LIQUID TIGHT FLEXIBLE METALLIC
W/MW	WITH MESSENGER WIRE

GENERAL NOTES

1. THE ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST CODES, STANDARDS AND THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2012, SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS.
2. THE MAINTENANCE OF LIGHTING SYSTEM PAY ITEM SHALL INCLUDE MAINTENANCE OF IDOT AND VILLAGE OF UNIVERSITY PARK LIGHTING SYSTEM WITHIN THE PROJECT LIMITS.
3. THE AERIAL CABLE INSTALLATION FOR TEMPORARY LIGHTING SHALL COMPLY WITH NEC (NATIONAL ELECTRICAL CODE) ARTICLE 225.18, NESC AND COMED STANDARDS FOR MINIMUM VERTICAL AND HORIZONTAL CLEARANCES.

INDEX OF DRAWINGS:

IDOT-D1 STANDARDS:

STANDARD NO.	TITLE
BE-205	LIGHTING CONTROLLER, RADIO CONTROL DUPLEX TYPE WITH SCADA
BE-220	ELECTRIC SERVICE INSTALLATION AERIAL, REMOTE DISCONNECT
BE-305	LIGHT POLE FOUNDATION, METAL
BE-400	LIGHT POLE, ALUMINUM, TRUSS TYPE, 47.5 FT. M.H.
BE-702	MISC. ELECTRICAL DETAILS SHEET A
BE-800	TEMPORARY LIGHT POLE DETAILS
BE-801	TEMPORARY AERIAL CABLE INSTALLATION
BE-900	SUSPENDED MOUNT UNDERPASS LUMINAIRE INSTALLATION DETAILS

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26-DEC-2013 15:00 TIME

SINGH — SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013	
	DRAWN - MG/WC	REVISED 8/22/2013	
PLOT SCALE = 100.000000:1.000000	CHECKED - KGP	REVISED 10/18/2013	
PLOT DATE = 26-DEC-2013 15:00	DATE - 8/22/2013	REVISED 12/04/2013	
		⚠ ADDENDUM 1 1/03/14	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
LEGEND, ABBREVIATIONS, GENERAL NOTES, AND INDEX OF DRAWINGS

SCALE: N.T.S. | SHEET NO. 1 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1H8-R	WILL	679	324
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

ROADWAY LIGHTING – BILL OF MATERIALS

	ITEM	UNIT	TOTAL QUANTITY	STUENKEL ROAD INTERCHANGE	STUENKEL RD. AT CENTRAL RD.
*	ELECTRIC SERVICE INSTALLATION	EACH	2	1	1
*	ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1	1	-
*	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	1485	1179	306
*	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., PVC COATED GALVANIZED STEEL	FOOT	735	735	-
*	CONDUIT ATTACHED TO STRUCTURE, 3" DIA., PVC COATED GALVANIZED STEEL	FOOT	40	40	-
	CONDUIT EMBEDDED IN STRUCTURE, 2" DIA., PVC	FOOT	100	100	-
	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" X 6" X 4"	EACH	10	10	-
	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"	EACH	7	7	-
	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16" X 14" X 6"	EACH	2	2	-
*	JUNCTION BOX EMBEDDED IN STRUCTURE 18" X 12" X 6"	EACH	4	4	-
	UNIT DUCT, 600V, 2-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1" DIA. POLYETHYLENE	FOOT	2447	-	2447
*	UNIT DUCT, 600V, 3-1C NO.2, 1/C NO.4 GROUND, (XLP-TYPE USE), 1 1/2" DIA. POLYETHYLENE	FOOT	26750	26750	-
*	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	3120	3120	-
*	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4	FOOT	570	570	-
*	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C 350MCM	FOOT	150	150	-
	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 2	FOOT	1785	1715	70
	AERIAL CABLE, 2-1/C NO. 4 WITH MESSENGER WIRE	FOOT	700	-	700
	AERIAL CABLE, 3-1/C NO.1/0, WITH MESSENGER WIRE	FOOT	480	480	-
*	AERIAL CABLE, 3-1/C NO. 2 WITH MESSENGER WIRE	FOOT	12750	12450	300
*	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 310 WATT	EACH	88	88	-
	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL, 250 WATT	EACH	4	-	4
*	UNDERPASS LUMINAIRE, 70 WATT, HIGH PRESSURE SODIUM VAPOR	EACH	10	10	-
	LIGHT POLE, ALUMINUM, 30 FT. M.H., 8 FT. DAVIT ARM	EACH	7	-	7

* INDICATES SPECIAL PROVISION

	ITEM	UNIT	TOTAL QUANTITY	STUENKEL ROAD INTERCHANGE	STUENKEL RD. AT CENTRAL RD.
	LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 15 FT. MAST ARM	EACH	84	84	-
	LIGHT POLE, WOOD, 90 FOOT, CLASS 4, WITH 15FT MAST ARM	EACH	31	31	-
	LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	75	-	75
	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 10" X 8'	EACH	125	125	-
	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	84	84	-
	BREAKAWAY DEVICE, COUPLING WITH ALUMINUM SKIRT	EACH	60	-	60
	REMOVAL OF POLE FOUNDATION	EACH	49	41	8
	RELOCATE EXISTING LIGHTING UNIT	EACH	65	57	8
	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	2	1	1
	REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	2	1	1
*	REMOVE TEMPORARY WOOD POLE	EACH	5	3	2
*	TEMPORARY ELECTRIC SERVICE INSTALLATION	EACH	2	1	1
*	REMOVE EXISTING LIGHTING CONTROLLER AND SALVAGE	EACH	1	1	-
*	TEMPORARY WOOD POLE, 40 FT., CLASS 4	EACH	5	3	2
*	TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, 400 WATT	EACH	18	18	-
*	LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL), RADIO SCADA	EACH	1	1	-
*	RELOCATE EXISTING LUMINAIRE	EACH	18	18	-
*	REMOVE AND RELOCATE EXISTING LIGHTING CONTROLLER	EACH	1	1	-
*	MAINTENANCE OF LIGHTING SYSTEM	CAL MO	24	20	4
*	REMOVE AND RELOCATE EXISTING LIGHTING CONTROLLER, VILLAGE OF UNIVERSITY PARK	EACH	1	-	1
*	REMOVAL OF TEMPORARY LIGHTING UNIT, SALVAGE	EACH	31	31	-
*	REMOVAL OF TEMPORARY LUMINAIRE	EACH	18	18	-
*	TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HIGH MAST, 750 WATT	EACH	31	31	-

* INDICATES SPECIAL PROVISION

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27-DEC-2013 12:37 TIMES

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = kprojects	DESIGNED - RDP	REVISED	6/18/2013
	DRAWN - MG/WC	REVISED	8/22/2013
PLOT SCALE = 100.000000 / 1.000000	CHECKED - KGP	REVISED	10/18/2013
PLOT DATE = 27-DEC-2013 12:37	DATE - 8/22/2013	REVISED	12/04/2013

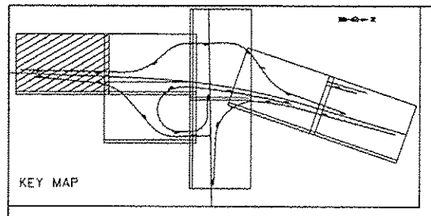
⚠ ADDENDUM 1 1/03/14

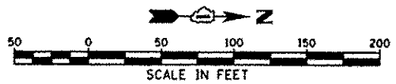
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
SCHEDULE OF QUANTITIES

SCALE: N.T.S. | SHEET NO. 2 OF 24 SHEETS | STA. ----- TO STA. -----

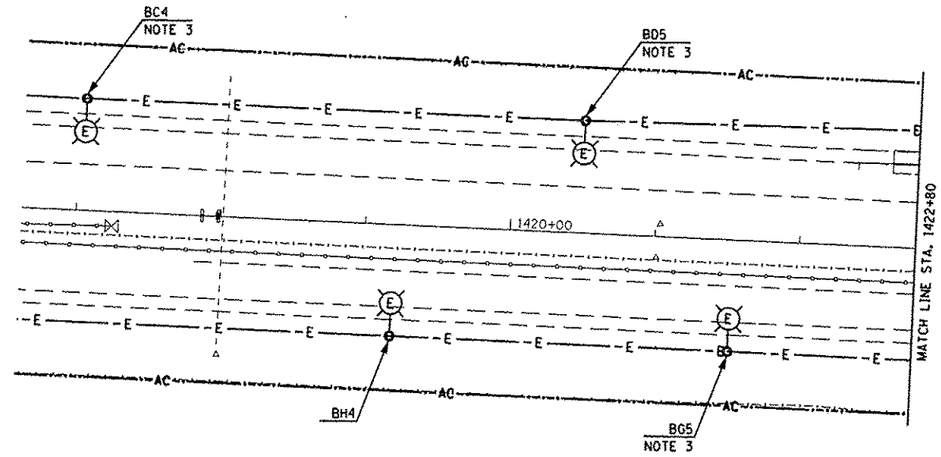
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	325
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

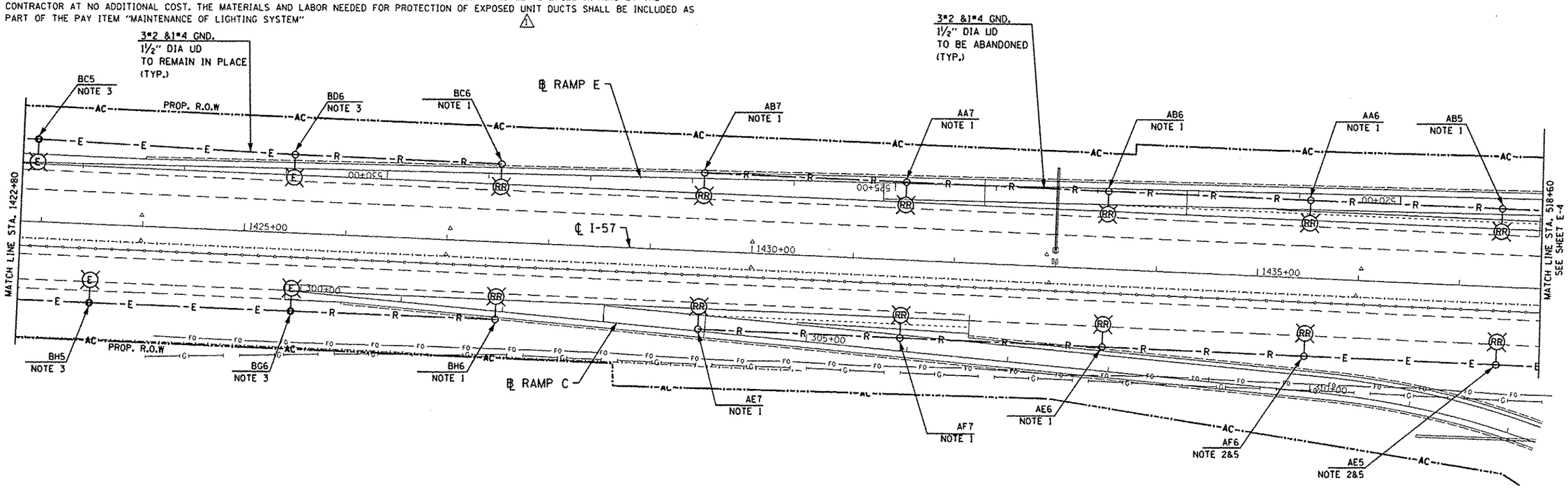




NOTES:

1. THE EXISTING LIGHT POLE, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL BE REMOVED. THE METAL FOUNDATION SHALL BE REMOVED AND DISPOSED OF OFF THE PROJECT SITE. REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE REINSTALLED AS SHOWN ON PROPOSED LIGHTING PLANS. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT" ⚠1
2. THE EXISTING LIGHT POLE SHALL BE REMOVED, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL REMAIN IN PLACE. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT"
3. THE EXISTING 310W HPS LUMINAIRE SHALL BE REMOVED AND TEMPORARY 400W HPS TYPE III LUMINAIRE SHALL BE INSTALLED ON EXISTING LIGHTING UNIT. THE CONTRACTOR SHALL STORE THE EXISTING 310W HPS LUMINAIRE AND REINSTALL WITH NEW LAMP AFTER COMPLETION OF STAGE 2 CONSTRUCTION.
4. THE EXISTING LIGHTING SYSTEM SHALL BE REMOVED AFTER TEMPORARY LIGHTING SYSTEM IS INSTALLED AND MADE OPERATIONAL.
5. THE EXPOSED EXISTING UNIT DUCTS SHALL BE PROTECTED DURING CONSTRUCTION, THE SUGGESTED ALTERNATIVE IS TO INSTALL ANOTHER TRANSFORMER BASE ON TOP OF EXISTING TRANSFORMER BASE AND COVER IT WITH METAL PLATE. ANY DAMAGED AND MISSING EXISTING UNIT DUCTS AND TRANSFORMER BASE DURING CONSTRUCTION AFTER REMOVAL OF EXISTING LIGHT POLE SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO ADDITIONAL COST. THE MATERIALS AND LABOR NEEDED FOR PROTECTION OF EXPOSED UNIT DUCTS SHALL BE INCLUDED AS PART OF THE PAY ITEM "MAINTENANCE OF LIGHTING SYSTEM" ⚠1





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26-DEC-2013 15:08 TIMES

E-3

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS	USER NAME = kprappati	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 EXISTING LIGHTING REMOVAL PLANS
		DRAWN - MG/WC	REVISED 8/22/2013		
	PLOT SCALE = 100.000000'/1.000000	CHECKED - KGP	REVISED 10/18/2013		SCALE: AS NOTED | SHEET NO. 3 OF 24 SHEETS | STA. ----- TO STA. -----
	PLOT DATE = 26-DEC-2013 15:08	DATE - 8/22/2013	REVISED 12/04/2013		

⚠ ADDENDUM 1 1/03/14

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IHB-R	WILL	679	326
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

SCALE: 1" = 50'

NOTES:

1. THE EXISTING LIGHT POLE, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL BE REMOVED. THE METAL FOUNDATION SHALL BE REMOVED AND DISPOSED OF OFF THE PROJECT SITE. REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE REINSTALLED AS SHOWN ON PROPOSED LIGHTING PLANS. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT" ⚠1
2. THE EXISTING LIGHT POLE SHALL BE REMOVED, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL REMAIN IN PLACE. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT"
3. THE EXISTING 310W HPS LUMINAIRE SHALL BE REMOVED AND TEMPORARY 400W HPS TYPE III LUMINAIRE SHALL BE INSTALLED ON EXISTING LIGHTING UNIT. THE CONTRACTOR SHALL STORE THE EXISTING 310W HPS LUMINAIRE AND REINSTALL WITH NEW LAMP AFTER COMPLETION OF STAGE 2 CONSTRUCTION.
4. THE EXISTING LIGHTING SYSTEM SHALL BE REMOVED AFTER TEMPORARY LIGHTING SYSTEM IS INSTALLED AND MADE OPERATIONAL.
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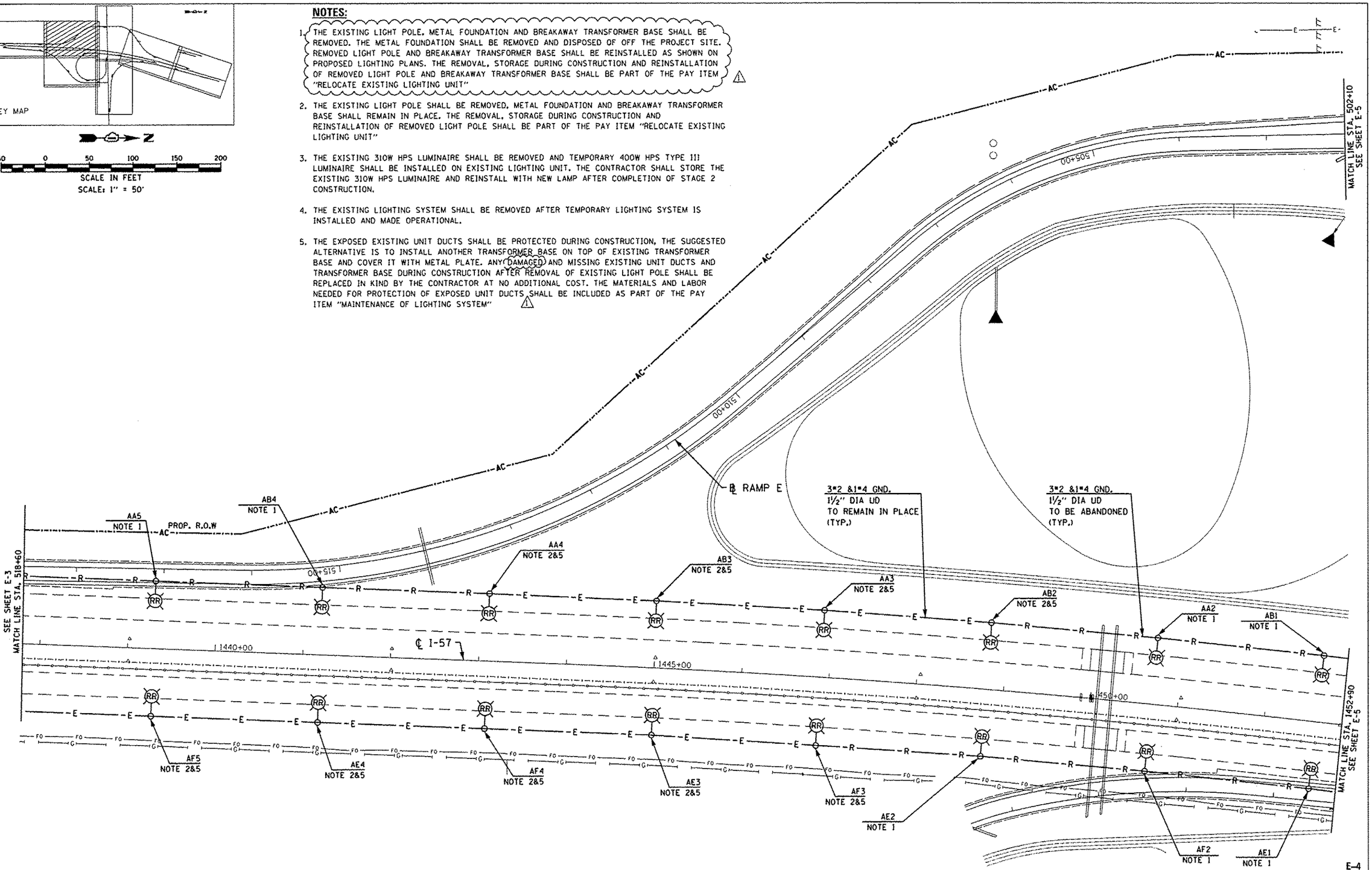

E-4

SINGH + ASSOCIATES INC. CONSULTING ENGINEERS	USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 EXISTING LIGHTING REMOVAL PLANS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - MG/WC	REVISED 8/22/2013			57	99-1HB-R	WILL	679	327
	PLOT SCALE = 100.0000000/1.000000	CHECKED - KGP	REVISED 10/18/2013					CONTRACT NO. 60L69		
	PLOT DATE = 26-DEC-2013 15:08	DATE - 8/22/2013	REVISED 12/04/2013		SCALE: AS NOTED | SHEET NO. 4 OF 24 SHEETS | STA. ----- TO STA. -----			ILLINOIS FED. AID PROJECT		

⚠1 ADDENDUM 1 1/03/14

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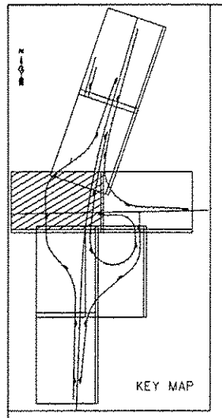

N

50 0 50 100 150 200

SCALE IN FEET
SCALE: 1" = 50'

NOTES:

1. THE EXISTING LIGHT POLE, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL BE REMOVED. THE METAL FOUNDATION SHALL BE REMOVED AND DISPOSED OF OFF THE PROJECT SITE. REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE REINSTALLED AS SHOWN ON PROPOSED LIGHTING PLANS. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT"
2. THE EXISTING LIGHT POLE SHALL BE REMOVED, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL REMAIN IN PLACE. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT"
3. THE EXISTING 310W HPS LUMINAIRE SHALL BE REMOVED AND TEMPORARY 400W HPS TYPE III LUMINAIRE SHALL BE INSTALLED ON EXISTING LIGHTING UNIT. THE CONTRACTOR SHALL STORE THE EXISTING 310W HPS LUMINAIRE AND REINSTALL WITH NEW LAMP AFTER COMPLETION OF STAGE 2 CONSTRUCTION.
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6. THE EXISTING LIGHTING CONTROLLER SHALL BE REMOVED AND RELOCATED ON TEMPORARY WOOD POLE DURING PRE-STAGE 1 CONSTRUCTION AS SHOWN ON TEMPORARY LIGHTING PLANS. ALL NECESSARY WORK INCLUDING INSTALLATION OF TEMPORARY WOOD POLES, TEMPORARY LIGHTING UNITS, TEMPORARY SERVICE INSTALLATION, TEMPORARY BRANCH CIRCUITS, AND COORDINATION WITH COMED SHALL BE DONE PRIOR TO CONTROLLER REMOVAL. THE RELOCATION OF EXISTING CONTROLLER AND TEMPORARY MAINLINE LIGHTING SYSTEM SHALL BE MADE OPERATIONAL THE SAME DAY BEFORE DUSK. THIS WORK IS INCIDENTAL TO ASSOCIATED PAY ITEMS.

SEE SHEET E-6
MATCH LINE STA. 1191+80

℄ RAMP A

PROP. R.O.W

℄ STUENKEL RD.

TEMPORARY EASEMENT

℄ RAMP E

MATCH LINE STA. 502+10
SEE SHEET E-4

EXISTING IDOT LIGHTING CONTROLLER "A"
DUPLEX WITH SCADA
240/480V, 1-Ø,
TO BE RELOCATED
NOTE 4&6

COMED WOOD POLE WITH
25kVA STEP-DOWN TRANSFORMER,
REMOVE ELECTRIC (SERVICE)

SEE SHEET E-6
MATCH LINE STA. 1462+25

3#2 &1#4 GND.
1½" DIA UD
TO REMAIN IN PLACE
(TYP.)

AD2
NOTE 2&5

AG2
NOTE 1

AC1
NOTE 1

AH1
NOTE 1

℄ I-57

3#2 &1#4 GND.
1½" DIA UD
TO BE ABANDONED
(TYP.)

℄ RAMP D

AD1
NOTE 1

AG1
NOTE 1

AA1
NOTE 1

AF1
NOTE 1

MATCH LINE STA. 1452+90
SEE SHEET E-4

E-5

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26-DEC-2013 15:08 TIME

USER NAME = kprojects	DESIGNED - RDP	REVISED	6/18/2013
	DRAWN - MG/WC	REVISED	8/22/2013
PLOT SCALE = 100.000000'/1.000000	CHECKED - KGP	REVISED	10/18/2013
PLOT DATE = 26-DEC-2013 15:08	DATE - 8/22/2013	REVISED	12/04/2013

⚠ ADDENDUM 1 1/03/14

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
EXISTING LIGHTING REMOVAL PLANS

SCALE: AS NOTED | SHEET NO. 5 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	328
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. THE EXISTING LIGHT POLE, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL BE REMOVED. THE METAL FOUNDATION SHALL BE REMOVED AND DISPOSED OF OFF THE PROJECT SITE. REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE REINSTALLED AS SHOWN ON PROPOSED LIGHTING PLANS. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT" ⚠1
2. THE EXISTING LIGHT POLE SHALL BE REMOVED, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL REMAIN IN PLACE. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT"
3. THE EXISTING 310W HPS LUMINAIRE SHALL BE REMOVED AND TEMPORARY 400W HPS TYPE III LUMINAIRE SHALL BE INSTALLED ON EXISTING LIGHTING UNIT. THE CONTRACTOR SHALL STORE THE EXISTING 310W HPS LUMINAIRE AND REINSTALL WITH NEW LAMP AFTER COMPLETION OF STAGE 2 CONSTRUCTION.
4. THE EXISTING LIGHTING SYSTEM SHALL BE REMOVED AFTER TEMPORARY LIGHTING SYSTEM IS INSTALLED AND MADE OPERATIONAL.
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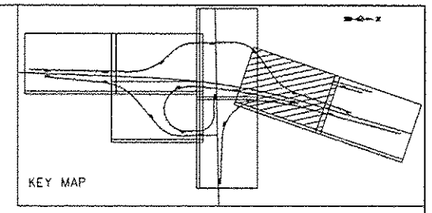

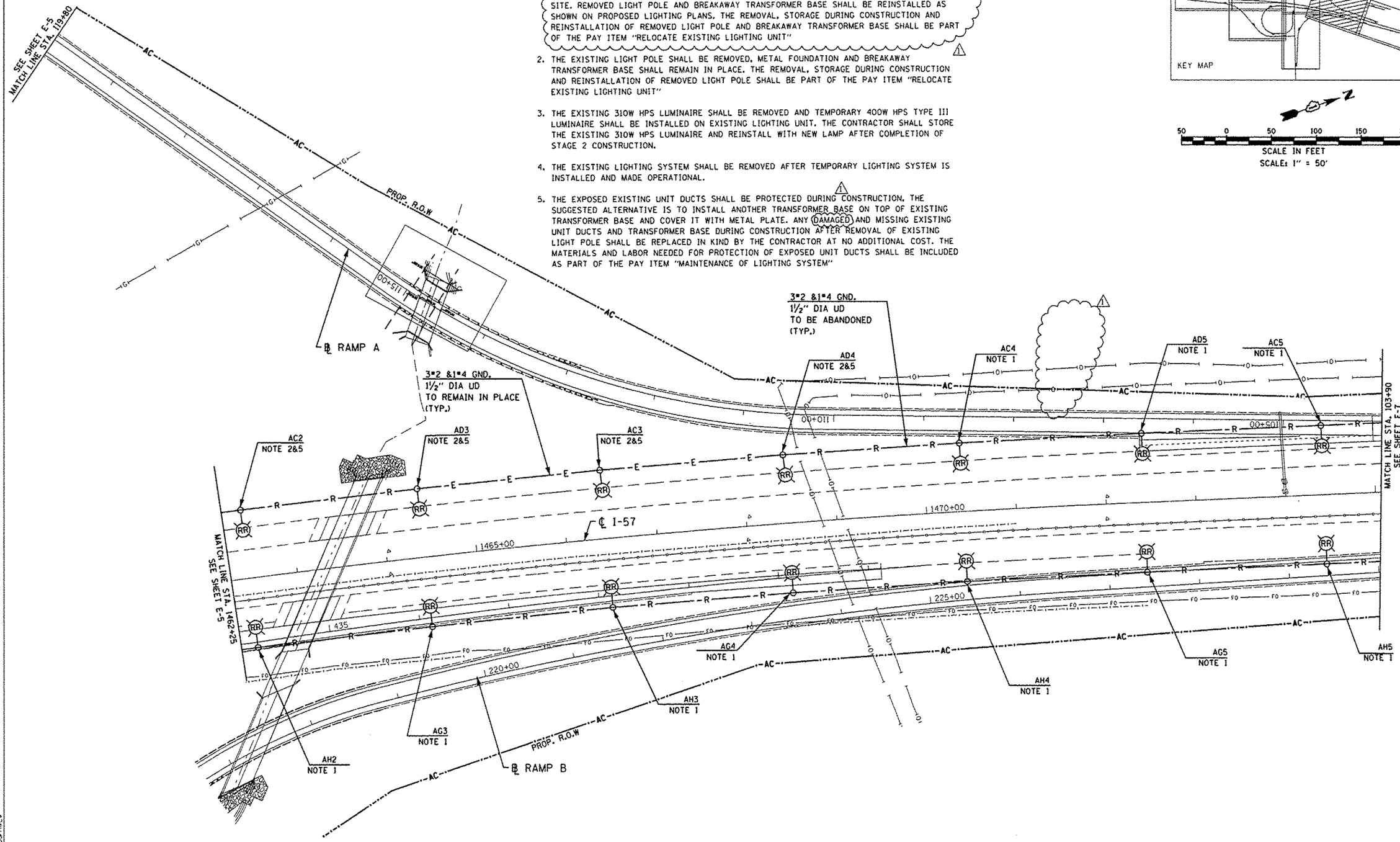

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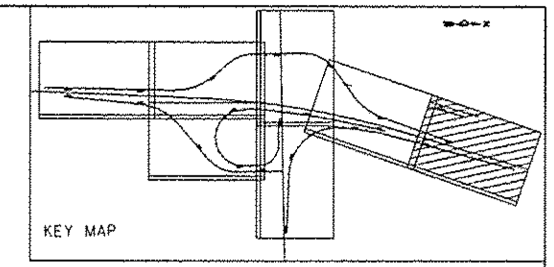
26-DEC-2013 15:08 TIME

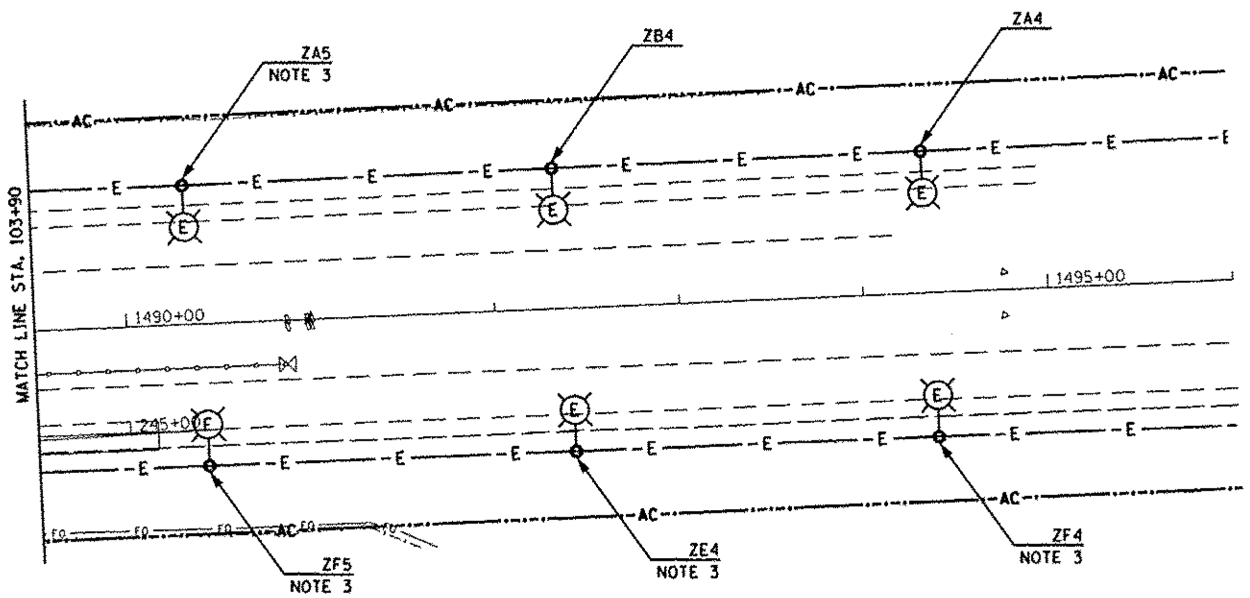
SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS	USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 EXISTING LIGHTING REMOVAL PLANS
		DRAWN - MG/WC	REVISED 8/22/2013		
	PLOT SCALE = 100.0000000/1.000000	CHECKED - KGP	REVISED 10/18/2013		
	PLOT DATE = 26-DEC-2013 15:08	DATE - 8/22/2013	REVISED 12/04/2013		SCALE: AS NOTED | SHEET NO. 6 OF 24 SHEETS | STA. ----- TO STA. -----

⚠ ADDENDUM 1 1/03/14

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	329
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			



SCALE IN FEET
SCALE: 1" = 50'



NOTES:

1. THE EXISTING LIGHT POLE, METAL FOUNDATION AND BREAKAWAY TRANSFORMER BASE SHALL BE REMOVED. THE METAL FOUNDATION SHALL BE REMOVED AND DISPOSED OF OFF THE PROJECT SITE. REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE REINSTALLED AS SHOWN ON PROPOSED LIGHTING PLANS. THE REMOVAL, STORAGE DURING CONSTRUCTION AND REINSTALLATION OF REMOVED LIGHT POLE AND BREAKAWAY TRANSFORMER BASE SHALL BE PART OF THE PAY ITEM "RELOCATE EXISTING LIGHTING UNIT"

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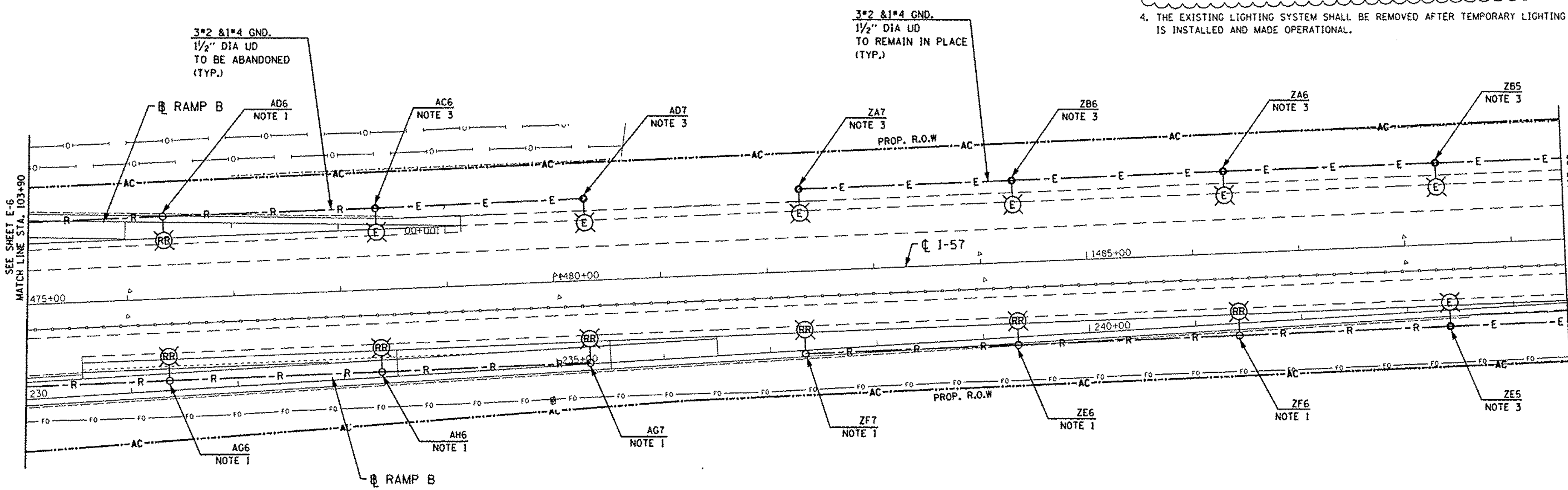
3. THE EXISTING 310W HPS LUMINAIRE SHALL BE REMOVED AND TEMPORARY 400W HPS TYPE III LUMINAIRE SHALL BE INSTALLED ON EXISTING LIGHTING UNIT. THE CONTRACTOR SHALL STORE THE EXISTING 310W HPS LUMINAIRE AND REINSTALL WITH NEW LAMP AFTER COMPLETION OF STAGE 2 CONSTRUCTION.

4. THE EXISTING LIGHTING SYSTEM SHALL BE REMOVED AFTER TEMPORARY LIGHTING SYSTEM IS INSTALLED AND MADE OPERATIONAL.



E-7

SINGH (SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS)	USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 EXISTING LIGHTING REMOVAL PLANS	F.A.I. RTE. 57	SECTION 99-1HB-R	COUNTY WILL	TOTAL SHEETS 679	SHEET NO. 330
		DRAWN - MG/WC	REVISED 8/22/2013					CONTRACT NO. 60L69		
	PLOT SCALE = 100.000000:1.000000	CHECKED - KGP	REVISED 10/18/2013		SCALE: AS NOTED	SHEET NO. 7 OF 24 SHEETS	STA. ----- TO STA. -----	ILLINOIS FED. AID PROJECT		
	PLOT DATE = 26-DEC-2013 15:01	DATE - 8/22/2013	REVISED 12/04/2013							

ADDENDUM 1 1/03/14

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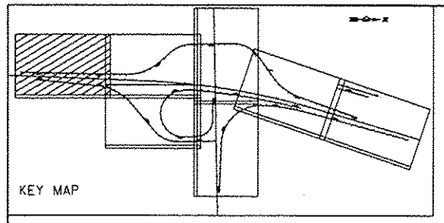
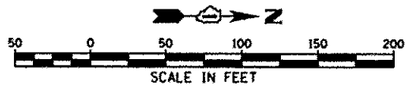




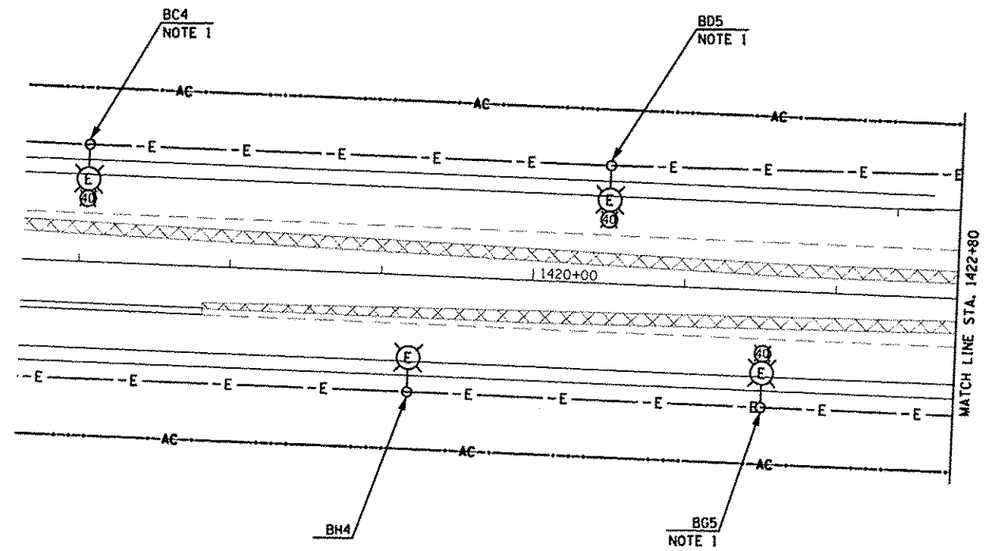
NOTE:

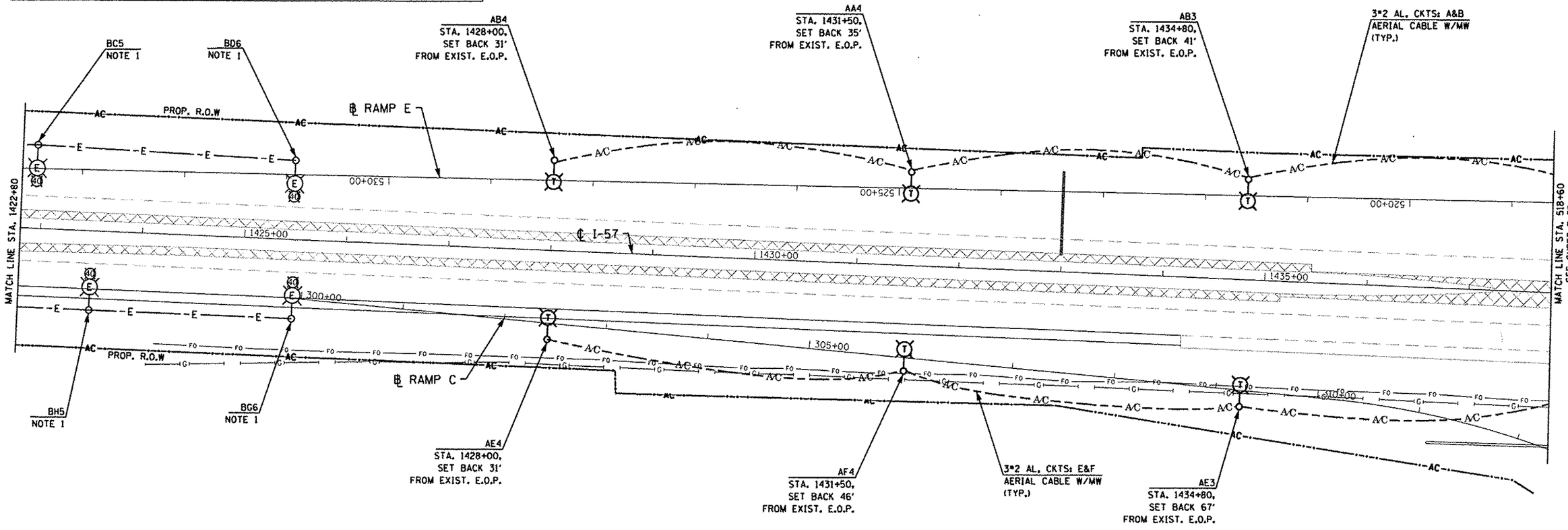
1. THE EXISTING 310W HPS LUMINAIRE SHALL BE REMOVED AND TEMPORARY 400W HPS TYPE III LUMINAIRE SHALL BE INSTALLED ON EXISTING LIGHTING UNIT. THE CONTRACTOR SHALL REMOVE TEMPORARY 400W LUMINAIRE LUMINAIRE AND REINSTALL 310W EXISTING LUMINAIRE AFTER COMPLETION OF STAGE 2.

NOTES FOR LIGHTING DURING CONSTRUCTION

A. COMPLETE TEMPORARY LIGHTING SYSTEM INCLUDING, RELOCATION OF EXISTING CONTROLLER, TEMPORARY LIGHTING UNITS, AERIAL CABLES, AND OTHER TEMPORARY LIGHTING ITEMS SHOWN ON THE TEMPORARY LIGHTING PLANS SHALL BE INSTALLED IN APPROVED OPERATION DURING PRE-STAGE 1 CONSTRUCTION PRIOR TO REMOVAL OF EXISTING LIGHTING SYSTEM UNLESS NOTED OTHERWISE.

B. TEMPORARY LIGHTING SYSTEM SHALL BE REMOVED AFTER PROPOSED LIGHTING SYSTEM IS INSTALLED IN APPROVED OPERATION.





E-7A

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = mgarvida	DESIGNED - RDP	REVISED 6/18/2013	
	DRAWN - MG/WC	REVISED 8/22/2013	
PLOT SCALE = 100.000000'/1.000000	CHECKED - KGP	REVISED 10/18/2013	
PLOT DATE = 05-DEC-2013 13:17	DATE - 8/22/2013	REVISED - 12/04/2013	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
TEMPORARY LIGHTING PLANS – STAGE 1&2

SCALE: AS NOTED | SHEET NO. 8 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	330A
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

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05-DEC-2013 13:17 STIMES

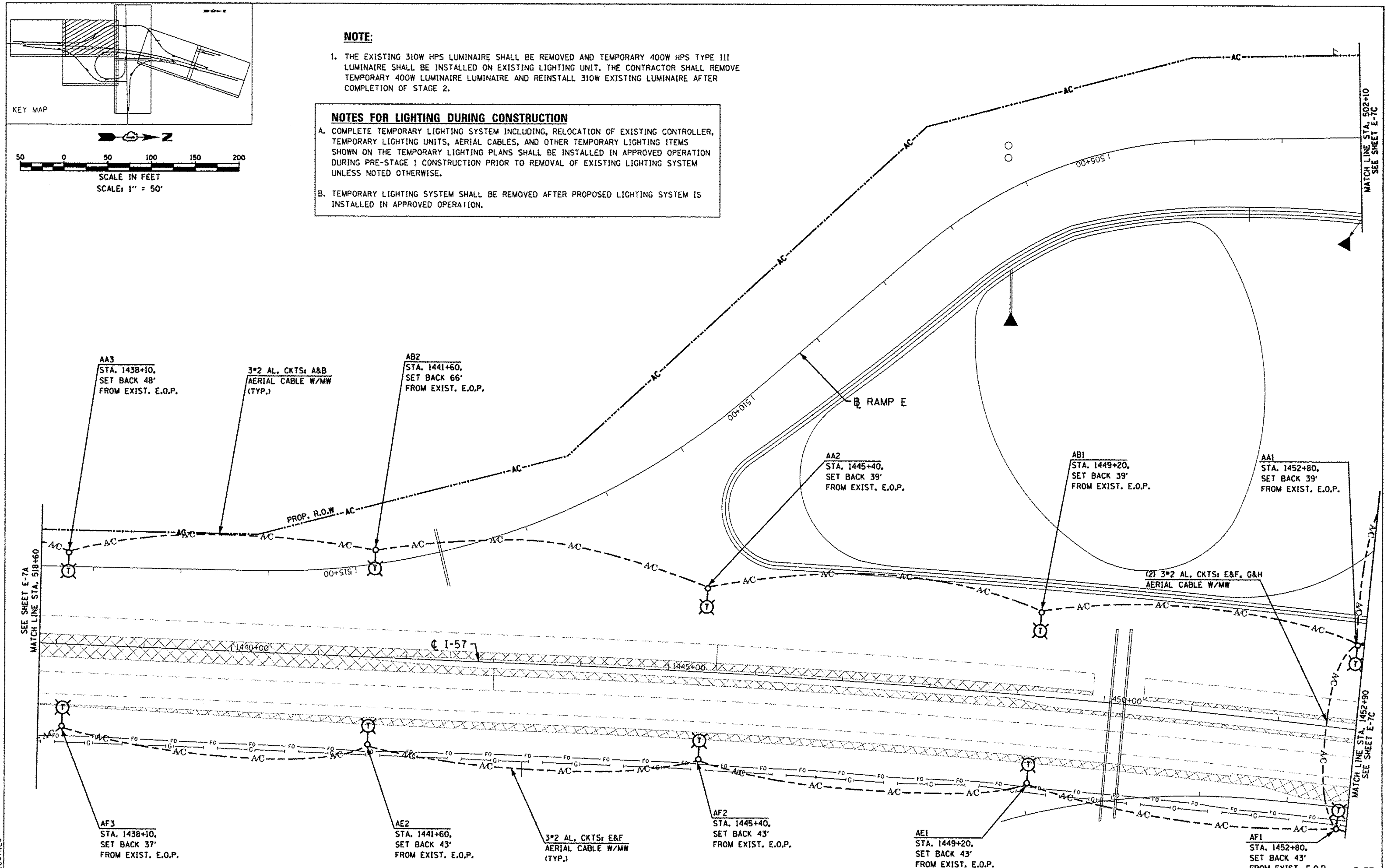
NOTE:

1. THE EXISTING 310W HPS LUMINAIRE SHALL BE REMOVED AND TEMPORARY 400W HPS TYPE III LUMINAIRE SHALL BE INSTALLED ON EXISTING LIGHTING UNIT. THE CONTRACTOR SHALL REMOVE TEMPORARY 400W LUMINAIRE AND REINSTALL 310W EXISTING LUMINAIRE AFTER COMPLETION OF STAGE 2.

NOTES FOR LIGHTING DURING CONSTRUCTION

A. COMPLETE TEMPORARY LIGHTING SYSTEM INCLUDING, RELOCATION OF EXISTING CONTROLLER, TEMPORARY LIGHTING UNITS, AERIAL CABLES, AND OTHER TEMPORARY LIGHTING ITEMS SHOWN ON THE TEMPORARY LIGHTING PLANS SHALL BE INSTALLED IN APPROVED OPERATION DURING PRE-STAGE 1 CONSTRUCTION PRIOR TO REMOVAL OF EXISTING LIGHTING SYSTEM UNLESS NOTED OTHERWISE.

B. TEMPORARY LIGHTING SYSTEM SHALL BE REMOVED AFTER PROPOSED LIGHTING SYSTEM IS INSTALLED IN APPROVED OPERATION.



E-7B

SINGH	USER NAME = mgarvida	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 TEMPORARY LIGHTING PLANS - STAGE 1&2
		DRAWN - MG/WC	REVISED 8/22/2013		
	PLOT SCALE = 100.000000:1.000000	CHECKED - KGP	REVISED 10/18/2013		
	PLOT DATE = 05-DEC-2013 13:18	DATE - 8/22/2013	REVISED - 12/04/2013		SCALE: AS NOTED / SHEET NO. 9 OF 24 SHEETS / STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	330B
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

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05-DEC-2013 13:18 $TIME$

NOTES:

1. THE EXISTING LIGHTING CONTROLLER SHALL BE REMOVED AND RELOCATED ON TEMPORARY WOOD POLE DURING PRE-STAGE 1 CONSTRUCTION AS SHOWN ON TEMPORARY LIGHTING PLANS. ALL NECESSARY WORK INCLUDING INSTALLATION OF TEMPORARY WOOD POLES, TEMPORARY LIGHTING UNITS, TEMPORARY SERVICE INSTALLATION, TEMPORARY BRANCH CIRCUITS, AND COORDINATION WITH COMED SHALL BE DONE PRIOR TO CONTROLLER REMOVAL. THE RELOCATION OF EXISTING CONTROLLER AND TEMPORARY MAINLINE LIGHTING SYSTEM SHALL BE MADE OPERATIONAL THE SAME DAY BEFORE DUSK. THIS WORK IS INCIDENTAL TO ASSOCIATED PAY ITEMS.

2. THE TEMPORARILY RELOCATED EXISTING LIGHTING CONTROLLER SHALL BE REMOVED AFTER PROPOSED LIGHTING CONTROLLER IS INSTALLED AND PROPOSED LIGHTING SYSTEM IS TESTED AND ACCEPTED FULLY OPERATIONAL. THE CONTROLLER SHALL BE RETURNED TO THE IDOT DISTRICT 1 FACILITY AS PER SPECIAL PROVISIONS.

3. THE PROPOSED UNDERPASS LIGHTING SYSTEM SHALL BE INSTALLED IN APPROVED OPERATION DURING PRE-STAGE 1 CONSTRUCTION AND POWERED FROM TEMPORARY LIGHTING SYSTEM DURING CONSTRUCTION.

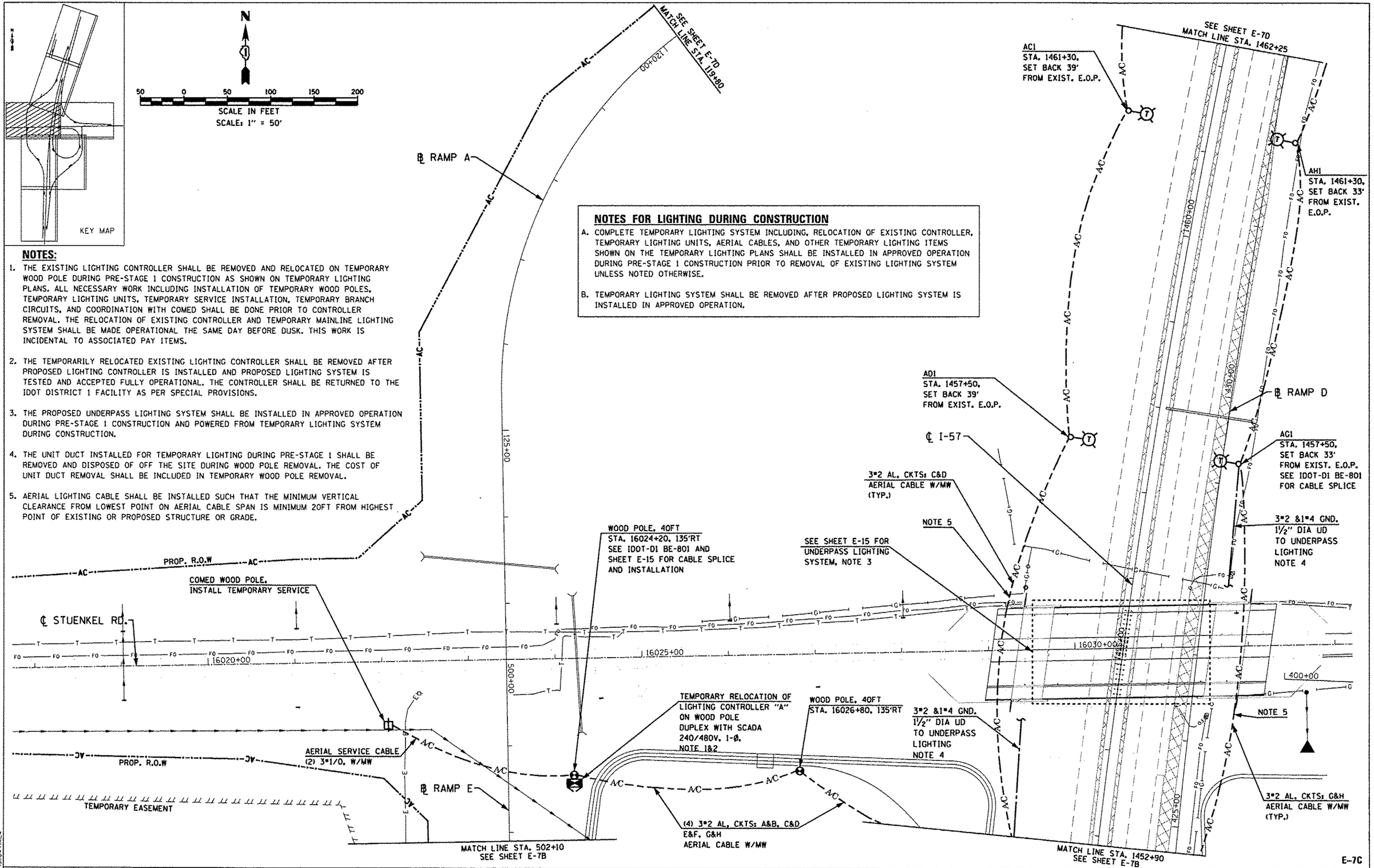
4. THE UNIT DUCT INSTALLED FOR TEMPORARY LIGHTING DURING PRE-STAGE 1 SHALL BE REMOVED AND DISPOSED OF OFF THE SITE DURING WOOD POLE REMOVAL. THE COST OF UNIT DUCT REMOVAL SHALL BE INCLUDED IN TEMPORARY WOOD POLE REMOVAL.

5. AERIAL LIGHTING CABLE SHALL BE INSTALLED SUCH THAT THE MINIMUM VERTICAL CLEARANCE FROM LOWEST POINT ON AERIAL CABLE SPAN IS MINIMUM 20FT FROM HIGHEST POINT OF EXISTING OR PROPOSED STRUCTURE OR GRADE.

NOTES FOR LIGHTING DURING CONSTRUCTION

A. COMPLETE TEMPORARY LIGHTING SYSTEM INCLUDING, RELOCATION OF EXISTING CONTROLLER, TEMPORARY LIGHTING UNITS, AERIAL CABLES, AND OTHER TEMPORARY LIGHTING ITEMS SHOWN ON THE TEMPORARY LIGHTING PLANS SHALL BE INSTALLED IN APPROVED OPERATION DURING PRE-STAGE 1 CONSTRUCTION PRIOR TO REMOVAL OF EXISTING LIGHTING SYSTEM UNLESS NOTED OTHERWISE.

B. TEMPORARY LIGHTING SYSTEM SHALL BE REMOVED AFTER PROPOSED LIGHTING SYSTEM IS INSTALLED IN APPROVED OPERATION.



E-7C

SINGH + ASSOCIATES INC CONSULTING ENGINEERS	USER NAME = mgarvida	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 TEMPORARY LIGHTING PLANS – STAGE 1&2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 100.000000\1.000000	DRAWN - MG/WC	REVISED 8/22/2013			57	99-IHB-R	WILL	679	B30C
	PLOT DATE = 05-DEC-2013 13:18	CHECKED - KCP	REVISED 10/18/2013					CONTRACT NO. 60L69		
		DATE - 8/22/2013	REVISED - 12/04/2013		SCALE: AS NOTED SHEET NO. 10 OF 24 SHEETS STA. ----- TO STA. -----			ILLINOIS FED. AID PROJECT		

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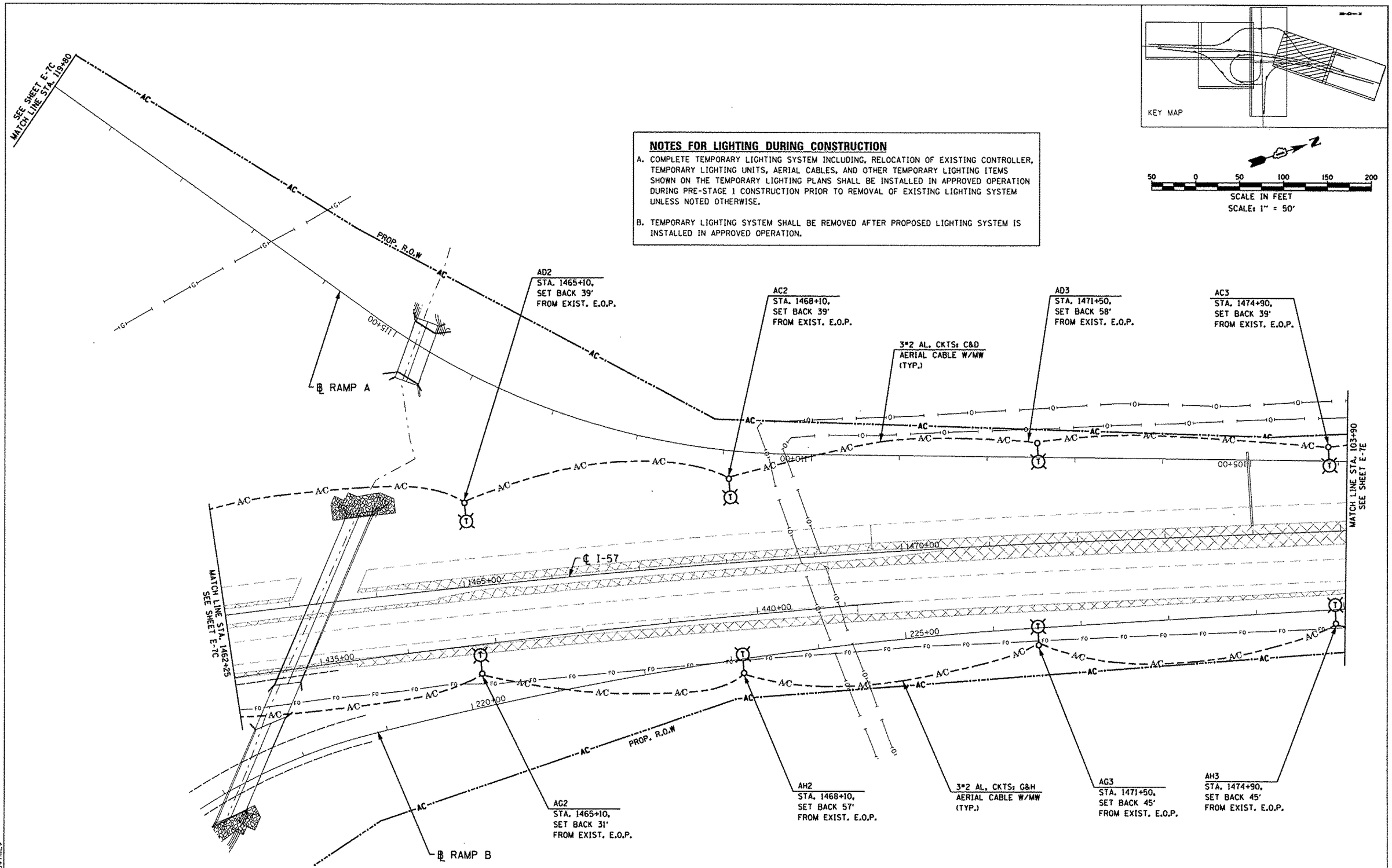
05-DEC-2013 13:18 $TIME$



KEY MAP

NOTES FOR LIGHTING DURING CONSTRUCTION

A. COMPLETE TEMPORARY LIGHTING SYSTEM INCLUDING, RELOCATION OF EXISTING CONTROLLER, TEMPORARY LIGHTING UNITS, AERIAL CABLES, AND OTHER TEMPORARY LIGHTING ITEMS SHOWN ON THE TEMPORARY LIGHTING PLANS SHALL BE INSTALLED IN APPROVED OPERATION DURING PRE-STAGE 1 CONSTRUCTION PRIOR TO REMOVAL OF EXISTING LIGHTING SYSTEM UNLESS NOTED OTHERWISE.

B. TEMPORARY LIGHTING SYSTEM SHALL BE REMOVED AFTER PROPOSED LIGHTING SYSTEM IS INSTALLED IN APPROVED OPERATION.

N

50 0 50 100 150 200

SCALE IN FEET

SCALE: 1" = 50'

E-7D

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05-DEC-2013 13:18:8 TIME:8

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

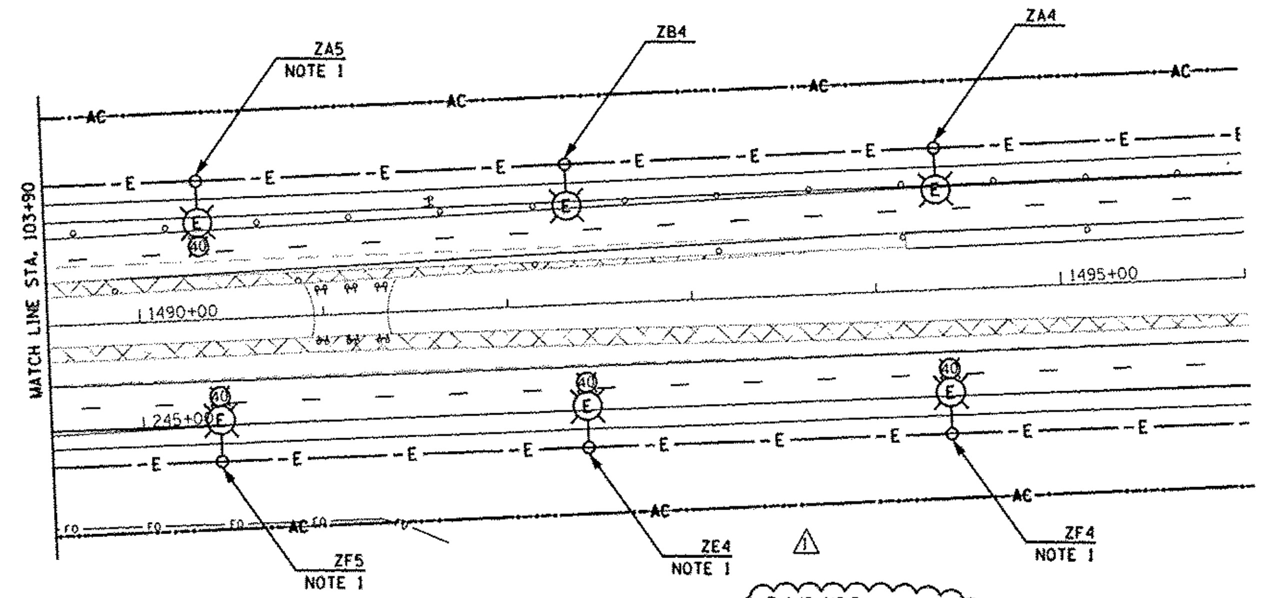
USER NAME = mgarvido	DESIGNED - RDP	REVISED 6/18/2013	
	DRAWN - MG/WC	REVISED 8/22/2013	
PLOT SCALE = 100.0000001.000000	CHECKED - KGP	REVISED 10/18/2013	
PLOT DATE = 05-DEC-2013 13:18	DATE - 8/22/2013	REVISED - 12/04/2013	

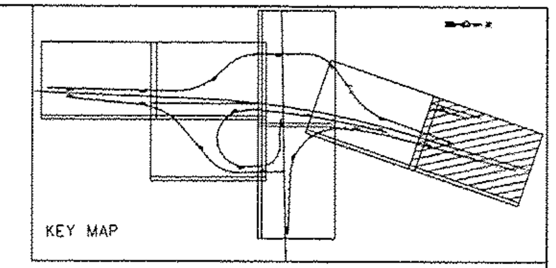
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
TEMPORARY LIGHTING PLANS - STAGE 1&2

SCALE: AS NOTED | SHEET NO. 11 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	830
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			





NOTE:

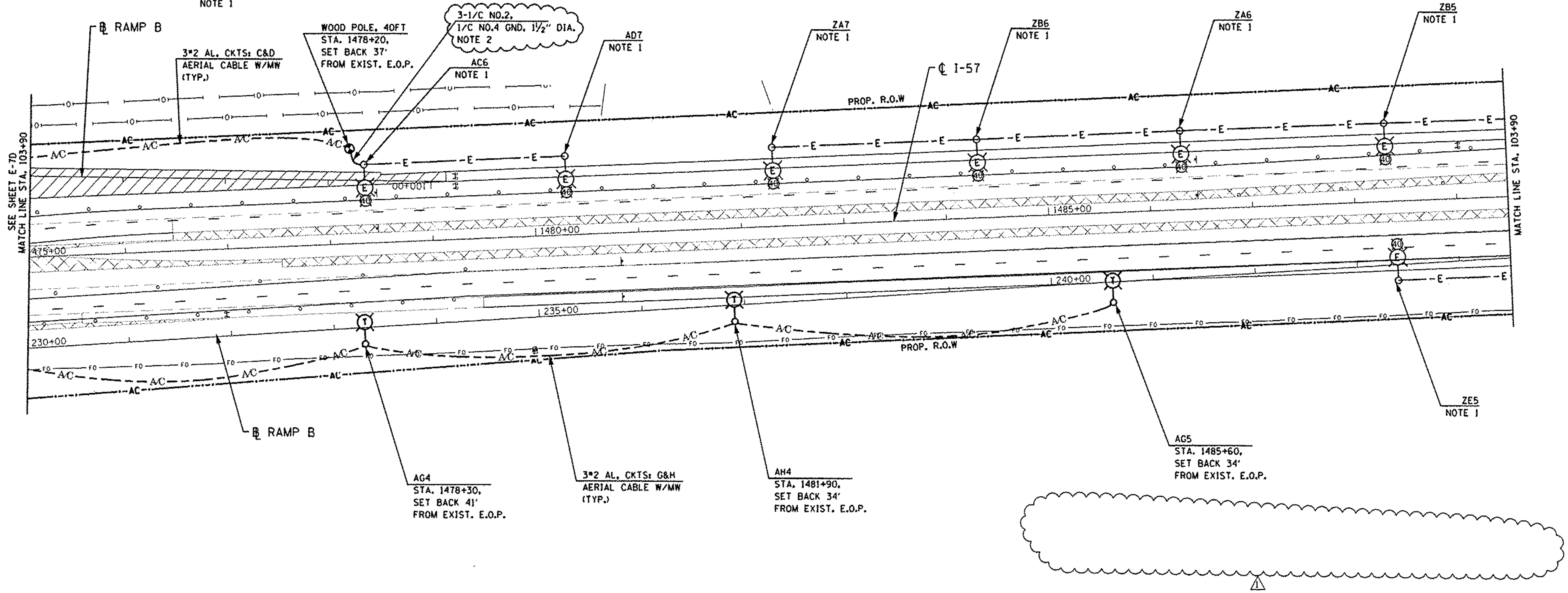
1. THE EXISTING 310W HPS LUMINAIRE SHALL BE REMOVED AND TEMPORARY 400W HPS TYPE III LUMINAIRE SHALL BE INSTALLED ON EXISTING LIGHTING UNIT. THE CONTRACTOR SHALL REMOVE TEMPORARY 400W LUMINAIRE LUMINAIRE AND REINSTALL 310W EXISTING LUMINAIRE AFTER COMPLETION OF STAGE 2.
2. THE UNIT DUCT INSTALLED FOR TEMPORARY LIGHTING DURING PRE-STAGE 1 SHALL BE REMOVED AND DISPOSED OF OFF THE SITE DURING WOOD POLE REMOVAL. THE COST OF UNIT DUCT REMOVAL SHALL BE INCLUDED IN TEMPORARY WOOD POLE REMOVAL.

NOTES FOR LIGHTING DURING CONSTRUCTION

A. COMPLETE TEMPORARY LIGHTING SYSTEM INCLUDING, RELOCATION OF EXISTING CONTROLLER, TEMPORARY LIGHTING UNITS, AERIAL CABLES, AND OTHER TEMPORARY LIGHTING ITEMS SHOWN ON THE TEMPORARY LIGHTING PLANS SHALL BE INSTALLED IN APPROVED OPERATION DURING PRE-STAGE 1 CONSTRUCTION PRIOR TO REMOVAL OF EXISTING LIGHTING SYSTEM UNLESS NOTED OTHERWISE.

B. TEMPORARY LIGHTING SYSTEM SHALL BE REMOVED AFTER PROPOSED LIGHTING SYSTEM IS INSTALLED IN APPROVED OPERATION.

SCALE IN FEET
SCALE: 1" = 50'



E-7E

SINGH (SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS)	USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 TEMPORARY LIGHTING PLANS - STAGE 1&2	F.A.I. RTE. 57	SECTION 99-1HB-R	COUNTY WILL	TOTAL SHEETS 679	SHEET NO. 330E
	PLOT SCALE = 100.000000:1.000000	DRAWN - MG/WC	REVISED 8/22/2013					CONTRACT NO. 60L69		
	PLOT DATE = 26-DEC-2013 15:01	CHECKED - KGP	REVISED 10/18/2013		SCALE: AS NOTED / SHEET NO. 12 OF 24 SHEETS / STA. ----- TO STA. -----			ILLINOIS FED. AID PROJECT		
		DATE - 8/22/2013	REVISED 12/04/2013							

ADDENDUM 1 1/03/14

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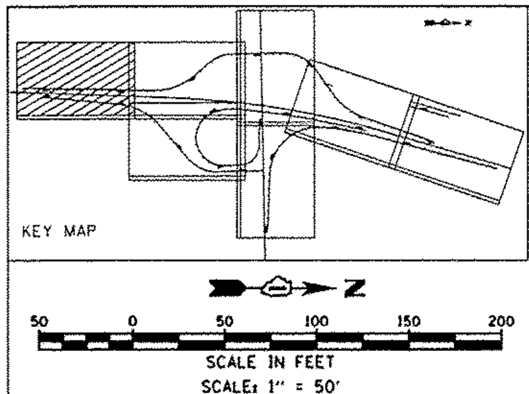
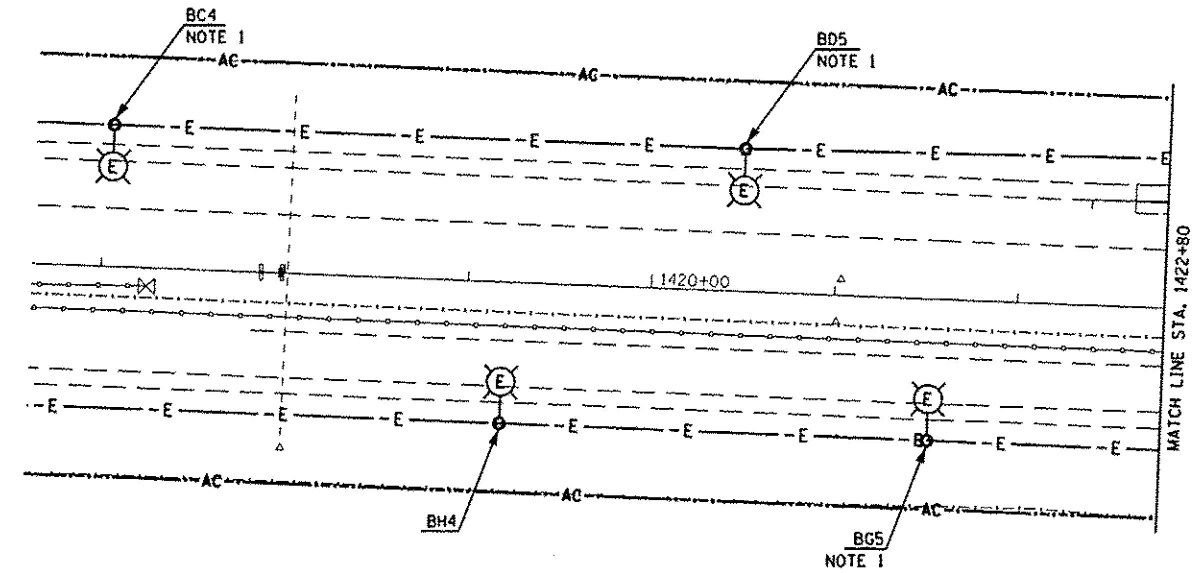
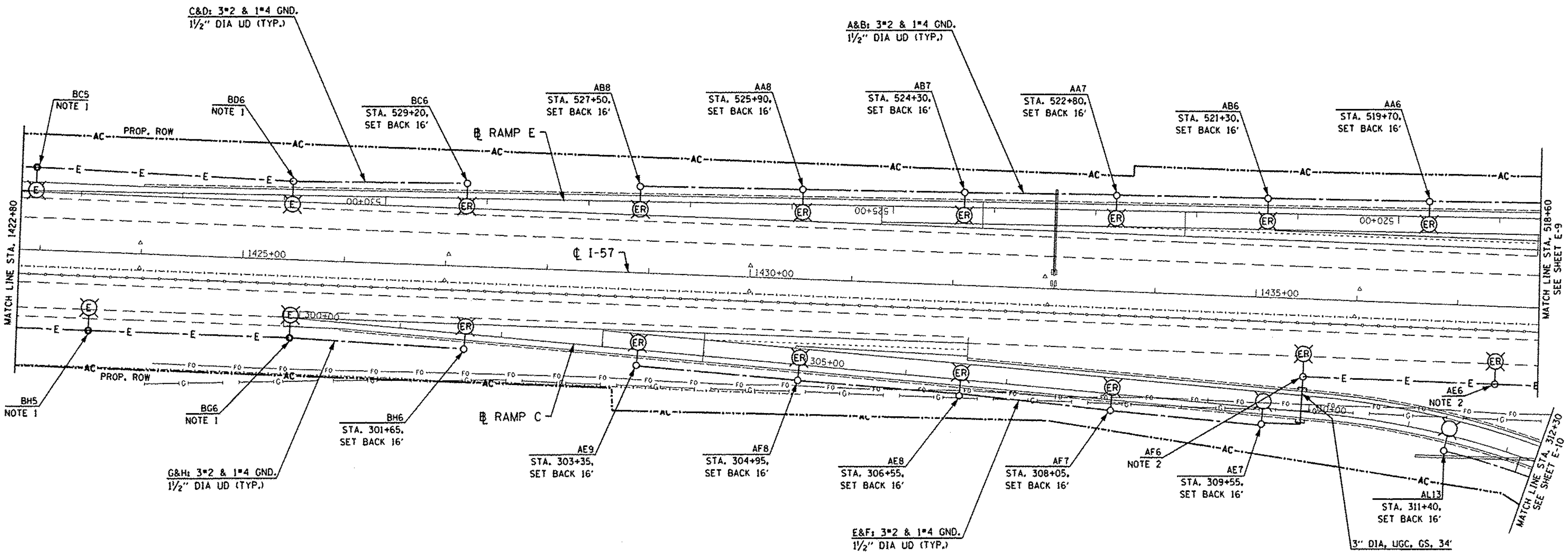


NOTE:

1. THE EXISTING 310W HPS LUMINAIRE SHALL BE REINSTALLED ON EXISTING LIGHTING UNIT WITH NEW LAMP PER SPECIAL PROVISION.
2. REMOVE THE TEMPORARY PROTECTION INSTALLED ON EXISTING TRANSFORMER BASE. REINSTALL EXISTING LIGHT POLE WITH NEW HARDWARE, NEW FUSE AND FUSE HOLDERS, NEW 310W HPS LAMP COMPLYING WITH THE ARTICLE 1067.06(a) OF STANDARD SPECIFICATION, AND NEW POLE DECAL. THIS WORK SHALL BE INCLUDED AS PART OF THE PAY ITEM "RELOCATE LIGHTING UNITS". 1





E-8

SINGH	USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 PROPOSED LIGHTING PLANS (SHEET 1 OF 7)	F.A.I. RTE. 57	SECTION 99-1HB-R	COUNTY WILL	TOTAL SHEETS 679	SHEET NO. 331
SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS	PLOT SCALE = 100.000000 ':1.000000	DRAWN - MG/WC	REVISED 8/22/2013					CONTRACT NO. 60L69		
	PLOT DATE = 26-DEC-2013 15:01	CHECKED - KGP	REVISED 10/18/2013		SCALE: AS NOTED | SHEET NO. 13 OF 24 SHEETS | STA. ----- TO STA. -----			ILLINOIS FED. AID PROJECT		
		DATE - 8/22/2013	REVISED 12/04/2013							
			1 ADDENDUM 1 1/03/14							

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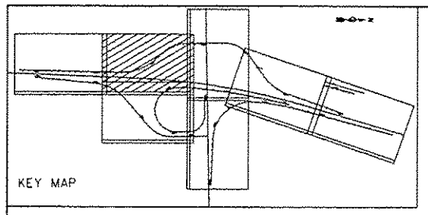
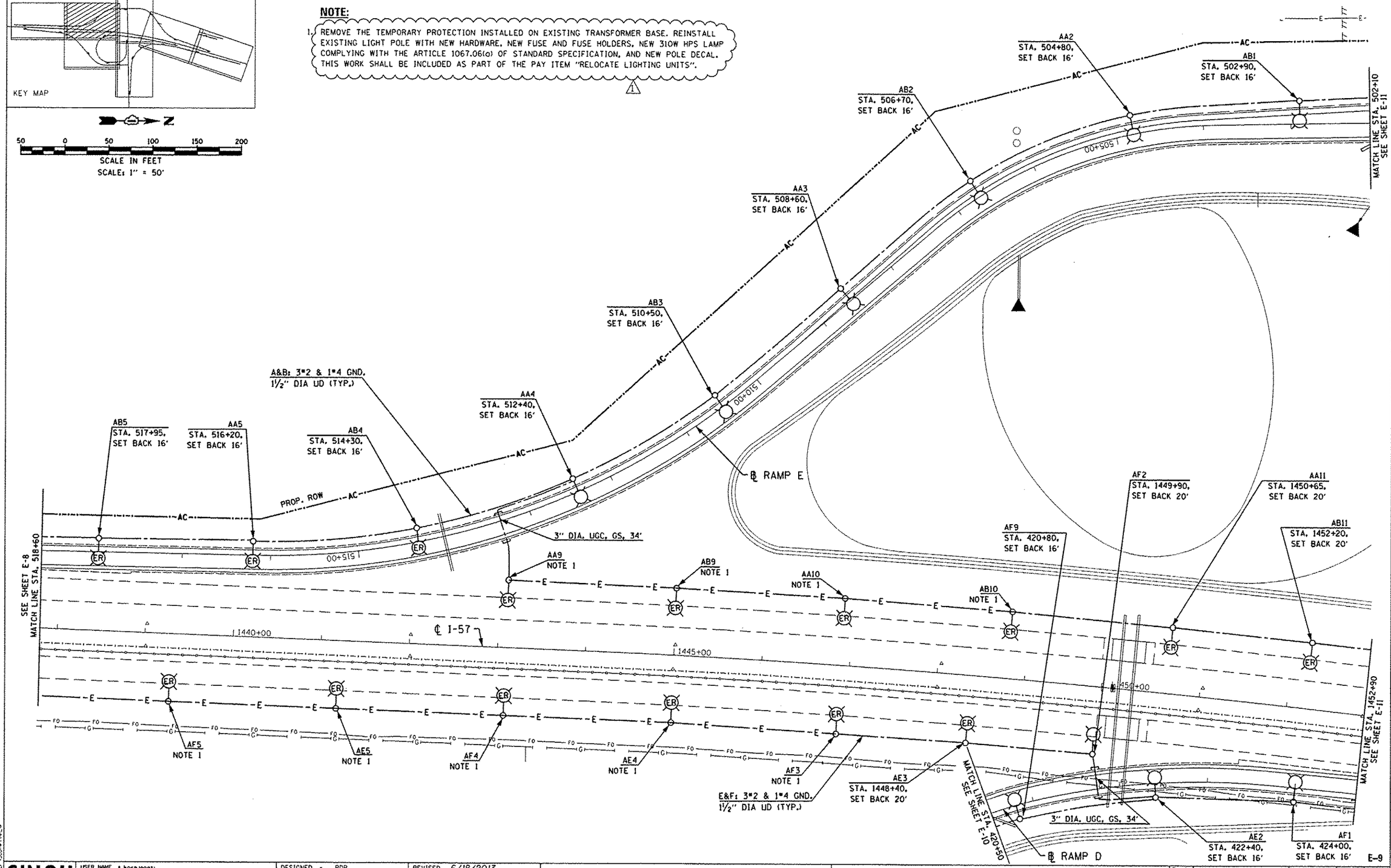


NOTE:

1. REMOVE THE TEMPORARY PROTECTION INSTALLED ON EXISTING TRANSFORMER BASE. REINSTALL EXISTING LIGHT POLE WITH NEW HARDWARE, NEW FUSE AND FUSE HOLDERS, NEW 310W HPS LAMP COMPLYING WITH THE ARTICLE 1067.06(a) OF STANDARD SPECIFICATION, AND NEW POLE DECAL. THIS WORK SHALL BE INCLUDED AS PART OF THE PAY ITEM "RELOCATE LIGHTING UNITS". (1)



E-9

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USER NAME = kprajapati	DESIGNED - RDP	REVISED	6/18/2013
	DRAWN - MG/WC	REVISED	8/22/2013
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PLOT DATE = 26-DEC-2013 15:01	DATE - 8/22/2013	REVISED	12/04/2013
		⚠ ADDENDUM 1	1/03/14

SINGH + ASSOCIATES, INC.
CONSULTING ENGINEERS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
PROPOSED LIGHTING PLANS (SHEET 2 OF 7)

SCALE: AS NOTED | SHEET NO. 14 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	332
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

SEE SHEET E-8
MATCH LINE STA. 312+30

SEE SHEET E-9
MATCH LINE STA. 420+50

AK12
STA. 313+30,
SET BACK 16'

AL12
STA. 315+20,
SET BACK 16'

AK11
STA. 317+10,
SET BACK 16'

AL11
STA. 319+00,
SET BACK 16'

AK10
STA. 320+90,
SET BACK 16'

AL10
STA. 322+80,
SET BACK 16'

AK9
STA. 324+70,
SET BACK 16'

AL9
STA. 326+60,
SET BACK 16'

AK8
STA. 328+50,
SET BACK 16'

AL8
STA. 330+40,
SET BACK 16'

AE10
STA. 418+90,
SET BACK 16'

AE11
STA. 415+10,
SET BACK 16'

AF10
STA. 417+00,
SET BACK 16'

AF11
STA. 413+20,
SET BACK 16'

AE12
STA. 411+30,
SET BACK 16'

AF12
STA. 409+40,
SET BACK 16'

AE13
STA. 407+50,
SET BACK 16'

℄ RAMP C

℄ RAMP D

PROP. ROW

AC

1335+00

1320+00

1325+00

1330+00

1420+00

1415+00

K&L: 3#2 & 1#4 GND.
1½" DIA UD (TYP.)

E&F: 3#2 & 1#4 GND.
1½" DIA UD (TYP.)

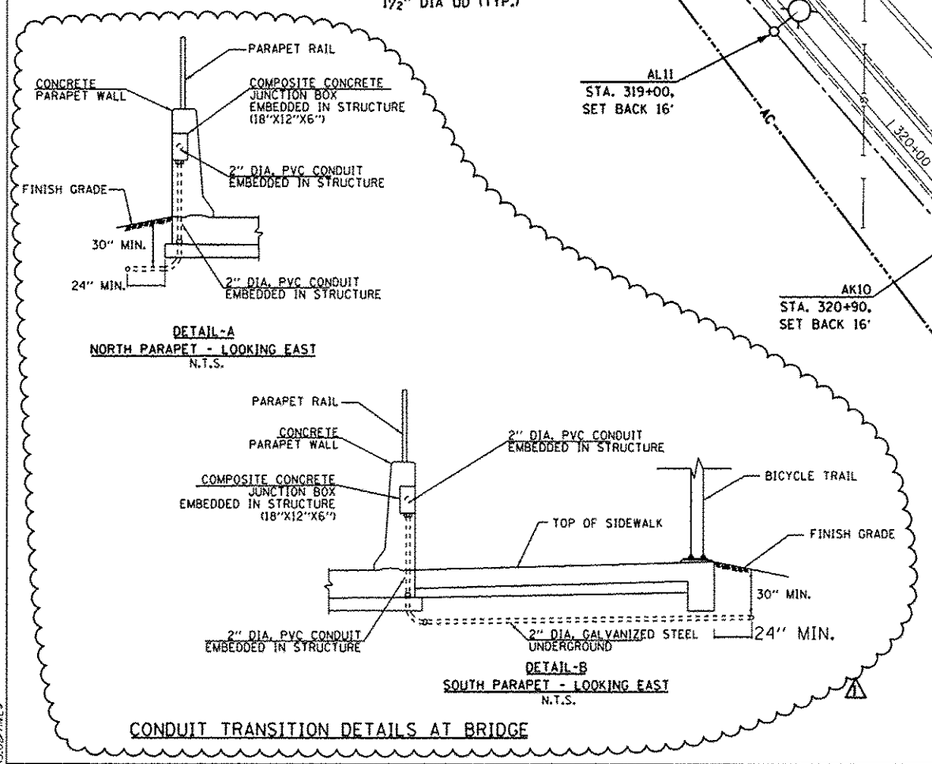
MATCH LINE STA. 330+80
SEE SHEET E-12

E-10

KEY MAP

N

50 0 50 100 150 200
SCALE IN FEET
SCALE: 1" = 50'



CONDUIT TRANSITION DETAILS AT BRIDGE

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26-DEC-2013 15:08:11 ES

SINGH
SINGH + ASSOCIATES, INC.
CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - RDP	REVISED	6/18/2013
	DRAWN - MG/WC	REVISED	8/22/2013
PLOT SCALE = 100.0000000'/1.000000	CHECKED - KGP	REVISED	10/18/2013
PLOT DATE = 26-DEC-2013 15:02	DATE - 8/22/2013	REVISED	12/04/2013

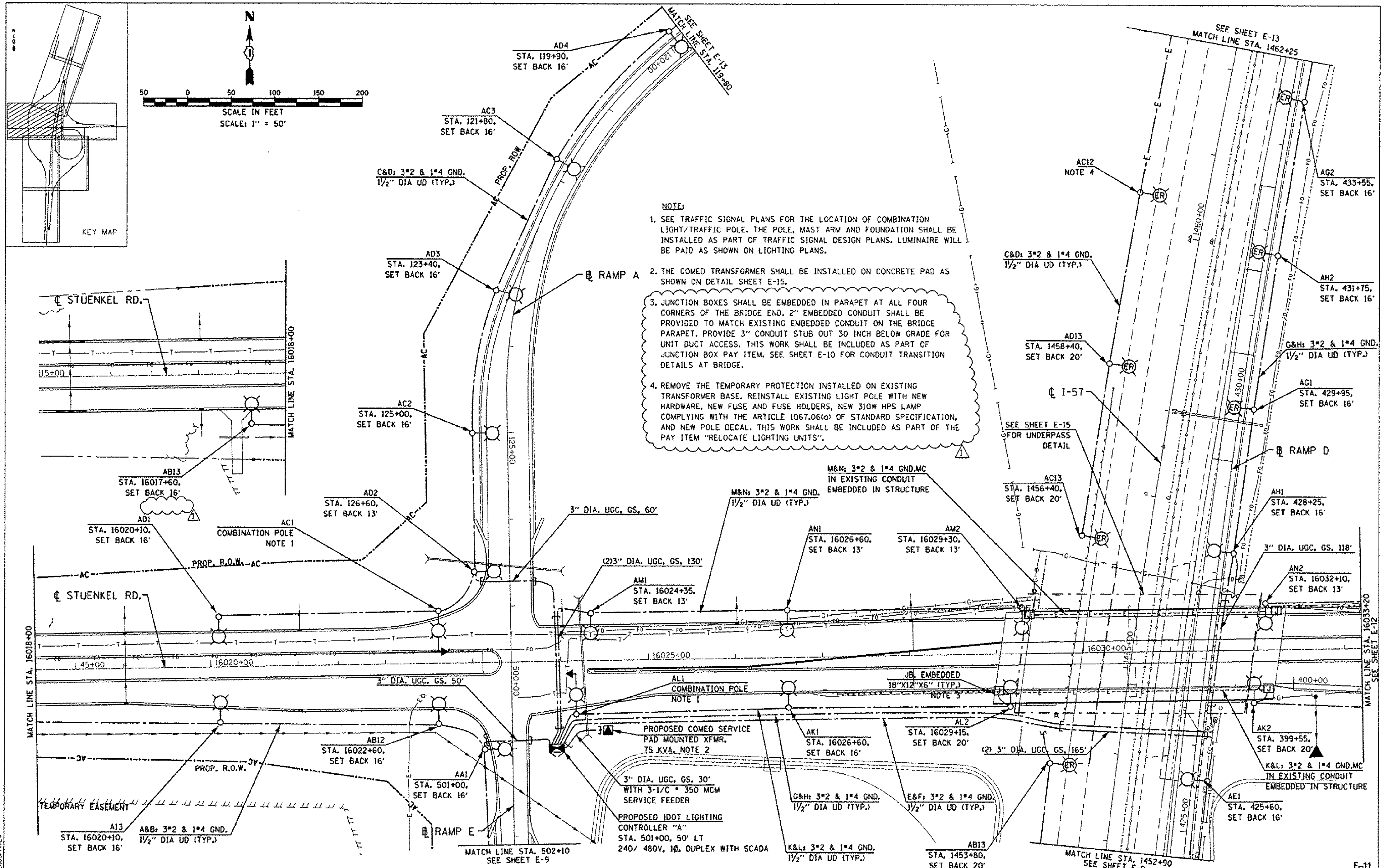
⚠ ADDENDUM 1 1/03/2014

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
PROPOSED LIGHTING PLANS (SHEET 3 OF 7)

SCALE: AS NOTED | SHEET NO. 15 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IHB-R	WILL	679	333
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			



NOTE:

1. SEE TRAFFIC SIGNAL PLANS FOR THE LOCATION OF COMBINATION LIGHT/TRAFFIC POLE. THE POLE, MAST ARM AND FOUNDATION SHALL BE INSTALLED AS PART OF TRAFFIC SIGNAL DESIGN PLANS. LUMINAIRE WILL BE PAID AS SHOWN ON LIGHTING PLANS.
2. THE COMED TRANSFORMER SHALL BE INSTALLED ON CONCRETE PAD AS SHOWN ON DETAIL SHEET E-15.
3. JUNCTION BOXES SHALL BE EMBEDDED IN PARAPET AT ALL FOUR CORNERS OF THE BRIDGE END. 2" EMBEDDED CONDUIT SHALL BE PROVIDED TO MATCH EXISTING EMBEDDED CONDUIT ON THE BRIDGE PARAPET. PROVIDE 3" CONDUIT STUB OUT 30 INCH BELOW GRADE FOR UNIT DUCT ACCESS. THIS WORK SHALL BE INCLUDED AS PART OF JUNCTION BOX PAY ITEM. SEE SHEET E-10 FOR CONDUIT TRANSITION DETAILS AT BRIDGE.
4. REMOVE THE TEMPORARY PROTECTION INSTALLED ON EXISTING TRANSFORMER BASE. REINSTALL EXISTING LIGHT POLE WITH NEW HARDWARE, NEW FUSE AND FUSE HOLDERS, NEW 310W HPS LAMP COMPLYING WITH THE ARTICLE 1067.06(a) OF STANDARD SPECIFICATION, AND NEW POLE DECAL. THIS WORK SHALL BE INCLUDED AS PART OF THE PAY ITEM "RELOCATE LIGHTING UNITS".

E-11

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26-DEC-2013 15:03 TIMES

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013
	DRAWN - MG/WC	REVISED 8/22/2013
PLOT SCALE = 100.000000:1.000000	CHECKED - KGP	REVISED 10/18/2013
PLOT DATE = 26-DEC-2013 15:02	DATE - 8/22/2013	REVISED 12/04/2013

ADDENDUM 1 1/03/2014

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

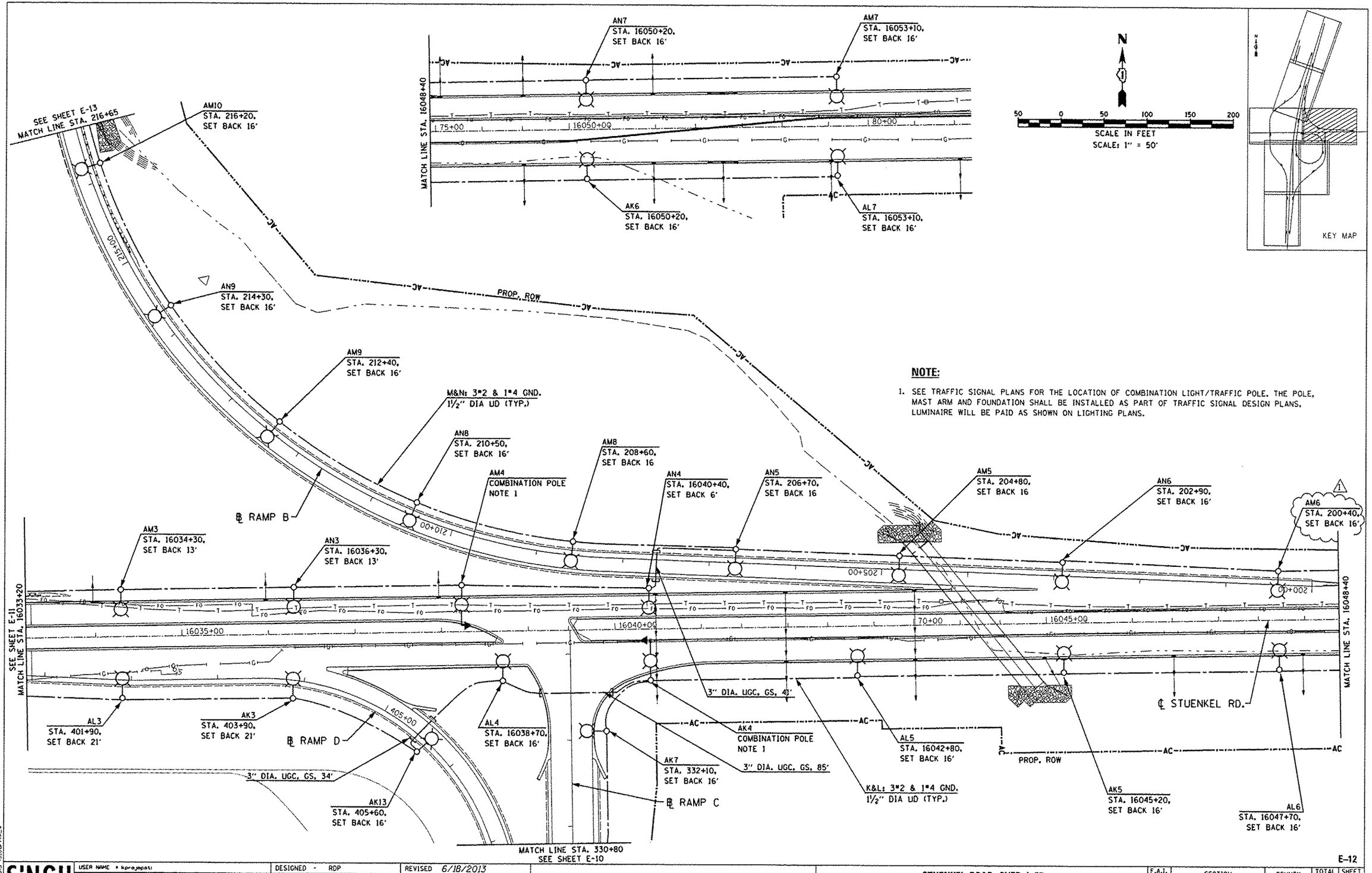
STUENKEL ROAD OVER I-57
PROPOSED LIGHTING PLANS (SHEET 4 OF 7)

SCALE: AS NOTED | SHEET NO. 16 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	334

CONTRACT NO. 60L69

ILLINOIS FED. AID PROJECT



NOTE:

1. SEE TRAFFIC SIGNAL PLANS FOR THE LOCATION OF COMBINATION LIGHT/TRAFFIC POLE. THE POLE, MAST ARM AND FOUNDATION SHALL BE INSTALLED AS PART OF TRAFFIC SIGNAL DESIGN PLANS. LUMINAIRE WILL BE PAID AS SHOWN ON LIGHTING PLANS.

E-12

USER NAME = kprojects	DESIGNED - RDP	REVISED 6/18/2013	
	DRAWN - MG/WC	REVISED 8/22/2013	
PLOT SCALE = 100.000000:1.000000	CHECKED - KGP	REVISED 10/18/2013	
PLOT DATE = 26-DEC-2013 15:02	DATE - 8/22/2013	REVISED 12/04/2013	

⚠ ADDENDUM 1 1/03/14

SINGH — SINGH & ASSOCIATES, INC. CONSULTING ENGINEERS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
PROPOSED LIGHTING PLANS (SHEET 5 OF 7)

SCALE: AS NOTED | SHEET NO. 17 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	335
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

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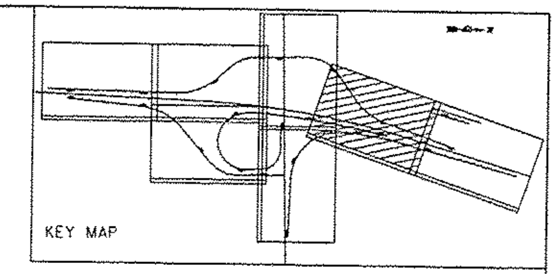
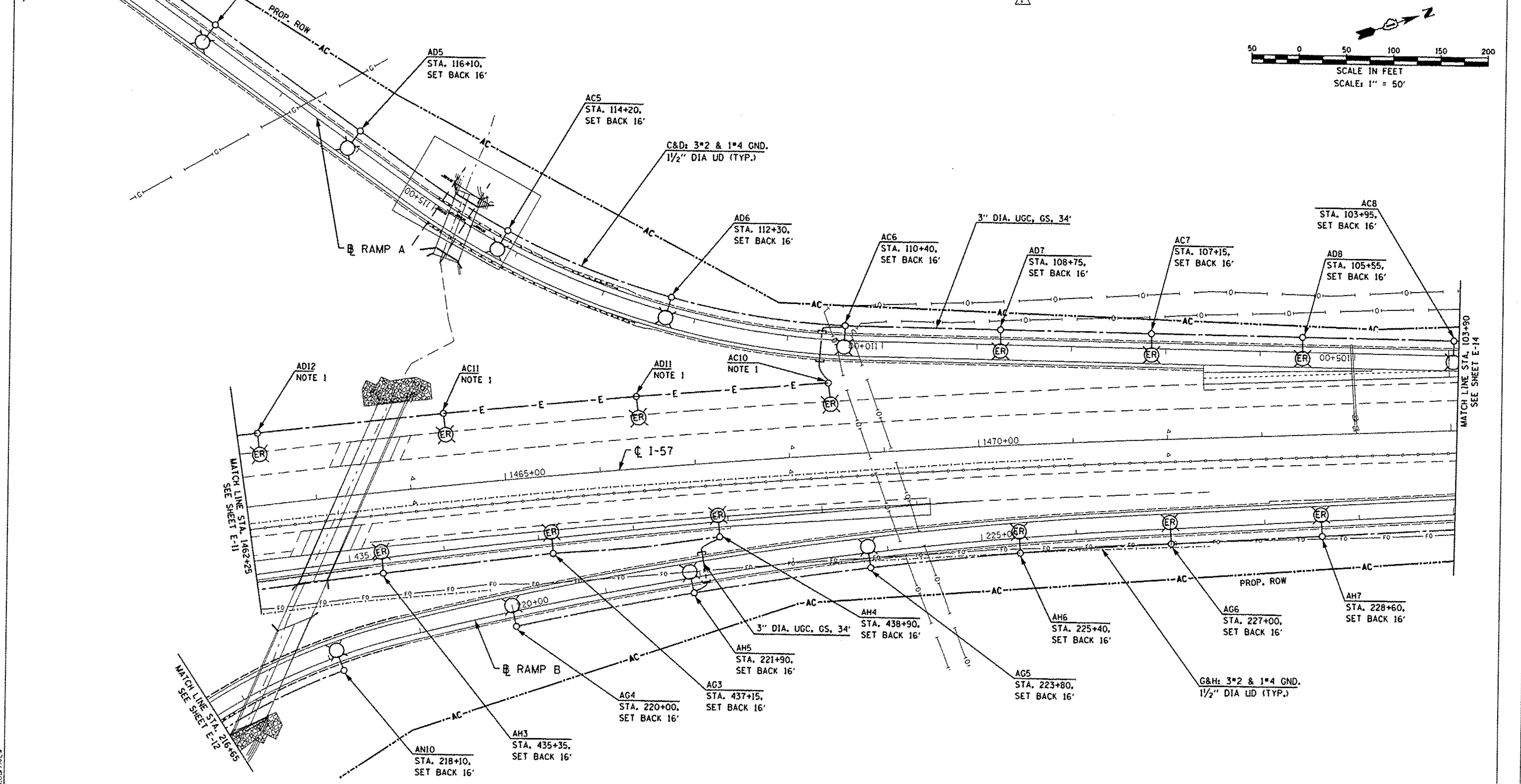
26-DEC-2013 15:03:11 kprojects

NOTES:

1. REMOVE THE TEMPORARY PROTECTION INSTALLED ON EXISTING TRANSFORMER BASE. REINSTALL EXISTING LIGHT POLE WITH NEW HARDWARE, NEW FUSE AND FUSE HOLDERS, NEW 310W HPS LAMP COMPLYING WITH THE ARTICLE 1067.06(a) OF STANDARD SPECIFICATION, AND NEW POLE DECAL. THIS WORK SHALL BE INCLUDED AS PART OF THE PAY ITEM "RELOCATE LIGHTING UNITS". ⚠1





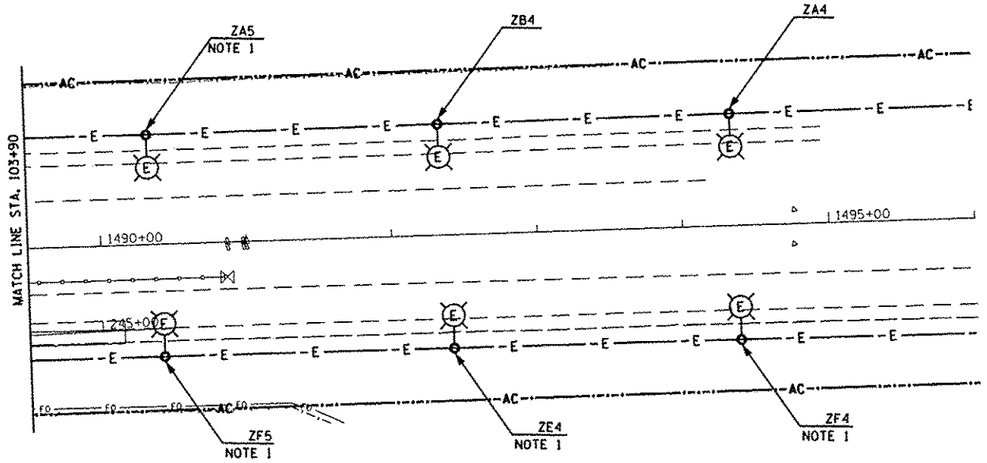
J:\327\DGN\CADD Sheets\D60L69-sht-light-13.dgn 26-DEC-2013 15:08 TIMES

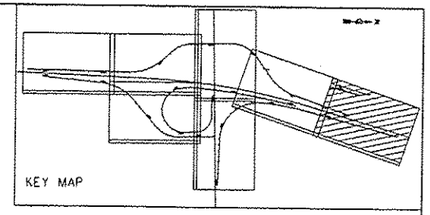
SINGH	USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STUENKEL ROAD OVER I-57 PROPOSED LIGHTING PLANS (SHEET 6 OF 7)
SINGH + ASSOCIATES, INC CONSULTING ENGINEERS	PLOT SCALE = 100.000000:1.000000	DRAWN - MG/WC	REVISED 8/22/2013		
	PLOT DATE = 26-DEC-2013 15:02	CHECKED - KGP	REVISED 10/18/2013		
		DATE - 8/22/2013	REVISED 12/04/2013		SCALE: AS NOTED / SHEET NO. 18 OF 24 SHEETS / STA. ----- TO STA. -----

⚠1 ADDENDUM 1 1/03/14

E-13

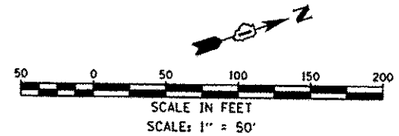
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	336
		CONTRACT NO. 60L69		
ILLINOIS FED. AID PROJECT				

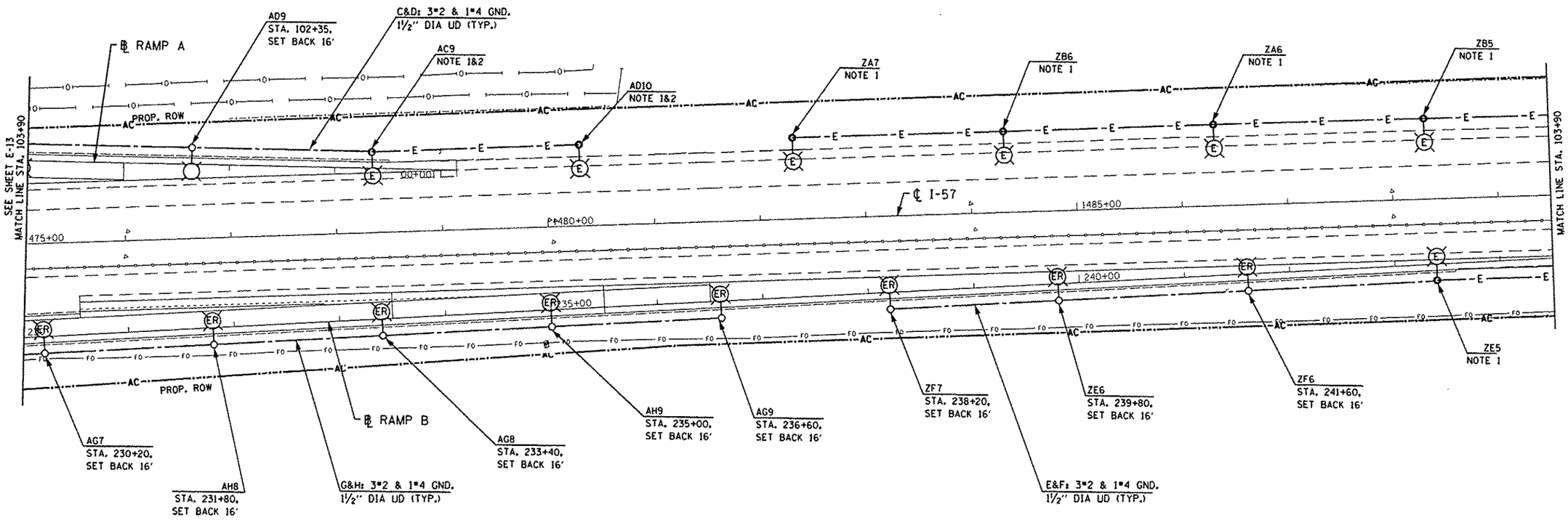




NOTES:

1. THE EXISTING 310W HPS LUMINAIRE SHALL BE REINSTALLED ON EXISTING LIGHTING UNIT WITH NEW LAMP PER SPECIAL PROVISION.
2. REMOVE THE TEMPORARY PROTECTION INSTALLED ON EXISTING TRANSFORMER BASE. REINSTALL EXISTING LIGHT POLE WITH NEW HARDWARE, NEW FUSE AND FUSE HOLDERS, NEW 310W HPS COMPLYING THE ARTICLE 1067.06(a) OF STANDARD SPECIFICATION, AND NEW POLE DECAL. THIS WORK SHALL BE INCLUDED AS PART OF THE PAY ITEM "RELOCATE LIGHTING UNITS". △1





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26-DEC-2013 15:03 TIMES

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS	USER NAME = kpraja pati	DESIGNED - RDP	REVISED 6/18/2013
		DRAWN - MG/WC	REVISED 8/22/2013
	PLOT SCALE = 100.0000000'/1.0000000	CHECKED - KGP	REVISED 10/18/2013
	PLOT DATE = 26-DEC-2013 15:02	DATE - 8/22/2013	REVISED 12/04/2013

△ ADDENDUM 1 1/03/14

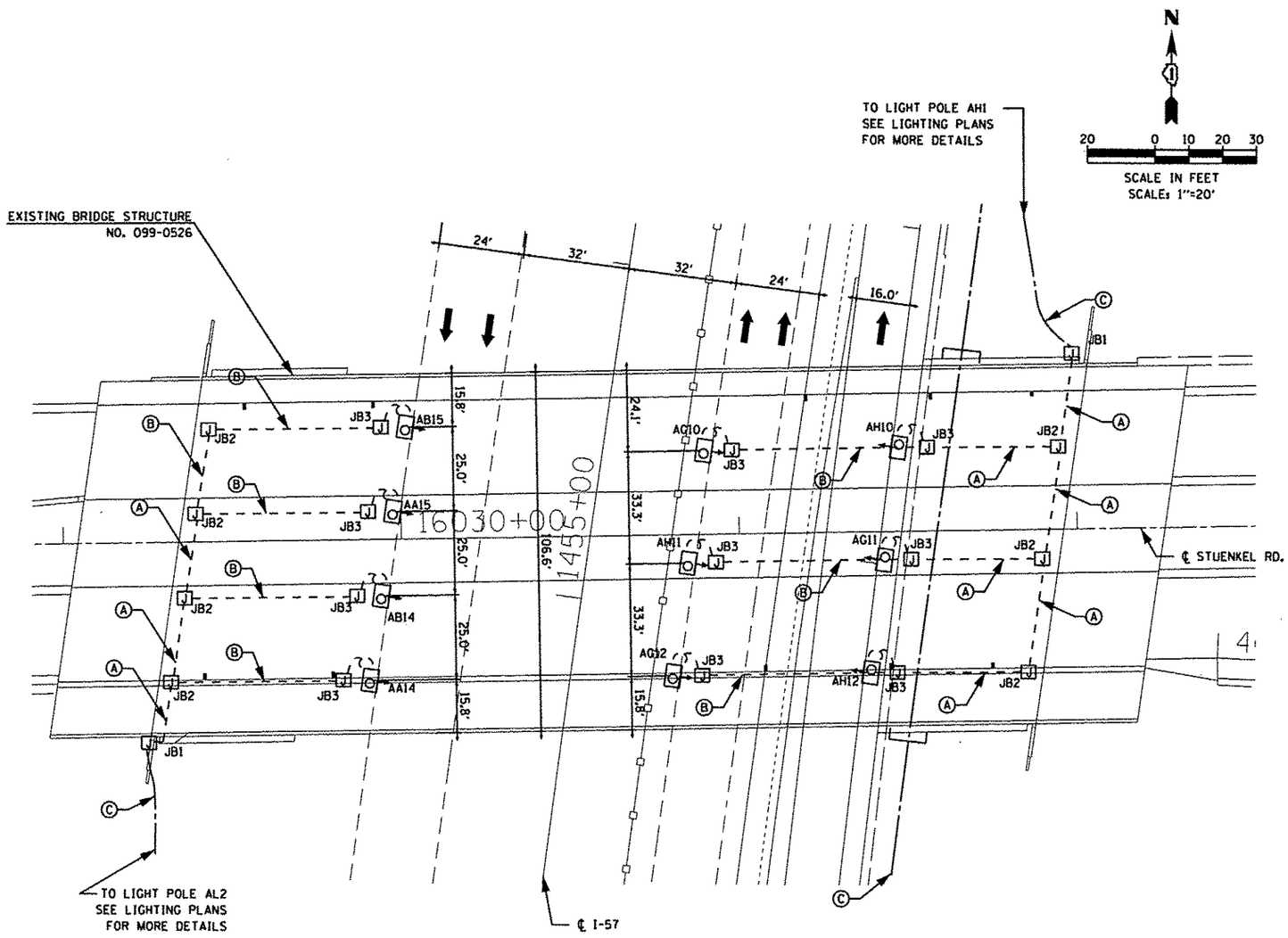
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
PROPOSED LIGHTING PLANS (SHEET 7 OF 7)

SCALE: AS NOTED | SHEET NO. 19 OF 24 SHEETS | STA. ----- TO STA. -----

E-14

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IHB-R	WILL	679	337
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		



PLAN VIEW

LEGENDS

Ⓐ 3-1/C NO. 10 AND 1/C NO. 10 GND. IN 1" PVCC RGC

Ⓑ 2-1/C NO. 10 AND 1/C NO. 10 GND. IN 1" PVCC RGC

Ⓒ 3-1/C NO. 2 AND 1/C NO. 4 GND. 1½" UNIT DUCT

JB1 JUNCTION BOX, STAINLESS STEEL, 16"X14"X6", ATTACHED TO SIDEWALL OF BRIDGE ABUTMENT

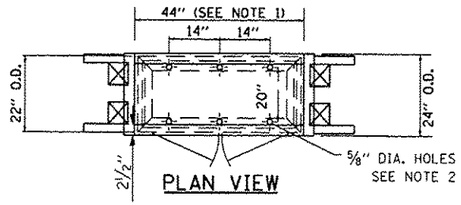
JB2 JUNCTION BOX, STAINLESS STEEL, 12"X10"X6", MOUNTED ON FACE OF ABUTMENT WALL

JB3 JUNCTION BOX, STAINLESS STEEL, 6"X6"X4", ATTACHED TO THE STRUCTURE

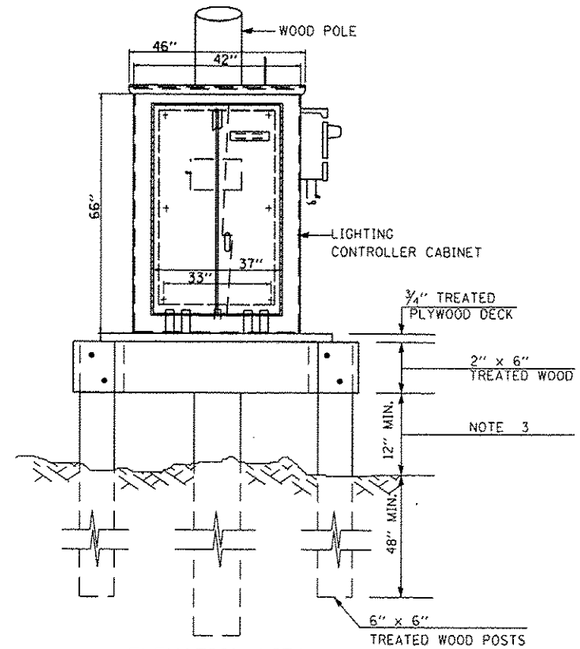
1. UNDERPASS LUMINAIRES SHALL BE CENTERED BETWEEN GIRDER AND 2FT OFF THE EDGE OF TRAVELED PAVEMENT AT THE DECK INSERT LOCATIONS PROVIDED IN THE DECK.
2. THE DISTANCES SHOWN BETWEEN UNDERPASS LUMINARIES ARE MEASURED PERPENDICULAR TO THE GIRDER.
3. THE CABLE SPLICES AT THE JUNCTION BOX SHALL BE DONE ACCORDING TO THE SPLICING DETAIL SHOWN ON IDOT-D1 STANDARD DETAIL DRAWING NO. BE-702. PROVIDE DOUBLE POLE FUSE HOLDER WITH 5 AMP FUSES AND SLUG FOR NEUTRAL
4. REFER TO IDOT-D1 STANDARD DRAWING NO. BE-900 FOR FURTHER INFORMATION ON CONDUIT AND LUMINAIRE INSTALLATION.
5. LUMINAIRE NUMBERING BRACKETS WILL NOT FIT ON ABUTMENTS DUE TO CONFLICT WITH CONCRETE SLOPE WALL. NUMBERING BRACKETS FOR LUMINAIRES ON OUTSIDE EDGE OF ROADWAY SHALL BE ATTACHED TO CENTER PIER BELOW NUMBERING BRACKETS FOR LUMINAIRES ON INSIDE EDGE OF ROADWAY.

NOTES:

1. ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS.
2. DRILL HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.
3. CONTROLLER SHALL BE INSTALLED SUCH THAT THE MINIMUM VERTICAL CLEARANCE WILL BE MAINTAINED DURING CONSTRUCTION FOR EXISTING AND PROPOSED GRADE.

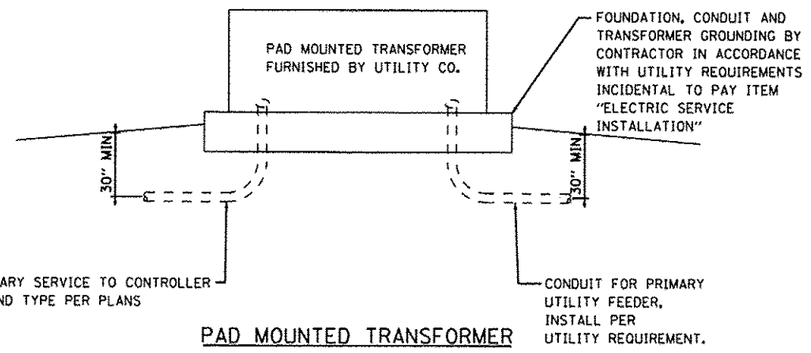


PLAN VIEW



ELEVATION VIEW

TEMPORARY RELOCATION OF EXISTING LIGHTING CONTROLLER



PAD MOUNTED TRANSFORMER

SUBJECT TO UTILITY COMPANY APPROVAL

N.T.S.

E-15

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = mgorvide	DESIGNED - RDP	REVISED	6/18/2013
	DRAWN - MG/WC	REVISED	8/22/2013
PLOT SCALE = 48.000000/1.000000	CHECKED - KGP	REVISED	10/18/2013
PLOT DATE = 05-DEC-2013 13:53	DATE - 8/22/2013	REVISED	- 12/04/2013

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
UNDERPASS LIGHTING PLAN AND MISCELLANEOUS DETAILS

SCALE: AS NOTED | SHEET NO. 8 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	338
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

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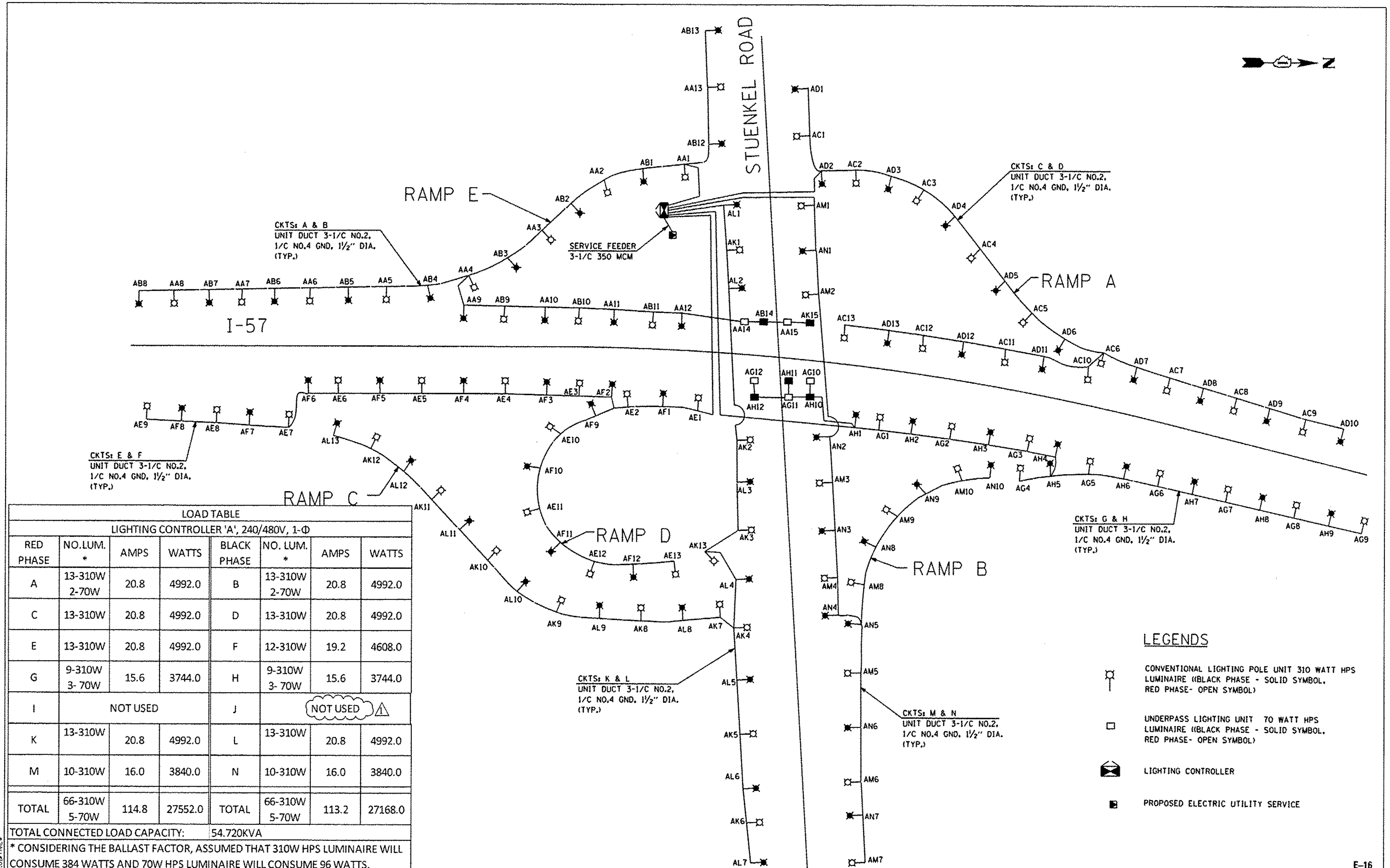
05-DEC-2013 13:53 TIMES



LOAD TABLE							
LIGHTING CONTROLLER 'A', 240/480V, 1-Φ							
RED PHASE	NO.LUM. *	AMPS	WATTS	BLACK PHASE	NO. LUM. *	AMPS	WATTS
A	13-310W 2-70W	20.8	4992.0	B	13-310W 2-70W	20.8	4992.0
C	13-310W	20.8	4992.0	D	13-310W	20.8	4992.0
E	13-310W	20.8	4992.0	F	12-310W	19.2	4608.0
G	9-310W 3- 70W	15.6	3744.0	H	9-310W 3- 70W	15.6	3744.0
I	NOT USED			J	NOT USED ⚠		
K	13-310W	20.8	4992.0	L	13-310W	20.8	4992.0
M	10-310W	16.0	3840.0	N	10-310W	16.0	3840.0
TOTAL	66-310W 5-70W	114.8	27552.0	TOTAL	66-310W 5-70W	113.2	27168.0
TOTAL CONNECTED LOAD CAPACITY:			54.720KVA				

* CONSIDERING THE BALLAST FACTOR, ASSUMED THAT 310W HPS LUMINAIRE WILL CONSUME 384 WATTS AND 70W HPS LUMINAIRE WILL CONSUME 96 WATTS.

E-16

SINGH & ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = kprajapati
PLOT SCALE = 400.000000:1.000000
PLOT DATE = 26-DEC-2013 15:02

DESIGNED - RDP
DRAWN - MG/WC
CHECKED - KGP
DATE - 8/22/2013

REVISED 6/18/2013
REVISED 8/22/2013
REVISED 10/18/2013
REVISED 12/04/2013
⚠ ADDENDUM 1 1/03/14

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
LIGHTING CONTROLLER "A" WIRING DIAGRAM

SCALE: N.T.S. | SHEET NO. 21 OF 24 SHEETS | STA. ----- TO STA. -----

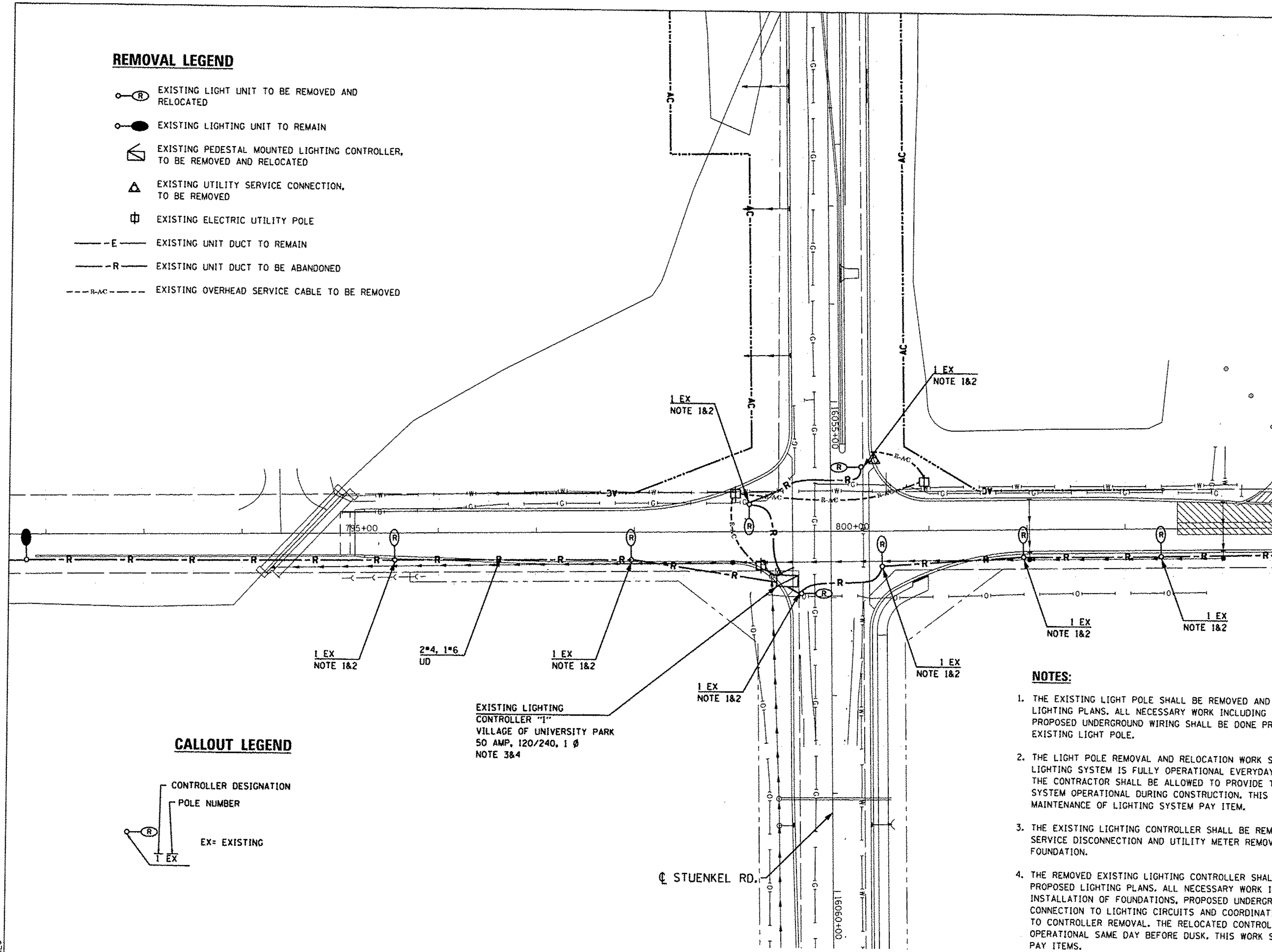
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	339

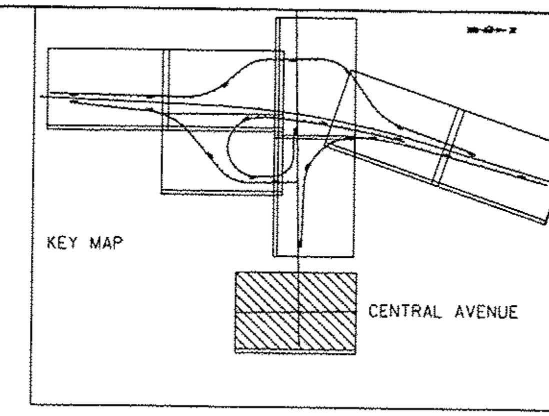
CONTRACT NO. 60L69

ILLINOIS FED. AID PROJECT

REMOVAL LEGEND

- EXISTING LIGHT UNIT TO BE REMOVED AND RELOCATED
- EXISTING LIGHTING UNIT TO REMAIN
- EXISTING PEDESTAL MOUNTED LIGHTING CONTROLLER, TO BE REMOVED AND RELOCATED
- EXISTING UTILITY SERVICE CONNECTION, TO BE REMOVED
- EXISTING ELECTRIC UTILITY POLE
- ——E—— EXISTING UNIT DUCT TO REMAIN
- ——R—— EXISTING UNIT DUCT TO BE ABANDONED
- ---R-AC--- EXISTING OVERHEAD SERVICE CABLE TO BE REMOVED





50 0 50 100 150 200

SCALE IN FEET
SCALE: 1" = 50'

CALLOUT LEGEND

- CONTROLLER DESIGNATION
- POLE NUMBER

1 EX — EX= EXISTING

NOTES:

1. THE EXISTING LIGHT POLE SHALL BE REMOVED AND REINSTALLED AS SHOWN ON PROPOSED LIGHTING PLANS. ALL NECESSARY WORK INCLUDING INSTALLATION OF FOUNDATIONS AND PROPOSED UNDERGROUND WIRING SHALL BE DONE PRIOR TO THE REMOVAL OF EXISTING LIGHT POLE.
2. THE LIGHT POLE REMOVAL AND RELOCATION WORK SHALL BE DONE IN A MANNER THAT THE LIGHTING SYSTEM IS FULLY OPERATIONAL EVERYDAY BEFORE DUSK DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ALLOWED TO PROVIDE TEMPORARY MEANS TO KEEP LIGHTING SYSTEM OPERATIONAL DURING CONSTRUCTION. THIS WORK SHALL BE INCIDENTAL TO MAINTENANCE OF LIGHTING SYSTEM PAY ITEM.
3. THE EXISTING LIGHTING CONTROLLER SHALL BE REMOVED. COORDINATE WITH COMED FOR SERVICE DISCONNECTION AND UTILITY METER REMOVAL. BREAKDOWN CONTROLLER FOUNDATION.
4. THE REMOVED EXISTING LIGHTING CONTROLLER SHALL BE REINSTALLED AS SHOWN ON PROPOSED LIGHTING PLANS. ALL NECESSARY WORK INCLUDING PROPOSED LIGHT POLES, INSTALLATION OF FOUNDATIONS, PROPOSED UNDERGROUND WIRING, SERVICE INSTALLATION, CONNECTION TO LIGHTING CIRCUITS AND COORDINATION WITH COMED SHALL BE DONE PRIOR TO CONTROLLER REMOVAL. THE RELOCATED CONTROLLER SHALL BE MADE FULLY OPERATIONAL SAME DAY BEFORE DUSK. THIS WORK SHALL BE INCIDENTAL TO ASSOCIATED PAY ITEMS.

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05-DEC-2013 13:21:$TIME$

SINGH
SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME = mgarvida	DESIGNED - RDP	REVISED 6/18/2013	
	DRAWN - MG/WC	REVISED 8/22/2013	
PLOT SCALE = 100.000000:1.000000	CHECKED - KGP	REVISED 10/18/2013	
PLOT DATE = 05-DEC-2013 13:21	DATE - 8/22/2013	REVISED - 12/04/2013	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
REMOVAL LIGHTING PLANS STUENKEL RD AT CENTRAL AVE.

SCALE: AS NOTED | SHEET NO. 22 OF 24 SHEETS | STA. ----- TO STA. -----

E-17

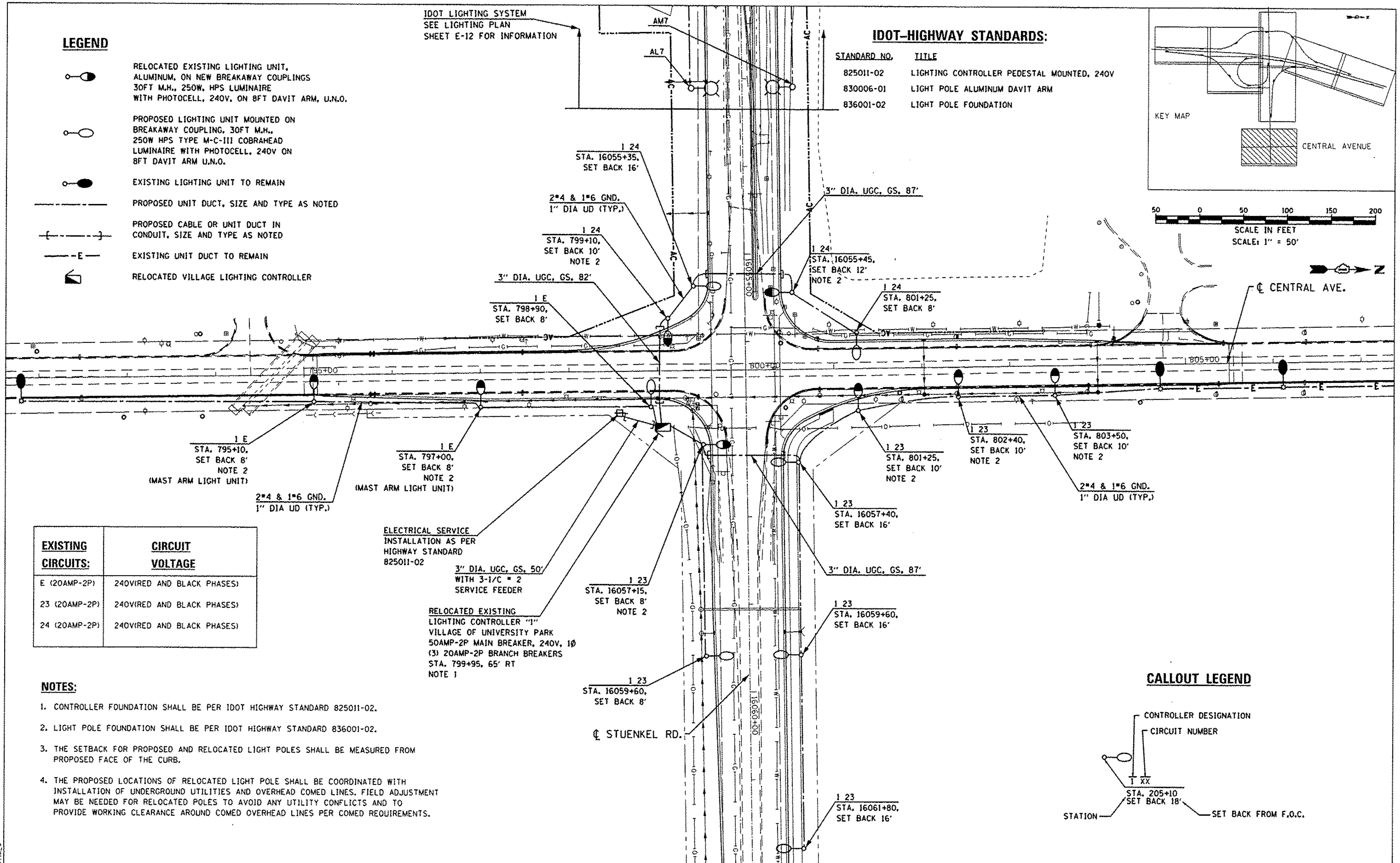
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	340
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

LEGEND

- RELOCATED EXISTING LIGHTING UNIT, ALUMINUM, ON NEW BREAKAWAY COUPLINGS 30FT M.H., 250W, HPS LUMINAIRE WITH PHOTOCELL, 240V, ON 8FT DAVIT ARM, U.N.O.
- PROPOSED LIGHTING UNIT MOUNTED ON BREAKAWAY COUPLING, 30FT M.H., 250W HPS TYPE M-C-III COBRAHEAD LUMINAIRE WITH PHOTOCELL, 240V ON 8FT DAVIT ARM U.N.O.
- EXISTING LIGHTING UNIT TO REMAIN
- PROPOSED UNIT DUCT, SIZE AND TYPE AS NOTED
- PROPOSED CABLE OR UNIT DUCT IN CONDUIT, SIZE AND TYPE AS NOTED
- ——E—— EXISTING UNIT DUCT TO REMAIN
- RELOCATED VILLAGE LIGHTING CONTROLLER

IDOT-HIGHWAY STANDARDS:

STANDARD NO.	TITLE
825011-02	LIGHTING CONTROLLER PEDESTAL MOUNTED, 240V
830006-01	LIGHT POLE ALUMINUM DAVIT ARM
836001-02	LIGHT POLE FOUNDATION



EXISTING CIRCUITS:	CIRCUIT VOLTAGE
E (20AMP-2P)	240V(RED AND BLACK PHASES)
23 (20AMP-2P)	240V(RED AND BLACK PHASES)
24 (20AMP-2P)	240V(RED AND BLACK PHASES)

NOTES:

1. CONTROLLER FOUNDATION SHALL BE PER IDOT HIGHWAY STANDARD 825011-02.
2. LIGHT POLE FOUNDATION SHALL BE PER IDOT HIGHWAY STANDARD 836001-02.
3. THE SETBACK FOR PROPOSED AND RELOCATED LIGHT POLES SHALL BE MEASURED FROM PROPOSED FACE OF THE CURB.
4. THE PROPOSED LOCATIONS OF RELOCATED LIGHT POLE SHALL BE COORDINATED WITH INSTALLATION OF UNDERGROUND UTILITIES AND OVERHEAD COMED LINES. FIELD ADJUSTMENT MAY BE NEEDED FOR RELOCATED POLES TO AVOID ANY UTILITY CONFLICTS AND TO PROVIDE WORKING CLEARANCE AROUND COMED OVERHEAD LINES PER COMED REQUIREMENTS.

CALLOUT LEGEND

- CONTROLLER DESIGNATION
- CIRCUIT NUMBER
- 1 XX
- STA. 205+10 SET BACK 18'
- STATION
- SET BACK FROM F.O.C.

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E-18

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS	USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013
		DRAWN - MG/WC	REVISED 8/22/2013
	PLOT SCALE = 100.000000:1.000000	CHECKED - KGP	REVISED 10/18/2013
	PLOT DATE = 26-DEC-2013 15:02	DATE - 8/22/2013	REVISED 12/04/2013

ADDENDUM 1 1/03/14

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
PROPOSED LIGHTING PLANS STUENKEL RD AT CENTRAL AVE.

SCALE: AS NOTED | SHEET NO. 23 OF 24 SHEETS | STA. ----- TO STA. -----

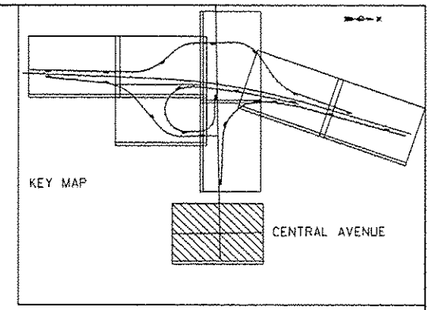
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	341

CONTRACT NO. 60L69
ILLINOIS | FED. AID PROJECT

ENTIRE SHEET REVISED

LEGEND

- RELOCATED EXISTING LIGHTING UNIT, ALUMINUM, ON NEW BREAKAWAY COUPLINGS 30FT M.H., 250W, HPS LUMINAIRE WITH PHOTOCELL, 240V, ON 8FT DAVIT ARM, U.N.O.
- PROPOSED LIGHTING UNIT MOUNTED ON BREAKAWAY COUPLING, 30FT M.H., 250W HPS TYPE M-C-III COBRAHEAD LUMINAIRE WITH PHOTOCELL, 240V ON 8FT DAVIT ARM U.N.O.
- EXISTING LIGHTING UNIT TO REMAIN
- PROPOSED UNIT DUCT, SIZE AND TYPE AS NOTED
- PROPOSED CABLE OR UNIT DUCT IN CONDUIT, SIZE AND TYPE AS NOTED
- EXISTING UNIT DUCT TO REMAIN
- RELOCATED VILLAGE LIGHTING CONTROLLER
- PROPOSED AERIAL LIGHTING CABLE WITH MESSENGER WIRE
- WOOD POLE, CLASS 3, 40FT



SCALE IN FEET
50 0 50 100 150 200
SCALE: 1" = 50'

N

NOTE 1

WOOD POLE, 40FT
STA. 799+30, 80' LT
FROM CENTERLINE

AERIAL SERVICE FEEDER
3#2 W/MW

NOTE 1

EXISTING UTILITY
SERVICE POLE

NOTE 1

AERIAL SERVICE FEEDER
3#2 W/MW &
AERIAL CABLE,
2#4 W/MW

℄ CENTRAL AVE.

795+00

800+00

805+00

NOTE 1
(MAST ARM LIGHT UNIT)

NOTE 1
(TYP.)

NOTE 1
(MAST ARM LIGHT UNIT)

NOTE 1

NOTE 1

NOTE 1

NOTE 1

NOTE 1

NOTE 1

AERIAL CABLE,
2#4 W/MW
(TYP.)

RELOCATED EXISTING
LIGHTING CONTROLLER "1"
VILLAGE OF UNIVERSITY PARK
50AMP-2P MAIN BREAKER, 240V, 1Ø
(3) 20AMP-2P BRANCH BREAKERS
STA. 799+95, 65' RT
NOTE 1

NOTE 1

WOOD POLE, 40FT
STA. 799+30, 80' RT
FROM CENTERLINE

℄ STUENKEL RD.

NOTES:

1. THE LIGHT POLE RELOCATIONS, PROPOSED LIGHT POLE INSTALLATION, PROPOSED UNDERGROUND UNIT DUCT AND CONTROLLER RELOCATION SHALL BE DONE AS SHOWN ON PROPOSED LIGHTING PLAN SHEET E-18 TO MAKE TEMPORARY LIGHTING SYSTEM OPERATIONAL DURING CONSTRUCTION.
2. THE PROPOSED LOCATIONS OF RELOCATED LIGHT POLE SHALL BE COORDINATED WITH INSTALLATION OF UNDERGROUND UTILITIES AND OVERHEAD COMED LINES. FIELD ADJUSTMENT MAY BE NEEDED FOR RELOCATED POLES TO AVOID ANY UTILITY CONFLICTS AND TO PROVIDE WORKING CLEARANCE AROUND COMED OVERHEAD LINES PER COMED REQUIREMENTS.

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26-DEC-2013 15:08 TIMES

E-19

SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS	USER NAME = kprajapati	DESIGNED - RDP	REVISED 6/18/2013
		DRAWN - MG/WC	REVISED 8/22/2013
	PLOT SCALE = 100.000000'/1.000000	CHECKED - KGP	REVISED 10/18/2013
	PLOT DATE = 26-DEC-2013 15:02	DATE - 8/22/2013	REVISED 12/04/2013

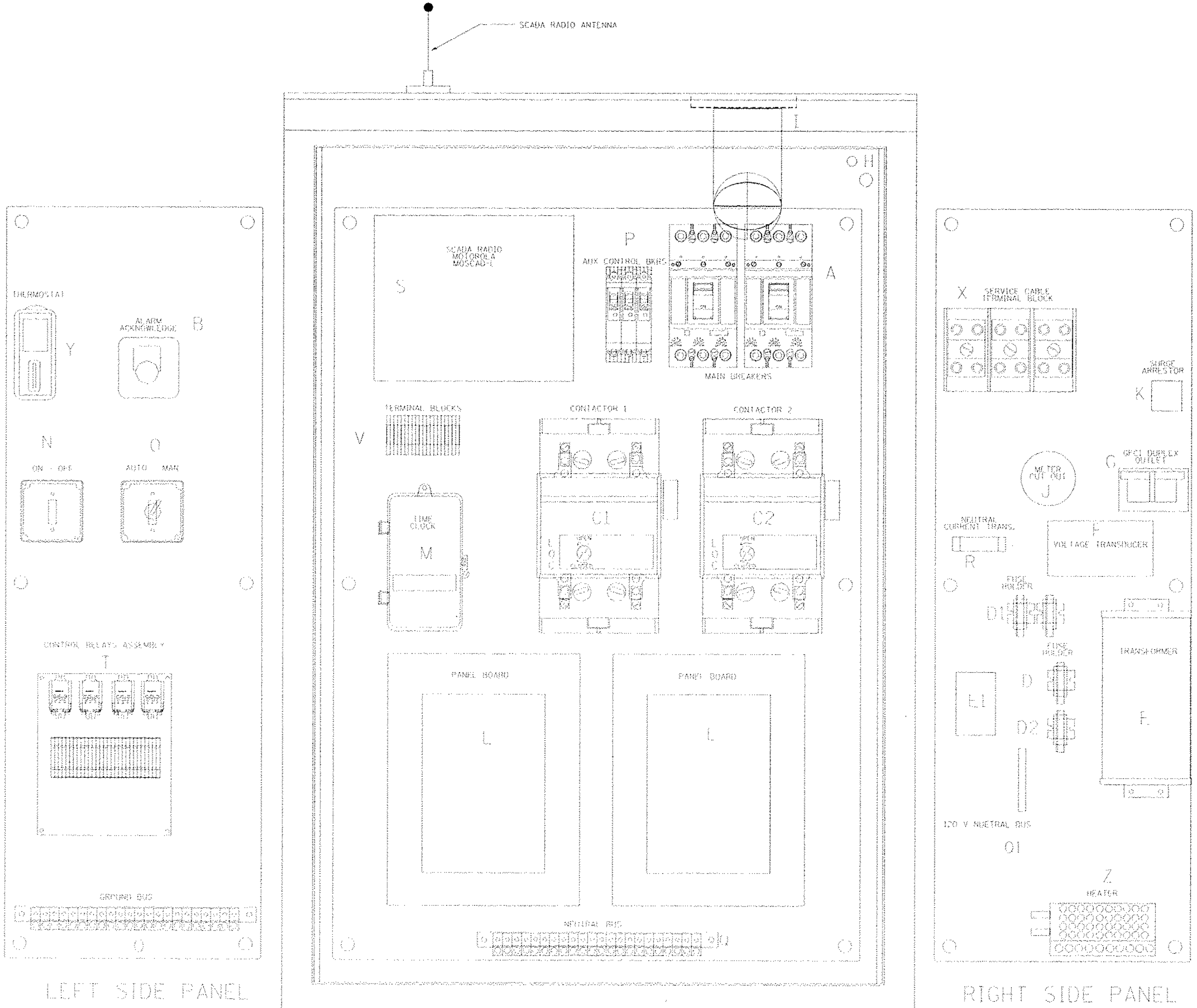
⚠ ADDENDUM 1 1/03/14

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUENKEL ROAD OVER I-57
TEMPORARY LIGHTING PLANS STUENKEL RD AT CENTRAL AVE.

SCALE: AS NOTED | SHEET NO. 24 OF 24 SHEETS | STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R	WILL	679	342
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

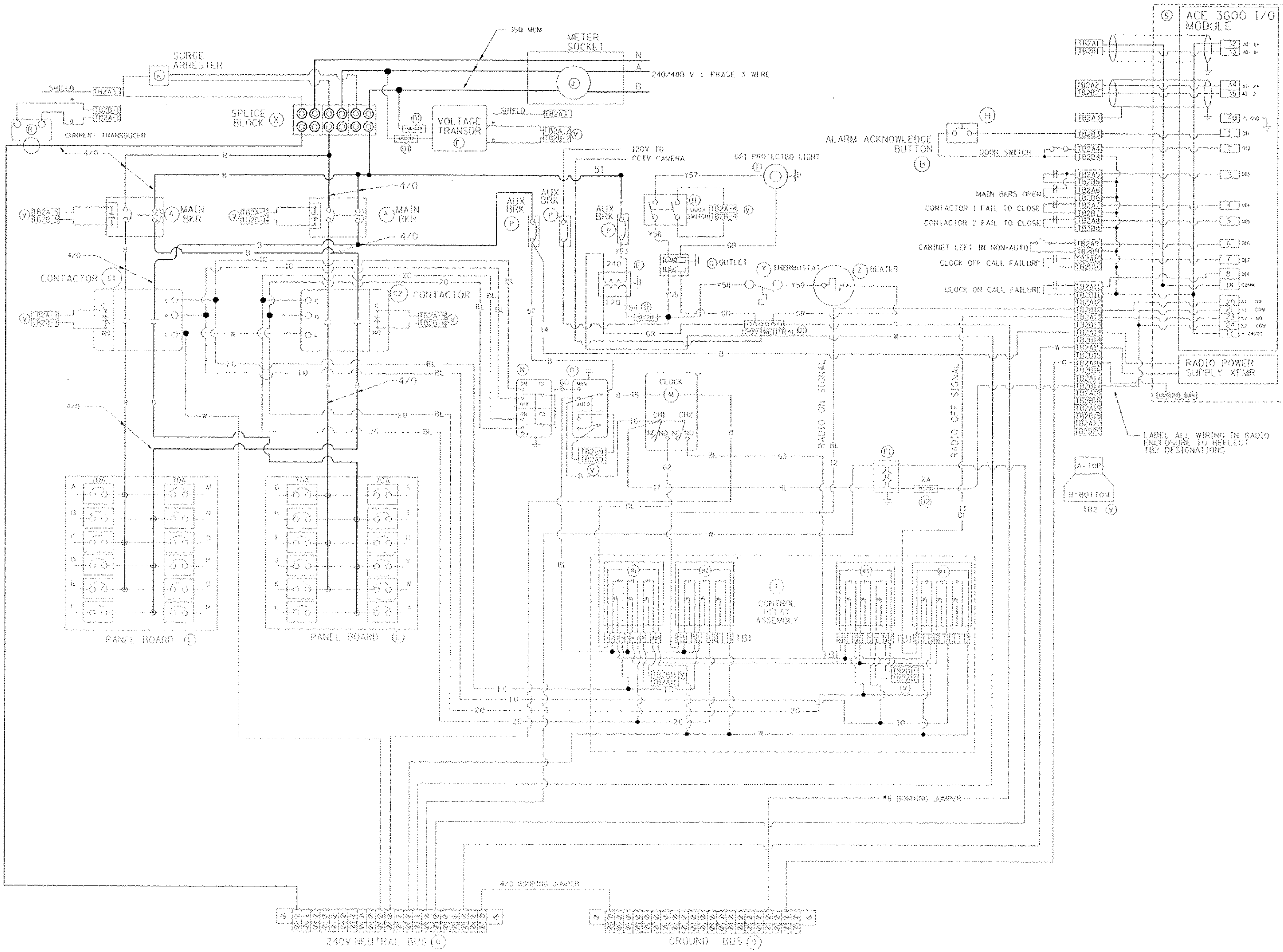


BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 175 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 × 16 × 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

DESIGNED -	REVISED R. TOMSONS 08-19-04	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LIGHTING CONTROLLER, RADIO CONTROL DUPLEX TYPE WITH SCADA	F.A. RTE. / SECTION: BE-205	COUNTY / TOTAL SHEETS 679 / SHEET NO. 343
DRAWN -	REVISED R. TOMSONS 05-11-09		SCALE: NONE / SHEET NO. 1 OF 4 SHEETS / STA. TO STA.		CONTRACT NO.
CHECKED -	REVISED R. TOMSONS 03-10-10				
DATE -	REVISED				



BILL OF MATERIALS

ITEM #	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 175 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-2060-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 × 16 × 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

DESIGNED	REVISED - R. TOMSONS 08-19-04	
DRAWN	REVISED R. TOMSONS 05-11-09	
CHECKED	REVISED - R. TOMSONS 03-10-10	
DATE	REVISED -	

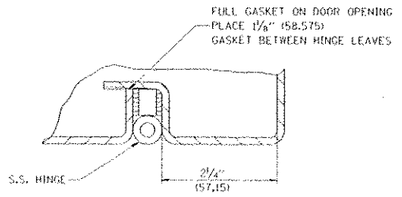
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, RADIO CONTROL
DUPLEX TYPE WITH SCADA

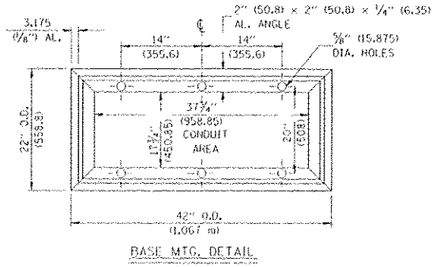
SCALE: NONE | SHEET NO. 2 OF 4 SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	344
	BE-205	CONTRACT NO.		

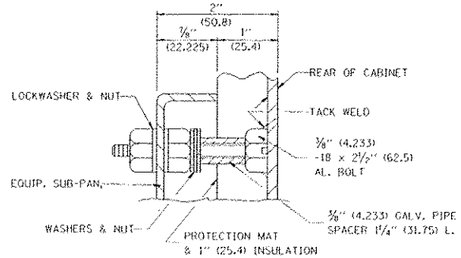
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT



DETAIL "Y"



BASE MTG. DETAIL



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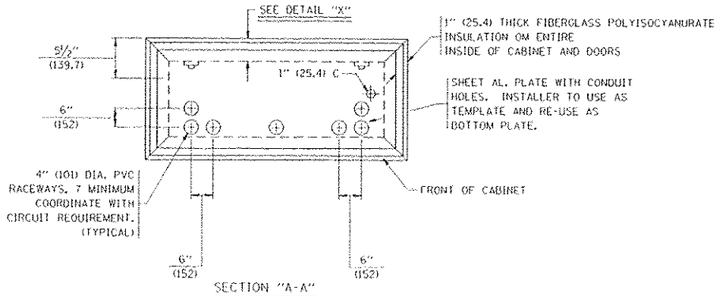

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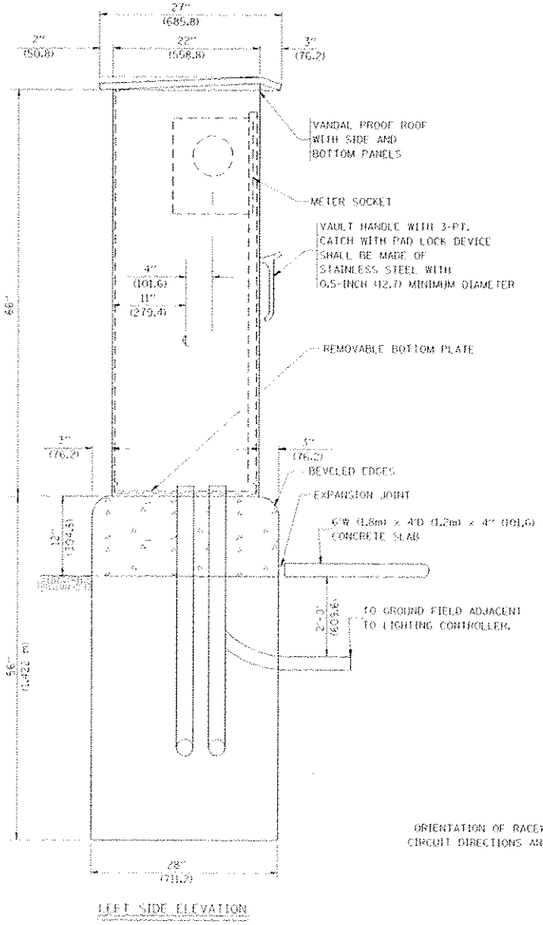
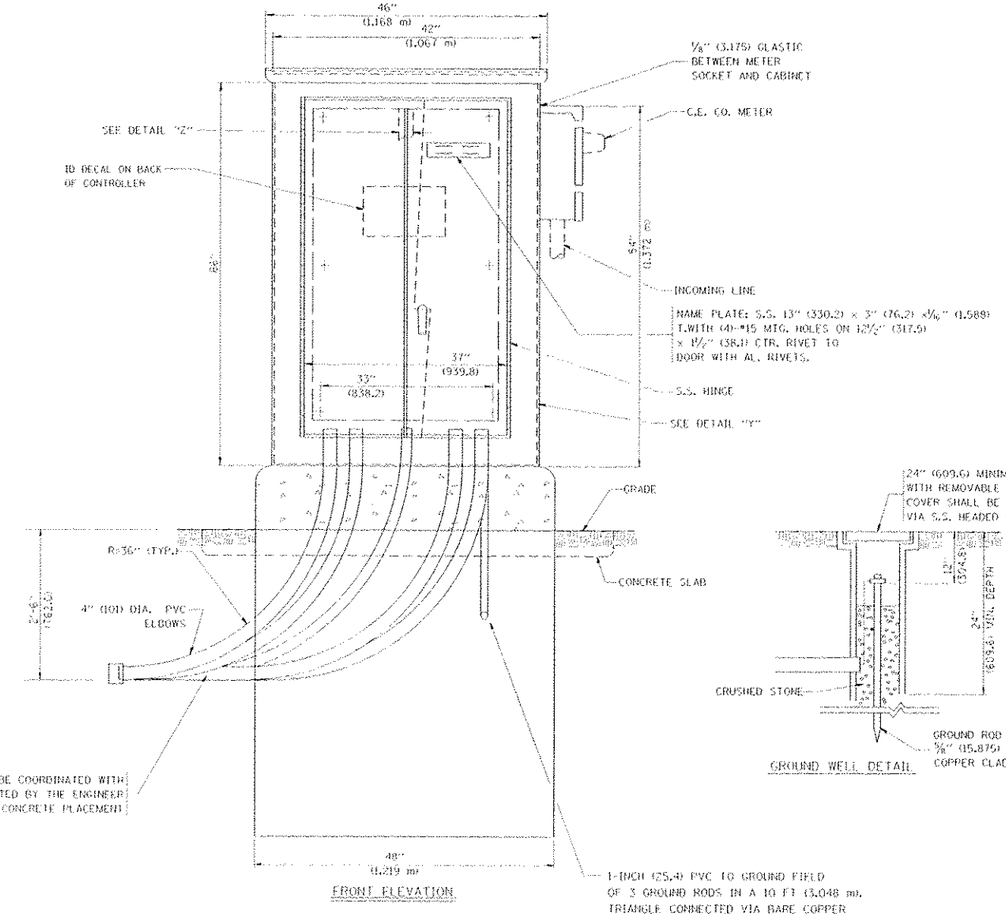
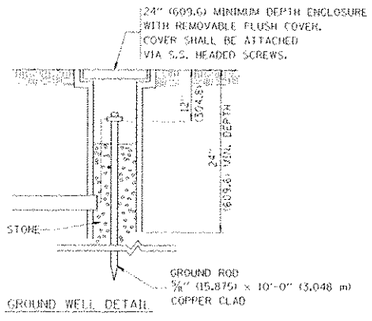


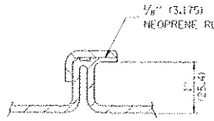
LEFT SIDE ELEVATION



FRONT ELEVATION



GROUND WELL DETAIL



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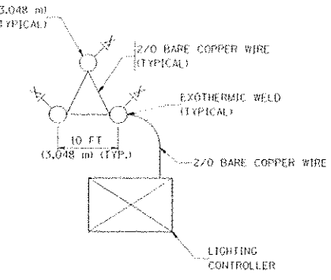


GROUND FIELD DETAIL
(N.T.S.)

THE CONTRACTOR SHALL
VERIFY EXACT LOCATION
WITH THE ENGINEER

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-		679	345
	BE-205	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

DESIGNED -
DRAWN -
CHECKED -
DATE -

REVISED - R. TOMSONS 08-19-04
REVISED - R. TOMSONS 05-11-09
REVISED - R. TOMSONS 03-10-10
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, RADIO CONTROL
DUPLEX TYPE WITH SCADA

SCALE: NONE | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

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

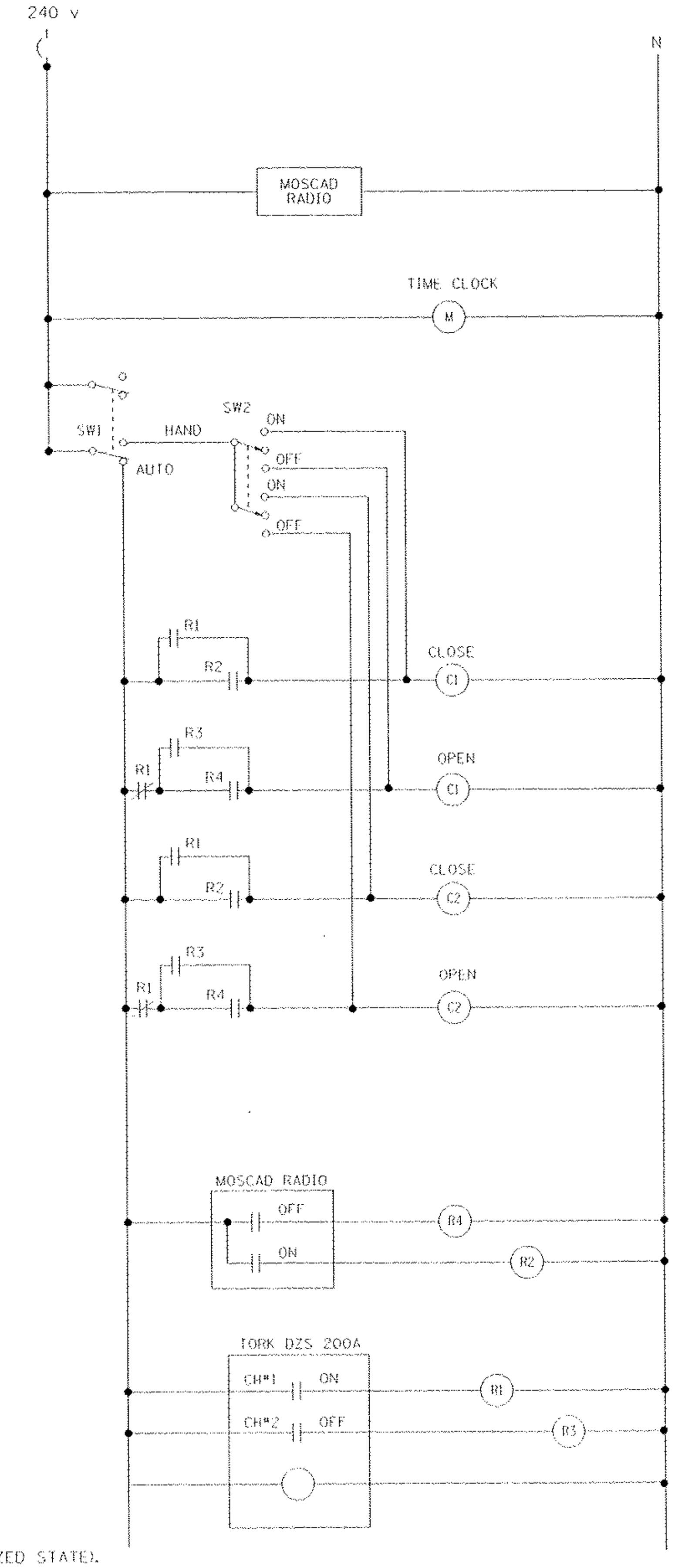
19. MOSCAD I/O WIRING SHALL BE:

    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

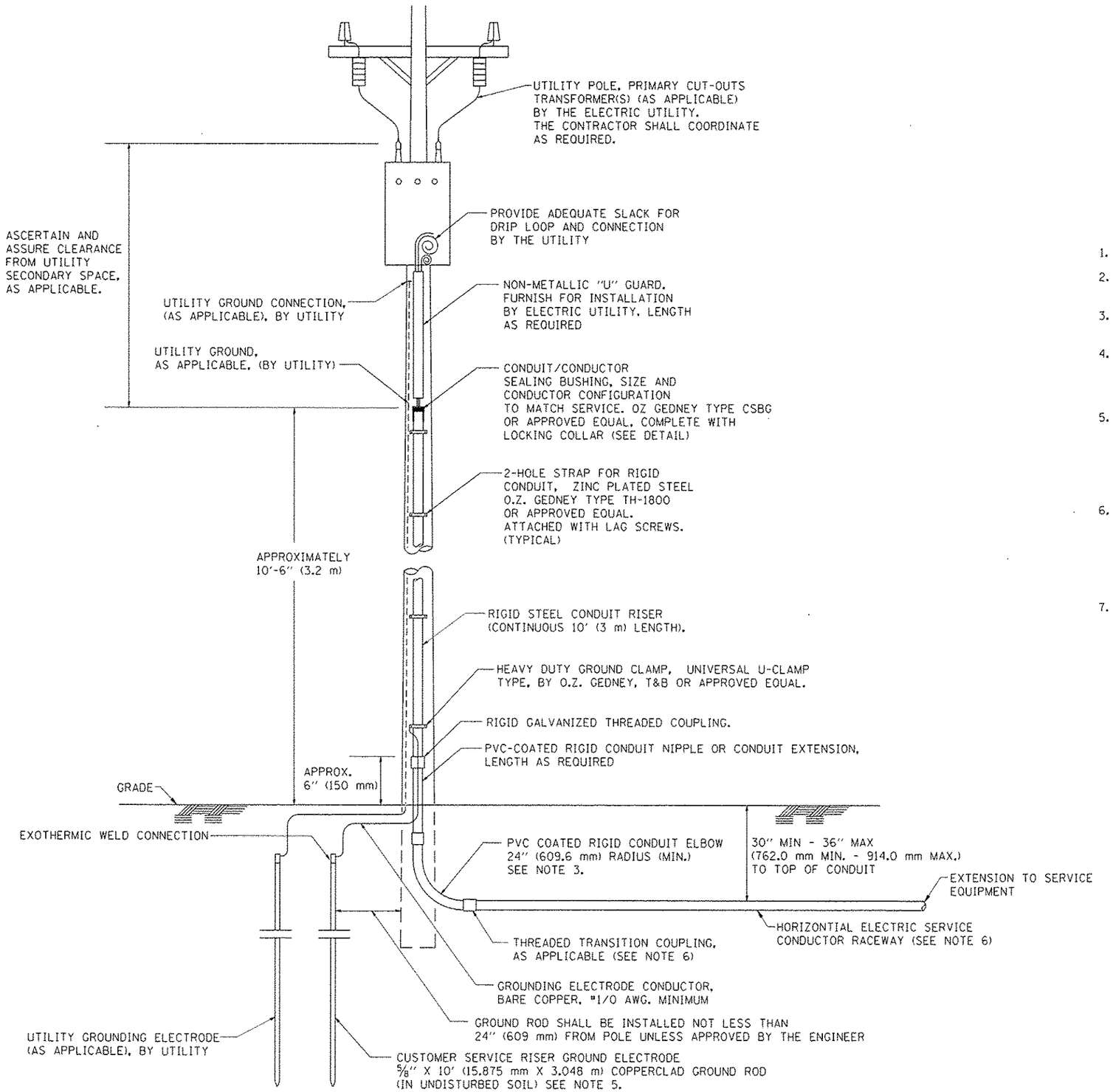
MOSCAD I/O ASSIGNMENTS		
TERM	MOSCAD DESTINATION	DESCRIPTION OF INPUT
1	DIGITAL INPUT 1	ALARM KNOWLEDGE
2	DIGITAL INPUT 2	DOOR OPEN
3	DIGITAL INPUT 3	MAIN(S) BREAKER OPEN
4	DIGITAL INPUT 4	CONTACTOR 1 OPEN
5	DIGITAL INPUT 5	CONTACTOR 2 OPEN
6	DIGITAL INPUT 6	CABINET IN NON-AUTO
7	DIGITAL INPUT 7	BACK-UP 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

DESIGNED -	REVISED　R. TOMSONS 08-19-04	**STATE OF ILLINOIS**	**LIGHTING CONTROLLER, RADIO CONTROL**
DRAWN -	REVISED　R. TOMSONS 05-11-09	**DEPARTMENT OF TRANSPORTATION**	**DUPLEX TYPE WITH SCADA**
CHECKED -	REVISED　R. TOMSONS 03-10-10		SCALE: NONE　SHEET NO. 4 OF 4 SHEETS　STA.　TO STA.
DATE	REVISED		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	346
	BE-205	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

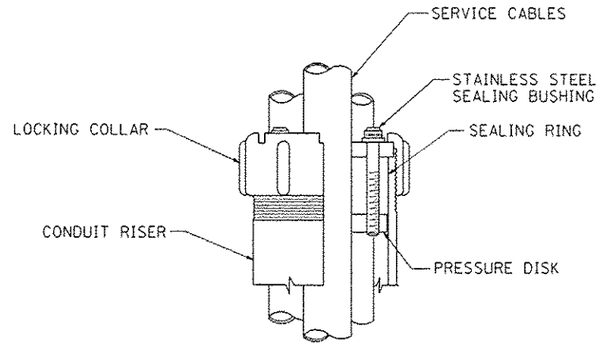


APPLICATION

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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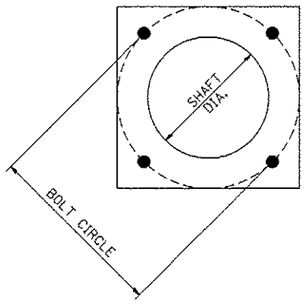
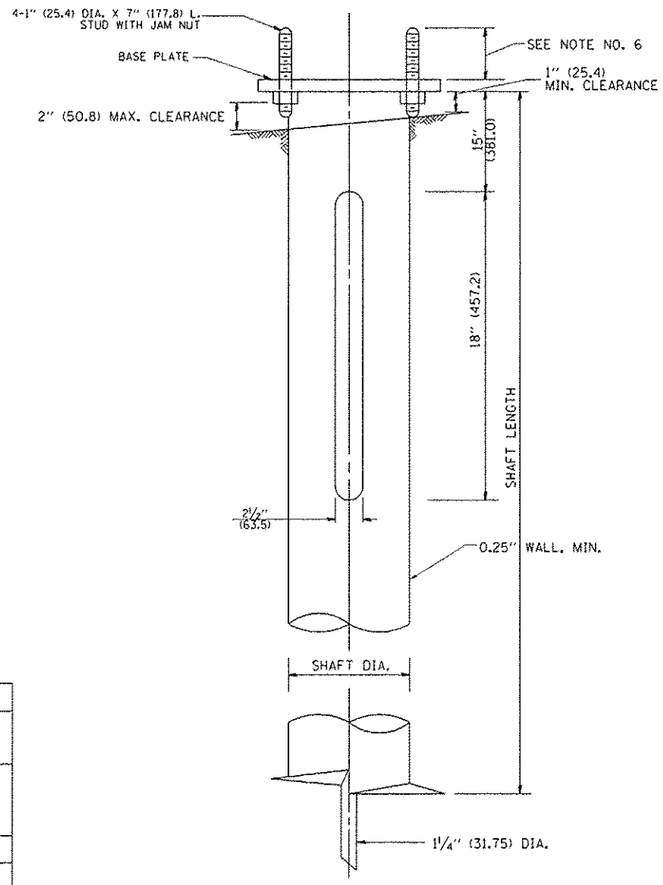
		DRAWN -	REVISED -						679	347
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - MEA	REVISED -				BE-220	CONTRACT NO.		
	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		





HELIX FOUNDATION SIZE

POLE MOUNTING HEIGHT	BOLT CIRCLE	SHAFT DIAMETER	SHAFT LENGTH	BASEPLATE
30 FT.	11½"	8⅝"	6 FT.	12"x12"x1"
31 FT.-35 FT.	11½"	8⅝"	6 FT.	12"x12"x1"
36 FT.-40FT.	15"	8⅝"	6 FT.	15"x15"x1¼"
41 FT.-45 FT.	15"	8⅝"	6 FT.	15"x15"x1¼"
46 FT.-50 FT.	15"	10"	8 FT.	15"x15"x1¼"

METAL HELIX FOUNDATION MATERIALS

ITEM	MATERIAL REQUIREMENT
BASEPLATE	AASHTO M 270M, GRADE 36 (M270M, GRADE 250)
SHAFT	ASTM A 252, GRADE 2 (PHOSPHOROUS 0.04% MAXIMUM, SULFUR 0.05% MAXIMUM)
HELIX SCREW	AASHTO M 183 (ASTM A 635)
PILOT POINT	AASHTO M 270 (ASTM A 575)
ANCHOR RODS/STUDS	AASHTO M 314 (ASTM F 1554)
HEXAGON NUTS	AASHTO M 291M (ASTM A 563) GRADE DH, OR AASHTO M 292 (ASTM A 194) GRADE 2H
WASHERS	AASHTO M 293 (ASTM F 436)

NOTES:

1. ALL DIMENSION IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. ALL MATERIAL SHALL BE GALVINIZED ACCORDING TO AASHTO M111, UNLESS OTHERWISE SPECIFIED.
3. ALL WELDS SHALL BE CONTINUOUS AND NOT LESS THAN ¼" (6.35 mm) FILLET WELDS. THE WELDED FOUNDATION SHALL BE CAPABLE OF WITHSTANDING 10,000 FT/LBS (13558.18 n.m) OF INSTALLATION TORQUE APPLIED ABOUT THE AXIS OF THE FOUNDATION.
4. THE HELIX FOUNDATION SHAFT SHALL BE INSTALLED VERTICAL AND THE BASE PLATE SHALL BE IN LEVEL. THE BREAKAWAY COUPLINGS AND HARDWARE SHALL NOT BE USED TO ALIGN THE POLE INSTALLATION.
5. THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE INSTALLATION OF THE LIGHT POLE.
6. THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF THE BASE PLATE WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS.
7. ANY VOIDS WITHIN THE METAL FOUNDATION SHALL BE FILLED WITH FINE AGGREGATE.
8. METAL FOUNDATIONS SHALL BE INSTALLED IN UNDISTURBED SOIL. PREDRILLING A PILOT HOLE AND/OR BACKFILLING AROUND THE FOUNDTION IS NOT ALLOWED.
9. THE METAL FOUNDATION SHALL NOT BE INSTALLED TO A TORQUE WHICH EXCEEDS THE MANUFACTURER'S MAXIMUM TORQUE RATING NOR SHALL IT BE INSTALLED TO AN INSTALLATION TORQUE VALUE OF LESS THAN 3,500 FT LB (4,750 KNM). METAL FOUNDATIONS THAT ARE NOT INSTALLED TO FULL INSTALLATION DEPTH OR DO NOT ACHIEVE THE MINIMUM INSTALLATION TORQUE SHALL BE REMOVED AND REPLACED WITH A CONCRETE FOUNDATION AT NO ADDITIONAL COST.
10. THE BASEPLATE SHALL BE PERPENDICULAR TO THE SHAFT AXIS (± 1°) AND THE HOLE CENTERLINE SHALL BE CONCENTRIC (± 0.188) TO THE SHAFT AXIS.
11. THE PILOT POINT AND SHAFT AXIS SHALL BE CONCENTRIC (± 0.125) AND IN LINE (± 2°).
12. THE BASEPLATE SHALL BE STAMPED WITH THE MANUFACTURERS NAME AND DATE OF MANUFACTURE.

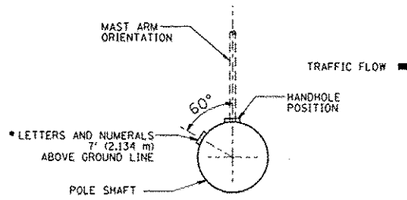
FILE NAME = W:\dirsstd\22x34\be305.dgn	USER NAME = gaglionobt	DESIGNED -	REVISED -
		DRAWN - DLB	REVISED -
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE - 02-27-07	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

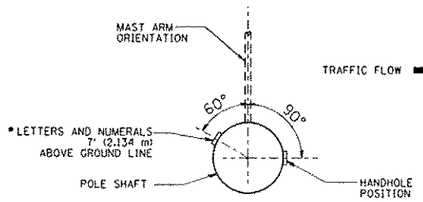
LIGHT POLE FOUNDATION, METAL

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

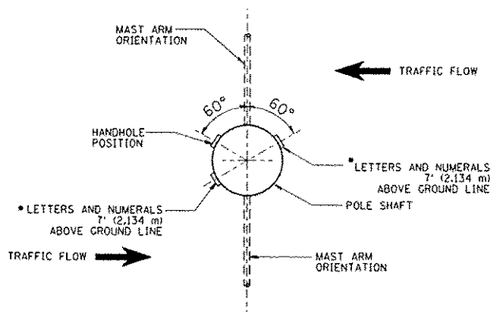
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-		679	348
	BE-305	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



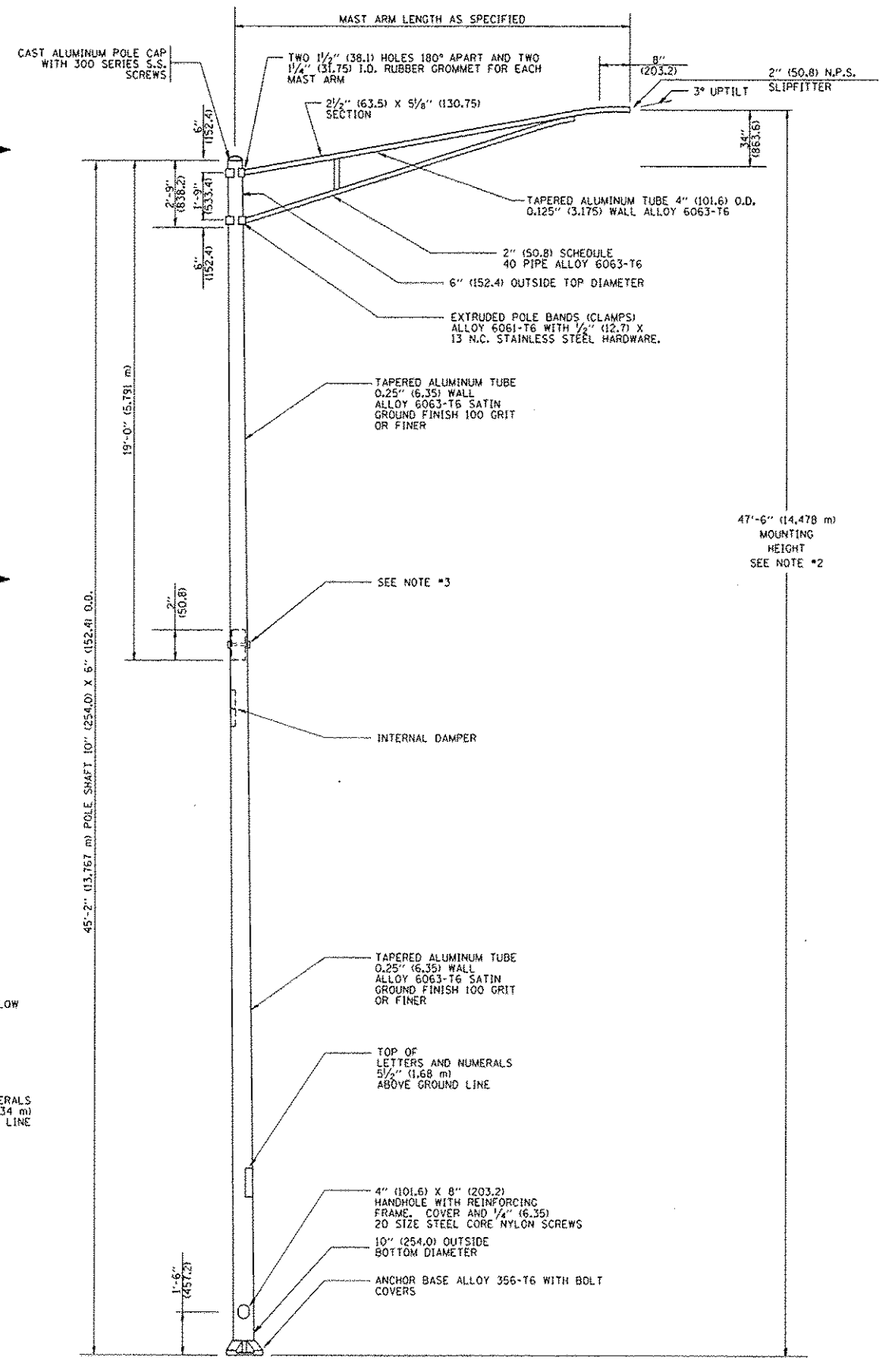
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL

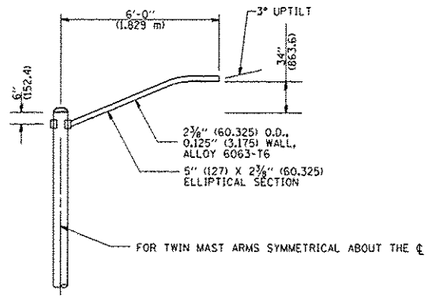


POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES

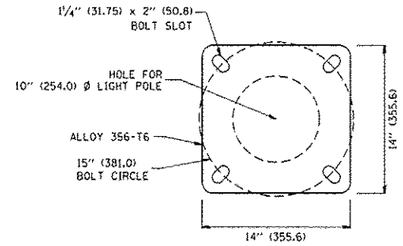




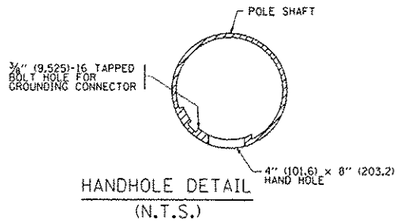
6' (1.8 m) SINGLE MEMBER MAST ARM
(N.T.S.)

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.

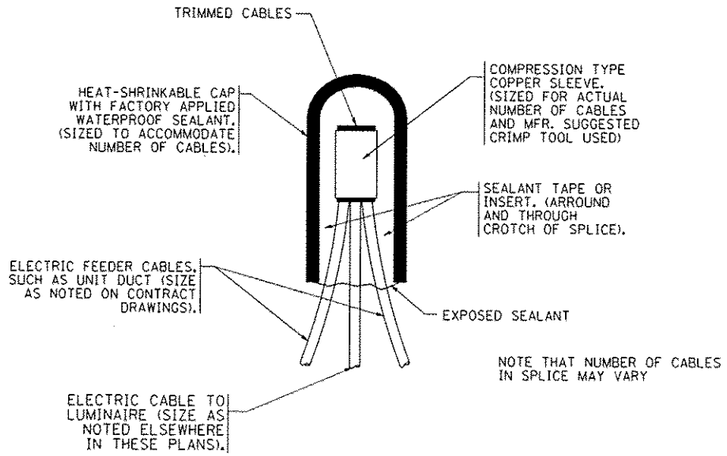


LIGHT POLE BASE PLATE DETAIL
15 INCH (381.0) BOLT CIRCLE



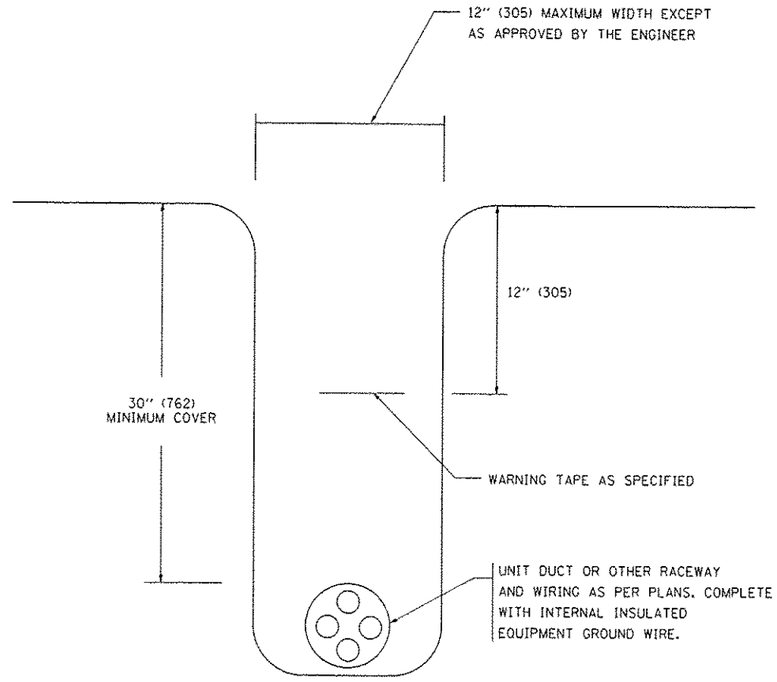
HANDHOLE DETAIL
(N.T.S.)

FILE NAME = M:\diststd\22x34\bm400.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - R. TOMSONS 09-06-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ALUMINUM LIGHT POLE 47'-6" (14.478 m) MOUNTING HEIGHT	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. TOMSONS 09-03-03						679	349
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -				BE-400	CONTRACT NO.		
	PLOT DATE = 1/4/2000	DATE -	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



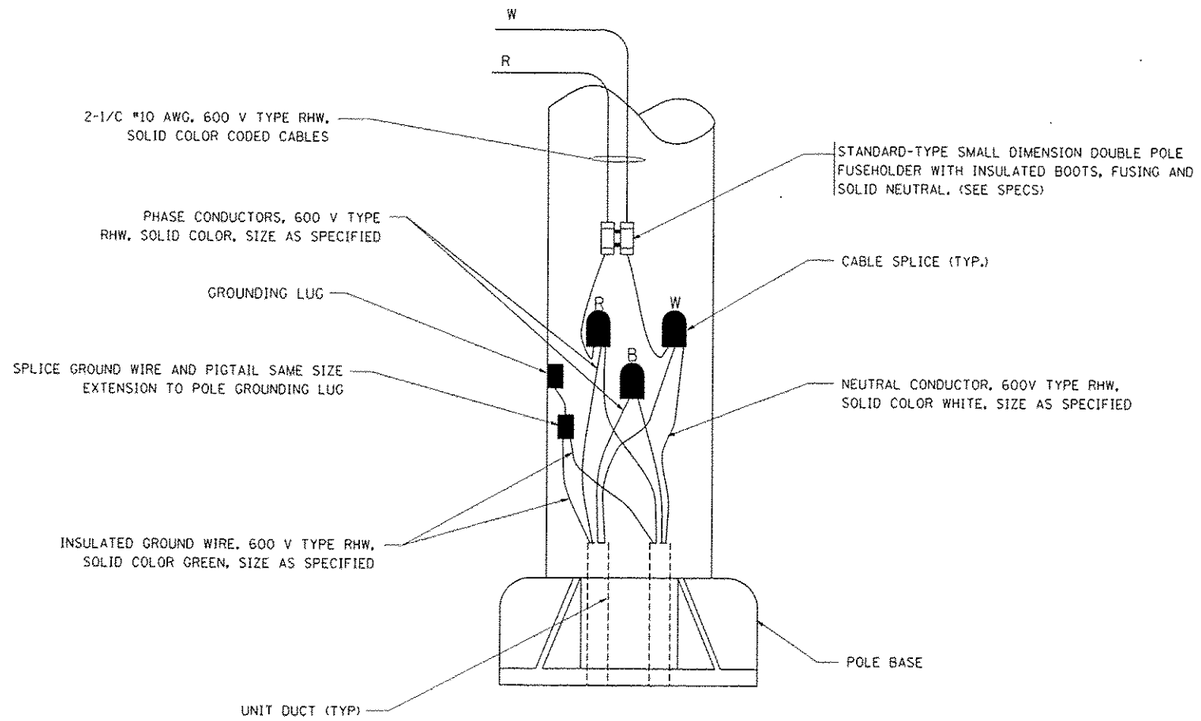
TYPICAL SPLICE DETAIL

N.T.S.



TYPICAL WIRING IN TRENCH DETAIL

N.T.S.



POLE WIRING DETAIL

N.T.S.

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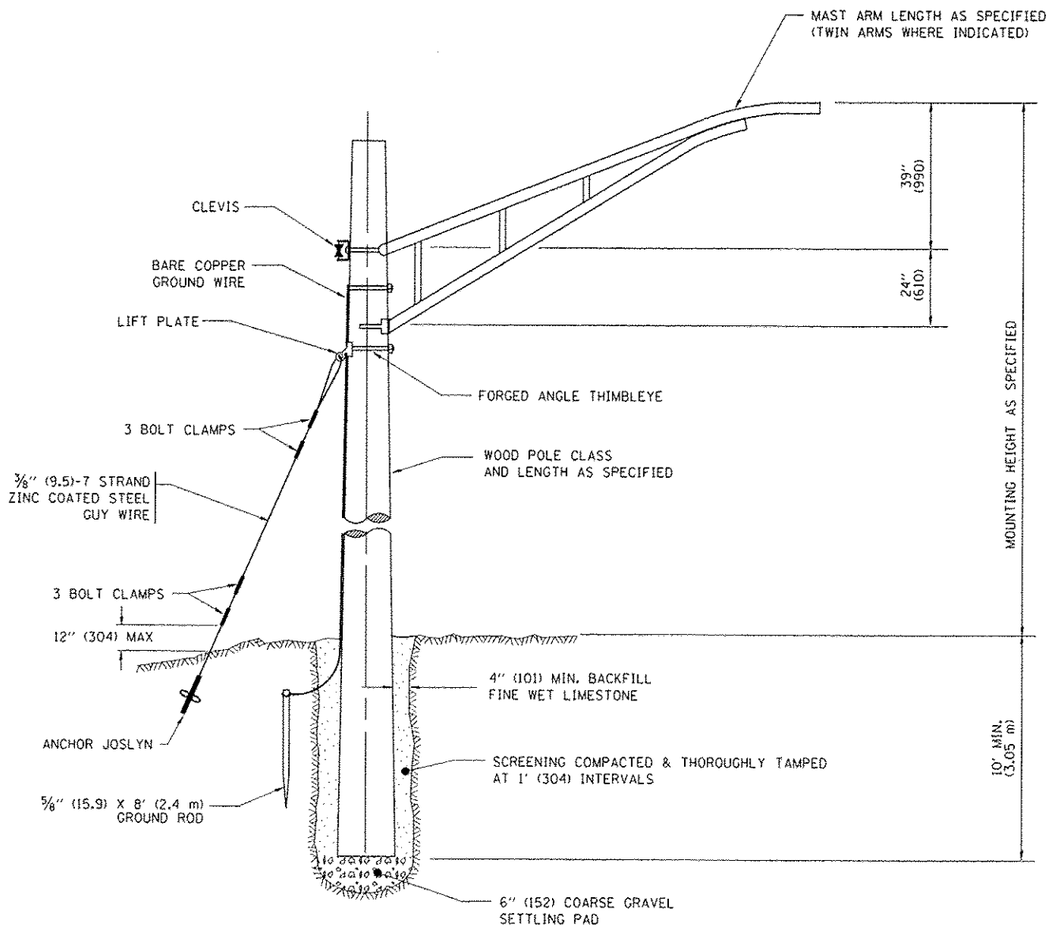
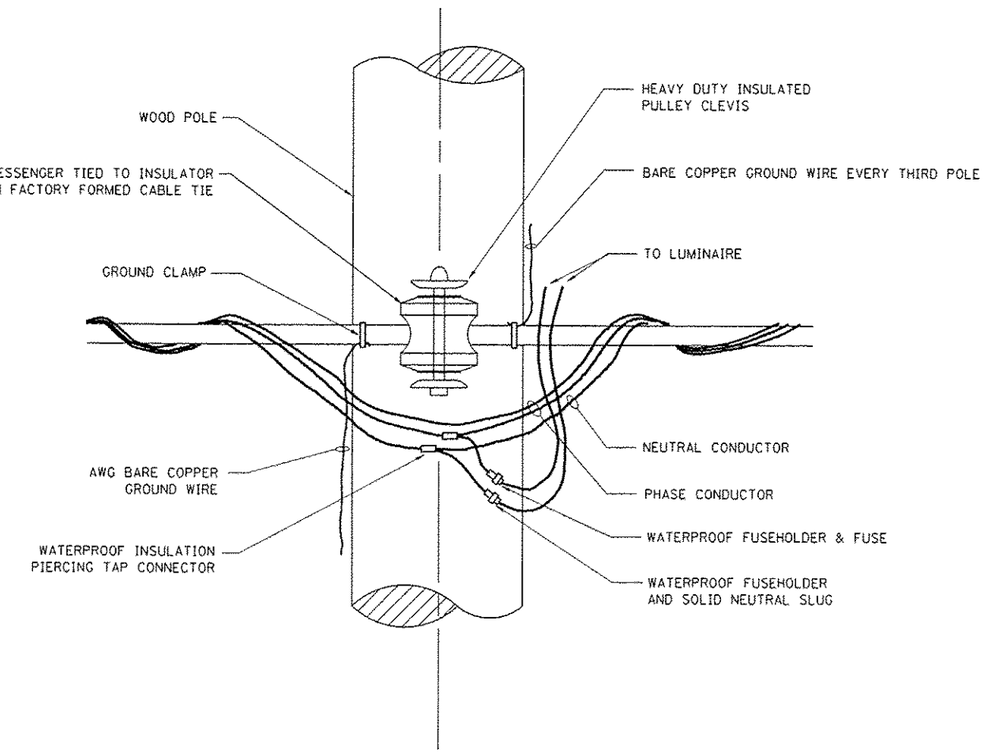
		DRAWN -	REVISED -								679	350
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -						BE-702		CONTRACT NO.	
	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TEMPORARY LIGHT POLE DETAIL

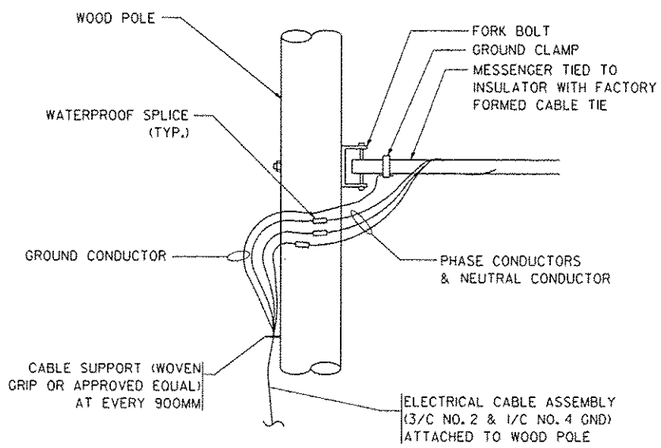


TEMPORARY LIGHT POLE ATTACHMENT DETAIL

NOTES:

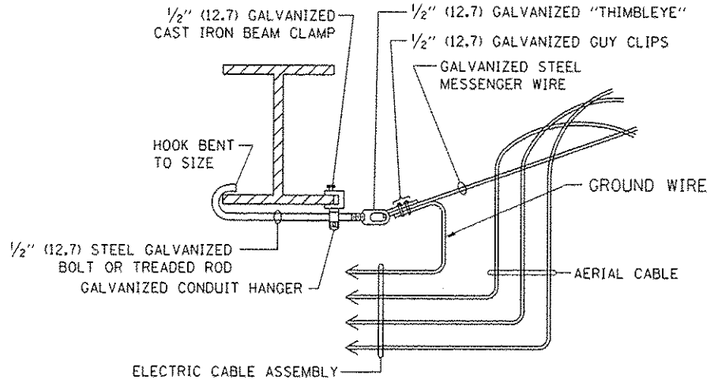
1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED

FILE NAME : M:\dhstd\22-34\be800.dgn	USER NAME : gaglionabt	DESIGNED -	REVISED - 08-08-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY LIGHT POLE DETAILS		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -				-	-		679	351
	PLOT SCALE : 50.000 ' / IN.	CHECKED -	REVISED -					BE-800	CONTRACT NO.		
	PLOT DATE : 1/4/2008	DATE -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



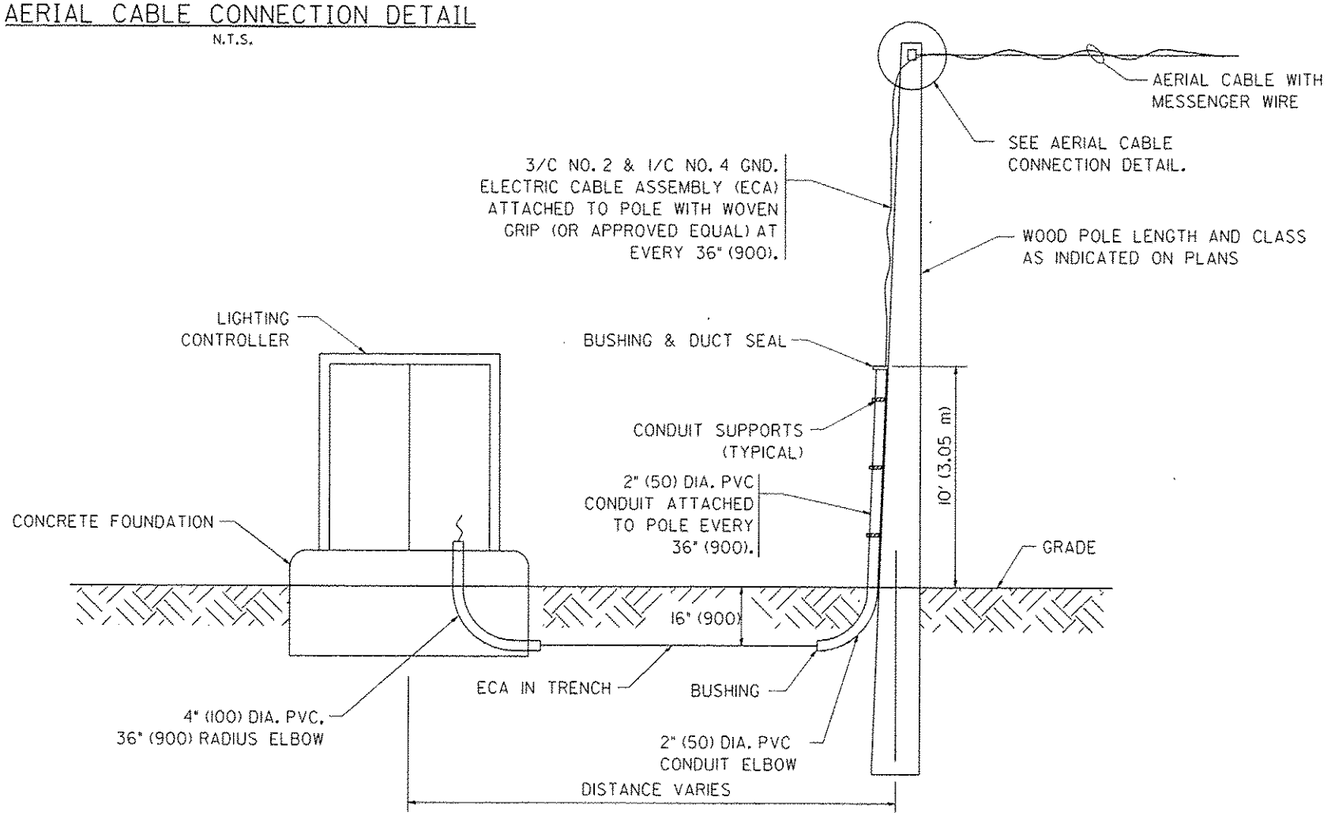
AERIAL CABLE CONNECTION DETAIL

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.

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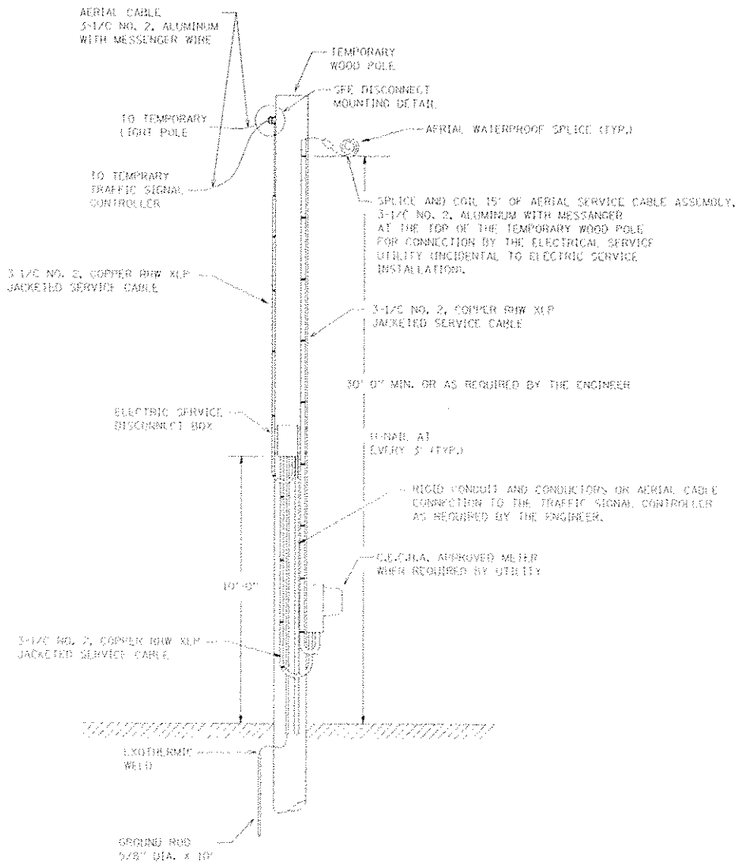
		DRAWN -	REVISED -
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY AERIAL CABLE INSTALLATION

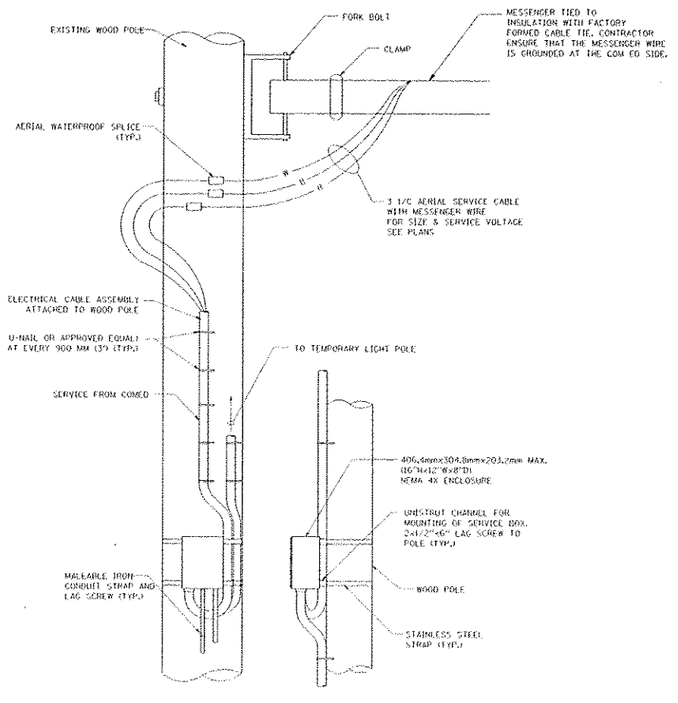
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	352
	BE-801	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



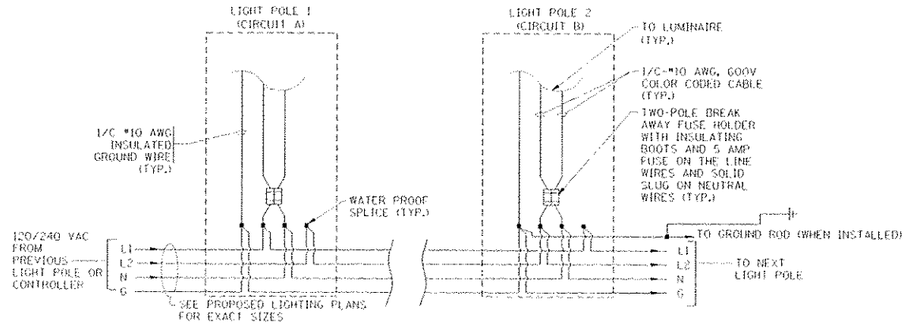
TEMPORARY SERVICE INSTALLATION DETAIL

NOT TO SCALE



DISCONNET MOUNTING DETAIL

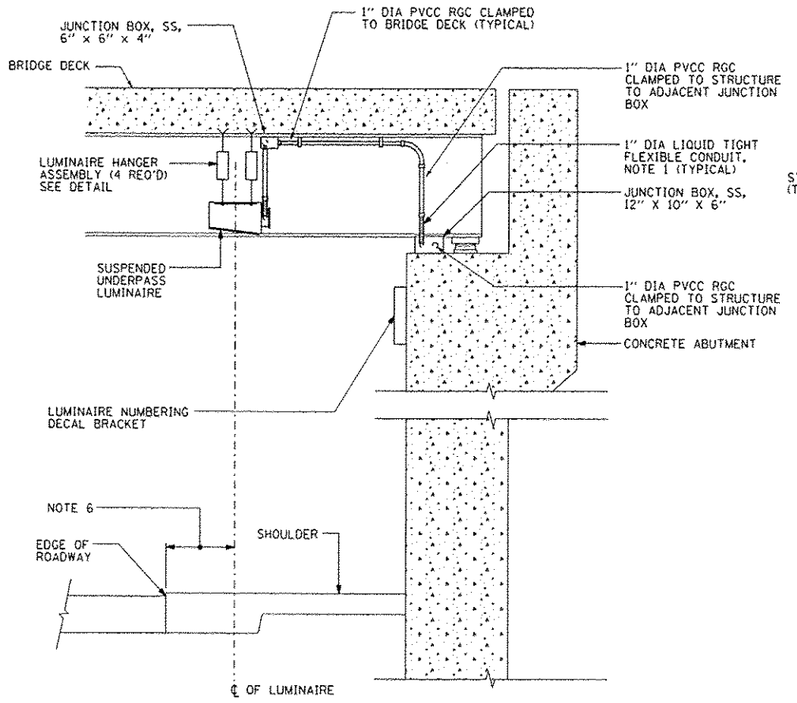
NOT TO SCALE

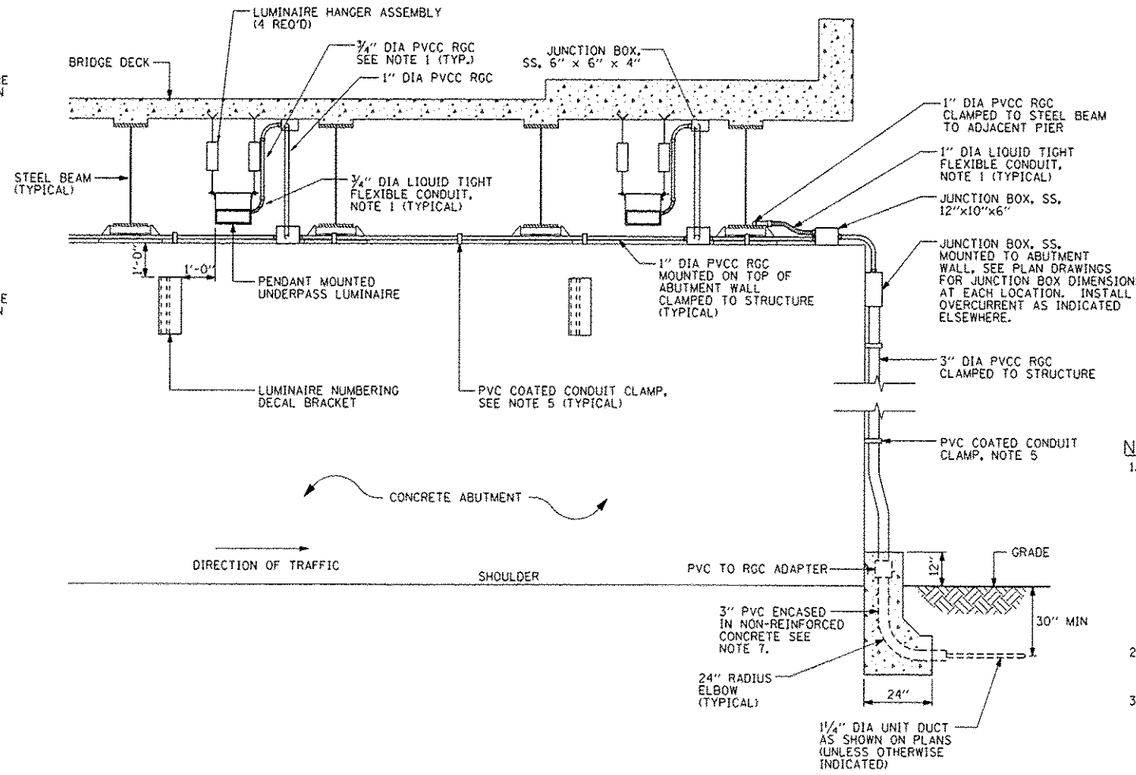


LIGHT POLE WIRING DETAIL

NOT TO SCALE

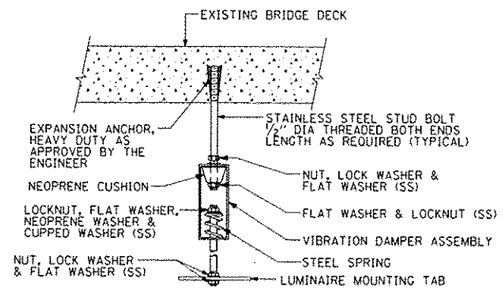
FILE NAME:	USER NAME =	DESIGNED - MP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -				BE-805	CONTRACT NO.	679	352A
	PLOT SCALE =	CHECKED -	REVISED -		SCALE: NONE SHEET NO. 2 OF 2 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT			
	PLOT DATE =	DATE 01-14-10	REVISED -							



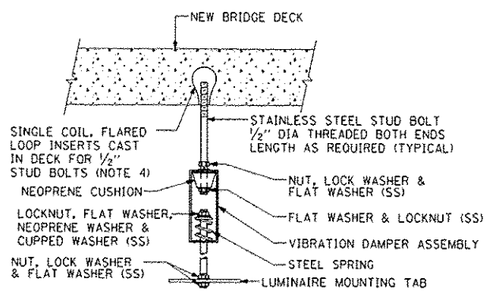


NOTES:

1. LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT ¾" DIA. CONDUIT AND ¾" DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE COST OF UNDERPASS LUMINAIRE INSTALLATION.
2. SEE UNDERPASS LIGHTING PLANS FOR INSTALLATION LOCATION OF UNDERPASS LIGHTING LUMINAIRES.
3. THE CONTRACTOR SHALL USE APPROVED SINGLE COIL FLARED LOOP INSERTS WHEN SUSPENDED MOUNTING AN UNDERPASS LUMINAIRE TO A NEW BRIDGE DECK. THE FLARED LOOP INSERTS MUST BE CAST INTO THE CONCRETE DECK. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND COORDINATING THE INSERT LOCATIONS FOR MOUNTING THE UNDERPASS LIGHTING SYSTEM AS SHOWN ON THE PLANS WITH THE BRIDGE DECK CONTRACTOR. SEE DETAIL.
4. THE UNDERPASS LUMINAIRE HANGER ASSEMBLY COMPLETE WITH HEAVY DUTY ANCHORS/INSERTS AND ALL APPLICABLE HARDWARE SHALL BE INCLUDED IN THE COST OF THE UNDERPASS LUMINAIRE PAY ITEM.
5. SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
6. ALL UNDERPASS LUMINAIRES MUST BE CENTERED IN THE BEAM SPACE AS INDICATED ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGR. LUMINAIRE SETBACK SHALL BE AS INDICATED IN PLANS FOR EACH SPECIFIC UNDERPASS
7. THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
8. ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC) TYPICAL.

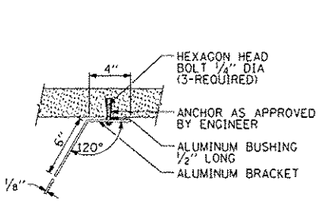


EXISTING BRIDGE DECK INSTALLATION

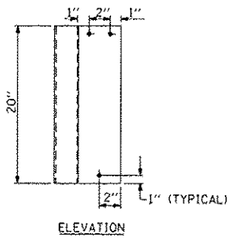


NEW BRIDGE DECK INSTALLATION

TYPICAL LUMINAIRE HANGER ASSEMBLY DETAILS

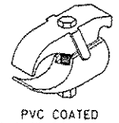


TOP VIEW



ELEVATION

LUMINAIRE NUMBERING DECAL BRACKET
NOT TO SCALE



PVC COATED CONDUIT BEAM CLAMP
NOT TO SCALE

PVC COATED CONDUIT CLAMP
NOT TO SCALE

FILE NAME = W:\dists\std\22x34\be900.dgn	USER NAME = gaghamobt	DESIGNED -	REVISED - 12-12-05	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUSPENDED MOUNT UNDERPASS LUMINAIRE INSTALLATION DETAILS
		DRAWN -	REVISED -		
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. TO STA.
	PLOT DATE = 1/4/2008	DATE -	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-		679	352B
	BE-900	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

Existing Structure: Structure Number 099-0526 to be built in 2013 under Section 99-IHB-R, consists of a two span, continuous reinforced concrete deck on steel plate girders supported on integral abutments and a multi-column pier on Steel H-piles. Bridge measures 261'-9" back to back abuts. and 106'-7" out to out of parapets. Stuenkel Road is currently closed with detour.

Salvage: None.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.094
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.160
Soil Site Class = D

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications, 5th Edition with 2010 Interims

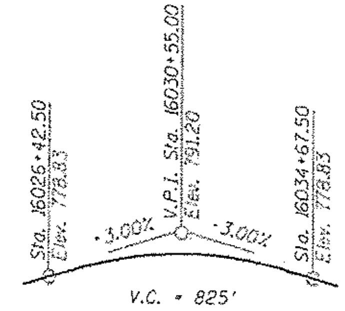
LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

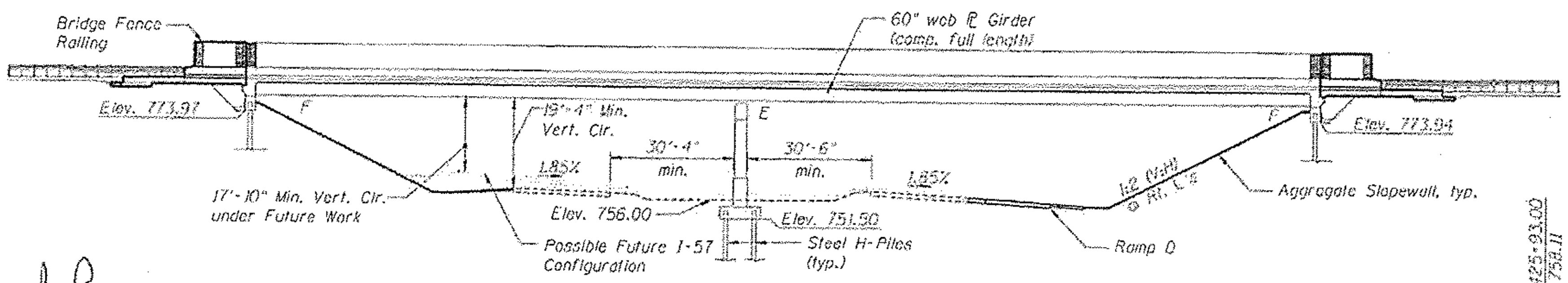
DESIGN STRESSES

FIELD UNITS

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



PROFILE GRADE STUENKEL RD.



ELEVATION

(Looking North)

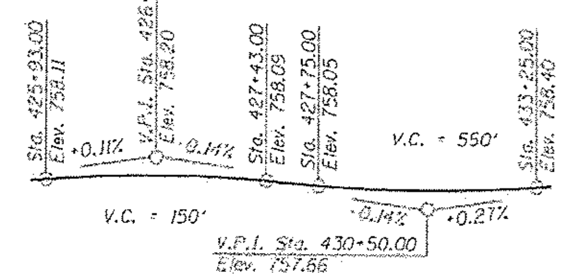
Signed: Spiros Pantazis, S.E. IL. Lic. No. 081-006448 Expires 11-30-2014

Date: 1/3/14

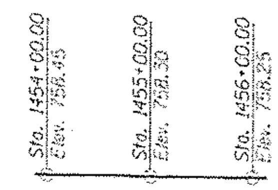
STATE OF ILLINOIS SPIROS PANTAZIS 081-006448 CHICAGO, ILLINOIS LICENSED STRUCTURAL ENGINEER

APPROVED For Structural Adequacy Only

Engineer of Bridges and Structures

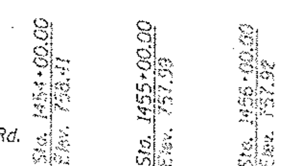


PROFILE GRADE RAMP D



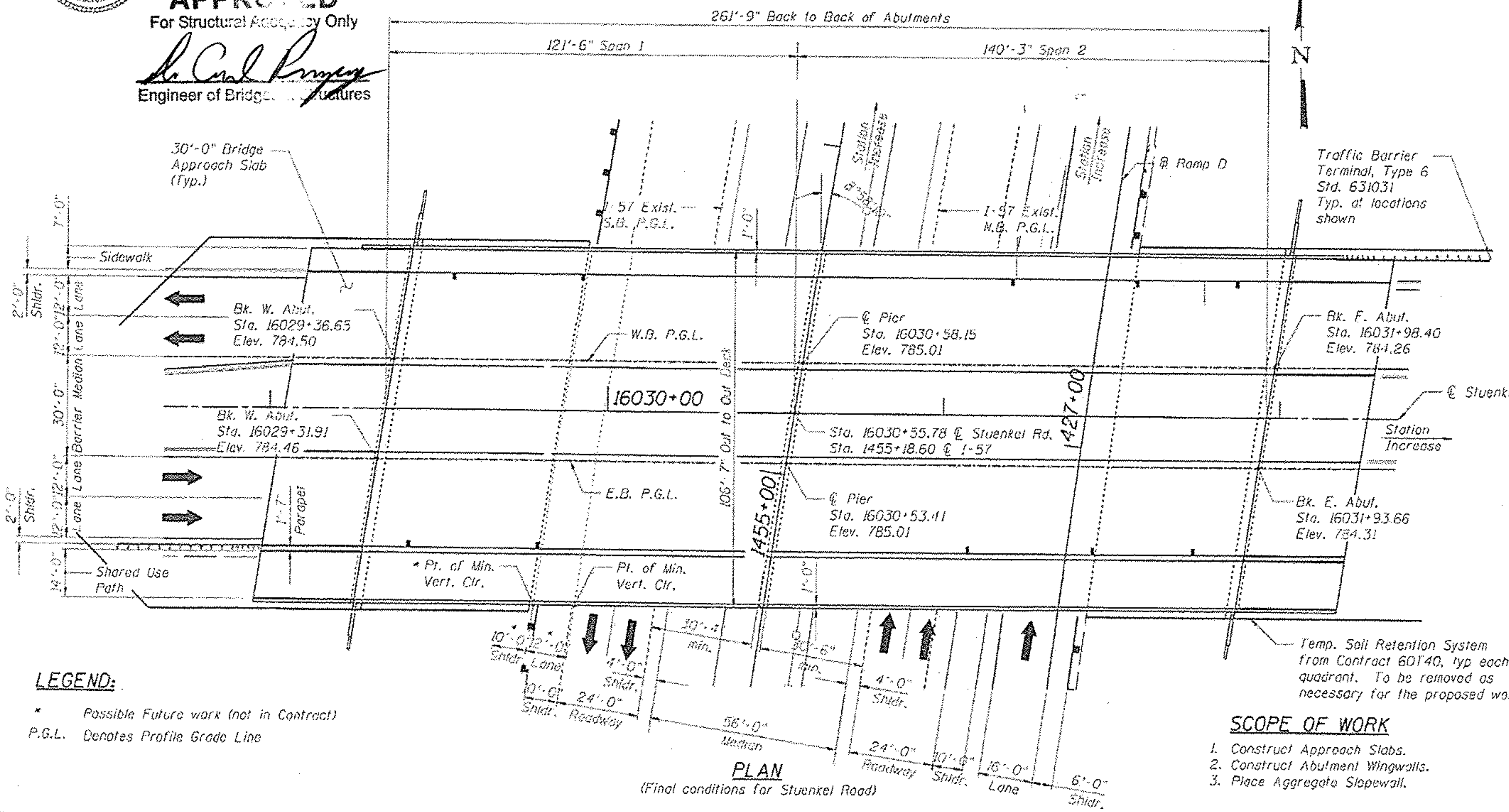
PROFILE GRADE NB I-57

(From Existing Survey)



PROFILE GRADE SB I-57

(From Existing Survey)



PLAN

(Final conditions for Stuenkel Road)

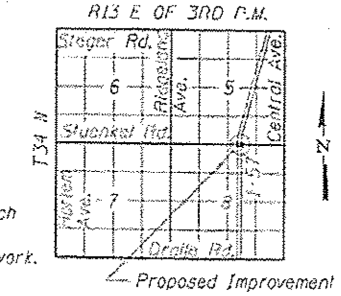
LEGEND:

* Possible Future work (not in Contract)
P.G.L. Denotes Profile Grade Line

SCOPE OF WORK

1. Construct Approach Slabs.
2. Construct Abutment Wingwalls.
3. Place Aggregate Slopewall.

R13 E OF 3RD P.M.



LOCATION SKETCH

Stuenkel Rd. over I-57

CURVE DATA

I-57 Exist. (MA111-1)
Δ = 14° 07' 38" (RT)
D = 0° 29' 59"
T = 1,420.98'
L = 2,827.55'
E = 87.70'
R = 11,467.60'
S.E. = 1.85%
P.C. = Sta. 1443+88.41
P.T. = Sta. 1472+15.95
P.I. = Sta. 1458+09.39

CURVE DATA

Ramp D (RD111-4)
Δ = 8° 56' 47" (RT)
D = 0° 30' 09"
T = 891.84'
L = 1,750.05'
E = 34.83'
R = 11,400.00'
S.E. = 2.0%
P.C. = Sta. 423+68.01
P.T. = Sta. 441+18.05
P.I. = Sta. 432+59.85

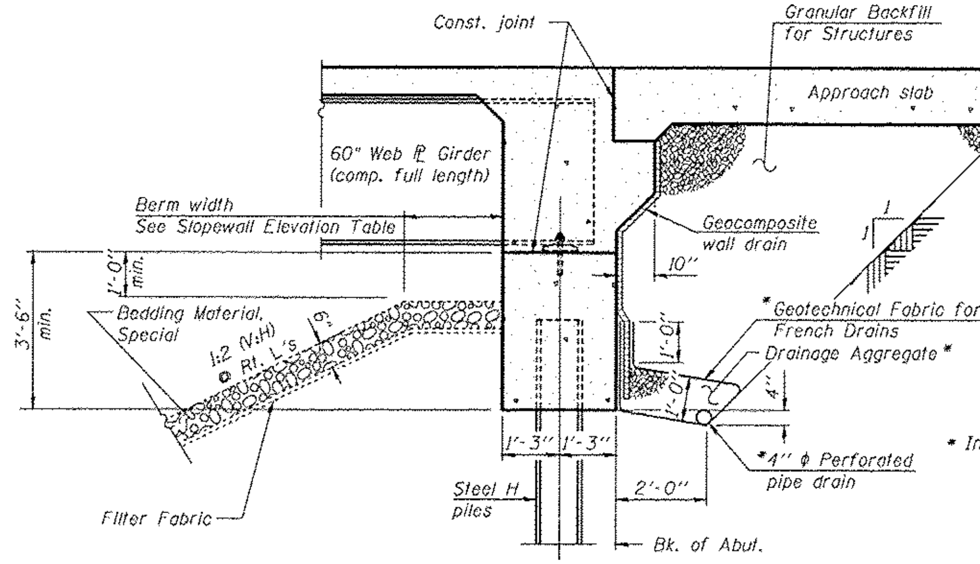
GENERAL PLAN & ELEVATION
STUENKEL RD. OVER F.A.I. 57
F.A.I. RTE. 57 - SEC. 99-IHB-R1
WILL COUNTY
STATION 16030+55.78
STRUCTURE NO. 099-0526

TYLININTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - △ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION (FINAL CONDITION) STUENKEL ROAD OVER I-57	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED - SP	REVISED			57	99-IHB-R1	WILL	679	353
	PLOT DATE =	DRAWN - PK	REVISED		SHEET NO. SA-1 OF SA-10 SHEETS			CONTRACT NO. 60L69		
		CHECKED - SP/PDF	REVISED			ILLINOIS FED. AID PROJECT				

△ Entire Sheet Revised

GENERAL NOTES:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. 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.
3. Slipforming of the parapets is not allowed.



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

TOTAL BILL OF MATERIAL

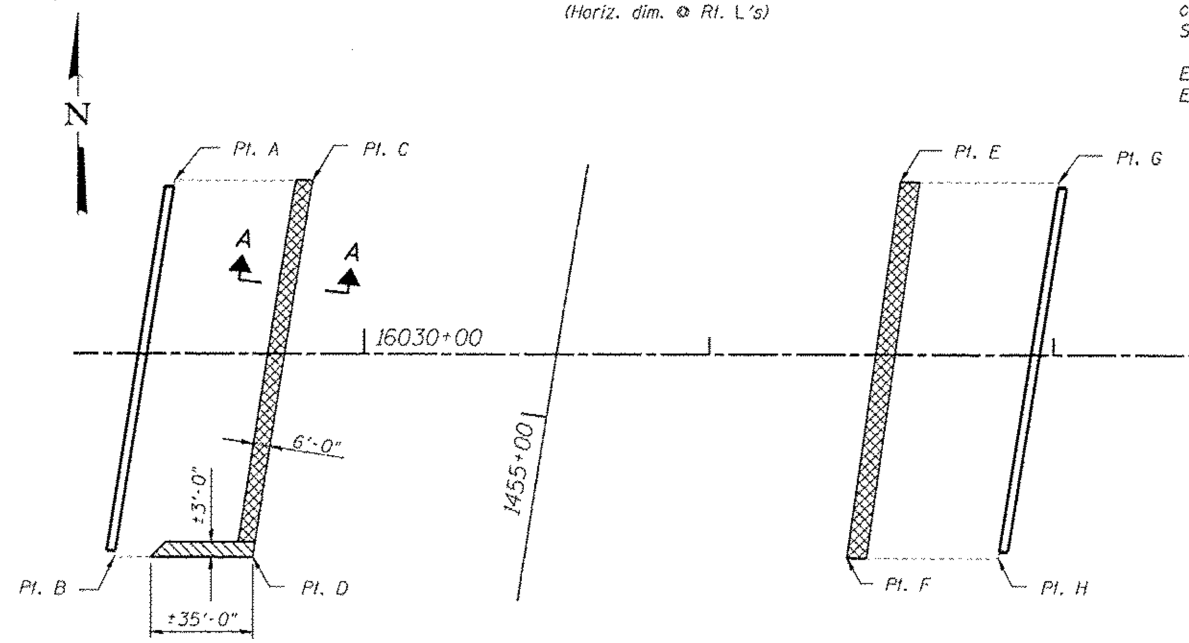
ITEM	UNIT	SUPER	SUB	TOTAL
Filter Fabric	Sq Yd		162	162
Structure Excavation	Cu Yd		32	32
Concrete Structures	Cu Yd		82.9	82.9
Concrete Superstructure	Cu Yd	390.8		390.8
Bridge Deck Grooving	Sq Yd	347		347
Protective Coat	Sq Yd	749		749
Reinforcement Bars, Epoxy Coated	Pound	77,440	15,480	92,920
Bridge Fence Railing	Foot	22		22
Bridge Fence Railing (Sidewalk)	Foot	57		57
Parapet Railing	Foot	53		53
Geocomposite Wall Drain	Sq Yd		212	212
Pipe Underdrain for Structures 4"	Foot		298	298
Bedding Material, Special	Cu Yd		27	27
Removal of Temporary Soil Retention System	Sq Ft		534	534
Granular Backfill for Structures	Cu Yd		461	461
Silicone Joint Sealer, 1"	Foot		60	60

* Included in the cost of Pipe Underdrains for Structures

INTEGRAL ABUTMENT NOTES:

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

Excavation to place pipe underdrain is paid for as Structure Excavation.

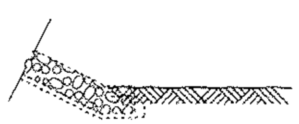


SLOPEWALL PLAN

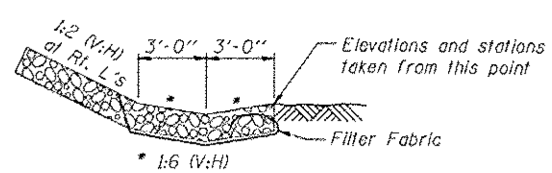
INDEX OF SHEETS

SLOPEWALL ELEVATIONS		
LOCATION	Elev.	Berm Width
Pt. A - Sta. 1455+51.34, Offset 117.56' Lt.	775.72	
Pt. B - Sta. 1454+40.53, Offset 117.78' Lt.	776.12	
Pt. C - Sta. 1455+59.12, Offset 68.89' Lt.	758.10	
Pt. D - Sta. 1454+47.84, Offset 69.03' Lt.	758.50	
Pt. E - Sta. 1455+85.44, Offset 92.72' Rt.	757.10	
Pt. F - Sta. 1454+72.89, Offset 94.86' Rt.	757.20	
Pt. G - Sta. 1455+92.59, Offset 135.80' Rt.	776.13	1'-8"
Pt. H - Sta. 1454+79.29, Offset 135.97' Rt.	776.05	

Note:
The vast majority of the slopewall was constructed in IDOT Contract 60T40 and was placed between the Temporary Soil Retention system. The table is provided for information to assist in the proposed work.



SECTION AA
(Existing conditions)



SECTION AA
(Proposed Conditions)

LEGEND

Denotes Slopewall Installation

Denotes Slopewall Regrading (as determined by Engineer, area and work included in the Pay Item, Bedding Material, Special)

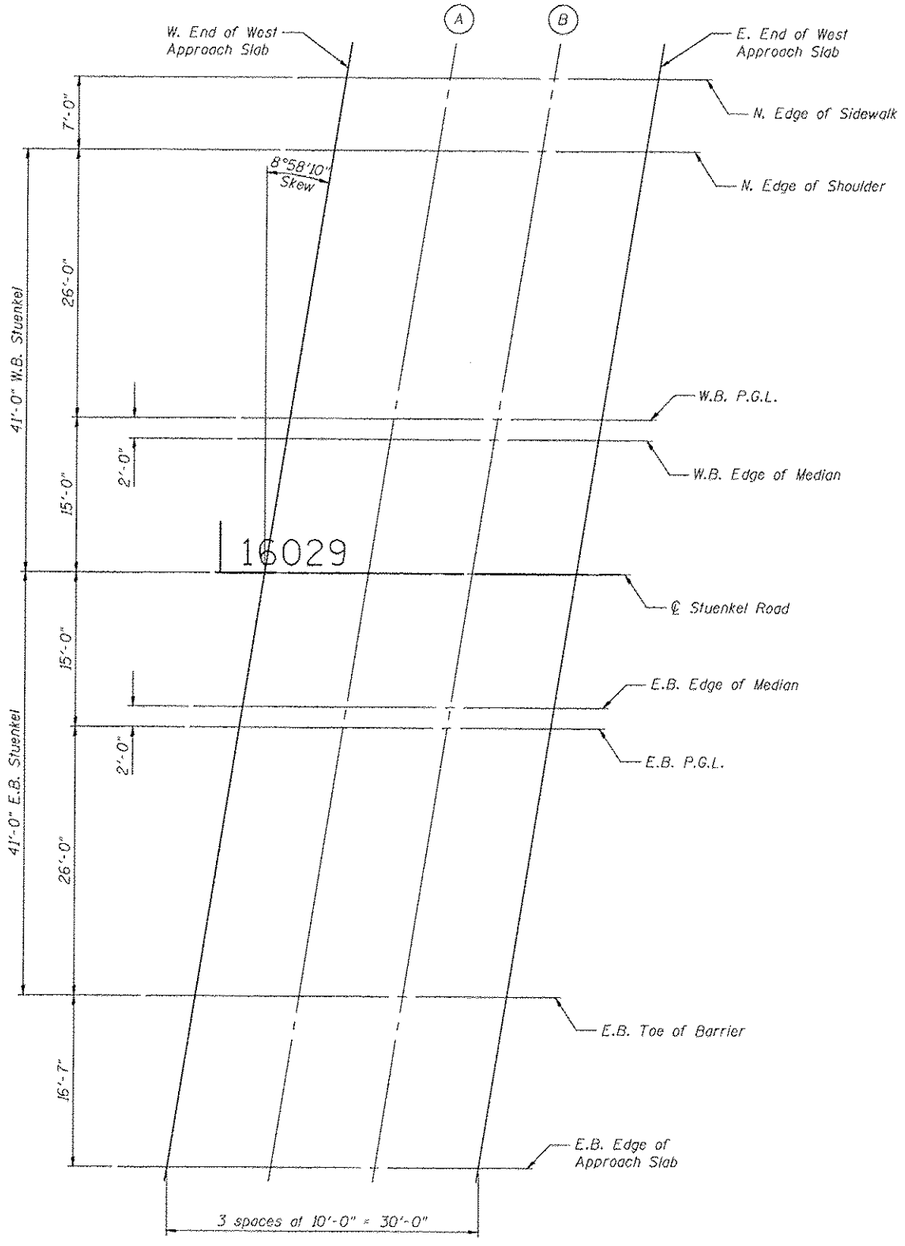
TYLININTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - △ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, INDEX OF SHEETS & BILL OF MATERIAL STRUCTURE NO. 099-0526
		CHECKED - SP	REVISED -		
	PLOT SCALE =	DRAWN - PK	REVISED -		
	PLOT DATE =	CHECKED - SP/PDF	REVISED -		SHEET NO. SA-2 OF SA-10 SHEETS

△ Entire Sheet Revised

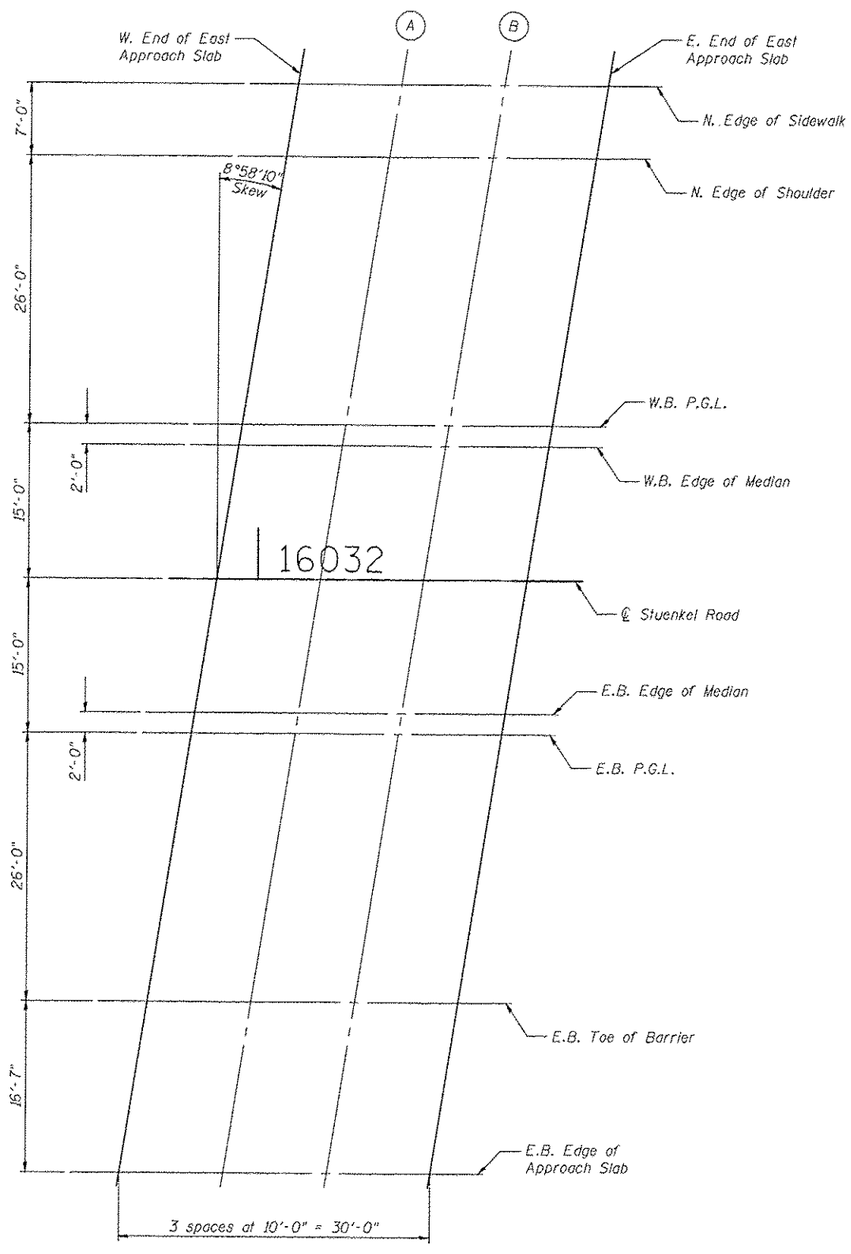
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	354
		CONTRACT NO. 60L69		

ILLINOIS FED. AID PROJECT

$FILE$ $TIME$ $DATE$



PLAN
West Approach



PLAN
East Approach

TY·LIN INTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - ⚠ 1/6/2014 S.P.
		CHECKED - SP	REVISED -
	PLOT SCALE =	DRAWN - PK	REVISED -
	PLOT DATE =	CHECKED - SP/PDF	REVISED -

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS – LAYOUT
STRUCTURE NO. 099-0526
SHEET NO. SA-3 OF SA-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	355
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

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NORTH EDGE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16029+11.86	-48.00	783.58
A	16029+21.86	-48.00	783.68
B	16029+31.86	-48.00	783.77
E. End W. Appr. Slab	16029+41.86	-48.00	783.86

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16029+10.75	-41.00	783.71
A	16029+20.75	-41.00	783.82
B	16029+30.75	-41.00	783.91
E. End W. Appr. Slab	16029+40.75	-41.00	784.00

WB PGL

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16029+06.65	-15.00	784.21
A	16029+16.65	-15.00	784.32
B	16029+26.65	-15.00	784.41
E. End W. Appr. Slab	16029+36.65	-15.00	784.50

WB EDGE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16029+06.33	-13.00	784.25
A	16029+16.33	-13.00	784.35
B	16029+26.33	-13.00	784.45
E. End W. Appr. Slab	16029+36.33	-13.00	784.54

℄ STUENKEL ROAD

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16029+04.28	0.00	784.50
A	16029+14.28	0.00	784.60
B	16029+24.28	0.00	784.70
E. End W. Appr. Slab	16029+34.28	0.00	784.80

EB EDGE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16029+02.23	13.00	784.21
A	16029+12.23	13.00	784.31
B	16029+22.23	13.00	784.41
E. End W. Appr. Slab	16029+32.23	13.00	784.51

EB PGL

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16029+01.91	15.00	784.16
A	16029+11.91	15.00	784.27
B	16029+21.91	15.00	784.37
E. End W. Appr. Slab	16029+31.91	15.00	784.46

EB TOE OF BARRIER

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16028+97.81	41.00	783.57
A	16029+07.81	41.00	783.68
B	16029+17.81	41.00	783.79
E. End W. Appr. Slab	16029+27.81	41.00	783.88

EB EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Slab	16028+95.19	57.58	783.20
A	16029+05.19	57.58	783.31
B	16029+15.19	57.58	783.41
E. End W. Appr. Slab	16029+25.19	57.58	783.51

* Offset measured from ℄ Stuenkel Rd.

NORTH EDGE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16032+03.61	-48.00	783.52
A	16032+13.61	-48.00	783.41
B	16032+23.61	-48.00	783.29
E. End E. Appr. Slab	16032+33.61	-48.00	783.16

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16032+02.50	-41.00	783.68
A	16032+12.50	-41.00	783.57
B	16032+22.50	-41.00	783.45
E. End E. Appr. Slab	16032+32.50	-41.00	783.33

WB PGL

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16031+98.40	-15.00	784.26
A	16032+08.40	-15.00	784.16
B	16032+18.40	-15.00	784.04
E. End E. Appr. Slab	16032+28.40	-15.00	783.92

WB EDGE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16031+98.08	-13.00	784.31
A	16032+08.08	-13.00	784.20
B	16032+18.08	-13.00	784.09
E. End E. Appr. Slab	16032+28.08	-13.00	783.96

℄ STUENKEL ROAD

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16031+96.03	0.00	784.60
A	16032+06.03	0.00	784.50
B	16032+16.03	0.00	784.38
E. End E. Appr. Slab	16032+26.03	0.00	784.26

EB EDGE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16031+93.98	13.00	784.35
A	16032+03.98	13.00	784.25
B	16032+13.98	13.00	784.14
E. End E. Appr. Slab	16032+23.98	13.00	784.02

EB PGL

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16031+93.66	15.00	784.31
A	16032+03.66	15.00	784.21
B	16032+13.66	15.00	784.10
E. End E. Appr. Slab	16032+23.66	15.00	783.98

EB TOE OF BARRIER

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16031+89.56	41.00	783.81
A	16031+99.56	41.00	783.71
B	16032+09.56	41.00	783.60
E. End E. Appr. Slab	16032+19.56	41.00	783.49

EB EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Slab	16031+86.94	57.58	783.49
A	16031+96.94	57.58	783.39
B	16032+06.94	57.58	783.29
E. End E. Appr. Slab	16032+16.94	57.58	783.17

* Offset measured from ℄ Stuenkel Rd.

TYLIN INTERNATIONAL

USER NAME =	DESIGNED - PK	REVISED - ⚠ 1/6/2014 S.P.	
	CHECKED - SP	REVISED -	
PLOT SCALE =	DRAWN - PK	REVISED -	
PLOT DATE =	CHECKED - SP/PDF	REVISED -	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 099-0526

SHEET NO. SA-4 OF SA-10 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	356
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

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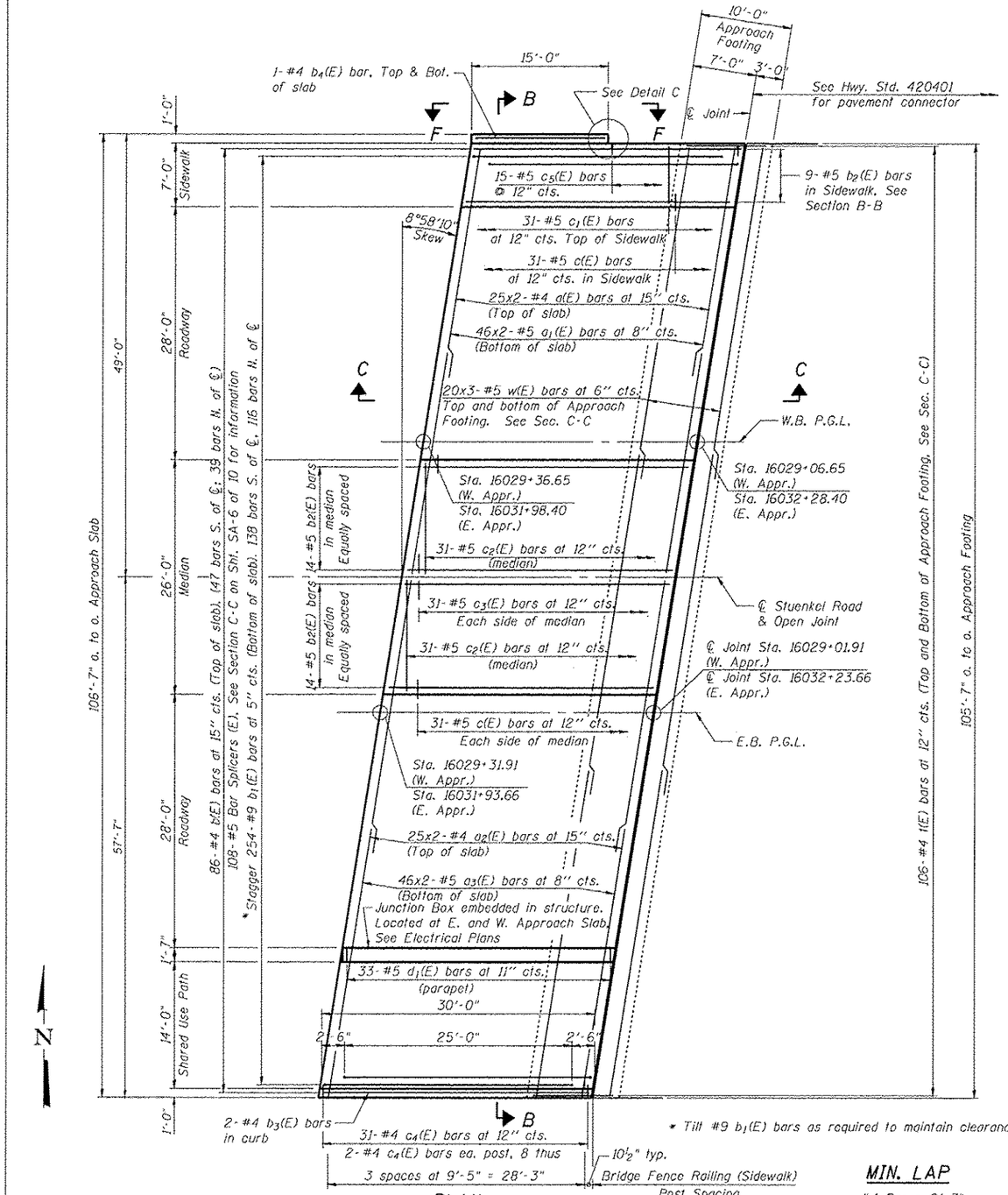
1/7/2014

Notes:
See sheet SA-6 of SA-10 for Sections B-B & C-C.
$a_1(E)$ thru $a_3(E)$ bar spacings measured along ℄ Rdwy.

*** Cost included with Concrete Superstructure.



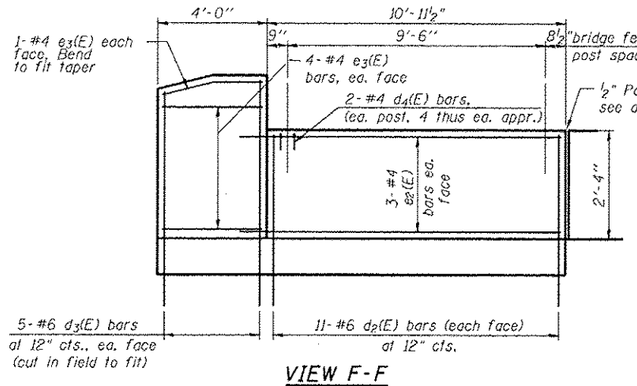
PLAN

East Approach shown, West Approach similar.

* Till #9 $b_1(E)$ bars as required to maintain clearance.

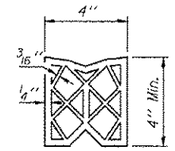
MIN. LAP

#4 Bar = 2'-7"
#5 Bar = 3'-3"

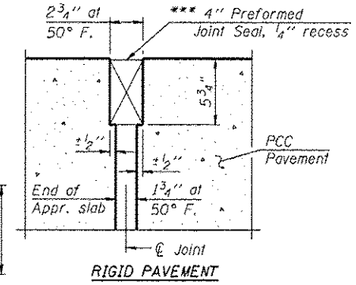


VIEW F-F

(typical at both approaches)
(See Electrical Plans for embedded junction boxes and conduit)

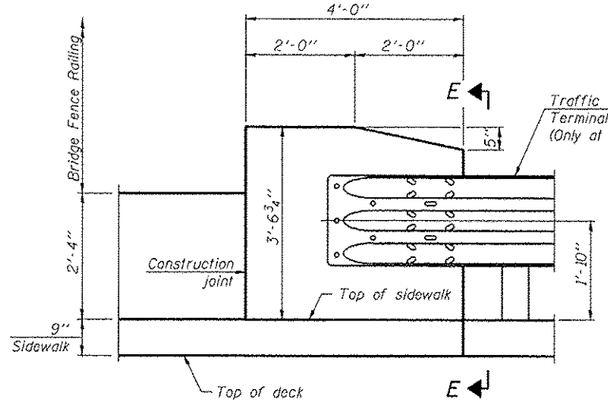


PREFORMED JOINT SEAL



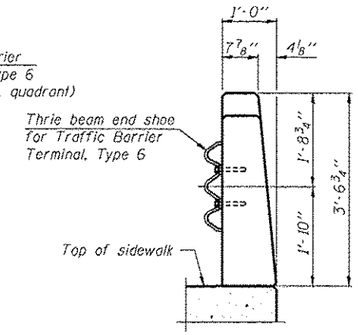
RIGID PAVEMENT

DETAIL A

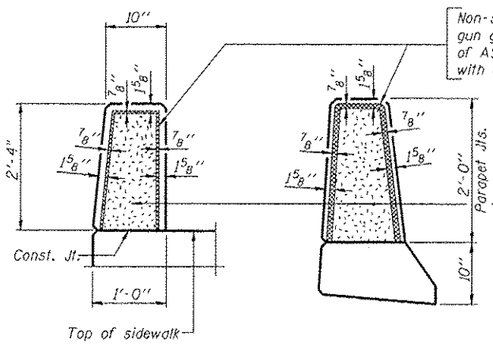


DETAIL C

(Typical Each Approach)



SECTION E-E



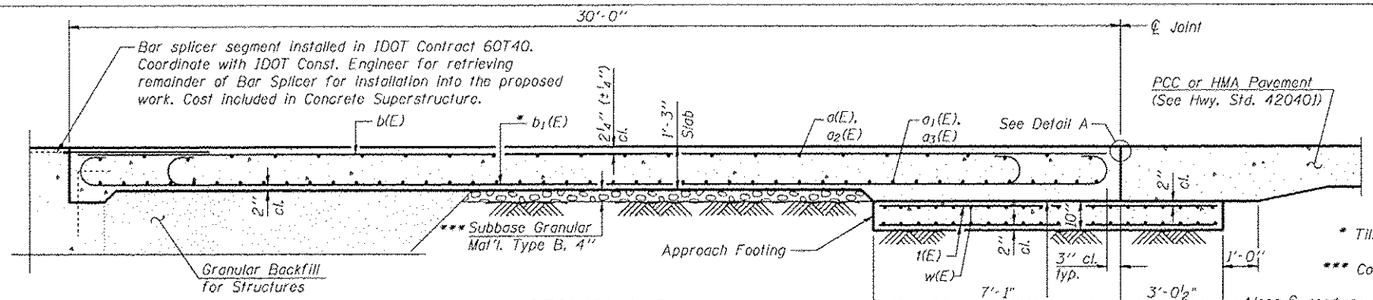
PARAPET JOINT DETAILS

TYLIN INTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB PLAN STRUCTURE NO. 099-0526
		CHECKED - SP	REVISED -		
	PLOT SCALE =	DRAWN - PK	REVISED -		
	PLOT DATE =	CHECKED - SP/PDF	REVISED -		SHEET NO. SA-5 OF SA-10 SHEETS

⚠ Entire Sheet Revised

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	357
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

$FILE$
$TIME$
$DATE$

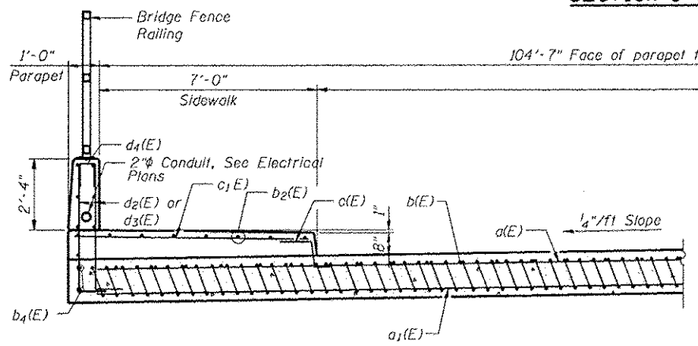


SECTION C-C

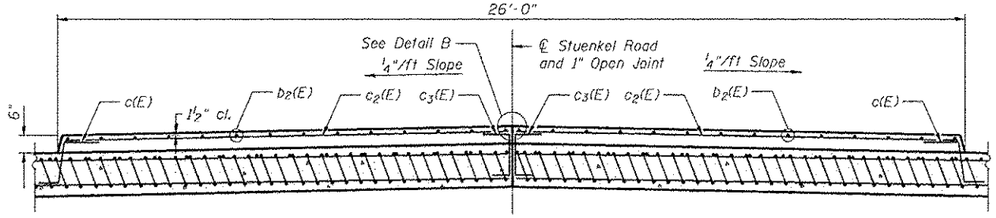
Notes:
See sheet SA-5 of SA-10 for Detail A.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For additional parapet details, see sheet SA-5 of SA-10.

* Tilt #9 b1(E) bars as required to maintain clearance.

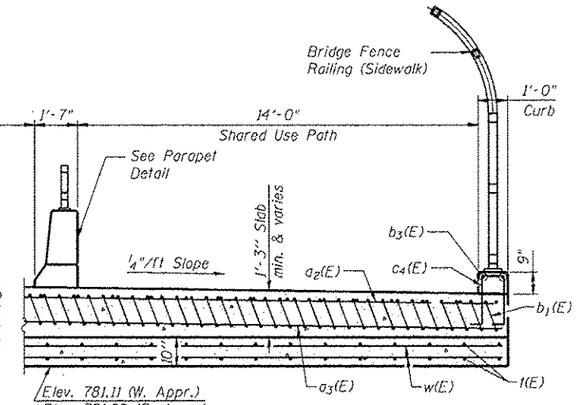
*** Cost included with Concrete Superstructure.



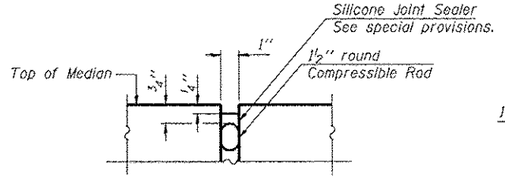
NEAR ABUTMENT



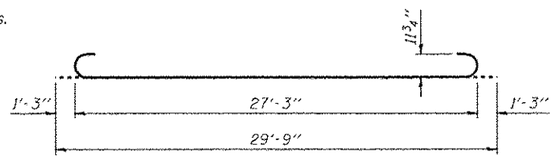
SECTION B-B
(See Plan for dimensions not shown)



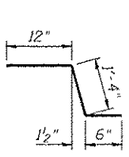
AT APPROACH FOOTING



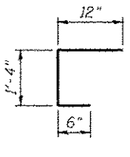
DETAIL B



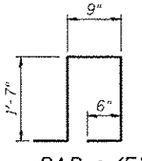
BAR b1(E)



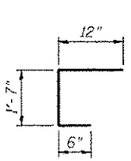
BAR c(E)



BAR c3(E)



BAR c4(E)



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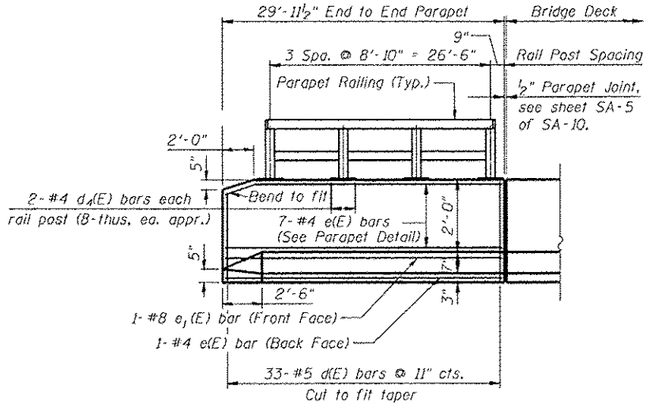
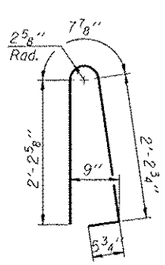
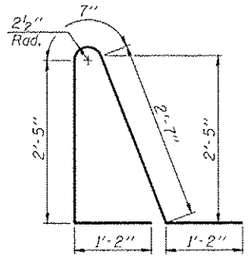


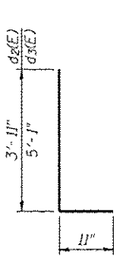
INSIDE ELEVATION OF S. PARAPET



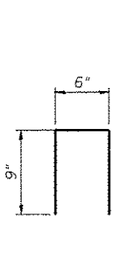
BAR d(E)



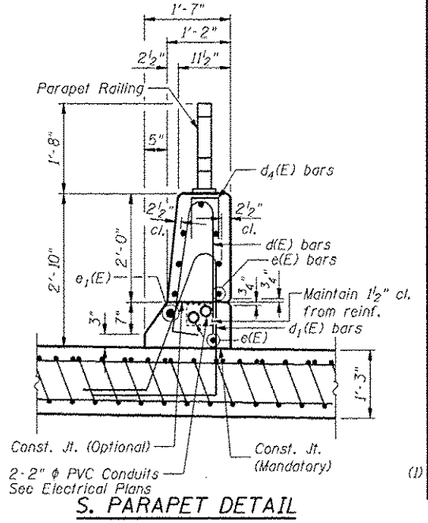
BAR d1(E)



BARS d2(E) & d3(E)



BAR d4(E)



S. PARAPET DETAIL

BILL OF MATERIAL - TWO APPROACHES

Bar	No.	Size	Length	Shape
a (E)	100	#4	26'-0"	
a1(E)	184	#5	26'-4"	
a2(E)	100	#4	30'-4"	
a3(E)	184	#5	30'-8"	
b (E)	172	#4	29'-9"	
b1(E)	508	#9	29'-9"	
b2(E)	74	#5	29'-8"	
b3(E)	4	#4	29'-8"	
b4(E)	4	#4	14'-8"	
c (E)	186	#5	2'-10"	
c1(E)	62	#5	7'-8"	
c2(E)	124	#5	12'-8"	
c3(E)	124	#5	2'-10"	
c4(E)	78	#4	4'-11"	
c5(E)	30	#5	3'-1"	
d (E)	66	#5	5'-7"	
d1(E)	66	#5	7'-11"	
d2(E)	44	#6	4'-10"	
d3(E)	20	#6	6'-0"	
d4(E)	24	#4	2'-0"	
e (E)	16	#4	29'-8"	
e1(E)	2	#8	29'-8"	
e2(E)	12	#4	13'-7"	
e3(E)	20	#4	3'-8"	
t (E)	424	#4	9'-9"	
w (E)	240	#5	38'-1"	
Concrete Superstructure			Cu. Yd.	390.8
Concrete Structures			Cu. Yd.	66.0
(1) Reinforcement Bars, Epoxy Coated			Pound	89,740

(1) 12,300 pounds billed in Substructure

TYLIN INTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - ⚠1 1/6/2014 S.P.
		CHECKED - SP	REVISED -
	PLOT SCALE =	DRAWN - PK	REVISED -
	PLOT DATE =	CHECKED - SP/PDF	REVISED -

⚠ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 099-0526
SHEET NO. SA-6 OF SA-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	358
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

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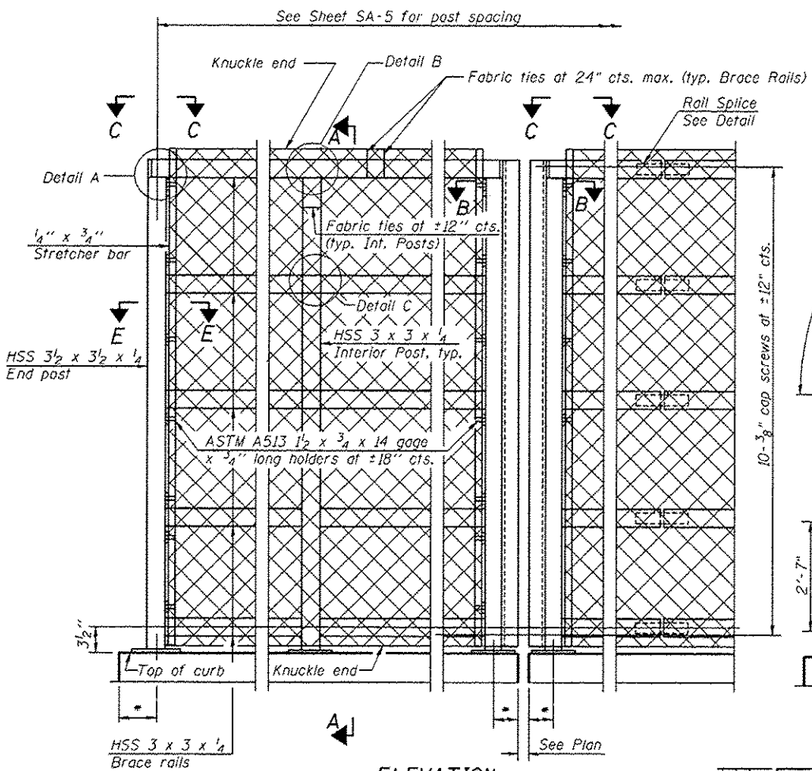
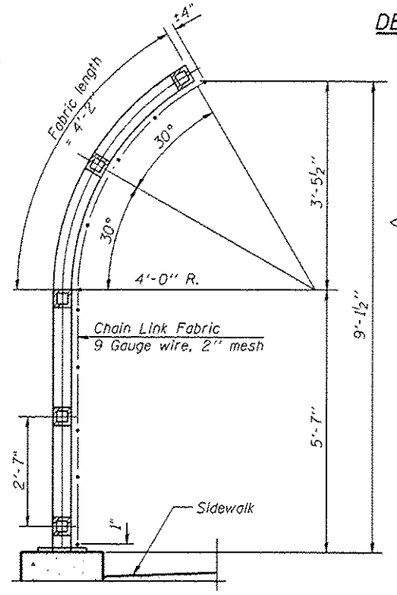
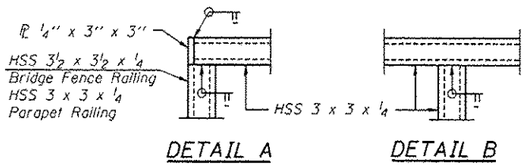


ELEVATION
(Inside Face)

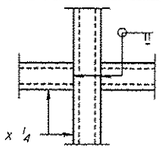


SECTION A-A



DETAIL A

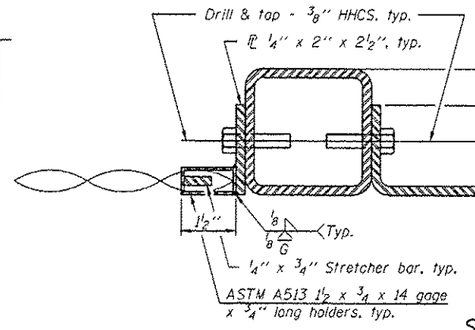
DETAIL B

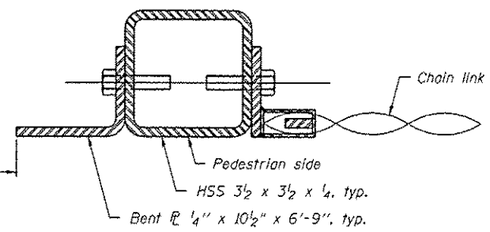


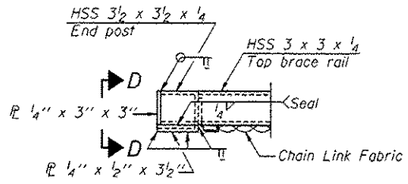
DETAIL C

NOTES:

1. All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

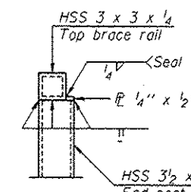




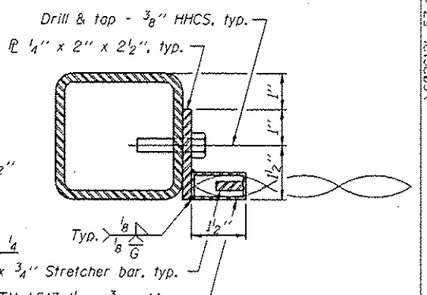


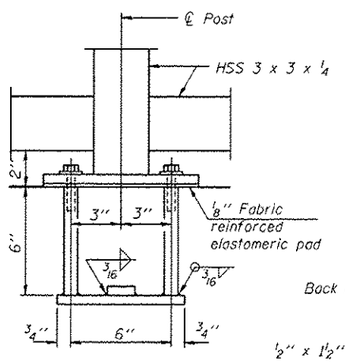
VIEW C-C

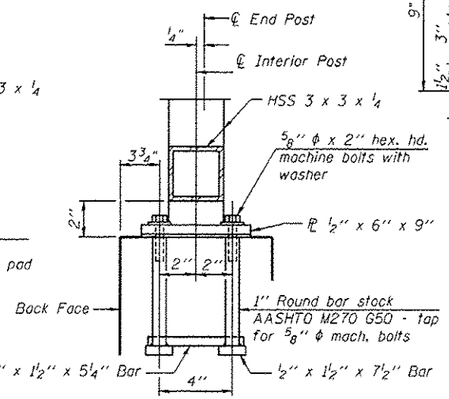
SECTION B-B
(At Expansion Joint)



VIEW D-D



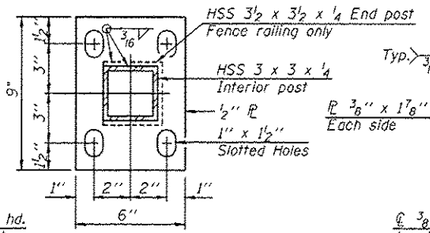




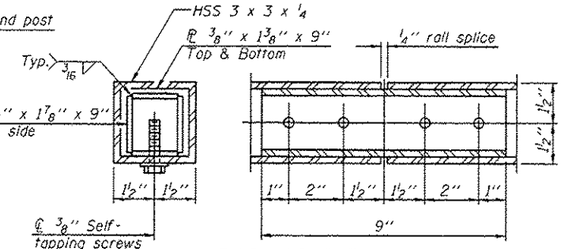
ANCHOR BOLT DETAILS

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.

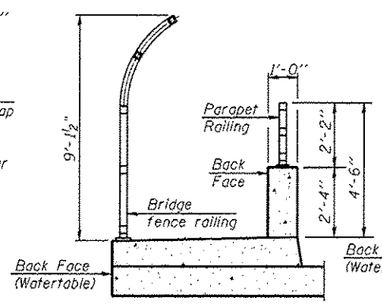
(10'-0" Maximum Post Spacing)



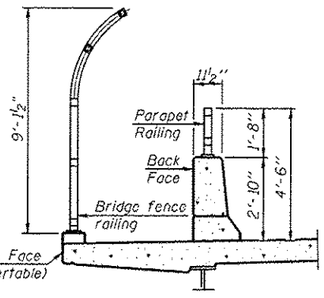
BASE ℄



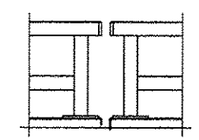
RAIL SPLICE



SECTION THRU SIDEWALK

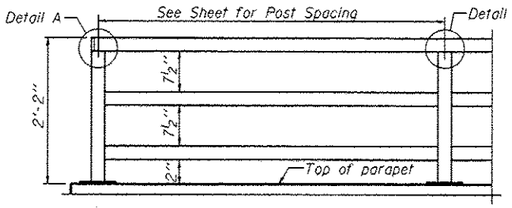


SECTION THRU DECK

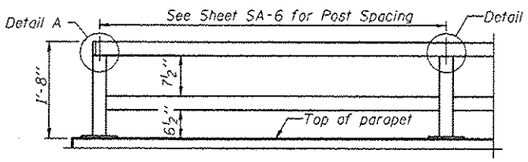


PARAPET RAILING ELEVATION AT EXPANSION JOINT
(Two element rail shown - Three element rail similar)

SECTION E-E



PARAPET RAILING ELEVATION
(Inside Face of Three Element Rail)



PARAPET RAILING ELEVATION
(Inside face of two element rail)

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing (Sidewalk)	Foot	57
Parapet Railing	Foot	53

TYLIN INTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - ⚠ 1/6/2014 S.P.
		CHECKED - SP	REVISED -
	PLOT SCALE =	DRAWN - PK	REVISED -
	PLOT DATE =	CHECKED - SP/PDF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

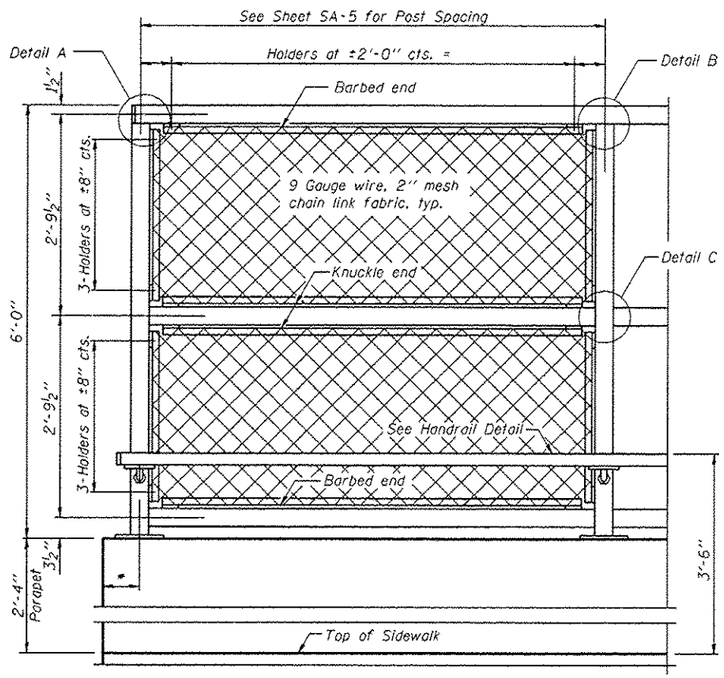
BRIDGE FENCE RAILING, SIDEWALK MOUNTED
STRUCTURE NO. 099-0526
SHEET NO. SA-7 OF SA-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HD-R1	WILL	679	359
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

1/2/2014

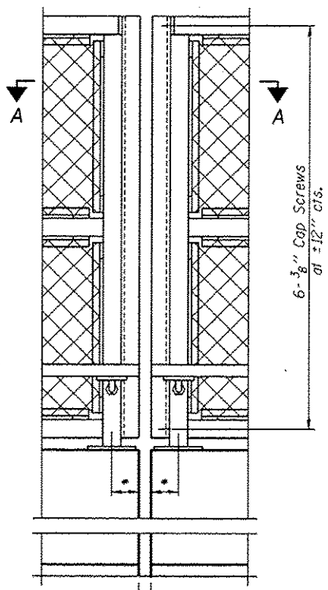
p:\60261261-57_0_stuenkel\structural\c_3(interchange)\bridge\C3_stuenkel_BridgeRailing5x.dwg Holder Sheet Revised

p:\60261261-57_0_stuenkel\structural\c_3(interchange)\bridge\C3_stuenkel_BridgeRailing5x.dgn 1:31:44 PM

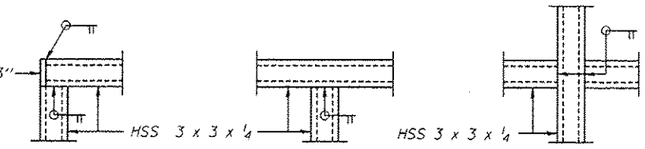


ELEVATION
(Inside Face)

* See plans for edge distance



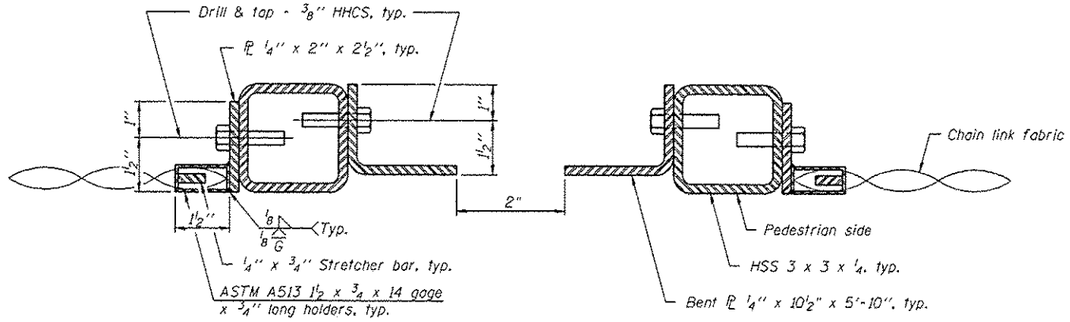
ELEVATION
(At Expansion Joint)



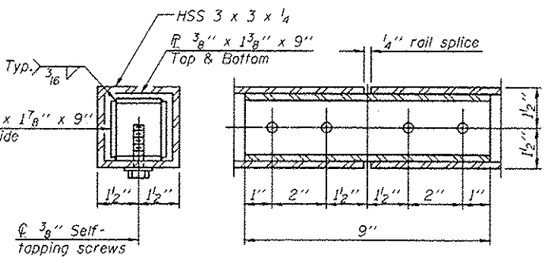
DETAIL A DETAIL B DETAIL C

NOTES:

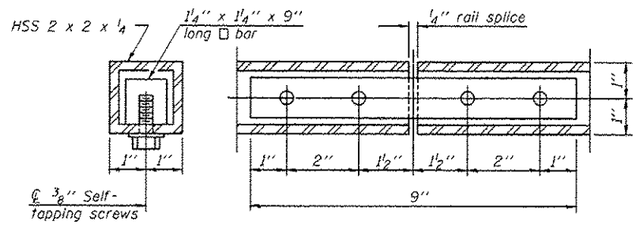
1. All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



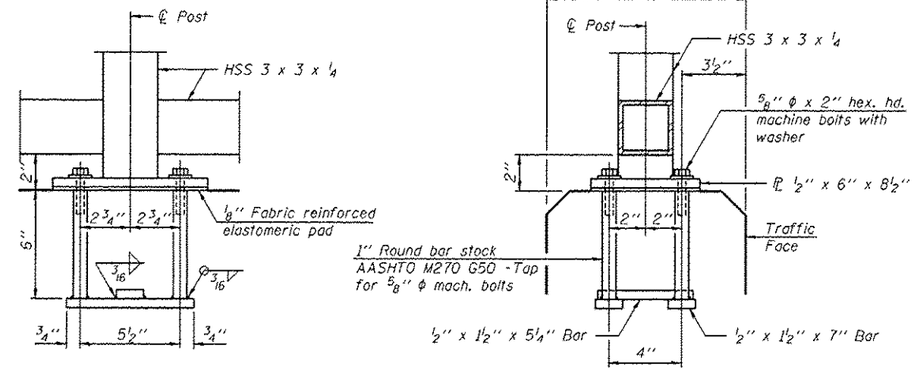
SECTION A-A



RAIL SPLICE

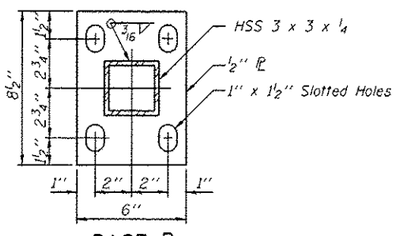


HANDRAIL SPLICE

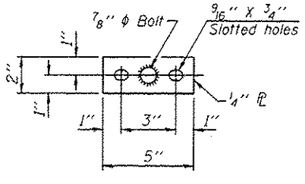


ANCHOR BOLT DETAILS

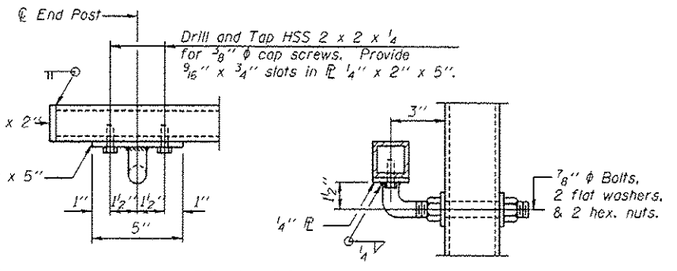
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



BASE ℄



BASE ℄
(Handrail)



HANDRAIL DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing	Foot	22

(10'-0" Maximum Post Spacing)

TYLIN INTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - ⚠ 1/6/2014 S.P.
		CHECKED - SP	REVISED -
	PLOT SCALE =	DRAWN - PK	REVISED -
	PLOT DATE =	CHECKED - SP/PDF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

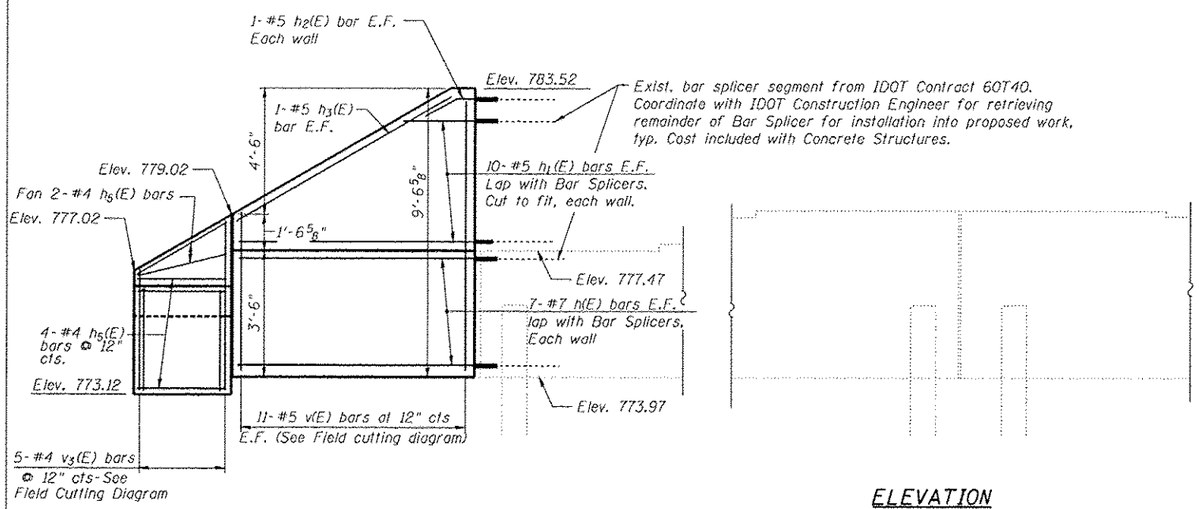
BRIDGE FENCE RAILING, PARAPET MOUNTED
STRUCTURE NO. 099-0526
SHEET NO. SA-8 OF SA-10 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	360
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

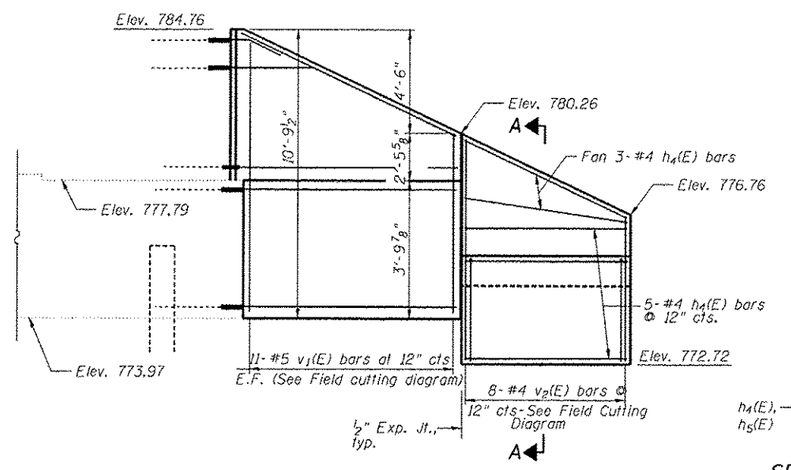
p:\6026126-57_0_stuenkel\structural\c_3interchange\bridge\C3_stuenkel_BridgeRailingParapetMounted.dgn Entire Sheet Revised

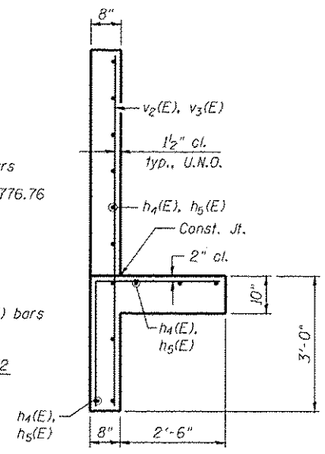
p:\6026126-57_0_stuenkel\structural\c_3interchange\bridge\C3_stuenkel_Bridge

1:31:49 PM 1/22/2014

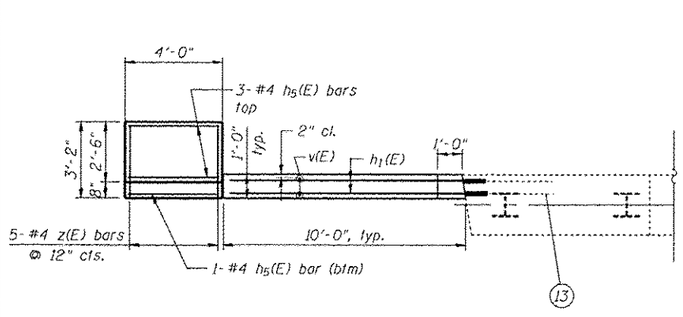


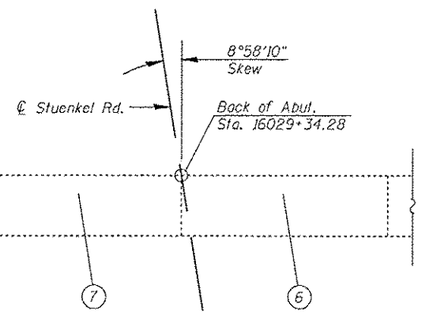
ELEVATION
(Looking West)

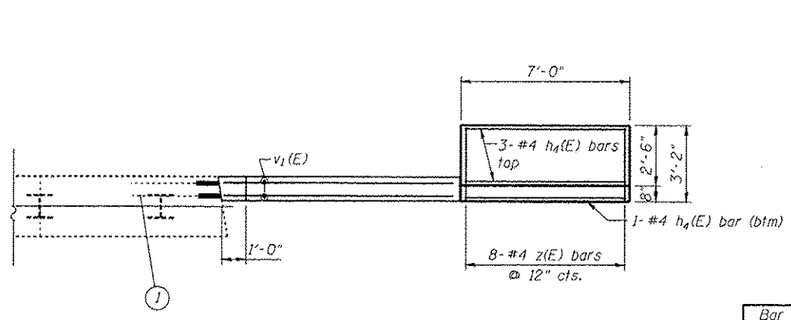




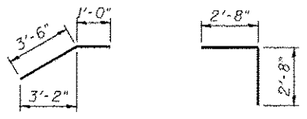
SECTION A-A
Max. Applied Service Bearing Pressure = Qmax. = 1,430psf





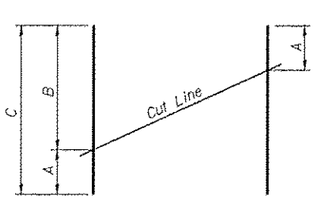


PLAN



BAR h2(E)

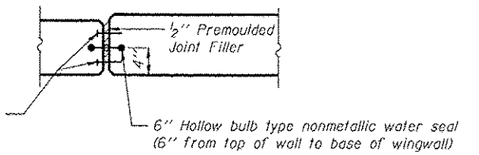
BAR z(E)



FIELD CUTTING DIAGRAM
Order bars full length. Cut as shown and use remainder of bars in opposite face.

FIELD CUTTING BAR DIMENSIONS

Bar	A	B	C
v(E)	4'-10"	9'-3"	14'-1"
v1(E)	6'-0"	10'-6"	16'-6"
v2(E)	3'-9"	7'-3"	11'-0"
v3(E)	3'-8"	5'-8"	9'-4"



EXPANSION JOINT DETAIL

BILL OF MATERIAL

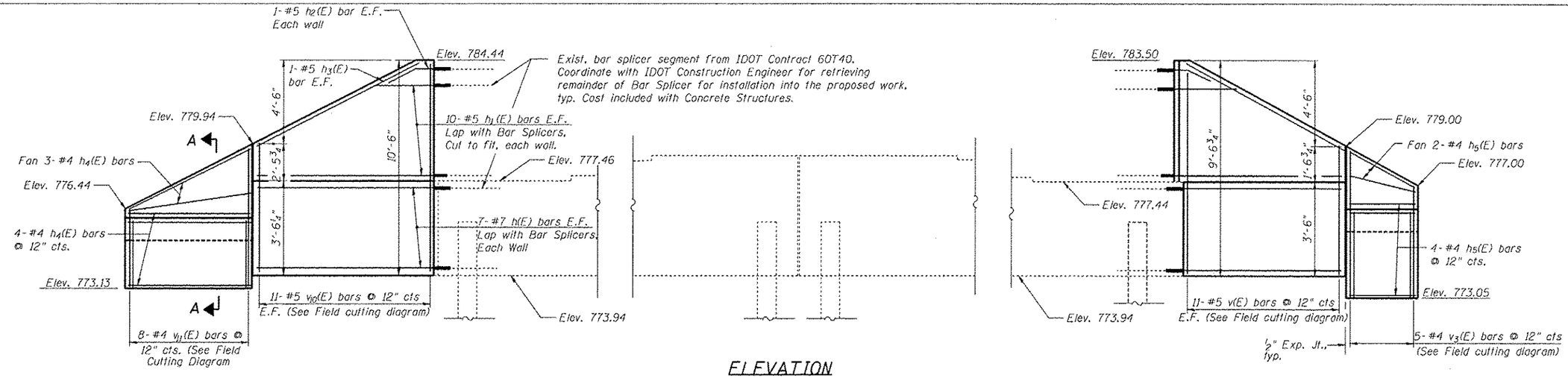
Bar	No.	Size	Length	Shape
h(E)	28	#7	9'-9"	
h1(E)	40	#5	9'-9"	
h2(E)	4	#5	4'-6"	
h3(E)	4	#5	9'-8"	
h4(E)	12	#4	6'-9"	
h5(E)	10	#4	3'-9"	
v(E)	11	#5	14'-1"	
v1(E)	11	#5	16'-6"	
v2(E)	8	#4	11'-0"	
v3(E)	5	#4	9'-4"	
z(E)	13	#4	5'-4"	
Structure Excavation			Cu. Yd.	16
Concrete Structures			Cu. Yd.	8.5
Reinforcement Bars, Epoxy Coated			Pound	1600

TYLIN INTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WEST ABUTMENT STRUCTURE NO. 099-0526
		CHECKED - SP	REVISED -		
	PLOT SCALE =	DRAWN - PK	REVISED -		SHEET NO. SA-9 OF SA-10 SHEETS
	PLOT DATE =	CHECKED - SP/PDF	REVISED -		

⚠ Entire Sheet Revised

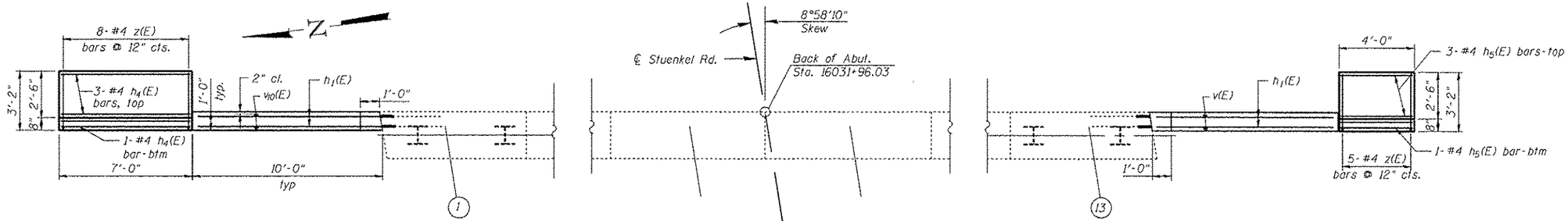
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	361
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

$FILES
$TIMES
$DATES

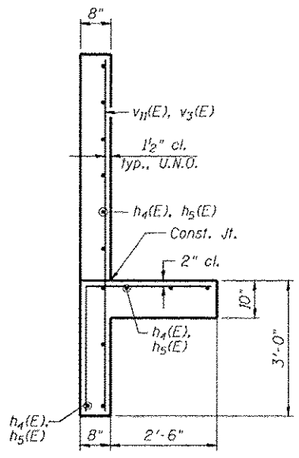


ELEVATION

(Looking East)

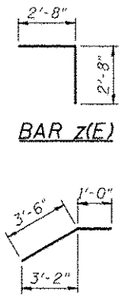


PLAN



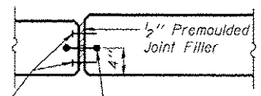
SECTION A-A

Max. Applied Service Bearing Pressure=σmax. = 1,300psf

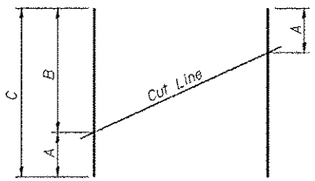


BAR z(E)

BAR h2(E)



EXPANSION JOINT DETAIL



FIELD CUTTING DIAGRAM

Order bars full length. Cut as shown and use remainder of bars in opposite face.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	9'-9"	
h1(E)	40	#5	9'-9"	
h2(E)	4	#5	4'-6"	
h3(E)	4	#5	9'-8"	
h4(E)	11	#4	6'-9"	
h5(E)	10	#4	3'-9"	
v(E)	11	#5	14'-1"	
v3(E)	5	#4	9'-4"	
v10(E)	11	#5	16'-0"	
v11(E)	8	#4	9'-6"	
z(E)	13	#4	5'-4"	
Structure Excavation			Cu. Yd.	16
Concrete Structures			Cu. Yd.	8.4
Reinforcement Bars, Epoxy Coated			Pound	1580

FIELD CUTTING BAR DIMENSIONS

Bar	A	B	C
v(E)	4'-10"	9'-3"	14'-1"
v3(E)	3'-8"	5'-8"	9'-4"
v10(E)	5'-9"	10'-3"	16'-0"
v11(E)	3'-0"	6'-6"	9'-6"

TYLIN INTERNATIONAL	USER NAME =	DESIGNED - PK	REVISED - ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EAST ABUTMENT STRUCTURE NO. 099-0526	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - SP	REVISED -			57	99-1HB-R1	WILL	679	362
	PLOT SCALE =	DRAWN - PK	REVISED -						CONTRACT NO. 60L69	
	PLOT DATE =	CHECKED - SP/PDF	REVISED -		SHEET NO. SA-10 OF SA-10 SHEETS			ILLINOIS FED. AID PROJECT		

⚠ Entire Sheet Revised

$FILE$ $TIME$ $DATE$

Benchmark: RR Spike in N. Face of first power pole west of culvert under Stuenkel Rd., east of I-57, south side of Stuenkel, Elev. = 760.034

Existing Structure: Existing SN 099-6751, originally built in 1940 is a double 12.5'X4' R.C. box culvert with a culvert length of 35'. Existing plan data not available. Stuenkel Road is currently closed with a detour.

Salvage: None.

STATE OF ILLINOIS
SPIROS PANTAZIS
081-006448
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

Signed _____
Spiros Pantazis, S.E., IL. Lic. No. 081-006448
Expires 11-30-2014
Date 1/3/14

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

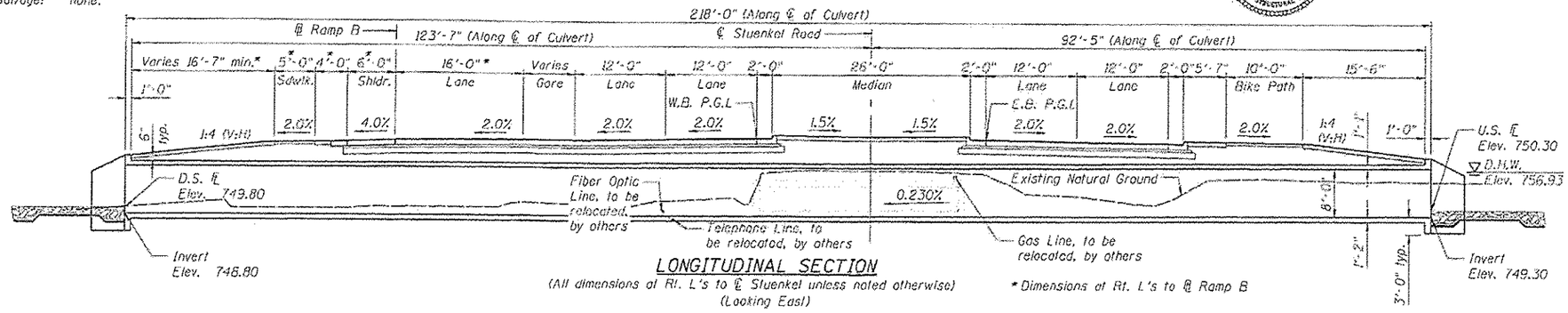
LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 50,000 psi (Structural Steel)
fy = 60,000 psi (Reinforcement)



LONGITUDINAL SECTION

(All dimensions at Rt. L's to ℄ Stuenkel unless noted otherwise)
(Looking East)

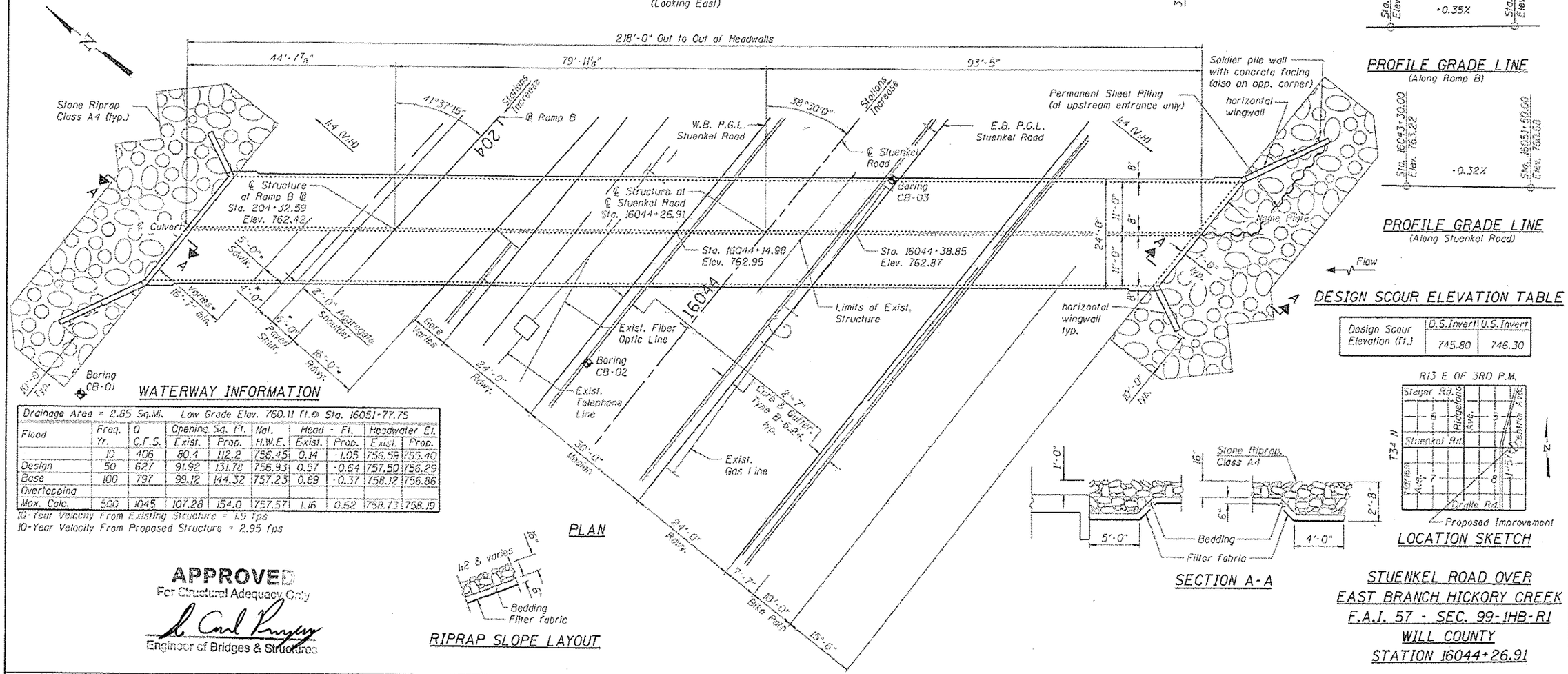
*Dimensions at Rt. L's to ℄ Ramp B

PROFILE GRADE LINE

(Along Ramp B)

PROFILE GRADE LINE

(Along Stuenkel Road)



PLAN

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S. Invert	U.S. Invert
	745.80	746.30

WATERWAY INFORMATION

Drainage Area = 2.85 Sq.Mi. Low Grade Elev. 760.11 ft.@ Sta. 16051+77.75

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Mat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
	10	406	80.4	112.2	756.45	0.14	-1.05	756.59	755.40
Design	50	627	91.92	131.78	756.93	0.57	-0.64	757.50	756.29
Base	100	797	99.12	144.32	757.23	0.89	-0.37	758.12	756.86
Overtopping									
Max. Calc.	500	1045	107.28	154.0	757.571	1.16	0.52	758.73	758.19

10-Year Velocity From Existing Structure = 1.9 fps
10-Year Velocity From Proposed Structure = 2.95 fps

APPROVED
For Structural Adequacy Only
S. Carl Puzey
Engineer of Bridges & Structures

RIPRAP SLOPE LAYOUT

SECTION A-A

LOCATION SKETCH

STUENKEL ROAD OVER
EAST BRANCH HICKORY CREEK
F.A.I. 57 - SEC. 99-1HB-R1
WILL COUNTY
STATION 16044+26.91

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - RH	REVISED
	PLOT SCALE =	DRAWN - DC/RH	REVISED
	PLOT DATE =	CHECKED - TCC	REVISED

⚠ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 099-0610
SHEET NO. SB-1 OF SB-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	363
	099-0610	CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

4/3/56 RH
4/2014

GENERAL NOTES:

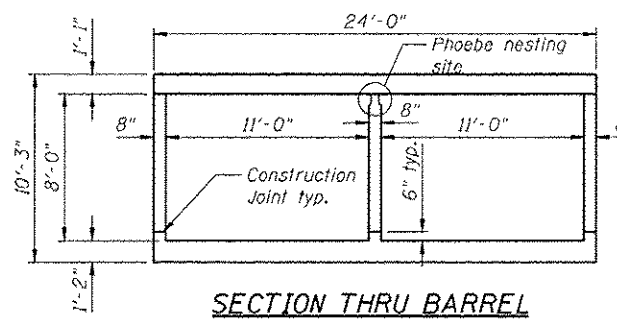
Reinforcement Bars designated (E) shall be epoxy coated.

For backfilling and embankment, see Standard Specifications.

Layout of stone riprap may be varied in the field to suit ground conditions as directed by the engineer.

Excavation required for construction of the culvert as shown in these plans and in accordance with the Standard Specifications shall be included in the cost of Concrete Box Culverts. Excavation for Soldier Pile walls shall be paid for as "Structure Excavation".

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



SECTION THRU BARREL

STATION 16044+26.91
BUILT 20.. BY
STATE OF ILLINOIS
F.A.I. 57 SEC. 99-1HB-RI
LOADING HL-93
STR. NO. 099-0610

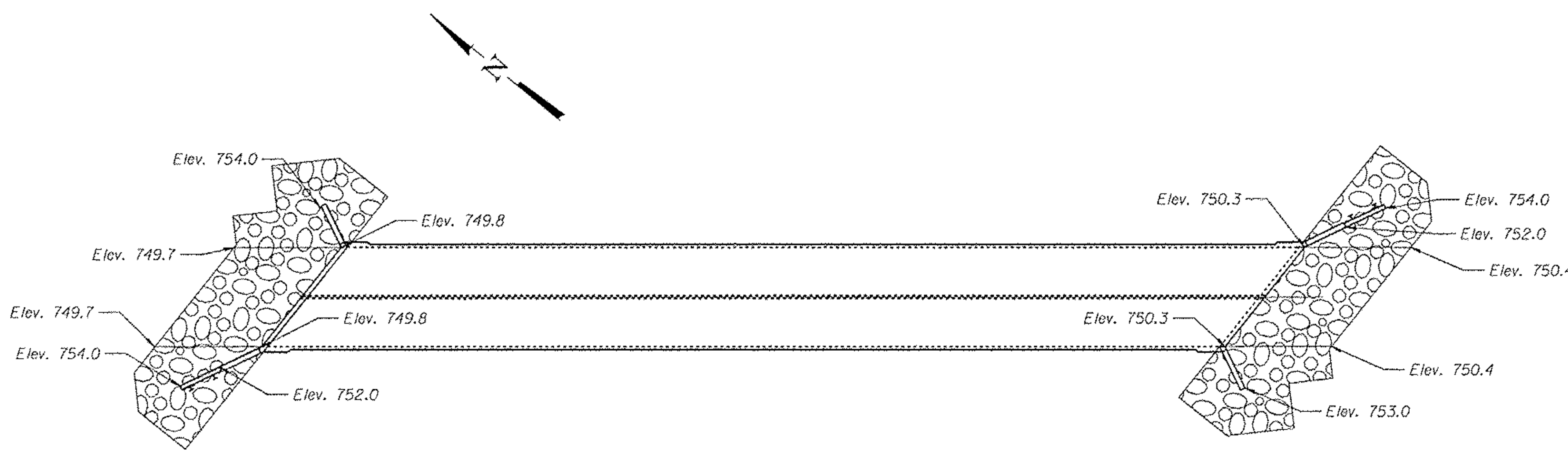
NAME PLATE

(See Hwy. Std. 515001)

TOTAL BILL OF MATERIAL

Item	Unit	Total
Stone Rip Rap, Class A4	Sq Yd	312
Filter Fabric	Sq Yd	312
Removal of Existing Structures No. 1	Each	1
Structure Excavation	Each	20
Concrete Structures	Cu Yd	6.5
Stud Shear Connectors	Each	58
Reinforcement Bars	Pound	135,920
Reinforcement Bars, Epoxy Coated	Pound	1,100
Name Plates	Each	1
Concrete Box Culverts	Cu Yd	593.5
Geocomposite Wall Drain	Sq Yd	4
Driving Soldier Piles	Foot	96
Permanent Steel Sheet Piling	Sq Ft	379
Untreated Timber Lagging	Sq Ft	138
Furnishing Soldier Piles (HP Section)	Foot	96

INDEX OF SHEETS



RIPRAP LAYOUT

(Showing Top Riprap Elevations)

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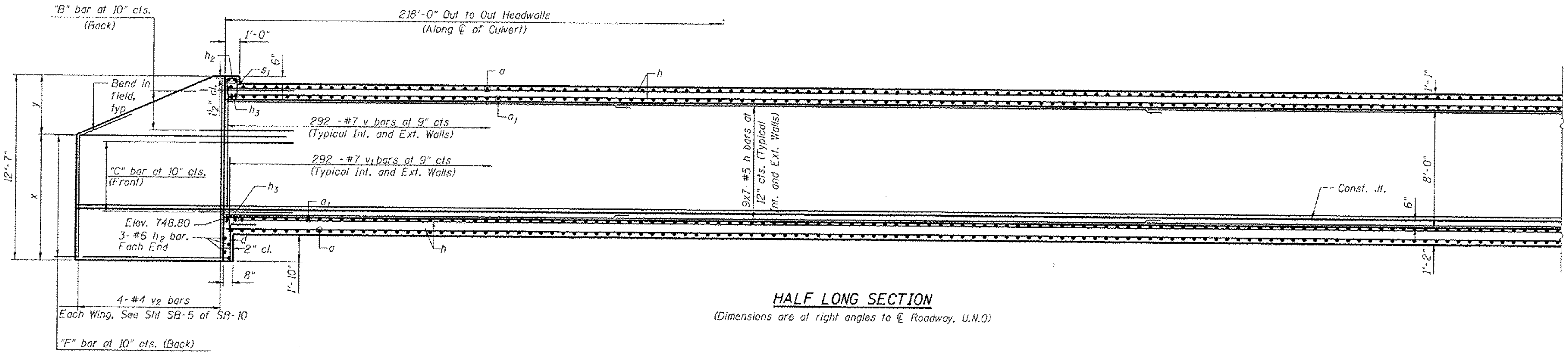
FILE NAME = TYLIN INTERNATIONAL	USER NAME =	DESIGNED - SP	REVISED ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, INDEX OF SHEETS & BILL OF MATERIAL STRUCTURE NO. 099-0610	F.A.I. RTE. 57 / SECTION 99-1HB-RI / COUNTY WILL / TOTAL SHEETS 679 / SHEET NO. 364
		CHECKED - RH	REVISED			CONTRACT NO. 60L69
	PLOT SCALE =	DRAWN - RH	REVISED			
	PLOT DATE =	CHECKED - TCG	REVISED		SHEET NO. SB-2 OF SB-10 SHEETS	ILLINOIS FED. AID PROJECT

⚠ Entire Sheet Revised



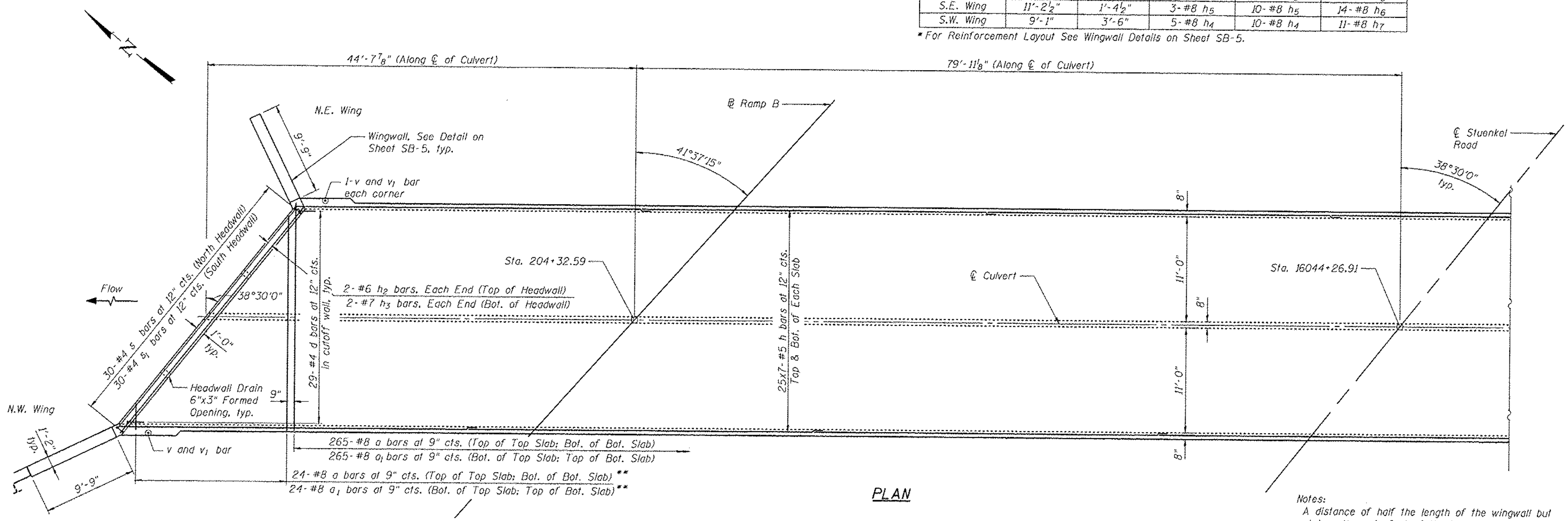
HALF LONG SECTION

(Dimensions are at right angles to ℄ Roadway, U.N.O)

MINIMUM BAR LAP	
#5	2'-2"
#7	3'-5"

LOCATION	WINGWALL DIMENSIONS & REINFORCEMENT *				
	"x"	"y"	B bars	C bars	F bars
N.E. Wing	9'-1"	3'-6"	5-#8 h_4	10-#8 h_4	11-#8 h_7
N.W. Wing	11'-2½"	1'-4½"	3-#8 h_5	10-#8 h_5	14-#8 h_6
S.E. Wing	11'-2½"	1'-4½"	3-#8 h_5	10-#8 h_5	14-#8 h_6
S.W. Wing	9'-1"	3'-6"	5-#8 h_4	10-#8 h_4	11-#8 h_7

* For Reinforcement Layout See Wingwall Details on Sheet SB-5.



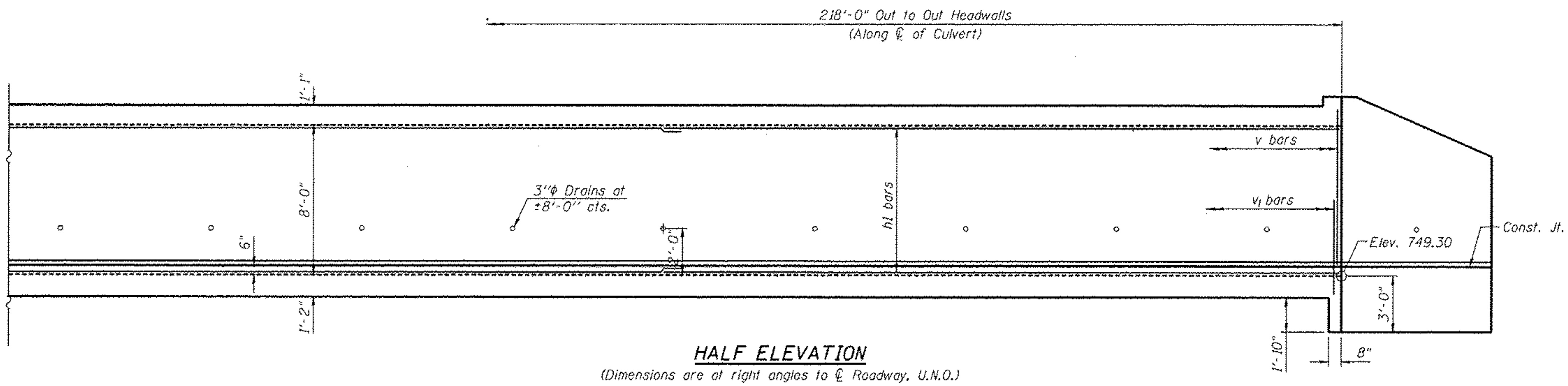
PLAN

** Order a & a_1 bars full length. Cut to fit skew and use remainder of bars in opposite end.

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.
Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

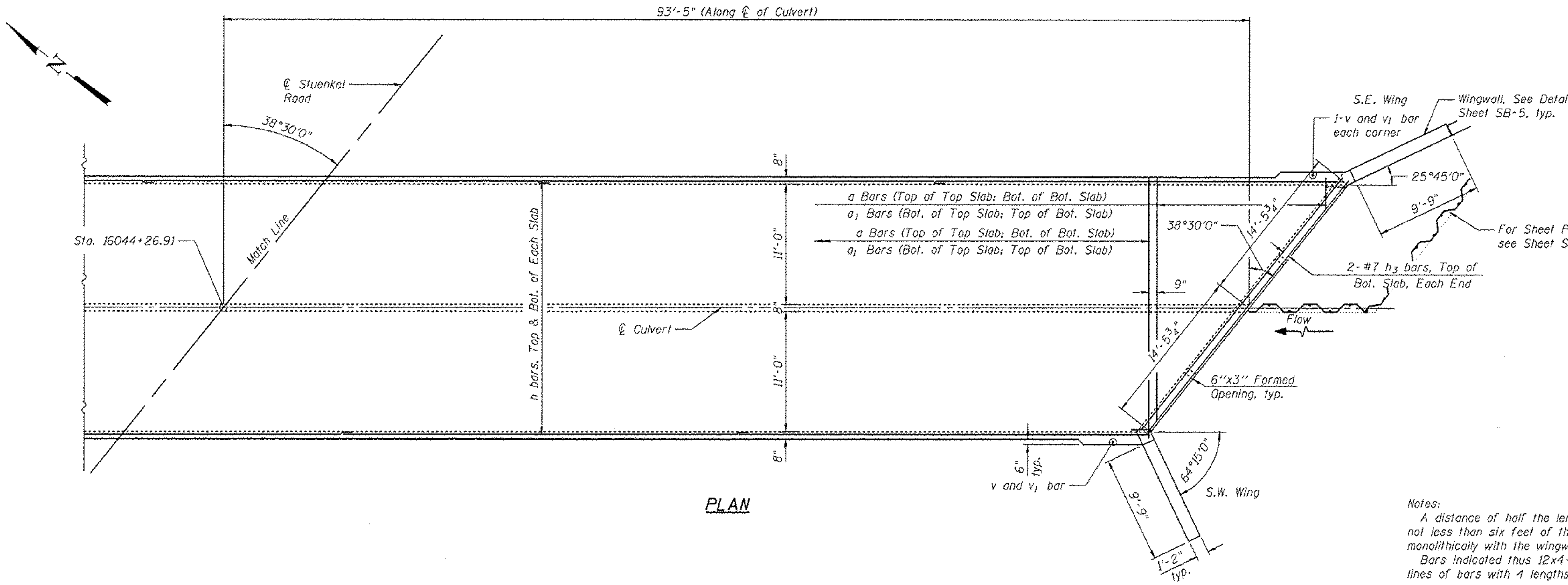
FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CULVERT PLAN AND DETAILS STRUCTURE NO. 099-0610	F.A.I. RTE. 57 / SECTION 99-1HB-R1 / COUNTY WILL / TOTAL SHEETS 679 / SHEET NO. 366
TYLIN INTERNATIONAL	PLOT SCALE =	CHECKED - RH	REVISED		SHEET NO. SB-3 OF SB-10 SHEETS	CONTRACT NO. 60L69
	PLOT DATE =	DRAWN - DC/RH	REVISED			ILLINOIS FED. AID PROJECT
		CHECKED - TCG	REVISED			

⚠ Entire Sheet Revised



HALF ELEVATION

(Dimensions are at right angles to ℄ Roadway, U.N.O.)



PLAN

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.
Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
TYLIN INTERNATIONAL		CHECKED - RH	REVISED	
	PLOT SCALE =	DRAWN - DC/RH	REVISED	
	PLOT DATE =	CHECKED - TCG	REVISED	

⚠ Entire Sheet Revised

CULVERT PLANS AND DETAILS
STRUCTURE NO. 099-0610
SHEET NO. SB-4 OF SB-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	366
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

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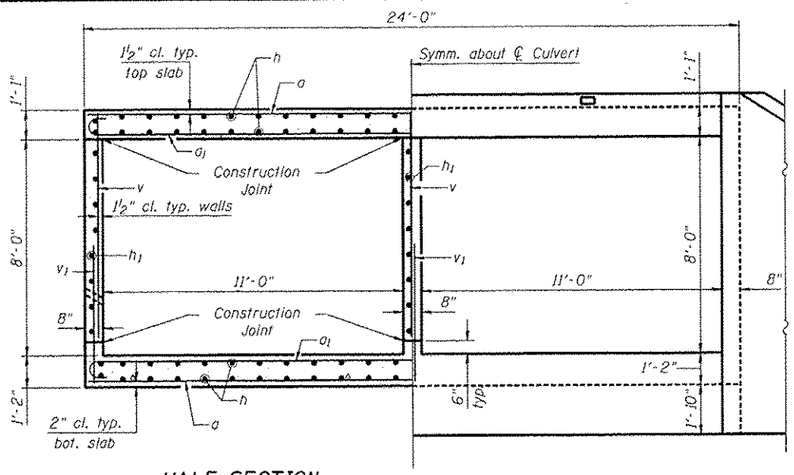
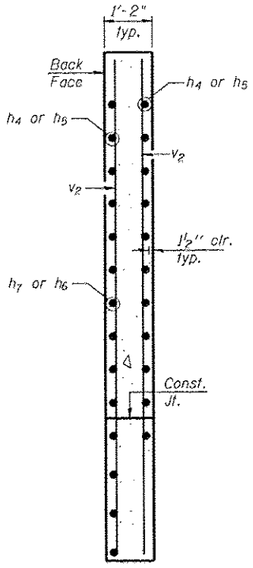
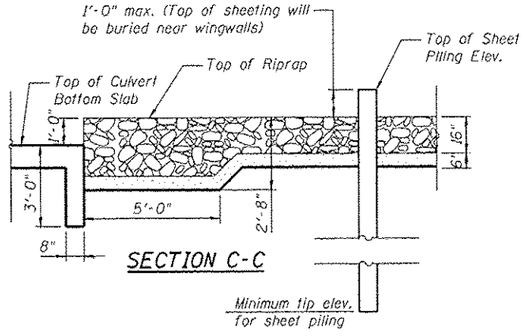


HALF SECTION THRU BARREL

HALF END ELEVATION

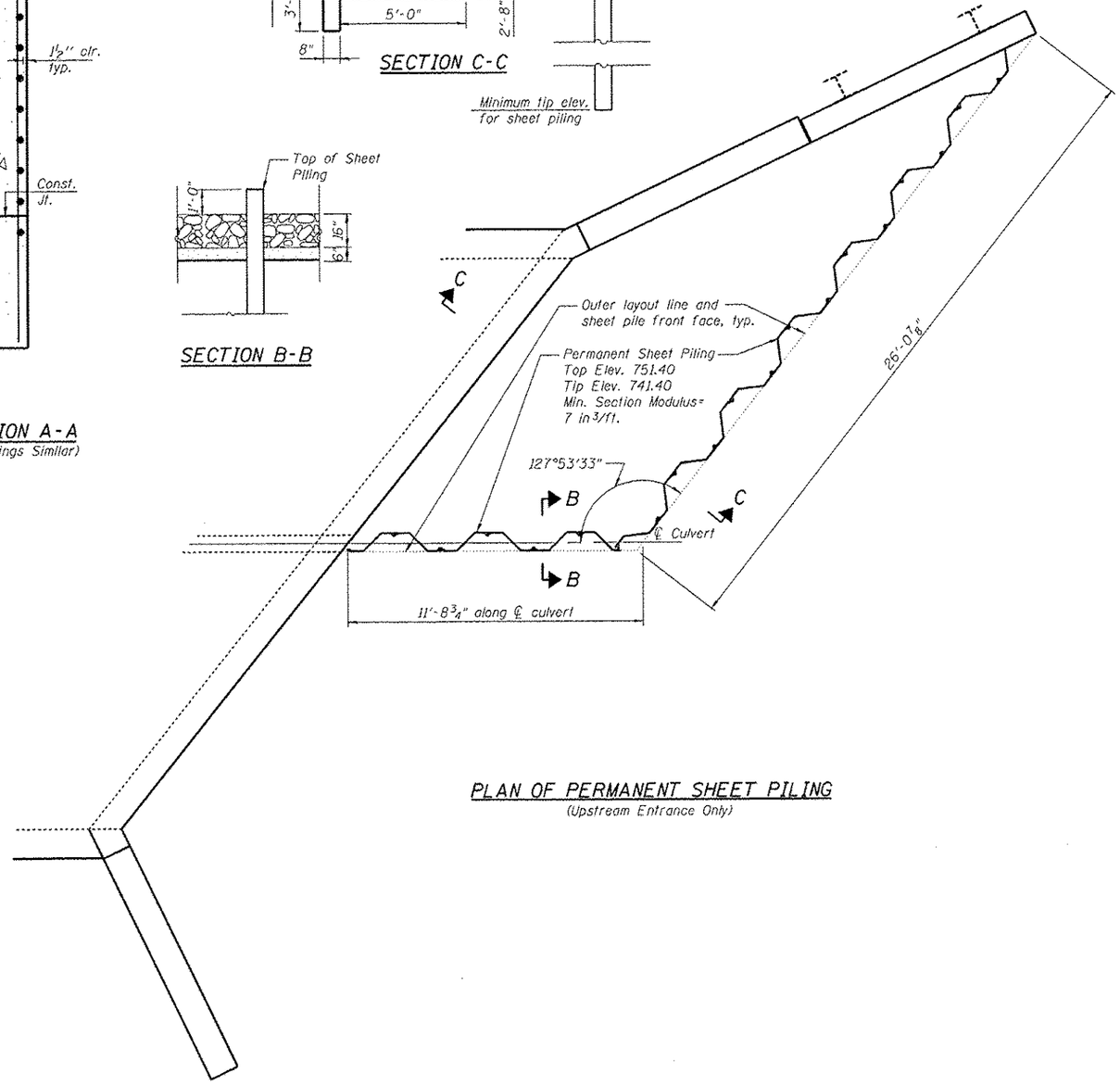


SECTION A-A
(Other Wings Similar)



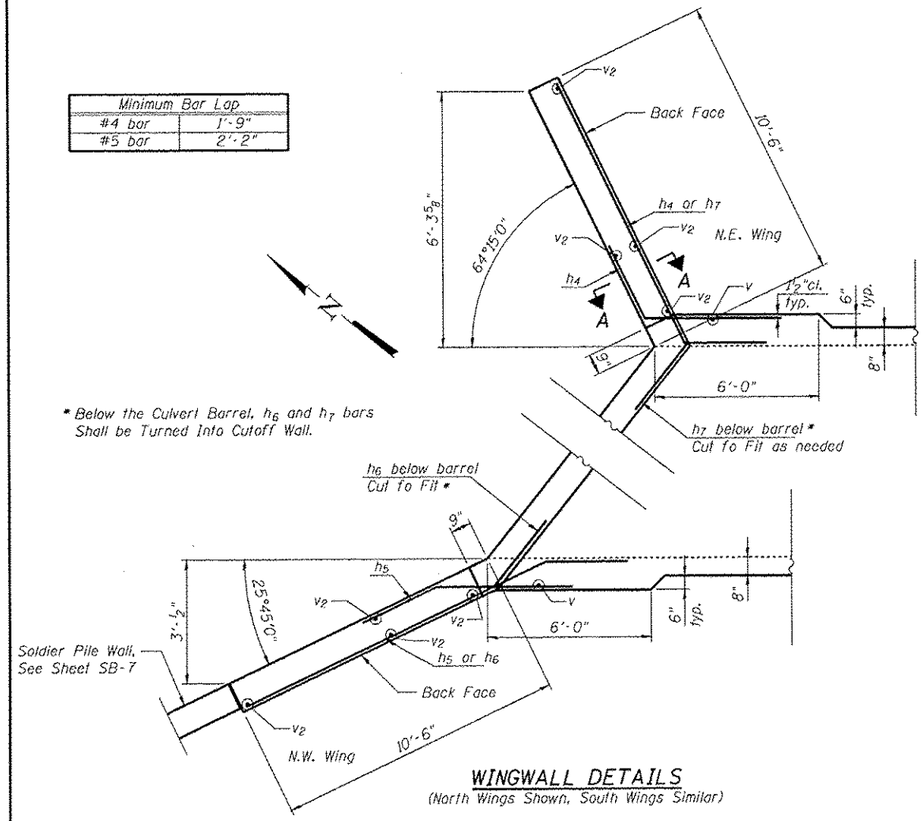
SECTION C-C

SECTION B-B



PLAN OF PERMANENT SHEET PILING
(Upstream Entrance Only)

Minimum Bar Lap	
#4 bar	1'-9"
#5 bar	2'-2"



WINGWALL DETAILS
(North Wings Shown, South Wings Similar)

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.
TY·LIN INTERNATIONAL		CHECKED - RH	REVISED
	PLOT SCALE =	DRAWN - DC/RH	REVISED
	PLOT DATE =	CHECKED - TCG	REVISED

⚠ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT PLANS AND DETAILS
STRUCTURE NO. 099-0610
SHEET NO. SB-5 OF SB-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	367
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

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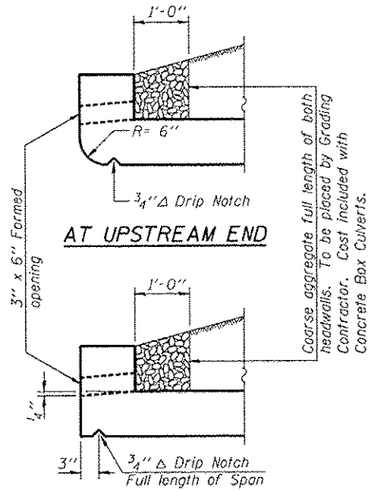
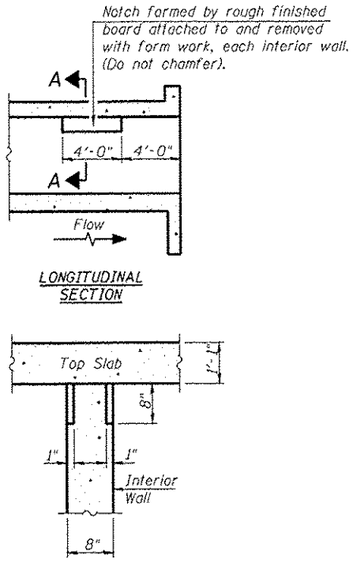


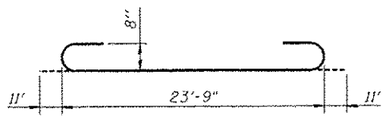
AT DOWNSTREAM END

DRAIN DETAIL

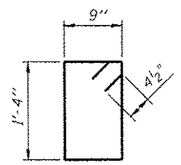


PHOEBE NESTING SITE DETAILS

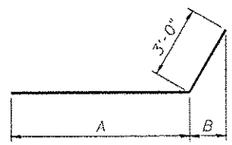
(Downstream End Only)



BAR a_1

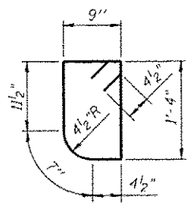


BAR s

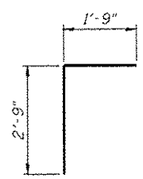


BARS h_4 THRU h_7

Bar	A	B
h_4	5'-0"	1'-3 5/8"
h_5	5'-0"	2'-8 3/8"
h_6	12'-2"	2'-8 3/8"
h_7	10'-7"	1'-3 5/8"



BAR s_1



BAR d

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	578	#8	23'-9"	
a_1	578	#8	25'-7"	
d	58	#4	4'-6"	
h	889	#5	33'-6"	
h_2	10	#6	30'-6"	
h_3	8	#7	30'-6"	
h_4	30	#8	8'-0"	
h_5	26	#8	8'-0"	
h_6	28	#8	15'-2"	
h_7	22	#8	13'-7"	
s	30	#4	4'-11"	
s_1	30	#4	4'-9"	
v	880	#7	8'-4"	
v_1	880	#7	5'-1"	
v_2	16	#4	12'-4"	
Concrete Box Culverts			Cu. Yd.	593.5
Reinforcement Bars			Pound	135,920

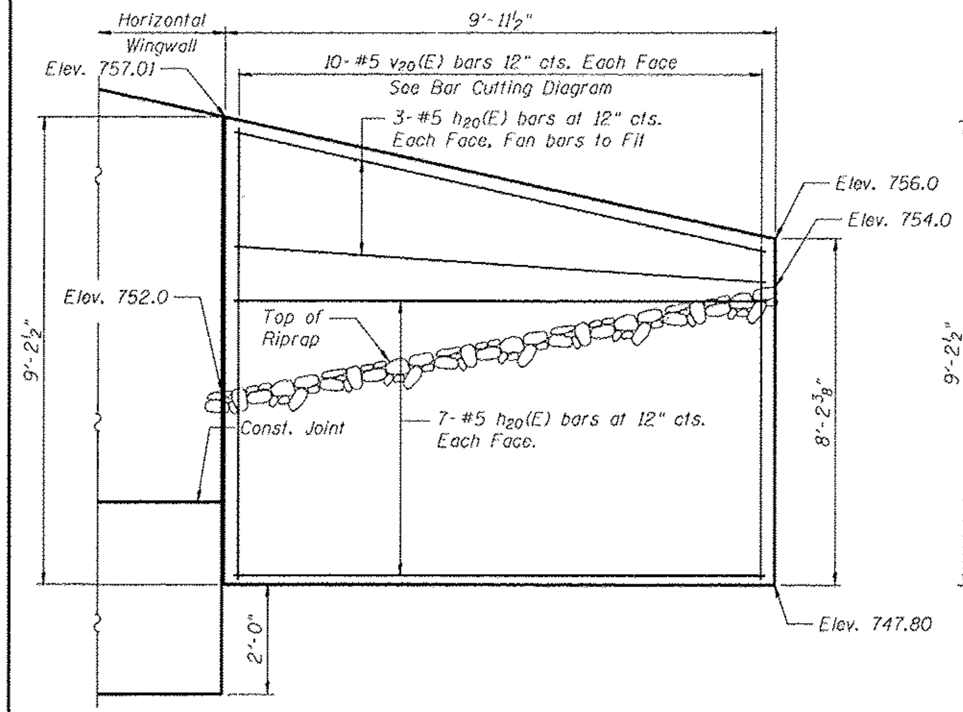
FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - RH	REVISED
	PLOT SCALE =	DRAWN - DC/RH	REVISED
	PLOT DATE =	CHECKED - TCG	REVISED

⚠ Entire Sheet Revised

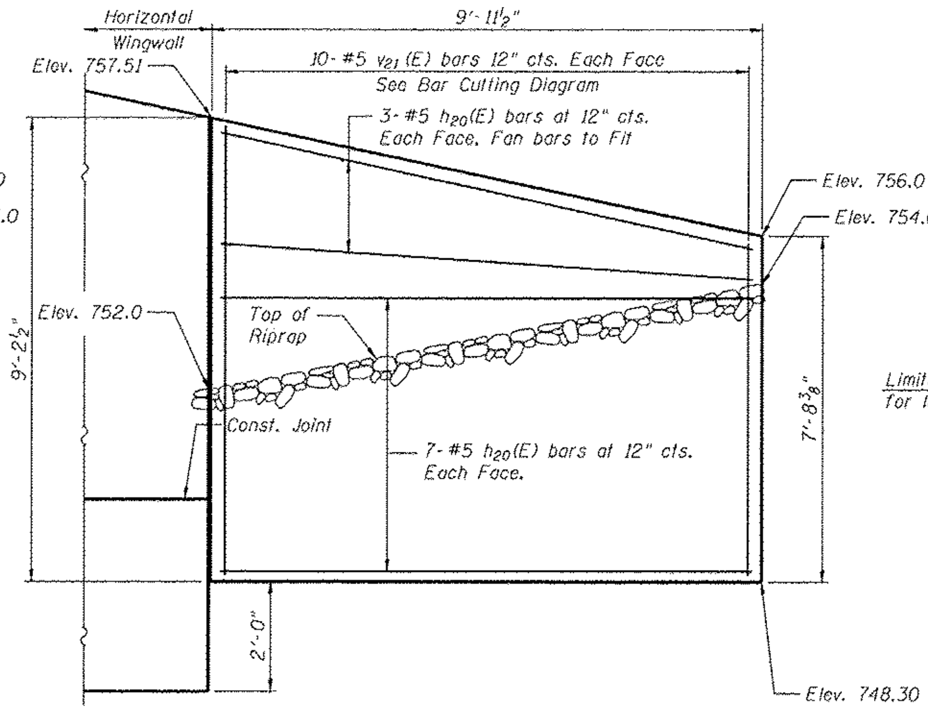
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT PLANS AND DETAILS
STRUCTURE NO. 099-0610
SHEET NO. SB-6 OF SB-10 SHEETS

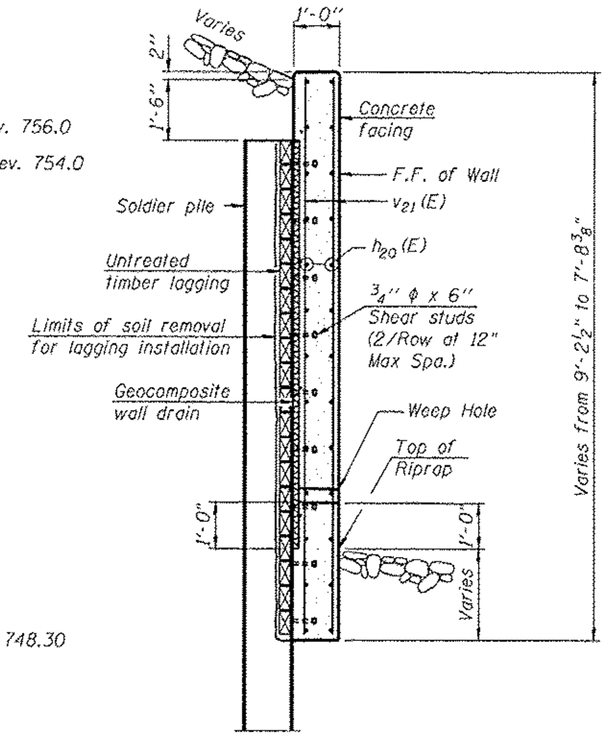
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	368
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			



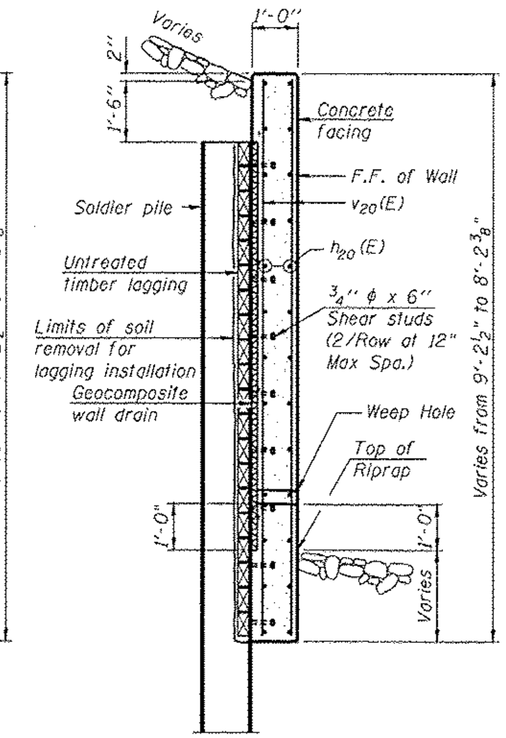
ELEVATION - NORTHWEST WALL
(Looking at F.F. of Wall)



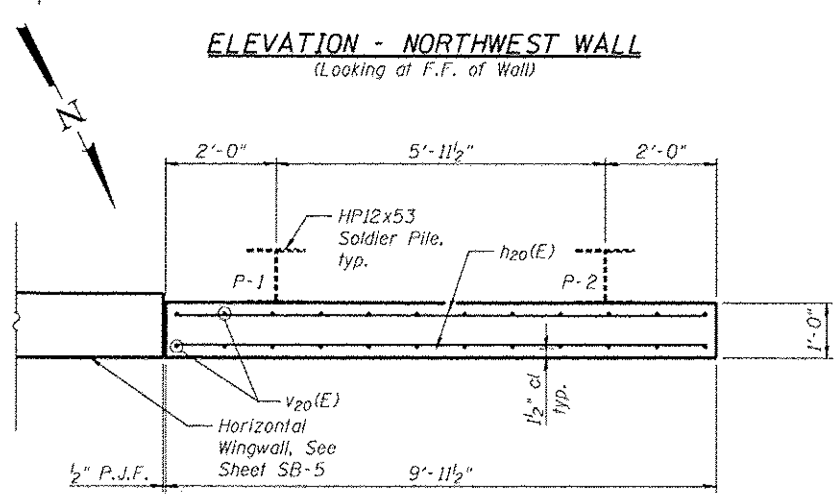
ELEVATION - SOUTHEAST WALL
(Looking at F.F. of Wall)



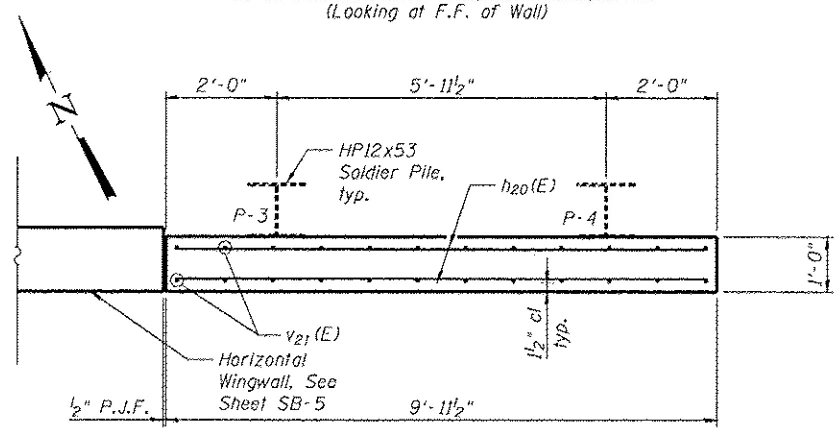
SECTION THRU S.E. SOLDIER PILE WALL



SECTION THRU N.W. SOLDIER PILE WALL



PLAN - NORTHWEST WALL

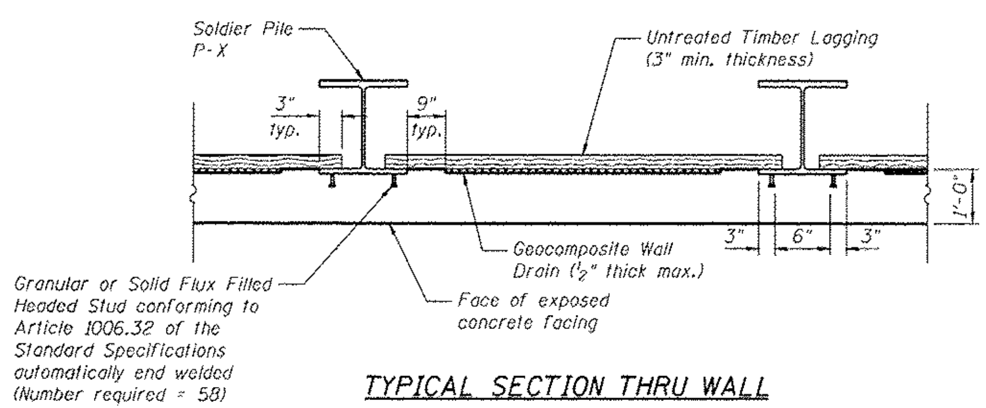


PLAN - SOUTHEAST WALL

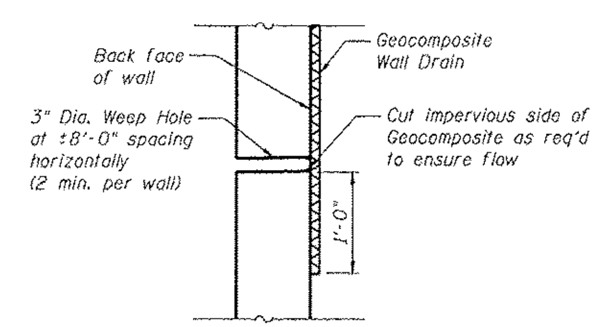
PILE DATA TABLE				
Pile No.	Top of Pile	Bot. of Pile	Length	Shear Studs
P-1	755.14	731.14	24.0'	16
P-2	754.55	731.55	23.0'	14
P-3	755.54	730.54	25.0'	16
P-4	754.64	730.64	24.0'	12

REINFORCEMENT BAR LIST				
Bar	No.	Size	Length	Shape
h_{20}(E)	40	#5	9'-8"	———
v_{20}(E)	20	#5	16'-10"	———
v_{21}(E)	20	#5	16'-2"	———

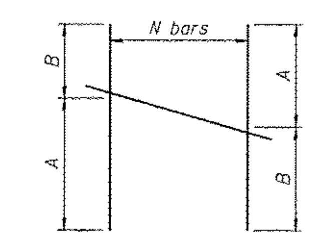
BILL OF MATERIAL		
Item	Unit	Total
Structure Excavation	Cu. Yd.	20
Concrete Structures	Cu. Yd.	6.5
Reinforcement Bars, Epoxy Coated	Pound	1,100
Stud Shear Connectors	Each	58
Geocomposite Wall Drain	Sq. Yd.	4
Untreated Timber lagging	Sq. Ft.	138.0
Furnishing Soldier Piles (HP Section)	Foot	96
Driving Soldier Piles	Foot	96



TYPICAL SECTION THRU WALL



WEEP HOLE DRAIN DETAIL



BAR CUTTING DIAGRAM

Order bars full length. Cut to fit according to bar cutting diagram and use remainder of bars in opposite face.

Bar	A	B	N
v_{20}(E)	8'-11"	7'-11"	10
v_{21}(E)	8'-10"	7'-4"	10

FILE NAME =	USER NAME =	DESIGNED - RH	REVISED △ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
TYLIN INTERNATIONAL		CHECKED - TCG	REVISED	
	PLOT SCALE =	DRAWN - RH	REVISED	
	PLOT DATE =	CHECKED - TCG	REVISED	

△ Entire Sheet Revised

SOLDIER PILE WALL DETAILS
STRUCTURE NO. 099-0610
SHEET NO. SB-7 OF SB-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	369
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

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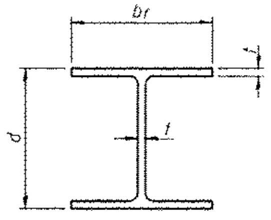
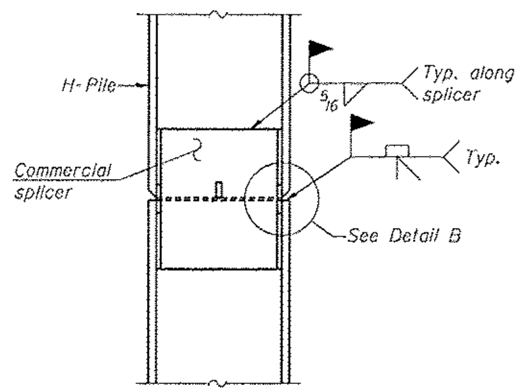


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



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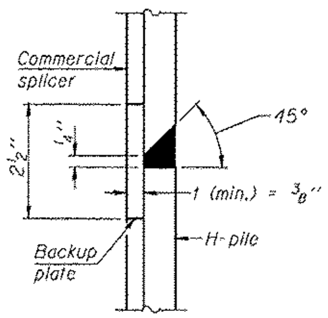

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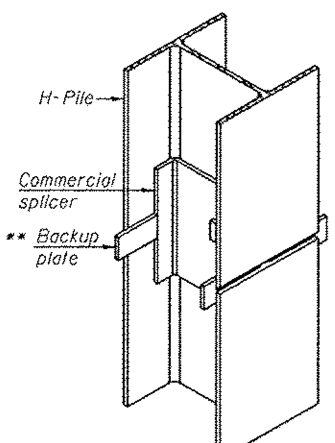
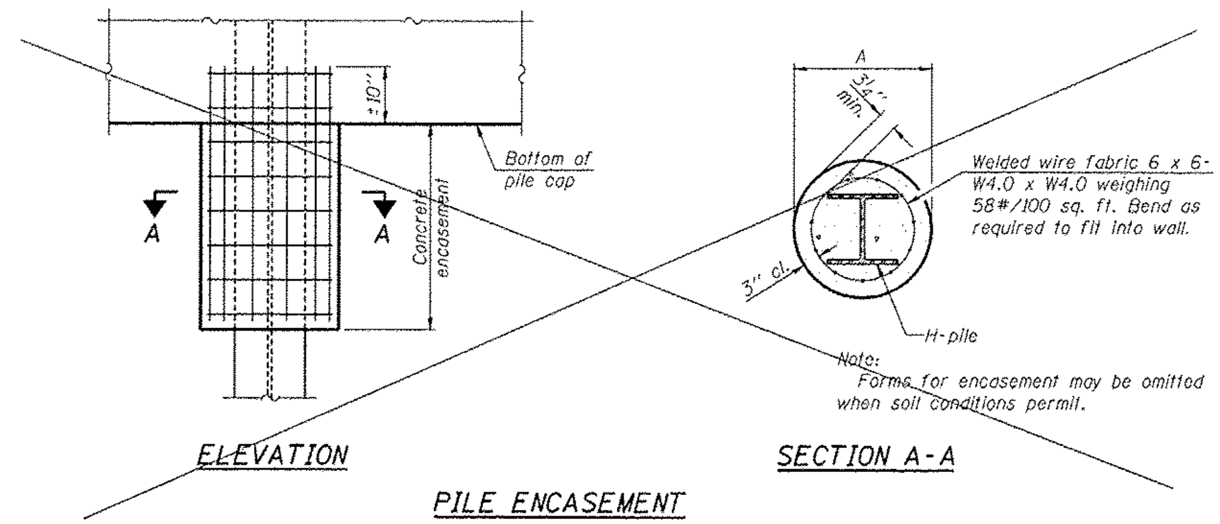


ISOMETRIC VIEW

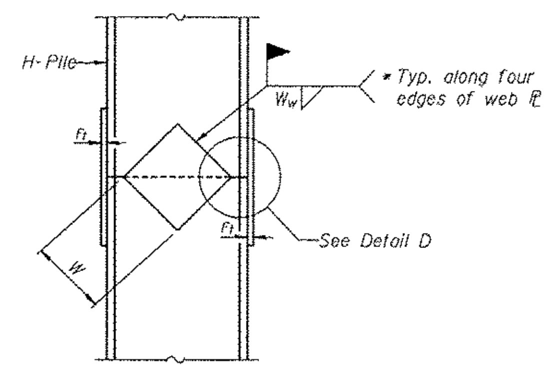
WELDED COMMERCIAL SPLICE



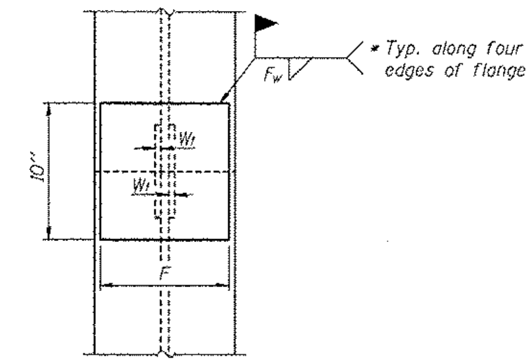
ELEVATION

SECTION A-A

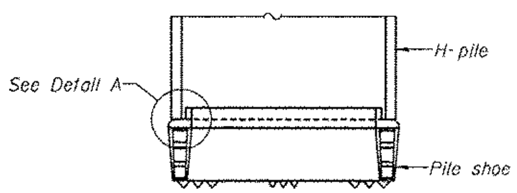
PILE ENCASEMENT



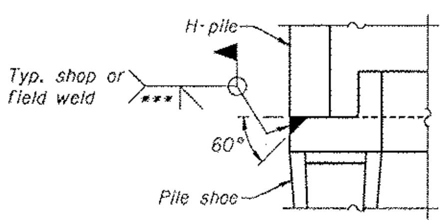
ELEVATION



END VIEW

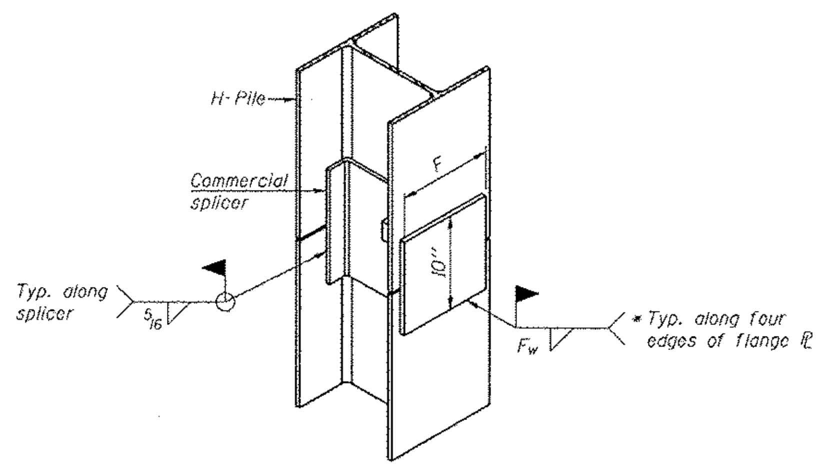


ELEVATION



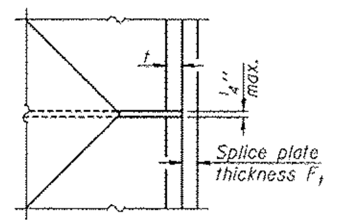
DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE



DETAIL D

Designation	F	F_t	F_w	W	W_f	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 1-27-12

FILE NAME =	USER NAME =	DESIGNED - SP	REVISED △ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HP PILE DETAILS STRUCTURE NO. 099-0610	F.A.I. RTE. 57	SECTION 99-1HB-R1	COUNTY WILL	TOTAL SHEETS 679	SHEET NO. 370
TYLIN INTERNATIONAL	PLOT SCALE =	CHECKED - RH	REVISED		SHEET NO. SB-8 OF SB-10 SHEETS			CONTRACT NO. 60L69		
	PLOT DATE =	DRAWN - SP	REVISED			ILLINOIS FED. AID PROJECT				
		CHECKED - TCC	REVISED							

△ Entire Sheet Revised

SOIL BORING LOG

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

PAGE 1 of 1
DATE 4/4/2012
LOGGED BY MD
GSI JOB No. 10196

ROUTE F.A.I. RTE. 57
DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1
LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will
DRILLING METHOD Hollow Stem Auger
HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station: ---
BORING NO. **CB-01**
Station: 16043+07 Stuenkel Road
Offset: 93.0' Left
Ground Surface Elev. 755.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 737.0 ▼
Upon Completion 732.0 ▽
After ___ Hrs. ___

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL—black	754.5		AS	–	27
SILTY CLAY—dark brown & gray—very stiff (A-6) Wet			1		*97*
			3		
	752.5		3	1.5B	26
CLAY—brown & gray—stiff to hard (A-6)			1		*104*
			2		
		-5	4	1.2B	21
			4		*118*
			6		
			8	5.0B	17
			4		*118*
			7		
	745.0	-10	10	6.0B	16
CLAY—gray—stiff to very stiff (A-6)			3		*115*
			5		
			7	2.4B	17
			3		*112*
			4		
		-15	6	2.3B	18
			3		
			3		
			3	1.0P	21
	▼737.0				
SAND—gray—loose (A-3)			2		
			3		
		-20	5	NP	24
SAND—gray—loose (A-3)	735.0				
CLAY—gray—medium stiff to very stiff (A-6)			2		*120*
			4		
			6	3.4B	15
	▽				
			3		*118*
			5		
		-25	9	1.8B	16
			3		*119*
			3		
			4	0.8B	18
			2		*108*
			3		
	725.5	-30	5	0.9B	21
End Of Boring @ -30.0' Hollow Stem Augers Diedrich Automatic Hammer					
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample 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

SOIL BORING LOG

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

PAGE 1 of 1
DATE 12/9/2011
LOGGED BY RT
GSI JOB No. 10196

ROUTE F.A.I. RTE. 57
DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1
LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will
DRILLING METHOD Hollow Stem Auger
HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station: ---
BORING NO. **CB-02**
Station: 16043+81 Stuenkel Road
Offset: 12.0' Left
Ground Surface Elev. 757.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 742.5 ▼
Upon Completion 739.5 ▽
After ___ Hrs. ___

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND, GRAVEL & STONE (Fill)	756.5		AS	–	7
TOPSOIL—black			3		
			4		
	754.5		5	4.25P	23
CLAY—brown & gray—stiff to hard (A-6)			5		*105*
			4		
		-5	3	1.9B	21
			2		*105*
			4		
			5	4.2B	21
			5		*115*
			10		
	747.0	-10	14	8.7B	16
CLAY—gray—stiff to hard (A-6)			4		*115*
			8		
			10	5.75B	17
			5		*100*
			5		
	▼	-15	6	2.9B	25
			5		*119*
			7		
			11	2.9B	16
	▽				
			3		*112*
			6		
		-20	9	5.6B	17
CLAY—gray—stiff to hard (A-6)			3		*109*
			5		
			7	2.2B	20
			2		*108*
			4		
	732.0	-25	4	1.8B	21
SILT—gray—medium dense (A-4)			11		
			12		
	729.5		9	NP	18
CLAY LOAM—gray—very stiff (A-6)			3		*116*
			7		
	727.5	-30	10	2.6B	16
End Of Boring @ -30.0' Hollow Stem Augers Diedrich Automatic Hammer					
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample 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

FILE NAME =	USER NAME =	DESIGNED - DPS	REVISED ⚠ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - SP	REVISED
	PLOT SCALE =	DRAWN - DPS	REVISED
	PLOT DATE =	CHECKED - SP	REVISED

⚠ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 099-0610
SHEET NO. SB-9 OF SB-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-RI	WILL	679	371
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

SOIL BORING LOG

PAGE 1 of 1
DATE 12/9/2011
LOGGED BY RT
GSI JOB No. 10196

ROUTE F.A.I. RTE. 57
DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1
LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will
DRILLING METHOD Hollow Stem Auger
HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station: ---
BORING NO. **CB-03**
Station: 16044+53 Stuenkel Road
Offset: 14.0' Right
Ground Surface Elev. 757.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 751.4 ▼
Upon Completion 743.4 ▽
After ____ Hrs. ____

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND, GRAVEL & STONE (Fill)	756.4		AS	–	6
TOPSOIL–black			2		
			3		
	754.4		4	–	19
SILTY CLAY–brown & gray–medium stiff to stiff (A-6) Wet ▼			1		*95*
			2	1.45S	
		-5	3	12.7%	24
			0		*98*
			0		
	749.4		1	0.5B	29
CLAY–gray–stiff to hard (A-6)			2		*110*
			3		
		-10	7	3.1B	19
			3		*115*
			8		
			12	3.8B	17
▽			2		*113*
			3		
		-15	5	2.4B	17
			3		*115*
			5		
			7	3.5B	15
			3		*111*
			4		
		-20	5	2.7B	19

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY–gray–stiff to hard (A-6)			5		*109*
			5		
			6	1.8B	20
			3		*108*
			3		
		-25	6	1.2B	21
			5		*114*
			7		
			11	4.6B	15
			5		*116*
			6		
	727.4	-30	10	4.3B	17
End Of Boring @ -30.0' Hollow Stem Augers Diedrich Automatic Hammer					
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample 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

FILE NAME =	USER NAME =	DESIGNED - DPS	REVISED △ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 099-0610	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TYLIN INTERNATIONAL		CHECKED - SP	REVISED			57	99-1HB-R1	WILL	679	372
	PLOT SCALE =	DRAWN - DPS	REVISED					CONTRACT NO. 60L69		
	PLOT DATE =	CHECKED - SP	REVISED		SHEET NO. SB-10 OF SB-10 SHEETS			ILLINOIS FED. AID PROJECT		

△ Entire Sheet Revised

p:\60261\I-57_@_stuenkel\structural\c_3\interchange\culverts\stuenkel\current drawings\C3_Stuenkel_Boring5.dgn 4:38:05 PM 1/7/2014

Benchmark:
Cut square on SE corner of IDOT light control panel foundation @ SW corner of I-57 & Stuenkel Rd. Elev. = 759.00

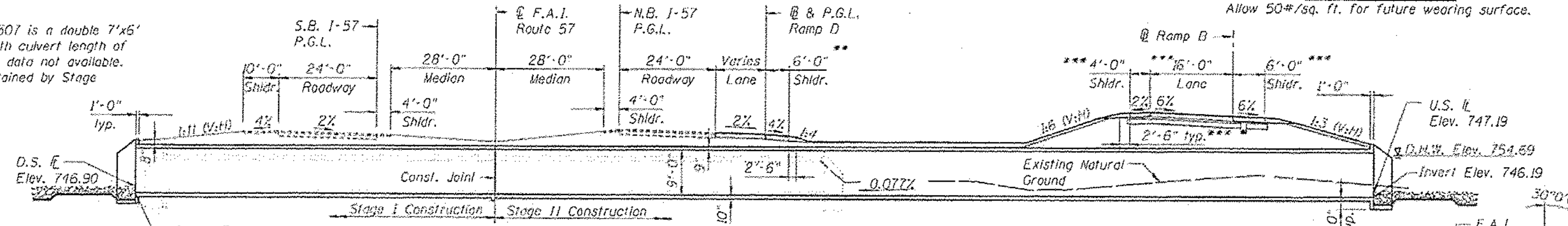
Existing Structure:
Existing SN 099-0507 is a double 7'x6' R.C. box culvert with culvert length of 200'. Existing plan data not available. Traffic to be maintained by Stage Construction.

No Salvage

DESIGN SPECIFICATIONS
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition, with 2013 Interims

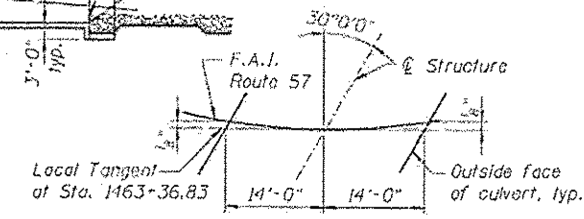
LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 50,000 psi (Structural Steel)
fy = 60,000 psi (Reinforcement)

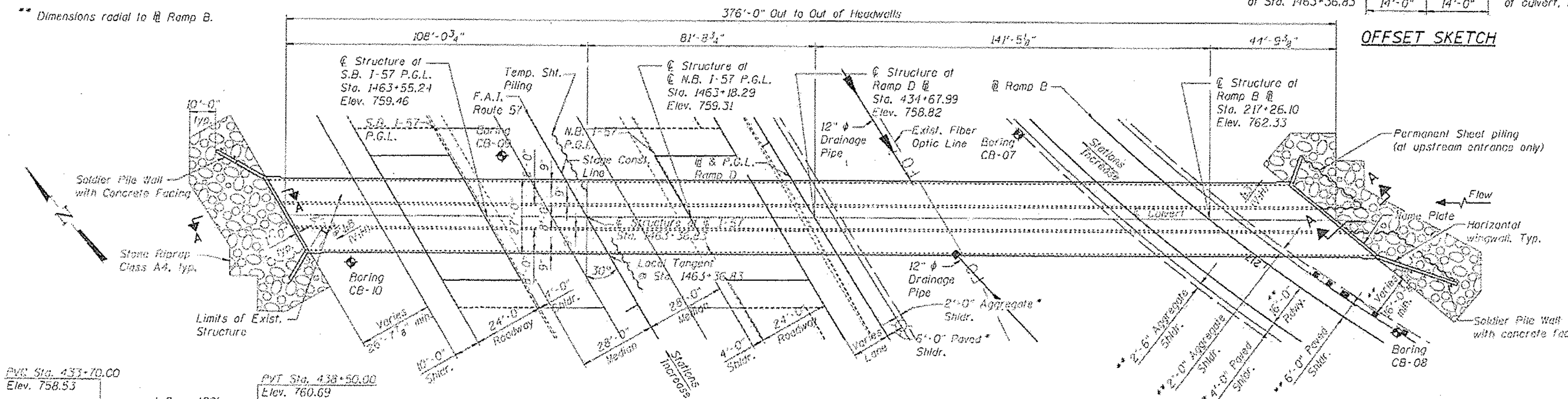


LONGITUDINAL SECTION
(Looking North)
Dimensions are Radial to ℄ F.A.I. Route 57 unless noted otherwise

* Dimensions radial to ℄ Ramp D.
** Dimensions radial to ℄ Ramp B.



OFFSET SKETCH

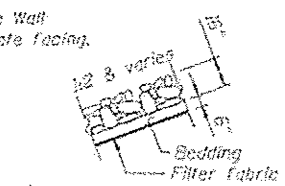


PLAN

CURVE DATA
(Ramp D)
P.I. Sta. = 432+66.81
Δ = 9°00'57" (RT.)
D = 0°30'09"
R = 11,400.00'
T = 898.79'
L = 1793.88'
E = 35.38'
e = 2%
P.C. Sta. = 423+68.01
P.T. Sta. = 441+61.89

CURVE DATA
(F.A.I. Route 57)
P.I. Sta. = 1458+10.02
Δ = 14°07'38" (RT.)
D = 0°29'59"
R = 11,467.92'
T = 1,421.02'
L = 2,827.62
E = 87.71'
e = -
P.C. Sta. = 1443+89.00
P.I. Sta. = 1472+16.63

CURVE DATA
(Ramp B)
P.I. Sta. = 215+03.68
Δ = 92°13'31" (RT.)
D = 8°10'52"
R = 660'
T = 686.14'
L = 1062.36'
E = 292.05'
e = 6%
P.C. Sta. = 208+17.54
P.T. Sta. = 218+79.90



RIPRAP SLOPE LAYOUT

PVC Sta. 433+70.00 Elev. 758.53
PVT Sta. 438+50.00 Elev. 760.69
L.C. = 480'
-0.27% +0.63%
VPI Sta. 436+10.00 Elev. 759.17

PROFILE GRADE LINE
(Along Ramp D)

PVC Sta. 1452+60.00 Elev. 759.09
PVT Sta. 1465+60.00 Elev. 760.52
L.C. = 1,300'
-0.37% +0.59%
VPI Sta. 1459+10.00 Elev. 756.68

PROFILE GRADE LINE
(Along SB I-57)

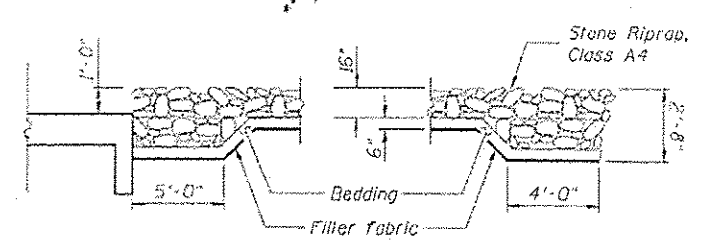
PVC Sta. 1452+90.00 Elev. 758.97
PVT Sta. 1464+90.00 Elev. 760.17
L.C. = 1,200'
-0.37% +0.57%
VPI Sta. 1458+90.00 Elev. 756.75

PROFILE GRADE LINE
(Along NB I-57)

Sta. 211+95.00 Elev. 767.12
-0.90%
Sta. 220+50.00 Elev. 759.41

PROFILE GRADE LINE
(Along Ramp B)

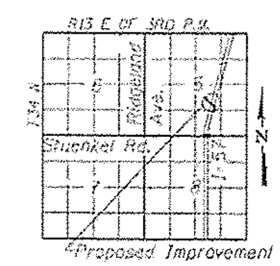
APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



SECTION A-A

STATE OF ILLINOIS SPIROS PANTAZIS 081-005446 CHICAGO, ILLINOIS LICENSED STRUCTURAL ENGINEER

Signed
Spiros Pantazis, S.E. IL Lic. No. 081-005446 Expires 11-30-2014
Date 1/3/14



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	742.90	743.19

WATERWAY INFORMATION

Drainage Area = 2.85 sq. mi. Low Grade Elev. 755.26 @ Sta. 1456+80.62

Flood	Freq. Yr.	Q C.F.S.	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	434	84.0	156.0	754.18	0.36	-0.49	754.54	753.69
Design	50	670	84.0	178.32	754.69	2.24	-0.07	756.93	754.62
Base	100	852	84.0	192.0	754.98	2.24	0.31	757.22	755.29
Overtopping									
Max. Calc.	500	1117	84.0	192.0	755.34	3.26	1.29	758.60	756.63

10 year outlet velocity from existing structure = 5.4 ft./sec.
10 year outlet velocity from proposed structure = 3.0 ft./sec.

I-57, RAMP D & RAMP B OVER EAST BRANCH OF HICKORY CREEK
F.A.I. 57 - SEC. 99-1HB-R1
WILL COUNTY
STATION 1463+36.83

TYLININTERNATIONAL	DESIGNED - RL	REVISED 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN STRUCTURE NO. 099-0608	F.A.I. RTE. 57	SECTION 99-1HB-R1	COUNTY WILL	TOTAL SHEETS 679	SHEET NO. 373
	CHECKED - AMD	REVISED		SHEET NO. SC-1 OF SC-10 SHEETS			CONTRACT NO. 60L69		
	DRAWN - TB/PK	REVISED							
	CHECKED - AMD	REVISED							

Entire Sheet Revised

GENERAL NOTES:

Reinforcement Bars designated (E) shall be epoxy coated.

For backfilling and embankment, see Standard Specifications.

Layout of stone riprap may be varied in the field to suit ground conditions as directed by the engineer.

Excavation required for construction of the culvert as shown in these plans and in accordance with the Standard Specifications shall be included in the cost of Concrete Box Culverts. Excavation for Soldier Pile walls shall be paid for as "Structure Excavation".

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

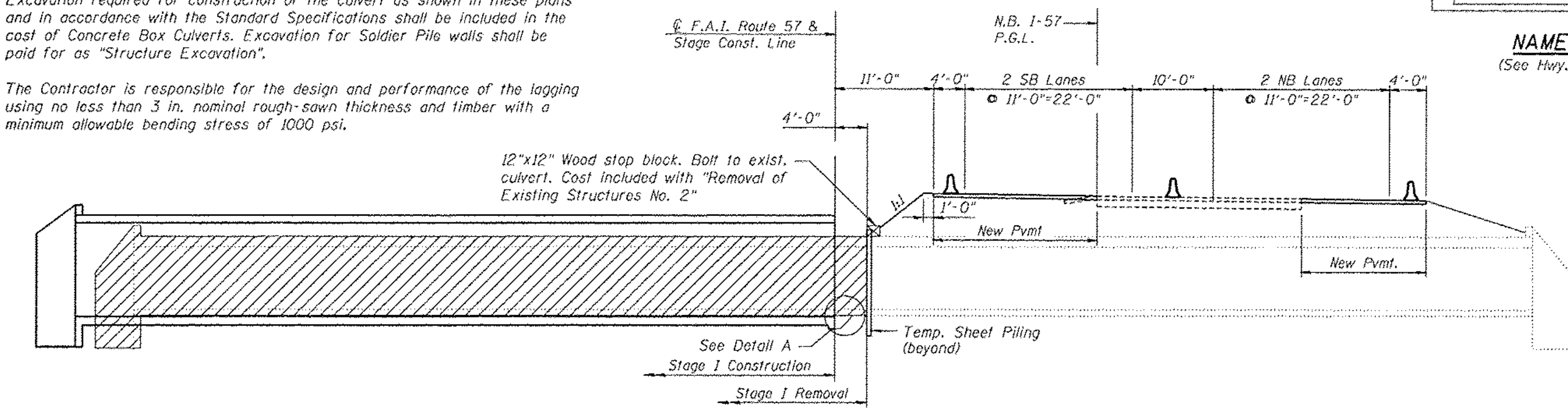
STATION 1463+36.83
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. 57 SEC. 99-1HB-R1
LOADING HL-93
STR. NO. 099-0608

NAME PLATE

(See Hwy. Std. 515001)

TOTAL BILL OF MATERIAL

Item	Unit	Total
Stone Rip Rap, Class A4	Sq Yd	396
Filter Fabric	Sq Yd	396
Removal of Existing Structures No. 2	Each	1
Structure Excavation	Cu Yd	30
Concrete Structures	Cu Yd	9.1
Stud Shear Connectors	Each	86
Reinforcement Bars	Pound	244,180
Reinforcement Bars, Epoxy Coated	Pound	1,110
Bar Splicers	Each	152
Name Plates	Each	1
Concrete Box Culverts	Cu Yd	1,003.2
Geocomposite Wall Drain	Sq Yd	8
Driving Soldier Piles	Foot	156
Permanent Steel Sheet Piling	Sq Ft	919
Untreated Timber Lagging	Sq Ft	199
Furnishing Soldier Piles (HP Section)	Foot	156
Temporary Sheet Piling	Sq Ft	531

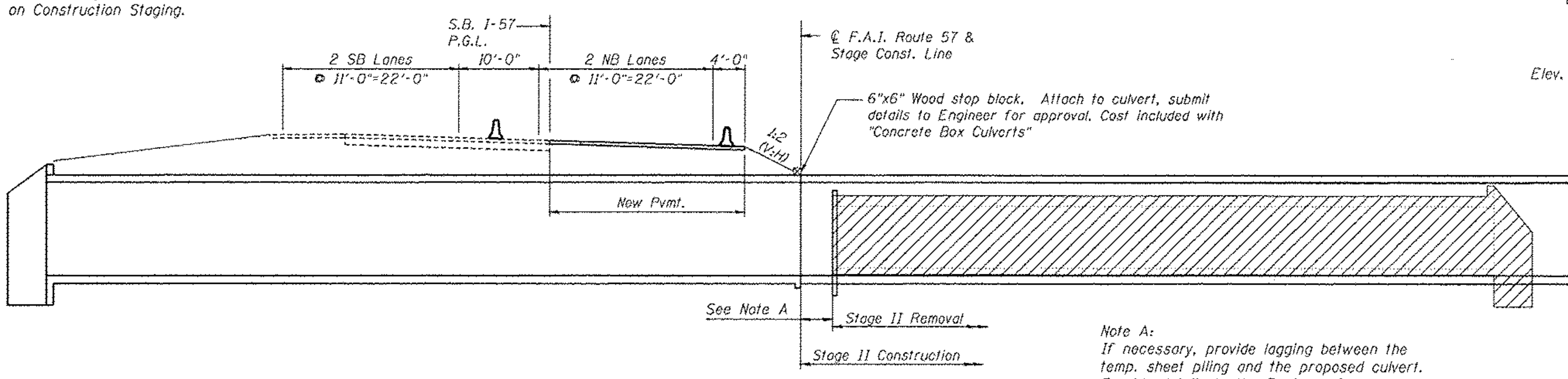


STAGE I REMOVAL AND CONSTRUCTION

(Dimensions are Radial to ℄ F.A.I. Route 57 unless noted)

Note:

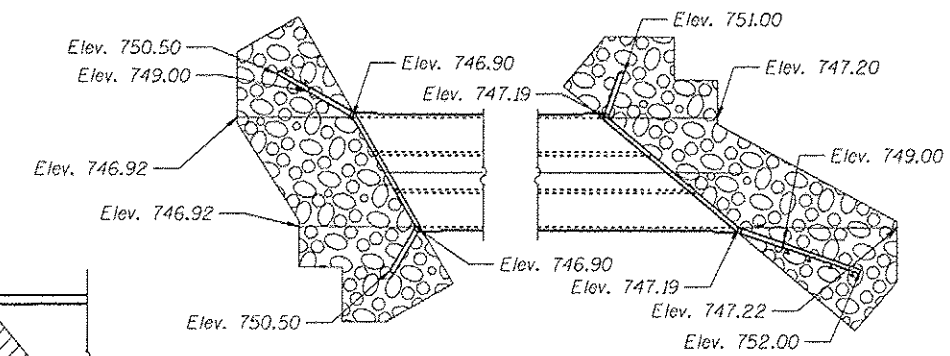
See Roadway Plans for additional information on Construction Staging.



STAGE II REMOVAL AND CONSTRUCTION

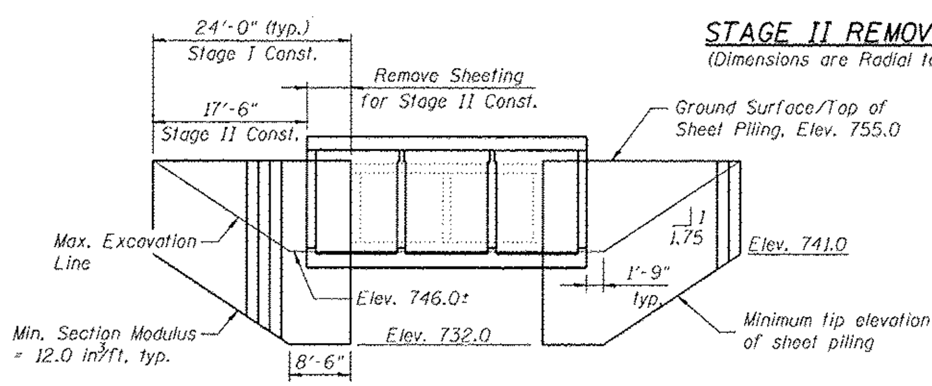
(Dimensions are Radial to ℄ F.A.I. Route 57 unless noted)

Note A:
If necessary, provide lagging between the temp. sheet piling and the proposed culvert. Provide details to the Engineer for approval. Cost included with "Temporary Sheet Piling".



RIPRAP LAYOUT

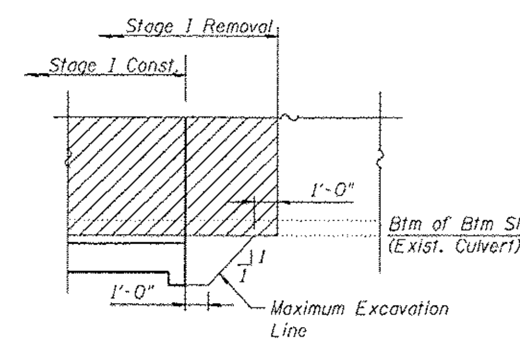
(Showing top of riprap elevations)



ELEVATION-TEMPORARY SHEET PILING

(Slopes and Distances shown parallel to ℄ I-57)

If the Contractor chooses to alter the temporary cantilevered sheet pile design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

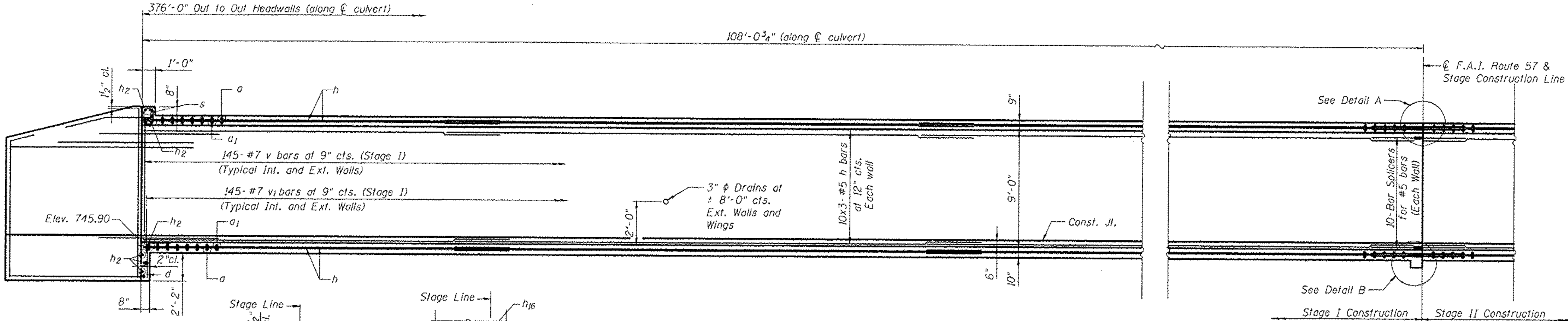


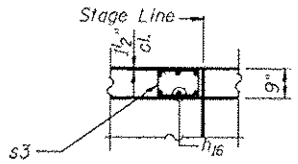
DETAIL A

LEGEND

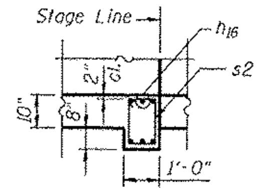
▨ Denotes Removal

INDEX OF SHEETS





DETAIL A

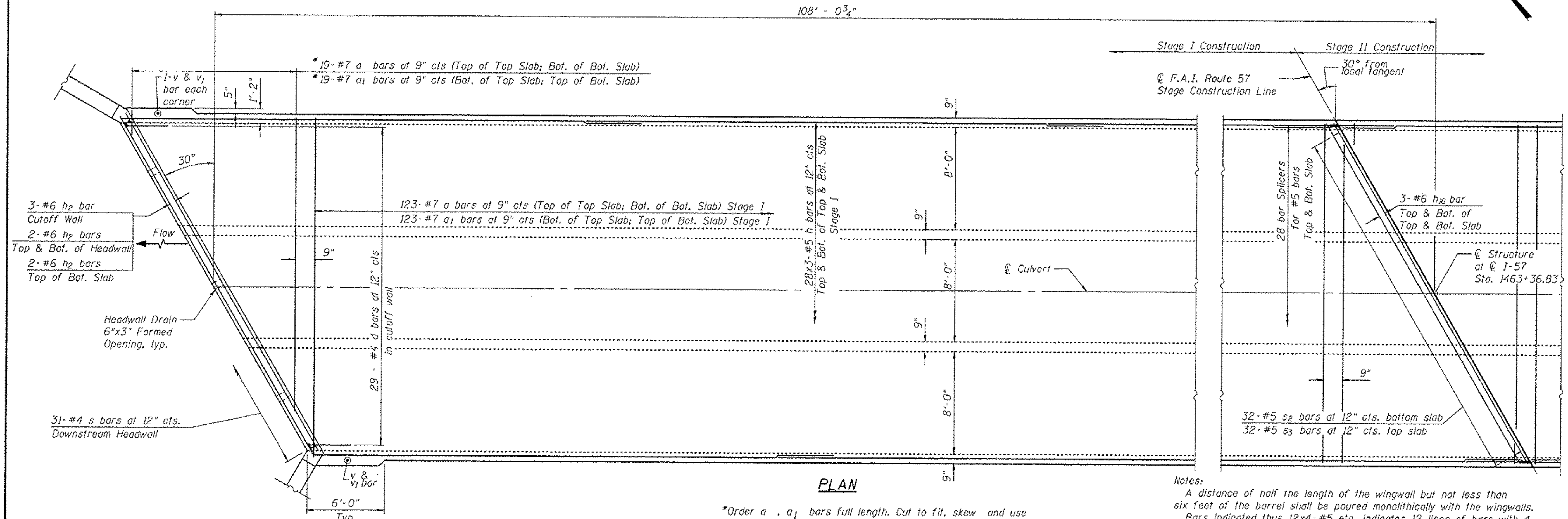


DETAIL B

HALF LONG. SECTION

Dimensions are at right angles to ℄ Roadway, unless noted otherwise

MINIMUM BAR LAP	
#5	2'-2"
#7	3'-5"



PLAN

*Order a , a_1 bars full length. Cut to fit, skew and use remainder of bars in opposite end of Stage I Construction.

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.

Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

For wingwall reinforcement, see sheet SC-5 of SC-10

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED △ 1/6/2014 S.P.
TYLININTERNATIONAL		CHECKED - AMD	REVISED
	PLOT SCALE =	DRAWN - TB/PK	REVISED
	PLOT DATE =	CHECKED - AMD	REVISED

△ Entire Sheet Revised

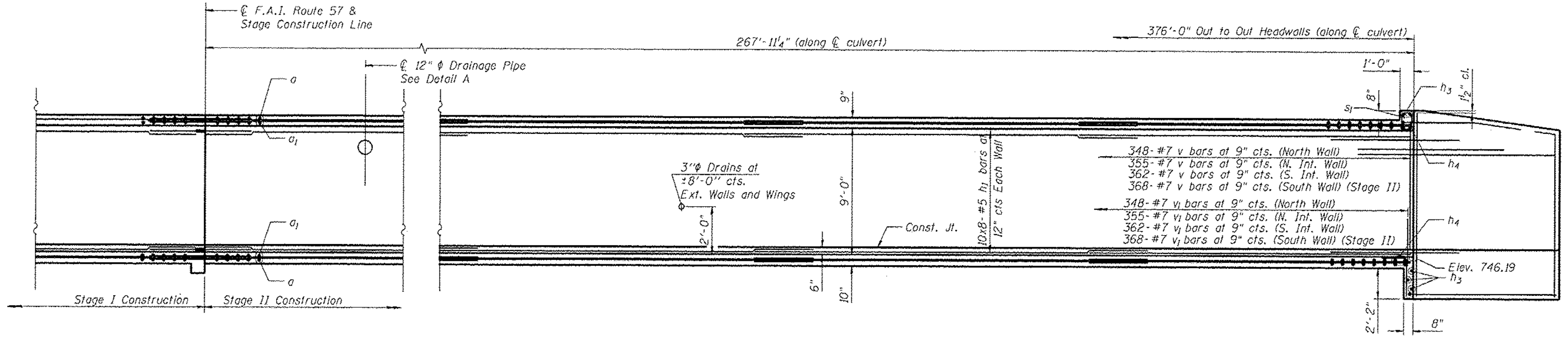
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT PLAN AND DETAILS - 1
STRUCTURE NO. 099-0608

SHEET NO. SC-3 OF SC-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-RI	WILL	679	375
		CONTRACT NO. 60L69		

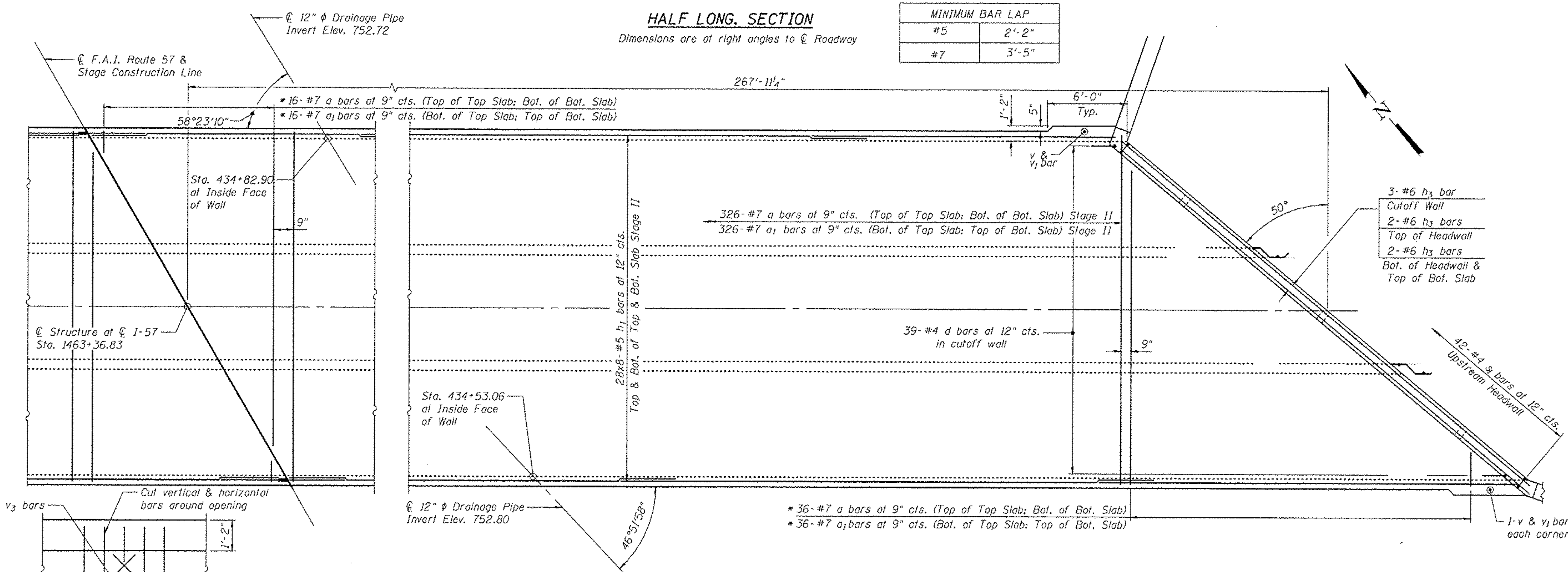
ILLINOIS FED. AID PROJECT



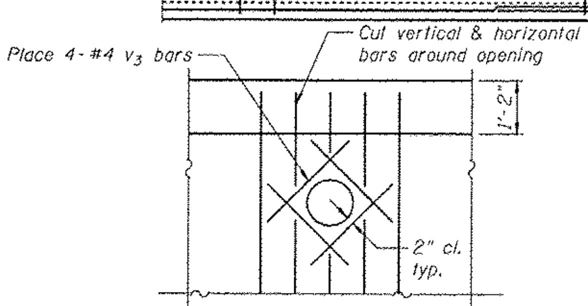
HALF LONG. SECTION

Dimensions are at right angles to ℄ Roadway

MINIMUM BAR LAP	
#5	2'-2"
#7	3'-5"



PLAN



DETAIL A

* Order a, a_1 bars full length. Cut to fit skew and use remainder of bar in same mat at same end.

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.

Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

For wingwall reinforcement, see sheet SC-6 of SC-10

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - AMD	REVISED
	PLOT SCALE =	DRAWN - TB/PK	REVISED
	PLOT DATE =	CHECKED - AMD	REVISED

⚠ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT PLAN AND DETAILS - 2
STRUCTURE NO. 099-0608

SHEET NO. SC-4 OF SC-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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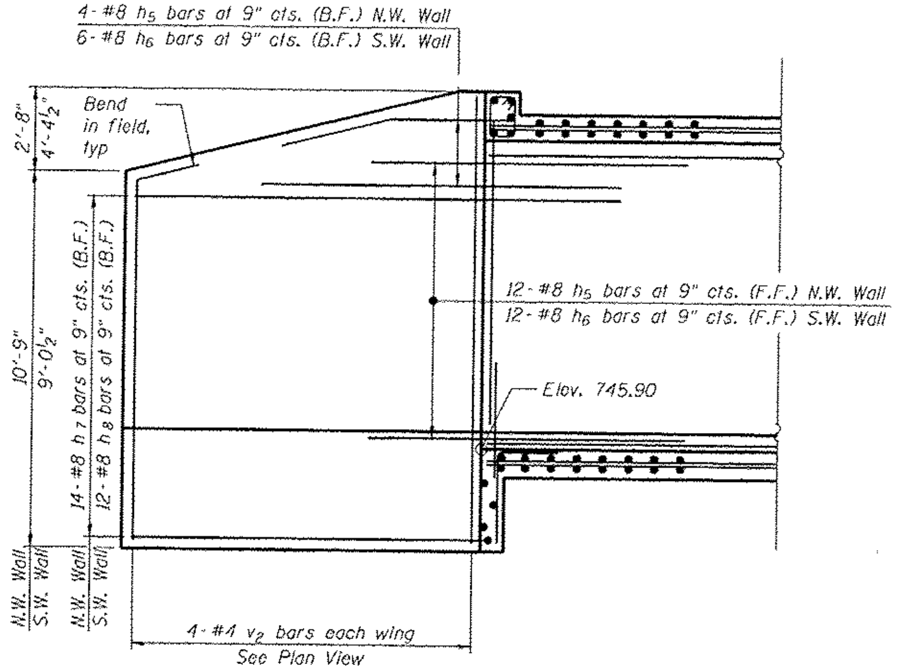
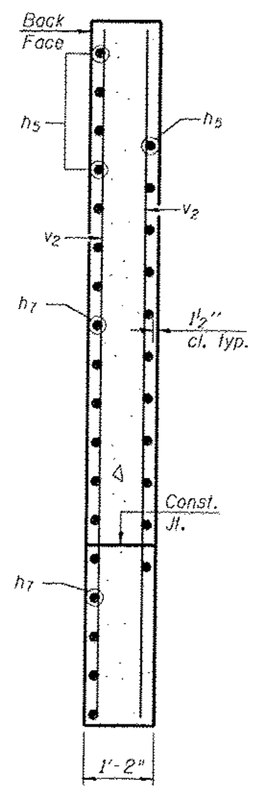
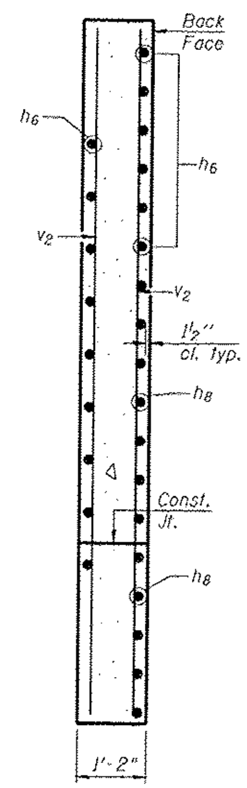
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		



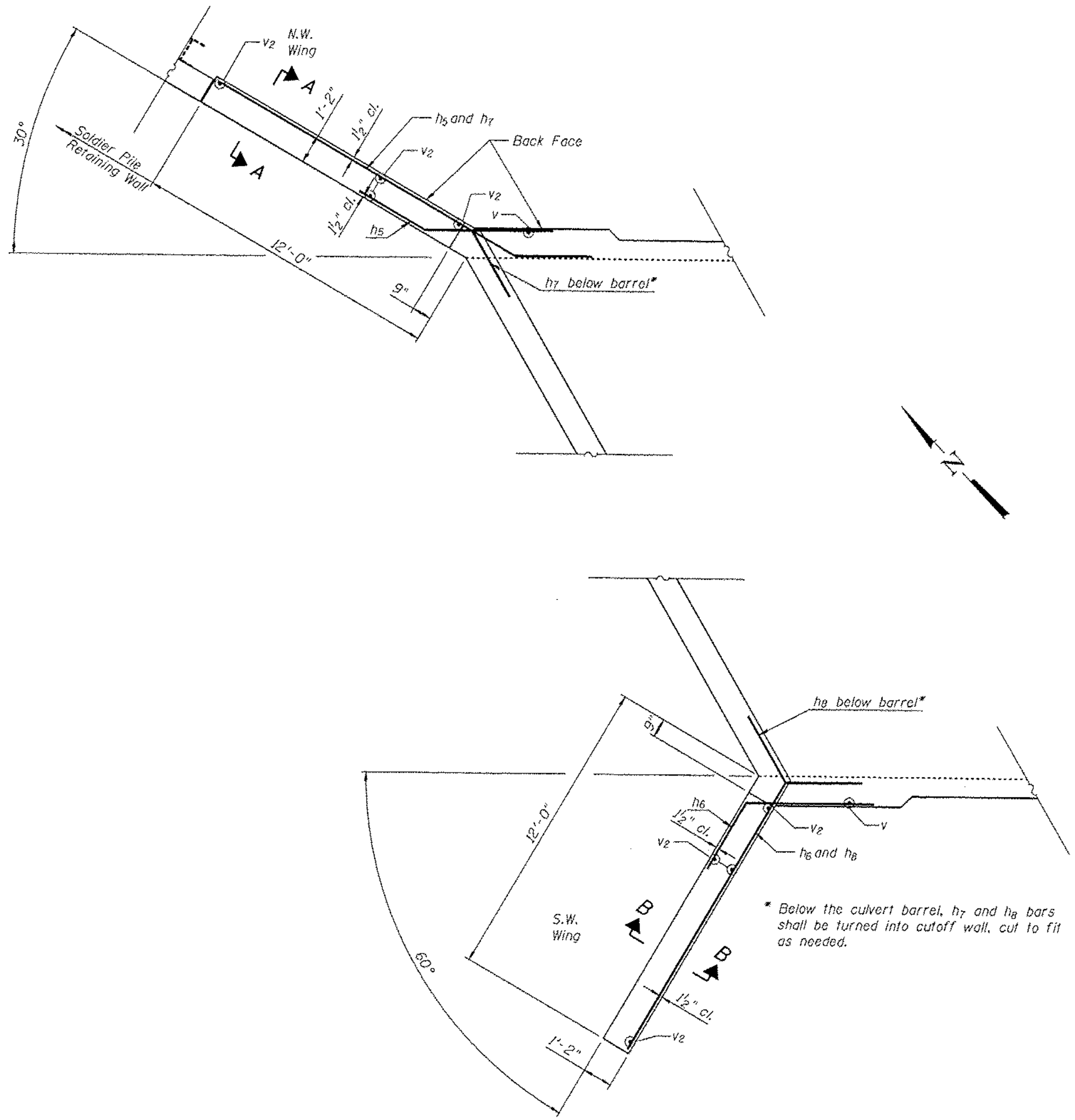
WEST WINGWALL ELEVATION



SECTION A-A



SECTION B-B



WEST WINGWALL PLAN

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CULVERT SECTIONS AND DETAILS - 1 STRUCTURE NO. 099-0608	F.A.I. RTE. 57	SECTION 99-IHB-R1	COUNTY WILL
TYLININTERNATIONAL		CHECKED - AMD	REVISED		SHEET NO. SC-5 OF SC-10 SHEETS	TOTAL SHEETS 679	SHEET NO. 377	CONTRACT NO. 60L69
	PLOT SCALE =	DRAWN - TB/PK	REVISED					ILLINOIS FED. AID PROJECT
	PLOT DATE =	CHECKED - AMD	REVISED					

⚠ Entire Sheet Revised

pw:\6026\21-57_@_stoekel\structural\c_3\interchange\culverts\I-57\current drawings\I57_P&E3_Sections_Sheet 4 of 5.dgn

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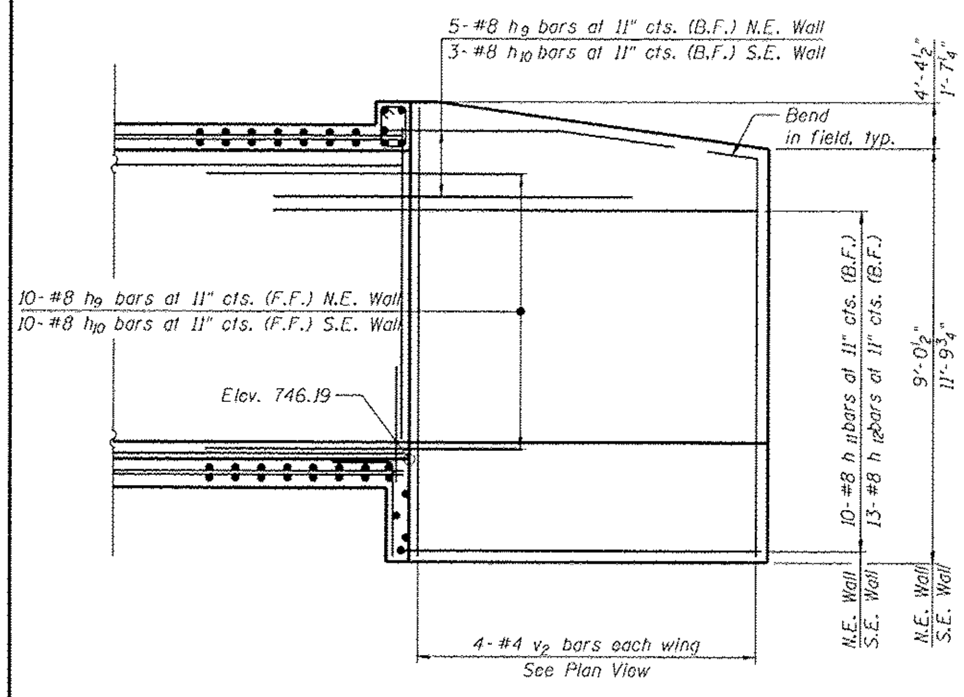
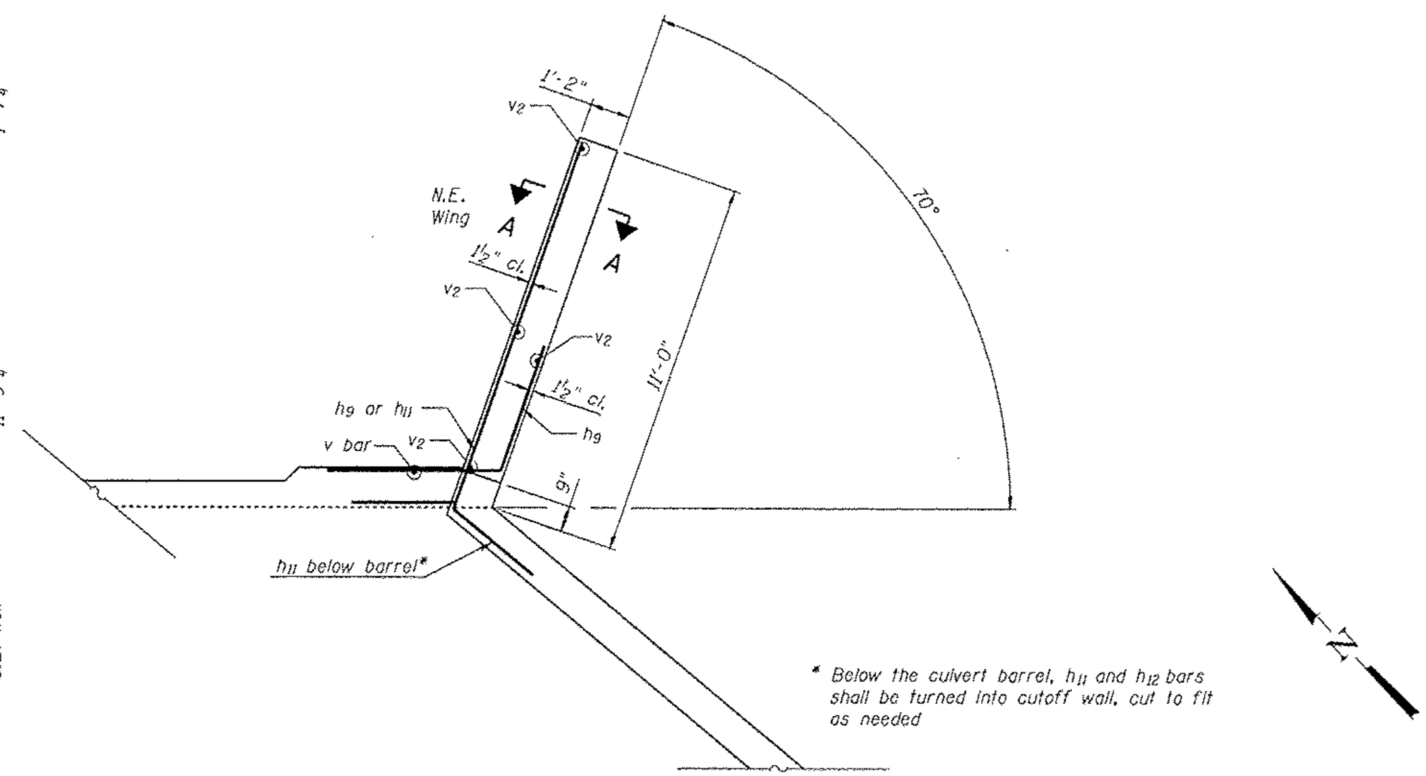
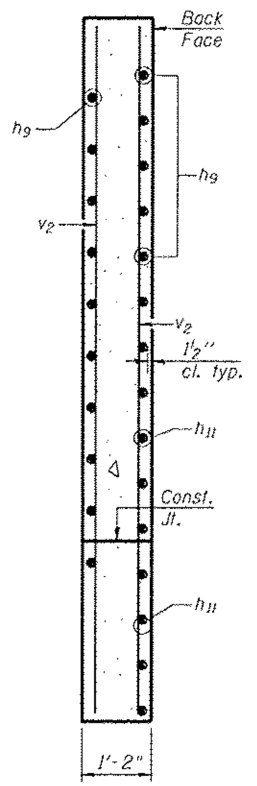


EAST WINGWALL ELEVATION

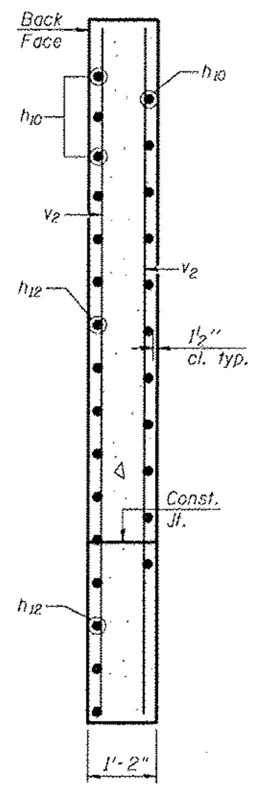
(Apron not shown)



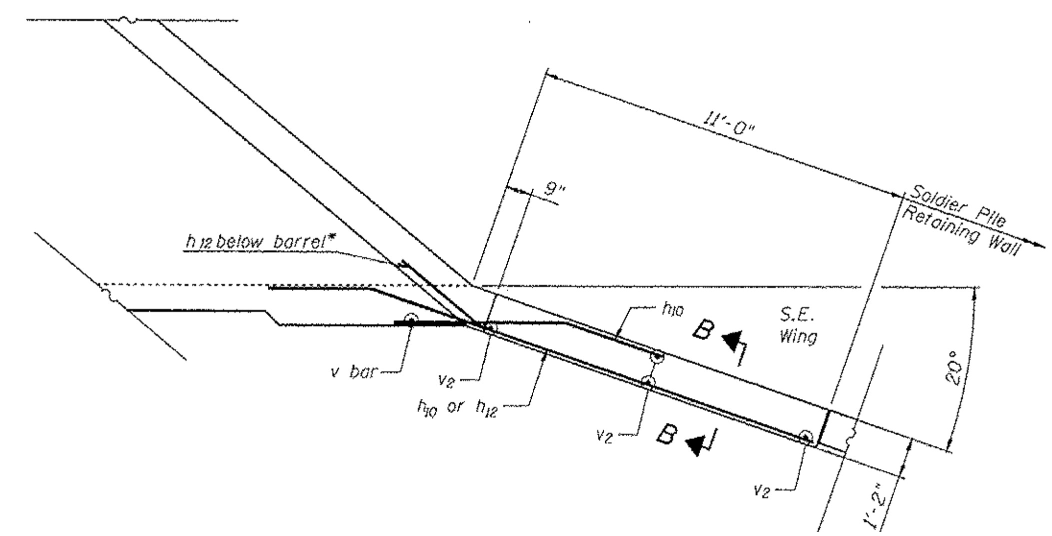
* Below the culvert barrel, h_{11} and h_{12} bars shall be turned into cutoff wall, cut to fit as needed



SECTION A-A



SECTION B-B



EAST WINGWALL PLAN

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CULVERT SECTIONS AND DETAILS - 2 STRUCTURE NO. 099-0608
T·Y·LIN INTERNATIONAL		CHECKED - AMD	REVISED		
	PLOT SCALE =	DRAWN - TB/PK	REVISED		
	PLOT DATE =	CHECKED - AMD	REVISED		SHEET NO. SC-6 OF SC-10 SHEETS

⚠ Entire Sheet Revised

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	378
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

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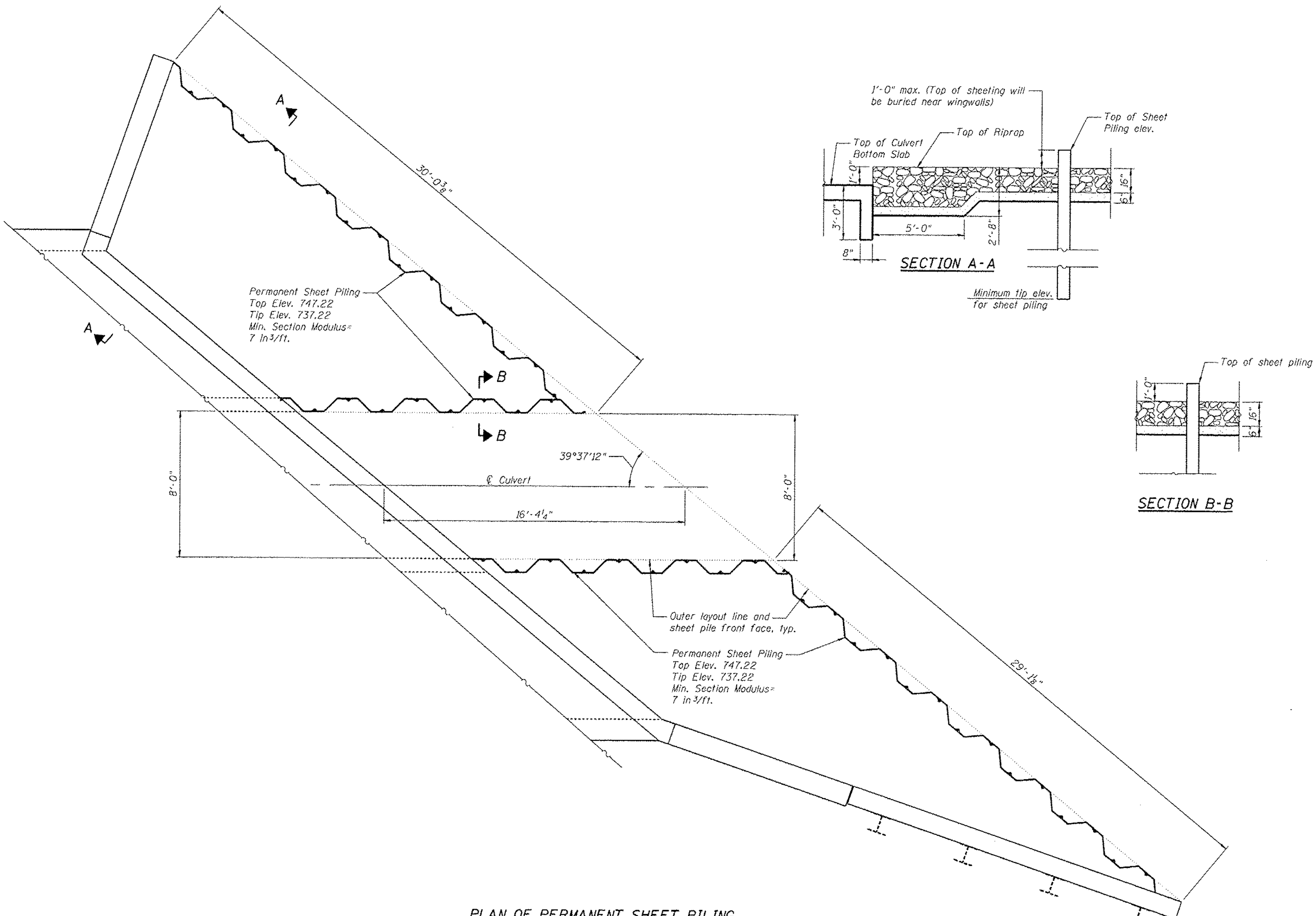

PLAN OF PERMANENT SHEET PILING
(Upstream Entrance Only)

FILE NAME =	USER NAME =	DESIGNED - SP	REVISED ⚠1 1/6/2014 S.P.	
TYLIN INTERNATIONAL		CHECKED - PDF	REVISED	
	PLOT SCALE =	DRAWN - EKH	REVISED	
	PLOT DATE =	CHECKED - SP	REVISED	

⚠1 Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT SECTIONS AND DETAILS - 3
STRUCTURE NO. 099-0608
SHEET NO. SC-7 OF SC-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-IHB-R1	WILL	679	379
		CONTRACT NO. 60L69		

ILLINOIS FED. AID PROJECT

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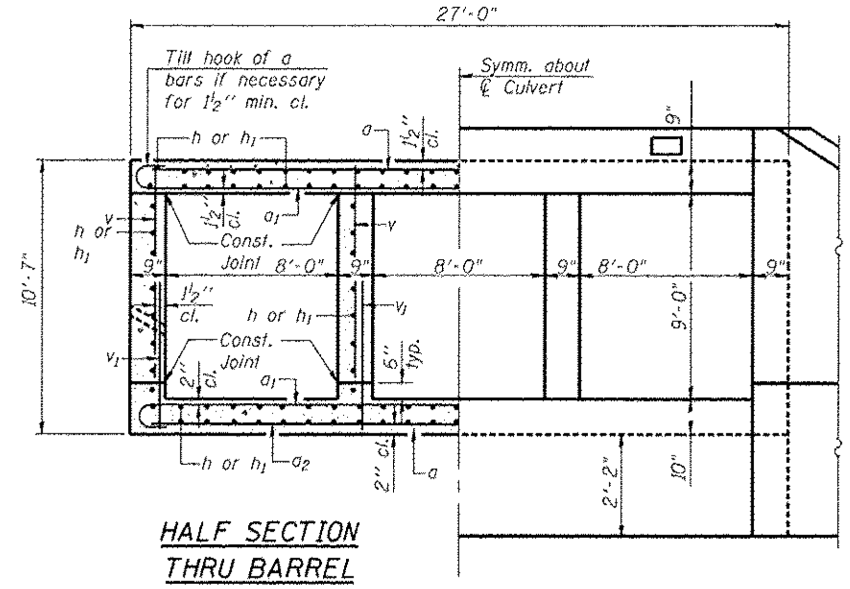
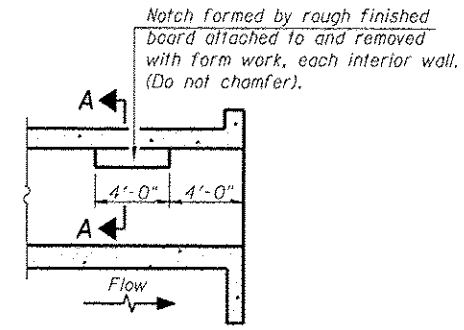
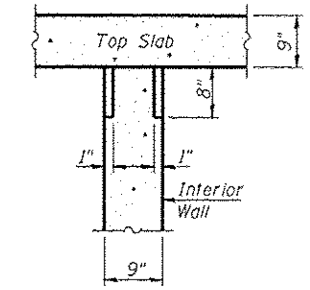


HALF SECTION THRU BARREL

HALF END ELEVATION

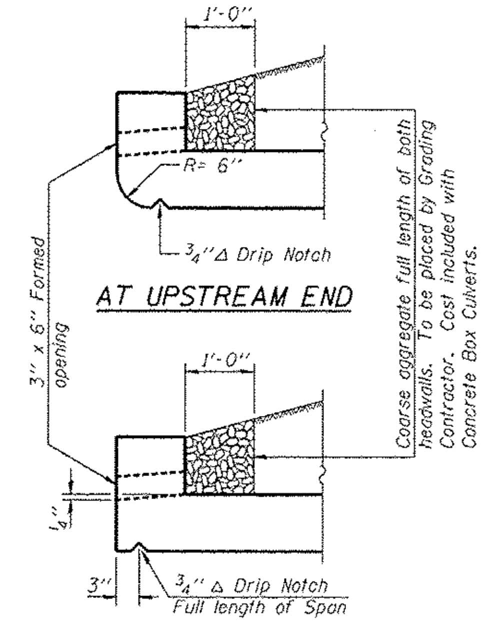


LONGITUDINAL SECTION



SECTION A-A

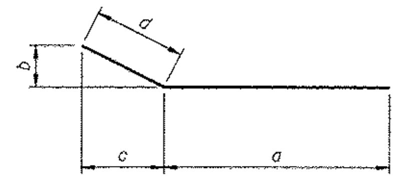
PHOEBE NESTING SITE DETAILS
(Downstream End Only)



AT UPSTREAM END

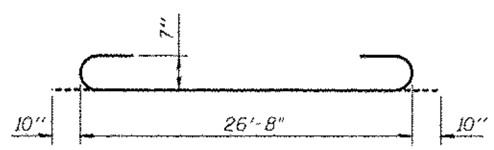
AT DOWNSTREAM END

DRAIN DETAIL

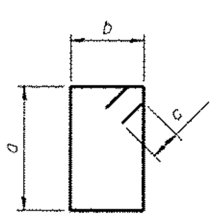


BARS h_5 through h_{12}

Bar	a	b	c	d
h_5	5'-0"	1'- 6"	2'-7¼"	3'-0"
h_6	5'-0"	2'-7¼"	1'-6"	3'-0"
h_7	13'-4"	1'-6"	2'-7¼"	3'-0"
h_8	12'-2"	2'-7¼"	1'-6"	3'-0"
h_9	5'-0"	2'-10"	1'-0"	3'-0"
h_{10}	5'-0"	1'-0"	2'-10"	3'-0"
h_{11}	11'-0"	2'-10"	1'-0"	3'-0"
h_{12}	13'-3"	1'-0"	2'-10"	3'-0"

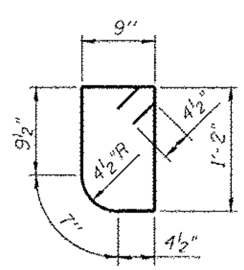


BAR a_1

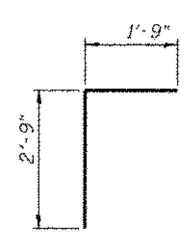


Bar	a	b	c
s	1'-2"	9"	4½"
s_2	1'-2"	8"	5½"
s_3	6"	8"	5½"

BAR s



BAR s_1



BAR d

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	1040	#7	26'-8"	
a_1	1040	#7	28'-4"	
d	68	#4	4'-6"	
h	456	#5	37'-7"	
h_1	1216	#5	36'-6"	
h_2	9	#6	30'-5"	
h_3	9	#6	40'-10"	
h_5	16	#8	8'-0"	
h_6	18	#8	8'-0"	
h_7	14	#8	16'-4"	
h_8	12	#8	15'-2"	
h_9	15	#8	8'-0"	
h_{10}	13	#8	8'-0"	
h_{11}	10	#8	14'-0"	
h_{12}	13	#8	16'-3"	
h_{16}	12	#6	30'-10"	
s	31	#4	4'-7"	
s_1	42	#4	4'-5"	
s_2	32	#5	4'-7"	
s_3	32	#5	3'-3"	
v	2017	#7	8'-11"	
v_1	2017	#7	5'-0"	
v_2	16	#4	13'-1"	
v_3	8	#4	2'-6"	
Concrete Box Culverts		Cu. Yd.		1,003.2
Reinforcement Bars		Pound		244,180

FILE NAME =	USER NAME =	DESIGNED - RL	REVISED ⚠ 1/6/2014 S.P.
TYLININTERNATIONAL		CHECKED - AMD	REVISED
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	PLOT DATE =	CHECKED - AMD	REVISED

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT SECTIONS AND DETAILS – 4
STRUCTURE NO. 099–0608

SHEET NO. SC-8 OF SC-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	380
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

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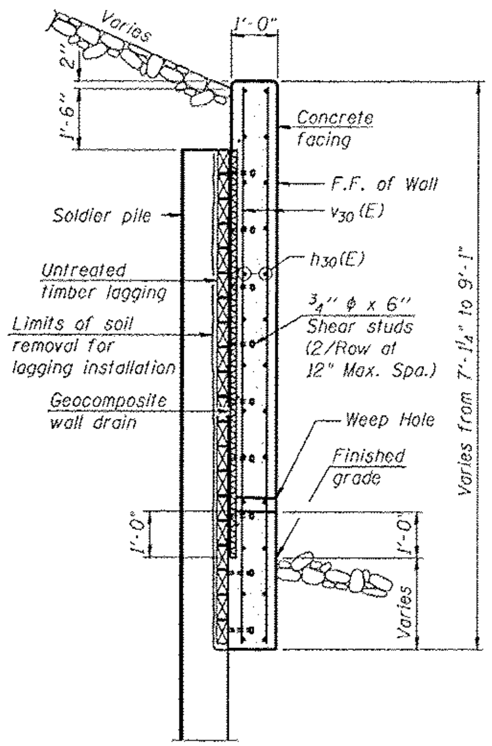
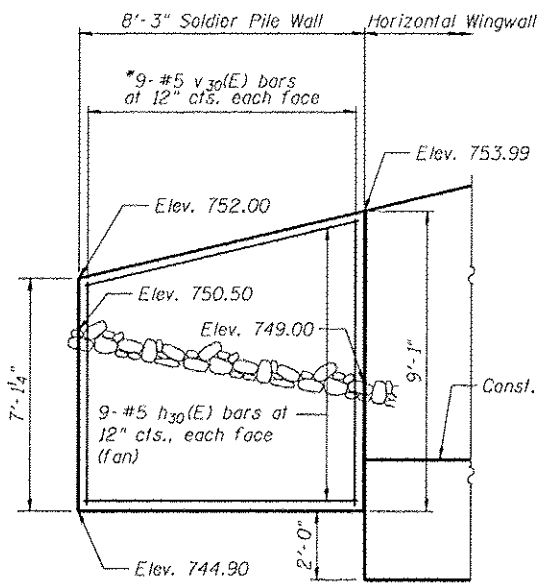
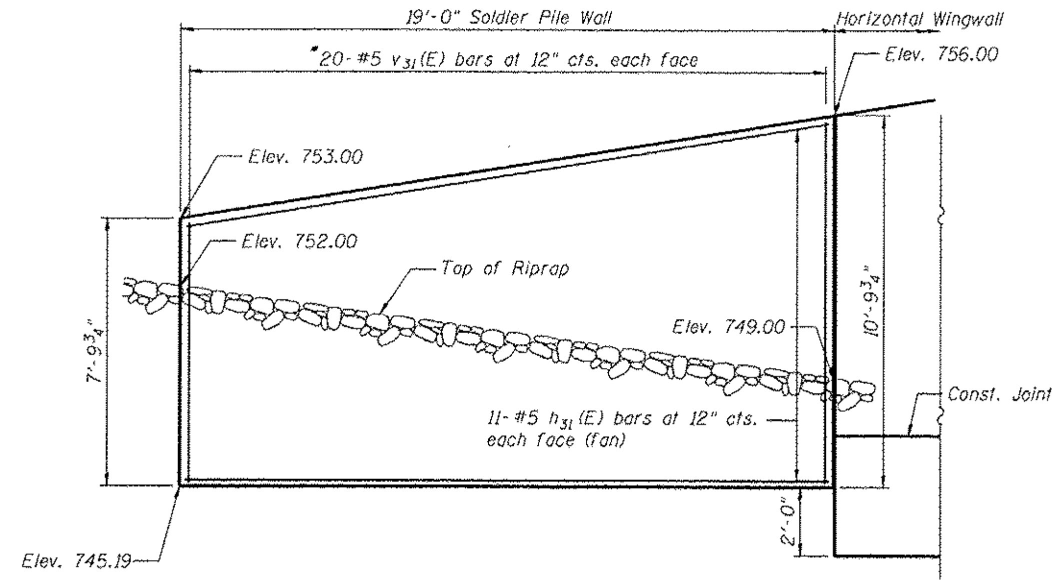
1/3/2014



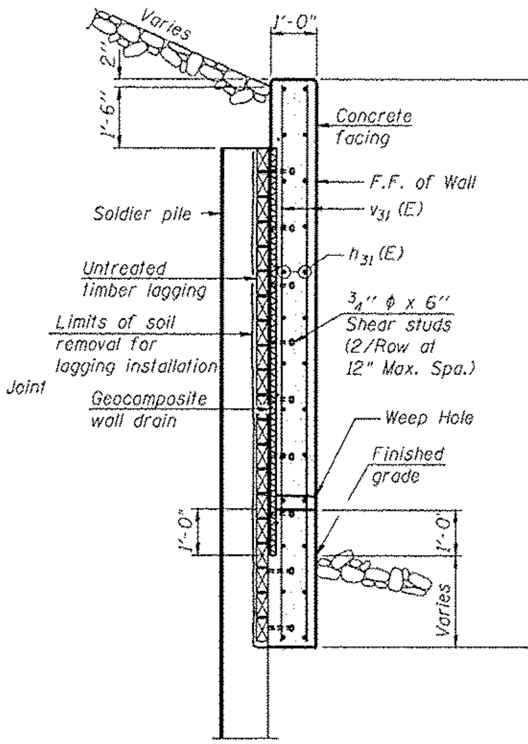
SECTION THRU N.W. SOLDIER PILE WALL



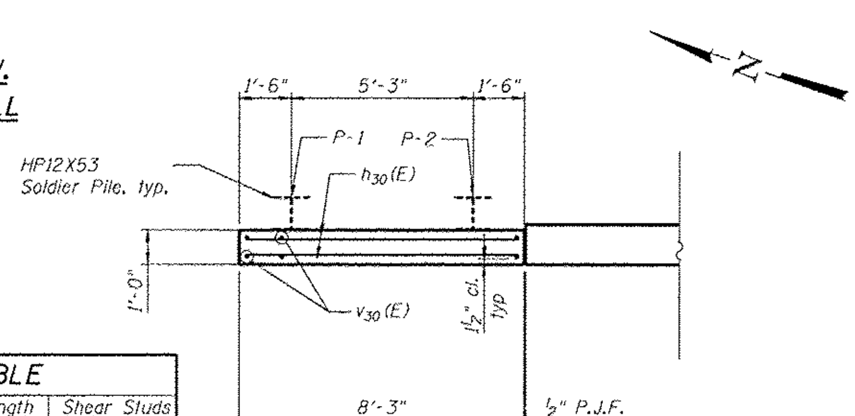
ELEVATION - NORTHWEST WALL
(LOOKING @ F.F.)



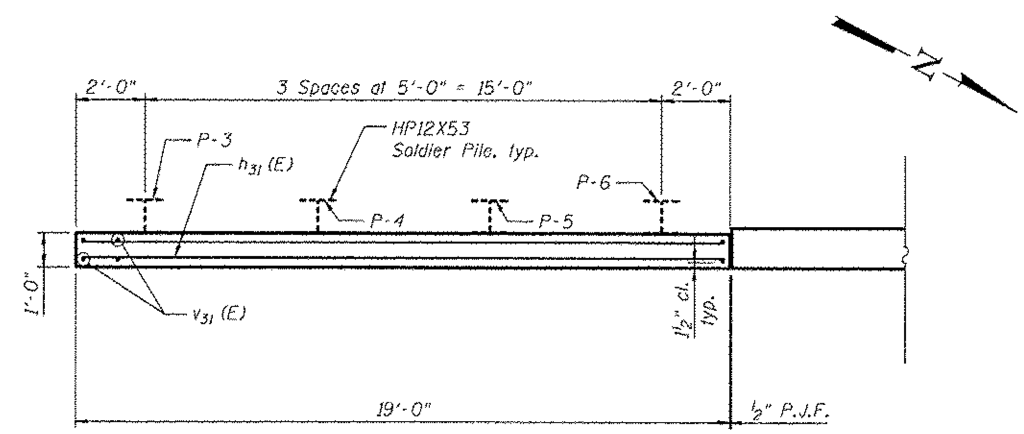
ELEVATION - SOUTHEAST WALL
(LOOKING @ F.F.)



SECTION THRU S.E. SOLDIER PILE WALL



PLAN - NORTHWEST WALL

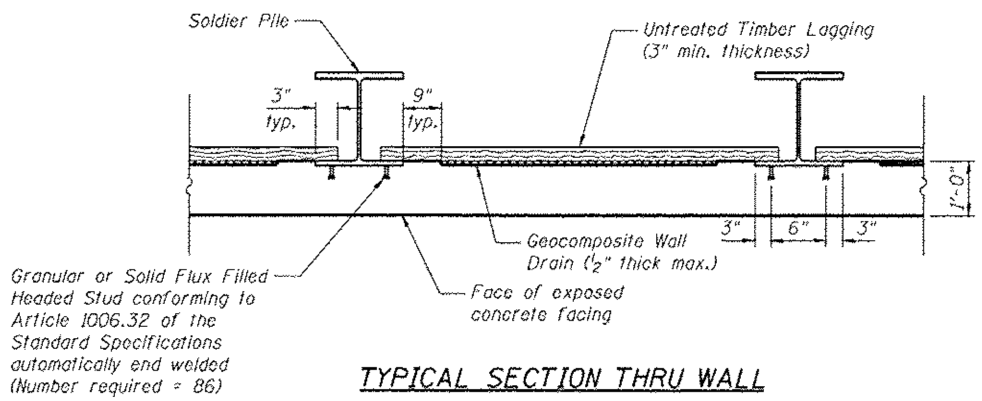


PLAN - SOUTHEAST WALL

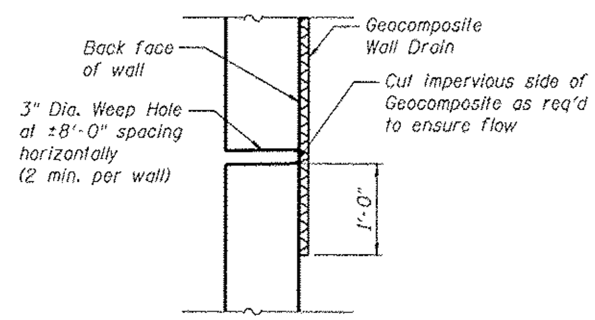
PILE DATA TABLE				
Pile No.	Top of Pile	Bot. of Pile	Length	Shear Studs
P-1	750.70	727.20	23.5'	12
P-2	751.96	727.46	24.5'	14
P-3	751.65	725.65	26.0'	14
P-4	752.44	725.94	26.5'	14
P-5	753.23	725.73	27.5'	16
P-6	754.02	726.02	28.0'	16

REINFORCEMENT BAR LIST				
Bar	No.	Size	Length	Shape
h_{30}(E)	18	#5	8'-0"	
h_{31}(E)	22	#5	18'-9"	
v_{30}(E)	9	#5	15'-8"	
v_{31}(E)	20	#5	18'-0"	

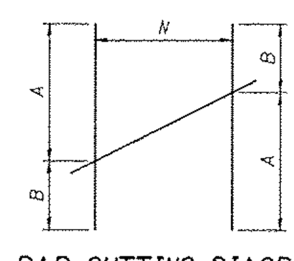
BILL OF MATERIAL		
Item	Unit	Total
Structure Excavation	Cu. Yd.	30
Concrete Structures	Cu. Yd.	9.1
Reinforcement Bars, Epoxy Coated	Pound	1,110
Stud Shear Connectors	Each	86
Geocomposite Wall Drain	Sq. Yd.	8
Untreated Timber Lagging	Sq. Ft.	199
Furnishing Soldier Piles (HP Section)	Foot	156
Driving Soldier Piles	Foot	156



TYPICAL SECTION THRU WALL



WEEP HOLE DRAIN DETAIL



BAR CUTTING DIAGRAM

Bar	A	B	N
v_{30}(E)	8'-10"	6'-10"	9
v_{31}(E)	10'-6"	7'-6"	20

NOTE:

* Order bars full length. Cut to fit according to cutting diagram and use remainder of bars in opposite face.

P:\60261281_57_e_Stuenkel\structural\C_3\interchange\culverts\-57\current drawings\57_Culv_SPW.dgn

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1/7/2014

FILE NAME =	USER NAME =	DESIGNED - SP	REVISED ⚠ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - AMD	REVISED
	PLOT SCALE =	DRAWN - PK	REVISED
	PLOT DATE =	CHECKED - AMD	REVISED

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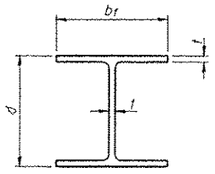
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

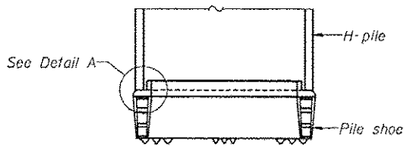
SOLDIER PILE WALL DETAILS
STRUCTURE NO. 099-0608
SHEET NO. SC-8a OF SC-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	380A
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

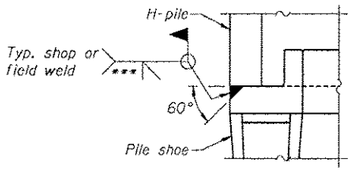


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	$14\frac{1}{4}$"	$14\frac{7}{8}$"	$\frac{13}{16}$"	30"
x102	14"	$14\frac{3}{4}$"	$\frac{11}{16}$"	30"
x89	$13\frac{7}{8}$"	$14\frac{3}{4}$"	$\frac{5}{8}$"	30"
x73	$13\frac{5}{8}$"	$14\frac{5}{8}$"	$\frac{1}{2}$"	30"
HP 12x84	$12\frac{1}{4}$"	$12\frac{1}{4}$"	$\frac{11}{16}$"	24"
x74	$12\frac{1}{8}$"	$12\frac{1}{4}$"	$\frac{5}{8}$"	24"
x63	12"	$12\frac{1}{8}$"	$\frac{1}{2}$"	24"
x53	$11\frac{3}{4}$"	12"	$\frac{7}{16}$"	24"
HP 10x57	10"	$10\frac{1}{4}$"	$\frac{9}{16}$"	24"
x42	$9\frac{3}{4}$"	$10\frac{1}{8}$"	$\frac{7}{16}$"	24"
HP 8x36	8"	$8\frac{1}{8}$"	$\frac{7}{16}$"	18"

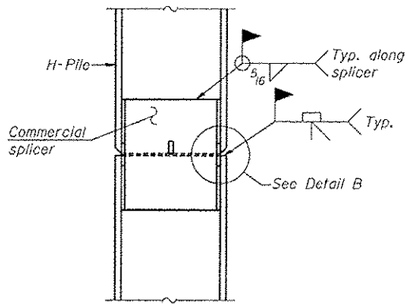


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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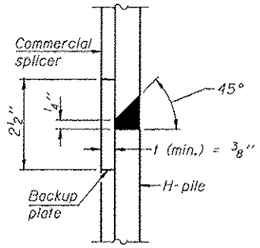
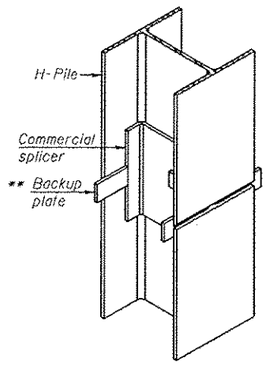
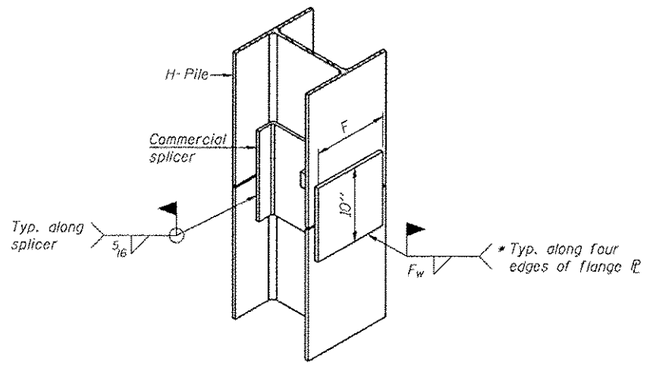


DETAIL "B"



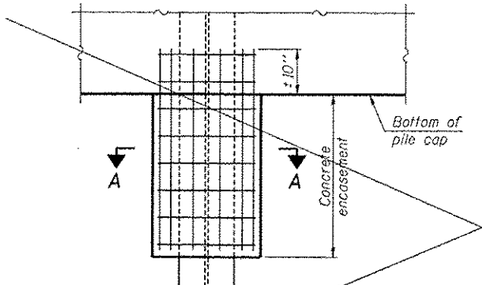
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE



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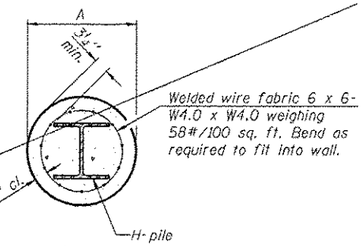
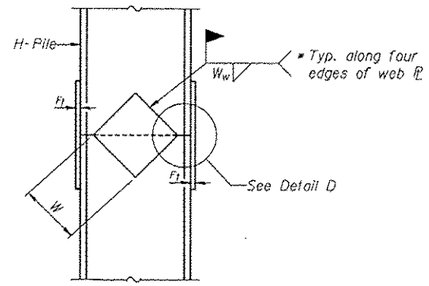


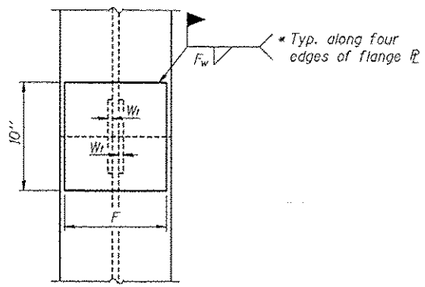
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

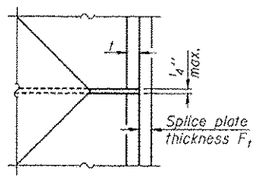
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

Designation	F	F_1	F_w	W	W_f	W_w
HP 14x117	$12\frac{1}{2}$"	1"	$\frac{7}{8}$"	$7\frac{3}{4}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x102	$12\frac{1}{2}$"	$\frac{7}{8}$"	$\frac{3}{4}$"	$7\frac{3}{4}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x89	$12\frac{1}{2}$"	$\frac{3}{4}$"	$\frac{11}{16}$"	$7\frac{3}{4}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x73	$12\frac{1}{2}$"	$\frac{5}{8}$"	$\frac{9}{16}$"	$7\frac{3}{4}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
HP 12x84	10"	$\frac{7}{8}$"	$\frac{11}{16}$"	$6\frac{1}{2}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x74	10"	$\frac{7}{8}$"	$\frac{11}{16}$"	$6\frac{1}{2}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x63	10"	$\frac{5}{8}$"	$\frac{1}{2}$"	$6\frac{1}{2}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
x53	10"	$\frac{5}{8}$"	$\frac{1}{2}$"	$6\frac{1}{2}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
HP 10x57	8"	$\frac{3}{4}$"	$\frac{9}{16}$"	$5\frac{1}{4}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
x42	8"	$\frac{5}{8}$"	$\frac{9}{16}$"	$5\frac{1}{4}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
HP 8x36	7"	$\frac{5}{8}$"	$\frac{7}{16}$"	$4\frac{1}{4}$"	$\frac{1}{2}$"	$\frac{3}{8}$"

WELDED PLATE FIELD SPLICE

* Interrupt welds ¼" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer ($\frac{5}{16}$" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 1-27-12

FILE NAME = TYLIN INTERNATIONAL		USER NAME =	DESIGNED - SP	REVISED ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HP PILE DETAILS STRUCTURE NO. 099-0608	F.A.I. RTE. 57	SECTION 99-1HB-R1	COUNTY WILL	TOTAL SHEETS 679	SHEET NO. 3808
			CHECKED - AMD	REVISED					CONTRACT NO. 60L69		
		PLOT SCALE =	DRAWN - PK	REVISED		SHEET NO. SC-8b OF SC-10 SHEETS			ILLINOIS FED. AID PROJECT		
		PLOT DATE =	CHECKED - AMD	REVISED							

⚠ Entire Sheet Revised

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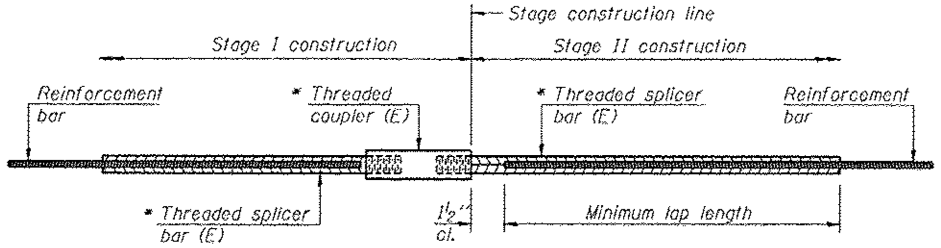


STANDARD BAR SPLICER ASSEMBLY

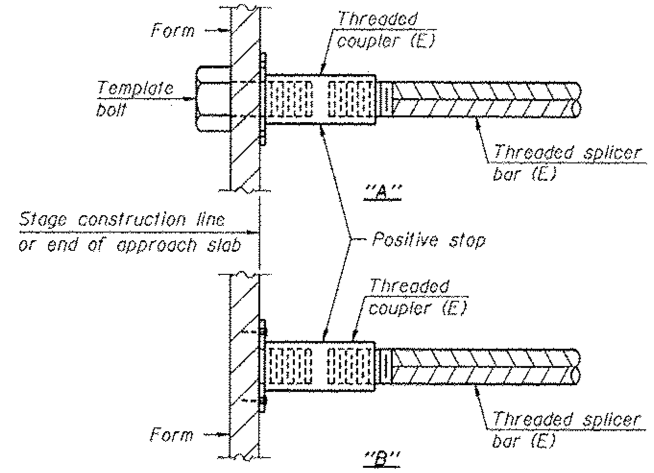
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

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, Class C
Table 6: Epoxy bar, Top bar lap, Class C

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

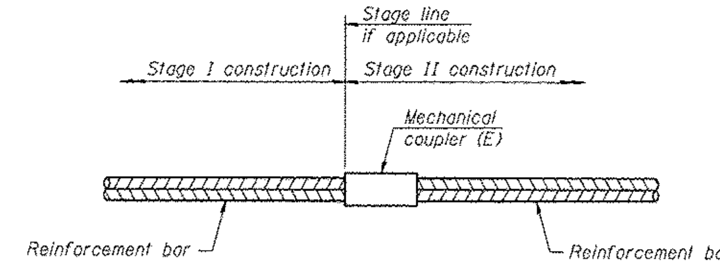
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top Slab	#5	56	Table 1
Bot. Slab	#5	56	Table 1
Ext. Walls	#5	20	Table 1
Int. Wall	#5	20	Table 1



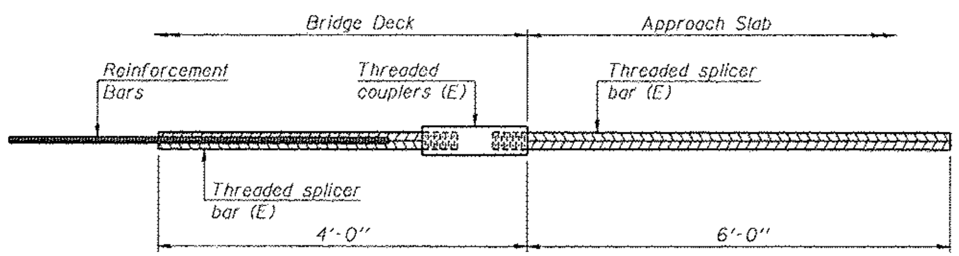
INSTALLATION AND SETTING METHODS

"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.



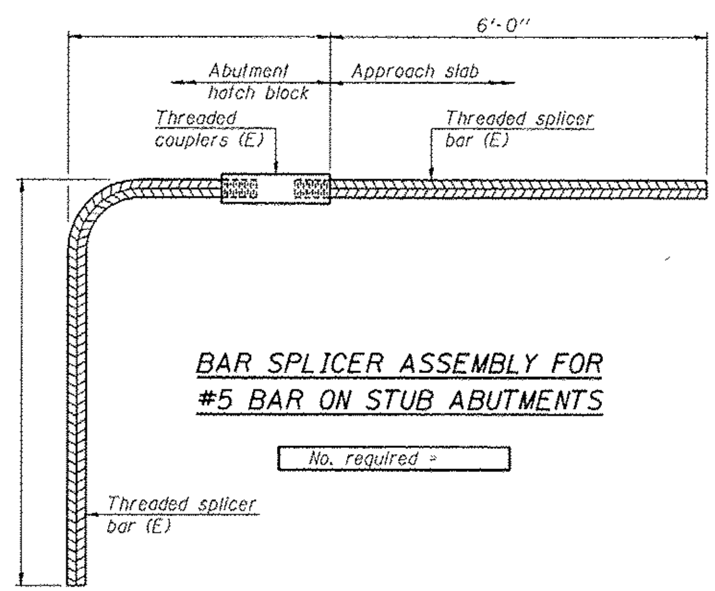
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

BSD-1 1-27-12

FILE NAME =	USER NAME =	DESIGNED - SP	REVISED 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 099-0608
TYLIN INTERNATIONAL		CHECKED - AMD	REVISED		
	PLOT SCALE =	DRAWN - PK	REVISED		
	PLOT DATE =	CHECKED - AMD	REVISED		SHEET NO. SC-8c OF SC-10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	380C
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		

Entire Sheet Revised

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SOIL BORING LOG — CB-07

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

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GSI JOB No. 10196

ROUTE F.A.I. RTE. 57
DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1
LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will
DRILLING METHOD Hollow Stem Auger
HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station: ---
BORING NO. **CB-07**
Station: 217+80 Ramp B
Offset: 21.0' Left
Ground Surface Elev. *755.9*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *741.9* ▼
Upon Completion *Dry* ▽
After ______ Hrs. ______

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL—black	*754.9*		AS	–	32
CLAY—brown & gray—very stiff to hard (A-6)			2		*109*
			4		
			4	3.3B	22
			5		*110*
			5		
		-5	9	6.75B	16
			3		*118*
			8		
			9	4.5+P	16
			3		*115*
			7		
		-10	8	7.5B	15
			4		*114*
			6		
			8	6.2B	17
	▽ *741.9*		2		
LOAM—brown & gray—medium stiff (A-4)			2		
	740.4	-15	4		12
CLAY LOAM—gray—stiff to very stiff (A-6)			3		*117*
			5		
			5	1.8B	16
			3		*117*
			5		
		-20	7	3.6B	15
CLAY LOAM—gray—stiff to very stiff (A-6)			2		*114*
			4		
			5	2.8B	15
			2		*108*
			3		
		-25	6	2.2B	23
			4		*118*
			5		
			7	3.2B	15
			5		*121*
			6		
	725.9	-30	9	3.0B	13
End Of Boring @ -30.0' Hollow Stem Augers Diedrich Automatic Hammer					
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample 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

SOIL BORING LOG — CB-08

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

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ROUTE F.A.I. RTE. 57
DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1
LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will
DRILLING METHOD Hollow Stem Auger
HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station: ---
BORING NO. **CB-08**
Station: 216+31 Ramp B
Offset: 7.5' Right
Ground Surface Elev. *755.8*

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

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL—black	*754.8*		AS	–	24
SILTY CLAY—dark brown & gray—very stiff (A-6) Wet			2		*97*
			3		
			5	2.4B	25
	752.8				
CLAY—brown & gray—stiff (A-6)			1		*101*
			3		
		-5	4	1.5B	22
			4		
			5		
			5	1.0P	22
	747.8				
SILTY LOAM—brown—stiff (A-4)			5		*111*
			6		
		-10	6	1.1B	17
	745.3				
CLAY—brown & gray—very stiff (A-6)			3		*119*
			4		
			6	3.5B	15
	742.8				
CLAY LOAM—gray—stiff (A-6)			3		*121*
			4		
		-15	6	1.7B	15
	740.3				
SILT—gray—medium dense (A-4)			11		
			13		
			11	NP	17
	737.8				
CLAY to CLAY LOAM—gray—stiff to very stiff (A-6)			6		*117*
			8		
		-20	10	4.2B	15
CLAY to CLAY LOAM—gray—stiff to very stiff (A-6)			4		
			6		
			8	2.5P	17
			3		*116*
			4		
		-25	6	2.9B	17
			3		*121*
			5		
			7	1.5B	15
			3		*120*
			6		
	725.8	-30	7	3.1B	15
End Of Boring @ -30.0' Hollow Stem Augers Diedrich Automatic Hammer					
		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample 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

SOIL BORING LOG

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
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Naperville, Illinois 60565
(630) 355-2838

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ROUTE F.A.I. RTE. 57 — DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1 — LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will — DRILLING METHOD Hollow Stem Auger — HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station: ---
BORING NO. **CB-09**
Station: 1463+71 I-57
Offset: 15.7' Left
Ground Surface Elev. *758.1*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *6.0'* ▼
Upon Completion *n/a* ▽
After ______ Hrs. ______

Description	Bottom Elev.
CLAY–dark brown & gray–stiff (A-6) Fill	*752.6*
CLAY to CLAY LOAM–brown & gray–stiff to very stiff (A-6)	*740.1*
CLAY–gray–stiff (A-6)	*737.6*
SAND–gray–medium dense (A-3)	*735.1*
SILTY LOAM–gray–loose (A-4)	*732.1*
GRAVEL–gray–medium dense (A-1)	*730.6*
CLAY–gray–medium stiff to stiff (A-6)	*718.1*

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	AS	1.0P	15
	2		*101*
	2		
	3	1.9B	24
	1		*89*
	3		
-5	4	1.1B	27
	2		*110*
	4		
	5	1.8B	20
	4		*112*
	6		
-10	9	3.1B	19
	4		*111*
	7		
	11	3.25B	19
	5		*120*
	9		
-15	12	3.5B	15
	4		*115*
	6		
	9	3.5B	17
	6		
	6		
-20	9	1.0P	23
	6		
	6		
	7	NP	15
	1		
	2		
-25	3	NP	12
	5		
	7		
	13	NP	2
	5		
	3		
-30	2	1.0P	17
	2		*116*
	4		
-35	7	0.9B	17
	4		*110*
	5		
-40	7	1.1B	20

End Of Boring @ -40.0'
Hollow Stem Augers To -10.0'
Rotary Drilling To Completion
CME Automatic Hammer

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample 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

SOIL BORING LOG

Geo Services, Inc.
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ROUTE F.A.I. RTE. 57 — DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1 — LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will — DRILLING METHOD Hollow Stem Auger — HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station: ---
BORING NO. **CB-10**
Station: 1463+64 I-57
Offset: 81.9' Left
Ground Surface Elev. *755.5*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *745.5* ▼
Upon Completion *n/a* ▽
After ______ Hrs. ______

Description	Bottom Elev.
6.0" SAND & GRAVEL (Fill)	*755.0*
CLAY LOAM–dark brown, gray & black–very stiff to hard (A-6) Fill	*750.0*
SANDY CLAY LOAM–dark brown & gray–loose to medium dense (Fill)	*745.0*
CLAY–brown & gray–stiff to very stiff (A-6)	*740.0*
CLAY to CLAY LOAM–gray–medium stiff to very stiff (A-6)	
CLAY to CLAY LOAM–gray–medium stiff to very stiff (A-6)	*715.5*

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	AS	2.0P	19
	1		
	1		
	2	3.0P	20
	1		*110*
	3		
-5	5	4.1B	19
	11		
	16		
	11	–	9
	4		
	4		
-10	1	–	9
	2		*105*
	1		
	3	1.3B	22
	5		*113*
	6		
-15	10	2.6B	18
	4		*116*
	4		
	6	2.1B	17
	3		*112*
	4		
-20	3	1.3B	19
	4		*116*
	5		
	6	1.6B	17
	2		*116*
	2		
-25	3	0.9B	18
	2		*112*
	2		
	3	0.6B	19
	2		*111*
	2		
-30	3	1.5B	19
	3		*118*
	4		
-35	4	1.9B	16
	3		*116*
	6		
-40	9	1.7B	17

End Of Boring @ -40.0'
Hollow Stem Augers To -10.0'
Rotary Drilling To Completion
CME Automatic Hammer

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample 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

FILE NAME :	USER NAME :	DESIGNED - DPS	REVISED △ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - SP	REVISED
	PLOT SCALE :	DRAWN - DPS	REVISED
	PLOT DATE :	CHECKED - SP	REVISED

△ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 099-0608
SHEET NO. SC-10 OF SC-10 SHEETS

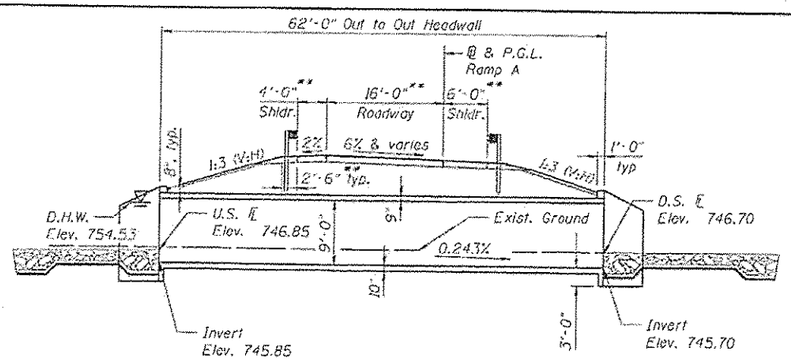
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	382

CONTRACT NO. 60L69
ILLINOIS FED. AID PROJECT

p:\6026\21-57_@_stuenkel\structural\c_3\interchange\culverts\I-57\current drawings\C3_Stuenkel_Boring02.dgn
1/7/2014 4:34:42 PM

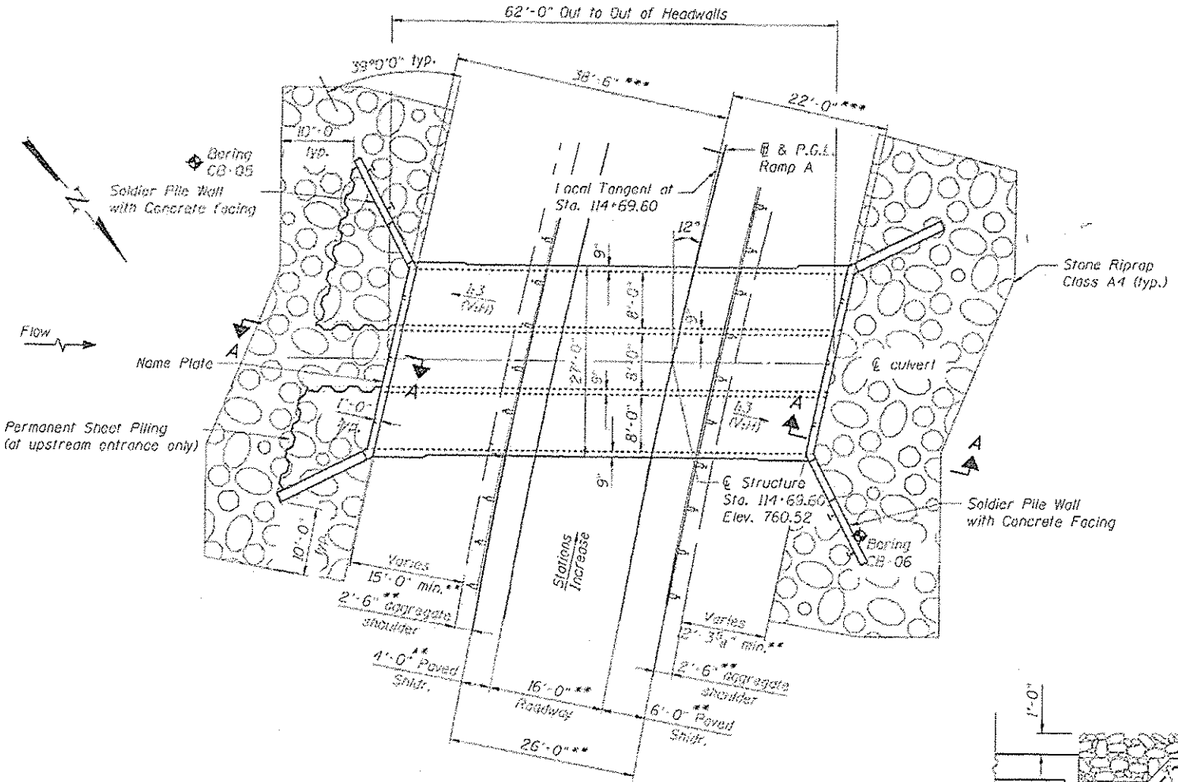
Benchmark:
Cut square on SE corner of IDOT light control panel foundation @ SW corner of I-57 & Stuenkel Rd.
Elev. = 759.00

Existing Structure: None.

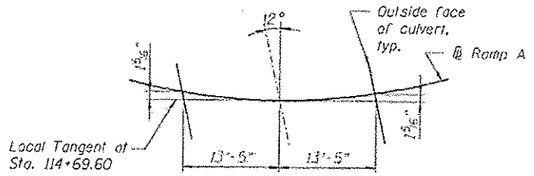


LONGITUDINAL SECTION
(Looking South)

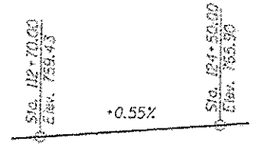
** Dimensions radial to ℄ Ramp A
*** Measured at Right Angles from Local Tangent



PLAN



OFFSET SKETCH



PROPOSED PROFILE GRADE RAMP A

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (Ft.)	D.S. Invert	U.S. Invert
	742.70	742.85

WATERWAY INFORMATION

Drainage Area = 2.85 Sq.Mi. Low Grade El. 759.31 ft.@ Sta. 112+25.86

Flood	Freq. Yr.	Q C.F.S.	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	434		156.96	754.06		-0.67		753.39
Design	50	670		174.96	754.53		-0.39		754.14
Base	100	852		186.96	754.80		-0.16		754.64
Overtopping									
Max. Calc.	500	1117		192.00	755.14		0.17		755.31

10 year outlet velocity for the proposed structure = 1.6 ft./sec.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition, with 2013 Interims

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

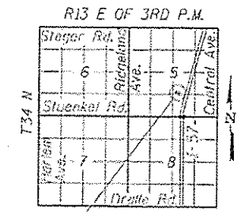
FIELD UNITS

f'c = 3,500 psi
fy = 50,000 psi (Structural Steel)
fy = 60,000 psi (Reinforcement)

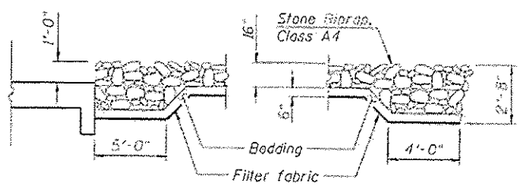
CURVE DATA

P.I. Sta. = 112+81.94
Δ = 35°01'31" (RT)
D = 6°51'42"
R = 835.00'
T = 263.48'
L = 510.44'
E = 40.58'
e = 6%
T.R. = -
S.E. Run = 144'
P.C. Sta. = 110+18.46
P.T. Sta. = 115+28.91

RIPRAP SLOPE LAYOUT



LOCATION SKETCH



SECTION A-A

STATE OF ILLINOIS
SPIROS PANTAZIS
081-006448
CHICAGO, ILLINOIS
STRUCTURAL ENGINEER

Signed _____
Spiros Pantazis, S.E. IL. Lic. No. 081-006448
Expires 11-30-2014
Date 1/3/14

APPROVED
For Clearance and Adequacy Only
_____
Bureau of Bridges & Structures

RAMP A OVER EAST BRANCH
HICKORY CREEK
F.A.I. 57 - SEC. 99-1HB-R1
WILL COUNTY
STATION 114+69.60

FILE NAME :	USER NAME =	DESIGNED - SP	REVISED ⚠ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - TCG	REVISED
	PLOT SCALE =	DRAWN - SP/TCG	REVISED
	PLOT DATE =	CHECKED - RH	REVISED

⚠ Indicates Slight Revision

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 099-0609
SHEET NO. SD-1 OF SD-7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	383
	099-0609	CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

GENERAL NOTES:

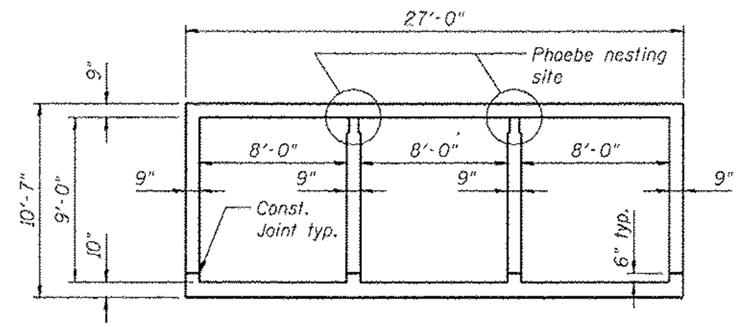
Reinforcement Bars designated (E) shall be epoxy coated.

For backfilling and embankment, see Standard Specifications.

Layout of stone riprap may be varied in the field to suit ground conditions as directed by the engineer.

Excavation required for construction of the culvert as shown in these plans and in accordance with the Standard Specifications shall be included in the cost of Concrete Box Culverts. Excavation for Soldier Pile walls shall be paid for as "Structure Excavation".

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 minimum allowable bending stress of 1000 psi.

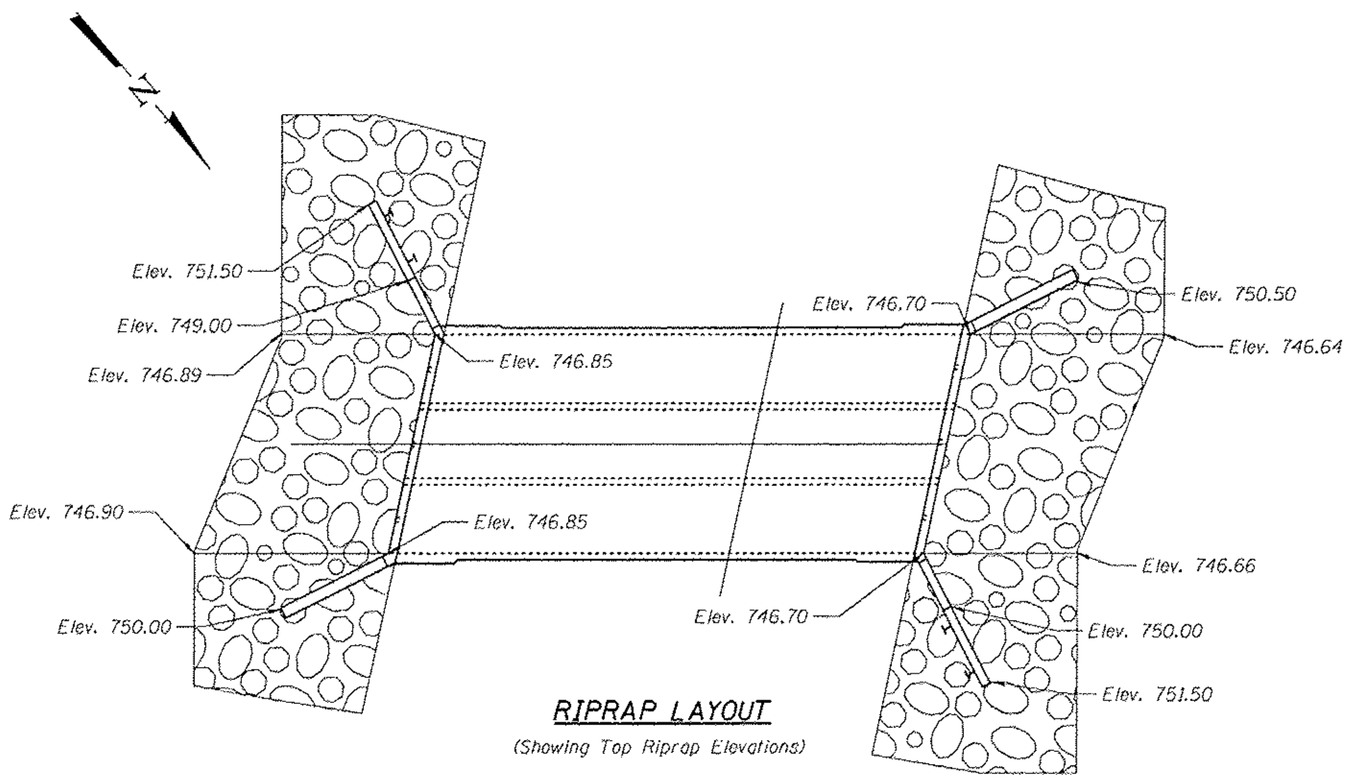


SECTION THRU BARREL

TOTAL BILL OF MATERIAL

Item	Unit	Total
Stone Rip Rap, Class A4	Sq Yd	315
Filter Fabric	Sq Yd	315
Structure Excavation	Cu Yd	24
Concrete Structures	Cu Yd	6.6
Stud Shear Connectors	Each	56
Reinforcement Bars	Pound	43,470
Reinforcement Bars, Epoxy Coated	Pound	1,240
Name Plates	Each	1
Concrete Box Culverts	Cu Yd	188.9
Geocomposite Wall Drain	Sq Yd	5
Driving Soldier Piles	Foot	105
Permanent Steel Sheet Piling	Sq Ft	621
Untreated Timber Lagging	Sq Ft	144
Furnishing Soldier Piles (HP Section)	Foot	105

INDEX OF SHEETS



RIPRAP LAYOUT

(Showing Top Riprap Elevations)

STATION 114+69.60
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. 57 SEC. 99-1HB-R1
LOADING HL-93
STR. NO. 099-0609

NAME PLATE

(See Hwy. Std. 515001)

FILE NAME =
TYLININTERNATIONAL

USER NAME = | DESIGNED - SP | REVISED ⚠ 1/6/2014 S.P.
| CHECKED - TCC | REVISED
PLOT SCALE = | DRAWN - SP/TCG | REVISED
PLOT DATE = | CHECKED - RH | REVISED

⚠ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS & BILL OF MATERIAL
STRUCTURE NO. 099-0609

SHEET NO. SD-2 OF SD-7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	384

CONTRACT NO. 60L69

ILLINOIS FED. AID PROJECT

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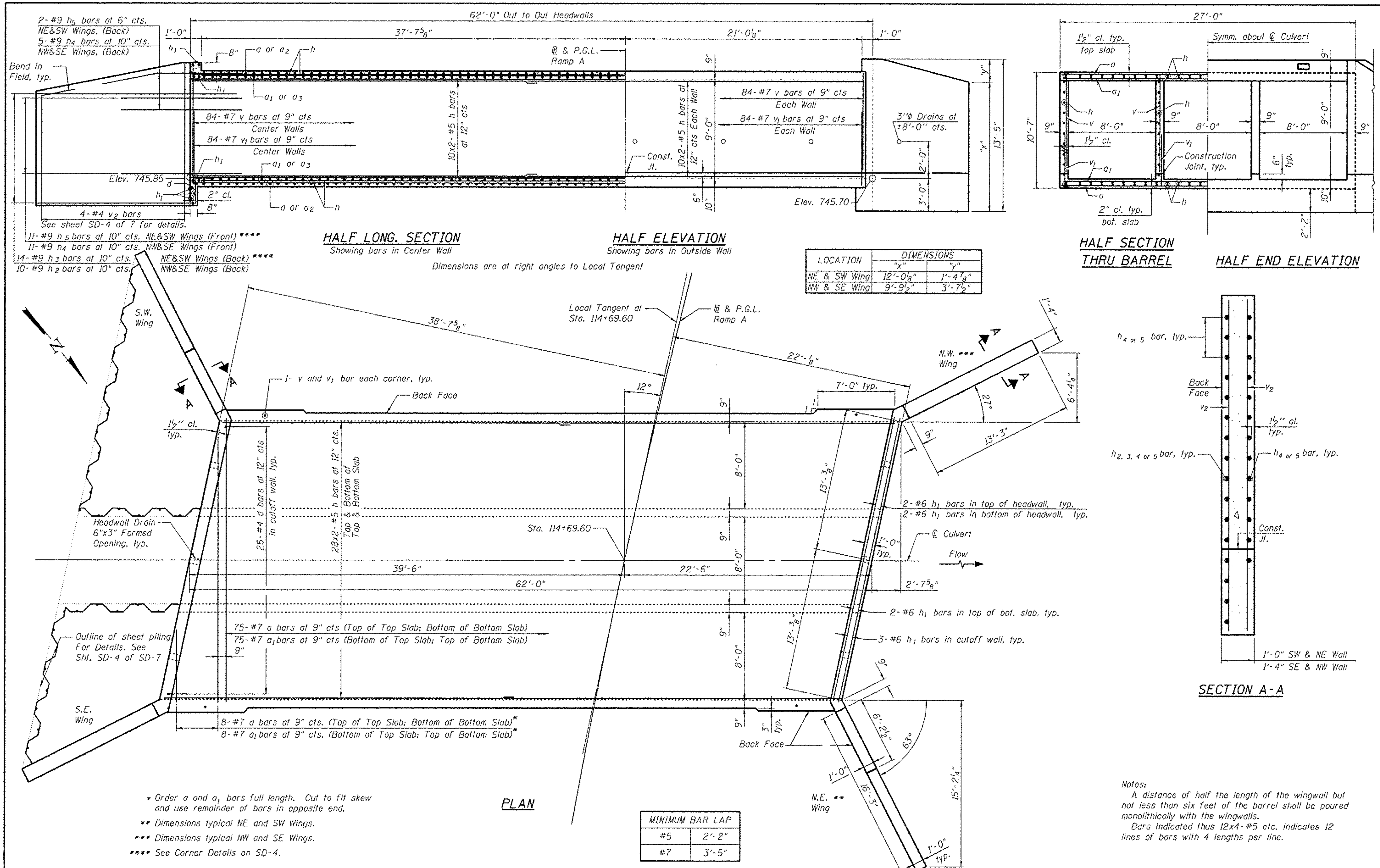


LOCATION	DIMENSIONS "x"	DIMENSIONS "y"
NE & SW Wing	12'-0⅛"	1'-4⅞"
NW & SE Wing	9'-9½"	3'-7½"

MINIMUM BAR LAP	
#5	2'-2"
#7	3'-5"

* Order a and a1 bars full length. Cut to fit skew and use remainder of bars in opposite end.
** Dimensions typical NE and SW Wings.
*** Dimensions typical NW and SE Wings.
**** See Corner Details on SD-4.

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.
Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

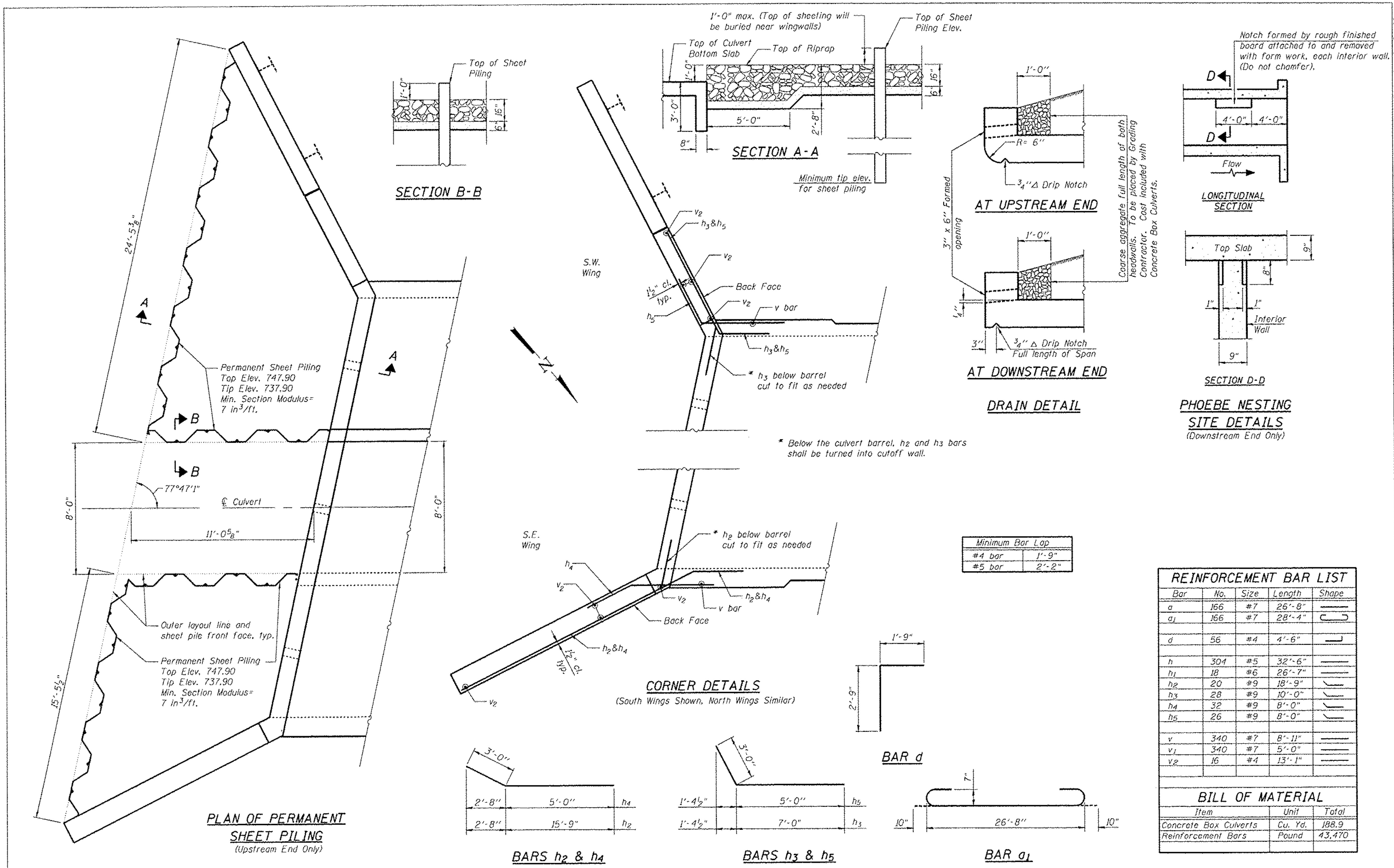
FILE NAME =	USER NAME =	DESIGNED - SP	REVISED 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - TCG	REVISED
	PLOT SCALE =	DRAWN - SP/TCG	REVISED
	PLOT DATE =	CHECKED - RH	REVISED

Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT PLAN AND DETAILS 1
STRUCTURE NO. 099-0609
SHEET NO. SD-3 OF SD-7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	385
		CONTRACT NO. 60L69		
		ILLINOIS FED. AID PROJECT		



Minimum Bar Lap	
#4 bar	1'-9"
#5 bar	2'-2"

REINFORCEMENT BAR LIST

Bar	No.	Size	Length	Shape
a	166	#7	26'-8"	
a_1	166	#7	28'-4"	
d	56	#4	4'-6"	
h	304	#5	32'-6"	
h_1	18	#6	26'-7"	
h_2	20	#9	18'-9"	
h_3	28	#9	10'-0"	
h_4	32	#9	8'-0"	
h_5	26	#9	8'-0"	
v	340	#7	8'-11"	
v_1	340	#7	5'-0"	
v_2	16	#4	13'-1"	

BILL OF MATERIAL

Item	Unit	Total
Concrete Box Culverts	Cu. Yd.	188.9
Reinforcement Bars	Pound	43,470

FILE NAME =	USER NAME =	DESIGNED - SP	REVISED △ 1/6/2014 S.P.
TYLIN INTERNATIONAL		CHECKED - TCG	REVISED
	PLOT SCALE =	DRAWN - SP/TCG	REVISED
	PLOT DATE =	CHECKED - RH	REVISED

△ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT PLAN AND DETAILS 2
STRUCTURE NO. 099-0609

SHEET NO. SD-4 OF SD-7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	386

CONTRACT NO. 60L69

ILLINOIS FED. AID PROJECT

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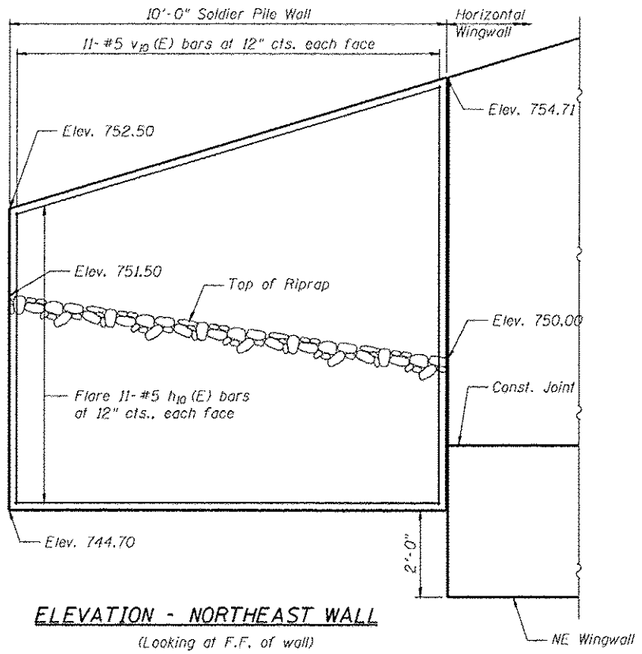
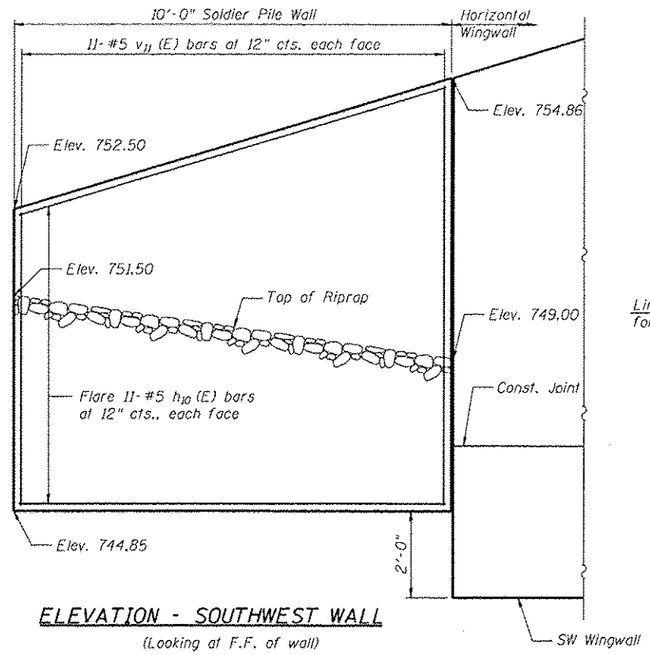


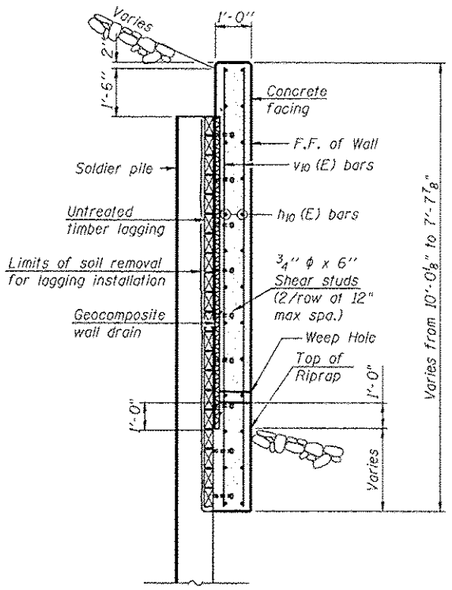
ELEVATION - NORTHEAST WALL

(Looking at F.F. of wall)

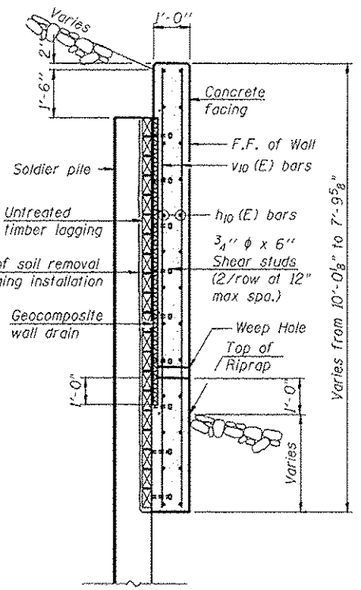


ELEVATION - SOUTHWEST WALL

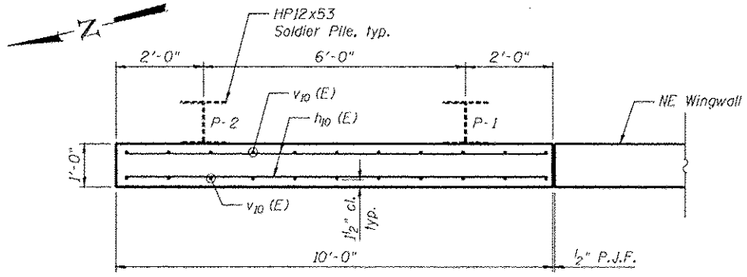
(Looking at F.F. of wall)



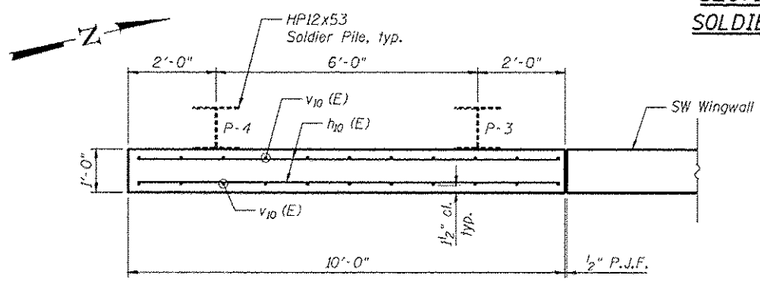
SECTION THRU S.W. SOLDIER PILE WALL



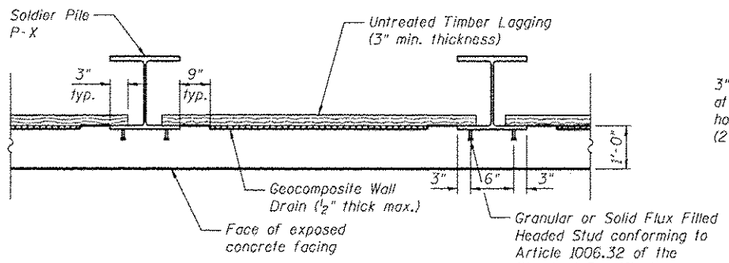
SECTION THRU N.E. SOLDIER PILE WALL



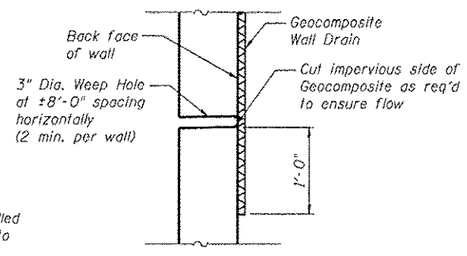
PLAN - NORTHEAST WALL



PLAN - SOUTHWEST WALL

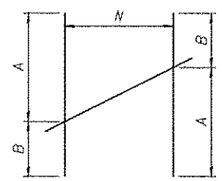


TYPICAL SECTION THRU WALL



WEEP HOLE DRAIN DETAIL

PILE DATA TABLE				
Pile No.	Top of Pile	Bot. of Pile	Length	Shear Studs
P-1	752.60	726.60	26'	16
P-2	751.27	726.77	24.5	12
P-3	752.72	724.72	28'	16
P-4	751.31	724.81	26.5	12



Bar	A	B	N
v_{10} (E)	9'-9"	7'-6"	11
v_{11} (E)	9'-8"	7'-4"	11

BAR CUTTING DIAGRAM

REINFORCEMENT BAR LIST				
Bar	No.	Size	Length	Shape
h_{10} (E)	44	#5	9'-9"	——
* v_{10} (E)	22	#5	17'-3"	——
* v_{11} (E)	22	#5	17'-0"	——

BILL OF MATERIAL		
Item	Unit	Total
Structure Excavation	Cu. Yd.	24
Concrete Structures	Cu. Yd.	6.6
Reinforcement Bars, Epoxy Coated	Pound	1,240
Stud Shear Conn.	Each	56
Geocomposite Wall Drain	Sq. Yd.	5
Untreated Timber Lagging	Sq. Ft.	144
Furnishing Soldier Piles (HP Section)	Foot	105
Driving Soldier Piles	Foot	105

* Order bars full length. Cut to fit according to cutting diagram and use remainder of bars in opposite face.

FILE NAME =	USER NAME =	DESIGNED - SP	REVISED ⚠ 1/6/2014 S.P.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOLDIER PILE WALL DETAILS STRUCTURE NO. 099-0609
TYLIN INTERNATIONAL		CHECKED - TCG	REVISED		
	PLOT SCALE =	DRAWN - SP/TCG	REVISED		SHEET NO. SD-5 OF SD-7 SHEETS
	PLOT DATE =	CHECKED - RH	REVISED		

⚠ Entire Sheet Revised

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	387
		CONTRACT NO. 60L69		
	ILLINOIS FED. AID PROJECT			

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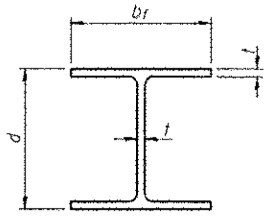
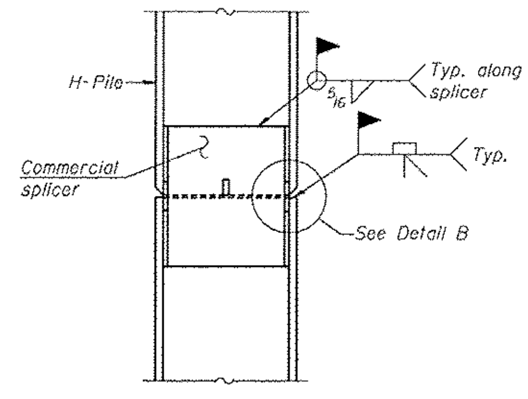
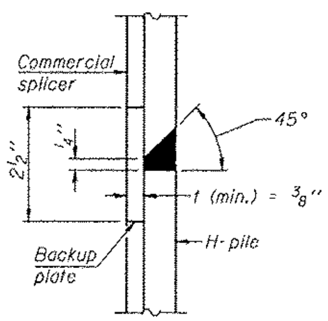


STEEL PILE TABLE

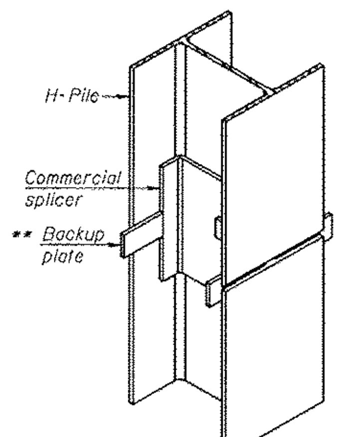
Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

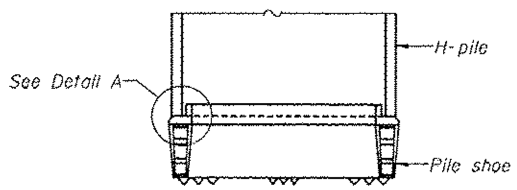


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



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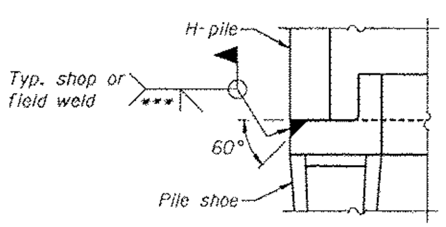
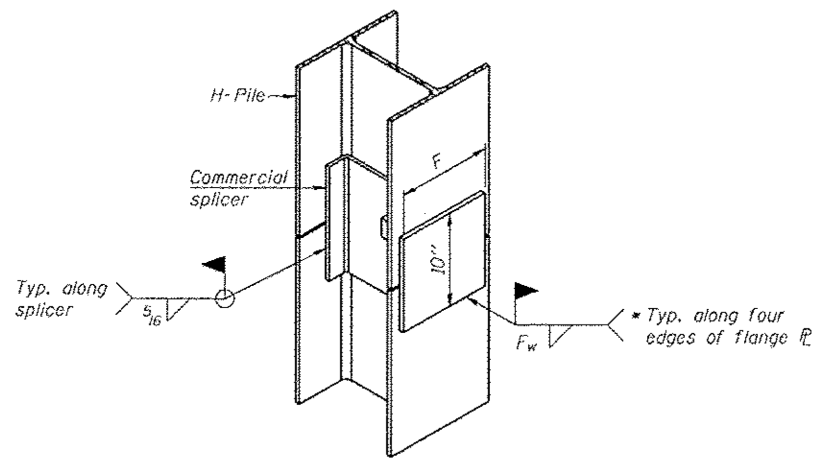


DETAIL A

H-PILE SHOE ATTACHMENT



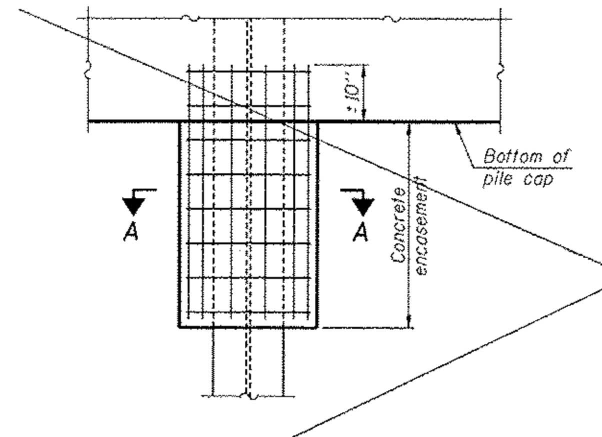
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



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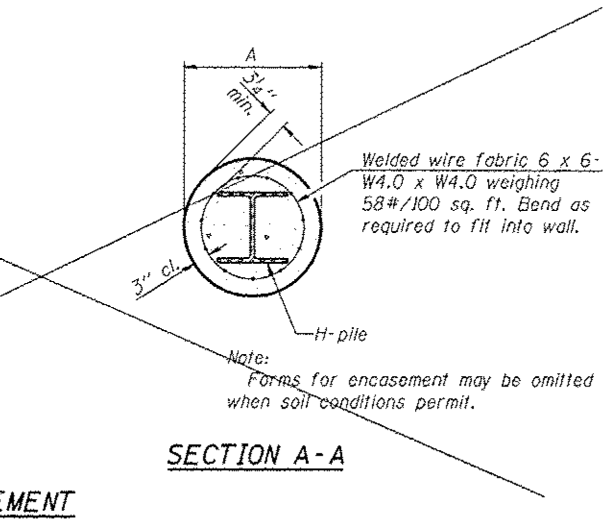
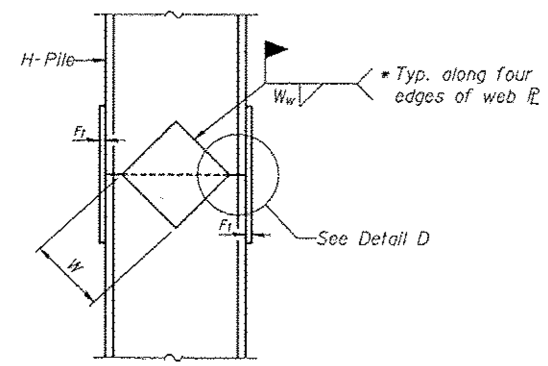


SECTION A-A

PILE ENCASEMENT



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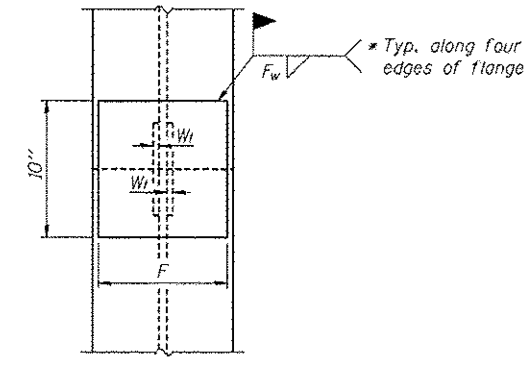
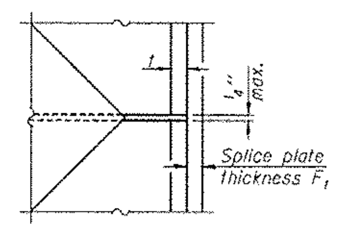


END VIEW

Designation	F	F_1	F_w	W	W_1	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



DETAIL D

WELDED PLATE FIELD SPLICE

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 1-27-12

FILE NAME =	USER NAME =	DESIGNED - SP	REVISED ⚠ 1/6/2014 S.P.
TYLININTERNATIONAL		CHECKED - TCG	REVISED
	PLOT SCALE =	DRAWN - SP/TCG	REVISED
	PLOT DATE =	CHECKED - RH	REVISED

⚠ Entire Sheet Revised

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 099-0609

SHEET NO. SO-6 OF SO-7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	99-1HB-R1	WILL	679	388

CONTRACT NO. 60L69

ILLINOIS FED. AID PROJECT

4:36:31 PM 1/3/2014

SOIL BORING LOG — CB-05

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

PAGE 1 of 1
DATE 3/29/2012
LOGGED BY MD
GSI JOB No. 10196

ROUTE F.A.I. RTE. 57
DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1
LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will
DRILLING METHOD Hollow Stem Auger
HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station: ---
BORING NO. **CB-05**
Station: 114+82 Ramp A
Offset: 71.0' Left
Ground Surface Elev. 752.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 725.3 ▼
Upon Completion 723.8 ▽
After ___ Hrs. ___

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL—black			AS	–	24
			3		
			4		
	749.8		5	–	24
CLAY—brown & gray— very stiff to hard (A-6)			2		*109*
			2		
		-5	4	2.4B	19
			4		*109*
			9		
	744.8		13	4.5+P	16
CLAY—gray—hard (A-6)			5		*119*
			10		
	742.3	-10	11	4.6B	18
SILTY CLAY—gray—stiff (A-6)			2		
			3		
	739.8		6	1.75P	17
CLAY—gray— stiff to very stiff (A-6)			3		*112*
			5		
		-15	5	1.0B	17
			2		*121*
			5		
			6	2.8B	14
			3		*119*
			5		
		-20	7	2.7B	15

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY—gray— stiff to very stiff (A-6)			4		*119*
			8		
			8	2.4B	16
			5		*120*
			6		
		-25	9	4.0B	15
			3		*109*
			4		
▼	724.8		7	1.5B	20
CLAY LOAM—gray—stiff (A-6) ▽			6		*129*
			7		
	722.8	-30	8	1.3B	11
End Of Boring @ -30.0' Hollow Stem Augers CME Automatic Hammer		-35			
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample 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

SOIL BORING LOG — CB-06

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

PAGE 1 of 1
DATE 3/29/2012
LOGGED BY MD
GSI JOB No. 10196

ROUTE F.A.I. RTE. 57
DESCRIPTION I-57 at Stuenkel Road Interchange, Contract No. 60L69
SECTION 99-1HB-R-1
LOCATION SEC. 4, 5, 6, 7 & 8, T. 34 N., R. 13 E., 3rd P.M., Monee Township
COUNTY Will
DRILLING METHOD Hollow Stem Auger
HAMMER TYPE CME Automatic

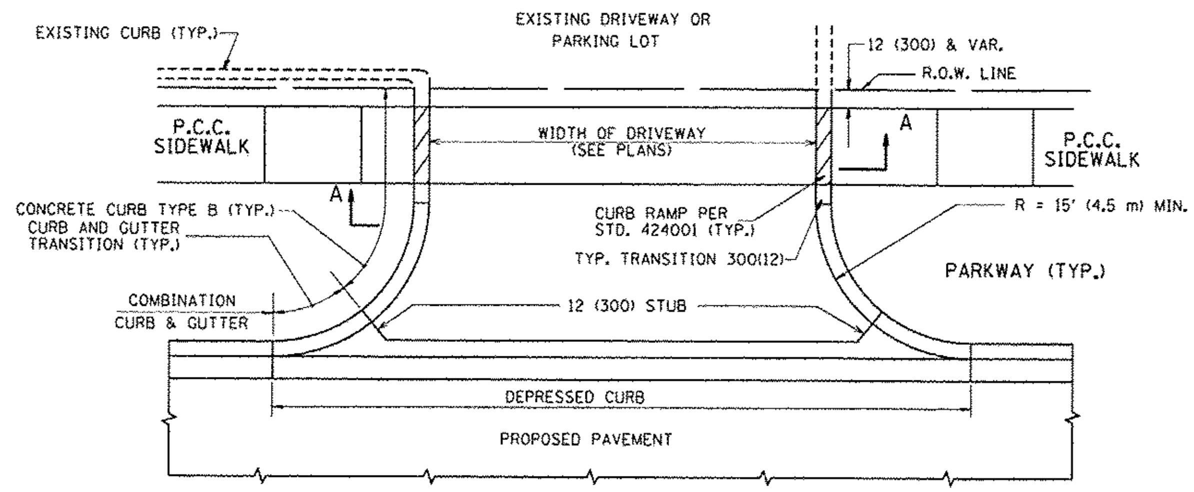
STRUCT. NO. ---
Station: ---
BORING NO. **CB-06**
Station: 114+51 Ramp A
Offset: 30.5' Right
Ground Surface Elev. 753.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 741.7 ▼
Upon Completion 744.2 ▽
After ___ Hrs. ___

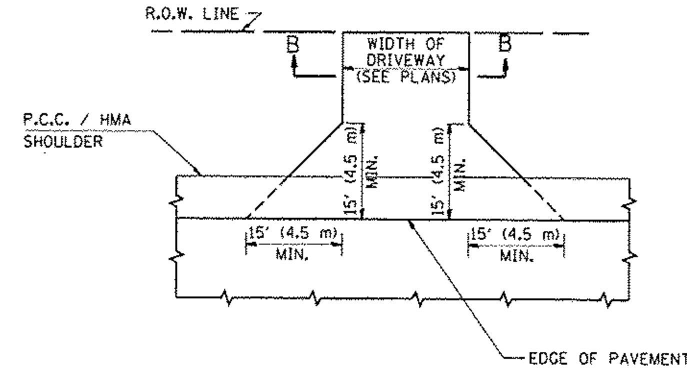
Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL—black			AS	–	34
			2		*89*
			6		
	750.2		7	2.9B	28
SILTY CLAY—dark brown & gray— stiff (A-6)			2		*100*
			3		
		-5	3	1.9B	23
			2		*102*
			4		
	745.2		5	1.25B	23
CLAY—brown & gray—hard (A-6) ▽			2		*116*
			6		
	742.7	-10	9	4.4B	16
CLAY—gray— stiff to very stiff (A-6) ▼			2		
			4		
			5	1.0P	22
			2		*117*
			3		
		-15	4	1.0B	16
			2		*120*
			4		
			7	3.6B	15
			3		*116*
			5		
		-20	6	2.4B	17

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY—gray—stiff to very stiff (A-6)	732.7				
CLAY LOAM—gray— stiff to very stiff (A-6)			2		*126*
			4		
			6	2.0B	13
			3		*114*
			6		
		-25	8	1.25B	17
			5		*123*
			6		
			8	2.7B	14
			3		*122*
			3		
	723.2	-30	5	1.5B	14
End Of Boring @ -30.0' Hollow Stem Augers CME Automatic Hammer		-35			
		-40			

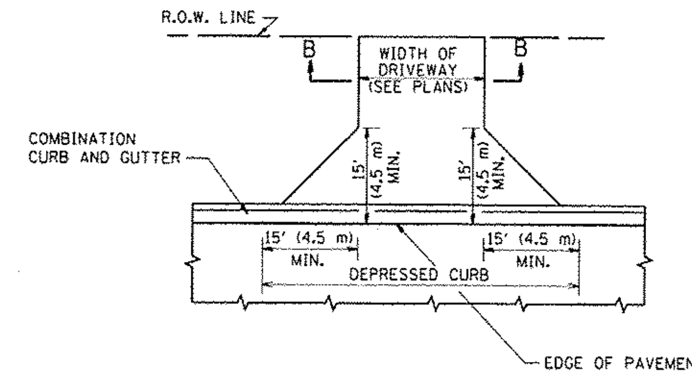
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery



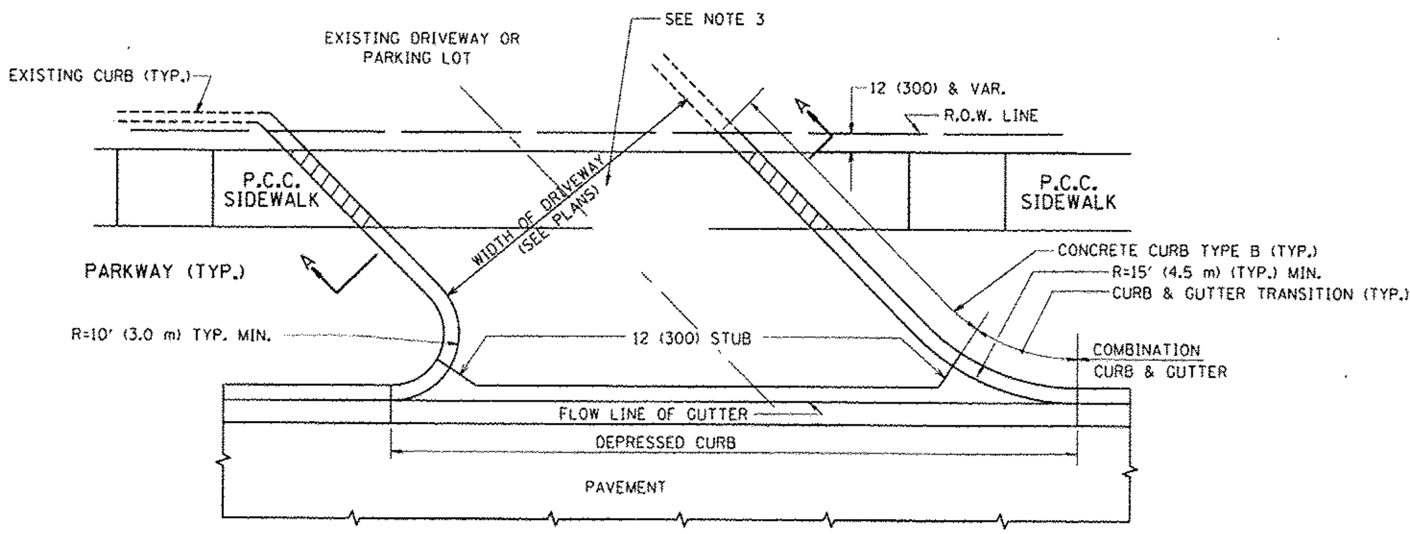
WITH CONCRETE CURB, TYPE B



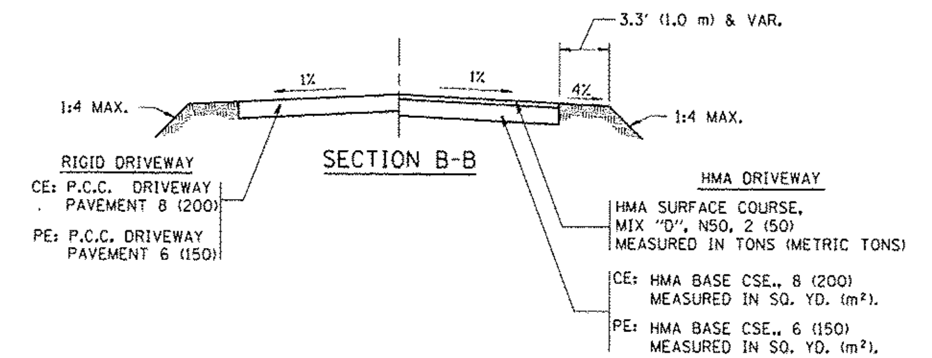
ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



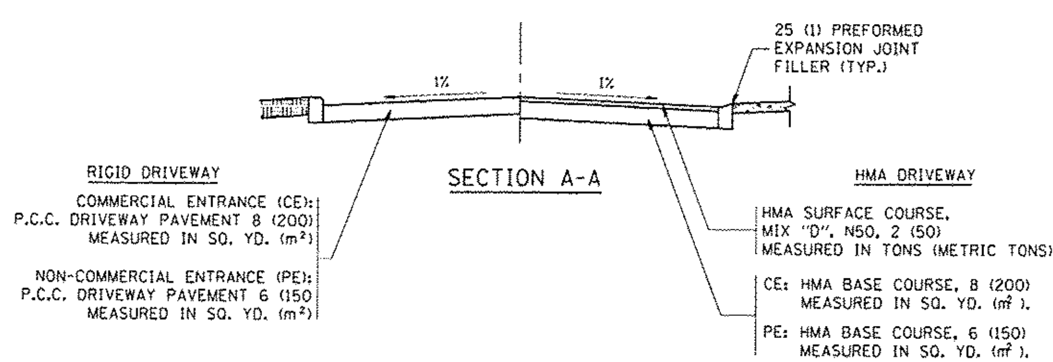
WITH CONCRETE CURB, TYPE B



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).



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.

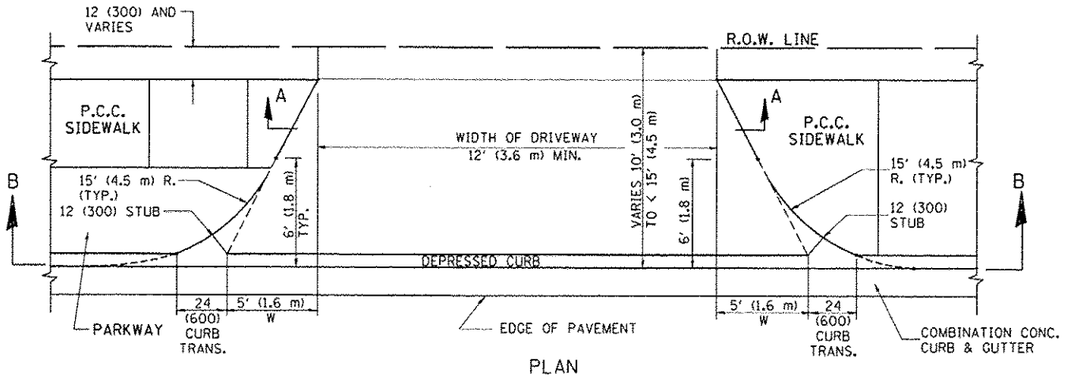
FILE NAME =	USER NAME = logan	DESIGNED - R. SHAH	REVISED - P. LaFLUER 04-15-03
		DRAWN -	REVISED - R. BORO 01-01-07
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - R. BORO 06-11-08
	PLOT DATE = 9/6/2011	DATE - 11-04-95	REVISED - R. BORO 09-06-11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

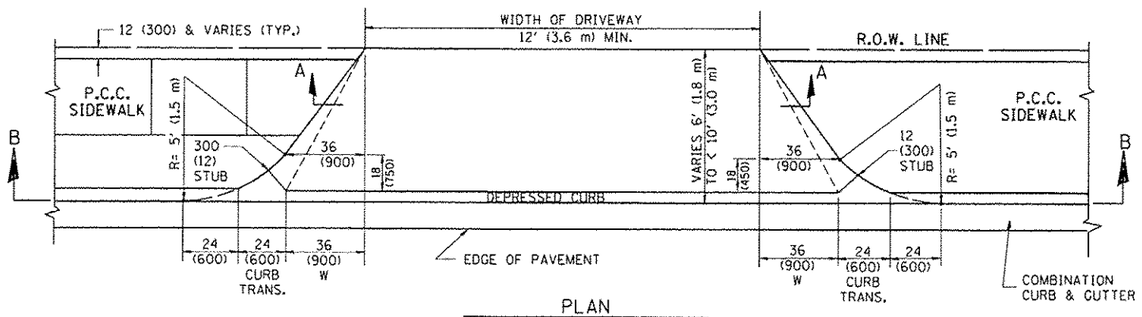
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	390
BD0156-07 (BD-01)		CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



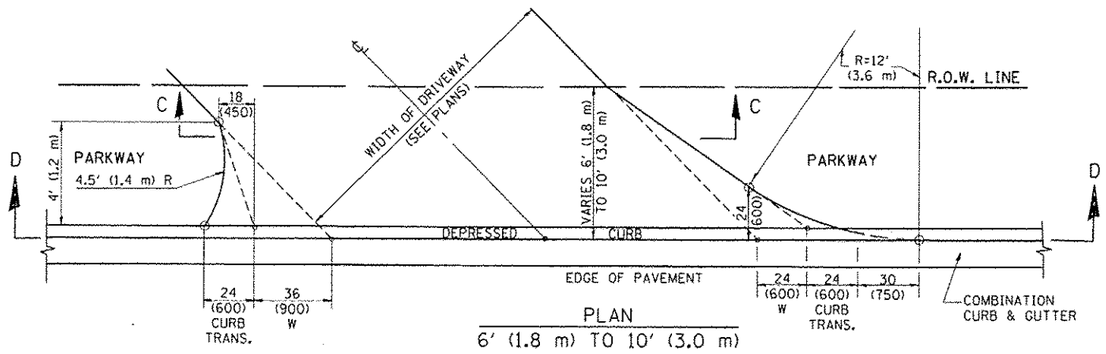
PLAN

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



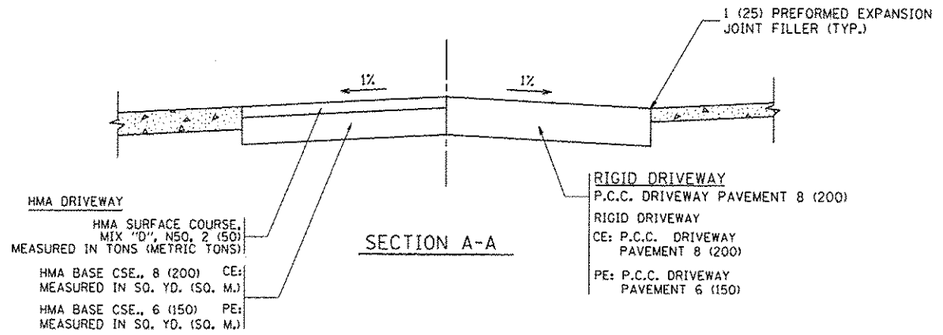
PLAN

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

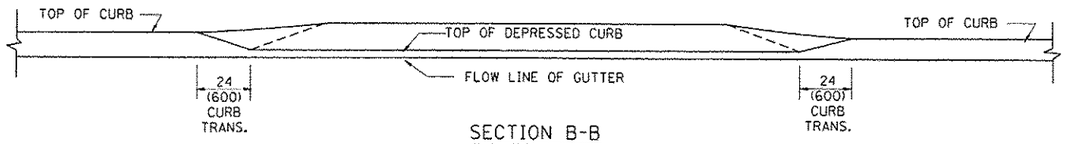


PLAN

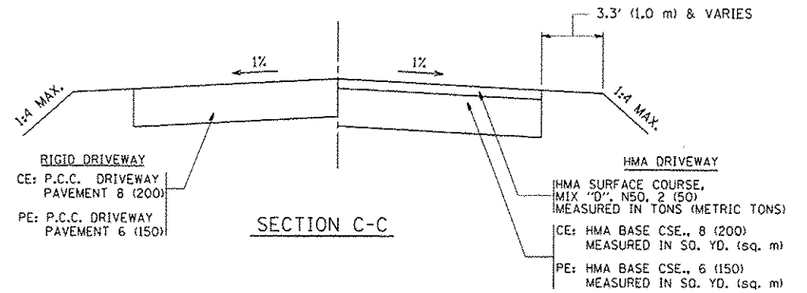
6' (1.8 m) TO 10' (3.0 m)



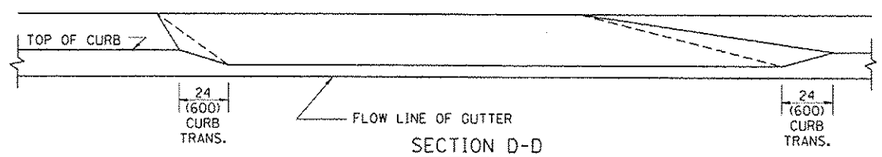
SECTION A-A



SECTION B-B



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.

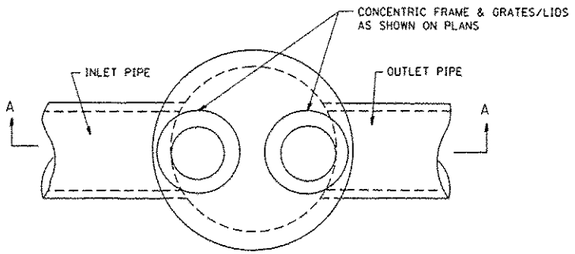
FILE NAME = c:\pw_work\pwidot\lagan\d0186315\bd02.dgn	USER NAME = lagan	DESIGNED - R. SHAH	REVISED - M. GOMEZ 04-06-01
		DRAWN -	REVISED - P. LaFLEUR 04-15-03
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - R. BORO 01-01-07
	PLOT DATE = 10/28/2011	DATE - 11-06-95	REVISED - R. BORO 09-06-11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

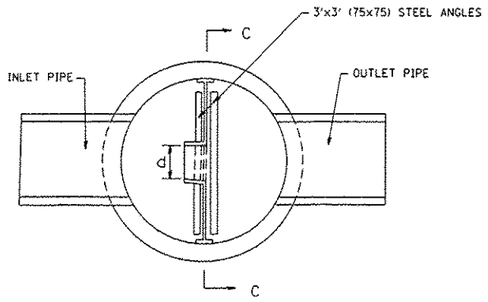
DRIVEWAY DETAILS
DISTANCE BETWEEN ROW AND FACE OF CURB < 15' (4.5 m)

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

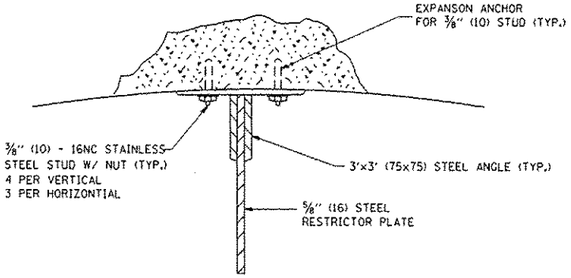
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	391
	BD400-02 (BD-02)	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



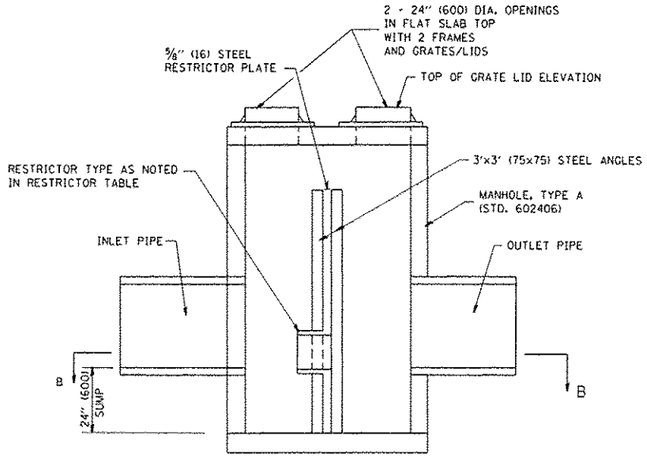
PLAN



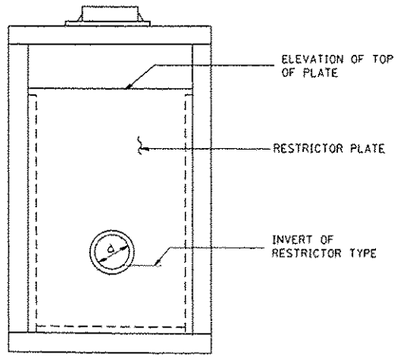
SECTION B-B



ANGLE FASTENER DETAIL



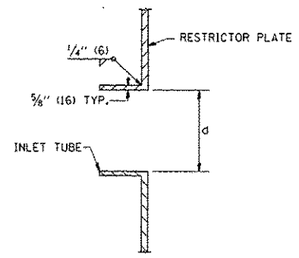
SECTION A-A



SECTION C-C

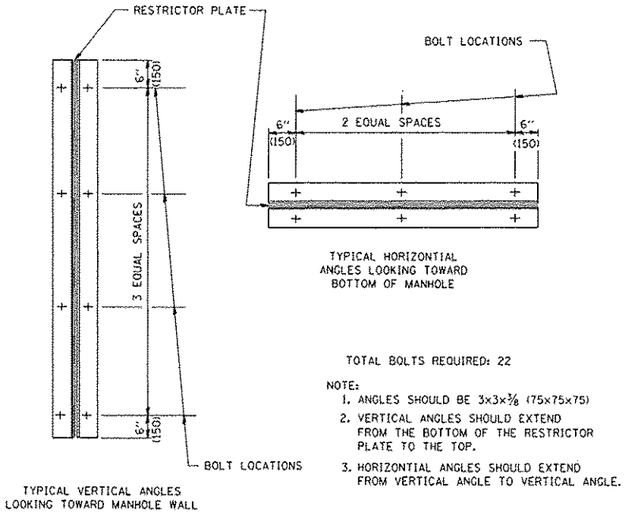
NOTES:

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
16023+16.38	5 FT	T 1 CL	4	14 IN	752.50	756.50



TYPICAL VERTICAL ANGLES LOOKING TOWARD MANHOLE WALL

TYPICAL HORIZONTAL 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.

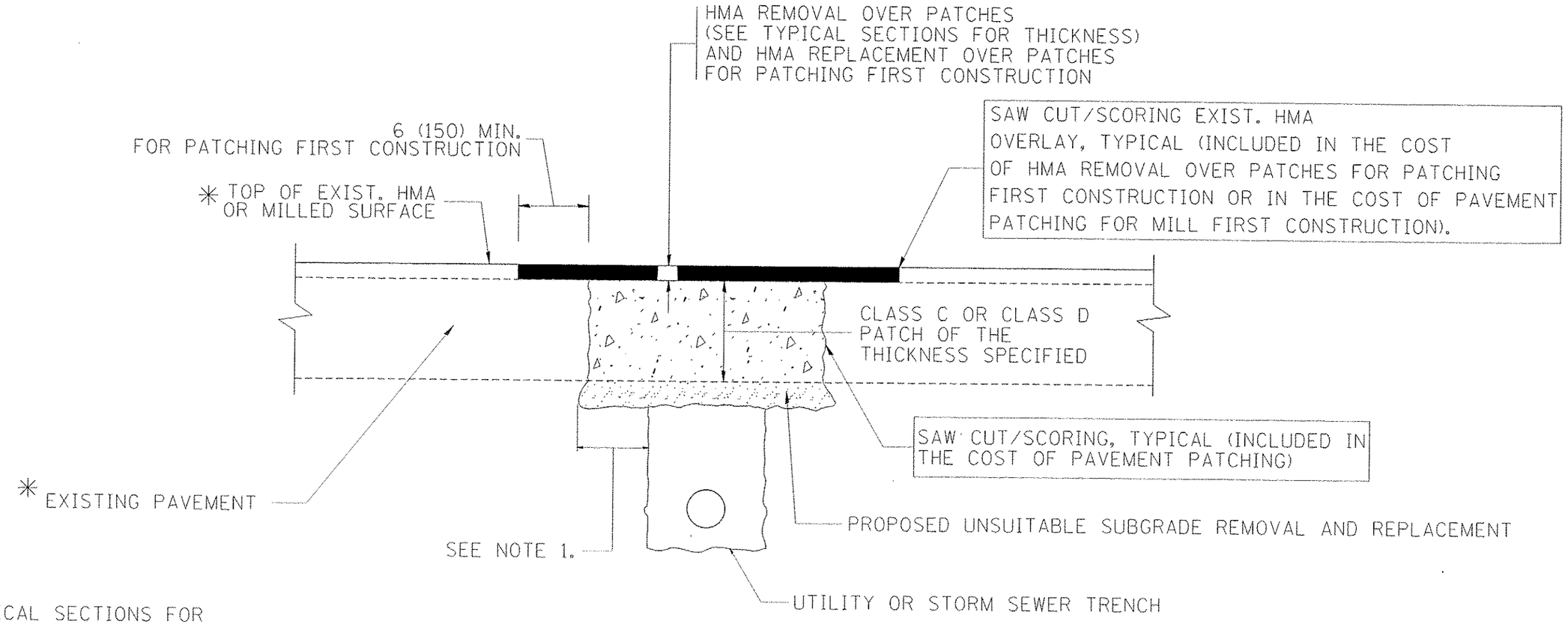
RESTRICTOR TYPE					
1	2	3	4	5	6
RE-ENTRANT TUBE	SHARP EDGED	SQUARE EDGED	RE-ENTRANT TUBE	SQUARE EDGED	ROUNDED
LENGTH: ½ TO 1 DIA.		STREAM CLEARS SIDES	LENGTH: 2-½ DIA.	LENGTH: 2-½ DIA.	
C=.52	C=.61	C=.61	C=.73	C=.82	C=.98

VALUES OF "C" FOR CIRCULAR AND SQUARE ORIFICES

STEEL ANGLE BOLTING DETAILS

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

FILE NAME = W:\distsstd\22x34\bdl2.dgn	USER NAME = gaglenobt	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						679	392
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - M. GOMEZ 01-08-01				BD600-04 (BD-12)		CONTRACT NO.	
	PLOT DATE = 1/4/2000	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		



* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

NOTES:

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

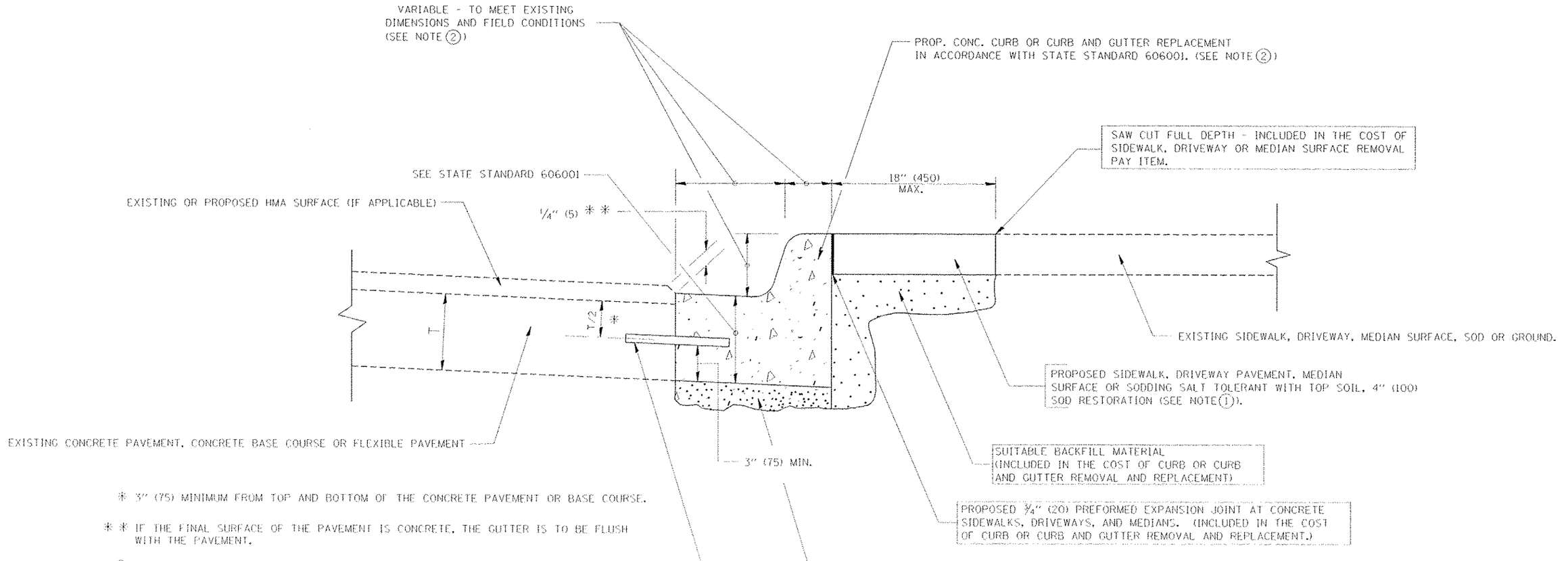
SEQUENCE OF CONSTRUCTION (MILLING FIRST)

1. MILL HMA FIRST IF THERE IS AT LEAST 4½ INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

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

FILE NAME:	USER NAME:	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT
		DRAWN	REVISED - R. BORO 01-01-07		
	PLOT SCALE:	CHECKED	REVISED R. BORO 09-04-07		
	PLOT DATE:	DATE 10-25-94	REVISED K. ENG 10-27-08		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	393
	BD400-04 (BD-22)		CONTRACT NO.	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



* 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

* * IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

NOTE: (1) SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY.

(2) FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

(3) CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

(4) FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

(5) LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

(6) THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

(7) THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

(8) THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

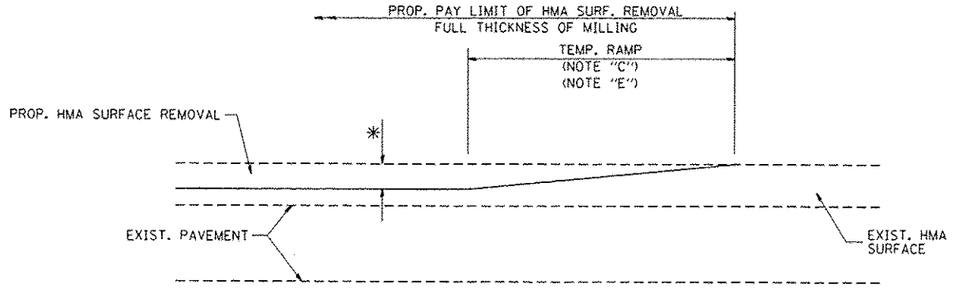
BASIS OF PAYMENT:

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

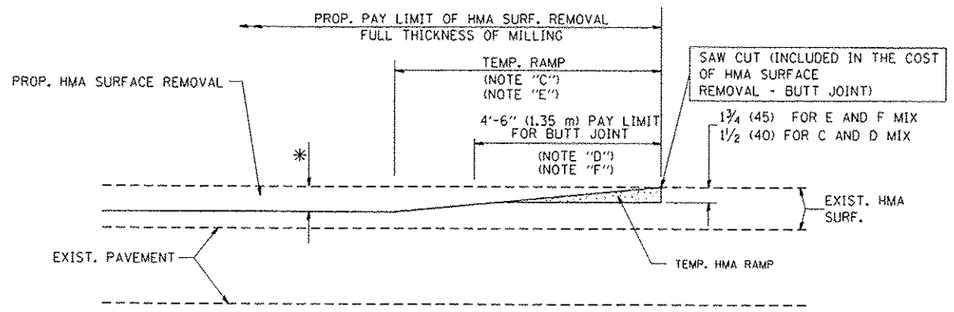
PLOT NAME -	USER NAME -	DESIGNED - A. HOUSEH	REVISED - B. SHAH 10-03-96	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE -	DRAWN -	REVISED - A. ABBAS 03-21-97						679	394
	PLOT DATE -	CHECKED -	REVISED - M. GOMEZ 01-22-01				BD600-06 (BD-24)	CONTRACT NO.		
		DATE - 03 11 94	REVISED - B. BOBO 12-15-09		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

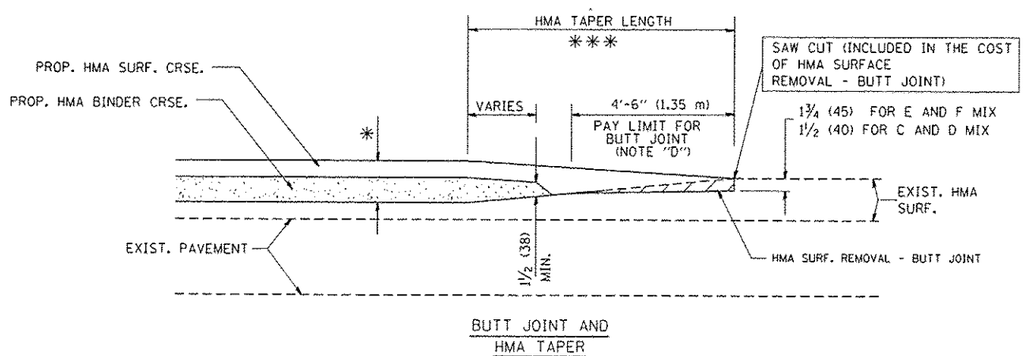


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

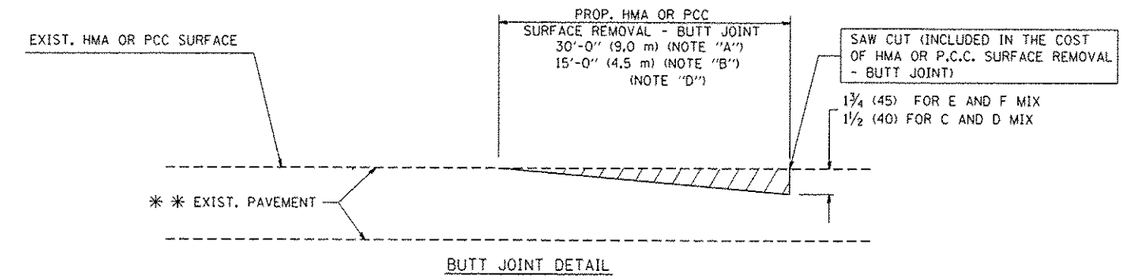
OPTION 2

TYPICAL TEMPORARY RAMP

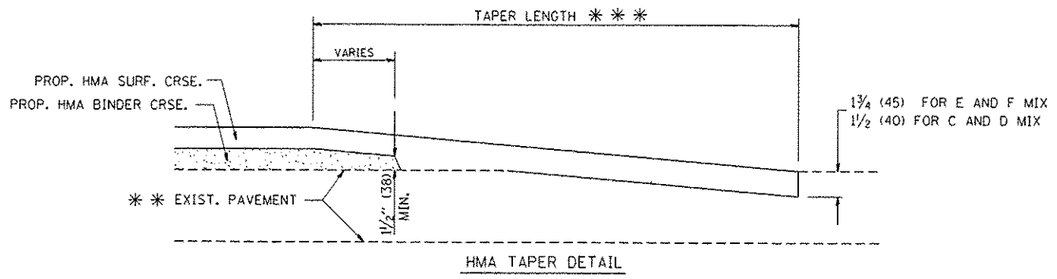


BUTT JOINT AND HMA TAPER

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.

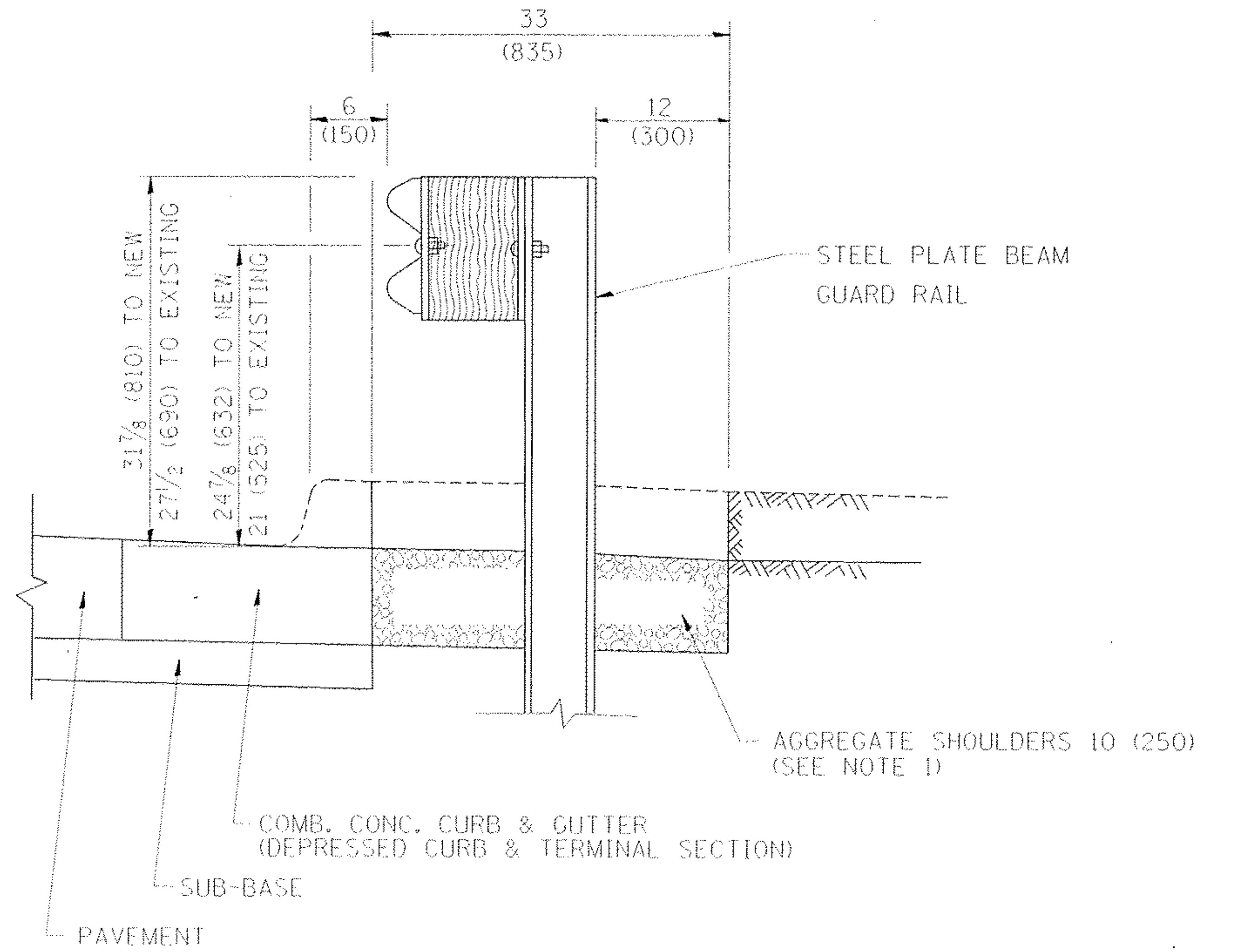
FILE NAME = W:\dist\std\22x34\bd32.dgn	USER NAME = geglienabt	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
		DRAWN -	REVISED - A. ABBAS 03-21-97
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 1/4/2008	DATE - 06-13-90	REVISED - R. BORO 01-01-07

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.
			679	395
	BD400-05 BD32	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



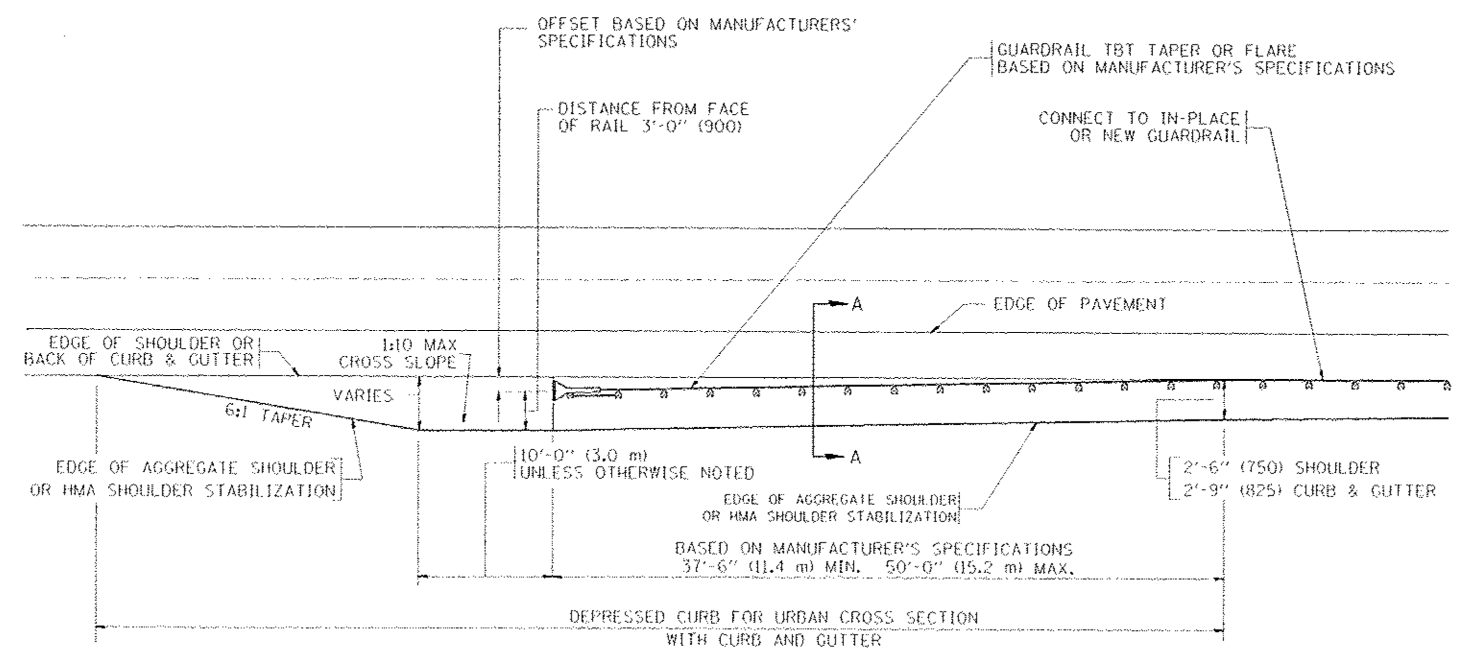
SECTION A-A

NOTES:

1. THE AGGREGATE SHOULDER, 10" OR HMA SHOULDER, 6" (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER

[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



DEPRESSED CURB AND GUTTER AND SHOULDER TREATMENT AT TBT TY. 1 SPL.

BASIS OF PAYMENT: HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDERS 6" (150 mm)".

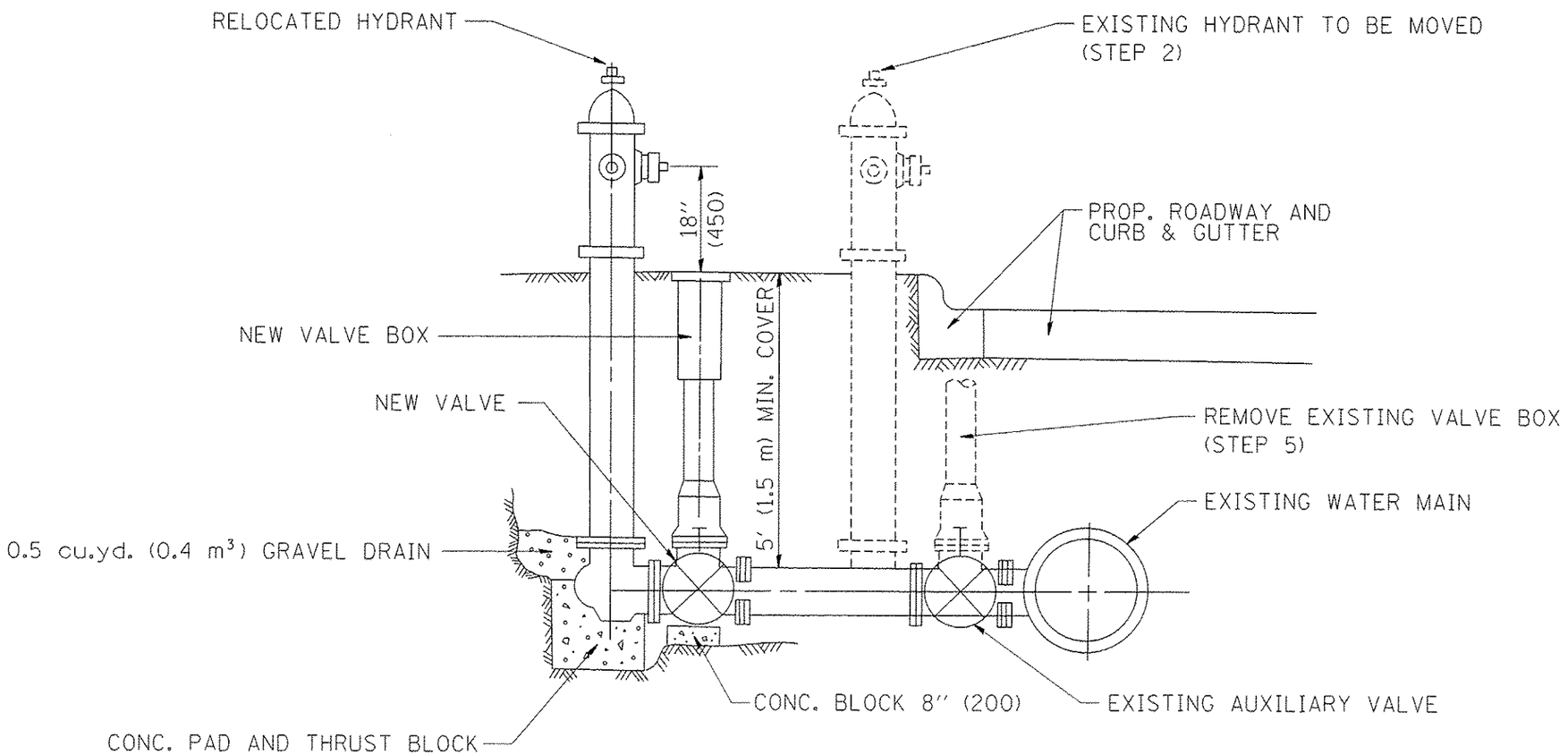
STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL

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

DESIGNED - M. DE YONG	REVISED - E. GOMEZ 08-28-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS FOR DEPRESSED CURB & GUTTER AND SHOULDER TREATMENT AT TBT TY 1 SPL.
DRAWN	REVISED - R. BORO 01-01-07		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.
CHECKED	REVISED - R. BORO 12-08-2008		
DATE 09-22-00	REVISED - R. BORO 03-14-2009		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	396
	BD600-10 (BD 34)	CONTRACT NO.		



SEQUENCE OF CONSTRUCTION:

1. CLOSE EXISTING VALVE.
2. REMOVE EXISTING HYDRANT.
3. INSTALL HYDRANT EXTENSION AND NEW VALVE.
4. RELOCATE EXISTING HYDRANT.
5. OPEN EXISTING VALVE, REMOVE BOX.
6. BACKFILL.
7. FLUSH AND TEST FOR CHLORIDE RESIDUAL AND PROVIDE TEST.

ALL WORK TO BE DONE IN ACCORDANCE WITH ARTICLE 564 OF THE STANDARD SPECIFICATIONS. NEW VALVE AND BOX SHALL BE SAME MAKE AND MODEL AS EXISTING.

FIRE HYDRANT TO BE MOVED

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

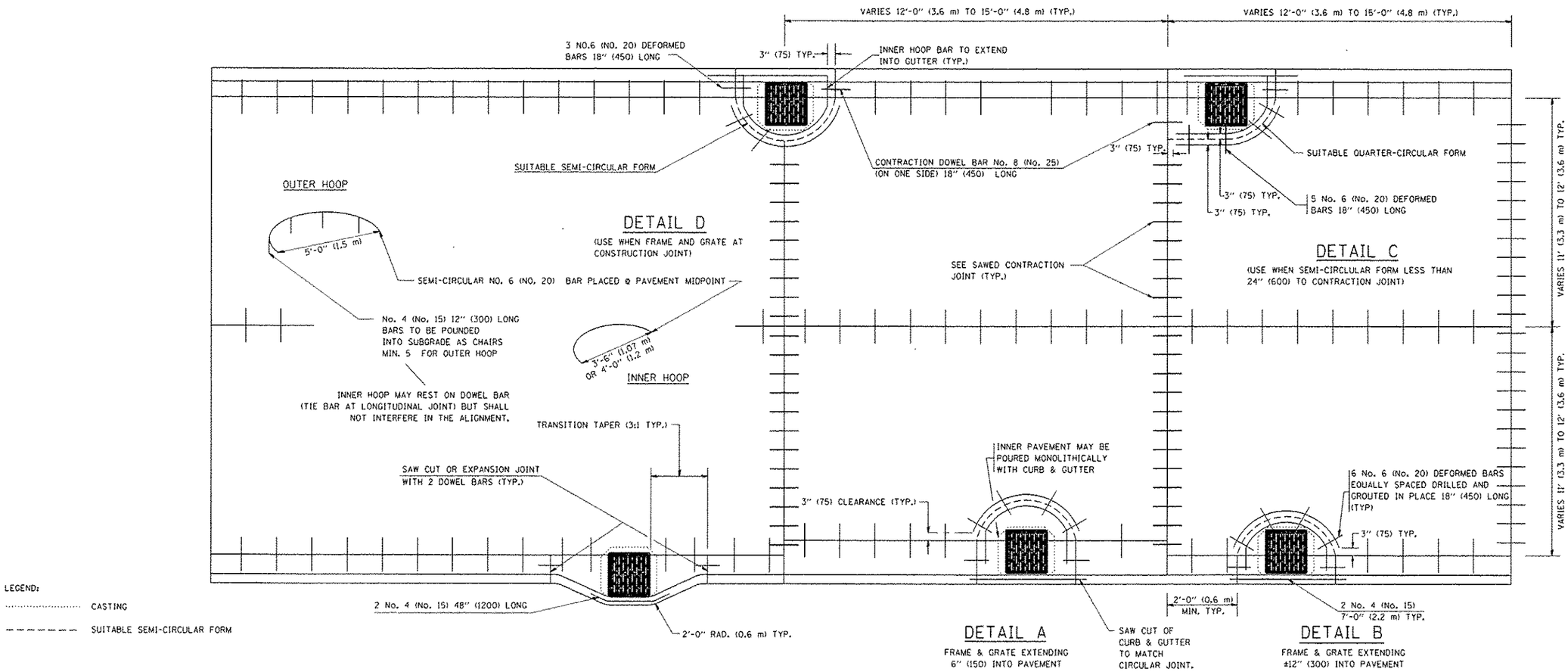
FILE NAME = W:\diststd\22x34\bd36.dgn	USER NAME = gaglionobt	DESIGNED -	REVISED - R. SHAH 09-09-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FIRE HYDRANT TO BE MOVED		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. SHAH 10-25-94							679	397
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.		BD-36	CONTRACT NO.		
	PLOT DATE = 1/4/2008	DATE -	REVISED -				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.



TRANSITION CURB & AND GUTTER INTO PARKWAY
(PREFERRED BECAUSE PAVING OF MAINLINE NOT AFFECTED.)

ALL DIMENSIONS ARE IN INCHES
(MILLIMETERS) UNLESS OTHERWISE NOTED

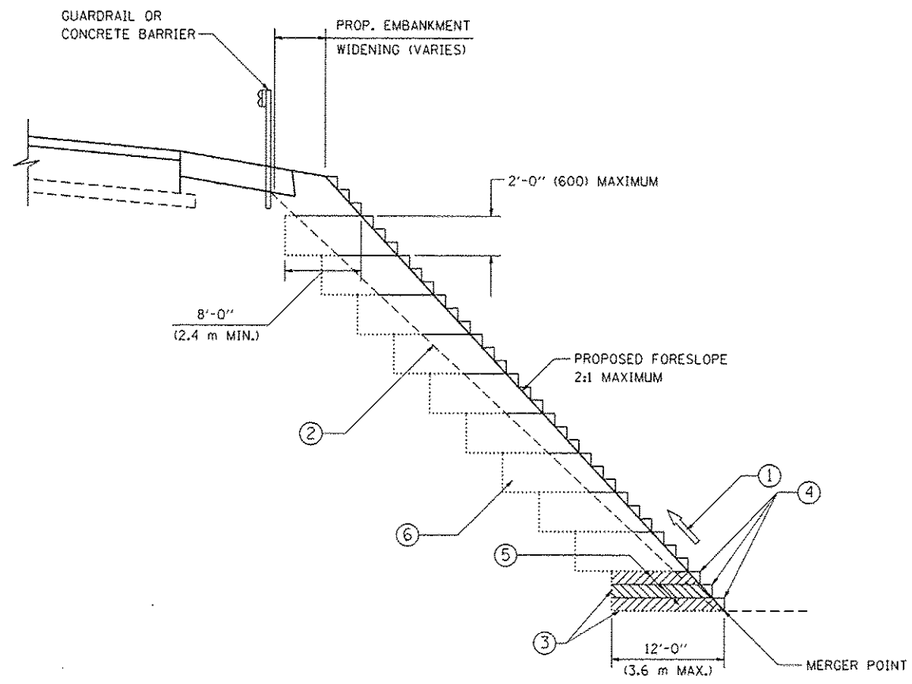
FILE NAME = W:\diststd\22x34\bd48.dgn	USER NAME = gaglionobt	DESIGNED - A. ABBAS	REVISED - T. MATOUSEK 08-28-00
		DRAWN - TOM MATOUSEK	REVISED - T. MATOUSEK 10-02-00
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - A. ABBAS	REVISED - T. MATOUSEK 04-25-02
	PLOT DATE = 1/4/2008	DATE - 01-04-99	REVISED - P. LAFLEUR 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.
			679	398
	BD-48	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

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

FILE NAME = W:\dist6td\22x34\bd51.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED -
		DRAWN - CADD	REVISED -
	PLOT SCALE = 50.0000 '/ IN.	CHECKED - S.E.B.	REVISED -
	PLOT DATE = 1/4/2008	DATE - 06-16-04	REVISED -

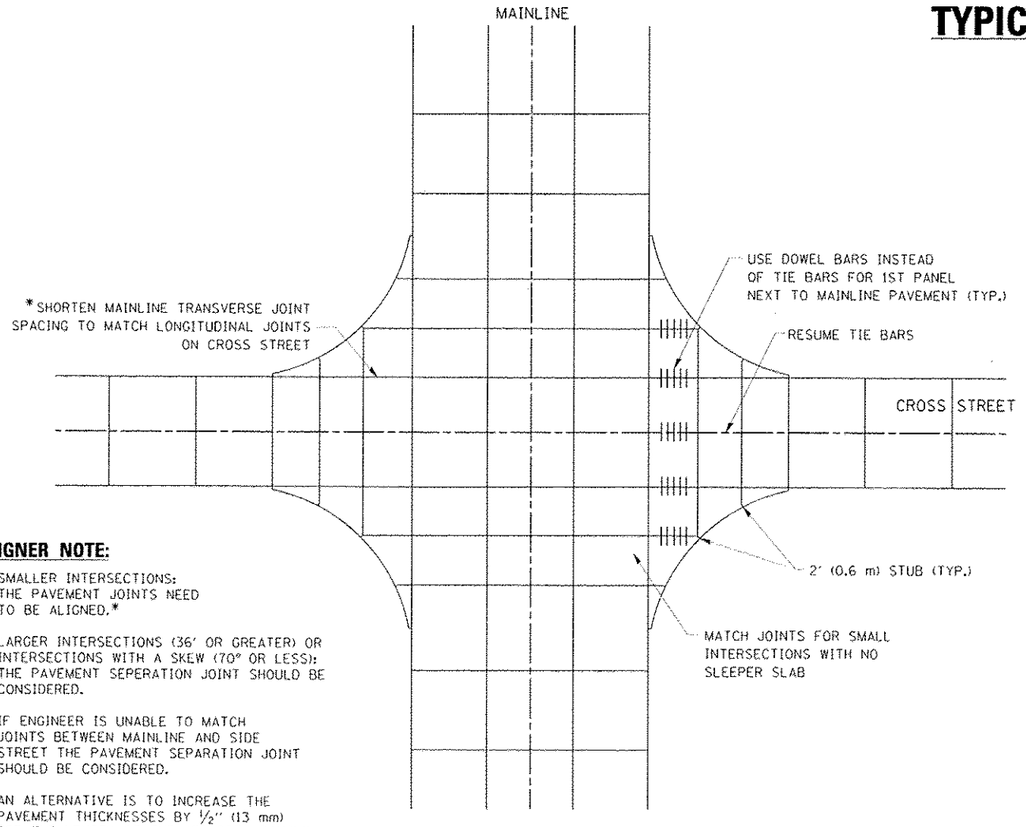
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT WIDENING

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	399
	BD-51	CONTRACT NO.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TYPICAL APPLICATION



PLAN

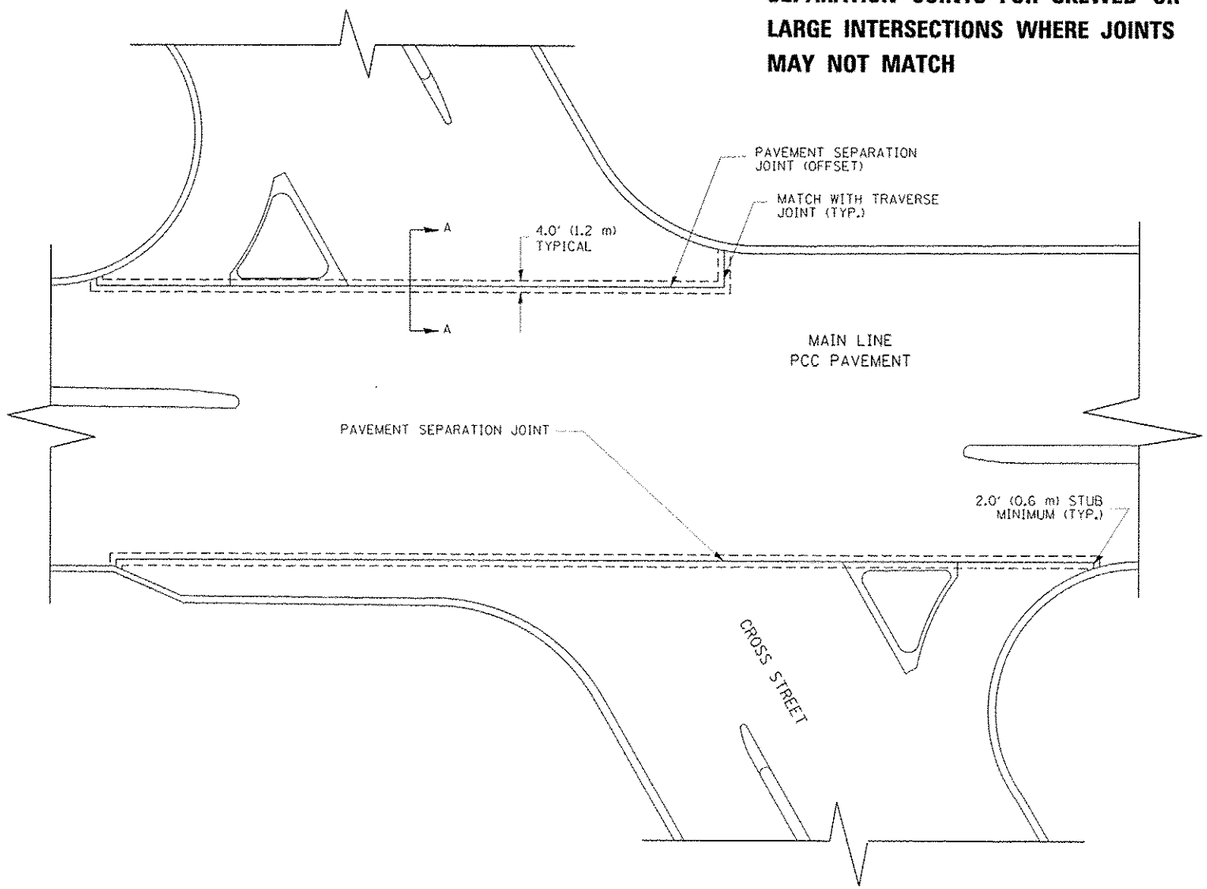
DESIGNER NOTE:

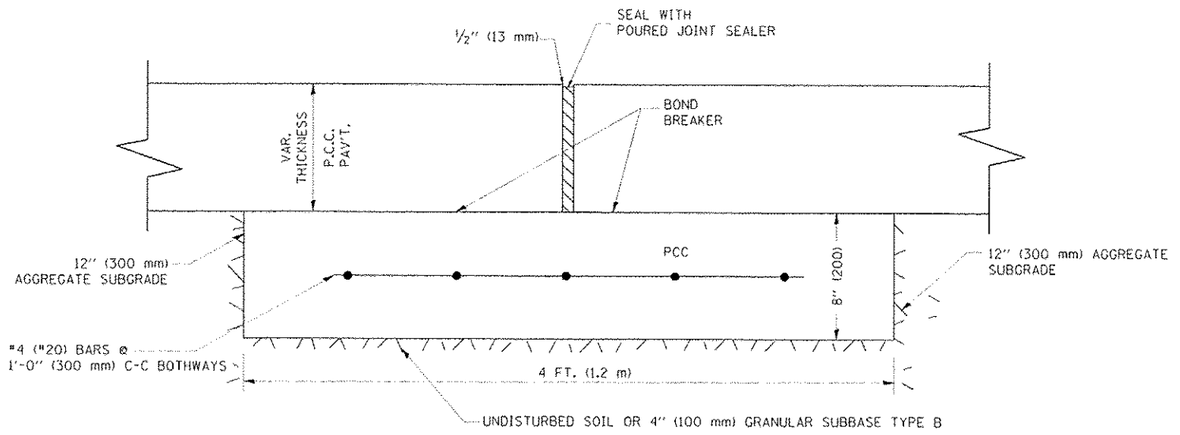
1. SMALLER INTERSECTIONS: THE PAVEMENT JOINTS NEED TO BE ALIGNED.*
2. LARGER INTERSECTIONS (36' OR GREATER) OR INTERSECTIONS WITH A SKEW (70° OR LESS): THE PAVEMENT SEPERATION JOINT SHOULD BE CONSIDERED.
3. IF ENGINEER IS UNABLE TO MATCH JOINTS BETWEEN MAINLINE AND SIDE STREET THE PAVEMENT SEPARATION JOINT SHOULD BE CONSIDERED.
4. AN ALTERNATIVE IS TO INCREASE THE PAVEMENT THICKNESSES BY ½" (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.

NOTE:

1. JOINT FILLER SHALL CONSIST OF A SHEET OF ½" (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 ½" (13 mm) JOINT AND FILLER SHALL BE INCIDENTAL TO THE PAY ITEM "SLEEPER SLAB".

THE USE OF CROSS STREET PAVEMENT SEPARATION JOINTS FOR SKEWED OR LARGE INTERSECTIONS WHERE JOINTS MAY NOT MATCH





PROPOSED SECTION A-A

		DESIGNED	REVISED CADD 06-18-10	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DETAIL OF PAVEMENT SEPARATION JOINT FOR JOINTED PCC PAVEMENTS AT INTERSECTIONS**
		DRAWN	REVISED		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.
		CHECKED	REVISED		
		DATE	REVISED		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			679	400
	BD52	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			