

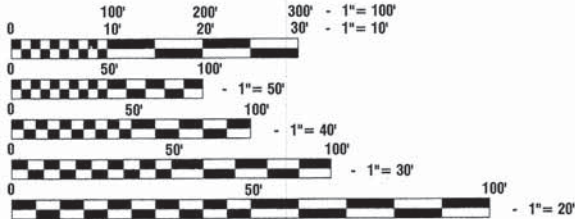
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

- INDEX OF SHEETS**
- 1. COVER SHEET
 - 2. SUMMARY OF QUANTITIES AND GENERAL NOTES
 - 3. STREET LIGHTING PLAN
 - 4. SINGLE LINE DIAGRAM
 - 5.-9. CONSTRUCTION DETAILS

- HIGHWAY STANDARDS**
- 000001-06 STANDARD SYMBOLS ABBREVIATIONS AND PATTERNS
 - 701501-06 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
 - 701701-09 URBAN LANE CLOSURE, MULTILANE INTERSECTION
 - 701801-05 SIDEWALK, CORNER OR CROSSWALK CLOSURE
 - 701901-03 TRAFFIC CONTROL DEVICES

154TH STREET	
2013 ADT -	6,000
2040 ADT -	6,000
POSTED SPEED LIMIT -	25 mph
DESIGN PERIOD -	20 YEARS
DESIGN SPEED LIMIT -	30 mph
STREET CLASSIFICATION -	COLLECTOR URBAN

PLAN - 1"=50'
PROFILE HORIZ. - 1"=50'
PROFILE VERT. - 1"=5'
CROSS SECTIONS - 1"=10'



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

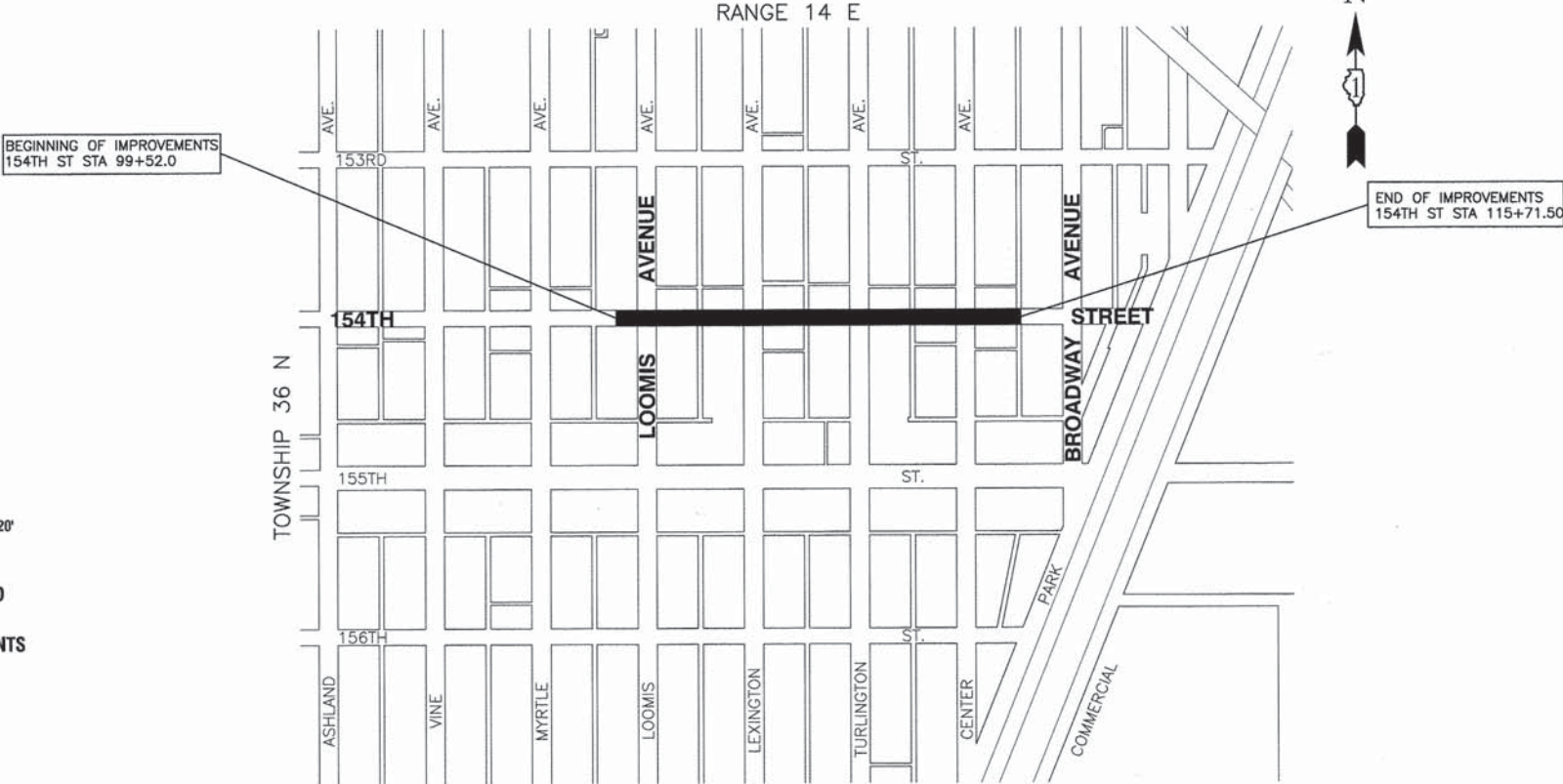
J. U. L. I. E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123 or 811

CONTRACT NO. 61A13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

FAU 1664 (154TH STREET)
LOOMIS AVENUE TO BROADWAY AVENUE
ROADWAY LIGHTING
SECTION NO.: 06-00179-00-LS
PROJECT NO.: TE-00D1(733)
CITY of HARVEY
COOK COUNTY
JOB NO.: C-91-076-07



LOCATION MAP

GROSS LENGTH=1,620 FEET=0.31 MILES
NET LENGTH=1,620 FEET=0.31 MILES

F. A. U. R. E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1664	06-00179-00-LS	COOK	9	1
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS		
FED. AID PROJECT		TE-00D1(733)		

CONTRACT #61A13



LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Approved: January 31, 2014
Eve J. Kelly
Mayor, City of Harvey

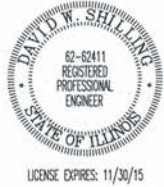
Passed: APRIL 4, 2014
C. H. Holt
District 1 Engineer of Local Roads & Streets

Released for Bid
Based on Limited
Review: April 7, 2014
John F. Farnham
Deputy Director of Highways, Region 1 Engineer

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THE STATE OF ILLINOIS

PREPARED BY OR UNDER THE
DIRECT SUPERVISION OF:

David W. Shilling
1/31/2014



SUMMARY OF QUANTITIES					CONSTRUCTION TYPE CODE
S.I.	CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY	0031
	21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	140	140
	21301084	EXPLORATION TRENCH 84" DEPTH	FOOT	56	56
	25200110	SODDING, SALT TOLERANT	SQ YD	140	140
*	42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	3180	3180
*	44000600	SIDEWALK REMOVAL	SQ FT	3180	3180
	67100100	MOBILIZATION	L SUM	1	1
	70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	1
	70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1
	70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1
	81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	695	695
	81603090	UNIT DUCT, 600V, 3-1C NO.4, 1/C NO.6GROUND, (XLP-TYPE USE), 1 1/4" DIA.POLYETHYLENE	FOOT	3820	3820
	82102150	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 150 WATT	EACH	20	20
	83001400	LIGHT POLE, ALUMINUM, 35 FT. M.H., 10 FT. DAVIT ARM	EACH	20	20
	83600200	LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	152	152
	84200500	REMOVAL OF LIGHTING UNIT, SALVAGE	EACH	23	23
	84200804	REMOVAL OF POLE FOUNDATION	EACH	24	24
	84500110	REMOVAL OF LIGHTING CONTROLLER	EACH	1	1
	84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1	1
	84500130	REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1	1
	89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	1	1
	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1
	Z0033028	MAINTENANCE OF LIGHTING SYSTEM	CAL MO	2	2
Δ	Z0076600	TRAINEES	HOUR	500	500

* - INDICATES SPECIALTY ITEMS
Δ - 0042

SUMMARY OF QUANTITIES					CONSTRUCTION TYPE CODE
S.I.	CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY	0031
	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500
	X8360215	LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	7	7
	XX008228	LUMINAIRE, SODIUM VAPOR, 70 WATT, COACH LIGHT	EACH	20	20
	XX008229	DECORATIVE LIGHT POLE BASE	EACH	20	20

GENERAL NOTES:

- ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE AND ANY APPLICABLE LOCAL CODES.
- CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES BEFORE TRENCHING OR AUGERING.
- BEFORE INSTALLING STANDARDS NEAR OVERHEAD FACILITIES CALL ComEd FOR APPROVAL OF LOCATION.
- FOR LOCATION OF EXISTING UNDERGROUND ELECTRICAL CABLE CALL Com Ed.
- ALL CONDUIT TO BE 2.5" DIAMETER UNLESS OTHERWISE SPECIFIED.
- ANY TREE TRIMMING REQUIRED AS DIRECTED BY THE ENGINEER SHALL BE PERFORMED BY THE CONTRACTOR, AND THE COST OF THIS WORK SHALL BE CONSIDERED INCLUDED IN THE COST OF MOBILIZATION.
- CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO RESTORE ANY SPECIALIZED LANDSCAPING, (i.e. DECORATIVE ROCKS, SHRUBS, PLANTS, ETC.) OR SHALL REPLACE IT, THE COST OF WHICH SHALL BE CONSIDERED INCLUDED IN THE COST OF MOBILIZATION.
- CARE IS TO BE TAKEN AS NOT TO DAMAGE ANY OF THE EXISTING TRAFFIC SIGNAL CONDUITS, DETECTORS AND EQUIPMENT. IF ANY OF THE TRAFFIC SIGNAL CONDUIT AND/OR EQUIPMENT IS DAMAGED, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE THE CONDUIT AND/OR EQUIPMENT AT NO COST TO THE COUNTY, STATE, OR THE CITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OF FINISHED GRADE. THE RESIDENT ENGINEER MAY ASSIST THE CONTRACTOR, AS APPLICABLE, BUT THE RESPONSIBILITY FOR COORDINATING THE FINISHED GRADE ELEVATION WITH THE TOP OF THE FOUNDATION HEIGHTS AND THE LIGHT SHALL REMAIN WITH THE CONTRACTOR.
- NO POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED, AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR WIRE MARKERS AND SHALL TAG ALL WIRE MARKERS AND SHALL TAG ALL WIRE ACCORDINGLY.
- EQUIPMENT GROUND CONDUCTORS SHALL BE SPLICED AND BONDED AT EACH LIGHT POLE OR OTHER PIECE OF EQUIPMENT.
- CONDUIT AND UNIT DUCT MUST BE POSITIONED IN THE FIELD TO AVOID CONFLICT WITH TREES, BUSHES, DRAINS AND OTHER UTILITIES AND LANDSCAPING.
- ALL DISTURBED AREAS WHERE RESTORATION IS NOT COVERED BY APPLICABLE SECTIONS OF THE SPECIAL PROVISIONS MUST BE RESTORED TO THE SATISFACTION OF THE ENGINEER. THE WORK MUST BE CONSIDERED INCIDENTAL TO THE CONTRACT. SEPARATE PAYMENT WILL NOT BE MADE.
- THE EXACT LOCATIONS OF ALL UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE THE INSTALLATION OF ANY COMPONENTS OF THE LIGHTING SYSTEM FOR THE LOCATIONS OF THE UTILITIES, CALL JULIE TOLL FREE AT 1-800-892-0123 AT LEAST 48 HOURS BEFORE ANY EXCAVATION IS TO TAKE PLACE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE EXISTING TRAFFIC SIGNAL CABLES AND CONDUITS.
- THE CONTRACTOR SHALL REMOVE ANY AND ALL EXISTING SIGNS FROM POLES TO BE REMOVED, AND SHALL PLACE THE REMOVED SIGNS ON THE NEW POLE ADJACENT TO OR CLOSEST TO THE POLE TO BE REMOVED. THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE.

FILE NAME = 13544-QUAN-01 - IDOT P01

USER NAME =

DESIGNED -- PAP

REVISED --

CHECKED -- PKB

REVISED --

PLOT SCALE =

DRAWN -- MED

REVISED --

PLOT DATE = 02-19-14

CHECKED -- AG

REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOOMIS AVENUE TO BROADWAY AVENUE
154TH STREET
SUMMARY OF QUANTITIES AND GENERAL NOTES

SCALE:

SHEET NO. 2 OF 9 SHEETS

STA.

TO STA.

F.A.U
RTE.
1664

SECTION
06-00179-00-LS

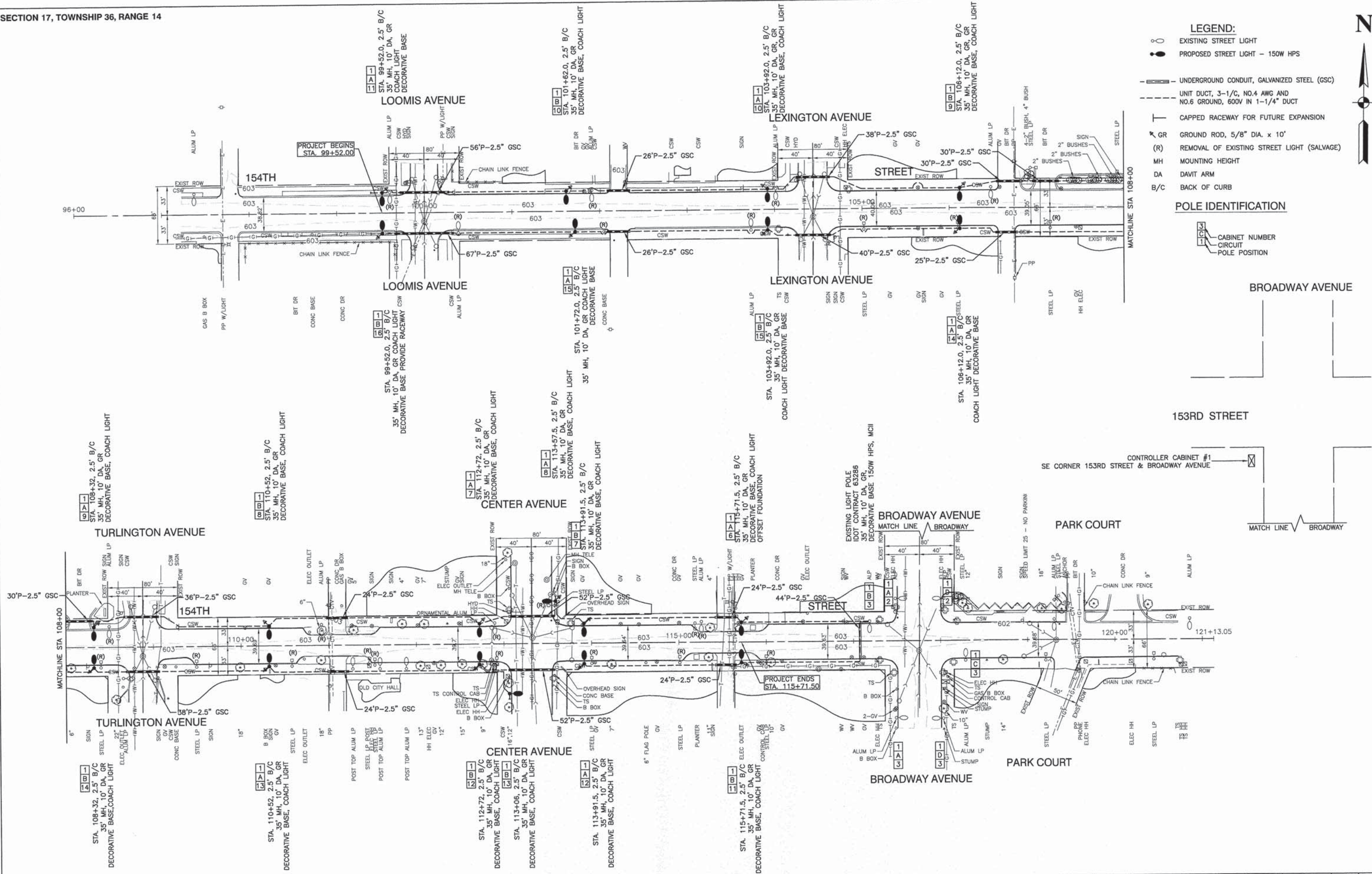
COUNTY
COOK

TOTAL
SHEETS
9

SHEET
NO.
2

CONTRACT NO. 61A13

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT TE-00D1(733)

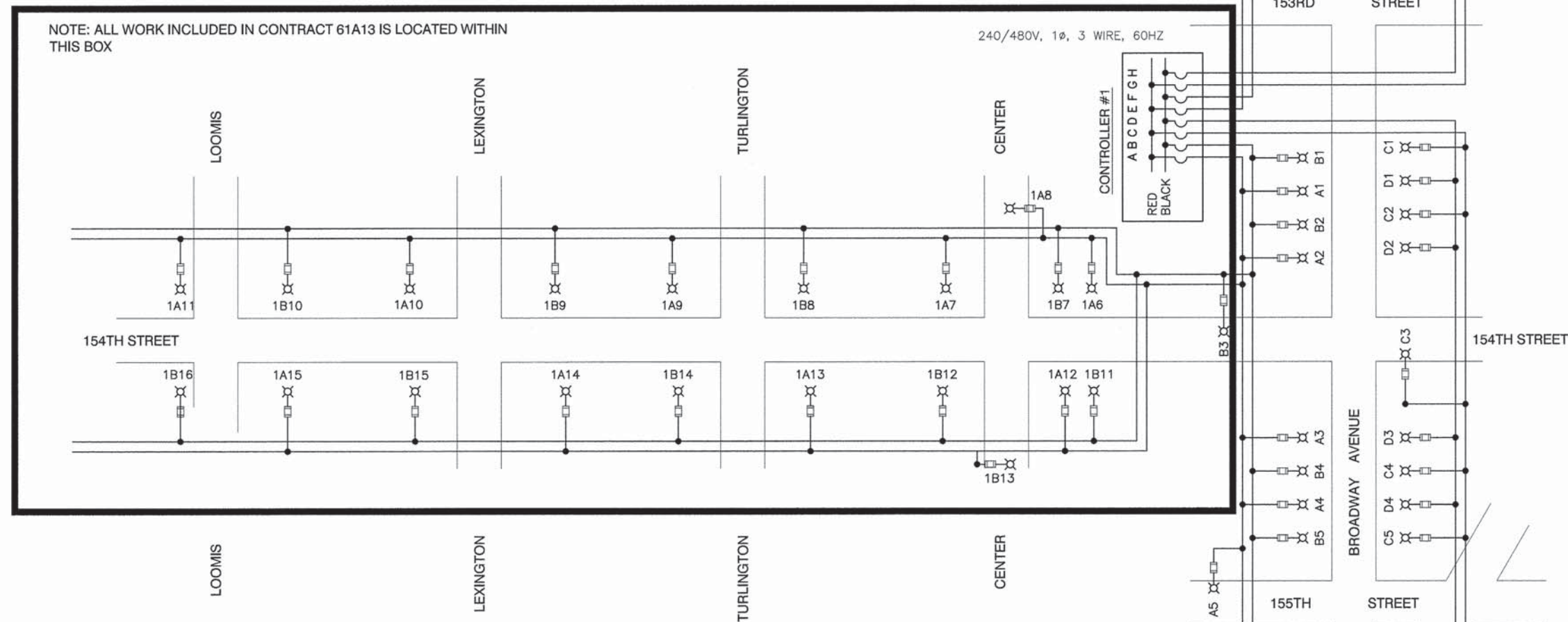


- LEGEND:**
- ○ EXISTING STREET LIGHT
 - PROPOSED STREET LIGHT - 150W HPS
 - UNDERGROUND CONDUIT, GALVANIZED STEEL (GSC)
 - UNIT DUCT, 3-1/C, NO.4 AWG AND NO.6 GROUND, 600V IN 1-1/4" DUCT
 - └ CAPPED RACEWAY FOR FUTURE EXPANSION
 - GR GROUND ROD, 5/8" DIA. x 10'
 - (R) REMOVAL OF EXISTING STREET LIGHT (SALVAGE)
 - MH MOUNTING HEIGHT
 - DA DAVIT ARM
 - B/C BACK OF CURB
- POLE IDENTIFICATION**
- 3
C
1
- CABINET NUMBER
 - CIRCUIT
 - POLE POSITION

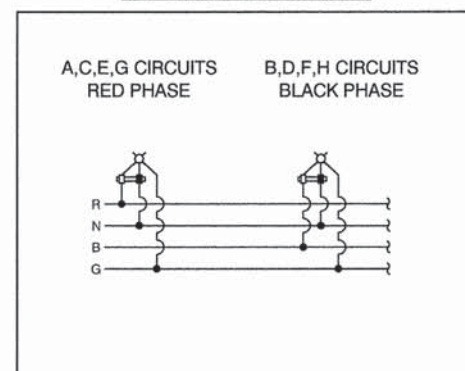
FILE NAME = 13544-PLAN-01 - IDOT P01	USER NAME =	DESIGNED -- PAP	REVISED --	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LOOMIS AVENUE TO BROADWAY AVENUE 154TH STREET STREET LIGHTING PLAN			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED -- PKB	REVISED --		SCALE: 1"=50'			1664	06-00179-00-LS	COOK	9	3
	PLOT DATE = 02-19-14	DRAWN -- ACAD	REVISED --		SHEET NO. 3 OF 9 SHEETS STA. TO STA.			CONTRACT NO. 61A13				
		CHECKED -- ACAD	REVISED --					FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT TE-00D1(733)				



LOAD TABULATION CONTROLLER #1			
CIRCUIT	WATTS	AMPS @ 240V	
		RED PHASE	BLACK PHASE
A	4,320	19.20	
B	4,050		18.00
C	1,350	6.00	
D	1,350		6.00
E	540	2.40	
F	845		3.70
G	845	3.70	
H	540		2.40
SUBTOTAL	13,840	31.30	30.10
TOTAL AMPS @ 240 V		61.40	



TYPICAL POLE WIRING



LEGEND

- LUMINAIRE, 150W HPS, 240V
WITH COACH LIGHT, 70W HPS, 240V
- LUMINAIRE, 250W HPS, 240V
- FUSE, 3.5 AMP
- FUSE, 3.0 AMP FOR 150W LUMINAIRE
2.0 AMP FOR 70W COACH LIGHT
- A1 LUMINAIRE CIRCUIT
- CIRCUIT BREAKER
- CONNECTION

FILE NAME = 13544-DTLS-01 - P01

USER NAME =

DESIGNED -- PAP

REVISED --

CHECKED -- PKB

REVISED --

PLOT SCALE =

DRAWN -- MED

REVISED --

PLOT DATE = 02-19-14

CHECKED -- MED

REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STREET LIGHTING IMPROVEMENTS
154TH STREET
SINGLE LINE WIRING DIAGRAM

SCALE: 1"=50'

SHEET NO. 4 OF 9 SHEETS

STA. TO STA.

F.A.U.
RTE.

SECTION

COUNTY

TOTAL SHEETS

SHEET NO.

1664

06-00179-00-LS

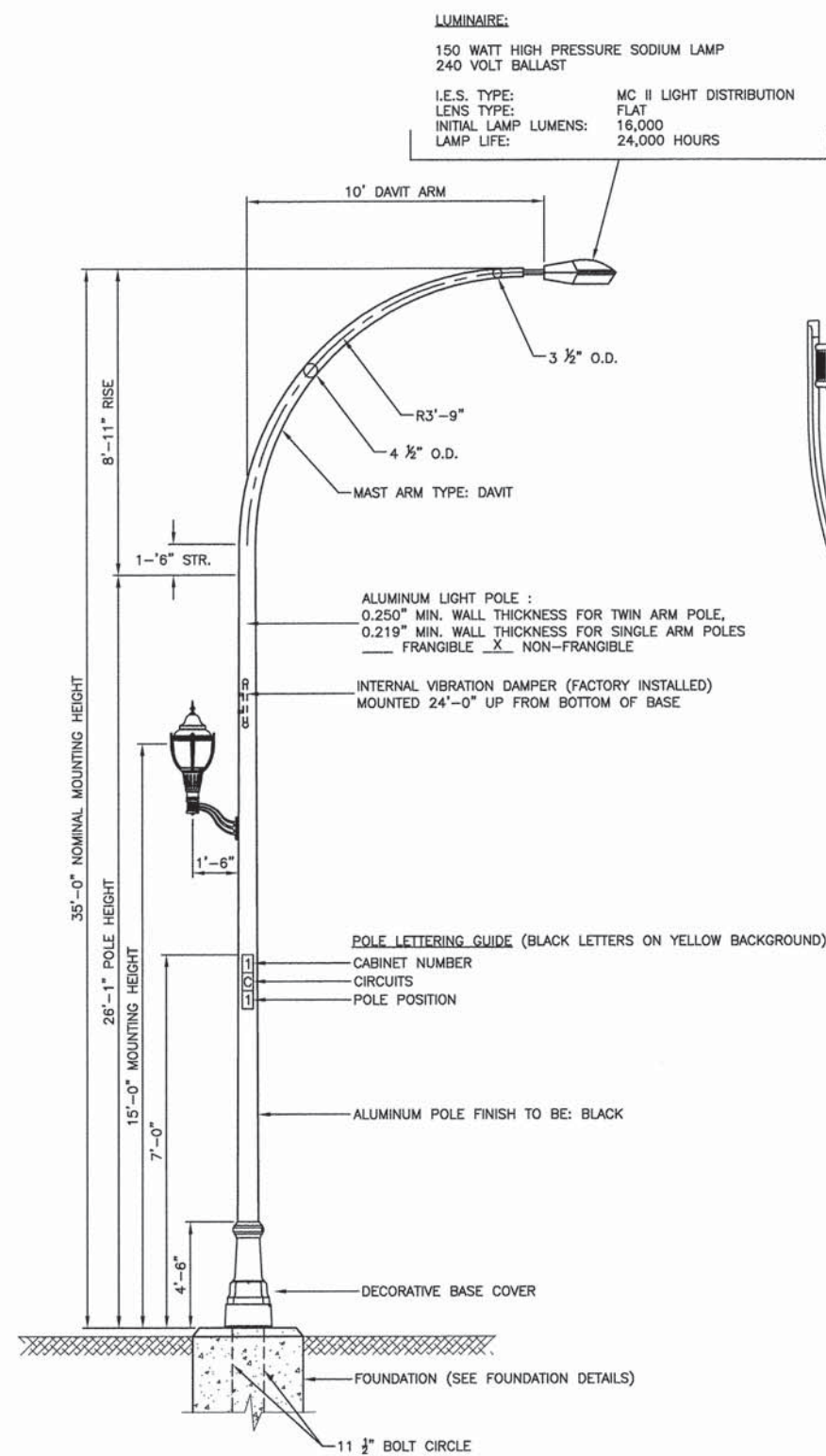
COOK

9

4

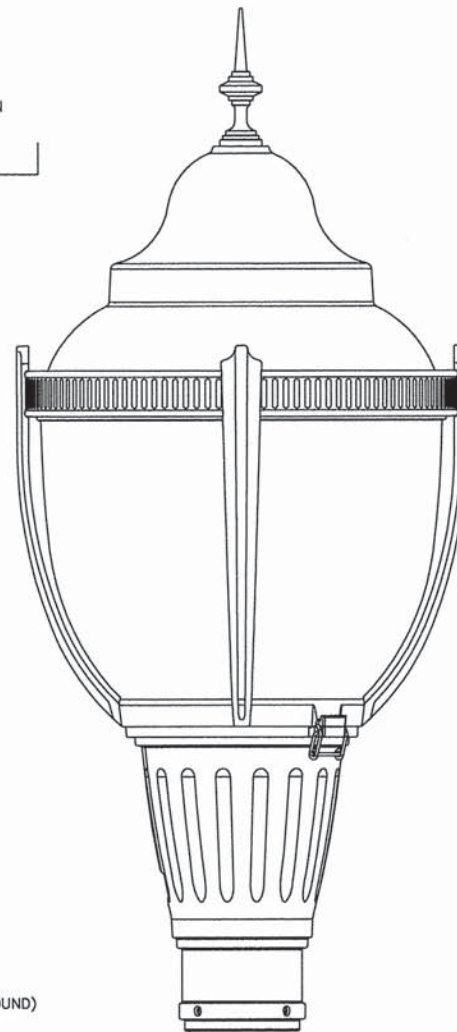
CONTRACT NO. 61A13

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT TE-00D1(733)



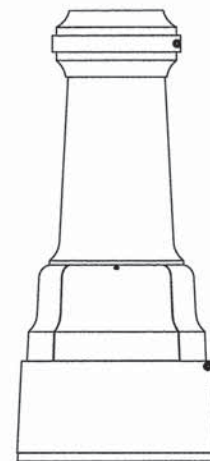
- NOTES:**
1. THE LIGHTING UNITS SHALL MEET AASHTO DESIGN CRITERIA. DESIGN FOR 90 M.P.H. WIND WITH 30% GUST AND 75 POUND LUMINAIRE HAVING AN E.P.A. OF 1.6 SQ.FT. AND PROPER ICE LOADING.
 2. ALUMINUM ALLOY 6063-T6 SHALL BE USED.

TYPICAL POLE INSTALLATION
HARVEY - BROADWAY AVENUE

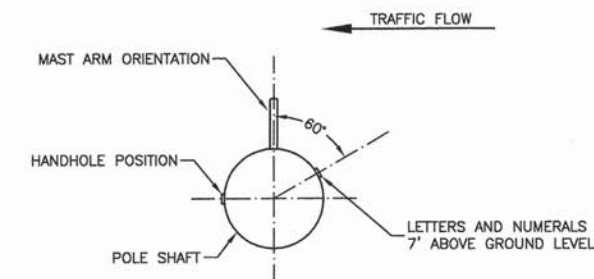


DETAIL OF COACH LIGHT

- LUMINAIRE:**
70 WATT HIGH PRESSURE SODIUM LAMP
240 VOLT BALLAST
- I.E.S. TYPE: SC III LIGHT DISTRIBUTION
LENS TYPE: ACRYLIC DR
INITIAL LAMP LUMENS: 5,950
LAMP LIFE: 24,000 HOURS



DETAIL OF BASE OF LIGHT POLE



**POSITION OF HANDHOLE AND
NUMERALS ON POLE**

FILE NAME = 13544-DTLS-01 - P02

USER NAME =	DESIGNED -- PAP	REVISED --
	CHECKED -- PKB	REVISED --
PLOT SCALE =	DRAWN -- MED	REVISED --
PLOT DATE = 02-19-14	CHECKED -- MED	REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

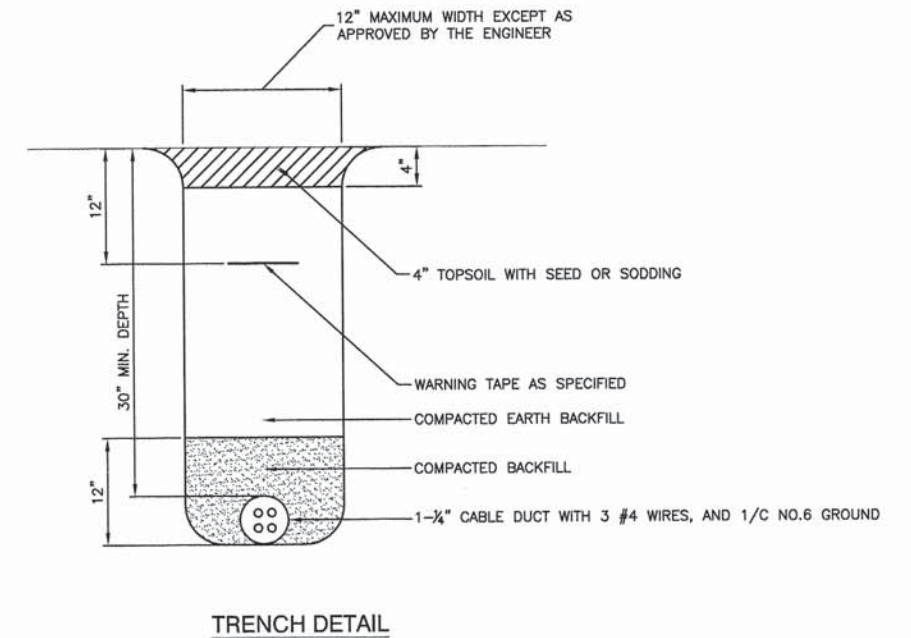
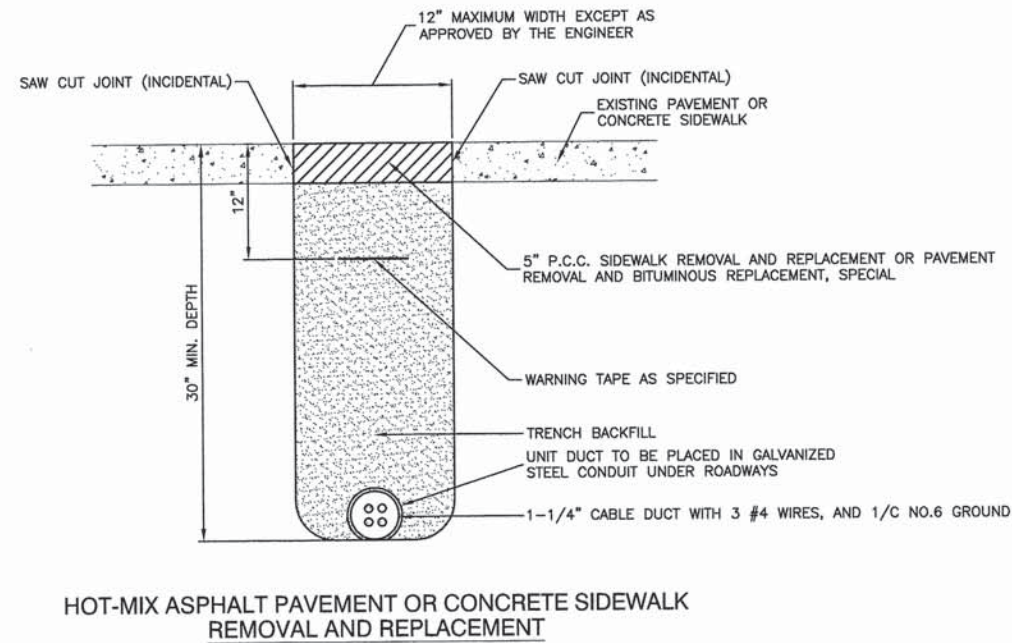
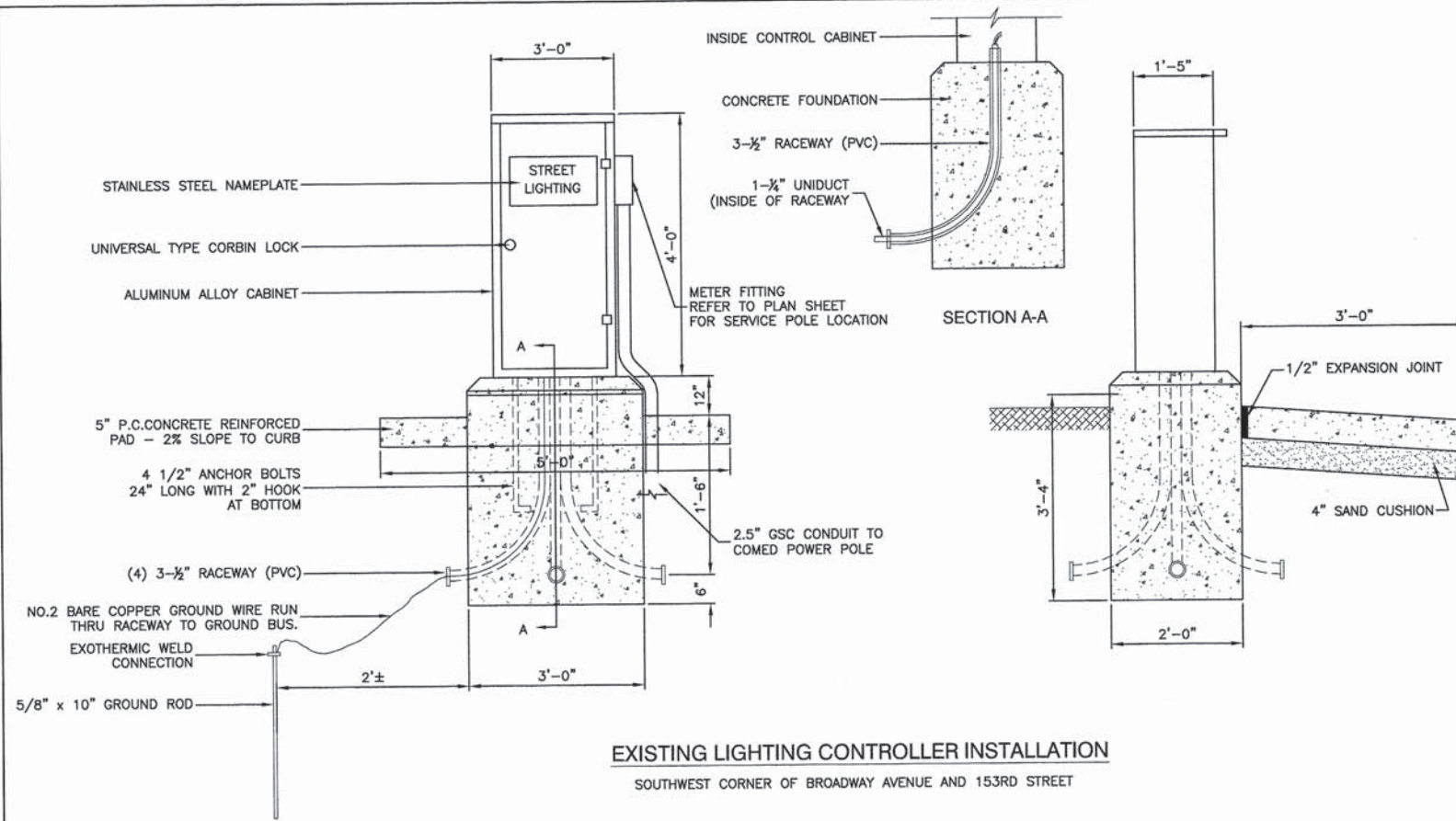
STREET LIGHTING IMPROVEMENTS
154TH STREET
CONSTRUCTION DETAILS

SCALE: 1"=50' SHEET NO. 5 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1664	06-00179-00-LS	COOK	9	5
CONTRACT NO. 61A13				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT TE-00D1(733)				

PLAN	SUBMITTED	DATE
	NOTED	
	BY	
	DATE	
	FILE NAME	
	NO.	

PROFILE	SUBMITTED	DATE
	NOTED	
	BY	
	DATE	
	FILE NAME	
	NO.	



FILE NAME = 13544-DTLS-01 - P04

USER NAME =	DESIGNED -- PAP	REVISED --
	CHECKED -- PKB	REVISED --
PLOT SCALE =	DRAWN -- ACAD	REVISED --
PLOT DATE = 02-19-14	CHECKED -- ACAD	REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOOMIS AVENUE TO BROADWAY AVENUE
154TH STREET
CONSTRUCTION DETAILS

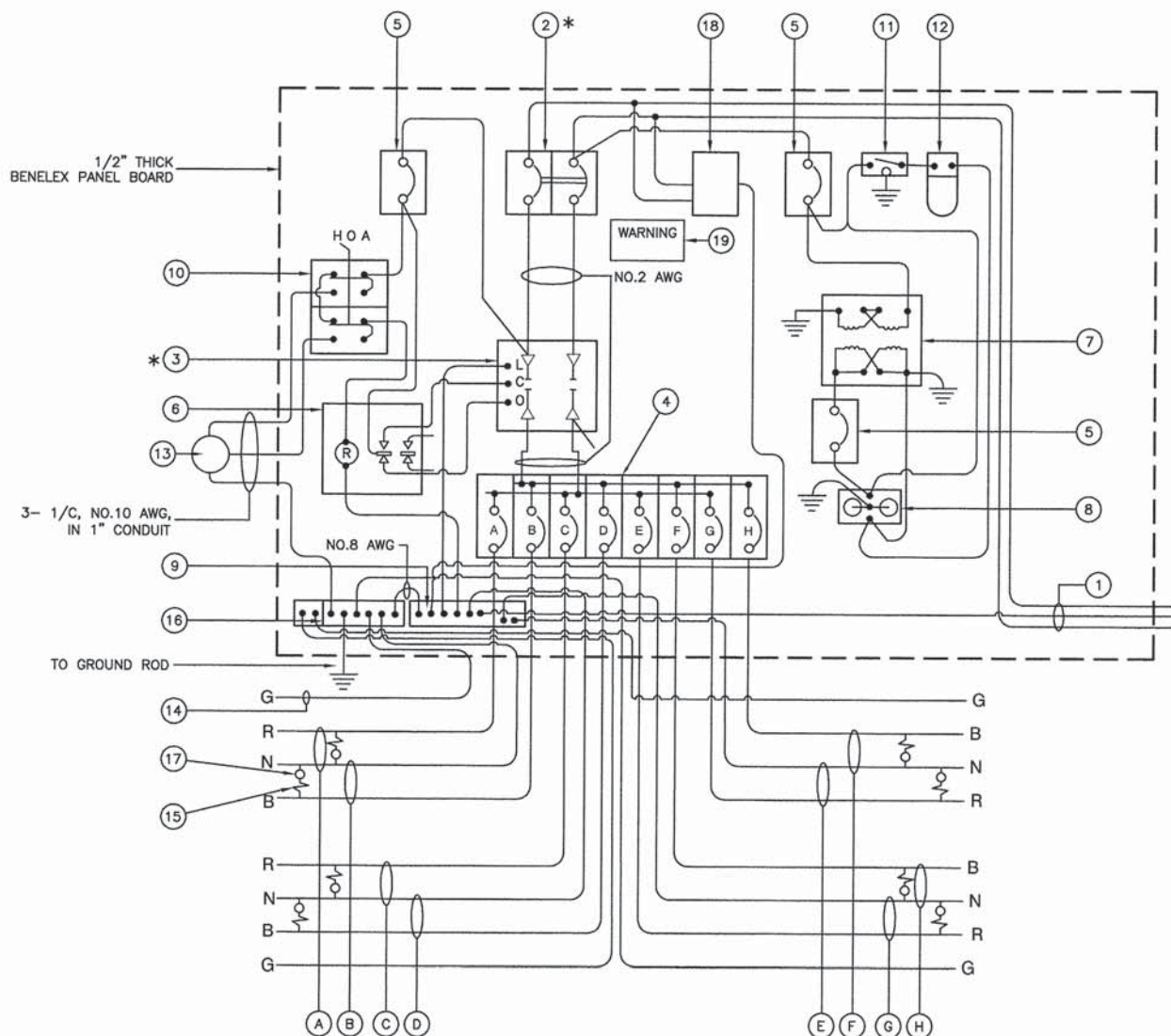
SCALE: 1"=50'

SHEET NO. 6 OF 9 SHEETS

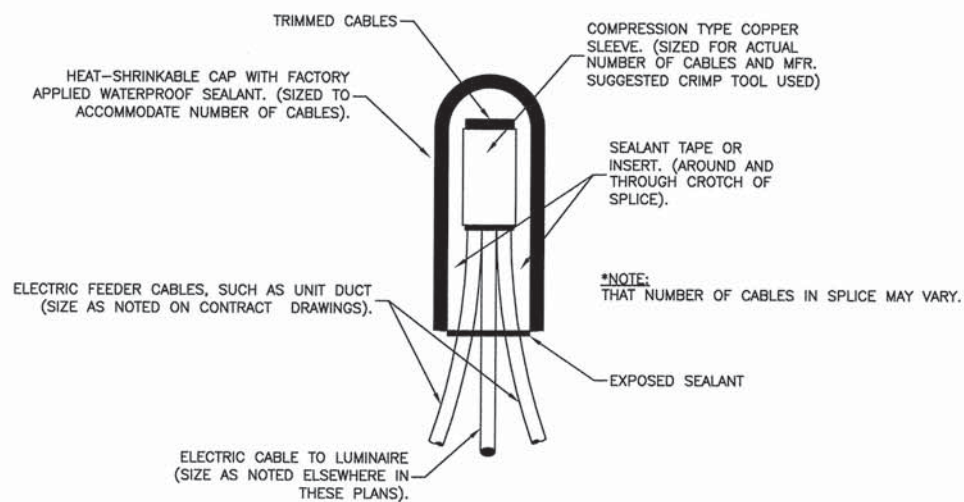
STA.

TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1664	06-00179-00-LS	COOK	9	6
CONTRACT NO. 61A13				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT TE-00D1(733)				



EXISTING CONTROLLER #1 WIRING DIAGRAM



SPlicing ELECTRIC Cables
BASIC MATERIALS AND METHODS

CONTROLLER WIRING DIAGRAM LEGEND

- 3-1/C, NO. 1/0 600V SERVICE WIRE IN 2" DIA GALVANIZED STEEL CONDUIT FOR 240/480 VOLT, 1Ø, 3 WIRE, 60HZ. SERVICE.
 - (1) 60 AMP MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT, 100 AMP BASE, NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA - 14000 AMP AT 480 V.
* REPLACE WITH 100 AMP MAIN BREAKER
 - (1) 60 AMP CONTACTOR SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, 600 VOLT
* REPLACE WITH 100 AMP CONTRACTOR SWITCH
 - (4) 30 AMP CIRCUIT BREAKER, 1 POLE, 240 VOLT, 100 AMP BASE, NON-INTER-CHANGEABLE TRIP RATING NEMA - 14000 AMP AT 240 VOLTS.
 - (3) 20 AMP CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 240 VOLT, 100 AMP BASE, NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA 14000 AMP AT 240 V.
 - (1) 20 AMP, 1 POLE DOUBLE THROW, 240 VOLT RELAY
 - (1) 1.5 KVA, SINGLE PHASE, ENCAPSULATED TRANSFORMER 240 X 480/120 X 240 VOLT, 60HZ.
 - (1) 20 AMP, 120 VOLT DUPLEX GFCI RECEPTACLE.
 - NEUTRAL BUS BAR, 1/4"x1"x12" LONG MOUNTED ON PANEL WITH TAPS.
 - 3 POSITION SELECTOR SWITCH
 - SWITCH FOR LIGHTING FIXTURE MOUNTED IN BOX.
 - WEATHER-PROOF INCANDESCENT LIGHTING FIXTURE WITH 60 WATT, 120 V LAMP.
 - PHOTOCELL MOUNTED TOP OF NEAREST LIGHT POLE, 240 V.
 - NO.2 AWG INSULATED GROUND WIRE
 - IN-LINE FUSEHOLDER WITH FUSE AS NOTED IN FUSE TABLE
 - GROUND BUS BAR 1/4"x1"x12" MINIMUM LENGTH MOUNTED ON PANEL WITH TAPS.
 - LUMINAIRE
 - WARNING PLATE TO READ: WARNING, MAINTENANCE CIRCUIT IS LIVE WHEN MAIN BREAKER IS SWITCHED OFF.
- | | | | |
|-----|-----------------|-----|-----------------|
| (A) | CIRCUIT (RED) | (E) | CIRCUIT (RED) |
| (B) | CIRCUIT (BLACK) | (F) | CIRCUIT (BLACK) |
| (C) | CIRCUIT (RED) | (G) | CIRCUIT (RED) |
| (D) | CIRCUIT (BLACK) | (H) | CIRCUIT (BLACK) |

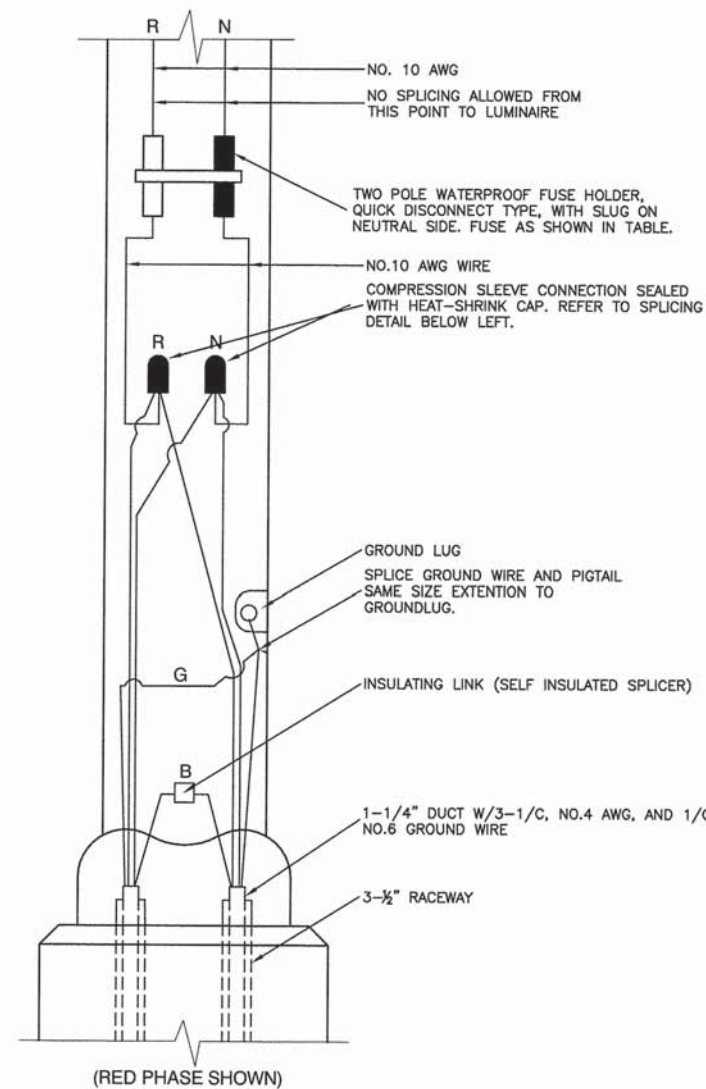
* DENOTES SCOPE OF WORK FOR 154TH STREET CONTRACT

LIGHTING GENERAL NOTES

- ALL WORK TO CONFORM TO THE MOST RECENT NATIONAL ELECTRICAL CODE AND ANY APPLICABLE LOCAL CODES.
- CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES BEFORE TRENCHING OR AUGERING.
- BEFORE INSTALLING STANDARDS NEAR OVERHEAD FACILITIES CALL C.E. Co. FOR APPROVAL OF LOCATION.
- FOR LOCATION OF EXISTING UNDERGROUND ELECTRICAL CABLE CALL C.E. Co.
- CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO RESTORE ANY SPECIALIZED LANDSCAPING, (i.e. DECORATIVE ROCKS, SHRUBS, PLANTS, ECT.) OR SHALL REPLACE IT, THE COST OF WHICH SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.
- CARE IS TO BE TAKEN AS NOT TO DAMAGE ANY OF THE EXISTING TRAFFIC SIGNAL CONDUIT, MAGNETIC DETECTORS AND EQUIPMENT. IF ANY OF THE TRAFFIC SIGNAL CONDUIT AND/OR EQUIPMENT IS DAMAGED. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE THE CONDUIT AND/OR EQUIPMENT AT NO COST TO THE CITY OR STATE.
- THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENT FOR BURIED WARNING TAPE, SPECIFIED AS PART OF "TRENCH AND BACK FILL FOR ELECTRICAL WORK". THE INSTALLATION OF THE TAPE SHALL BE INSPECTED AND APPROVED BY THE RESIDENT ENGINEER PRIOR TO BACKFILLING OR DURING PLOWING OPERATIONS, AS APPLICABLE.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR THE ESTABLISHMENT OF FINISHED GRADE. THE RESIDENT ENGINEER MAY ASSIST THE CONTRACTOR, AS APPLICABLE, BUT THE RESPONSIBILITY FOR COORDINATING THE FINISHED GRADE ELEVATION WITH THE TOP OF THE FOUNDATION HEIGHTS AND THE LIGHT SHALL REMAIN WITH THE CONTRACTOR.
- NO POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED, AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR WIRE MARKERS AND SHALL TAG ALL WIRE ACCORDINGLY.
- EQUIPMENT GROUND CONDUCTORS SHALL BE SPLICED AND BONDED AT EACH LIGHT POLE OR OTHER PIECE OF EQUIPMENT.
- UNDERGROUND SPLICES OF LIGHTING CONDUCTORS WILL NOT BE ALLOWED EXCEPT AT LIGHT POLE BASE.
- CONDUITS AND UNIT DUCTS MUST BE POSITIONED IN THE FIELD TO AVOID CONFLICT WITH TREE, BUSHES, DRAINS AND OTHER UTILITIES.

NOMINAL WATTAGE	FUSE SIZE
250	3.5 AMP
150 COBRA HEAD PLUS 70 COACH	3.0 AMP

LUMINAIRE FUSE SIZE TABLE



POLE HANDHOLE WIRING DIAGRAM
(TYPICAL FOR SINGLE LUMINAIRE INSTALLATION)

NOTE:
ALLOW 36" LOOP OF CABLES TO INSURE SUFFICIENT SLACK FOR WITHDRAWAL OF THE CONNECTORS OUTSIDE OF THE POLE HANDHOLE.

FILE NAME = 13544-DTL5-01 - P03

USER NAME =	DESIGNED -- PAP	REVISED --
PLOT SCALE =	CHECKED -- PKB	REVISED --
PLOT DATE = 02-19-14	DRAWN -- ACAD	REVISED --
	CHECKED -- ACAD	REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOOMIS AVENUE TO BROADWAY AVENUE
154TH STREET
CONSTRUCTION DETAILS

SCALE: 1"=50'

SHEET NO. 7 OF 9 SHEETS

STA. TO STA.

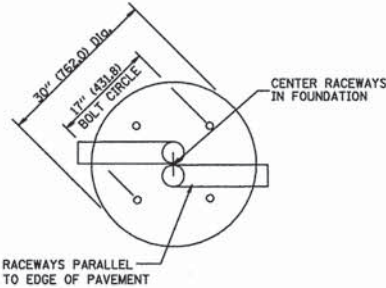
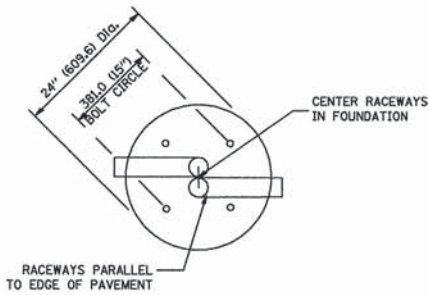
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1664	06-00179-00-LS	COOK	9	7
CONTRACT NO. 61A13				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT TE-00D1(733)				

PLAN	SURVEYED PLOTTED CHECKED BY	DATE	BY	DATE

PROFILE	SURVEYED PLOTTED CHECKED BY	DATE	BY	DATE

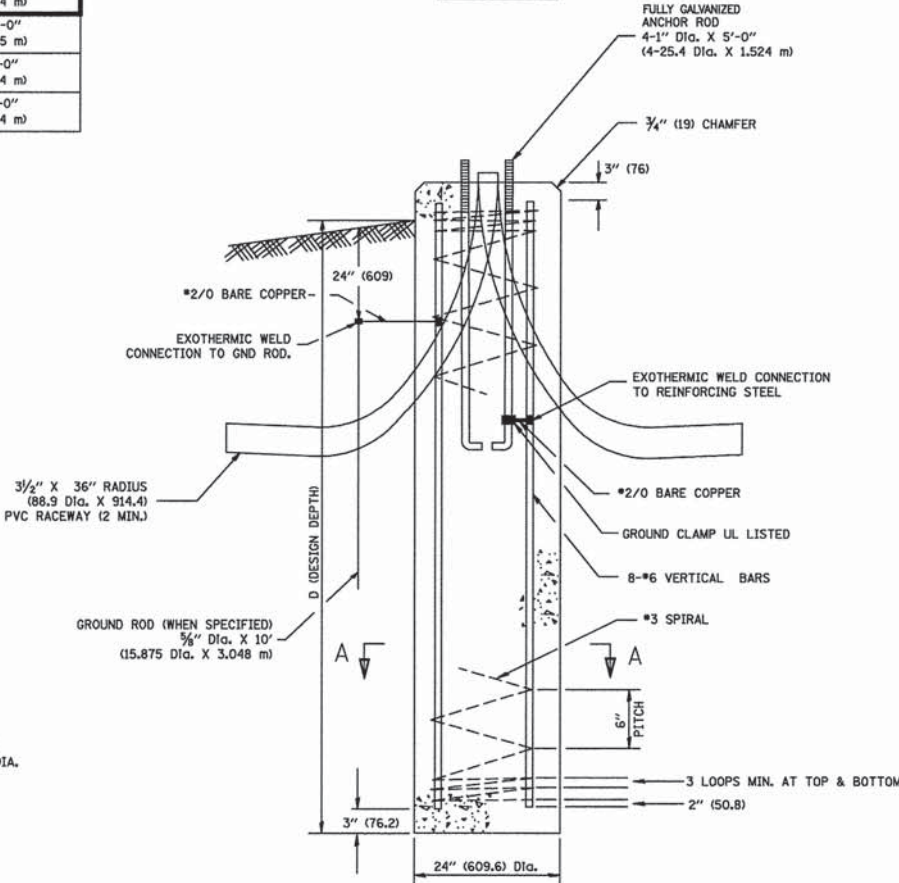
LIGHT POLE FOUNDATION DEPTH TABLE
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY $Q_u = 0.375$ TON/SQ. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY $Q_u = 0.75$ TON/SQ.FT	9'-6" (2.09 m)	10'-9" (3.23 m)
STIFF CLAY $Q_u = 1.50$ TON/SQ. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND $\phi = 34^\circ$	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND $\phi = 37.5^\circ$	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND $\phi = 40^\circ$	7'-9" (2.36 m)	9'-0" (2.74 m)

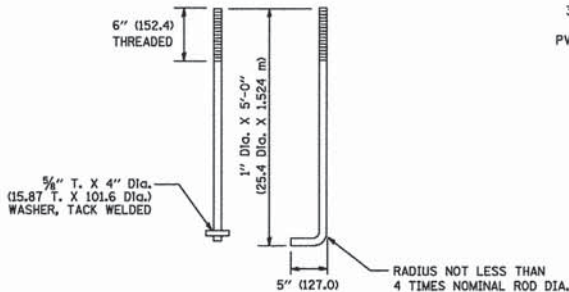


TOP VIEW

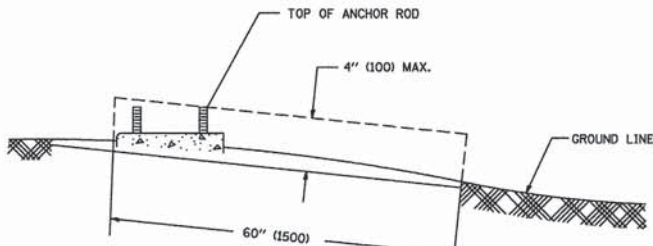
TOP VIEW



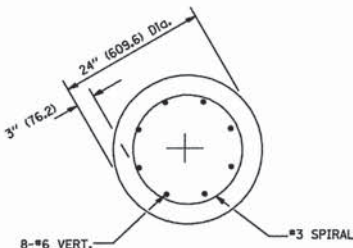
FOUNDATION DETAIL



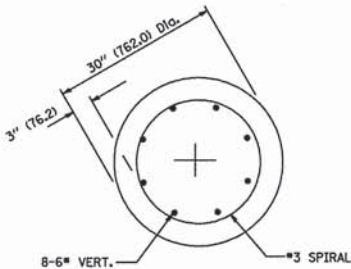
ANCHOR ROD DETAIL



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 SI. 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 4H, 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.

FILE NAME = 13544-DTSL-01 - P05

USER NAME =

DESIGNED — PAP

REVISED —

CHECKED — PKB

REVISED —

PLOT SCALE =

DRAWN — ACAD

REVISED —

PLOT DATE = 02-19-14

CHECKED — ACAD

REVISED —

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOOMIS AVENUE TO BROADWAY AVENUE
154TH STREET
CONSTRUCTION DETAILS

SCALE: 1"=50'

SHEET NO. 8 OF 9 SHEETS

STA.

TO STA.

F.A.U.
RTE.

SECTION

COUNTY

TOTAL
SHEETS

SHEET
NO.

1664

06-00179-00-LS

COOK

9

8

CONTRACT NO. 61A13

FED. ROAD DIST. NO. 1

ILLINOIS

FED. AID PROJECT TE-00D1(733)

PLAN	SURVEYED PLOTTED CHECKED BY DATE	NOTE BOOK NO.	BY	DATE

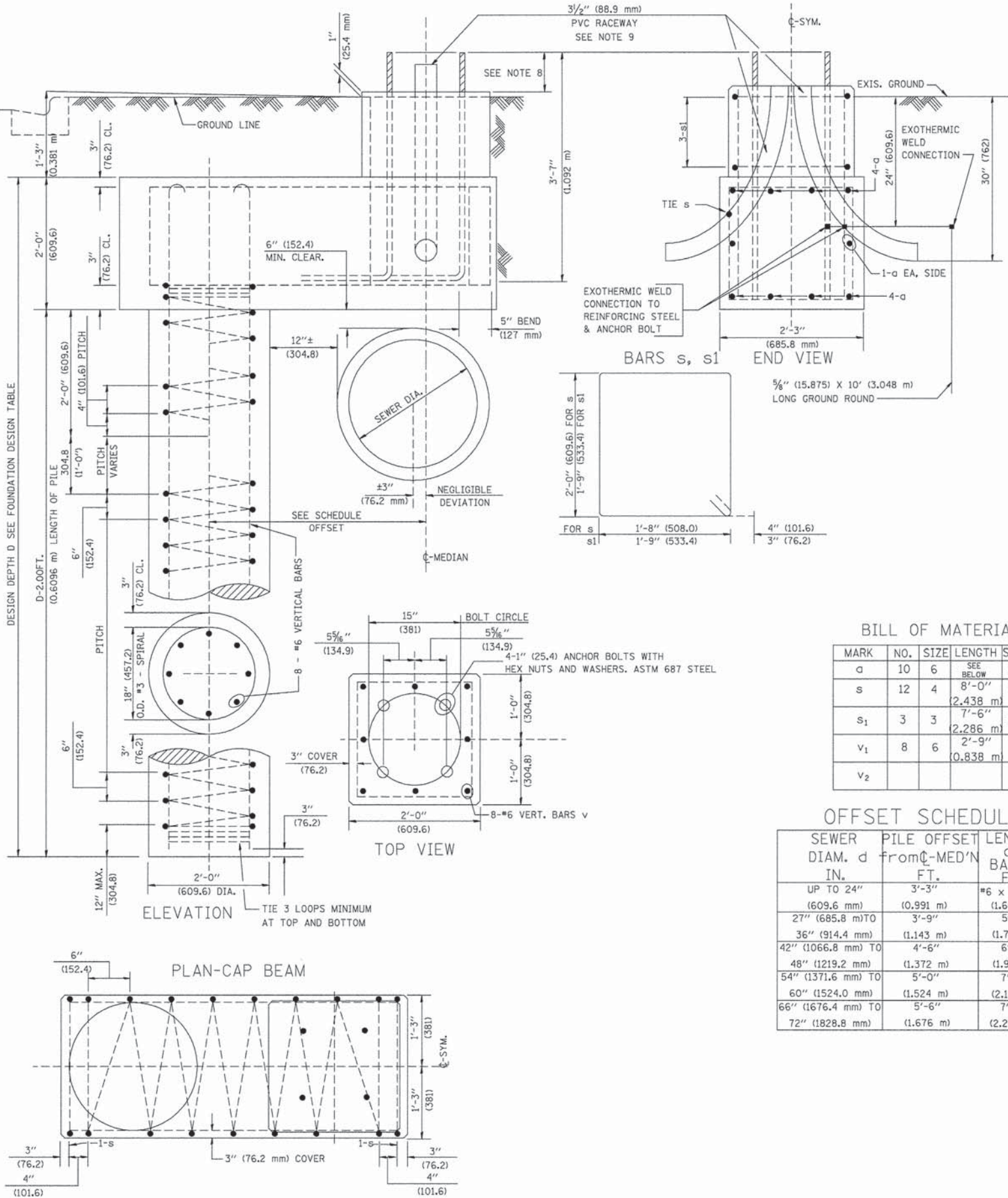
PROFILE	SURVEYED PLOTTED CHECKED BY DATE	NOTE BOOK NO.	BY	DATE

FOUNDATION DESIGN TABLE

TYPE OF SOIL	DESIGN DEPTH OF FOUNDATION		REINFORCEMENT IN FOUNDATION			
	SINGLE ARM D	TWIN ARM D	SINGLE ARM		TWIN ARM	
			VERT BARS	SPIRAL	VERT BARS	SPIRAL
SOFT CLAY	13'-0" (3.962 m)	15'-0" (4.572 m)	8-#6X12'-6" (3.810 m)	#3X122' (37.186 m)	8-#6X14'-3" (4.343 m)	#3X141' (42.977 m)
MEDIUM CLAY	9'-6" (2.896 m)	10'-9" (3.277 m)	8-#6X9'-0" (2.743 m)	#3X90' (27.432 m)	8-#6X10'-0" (3.048 m)	#3X100' (30.480 m)
STIFF CLAY	7'-0" (2.134 m)	8'-0" (2.438 m)	8-#6X6'-6" (1.981 m)	#3X66' (20.112 m)	8-#6X7'-6" (2.286 m)	#3X76' (23.165 m)
LOOSE SAND	9'-0" (2.743 m)	10'-0" (3.048 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)	8-#6X9'-6" (2.896 m)	#3X94' (28.651 m)
MEDIUM SAND	8'-3" (2.515 m)	9'-0" (2.743 m)	8-#6X8'-0" (2.438 m)	#3X78' (23.774 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)
DENSE SAND	7'-9" (2.362 m)	9'-0" (2.743 m)	8-#6X7'-6" (2.286 m)	#3X73' (22.250 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)
ROCK OR SOLIDIFIED SLAG	5'-0" (1.524 m)	5'-0" (1.524 m)	NONE	NONE	NONE	NONE

NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ENGINEER SHALL DETERMINE THE CLASS OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE.
- EXCAVATION OF THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER, 24" (609.6 mm) OR 30" (762.0 mm) IN DIAMETER.
- 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 BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORM.
- 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.
- THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF FOUNDATION WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS. IF LIGHT POLE IS MOUNTED WITHOUT BREAKAWAY DEVICE, ANCHOR BOLTS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE TOP OF THE FOUNDATION. THE CONTRACTOR SHALL CONFIRM ANCHOR BOLT EXTENTION WITH ENGINEER.
- RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
- THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE LIGHT IS ERRECTED.



BILL OF MATERIAL

MARK	NO.	SIZE	LENGTH	SHAPE
d	10	6	SEE BELOW	—
s	12	4	8'-0" (2.438 m)	□
s ₁	3	3	7'-6" (2.286 m)	□
v ₁	8	6	2'-9" (0.838 m)	—
v ₂				

OFFSET SCHEDULE

SEWER DIAM. d IN.	PILE OFFSET from C-MED'N FT.	LENGTH of BAR a FT.
UP TO 24" (609.6 mm)	3'-3" (0.991 m)	#6 x 5'-3" (1.600 m)
27" (685.8 mm) TO 36" (914.4 mm)	3'-9" (1.143 m)	5'-9" (1.753 m)
42" (1066.8 mm) TO 48" (1219.2 mm)	4'-6" (1.372 m)	6'-6" (1.981 m)
54" (1371.6 mm) TO 60" (1524.0 mm)	5'-0" (1.524 m)	7'-0" (2.134 m)
66" (1676.4 mm) TO 72" (1828.8 mm)	5'-6" (1.676 m)	7'-6" (2.286 m)

FILE NAME = 13544-DTSL-01 - P06

USER NAME =	DESIGNED — PAP	REVISED —
	CHECKED — PKB	REVISED —
PLOT SCALE =	DRAWN — ACAD	REVISED —
PLOT DATE = 02-19-14	CHECKED — ACAD	REVISED —

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOOMIS AVENUE TO BROADWAY AVENUE
154TH STREET
CONSTRUCTION DETAILS

SCALE: 1"=50' SHEET NO. 9 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1664	06-00179-00-LS	COOK	9	9
CONTRACT NO. 61A13				
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	TE-00D1(733)	