CODE NO.	ITEM	UNIT	TOTAL	ROADWAY 0005	TRAFFIC SIGNALS 0021	HIGHWAY LIGHTING 0021
30400200	ELECTRIC UTILITY SERVICE CONNECTION	LSUM	1			1
30500020	SERVICE INSTALLATION - POLE MOUNTED	EACH	1		1	
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	4414		4414	
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	93		93	
31028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	1058		456	602
31400100	HANDHOLE	EACH	12		12	
31400200	HEAVY-DUTY HANDHOLE	EACH	4		4	
31400300	DOUBLE HANDHOLE	EACH	3		3	
81603110	UNIT DUCT, 600V, 4-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1-1/2" DIA. POLYETHYLENE	F00T	4650	· · · · · · · · · · · · · · · · · · ·	~~~~	4650
81603136	UNIT DUCT, 600V, 5-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1 1/2" DIA. POLYETHYLENE	FOOT	4650			4650
81702160	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 1/0	FOOT	366			366
33600200	LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	396			396
5000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1		1	
86400100	TRANSCEIVER - FIBER OPTIC	EACH	1		1	
37300925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	3843		3843	

CONSTRUCTION CODE

* SPECIALTY ITEM # SPECIAL PROVISION AND/OR DETAIL

REV. 08-19-16
REV. 08-31-16

	Bollinger, Lach & Associates, Inc.	_
	ITASCA, ILLINOIS	

USER NAME = WTeng	DESIGNED - WJI	KEVISED -
	DRAWN - MTC	REVISED -
PLOT SCALE = 50.0000 '/ 10.	CHECKED - MTC	REVISED -
PLOT DATE = 8/31/2016	DATE - 06/17/2016	REVISED -
		0-10-10-10-10-10-10-10-10-10-10-10-10-10

STATI	E OF	ILLINOIS
DEPARTMENT	OF	TRANSPORTATION

BARRI	NGTON	ROAD	– M	IAPL	E A'	VENUE	TO IL	. 19	IRVING PAR	K ROAD)	F.A.P. RTE.	SEC	TION	COUNTY	TOTAL SHEETS	SHEET NO.
·			CH	N/1 N/1	۸DV	OF QU	ANITIT	rife	•	•	362	13-0006	2-00-SP	соок	48	6
			30		~111	VI UU	71.W I I I	ILO						CONTRAC	T NO.	61D06
SCALE: N	I.T.S.	SHEET	3	OF	7	SHEETS	STA.	N/A	TO STA.	N/A	FED. ROAD	DIST. NO. 1	ILLINOIS FED. A	ID PROJECT M-40	003(621)	



- 1. THIS PROJECT INCLUDES THE INSTALLATION OF A NEW LIGHTING SYSTEM ALONG BARRINGTON ROAD FROM NORTH OF MAPLE AVENUE TO SOUTH OF IRVING PARK ROAD. PROPOSED LIGHTING SHALL BE OWNED AND MAINTAINED BY THE VILLAGE OF HANOVER PARK.
- 2. THE CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY COMPANY TO COORDINATE THE ELECTRIC SERVICE WORK. THE FIELD CONTACT PERSON IS SHERON GEETERS (847) 608-2400.
- 3. 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.
- 4. THE CONTRACTOR SHALL NOTIFY J.U.L.I.E. TO LOCATE AND MARK/STAKE ALL UNDERGROUND UTILITIES.
- 5. THE CONTRACTOR SHALL VERIFY LOCATIONS OF UNDERGROUND/OVERHEAD UTILITIES PRIOR TO INSTALLATION OF LIGHT POLES AND CONDUITS. IF THERE IS A CONFLICT WITH THE LIGHT POLES/CONDUITS AS SHOWN ON PLANS, THE CONTRACTOR SHALL SUGGEST ALTERNATIVE LOCATIONS AND COORDINATE WITH THE ENGINEER PRIOR TO PERFORMING DIGGING WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL AND DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION ACTIVITIES. THIS SHALL INCLUDE LOCATING LIGHTING FOUNDATIONS AND VERIFYING THE MAST ARM LENGTH.
- 6. TRENCHES FOR LIGHTING RACEWAYS SHALL HAVE A MINIMUM DEPTH OF 30".
- 7. LIGHTING SYSTEM INSTALLATION SHALL CONFORM TO THE LATEST IDOT STANDARDS, NEC AND LOCAL CODES.
- 8. ALL ELECTRICAL EQUIPMENT AND PRODUCTS SHALL BE U/L LISTED AND LABELED.
- 9. THE CONTRACTOR SHALL TAKE CARE WHEN INSTALLING UNIT DUCT TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES AND TREES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE AS DETERMINED BY THE ENGINEER.
- 10. THE QUANTITY FOR THE PROPOSED CONCRETE LIGHT POLE FOUNDATION, 24" DIAMETER IS BASED ON 12 FEET PER POLE FOUNDATION. THIS IS BASED ON A GEOTECHNICAL ENGINEERING ANALYSIS AND EVALUATION REPORT PERTAINING TO THIS BARRINGTON RD. PROJECT. HOWEVER, THE ACTUAL FOUNDATION DEPTH MAY VARY BASED ON THE SOIL CONDITIONS AT THE ACTUAL POLE LOCATION.

BILL OF MATERIALS

DESCRIPTION	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1
ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	602
UNIT DUCT, 600V, 5-1C NO. 4, 1/C NO. 6 GROUND, (XLP-TYPE USE), 1 1/2" DIA. POLYETHYLENE	FOOT	4650
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C 1/0	FOOT	366
LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	396
LUMINAIRE, LED, HORIZONTAL MOUNT, SPECIAL	EACH	33
LIGHTING CONTROLLER, SPECIAL	EACH	1
LIGHT POLE, SPECIAL	EACH	23
LIGHT POLE, SPECIAL, TYPE 2	EACH	10

<u>LEGEND</u>

PROPOSED LIGHTING UNIT, 47.5 FT. MH, MAST ARM AS SPECIFIED, 240V (LINE TO NEUTRAL), LED LUMINAIRE WITH BREAKAWAY DEVICE

UNIT DUCT, 600V, 5-1C NO. 4, 1/C NO. 6 GROUND (XLP-TYPE USE) 1 1/2" DIA. POLYETHYLENE

ComEd ELECTRIC SERVICE 240/480V, 1 PHASE 3 WIRE

PROPOSED LIGHTING CONTROLLER "LC " 240/480V, 3 WIRE 200 AMP, PAD MOUNTED

E RIGID GALVANIZED STEEL CONDUIT, UNDERGROUND

--- ELECTRIC CABLE IN CONDUIT 4" DIA., 3-1/C NO. 1/0

GROUND ROD 5/8" DIA. X 10 FT

REV. 8-12-16

LT-01

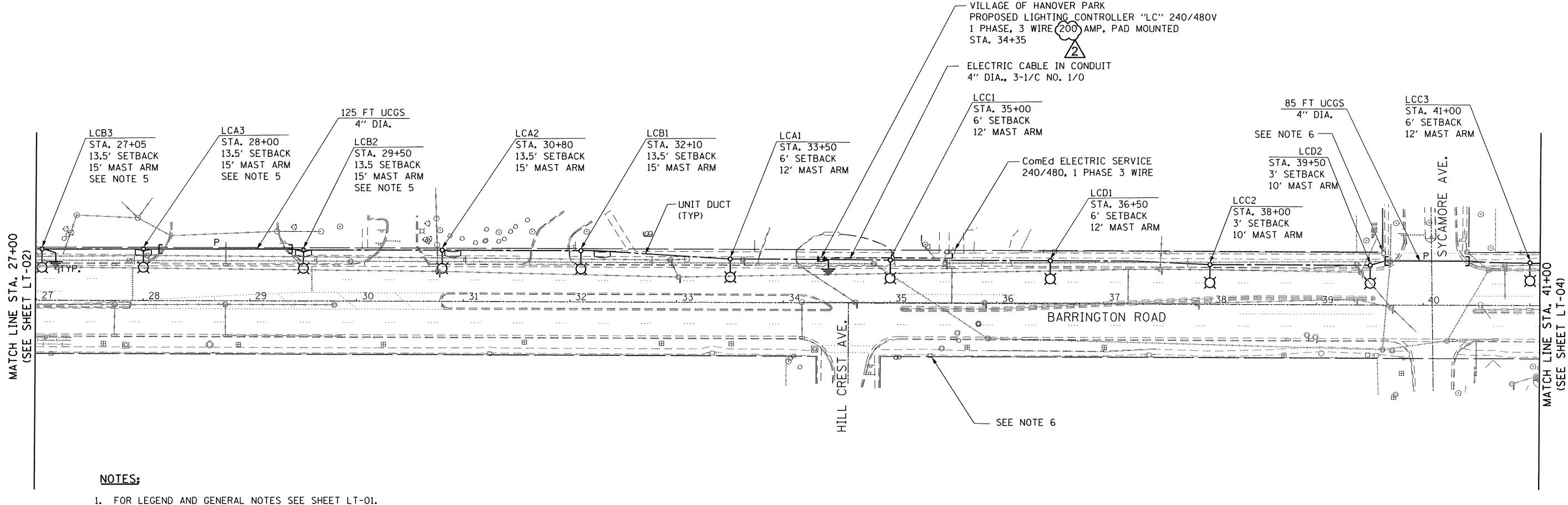
AMES Engineering, Inc.

CONSULTING ENGINEERS

5413 Walnut Avenue, Ste 2
Downers Grove, IL 60515

PLOTERING

	USER NAME = MDeitche	DESIGNED -	BL	REVISED -	
· .		DRAWN -	RV	REVISED -	
-	PLOT SCALE = 50.0000 '/ 10.	CHECKED -	мВ	REVISED -	
	PLOT DATE = 8/15/2016	DATE -	07-22-16	REVISED -	



- 2. SET BACK IS FROM THE FACE OF CURB TO THE CENTER OF LIGHT POLE.
- 3. UCGS STANDS FOR UNDERGROUND CONDUIT. GALVANIZED STEEL.
- 4. THE CONTRACTOR SHALL USE CARE WITH THE POLE INSTALLATIONS NEAR THE EXISTING SANITARY SEWER AND STORM SEWER.
- 5. BANNERS SHALL BE PROHIBITED ON THIS LIGHT POLE.
- 6. EXISTING COMED MAST ARM AND LUMINAIRE SHALL REMAIN IN USE DURING ALL PHASES OF CONSTRUCTION. THESE SHALL BE REMOVED ONLY WHEN PROPOSED LIGHTING IS INSTALLED AND OPERATIONAL. CONTRACTOR SHALL CONTACT COMED FOR COORDINATION.

0	50	100	150
	90	100	150

2 REV. 8-12-16

TOTAL SHEET SHEETS NO.

LT-03

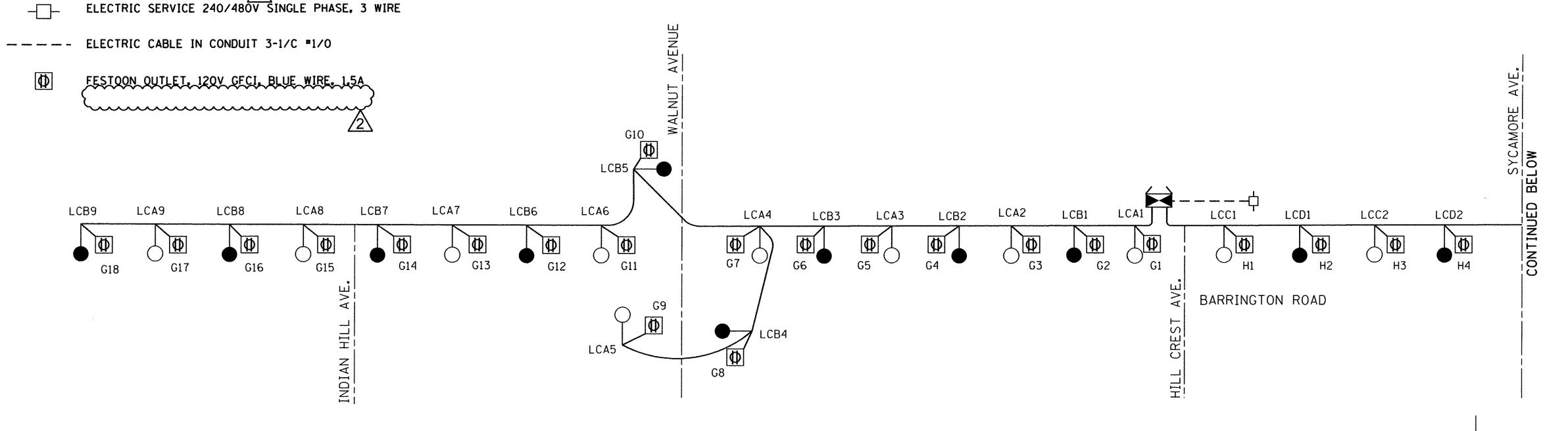
Δ A B	IES Engineering Inc	USER NAME = MDeitche	DESIGNED -	BL	REVISED -
AMES Engineering, Inc.		DRAWN -	RV	REVISED -	
	CONSULTING ENGINEERS 5413 Walnut Avenue, Ste 2	PLOT SCALE = 50.0000 '/ in.	CHECKED -	MB	REVISED -
Downers Grove, IL 60515	PLOT DATE = 8/15/2016	DATE -	07-22-16	REVISED -	

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN **BARRINGTON ROAD - MAPLE AVENUE TO IL 19 (IRVING PARK ROAD)** SCALE: 1"= 50" SHEET 2 OF 3 SHEETS STA. 27+00 TO STA. 41+00

SECTION 362 13-00062-00-SP 48 38 CONTRACT NO. 61D06 FED. ROAD DIST. NO. 1 | ILLINOIS FED. AID PROJECT M-4003(621)





LOAD TABLE LIGHTING CONTROLLER "LC" 240/480V, 1 PHASE, 3 WIRE (200)AMP

	RED		BLACK			
CIRCUIT	AMPS @ 240V	VA	CIRCUIT	AMPS @ 240V	VA	
A	11.7	2808	В	11.7	2808	
С	10.4	2496	D	9.1	2184	
E	SPARE	SPARE	F	SPARE	SPARE	
G	27(e 120V)	3240	н	22.5(c 120V)	2700	
TOTAL	49.1	8544	TOTAL	43.3	7692	

NOTE:

1. SEE SHEET LT-09 (REVISED IDOT D1 STANDARD BE 702) WIRING FOR LIGHTING AND FESTOON OUTLETS CONNECTIONS.

REV. 8-12-16

LCC8

LCD7

LT-05

REVISED -DESIGNED USER NAME = MDeitche AMES Engineering, Inc. REVISED -DRAWN RV **CONSULTING ENGINEERS** REVISED -CHECKED MB PLOT SCALE = 50.0000 '/ in. 5413 Walnut Avenue, Ste 2 Downers Grove, IL 60515 - 07-22-16 REVISED -PLOT DATE = 8/15/2016

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ONE LINE WIRING DIAGRAM

BARRINGTON ROAD - MAPLE AVENUE TO IL 19 (IRVING PARK ROAD)

SCALE: NONE SHEET 1 OF 1 SHEETS STA. N/A TO STA. N/A

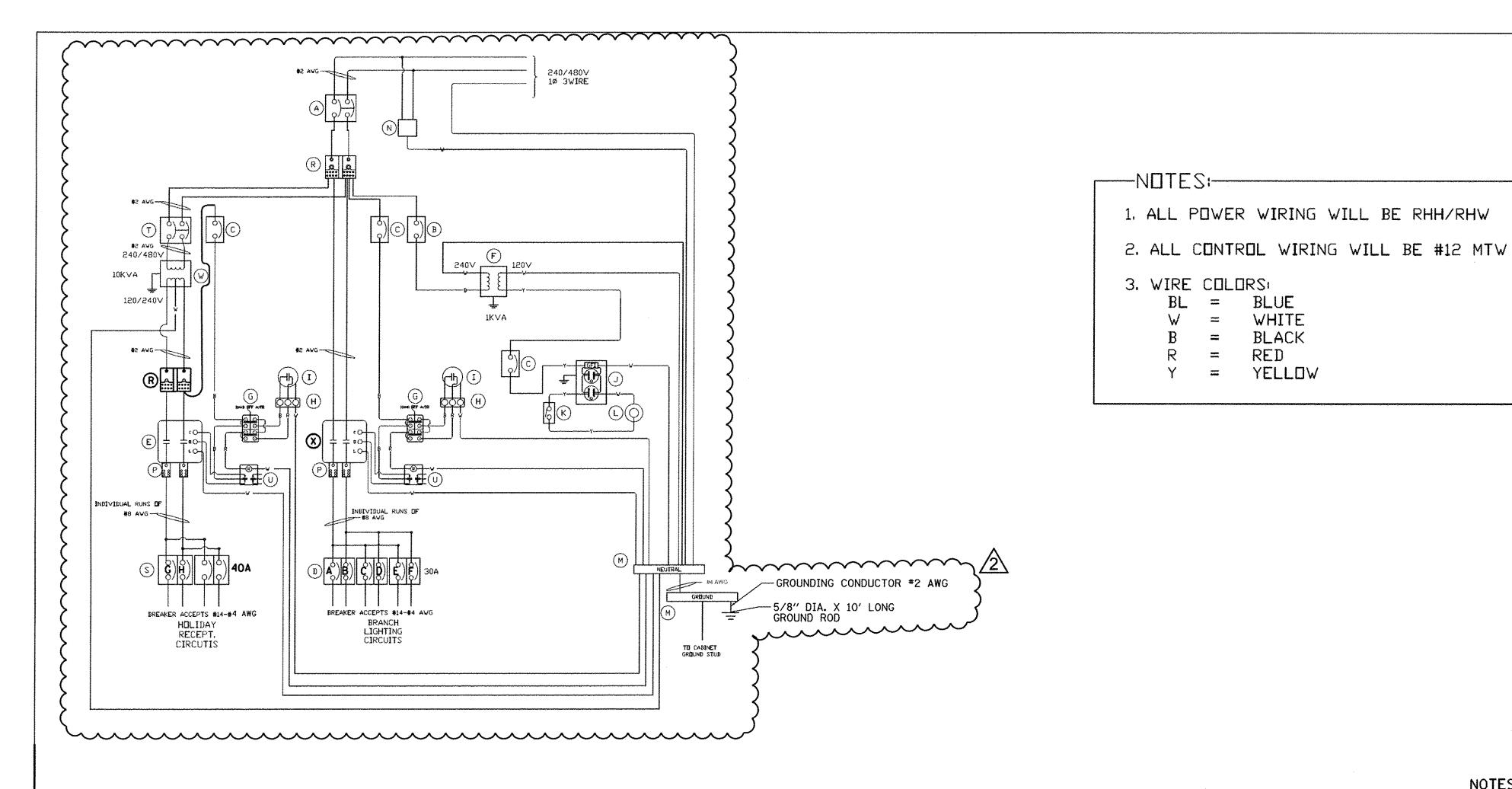
LCD6

BARRINGTON ROAD

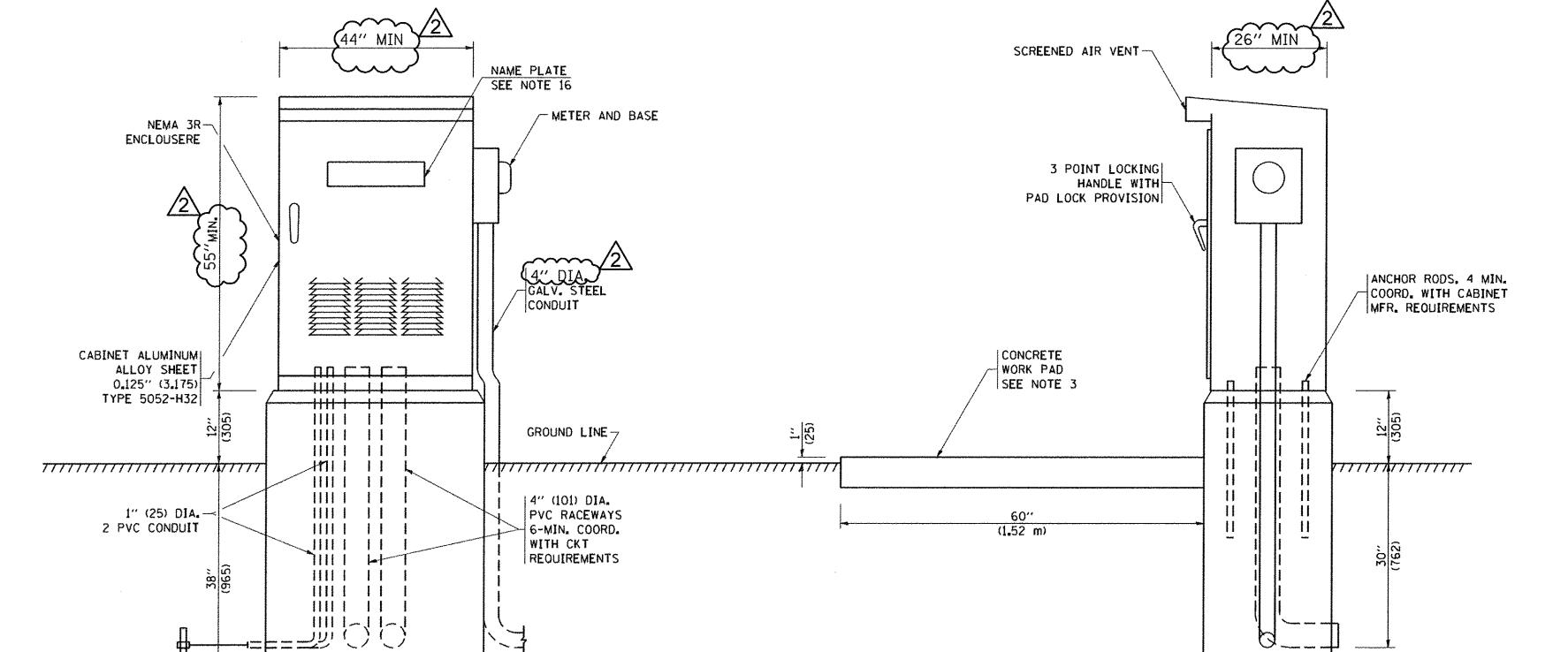
LCC5

LCD5

D DIST. NO. 1 ILLINOIS FED. A	ID PROJECT M-4	1003(621)	
	CONTRACT	NO. 61	D06
13-00062-00-SP	COOK	48	40
SECTION	COUNTY	TOTAL SHEETS	SHEE.



		BILL OF MATERIALS
ITEM	QTY	DESCRIPTION
А	1	(2P/200A MAIN BREAKER)2
В	1 /	SQ.D FAL14020 19-20A TRANS PRI BREAKER
С	(3)	SQ.D FAL14015 1P/15A CONTROL/AUX
D	6	SQ.D FAL14030 1P/30A BRANCH BREAKERS
E	1	SQ.D 8903PBQ10V02 120V COIL (100A) CONTACTOR
F	1	HAMMOND CIFICSLES 1 KVA TRANSFORMER
G	ζ2}	SQ.D 9001KYK111 H.O.A. SWITCH 2
H	2 3	CINCH 3PT TERMINAL BLOCK
I	ζ 2 /	FISHER PIERCE FPFA-105M PHOTOCELL
J	1	HUBBELL GF20ILA GFCI RECPT.
K	1	HUBBELL CS1221 SPST LIGHT SWITCH
L	1	RAB VX100DG LIGHT FIXTURE
М	2	12" × 1" × 1/4" GROUND/NEUTRAL BUS
N	1	SPDEE S50A277V2PN SURGE ARRESTER
0	4	RESERVED
Р	(4)	C.H. 6 HOLE LUGS
R	(2)	GDIST BLOCK
S	\ <u>4</u> 5	SQ.D FAL12040 1P/40A BREAKER 2
Т	$\left(\begin{array}{c}1\end{array}\right)$	SQ.D(FAL24030 2P/30A)
U	2	ZELIO RPF2BP7 24QV COIL RELAY
(W	1 1	HĂMMOND CIFOIOLES 10 KVA TRĂNSFORMER .
(X		SQ.D 8903PBV10V03 240 COIL, 200A CONTACTOR



NOTES:

- 1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- 2. FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
- 3. 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 $36'' (914.4 \text{ mm}) \times 60'' (18.288 \text{ m}) \times 4'' (101 \text{ mm})$ MIN. SIZE. THE COST OF LABOR AND MATERIALS ARE INCLUDED IN THE COST OF THE CONTROLLER.
- 4. DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
- 5. DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
- 6. DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1/4" (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
- 7. ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
- 8. CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
- 9. METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET. NEAR TO THE SERVICE POLE.

- 10. CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- 11. THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
- 12. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED. R = REDBL = BLUE W = WHITEB = BLACK Y = YELLOWG = GREEN
- 13. PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- 14. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
- 15. THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
- 16. 12" (304.8) X 16" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.

REV. 8-30-16

LT-06

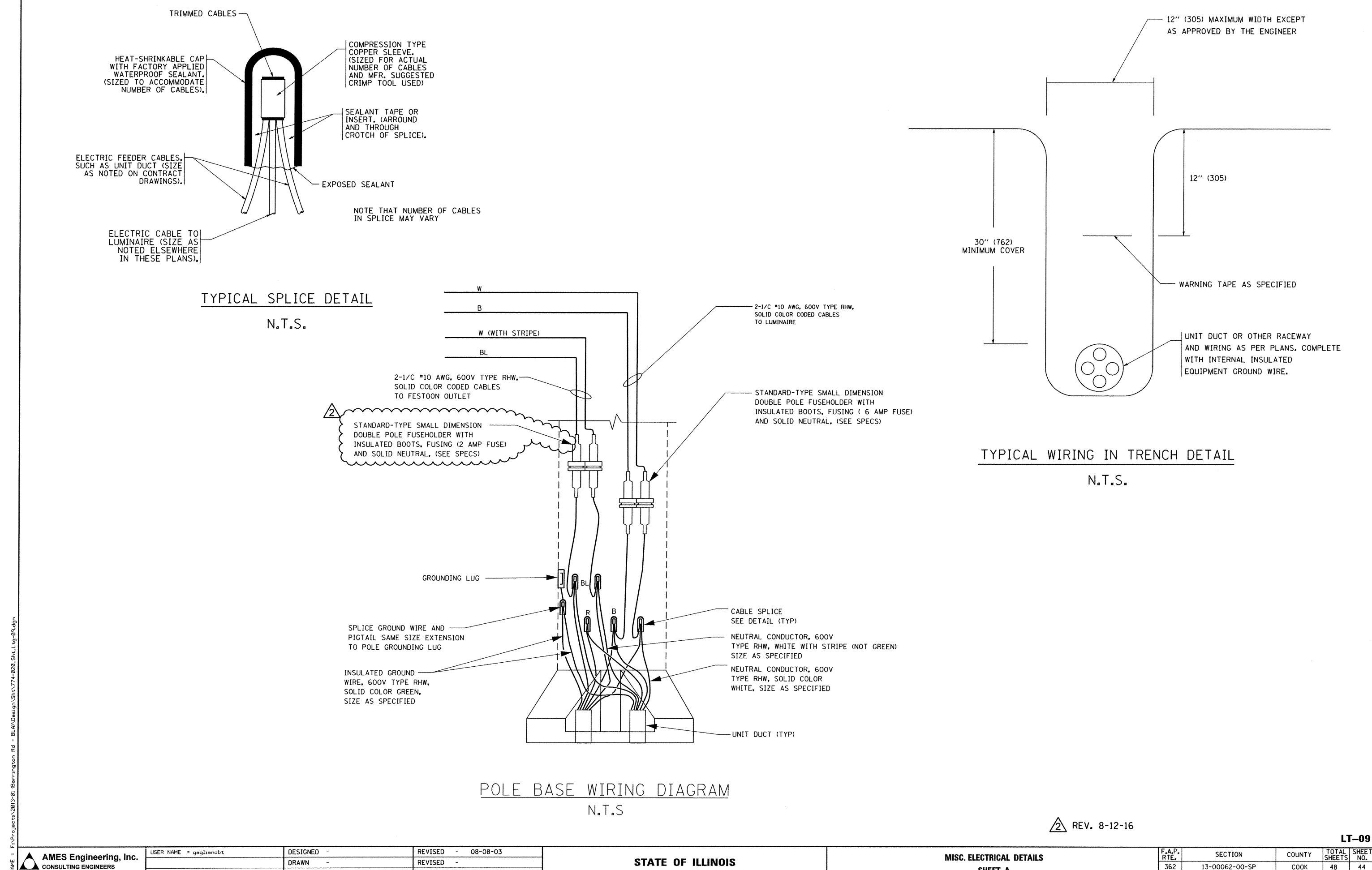
REVISED 08-20-04 DESIGNED USER NAME = goglianobt **AMES Engineering, Inc.** REVISED DRAWN CONSULTING ENGINEERS REVISED CHECKED PLOT SCALE = 50.0000 '/ IN. 5413 Walnut Avenue, Ste 2 Downers Grove, IL 60515 DATE REVISED PLOT DATE = 1/4/2008

GROUND ROD-

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER SINGLE DOOR SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. N/A TO STA. N/A

TOTAL SHEET NO. SECTION COUNTY 13-00062-00-SP 362 COOK 48 41 CONTRACT NO. 61DO6 FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003(621)



5413 Walnut Avenue, Ste 2 Downers Grove, IL 60515

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

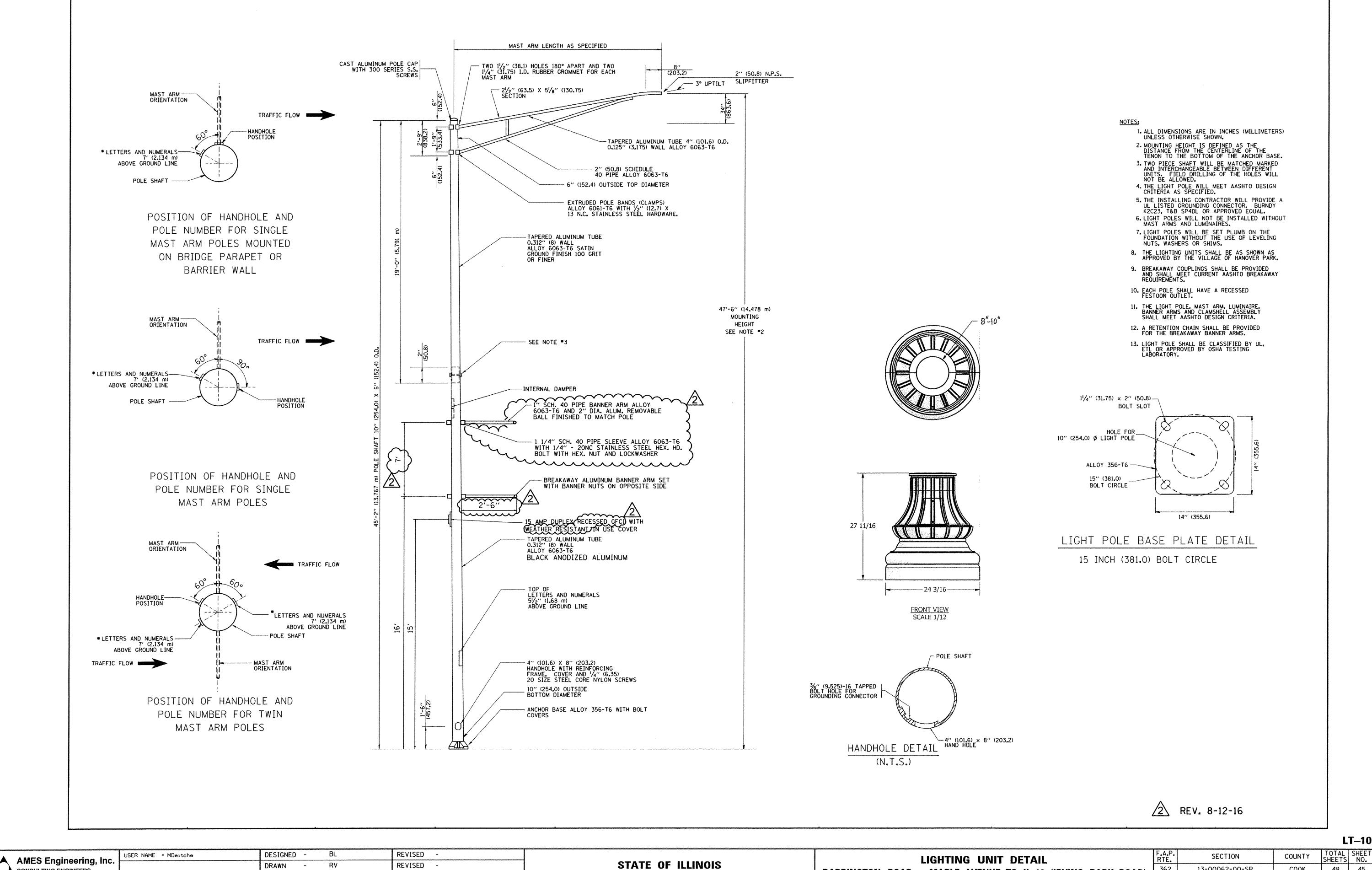
DEPARTMENT OF TRANSPORTATION

SHEET A SHEET NO. 1 OF 1 SHEETS STA. N/A

TO STA. N/A

SCALE: NONE

48 44 362 13-00062-00-SP COOK CONTRACT NO. 61D06 FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-4003(621)



DEPARTMENT OF TRANSPORTATION

REVISED

REVISED

CHECKED

PLOT SCALE = 50.0000 '/ in.

PLOT DATE = 8/15/2016

MB

- 07-22-16

CONSULTING ENGINEERS

5413 Walnut Avenue, Ste 2

Downers Grove, IL 60515

LIGHTING UNIT DETAIL 13-00062-00-SP COOK 48 45 **BARRINGTON ROAD - MAPLE AVENUE TO IL 19 (IRVING PARK ROAD)** CONTRACT NO. 61D06 SHEET 1 OF 1 SHEETS STA. N/A SCALE: NONE TO STA. N/A FED. ROAD DIST. NO. 1 | ILLINOIS FED. AID PROJECT M-4003(621)

LT-10