

CONTRACT NO. 76K93







				RURAL	80% FEDERA 20% STATE				RUBAL	80% FEDERAL 20% STATE
Γ					CONSTRUCTIO					CONSTRUCTION
	CODE NO.	ITEM	LINTT	TOTAL		CODE NO.	ITEM	LINTT	TOTAL	CODE
			Unit	QUANTITIES	10021			UNIT	QUANTITIES	0021
-					<i>ų</i> 0021		· · · · · · · · · · · · · · · · · · ·			0021
-	60618300	CONCRETE MEDIAN SURFACE 4 INCH	SO FT	289	28	81028370		FOOT	175	175
			5011			51020310		+ 001		113
-										
∗	66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	220	220	81028390	UNDERGROUND CONDUIT, PVC, 4" DIA.	FOOT	57	57
*	66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1		81400700	HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	8	8
F										
*	66900530	SOIL DISPOSAL ANALYSIS	EACH	4		81400720	DOUBLE HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	1	1
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8		85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1	1
F										
F	67100100			1		87301245		FOOT	3562	3560
-	01100100		2.00%				LEEGTIG CADEL IN CONDENT, STORAL NO. 14 SC	1001	5562	5502
ļ		·								
	70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1		87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	447	447
	70100825	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	L SUM	1		87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3951	3951
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-	70102075			1		275.020.00		EAGU		
-	10102633	TRAFFIC CONTROL AND FROTECTION, STANDARD TOTTOT	L SUM	I		67502660	TRAFFIC SIGNAL FUST, ALUMINUM 14 FT.	EACH		2
*	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	F00T	20	2	87700120	STEEL MAST ARM ASSEMBLY AND POLE, 16 FT.	EACH	1	1
*	78000 £ 00	THERMOPLASTIC PAVEMENT MARKING - LINE 8"	FOOT	28	2	87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	1	1
-										
-			FOOT				STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS.			
*	78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	F001	8		87702200	20 FT.	EACH	1	1
							· · · · · · · · · · · · · · · · · · ·			
*	78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	F00T	60	6	87800100	CONCRETE FOUNDATION, TYPE A	FOOT	6	6
Γ										
-	80500100	SERVICE INSTALLATION. TYPE A	FACH	1		87800200	CONCRETE FOUNDATION. TYPE D	FOOT	3	
-										
+		·								
-	81028320	UNDERGROUND CONDUIT, PVC, 1" DIA.	FOOT	85	3	87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	33.5	33.5
	81028340	UNDERGROUND CONDUIT, PVC, 1 1/2" DIA.	FOOT	1269	126	88040070	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2	2
f										
╞	81028350	INDERGROUND CONDUIT BVC 2" DTA	FOOT	110	1.	88040090	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST	EVU	7	7
+	01020330			115	1.	35040030	ARM MOUNTED	LACH		'
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Ĺ	81028360	UNDERGROUND CONDUIT, PVC, 2 1/2" DIA.	FOOT	63	6	88040120	ARM MOUNTED	EACH	2	2
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88040230	SIGNAL HEAD, POLYCARBONATE, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1	
88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	9	
88500100	INDUCTIVE LOOP DETECTOR	EACH	9	
88600100	DETECTOR LOOP, TYPE I	FOOT	1032	103
87301815	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 3 C	FOOT	11	
X0327979	PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	37	3
X2080250	TRENCH BACKFILL, SPECIAL	CU YD	7.8	7.
X4402020	CONCRETE MEDIAN SURFACE REMOVAL	SQ FT	289	28

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ELECTRICAL GENERAL NOTES

- 1. ALL VEHICLE AND PEDESTRIAN SIGNAL HEADS SHALL HAVE 12" SECTIONS. MOUNTING HARDWARE SHALL BE UNPAINTED ALUMINUM. ALL BOLTS, SCREWS, NUTS AND WASHERS SHALL BE STAINLESS STEEL. ANTI-SEIZE PASTE COMPOUND SHALL BE USED ON ALL MOUNTING HARDWARE FIELD CONNECTIONS.
- 2. BACKPLATES SHALL BE RETROREFLECTIVE ABS PLASTIC.
- 3. THE CONTROLLER CABINET SHALL BE UNPAINTED ALUMINUM.
- 4. THE LOCATION OF MAST ARM SUPPORTS SHALL BE APPROVED BY THE ENGINEER BEFORE FOUNDATIONS ARE CONSTRUCTED. MAST ARM POLES SHALL BE LOCATED A MINIMUM OF 10 FET FROM THE EDGE OF PAVEMENT OR 2 FEET FROM THE EDGE OF SHOULDER, WHICHEVER DISTANCE IS GREATER. IN CURBED SECTIONS, THE MAST ARM POLES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM THE FACE OF THE CURB. THESE DISTANCES ARE TO THE NEAR FACE OF THE MAST ARM POLE.
- ALL TRAFFIC SIGNAL CABLES SHALL BE #14 AWG STRANDED COPPER UNLESS OTHERWISE SPECIFIED. TERMINAL ENDS SHALL HAVE CRIMPED-ON RING TONGUE CONNECTORS.
- 6. THE LOCATION OF ALL DETECTOR LOOPS SHALL BE APPROVED BY THE ENGINEER BEFORE ANY SLOTS ARE SAWED IN THE PAVEMENT.
- 7. DETECTOR LOOP LEAD-IN SPLICES SHALL BE MADE IN A HANDHOLE PER SECTION 873 OF THE STANDARD SPECIFICATIONS. CONDUCTORS SHALL BE SPLICED IN A RIGID MOLD FILLED WITH NON-HARDENING EPOXY FILLER. ROSIN-CORE SOLDER SUML DEFUSION. SOLDER SHALL BE USED.
- CALL DELAY SHALL NOT FUNCTION WHEN THE RELATED PHASES ARE IN THE GREEN MODE.
- 9. CALL CARRY-OVER SHALL FUNCTION ONLY WHEN THE RELATED PHASES ARE N THE GREEN MODE.
- 10. ALL INDUCTIVE LOOP DETECTORS SUPPLIED FOR THIS PROJECT SHALL HAVE THE CAPACITY OF OPERATING WITH BOTH DELAY AND EXTENSION MODES ACTIVE, IF A TIME SETTING IS PROGRAMMED. THEY SHALL BE RACK MOUNTED.
- ALL HANDHOLES SHALL BE CAST-IN-PLACE PORTLAND CEMENT CONCRETE (PER ARTICLE 814.03(b)). THE CAST IN PLACE LEGEND IN THE COVER SHALL BE "TRAFFIC SIGNALS". SLOPE HANDHOLE COVERS TO MATCH PROPOSED GRADE ELEVATIONS.
- 12. ILLINOIS STATE LAW REQUIRES A 48 HOUR NOTICE BE GIVEN TO UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.LI.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS. FOLLOWS:
 - CLINTON COUNTY ELECTRIC COOPERATIVE, INC. (ELECTRIC) FRONTIER COMMUNICATIONS (COMMUNUCATIONS)

 - * VILLAGE OF NEW BADEN (WATER & SANITARY SEWER)
 - WINDSTREAM KDL, INC. (COMMUNUCATIONS)

(MEMBERS OF J.U.L.I.E. PHONE (800) - 892-0123 ARE INDICATED BY *) NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

13. ESTIMATED DEPTHS OF THE CONCRETE FOUNDATIONS FOR THE MAST ARM SUPPORT POLES ARE AS FOLLOWS:

N-W CORNER: 12'-6" DEEP N ISLAND: 12'-6" DEEP S-E CORNER: 12'-6" DEEP FINAL DEPTHS WILL BE DETERMINED BY THE DEPARTMENT FROM THE SOIL BORING DATA.

14. THE RESIDENT ENGINEER SHALL VERIFY THE EXISTENCE OF HIGHWAY LIGHTING AND/OR INTELLIGENT TRANSPORTATION SYSTEMS (I.T.S.) UTILITIES WITHIN THE PROJECT LIMITS. IF HIGHWAY LIGHTING AND/OR I.T.S. EXISTS WITHIN THE PROJECT LIMITS, AND IF THESE ITEMS REQUIRE LOCATING, THE CONTRACTOR SHALL BE DIRECTED TO DO SO ACCORDING TO SECTION 803 OF THE STANDARD SPECIFICATIONS.

TRAFFIC SIGNALS LEGEND

- GALVANIZED STEEL CONDUIT
- PVCC POLYVINYL CHLORIDE CONDUIT
- PROPOSED SIGNAL HEAD WITH BACKPLATE, MAST ARM MOUNTED
- PROPOSED HANDHOLE

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- PROPOSED DOUBLE HANDHOLE
 - PROPOSED DETECTOR LOOP
 - PROPOSED CONTROLLER
- _____ PROPOSED CONDUIT
 - PROPOSED SERVICE INSTALLATION
- ---PROPOSED SIGNAL POST







* LIMITS OF "TRENCH BACKFILL (SPECIAL)"

DETAIL TRENCH BACKFILL (SPECIAL) (NO SCALE)

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SEC. E-E



LOOP#	phase # (Φ)	LOOP SIZE	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (µH)	CALCULATED RESISTANCE OHMS (Ω)
1. EB CCO	6	6′ X 6′	6	371.04	3.00
2. EB THRU CD	6	6′ × 50′(Q)	3-6-3	806.68	2.06
3. WB CCO	2	6′ X 20′	5	531.73	4.43
4. WB LT CD	5	6′ × 50′(Q)	3-6-3	868.94	3.48
5. WB THRU CD	2	6′ × 50′(Q)	3-6-3	865.64	3.40
6. SB CCO 1	4	6' X 6'	7	508.59	3.66
7. SB CCO 2	4	6' X 6'	7	511.23	3.72
8. SB LT CD	4	6' × 50'(Q)	3-6-3	864.32	3.37
9. SB RT CD	4	6' × 50'(Q)	3-6-3	863.22	3.35

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.

(Q)=QUADRAPOLE

6'X6' ____ CCO #06 & #07 CCO-PRHH05, PROP. 1' COND.-6' HANDHOLE PCC-1- (EACH)
 / HANDHOLE PCC-1- (EACH)
 / 2-UNDRGRD C PVC 1-6' (EACH)
 TRENCH BACKFILL SPL-0.7 CU YD
 DET LOOP T1-31'
 DET LOOP T1-43' ,9X, PTSE $\overbrace{}^{PT} \overbrace{Sta}^{'} 313+22.62$ 10 |# \mathbf{b} PRHH05 PRHH05-PRHH04, PROP. 1.5' COND.-366' UNDRGRD C PVC 1 1/2-366' 2-ELCBL C LEAD 14 1PR-373'(EACH) с RAMP SB I-64

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PRHH02-PRHH03, PROP. 1.5' COND.-390' UNDRGRD C PVC 1 1/2-390' ELCBL C LEAD 14 1PR-397'

47+00 STA.



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#03 CCO-PRHH02, PROP. 1' COND.-11' HANDHOLE PCC-1- (EACH)

TRENCH BACKFILL SPL-1.2 CU YD DET LOOP T1-54'

UNDRGRD C PVC 1-11'

6′X20′

CCO

PRHHO2

#03

PRHH03

CABLE DIAGRAM LEGEND

	ELECTRIC CABLE IN CONDUIT
	EXISTING ELECTRIC CABLE IN CONDUIT
-• ^s	CABLE SPLICE (SEE GENERAL NOTES)
2/C	INDICATES NUMBER OF CONDUCTORS IN CABLE
ID IN	ELECTRIC CABLE LEAD-IN, 1 PAIR
CD	CALL DELAY (SEE GENERAL NOTES)
CCO	CALL CARRY OVER (SEE GENERAL NOTES)
	SERVICE INSTALLATION
# 6	INDICATES AMERICAN WIRE GAUGE (AWG) SIZE 6 CONDUCTORS (SEE GENERAL NOTES)



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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO 1206) BBS, from 137 (Rev. 8-99)	The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)	The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8–99)

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S LOGS		F.A.P. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.		
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