

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	09-00029-00-LT	WILL	13	1
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

FAP ROUTE 0353 (U.S. ROUTE 30 /LINCOLN HIGHWAY)

AT FAU ROUTE 2688 (WOLF ROAD)

STREET LIGHTING

SECTION: 09-00029-00-LT
JOB NO. C-91-729-09
PROJECT NO. ARA-9003(370)

VILLAGE OF MOKENA
WILL COUNTY, ILLINOIS

CONTRACT NO. 63250



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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED July 6 2009
Paul J. Durson Jr.
 VILLAGE OF MOKENA

PASSED July 16 2009
C. Helt
 DISTRICT ONE ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
 BASED ON LIMITED
 REVIEW July 16 2009
Diana M. O'Keefe
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEET

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1	TITLE SHEET
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8 - 13	LIGHTING DETAILS

GANDHI AND ASSOCIATES, INC.
 ENGINEERS AND PLANNERS
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 SUITE 306
 CHICAGO, ILLINOIS 60631 TEL: (773) 774-5910



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FIELD ENGINEER - MEL MANGOBA, P.E. - (847) 705-4408

DESIGN DESIGNATION


US ROUTE 30: OTHER PRINCIPAL ARTERIAL

TRAFFIC DATA

US ROUTE 30 2006 ADT= 19,800
POSTED SPEED LIMIT: 40 MPH

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

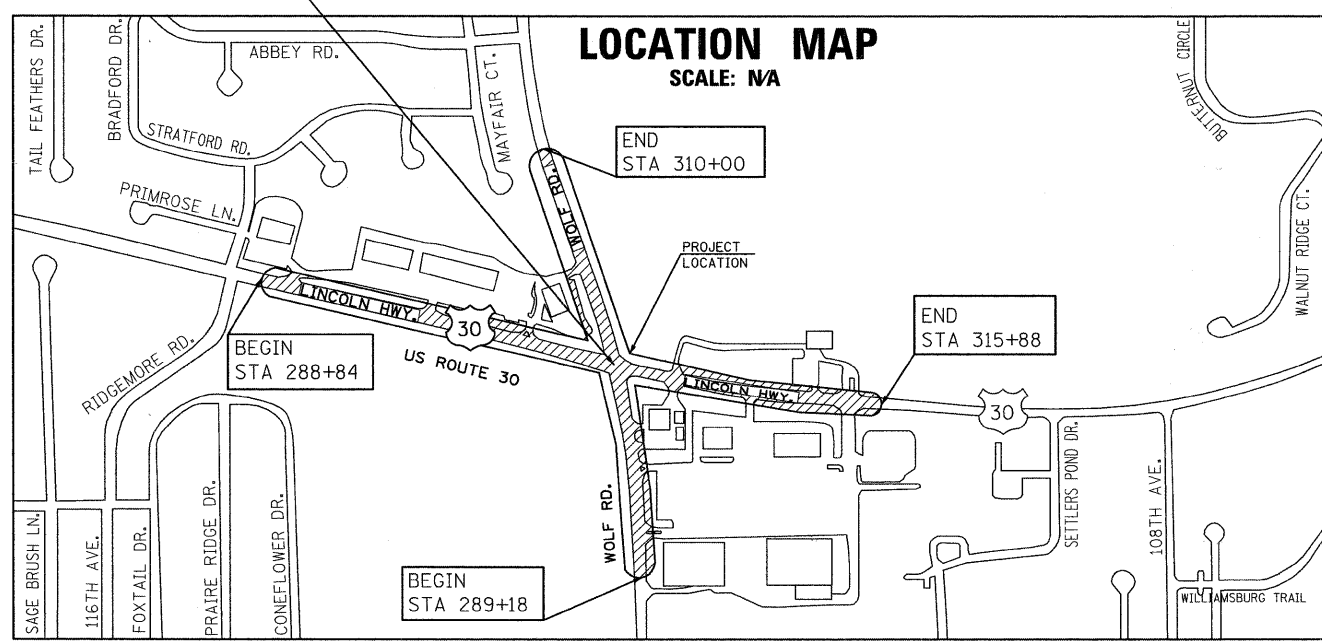
J.U.L.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION CALL 811




Glenn Tredinnick
 GLENN TREDINNICK, P.E.
 NO. 062-048304
 EXPIRES: 11/30/09
 SEC GROUP, INC.
 SHEET NO. 1

CONTRACT NO. 63250

☩ INTERSECTION
 STA 306+78 U.S. ROUTE 30
 STA 300+00 WOLF RD






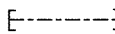
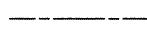



NET LENGTH OF IMPROVEMENT US ROUTE 30 = 2,704 FT.
NET LENGTH OF IMPROVEMENT WOLF ROAD = 2,082 FT.
GROSS LENGTH OF IMPROVEMENT US ROUTE 30 = 2,704 FT.
GROSS LENGTH OF IMPROVEMENT WOLF ROAD = 2,082 FT.

FRANKFORT TOWNSHIP, SECTIONS 20 & 21, T.35N - R.12E., 3RD P.M.

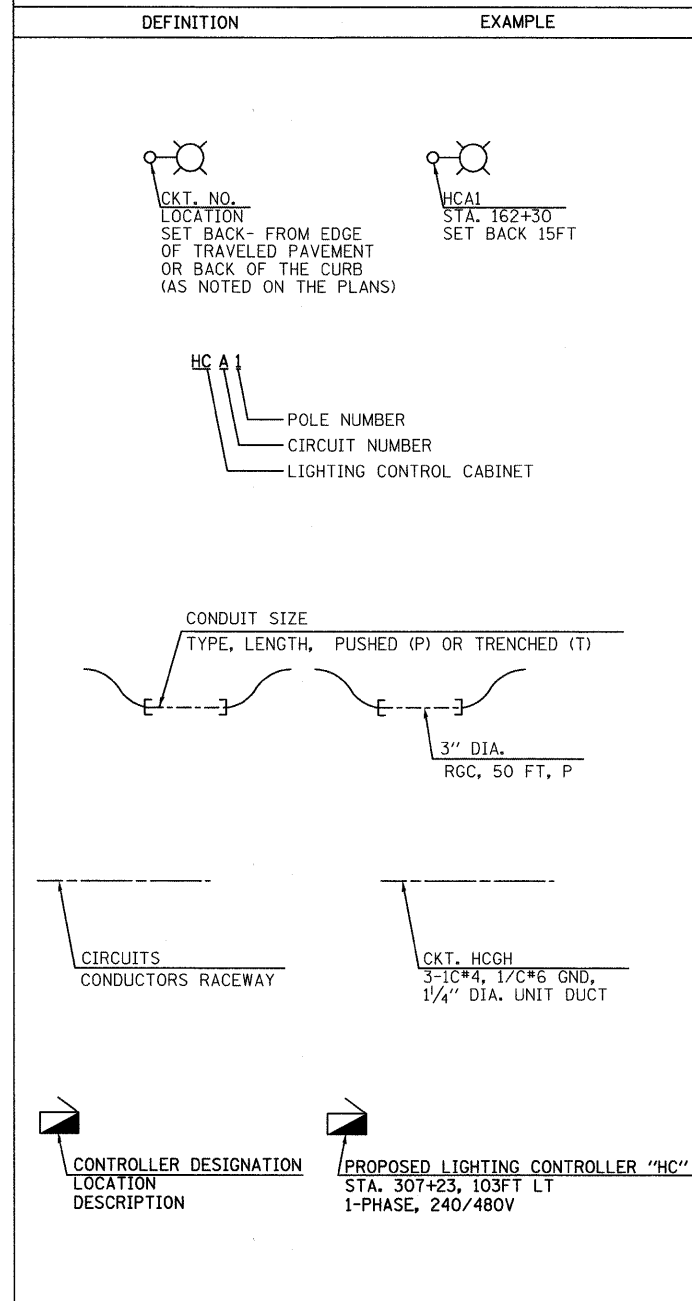


Michael G. Kelly
 MICHAEL G. KELLY, P.E.
 NO. 082-032483
 EXPIRES: 11/30/09
 GANDHI AND ASSOCIATES, INC.
 SHEETS 2-13

LEGEND (IDOT)

-  PROPOSED LIGHTING UNIT
47.5' M.H., 15' M.A., 400W, 240V HPS LUMINAIRE
TRANSFORMER BASE BREAKAWAY
-  PROPOSED LIGHTING UNIT
47.5' M.H., 15' M.A., 250W, 240V HPS LUMINAIRE
TRANSFORMER BASE BREAKAWAY
-  COMBINATION LIGHTING UNIT
45' M.H., 15' M.A., 400W, 240V HPS LUMINAIRE
-  RIGID GALVANIZED STEEL CONDUIT (RGC)
PUSHED (P), OR TRENCHED (T)
SIZE AS INDICATED
-  UNIT DUCT, AS SPECIFIED IN PLANS
-  PROPOSED LIGHTING CONTROLLER CABINET "HC",
SINGLE DOOR, CONSOLE TYPE, IDOT MAINTAINED
100A, 240/480V, 1Ø
-  PROPOSED ELECTRIC SERVICE TRANSFORMER
BY COMED ON EXISTING OR PROPOSED
UTILITY WOOD POLE
-  ELECTRIC GROUND ROD

CALL-OUT SAMPLES



ABBREVIATIONS

SYMBOL	DESCRIPTION
AC	ALTERNATING CURRENT
A/C	AERIAL CABLE
AFG	ABOVE FINISHED GRADE
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CM	CENTIMETER
CNC	COILABLE NONMETALLIC CONDUIT
CT	CURRENT TRANSFORMER
CP	CONTROL PANEL
DA	DAVIT ARM
DC	DIRECT CURRENT
DIA	DIAMETER
DP	DISTRIBUTION PANEL
E	EXISTING UNIT TO REMAIN
ECA	ELECTRIC CABLE ASSEMBLY
EM	EXISTING UNIT TO BE MODIFIED (e.g. NEW LUMINAIRE, BALLAST OR MAST ARM)
ER	EXISTING RELOCATED UNIT
ET	EXISTING TEMPORARY UNIT TO REMAIN
ETR	EXISTING TEMPORARY RELOCATED UNIT
FT	FEET OR FOOT
FND BW	FOUNDATION BARRIER WALL
FND BW OS	FOUNDATION BARRIER WALL OFFSET
FND CON	FOUNDATION CONCRETE
FND CON OS	FOUNDATION CONCRETE OFFSET
FND MET	FOUNDATION METAL
FND PW	FOUNDATION PARAPET WALL
FU	FUSE
GND	GROUND
HD	HIGH INTENSITY DISCHARGE
JB	JUNCTION BOX
KVA	KILOVOLT-AMPERE
KW	KILOWATTS
M	METER
MA	MAST ARM
MM	MILLIMETER
MH	MOUNTING HEIGHT
NO. *	NUMBER
P	PROPOSED
PB	PUSH BUTTON
PNL	PANEL
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
RGS	RIGID GALVANIZED STEEL
SEL SW	SELECTOR SWITCH
SPARE	SPARE
SPACE	SPACE
SS	STAINLESS STEEL
STA	STATION
T	TEMPORARY LIGHTING UNIT
TB	TRANSFORMER BASE
TMP	TEMPORARY
TR	TEMPORARY UNIT TO BE REMOVED, SALVAGE EQUIPMENT AS SPECIFIED
TRR	TEMPORARY UNIT TO BE REMOVED AND RELOCATED
TUR	TEMPORARY UNIT ON UTILITY POLE TO BE REMOVED
UD	UNIT DUCT
U.N.O.	UNLESS NOTED OTHERWISE
WP	WOOD POLE
XFMR	TRANSFORMER

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL OF THE INFORMATION SHOWN ON THE CONTRACT DRAWINGS, WHICH WOULD AFFECT THE WORK UNDER THIS CONTRACT.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS PROJECT, SPECIFICALLY AS THEY RELATE TO LUMP SUM ITEMS AND UNIT PRICE ITEMS.
3. ALL NEW CONDUITS, UNIT DUCTS, DIRECT BURIAL CABLES, AND APPURTENANCES ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. THE ACTUAL LOCATIONS IN THE FIELD SHALL MEET WITH APPROVAL OF THE ENGINEER.
4. THE ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ASSOCIATED SUPPLEMENTAL CONDITIONS (LATEST EDITION).
5. THE SCALE SHOWN ON PLAN DRAWINGS APPLIES ONLY TO THE FULL SIZE PLANS AND NOT TO REDUCED SIZE PLANS.
6. THE CONTRACTOR SHALL FURNISH AND INSTALL LUMINAIRE LAMPS IN ACCORDANCE WITH THE SUPPLIER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE SPECIFICATIONS. THE COST OF THIS WORK AND MATERIAL SHALL BE INCLUDED IN THE APPLICABLE LUMINAIRE PAY ITEM. SEPARATE PAYMENT WILL NOT BE MADE.
7. ALL LUMINAIRES SHALL BE ORIENTED WITH THE OPTICS PERPENDICULAR TO THE ROADWAY UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE APPLICABLE LUMINAIRE PAY ITEMS. SEPARATE PAYMENT WILL NOT BE MADE.
8. CONDUITS AND UNIT DUCTS SHALL BE INSTALLED AT A MINIMUM 30" DEPTH BELOW GRADE AND POSITIONED IN THE FIELD TO AVOID CONFLICT WITH ROADWAY UNDERDRAINS AND OTHER EXISTING AND PROPOSED UTILITIES. THE CONTRACTOR SHALL INCREASE DEPTH OF UNIT DUCT AND CONDUIT AS REQUIRED AT NO ADDITIONAL COST TO THE STATE. THE CONTRACTOR SHALL COORDINATE RACEWAY DEPTH WITH THE ELECTRICAL DETAILS AND THE ENGINEER.
9. WHERE MULTIPLE CONDUITS ADJACENT TO EACH OTHER ARE INSTALLED IN A COMMON TRENCH, TRENCH AND BACKFILL WILL NOT BE PAID FOR EACH CONDUIT, BUT WILL BE PAID FOR THE LENGTH OF THE COMMON TRENCH ONLY.
10. WHERE THE CONTRACTOR'S EXCAVATION MEETS AN OBSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR DIRECTION IN WRITING PRIOR TO EXCAVATION. THE CONTRACTOR SHALL RESTORE ANY DAMAGE TO EXISTING SYSTEMS OR UTILITIES AND REMOVE EXISTING OBSTRUCTIONS AND FOUNDATIONS TO THE SATISFACTION OF THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE PAY ITEM.
11. BREAKAWAY DEVICE, TRANSFORMER BASE, 9", SHALL BE INSTALLED ON ALL GROUND MOUNTED POLES WITH 15" BOLT CIRCLE ON 24" DIA. FOUNDATION AS SHOWN IN THE PLANS.

STANDARD DRAWINGS

- 701106-02 OFF-RD OPERATIONS, MULTILANE, MORE THAN 4.5 M (15') AWAY
- 701301-03 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701421-02 LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55 MPH
- 701606-06 URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
- 701701-06 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701801-04 LANE CLOSURE, MULTILANE, 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
- 701901-01 TRAFFIC CONTROL DEVICES

FILE NAME =	USER NAME = _M ELSHOLI_	DESIGNED - MAE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LIGHTING LEGEND & GENERAL NOTES	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
...	...	DRAWN - MAA	REVISED -			353	09-00029-00-LT	WILL	13	2	
PLOT SCALE = NONE		CHECKED - MGK/PKG	REVISED -			CONTRACT NO. 63250					
PLOT DATE = 6/29/2009		DATE - JULY 1, 2009	REVISED -			FED. ROAD DIST. NO. ILLINOIS/FAP 353/US 30 (LINCOLN HIGHWAY)					

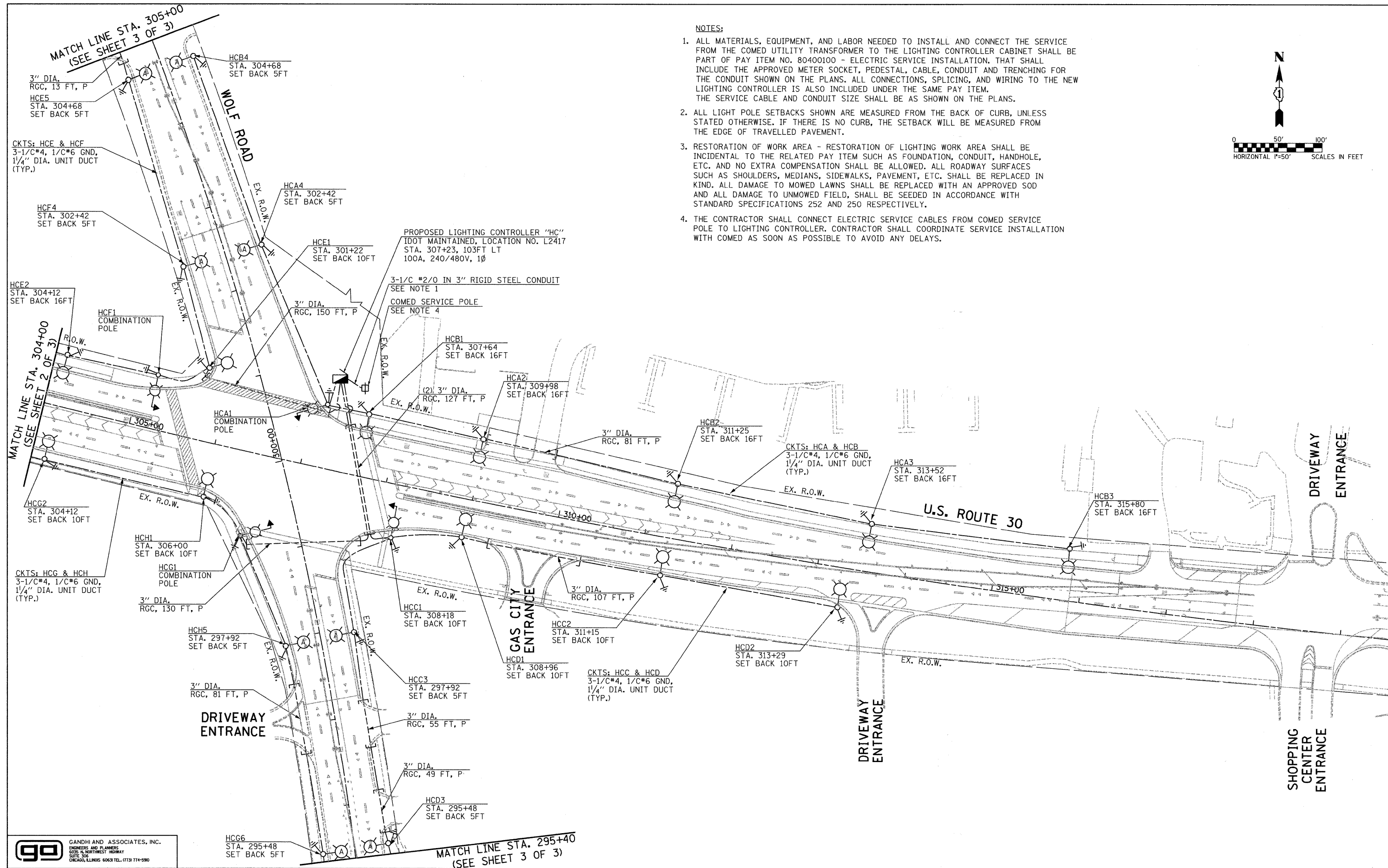
SUMMARY OF QUANTITIES			
PAY ITEM NO.	DESIGNATION	UNIT	TOTAL QUANTITY
			Y030-1E
67100100	MOBILIZATION	L SUM	1
* 70101700	TRAFFIC CONTROL AND PROTECTION	L SUM	1
80400100	ELECTRIC SERVICE INSTALLATION	EACH	1
81018700	CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	1496
81603210	UNIT DUCT, 600V, 3-1C NO.4, 1/C NO.6 GROUND, (EPR-TYPE RHW), 1/4" DIA. POLYETHYLENE	FOOT	8566
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	6675
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	17
82102400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	26
83050810	LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 15 FT. MAST ARM	EACH	39
83600200	LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	390
83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	39
* X0323792	LIGHTING CONTROLLER, SINGLE DOOR, CONSOLE TYPE	EACH	1
* X0324387	LUMINAIRE SAFETY CABLE ASSEMBLY	EACH	43
* 80400200	ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1
* XX006937	GROUND ROD, 5/8" DIA. X 10 FT.	EACH	39

* DESIGNATES SPECIAL PROVISIONS

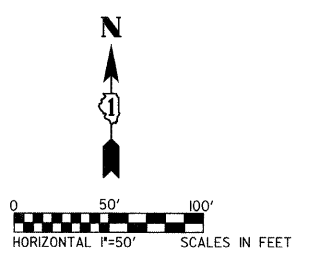


GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5900

FILE NAME =	USER NAME = _M ELSHOLI.	DESIGNED - MAE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULE OF ELECTRICAL QUANTITIES				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
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PLOT SCALE = NONE		CHECKED - MGK/PKG	REVISED -		CONTRACT NO. <i>63250</i>										
PLOT DATE = 6/29/2009		DATE - JULY 1, 2009	REVISED -		FED. ROAD DIST. NO. ILLINOIS/FAP 353/US 30 (LINCOLN HIGHWAY)										



- NOTES:**
- ALL MATERIALS, EQUIPMENT, AND LABOR NEEDED TO INSTALL AND CONNECT THE SERVICE FROM THE COMED UTILITY TRANSFORMER TO THE LIGHTING CONTROLLER CABINET SHALL BE PART OF PAY ITEM NO. 80400100 - ELECTRIC SERVICE INSTALLATION. THAT SHALL INCLUDE THE APPROVED METER SOCKET, PEDESTAL, CABLE, CONDUIT AND TRENCHING FOR THE CONDUIT SHOWN ON THE PLANS. ALL CONNECTIONS, SPLICING, AND WIRING TO THE NEW LIGHTING CONTROLLER IS ALSO INCLUDED UNDER THE SAME PAY ITEM. THE SERVICE CABLE AND CONDUIT SIZE SHALL BE AS SHOWN ON THE PLANS.
 - ALL LIGHT POLE SETBACKS SHOWN ARE MEASURED FROM THE BACK OF CURB, UNLESS STATED OTHERWISE. IF THERE IS NO CURB, THE SETBACK WILL BE MEASURED FROM THE EDGE OF TRAVELLED PAVEMENT.
 - RESTORATION OF WORK AREA - RESTORATION OF LIGHTING WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, ETC. AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELD, SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.
 - THE CONTRACTOR SHALL CONNECT ELECTRIC SERVICE CABLES FROM COMED SERVICE POLE TO LIGHTING CONTROLLER. CONTRACTOR SHALL COORDINATE SERVICE INSTALLATION WITH COMED AS SOON AS POSSIBLE TO AVOID ANY DELAYS.



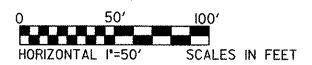
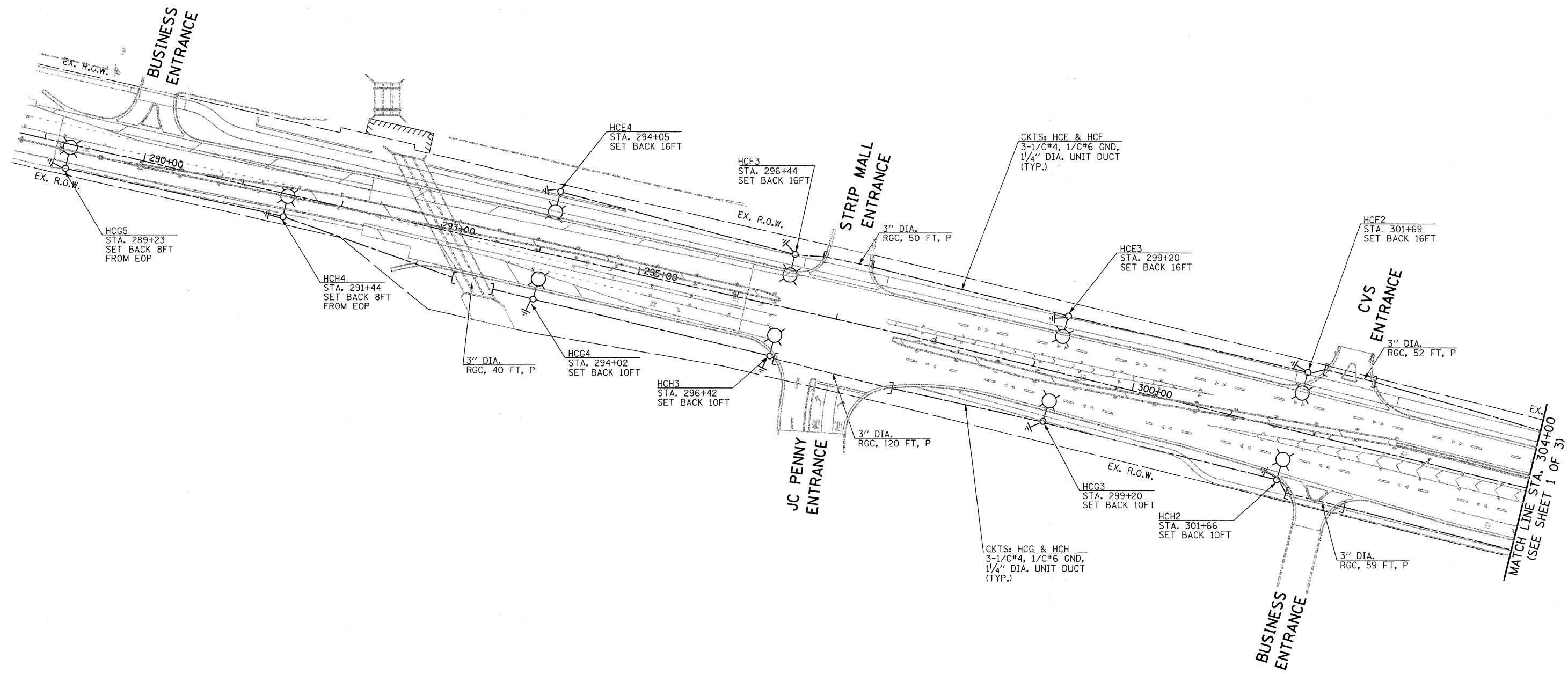
GO GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 300
CHICAGO, ILLINOIS 60630 TEL. (773) 774-5990

FILE NAME =	USER NAME = _M.ELSHOLI.	DESIGNED - MAE	REVISED -
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PLOT SCALE = 1" = 50'		CHECKED - MGK/PKG	REVISED -
PLOT DATE = 6/29/2009		DATE - JULY 1, 2009	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN (SHEET 1 OF 3)			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	09-0029-00-LT	WILL.	13	4
CONTRACT NO. 63250				
FED. ROAD DIST. NO. ILLINOIS/FAP 353/US 30 (LINCOLN HIGHWAY)				



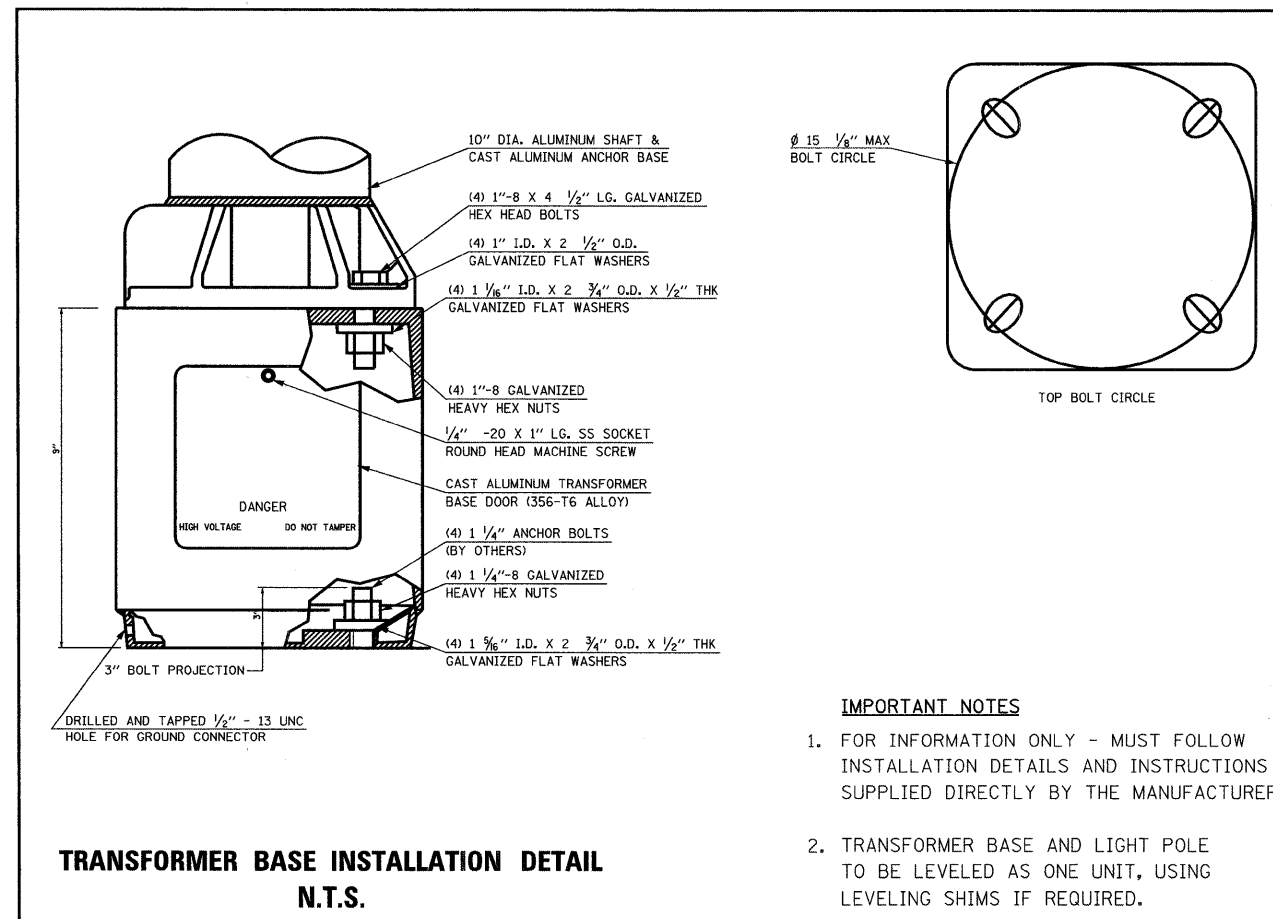
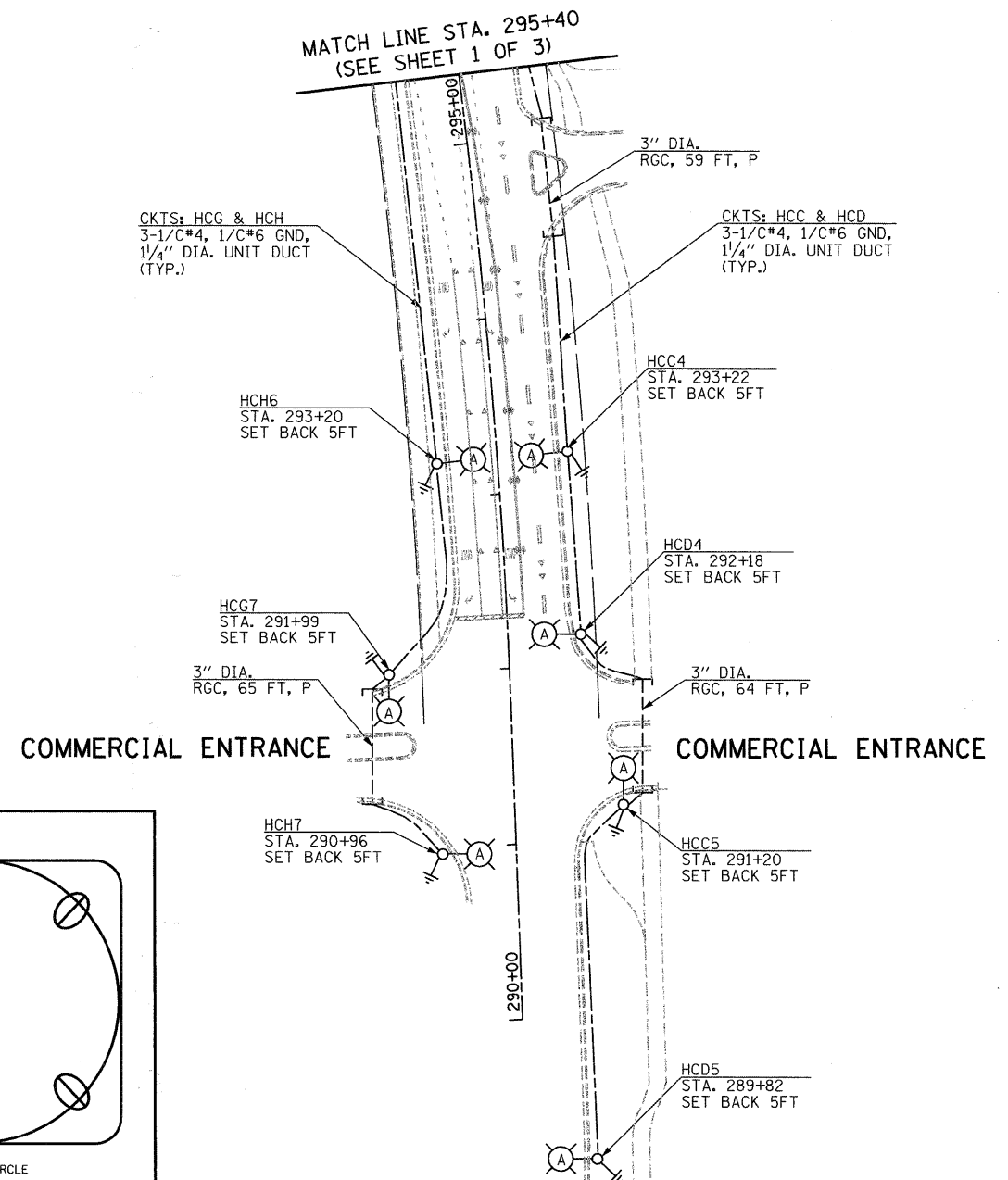
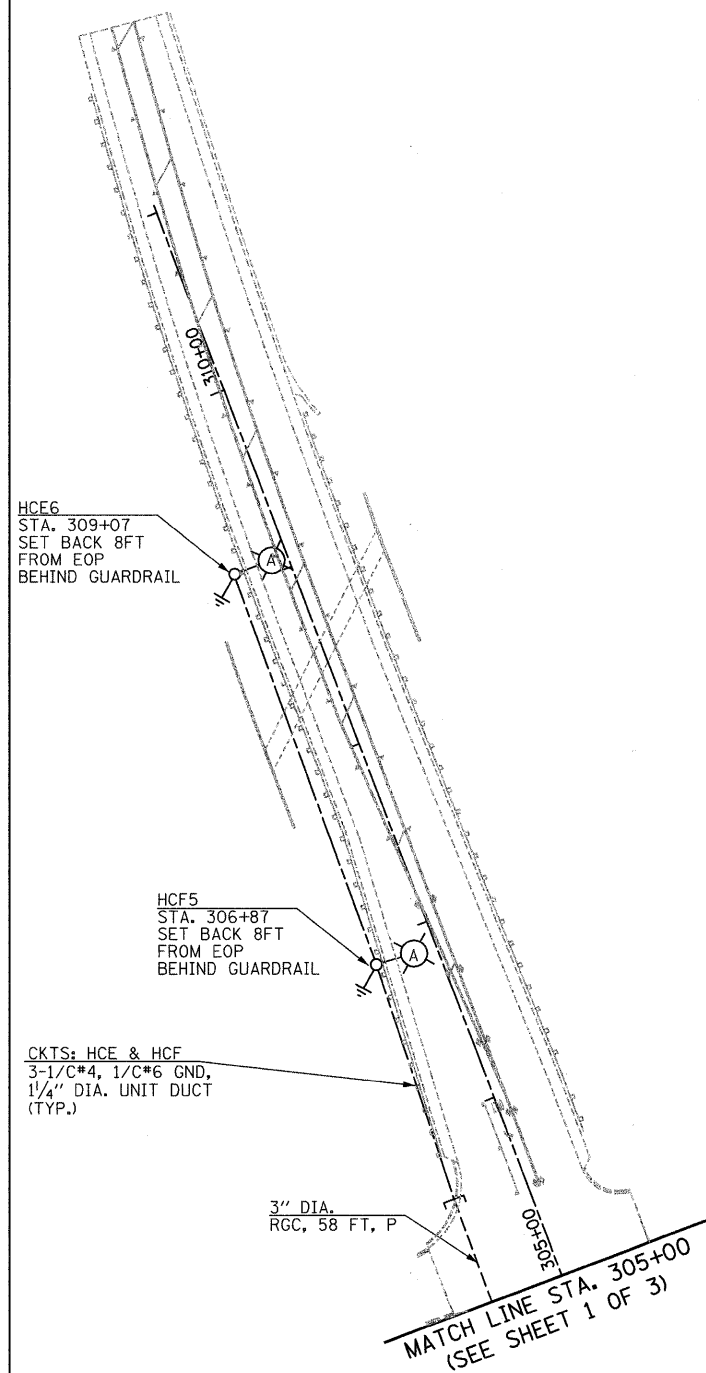
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6035 N. NORTHWEST HIGHWAY
SUITE 300
CHICAGO, ILLINOIS 60631 TEL: (773) 774-5900

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
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	\05_E02_Prop-Light.dgn	DRAWN -	REVISED -
		MAA	
		CHECKED -	REVISED -
		MGK/PKG	
		DATE -	REVISED -
		JULY 1, 2009	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN (SHEET 2 OF 3)			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	09-00029-00-LT	WILL	13	5
CONTRACT NO. 63250				
FED. ROAD DIST. NO. ILLINOIS FAP 353/US 30 (LINCOLN HIGHWAY)				



IMPORTANT NOTES

1. FOR INFORMATION ONLY - MUST FOLLOW INSTALLATION DETAILS AND INSTRUCTIONS SUPPLIED DIRECTLY BY THE MANUFACTURER.
2. TRANSFORMER BASE AND LIGHT POLE TO BE LEVELED AS ONE UNIT, USING LEVELING SHIMS IF REQUIRED.

GO GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
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SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5980

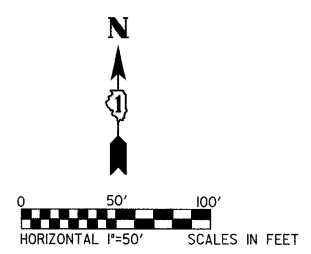
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	PLOT DATE = 6/29/2009	DATE - JULY 1, 2009	REVISED -

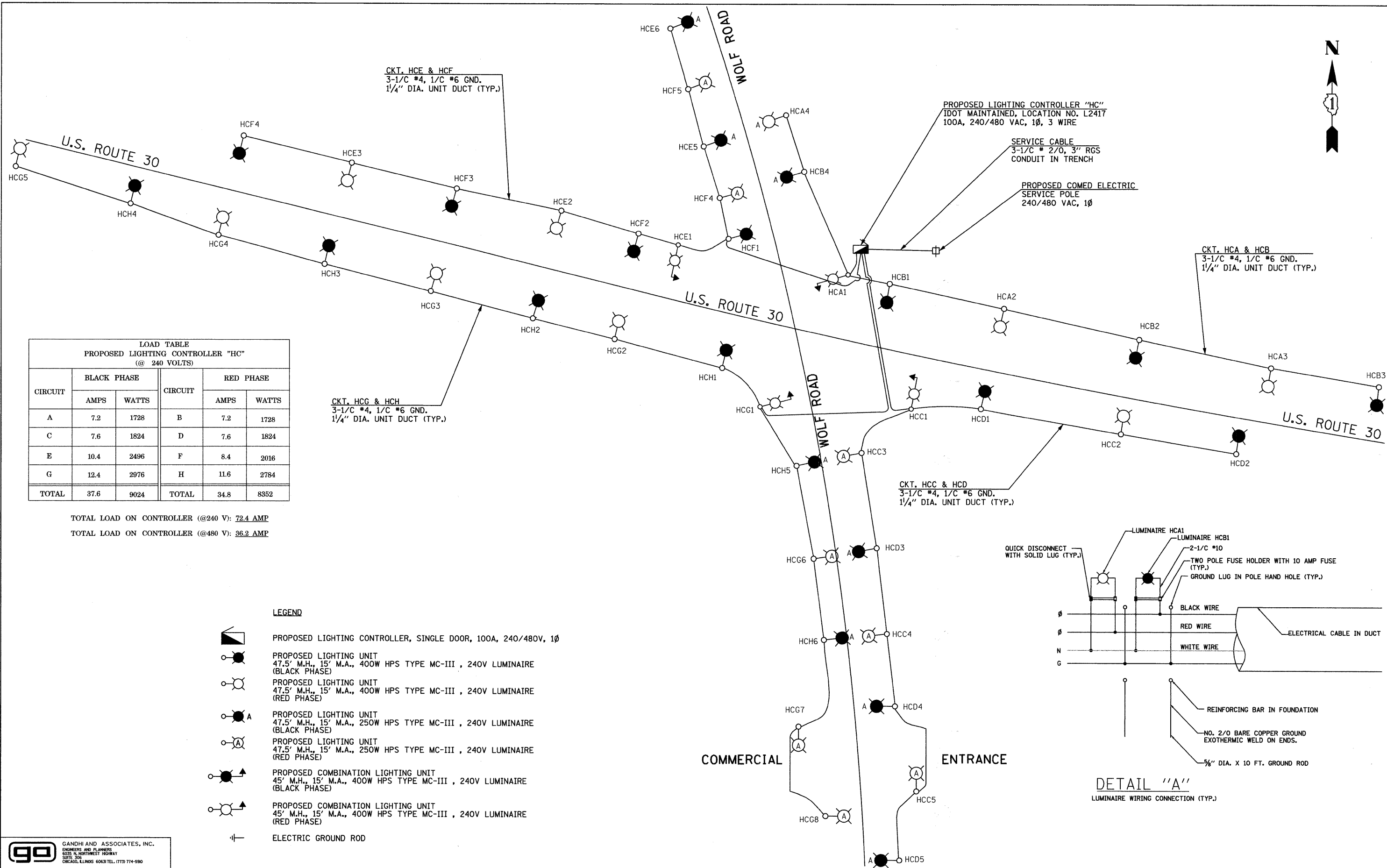
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED LIGHTING PLAN (SHEET 3 OF 3)

SCALE:	SHEET NO.	OF	SHEETS	STA.	TO	STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	09-00029-00-LT	WILL	13	6
CONTRACT NO. 63250				
FED. ROAD DIST. NO. ILLINOIS/FAP 353/US 30 (LINCOLN HIGHWAY)				





CKT. HCE & HCF
3-1/C #4, 1/C #6 GND.
1/4" DIA. UNIT DUCT (TYP.)

PROPOSED LIGHTING CONTROLLER "HC"
IDOT MAINTAINED, LOCATION NO. L2417
100A, 240/480 VAC, 1Ø, 3 WIRE

SERVICE CABLE
3-1/C # 2/0, 3" RGS
CONDUIT IN TRENCH

PROPOSED COMED ELECTRIC
SERVICE POLE
240/480 VAC, 1Ø

CKT. HCA & HCB
3-1/C #4, 1/C #6 GND.
1/4" DIA. UNIT DUCT (TYP.)

CKT. HCG & HCH
3-1/C #4, 1/C #6 GND.
1/4" DIA. UNIT DUCT (TYP.)

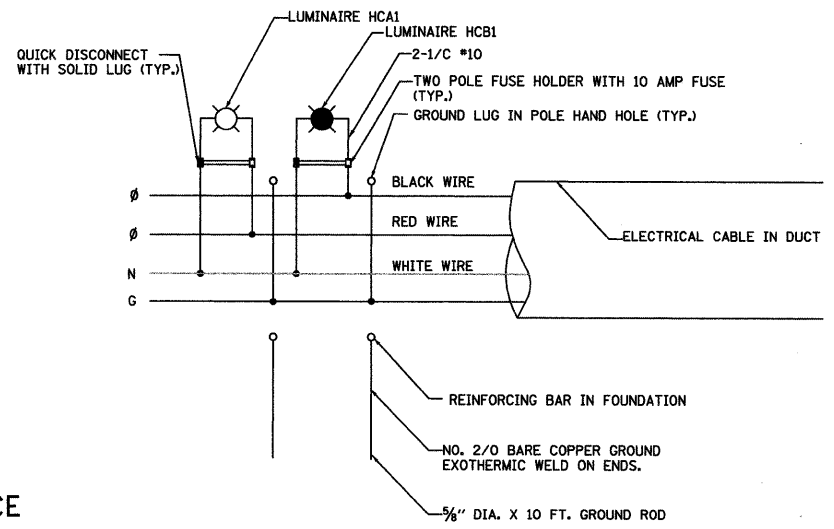
CKT. HCC & HCD
3-1/C #4, 1/C #6 GND.
1/4" DIA. UNIT DUCT (TYP.)

LOAD TABLE PROPOSED LIGHTING CONTROLLER "HC" (@ 240 VOLTS)					
CIRCUIT	BLACK PHASE		CIRCUIT	RED PHASE	
	AMPS	WATTS		AMPS	WATTS
A	7.2	1728	B	7.2	1728
C	7.6	1824	D	7.6	1824
E	10.4	2496	F	8.4	2016
G	12.4	2976	H	11.6	2784
TOTAL	37.6	9024	TOTAL	34.8	8352

TOTAL LOAD ON CONTROLLER (@240 V): **72.4 AMP**
TOTAL LOAD ON CONTROLLER (@480 V): **36.2 AMP**

LEGEND

- PROPOSED LIGHTING CONTROLLER, SINGLE DOOR, 100A, 240/480V, 1Ø
- PROPOSED LIGHTING UNIT
47.5' M.H., 15' M.A., 400W HPS TYPE MC-III, 240V LUMINAIRE (BLACK PHASE)
- PROPOSED LIGHTING UNIT
47.5' M.H., 15' M.A., 400W HPS TYPE MC-III, 240V LUMINAIRE (RED PHASE)
- PROPOSED LIGHTING UNIT
47.5' M.H., 15' M.A., 250W HPS TYPE MC-III, 240V LUMINAIRE (BLACK PHASE)
- PROPOSED LIGHTING UNIT
47.5' M.H., 15' M.A., 250W HPS TYPE MC-III, 240V LUMINAIRE (RED PHASE)
- PROPOSED COMBINATION LIGHTING UNIT
45' M.H., 15' M.A., 400W HPS TYPE MC-III, 240V LUMINAIRE (BLACK PHASE)
- PROPOSED COMBINATION LIGHTING UNIT
45' M.H., 15' M.A., 400W HPS TYPE MC-III, 240V LUMINAIRE (RED PHASE)
- ELECTRIC GROUND ROD



DETAIL "A"
LUMINAIRE WIRING CONNECTION (TYP.)

GO GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 302
CHICAGO, ILLINOIS 60630 TEL. (773) 774-5980

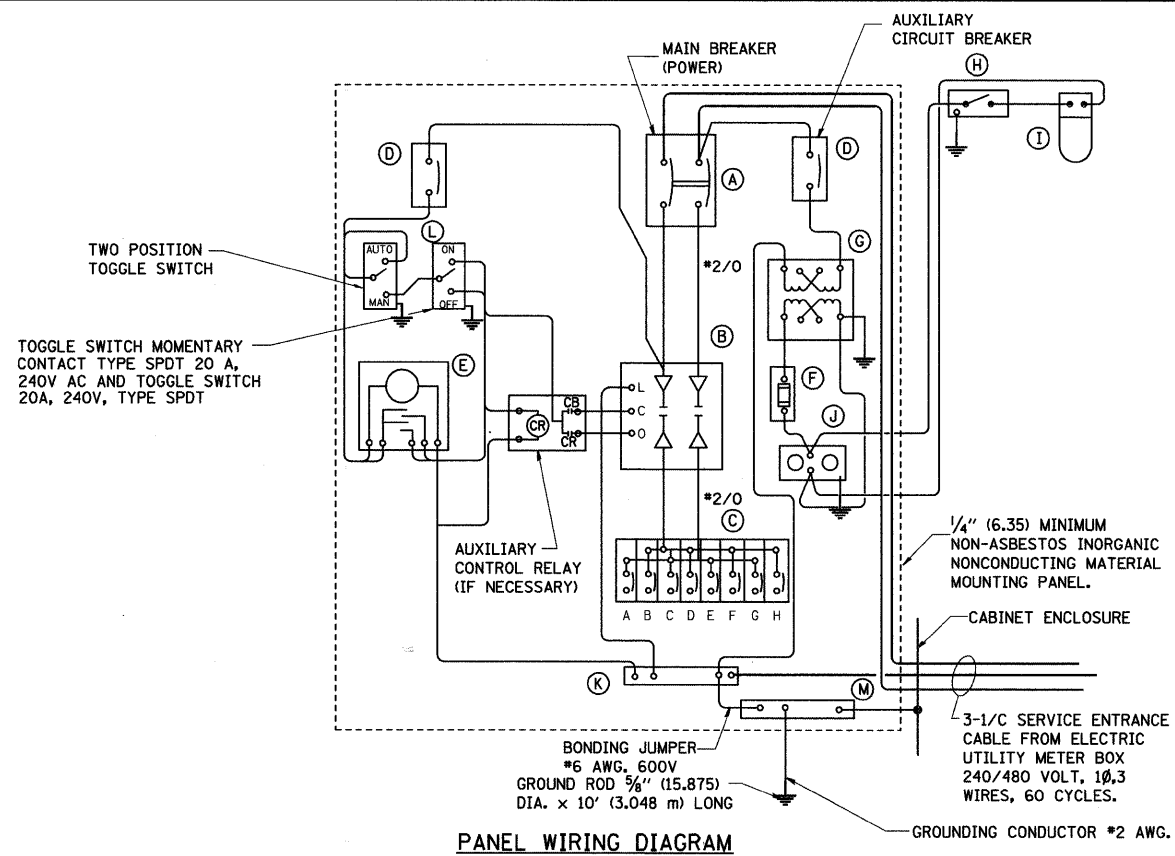
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PLOT SCALE = NONE		CHECKED - MGK/PKG	REVISED -
PLOT DATE = 6/29/2009		DATE - JULY 1, 2009	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PROPOSED SINGLE LINE DIAGRAM
LIGHTING CONTROLLER "HC"**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	09-00029-00-LT	WILL	13	7
CONTRACT NO. 63250				
FED. ROAD DIST. NO. ILLINOIS/FAP 353/US 30 (LINCOLN HIGHWAY)				

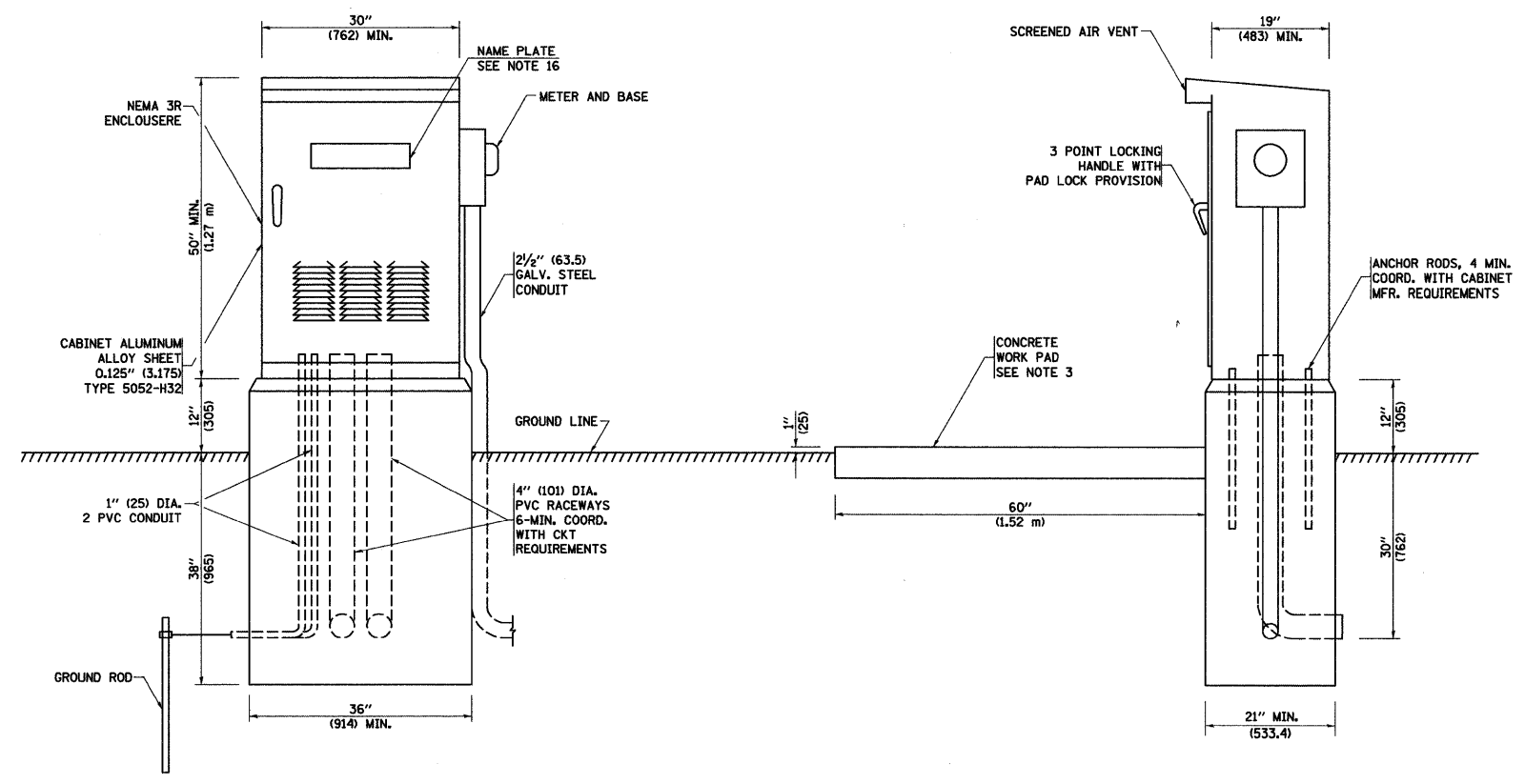


PANEL EQUIPMENT

BILL OF MATERIAL		
ITEM	QUANTITY	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 100AMP. FRAME, 100AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 480 VOLT.
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 100 AMP., 600 VOLTS CONTROL CIRCUIT 240 VOLT.
C	8	CIRCUIT BREAKERS, 1 POLE, 100AMP. FRAME, 50 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 240 V.
D	2	CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 240 V., 100AMP. FRAME, 15AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-5000 AMP. AT 240 V.
E	1	ASTRONOMIC MICROPROCESSOR-BASED 2-CHANNEL CONTROLLER (TIME SWITCH).
F	1	20 A., 120 V. FUSE.
G	1	1.5 KVA, SINGLE PHASE, ENCAPSULATED TRANSFORMER 240 X 480 / 120 X 240 VOLT, 60 Hz.
H	1	SPST 20A SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN.
I	1	INCANDESCENT LIGHTING FIXTURE ENCLOSED AND GASKETED WITH 60 WATT, 120 V. LAMP.
J	1	20 A., 120 V., DUPLEX RECEPTACLE, GFCI.
K	1	COPPER GROUND BUS 1/4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS
L	1	TOGGLE SWITCHES MOUNTED IN 4" (101.6) X 4" (101.6 mm) BOX.
M	1	COPPER GROUND BUS 1/4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS

NOTES:

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
- IN FRONT OF CONTROL CABINET DOOR, REMOVE VEGETATION AND 2" (50.8 mm) TOP SOIL. LEVEL THE AREA AND ON TOP, PLACE LENGTH WISE PARALLEL TO CONTROL CABINET, A CONCRETE PAD 36" (914.4 mm) X 60" (18.288 m) X 4" (101 mm) MIN. SIZE. THE COST OF LABOR AND MATERIALS ARE INCLUDED IN THE COST OF THE CONTROLLER.
- DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
- DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
- DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1/4" (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
- ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
- CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
- METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.
- CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED
- THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED.
R = RED BL = BLUE W = WHITE
B = BLACK Y = YELLOW G = GREEN
- PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
- THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL"
- 12" (304.8) X 16" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED

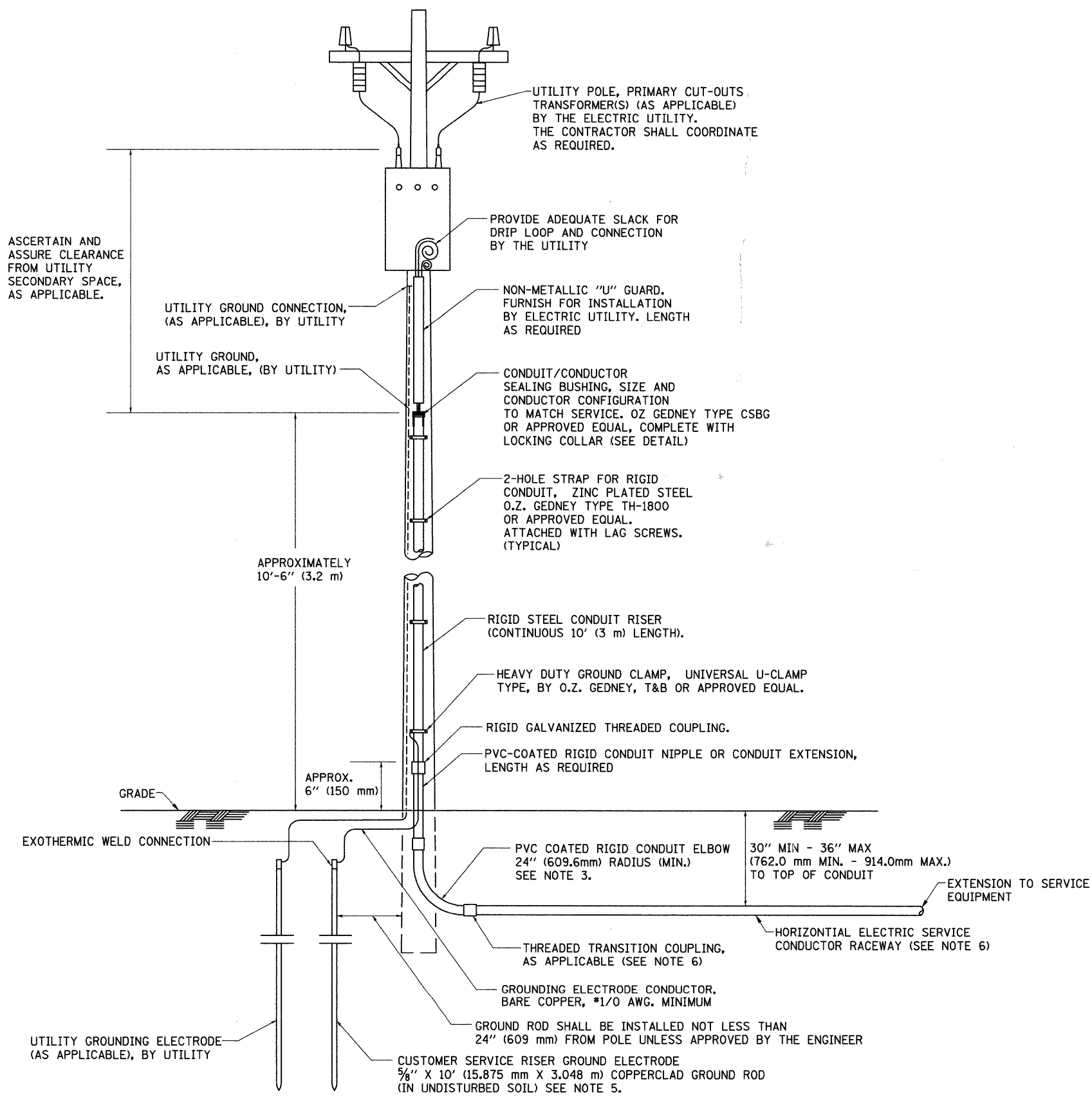


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 USER NAME = jlc@skg

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		LIGHTING CONTROLLER SINGLE DOOR SCALE: NONE DATE: 1/9/2007 DRAWN BY Jls CHECKED BY BE-215 REVISION DATE: 01/01/07

BE-215

CONTRACT NO. C3150				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

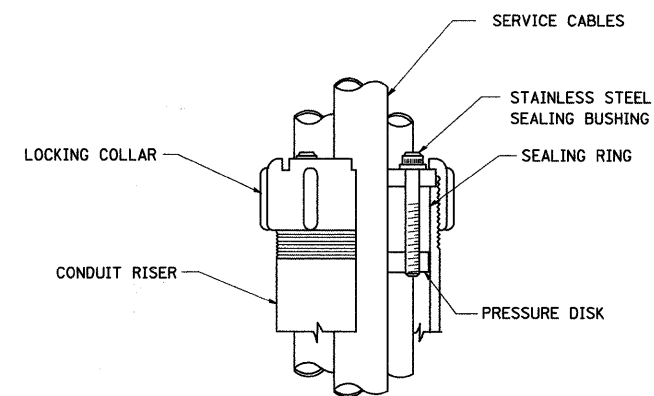


APPLICATION

THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

NOTES

- SERVICE VOLTAGE SHALL BE AS INDICATED ELSEWHERE IN THE DRAWINGS.
- UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.
- CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED ON THE PLANS.
- 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.
- 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.
- 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.
- 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

BE-220

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

ELECTRIC SERVICE INSTALLATION

AERIAL, REMOTE DISCONNECT

BE - 220

SCALE: NONE
DATE: 1/9/2007

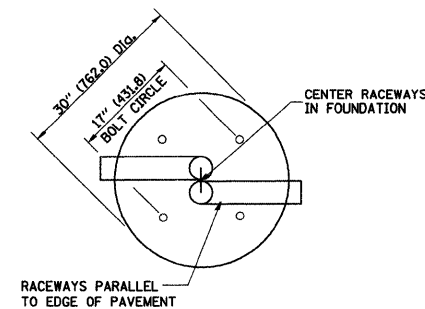
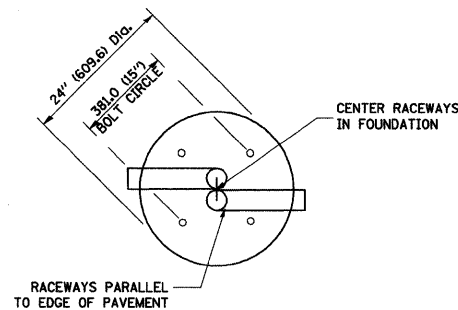
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CONTRACT NO. 63250				
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STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

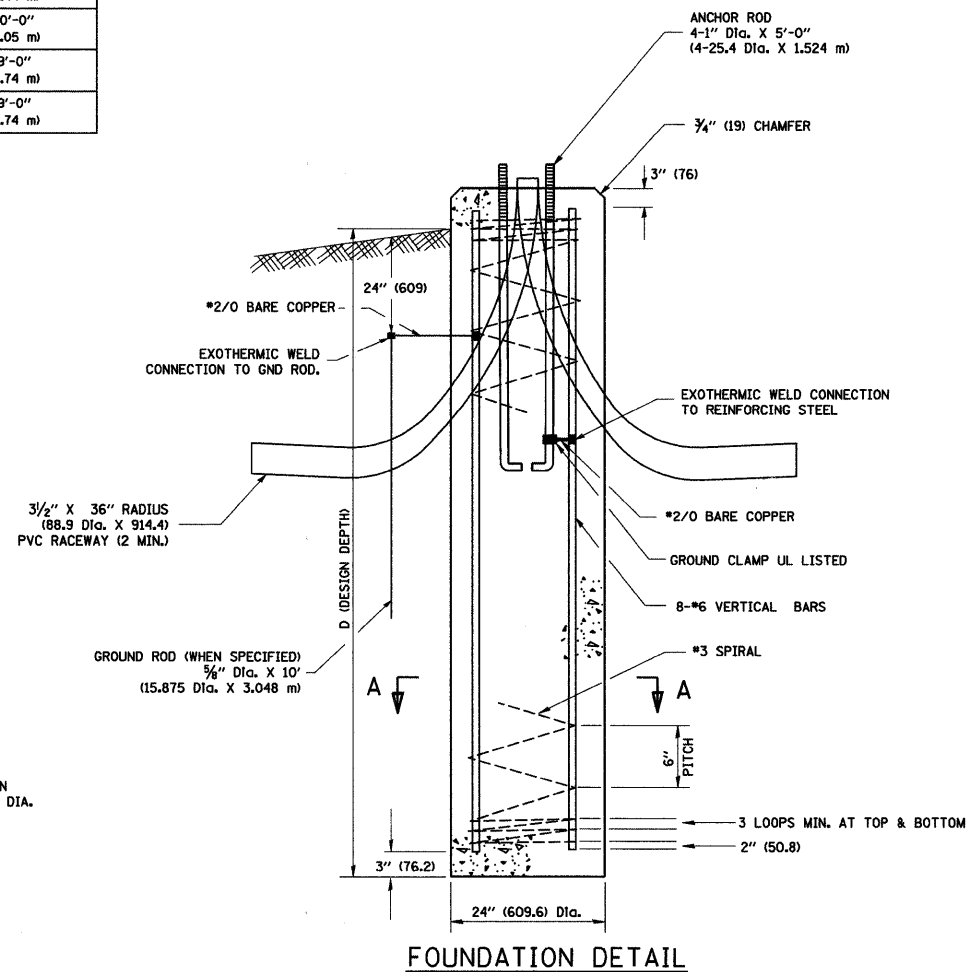
LIGHT POLE FOUNDATION DEPTH TABLE
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Qu = 0.375 TON/SQ. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY Qu = 0.75 TON/SQ.FT	9'-6" (2.93 m)	10'-9" (3.23 m)
STIFF CLAY Qu = 1.50 TON/SQ. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND φ = 34°	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND φ = 37.5°	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND φ = 40°	7'-9" (2.36 m)	9'-0" (2.74 m)

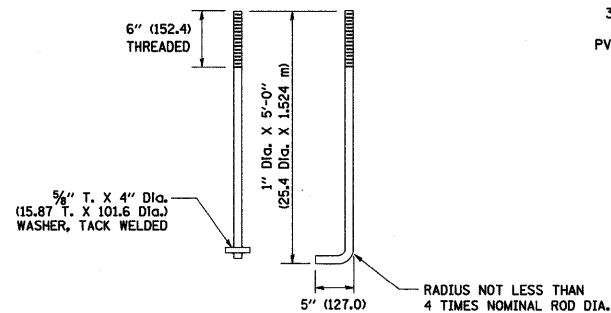


TOP VIEW

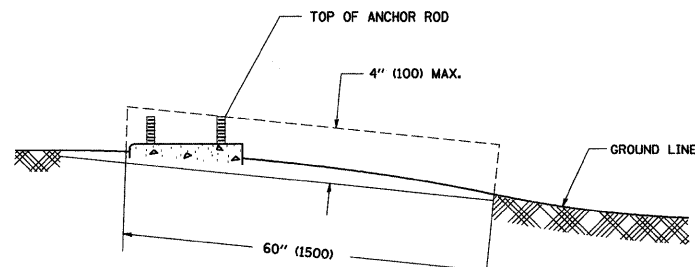
TOP VIEW



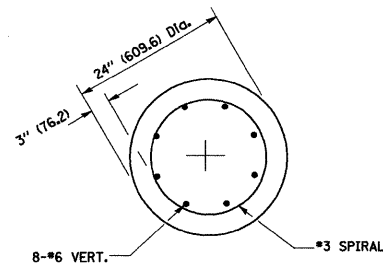
FOUNDATION DETAIL



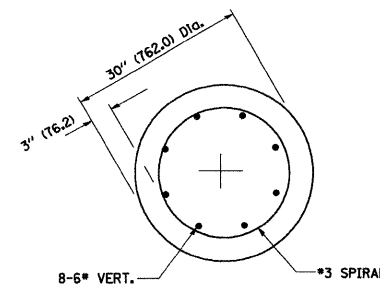
ANCHOR ROD DETAIL



FOUNDATION EXTENSION DETAIL



SECTION A-A



SECTION A-A

NOTES

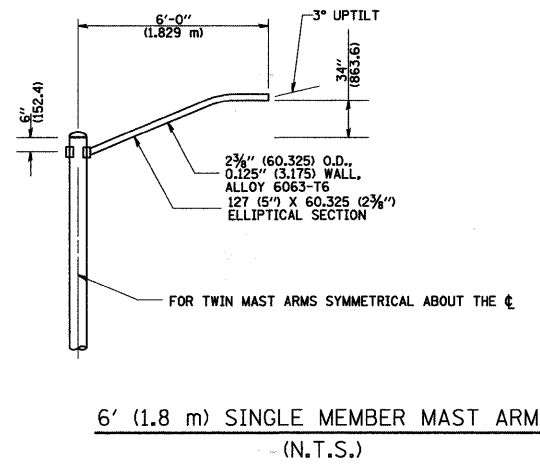
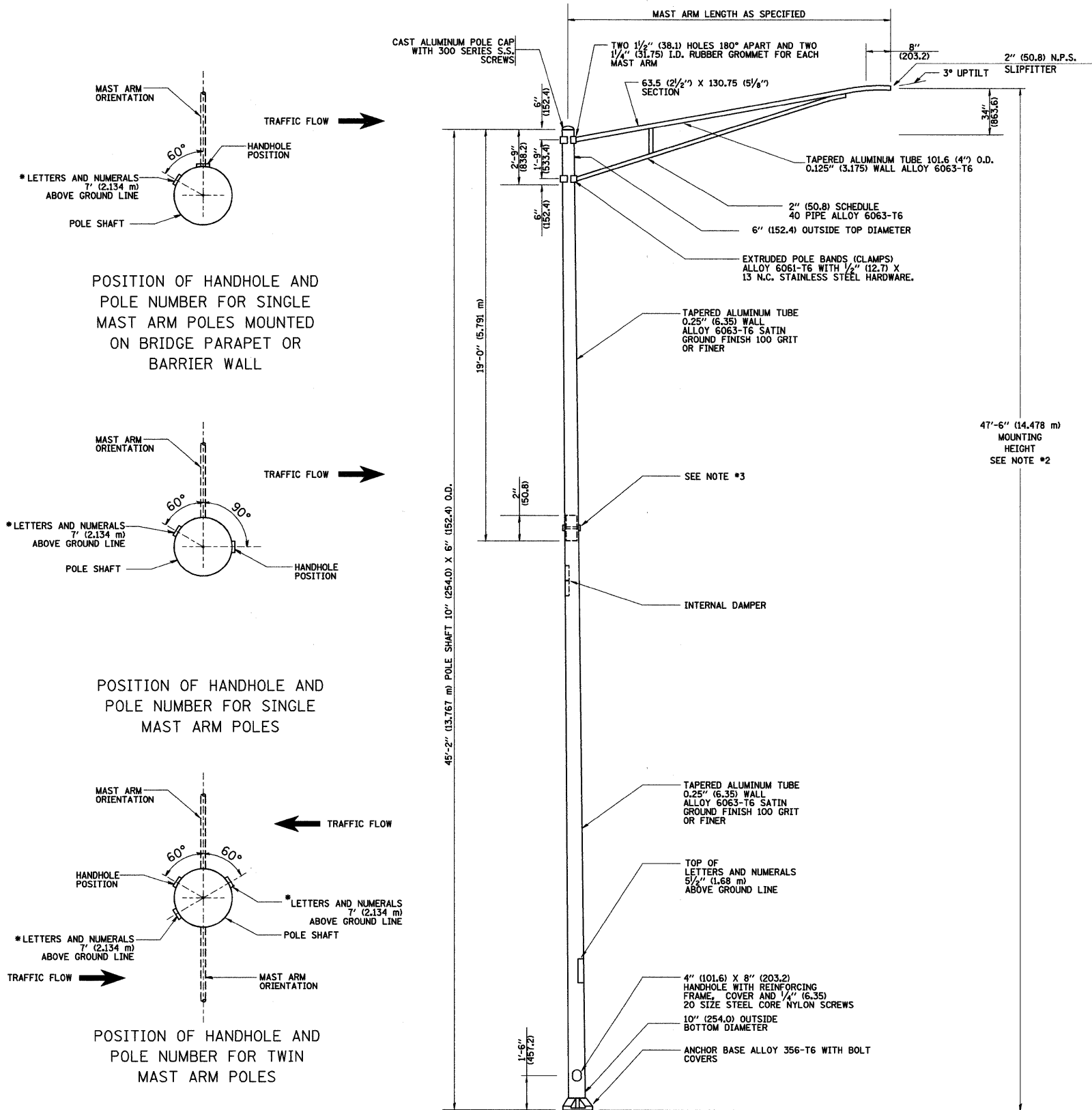
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3/4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SL. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

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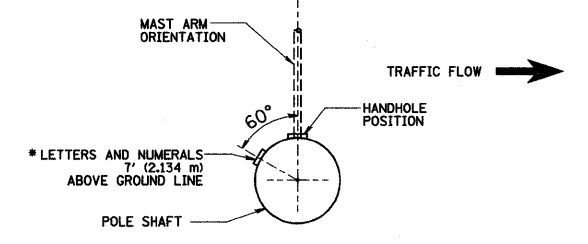
REVISIONS	
NAME	DATE
	04/22/02

E-301
ILLINOIS DEPARTMENT OF TRANSPORTATION
LIGHT POLE FOUNDATION
40' (12.192 m) TO 47 1/2' (14.478 m) M.H.
15" (381) BOLT CIRCLE
SCALE: NONE
DRAWN BY
CHECKED BY
BE301

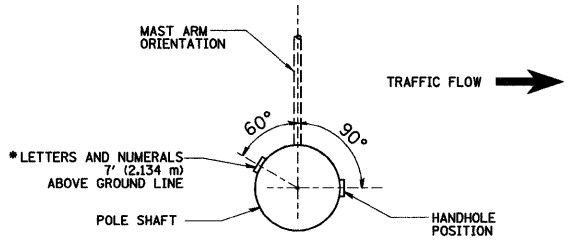
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FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



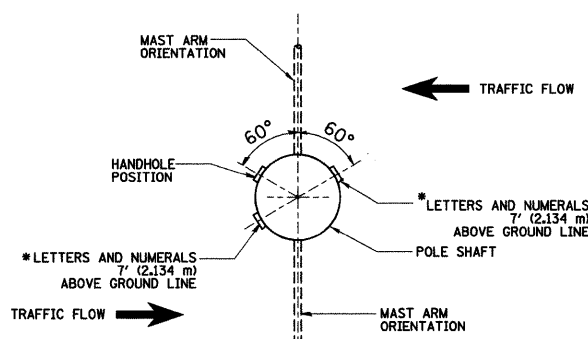
- NOTES:
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
 2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
 3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE 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.



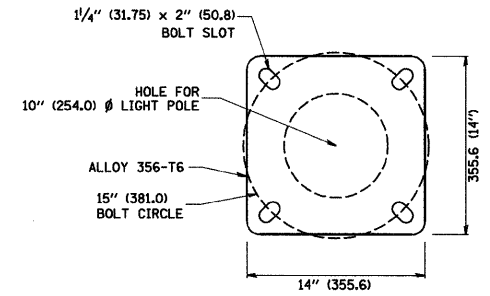
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



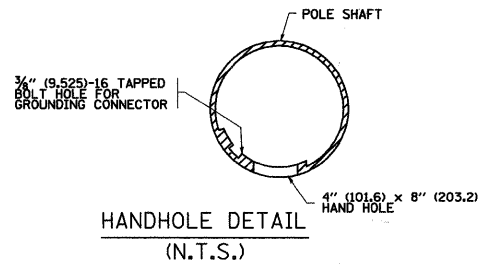
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES



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

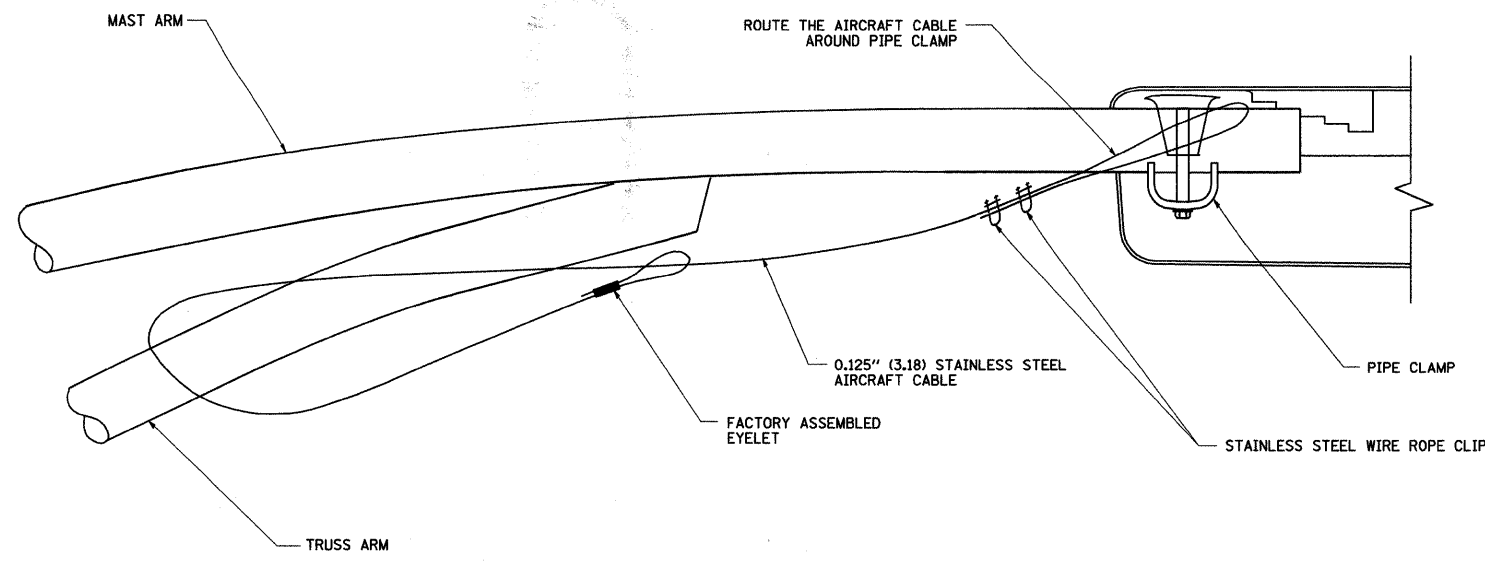


REVISIONS	
NAME	DATE
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R. TOMSONS	8-12-03

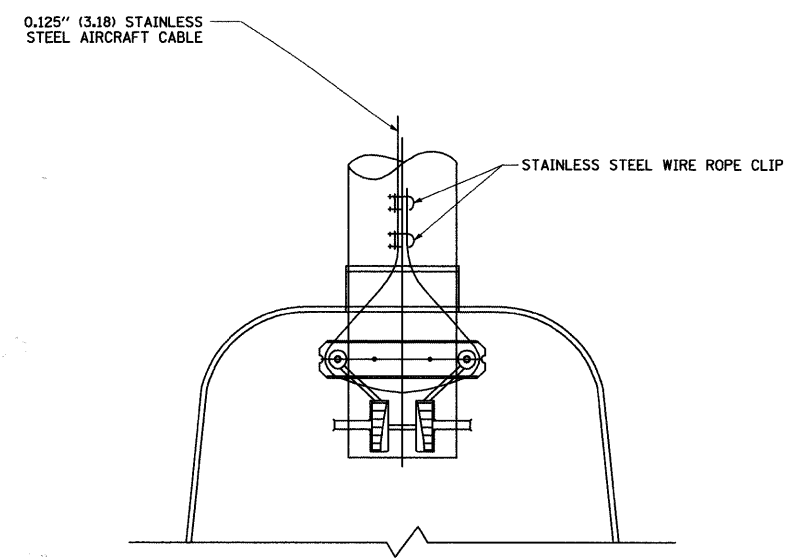
ILLINOIS DEPARTMENT OF TRANSPORTATION	
ALUMINUM LIGHT POLE	
47'-6" (14.478 m)	
MOUNTING HEIGHT	
SCALE: NONE	DRAWN BY
DATE: 1/10/2007	CHECKED BY
	BE-400
	REVISION DATE: 09/02/03

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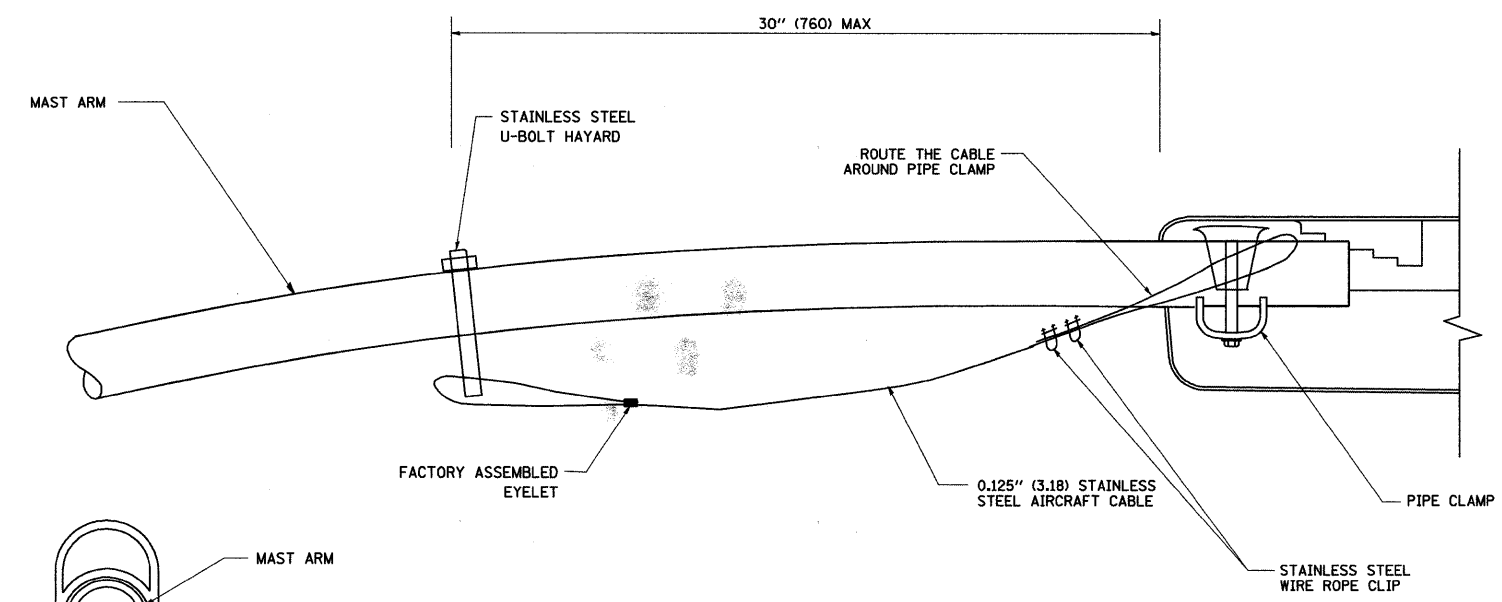
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STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



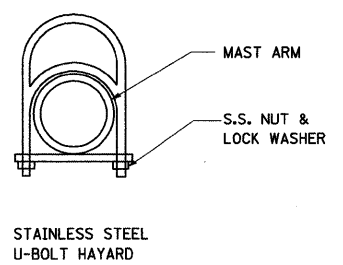
SIDE VIEW (TRUSS ARM)
N.T.S.



BOTTOM VIEW
N.T.S.



SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)
N.T.S.



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
 2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
 3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
 4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.

REVISIONS	
NAME	DATE
	08/08/03

ILLINOIS DEPARTMENT OF TRANSPORTATION

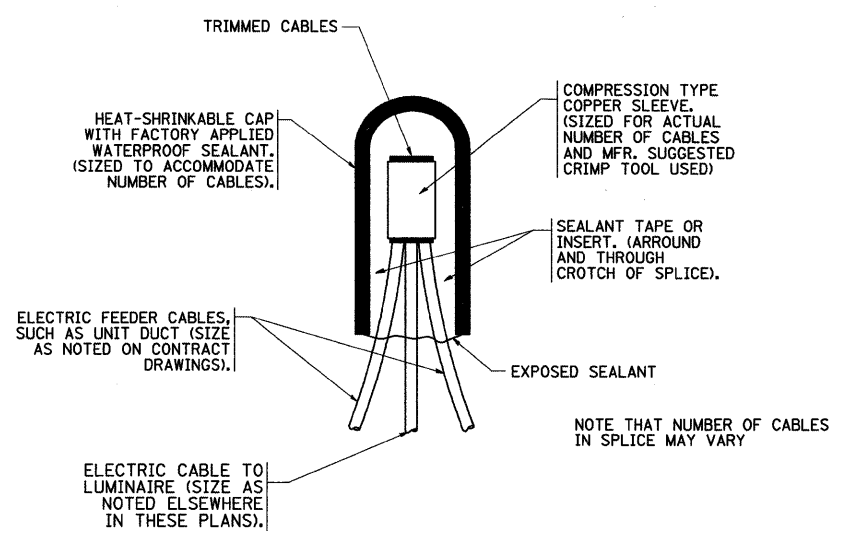
LUMINAIRE SAFETY
CABLE ASSEMBLY

SCALE: VERT. NONE
HORIZ.

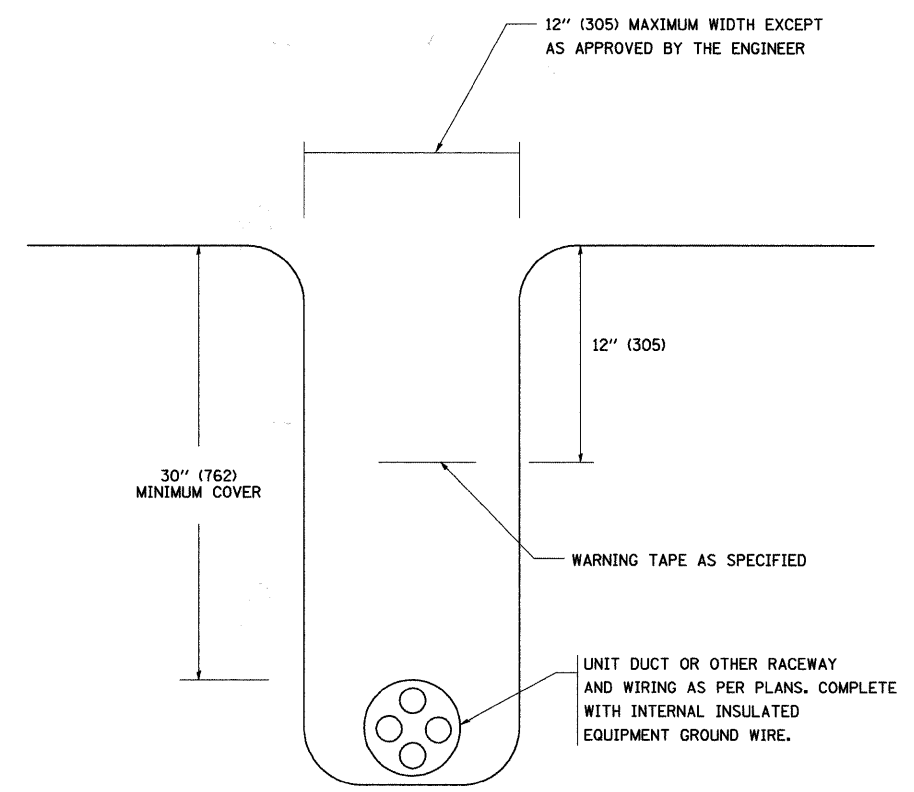
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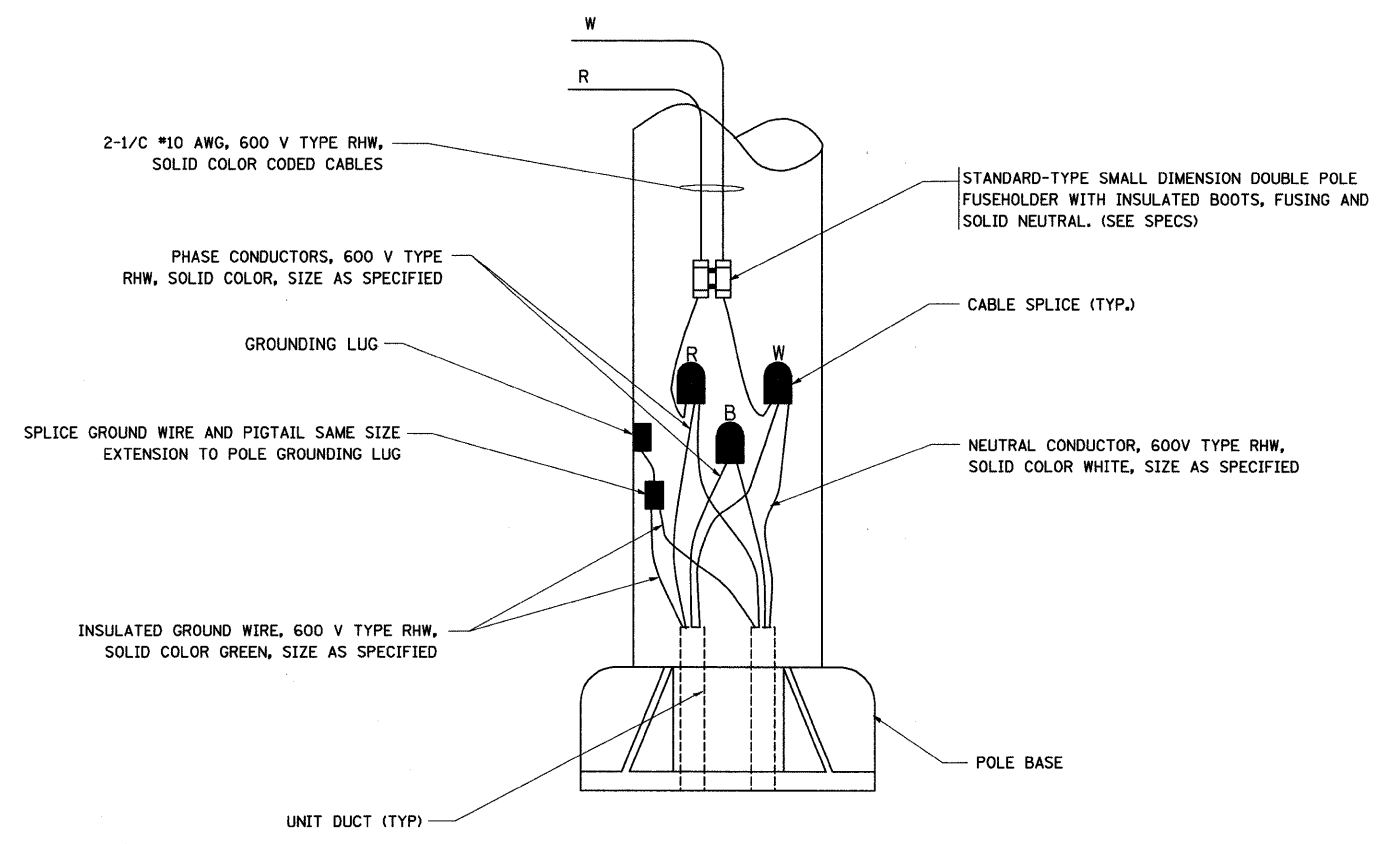
CONTRACT NO. 43250				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	09-00029-00-LT	WILL	13	13
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL SPLICE DETAIL
N.T.S.



TYPICAL WIRING IN TRENCH DETAIL
N.T.S.



POLE WIRING DETAIL
N.T.S.

PLOT DATE = 4/18/2007
FILE NAME = K:\data\ba782.dgn
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REVISIONS	
NAME	DATE
	08/08/03

ILLINOIS DEPARTMENT OF TRANSPORTATION

MISC. ELECTRICAL DETAILS
SHEET A

SCALE: VERT. NONE
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DRAWN BY
CHECKED BY
BE-702