

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	09-00046-00-LT	COOK	20	1
F.H.W.A. REG.		ILLINOIS PROJECT: M-9003(587)		
CONTRACT NO. 63518				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**
FAP 348 (HARLEM AVENUE)
FAU 1587 (127ST STREET) TO FAP 0344 ILLINOIS RTE. 83 (119TH STREET)

INDEX OF SHEETS

- 1 COVER SHEET, INDEX TO SHEETS, LOCATION MAP, INDEX OF STANDARDS
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- 12-16 LIGHTING DETAILS
- 17 LIGHTING CONTROLLER
- 18-20 PROPOSED RESTORATION PLAN

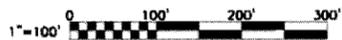
PROJECT LOCATED IN THE CITY OF PALOS HEIGHTS

LIST OF ILLINOIS DOT HIGHWAY STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 280001-05 TEMPORARY EROSION CONTROL SYSTEMS
- 701006-03 OFF ROAD OPERATIONS
- 701301-04 LANE CLOSURE 2L, 2W, SHORT TIME OPERATIONS
- 701501-06 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
- 701801-04 LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
- 701901-01 TRAFFIC CONTROL DEVICES

DESIGN DESIGNATION = OTHER PRINCIPAL ARTERIAL
ADT = 32,000 VPD (2009)
POSTED SPEED LIMIT = 35 MPH

- SCALES**
- PLAN 1 INCH = 100 FEET
 - PROFILE HORIZ. 1 INCH = 100 FEET
 - PROFILE VERT. 1 INCH = 5 FEET
 - CROSS-SECTIONS HORIZ. 1 INCH = 10 FEET
 - CROSS-SECTIONS VERT. 1 INCH = 5 FEET

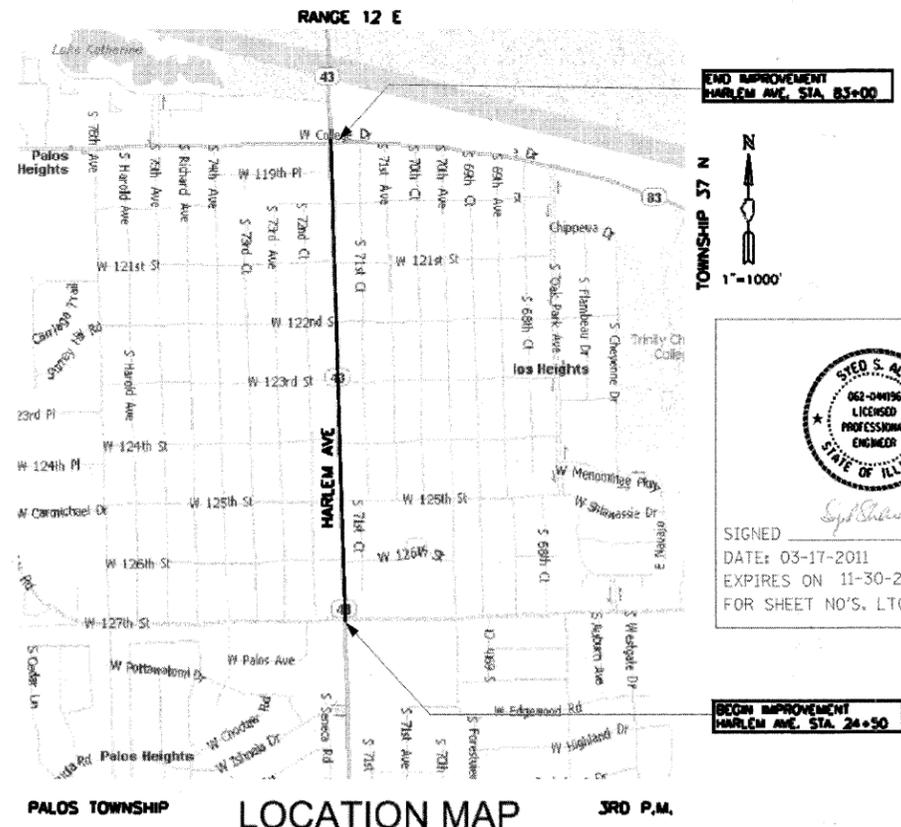


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



LIGHTING
SECTION NO.: 09-00046-00-LT
PROJECT NO. M-9003(587)
JOB NO. C-91-408-10

CITY OF PALOS HEIGHTS
COOK COUNTY



GENERAL ELECTRICAL PLAN NOTES

- THIS PROJECT INCLUDES THE INSTALLATION OF A NEW LIGHTING SYSTEM ALONG HARLEM AVE. FROM 127TH STREET TO 119TH STREET/COLLEGE DRIVE/ ILL. RTE. 83. THE EXISTING LIGHTING SHALL BE REMOVED WHEN PROPOSED LIGHTING IS OPERATIONAL.
- THE CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY COMPANY AT 1-866-639-3532 TO COORDINATE THE ELECTRIC SERVICE WORK.
- THE CONTRACTOR SHALL SUBMIT FOR THE RESIDENT ENGINEER'S REVIEW WITHIN 30 DAYS AFTER CONTRACT EXECUTION, EIGHT COPIES OF APPROVED MANUFACTURER'S PRODUCT DATA AND DETAILED SHOP DRAWINGS TO THE RESIDENT ENGINEER.
- TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE LIGHT POLES, THE LIGHT POLES SHALL NOT BE ERECTED AND/OR LEFT TO STAND WITHOUT LUMINAIRE. NOTE THAT THE LIGHT POLES WILL NOT BE PAID FOR UNTIL THE POLES ARE FULLY APPROVED AND THE LUMINAIRES ARE INSTALLED.
- THE QUANTITIES OF RACEWAY WHERE INDICATED IN THESE PLANS ARE APPROXIMATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND SHALL INSTALL RACEWAYS IN COMPLETE COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.
- THE CONTRACTOR SHALL NOTIFY J.U.L.I.E. 48 HOURS PRIOR TO WORK TO LOCATE AND MARK/STAKE ALL UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF PALOS HEIGHTS AT 708-361-1806 48 HOURS PRIOR TO WORK TO LOCATE AND MARK/STAKE ALL CITY OWNED UNDERGROUND UTILITIES.
- TRENCHES FOR LIGHTING RACEWAYS SHALL HAVE A MINIMUM DEPTH OF 30".
- WHERE SEPARATE CIRCUIT RUNS ARE TO BE INSTALLED PARALLEL WITH EACH OTHER, ONE COMMON TRENCH SHALL BE USED AND SHALL BE MEASURED ONLY ONCE FOR PAYMENT, AS TRENCH AND BACKFILL FOR ELECTRICAL WORK.
- THE CONTRACTOR SHALL COORDINATE THE FOUNDATION HEIGHTS WITH THE FINISHED SIDEWALK ELEVATION SO FOUNDATION DOES NOT PROTRUDE BEYOND SPECIFIED REQUIREMENTS.
- AT THE COMPLETION OF THE PROJECT THE LIGHTING SYSTEMS SHALL BE OWNED AND MAINTAINED BY THE CITY OF PALOS HEIGHTS.
- LIGHTING SYSTEM INSTALLATION SHALL CONFORM TO THE LATEST IDOT STANDARDS, NEC AND LOCAL CODES.
- ALL ELECTRICAL EQUIPMENT AND PRODUCTS SHALL BE U/L LISTED AND LABELED.
- THE CONTRACTOR SHALL SUBMIT FOUR (4) SETS OF FULL SIZED COMPLETE AND ACCURATE "RECORD DRAWINGS" TO THE ENGINEER FOR REVIEW AND COMMENT, AS SPECIFIED. THE "RECORD DRAWINGS" SHALL BE UPDATED ON A REGULAR BASIS AND DEPICT ALL ROADWAY LIGHTING MATERIAL INSTALLATIONS WITH ANY CHANGES INDICATED IN RED. "REPRODUCIBLE RECORD DRAWINGS" SHALL BE SUBMITTED AT LEAST 7 DAYS BEFORE SCHEDULING A FINAL INSPECTION. THIS WORK SHALL BE INCLUDED IN COST OF MAINTENANCE OF TEMPORARY LIGHTING SYSTEM ITEM.
- LIGHT POLE LOCATIONS ARE BASED ON AVAILABLE SURVEY DATA. CONTRACTOR SHALL MARK PROPOSED CONTROLLER AND LIGHT POLE LOCATIONS IN FIELD AND MAKE ADJUSTMENTS IN FIELD AS APPROVED BY THE ENGINEER.
- CONTRACTOR SHALL TAKE CARE INSTALLING UNIT DUCT AND AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES AND TREES. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL TAKE CARE INSTALLING LIGHT POLE FOUNDATIONS AND AVOID CONFLICTS WITH UNDERGROUND UTILITIES. SOME POLE LOCATIONS WHICH WILL REQUIRE OFFSET FOUNDATIONS HAVE BEEN INDICATED ON THE PLANS. THE ENGINEER SHALL DETERMINE IF ADDITIONAL LOCATIONS ARE REQUIRED.
- PROPOSED LIGHTING UNITS SHALL BE SET BACK 3.5 FT. FROM BACK OF CURB TO CENTER OF POLE ON EAST SIDE OF HARLEM AVE. AND SETBACK 5.5 FT FROM BACK OF CURB TO CENTER OF POLE ON WEST SIDE OF HARLEM AVE UNLESS OTHERWISE INDICATED. DUE TO LIMITED R.O.W. AND SIDEWALK POLES AS INDICATED SHALL BE SET BACK A MINIMUM OF 2FT. FROM FACE OF CURB TO FACE OF POLE/BASE. LIGHTING UNITS SHALL BE EQUIPPED WITH BREAKAWAY DEVICES. POLES TO BE INSTALLED BETWEEN 122ND ST. AND 124TH ST. SHALL NOT HAVE BREAKAWAY DEVICES DUE TO PEDESTRIAN TRAFFIC. PLACEMENT OF ALL LIGHT POLE FOUNDATIONS SHALL MEET ADA REQUIREMENTS.
- GROUND RODS SHALL BE FURNISHED AND INSTALLED AS REQUIRED PER PLAN FOR EACH LIGHTING UNIT. THE COST SHALL BE INCLUDED WITH PAY ITEM LIGHTING UNIT COMPLETE SPECIAL. GROUND RODS SHALL BE FURNISHED AND INSTALLED AS REQUIRED PER PLAN FOR EACH LIGHTING CONTROLLER. THE COST SHALL BE INCLUDED WITH PAY ITEM LIGHTING CONTROLLER, SPECIAL.

SUMMARY OF QUANTITIES - ROADWAY LIGHTING IMPROVEMENT

PAY ITEM	DESCRIPTION	UNIT	QUANTITY
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	1793
21301048	EXPLORATION TRENCH 48" DEPTH	FOOT	200
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	200
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	200
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	200
25200100	SODDING	SQ YD	1793
+ 42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	2319
+ 42400800	DETECTABLE WARNINGS	SQ FT	204
+ 44000600	SIDEWALK REMOVAL	SQ FT	2319
+ 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	100
+ 66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1
+ 66900530	SOIL DISPOSAL ANALYSIS	FACH	4
67100100	MOBILIZATION	L SUM	1
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1
80400100	ELECTRIC SERVICE INSTALLATION	EACH	3
* 80400200	ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	425
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	1290
81603090	UNIT DUCT, 600V, 3-1/C NO. 4, 1/C NO. 6 GROUND (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	12065
81702180	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 3/0	FOOT	1329
81800300	AERIAL CABLE, 3-1/C NO. 2 WITH MESSENGER WIRE	FOOT	10795
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	125
83057340	LIGHT POLE, WOOD, 60 FOOT, CLASS 3	EACH	2
83600200	LIGHT POLE FOUNDATION 24" DIAMETER	FOOT	520
* 84100110	REMOVAL OF TEMPORARY LIGHTING UNIT	EACH	55
84200804	REMOVAL OF POLE FOUNDATION	EACH	53
84500110	REMOVAL OF LIGHTING CONTROLLER	EACH	1
84500130	REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1
* X8250500	LIGHTING UNIT COMPLETE, SPECIAL	EACH	66
* X8250505	LIGHTING CONTROLLER, SPECIAL	EACH	3
* X8360215	LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	140
* X8410118	MAINTENANCE OF TEMPORARY LIGHTING SYSTEM	L SUM	1
* + XX005845	MODULAR CONCRETE PAVERS (SPECIAL)	SQ FT	16850
+ DENOTES SPECIALTY ITEMS			
* REQUIRES SPECIAL PROVISIONS			

20. EXISTING LIGHTING UNITS AND CONTROLLER AT 124TH STREET SHALL REMAIN TO PROVIDE TEMPORARY LIGHTING WHILE PROPOSED LIGHTING IS INSTALLED. THE COST FOR THIS WORK SHALL BE INCLUDED IN PAY ITEM MAINTENANCE OF TEMPORARY LIGHTING SYSTEM.

21. AERIAL CABLE SHALL BE CONNECTED TO THE EXISTING LIGHTING UNITS PRIOR TO REMOVAL OF EXISTING DUCT AND CONDUCTORS TO FACILITATE THE INSTALLATION OF PROPOSED UNIT DUCT. THE COST FOR REMOVAL OF TEMPORARY WOOD POLES, AERIAL CABLE AND EXISTING DUCT AND CONDUCTORS (AS REQUIRED BY THE ENGINEER) SHALL BE INCLUDED IN PAY ITEM REMOVAL OF TEMPORARY LIGHTING UNIT.

22. STAMPED BITUMINOUS WALKWAY REMOVAL (TYPICAL) COST INCLUDED IN BRICK PAVER INSTALLATION.

23. THE GENERAL CONTRACTOR IS REQUIRED TO HIRE AN ENVIRONMENTAL FIRM WITH AT LEAST FIVE (5) DOCUMENTED LEAKING UNDERGROUND STORAGE TANK CLEANUPS OR THAT IS PRE-QUALIFIED IN HAZARDOUS WASTE BY THE DEPARTMENT TO REMEDIATE THE SOIL CONTAMINATION AND MONITOR FOR WORKER PROTECTION.

LEGEND

- PROPOSED LIGHTING UNIT: 40FT MH, 6FT MA, 400W 120V MCII METAL HALIDE LUMINAIRE AND 16" MH, 2FT MA LED LUMINAIRE 66W, 120V, SSCIII
- EXISTING LIGHTING UNIT TO BE REMOVED
- EXISTING LIGHTING UNIT TO REMAIN
- EXISTING LIGHTING UNIT FOR TEMPORARY LIGHTING
- UNIT DUCT, 600V, 3-1/C # 4, 1/C #6 GROUND (XLP-TYPE USE) 1 1/4" DIA. POLYETHYLENE
- AERIAL CABLE 3-1/C NO. 2 WITH MESSENGER WIRE
- TEMPORARY WOOD POLE, 60 FOOT, CLASS 3
- ELECTRIC SERVICE POLE
- EXISTING LIGHTING CONTROLLER
- PROPOSED LIGHTING CONTROLLER
- RIGID GALVANIZED STEEL CONDUIT PUSHED AS INDICATED
- RIGID GALVANIZED STEEL CONDUIT IN TRENCH AS INDICATED
- GROUND ROD
- ELECTRIC CABLE IN CONDUIT 2", 3-1/C NO. 3/0

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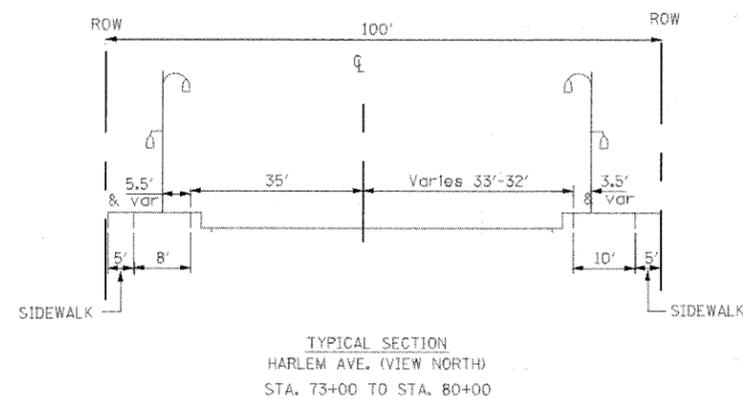
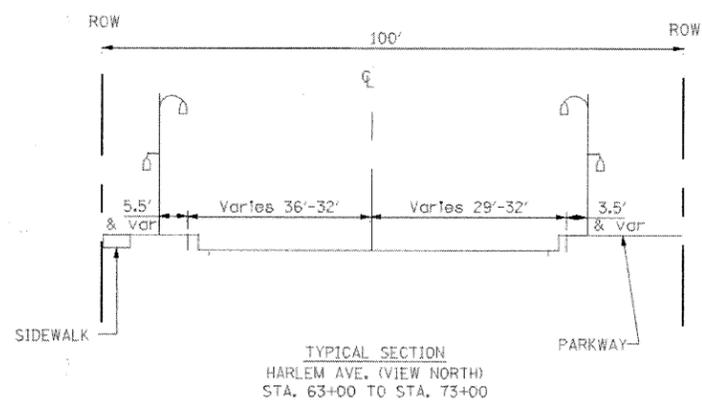
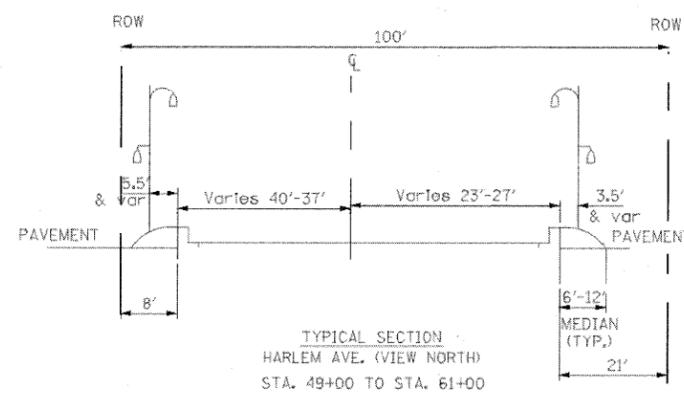
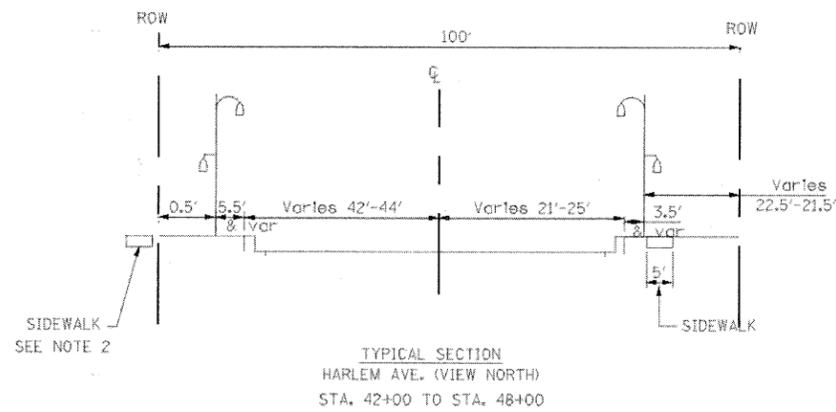
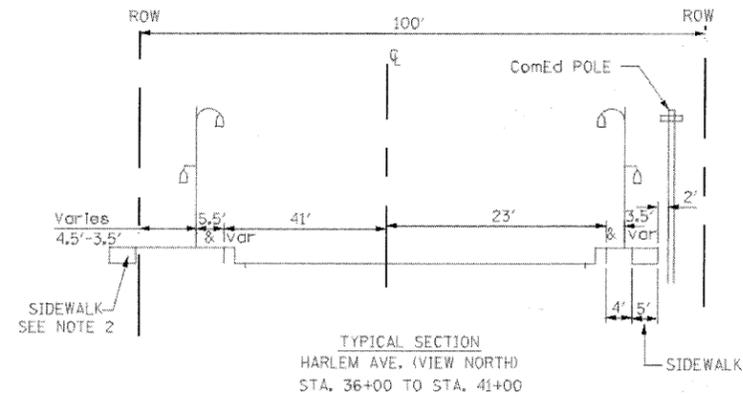
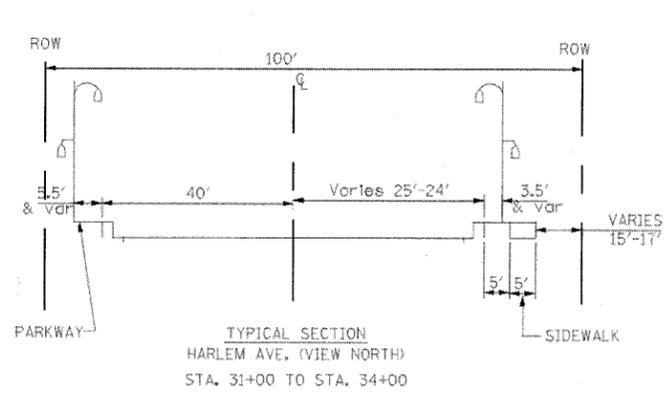
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
GENERAL NOTES, LEGEND AND SUMMARY OF QUANTITIES		34B	09-00046-00-LT	COOK	20	2
SCALE:		SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO. 63518		
ILLINOIS FED. AID PROJECT						

MORRIS ENGINEERING, INC.
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LTC-01



NOTES:

- PUBLIC SIDEWALK CROSS SLOPES CANNOT EXCEED 2.0%
- SIDEWALK LOCATION VARIES INSIDE AND OUTSIDE OF RIGHT-OF-WAY.

LTC-02

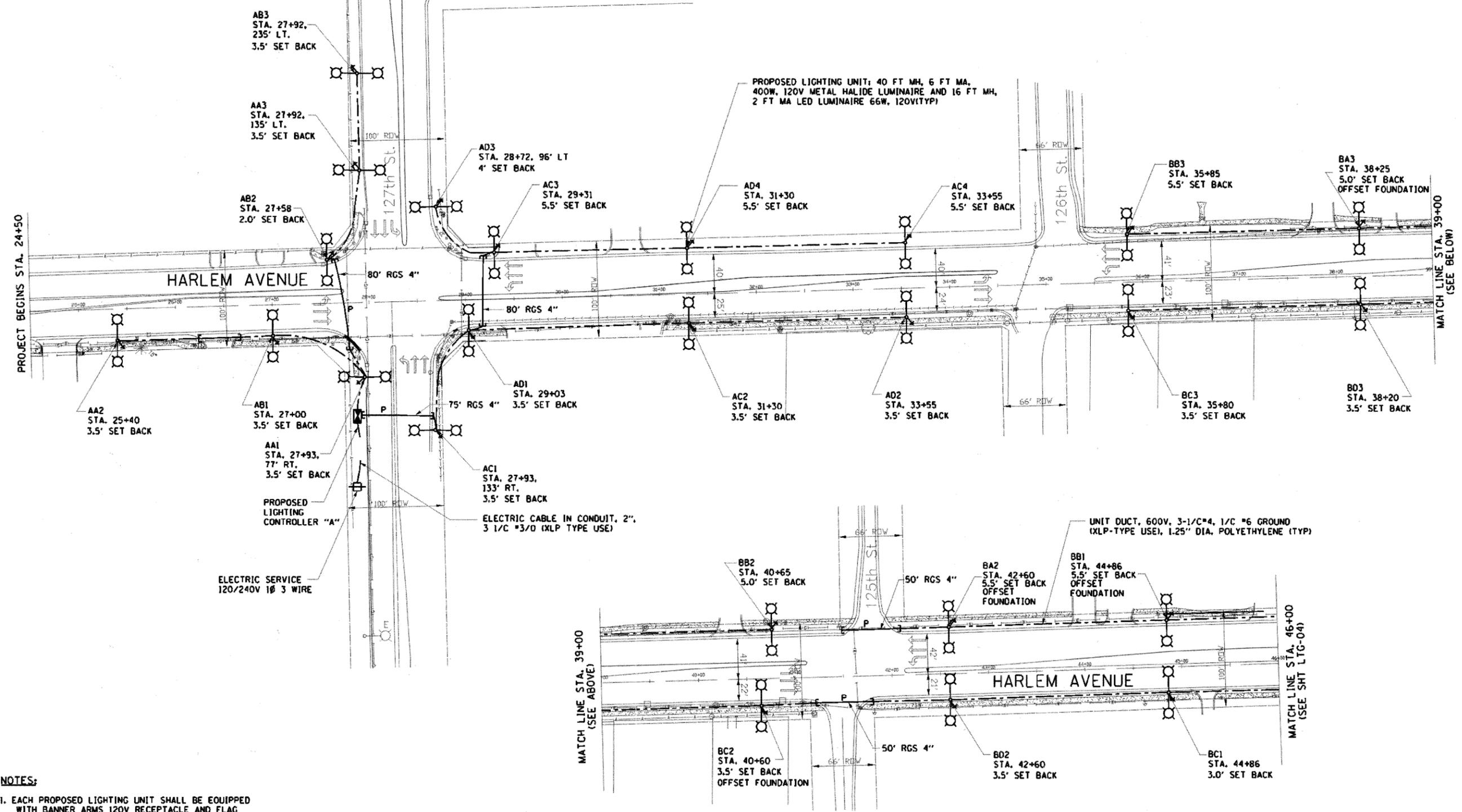
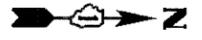
MORRIS ENGINEERING, INC. 5100 S. ELSTON ST. SUITE 100 Lisle, IL 60532 PHONE: (630) 771-0770 WEBSITE: ECVIL.COM	AMES Engineering, Inc. CONSULTING ENGINEERS 1341 Warren Avenue Downers Grove, IL 60515 (630) 717-1087 (F) (630) 470-4481 (H) www.amesengr.com

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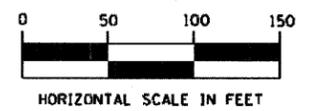
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS			
EXISTING TYPICAL SECTIONS/PROPOSED LIGHTING			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
09-00046-00-LT		COOK	20	3
CONTRACT NO. 63518				
ILLINOIS FED. AID PROJECT				



- NOTES:**
1. EACH PROPOSED LIGHTING UNIT SHALL BE EQUIPPED WITH BANNER ARMS 120V RECEPTACLE AND FLAG MOUNTING BRACKET, SEE DETAIL SHEET LTG-12.
 2. UNIT DUCT SHALL BE BORED AND PULLED.
 3. SET BACKS INDICATED ARE FROM BACK OF CURB TO CENTER OF POLE.



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS
PROPOSED LIGHTING PLAN

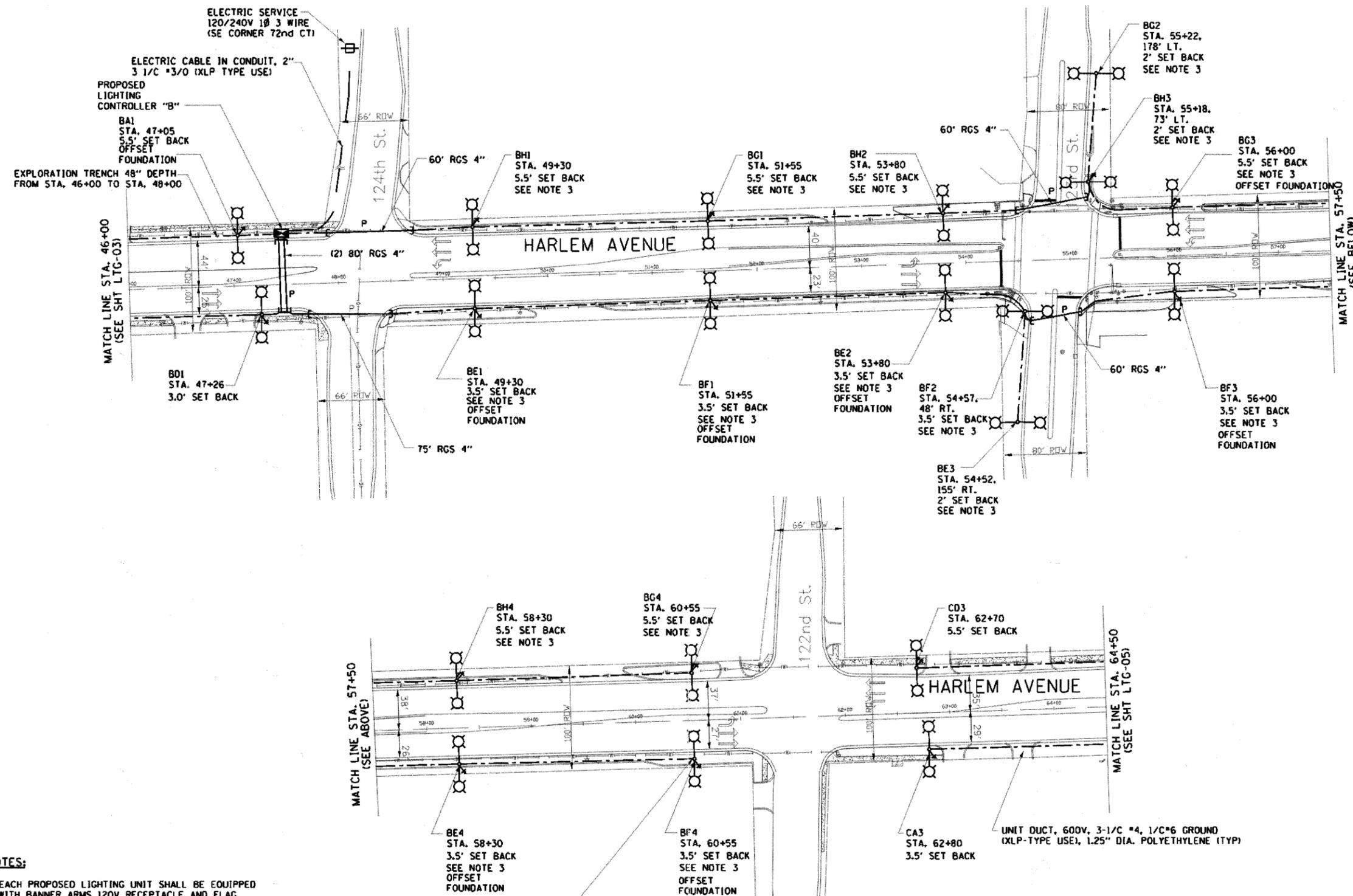
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F.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	09-0046-00-LT	COOK	20	4
CONTRACT NO. 63518			ILLINOIS FED. AID PROJECT	

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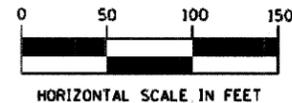
LTG-03



NOTES:

1. EACH PROPOSED LIGHTING UNIT SHALL BE EQUIPPED WITH BANNER ARMS 120V RECEPTACLE AND FLAG MOUNTING BRACKET, SEE DETAIL SHEET LTC-12.
2. UNIT DUCT SHALL BE BORED AND PULLED.
3. POLE SHALL BE INSTALLED WITHOUT BREAKAWAY COUPLINGS.
4. SET BACKS INDICATED ARE FROM BACK OF CURB TO CENTER OF POLE.

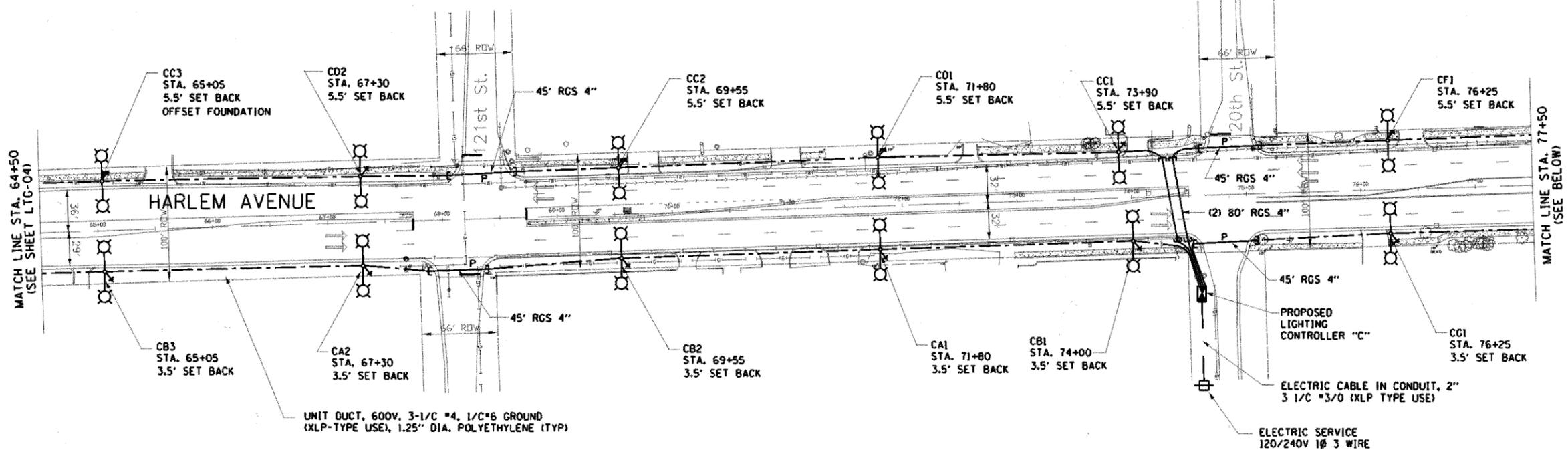
PROPOSED LIGHTING UNIT: 40 FT MH, 6 FT MA, 400W, 120V METAL HALIDE LUMINAIRE AND 16 FT MH, 2 FT MA LED LUMINAIRE 66W, 120V (TYP)



LTG-04



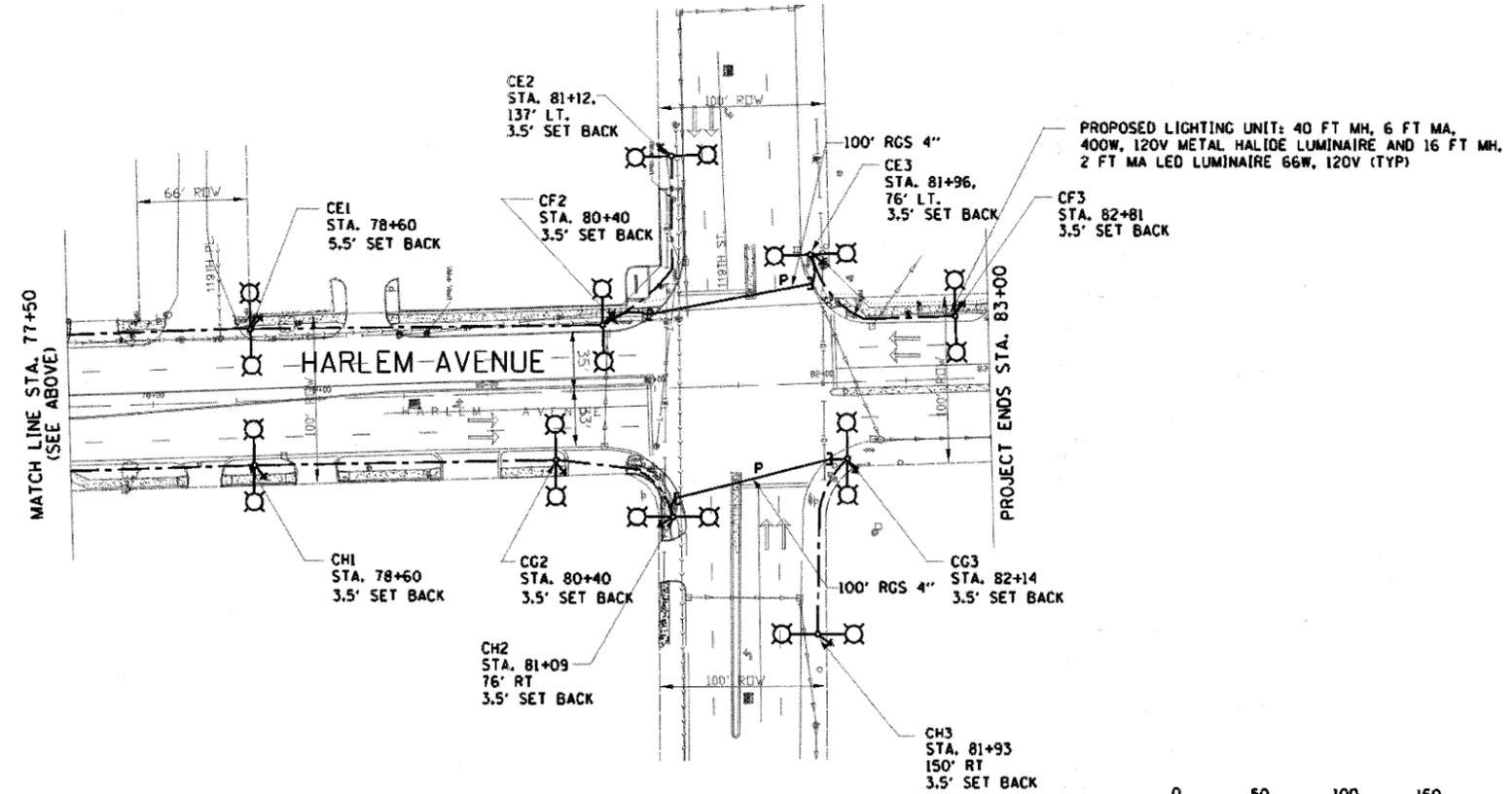
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UNIT DUCT, 600V, 3-1/4" #4, 1/4" #6 GROUND (XLP-TYPE USE), 1.25" DIA. POLYETHYLENE (TYP)

ELECTRIC CABLE IN CONDUIT, 2" 3 1/4" #3/0 (XLP TYPE USE)

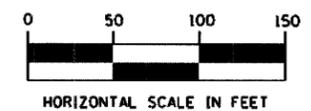
ELECTRIC SERVICE 120/240V 1Ø 3 WIRE



PROPOSED LIGHTING UNIT: 40 FT MH, 6 FT MA, 400W, 120V METAL HALIDE LUMINAIRE AND 16 FT MH, 2 FT MA LED LUMINAIRE 66W, 120V (TYP)

NOTES:

1. EACH PROPOSED LIGHTING UNIT SHALL BE EQUIPPED WITH BANNER ARMS 120V RECEPTACLE AND FLAG MOUNTING BRACKET, SEE DETAIL SHEET LTG-12.
2. UNIT DUCT SHALL BE BORED AND PULLED.
3. SET BACKS INDICATED ARE FROM BACK OF CURB TO CENTER OF POLE.

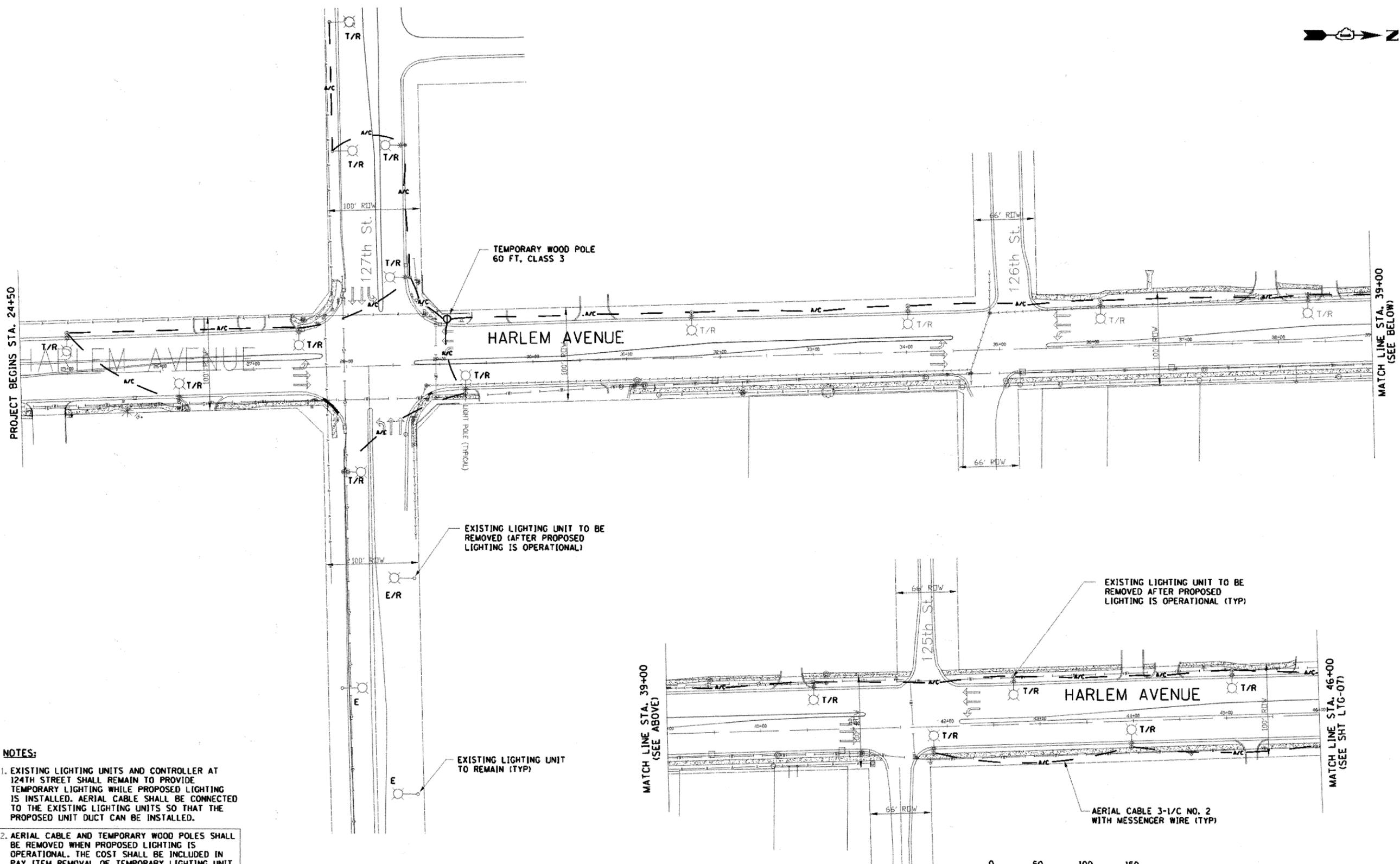
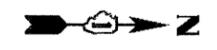


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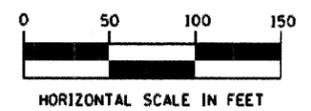
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		DRAWN - RV	REVISED -			348	09-00046-00-LT	COOK	20	6	
		CHECKED - SA	REVISED -			CONTRACT NO. 63518					
		DATE - 06-05-11	REVISED -			ILLINOIS FED. AID PROJECT					



- NOTES:**
- EXISTING LIGHTING UNITS AND CONTROLLER AT 124TH STREET SHALL REMAIN TO PROVIDE TEMPORARY LIGHTING WHILE PROPOSED LIGHTING IS INSTALLED. AERIAL CABLE SHALL BE CONNECTED TO THE EXISTING LIGHTING UNITS SO THAT THE PROPOSED UNIT DUCT CAN BE INSTALLED.
 - AERIAL CABLE AND TEMPORARY WOOD POLES SHALL BE REMOVED WHEN PROPOSED LIGHTING IS OPERATIONAL. THE COST SHALL BE INCLUDED IN PAY ITEM REMOVAL OF TEMPORARY LIGHTING UNIT.
 - THE COST FOR REMOVAL OF EXISTING DUCT AND CONDUCTORS (AS REQUIRED BY THE ENGINEER) SHALL BE INCLUDED IN PAY ITEM REMOVAL OF TEMPORARY LIGHTING UNIT.



LTG-06

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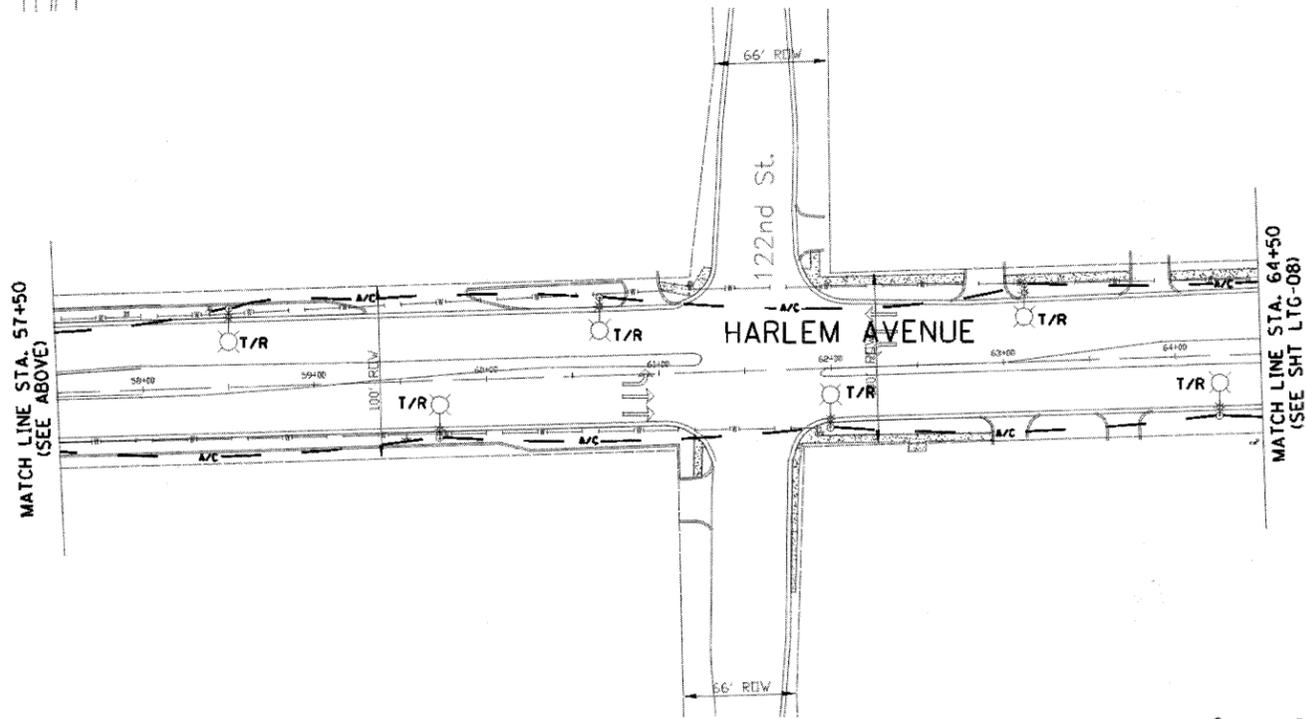
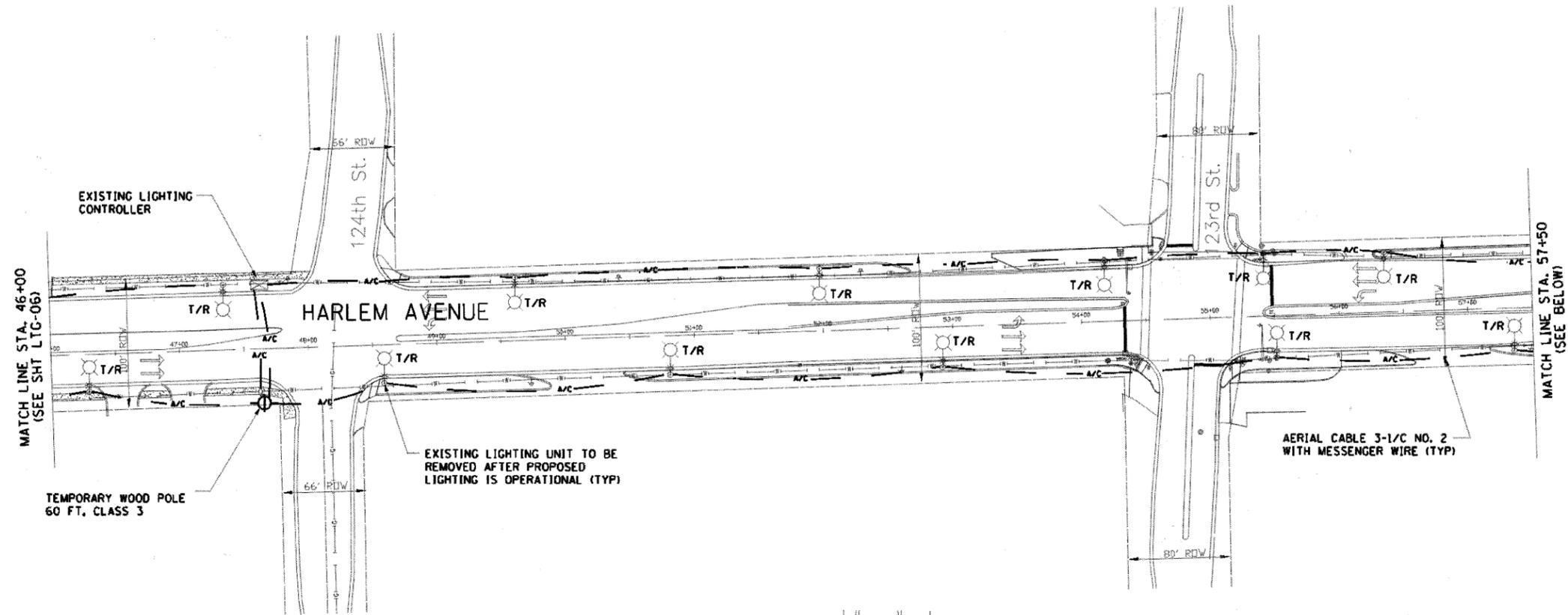
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS
TEMPORARY / REMOVAL PLAN**

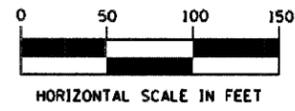
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ILLINOIS FED. AID PROJECT				



NOTES:

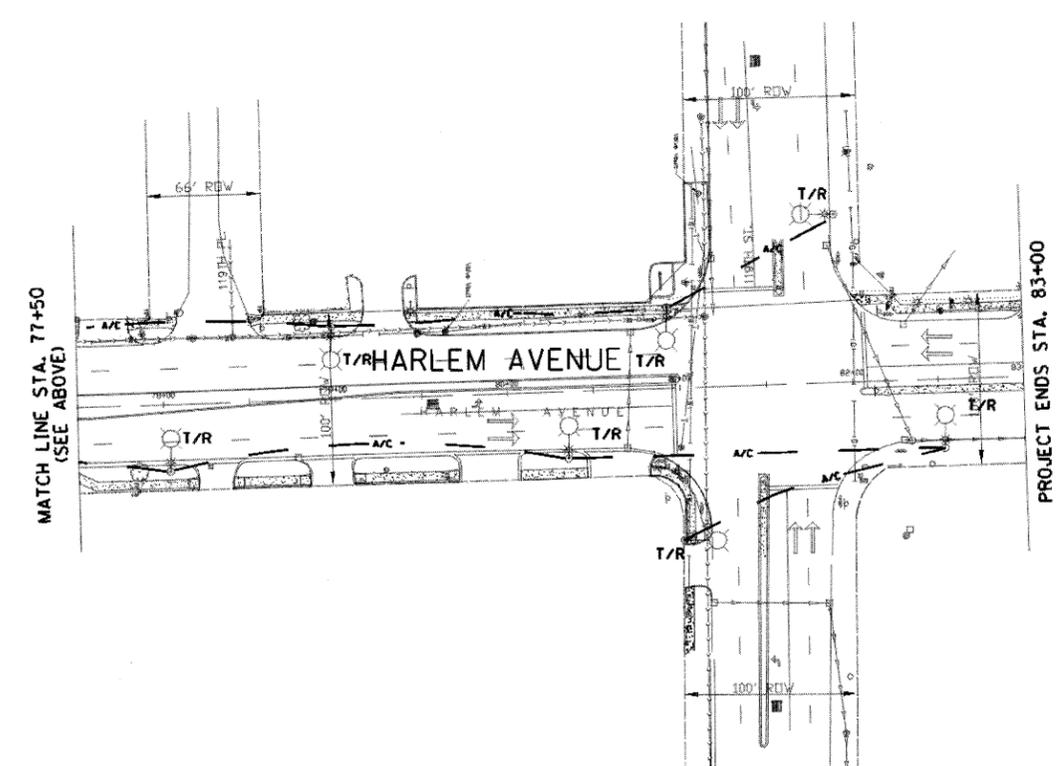
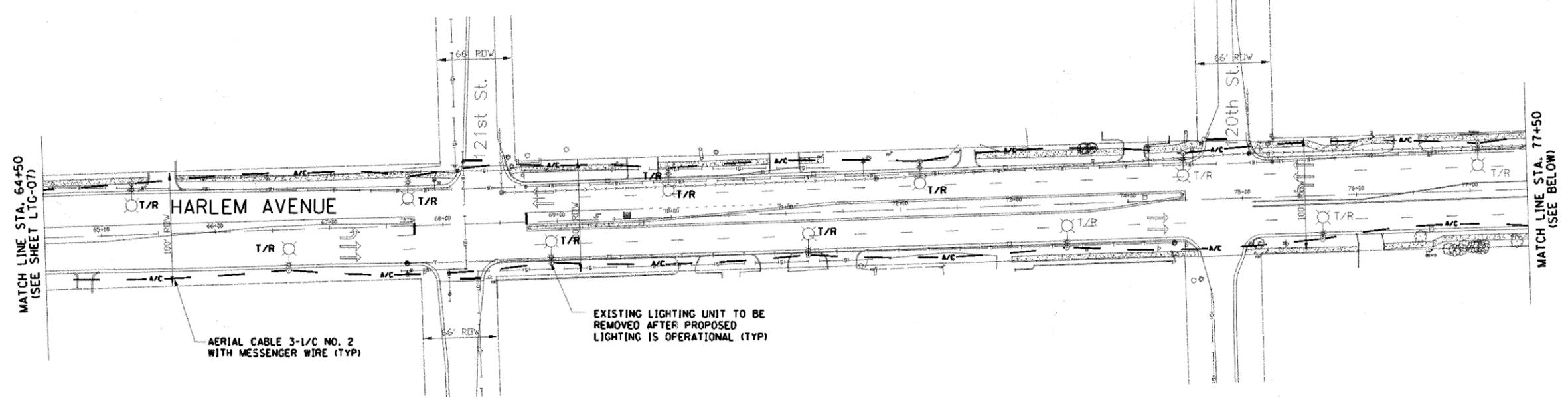
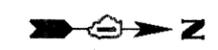
1. EXISTING LIGHTING UNITS AND CONTROLLER AT 124TH STREET SHALL REMAIN TO PROVIDE TEMPORARY LIGHTING WHILE PROPOSED LIGHTING IS INSTALLED. AERIAL CABLE SHALL BE CONNECTED TO THE EXISTING LIGHTING UNITS SO THAT THE PROPOSED UNIT DUCT CAN BE INSTALLED.
2. AERIAL CABLE AND TEMPORARY WOOD POLES SHALL BE REMOVED WHEN PROPOSED LIGHTING IS OPERATIONAL. THE COST SHALL BE INCLUDED IN PAY ITEM REMOVAL OF TEMPORARY LIGHTING UNIT.
3. THE COST FOR REMOVAL OF EXISTING DUCT AND CONDUCTORS (AS REQUIRED BY THE ENGINEER) SHALL BE INCLUDED IN PAY ITEM REMOVAL OF TEMPORARY LIGHTING UNIT.



LTC-07

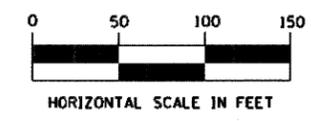
MORRIS ENGINEERING, INC. <small>CONSULTING ENGINEERS</small> 8100 S. LINCOLN SUITE 100 Lisle, Illinois 60532 PHONE: (630) 271-0770 FAX: (630) 271-0770 <small>MORRIS, INC. 101 W. 30th St. Chicago, IL 60608</small>	AMES Engineering, Inc. <small>CONSULTING ENGINEERS</small> 1341 Warren Avenue Downers Grove, IL 60515 (630) 717-1007 FAX: (630) 470-8881 <small>www.amesengineering.com</small>

FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - BL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS TEMPORARY / REMOVAL PLAN	F.A.P. NO. 348	SECTION 09-00046-00-LT	COUNTY COOK	TOTAL SHEETS 20	SHEET NO. 8	
	PLOT SCALE = #SCALE#	DRAWN - RV	REVISED -			SCALE:	SHEET NO. OF SHEETS STA. TO STA.				
	PLOT DATE = #DATE#	CHECKED - SA	REVISED -								
		DATE - 06-03-11	REVISED -								



NOTES:

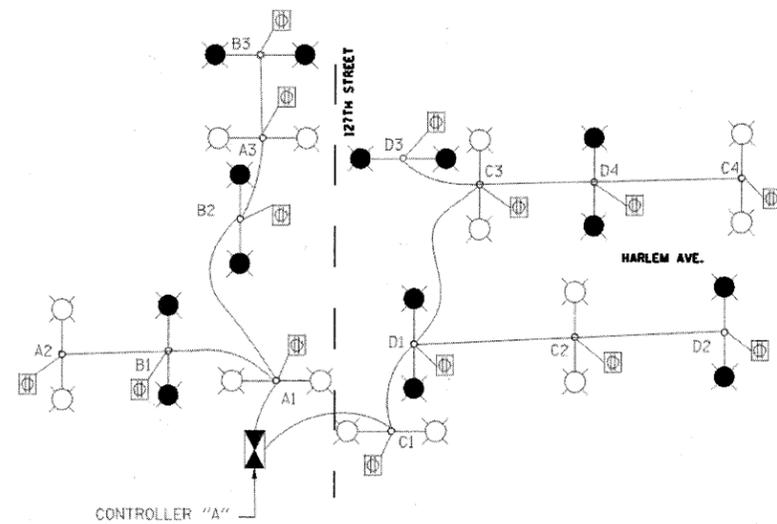
1. EXISTING LIGHTING UNITS AND CONTROLLER AT 124TH STREET SHALL REMAIN TO PROVIDE TEMPORARY LIGHTING WHILE PROPOSED LIGHTING IS INSTALLED. AERIAL CABLE SHALL BE CONNECTED TO THE EXISTING LIGHTING UNITS SO THAT THE PROPOSED UNIT DUCT CAN BE INSTALLED.
2. AERIAL CABLE AND TEMPORARY WOOD POLES SHALL BE REMOVED WHEN PROPOSED LIGHTING IS OPERATIONAL. THE COST SHALL BE INCLUDED IN PAY ITEM REMOVAL OF TEMPORARY LIGHTING UNIT.
3. THE COST FOR REMOVAL OF EXISTING DUCT AND CONDUCTORS (AS REQUIRED BY THE ENGINEER) SHALL BE INCLUDED IN PAY ITEM REMOVAL OF TEMPORARY LIGHTING UNIT.



LTC-08

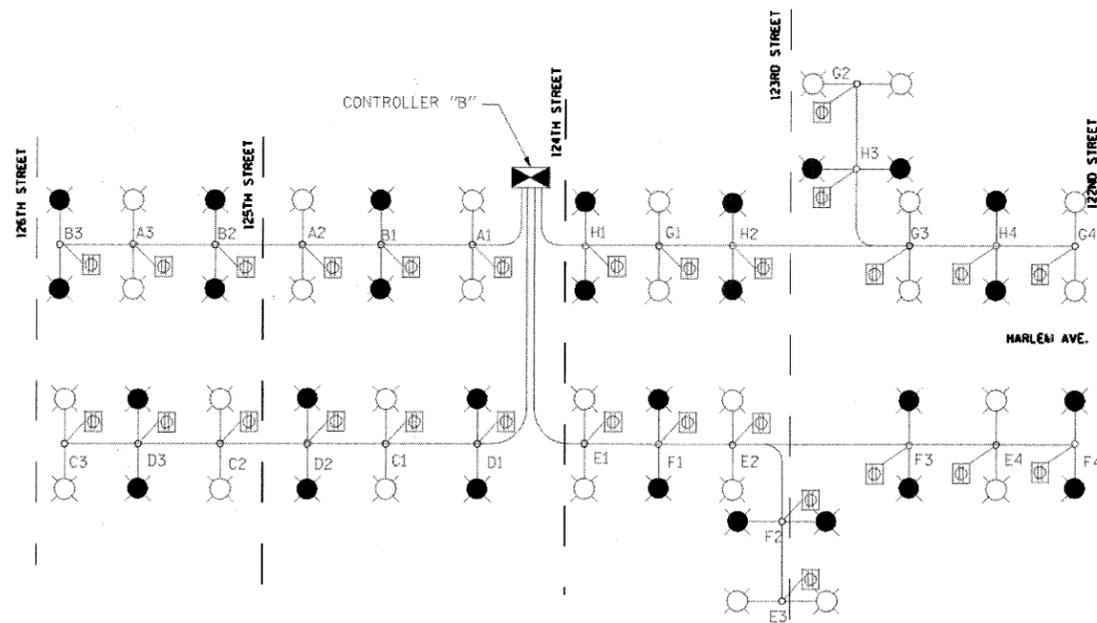
MORRIS ENGINEERING, INC. <small>2100 S. LINCOLN STATE 100 Lisle, Illinois 60532 Phone: (630) 771-0770 Fax: (630) 771-0770 www.morriseng.com</small>	AMES Engineering, Inc. <small>CONSULTING ENGINEERS 1341 84th Avenue Downers Grove, IL 60515 (630) 747-1047 (630) 430-6881 (t) www.ameseng.com</small>

FILE NAME =	USER NAME = #USER#	DESIGNED - BL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CITY OF PALO HEIGHTS LIGHTING IMPROVEMENTS TEMPORARY / REMOVAL PLAN	DATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = #DATE#	CHECKED - SA	REVISED -			CONTRACT NO. 63518					
		DATE - 06-03-11	REVISED -			<small>SCALE: SHEET NO. OF SHEETS STA. TO STA.</small>					



CONTROLLER "A" @ 127TH STREET

CIRCUIT	RED		CIRCUIT	BLACK	
	AMPS @ 120V	VA		AMPS @ 120V	VA
A	22.89	2746.8	B	22.89	2746.8
C	30.52	3662.4	D	30.52	3662.4
E	SPARE	SPARE	F	SPARE	SPARE
G	SPARE	SPARE	H	SPARE	SPARE
TOTAL	53.41	6409.2	TOTAL	53.41	6409.2
TOTAL LOAD 106.82					



CONTROLLER "B" @ 124TH STREET

CIRCUIT	RED		CIRCUIT	BLACK	
	AMPS @ 120V	VA		AMPS @ 120V	VA
A	22.89	2746.8	B	22.89	2746.8
C	22.89	2746.8	D	22.89	2746.8
E	30.52	3662.4	F	30.52	3662.4
G	30.52	3662.4	H	30.52	3662.4
I	SPARE	SPARE	J	SPARE	SPARE
TOTAL	106.82	12818.4	TOTAL	106.82	12818.4
TOTAL LOAD 213.6A					

LEGEND

- LUMINAIRES, 400W, 120V WITH 66W, 120V RED CIRCUIT
- LUMINAIRES, 400W, 120V WITH 66W, 120V BLACK CIRCUIT
- PROPOSED LIGHTING CONTROLLER
- UNIT DUCT 3 1/2" #4 1/2" #6 GROUND, 1 1/4" POLY.
- FESTOON OUTLET, 120V GFCI

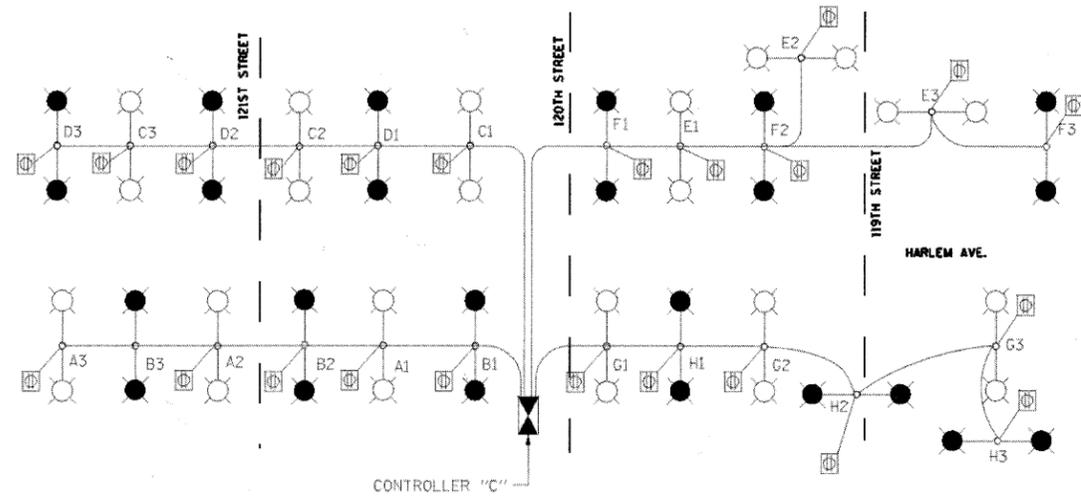
LOAD DATA:

400W, 120V LUMINAIRE: 4.1A/LUMINAIRE
 66W LED, 120V LUMINAIRE: 0.53A/LUMINAIRE
 FESTOON OUTLET, 120V: 3A/FESTOON
 TOTAL LOAD/LTG UNIT: 7.63A

LTC-09

MORRIS ENGINEERING, INC. CONSULTING ENGINEERS 1341 Warren Avenue Downers Grove, IL 60415 (630) 771-0770	AMES Engineering, Inc. CONSULTING ENGINEERS 1341 Warren Avenue Downers Grove, IL 60415 (630) 771-1887
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FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - BL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS WIRING DIAGRAM	F.A.P. RTE. 34B	SECTION 09-00046-00-LT	COUNTY COOK	TOTAL SHEETS 20	SHEET NO. 10	
PLDT SCALE = #SCALE#	CHECKED - SA	REVISIED -	REVISIED -			SCALE:	SHEET NO. OF SHEETS STA.	ILLINOIS FED. AID PROJECT		CONTRACT NO. 63518	
PLDT DATE = #DATE#	DATE - 06-03-11	REVISIED -	REVISIED -								

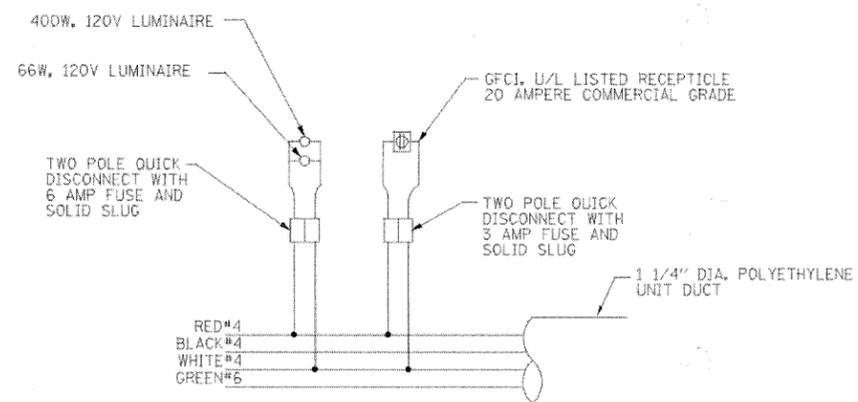


CONTROLLER "C" @ 120TH STREET

CIRCUIT	RED		BLACK		
	AMPS @ 120V	VA	CIRCUIT	AMPS @ 120V	VA
A	22.89	2746.8	B	22.89	2746.8
C	22.89	2746.8	D	22.89	2746.8
E	22.89	2746.8	F	22.89	2746.8
G	22.89	2746.8	H	22.89	2746.8
I	SPARE	SPARE	J	SPARE	SPARE
TOTAL	91.56	10897.2	TOTAL	91.56	10897.2
TOTAL LOAD		183.12			

LOAD DATA:

400W, 120V LUMINAIRE: 4.1A/LUMINAIRE
 66W LED, 120V LUMINAIRE: 0.53A/LUMINAIRE
 FESTOON OUTLET, 120V: 3A/FESTOON
 TOTAL LOAD/LTG UNIT: 7.63A



SINGLE POLE WIRING

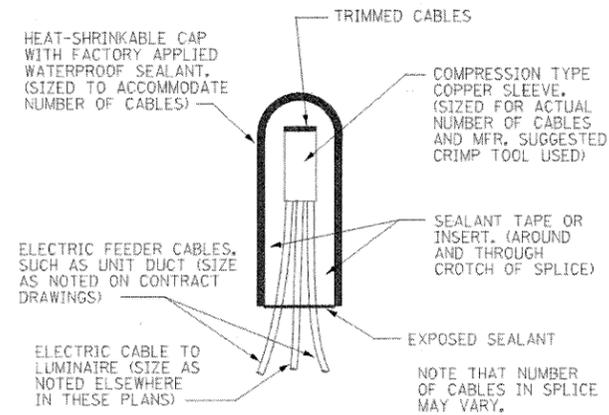
LEGEND

- LUMINAIRES, 400W, 120V WITH 66W, 120V RED CIRCUIT
- LUMINAIRES, 400W, 120V WITH 66W, 120V BLACK CIRCUIT
- PROPOSED LIGHTING CONTROLLER
- UNIT DUCT 3 1/4" x 4 1/4" #6 GROUND, 1 1/4" POLY.
- FESTOON OUTLET, 120V GFCI

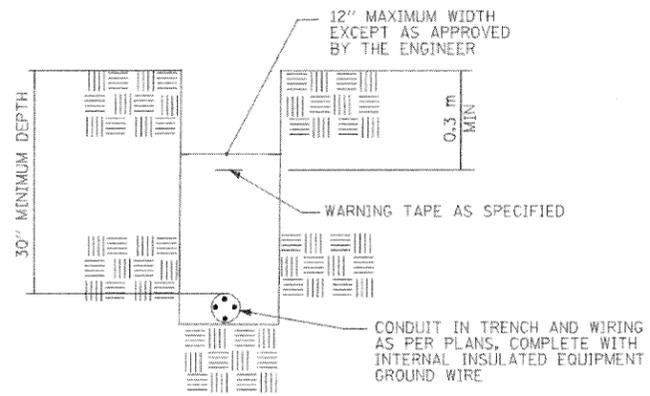
LTG-10

MORRIS ENGINEERING, INC. <small>1311 Warren Avenue Downers Grove, IL 60515 (630) 771-0770</small>	AMES Engineering, Inc. <small>CONSULTING ENGINEERS 1311 Warren Avenue Downers Grove, IL 60515 (630) 771-1007</small>
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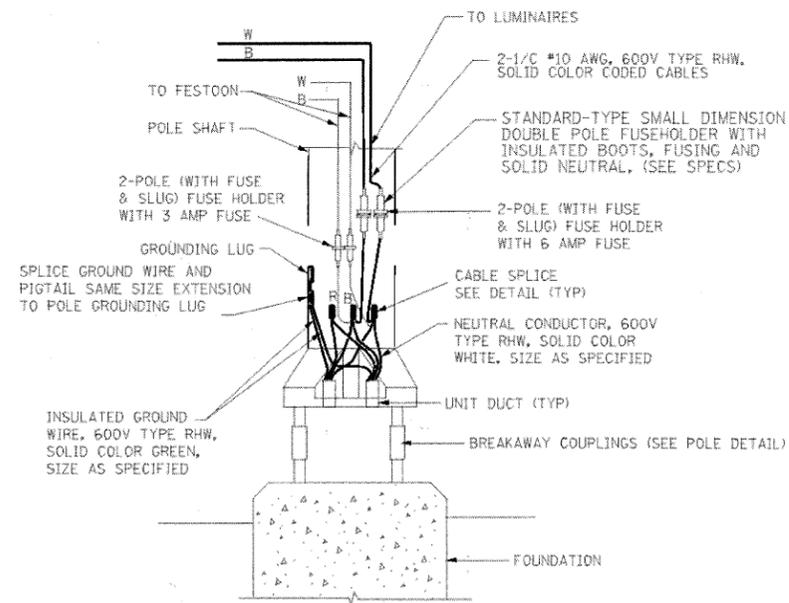
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		DRAWN - RV	REVISED -											
		CHECKED - SA	REVISED -											
		DATE - 06-03-11	REVISED -											
CONTRACT NO. 63518												ILLINOIS FED. AID PROJECT		



SPlicing DETAIL
N.T.S.



TYPICAL CONDUIT IN TRENCH DETAIL
N.T.S.



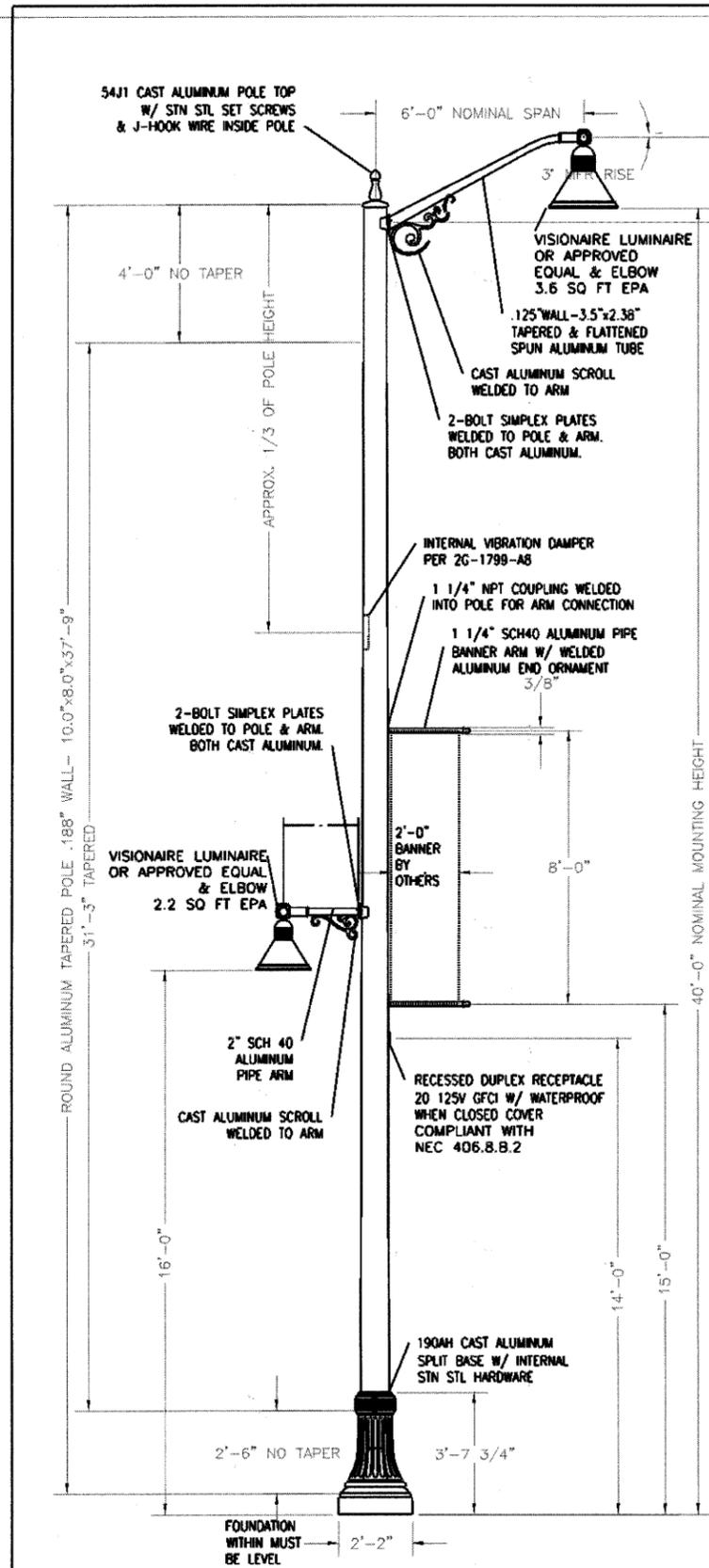
POLE BASE WIRING DIAGRAM
N.T.S.

LTC-11

MORRIS ENGINEERING, INC.
CONSULTING ENGINEERS
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1341 Warren Avenue
Downers Grove, IL 60515
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FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - BL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS LIGHTING DETAILS	SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO. 63518	
		DRAWN - RY	REVISED -			34B	09-00046-00-LT	COUNTY		TOTAL SHEETS
		CHECKED - SA	REVISED -					COOK		20
		DATE - 06-03-11	REVISED -							12
ILLINOIS FED. AID PROJECT										



MATERIAL SPECIFICATIONS	
ALUM. POLE TUBE & BAR	ASTM B210, B221, B241 or B429 (6063-T6)
ALUM. PLATE	ASTM B209 (6061-T6)
CAST ALUMINUM PARTS	ASTM B108 (356-T6)
EXTRUSIONS	ASTM B308 (6061 or 6063-T6)
ANCHOR BOLTS	ASTM F1554 GR 35
ANCHOR BOLT NUTS	ASTM A563 GR A
FLAT WASHERS	ASTM F436
DECO. ALUM. BASE	ASTM B26 356F
POLE TOP	ASTM B26 (319F OR 356F)
ALUM. PIPE	ASTM B241 or B429 (6061-T6)
S.S. HARDWARE	AISI-300 SERIES (18-8)
STRUCTURE FINISH	POWDER COAT BLACK
HARDWARE FINISH	H.D. GALV TO ASTM A153

DESIGN CRITERIA

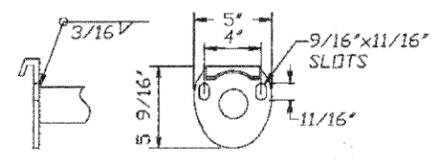
- DESIGNED IN ACCORDANCE WITH 2006 INTERIM TO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION, 2001, FOR A 90 M.P.H. WIND ZONE. THE DESIGN PARAMETERS INCLUDE:
50 YEAR STRUCTURE DESIGN LIFE. ANCHOR BOLTS ANALYZED FOR STEEL STRENGTH ONLY. THE ANCHOR BOLT EMBEDMENT LENGTH SHALL BE VERIFIED BY THE FOUNDATION ENGINEER.
- WELDED ASSEMBLIES HEAT TREATED TO T6 TEMPER
- LIGHTING UNIT SHALL BE UNION METAL DESIGN NUMBER B99-190-B537-Y1 OR APPROVED EQUAL.



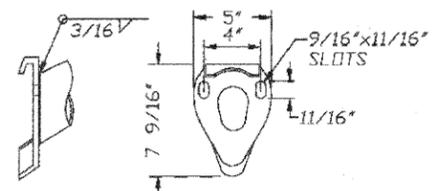
TOP OF POLE DETAIL
ORIENTATION OF J-HOOK
AS REQUIRED

MANUFACTURER
MFG DATE
UNION-METAL DESIGN NUMBER

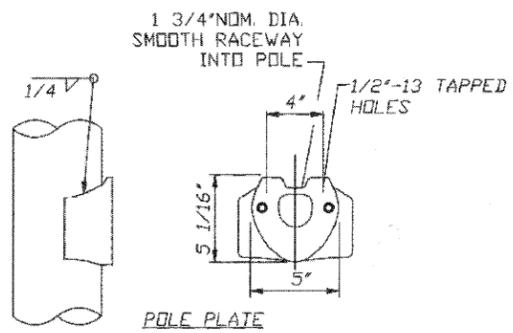
I.D. TAG DETAIL
DRILL (4) #29 (Ø.136") HOLES
ON 1 1/2"x3 1/2" CENTERS FOR
2"x4" ALUM. I.D. TAG ATTACHED
WITH (4) S.S. DRIVE SCREWS



LOWER ARM PLATE

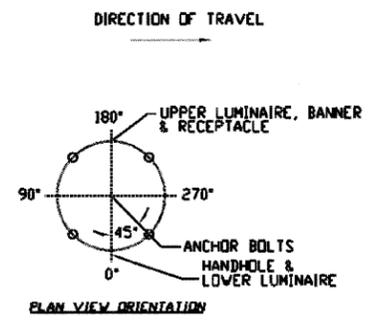


UPPER ARM PLATE

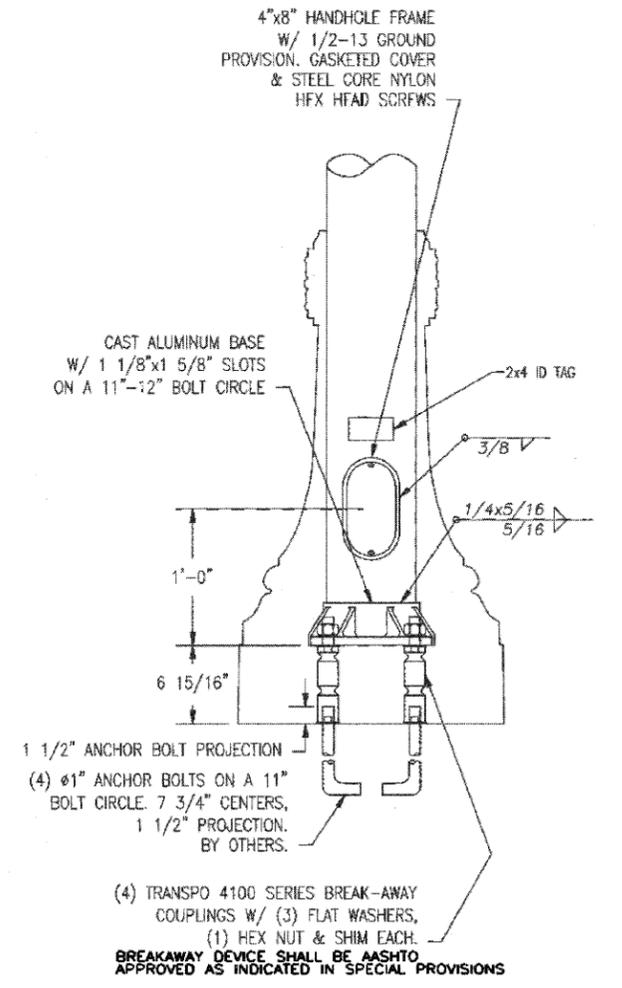


POLE PLATE

LUM. ARM CONNECTION DETAIL



PLAN VIEW ORIENTATION



1 1/2" ANCHOR BOLT PROJECTION
(4) #1" ANCHOR BOLTS ON A 11"
BOLT CIRCLE, 7 3/4" CENTERS,
1 1/2" PROJECTION
BY OTHERS.

(4) TRANSPO 4100 SERIES BREAK-AWAY
COUPLINGS W/ (3) FLAT WASHERS,
(1) HEX NUT & SHIM EACH.
BREAKAWAY DEVICE SHALL BE AASHTO
APPROVED AS INDICATED IN SPECIAL PROVISIONS

LTC-12

FILE NAME =	USER NAME = #USER#	DESIGNED - BL	REVISED -
#FILE#		DRAWN - RV	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - SA	REVISED -
	PLOT DATE = #DATE#	DATE - 06-03-11	REVISED -

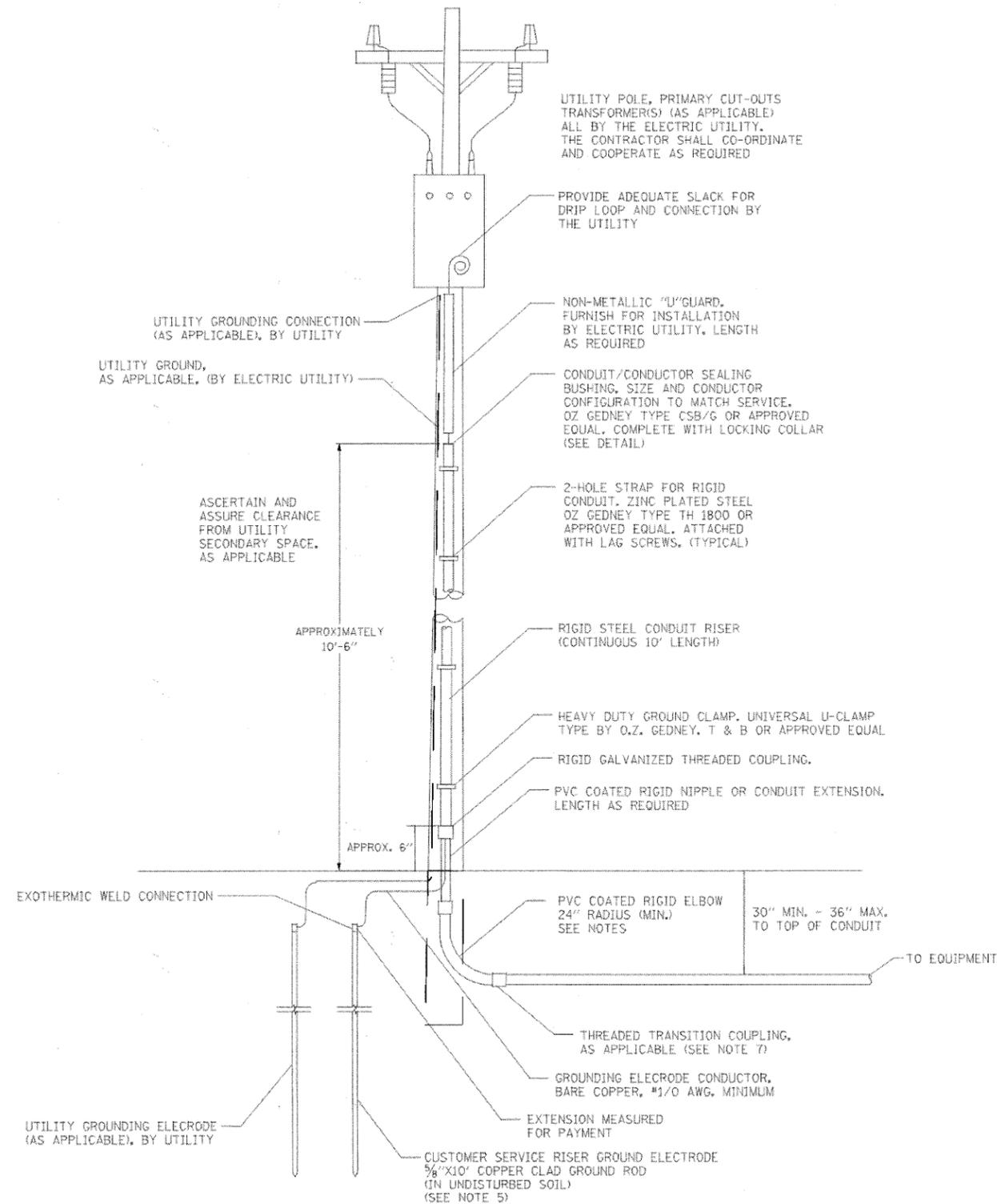
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS
LIGHTING DETAILS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	09-00046-00-LT	COOK	20	13
CONTRACT NO. 63518			ILLINOIS FED. AID PROJECT	

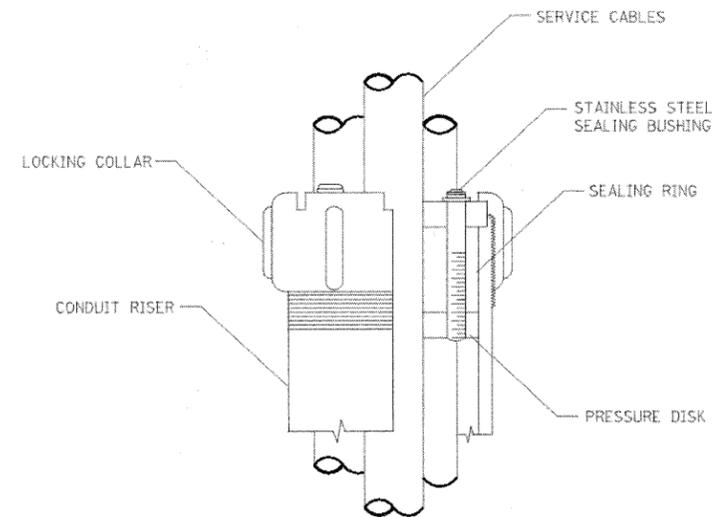
MORRIS ENGINEERING, INC.
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NOTES:

1. SERVICE VOLTAGE SHALL BE 120/240V AS INDICATED ON SHEET LTG-02 AND 04.
2. UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF ELECTRIC UTILITY SERVICE INSTALLATION.
3. CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED.
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 BACK FILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
6. THE SERVICE METER SOCKET, AS APPLICABLE, MOUNTED ELSEWHERE AS INDICATED SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRICAL UTILITY SERVICE INSTALLATION PAY ITEM.
7. THE 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 METALLIC TO NON METALLIC ADAPTER. WHEN THE RACEWAY IS ENCASED IN CONCRETE, THE CONCRETE SHALL EXTEND TO COVER THE COUPLING.
8. 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

LTG-13

MORRIS ENGINEERING, INC. CONSULTING ENGINEERS 1341 Warren Avenue Downers Grove, IL 60515 (630) 271-0170 www.morriseng.com	AMES Engineering, Inc. CONSULTING ENGINEERS 1341 Warren Avenue Downers Grove, IL 60515 (630) 271-0170 www.ameseng.com

FILE NAME =	USER NAME = #USER#	DESIGNED - BL	REVISED -
#FILE#		DRAWN - RV	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - SA	REVISED -
	PLOT DATE = #DATE#	DATE - 06-03-11	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

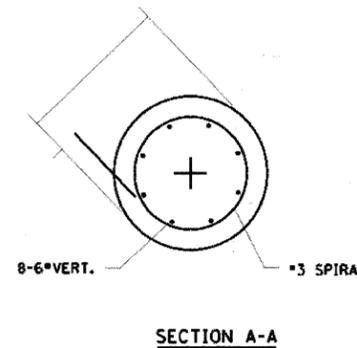
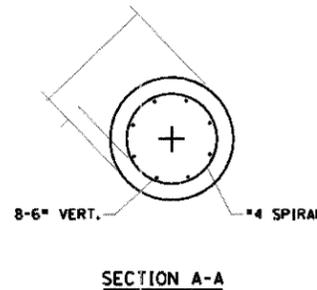
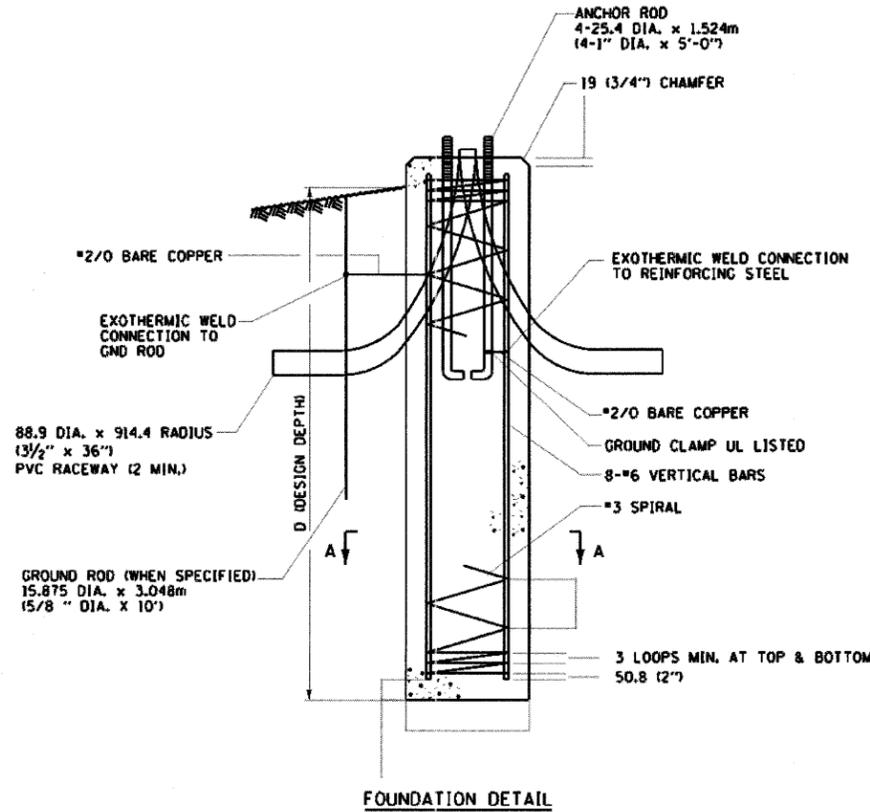
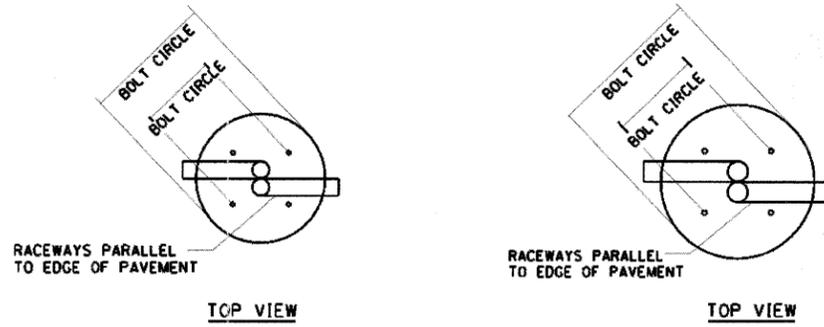
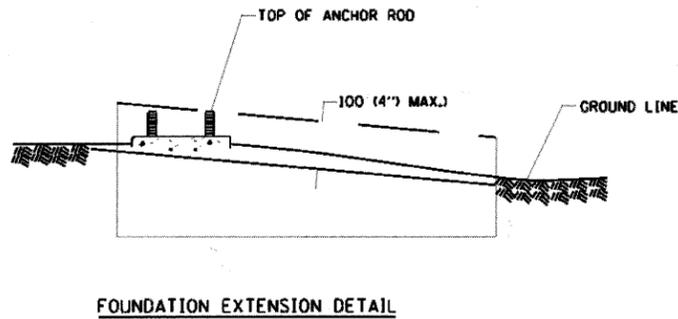
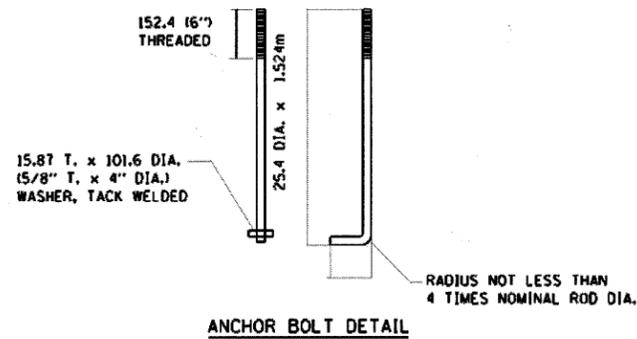
**CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS
LIGHTING DETAILS**

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

F.A.P. RTE. 348	SECTION 09-00046-00-LT	COUNTY COOK	TOTAL SHEETS 20	SHEET NO. 14
CONTRACT NO. 63518				
ILLINOIS FED. AID PROJECT				

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

SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY O _u = 0.375 TON/SQ. FT.	3.96M (13'-0")	4.57M (15'-0")
MEDIUM CLAY O _u = 0.75 TON/SQ. FT.	2.09M (9'-6")	3.23M (10'-9")
STIFF CLAY O _u = 1.50 TON/SQ. FT.	2.13M (7'-0")	2.44M (8'-0")
LOOSE SAND φ = 30°	2.74M (9'-0")	3.05M (10'-0")
MEDIUM SAND φ = 37.5°	2.52M (8'-3")	2.74M (9'-0")
DENSE SAND φ = 40°	2.36M (7'-9")	2.74M (9'-0")



NOTES

- ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 1.5M (60 IN.) 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 20MM (3/4 IN.)
- THE CONCRETE SHALL BE CLASS S1. 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 AASTHO M 232. THE MECHANICAL PLATING METHOD CONFORMING TO AASTHO 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 150 MM (6 INCHES) WITH A MINIMUM OF 75 MM (3 INCHES) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 69.9MM (2 3/4 inch) 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 152.4MM (6 inch) PITCH OR MAY SUBSTITUTE #3 TIES AT 304.8MM (12 inch) 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 25.4MM (1 inch) ABOVE THE TOP OF THE FOUNDATION.
- THE GENERAL CONTRACTOR IS REQUIRED TO HIRE AN ENVIRONMENTAL FIRM WITH AT LEAST FIVE (5) DOCUMENTED LEAKING UNDERGROUND STORAGE TANK CLEANUPS OR THAT IS PRE-QUALIFIED IN HAZARDOUS WASTE BY THE DEPARTMENT TO REMEDIATE THE SOIL CONTAMINATION AND MONITOR FOR WORKER PROTECTION.

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		DRAWN - RV	REVISED -
		CHECKED - SA	REVISED -
		DATE - 06-03-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS			
LIGHTING DETAILS			
SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
34B	09-0046-00-LT	COOK	20	15
CONTRACT NO. 63518			ILLINOIS FED. AID PROJECT	

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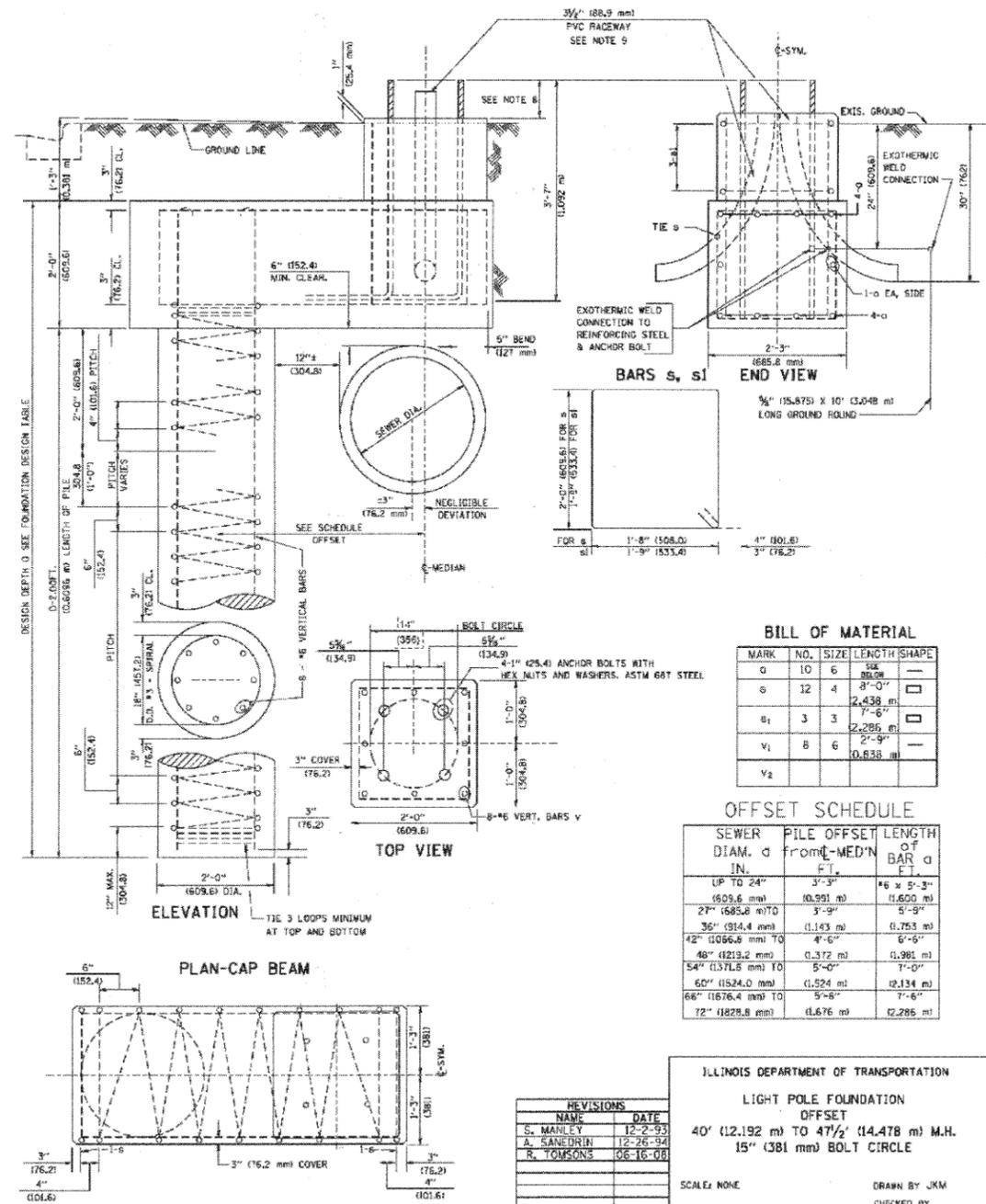
LTC-14

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 SLAC	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.
- 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 UMG MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF FOUNDATION WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS. IF LIGHT POLES ARE MOUNTED WITHOUT BREAKAWAY DEVICE, ANCHOR BOLTS SHALL PROJECT 2 1/4" (69.9 mm) ABOVE TOP OF THE FOUNDATION. THE CONTRACTOR SHALL CONFIRM ANCHOR BOLT EXTENSION 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 ERECTED.
- THE GENERAL CONTRACTOR IS REQUIRED TO HIRE AN ENVIRONMENTAL FIRM WITH AT LEAST FIVE (5) DOCUMENTED LEAKING UNDERGROUND STORAGE TANK CLEANUPS OR THAT IS PRE-QUALIFIED IN HAZARDOUS WASTE BY THE DEPARTMENT TO REMEDIATE THE SOIL CONTAMINATION AND MONITOR FOR WORKER PROTECTION.



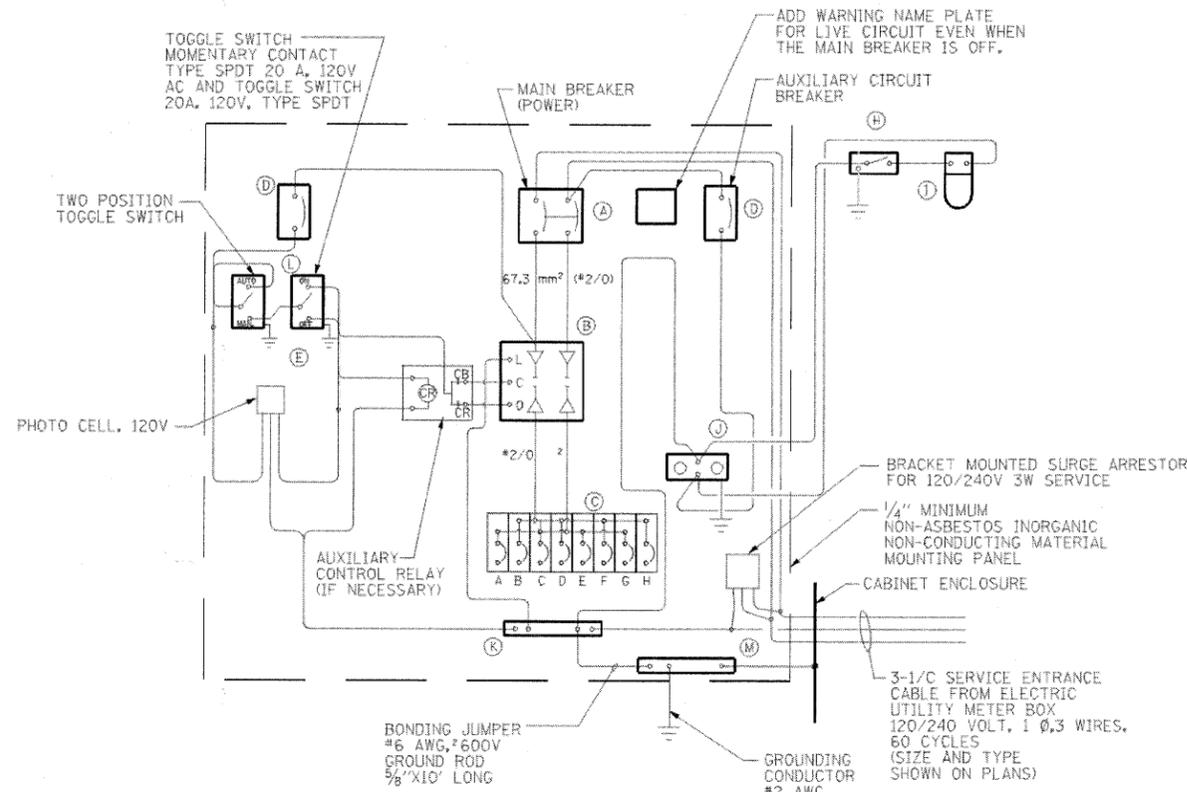
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ILLINOIS DEPARTMENT OF TRANSPORTATION
LIGHT POLE FOUNDATION
OFFSET
40' (12,192 m) TO 47 1/2' (14,478 m) M.H.
15" (381 mm) BOLT CIRCLE
SCALE: NONE
DRAWN BY: JKM
CHECKED BY:
BE-310

PANEL EQUIPMENT

BILL OF MATERIAL

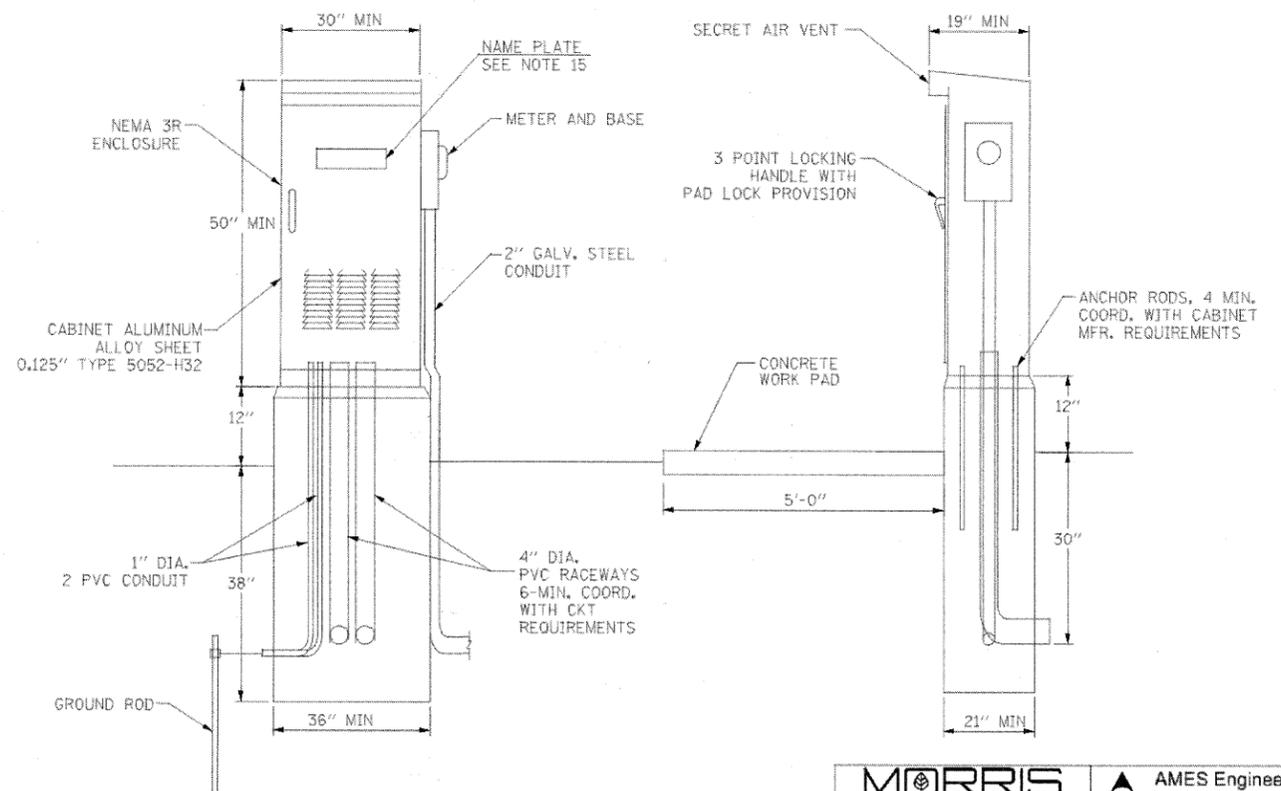
ITEM	QTY.	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 200AMP. FRAME, 200AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 240 VOLT.
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 200 AMP., 600 VOLTS CONTROL CIRCUITS 240 VOLT, ASCO 920.
C	10	CIRCUIT BREAKERS, 1 POLE, 240V., 100AMP. FRAME 50AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22,000 AMP. AT 120 V.
D	2	CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 240 V., 100AMP. FRAME, 15AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22,000 AMP. AT 120 V.
E	1	PHOTOCCELL, 120V
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 NEUTRAL BUS 6.35 mm (1/4") X 25.4 mm (1") X 304.8 mm (12") LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS.
L	1	TOGGLE SWITCHES MOUNTED IN 101.6 mm (4") X 101.6 mm (4") BOX.
M	1	COPPER GROUND BUS 6.35 mm (1/4") X 25.4 (1") X 304.8 mm (12") LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS.
N	1	SURGE ARRESTOR



WIRING DIAGRAM

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.
- FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
- 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 6.35 mm (1/4") 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".
- 304.8 mm (12") X 406.4 mm (16") STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "LIGHTING CONTROLS CITY OF PALOS HEIGHTS" UNLESS OTHERWISE SPECIFIED.
- SERVICE DISCONNECT SHOULD HAVE UL LABEL AND THE EQUIPMENT SHOULD BE SUITABLE FOR SERVICE ENTRANCE EQUIPMENT.

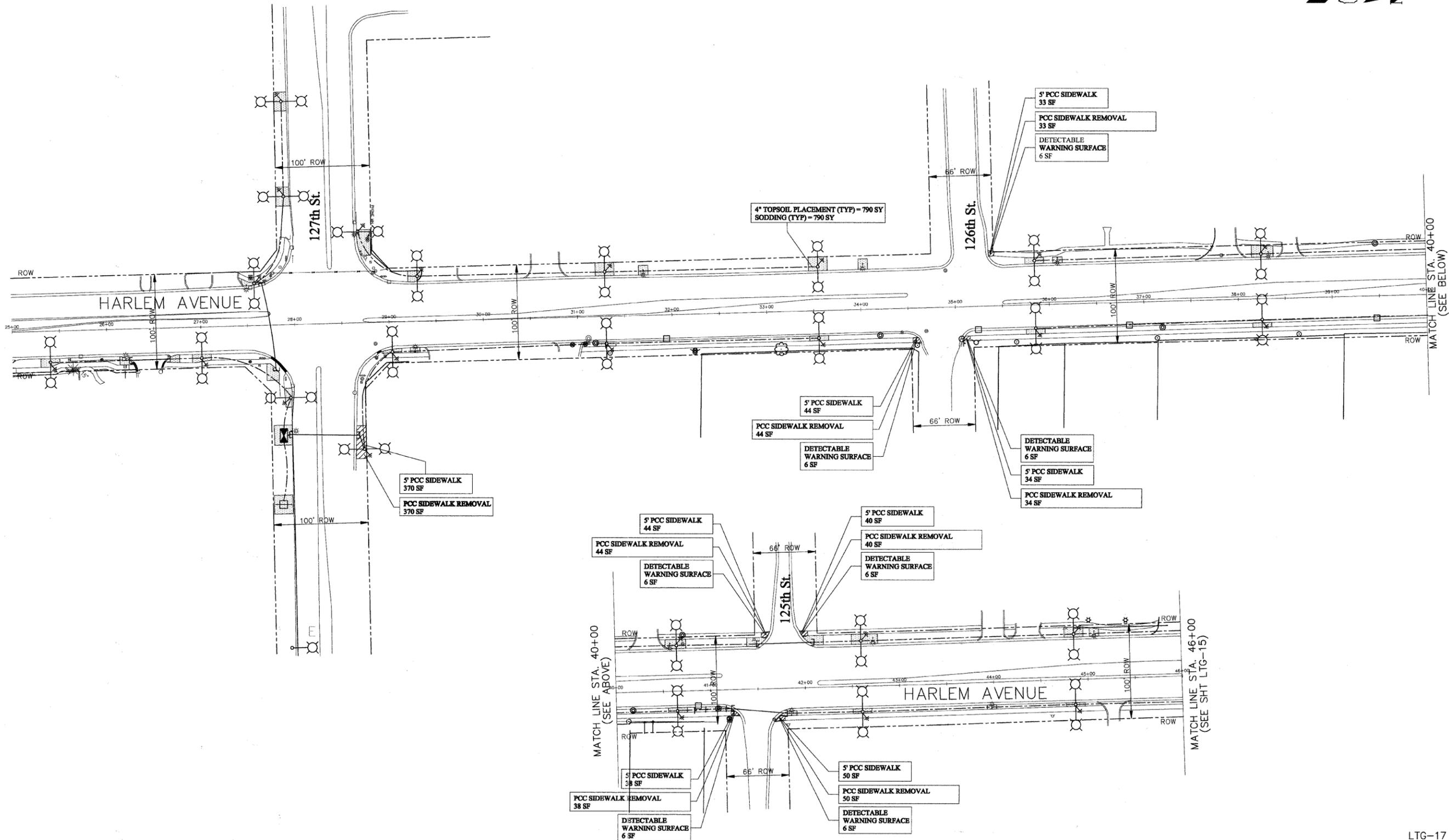


LTC-16

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FILE NAME =	USER NAME = #USER#	DESIGNED - BL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS LIGHTING CONTROLLER	F.A.P. RTL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - RV	REVISED -			34B	09-00046-00-LT	COOK	20	17	
		CHECKED - SA	REVISED -			CONTRACT NO. 63518					
		DATE - 06-03-11	REVISED -			ILLINOIS FED. AID PROJECT					



LTG-17

MORRIS ENGINEERING, INC. CONSULTING ENGINEERS 5100 S. LINCOLN SUITE 100 URBANA, ILLINOIS 62502 PHONE: (618) 271-0700 MORRIS JOB NO.: CE-PH-3003	AMES Engineering, Inc. CONSULTING ENGINEERS 1341 Wilshire Avenue Downers Grove, IL 60515 (630) 737-1987 (t); (630) 478-8881 (f) www.amesengineering.com			
		F.A.P. NO. 348	SECTION 09-00046-00-LT	COUNTY COOK

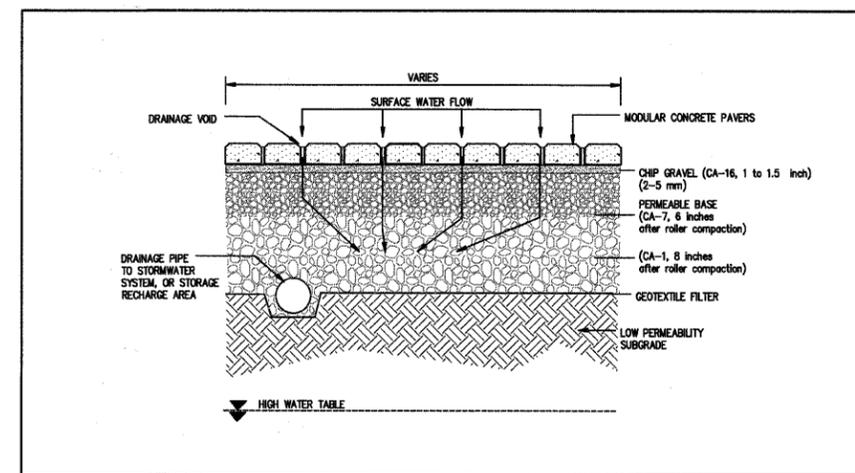
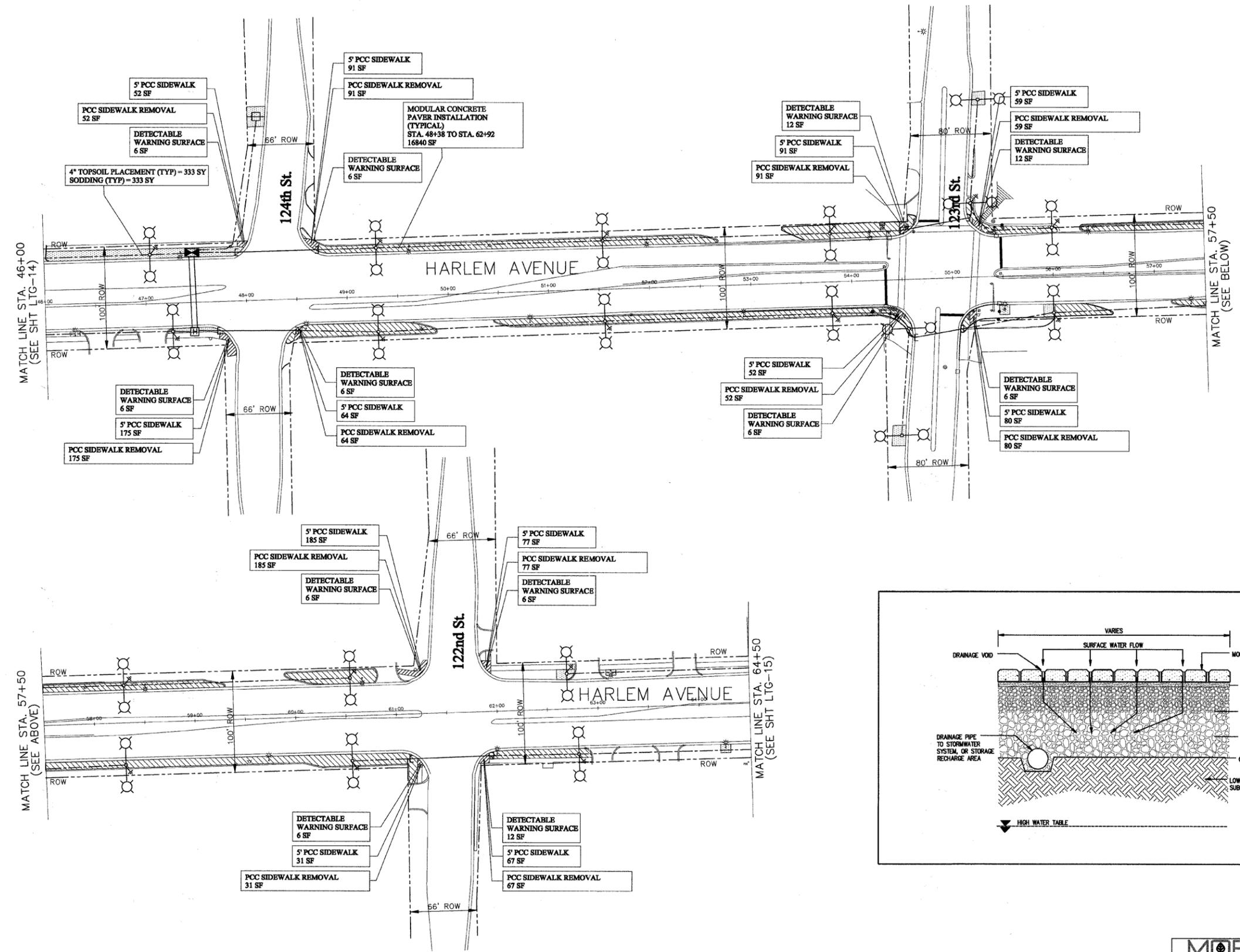
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		DATE --	REVISED --

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS
PROPOSED RESTORATION PLAN

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.
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F.A.P. NO. 348	SECTION 09-00046-00-LT	COUNTY COOK	TOTAL SHEETS 20	SHEET NO. 18
			CONTRACT NO. 63518	
ILLINOIS FED. AID PROJECT				



LTG-18

<p>MORRIS ENGINEERING, INC. CONSULTING ENGINEERS 5100 S. LINCOLN SUITE 100 Lisle, IL 60532 PHONE: (630) 717-3770 MORRIS JOB NO.: 08-PH-3003</p>	<p>AMES Engineering, Inc. CONSULTING ENGINEERS 1341 Warren Avenue Downers Grove, IL 60515 (630) 737-1987 (f); (630) 479-9891 (t) www.amesengineering.com</p>
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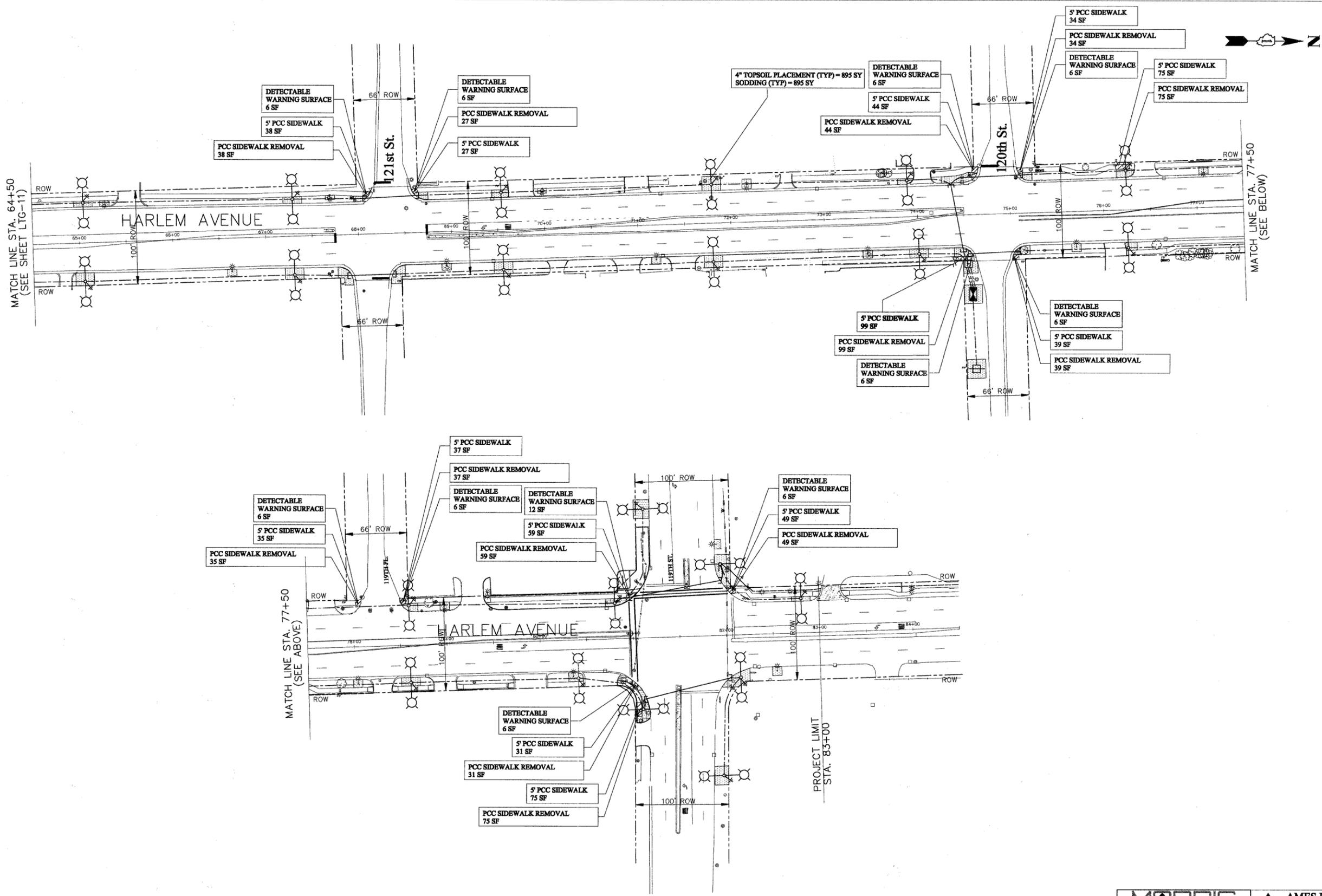
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	PLOT DATE = \$DATE\$	DATE =	REVISED =

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS
 PROPOSED RESTORATION PLAN

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS NO.
348	09-00046-00-LT	COOK	20 19
			CONTRACT NO. 63518
ILLINOIS FED. AID PROJECT			



FILE NAME =
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USER NAME = \$USER\$
PLOT SCALE = \$SCALE\$
PLOT DATE = \$DATE\$

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF PALOS HEIGHTS LIGHTING IMPROVEMENTS
PROPOSED RESTORATION PLAN

F.A.P. R.T.E.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	09-00046-00-LT	COOK	20	20
CONTRACT NO. 63518				
ILLINOIS FED. AID PROJECT				

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LTG-19