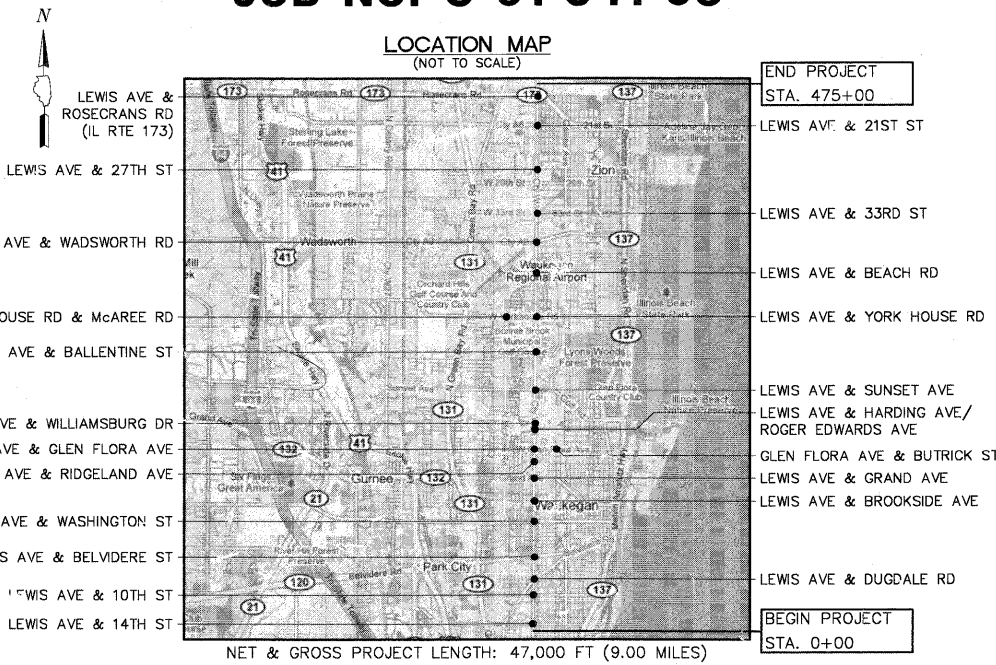


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**
TRAFFIC SIGNAL MODERNIZATION AND
FIBER OPTIC COMMUNICATION SYSTEM
CONGESTION MITIGATION AND AIR QUALITY
FAU 2730 (LEWIS AVENUE)
14TH STREET TO ROSECRANS ROAD (IL RTE 173)
FEDERAL PROJECT NO. CMM-9003(071)
SECTION 08-00259-00-TL
LAKE COUNTY DIVISION OF TRANSPORTATION
JOB NO. C-91-541-08



TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ☒ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- PEDESTRIAN PUSHBUTTON DETECTOR
- ⦿ EMERGENCY VEHICLE LIGHT DETECTOR
- ☼ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- ⬮ HANDHOLE
- ⬮ HEAVY DUTY HANDHOLE
- ⦿ LUMINAIRE
- ⦿ VIDEO DETECTION CAMERA
- ⦿ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊞ APPROXIMATE DETECTION ZONE

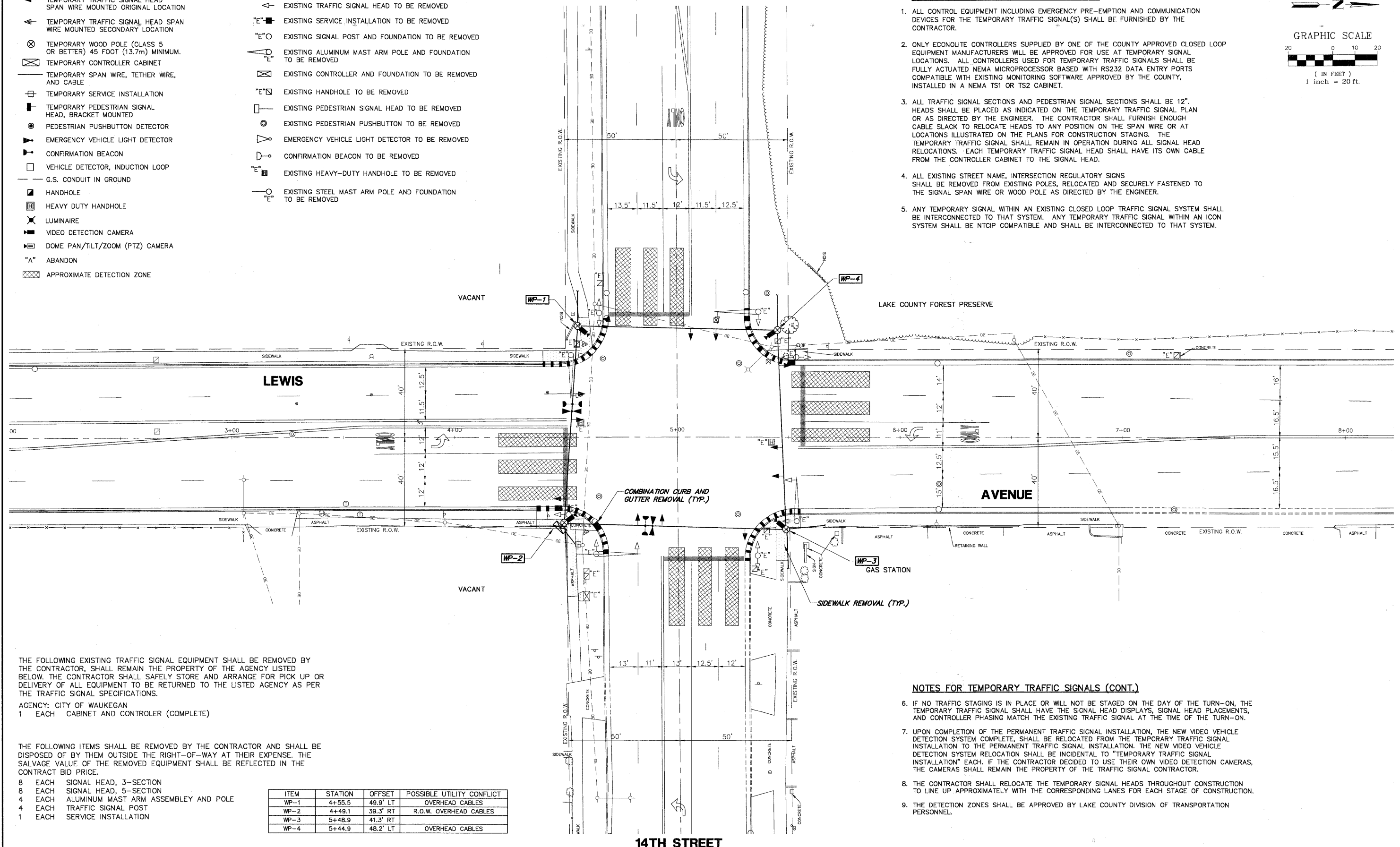
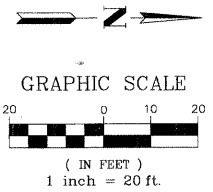
EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ◀ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ☒ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" ⊕ EXISTING HANDHOLE TO BE REMOVED
- ◀ EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ⦿ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ☼ EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ■ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ◀ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

14TH STREET

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTCIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

AGENCY: CITY OF WAUKEGAN
 1 EACH CABINET AND CONTROLLER (COMPLETE)

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH SIGNAL HEAD, 3-SECTION
- 8 EACH SIGNAL HEAD, 5-SECTION
- 4 EACH ALUMINUM MAST ARM ASSEMBLY AND POLE
- 4 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	4+55.5	49.9' LT	OVERHEAD CABLES
WP-2	4+49.1	39.3' RT	R.O.W. OVERHEAD CABLES
WP-3	5+48.9	41.3' RT	
WP-4	5+44.9	48.2' LT	OVERHEAD CABLES

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



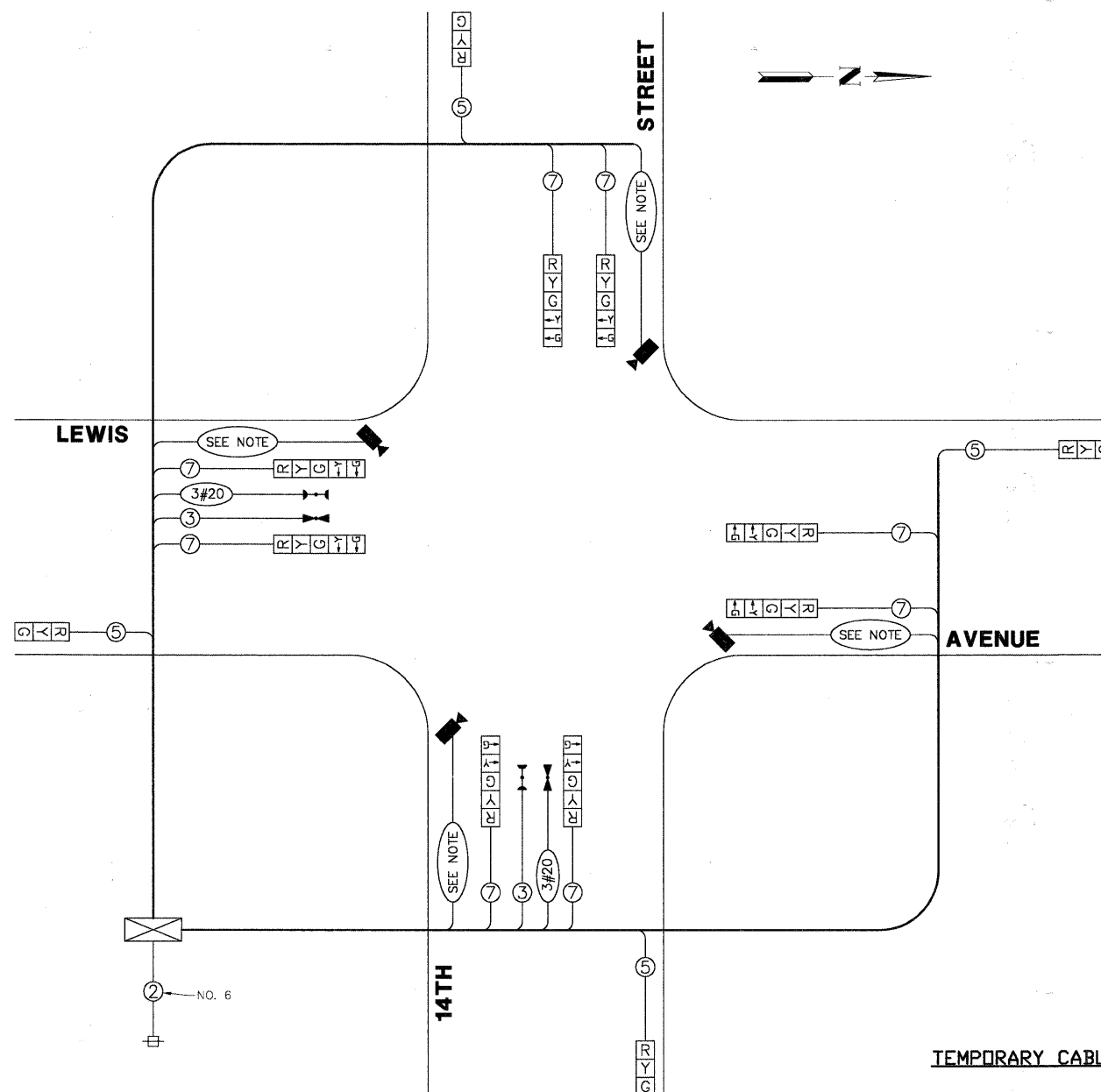
TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT LEWIS AVENUE AT 14TH STREET
 SCALE: 1"=20' SHEET NO. 4 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 4
CONTRACT # 63344			ILLINOIS FED. AID PROJECT	

GHA #4135.800

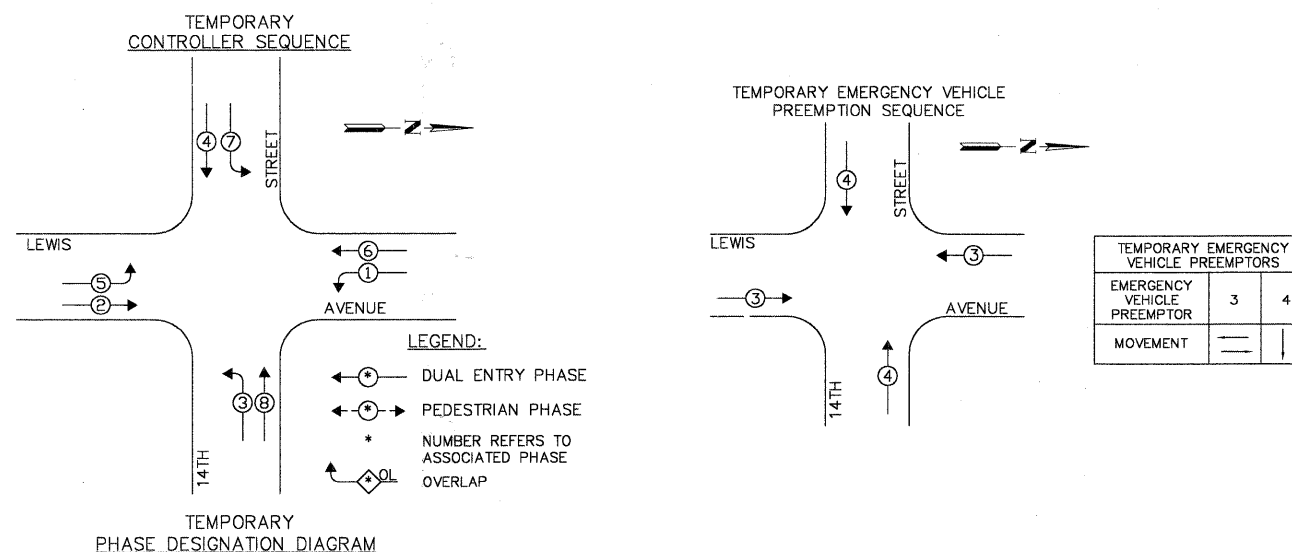
TEMPORARY CABLE PLAN LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- 5 INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA



NOTE:
IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 16, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN



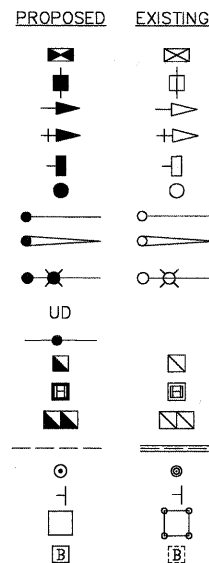
TEMPORARY PHASE DESIGNATION DIAGRAM

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	16	135	9	0.10	14.4
FED. SIGNAL	-	90	9	1.00	-
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					400.0

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

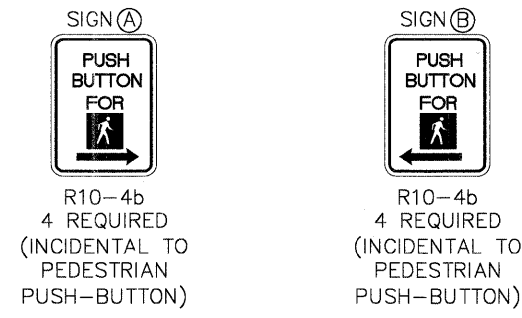
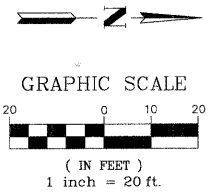
TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY



14TH STREET

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

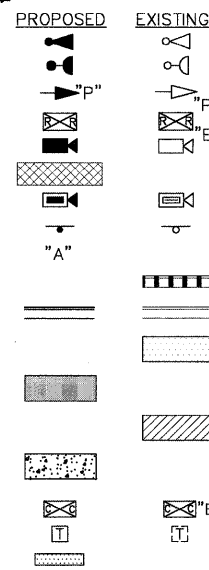


MATCH LINE - STA. 2+50

MATCH LINE - STA. 2+50

TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

- ① EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	4+57.1	52.1' LT	
H-2	4+61.5	68.6' RT	
H-3	5+43.9	48.7' RT	
H-4	5+43.3	48.3' LT	
P-1	4+61.7	54.4' LT	
P-2	4+45.3	38.6' RT	
P-3	5+38.3	53.2' RT	
P-4	5+48.8	38.7' LT	R.O.W.
MA-1	4+44.7	38.9' LT	OVERHEAD CABLES
MA-2	4+59.0	53.2' RT	OVERHEAD CABLES
MA-3	5+46.6	43.5' RT	R.O.W.
MA-4	5+39.6	58.7' LT	

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

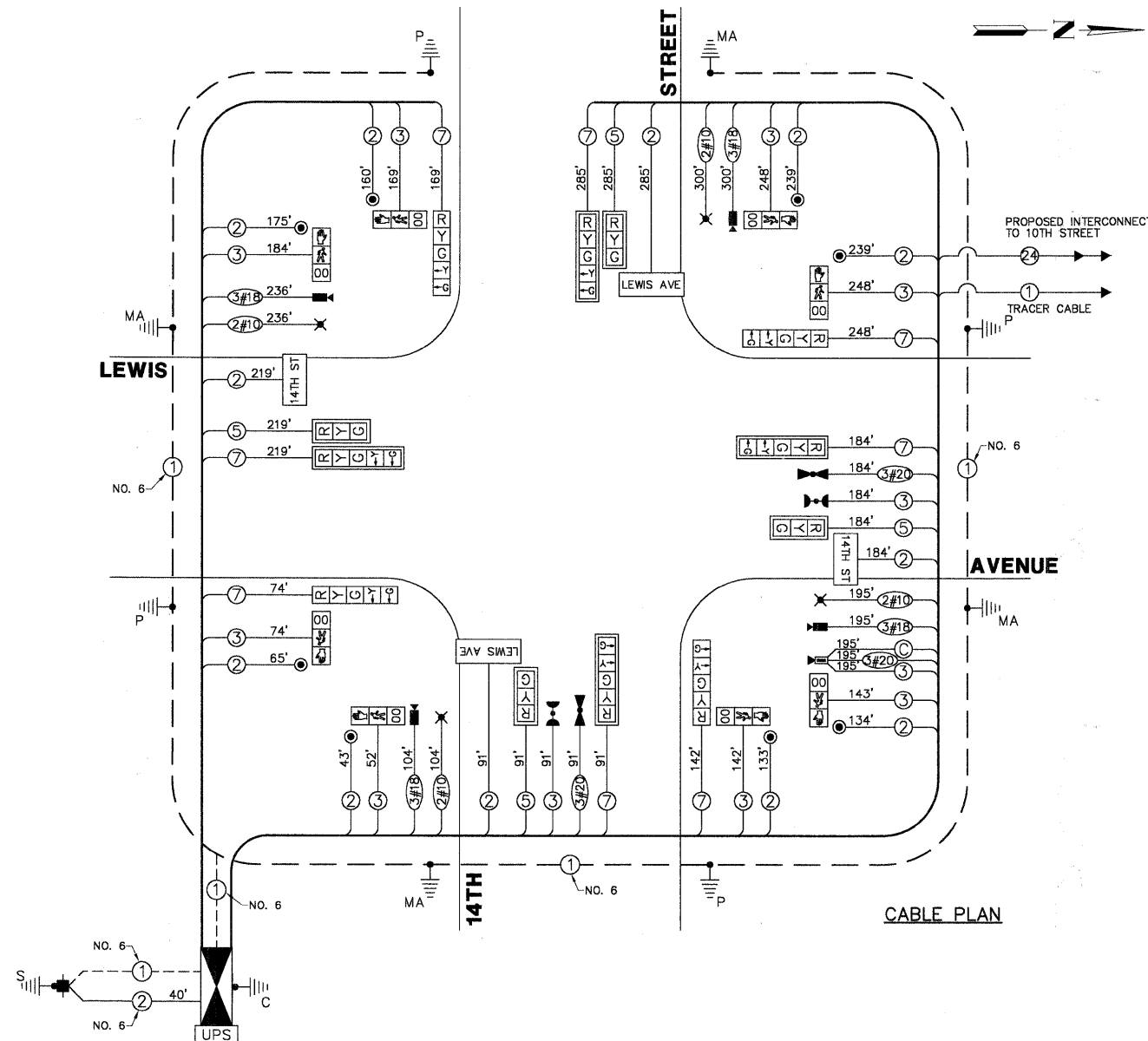
SCHEDULE OF QUANTITIES

LEWIS AVENUE AT 14TH STREET TRAFFIC SIGNAL MODERNIZATION

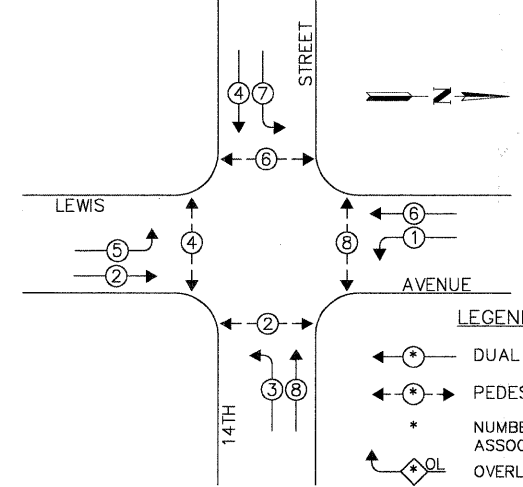
NO.	QUANT.	UNIT
1.	20	CU.YD. EARTH EXCAVATION
2.	75	SQ.YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	1,245	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	96	SQ.FT. DETECTABLE WARNINGS
5.	200	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	625	SQ.FT. SIDEWALK REMOVAL
7.	2	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	20	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	180	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.24
10.	505	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
11.	150	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
12.	300	SQ.FT. PAVEMENT MARKING REMOVAL
13.	18	FOOT CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
14.	58	FOOT CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL
15.	52	FOOT CONDUIT IN TRENCH, 3-1/2" DIA., GALVANIZED STEEL
16.	10	FOOT CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
17.	212	FOOT CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
18.	83	FOOT CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL
19.	2	EACH HANDHOLE
20.	2	EACH DOUBLE HANDHOLE
21.	835	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHW) 2-1/C NO. 10
22.	120	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
23.	4	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
24.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
25.	1	EACH TRANSCEIVER - FIBER OPTIC
26.	1,967	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
27.	1,730	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
28.	779	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
29.	1,412	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
30.	40	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
31.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 28 FT (SPECIAL)
32.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 30 FT (SPECIAL)
33.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 32 FT (SPECIAL)
34.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 34 FT (SPECIAL)
35.	16	FOOT CONCRETE FOUNDATION, TYPE A
36.	4	FOOT CONCRETE FOUNDATION, TYPE C
37.	60	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
38.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
39.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED
40.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
41.	8	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
42.	8	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
43.	2	EACH LIGHT DETECTOR
44.	1	EACH LIGHT DETECTOR AMPLIFIER
45.	8	EACH PEDESTRIAN PUSH-BUTTON
46.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
47.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
48.	8	EACH REMOVE EXISTING HANDHOLE
49.	9	EACH REMOVE EXISTING CONCRETE FOUNDATION
50.	1	EACH SERVICE INSTALLATION, POLE MOUNT
51.	517	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
52.	470	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
53.	195	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
54.	835	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
55.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
56.	4	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
57.	4	EACH TRAFFIC SIGNAL POST, 16 FT (SPECIAL)
58.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
59.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
60.	1	EACH VIDEO ENCODER

CABLE PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	12" TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE INSTALLATION
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	BELDEN 1694A RG-6/4 COAXIAL CABLE
[Symbol]	[Symbol]	ISDN LINE
[Symbol]	[Symbol]	LUMINAIRE
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET
[Symbol]	[Symbol]	L.E.D. STREET NAME SIGN
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY

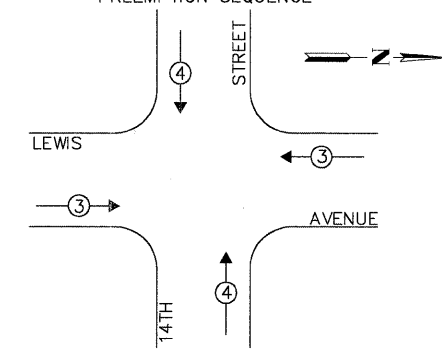


CONTROLLER SEQUENCE



LEGEND:
 ← * → DUAL ENTRY PHASE
 ← * → PEDESTRIAN PHASE
 * NUMBER REFERS TO ASSOCIATED PHASE OVERLAP

EMERGENCY VEHICLE PREEMPTION SEQUENCE



EMERGENCY VEHICLE PREEMPTOR	MOVEMENT
3	4

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

PHASE DESIGNATION DIAGRAM

FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)
TYPE A - POST 4	HANDHOLE 6.5	ALL FOUNDATIONS 3.5
TYPE D - CONTROLLER 4	DOUBLE HANDHOLE 13	MAST ARM (L) POLE 20'+1'-2"
TYPE E - M.ARM POLE 15	SIGNAL POST 2	BRACKET MOUNTED 13
	CONTROLLER CAB. 1	PED. PUSHBUTTON 4
	FIBER OPTIC 13	ELECTRIC SERVICE 13.5
	ELECTRIC SERVICE 13	SERVICE TO GROUND 13.5
	GROUND CABLE 1	POST MOUNTED 6

TYPE	NO LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	L.E.D.		
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	16	135	9	0.10	14.4
PED.SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	4	-	250	0.50	500.0
L.E.D. ST. NAME SIGN	4	-	64	0.50	128.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					1,125.0

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (886) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
LEWIS AVENUE AT 14TH STREET
 SCALE: NONE SHEET NO. 7 OF 86 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	7
CONTRACT #				63344

ILLINOIS FED. AID PROJECT

GHA #4135.800

TEMPORARY TRAFFIC SIGNAL LEGEND

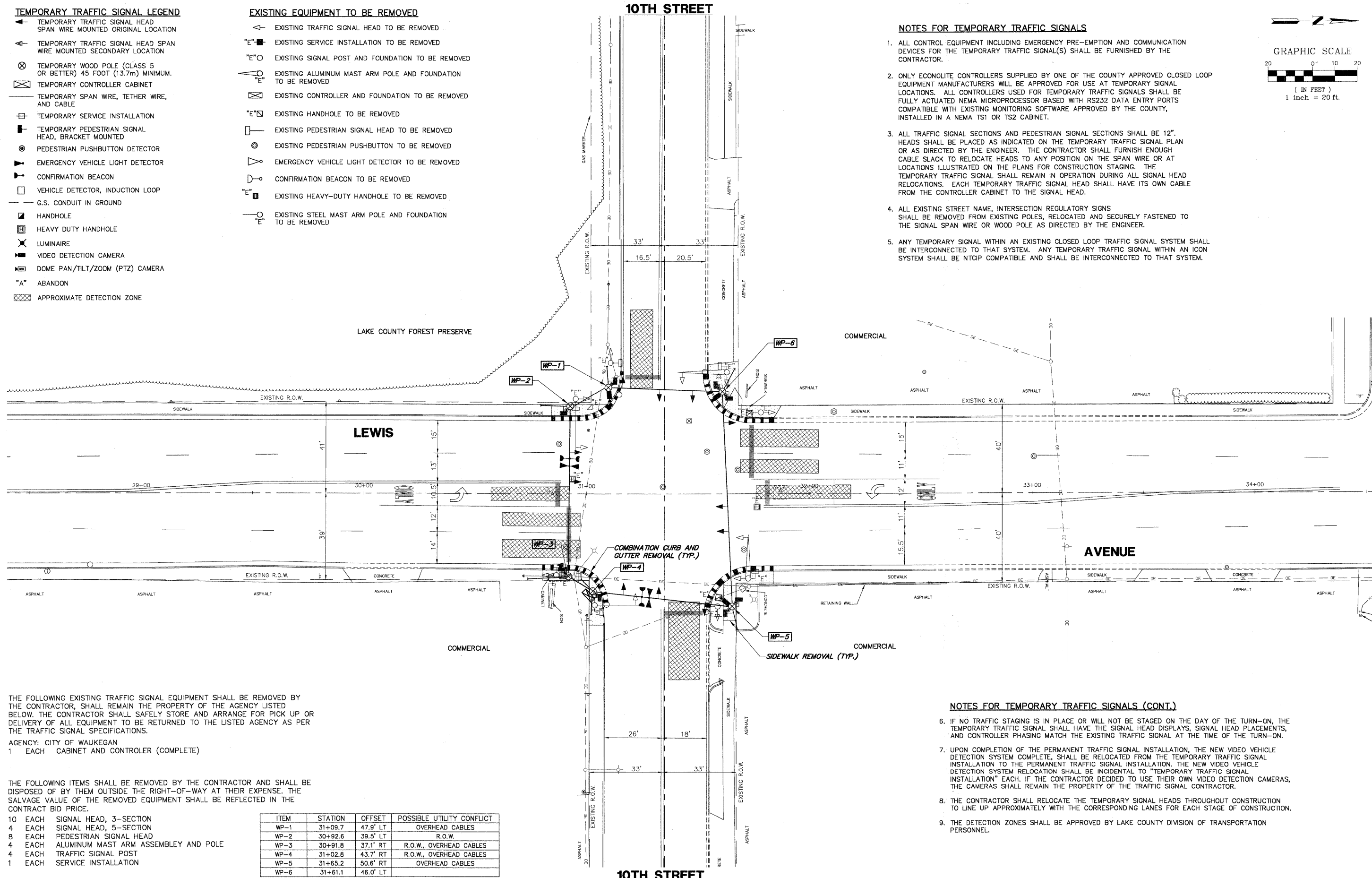
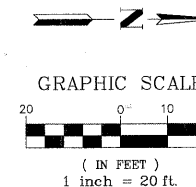
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ▶ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- HANDHOLE
- HEAVY DUTY HANDHOLE
- LUMINAIRE
- VIDEO DETECTION CAMERA
- DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊠ APPROXIMATE DETECTION ZONE

EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ▶ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" □ EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▶ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ▶ EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ■ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- "E" ○ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTICP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

AGENCY: CITY OF WAUKEGAN
 1 EACH CABINET AND CONTROLLER (COMPLETE)

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 10 EACH SIGNAL HEAD, 3-SECTION
- 4 EACH SIGNAL HEAD, 5-SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH ALUMINUM MAST ARM ASSEMBLY AND POLE
- 4 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	31+09.7	47.9' LT	OVERHEAD CABLES
WP-2	30+92.6	39.5' LT	R.O.W.
WP-3	30+91.8	37.1' RT	R.O.W., OVERHEAD CABLES
WP-4	31+02.8	43.7' RT	R.O.W., OVERHEAD CABLES
WP-5	31+65.2	50.6' RT	OVERHEAD CABLES
WP-6	31+61.1	46.0' LT	

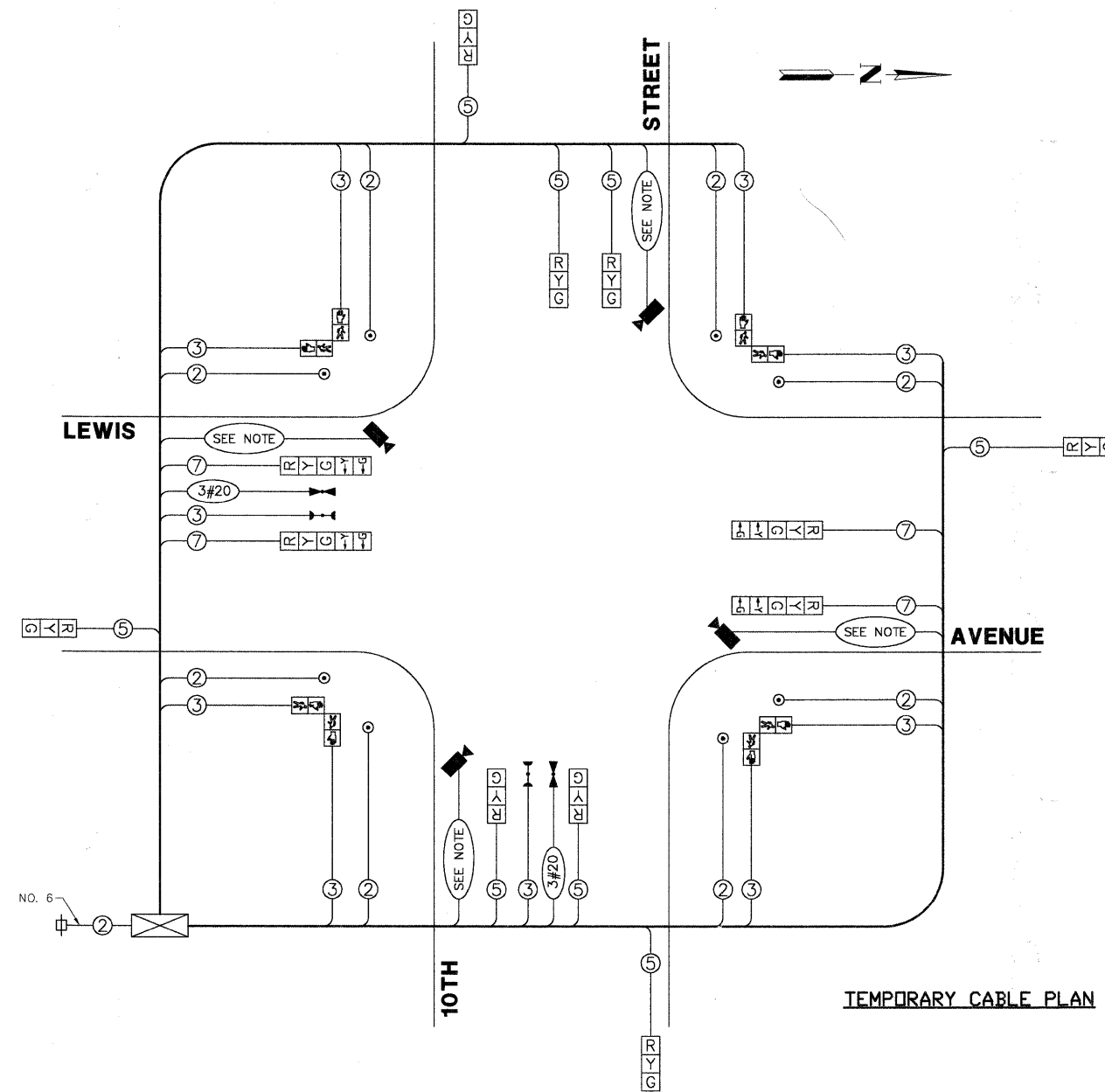
NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)		TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT LEWIS AVENUE AT 10TH STREET	F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 8	
PLOT SCALE = 1" = .08'					SCALE 1"=20'	SHEET NO. 8 OF 86 SHEETS	STA. TO STA.	CONTRACT #: 63344			
PLOT DATE = 10/19/2009					DATE - 10/19/09	ILLINOIS FED. AID PROJECT					

TEMPORARY CABLE PLAN LEGEND

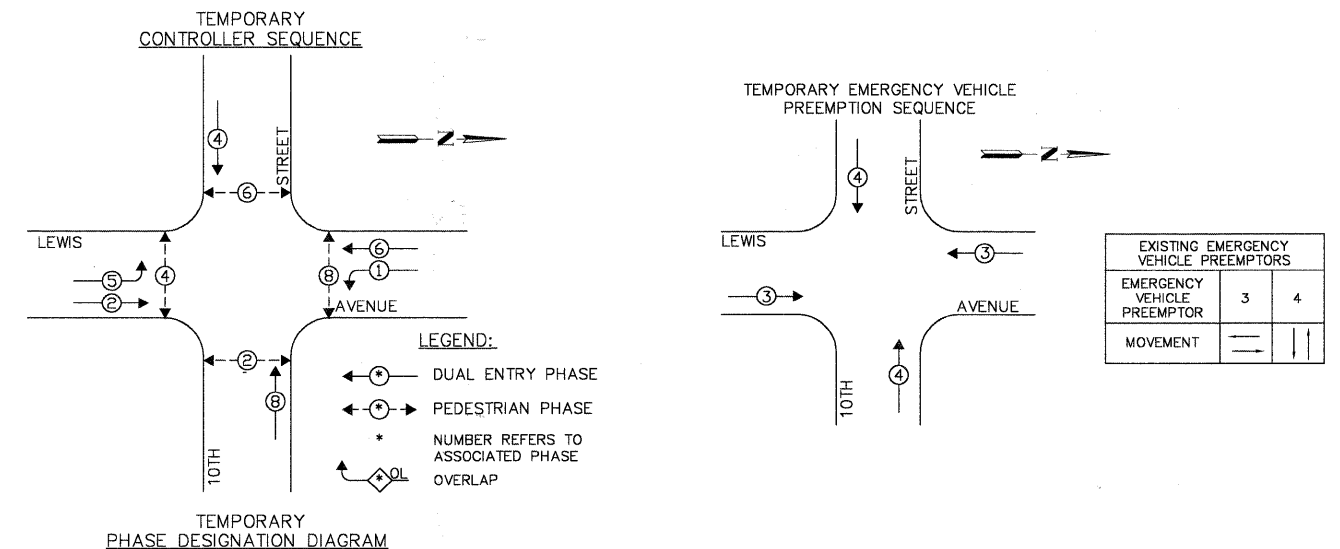
- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12'
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- 5 INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA



NOTE:

IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 18, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN



TEMPORARY PHASE DESIGNATION DIAGRAM

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	WATTAGE L.E.D.	% OPERATION	
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	6	135	9	0.10	7.2
PED. SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					464.8

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. W. L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL

ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
	PLOT SCALE = 1" = .08'	DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
	PLOT DATE = 10/19/2009	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -

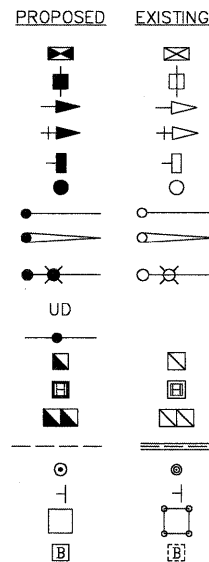


TEMPORARY CABLE PLAN & PHASE DESIGNATION DIAGRAM		F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 9
SCALE: NONE		SHEET NO. 9 OF 86 SHEETS		STA. TO STA.	CONTRACT #: 63344	

GHA #4135.800					
F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 9	
					CONTRACT #: 63344
ILLINOIS FED. AID PROJECT					

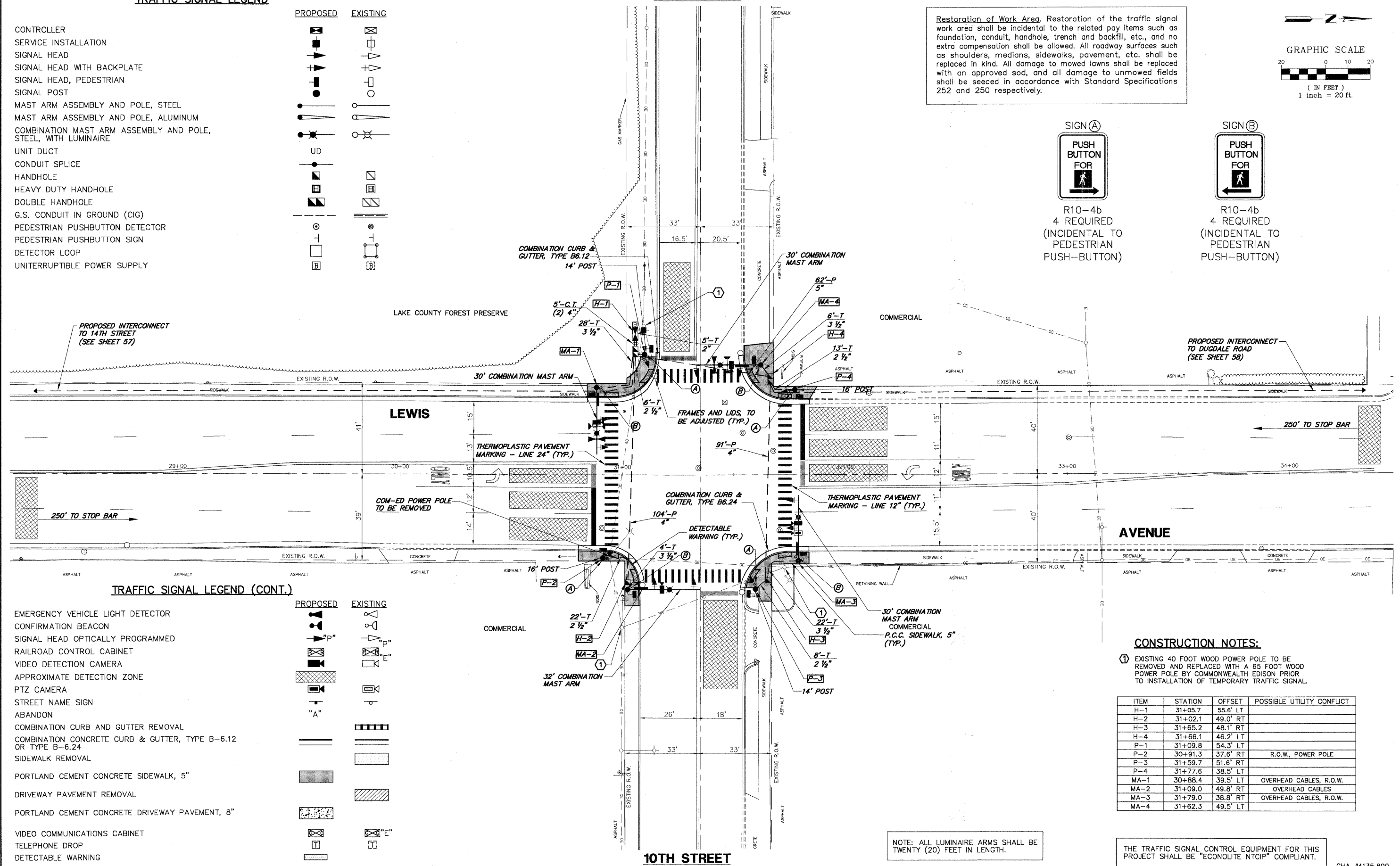
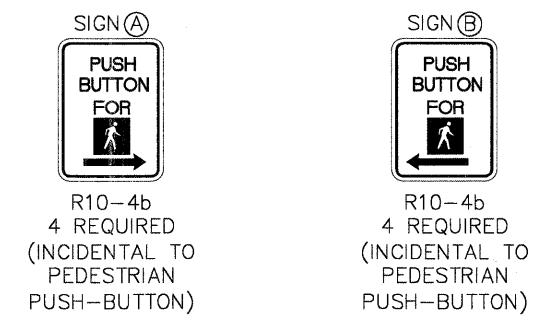
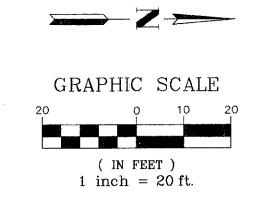
TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY



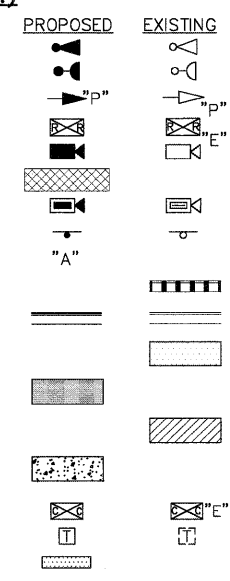
10TH STREET

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.



TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

1 EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	31+05.7	55.6' LT	
H-2	31+02.1	49.0' RT	
H-3	31+65.2	48.1' RT	
H-4	31+66.1	46.2' LT	
P-1	31+09.8	54.3' LT	
P-2	30+91.3	37.6' RT	R.O.W., POWER POLE
P-3	31+59.7	51.6' RT	
P-4	31+77.6	38.5' LT	
MA-1	30+88.4	39.5' LT	OVERHEAD CABLES, R.O.W.
MA-2	31+09.0	49.8' RT	OVERHEAD CABLES
MA-3	31+79.0	38.8' RT	OVERHEAD CABLES, R.O.W.
MA-4	31+62.3	49.5' LT	

NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

GHA #4135.800

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 DESIGNED - JRD
 DRAWN - ZCW
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 DATE - 10/19/09



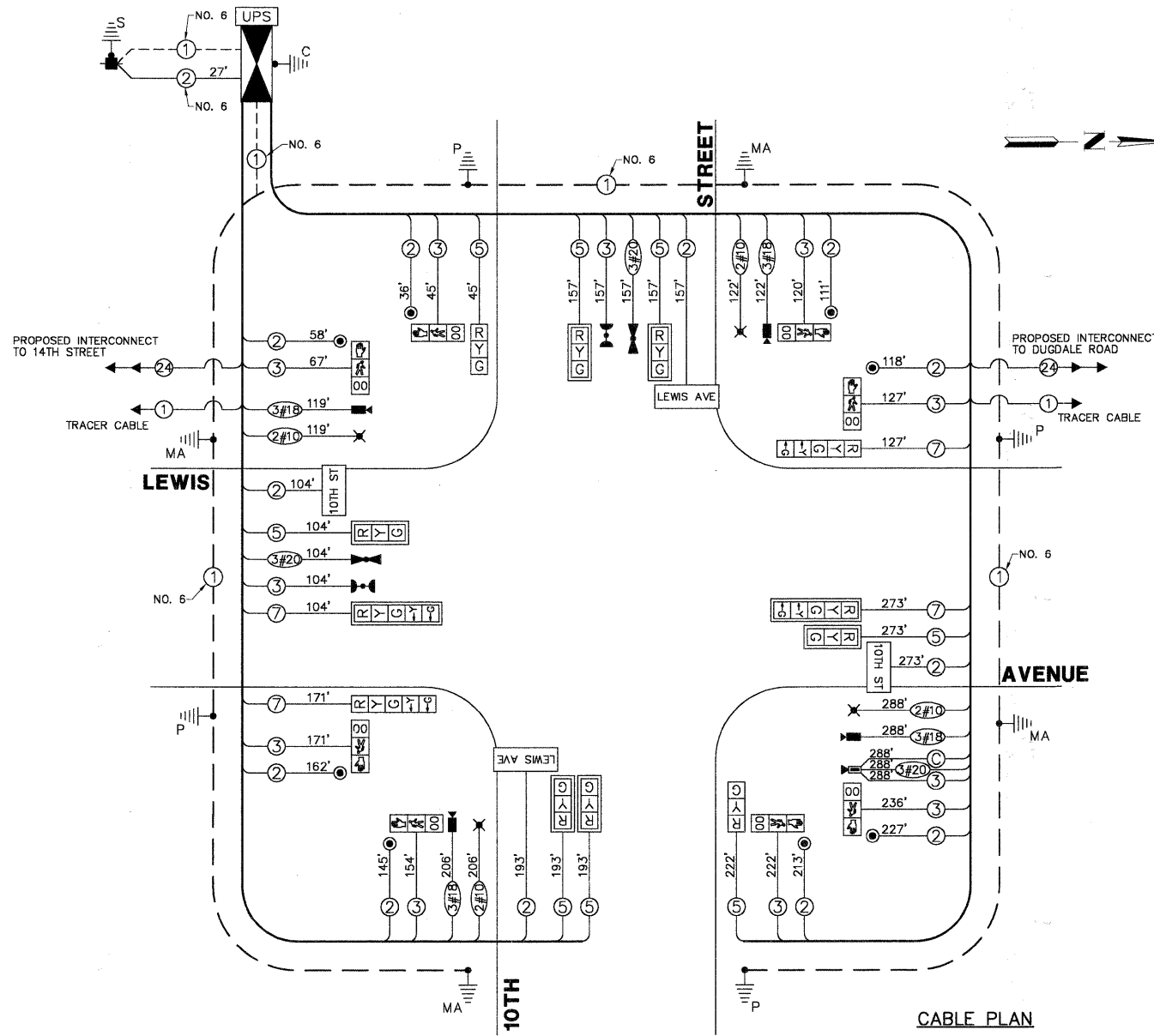
TRAFFIC SIGNAL MODERNIZATION PLAN
LEWIS AVENUE AT 10TH STREET
 SCALE 1"=20' SHEET NO. 10 OF 86 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	10
CONTRACT #:			63344	
ILLINOIS FED. AID PROJECT				

SCHEDULE OF QUANTITIES

LEWIS AVENUE AT 10TH STREET TRAFFIC SIGNAL MODERNIZATION

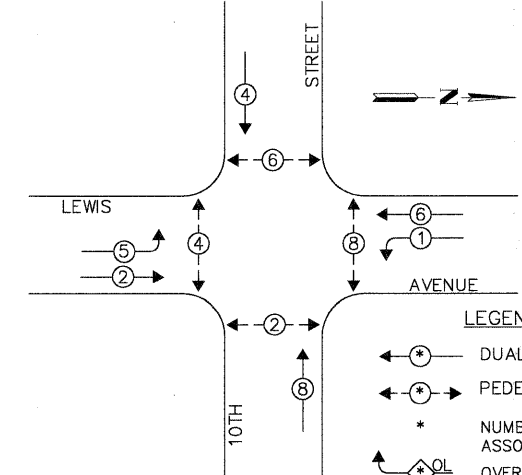
NO.	QUANT.	UNIT
1.	15	CU YD EARTH EXCAVATION
2.	50	SQ YD AGGREGATE BASE COURSE, TYPE B, 4"
3.	1,285	SQ FT PORTLAND CEMENT CONCRETE SIDEWALK 5"
4.	132	SQ FT DETECTABLE WARNINGS
5.	195	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	880	SQ FT SIDEWALK REMOVAL
7.	4	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	10	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
9.	185	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24
10.	435	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
11.	50	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
12.	325	SQ FT PAVEMENT MARKING REMOVAL
13.	5	FOOT CONDUIT IN TRENCH, 2" DIA, GALVANIZED STEEL
14.	49	FOOT CONDUIT IN TRENCH, 2 1/2" DIA, GALVANIZED STEEL
15.	60	FOOT CONDUIT IN TRENCH, 3 1/2" DIA, GALVANIZED STEEL
16.	10	FOOT CONDUIT IN TRENCH, 4" DIA, GALVANIZED STEEL
17.	195	FOOT CONDUIT PUSHED, 4" DIA, GALVANIZED STEEL
18.	62	FOOT CONDUIT PUSHED, 5" DIA, GALVANIZED STEEL
19.	2	EACH HANDHOLE
20.	2	EACH DOUBLE HANDHOLE
21.	785	FOOT ELECTRIC CABLE IN CONDUIT, 600V (EPR-TYPE RHW) 2-1/C NO. 10
22.	124	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
23.	4	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
24.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
25.	1	EACH TRANSCEIVER - FIBER OPTIC
26.	1,792	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
27.	1,691	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
28.	1,344	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
29.	675	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
30.	27	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
31.	3	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 30 FT. (SPECIAL)
32.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 32 FT. (SPECIAL)
33.	16	FOOT CONCRETE FOUNDATION, TYPE A
34.	4	FOOT CONCRETE FOUNDATION, TYPE C
35.	60	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
36.	6	EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
37.	2	EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
38.	2	EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
39.	2	EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
40.	8	EACH PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
41.	8	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
42.	2	EACH LIGHT DETECTOR
43.	1	EACH LIGHT DETECTOR AMPLIFIER
44.	8	EACH PEDESTRIAN PUSH-BUTTON
45.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
46.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
47.	6	EACH REMOVE EXISTING HANDHOLE
48.	9	EACH REMOVE EXISTING CONCRETE FOUNDATION
49.	1	EACH SERVICE INSTALLATION-POLE MOUNT
50.	572	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
51.	549	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED
52.	292	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
53.	785	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
54.	1	EACH VIDEO DETECTION SYSTEM COMPLETE IN INTERSECTION
55.	4	EACH LED INTERNALLY ILLUMINATED STREET NAME SIGN
56.	2	EACH TRAFFIC SIGNAL POST, 14 FOOT (SPECIAL)
57.	2	EACH TRAFFIC SIGNAL POST, 16 FOOT (SPECIAL)
58.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
59.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
60.	1	EACH VIDEO ENCODER



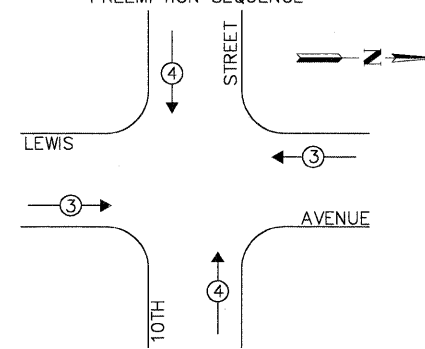
CABLE PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	12" TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE INSTALLATION
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	BELDEN 1694A RG-6/4 COAXIAL CABLE
[Symbol]	[Symbol]	ISDN LINE
[Symbol]	[Symbol]	LUMINAIRE
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET
[Symbol]	[Symbol]	L.E.D. STREET NAME SIGN
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY

CONTROLLER SEQUENCE



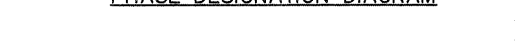
EMERGENCY VEHICLE PREEMPTION SEQUENCE



LEGEND:

[Symbol]	DUAL ENTRY PHASE
[Symbol]	PEDESTRIAN PHASE
[Symbol]	NUMBER REFERS TO ASSOCIATED PHASE OVERLAP

PHASE DESIGNATION DIAGRAM



PROPOSED EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	[Symbol]	[Symbol]

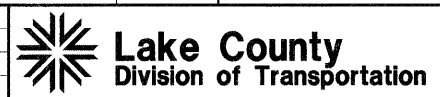
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	L.E.D.		
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	8	135	9	1.00	72.0
PED. SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	100	1.00	100.0	
LUMINAIRE	4	250	0.50	500.0	
L.E.D. ST. NAME SIGN	4	64	0.50	128.0	
VIDEO SYSTEM	1	150	1.00	150.0	
BATTERY BACKUP	1	25	1.00	25.0	
TOTAL =					1,117.8

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN (ADDRESS) 100 N. M.L.K., JR. AVENUE (ADDRESS) WAUKEGAN, IL
ENERGY SUPPLY - CONTACT: NEW BUSINESS PHONE: (886) 639-3552 COMPANY: COM-ED, LIBERTYVILLE

FOUNDATION (DEPTH)	(FT.)	CABLE SLACK	(FT.)	VERTICAL	(FT.)
TYPE A - POST	4	HANDHOLE	6.5	ALL FOUNDATIONS	3.5
TYPE D - CONTROLLER	4	DOUBLE HANDHOLE	13	MAST ARM (L) POLE	20'-1"-2"
TYPE E - M.ARM POLE	15	SIGNAL POST	2	BRACKET MOUNTED	13
		CONTROLLER CAB.	1	PED. PUSHBUTTON	4
		FIBER OPTIC	13	ELECTRIC SERVICE	13.5
		ELECTRIC SERVICE	1	SERVICE TO GROUND	13.5
		GROUND CABLE	1	POST MOUNTED	6



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
LEWIS AVENUE AT 10TH STREET

FILE NAME	USER NAME	DESIGNED	REVISED	FAP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4135.315-TR1.dwg	GHA	JRD	9/15/09 (LCDOT)	2730	08-00259-00-TL	LAKE	86	11
		ZCW	9/25/09 (IDOT)					
		DPB	10/19/09 (LCDOT)					

SCALE: NONE SHEET NO. 11 OF 86 SHEETS STA. TO STA. ILLINOIS FED. AID PROJECT

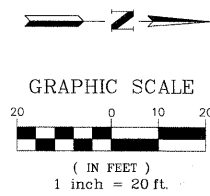
GHA #4135.800

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR. THE CONTRACTOR SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- AGENCY: CITY OF WAUKEGAN
 1 EACH CABINET AND CONTROLLER (COMPLETE)
 3 EACH LIGHT DETECTOR
 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 18 EACH SIGNAL HEAD, 3-SECTION
 10 EACH PEDESTRIAN SIGNAL HEAD
 8 EACH PEDESTRIAN PUSH-BUTTON
 6 EACH STEEL MAST ARM ASSEMBLY & POLE
 2 EACH TRAFFIC SIGNAL POST
 1 EACH SERVICE INSTALLATION



8TH PARKWAY

EXISTING EQUIPMENT TO BE REMOVED

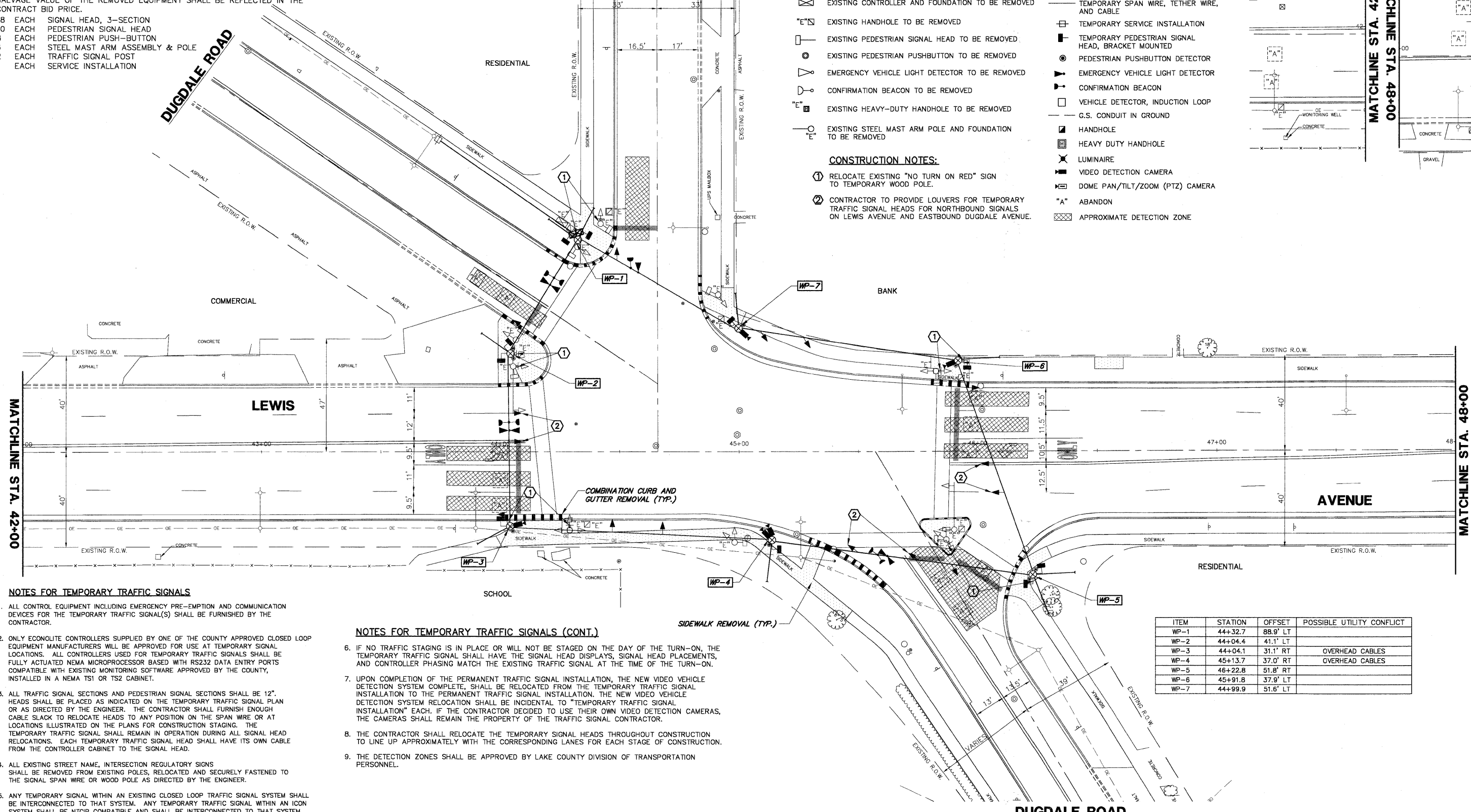
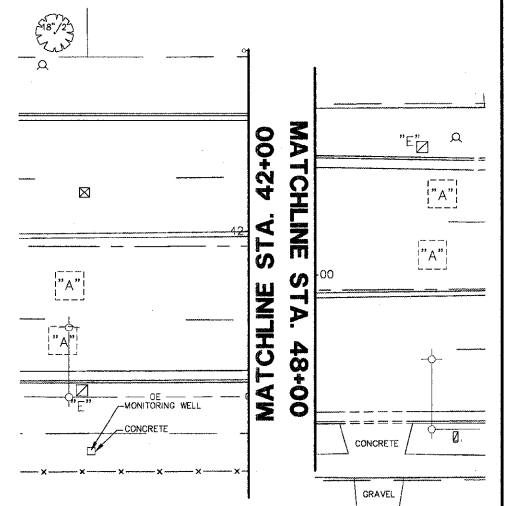
- ◁ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ⊕ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊗ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" □ EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▽ EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ⚡ CONFIRMATION BEACON TO BE REMOVED
- ⊕ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ⊕ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

CONSTRUCTION NOTES:

- ① RELOCATE EXISTING "NO TURN ON RED" SIGN TO TEMPORARY WOOD POLE.
- ② CONTRACTOR TO PROVIDE LOUVERS FOR TEMPORARY TRAFFIC SIGNAL HEADS FOR NORTHBOUND SIGNALS ON LEWIS AVENUE AND EASTBOUND DUGDALE AVENUE.

TEMPORARY TRAFFIC SIGNAL LEGEND

- ◁ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◁ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊗ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- PEDESTRIAN PUSHBUTTON DETECTOR
- ▽ EMERGENCY VEHICLE LIGHT DETECTOR
- ⚡ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- ⊕ HANDHOLE
- ⊕ HEAVY DUTY HANDHOLE
- ⊗ LUMINAIRE
- ⊗ VIDEO DETECTION CAMERA
- ⊗ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊗ APPROXIMATE DETECTION ZONE



NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTCIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.

NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	44+32.7	88.9' LT	
WP-2	44+04.4	41.1' LT	
WP-3	44+04.1	31.1' RT	OVERHEAD CABLES
WP-4	45+13.7	37.0' RT	OVERHEAD CABLES
WP-5	46+22.8	51.8' RT	
WP-6	45+91.8	37.9' LT	
WP-7	44+99.9	51.6' LT	

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA

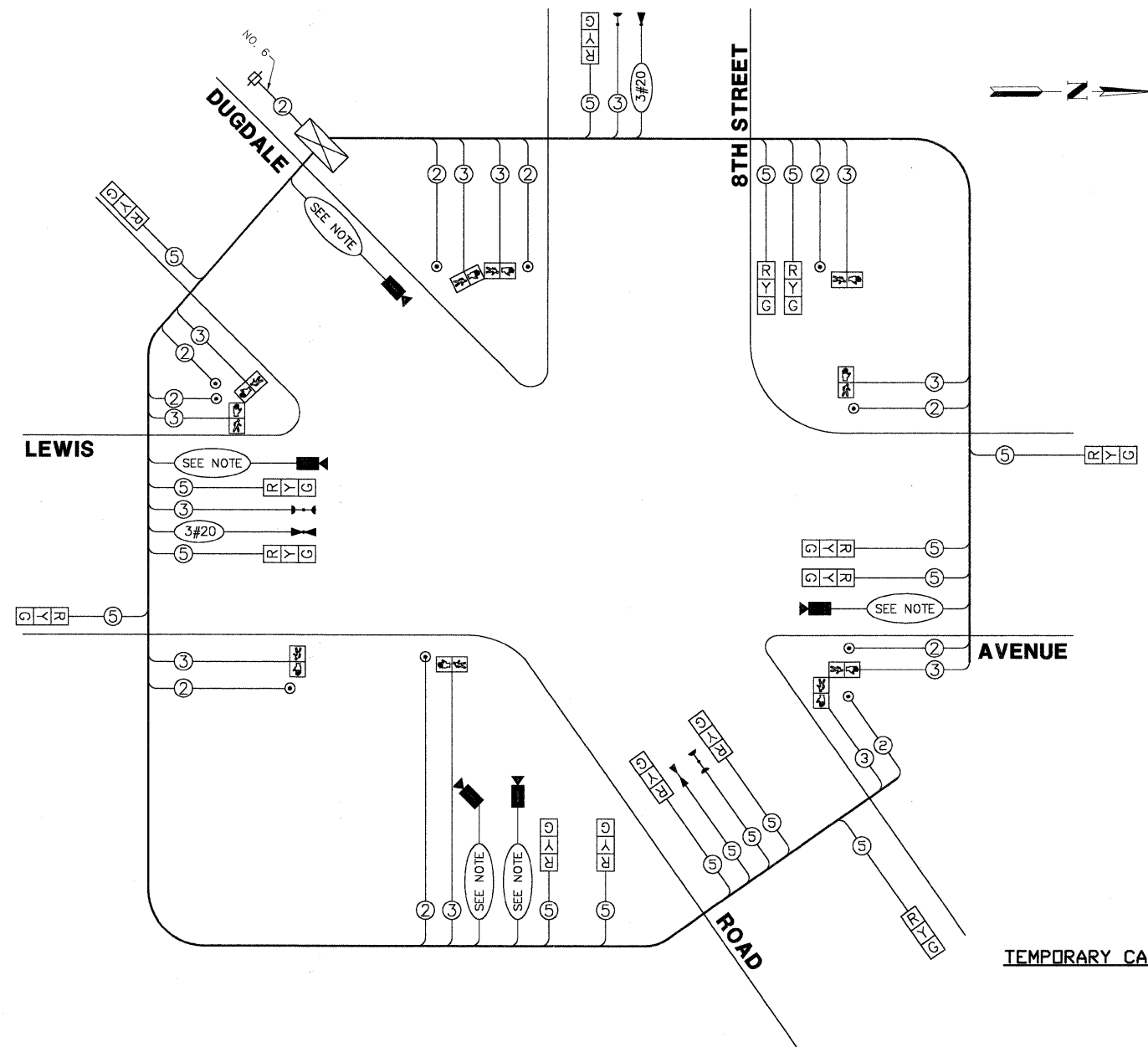
DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT LEWIS AVENUE AT DUGDALE ROAD
 SCALE: 1"=20' SHEET NO. 12 OF 86 SHEETS STA. TO STA.

GHA #4135.800
 F.A.P. RTE. 2730 SECTION 08-00259-00-TL COUNTY LAKE TOTAL SHEETS 86 SHEET NO. 12 CONTRACT # 63344 ILLINOIS FED. AID PROJ. CT

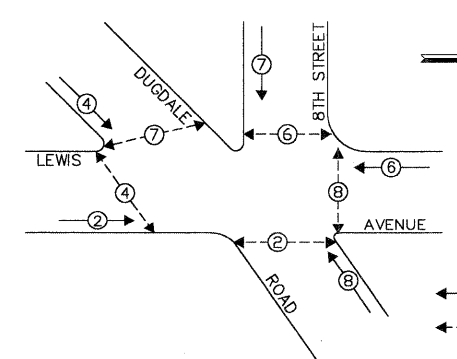


- TEMPORARY CABLE PLAN LEGEND**
- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
 - X TEMPORARY CONTROLLER CABINET
 - TEMPORARY SERVICE INSTALLATION
 - ⑤ INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - VEHICLE DETECTOR, INDUCTION LOOP
 - PEDESTRIAN PUSHBUTTON DETECTOR
 - PEDESTRIAN SIGNAL HEAD
 - VIDEO DETECTION CAMERA
 - PTZ CAMERA

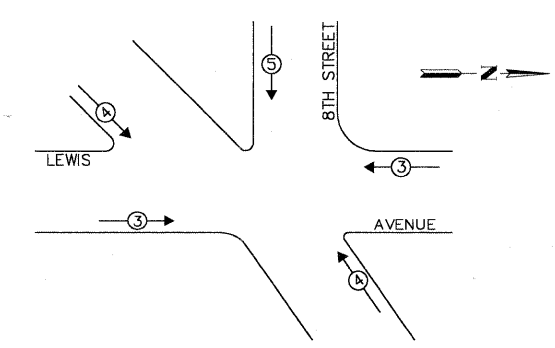
NOTE:
 IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 16, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN

TEMPORARY CONTROLLER SEQUENCE



TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE



TEMPORARY EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

- LEGEND:**
- DUAL ENTRY PHASE
 - PEDESTRIAN PHASE
 - * NUMBER REFERS TO ASSOCIATED PHASE
 - OVERLAP

TEMPORARY PHASE DESIGNATION DIAGRAM

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE	INCAND.	L.E.D.	% OPERATION
SIGNAL (RED)	15	135	10	0.50	75.0
SIGNAL (YELLOW)	15	135	19	0.0	28.5
SIGNAL (GREEN)	15	135	11	0.40	66.0
ARROW	-	135	9	0.0	-
RED SIGNAL	10	90	9	1.00	90.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	1	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					509.5

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

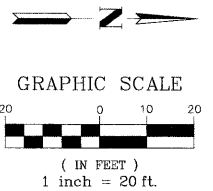
DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



TEMPORARY CABLE PLAN & PHASE DESIGNATION DIAGRAM
LEWIS AVENUE AT DUGDALE ROAD
 SCALE: NONE SHEET NO. 13 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 13
CONTRACT # 63344			GHA #4135.800	
ILLINOIS FED. AID PROJECT				

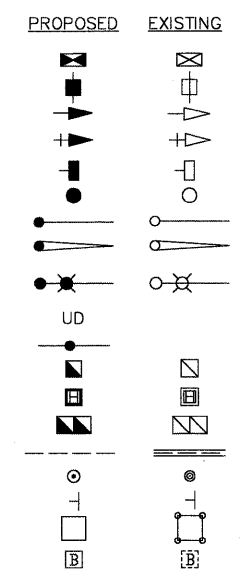


8TH PARKWAY

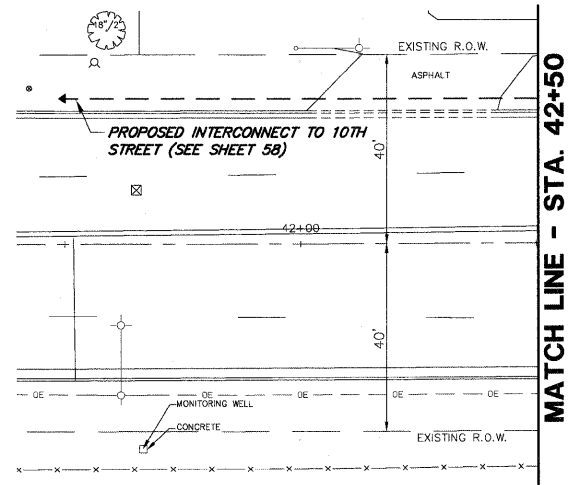
TRAFFIC SIGNAL LEGEND

CONSTRUCTION NOTES:

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY

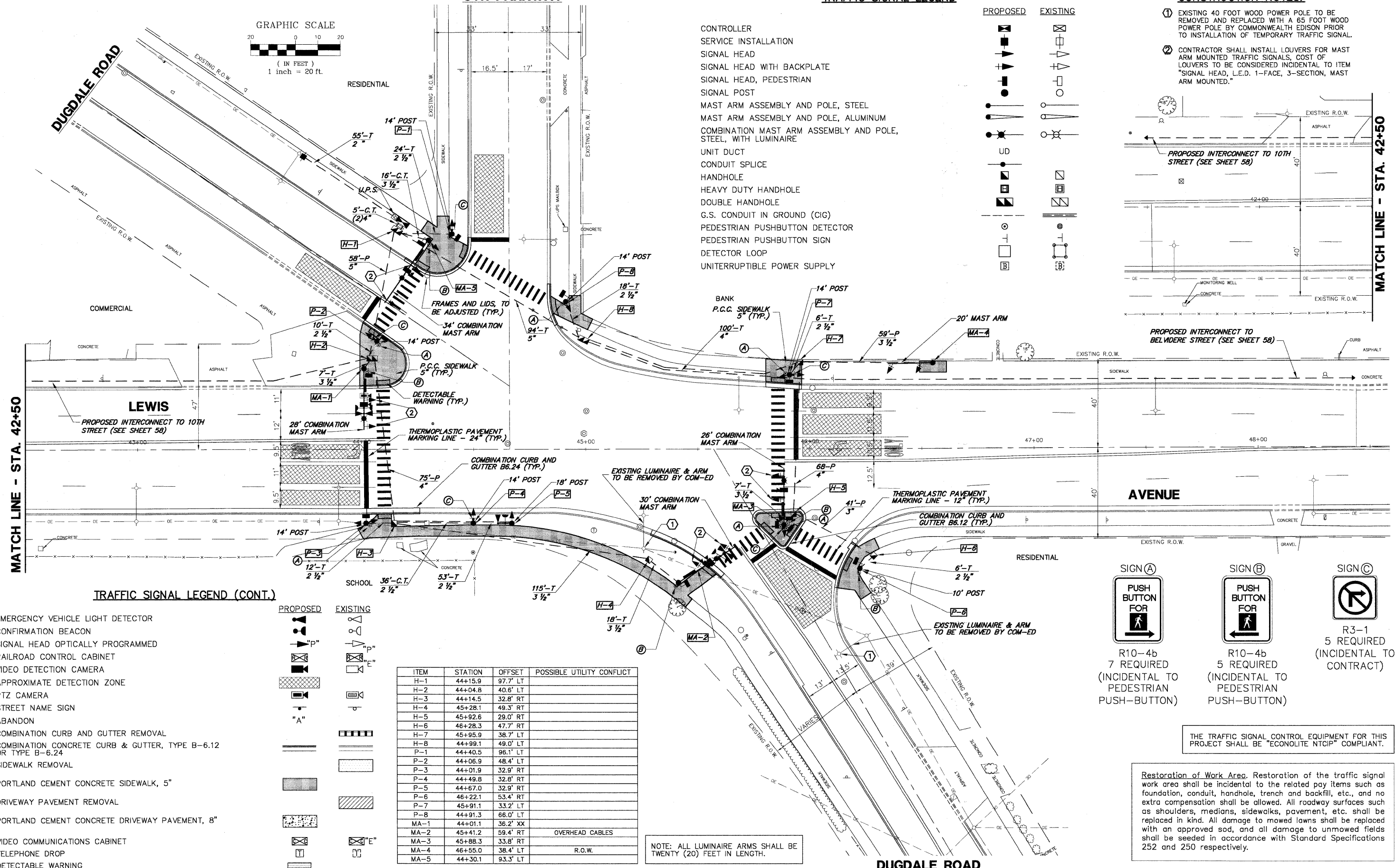


- ① EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.
- ② CONTRACTOR SHALL INSTALL LOUVERS FOR MAST ARM MOUNTED TRAFFIC SIGNALS, COST OF LOUVERS TO BE CONSIDERED INCIDENTAL TO ITEM "SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARM MOUNTED."



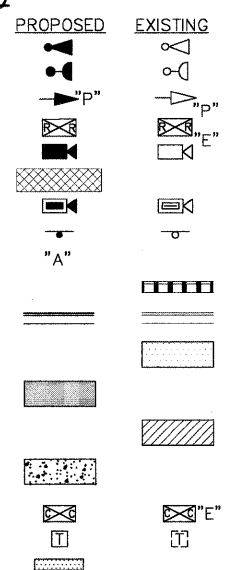
MATCH LINE - STA. 42+50

MATCH LINE - STA. 42+50



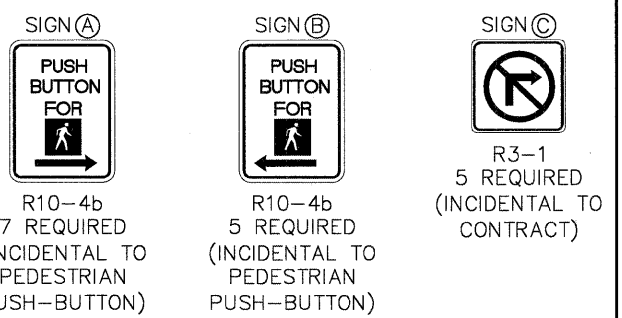
TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	44+15.9	97.7' LT	
H-2	44+04.8	40.6' RT	
H-3	44+14.5	32.8' RT	
H-4	45+28.1	49.3' RT	
H-5	45+92.6	29.0' RT	
H-6	46+28.3	47.7' RT	
H-7	45+95.9	38.7' LT	
H-8	44+99.1	49.0' LT	
P-1	44+40.5	96.1' LT	
P-2	44+06.9	48.4' LT	
P-3	44+01.9	32.9' RT	
P-4	44+49.8	32.8' RT	
P-5	44+67.0	32.9' RT	
P-6	46+22.1	53.4' RT	
P-7	45+91.1	33.2' LT	
P-8	44+91.3	66.0' LT	
MA-1	44+01.1	36.2' XX	
MA-2	45+41.2	59.4' RT	OVERHEAD CABLES
MA-3	45+88.3	33.8' RT	
MA-4	46+55.0	38.4' LT	R.O.W.
MA-5	44+30.1	93.3' LT	

NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.



THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCP" COMPLIANT.

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

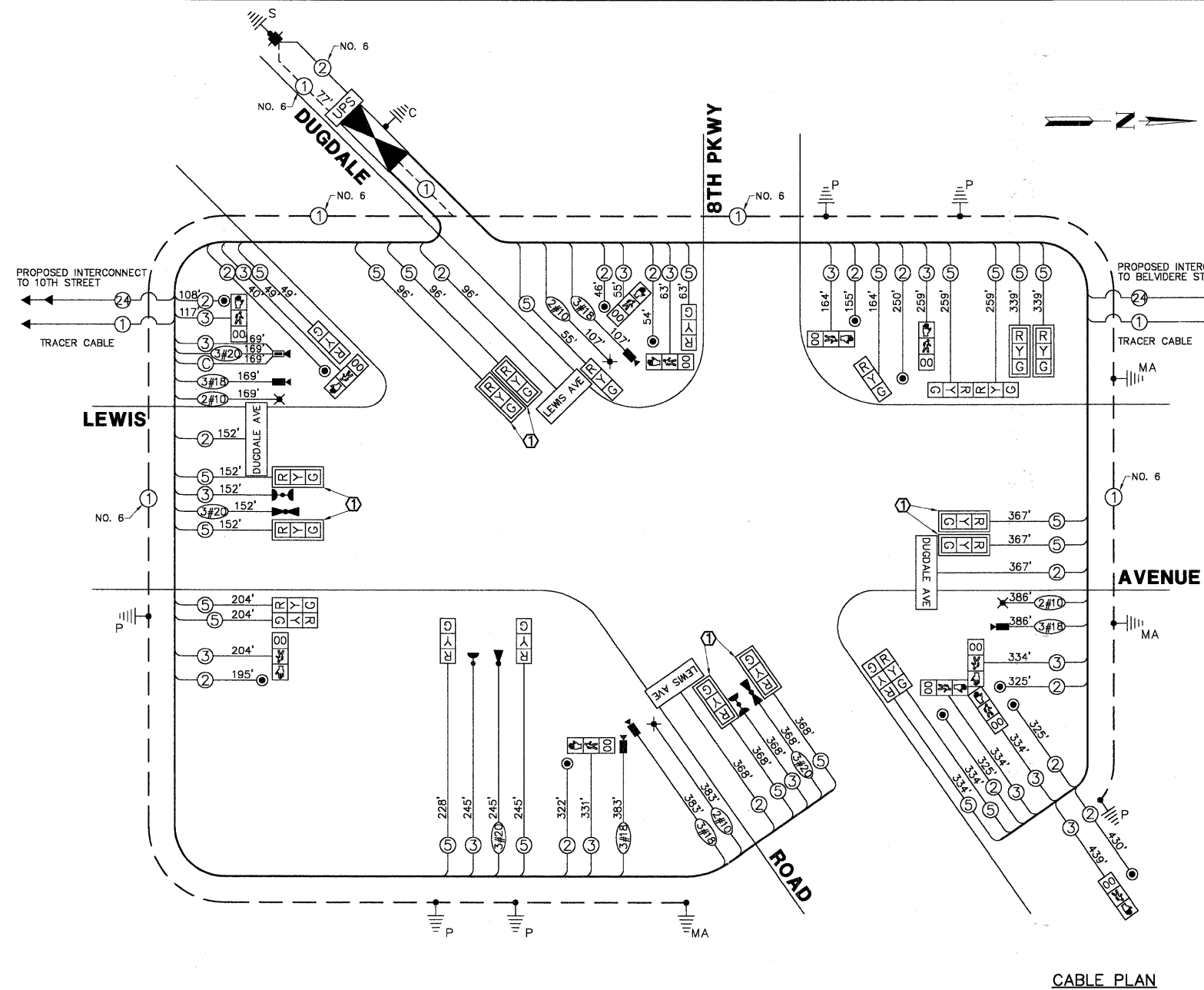
SCHEDULE OF QUANTITIES

LEWIS AVENUE AT DUGDALE ROAD TRAFFIC SIGNAL MODERNIZATION

NO.	QUANT.	UNIT
1.	40	CU.YD. EARTH EXCAVATION
2.	80	SQ.YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	1,945	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	144	SQ.FT. DETECTABLE WARNINGS
5.	245	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	2,250	SQ.FT. SIDEWALK REMOVAL
7.	3	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	190	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	75	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.24
10.	485	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
11.	130	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
12.	510	SQ.FT. PAVEMENT MARKING REMOVAL
13.	55	FOOT CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
14.	165	FOOT CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL
15.	163	FOOT CONDUIT IN TRENCH, 3-1/2" DIA., GALVANIZED STEEL
16.	110	FOOT CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
17.	100	FOOT CONDUIT PUSHED, 3-1/2" DIA., GALVANIZED STEEL
18.	143	FOOT CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
19.	152	FOOT CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL
20.	5	EACH HANDHOLE
21.	3	EACH DOUBLE HANDHOLE
22.	1,045	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHM) 2-1/C NO. 10
23.	381	TRENCH AND BACKFILL FOR ELECTRICAL WORK
24.	4	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
25.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
26.	1	EACH TRANSCIVER - FIBER OPTIC
27.	3,558	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
28.	3,619	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
29.	4,839	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
30.	77	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
31.	1	EACH STEEL MAST ARM ASSEMBLY AND POLE 20 FT. (SPECIAL)
32.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 26 FT (SPECIAL)
33.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 28 FT (SPECIAL)
34.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 30 FT (SPECIAL)
35.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 34 FT (SPECIAL)
36.	32	FOOT CONCRETE FOUNDATION, TYPE A
37.	4	FOOT CONCRETE FOUNDATION, TYPE C
38.	15	FOOT CONCRETE FOUNDATION, TYPE E, 30-INCH DIAMETER
39.	60	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
40.	11	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
41.	5	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED
42.	3	EACH SIGNAL HEAD, L.E.D., 2-FACE, 3-SECTION, BRACKET MOUNTED
43.	9	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
44.	1	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 3-FACE, BRACKET MOUNTED
45.	10	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
46.	3	EACH LIGHT DETECTOR
47.	1	EACH LIGHT DETECTOR AMPLIFIER
48.	12	EACH PEDESTRIAN PUSH-BUTTON
49.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
50.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
51.	7	EACH REMOVE EXISTING HANDHOLE
52.	11	EACH REMOVE EXISTING CONCRETE FOUNDATION
53.	1	EACH SERVICE INSTALLATION, POLE MOUNT
54.	980	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
55.	934	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
56.	169	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
57.	1,428	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
58.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
59.	4	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
60.	1	EACH TRAFFIC SIGNAL POST, 10 FT (SPECIAL)
61.	6	EACH TRAFFIC SIGNAL POST, 14 FT (SPECIAL)
62.	1	EACH TRAFFIC SIGNAL POST, 18 FT (SPECIAL)
63.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
64.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
65.	1	EACH VIDEO ENCODER

CABLE PLAN LEGEND

- | | | | | |
|--|----------|--|----------|---|
| | EXISTING | | PROPOSED | 12" TRAFFIC SIGNAL SECTION |
| | | | | 12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |
| | | | | CONTROLLER CABINET |
| | | | | SERVICE INSTALLATION |
| | | | | TELEPHONE INSTALLATION |
| | | | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | | | CONFIRMATION BEACON |
| | | | | PUSHBUTTON DETECTOR |
| | | | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | | | GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN) |
| | | | | FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE |
| | | | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | | | RAILROAD CONTROL CABINET |
| | | | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | | | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C) |
| | | | | GROUND ROD AT POST (P) OR MAST ARM POLE (MA) |

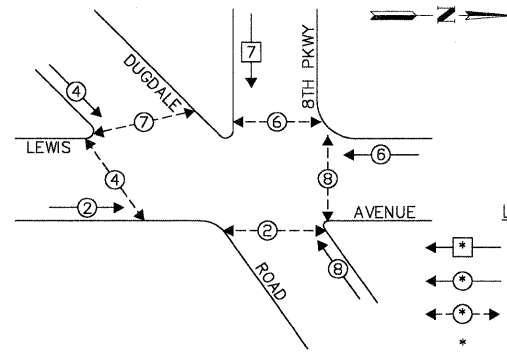


CABLE PLAN

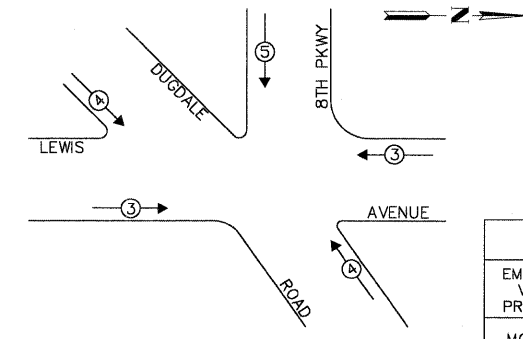
CONSTRUCTION NOTES:

- ① CONTRACTOR SHALL INSTALL LOUVERS FOR MAST ARM MOUNTED TRAFFIC SIGNALS HEADS, COST OF LOUVERS TO BE CONSIDERED INCIDENTAL TO ITEM "SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARM MOUNTED."

CONTROLLER SEQUENCE



EMERGENCY VEHICLE PREEMPTION SEQUENCE



PHASE DESIGNATION DIAGRAM

- LEGEND:
- -
 -
 -
 -

EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

TYPE	NO LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	L.E.D.		
SIGNAL (RED)	22	135	10	0.50	110.0
SIGNAL (YELLOW)	22	135	19	0.10	41.8
SIGNAL (GREEN)	22	135	11	0.40	96.8
ARROW		135	9	0.10	
PED.SIGNAL	12	90	9	1.00	108.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	4	-	250	0.50	500.0
L.E.D. ST. NAME SIGN	4	-	64	0.50	128.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					1,259.6

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)
TYPE A - POST 4	HANDHOLE 6.5	ALL FOUNDATIONS 3.5
TYPE D - CONTROLLER 4	DOUBLE HANDHOLE 13	MAST ARM (L) POLE 20'+1-2'
TYPE E - M.ARM POLE 15	SIGNAL POST 2	BRACKET MOUNTED 13'
	CONTROLLER CAB. 1	PED. PUSHBUTTON 4
	FIBER OPTIC 13	ELECTRIC SERVICE 13.5
	ELECTRIC SERVICE 1	SERVICE TO GROUND 13.5
	GROUND CABLE 1	POST MOUNTED 6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN (ADDRESS) 100 N. M.L.K. JR. AVENUE (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS PHONE: (886) 639-3552 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg USER NAME = GHA
 DESIGNED - JRD DRAWN - ZCW CHECKED - DPB DATE - 10/19/09
 PLOT SCALE = 1" = .08' PLOT DATE = 10/19/2009

DESIGNED - JRD REVISED - 9/15/09 (LCDOT)
 DRAWN - ZCW REVISED - 9/25/09 (IDOT)
 CHECKED - DPB REVISED - 10/19/09 (LCDOT)
 DATE - 10/19/09 REVISED -



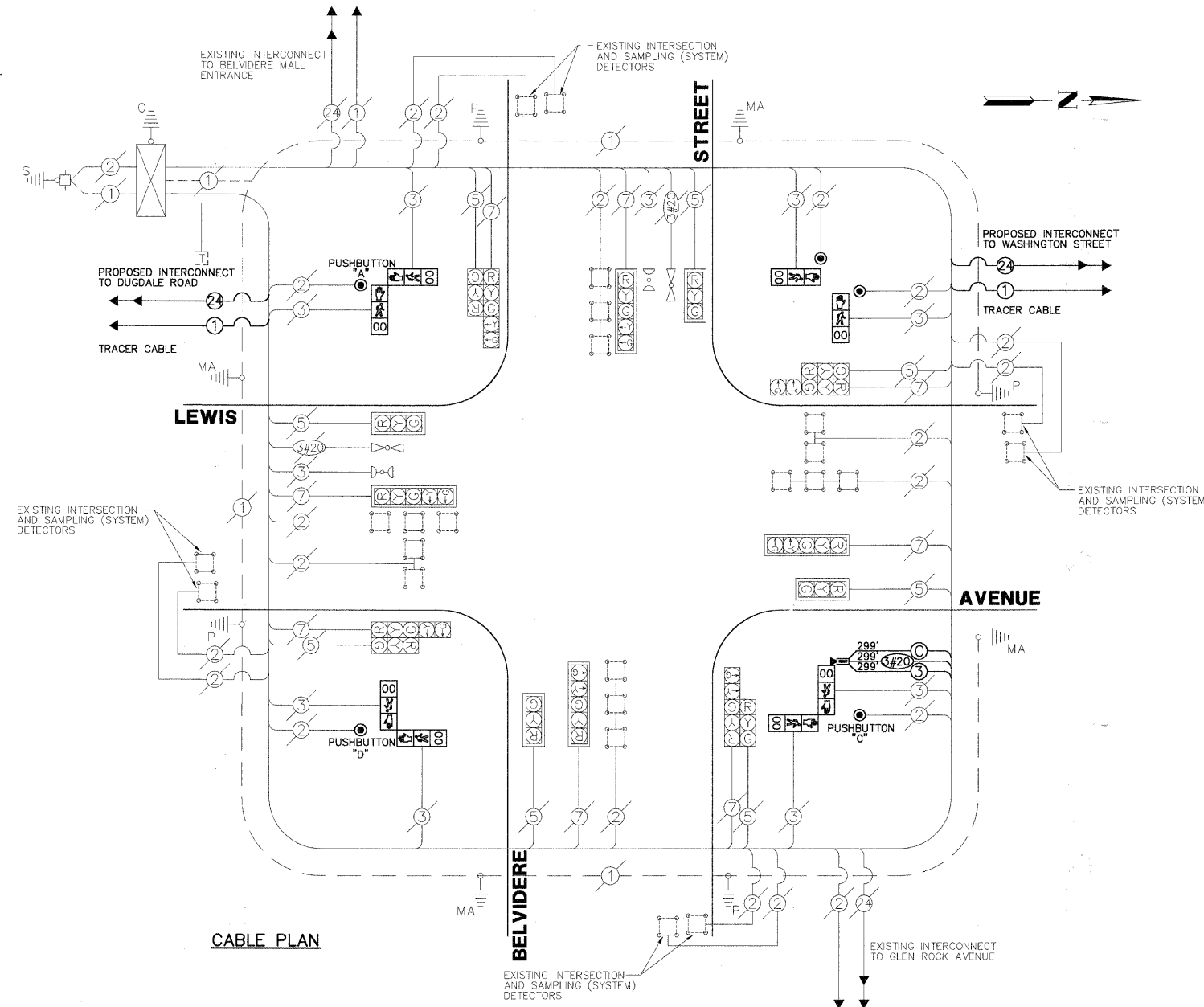
CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
 LEWIS AVENUE AT DUGDALE ROAD
 SCALE: NONE SHEET NO. 15 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 15
CONTRACT # 63344				GH# 4135.800
ILLINOIS FED. AID PROJECT				

SCHEDULE OF QUANTITIES

LEWIS AVENUE AT BELVIDERE STREET TRAFFIC SIGNAL MODERNIZATION

NO.	QUANT.	UNIT
1.	1	EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION (SPECIAL)
2.	299	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
3.	2	EACH PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4.	3	EACH PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
5.	5	EACH PEDESTRIAN PUSH-BUTTON
6.	1	EACH MODIFY EXISTING CONTROLLER
7.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
8.	1	EACH CAMERA MOUNTING ASSEMBLY
9.	299	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED
10.	299	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
11.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
12.	1	EACH VIDEO ENCODER

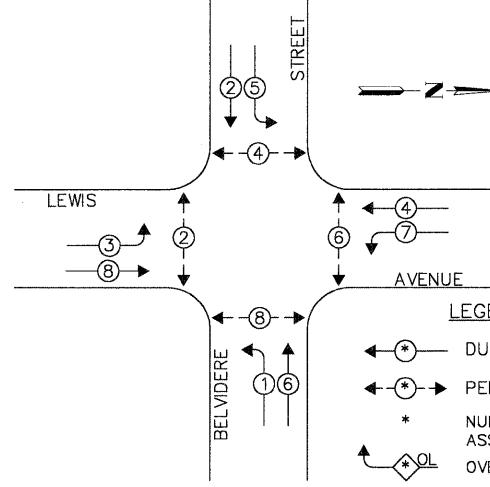


CABLE PLAN

NOTES:
 PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 8 AND 2

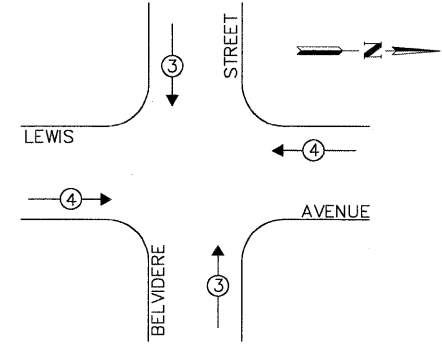
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTGIP" COMPLIANT.

EXISTING CONTROLLER SEQUENCE



EXISTING PHASE DESIGNATION DIAGRAM

EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE



LEGEND:
 ←*→ DUAL ENTRY PHASE
 ←*→ PEDESTRIAN PHASE
 * NUMBER REFERS TO ASSOCIATED PHASE
 ←*OL OVERLAP

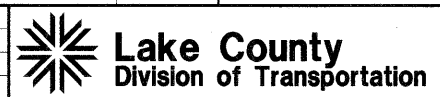
CABLE PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	12" TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE INSTALLATION
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	BELDEN 1694A RG-6/4 COAXIAL CABLE
[Symbol]	[Symbol]	ISDN LINE
[Symbol]	[Symbol]	LUMINAIRE
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET
[Symbol]	[Symbol]	L.E.D. STREET NAME SIGN
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	16	135	10	0.50	80.0
SIGNAL (YELLOW)	16	135	19	0.10	30.4
SIGNAL (GREEN)	16	135	11	0.40	70.4
ARROW	16	135	9	0.10	14.4
PED.SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	-	-	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	-	-	150	1.00	-
BATTERY BACKUP	-	-	25	1.00	-
TOTAL =					447.2

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K., JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (888) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)
TYPE A - POST 4	HANDHOLE 6.5	ALL FOUNDATIONS 3.5
TYPE D - CONTROLLER 4	DOUBLE HANDHOLE 13	MAST ARM (L) POLE 20'-1-2"
TYPE E - M.ARM POLE 15	SIGNAL POST 2	BRACKET MOUNTED 15
	CONTROLLER CAB. 1	PED. PUSHBUTTON 4
	FIBER OPTIC 13	ELECTRIC SERVICE 13.5
	ELECTRIC SERVICE 1	SERVICE TO GROUND 13.5
	GROUND CABLE 1	POST MOUNTED 6



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
LEWIS AVENUE AT BELVIDERE STREET

SCALE: NONE SHEET NO. 17 OF 86 SHEETS STA. TO STA.

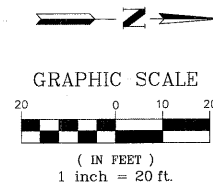
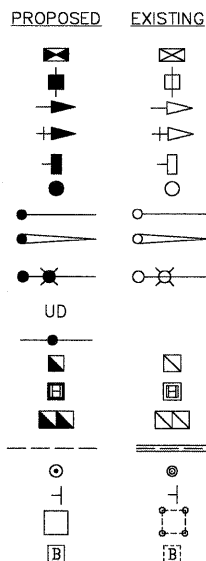
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	17
CONTRACT #:			63344	

GHA #4135.800

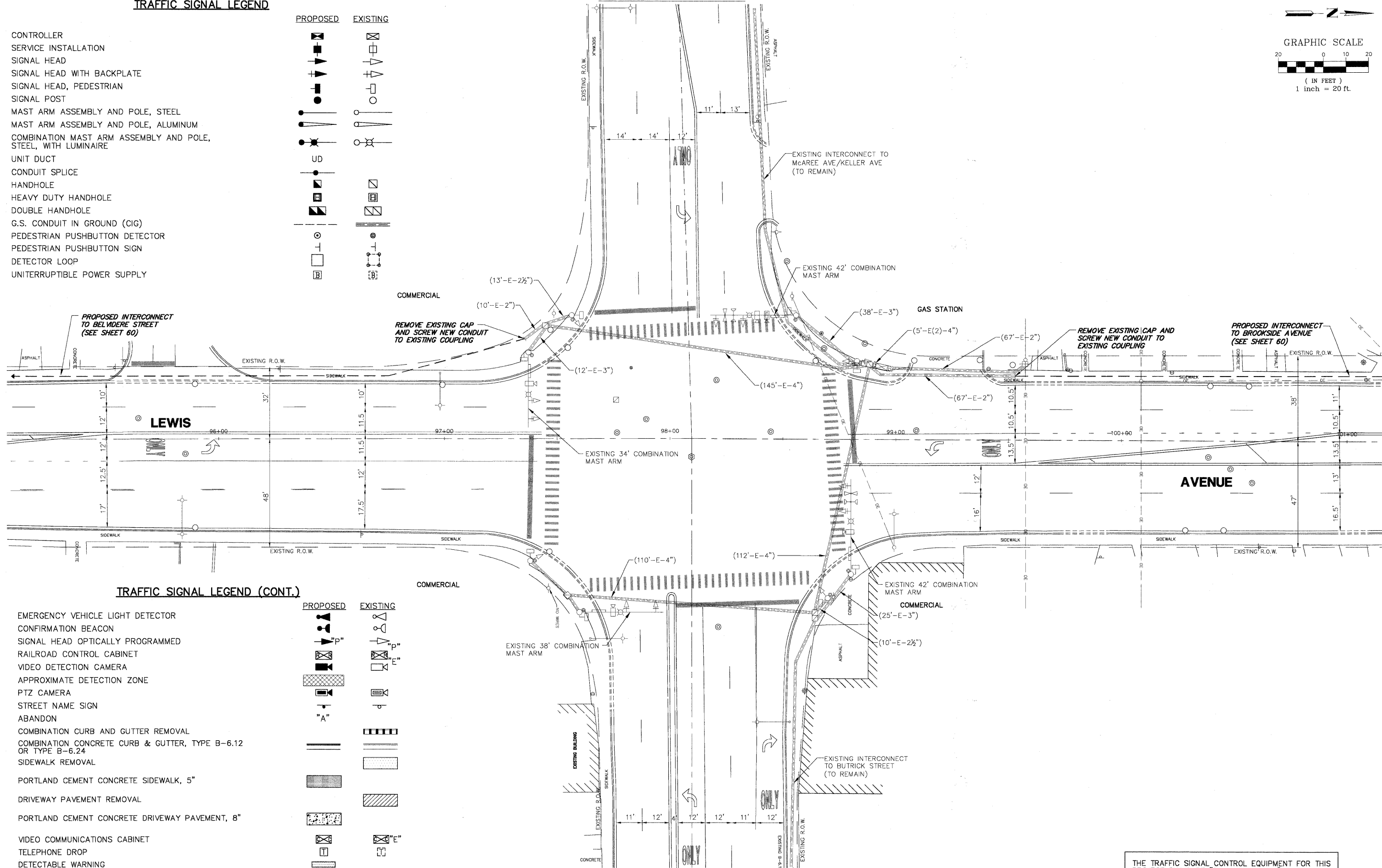
PROPOSED EMERGENCY VEHICLE PREEMPTORS	
EMERGENCY VEHICLE PREEMPTOR	3 4
MOVEMENT	

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY

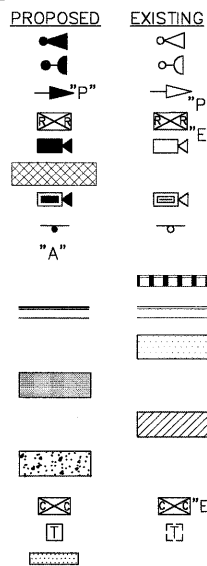


WASHINGTON STREET



TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

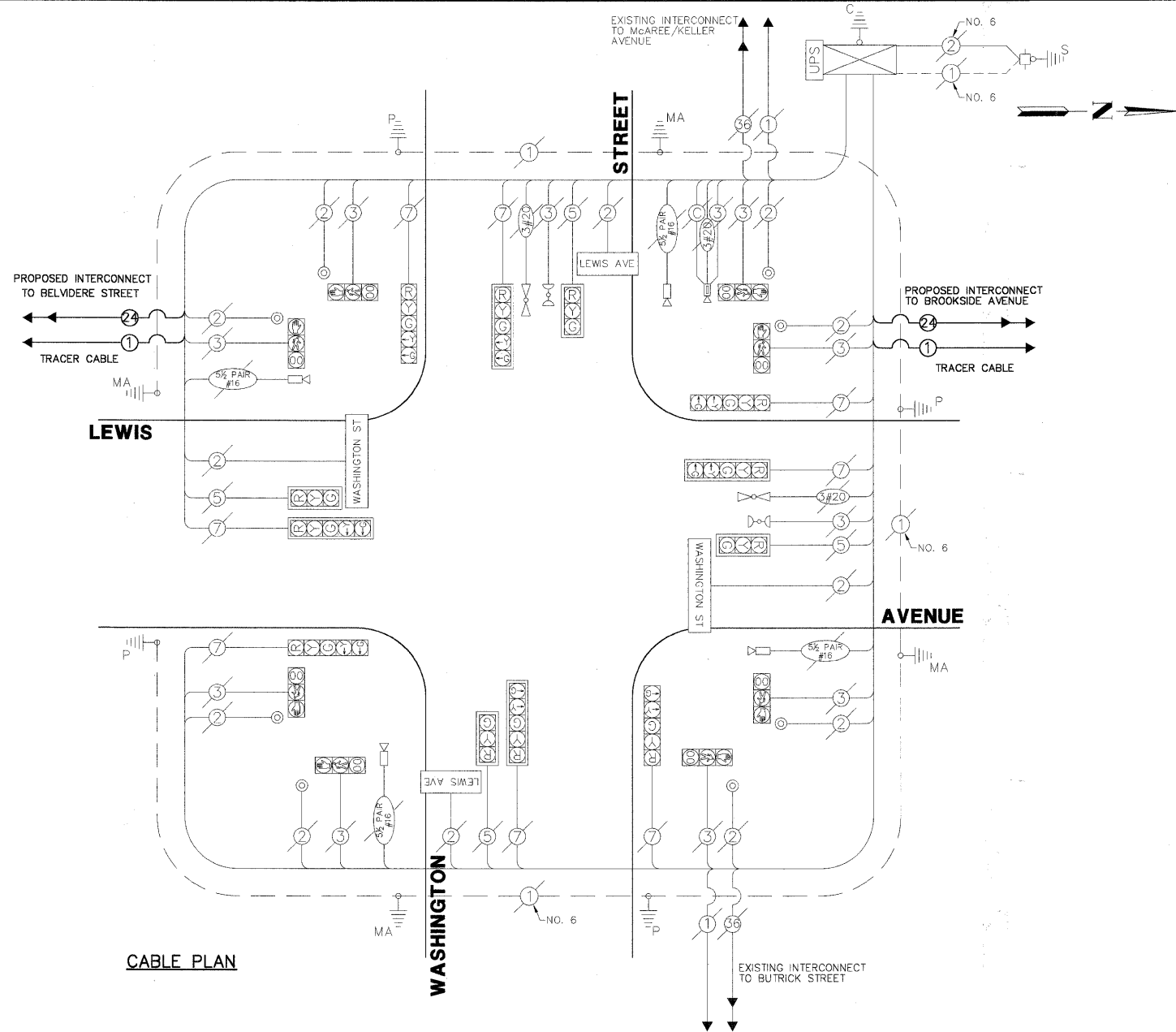
GHA #4135.800

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)	<p>Lake County Division of Transportation</p>	TRAFFIC SIGNAL MODERNIZATION PLAN			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)		LEWIS AVENUE AT WASHINGTON STREET			2730	08-00259-00-TL	LAKE	86	18
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)		SCALE 1"=20'	SHEET NO. 18 OF 86 SHEETS	STA. TO STA.	CONTRACT #: 63344				
		DATE - 10/19/09	REVISED -		ILLINOIS FED. AID PROJECT							

SCHEDULE OF QUANTITIES

LEWIS AVENUE AT WASHINGTON STREET TRAFFIC SIGNAL MODERNIZATION

NO.	QUANT.	UNIT
1.	1	EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION (SPECIAL)
2.	1	EACH MODIFY EXISTING CONTROLLER

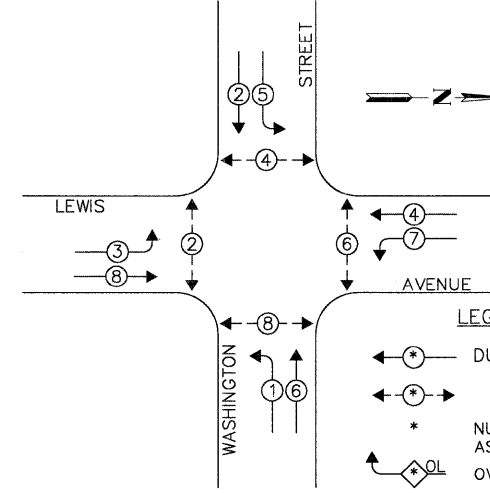


CABLE PLAN LEGEND

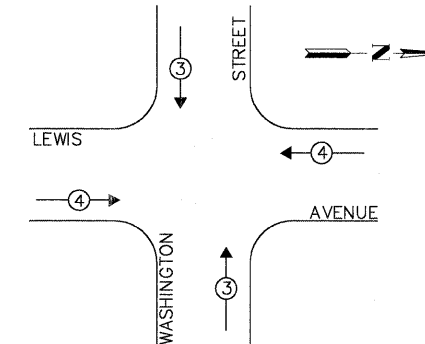
EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	12" TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE INSTALLATION
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	BELDEN 1694A RG-6/4 COAXIAL CABLE
[Symbol]	[Symbol]	ISDN LINE
[Symbol]	[Symbol]	LUMINAIRE
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET
[Symbol]	[Symbol]	L.E.D. STREET NAME SIGN
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY

CABLE PLAN

EXISTING CONTROLLER SEQUENCE



EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE



EXISTING EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	[Symbol]	[Symbol]

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	16	135	9	0.10	14.4
PED.SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	4	-	250	0.50	500.0
L.E.D. ST. NAME SIGN	4	-	64	0.50	128.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					1,25.0

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (886) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

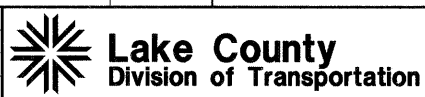
FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)
TYPE A - POST 4	HANDHOLE 6.5	ALL FOUNDATIONS 3.5
TYPE D - CONTROLLER 4	DOUBLE HANDHOLE 13	MAST ARM (L) POLE 20'+L-2'
TYPE E - M.ARM POLE 15	SIGNAL POST 2	BRACKET MOUNTED 13
	CONTROLLER CAB. 1	PED. PUSHBUTTON 4
	FIBER OPTIC 13	ELECTRIC SERVICE 13.5
	ELECTRIC SERVICE 1	SERVICE TO GROUND 13.5
	GROUND CABLE 1	POST MOUNTED 6

EXISTING PHASE DESIGNATION DIAGRAM

FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
LEWIS AVENUE AT WASHINGTON STREET

SCALE: NONE SHEET NO. 19 OF 86 SHEETS STA. TO STA.

GHA #4135.800

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	19

CONTRACT #: 63344
 ILLINOIS FED. AID PROJECT

TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ⬇ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- ⬇ HANDHOLE
- ⬇ HEAVY DUTY HANDHOLE
- ⊗ LUMINAIRE
- ⬇ VIDEO DETECTION CAMERA
- ⬇ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊠ APPROXIMATE DETECTION ZONE

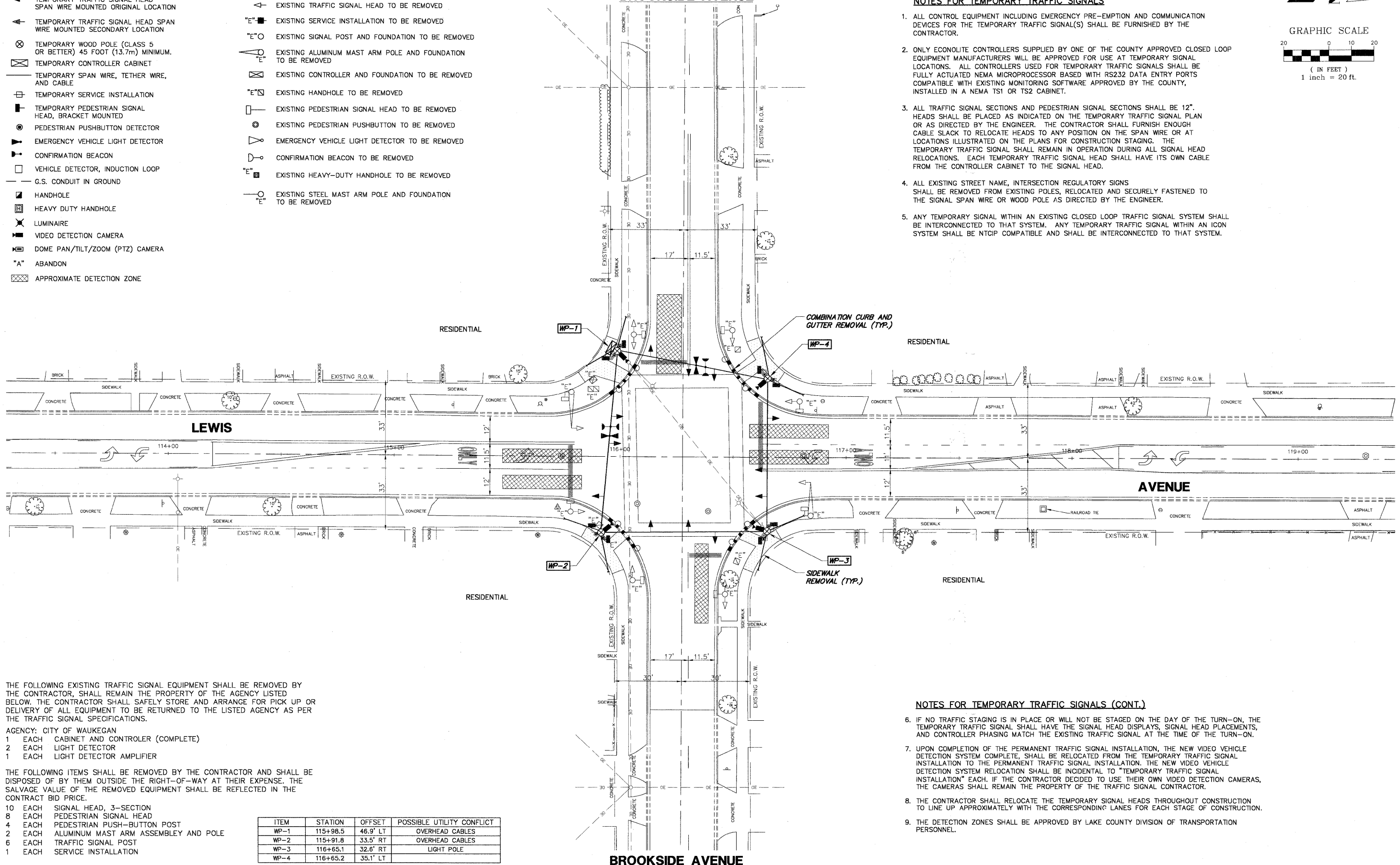
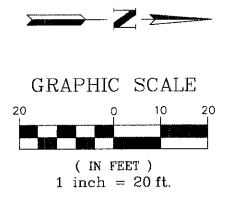
EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ⊙ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" ⊠ EXISTING HANDHOLE TO BE REMOVED
- ⊠ EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▶ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ⬇ EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ■ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ⊙ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

BROOKSIDE AVENUE

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTCIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- AGENCY: CITY OF WAUKEGAN
- 1 EACH CABINET AND CONTROLLER (COMPLETE)
 - 2 EACH LIGHT DETECTOR
 - 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 10 EACH SIGNAL HEAD, 3-SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSH-BUTTON POST
- 2 EACH ALUMINUM MAST ARM ASSEMBLY AND POLE
- 6 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	115+98.5	46.9' LT	OVERHEAD CABLES
WP-2	115+91.8	33.5' RT	OVERHEAD CABLES
WP-3	116+65.1	32.6' RT	LIGHT POLE
WP-4	116+65.2	35.1' LT	

NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA

DESIGNED - JRD
DRAWN - ZCW
CHECKED - DPB
DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
REVISED - 9/25/09 (IDOT)
REVISED - 10/19/09 (LCDOT)
REVISED -



TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT LEWIS AVENUE AT BROOKSIDE AVENUE

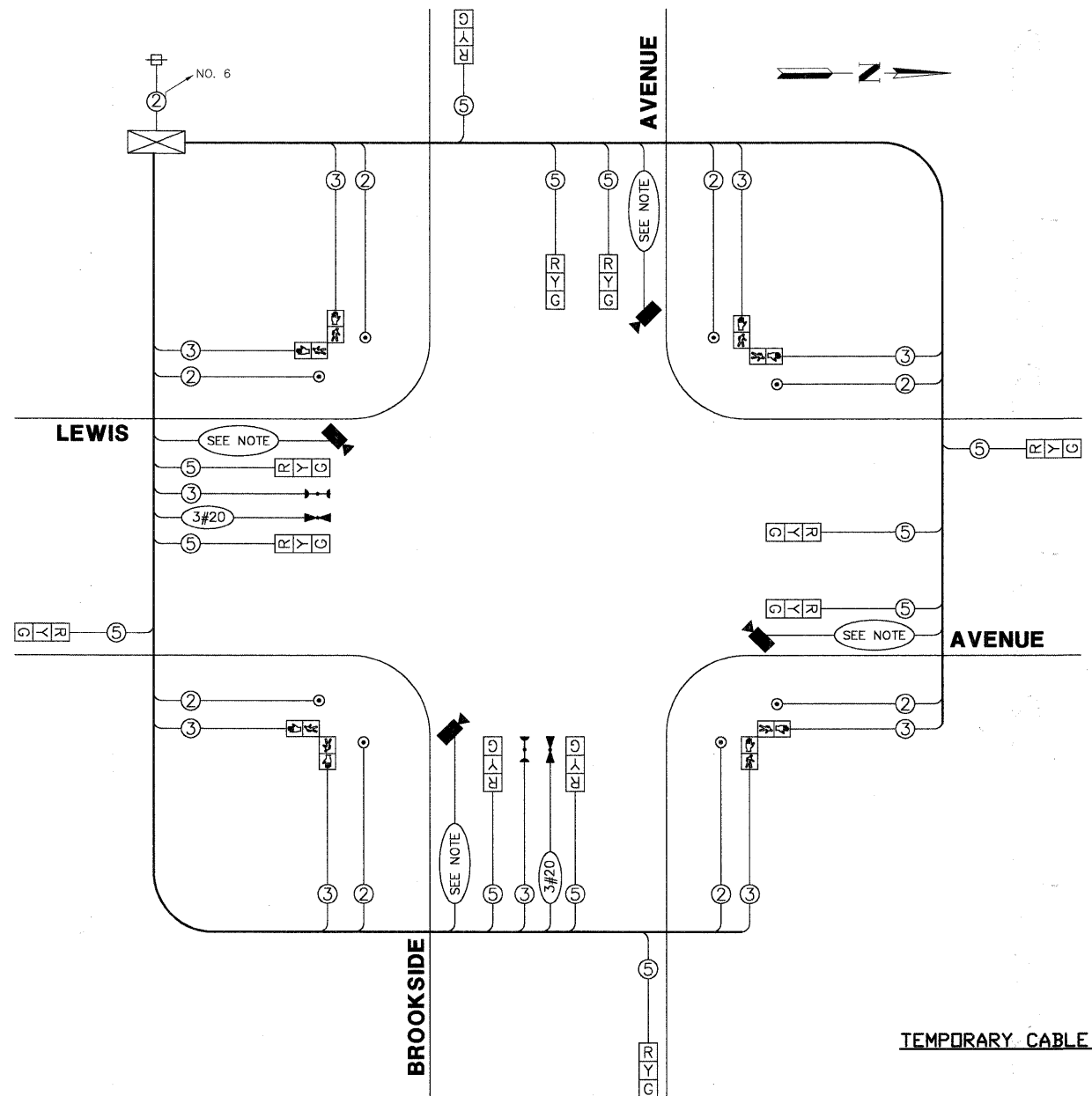
SCALE: 1"=20' SHEET NO. 20 OF 86 SHEETS STA. TO STA.

F.A.P. RTE 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 20
CONTRACT # 63344				ILLINOIS FED. AID PROJECT

GHA #4135.800

TEMPORARY CABLE PLAN LEGEND

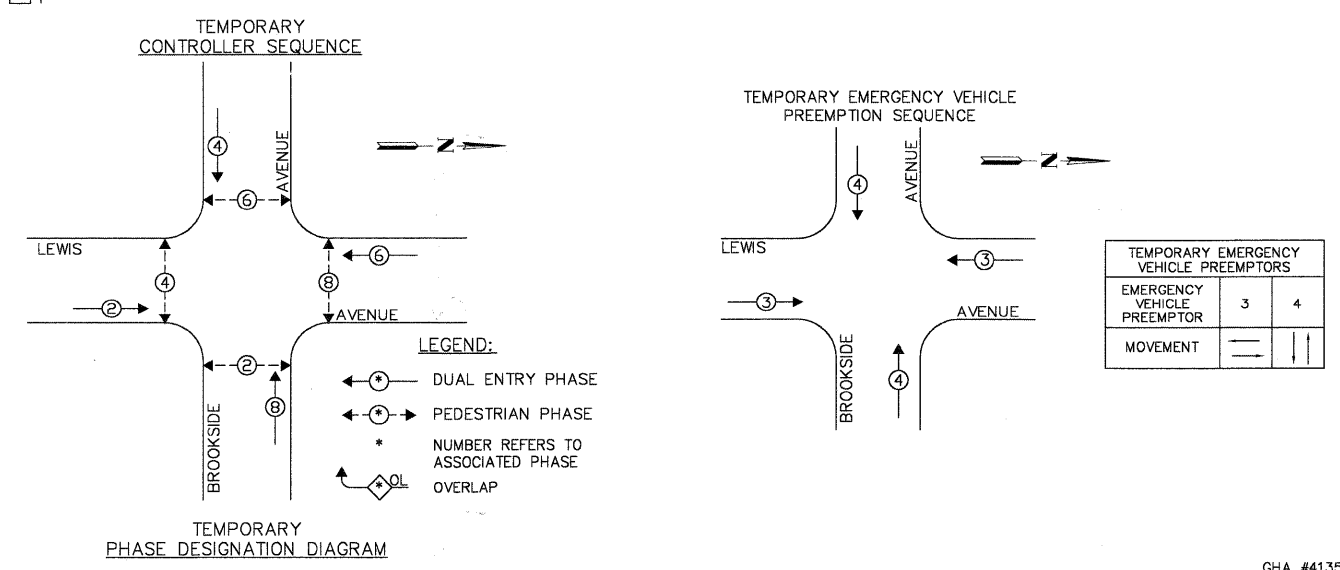
- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12'
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- 5 INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- ⏏ PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA



NOTE:

IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 16, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN

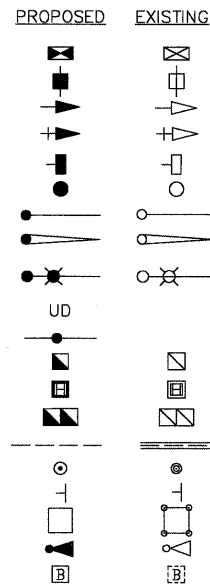


L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	INCAND.	WATTAGE	L.E.D.	% OPERATION
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	-	135	9	0.10	-
PED.SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	230	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					457.6

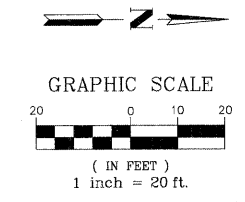
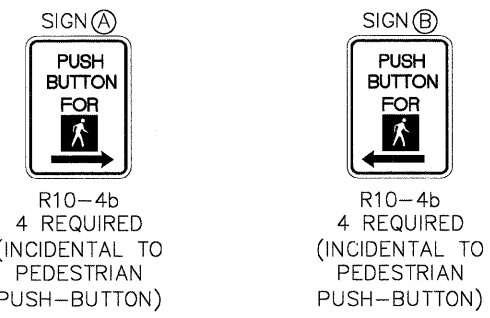
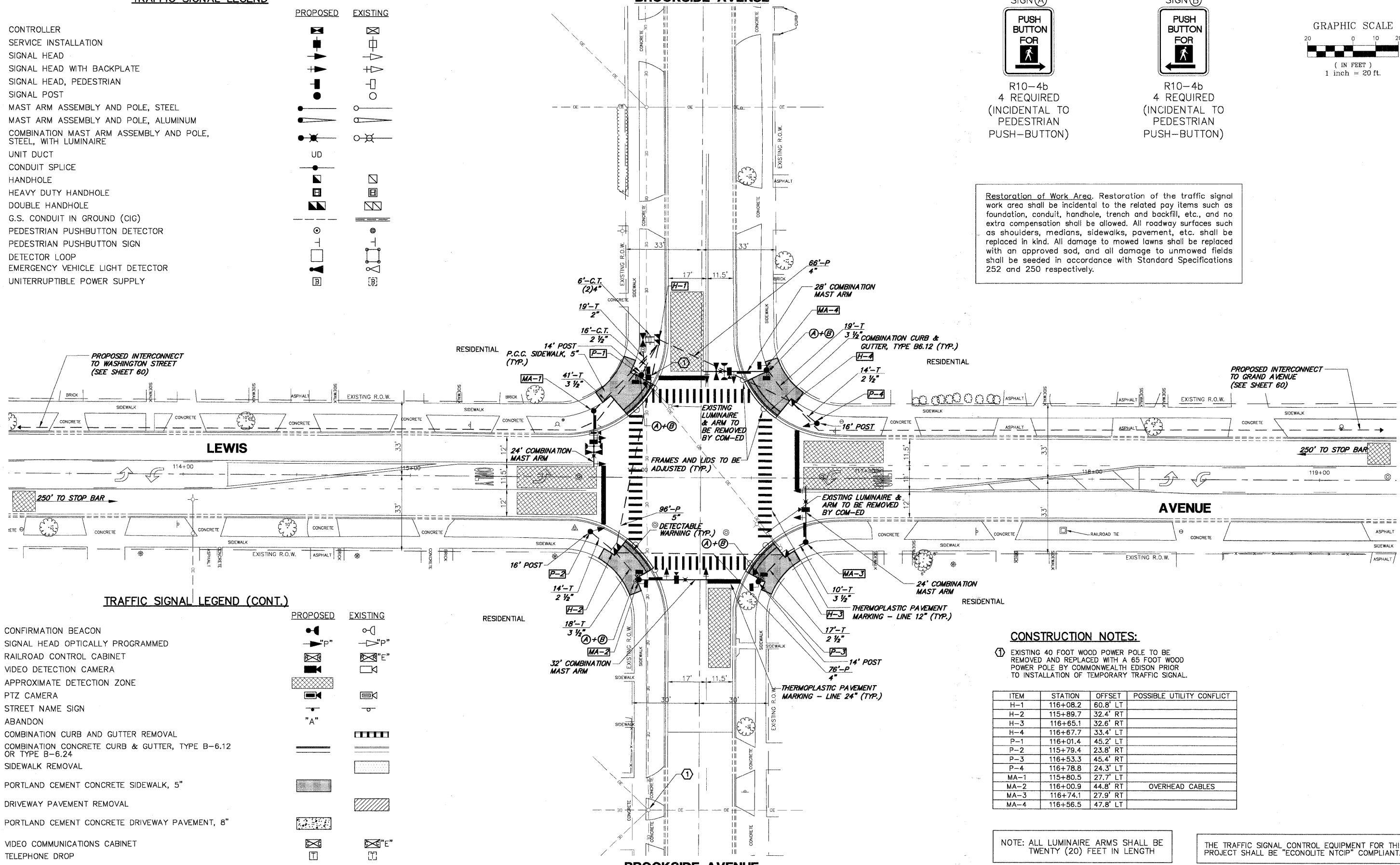
ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- EMERGENCY VEHICLE LIGHT DETECTOR
- UNINTERRUPTIBLE POWER SUPPLY



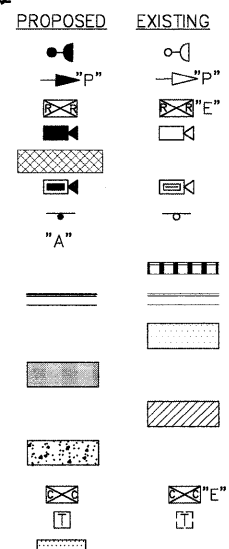
BROOKSIDE AVENUE



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

TRAFFIC SIGNAL LEGEND (CONT.)

- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

1 EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	116+08.2	60.8' LT	
H-2	115+89.7	32.4' RT	
H-3	116+65.1	32.6' RT	
H-4	116+67.7	33.4' LT	
P-1	116+01.4	45.2' LT	
P-2	115+79.4	23.8' RT	
P-3	116+53.3	45.4' RT	
P-4	116+78.8	24.3' LT	
MA-1	115+80.5	27.7' LT	
MA-2	116+00.9	44.8' RT	OVERHEAD CABLES
MA-3	116+74.1	27.9' RT	
MA-4	116+56.5	47.8' LT	

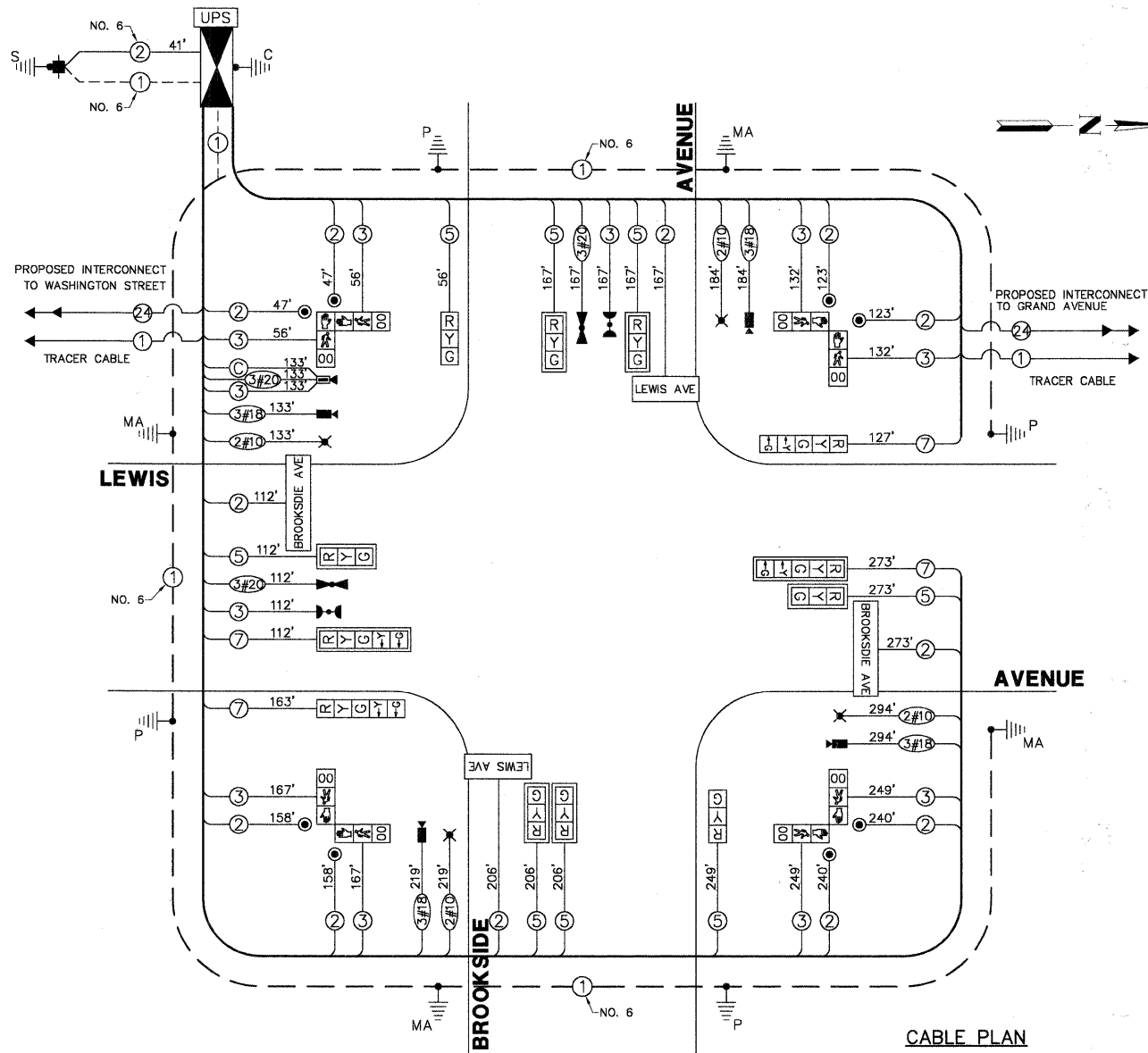
NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

SCHEDULE OF QUANTITIES

LEWIS AVENUE AT BROOKSIDE AVENUE TRAFFIC SIGNAL MODERNIZATION

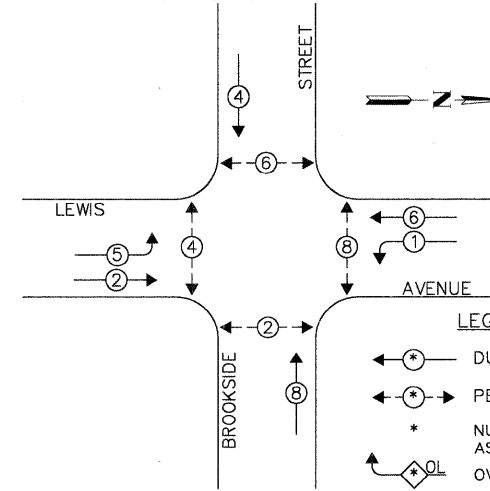
NO.	QUANT.	UNIT
1.	15	CU.YD. EARTH EXCAVATION
2.	40	SQ.YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	1,055	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	160	SQ.FT. DETECTABLE WARNINGS
5.	80	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	700	SQ.FT. SIDEWALK REMOVAL
7.	8	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	80	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	480	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
10.	85	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
11.	400	SQ.FT. PAVEMENT MARKING REMOVAL
12.	19	FOOT CONDUIT IN TRENCH, 2" DIA, GALVANIZED STEEL
13.	61	FOOT CONDUIT IN TRENCH, 2-1/2" DIA, GALVANIZED STEEL
14.	88	FOOT CONDUIT IN TRENCH, 3-1/2" DIA, GALVANIZED STEEL
15.	12	FOOT CONDUIT IN TRENCH, 4" DIA, GALVANIZED STEEL
16.	142	FOOT CONDUIT PUSHED, 4" DIA, GALVANIZED STEEL
17.	76	FOOT CONDUIT PUSHED, 5" DIA, GALVANIZED STEEL
18.	2	EACH HANDHOLE
19.	2	EACH DOUBLE HANDHOLE
20.	830	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHW) 2-1/2 NO. 10
21.	158	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
22.	4	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
23.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
24.	1	EACH TRANSCEIVER - FIBER OPTIC
25.	1,994	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
26.	1,620	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
27.	1,436	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
28.	675	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
29.	41	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
30.	2	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 24 FT (SPECIAL)
31.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 28 FT (SPECIAL)
32.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 32 FT (SPECIAL)
33.	16	FOOT CONCRETE FOUNDATION, TYPE A
34.	4	FOOT CONCRETE FOUNDATION, TYPE C
35.	60	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
36.	6	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
37.	2	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED
38.	2	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED
39.	2	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
40.	4	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED
41.	8	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
42.	2	EACH LIGHT DETECTOR
43.	1	EACH LIGHT DETECTOR AMPLIFIER
44.	8	EACH PEDESTRIAN PUSH-BUTTON
45.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
46.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
47.	4	EACH REMOVE EXISTING HANDHOLE
48.	9	EACH REMOVE EXISTING CONCRETE FOUNDATION
49.	1	EACH SERVICE INSTALLATION, POLE MOUNT
50.	504	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
51.	412	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
52.	133	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
53.	830	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
54.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
55.	4	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
56.	2	EACH TRAFFIC SIGNAL POST, 14 FT (SPECIAL)
57.	2	EACH TRAFFIC SIGNAL POST, 16 FT (SPECIAL)
58.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
59.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
60.	1	EACH VIDEO ENCODER



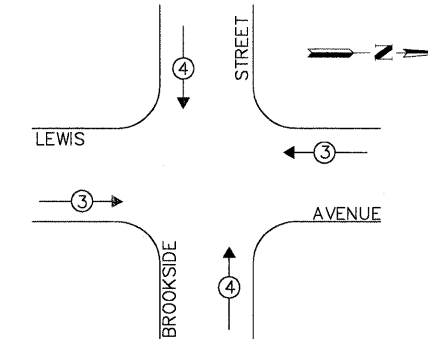
CABLE PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
(R)	(R)	12" TRAFFIC SIGNAL SECTION
(R)	(R)	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
(R)	(R)	CONTROLLER CABINET
(R)	(R)	SERVICE INSTALLATION
(R)	(R)	TELEPHONE INSTALLATION
(R)	(R)	VEHICLE DETECTOR, INDUCTION LOOP
(R)	(R)	EMERGENCY VEHICLE LIGHT DETECTOR
(R)	(R)	CONFIRMATION BEACON
(R)	(R)	PUSHBUTTON DETECTOR
(R)	(R)	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
(R)	(R)	GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)
(R)	(R)	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
(R)	(R)	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
(R)	(R)	RAILROAD CONTROL CABINET
(R)	(R)	ILLUMINATED SIGN "NO LEFT TURN"
(R)	(R)	ILLUMINATED SIGN "NO RIGHT TURN"
(R)	(R)	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
(R)	(R)	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
(R)	(R)	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
(R)	(R)	BELDEN 1694A RG-6/4 COAXIAL CABLE
(R)	(R)	ISDN LINE
(R)	(R)	LUMINAIRE
(R)	(R)	VIDEO DETECTION CAMERA
(R)	(R)	PTZ CAMERA
(R)	(R)	VIDEO COMMUNICATIONS CABINET
(R)	(R)	L.E.D. STREET NAME SIGN
(R)	(R)	UNINTERRUPTIBLE POWER SUPPLY

CONTROLLER SEQUENCE



EMERGENCY VEHICLE PREEMPTION SEQUENCE



LEGEND:

- ← * → DUAL ENTRY PHASE
- ← * → PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE OVERLAP

PHASE DESIGNATION DIAGRAM

PROPOSED EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	MOVEMENT	3	4
	←		
	→		
	↑		
	↓		

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.4
ARROW	8	135	9	0.10	7.2
PED.SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	4	-	250	0.50	500.0
L.E.D. ST. NAME SIGN	4	-	64	0.50	128.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					1,017.4

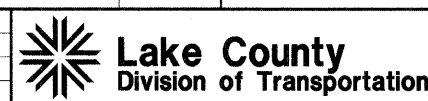
FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)
TYPE A - POST 4	HANDHOLE 6.5	ALL FOUNDATIONS 3.5
TYPE D - CONTROLLER 4	DOUBLE HANDHOLE 13	MAST ARM (L) POLE 20'+1-2"
TYPE E - MAST ARM POLE 15	SIGNAL POST 2	BRACKET MOUNTED 13
	CONTROLLER CAB. 1	PED. PUSHBUTTON 4
	FIBER OPTIC 13	ELECTRIC SERVICE 13.5
	ELECTRIC SERVICE 13	SERVICE TO GROUND 13.5
	GROUND CABLE 1	POST MOUNTED 6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (886) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
LEWIS AVENUE AT BROOKSIDE AVENUE

SCALE: NONE SHEET NO. 23 OF 86 SHEETS STA. TO STA.

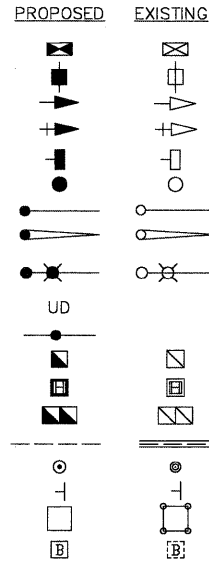
CHA #4135.800

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	23
				CONTRACT #: 63344

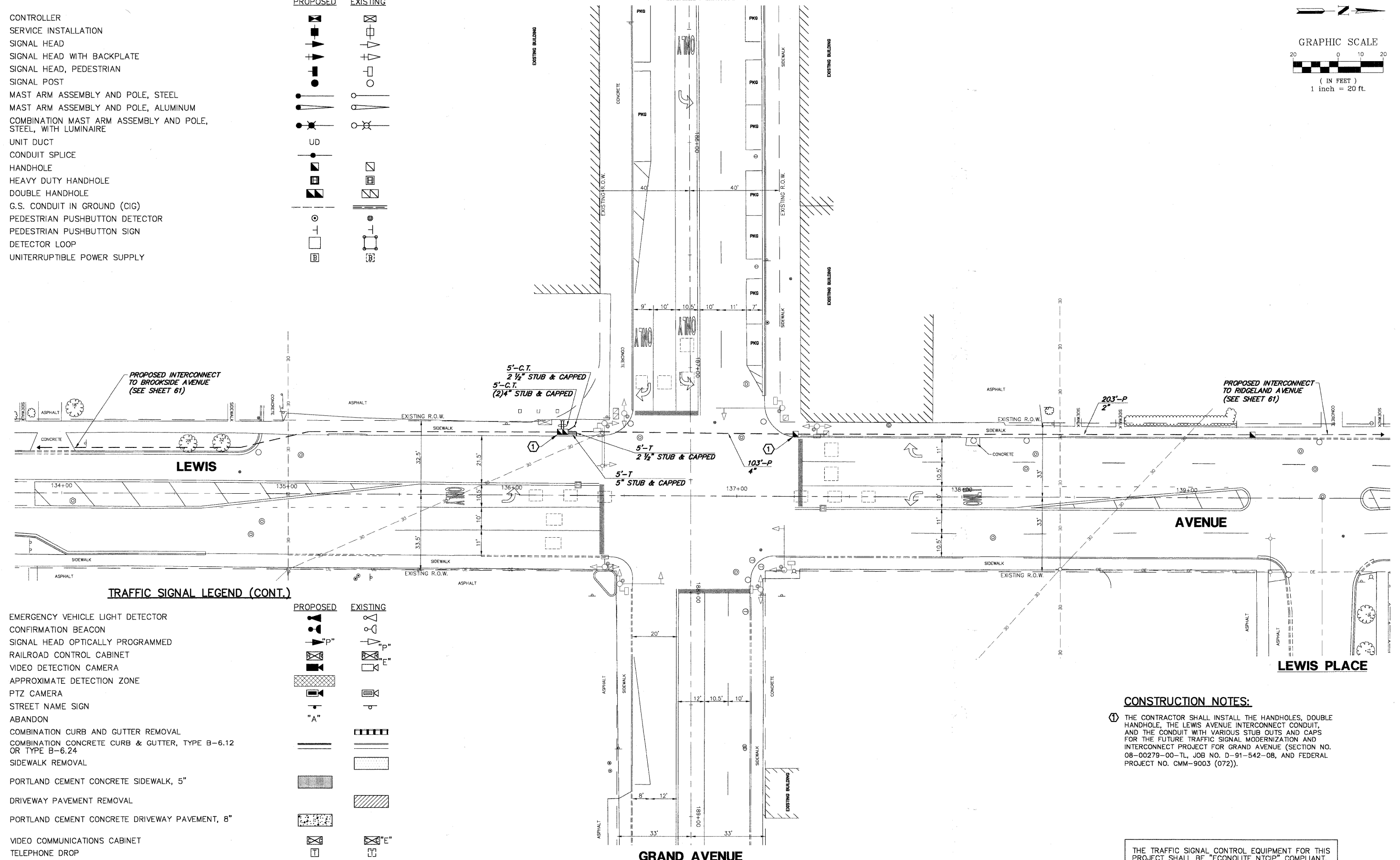
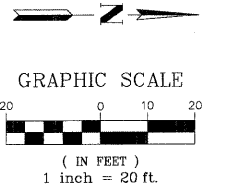
ILLINOIS FED. AID PROJECT

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNITERRUPTIBLE POWER SUPPLY

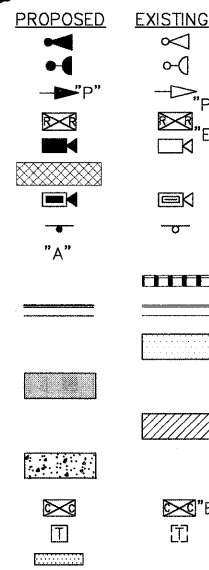


GRAND AVENUE



TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

① THE CONTRACTOR SHALL INSTALL THE HANDHOLES, DOUBLE HANDHOLE, THE LEWIS AVENUE INTERCONNECT CONDUIT, AND THE CONDUIT WITH VARIOUS STUB OUTS AND CAPS FOR THE FUTURE TRAFFIC SIGNAL MODERNIZATION AND INTERCONNECT PROJECT FOR GRAND AVENUE (SECTION NO. 08-00279-00-TL, JOB NO. D-91-542-08, AND FEDERAL PROJECT NO. CMM-9003 (072)).

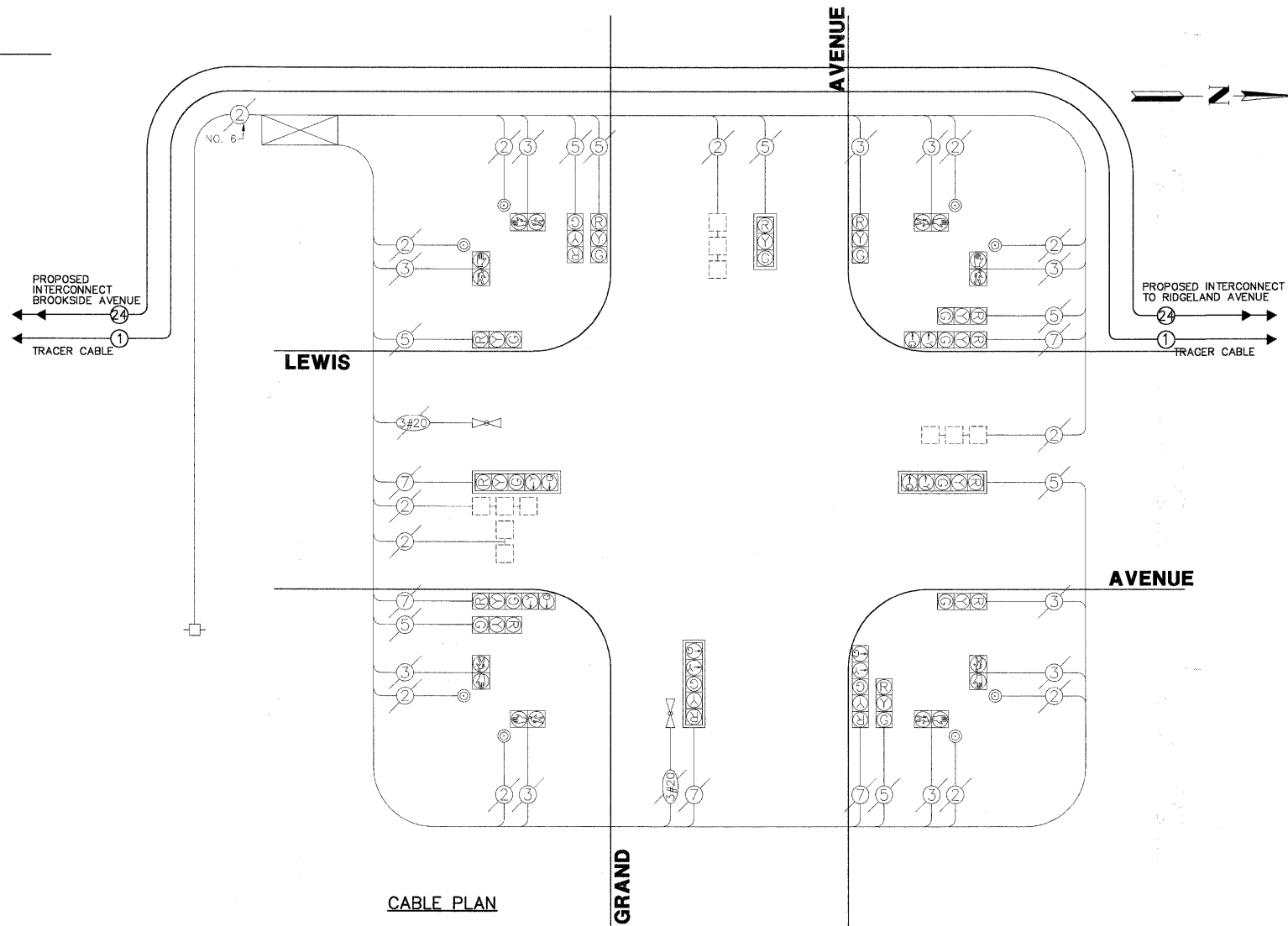
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)		TRAFFIC SIGNAL MODERNIZATION PLAN LEWIS AVENUE AT GRAND AVENUE		F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 24	
	PLOT SCALE = 1" = .08'	DRAWN - ZCW	REVISED - 9/25/09 (IDOT)		SCALE: 1"=20'	SHEET NO. 24 OF 86 SHEETS	STA. TO STA.	CONTRACT #: 63344		GHA #4135.800		
	PLOT DATE = 10/19/2009	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)						ILLINOIS FED. AID PROJECT			
		DATE - 10/19/09	REVISED -									

SCHEDULE OF QUANTITIES

LEWIS AVENUE AT GRAND AVENUE TRAFFIC SIGNAL MODERNIZATION

NO.	QUANT.	UNIT
1.	5	FOOT CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
2.	5	FOOT CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL
3.	5	FOOT CONDUIT IN TRENCH, 3-1/2" DIA., GALVANIZED STEEL
4.	10	FOOT CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
5.	5	FOOT CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL
6.	203	FOOT CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
7.	103	FOOT CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
8.	2	EACH HANDHOLE
9.	1	EACH DOUBLE HANDHOLE
10.	10	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK

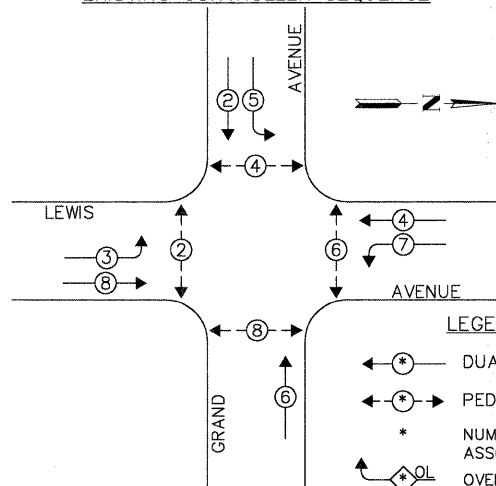


CABLE PLAN

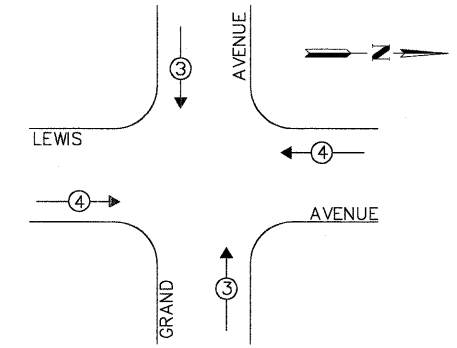
CABLE PLAN LEGEND

EXISTING	PROPOSED	
[Symbol]	[Symbol]	8" (200mm) TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" (300mm) TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" (300mm) PEDESTRIAN SIGNAL SECTION
[Symbol]	[Symbol]	12" (300mm) PEDESTRIAN SIGNAL SECTION
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	MAGNETIC DETECTOR
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT NO.6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY (UPS)
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET

EXISTING CONTROLLER SEQUENCE



EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE



LEGEND:

- [Symbol] DUAL ENTRY PHASE
- [Symbol] PEDESTRIAN PHASE
- [Symbol] NUMBER REFERS TO ASSOCIATED PHASE OVERLAP

EXISTING PHASE DESIGNATION DIAGRAM

EXISTING EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	MOVEMENT
3	4

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS				TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D. % OPERATION	
SIGNAL (RED)	12	135	10 0.50	60.0
SIGNAL (YELLOW)	12	135	19 0.10	22.8
SIGNAL (GREEN)	12	135	11 0.40	52.4
ARROW	8	135	9 0.10	7.2
PED.SIGNAL	8	90	9 1.00	72.0
CONTROLLER	1	-	100 1.00	100.0
LUMINAIRE	4	-	250 0.50	500.0
L.E.D. ST. NAME SIGN	4	-	64 0.50	128.0
VIDEO SYSTEM	1	-	150 1.00	150.0
BATTERY BACKUP	1	-	25 1.00	25.0
TOTAL =				1,117.4

FOUNDATION (DEPTH)	(FT.)	CABLE SLACK	(FT.)	VERTICAL	(FT.)
TYPE A - POST	4	HANDHOLE	6.5	ALL FOUNDATIONS	3.5
TYPE D - CONTROLLER	4	DOUBLE HANDHOLE	13	MAST ARM (L) POLE	20'+L-2'
TYPE E - M.ARM POLE	15	SIGNAL POST	2	BRACKET MOUNTED	13
		CONTROLLER CAB.	1	P.C.D. PUSHBUTTON	4
		FIBER OPTIC	13	ELECTRIC SERVICE	13.5
		ELECTRIC SERVICE	1	SERVICE TO GROUND	13.5
		GROUND CABLE	1	POST MOUNTED	6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (886) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg
 USER NAME = CHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09
 REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES LEWIS AVENUE AT GRAND AVENUE
 SCALE: NONE SHEET NO. 25 OF 86 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	25
CONTRACT #			63344	
ILLINOIS FED. AID PROJECT				

GHA #4135.800

TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- ⊠ TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ⊕ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- ⊠ HANDHOLE
- ⊠ HEAVY DUTY HANDHOLE
- ⊠ LUMINAIRE
- ⊠ VIDEO DETECTION CAMERA
- ⊠ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊠ APPROXIMATE DETECTION ZONE

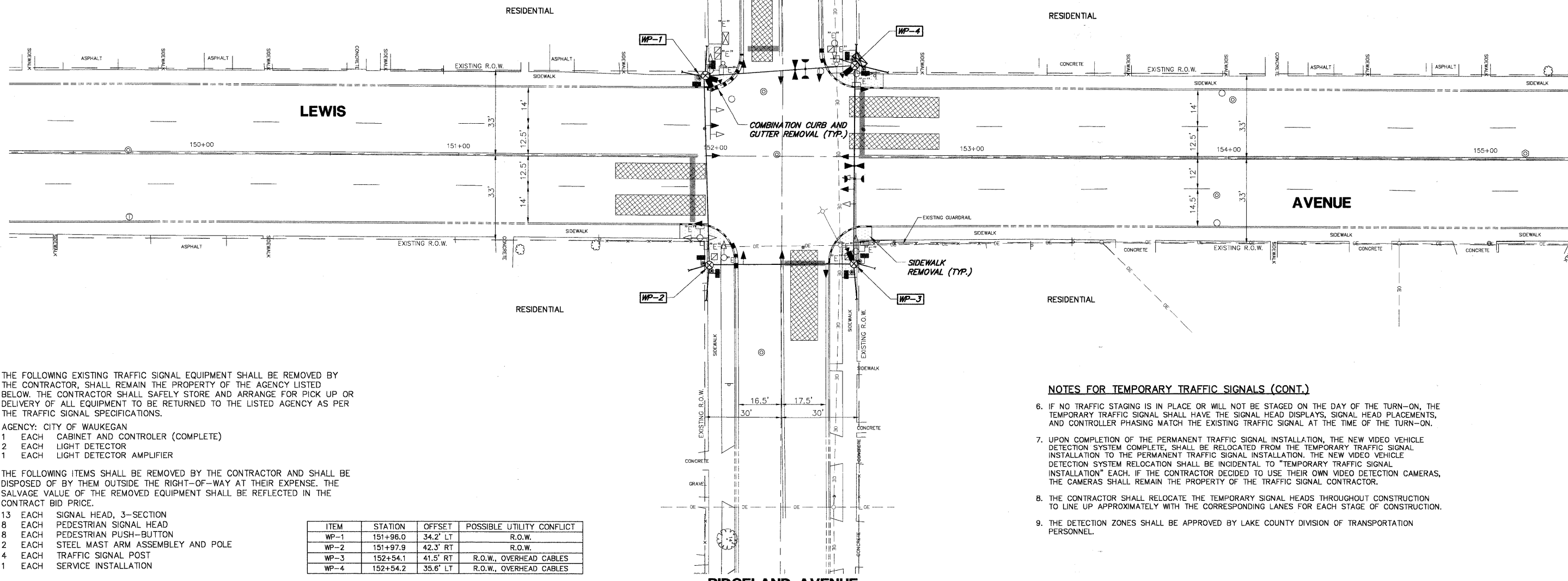
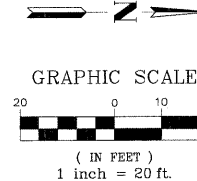
EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ⊠ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" ⊠ EXISTING HANDHOLE TO BE REMOVED
- ⊠ EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▶ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ⊕ EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ⊠ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ⊠ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

RIDGELAND AVENUE

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTCIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

AGENCY: CITY OF WAUKEGAN
 1 EACH CABINET AND CONTROLLER (COMPLETE)
 2 EACH LIGHT DETECTOR
 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

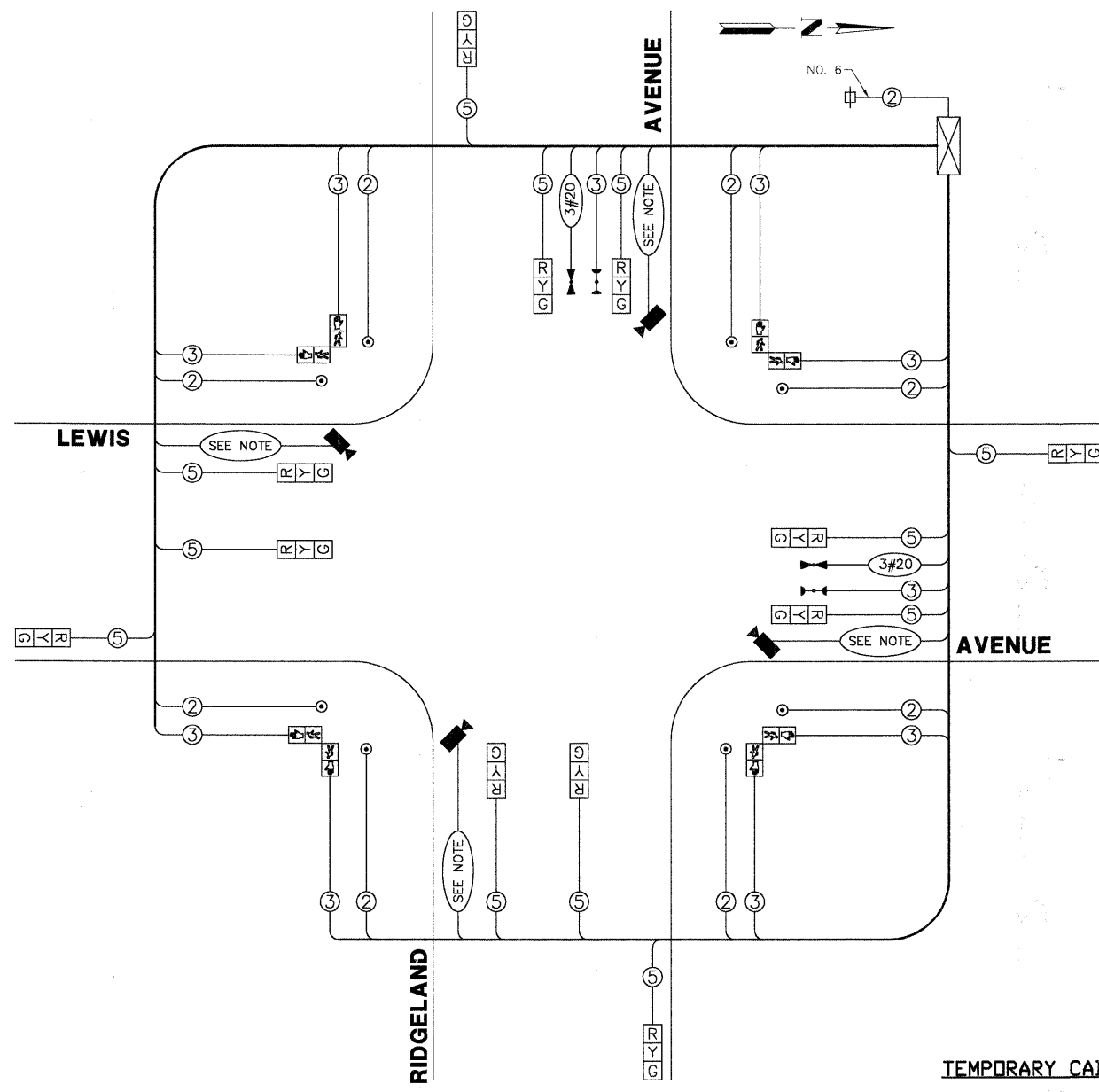
- 13 EACH SIGNAL HEAD, 3-SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON
- 2 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 4 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	151+96.0	34.2' LT	R.O.W.
WP-2	151+97.9	42.3' RT	R.O.W.
WP-3	152+54.1	41.5' RT	R.O.W., OVERHEAD CABLES
WP-4	152+54.2	35.6' LT	R.O.W., OVERHEAD CABLES

RIDGELAND AVENUE

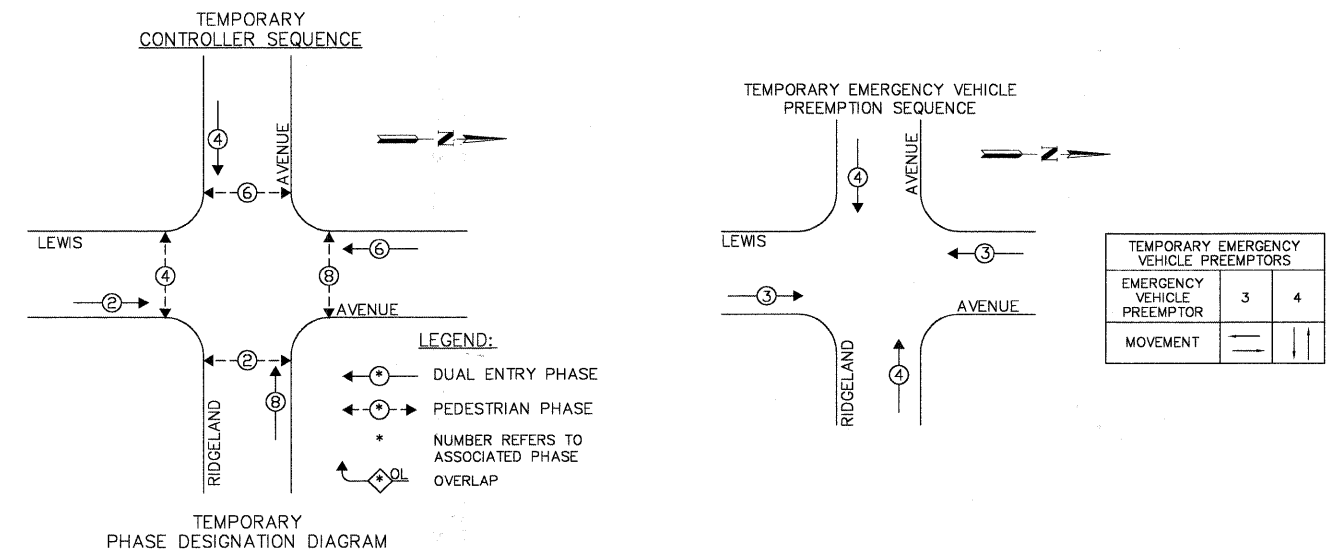
TEMPORARY CABLE PLAN LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12'
- X TEMPORARY CONTROLLER CABINET
- + TEMPORARY SERVICE INSTALLATION
- ⑤ INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA



NOTE:
 IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 18, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN

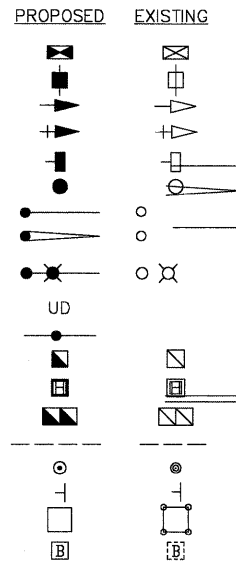


L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	-	35	9	0.10	-
RED SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					457.6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

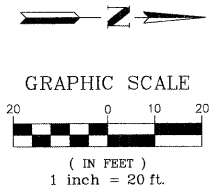
TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY



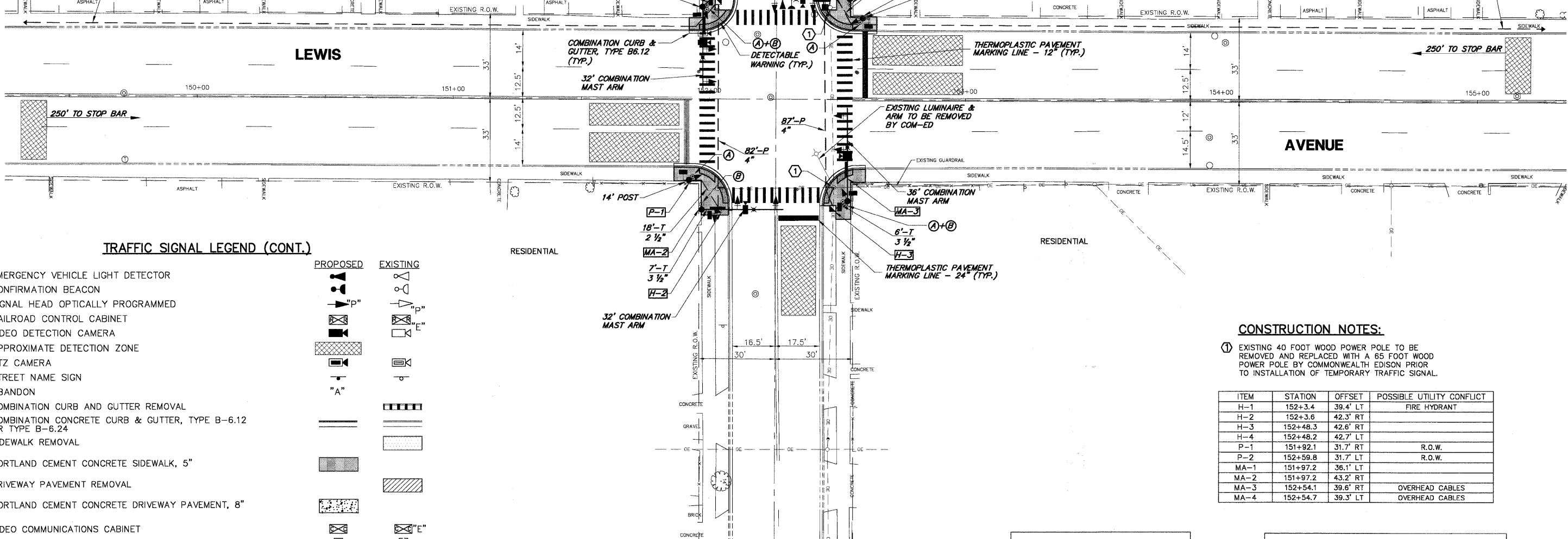
RIDGELAND AVENUE

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.



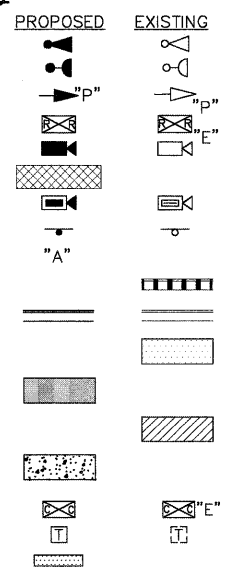
PROPOSED INTERCONNECT TO GRAND AVENUE (SEE SHEET 61)

PROPOSED INTERCONNECT TO GLEN FLORA AVENUE (SEE SHEET 62)



TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

1 EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	152+3.4	39.4' LT	FIRE HYDRANT
H-2	152+3.6	42.3' RT	
H-3	152+48.3	42.6' RT	
H-4	152+48.2	42.7' LT	
P-1	151+92.1	31.7' RT	R.O.W.
P-2	152+59.8	31.7' LT	R.O.W.
MA-1	151+97.2	36.1' LT	
MA-2	151+97.2	43.2' RT	
MA-3	152+54.1	39.6' RT	OVERHEAD CABLES
MA-4	152+54.7	39.3' LT	OVERHEAD CABLES

NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

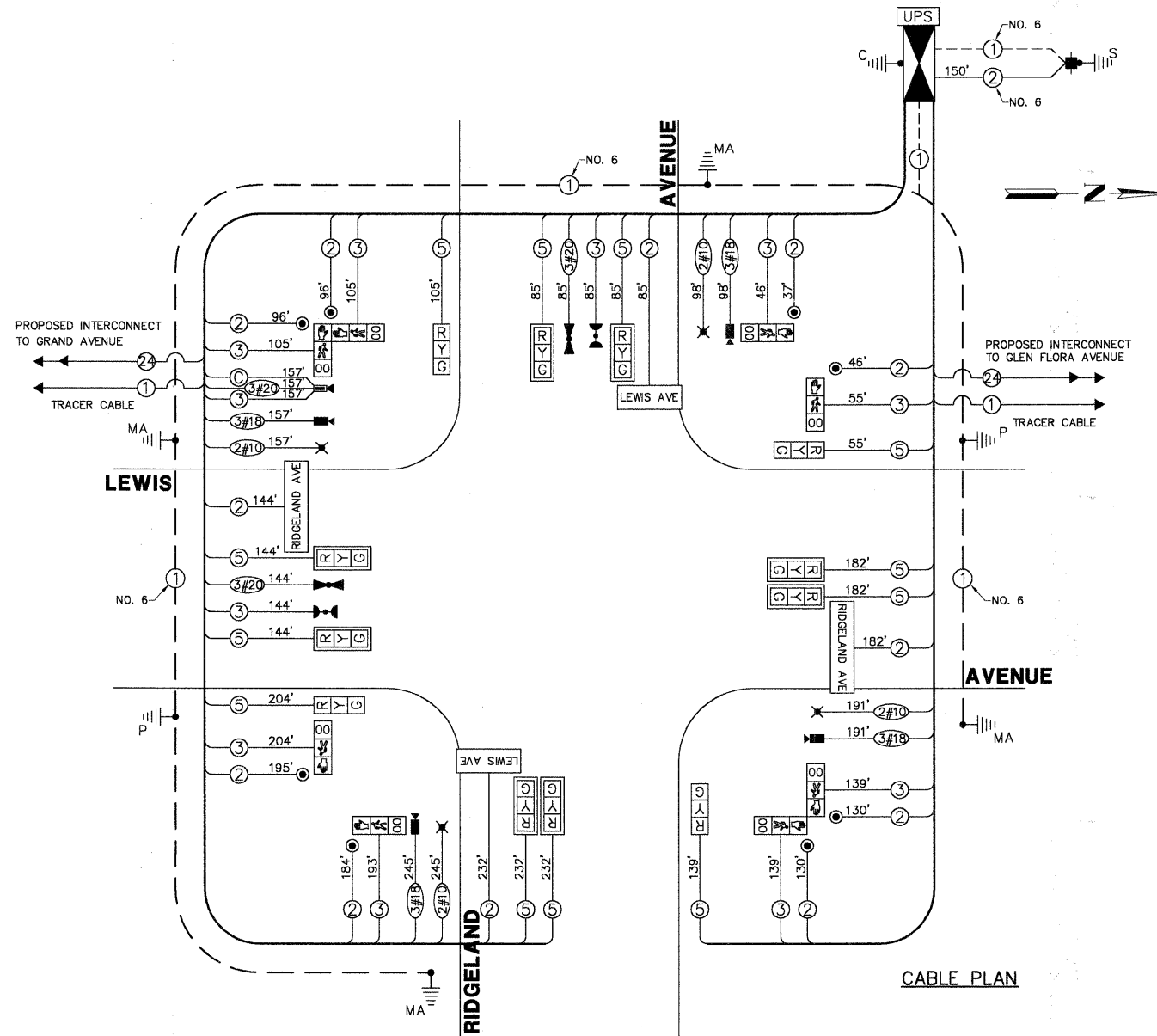
SCHEDULE OF QUANTITIES

LEWIS AVENUE AT RIDGELAND AVENUE TRAFFIC SIGNAL MODERNIZATION

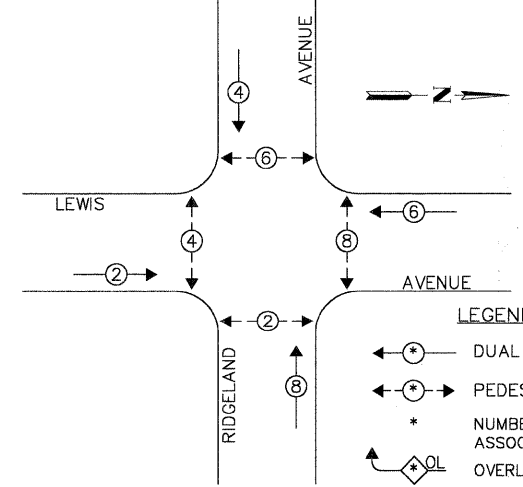
NO.	QUANT.	UNIT
1.	7	CU.YD. EARTH EXCAVATION
2.	20	SQ.YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	700	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	108	SQ.FT. DETECTABLE WARNINGS
5.	125	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	600	SQ.FT. SIDEWALK REMOVAL
7.	7	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	125	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	360	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
10.	50	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
11.	100	SQ.FT. PAVEMENT MARKING REMOVAL
12.	18	FOOT CONDUIT IN TRENCH, 2" DIA, GALVANIZED STEEL
13.	34	FOOT CONDUIT IN TRENCH, 2-1/2" DIA, GALVANIZED STEEL
14.	28	FOOT CONDUIT IN TRENCH, 3-1/2" DIA, GALVANIZED STEEL
15.	10	FOOT CONDUIT IN TRENCH, 4" DIA, GALVANIZED STEEL
16.	169	FOOT CONDUIT PUSHED, 4" DIA, GALVANIZED STEEL
17.	45	FOOT CONDUIT PUSHED, 5" DIA, GALVANIZED STEEL
18.	2	EACH HANDHOLE
19.	2	EACH DOUBLE HANDHOLE
20.	691	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHW) 2-1/C NO. 10
21.	85	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
22.	4	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
23.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
24.	1	EACH TRANSCEIVER - FIBER OPTIC
25.	1,566	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
26.	1,374	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
27.	1,789	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
28.	39	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
29.	3	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 32 FT (SPECIAL)
30.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 36 FT (SPECIAL)
31.	8	FOOT CONCRETE FOUNDATION, TYPE A
32.	4	FOOT CONCRETE FOUNDATION, TYPE C
33.	60	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
34.	8	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
35.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED
36.	4	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
37.	2	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED
38.	8	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
39.	2	EACH LIGHT DETECTOR
40.	1	EACH LIGHT DETECTOR AMPLIFIER
41.	8	EACH PEDESTRIAN PUSH-BUTTON
42.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
43.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
44.	4	EACH REMOVE EXISTING HANDHOLE
45.	7	EACH REMOVE EXISTING CONCRETE FOUNDATION
46.	1	EACH SERVICE INSTALLATION, POLE MOUNT
47.	490	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
48.	386	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
49.	157	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
50.	691	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
51.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
52.	4	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
53.	2	EACH TRAFFIC SIGNAL POST, 14 FT (SPECIAL)
54.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
55.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
56.	1	EACH VIDEO ENCODER

CABLE PLAN LEGEND

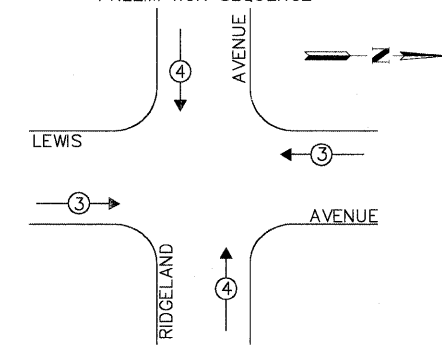
EXISTING	PROPOSED	DESCRIPTION
		12" TRAFFIC SIGNAL SECTION
		CONTROLLER CABINET
		TELEPHONE INSTALLATION
		EMERGENCY VEHICLE LIGHT DETECTOR
		PUSHBUTTON DETECTOR
		FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		BELDEN 1694A RG-6/4 COAXIAL CABLE
		ISDN LINE
		LUMINAIRE
		VIDEO DETECTION CAMERA
		PTZ CAMERA
		VIDEO COMMUNICATIONS CABINET
		L.E.D. STREET NAME SIGN
		UNINTERRUPTIBLE POWER SUPPLY



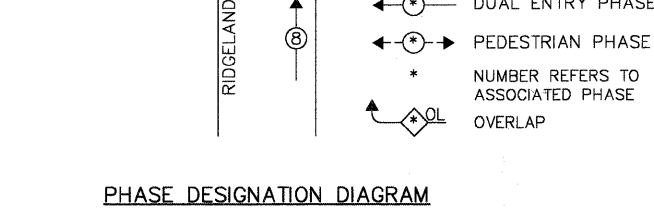
CONTROLLER SEQUENCE



EMERGENCY VEHICLE PREEMPTION SEQUENCE



PHASE DESIGNATION DIAGRAM



THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	-	135	9	-	-
RED SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	4	-	250	0.50	500.0
L.E.D. ST. NAME SIGN	4	-	64	0.50	128.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =	110.6				

FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)			
TYPE A - POST	4	HANDHOLE	6.5	ALL FOUNDATIONS	3.5
TYPE D - CONTROLLER	4	DOUBLE HANDHOLE	13	MAST ARM (L) POLE	20'+1'-2"
TYPE E - MAST ARM POLE	15	SIGNAL POST	2	BRACKET MOUNTED	13
		CONTROLLER CAB.	1	PEDESTRIAN MOUNTED	4
		FIBER OPTIC	13	ELECTRIC SERVICE	13.5
		ELECTRIC SERVICE	1	SERVICE TO GROUND	13.5
		GROUND CABLE	1	POST MOUNTED	6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (888) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
LEWIS AVENUE AT RIDGELAND AVENUE
 SCALE: NONE SHEET NO. 29 OF 86 SHEETS STA. TO STA.

F.A.P. RTE 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 29
CONTRACT # 63344				CHA #4135.800
ILLINOIS FED. AID PROJECT				

TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- ⊠ TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ◀ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- ⊠ HANDHOLE
- ⊠ HEAVY DUTY HANDHOLE
- ⊠ LUMINAIRE
- ⊠ VIDEO DETECTION CAMERA
- ⊠ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊠ APPROXIMATE DETECTION ZONE

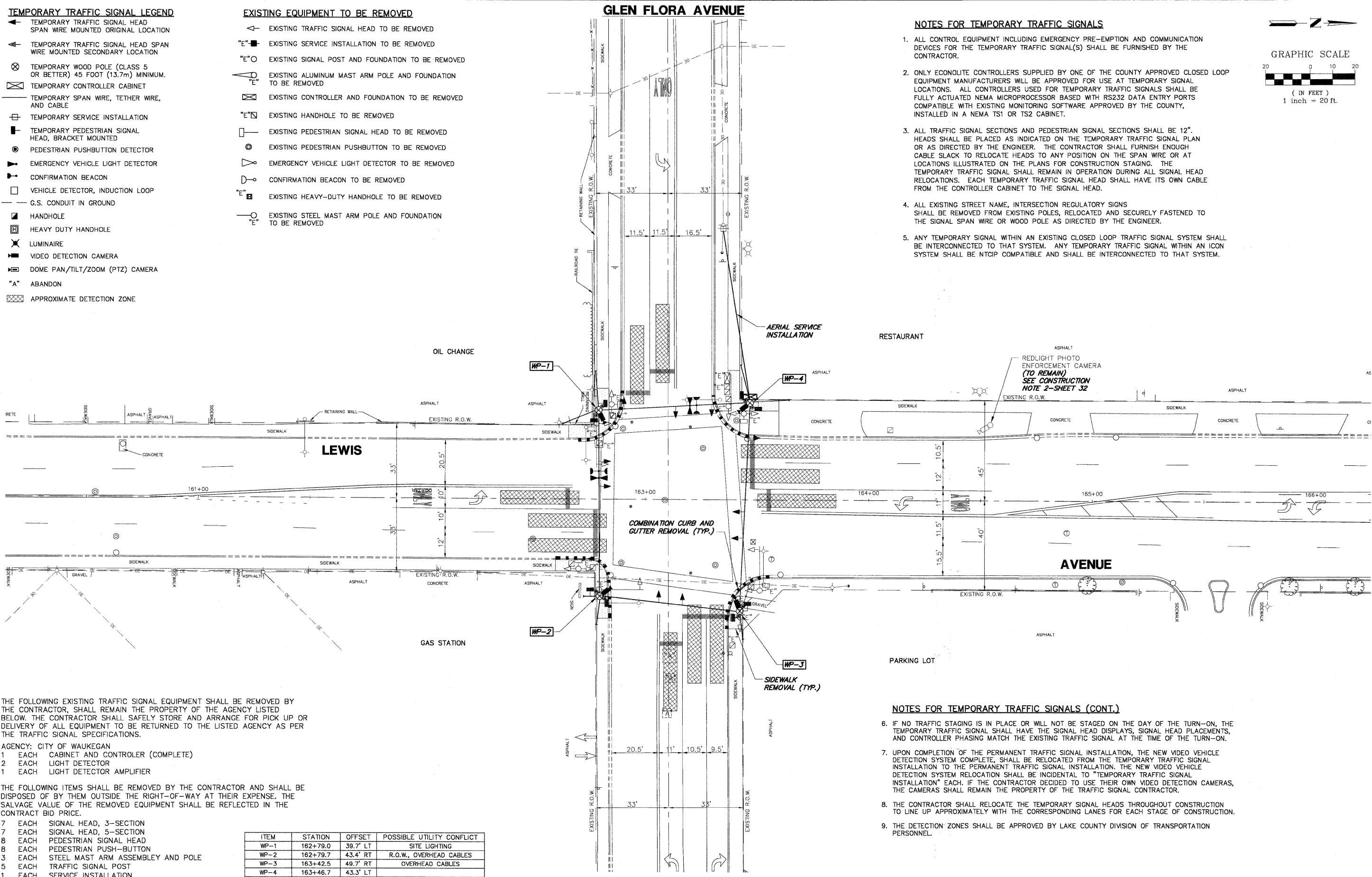
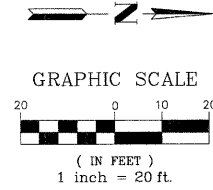
EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ⊠ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ⊙ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ◀ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" ⊠ EXISTING HANDHOLE TO BE REMOVED
- ◀ EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▶ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ◀ EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ⊠ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ◀ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

GLEN FLORA AVENUE

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTCIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

AGENCY: CITY OF WAUKEGAN
 1 EACH CABINET AND CONTROLLER (COMPLETE)
 2 EACH LIGHT DETECTOR
 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 7 EACH SIGNAL HEAD, 3-SECTION
- 7 EACH SIGNAL HEAD, 5-SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON
- 3 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 5 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	162+79.0	39.7' LT	SITE LIGHTING
WP-2	162+79.7	43.4' RT	R.O.W., OVERHEAD CABLES
WP-3	163+42.5	49.7' RT	OVERHEAD CABLES
WP-4	163+46.7	43.3' LT	

NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



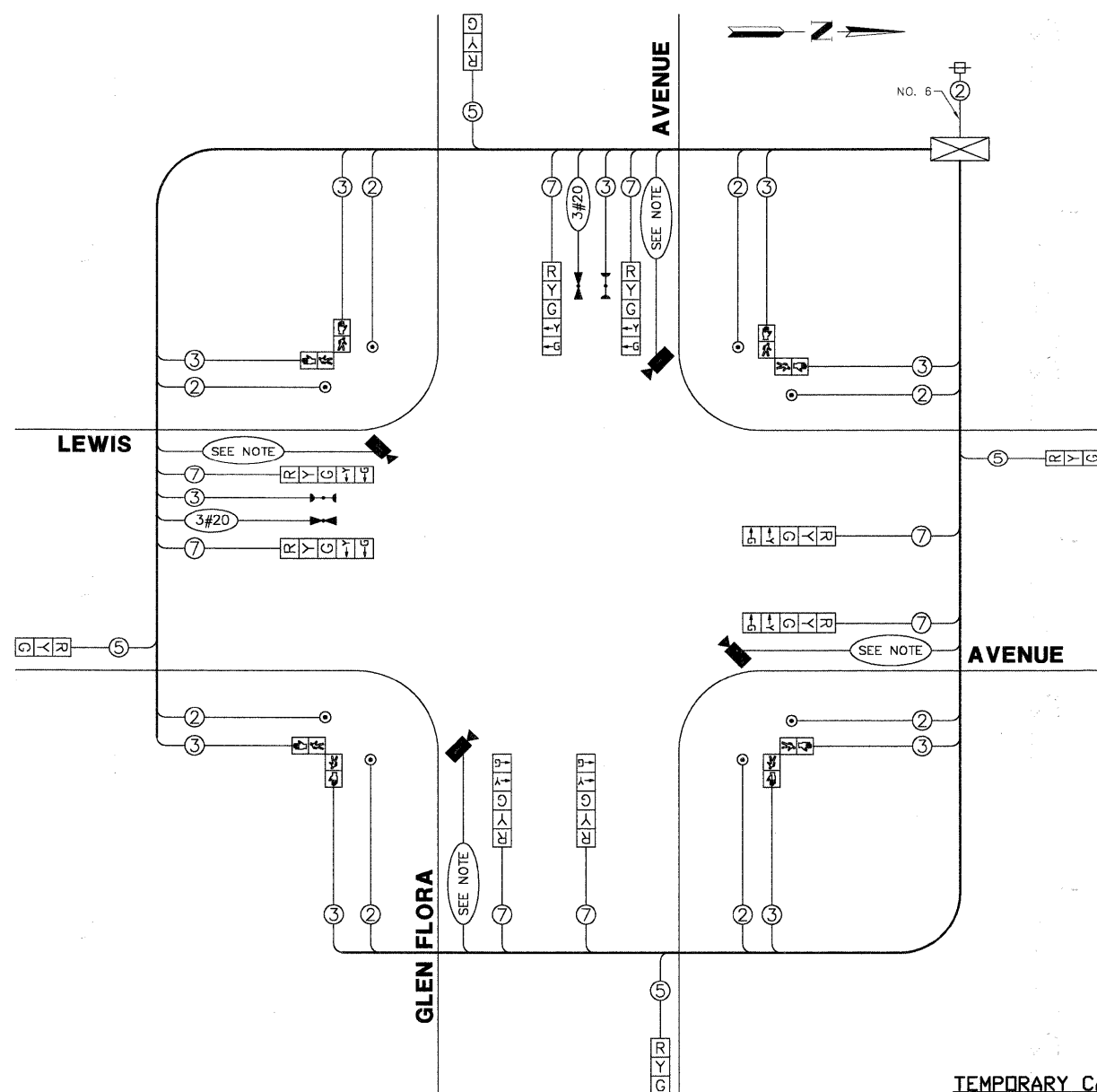
TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT LEWIS AVENUE AT GLEN FLORA AVENUE

SCALE: 1"=20' SHEET NO. 30 OF 86 SHEETS STA. TO STA.

F.A.P. RTE 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 30
CONTRACT # 63344			GHA #4135.800	
ILLINOIS FED. AID PROJECT				

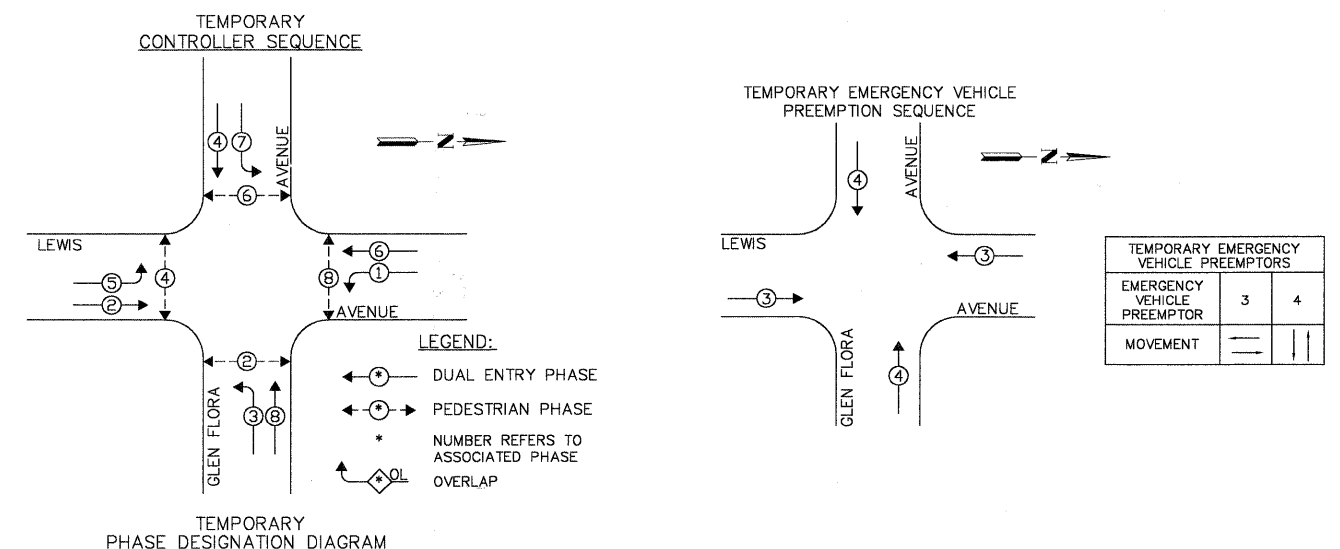
TEMPORARY CABLE PLAN LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- 5 INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA



NOTE:
IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 18, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN



L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE	INCAND.	L.E.D.	% OPERATION
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	16	135	9	0.10	14.4
PED. SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					472.0

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
	PLOT SCALE = 1" = .08'	DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
	PLOT DATE = 10/19/2009	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -

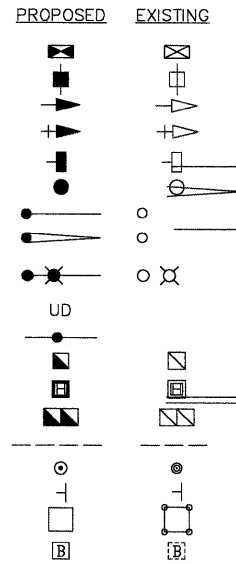


TEMPORARY CABLE PLAN & PHASE DESIGNATION DIAGRAM			
LEWIS AVENUE AT GLEN FLORA AVENUE			
SCALE: NONE	SHEET NO. 31 OF 86 SHEETS	STA. TO STA.	

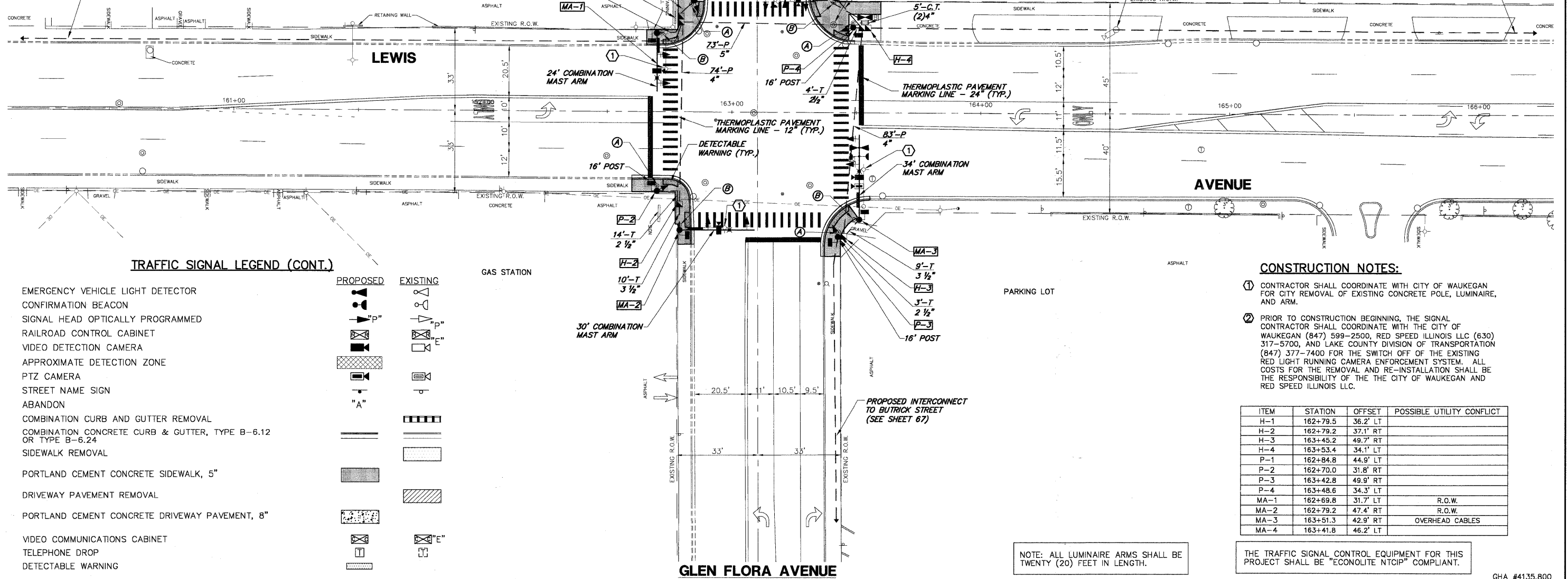
F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 31
CONTRACT # 63344			GHA #4135.800	
ILLINOIS FED. AID PROJECT				

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNITERRUPTIBLE POWER SUPPLY

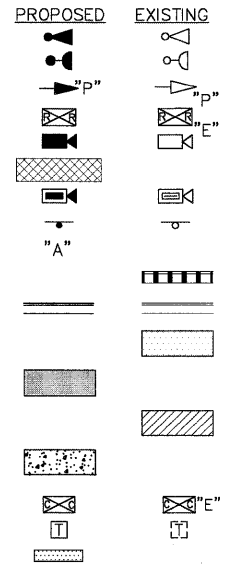


PROPOSED INTERCONNECT TO RIDGELAND AVENUE (SEE SHEET 62)

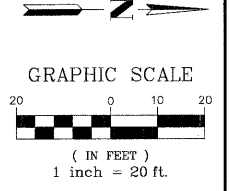


TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.



CONSTRUCTION NOTES:

- 1 CONTRACTOR SHALL COORDINATE WITH CITY OF WAUKEGAN FOR CITY REMOVAL OF EXISTING CONCRETE POLE, LUMINAIRE, AND ARM.
- 2 PRIOR TO CONSTRUCTION BEGINNING, THE SIGNAL CONTRACTOR SHALL COORDINATE WITH THE CITY OF WAUKEGAN (847) 599-2500, RED SPEED ILLINOIS LLC (630) 317-5700, AND LAKE COUNTY DIVISION OF TRANSPORTATION (847) 377-7400 FOR THE SWITCH OFF OF THE EXISTING RED LIGHT RUNNING CAMERA ENFORCEMENT SYSTEM. ALL COSTS FOR THE REMOVAL AND RE-INSTALLATION SHALL BE THE RESPONSIBILITY OF THE THE CITY OF WAUKEGAN AND RED SPEED ILLINOIS LLC.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	162+79.5	36.2' LT	
H-2	162+79.2	37.1' RT	
H-3	163+45.2	49.7' RT	
H-4	163+53.4	34.1' LT	
P-1	162+84.8	44.9' LT	
P-2	162+70.0	31.8' RT	
P-3	163+42.8	49.9' RT	
P-4	163+48.6	34.3' LT	
MA-1	162+69.8	31.7' LT	R.O.W.
MA-2	162+79.2	47.4' RT	R.O.W.
MA-3	163+51.3	42.9' RT	OVERHEAD CABLES
MA-4	163+41.8	46.2' LT	

NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

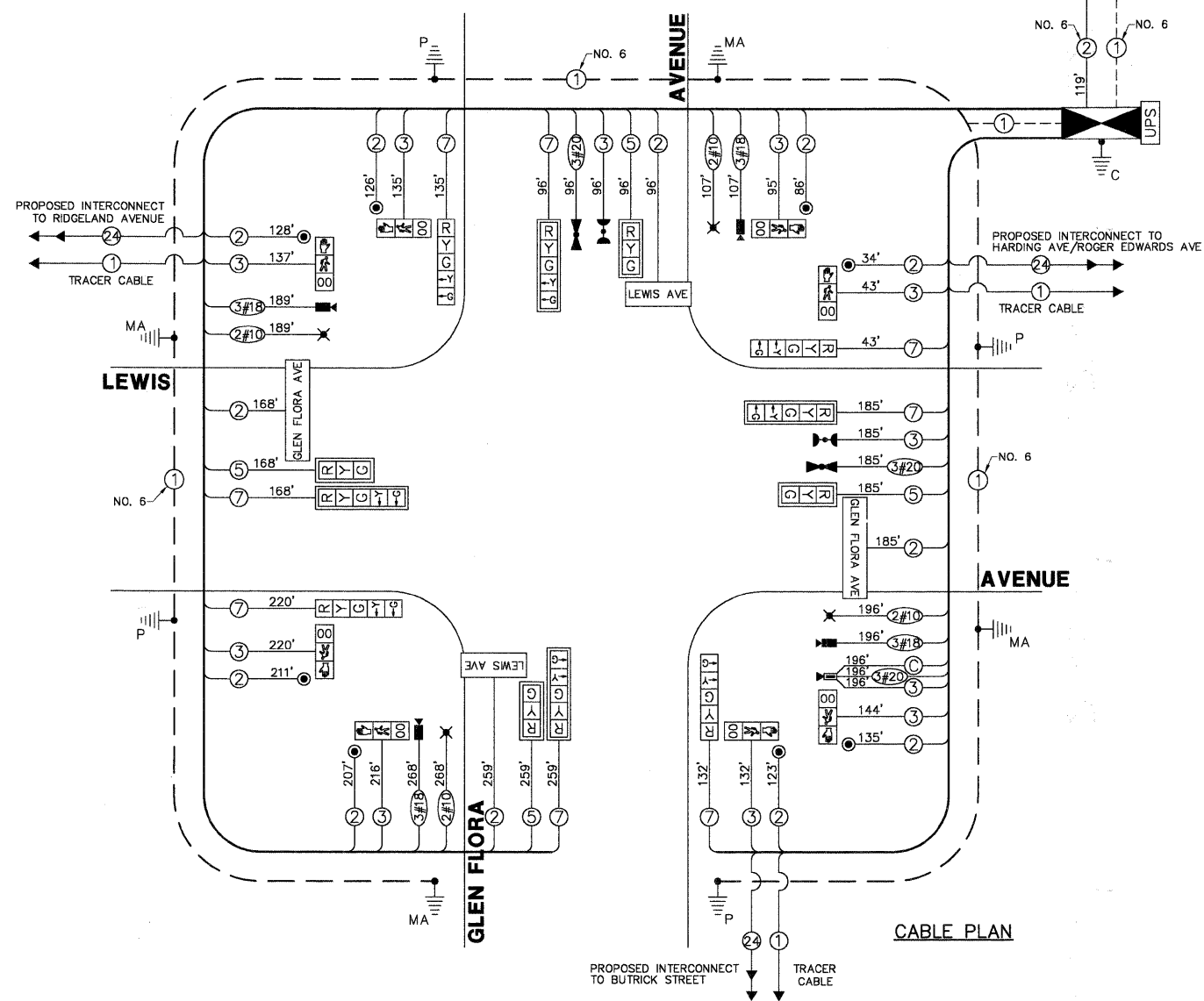
SCHEDULE OF QUANTITIES

LEWIS AVENUE AT GLEN FLORA AVENUE TRAFFIC SIGNAL MODERNIZATION

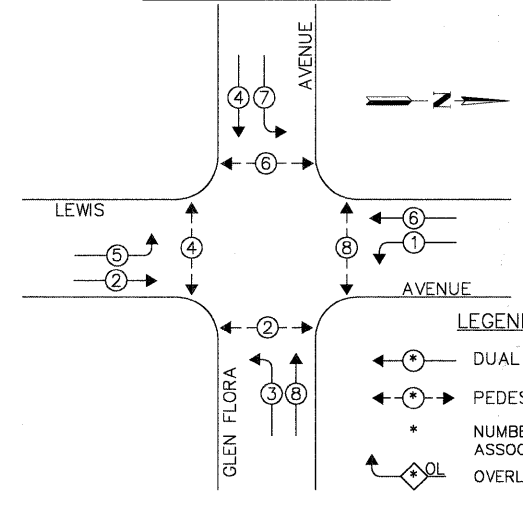
NO.	QUANT.	UNIT
1.	5	CU.YD. EARTH EXCAVATION
2.	15	SQ.YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	975	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	96	SQ.FT. DETECTABLE WARNINGS
5.	165	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	775	SQ.FT. SIDEWALK REMOVAL
7.	3	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	165	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	420	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
10.	120	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
11.	465	SQ.FT. PAVEMENT MARKING REMOVAL
12.	97	FOOT CONDUIT IN TRENCH, 2" DIA, GALVANIZED STEEL
13.	31	FOOT CONDUIT IN TRENCH, 2-1/2" DIA, GALVANIZED STEEL
14.	48	FOOT CONDUIT IN TRENCH, 3-1/2" DIA, GALVANIZED STEEL
15.	10	FOOT CONDUIT IN TRENCH, 4" DIA, GALVANIZED STEEL
16.	157	FOOT CONDUIT PUSHED, 4" DIA, GALVANIZED STEEL
17.	73	FOOT CONDUIT PUSHED, 5" DIA, GALVANIZED STEEL
18.	2	EACH HANDHOLE
19.	2	EACH DOUBLE HANDHOLE
20.	760	FOOT ELECTRIC CABLE IN CONDUIT, 800 (EPR-TYPE RHW) 2-1/C NO. 10
21.	180	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
22.	4	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
23.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
24.	1	EACH TRANSCEIVER - FIBER OPTIC
25.	1,758	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
26.	1,599	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
27.	708	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
28.	1,238	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
29.	119	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
30.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 24 FT (SPECIAL)
31.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 32 FT (SPECIAL)
32.	2	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 34 FT (SPECIAL)
33.	16	FOOT CONCRETE FOUNDATION, TYPE A
34.	4	FOOT CONCRETE FOUNDATION, TYPE C
35.	60	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
36.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
37.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED
38.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
39.	8	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
40.	8	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
41.	2	EACH LIGHT DETECTOR
42.	1	EACH LIGHT DETECTOR AMPLIFIER
43.	8	EACH PEDESTRIAN PUSH-BUTTON
44.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
45.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
46.	1	EACH SERVICE INSTALLATION, POLE MOUNT
47.	499	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
48.	477	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
49.	196	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
50.	760	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
51.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
52.	4	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
53.	4	EACH TRAFFIC SIGNAL POST, 16 FT (SPECIAL)
54.	1	EACH REMOTE CONTROLLED VIDEO SYSTEM
55.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
56.	1	EACH VIDEO ENCODER

CABLE PLAN LEGEND

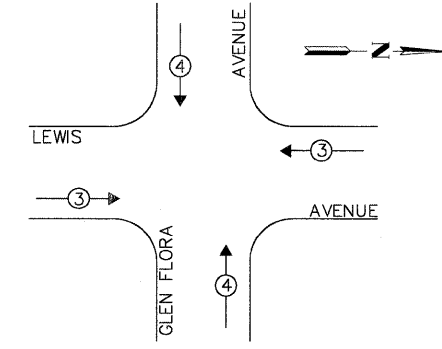
EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	12" TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE INSTALLATION
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	BELDEN 1694A RG-6/4 COAXIAL CABLE
[Symbol]	[Symbol]	ISDN LINE
[Symbol]	[Symbol]	LUMINAIRE
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET
[Symbol]	[Symbol]	L.E.D. STREET NAME SIGN
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY



CONTROLLER SEQUENCE



EMERGENCY VEHICLE PREEMPTION SEQUENCE



EMERGENCY VEHICLE PREEMPTOR	MOVEMENT
3	4

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND. L.E.D.	% OPERATION		
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	18	0.40	52.8
ARROW	16	135	9	0.30	44.4
PED.SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	4	-	250	0.50	500.0
L.E.D. ST. NAME SIGN	4	-	64	0.50	128.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					1,250.0

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)			
TYPE A - POST	4	HANDHOLE	6.5	ALL FOUNDATIONS	3.5
TYPE D - CONTROLLER	4	DOUBLE HANDHOLE	13	MAST ARM (L) POLE	20'+1-2-
TYPE E - M.ARM POLE	15	SIGNAL POST	2	BRACKET MOUNTED	13
		CONTROLLER CAB.	2	PED. PUSHBUTTON	4
		FIBER OPTIC	13	ELECTRIC SERVICE	13.5
		ELECTRIC SERVICE	1	SERVICE TO GROUND	13.5
		GROUND CABLE	1	POST MOUNTED	6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN (ADDRESS) 100 N. M.L.K. JR. AVENUE (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS PHONE: (886) 639-3552 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -



PHASE DESIGNATION DIAGRAM

CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES

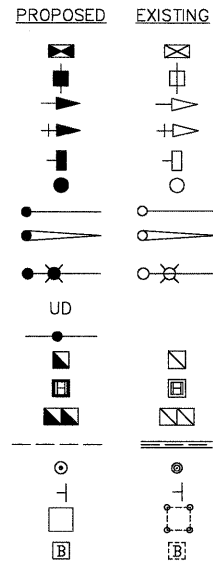
LEWIS AVENUE AT GLEN FLORA AVENUE

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 33
CONTRACT # 63344				GHA #4135.800

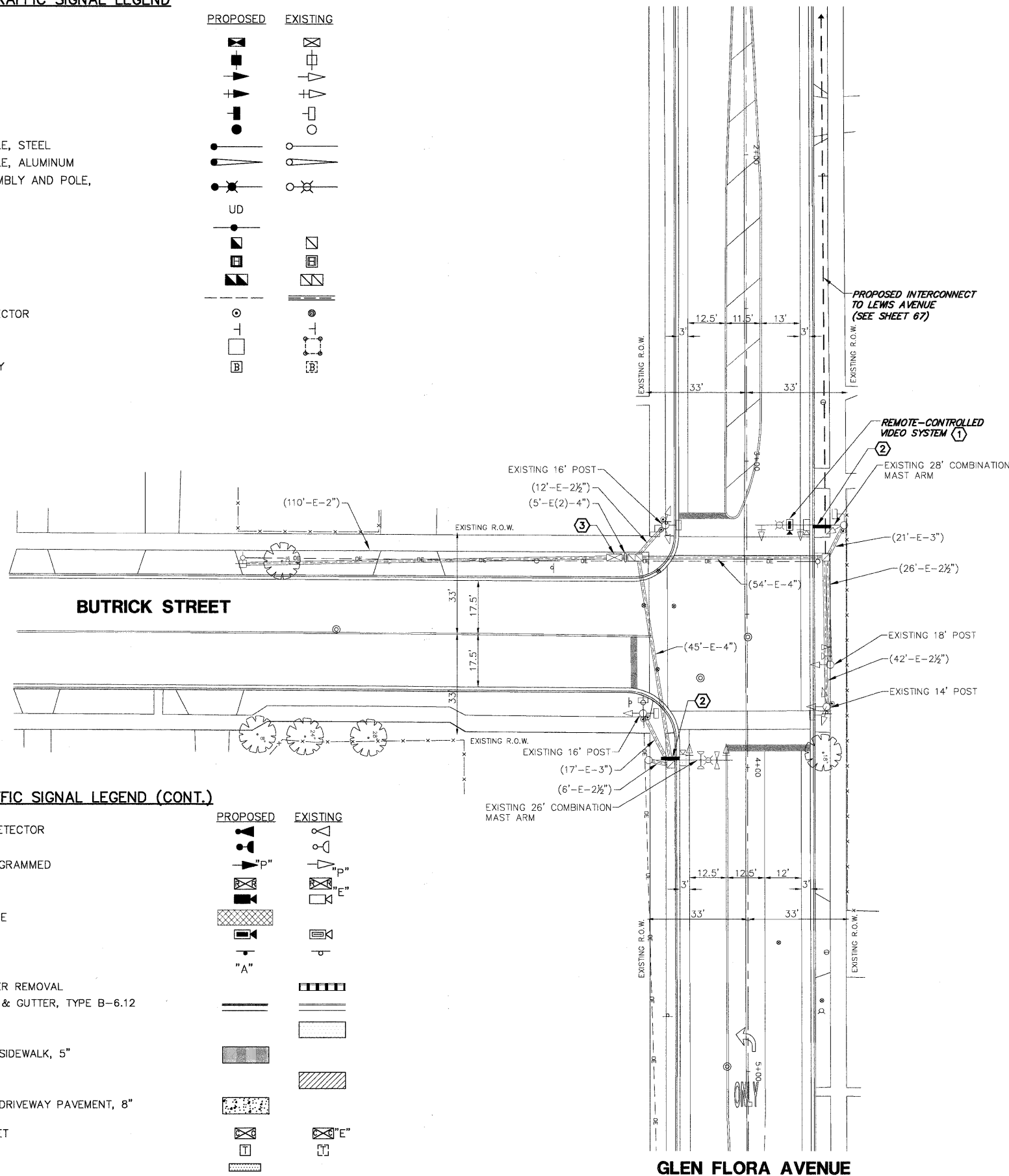
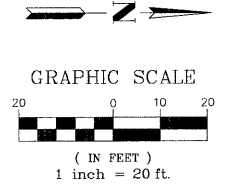
SCALE: NONE SHEET NO. 33 OF 86 SHEETS STA. TO STA.

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNITERRUPTIBLE POWER SUPPLY

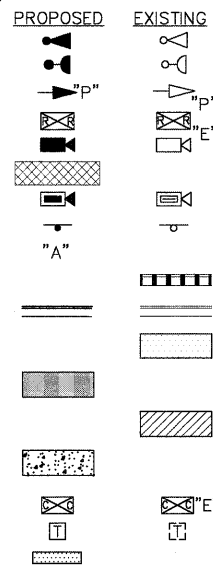


GLEN FLORA AVENUE



TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

- ① THE PTZ CAMERA, CABLES, CONNECTORS AND RELATED EQUIPMENT SHALL BE PAID FOR SEPARATELY AS PART OF THE REMOTE-CONTROLLED VIDEO SYSTEM.
- ② THE CONTRACTOR SHALL REMOVE THE EXISTING MAST ARM MOUNTED STREET NAME SIGNS AND DELIVER TO THE CITY OF WAUKEGAN PUBLIC WORKS DEPARTMENT. REMOVING THE EXISTING MAST ARM MOUNTED STREET NAME SIGNS SHALL BE INCIDENTAL TO INSTALLATION OF THE "INTERNALLY ILLUMINATED STREET NAME SIGN."
- ③ THE CONTRACTOR SHALL FURNISH AND INSTALL A NEW CONTROLLER THAT IS "ECONOLITE NTCIP" COMPLIANT AND FIBER OPTIC TRANSCIVER, CURRENTLY IN USE BY LAKE COUNTY DIVISION OF TRANSPORTATION. THE CONTRACTOR SHALL DELIVER THE EXISTING CONTROLLER TO THE CITY OF WAUKEGAN PUBLIC WORKS DEPARTMENT.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

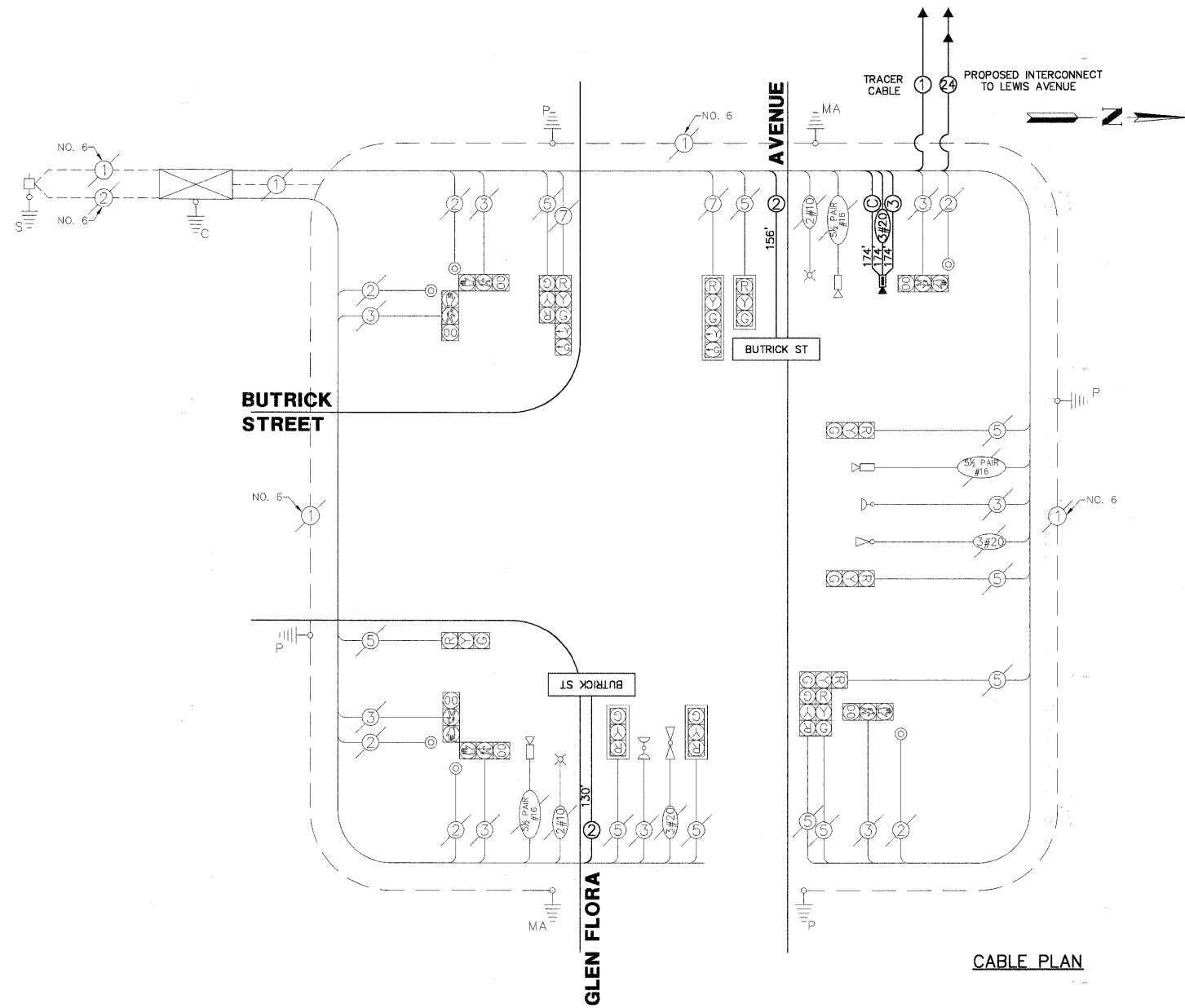
GHA #4135.800

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)		TRAFFIC SIGNAL MODERNIZATION PLAN			F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1" = .08'	DRAWN - ZCW	REVISED - 9/25/09 (IDOT)		GLEN FLORA AVENUE AT BUTRICK STREET			2730	08-00259-00-TL	LAKE	86	34
	PLOT DATE = 10/19/2009	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)		SCALE: 1"=20' SHEET NO. 34 OF 86 SHEETS STA. TO STA.			CONTRACT #: 63344				
		DATE - 10/19/09	REVISED -		ILLINOIS FED. AID PROJECT							

SCHEDULE OF QUANTITIES

GLEN FLORA AVENUE AT BUTRICK STREET TRAFFIC SIGNAL MODERNIZATION

NO.	QUANT.	UNIT
1.	1	EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION (SPECIAL)
2.	1	EACH FULL-ACTUATED CONTROLLER IN EXISTING CABINET (SPECIAL)
3.	1	EACH TRANSCEIVER - FIBER OPTIC
4.	286	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
5.	174	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
6.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
7.	174	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
8.	174	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
9.	2	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
10.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
11.	1	EACH QUAD ENCODER
12.	1	EACH VIDEO ENCODER
13.	1	EACH LAYER II (DATA LINK) SWITCH

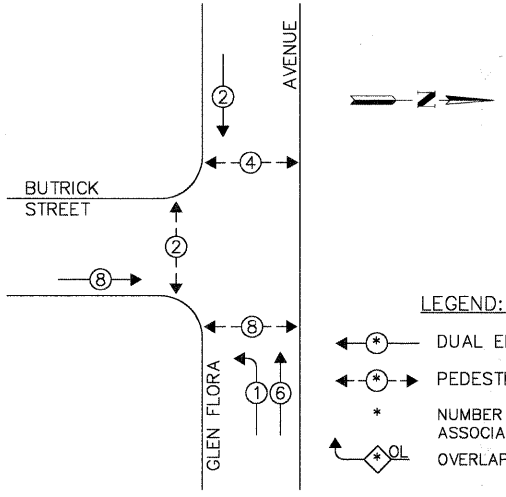


CABLE PLAN

CABLE PLAN LEGEND

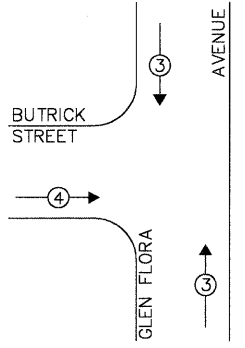
EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	12" TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE INSTALLATION
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	BELDEN 1694A RG-6/4 COAXIAL CABLE
[Symbol]	[Symbol]	ISDN LINE
[Symbol]	[Symbol]	LUMINAIRE
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET
[Symbol]	[Symbol]	L.E.D. STREET NAME SIGN
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY

EXISTING CONTROLLER SEQUENCE



EXISTING PHASE DESIGNATION DIAGRAM

EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE



EXISTING EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		—

LEGEND:

- [Symbol] DUAL ENTRY PHASE
- [Symbol] PEDESTRIAN PHASE
- [Symbol] NUMBER REFERS TO ASSOCIATED PHASE
- [Symbol] OVERLAP

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	L.E.D.		
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	4	135	9	0.10	3.6
PED.SIGNAL	6	90	9	1.00	54.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	2	-	250	0.50	250.0
L.E.D. ST. NAME SIGN	-	-	64	0.50	150.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	-	-	25	1.00	-
TOTAL =					693.2

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

FOUNDATION (DEPTH)	(FT.)	CABLE SLACK	(FT.)	VERTICAL	(FT.)
TYPE A - POST	4	HANDHOLE	6.5	ALL FOUNDATIONS	3.5
TYPE D - CONTROLLER	4	DOUBLE HANDHOLE	13	MAST ARM (L) POLE	20'+1-2'
TYPE E - M.ARM POLE	15	SIGNAL POST	2	BRACKET MOUNTED	13
		CONTROLLER CAB.	1	PED. PUSHBUTTON	4
		FIBER OPTIC	13	ELECTRIC SERVICE	13.5
		ELECTRIC SERVICE	1	SERVICE TO GROUND	13.5
		GROUND CABLE	1	POST MOUNTED	6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (886) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (DDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
GLEN FLORA AVENUE AT BUTRICK STREET
 SCALE: NONE SHEET NO. 35 OF 86 SHEETS STA. TO STA.

GHA #4135.800

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	35
				CONTRACT #: 63344

ILLINOIS FED. AID PROJECT

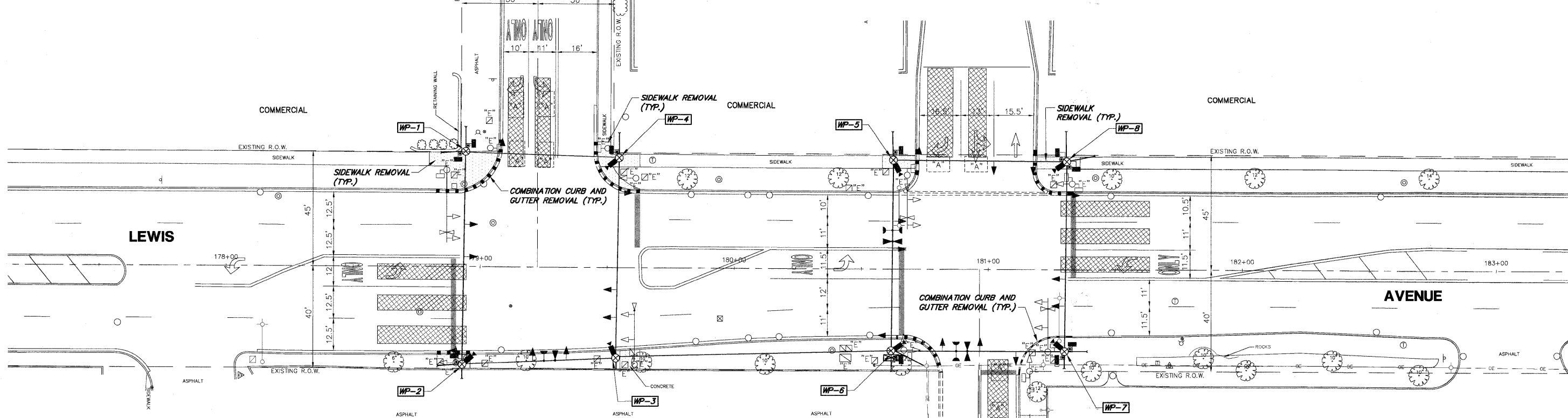
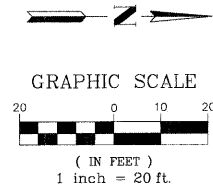
TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊞ TEMPORARY SERVICE INSTALLATION
- ⊞ TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ▶ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- HANDHOLE
- ⊞ HEAVY DUTY HANDHOLE
- ✕ LUMINAIRE
- ▶ VIDEO DETECTION CAMERA
- ▶ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊞ APPROXIMATE DETECTION ZONE

HARDING AVENUE

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTCIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- AGENCY: CITY OF WAUKEGAN
- 1 EACH CABINET AND CONTROLLER (COMPLETE)
 - 4 EACH LIGHT DETECTOR
 - 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 17 EACH SIGNAL HEAD, 3-SECTION
- 9 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON
- 4 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 7 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	178+94.1	45.2' LT	
WP-2	178+93.0	38.4' RT	R.O.W.
WP-3	179+53.5	35.6' RT	
WP-4	179+54.6	43.2' LT	
WP-5	180+62.5	42.8' LT	
WP-6	180+61.8	32.2' RT	OVERHEAD CABLES
WP-7	181+30.1	32.3' RT	OVERHEAD CABLES
WP-8	181+30.7	42.4' LT	

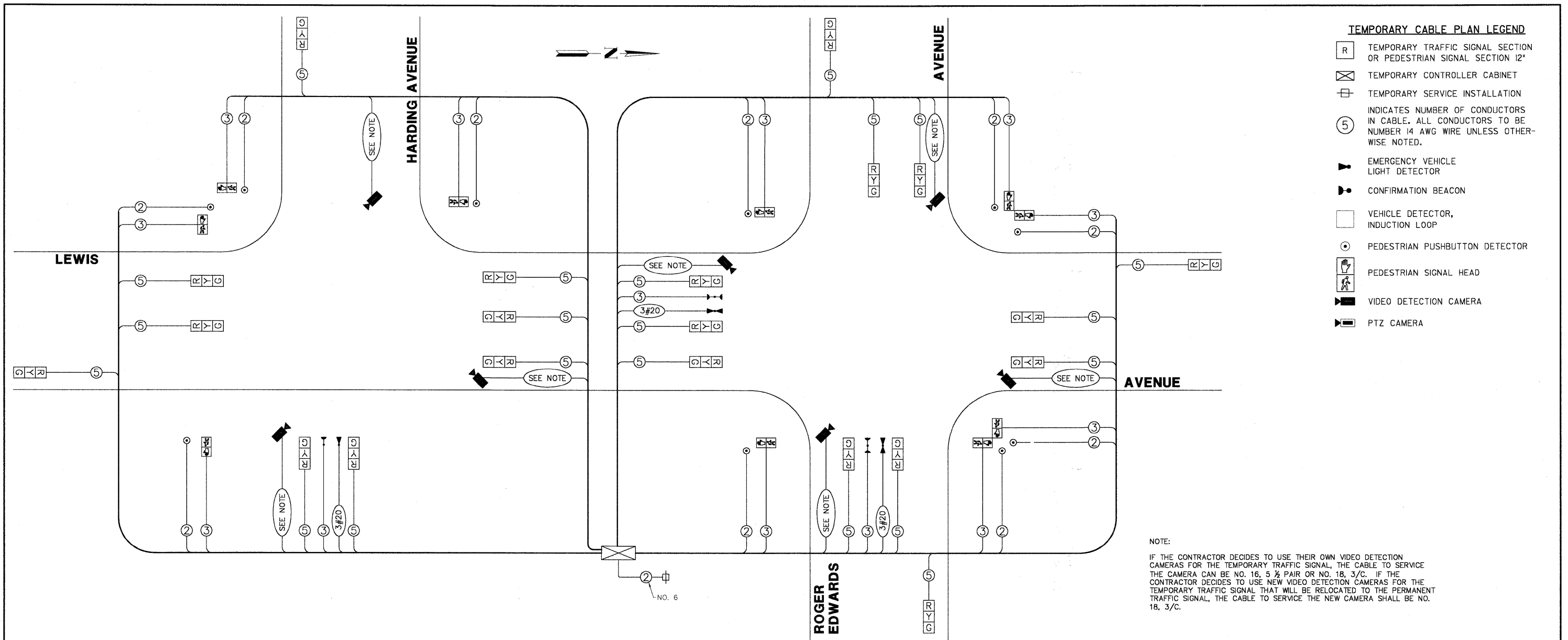
NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

ROGER EDWARDS AVENUE

GHA #4135.800

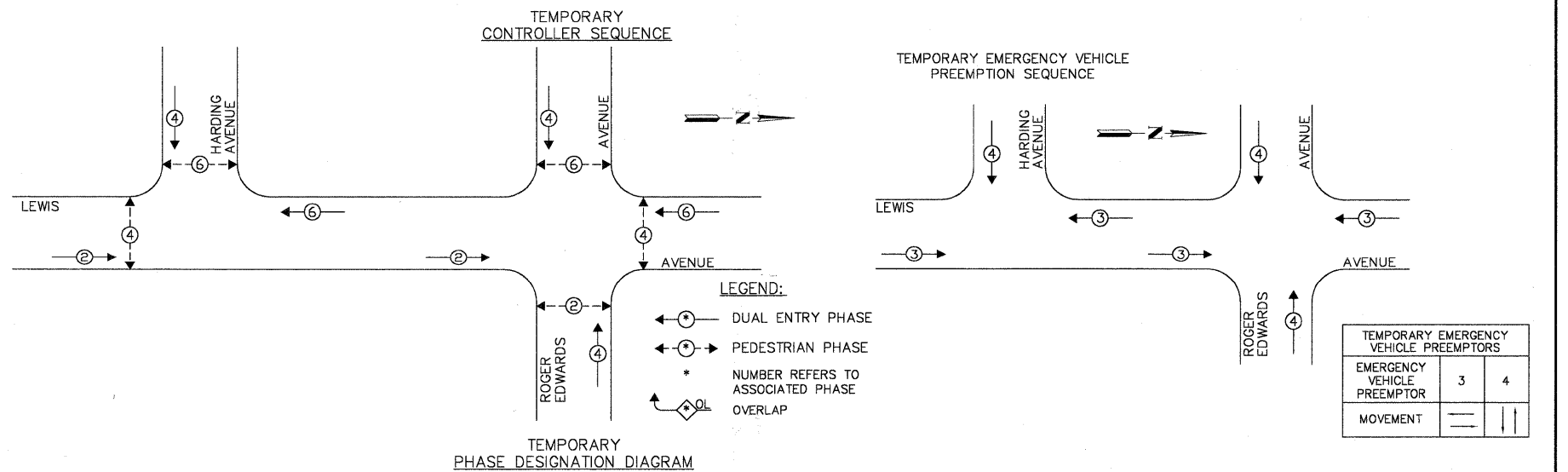
FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)		TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - ZCW	REVISED - 9/25/09 (DOT)		LEWIS AVENUE AT HARDING AVENUE/ROGER EDWARDS AVENUE	2730	08-00259-00-TL	LAKE	86	36
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)		SCALE: 1"=20'	SHEET NO. 36 OF 86 SHEETS	STA.	TO STA.	CONTRACT #: 63344	
							ILLINOIS		FED. AID PROJECT	



TEMPORARY CABLE PLAN

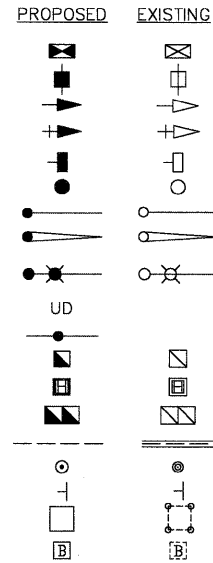
L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE	INCAND.	L.E.D.	% OPERATION
SIGNAL (RED)	21	135	10	0.50	105.0
SIGNAL (YELLOW)	21	135	19	0.10	39.3
SIGNAL (GREEN)	21	135	11	0.40	92.4
ARROW	-	135	9	0.10	-
PED. SIGNAL	10	90	9	1.00	90.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					577.3

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. MILK JR. AVENUE
 WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED



TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY



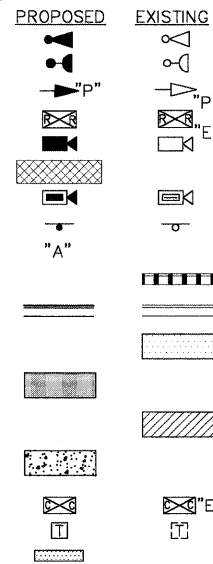
HARDING AVENUE

MATCH LINE - STA. 177+50

MATCH LINE - STA. 183+00

TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

- 1 EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.
- 2 CONTRACTOR SHALL COORDINATE WITH CITY OF WAUKEGAN FOR CITY REMOVAL OF EXISTING CITY ROADWAY LIGHTING.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	178+78.3	34.9' LT	
H-2	178+98.1	35.9' RT	
H-3	179+73.9	33.7' RT	
H-4	180+49.7	31.1' RT	
H-5	181+34.5	27.9' RT	
H-6	181+37.9	33.6' LT	
H-7	180+59.8	34.7' LT	
H-8	179+72.4	35.2' LT	
P-1	179+67.4	36.4' LT	
MA-1	178+84.4	38.1' LT	
MA-2	178+85.5	38.4' RT	
MA-3	179+70.2	37.5' RT	
MA-4	180+68.7	33.4' RT	OVERHEAD CABLES
MA-5	181+32.1	33.6' RT	OVERHEAD CABLES
MA-6	181+31.9	37.9' LT	
MA-7	180+64.4	38.4' LT	

ROGER EDWARDS AVENUE



R10-4b
5 REQUIRED
(INCIDENTAL TO PEDESTRIAN PUSH-BUTTON)



R10-4b
5 REQUIRED
(INCIDENTAL TO PEDESTRIAN PUSH-BUTTON)

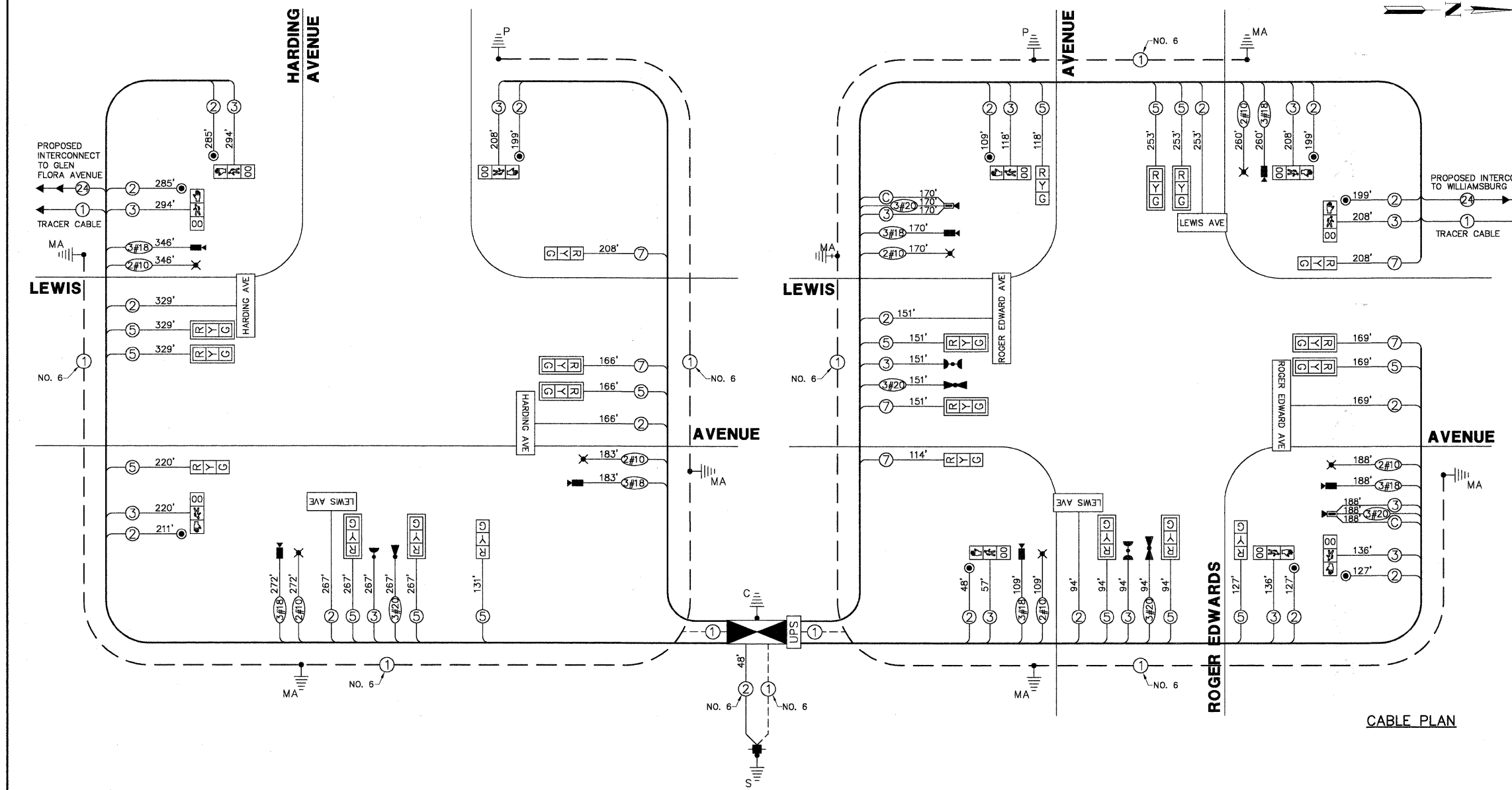
Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCP" COMPLIANT.

CABLE PLAN LEGEND

- | | | | |
|--|-----------------|--|---|
| | EXISTING | | PROPOSED |
| | | | 12" TRAFFIC SIGNAL SECTION |
| | | | 12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |
| | | | CONTROLLER CABINET |
| | | | SERVICE INSTALLATION |
| | | | TELEPHONE INSTALLATION |
| | | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | | CONFIRMATION BEACON |
| | | | PUSHBUTTON DETECTOR |
| | | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | | GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN) |
| | | | FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE |
| | | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | | RAILROAD CONTROL CABINET |
| | | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C) |
| | | | GROUND ROD AT POST (P) OR MAST ARM POLE (MA) |
| | | | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | | BELDEN 1694A RG-6/4 COAXIAL CABLE |
| | | | ISDN LINE |
| | | | LUMINAIRE |
| | | | VIDEO DETECTION CAMERA |
| | | | PTZ CAMERA |
| | | | VIDEO COMMUNICATIONS CABINET |
| | | | L.E.D. STREET NAME SIGN |
| | | | UNINTERRUPTIBLE POWER SUPPLY |



CABLE PLAN

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	21	135	10	0.50	105.0
SIGNAL (YELLOW)	21	135	19	0.10	39.9
SIGNAL (GREEN)	21	135	11	0.40	92.4
ARROW	-	135	9	-	-
RED SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	7	-	250	0.50	875.0
L.E.D. ST. NAME SIGN	7	-	64	0.50	224.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	250.0
TOTAL =					1,908.3

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

FOUNDATION (DEPTH)	(FT.)	CABLE SLACK	(FT.)	VERTICAL	(FT.)
TYPE A - POST	4	HANDHOLE	6.5	ALL FOUNDATIONS	3.5
TYPE D - CONTROLLER	4	DOUBLE HANDHOLE	15	MAST ARM (L) POLE	20'+1-2'
TYPE E - M.ARM POLE	15	SIGNAL POST	2	BRACKET MOUNTED	15
		CONTROLLER CAB.	1	PED. PUSHBUTTON	4
		FIBER OPTIC	13	ELECTRIC SERVICE	13.5
		ELECTRIC SERVICE	1	SERVICE TO GROUND	13.5
		GROUND CABLE	1	POST MOUNTED	6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (886) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES (SHEET 1 OF 2)
LEWIS AVENUE AT HARDING AVENUE/ROGER EDWARDS AVENUE
 SCALE: NONE SHEET NO. 39 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 39
				CONTRACT #: 63344

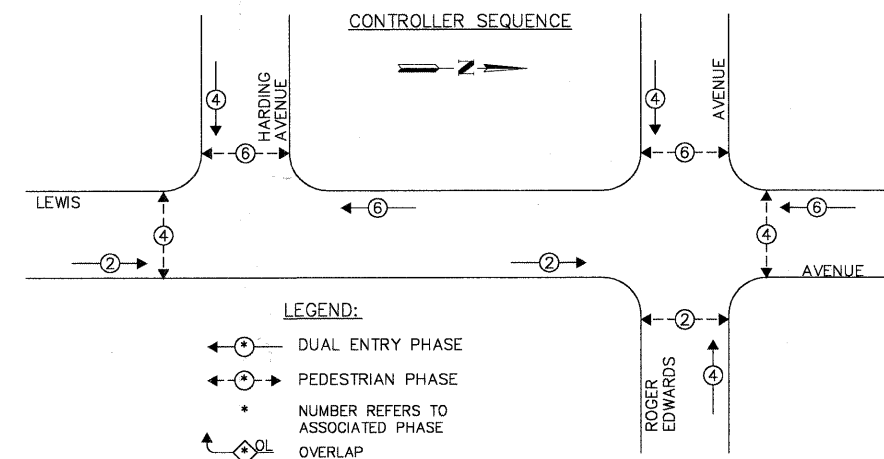
GHA #4135.800

ILLINOIS FED. AID PROJECT

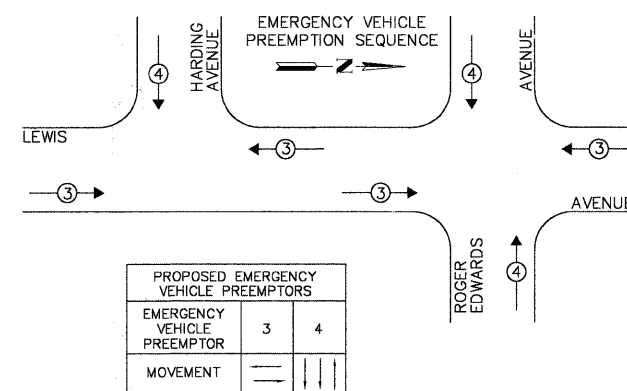
SCHEDULE OF QUANTITIES

LEWIS AVENUE AT HARDING AVENUE/ROGER EDWARDS AVENUE TRAFFIC SIGNAL MODERNIZATION

NO.	QUANT.	UNIT
1.	15	CU.YD. EARTH EXCAVATION
2.	45	SQ.YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	1,300	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	108	SQ.FT. DETECTABLE WARNINGS
5.	210	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	785	SQ.FT. SIDEWALK REMOVAL
7.	3	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	210	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	450	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
10.	100	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
11.	200	SQ.FT. PAVEMENT MARKING REMOVAL
12.	26	FOOT CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
13.	7	FOOT CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL
14.	61	FOOT CONDUIT IN TRENCH, 3-1/2" DIA., GALVANIZED STEEL
15.	146	FOOT CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
16.	85	FOOT CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL
17.	304	FOOT CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
18.	66	FOOT CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL
19.	5	EACH HANDHOLE
20.	3	EACH DOUBLE HANDHOLE
21.	1,528	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHW) 2-1/C NO. 10
22.	242	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
23.	7	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
24.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
25.	1	EACH TRANSCEIVER - FIBER OPTIC
26.	3,327	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
27.	2,697	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
28.	4,120	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
29.	48	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
30.	2	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 26 FT (SPECIAL)
31.	2	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 28 FT (SPECIAL)
32.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 30 FT (SPECIAL)
33.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 38 FT (SPECIAL)
34.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 40 FT (SPECIAL)
35.	4	FOOT CONCRETE FOUNDATION, TYPE A
36.	4	FOOT CONCRETE FOUNDATION, TYPE C
37.	105	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
38.	14	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
39.	7	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED
40.	4	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
41.	3	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED
42.	14	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
43.	2	EACH LIGHT DETECTOR
44.	1	EACH LIGHT DETECTOR AMPLIFIER
45.	10	EACH PEDESTRIAN PUSH-BUTTON
46.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
47.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
48.	12	EACH REMOVE EXISTING HANDHOLE
49.	12	EACH REMOVE EXISTING CONCRETE FOUNDATION
50.	1	EACH SERVICE INSTALLATION, POLE MOUNT
51.	739	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
52.	700	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
53.	188	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
54.	1,528	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
55.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
56.	7	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
57.	1	EACH TRAFFIC SIGNAL POST, 14 FT (SPECIAL)
58.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
59.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
60.	1	EACH VIDEO ENCODER



PHASE DESIGNATION DIAGRAM



FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES (SHEET 2 OF 2)
LEWIS AVENUE AT HARDING AVENUE/ROGER EDWARDS AVENUE
 SCALE: NONE SHEET NO. 40 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 40
CONTRACT # 63344				ILLINOIS FED. AID PROJECT

GHA #4135.800

TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD
SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD
SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5
OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE,
AND CABLE
- ⊞ TEMPORARY SERVICE INSTALLATION
- ⊞ TEMPORARY PEDESTRIAN SIGNAL
HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ▶ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- ⊞ HANDHOLE
- ⊞ HEAVY DUTY HANDHOLE
- ⊞ LUMINAIRE
- ⊞ VIDEO DETECTION CAMERA
- ⊞ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊞ APPROXIMATE DETECTION ZONE

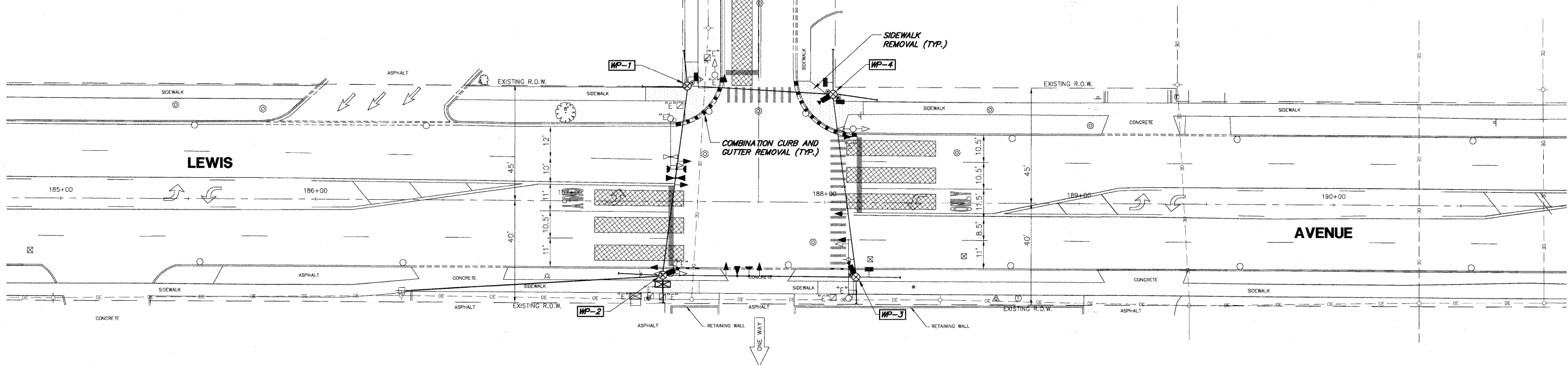
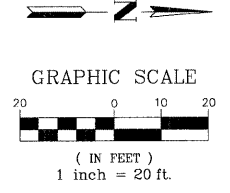
EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ⊞ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ⊙ EXISTING SIGNAL POST AND FOUNDATION
TO BE REMOVED
- ◀ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION
TO BE REMOVED
- ⊞ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" ⊞ EXISTING HANDHOLE TO BE REMOVED
- ⊞ EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▶ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ▶ EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ⊞ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ◀ EXISTING STEEL MAST ARM POLE AND FOUNDATION
TO BE REMOVED

WILLIAMSBURG DRIVE

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTICP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- AGENCY: CITY OF WAUKEGAN
- 1 EACH CABINET AND CONTROLLER (COMPLETE)
 - 2 EACH LIGHT DETECTOR
 - 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 9 EACH SIGNAL HEAD, 3-SECTION
- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 2 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 3 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	187+45.8	45.2' LT	OVERHEAD CABLES
WP-2	187+36.6	29.0' RT	OVERHEAD CABLES
WP-3	188+12.4	29.3' RT	
WP-4	188+3.3	42.3' LT	

NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA

DESIGNED - JRD
DRAWN - ZCW

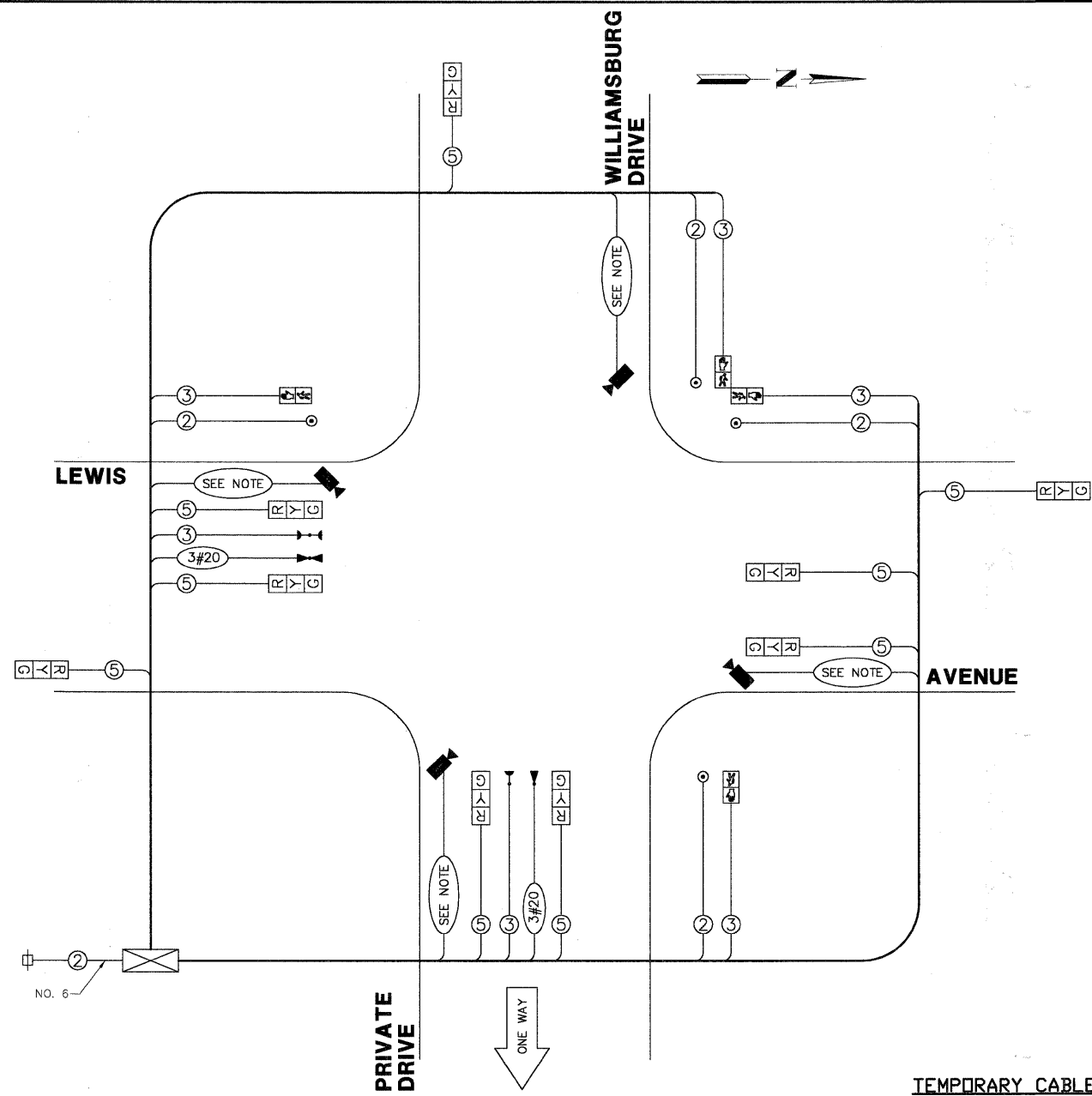
REVISED - 9/15/09 (LCDOT)
REVISED - 9/25/09 (IDOT)
REVISED - 10/19/09 (LCDOT)



**TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT
LEWIS AVENUE AT WILLIAMSBURG DRIVE**

SCALE: 1"=20' SHEET NO. 41 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 41
CONTRACT # 63344			GHA #4135.800	
ILLINOIS FED. AID PROJECT				

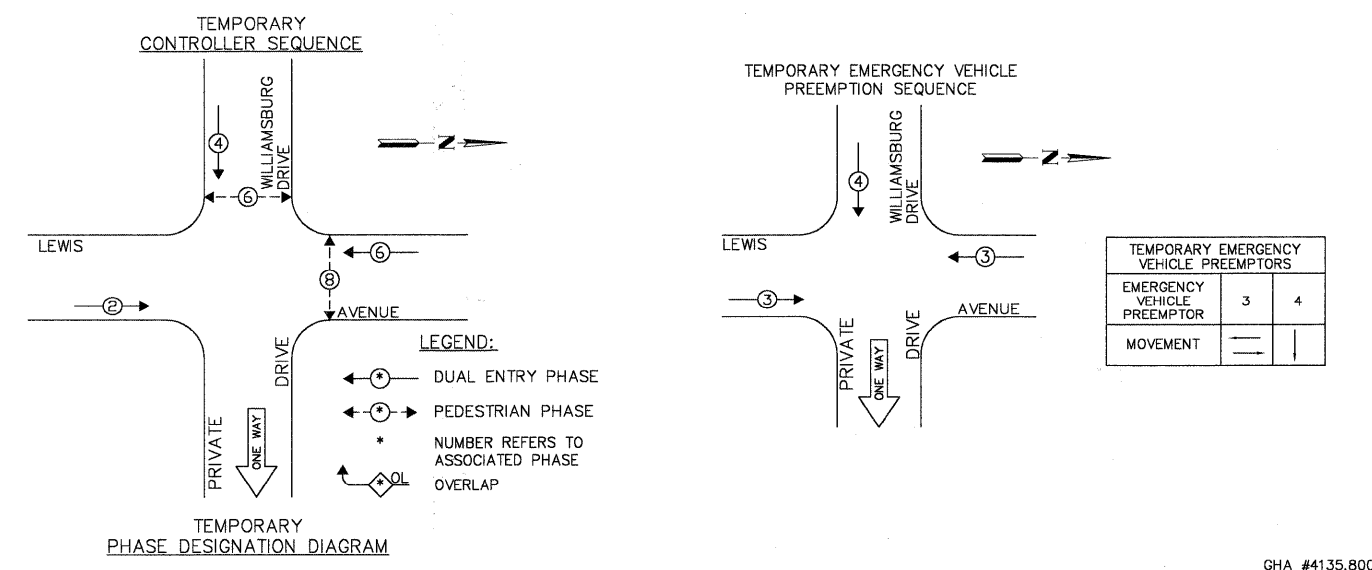


TEMPORARY CABLE PLAN LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- ⑤ INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA

NOTE:
 IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 16, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN

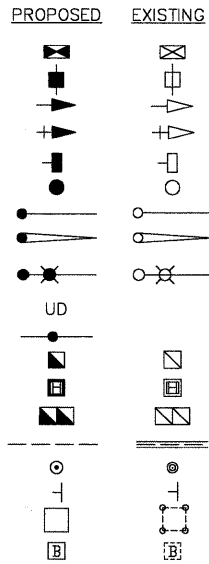


L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	9	135	10	0.50	45.0
SIGNAL (YELLOW)	9	135	19	0.10	17.1
SIGNAL (GREEN)	9	135	11	0.40	39.6
ARROW	-	135	9	0.10	-
FED. SIGNAL	4	90	9	1.00	36.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					387.7

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

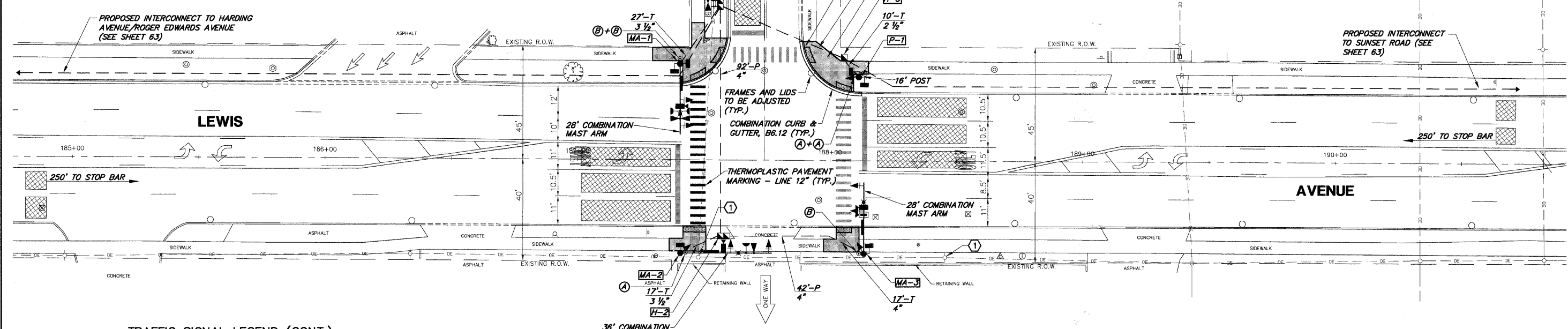
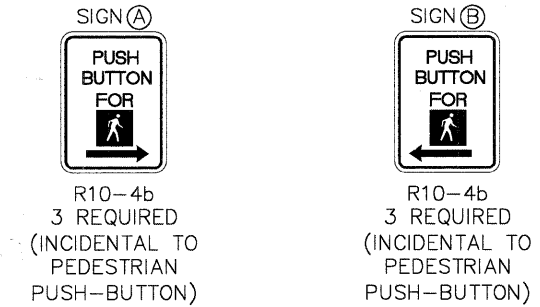
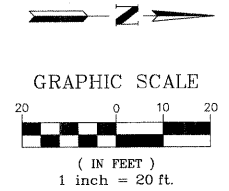
TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY



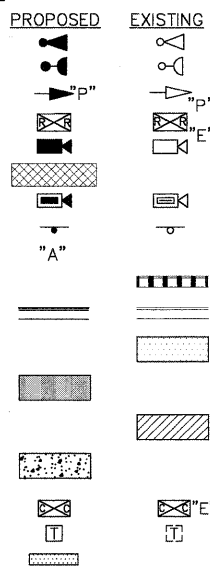
WILLIAMSBURG DRIVE

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.



TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

- ① EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	187+56.3	62.1' LT	
H-2	187+56.7	30.0' RT	
H-3	188+05.4	41.0' LT	
P-1	188+11.2	33.2' LT	
MA-1	187+40.5	38.2' LT	
MA-2	187+40.8	36.7' RT	OVERHEAD CABLES
MA-3	188+13.5	36.7' RT	OVERHEAD CABLES

NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

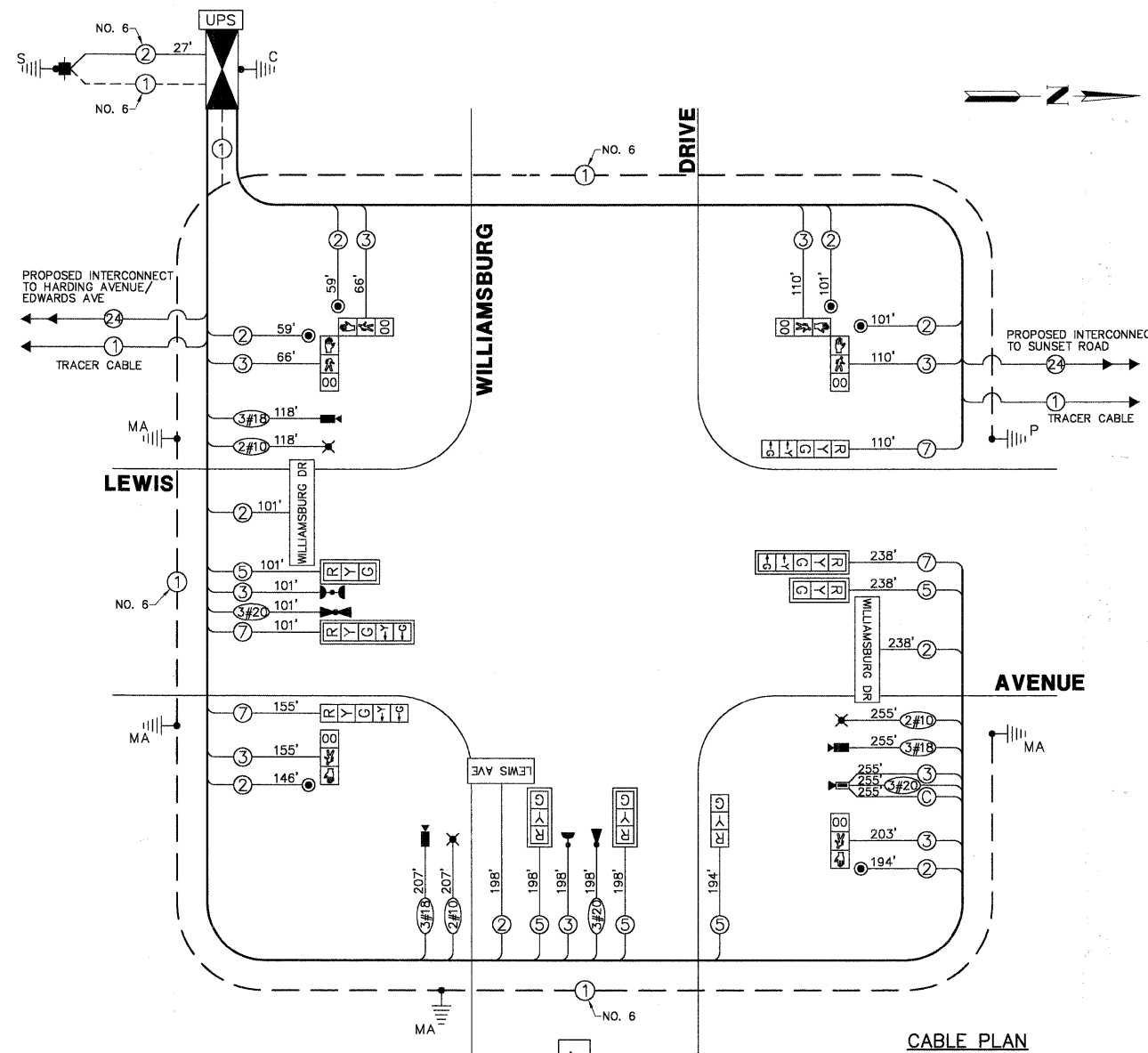
SCHEDULE OF QUANTITIES

LEWIS AVENUE AT WILLIAMSBURG DRIVE TRAFFIC SIGNAL MODERNIZATION

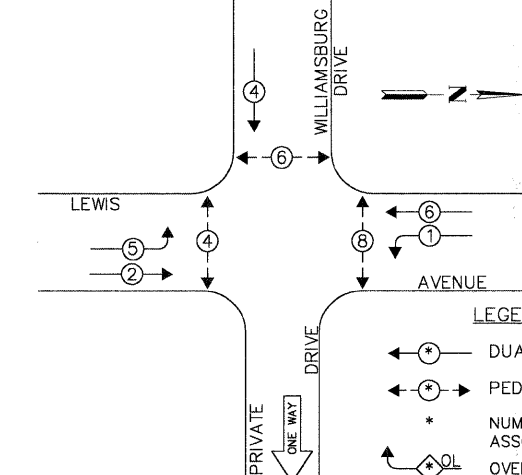
NO.	QUANT.	UNIT
1.	5	CU.YD. EARTH EXCAVATION
2.	15	SQ.YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	800	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	72	SQ.FT. DETECTABLE WARNINGS
5.	100	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	675	SQ.FT. SIDEWALK REMOVAL
7.	2	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	100	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	115	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
10.	5	FOOT CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
11.	10	FOOT CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL
12.	44	FOOT CONDUIT IN TRENCH, 3-1/2" DIA., GALVANIZED STEEL
13.	27	FOOT CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
14.	188	FOOT CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
15.	1	EACH HANDHOLE
16.	2	EACH DOUBLE HANDHOLE
17.	580	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHW) 2-1/C NO. 10
18.	3	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
19.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
20.	1	EACH TRANSCEIVER - FIBER OPTIC
21.	1,197	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
22.	1,264	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
23.	929	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
24.	604	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
25.	27	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
26.	2	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 28 FT (SPECIAL)
27.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 36 FT (SPECIAL)
28.	4	FOOT CONCRETE FOUNDATION, TYPE A
29.	4	FOOT CONCRETE FOUNDATION, TYPE C
30.	45	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
31.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
32.	1	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED
33.	2	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED
34.	2	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
35.	2	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
36.	2	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED
37.	6	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
38.	2	EACH LIGHT DETECTOR
39.	1	EACH LIGHT DETECTOR AMPLIFIER
40.	6	EACH PEDESTRIAN PUSH-BUTTON
41.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
42.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
43.	5	EACH REMOVE EXISTING HANDHOLE
44.	6	EACH REMOVE EXISTING CONCRETE FOUNDATION
45.	1	EACH SERVICE INSTALLATION, POLE MOUNT
46.	317	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
47.	554	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
48.	255	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
49.	580	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
50.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
51.	3	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
52.	1	EACH TRAFFIC SIGNAL POST, 16 FT (SPECIAL)
53.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
54.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
55.	1	EACH VIDEO ENCODER

CABLE PLAN LEGEND

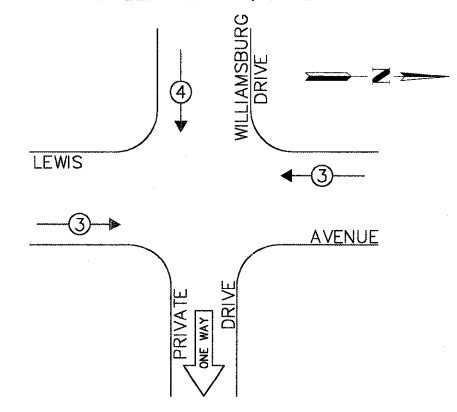
EXISTING	PROPOSED	DESCRIPTION
		12" TRAFFIC SIGNAL SECTION 12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
		CONTROLLER CABINET SERVICE INSTALLATION
		TELEPHONE INSTALLATION VEHICLE DETECTOR, INDUCTION LOOP
		EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON
		PUSHBUTTON DETECTOR DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN) FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN" ILLUMINATED SIGN "NO RIGHT TURN"
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C) GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION BELDEN 1694A RG-6/4 COAXIAL CABLE
		ISDN LINE LUMINAIRE
		VIDEO DETECTION CAMERA PTZ CAMERA
		VIDEO COMMUNICATIONS CABINET L.E.D. STREET NAME SIGN
		UNINTERRUPTIBLE POWER SUPPLY



CONTROLLER SEQUENCE



EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←	↓

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)
TYPE A - POST 4	HANDHOLE 6.5	ALL FOUNDATIONS 3.5
TYPE D - CONTROLLER 4	DOUBLE HANDHOLE 13	MAST ARM (1) POLE 20'+1-2-
TYPE E - M.ARM POLE 15	SIGNAL POST 2	BRACKET MOUNTED 13
	CONTROLLER CAB. 1	PED. PUSHBUTTON 4
	FIBER OPTIC 13	ELECTRIC SERVICE 13.5
	ELECTRIC SERVICE 1	SERVICE TO GROUND 13.5
	GROUND CABLE 1	POST MOUNTED 6

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND. L.E.D.	% OPERATION		
SIGNAL (RED)	9	135	10	0.50	45.0
SIGNAL (YELLOW)	9	135	19	0.10	17.1
SIGNAL (GREEN)	9	135	11	0.40	39.6
ARROW	8	135	9	0.10	7.2
FRD.SIGNAL	6	90	9	1.00	54.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	3	-	250	0.50	375.0
L.E.D. ST. NAME SIGN	3	-	64	0.50	96.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					908.9

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN (ADDRESS) 100 N. M.L.K. JR. AVENUE (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS PHONE: (886) 639-3552 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
 LEWIS AVENUE AT WILLIAMSBURG DRIVE
 SCALE: NONE SHEET NO. 44 OF 86 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	44
				CONTRACT #: 63344

GHA #4135.800
 ILLINOIS FED. AID PROJECT

TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ☒ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- HANDHOLE
- ⊕ HEAVY DUTY HANDHOLE
- ✕ LUMINAIRE
- VIDEO DETECTION CAMERA
- ⊕ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊗ APPROXIMATE DETECTION ZONE

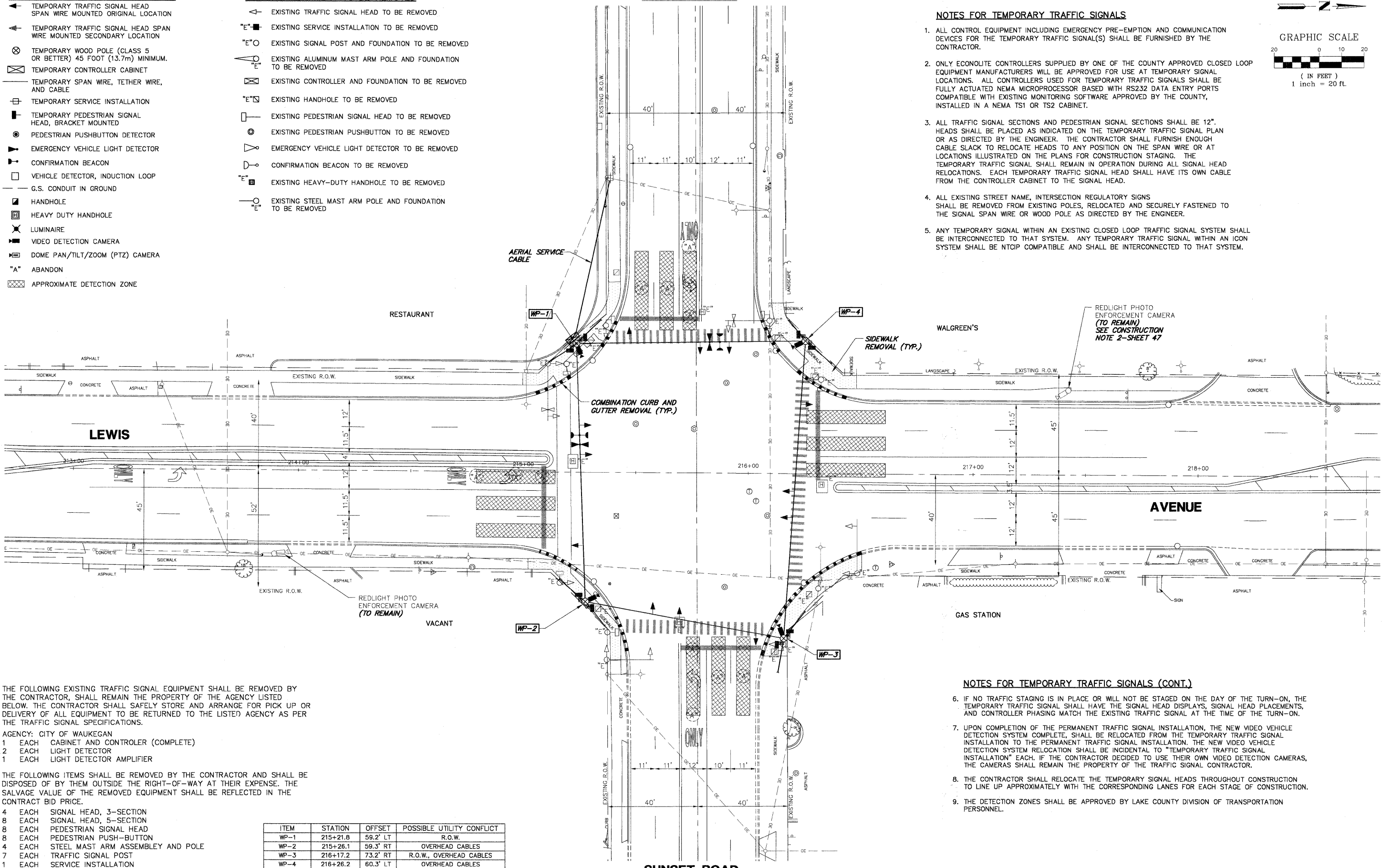
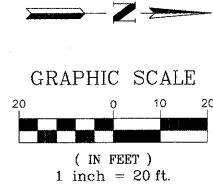
EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ◀ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ☒ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" □ EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▶ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ■ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ◀ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

SUNSET ROAD

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTCIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- AGENCY: CITY OF WAUKEGAN
- 1 EACH CABINET AND CONTROLLER (COMPLETE)
 - 2 EACH LIGHT DETECTOR
 - 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH SIGNAL HEAD, 3-SECTION
- 8 EACH SIGNAL HEAD, 5-SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON
- 4 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 7 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	215+21.8	59.2' LT	R.O.W.
WP-2	215+26.1	59.3' RT	OVERHEAD CABLES
WP-3	216+17.2	73.2' RT	R.O.W., OVERHEAD CABLES
WP-4	216+26.2	60.3' LT	OVERHEAD CABLES

NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

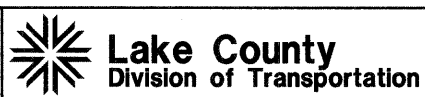
6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -

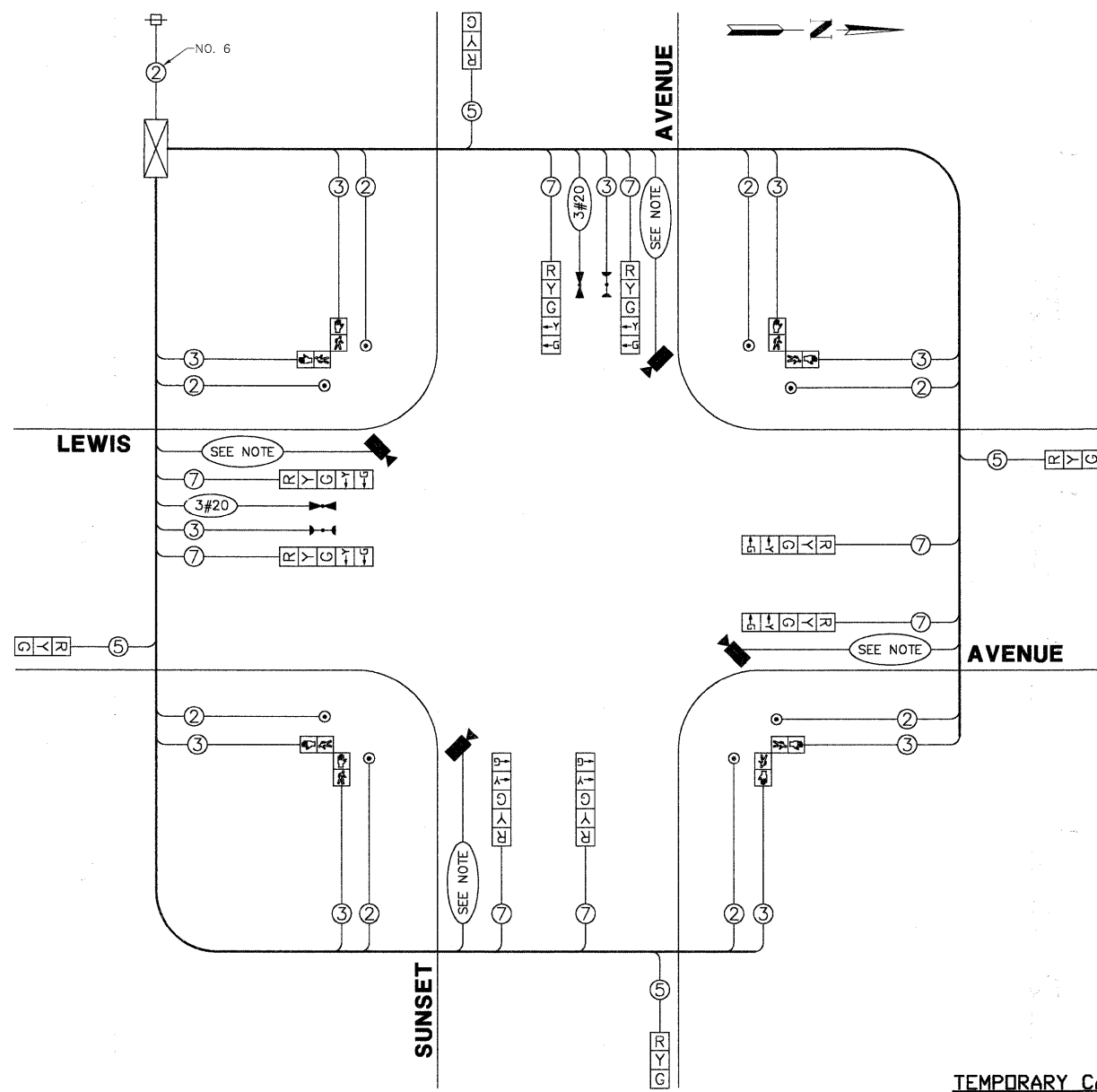


TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT
 LEWIS AVENUE AT SUNSET AVENUE
 SCALE: 1"=20' SHEET NO. 45 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 45
CONTRACT # 63344			GHA #4135.800	

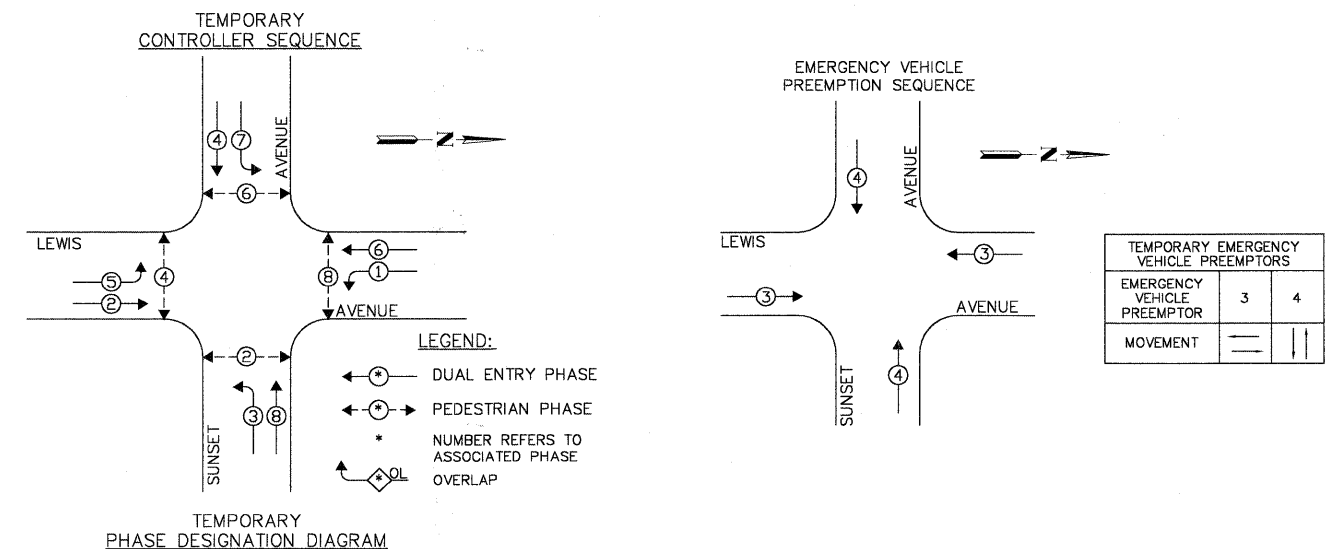
TEMPORARY CABLE PLAN LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- ⑤ INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA



NOTE:
 IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 16, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN

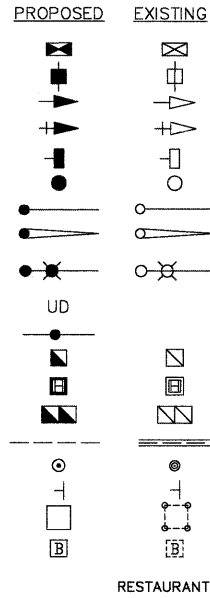


L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE	% OPERATION		
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	16	135	9	0.10	14.4
PED. SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					472.0

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. W.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

TRAFFIC SIGNAL LEGEND

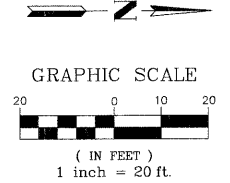
- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNITERRUPTIBLE POWER SUPPLY



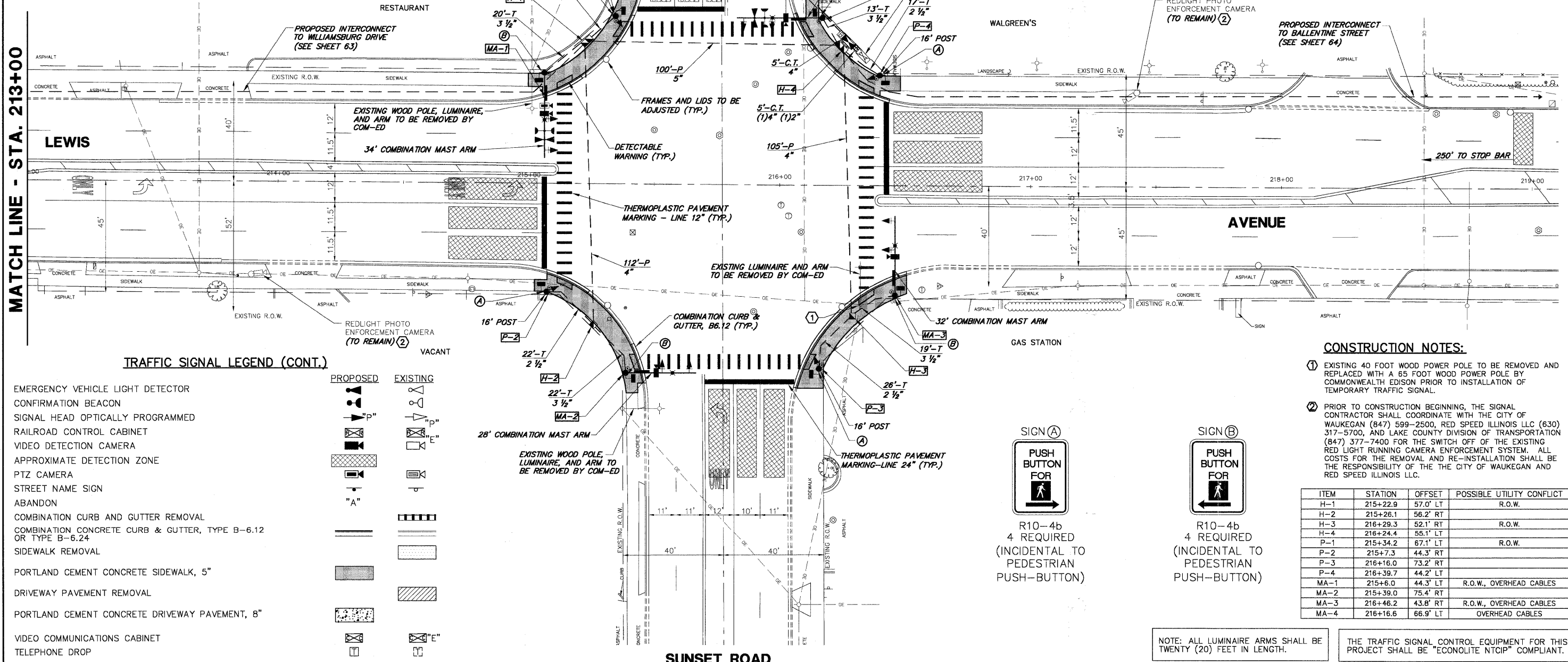
SUNSET ROAD

MATCH LINE - STA. 213+00

MATCH LINE - STA. 213+00

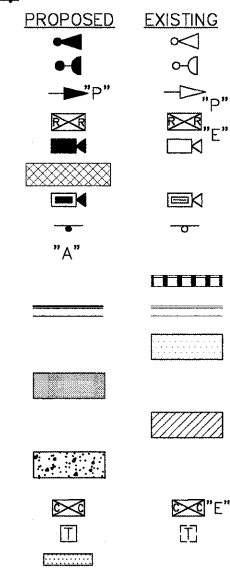


Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.



TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

- ① EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.
- ② PRIOR TO CONSTRUCTION BEGINNING, THE SIGNAL CONTRACTOR SHALL COORDINATE WITH THE CITY OF WAUKEGAN (847) 599-2500, RED SPEED ILLINOIS LLC (630) 317-5700, AND LAKE COUNTY DIVISION OF TRANSPORTATION (847) 377-7400 FOR THE SWITCH OFF OF THE EXISTING RED LIGHT RUNNING CAMERA ENFORCEMENT SYSTEM. ALL COSTS FOR THE REMOVAL AND RE-INSTALLATION SHALL BE THE RESPONSIBILITY OF THE THE CITY OF WAUKEGAN AND RED SPEED ILLINOIS LLC.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	215+22.9	57.0' LT	R.O.W.
H-2	215+26.1	56.2' RT	
H-3	216+29.3	52.1' RT	R.O.W.
H-4	216+24.4	55.1' LT	
P-1	215+34.2	67.1' LT	R.O.W.
P-2	215+7.3	44.3' RT	
P-3	216+16.0	73.2' RT	
P-4	216+39.7	44.2' LT	
MA-1	215+6.0	44.3' LT	R.O.W., OVERHEAD CABLES
MA-2	215+39.0	75.4' RT	
MA-3	216+46.2	43.8' RT	R.O.W., OVERHEAD CABLES
MA-4	216+16.6	66.9' LT	OVERHEAD CABLES



NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

FILE NAME = 4135.315-TR1.dwg

USER NAME = OHA
PLOT SCALE = 1" = .08'
PLOT DATE = 10/19/2009

DESIGNED - JRD
DRAWN - ZCW
CHECKED - DPB
DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
REVISED - 9/25/09 (IDOT)
REVISED - 10/19/09 (LCDOT)
REVISED -



TRAFFIC SIGNAL MODERNIZATION PLAN
LEWIS AVENUE AT SUNSET AVENUE
SCALE: 1"=20' SHEET NO. 47 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730 SECTION 08-00259-00-TL COUNTY LAKE TOTAL SHEETS 86 SHEET NO. 47 CONTRACT # 63344 ILLINOIS FED. AID PROJECT

GHA #4135.800

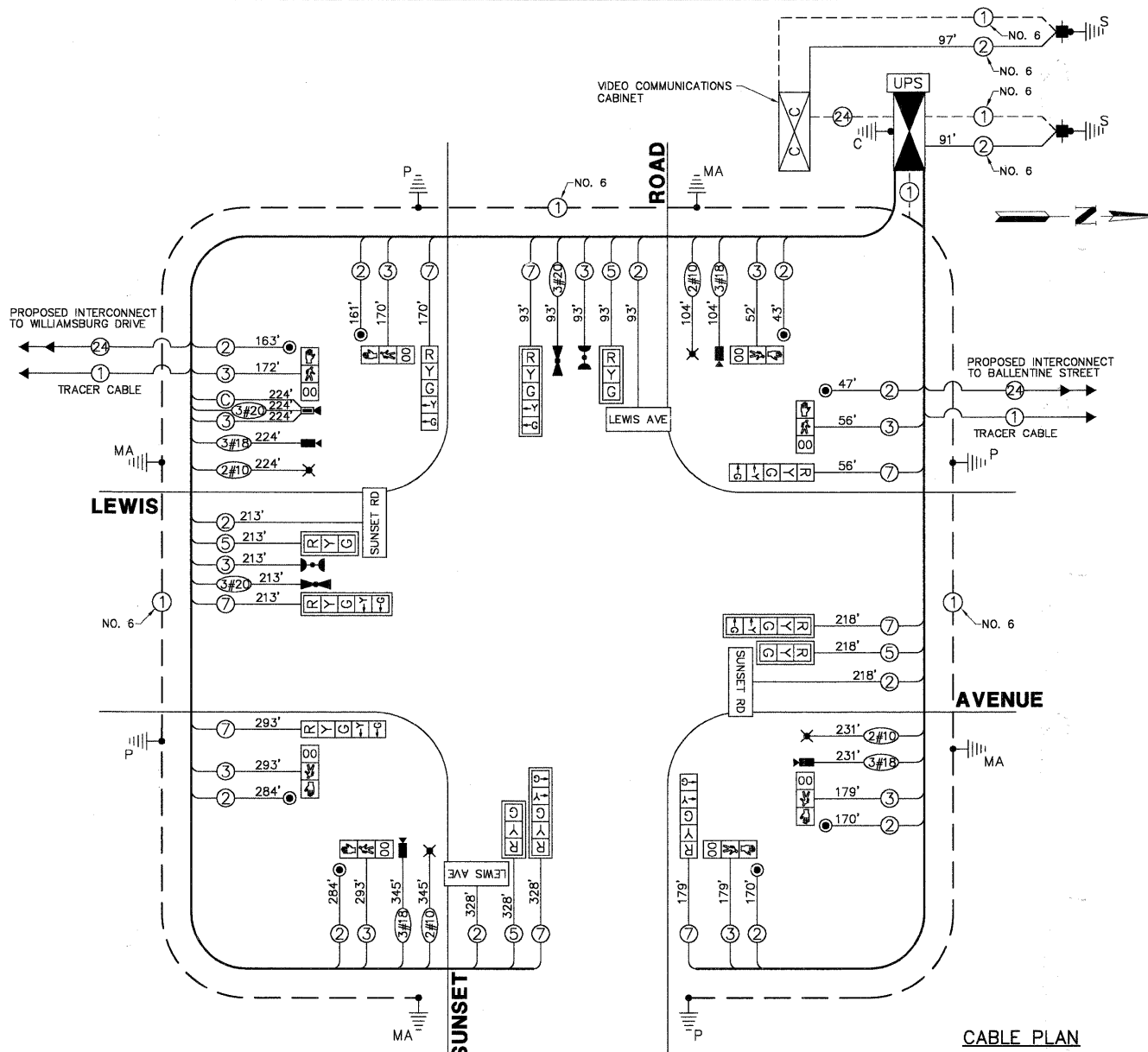
SCHEDULE OF QUANTITIES

LEWIS AVENUE AT SUNSET AVENUE TRAFFIC SIGNAL MODERNIZATION

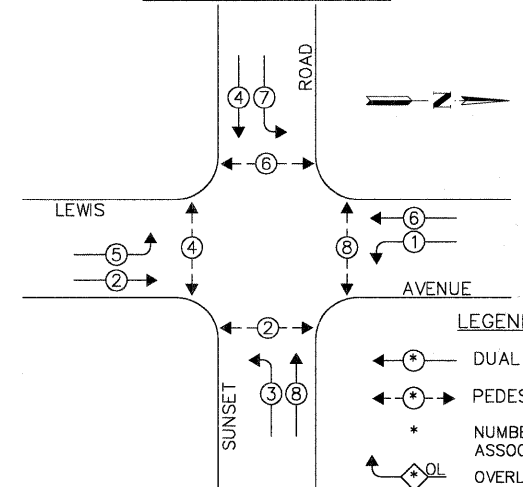
NO.	QUANT.	UNIT
1.	10	CU. YD. EARTH EXCAVATION
2.	30	SQ. YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	2,000	SQ. FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	96	SQ. FT. DETECTABLE WARNINGS
5.	185	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	1,755	SQ. FT. SIDEWALK REMOVAL
7.	2	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	185	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	565	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
10.	140	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
11.	820	SQ. FT. PAVEMENT MARKING REMOVAL
12.	149	FOOT CONDUIT IN TRENCH, 2" DIA, GALVANIZED STEEL
13.	58	FOOT CONDUIT IN TRENCH, 2-1/2" DIA, GALVANIZED STEEL
14.	76	FOOT CONDUIT IN TRENCH, 3-1/2" DIA, GALVANIZED STEEL
15.	15	FOOT CONDUIT IN TRENCH, 4" DIA, GALVANIZED STEEL
16.	224	FOOT CONDUIT PUSHED, 4" DIA, GALVANIZED STEEL
17.	100	FOOT CONDUIT PUSHED, 5" DIA, GALVANIZED STEEL
18.	2	EACH HANDHOLE
19.	2	EACH DOUBLE HANDHOLE
20.	904	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHW) 2-1/C NO. 10
21.	239	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
22.	4	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
23.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
24.	1	EACH TRANSCEIVER - FIBER OPTIC
25.	2,174	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
26.	1,924	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
27.	852	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
28.	1,550	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
29.	188	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
30.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 28 FT (SPECIAL)
31.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 32 FT (SPECIAL)
32.	2	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 34 FT (SPECIAL)
33.	16	FOOT CONCRETE FOUNDATION, TYPE A
34.	4	FOOT CONCRETE FOUNDATION, TYPE C
35.	4	FOOT CONCRETE FOUNDATION, TYPE D
36.	60	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
37.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
38.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED
39.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
40.	8	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
41.	8	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
42.	2	EACH LIGHT DETECTOR
43.	1	EACH LIGHT DETECTOR AMPLIFIER
44.	8	EACH PEDESTRIAN PUSH-BUTTON
45.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
46.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
47.	10	EACH REMOVE EXISTING HANDHOLE
48.	11	EACH REMOVE EXISTING CONCRETE FOUNDATION
49.	3	EACH MEDIA CONVERTER
50.	2	EACH SERVICE INSTALLATION, POLE MOUNT
51.	726	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
52.	530	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
53.	224	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
54.	904	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
55.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
56.	4	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
57.	4	EACH TRAFFIC SIGNAL POST, 16 FT (SPECIAL)
58.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
59.	1	EACH VIDEO COMMUNICATIONS SYSTEM AND CABINET
60.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
61.	1	EACH VIDEO ENCODER
62.	2	EACH LAYER III FIBER OPTIC TRANSCEIVER MODULE, SFP TYPE, LONG DISTANCE

CABLE PLAN LEGEND

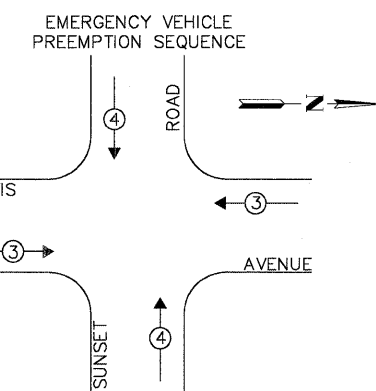
EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	12" TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE INSTALLATION
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	BELDEN 1694A RG-6/4 COAXIAL CABLE
[Symbol]	[Symbol]	ISDN LINE
[Symbol]	[Symbol]	LUMINAIRE
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET
[Symbol]	[Symbol]	L.E.D. STREET NAME SIGN
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY



CONTROLLER SEQUENCE



LEGEND:
 ←*→ DUAL ENTRY PHASE
 ←*→ PEDESTRIAN PHASE
 * NUMBER REFERS TO ASSOCIATED PHASE
 ←*OL OVERLAP



THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCP" COMPLIANT.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND. L.E.D.	% OPERATION		
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	16	135	9	0.10	14.4
PED. SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	4	-	250	0.50	500.0
L.E.D. ST. NAME SIGN	4	-	6.4	0.50	128.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					1,250.0

FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)
TYPE A - POST	4	HANDHOLE 6.5
TYPE D - CONTROLLER	4	DOUBLE HANDHOLE 13
TYPE E - M.ARM POLE	15	SIGNAL POST 2
		CONTROLLER CAB. 1
		FIBER OPTIC 13
		ELECTRIC SERVICE TO GROUND 13.5
		GROUND CABLE 1
		POST MOUNTED 6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (886) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



PHASE DESIGNATION DIAGRAM

CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
LEWIS AVENUE AT SUNSET ROAD
 SCALE: NONE SHEET NO. 48 OF 86 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	48
CONTRACT #:				63344
ILLINOIS FED. AID PROJECT				

GHA #4135.800

TEMPORARY TRAFFIC SIGNAL LEGEND

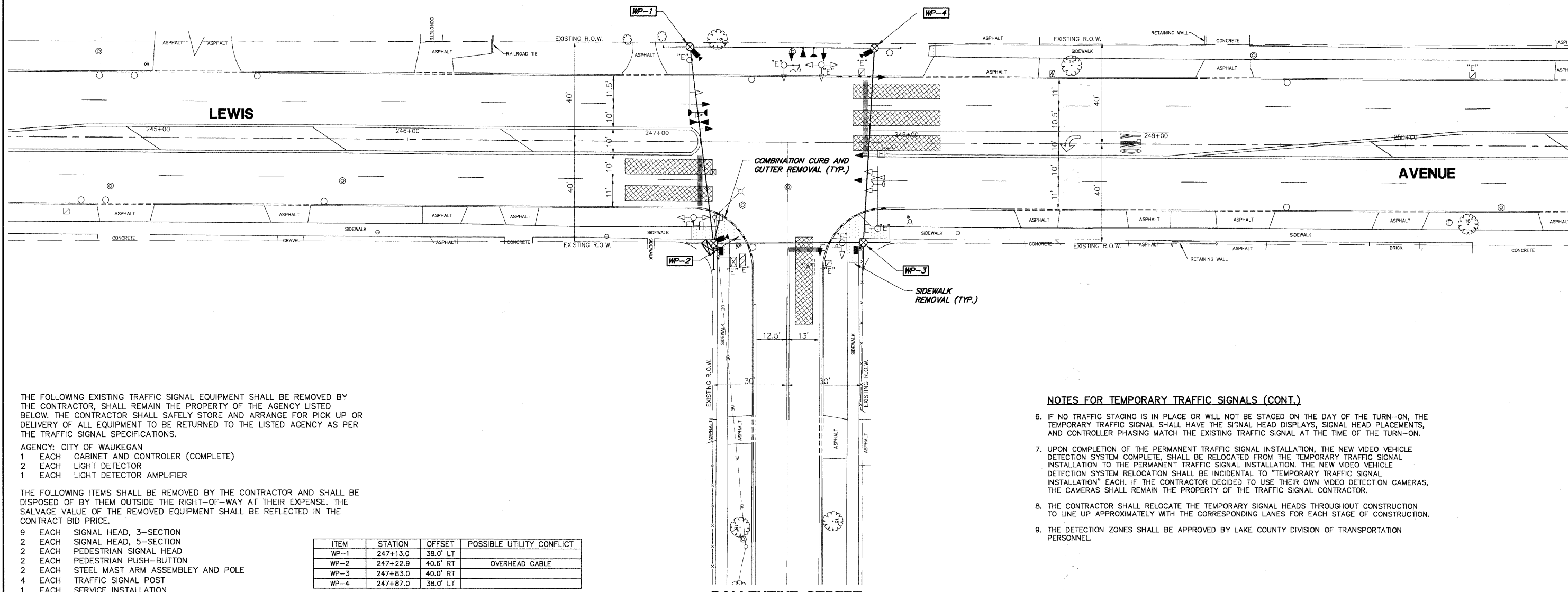
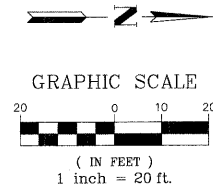
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- HANDHOLE
- HEAVY DUTY HANDHOLE
- ✕ LUMINAIRE
- VIDEO DETECTION CAMERA
- DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊠ APPROXIMATE DETECTION ZONE

EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ◀ "E" EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" □ EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▶ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ■ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTCIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.



NOTES FOR TEMPORARY TRAFFIC SIGNALS (CONT.)

6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

AGENCY: CITY OF WAUKEGAN
 1 EACH CABINET AND CONTROLLER (COMPLETE)
 2 EACH LIGHT DETECTOR
 1 EACH LIGHT DETECTOR AMPLIFIER

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 9 EACH SIGNAL HEAD, 3-SECTION
- 2 EACH SIGNAL HEAD, 5-SECTION
- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 2 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 4 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	247+13.0	38.0' LT	
WP-2	247+22.9	40.6' RT	OVERHEAD CABLE
WP-3	247+83.0	40.0' RT	
WP-4	247+87.0	38.0' LT	

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (DDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



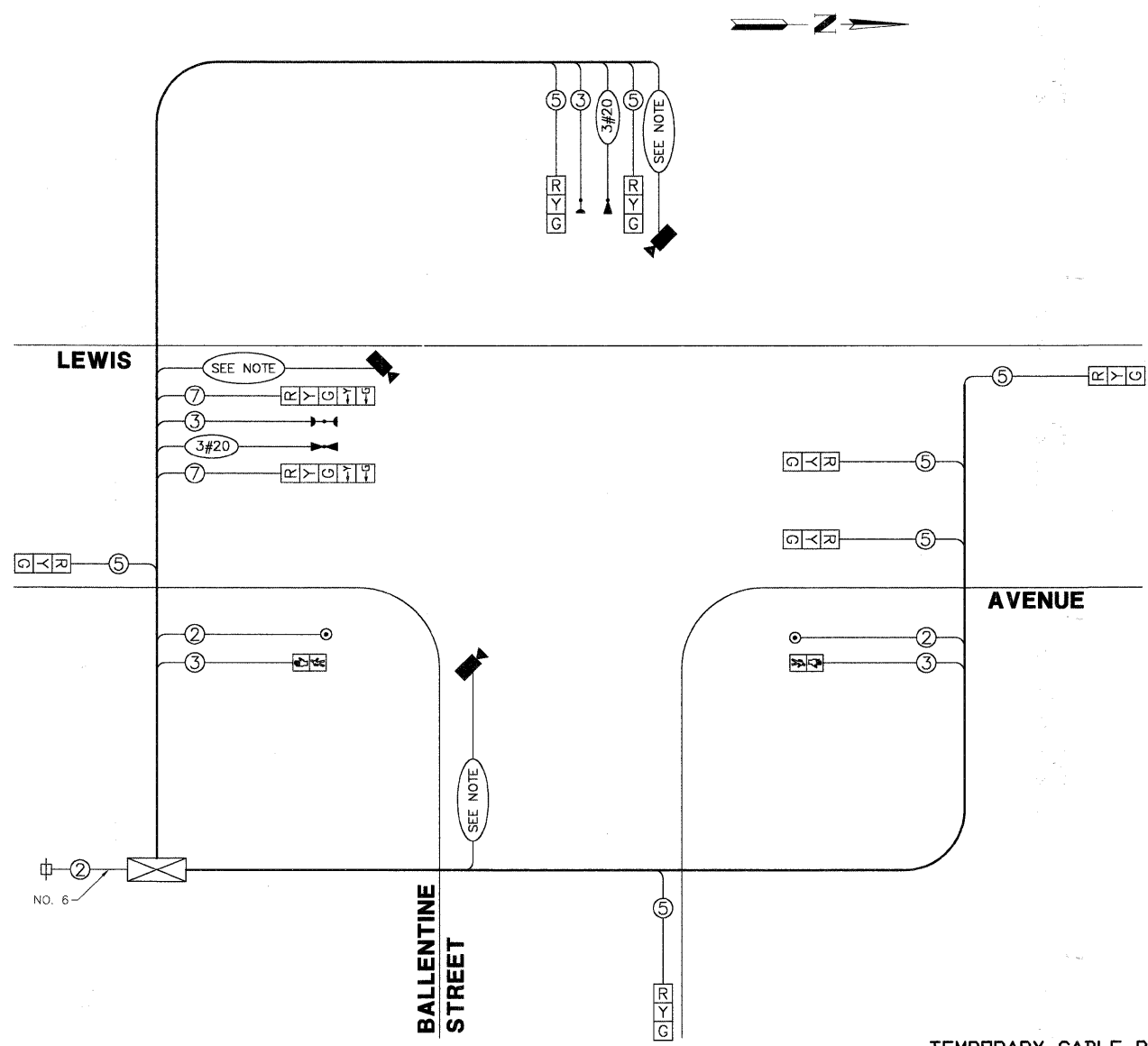
TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT LEWIS AVENUE AT BALLENTINE STREET
 SCALE: 1"=20' SHEET NO. 49 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 49
CONTRACT # 63344			ILLINOIS FED. AID PROJECT	

GHA #4135.800

TEMPORARY CABLE PLAN LEGEND

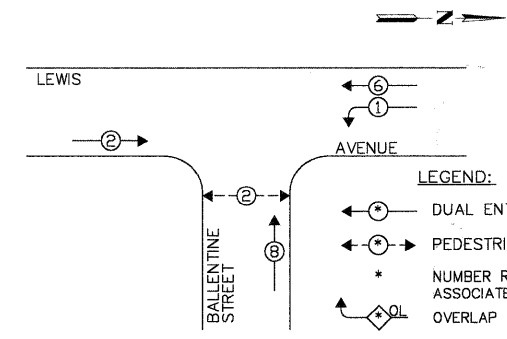
- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
- X TEMPORARY CONTROLLER CABINET
- + TEMPORARY SERVICE INSTALLATION
- ⑤ INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA



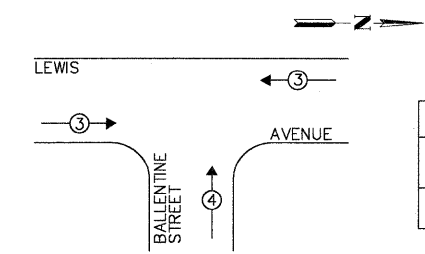
NOTE:
IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 16, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN

TEMPORARY CONTROLLER SEQUENCE



TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE



TEMPORARY EMERGENCY VEHICLE PREEMPTORS	
EMERGENCY VEHICLE PREEMPTOR	3 4
MOVEMENT	← →

TEMPORARY PHASE DESIGNATION DIAGRAM

- LEGEND:**
- DUAL ENTRY PHASE
 - PEDESTRIAN PHASE
 - * NUMBER REFERS TO ASSOCIATED PHASE
 - OVERLAP

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE	INCAND.	L.E.D.	% OPERATION
SIGNAL (RED)	9	135	10	0.50	45.0
SIGNAL (YELLOW)	9	135	19	0.10	17.1
SIGNAL (GREEN)	9	135	11	0.40	39.6
ARROW	4	135	9	0.10	3.6
FED. SIGNAL	2	90	9	1.00	18.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					373.3

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
(ADDRESS) 100 N. M.L.K. JR. AVENUE
(ADDRESS) WAUKEGAN, IL

ENERGY SUPPLY - CONTACT: NEW BUSINESS
PHONE: 1-866-639-3552
COMPANY: COMED

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
	PLOT SCALE = 1" = .08'	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
	PLOT DATE = 10/19/2009	DATE - 10/19/09	REVISED -



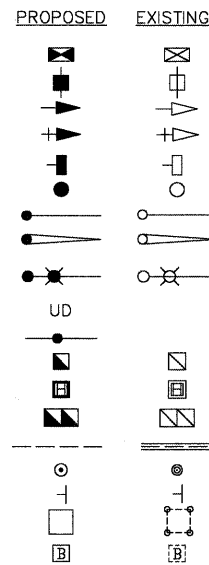
TEMPORARY CABLE PLAN & PHASE DESIGNATION DIAGRAM			
LEWIS AVENUE AT BALLENTINE STREET			
SCALE: NONE	SHEET NO. 50 OF 86 SHEETS	STA. TO STA.	

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 50
CONTRACT # 63344				ILLINOIS FED. AID PROJECT

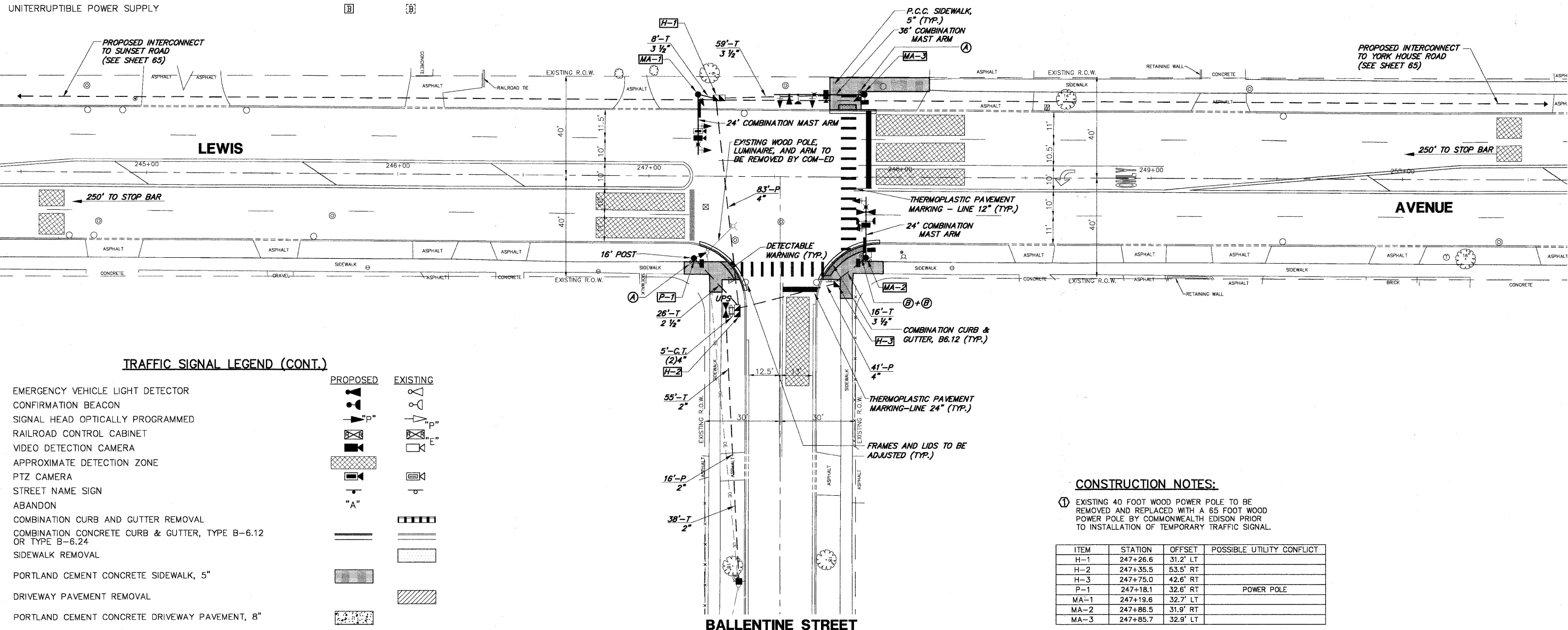
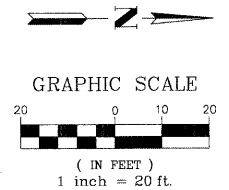
GHA #4135.800

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY

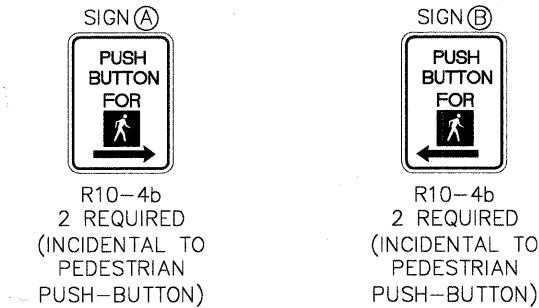
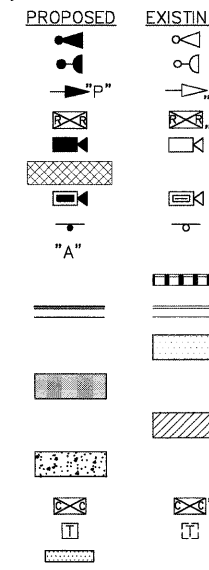


Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.



TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

① EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	247+26.6	31.2' LT	
H-2	247+35.5	53.5' RT	
H-3	247+75.0	42.6' RT	
P-1	247+18.1	32.6' RT	POWER POLE
MA-1	247+19.6	32.7' LT	
MA-2	247+86.5	31.9' RT	
MA-3	247+85.7	32.9' LT	

NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCP" COMPLIANT.

FILE NAME = 4135.315-TR1.0wg

USER NAME = GHA
DESIGNED - JRD
DRAWN - ZCW
CHECKED - DPB
DATE - 10/19/09

REVISOR - 9/15/09 (LCDOT)
REVISOR - 9/25/09 (IDOT)
REVISOR - 10/19/09 (LCDOT)
REVISOR -



TRAFFIC SIGNAL MODERNIZATION PLAN
LEWIS AVENUE AT BALLENTINE STREET
SCALE: 1"=20' SHEET NO. 51 OF 86 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	51
CONTRACT #:				63344

ILLINOIS FED. AID PROJECT

GHA #4135.800

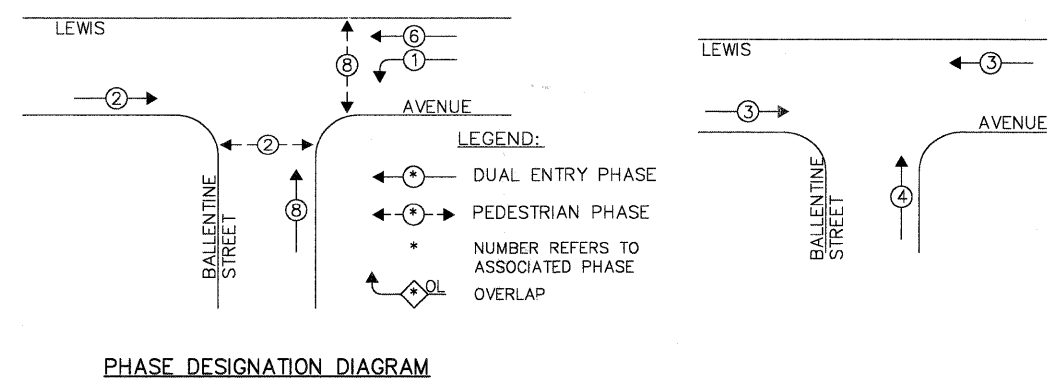
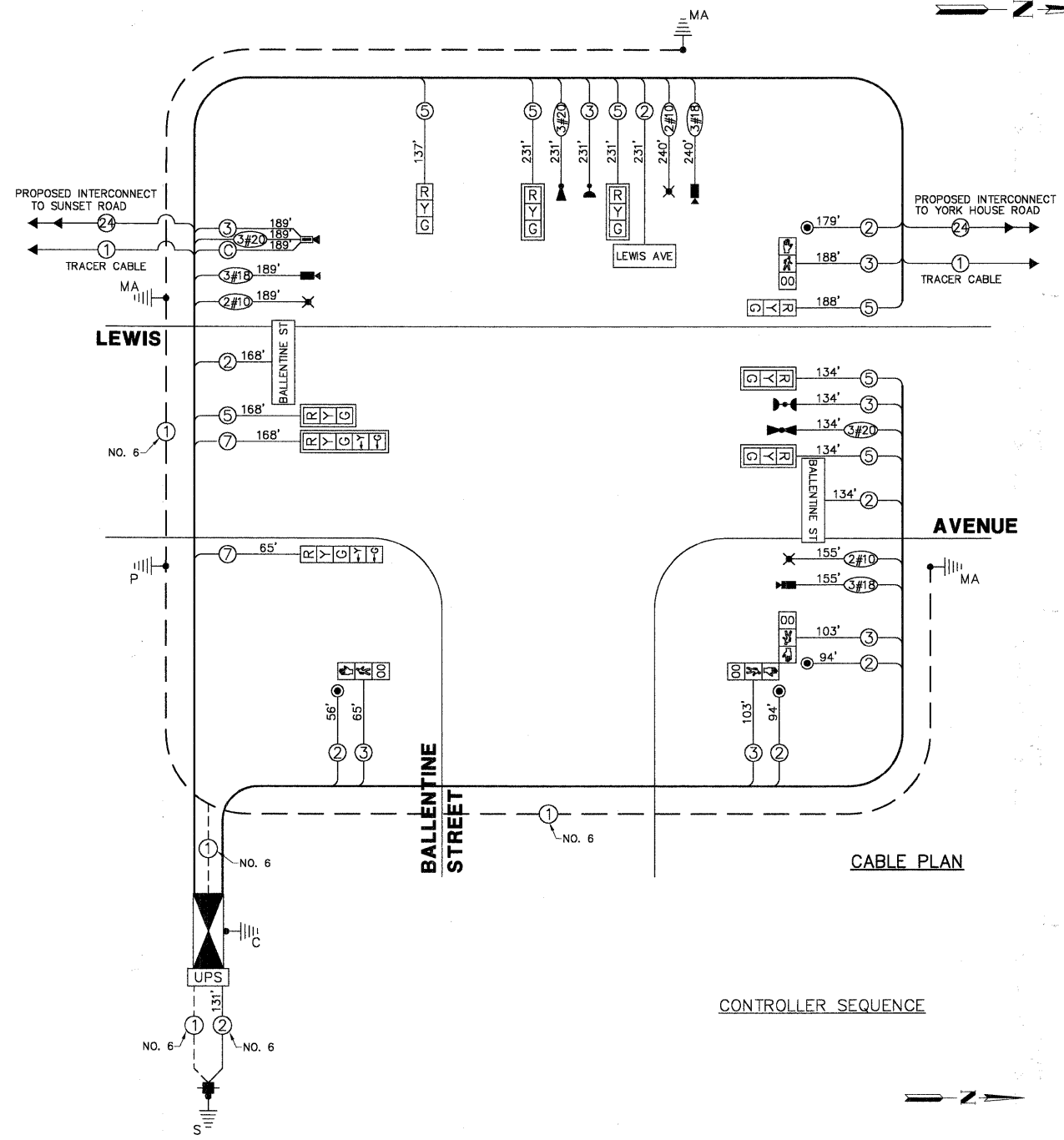
SCHEDULE OF QUANTITIES

LEWIS AVENUE AT BALLENTINE STREET TRAFFIC SIGNAL MODERNIZATION

NO.	QUANT.	UNIT
1.	8	CU.YD. EARTH EXCAVATION
2.	25	SQ.YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	835	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	68	SQ.FT. DETECTABLE WARNINGS
5.	80	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	425	SQ.FT. SIDEWALK REMOVAL
7.	2	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	80	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
9.	180	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
10.	45	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
11.	90	SQ.FT. PAVEMENT MARKING REMOVAL
12.	93	FOOT CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
13.	26	FOOT CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL
14.	83	FOOT CONDUIT IN TRENCH, 3-1/2" DIA., GALVANIZED STEEL
15.	10	FOOT CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
16.	16	FOOT CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
17.	124	FOOT CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
18.	2	EACH HANDHOLE
19.	1	EACH DOUBLE HANDHOLE
20.	584	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHW) 2-1/C NO. 10
21.	207	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
22.	3	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
23.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
24.	1	EACH TRANSCEIVER - FIBER OPTIC
25.	734	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
26.	1,013	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
27.	1,223	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
28.	233	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
29.	131	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
30.	2	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 24 FT (SPECIAL)
31.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 36 FT (SPECIAL)
32.	4	FOOT CONCRETE FOUNDATION, TYPE A
33.	4	FOOT CONCRETE FOUNDATION, TYPE C
34.	45	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
35.	5	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
36.	2	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED
37.	1	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED
38.	1	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
39.	2	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
40.	1	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED
41.	6	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
42.	2	EACH LIGHT DETECTOR
43.	1	EACH LIGHT DETECTOR AMPLIFIER
44.	4	EACH PEDESTRIAN PUSH-BUTTON
45.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
46.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
47.	6	EACH REMOVE EXISTING HANDHOLE
48.	6	EACH REMOVE EXISTING CONCRETE FOUNDATION
49.	1	EACH SERVICE INSTALLATION, POLE MOUNT
50.	405	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
51.	564	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
52.	189	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
53.	584	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
54.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
55.	3	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
56.	1	EACH TRAFFIC SIGNAL POST, 16 FT (SPECIAL)
57.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
58.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
59.	1	EACH VIDEO ENCODER

CABLE PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
		12" TRAFFIC SIGNAL SECTION
		CONTROLLER CABINET
		TELEPHONE INSTALLATION
		EMERGENCY VEHICLE LIGHT DETECTOR
		PUSHBUTTON DETECTOR
		FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		BELDEN 1694A RG-6/4 COAXIAL CABLE
		ISDN LINE
		LUMINAIRE
		VIDEO DETECTION CAMERA
		PTZ CAMERA
		VIDEO COMMUNICATIONS CABINET
		L.E.D. STREET NAME SIGN
		UNINTERRUPTIBLE POWER SUPPLY



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←	↑

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	9	135	10	0.50	45.0
SIGNAL (YELLOW)	9	135	19	0.10	17.1
SIGNAL (GREEN)	9	135	1	0.40	39.6
ARROW	4	135	9	0.10	3.6
PED.SIGNAL	4	90	9	1.00	36.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	3	-	250	0.50	375.0
L.E.D. ST. NAME SIGN	3	-	64	0.50	96.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					887.3

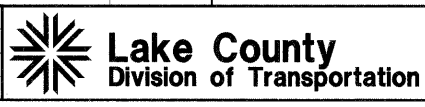
FOUNDATION (DEPTH) (FT.)	CABLE SLACK (FT.)	VERTICAL (FT.)
TYPE A - POST 4	HANDHOLE 6.5	ALL FOUNDATIONS 3.5
TYPE D - CONTROLLER 4	DOUBLE HANDHOLE 13	MAST ARM (L) POLE 20'+1-2"
TYPE E - M.ARM POLE 15	SIGNAL POST 2	BRACKET MOUNTED 13
	CONTROLLER CAB. 1	PED. PUSHBUTTON 4
	FIBER OPTIC 13	ELECTRIC SERVICE 13.5
	ELECTRIC SERVICE 1	SERVICE TO GROUND 13.5
	GROUND CABLE 6	POST MOUNTED 6

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. MILK JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: (886) 639-3552
 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REvised - 9/15/09 (LCDOT)
 REvised - 9/25/09 (IDOT)
 REvised - 10/19/09 (LCDOT)
 REvised -



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
 LEWIS AVENUE AT BALLENTINE STREET
 SCALE: NONE SHEET NO. 52 OF 86 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	52
CONTRACT #:				63344

GH A #4135.800
 ILLINOIS FED. AID PROJECT

TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- ⊠ TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ▶ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- ⊠ HANDHOLE
- ⊠ HEAVY DUTY HANDHOLE
- ⊠ LUMINAIRE
- ⊠ VIDEO DETECTION CAMERA
- ⊠ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON
- ⊠ APPROXIMATE DETECTION ZONE

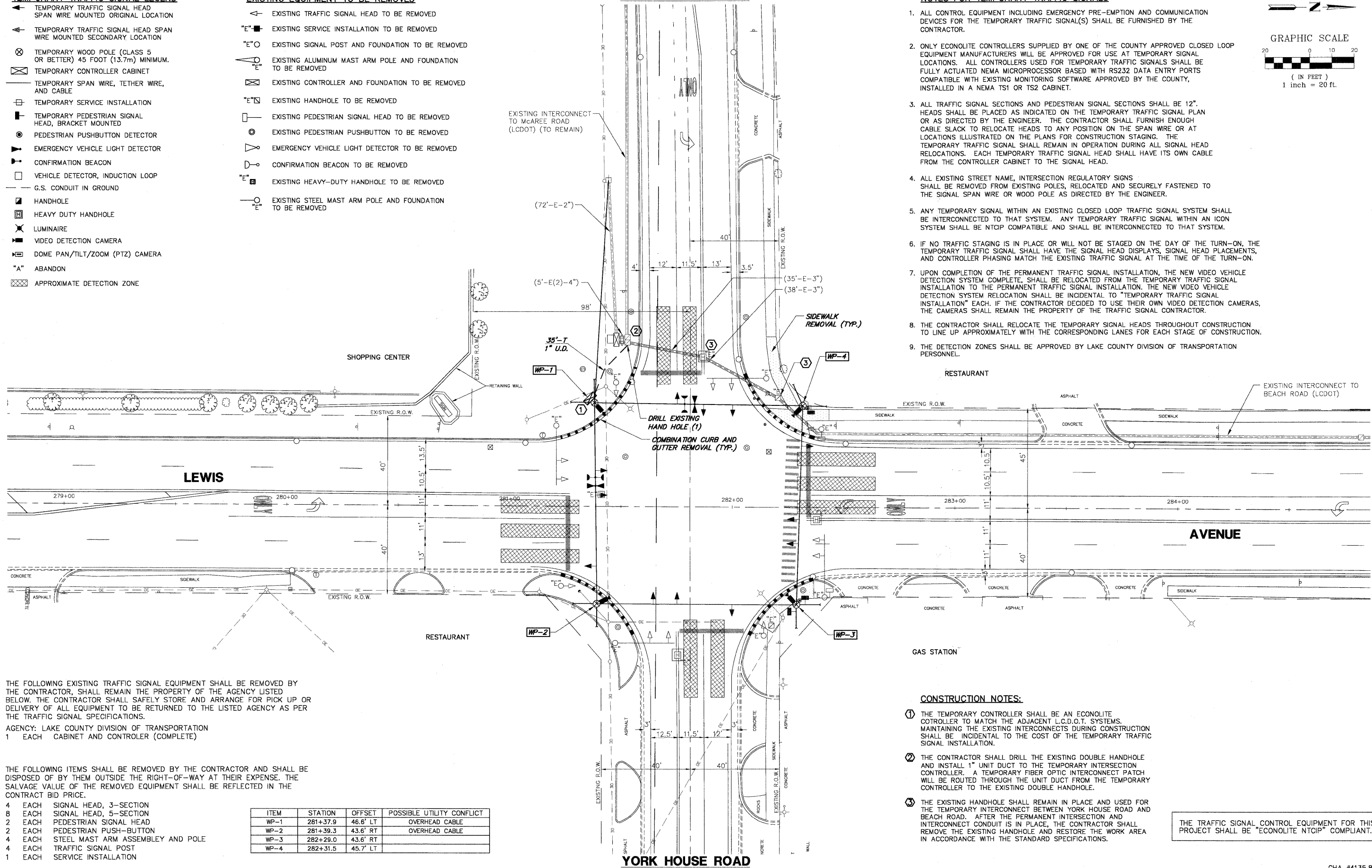
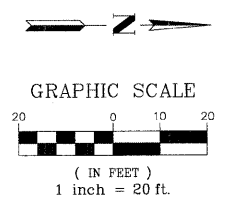
EXISTING EQUIPMENT TO BE REMOVED

- ◀ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ⊠ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ⊙ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ◀ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" ⊠ EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ▶ EXISTING EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ▶ EXISTING CONFIRMATION BEACON TO BE REMOVED
- "E" ⊠ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ◀ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

YORK HOUSE ROAD

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY ECONOLITE CONTROLLERS SUPPLIED BY ONE OF THE COUNTY APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY THE COUNTY, INSTALLED IN A NEMA TS1 OR TS2 CABINET.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME, INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM. ANY TEMPORARY TRAFFIC SIGNAL WITHIN AN ICON SYSTEM SHALL BE NTGIP COMPATIBLE AND SHALL BE INTERCONNECTED TO THAT SYSTEM.
6. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN-ON, THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN-ON.
7. UPON COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION, THE NEW VIDEO VEHICLE DETECTION SYSTEM COMPLETE, SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PERMANENT TRAFFIC SIGNAL INSTALLATION. THE NEW VIDEO VEHICLE DETECTION SYSTEM RELOCATION SHALL BE INCIDENTAL TO "TEMPORARY TRAFFIC SIGNAL INSTALLATION" EACH. IF THE CONTRACTOR DECIDED TO USE THEIR OWN VIDEO DETECTION CAMERAS, THE CAMERAS SHALL REMAIN THE PROPERTY OF THE TRAFFIC SIGNAL CONTRACTOR.
8. THE CONTRACTOR SHALL RELOCATE THE TEMPORARY SIGNAL HEADS THROUGHOUT CONSTRUCTION TO LINE UP APPROXIMATELY WITH THE CORRESPONDING LANES FOR EACH STAGE OF CONSTRUCTION.
9. THE DETECTION ZONES SHALL BE APPROVED BY LAKE COUNTY DIVISION OF TRANSPORTATION PERSONNEL.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OR DELIVERY OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

AGENCY: LAKE COUNTY DIVISION OF TRANSPORTATION
 1 EACH CABINET AND CONTROLLER (COMPLETE)

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH SIGNAL HEAD, 3-SECTION
- 8 EACH SIGNAL HEAD, 5-SECTION
- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 4 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 4 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
WP-1	281+37.9	46.6' LT	OVERHEAD CABLE
WP-2	281+39.3	43.6' RT	OVERHEAD CABLE
WP-3	282+29.0	43.6' RT	
WP-4	282+31.5	45.7' LT	

CONSTRUCTION NOTES:

- ① THE TEMPORARY CONTROLLER SHALL BE AN ECONOLITE CONTROLLER TO MATCH THE ADJACENT L.C.D.O.T. SYSTEMS. MAINTAINING THE EXISTING INTERCONNECTS DURING CONSTRUCTION SHALL BE INCIDENTAL TO THE COST OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.
- ② THE CONTRACTOR SHALL DRILL THE EXISTING DOUBLE HANDHOLE AND INSTALL 1" UNIT DUCT TO THE TEMPORARY INTERSECTION CONTROLLER. A TEMPORARY FIBER OPTIC INTERCONNECT PATCH WILL BE ROUTED THROUGH THE UNIT DUCT FROM THE TEMPORARY CONTROLLER TO THE EXISTING DOUBLE HANDHOLE.
- ③ THE EXISTING HANDHOLE SHALL REMAIN IN PLACE AND USED FOR THE TEMPORARY INTERCONNECT BETWEEN YORK HOUSE ROAD AND BEACH ROAD. AFTER THE PERMANENT INTERSECTION AND INTERCONNECT CONDUIT IS IN PLACE, THE CONTRACTOR SHALL REMOVE THE EXISTING HANDHOLE AND RESTORE THE WORK AREA IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTGIP" COMPLIANT.

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

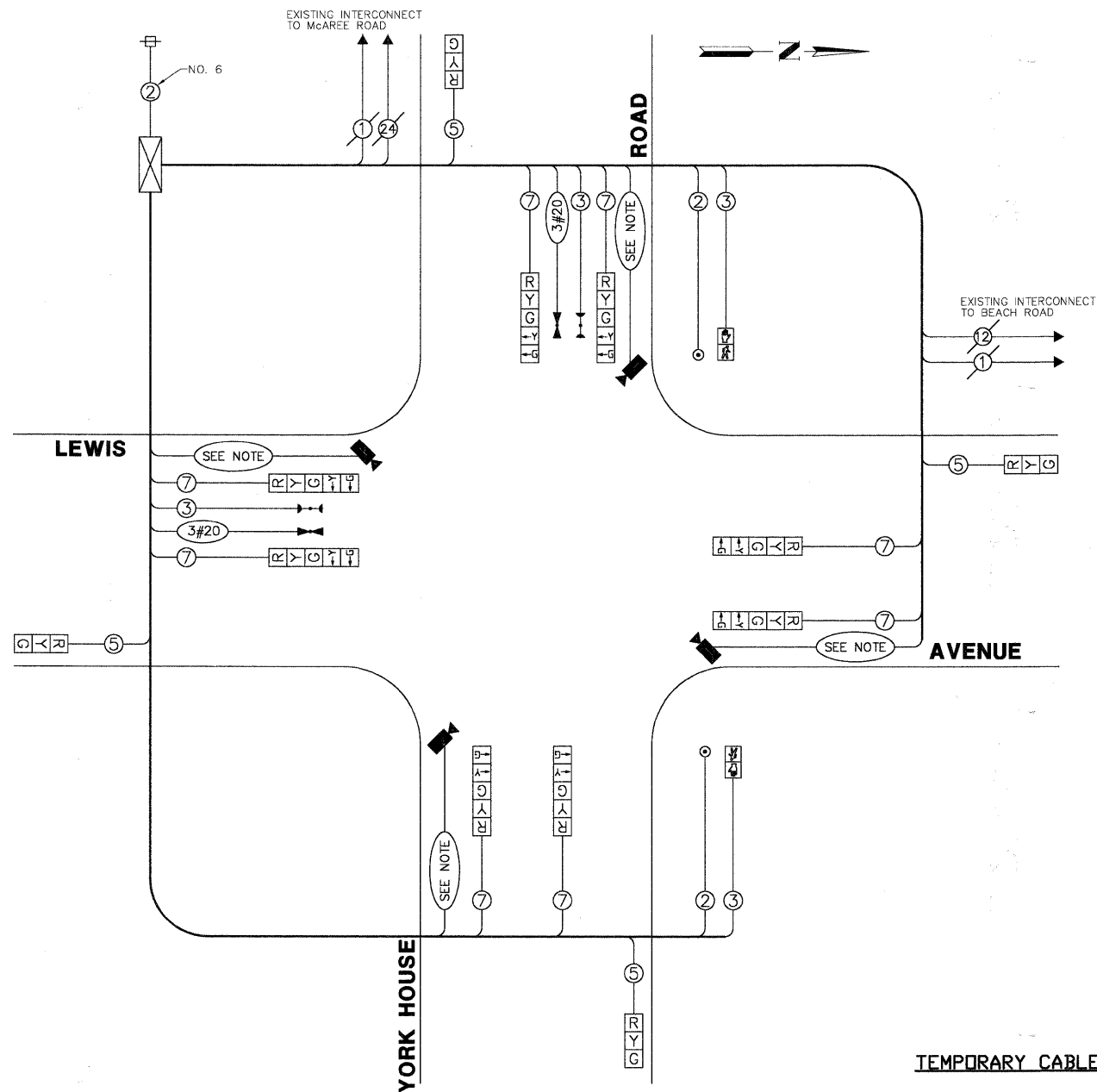
REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT LEWIS AVENUE AT YORK HOUSE ROAD
 SCALE: 1"=20' SHEET NO. 53 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 53
CONTRACT # 63344			GHA #4135.800	

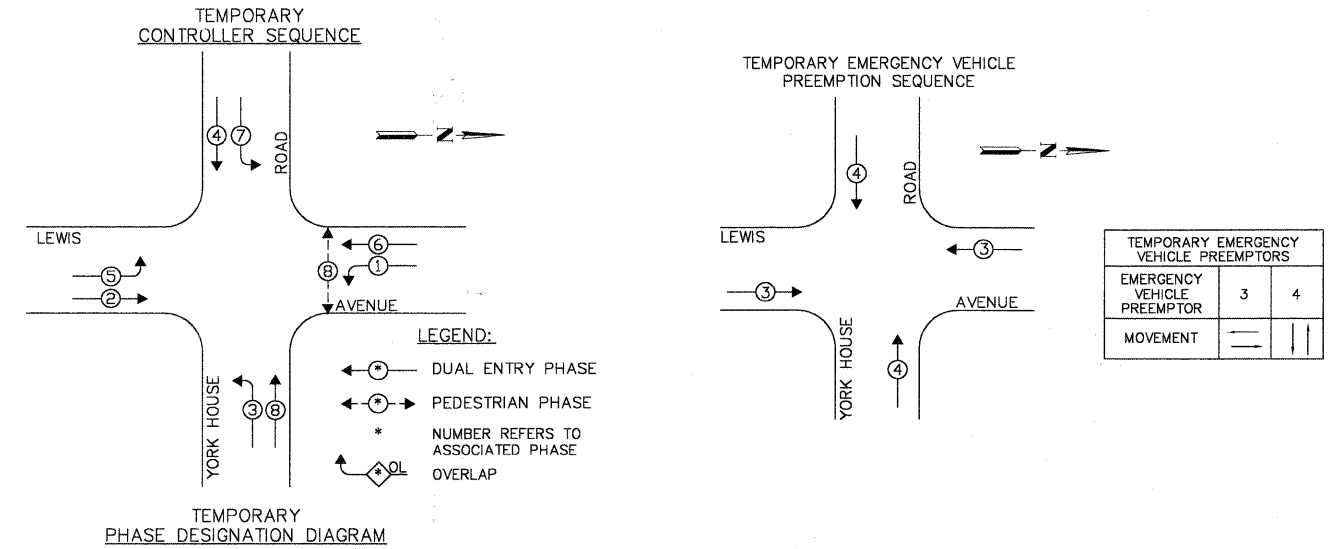
ILLINOIS FED. AID PROJECT



- TEMPORARY CABLE PLAN LEGEND**
- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
 - TEMPORARY CONTROLLER CABINET
 - TEMPORARY SERVICE INSTALLATION
 - ⑤ INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - VEHICLE DETECTOR, INDUCTION LOOP
 - PEDESTRIAN PUSHBUTTON DETECTOR
 - P PEDESTRIAN SIGNAL HEAD
 - VIDEO DETECTION CAMERA
 - PTZ CAMERA

NOTE:
 IF THE CONTRACTOR DECIDES TO USE THEIR OWN VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL, THE CABLE TO SERVICE THE CAMERA CAN BE NO. 16, 5 1/2 PAIR OR NO. 18, 3/C. IF THE CONTRACTOR DECIDES TO USE NEW VIDEO DETECTION CAMERAS FOR THE TEMPORARY TRAFFIC SIGNAL THAT WILL BE RELOCATED TO THE PERMANENT TRAFFIC SIGNAL, THE CABLE TO SERVICE THE NEW CAMERA SHALL BE NO. 18, 3/C.

TEMPORARY CABLE PLAN



TEMPORARY EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	—	

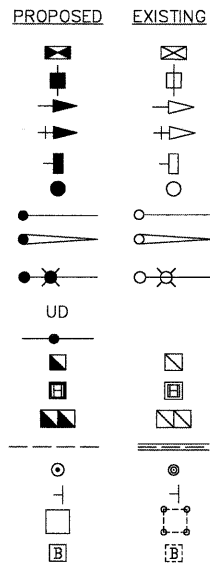
L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	12	135	10	0.50	60.0
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	16	135	9	0.10	14.4
PED.SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	100	100	1.00	100.0
LUMINAIRE	-	150	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	150	150	1.00	150.0
BATTERY BACKUP	-	-	25	-	-
TOTAL =					472.0

ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN
 (ADDRESS) 100 N. M.L.K. JR. AVENUE
 (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS
 PHONE: 1-866-639-3552
 COMPANY: COMED

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCP" COMPLIANT.

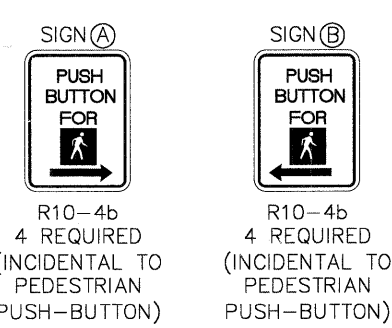
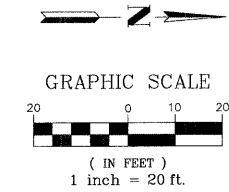
TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL, WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN GROUND (CIG)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- UNINTERRUPTIBLE POWER SUPPLY



YORK HOUSE ROAD

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

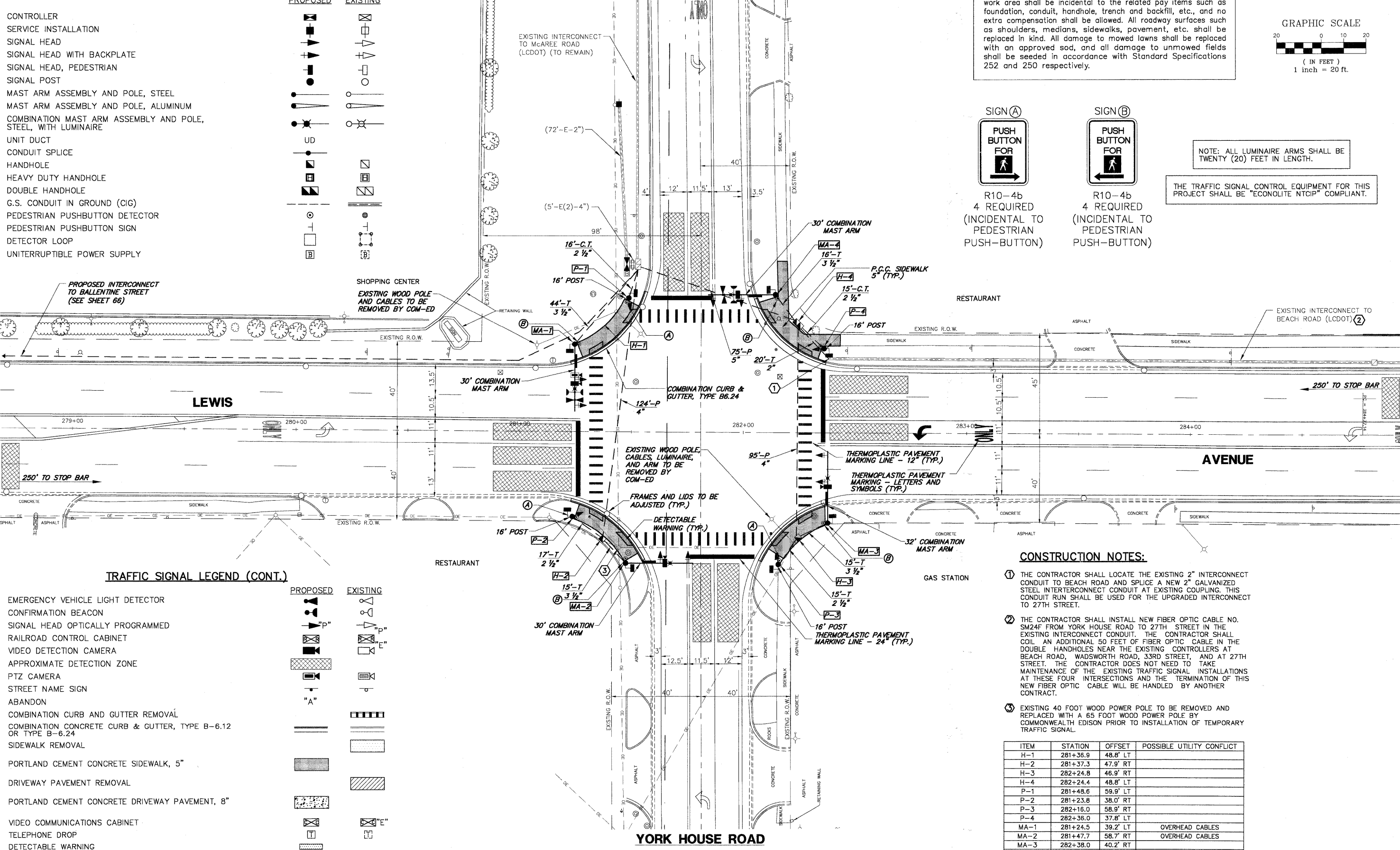
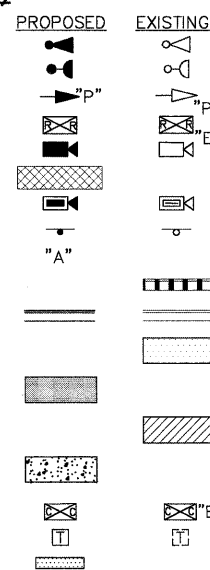


NOTE: ALL LUMINAIRE ARMS SHALL BE TWENTY (20) FEET IN LENGTH.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

TRAFFIC SIGNAL LEGEND (CONT.)

- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- VIDEO DETECTION CAMERA
- APPROXIMATE DETECTION ZONE
- PTZ CAMERA
- STREET NAME SIGN
- ABANDON
- COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 OR TYPE B-6.24
- SIDEWALK REMOVAL
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DRIVEWAY PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8"
- VIDEO COMMUNICATIONS CABINET
- TELEPHONE DROP
- DETECTABLE WARNING



CONSTRUCTION NOTES:

- 1 THE CONTRACTOR SHALL LOCATE THE EXISTING 2" INTERCONNECT CONDUIT TO BEACH ROAD AND SPLICE A NEW 2" GALVANIZED STEEL INTERCONNECT CONDUIT AT EXISTING COUPLING. THIS CONDUIT RUN SHALL BE USED FOR THE UPGRADED INTERCONNECT TO 27TH STREET.
- 2 THE CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE NO. SM24F FROM YORK HOUSE ROAD TO 27TH STREET IN THE EXISTING INTERCONNECT CONDUIT. THE CONTRACTOR SHALL COIL AN ADDITIONAL 50 FEET OF FIBER OPTIC CABLE IN THE DOUBLE HANDHOLES NEAR THE EXISTING CONTROLLERS AT BEACH ROAD, WADSWORTH ROAD, 33RD STREET, AND AT 27TH STREET. THE CONTRACTOR DOES NOT NEED TO TAKE MAINTENANCE OF THE EXISTING TRAFFIC SIGNAL INSTALLATIONS AT THESE FOUR INTERSECTIONS AND THE TERMINATION OF THIS NEW FIBER OPTIC CABLE WILL BE HANDLED BY ANOTHER CONTRACT.
- 3 EXISTING 40 FOOT WOOD POWER POLE TO BE REMOVED AND REPLACED WITH A 65 FOOT WOOD POWER POLE BY COMMONWEALTH EDISON PRIOR TO INSTALLATION OF TEMPORARY TRAFFIC SIGNAL.

ITEM	STATION	OFFSET	POSSIBLE UTILITY CONFLICT
H-1	281+36.9	48.8' LT	
H-2	281+37.3	47.9' RT	
H-3	282+24.8	46.9' RT	
H-4	282+24.4	48.8' LT	
P-1	281+48.6	59.9' LT	
P-2	281+23.8	38.0' RT	
P-3	282+16.0	58.9' RT	
P-4	282+36.0	37.8' LT	
MA-1	281+24.5	39.2' LT	OVERHEAD CABLES
MA-2	281+47.7	58.7' RT	OVERHEAD CABLES
MA-3	282+38.0	40.2' RT	
MA-4	282+14.2	61.7' LT	

SCHEDULE OF QUANTITIES

LEWIS AVENUE AT YORK HOUSE ROAD TRAFFIC SIGNAL MODERNIZATION

NO.	QUANT.	UNIT
1.	20	CU. YD. EARTH EXCAVATION
2.	55	SQ. YD. AGGREGATE BASE COURSE, TYPE B, 4"
3.	1,150	SQ. FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
4.	96	SQ. FT. DETECTABLE WARNINGS
5.	200	FOOT COMBINATION CURB AND GUTTER REMOVAL
6.	650	SQ. FT. SIDEWALK REMOVAL
7.	3	EACH FRAMES AND LIDS TO BE ADJUSTED
8.	200	FOOT COMBINATION CONCRETE CURB AND GUTTER, TYPE B8.12
9.	364	SQ. FT. THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS
10.	500	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12"
11.	130	FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 24"
12.	450	SQ. FT. PAVEMENT MARKING REMOVAL
13.	63	FOOT CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL
14.	90	FOOT CONDUIT IN TRENCH, 3-1/2" DIA., GALVANIZED STEEL
15.	219	FOOT CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
16.	75	FOOT CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL
17.	2	EACH HANDHOLE
18.	2	EACH DOUBLE HANDHOLE
19.	863	FOOT ELECTRIC CABLE IN CONDUIT, 600 (EPR-TYPE RHW) 2-1/C NO. 10
20.	139	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
21.	4	EACH LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL 250 WATT
22.	1	EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
23.	1	EACH TRANSCIVER - FIBER OPTIC
24.	2,015	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
25.	1,717	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
26.	805	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
27.	1,432	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
28.	94	FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
29.	3	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 30 FT (SPECIAL)
30.	1	EACH STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 32 FT (SPECIAL)
31.	16	FOOT CONCRETE FOUNDATION, TYPE A
32.	4	FOOT CONCRETE FOUNDATION, TYPE C
33.	60	FOOT CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
34.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
35.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED
36.	4	EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
37.	8	EACH PEDESTRIAN COUNTDOWN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
38.	8	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
39.	2	EACH LIGHT DETECTOR
40.	1	EACH LIGHT DETECTOR AMPLIFIER
41.	8	EACH PEDESTRIAN PUSH-BUTTON
42.	1	EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION
43.	244	FOOT REMOVE ELECTRIC CABLE FROM CONDUIT
44.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
45.	7	EACH REMOVE EXISTING HANDHOLE
46.	8	EACH REMOVE EXISTING CONCRETE FOUNDATION
47.	1	EACH SERVICE INSTALLATION, POLE MOUNT
48.	613	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
49.	435	FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, GROUNDED
50.	135	FOOT ELECTRIC CABLE IN CONDUIT, COAXIAL
51.	863	FOOT ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18, 3C
52.	1	EACH VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)
53.	4	EACH L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN
54.	4	EACH TRAFFIC SIGNAL POST, 16 FT (SPECIAL)
55.	1	EACH REMOTE-CONTROLLED VIDEO SYSTEM
56.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
57.	1	EACH VIDEO ENCODER

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE NTCIP" COMPLIANT.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	12	135	10	0.50	60.8
SIGNAL (YELLOW)	12	135	19	0.10	22.8
SIGNAL (GREEN)	12	135	11	0.40	52.8
ARROW	6	135	9	0.10	14.4
PED. SIGNAL	8	90	9	1.00	72.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	4	-	250	0.50	500.0
L.E.D. ST. NAME SIGN	4	-	6.4	0.50	128.0
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					1,255.0

CONSTRUCTION NOTES:

1 THE CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE FROM YORK HOUSE ROAD TO 27TH STREET IN THE EXISTING INTERCONNECT CONDUIT. SEE INTERCONNECT SCHEMATIC, SHEET 69 FOR ADDITIONAL INFORMATION AND WORK TO BE PERFORMED.

FOUNDATION (DEPTH)	(FT.)	CABLE SLACK	(FT.)	VERTICAL	(FT.)
TYPE A - POST	4	HANDHOLE	6.5	ALL FOUNDATIONS	3.5
TYPE D - CONTROLLER	4	DOUBLE HANDHOLE	15	MAST ARM (L) POLE	20'+1-2=
TYPE E - M.ARM POLE	15	SIGNAL POST	2	BRACKET MOUNTED	15
		CONTROLLER CAB.	1	PED. PUSHBUTTON	4
		FIBER OPTIC	13	ELECTRIC SERVICE	3.5
		ELECTRIC SERVICE	1	SERVICE TO GROUND	3.5
		GROUND CABLE	1	POST MOUNTED	6

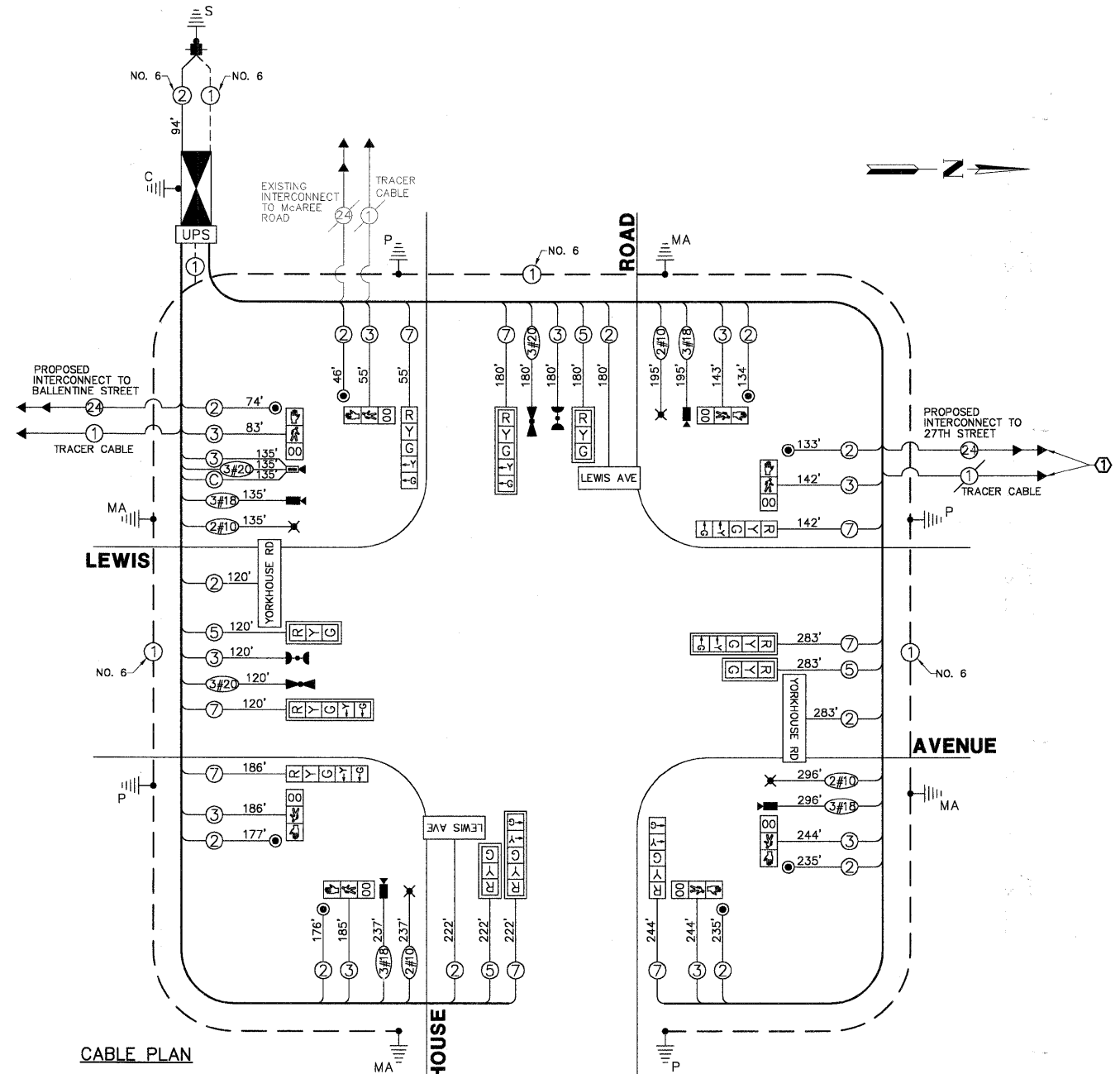
ENERGY COSTS - BILLED TO: CITY OF WAUKEGAN (ADDRESS) 100 N. M.L.K. JR. AVENUE (ADDRESS) WAUKEGAN, IL
 ENERGY SUPPLY - CONTACT: NEW BUSINESS PHONE: (886) 639-3552 COMPANY: COM-ED, LIBERTYVILLE

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -



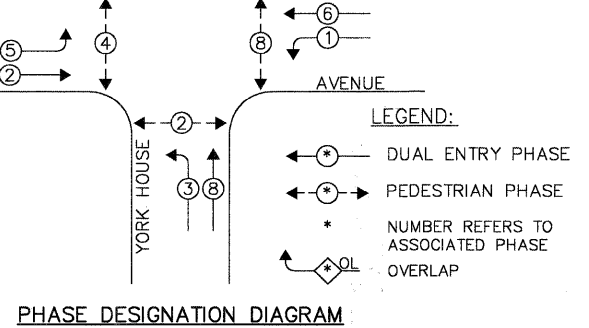
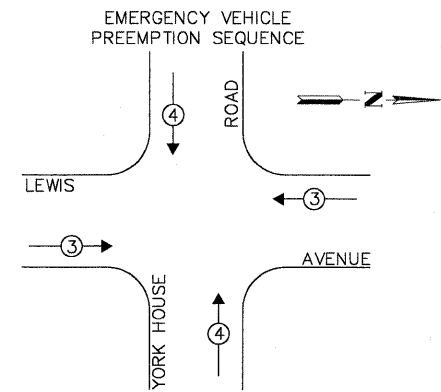
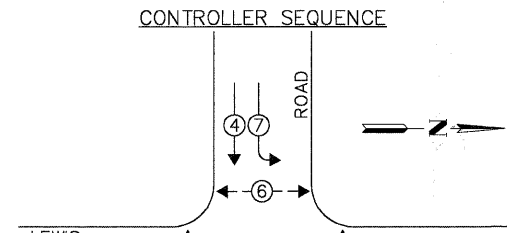
CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
 LEWIS AVENUE AT YORK HOUSE ROAD
 SCALE: NONE SHEET NO. 56 OF 86 SHEETS STA. TO STA.

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 56
CONTRACT # 63344			ILLINOIS FED. AID PROJECT	



CABLE PLAN LEGEND

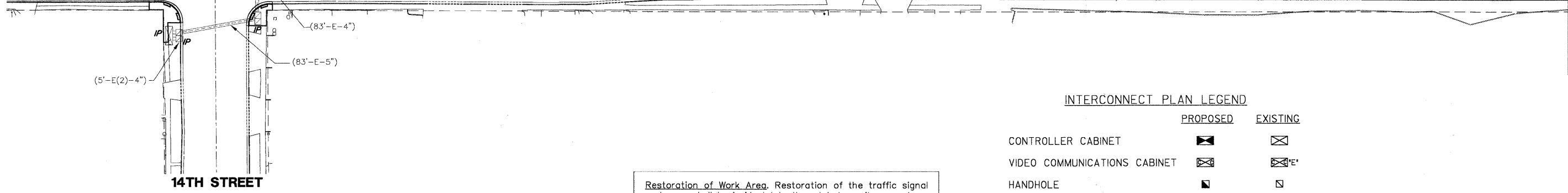
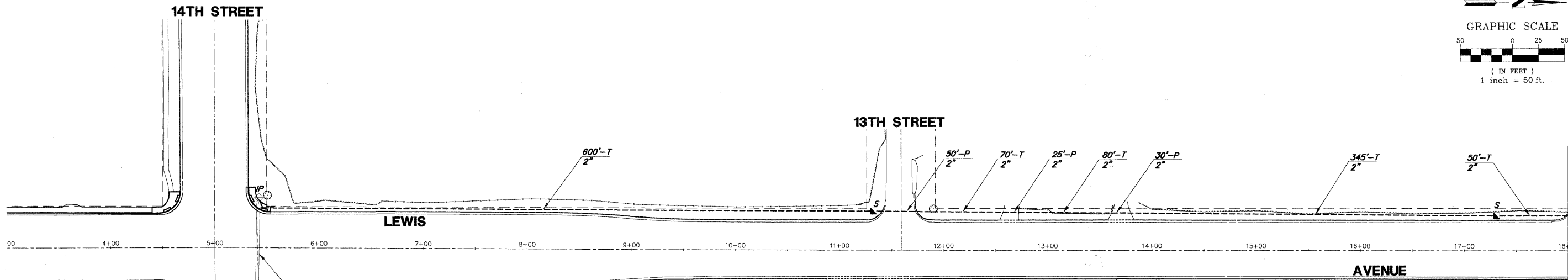
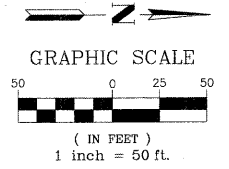
EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	12" TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE INSTALLATION
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)
[Symbol]	[Symbol]	GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	BELDEN 1694A RG-6/4 COAXIAL CABLE
[Symbol]	[Symbol]	ISDN LINE
[Symbol]	[Symbol]	LUMINAIRE
[Symbol]	[Symbol]	VIDEO DETECTION CAMERA
[Symbol]	[Symbol]	PTZ CAMERA
[Symbol]	[Symbol]	VIDEO COMMUNICATIONS CABINET
[Symbol]	[Symbol]	L.E.D. STREET NAME SIGN
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY



PROPOSED EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	MOVEMENT
3	←
4	↑

GHA #4135.800



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	

MATCHLINE STA. 18+00 (SEE ABOVE RIGHT)

MATCHLINE STA. 18+00 (SEE BELOW LEFT)

MATCHLINE STA. 33+00 (SEE SHEET 58)

FILE NAME = 4135.315-1R1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

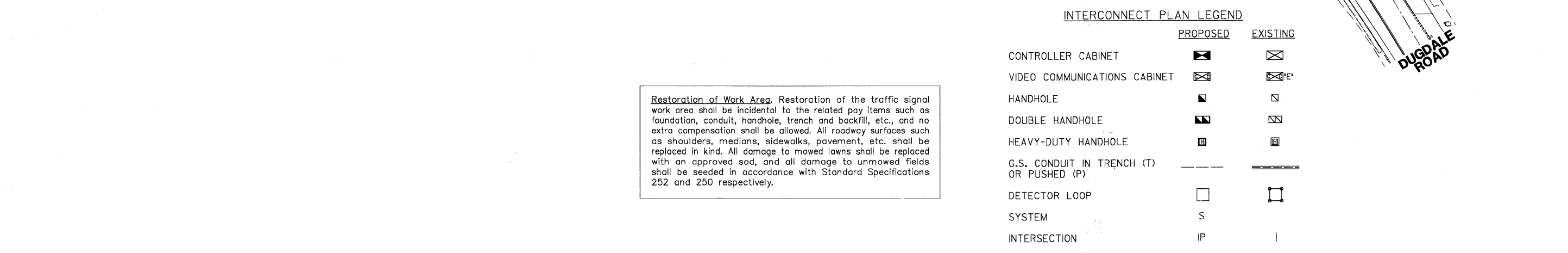
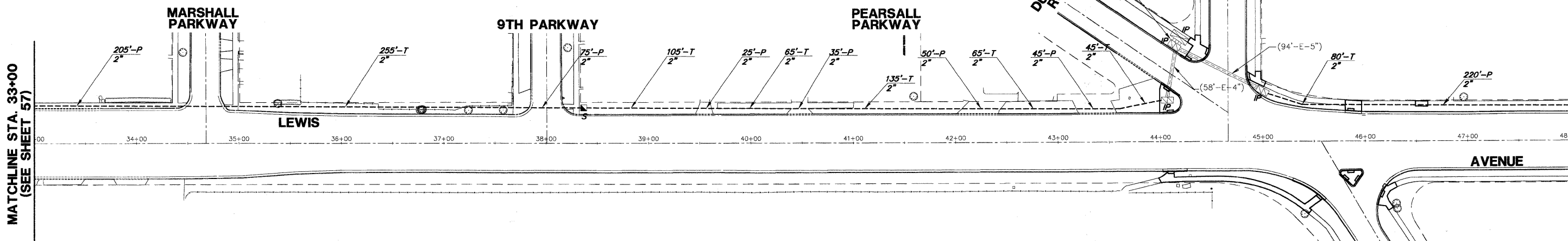
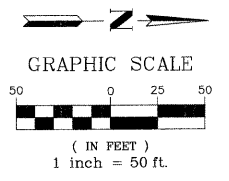
REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



INTERCONNECT PLAN (SHEET 1 OF 11)
LEWIS AVENUE FROM 14TH STREET TO YORK HOUSE ROAD
 SCALE: 1"=50' SHEET NO. 57 OF 86 SHEETS STA. 3+00 TO STA. 33+00

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 57
CONTRACT # 63344			ILLINOIS FED. AID PROJECT	

GHA #4135.800



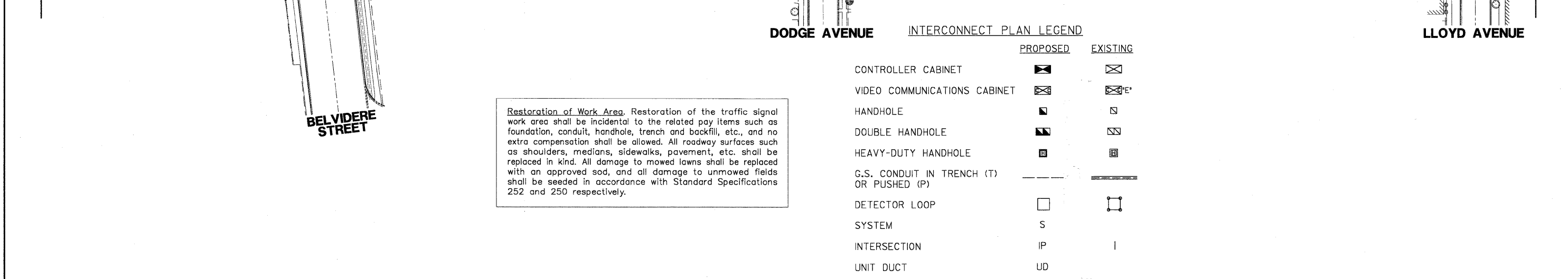
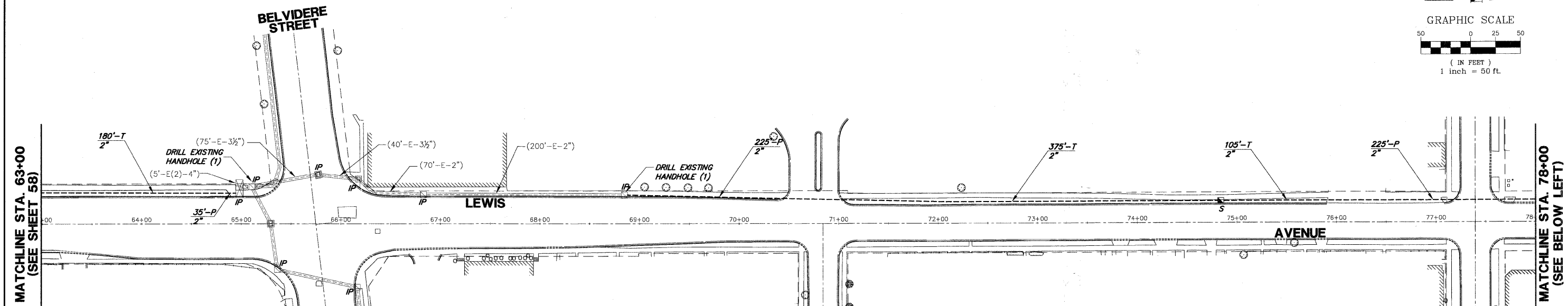
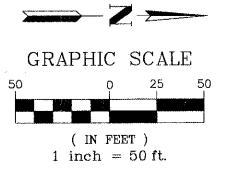
INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	
UNIT DUCT	UD	

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

MATCHLINE STA. 48+00
(SEE ABOVE RIGHT)

MATCHLINE STA. 63+00
(SEE SHEET 59)



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP SYSTEM		
INTERSECTION	IP	I
UNIT DUCT	UD	

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISIONS:
 9/15/09 (LCDOT)
 9/25/09 (IDOT)
 10/19/09 (LCDOT)

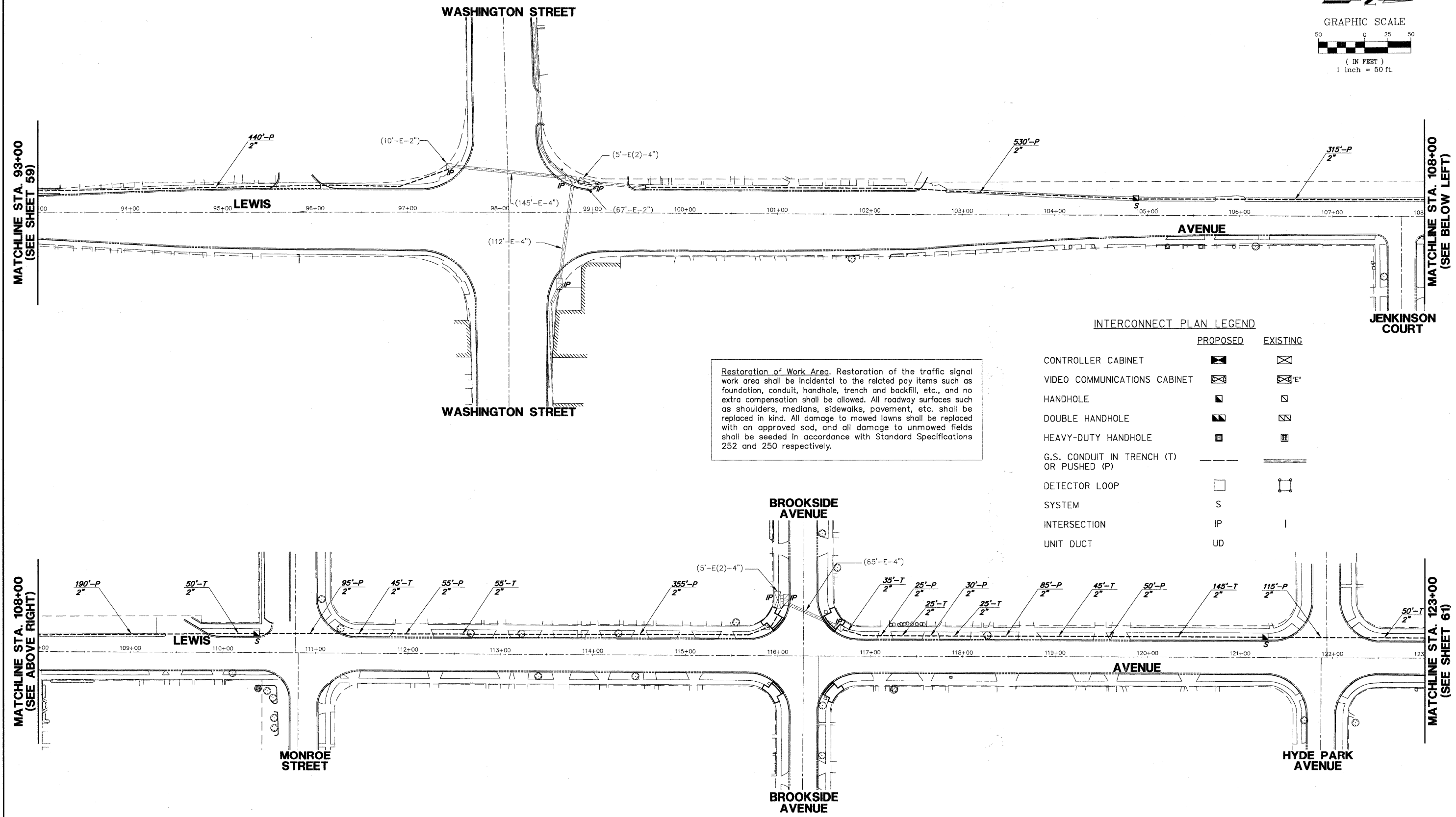
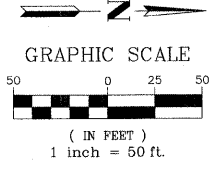


INTERCONNECT PLAN
(SHEET 3 OF 11)
LEWIS AVENUE FROM 14TH STREET TO YORK HOUSE ROAD

SCALE: 1"=50' SHEET NO. 59 OF 86 SHEETS STA. 63+00 TO STA. 93+00

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 59
CONTRACT # 63344			ILLINOIS FED. AID PROJECT	

GHA #4135.800



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

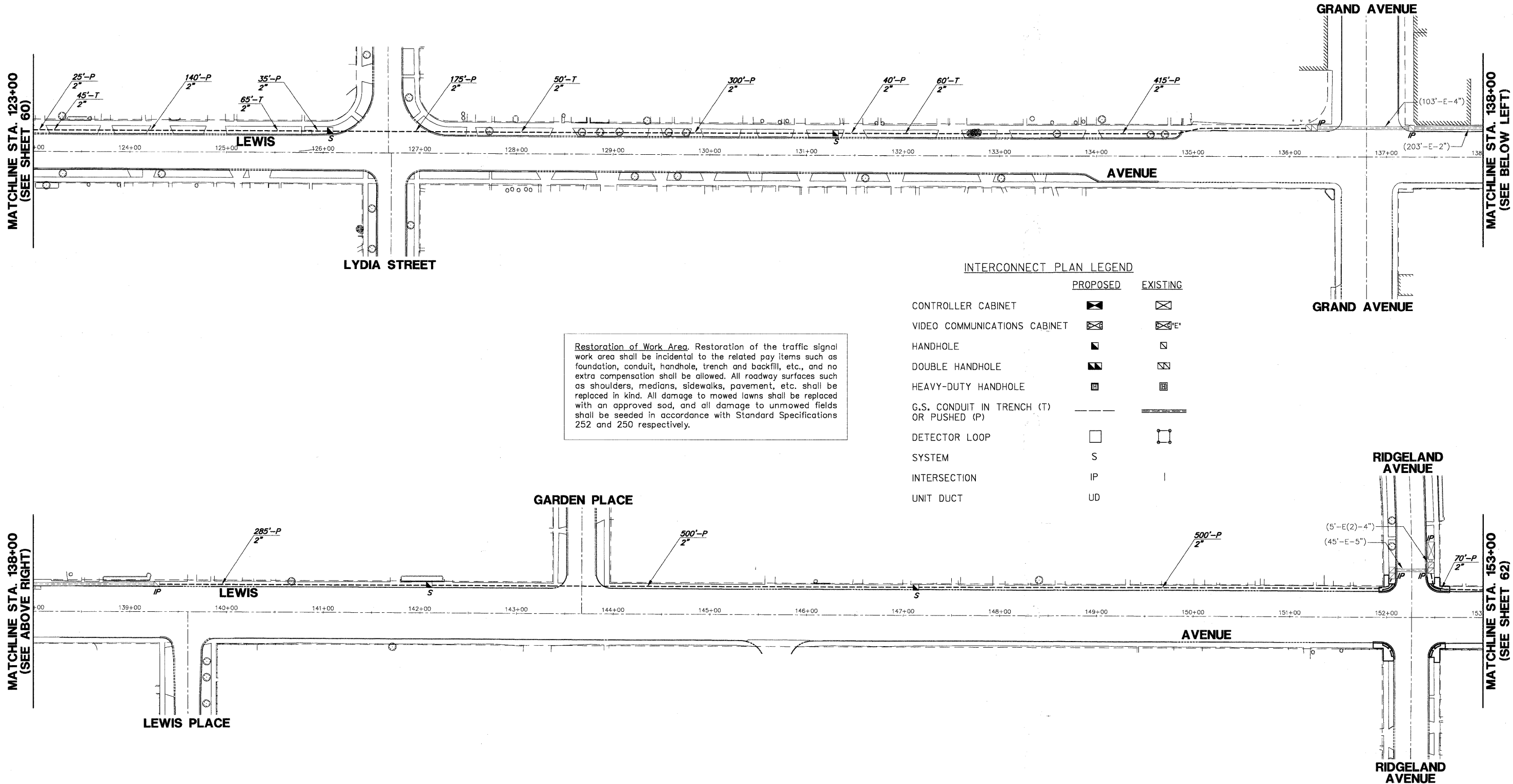
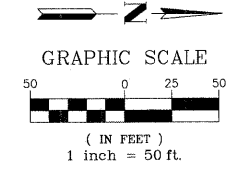
	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	

MATCHLINE STA. 93+00
(SEE SHEET 59)

MATCHLINE STA. 108+00
(SEE BELOW LEFT)

MATCHLINE STA. 108+00
(SEE ABOVE RIGHT)

MATCHLINE STA. 123+00
(SEE SHEET 61)



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	

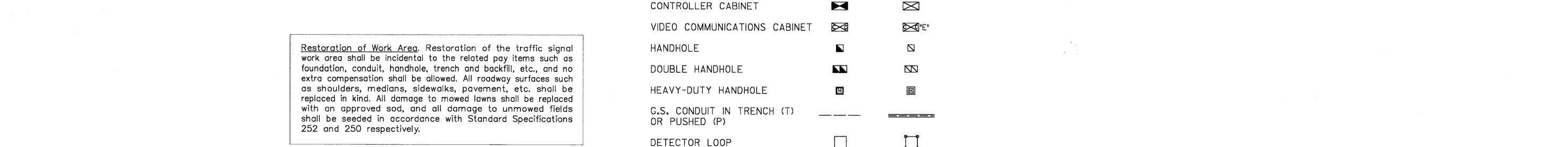
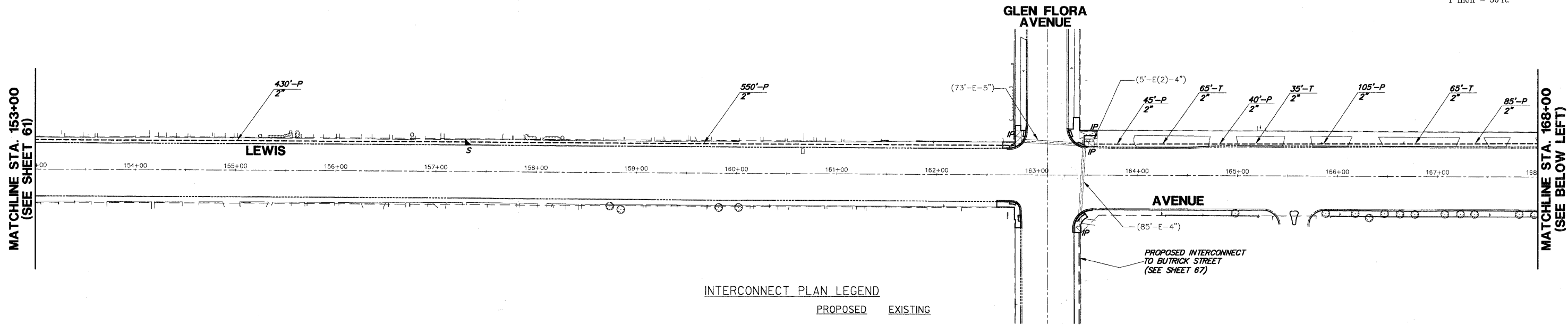
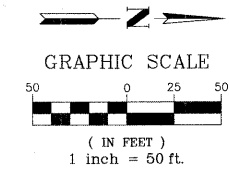
MATCHLINE STA. 123+00
(SEE SHEET 60)

MATCHLINE STA. 138+00
(SEE BELOW LEFT)

MATCHLINE STA. 138+00
(SEE ABOVE RIGHT)

MATCHLINE STA. 153+00
(SEE SHEET 62)

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)		INTERCONNECT PLAN (SHEET 5 OF 11)			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)		LEWIS AVENUE FROM 14TH STREET TO YORK HOUSE ROAD			2730	08-00259-00-TL	LAKE	86	61
PLOT SCALE = 1" = .08'		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)	SCALE: 1"=50'		SHEET NO. 61 OF 86 SHEETS	STA. 123+00	TO STA. 153+00	CONTRACT #: 63344		ILLINOIS FED. AID PROJECT	
PLOT DATE = 10/19/2009		DATE - 10/19/09	REVISED -						GHA #4135.800			



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	I
INTERSECTION	IP	I
UNIT DUCT	UD	

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

MATCHLINE STA. 168+00 (SEE ABOVE RIGHT)

MATCHLINE STA. 183+00 (SEE SHEET 63)

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

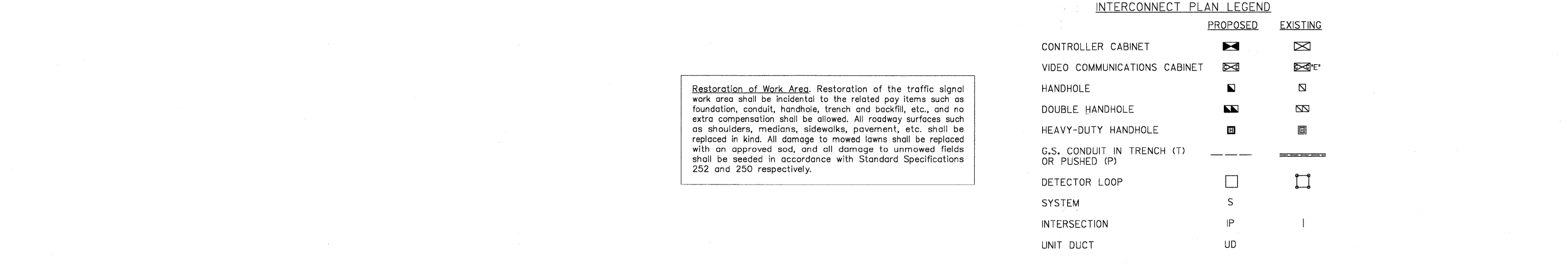
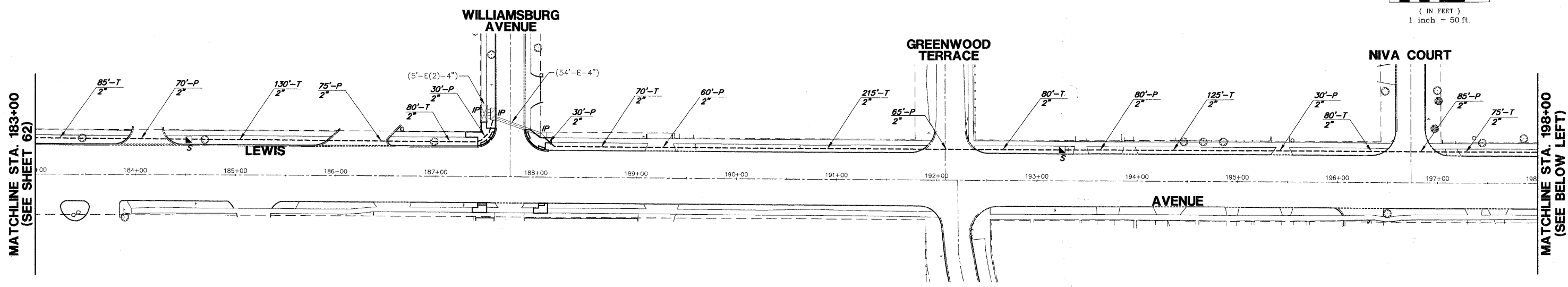
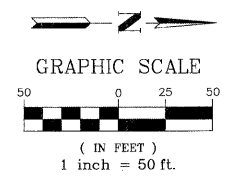
DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



INTERCONNECT PLAN (SHEET 6 OF 11)
LEWIS AVENUE FROM 14TH STREET TO YORK HOUSE ROAD
 SCALE: 1"=50' SHEET NO. 62 OF 86 SHEETS STA. 153+00 TO STA. 183+00

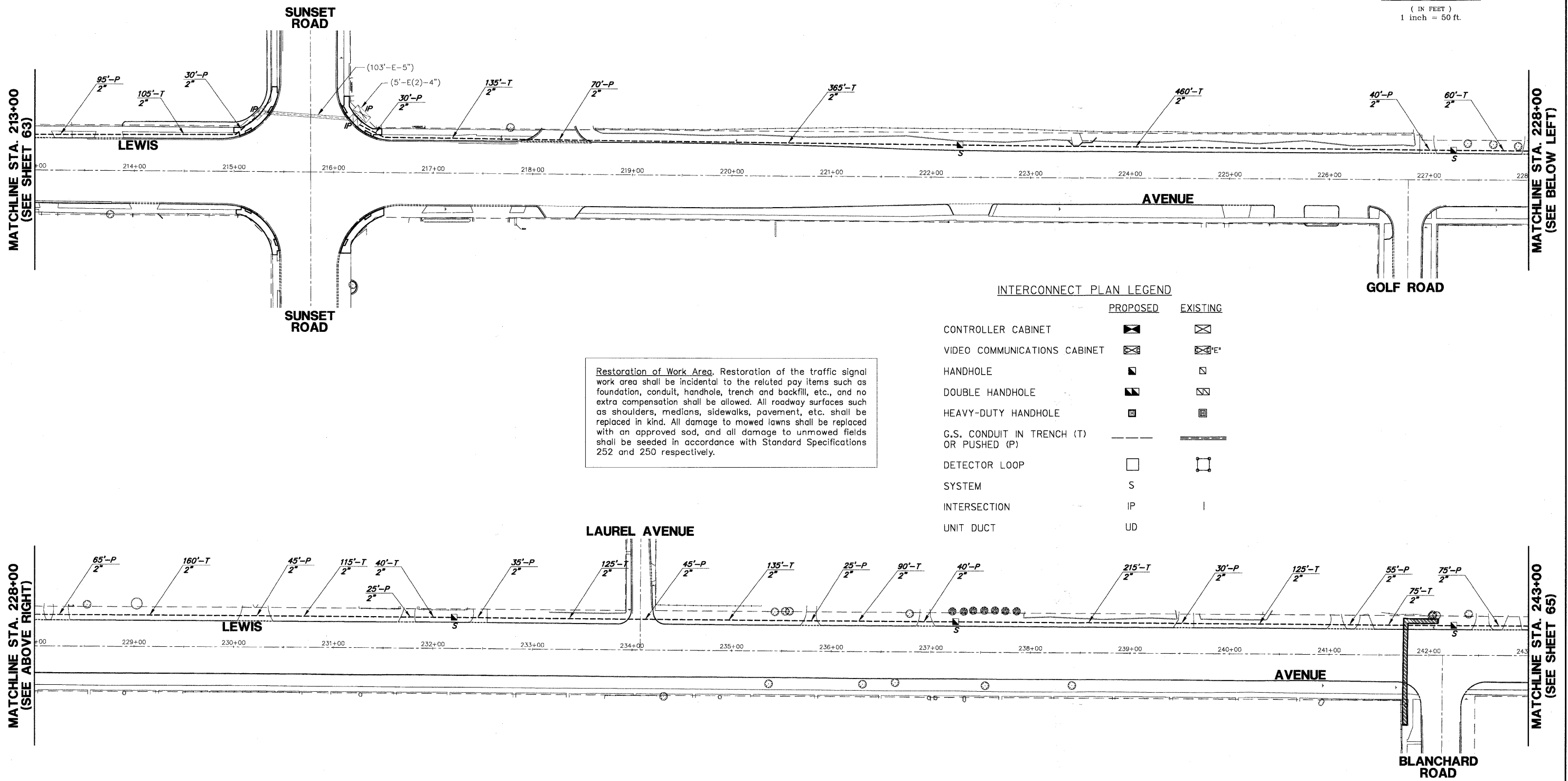
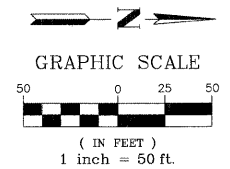
F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 62
				CONTRACT # 63344
GHA #4135.800 ILLINOIS FED. AID PROJECT				



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP SYSTEM		
INTERSECTION	IP	
UNIT DUCT	UD	

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

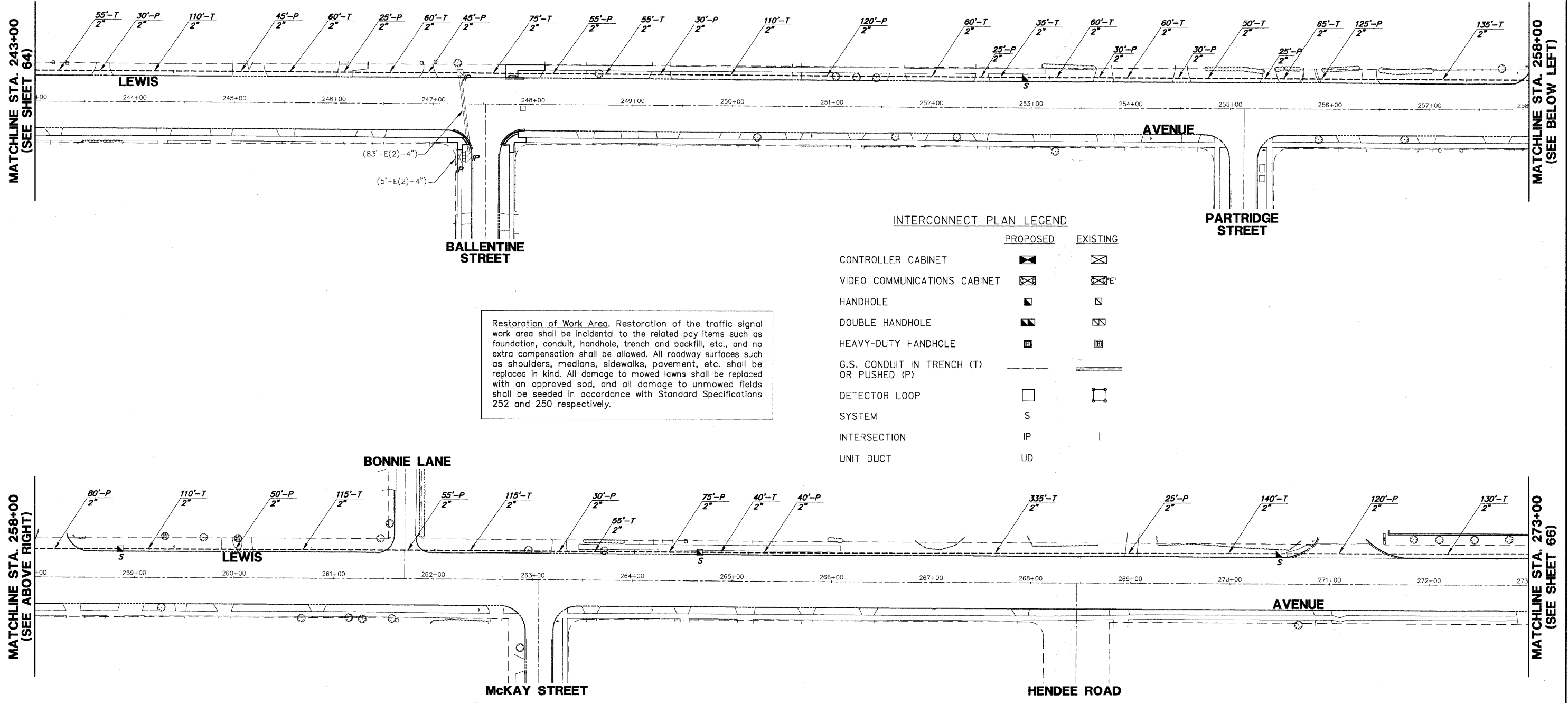
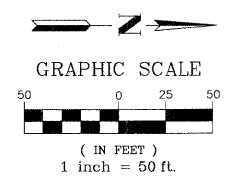
DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



INTERCONNECT PLAN (SHEET 8 OF 11)
LEWIS AVENUE FROM 14TH STREET TO YORK HOUSE ROAD
 SCALE: 1"=50' SHEET NO. 64 OF 86 SHEETS STA. 213+00 TO STA. 243+00

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 64
CONTRACT #: 63344				GH #4135.800
ILLINOIS FED. AID PROJECT				



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

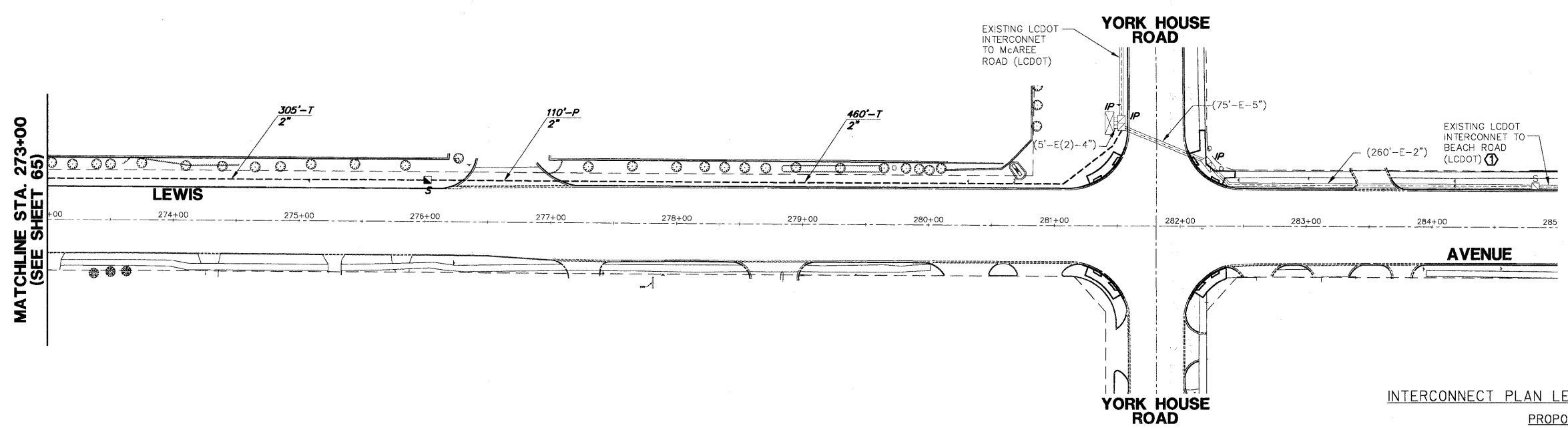
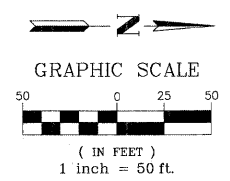
REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -



INTERCONNECT PLAN (SHEET 9 OF 11)
LEWIS AVENUE FROM 14TH STREET TO YORK HOUSE ROAD
 SCALE: 1"=50' SHEET NO. 65 OF 86 SHEETS STA. 243+00 TO STA. 273+00

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 65
CONTRACT # 63344			ILLINOIS FED. AID PROJECT	

GHA #4135.800



MATCHLINE STA. 273+00
(SEE SHEET 65)

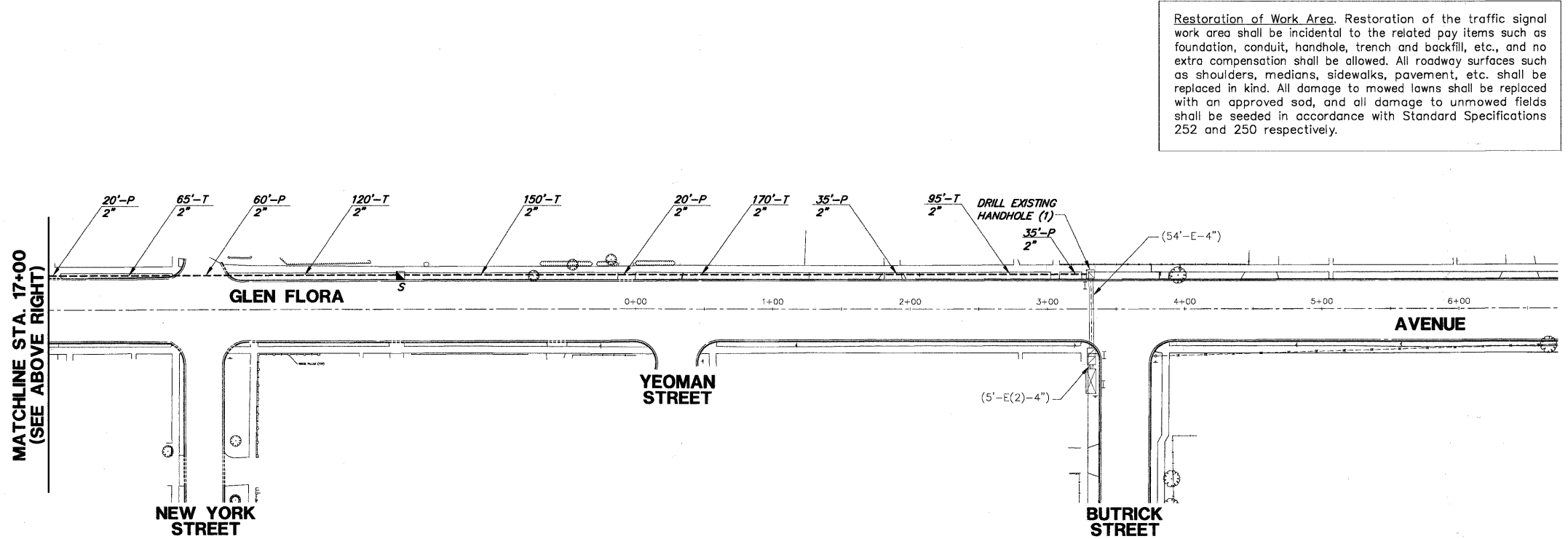
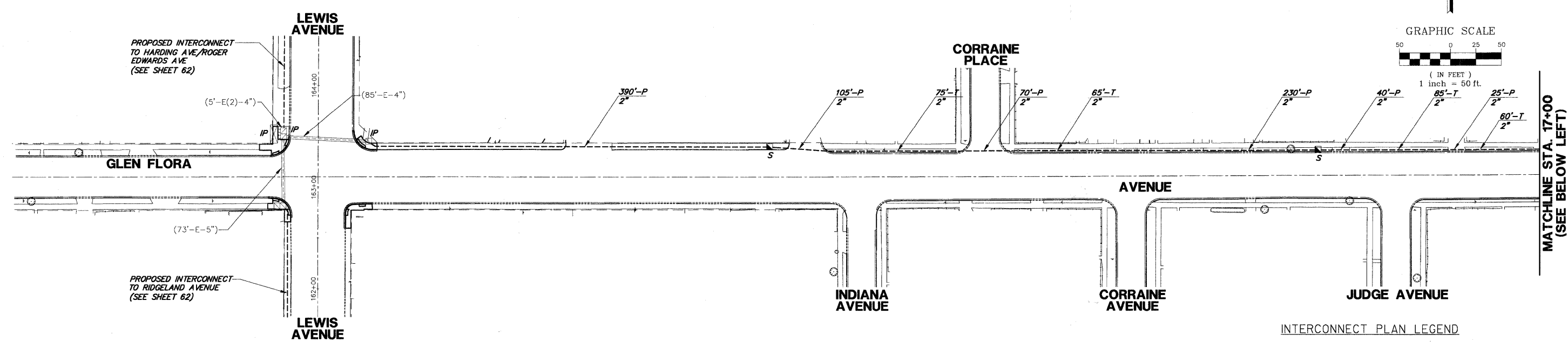
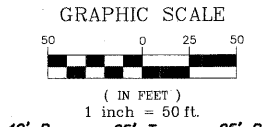
CONSTRUCTION NOTES:

① THE CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE FROM YORK HOUSE ROAD TO 27TH STREET IN THE EXISTING INTERCONNECT CONDUIT. SEE INTERCONNECT SCHEMATIC, SHEET 69 FOR ADDITIONAL INFORMATION AND WORK TO BE PERFORMED.

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	
UNIT DUCT	UD	



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
VIDEO COMMUNICATIONS CABINET		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	

FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA

DESIGNED - JRD
DRAWN - ZCW

REVISIONS:
9/15/09 (LCDOT)
9/25/09 (IDOT)
10/19/09 (LCDOT)

PLOT SCALE = 1" = .08'
PLOT DATE = 10/19/2009

CHECKED - DPB
DATE - 10/19/09

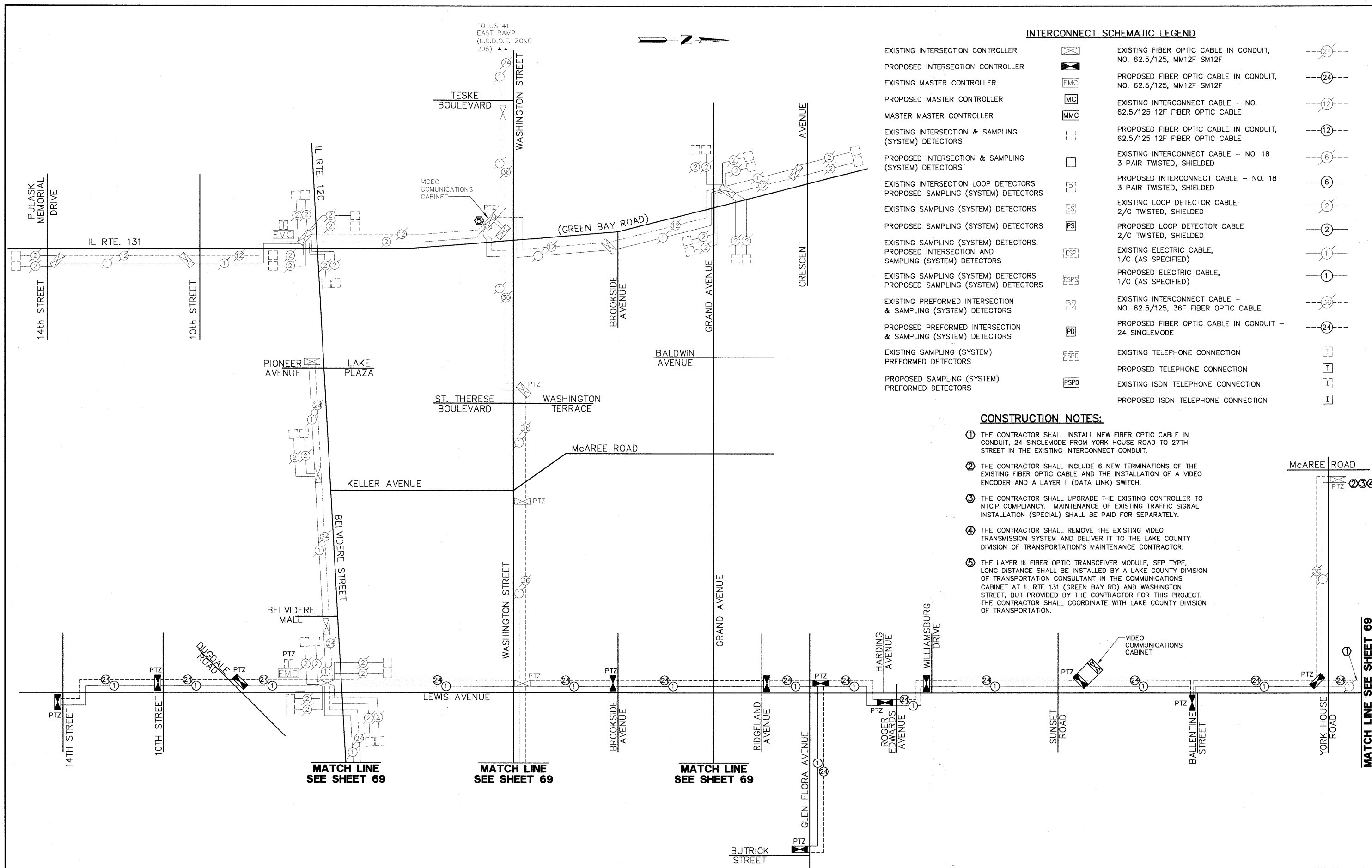
REVISIONS:
10/19/09 (LCDOT)



INTERCONNECT PLAN (SHEET 11 OF 11)
GLEN FLORA AVE. FROM LEWIS AVENUE TO BUTRICK STREET
SCALE: 1"=50' SHEET NO. 67 OF 86 SHEETS STA. 2+00 TO STA. 28+00

F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 67
CONTRACT # 63344			ILLINOIS FED. AID PROJECT	

GHA #4135.800



INTERCONNECT SCHEMATIC LEGEND

EXISTING INTERSECTION CONTROLLER		EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	
PROPOSED INTERSECTION CONTROLLER		PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	
EXISTING MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	
PROPOSED MASTER CONTROLLER		PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
MASTER MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	
EXISTING SAMPLING (SYSTEM) DETECTORS		PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	
PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING ELECTRIC CABLE, 1/C (AS SPECIFIED)	
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS		PROPOSED ELECTRIC CABLE, 1/C (AS SPECIFIED)	
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING INTERCONNECT CABLE - NO. 62.5/125, 36F FIBER OPTIC CABLE	
EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED FIBER OPTIC CABLE IN CONDUIT - 24 SINGLEMODE	
PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING TELEPHONE CONNECTION	
EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS		PROPOSED TELEPHONE CONNECTION	
PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS		EXISTING ISDN TELEPHONE CONNECTION	
		PROPOSED ISDN TELEPHONE CONNECTION	

CONSTRUCTION NOTES:

- 1 THE CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE FROM YORK HOUSE ROAD TO 27TH STREET IN THE EXISTING INTERCONNECT CONDUIT.
- 2 THE CONTRACTOR SHALL INCLUDE 6 NEW TERMINATIONS OF THE EXISTING FIBER OPTIC CABLE AND THE INSTALLATION OF A VIDEO ENCODER AND A LAYER II (DATA LINK) SWITCH.
- 3 THE CONTRACTOR SHALL UPGRADE THE EXISTING CONTROLLER TO NTCIP COMPLIANCY. MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION (SPECIAL) SHALL BE PAID FOR SEPARATELY.
- 4 THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO TRANSMISSION SYSTEM AND DELIVER IT TO THE LAKE COUNTY DIVISION OF TRANSPORTATION'S MAINTENANCE CONTRACTOR.
- 5 THE LAYER III FIBER OPTIC TRANSCEIVER MODULE, SFP TYPE, LONG DISTANCE SHALL BE INSTALLED BY A LAKE COUNTY DIVISION OF TRANSPORTATION CONSULTANT IN THE COMMUNICATIONS CABINET AT IL RTE 131 (GREEN BAY RD) AND WASHINGTON STREET, BUT PROVIDED BY THE CONTRACTOR FOR THIS PROJECT. THE CONTRACTOR SHALL COORDINATE WITH LAKE COUNTY DIVISION OF TRANSPORTATION.

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -

DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
DATE - 10/19/09	REVISED -



INTERCONNECT SCHEMATIC (SHEET 1 OF 2)
LEWIS AVENUE FROM 14TH ST TO ROSECRANS RD (IL RTE 173)

SCALE: NONE SHEET NO. 68 OF 86 SHEETS STA. TO STA.

F.A.P. RTE 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 68
CONTRACT # 63344				ILLINOIS FED. AID PROJECT

GHA #4135.800

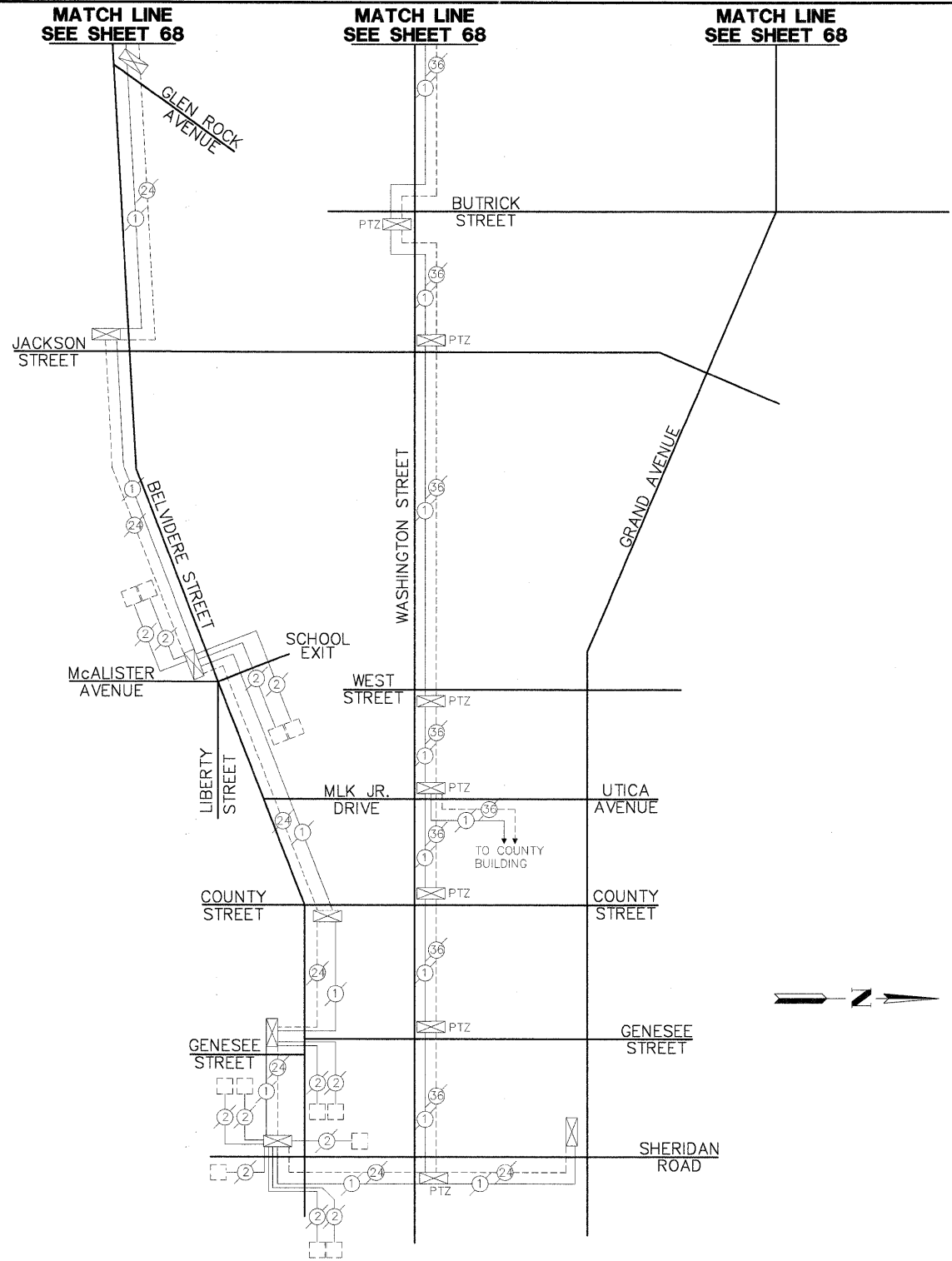
MATCH LINE SEE SHEET 69

SCHEDULE OF QUANTITIES

LEWIS AVENUE FROM 14TH STREET TO ROSECRANS ROAD (IL RTE 173) INTERCONNECT

NO.	QUANT.	UNIT
1.	2,000	SQ.YD. TOPSOIL FURNISH AND PLACE, 4"
2.	2,000	SQ.YD. SODDING, SALT TOLERANT
3.	10	UNIT SUPPLEMENTAL WATERING
4.	1,800	SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK, 5"
5.	1,000	SQ.FT. TEMPORARY SIDEWALK
6.	1,800	SQ.FT. SIDEWALK REMOVAL
7.	14,490	FOOT CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
8.	13,255	FOOT CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
9.	40	EACH HANDHOLE
10.	14,450	FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK
11.	7	EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION (SPECIAL)
12.	3	EACH DRILL EXISTING HANDHOLE
13.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
14.	30,679	FOOT ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C
15.	45,179	FOOT FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE
16.	1	EACH OPTIMIZE TRAFFIC SIGNAL SYSTEM (SPECIAL)
17.	36	EACH TERMINATE FIBER IN CABINET
18.	12	EACH SPLICE FIBER IN CABINET
19.	1	EACH VIDEO ENCODER
20.	1	EACH LAYER III FIBER OPTIC TRANSCEIVER MODULE, SFP TYPE, LONG DISTANCE
21.	1	EACH LAYER III FIBER OPTIC TRANSCEIVER MODULE, GBIC TYPE, LONG DISTANCE
22.	7	EACH UPGRADE EXISTING CONTROLLER TO NTCIP (SPECIAL)
23.	1	EACH LAYER II (DATA LINK) SWITCH

* THE LAYER III FIBER OPTIC TRANSCEIVER MODULE, GBIC TYPE, LONG DISTANCE SHALL BE INSTALLED IN THE ISTHA BUILDING (M4) LOCATED AT I-94 (TRI-STATE TOLLWAY) AND ILL. RTE 132 (GRAND AVE). THE CONTRACTOR SHALL COORDINATE WITH LAKE COUNTY DIVISION OF TRANSPORTATION (847) 377-7400 AND ILLINOIS STATE HIGHWAY AUTHORITY (630) 241-6800.

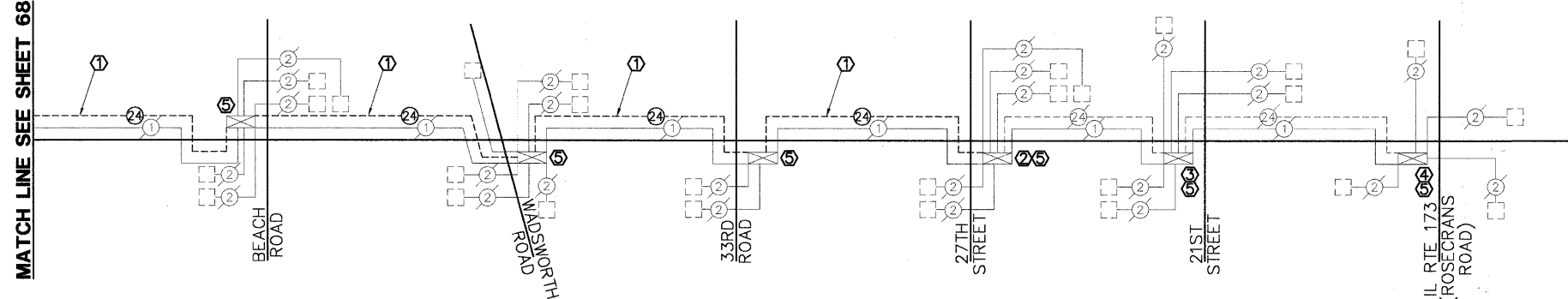


INTERCONNECT SCHEMATIC LEGEND

EXISTING INTERSECTION CONTROLLER		EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	
PROPOSED INTERSECTION CONTROLLER		PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	
EXISTING MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	
PROPOSED MASTER CONTROLLER		PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
MASTER MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	
EXISTING INTERSECTION LOOP DETECTORS		PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	
PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING ELECTRIC CABLE, 1/C (AS SPECIFIED)	
EXISTING SAMPLING (SYSTEM) DETECTORS		PROPOSED ELECTRIC CABLE, 1/C (AS SPECIFIED)	
PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING INTERCONNECT CABLE - NO. 62.5/125, 36F FIBER OPTIC CABLE	
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS		PROPOSED FIBER OPTIC CABLE IN CONDUIT - 24 SINGLEMODE	
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING TELEPHONE CONNECTION	
EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED TELEPHONE CONNECTION	
PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING ISDN TELEPHONE CONNECTION	
EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS		PROPOSED ISDN TELEPHONE CONNECTION	
PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS			

CONSTRUCTION NOTES:

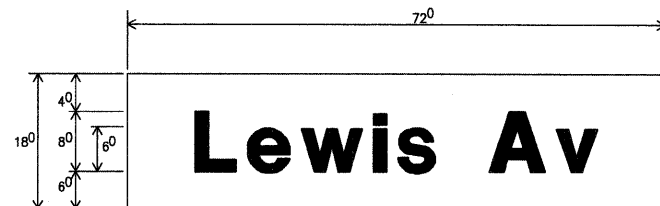
- THE CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE FROM YORK HOUSE ROAD TO 27TH STREET IN THE EXISTING INTERCONNECT CONDUIT. ALL FIBER TERMINATIONS AND/OR SPLICES REQUIRED AT THE EXISTING INTERSECTIONS OF BEACH ROAD, WADSWORTH ROAD, 33RD ROAD, AND 27TH STREET ARE INCLUDED IN THE PAY ITEM "FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE".
- THE CONTRACTOR SHALL INCLUDE 6 NEW TERMINATIONS OF THE EXISTING FIBER OPTIC CABLE. 6 ADDITIONAL TERMINATIONS AND 6 SPLICES WILL ALSO BE CONSIDERED INCIDENTAL TO THE NEW "FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE".
- THE CONTRACTOR SHALL INCLUDE 12 NEW TERMINATIONS AND 6 NEW SPLICES OF THE EXISTING FIBER OPTIC CABLE.
- THE CONTRACTOR SHALL INCLUDE 12 NEW TERMINATIONS OF THE EXISTING FIBER OPTIC CABLE.
- THE CONTRACTOR SHALL UPGRADE THE EXISTING CONTROLLER TO NTCIP COMPLIANCY. MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION (SPECIAL) SHALL BE PAID FOR SEPARATELY.



PANEL DESIGN TYPE 1

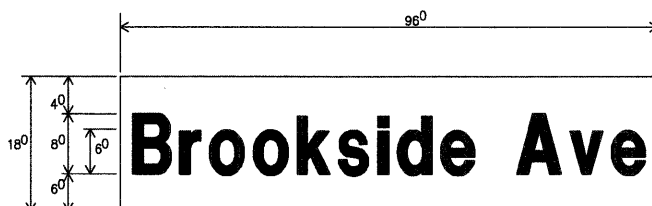
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	70
LCDOT TS DESIGN DETAILS SHT 2 OF 2				
ILLINOIS				

CONTRACT NO: 63344



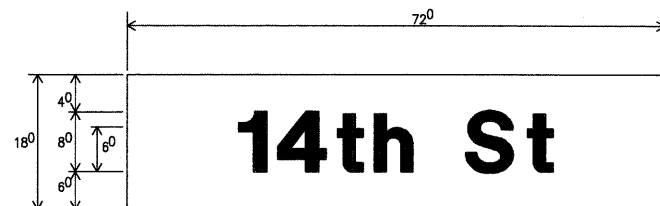
ALL DIMENSIONS SHOWN IN INCHES

9.0 SQ. FT. EACH
 3 SINGLE SIDED REQUIRED
 18 DOUBLE SIDED REQUIRED
 DESIGN SERIES D
 CLEARVIEW FONT



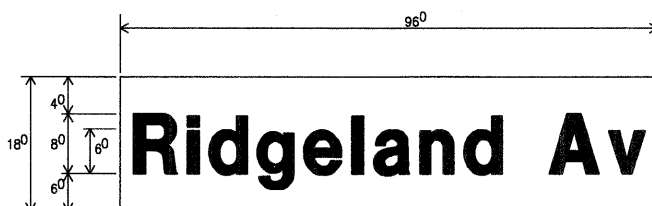
ALL DIMENSIONS SHOWN IN INCHES

12.0 SQ. FT. EACH
 SINGLE SIDED REQUIRED
 2 DOUBLE SIDED REQUIRED
 DESIGN SERIES
 CLEARVIEW FONT



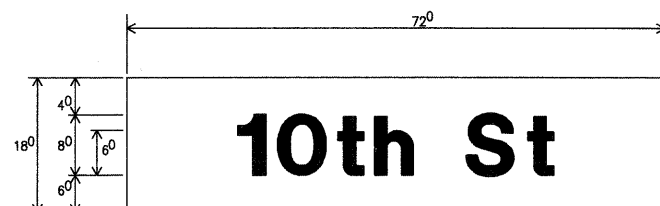
ALL DIMENSIONS SHOWN IN INCHES

9.0 SQ. FT. EACH
 SINGLE SIDED REQUIRED
 2 DOUBLE SIDED REQUIRED
 DESIGN SERIES D
 CLEARVIEW FONT



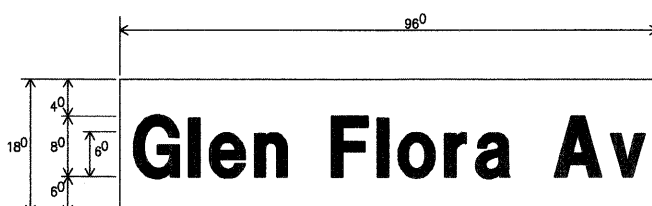
ALL DIMENSIONS SHOWN IN INCHES

12.0 SQ. FT. EACH
 SINGLE SIDED REQUIRED
 2 DOUBLE SIDED REQUIRED
 DESIGN SERIES D
 CLEARVIEW FONT



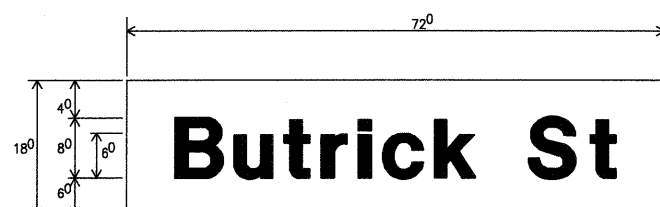
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 DESIGN SERIES D
 CLEARVIEW FONT



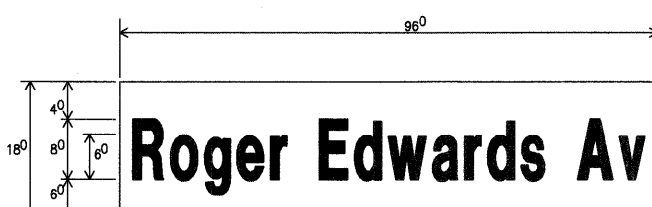
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 DESIGN SERIES D
 CLEARVIEW FONT



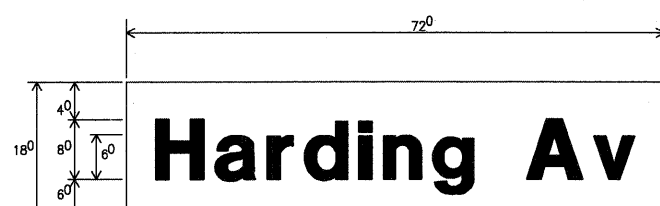
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 DESIGN SERIES D
 CLEARVIEW FONT



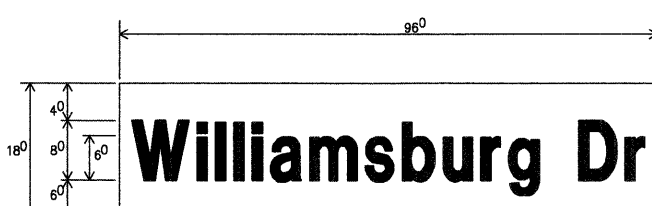
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 DESIGN SERIES D
 CLEARVIEW FONT



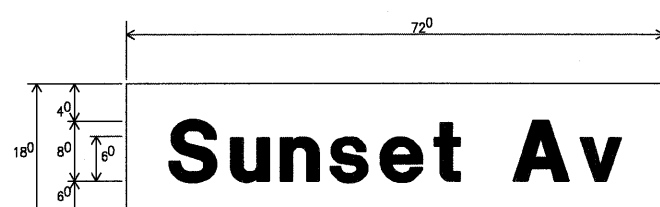
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 CLEARVIEW FONT



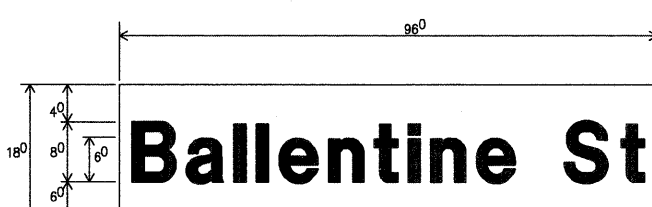
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 CLEARVIEW FONT



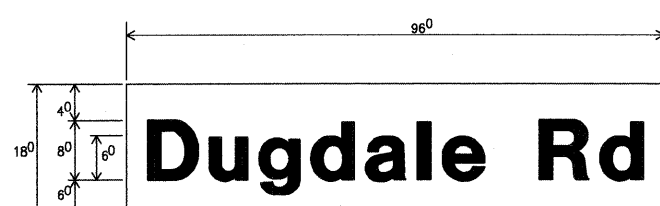
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 DESIGN SERIES D
 CLEARVIEW FONT



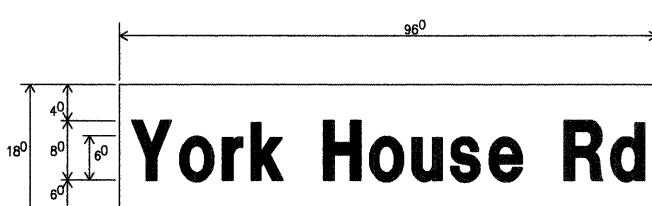
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12.0 SQ. FT. EACH
 SINGLE SIDED REQUIRED
 2 DOUBLE SIDED REQUIRED
 DESIGN SERIES D
 CLEARVIEW FONT



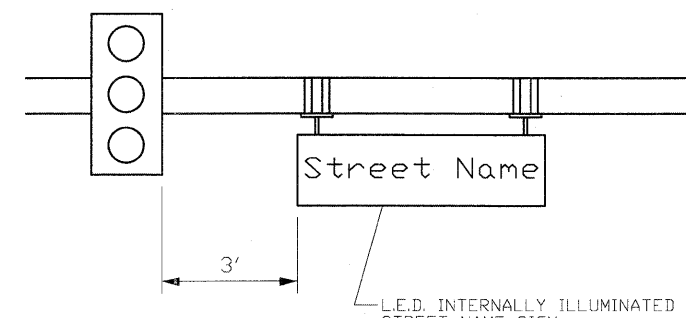
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 CLEARVIEW FONT



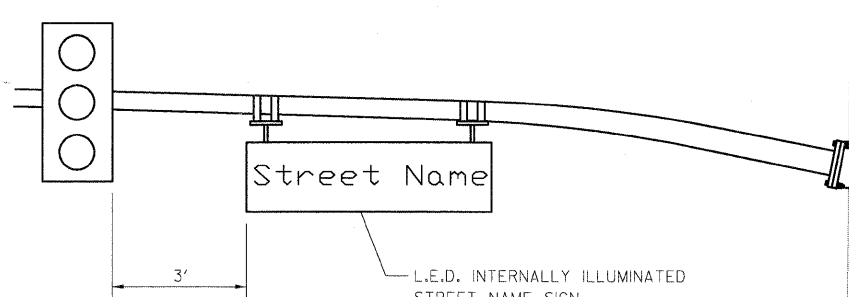
ALL DIMENSIONS SHOWN IN INCHES

12.0 SQ. FT. EACH
 SINGLE SIDED REQUIRED
 2 DOUBLE SIDED REQUIRED
 DESIGN SERIES D
 CLEARVIEW FONT



L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN

REGULAR STEEL MAST ARM ASSEMBLY AND POLE
 NOTE: L.E.D. ILLUMINATED STREET NAME SIGNS AVAILABLE ONLY IN 2 FOOT INCREMENTS.



L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN

DECORATIVE STEEL MAST ARM ASSEMBLY AND POLE

FILE NAME =	USER NAME = GHA
4135.315-TR1.dwg	

DESIGNED - JRD	REVISD - 9/15/09 (LCDOT)
DRAWN - ZCW	REVISD - 9/25/09 (IDOT)
CHECKED - DPB	REVISD - 10/19/09 (LCDOT)
DATE - 10/19/09	REVISD -

PLOT SCALE = 1" = .08'	
PLOT DATE = 10/19/2009	







DESIGNED - JRD	REVISD - 9/15/09 (LCDOT)
DRAWN - ZCW	REVISD - 9/25/09 (IDOT)
CHECKED - DPB	REVISD - 10/19/09 (LCDOT)
DATE - 10/19/09	REVISD -

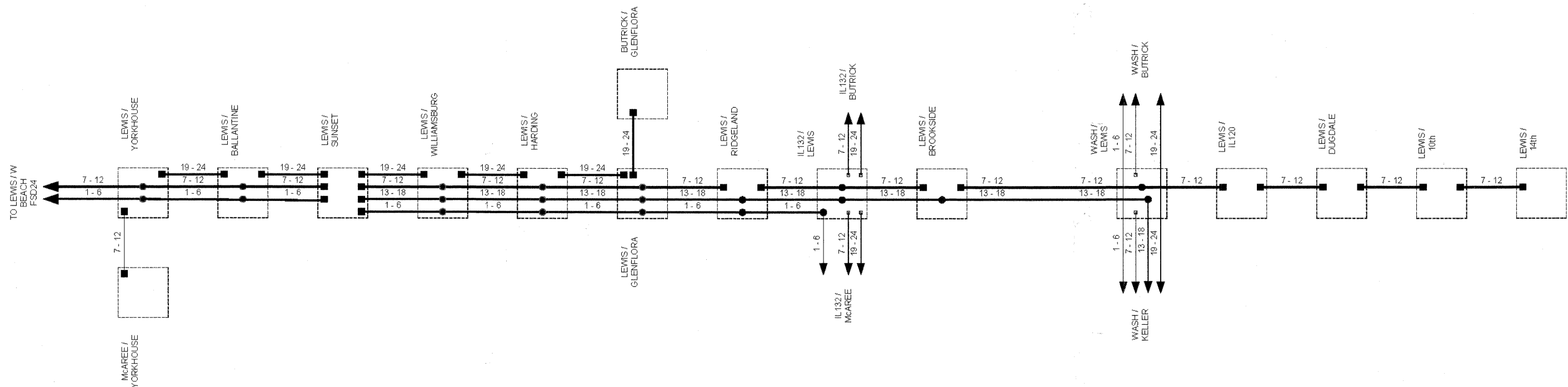


DETAIL SHEET

SCALE NONE	SHEET NO. 70 OF 86 SHEETS	STA.	TO STA.
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MAST ARM MOUNTED STREET NAME SIGNS				
SCALE: NONE	SHEET 1 OF 4	DESIGNED BY: JPS		
DATE: 7/26/06		CHECKED BY: ANK		
		GHA #4135.800		
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	70
CONTRACT #:			63344	
ILLINOIS FED. AID PROJECT				

-  EXISTING CONNECTOR / EXISTING FIBER
-  PROPOSED CONNECTOR / EXISTING FIBER
-  PROPOSED FUSION SPLICE / EXISTING FIBER
-  PROPOSED CONNECTOR / PROPOSED FIBER
-  PROPOSED FUSION SPLICE / PROPOSED FIBER
-  FUTURE FIBER (BY OTHERS)



**FIBER OPTIC CABLE TERMINATION/SPLICING QUANTITIES
(BY INTERSECTION/LOCATION)**

INTERSECTION/LOCATION	INCIDENTAL		BID ITEM	
	T	S	T	S
LEWIS AVE @ 14TH ST	6			
LEWIS AVE @ 10TH ST	12			
LEWIS AVE @ DUGDALE RD	12			
LEWIS AVE @ BELVIDERE ST	12			
LEWIS AVE @ WASHINGTON ST		12		
LEWIS AVE @ BROOKSIDE AVE	12	6		
LEWIS AVE @ GRAND AVE (TO BE PROVIDED DURING GRAND AVE INTERCONNECT)				
LEWIS AVE @ RIDGELAND AVE	12	12		
LEWIS AVE @ GLEN FLORA AVE	12	18		
GLEN FLORA AVE @ BUTRICK ST	6			
LEWIS AVE @ HARDING/ROGER EDWARDS AVE	12	18		
LEWIS AVE @ WILLIAMSBURG DR	12	18		
LEWIS AVE @ SUNSET RD	42			
LEWIS AVE @ BALLENTINE ST	12	12		
LEWIS AVE @ YORK HOUSE RD	6	12	6	
YORK HOUSE RD @ McAREE RD			6	
LEWIS AVE @ BEACH RD	12	6		
LEWIS AVE @ WADSWORTH RD	12	6		
LEWIS AVE @ 33RD ST	12	6		
LEWIS AVE @ 27TH ST	6	6	6	
LEWIS AVE @ 21ST ST			12	6
LEWIS AVE @ ROSECRANS RD (IL RTE 173)			12	
TOTAL FOR CONTRACT	210	132	42	6

T = TERMINATE FIBER IN CABINET
S = SPLICE FIBER IN CABINET



FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -



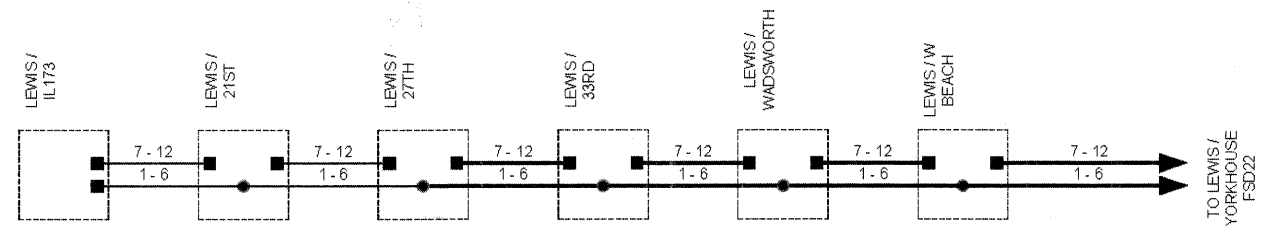
FIBER SPLICING DIAGRAM 22			
LEWIS AVENUE FROM 14TH STREET TO YORK HOUSE ROAD			
SCALE: NONE	SHEET NO. 71 OF 86 SHEETS	STA.	TO STA.

FILE NAME	DATE	DESIGN	DRAWN	CHECKED	SCALE	DATE
4135.315	9/4/2009	MLK ADDITIONS	DJG	DJG	NOT TO SCALE	9/4/2009
		FIBER AS BUILT	DJG	DJG		
		WASH/BELVIDERE ADDITIONS	DJG	DJG		
		GLENFLORA POLICE STATION ADDITIONS	DJG	DJG		
		CMAG PHASE 3 ADDITIONS	DJG	DJG		
		GRAND AND LEWIS ADDITIONS	DJG	DJG		

GHA #4135.800

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	71
CONTRACT #:			63344	
ILLINOIS FED. AID PROJECT				

- EXISTING CONNECTOR / EXISTING FIBER
- PROPOSED CONNECTOR / EXISTING FIBER
- PROPOSED FUSION SPLICE / EXISTING FIBER
- PROPOSED CONNECTOR / PROPOSED FIBER
- PROPOSED FUSION SPLICE / PROPOSED FIBER
- — FUTURE FIBER (BY OTHERS)



FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA

DESIGNED - JRD
DRAWN - ZCW

REVISD - 9/15/09 (LCDOT)
REVISD - 9/25/09 (IDOT)
REVISD - 10/19/09 (LCDOT)



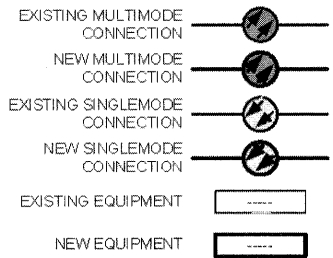
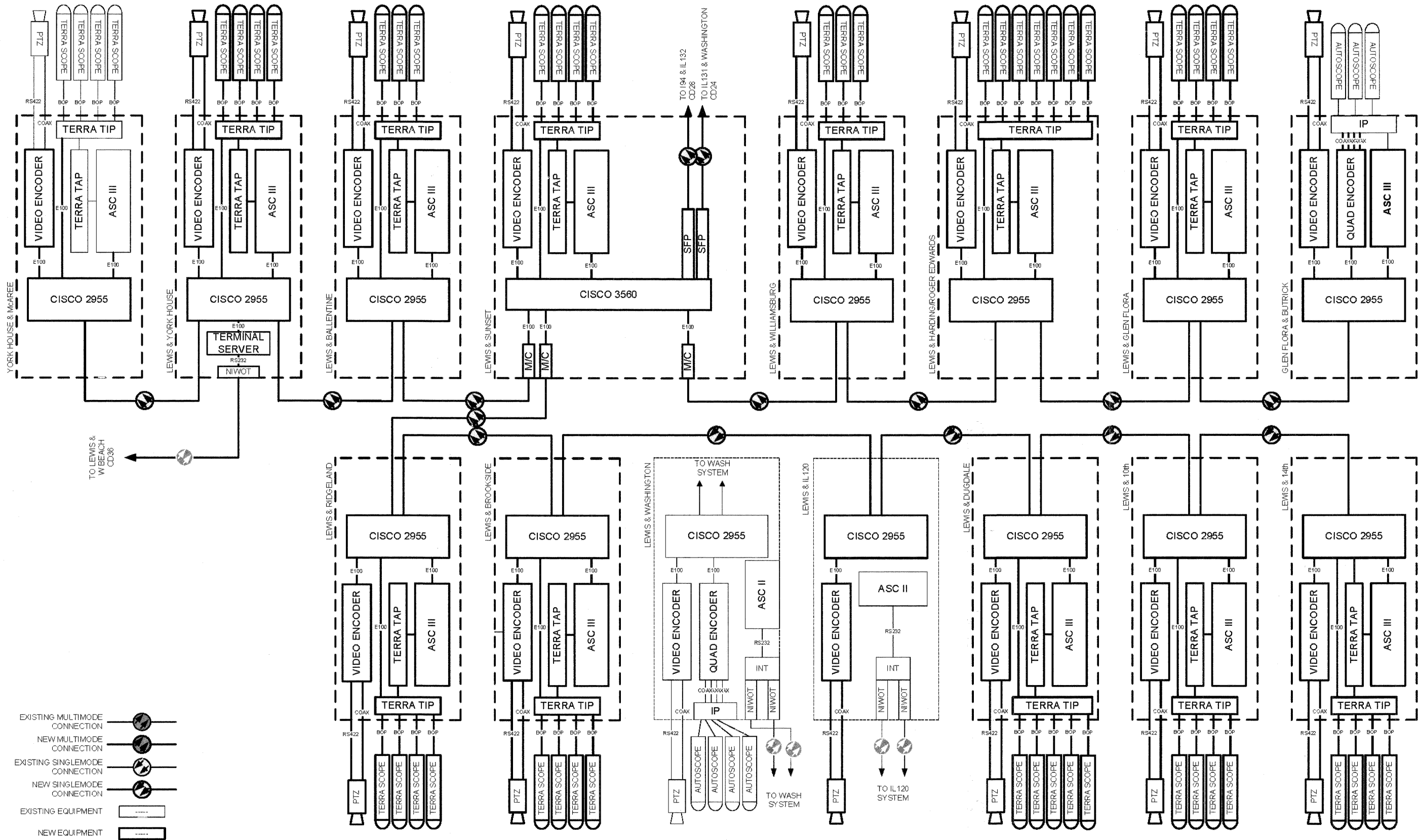
**FIBER SPLICING DIAGRAM 24
LEWIS AVENUE FROM YORK HOUSE ROAD
TO IL ROUTE 173 (ROSECRANS ROAD)**

SCALE: NONE SHEET NO. 72 OF 86 SHEETS STA. TO STA.

04/5/2009	MLK ADDITIONS	DESIGN	DJG	1/08
04/8/2009	FIBER AS-BUILT	DRAWN	DJG	1/08
04/7/2009	WASH/FLAS ADDITIONS	CHECKED	DJG	1/08
04/8/2009	GURNEE POLICE STATION ADDITIONS	SCALE	NOT TO SCALE	
04/9/2009	CMAG PHASE 3 ADDITIONS	DATE	04/2009	
10/0/2009	GRAND AND LEWIS ADDITIONS			

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	72
CONTRACT #:			63344	
ILLINOIS FED. AID PROJECT				

GHA #4135.800

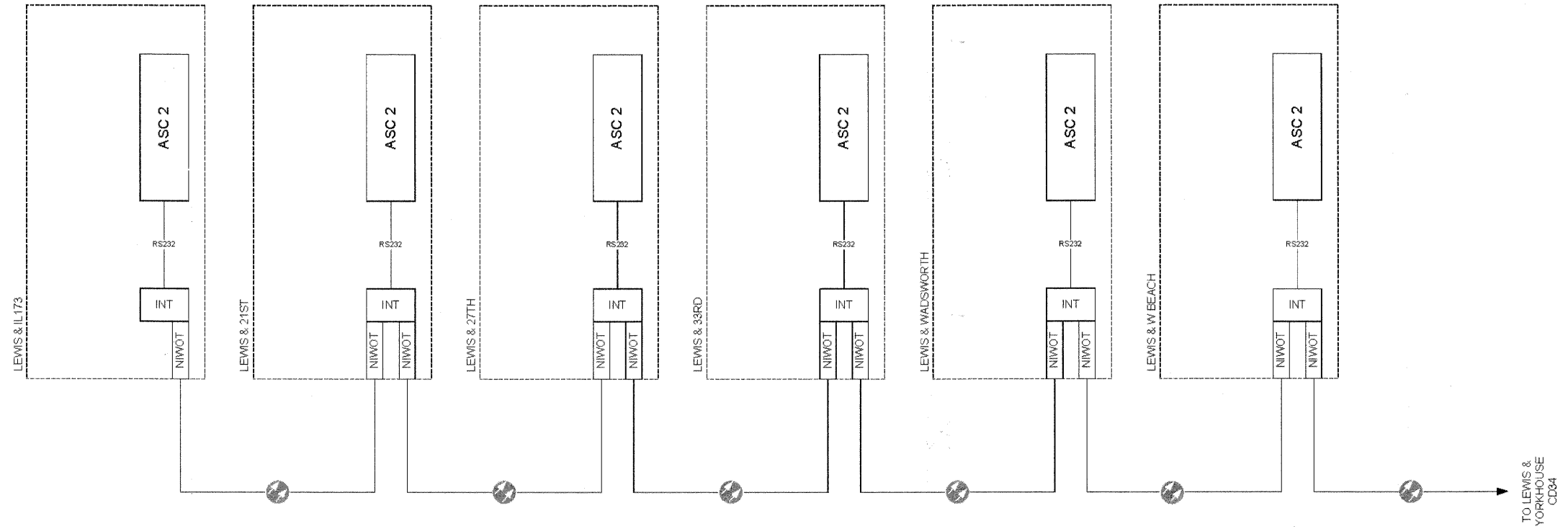
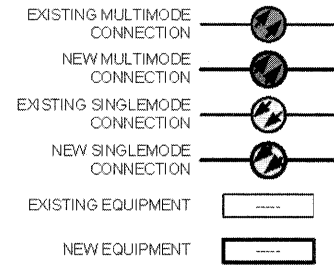


FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -



CABINET DETAIL 34			
LEWIS AVE/IL RTE 120 TO YORK HOUSE RD			
SCALE: NONE	SHEET NO. 73 OF 86 SHEETS	STA. TO STA.	

GHA #4135.800																																					
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04/5/2009	MLK ADDITIONS	DESIGN	DJG	1/08																																	
04/8/2009	FIBER AS-BUILT	DRAWN	DJG	1/08																																	
04/7/2009	WASHFIELD ILL. ADDITIONS	CHECKED	DJG	1/08																																	
04/8/2009	GURNEE POLICE STATION ADDITIONS																																				
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05/0/2009	GRAND AND LEWIS ADDITIONS																																				
DATE	9/4/2009																																				
SCALE	NOT TO SCALE																																				
FILE NAME	TR1.dwg																																				
FAP. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 73																																	
			CONTRACT #: 63344																																		
ILLINOIS FED. AID PROJECT																																					



FILE NAME = 4135.315-TR1.dwg
 USER NAME = GHA
 PLOT SCALE = 1" = .08'
 PLOT DATE = 10/19/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - DPB
 DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)
 REVISED - 9/25/09 (IDOT)
 REVISED - 10/19/09 (LCDOT)
 REVISED -

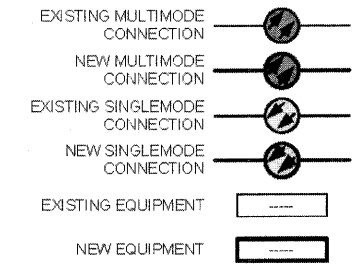
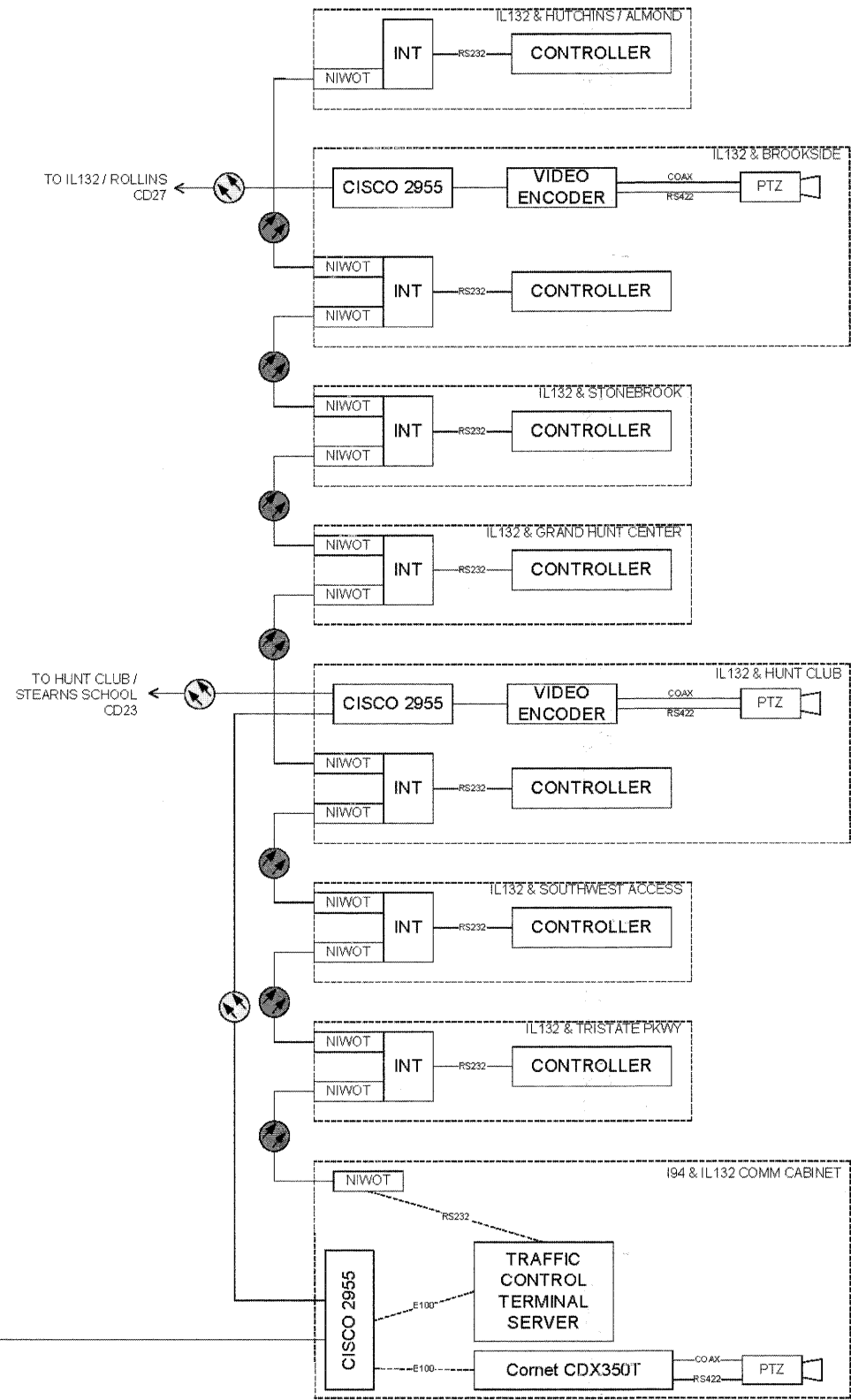
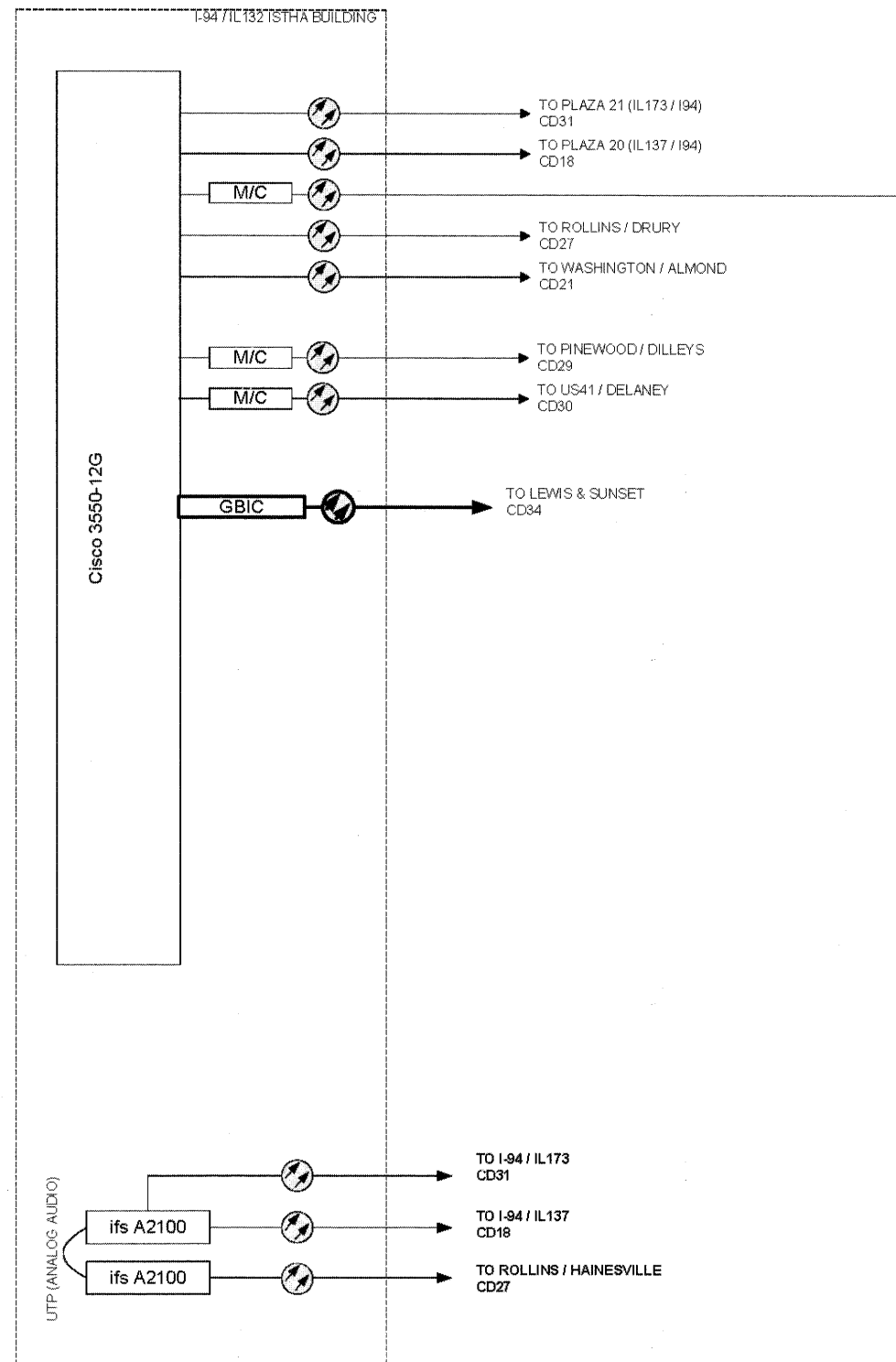


CABINET DETAIL 36
LEWIS AVE/YORK HOUSE RD TO IL RTE 173 (ROSECRANS RD)
 SCALE: NONE SHEET NO. 74 OF 86 SHEETS STA. TO STA.

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	74
CONTRACT #:			63344	
ILLINOIS FED. AID PROJECT				

REV. NO.	DATE	DESCRIPTION	DESIGN	CHECKED	SCALE
V4.9	2/09	MLK ADDITIONS	DJG	DJG	1/08
V4.8	5/09	FIBER AS-BUILT	DJG	DJG	1/08
V4.7	5/09	WASHU/B PLASS ADDITIONS	DJG	DJG	1/08
V4.6	8/09	GURNEE POLICE STATION ADDITIONS	DJG	DJG	1/08
V4.5	8/09	EMO PHASE 3 ADDITIONS	DJG	DJG	1/08
V4.4	8/09	GRAND AND LEWIS ADDITIONS	DJG	DJG	1/08
V4.3	8/09	GRAND AND LEWIS ADDITIONS	DJG	DJG	1/08
V4.2	8/09	GRAND AND LEWIS ADDITIONS	DJG	DJG	1/08
V4.1	8/09	GRAND AND LEWIS ADDITIONS	DJG	DJG	1/08

GHA #4135.800

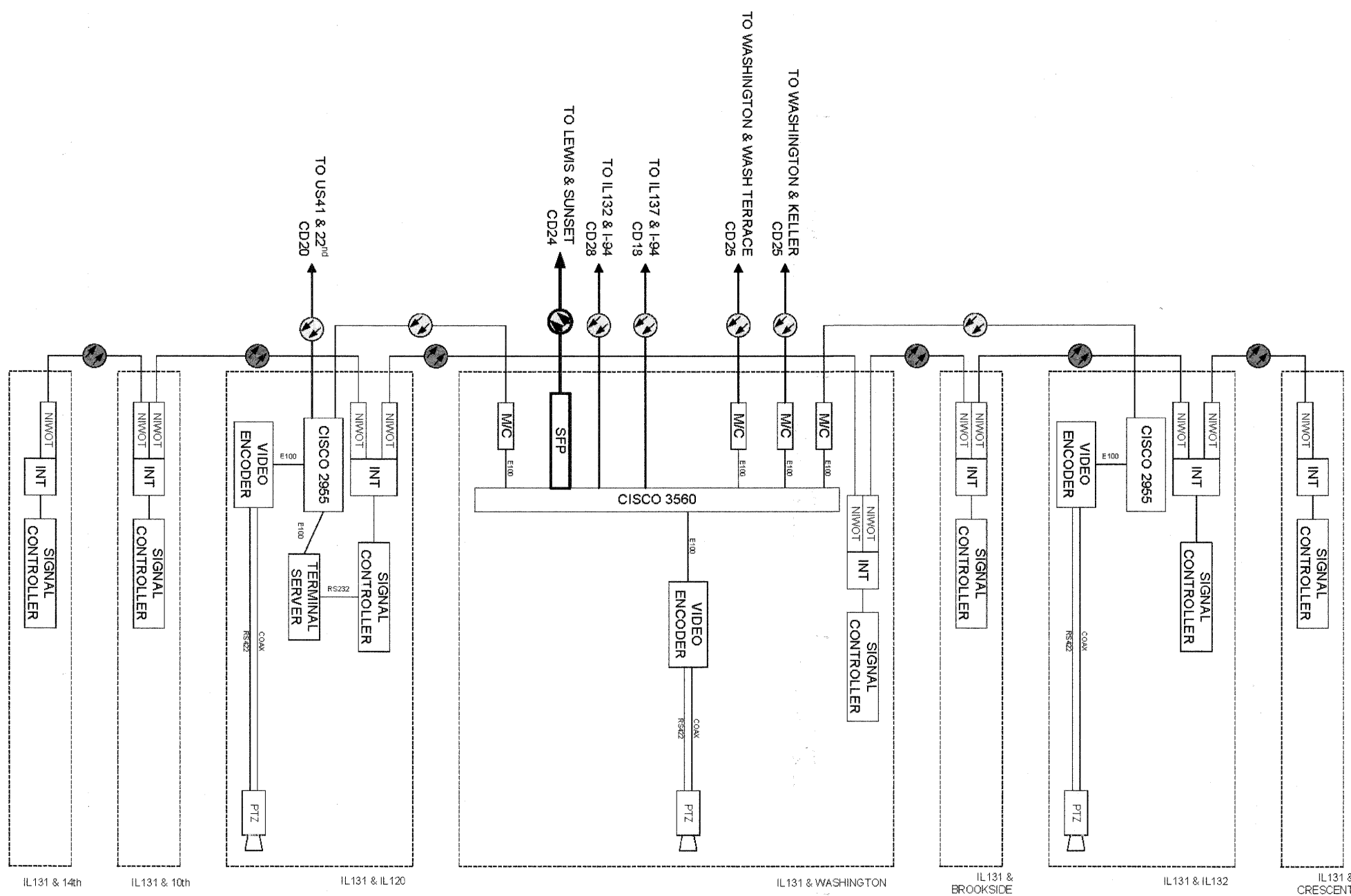
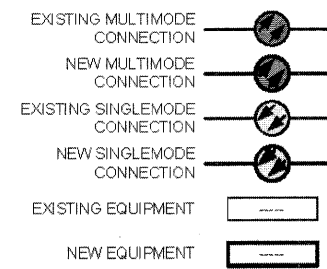


FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
	PLOT SCALE = 1" = .08'	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
	PLOT DATE = 10/19/2009	DATE - 10/19/09	REVISED -



CABINET DETAIL 28	
M4/I-94 & IL RTE 132 (GRAND AVE)	
SCALE: NONE	STA. TO STA.

GHA #4135.800				
04/5/2009	MLK ADDITIONS	DESIGN	DJG	1/08
04/8/2009	FIBER AS-BUILT	DRAWN	DJG	1/08
04/7/2009	WASH/BELLAIR ADDITIONS	CHECKED	DJG	1/08
04/8/2009	GURNEE POLICE STATION ADDITIONS	SCALE	NOT TO SCALE	
04/9/2009	CIWAO PHASE 3 ADDITIONS	DATE	9/4/2009	
05/11/2009	GRAND AND LEWIS ADDITIONS			
NO. 1 DATE	FILE NAME	SHEET NO.	75	TOTAL SHEETS 86
		COUNTY	LAKE	CONTRACT # 63344
		SECTION	08-00259-00-TL	ILLINOIS FED. AID PROJECT
		F.A.P. RTE.	2730	



FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA
PLOT SCALE = 1" = .08'	PLOT DATE = 10/19/2009

DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
DATE - 10/19/09	REVISED -



CABINET DETAIL 24	
WASHINGTON ST & IL RTE 131 (GREEN BAY RD)	
SCALE: NONE	SHEET NO. 76 OF 86 SHEETS
STA.	TO STA.

GHA #4135.800				
V4 5 2009	MLK ADDITIONS	DESIGN	DJG	1/08
V4 8 5009	PIPER AS-BUILT	DRAWN	DJG	1/08
V4 7 5009	WASH PLAZA ADDITIONS	CHECKED	DJG	1/08
V4 8 8009	GURNEE POLICE STATION ADDITIONS	SCALE	NOT TO SCALE	
V4 9 8009	CMAG PHASE 3 ADDITIONS	DATE	9/4/2009	
V5 1 3009	GRAND AND LEWIS ADDITIONS			
FAP. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.		CONTRACT #		
2730	08-00259-00-TL	LAKE	86	76
		ILLINOIS FED. AID PROJECT		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	85	77
VIDEO DETECTION DETAILS				
ILLINOIS				

CONTRACT NO: 63344

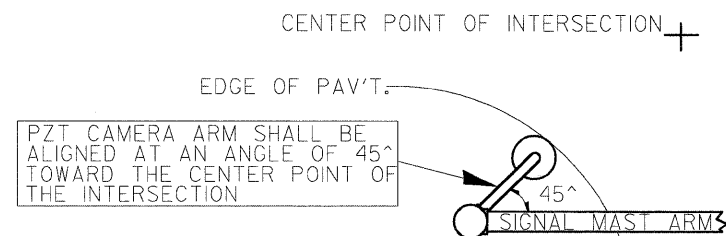
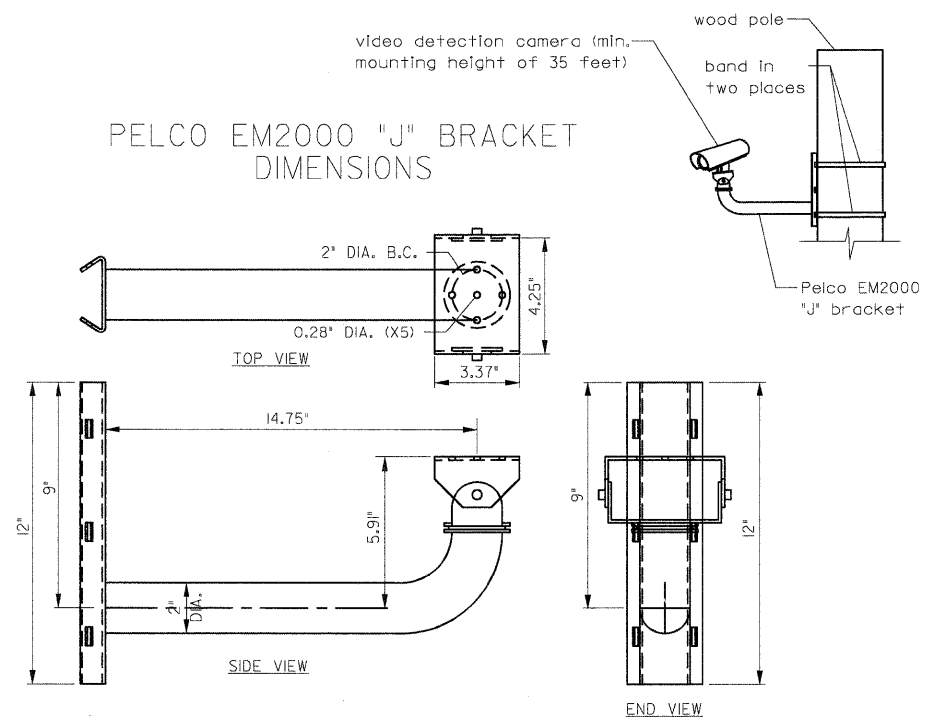
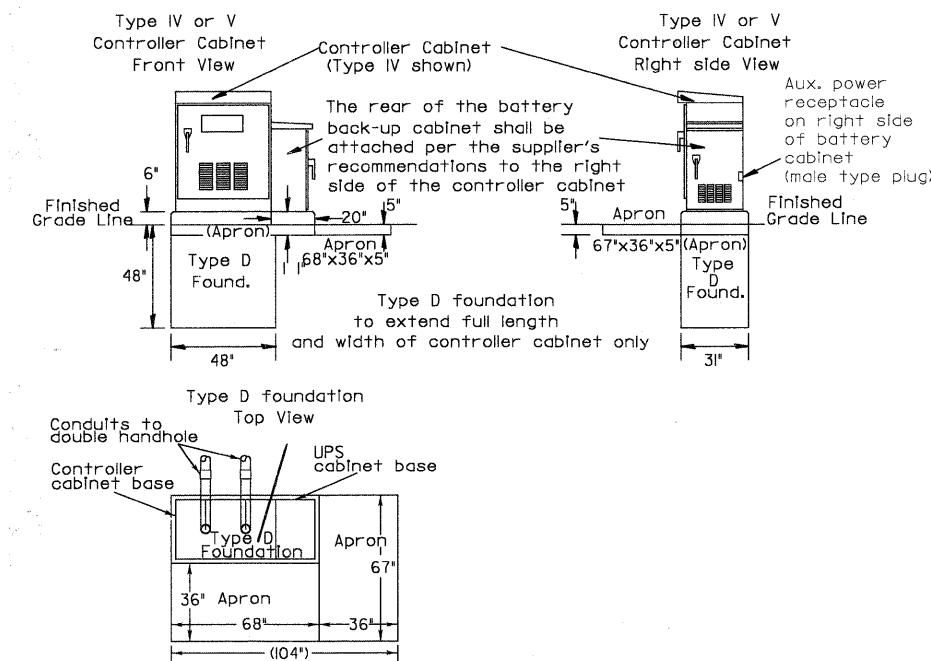


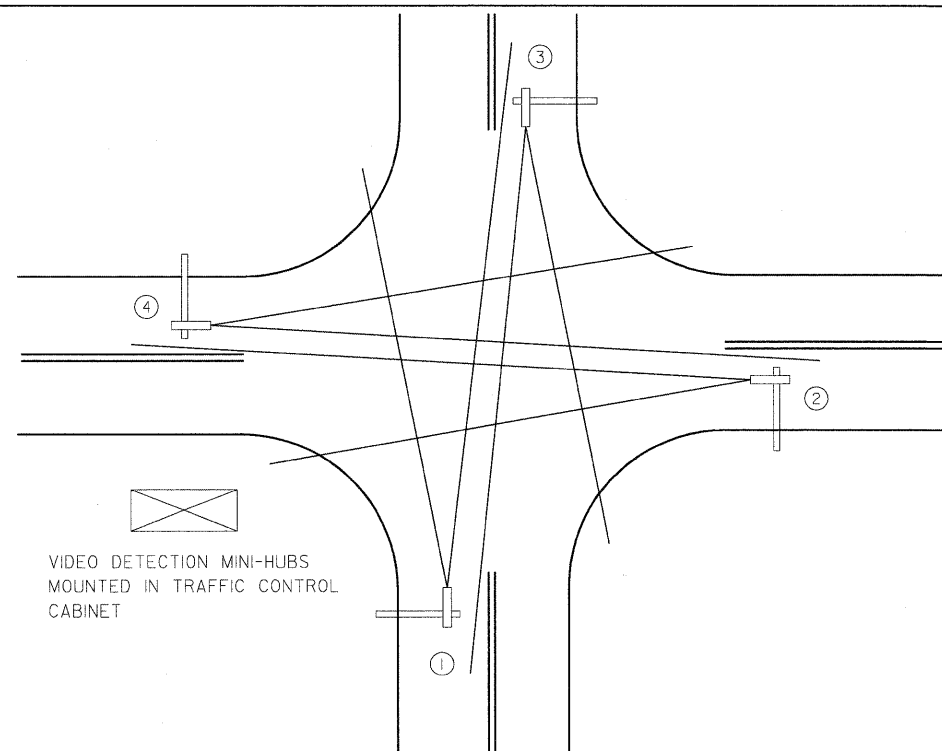
IMAGE SENSOR AND JUNCTION BOX MOUNTING DETAILS
(NO SCALE)



VIDEO DETECTION CAMERA MOUNTING
DETAIL FOR TEMPORARY TRAFFIC SIGNALS
(NOT TO SCALE)

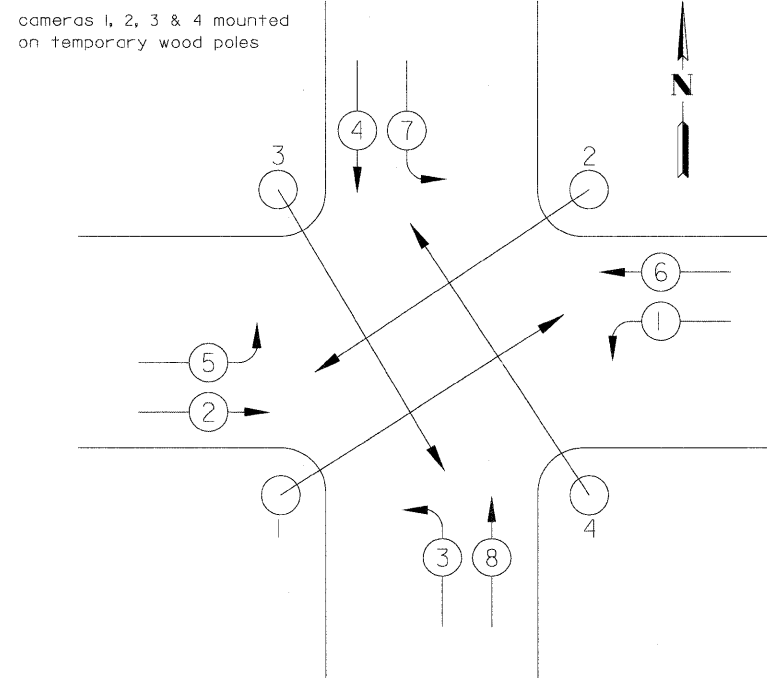


UNINTERRUPTIBLE POWER SUPPLY (UPS)
CABINET INSTALLATION DETAIL
(NOT TO SCALE)



TYPICAL VIDEO VEHICLE DETECTION SYSTEM

(NOT TO SCALE)
(4) MACHINE VISION PROCESSOR ASSEMBLIES AND BRACKETS ① ② ③ ④
POWER CABLE TO EACH MACHINE VISION PROCESSOR (24 VAC)



VIDEO DETECTION CAMERA ASSIGNMENT
FOR TEMPORARY TRAFFIC SIGNALS
(NOT TO SCALE)

REVISIONS	DATE
UPS SCHEMATIC REVISED	2/1/07
MOUNTING DETAILS REVISED	5/1/08



APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

VIDEO DETECTION DETAILS

GHA #4135.800

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/2009	REVISED -



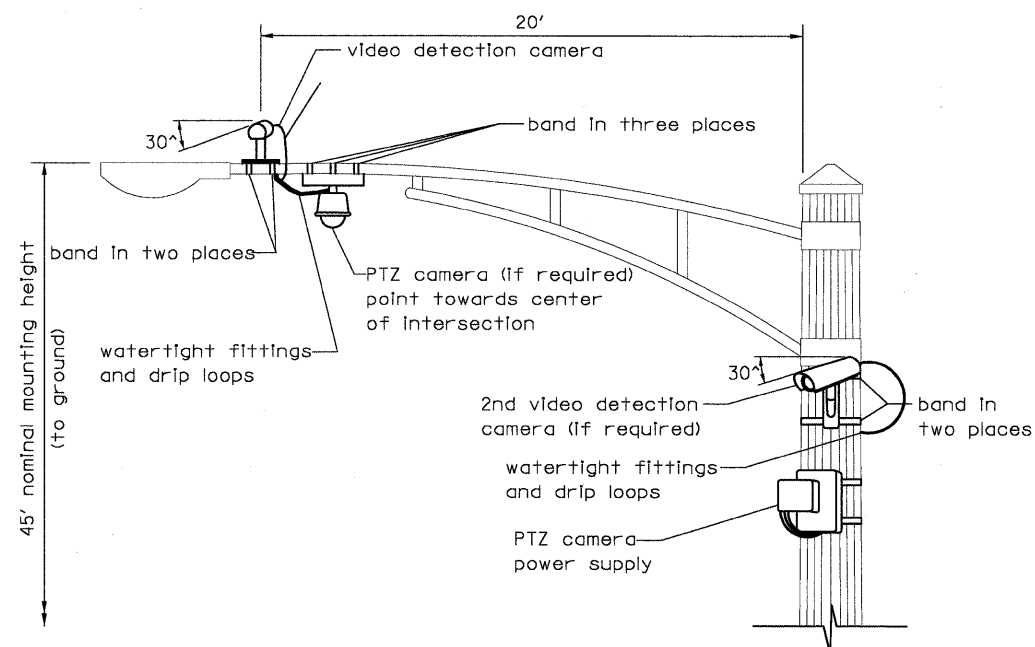
DETAIL SHEET	
SCALE: NONE	SHEET NO. 77 OF 86 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	77
CONTRACT #: 63344				
ILLINOIS FED. AID PROJECT				

LC8900

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	78
VIDEO DETECTION DETAILS				
ILLINOIS				

CONTRACT NO: 63344

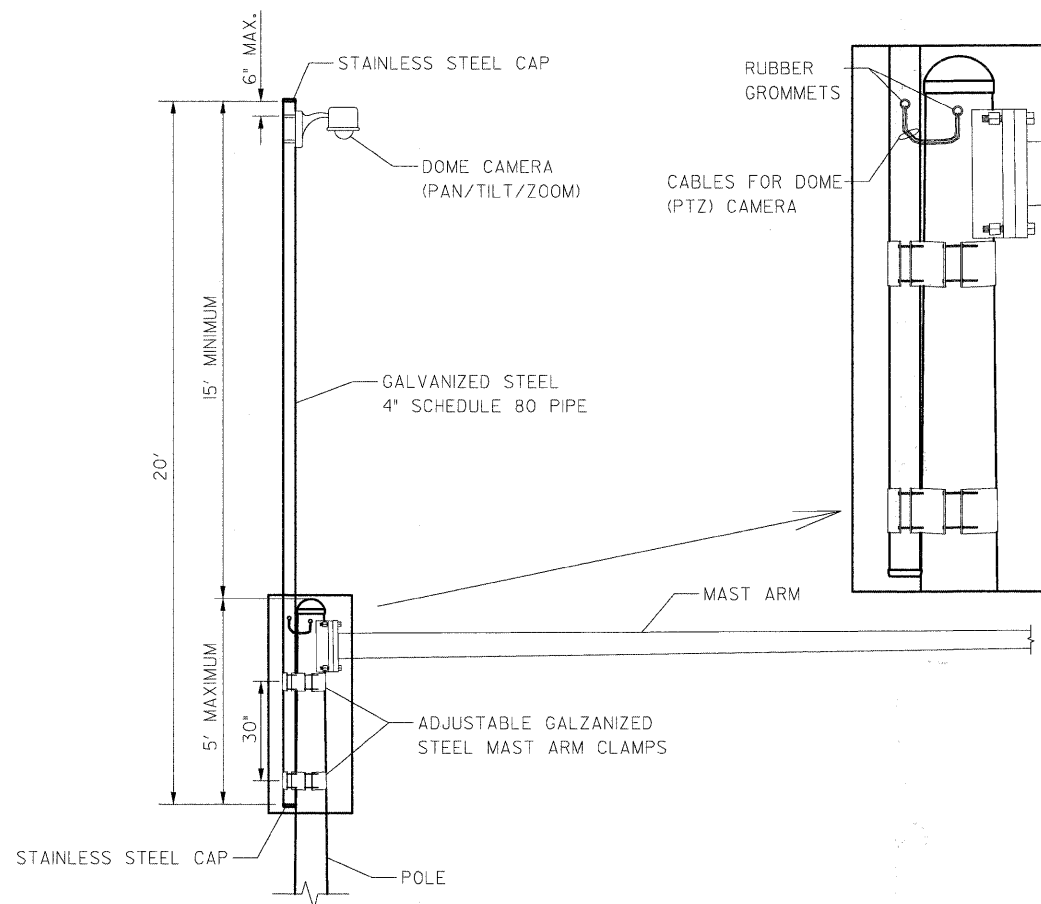


VIDEO DETECTION CAMERA(S) AND DOME (PTZ) CAMERA MOUNTING DETAIL

(NOT TO SCALE)

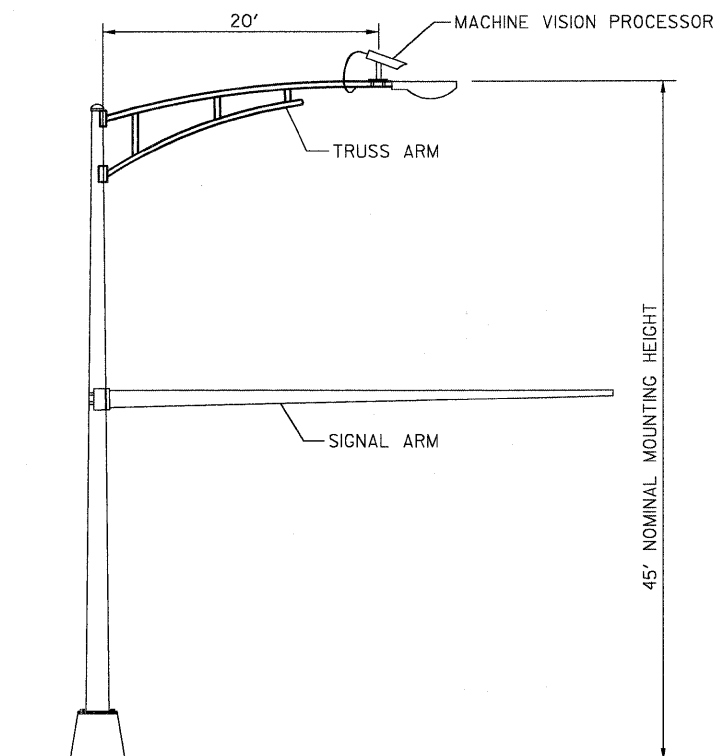
NOTES FOR SINGLE, DUAL AND MULTIPLE MVP MOUNTING:

- MOUNT LUMINAIRE MOUNTING BRACKET AS HIGH AS POSSIBLE.
- AIM BRACKET TOWARD DIRECTION OF TRAFFIC TO BE DETECTED.
- MOUNT MACHINE VISION PROCESSOR AIMING DOWN AT 30 DEGREE ANGLE.



CAMERA MOUNTING ASSEMBLY DETAIL

(NOT TO SCALE)

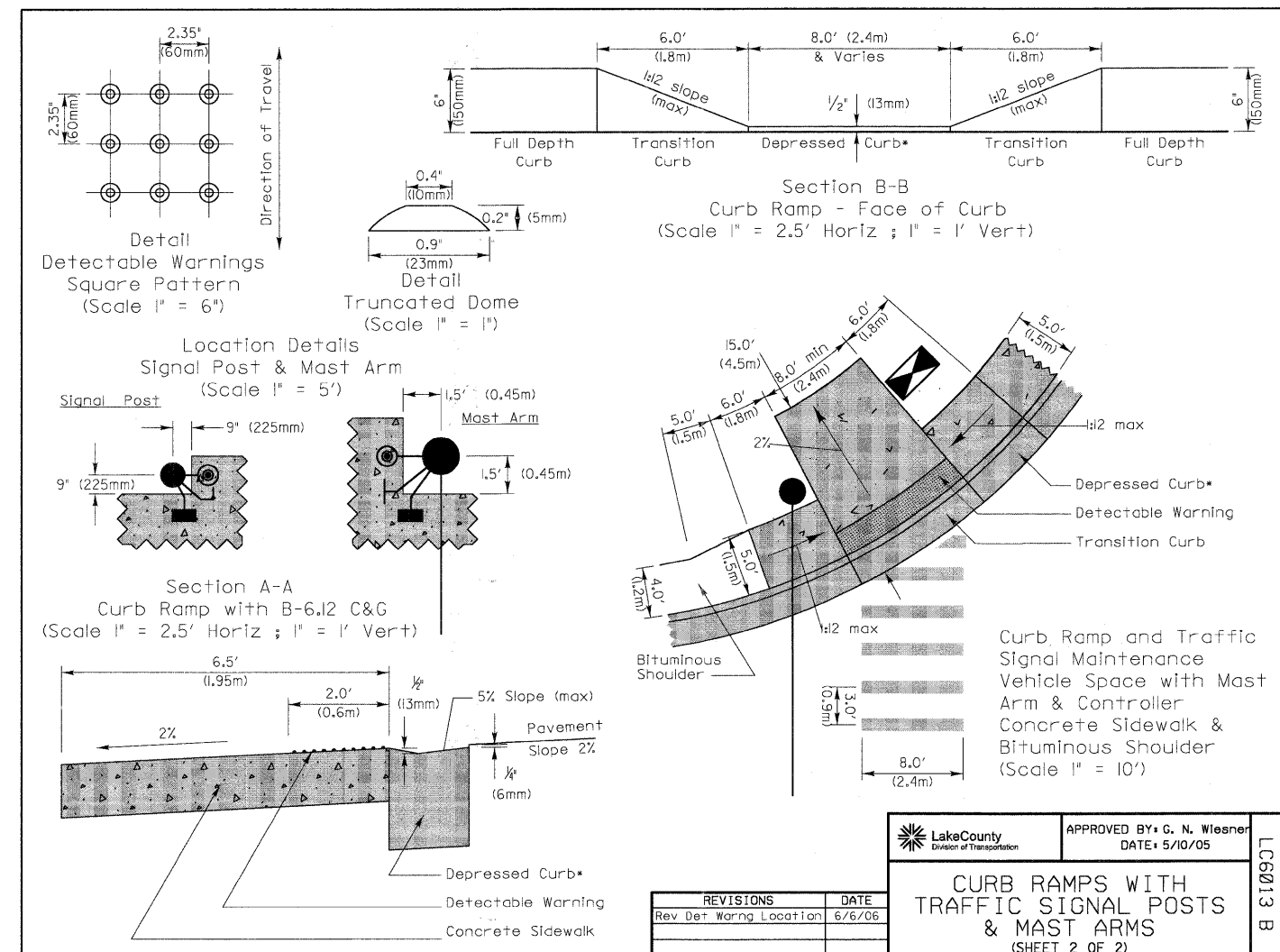
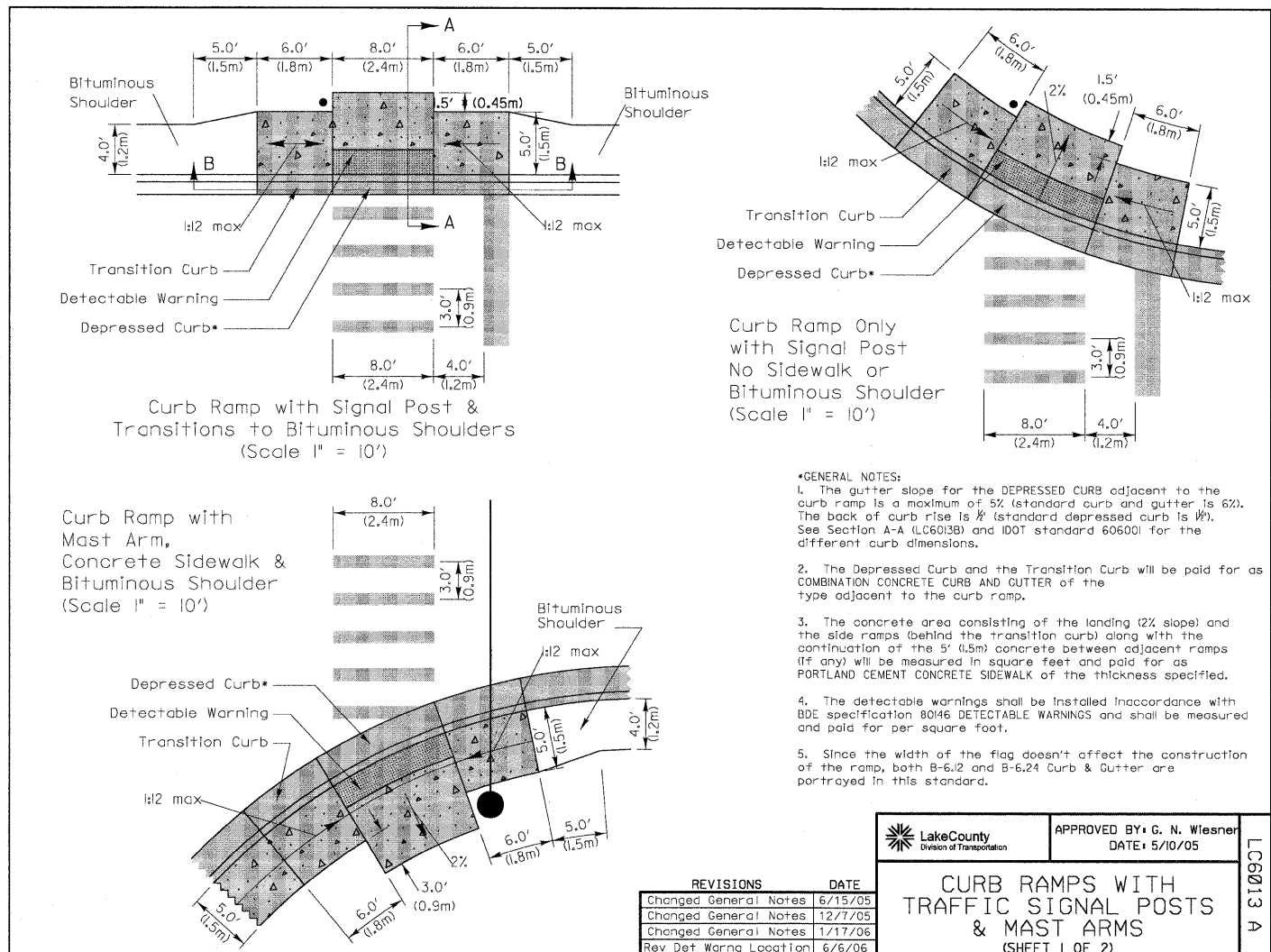


COMBINATION MAST ARM ASSEMBLY AND POLE DIMENSIONS

(NOT TO SCALE)

REVISIONS	DATE		APPROVED BY: A. KHAWAJA
MOUNTING DETAILS REVISED	5/1/08		DATE: APRIL 1, 2007
VIDEO DETECTION DETAILS			
GHA #4135,800			

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)		DETAIL SHEET			F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 78
	PLOT SCALE = 1" = .08'	DRAWN - ZCW	REVISED - 9/25/09 (IDOT)		SCALE: NONE	SHEET NO. 78 OF 86 SHEETS	STA. TO STA.	CONTRACT #: 63344				
	PLOT DATE = 10/19/2009	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)		ILLINOIS FED. AID PROJECT							
		DATE - 10/19/09	REVISED -									



FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
	PLOT SCALE = 1" = .08'	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
	PLOT DATE = 10/19/2009	DATE - 10/19/09	REVISED -

Lake County
Division of Transportation

PLANS PREPARED BY: GEWALT HAMILTON ASSOCIATES, INC. Consulting Engineers & Surveyors 850 Forest Edge Drive Vernon Hills, IL 60061 (847) 478-9700 (847) 478-9791 Fax		REVISIONS	
NAME	DATE		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	79
CONTRACT #: 63344				
ILLINOIS FED. AID PROJECT				

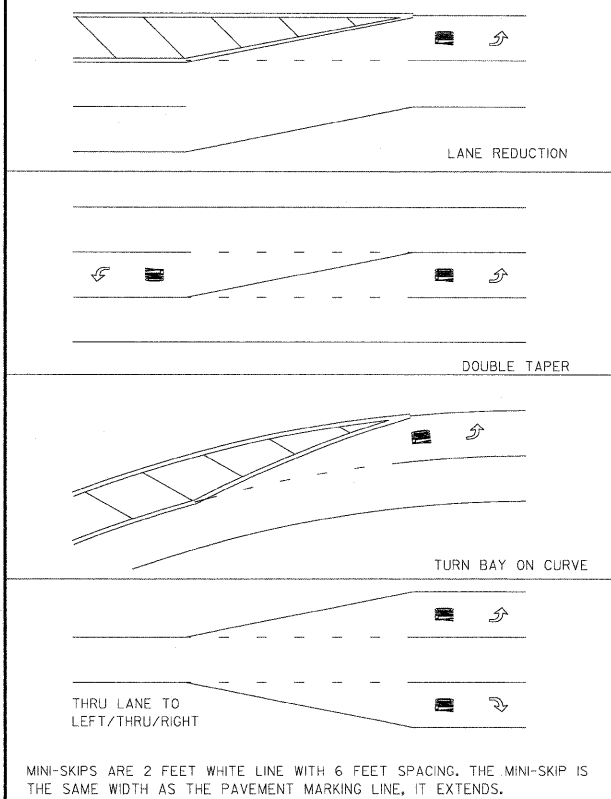
SCALE: NONE	SHEET NO. 79 OF 86 SHEETS	STA. TO STA.
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LAKE COUNTY DIVISION OF TRANSPORTATION
CURB RAMPS WITH TRAFFIC SIGNAL POSTS & MAST ARMS
LEWIS AVENUE FROM 14TH STREET TO YORKHOUSE ROAD
SCALE: NONE
DATE: MAY 1, 2007
DRAWN BY: PJS
DESIGNED BY: JRD
CHECKED BY: BLS
GHA #4135.800

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	80
PAVEMENT MARKINGS FOR RAILROAD CROSSINGS				
ILLINOIS				

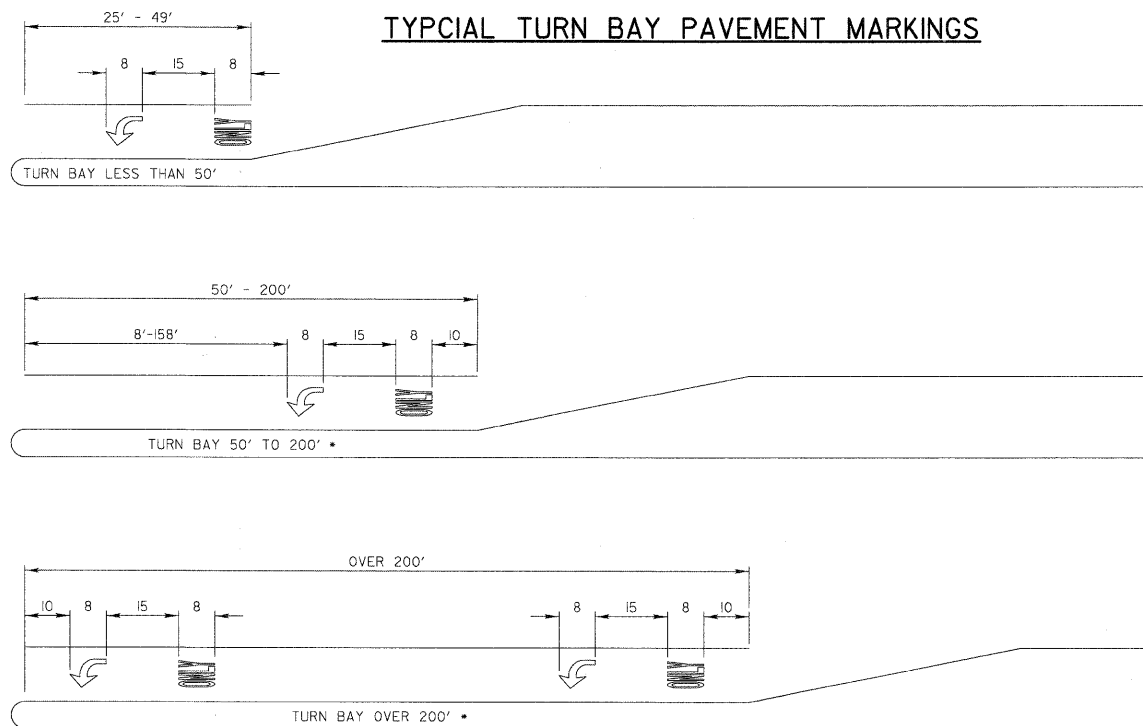
CONTRACT NO: 63344

TYPICAL MINI-SKIP PAVEMENT MARKINGS



TYPICAL PAVEMENT MARKINGS

TYPICAL TURN BAY PAVEMENT MARKINGS



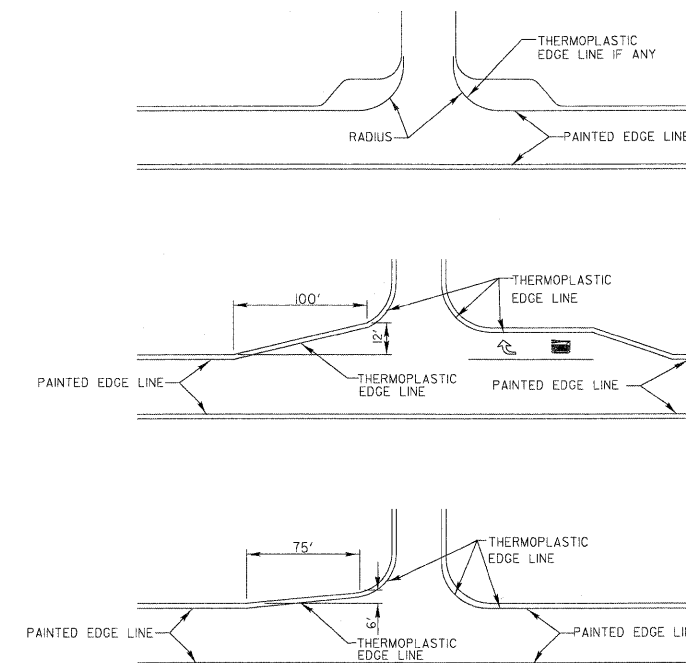
• AT INTERSECTIONS WITH VIDEO DETECTION, THE ARROW AND ONLY PAVEMENT MARKINGS SHALL BE A MINIMUM OF 30' BEHIND THE STOP BAR.

AREA = 15.6 SQ. FT.

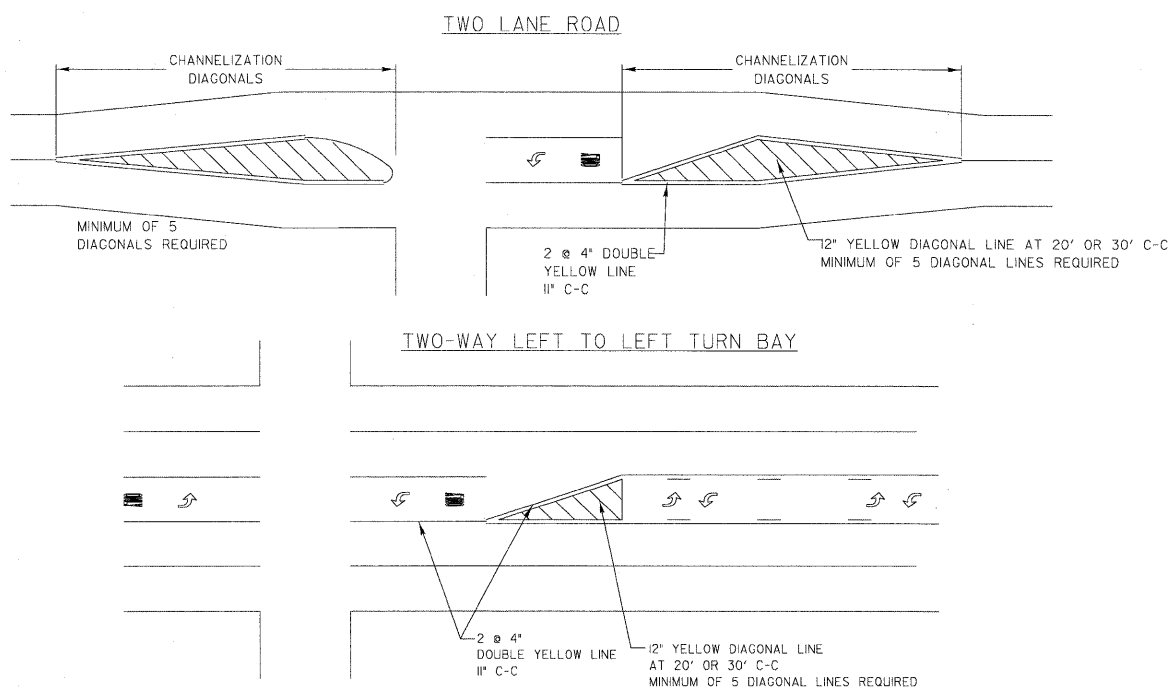
AREA = 20.8 SQ. FT.

FULL SIZE LETTERS (8") AND ARROWS SHALL BE USED. TURN LANES IN EXCESS OF 400' IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW W/ "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW W/ "ONLY".

EDGE LINE RADII AT SIDE STREETS



TYPICAL DIAGONAL SPACING



SPEED LIMIT RANGE	DIAGONAL SPACING	
	CONTINUOUS	INTERSECTION CHANNELIZATION
30-45 MPH	75 FT.	20 FT.
OVER 45 MPH	150 FT.	30 FT.

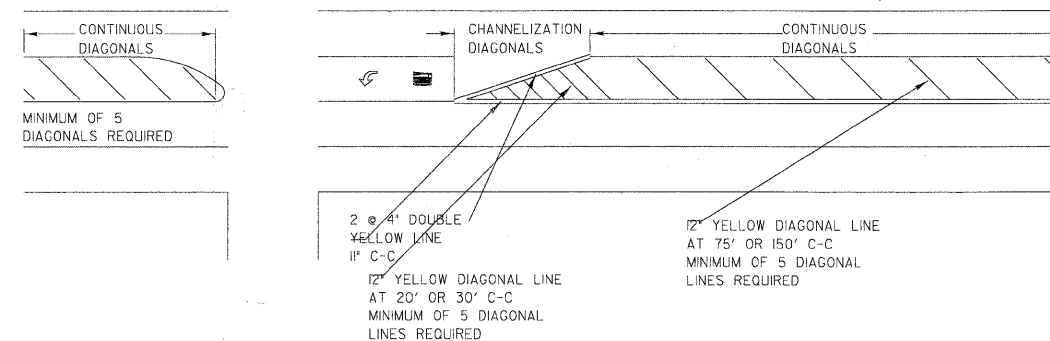
DUAL LEFT TURN ARROWS



31.2 SQ. FT. MINIMUM OF 2 SETS REQUIRED

A MINIMUM OF TWO PAIRS OF DUAL LEFT TURN ARROWS SHALL BE USED. THE DUAL LEFT TURN ARROWS SHALL BE WHITE IN COLOR. THE INTERVAL BETWEEN SETS OF DUAL LEFT TURN ARROWS SHOULD BE 200' AND 300'.

3 TO 5 LANE ROAD



FILE NAME = 4135.315-TR1.dwg

USER NAME = GHA

PLOT SCALE = 1" = .08'

PLOT DATE = 10/19/2009

DESIGNED - JRD

DRAWN - ZCW

CHECKED - DPB

DATE - 10/19/09

REVISED - 9/15/09 (LCDOT)

REVISED - 9/25/09 (IDOT)

REVISED - 10/19/09 (LCDOT)

REVISED -



DETAIL SHEET

SCALE: NONE SHEET NO. 80 OF 86 SHEETS STA. TO STA.

REVISIONS	DATE

APPROVED BY: A. KHAWAJA DATE: APRIL 1, 2007

Lake County Division of Transportation

TYPICAL PAVEMENT MARKINGS FOR COUNTY HIGHWAYS

SHEET 1 OF 3

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	80
CONTRACT #: 63344				
ILLINOIS FED. AID PROJECT				

GHA #4135.800

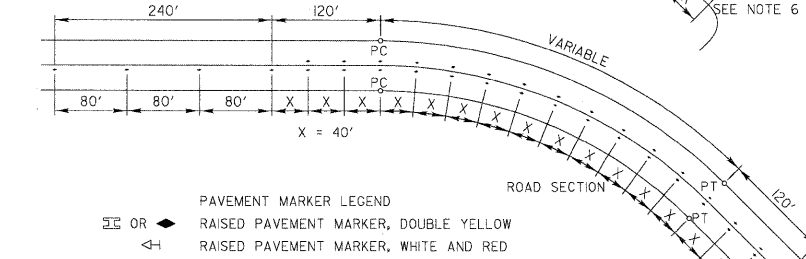
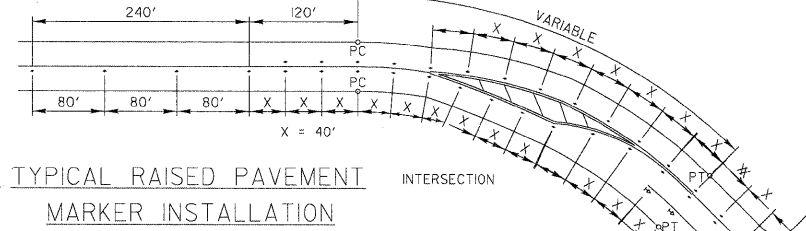
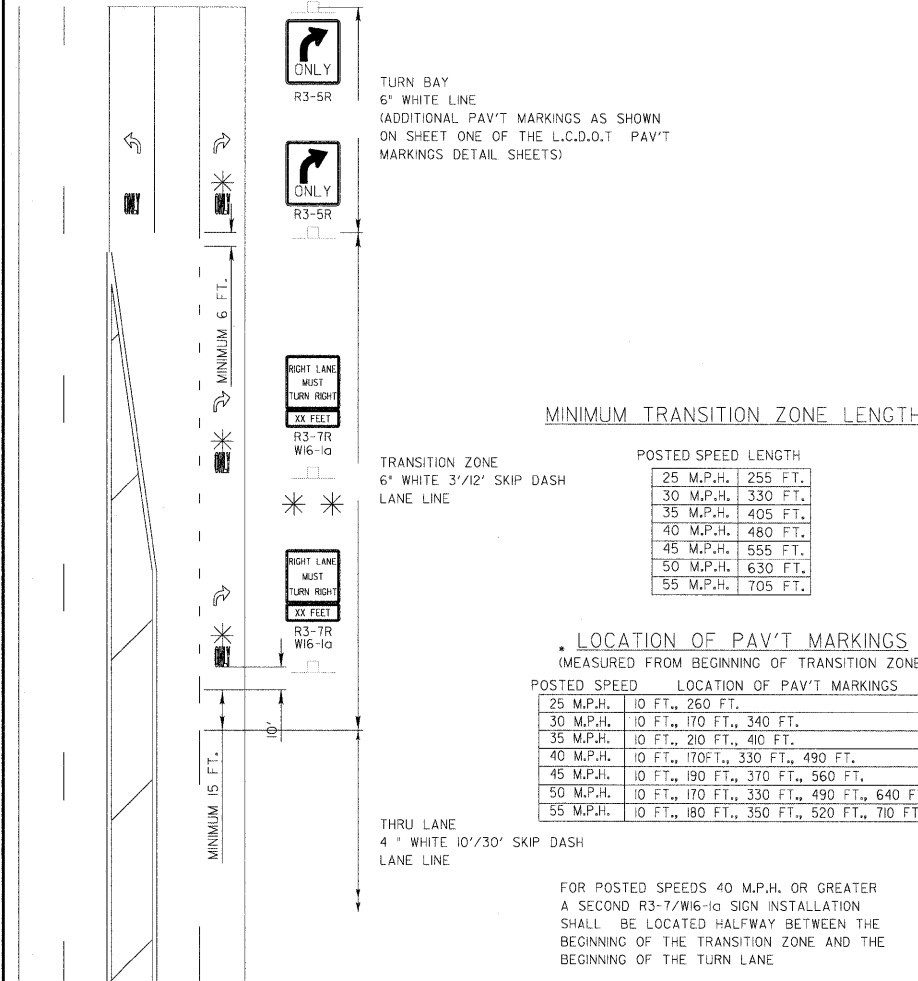
LC7800

TYPICAL PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	81
PAVEMENT MARKINGS FOR RAILROAD CROSSINGS				
ILLINOIS				

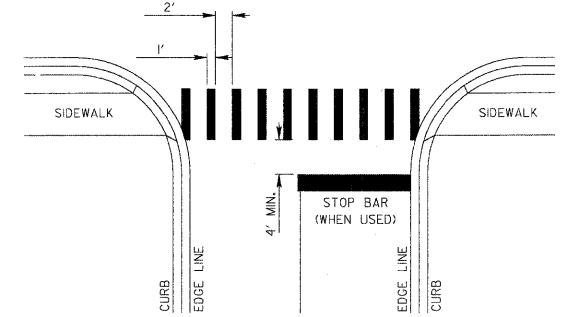
CONTRACT NO: 63344

THRU LANE TO TURN LANE CONVERSION

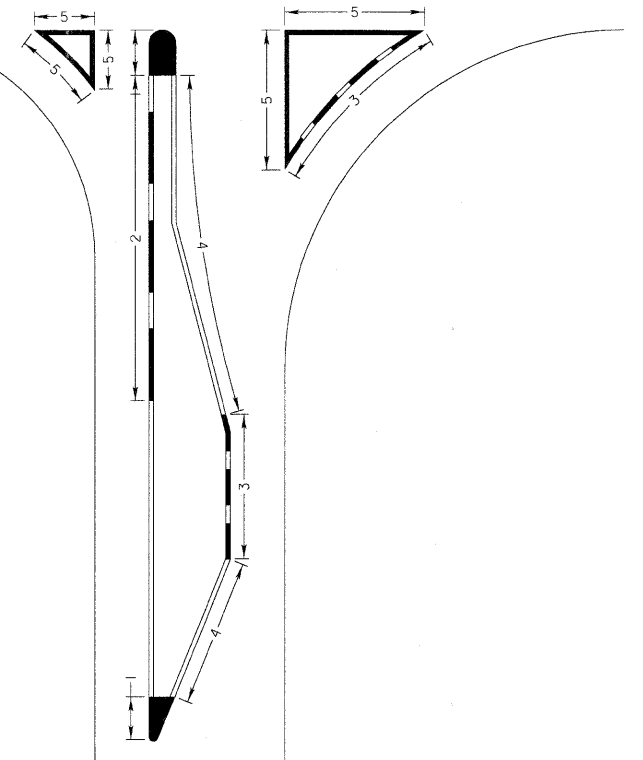


- NOTES:
- CENTERLINE RAISED PAVEMENT MARKERS (RPM'S) SHALL BE PLACED ON ALL CURVES OVER 3 1/2 DEGREES ON ALL TWO AND THREE LANE HIGHWAYS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
 - SPACING = 40' FOR CENTERLINE MARKERS.
 - ALL RPM'S ON CENTERLINE ARE 2-WAY YELLOW. LANE LINE MARKERS ARE WHITE/RED.
 - MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH F.H.W.A. MEMORANDUM H10-21.
 - MARKERS SHALL BE FIELD ADJUSTED TO BE LOCATED IN CENTER OF THE 30' GAP OF A 30'/10' SKIP/DASH CENTERLINE.
 - RPM'S WHICH ARE TO BE LOCATED WITHIN THE INTERSECTION OF A CROSS STREET, SHALL NOT BE INSTALLED.
 - A MINIMUM OF 4 WHITE/RED MARKERS SHALL BE INSTALLED ALONG THE TURN LANE LINE.
 - RPM'S INSTALLED ON MULTI-LANE ROAD SECTIONS SHALL BE INSTALLED ON THE WHITE SKIP-DASH LANE LINE ONLY. THESE RPM'S SHALL BE INSTALLED IN PAIRS AND SHALL BE 80' CENTER TO CENTER. SPACING WITHIN EACH PAIR SHALL BE 10', CENTERED WITHIN THE 30' SKIP.

CROSSWALKS



CURB MARKING



TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE OF 2 LANE PAVEMENT	4 IN.	SKIP-DASH	YELLOW	10 FT. LINE WITH 30 FT. SPACE
NO PASSING ZONE LINES FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 IN. 2 @ 4 IN.	SOLID SOLID	YELLOW YELLOW	5 1/2 IN. C-C FROM SKIP-DASH CENTERLINE 1 1 IN. C-C (OMIT SKIP-DASH CENTERLINE BETWEEN)
CENTERLINE ON MULTI-LANE UNDIVIDED LANE LINES	2 @ 4 IN. 4 IN.	SOLID SKIP-DASH	YELLOW WHITE	1 1 IN. C-C 10 FT. LINE WITH 30 FT. SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2 FT. LINE WITH 6 FT. SPACE
EDGE LINES	5 IN. WHITE 4 IN. YELLOW	SOLID	WHITE - RIGHT YELLOW - LEFT	OUTLINE RAISED MEDIANS IN YELLOW
TURN LANE MARKINGS	6 IN. LINE FULL SIZE LETTERS AND SYMBOLS (8 FT.)	SOLID	WHITE	TURN ARROW 156 SO. FT. STRAIGHT ARROW 115 SO. FT. ONLY 208 SO. FT. COMB. ARROW 260 SO. FT.
TWO WAY LEFT TURN MARKING	2 @ 4 IN. EACH DIRECTION 8 FT. LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10 FT. LINE WITH 30 FT. SPACE FOR SKIP-DASH 5 1/2 IN. C-C BETWEEN SKIP-DASH LINE AND SOLID LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK	12 IN. @ 90'	SOLID	WHITE	12 IN. LONGITUDINAL BAR WITH 24 IN. SPACE 6 FT. TO 12 FT. WIDE SEE TYPICAL CROSSWALK MARKING DETAIL
STOP BARS	24 IN.	SOLID	WHITE	PLACE 4 FT. IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT, OTHERWISE PLACE AT DESIRED STOPPING POINT
PAINTED MEDIANS	2 @ 4 IN. WITH 1 1 IN. DIAGONALS @ 45' NO DIAGONALS USED FOR 4 FT. WIDE MEDIAN	SOLID	YELLOW - 2WAY TRAFFIC WHITE - HWY TRAFFIC	1 1 IN. C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING DETAIL MINIMUM OF 5 DIAGONALS
GORE MARKINGS AND CHANNELIZING LINES	8 IN. WITH 12 IN. DIAGONALS @ 45'	SOLID	WHITE	DIAGONALS 15 FT. C-C (LESS THAN 30 M.P.H.) 20 FT. C-C (30 TO 45 M.P.H.) 30 FT. C-C (OVER 45 M.P.H.) MINIMUM OF 5 DIAGONALS
R.R. CROSSING	24 IN. TRANSVERSE LINES RR IS 6 FT. LETTER IS IN LINE FOR "X"	SOLID	WHITE	SEE I.D.O.T. STD. 780001 50 FT. AREA OF: "R" - 36 SO. FT. / "R" "X" - 540 SO. FT.
SHOULDER DIAGONALS	12 IN. @ 45'	SOLID	WHITE - RIGHT YELLOW - LEFT	50 FT. C-C (LESS THAN 30 M.P.H.) 75 FT. C-C (30 TO 45 M.P.H.) 150 FT. C-C (OVER 45 M.P.H.) MINIMUM OF 5 DIAGONALS

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO PART III "MARKINGS" IN THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND I.D.O.T. HIGHWAY STANDARD 780001 EFFECTIVE JAN. 9, 1998.

FILE NAME = 4135.315-TRI.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -



DETAIL SHEET

SCALE: NONE	SHEET NO. 81 OF 86 SHEETS	STA. TO STA.	F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 81
			CONTRACT #: 63344		ILLINOIS FED. AID PROJECT		

TYPICAL PAVEMENT MARKINGS FOR COUNTY HIGHWAYS
SHEET 2 OF 3

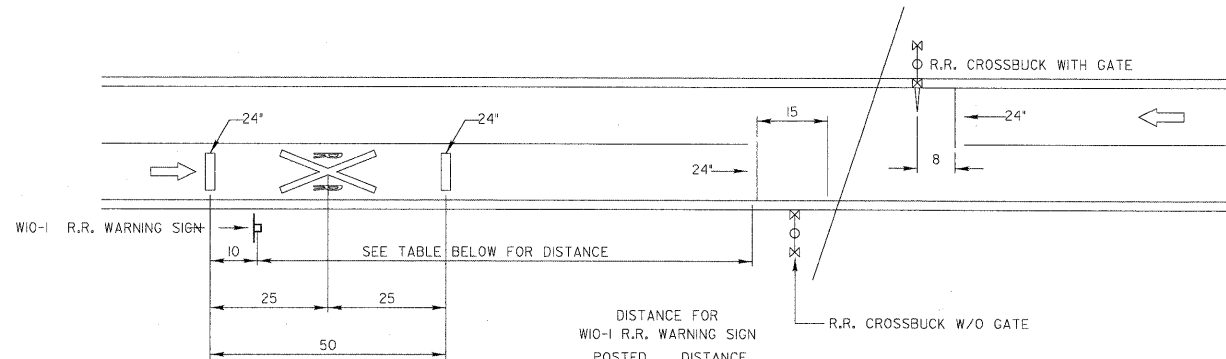
REVISIONS	DATE	APPROVED BY: A. KHAWAJA
		DATE: APRIL 1, 2007

TYPICAL RAIL ROAD RELATED PAVEMENT MARKINGS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	82
PAVEMENT MARKINGS FOR RAILROAD CROSSINGS				
ILLINOIS				

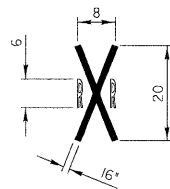
CONTRACT NO: 63344

TYPICAL PLACEMENT OF R.R. WARNING SIGNS AND PAVEMENT MARKINGS ON COUNTY HIGHWAYS

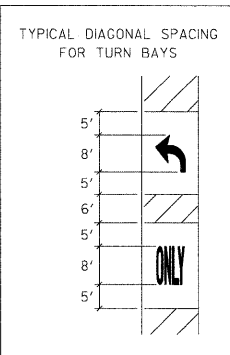
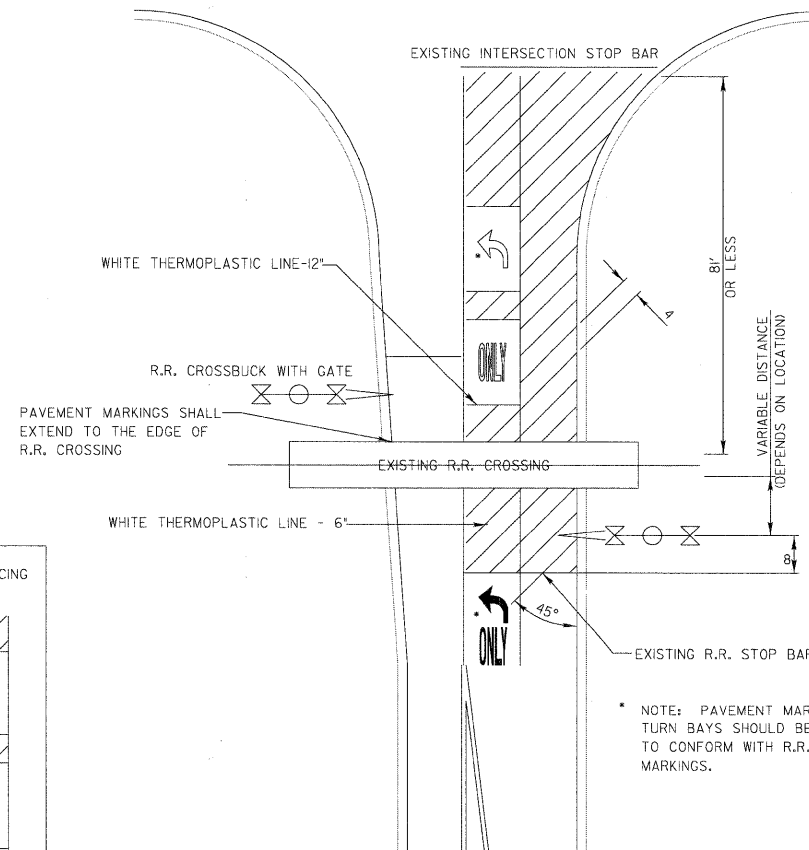


POSTED SPEED LIMIT	DISTANCE FROM STOP BAR
30 MPH	325'
35 MPH	400'
40 MPH	475'
45 MPH	550'
50 MPH	625'
55 MPH	700'

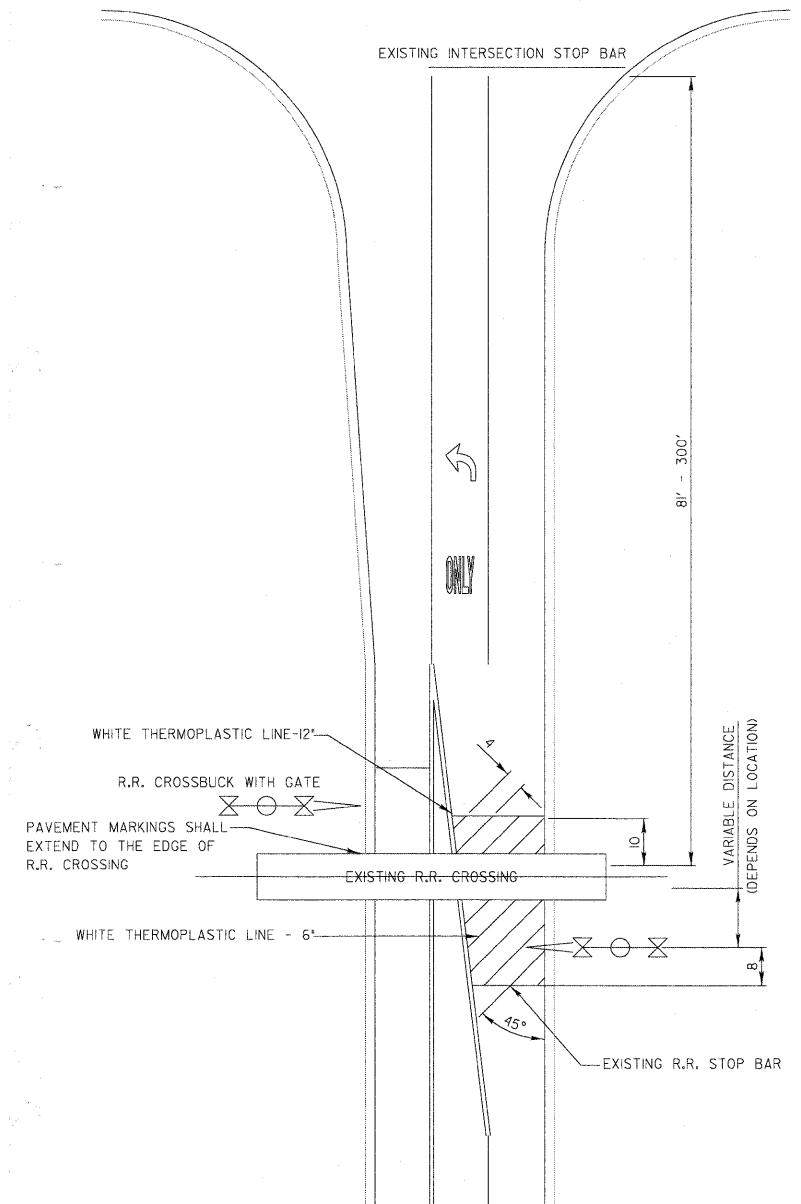
NOTE:
SUPPLEMENTAL R.R. PAVEMENT MARKINGS
MAY BE ADDED AT THE DISCRETION OF THE
COUNTY TRAFFIC ENGINEER.



PROPOSED PAVEMENT MARKINGS FOR R.R. CROSSINGS AT SIGNALIZED INTERSECTIONS 81 FEET OR LESS



PROPOSED PAVEMENT MARKINGS FOR R.R. CROSSINGS AT SIGNALIZED INTERSECTIONS 81 FEET - 300 FEET



GHA #4135.800

REVISIONS	DATE

APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

Lake County
Division of Transportation

TYPICAL PAVEMENT MARKINGS FOR RAILROAD CROSSINGS ON COUNTY HIGHWAYS
SHEET 3 OF 3

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -

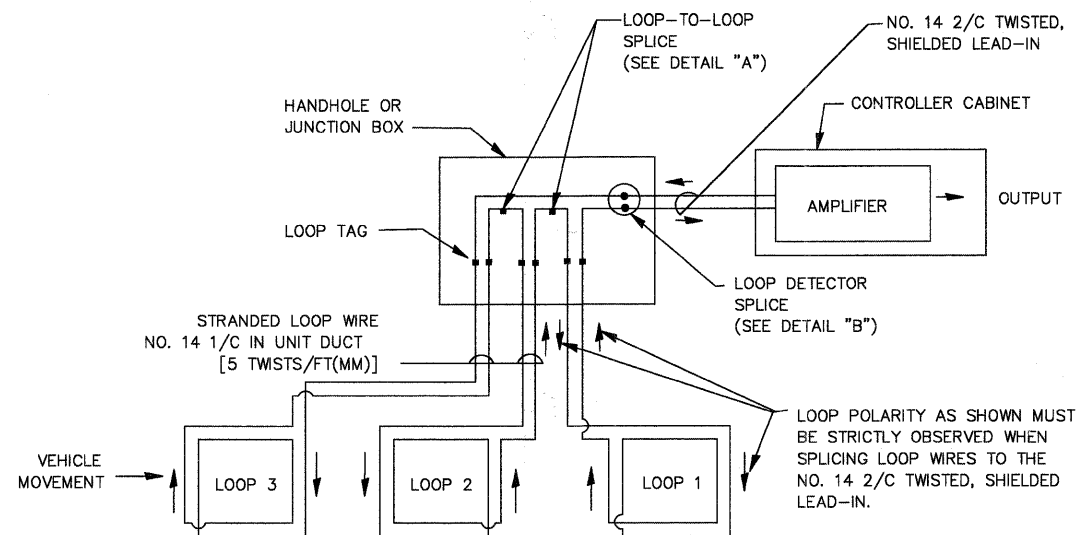


SCALE: NONE		SHEET NO. 82 OF 86 SHEETS		STA. TO STA.	
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
2730	08-00259-00-TL	LAKE	86	82	
CONTRACT #:				63344	
ILLINOIS FED. AID PROJECT					

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	83
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
CONTRACT NO: 63344				

LOOP DETECTOR NOTES

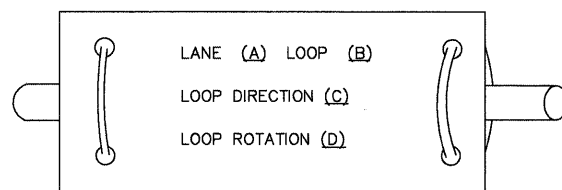
- EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
- EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
- ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
- LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
- PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.



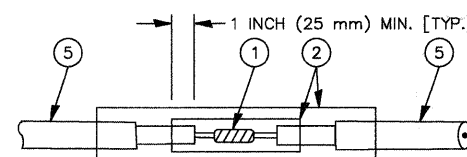
DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

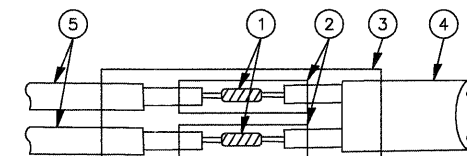
LOOP LEAD-IN CABLE TAG



- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

- WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- NO. 14 2/C TWISTED, SHIELDED CABLE.
- LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE
HORIZ. NONE
DATE 1-01-02

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 1 OF 4
CHA #4135,800

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
	PLOT SCALE = 1" = .08'	CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
	PLOT DATE = 10/19/2009	DATE - 10/19/09	REVISED -



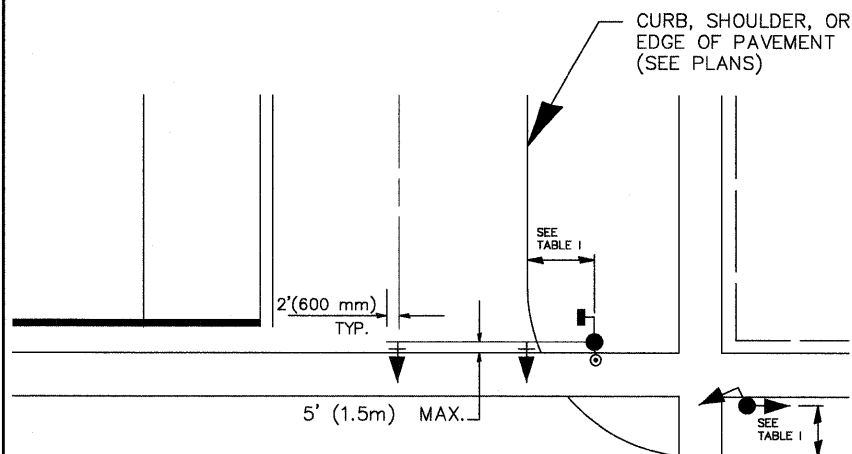
DETAIL SHEET				
SCALE: NONE	SHEET NO. 83 OF 86 SHEETS	STA.	TO STA.	
F.A.P. RTE. 2730	SECTION 08-00259-00-TL	COUNTY LAKE	TOTAL SHEETS 86	SHEET NO. 83
CONTRACT #: 63344			ILLINOIS FED. AID PROJECT	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	84
STA.		TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT		

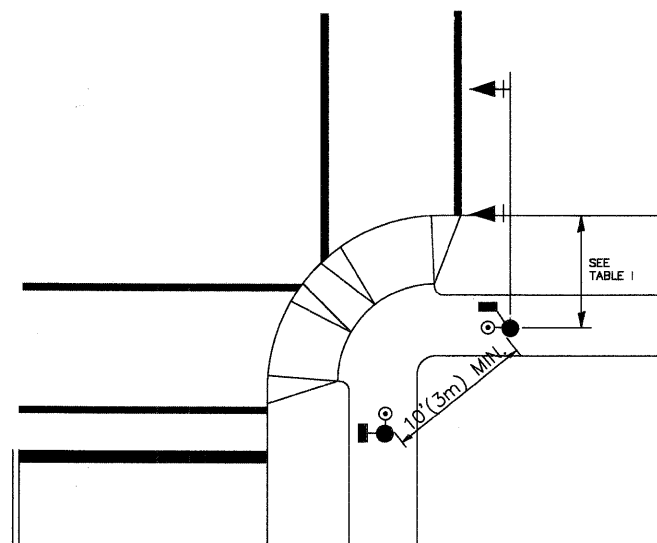
CONTRACT NO: 63344

TRAFFIC SIGNAL MAST ARM AND POST

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



PEDESTRIAN SIGNAL PUSHBUTTON



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

NOTES:

- AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.
 AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.
 PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:
 A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.
 B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.
 C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
 D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).
 E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK
- PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

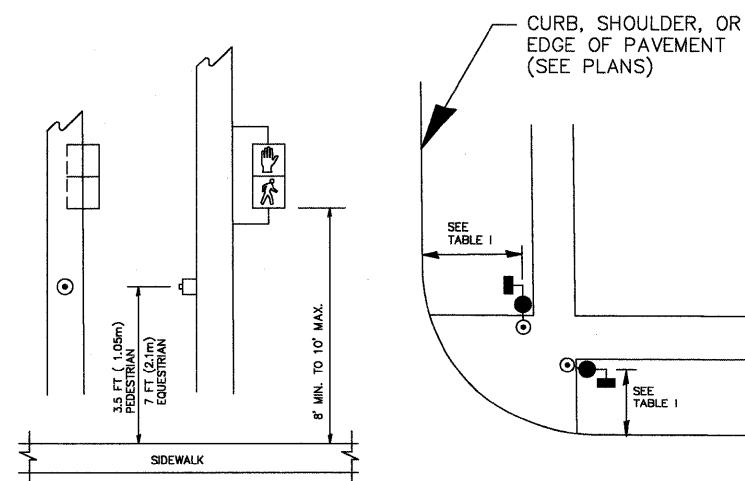


TABLE I

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN PUSHBUTTON	SEE NOTE 1	SEE NOTE 1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**DISTRICT ONE
 STANDARD TRAFFIC SIGNAL
 DESIGN DETAILS**
 SCALE: VERT. NONE
 HORIZ. DATE 1-01-02
 DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 2 OF 4
 GHA #4135.800

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -

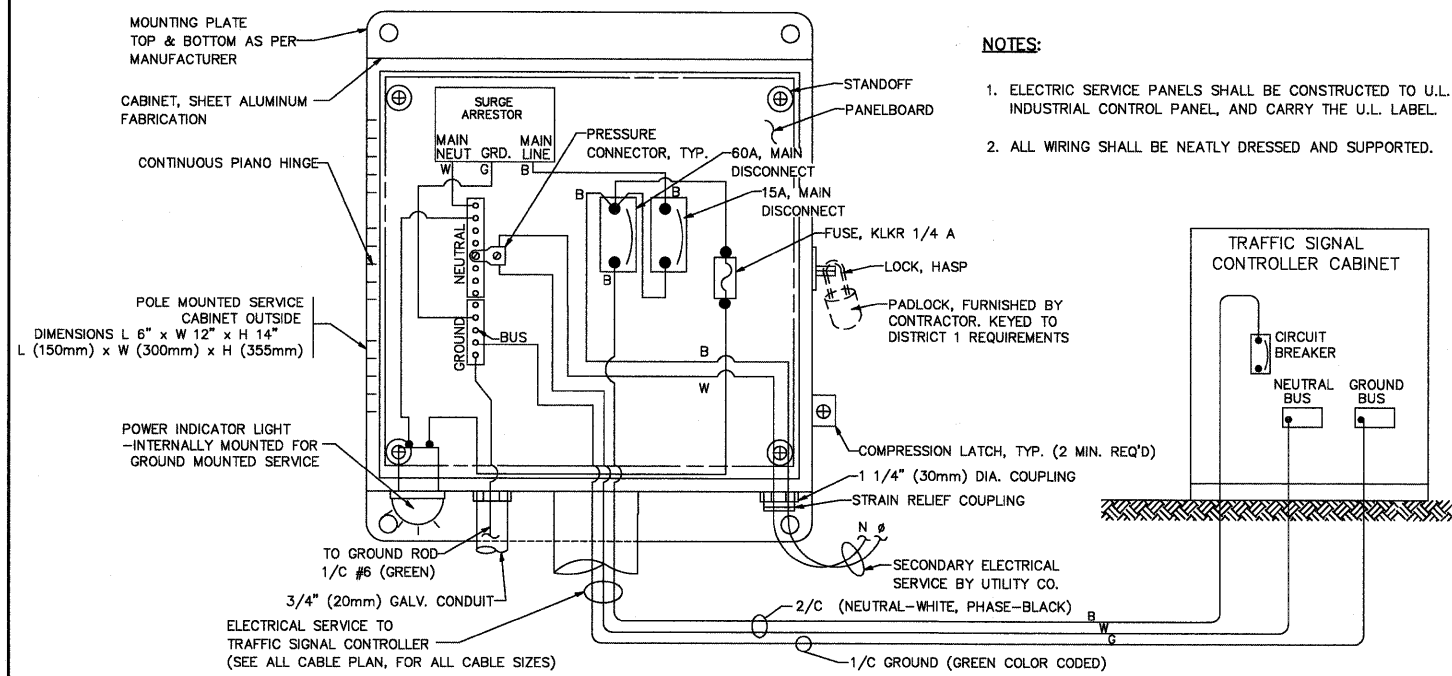


DETAIL SHEET			
SCALE: NONE	SHEET NO. 84 OF 86 SHEETS	STA.	TO STA.

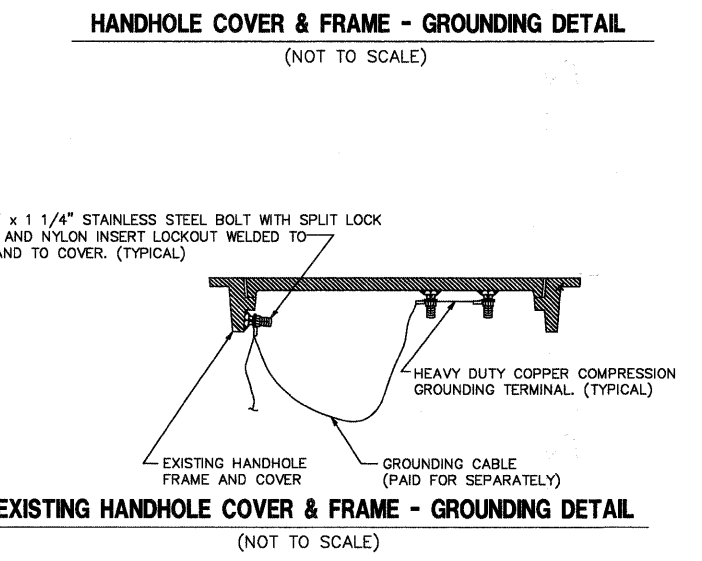
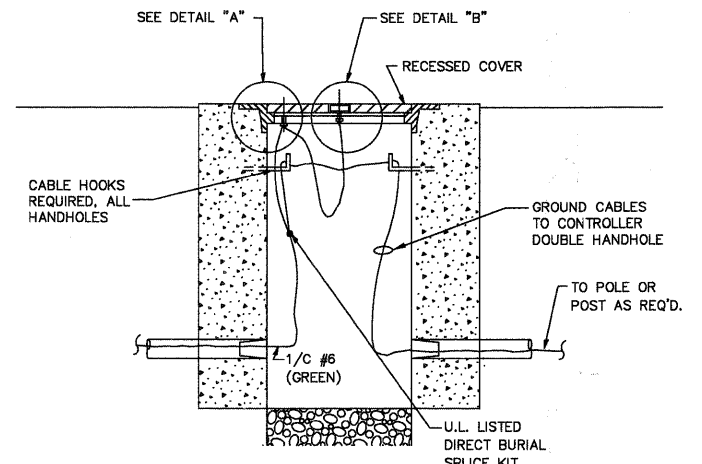
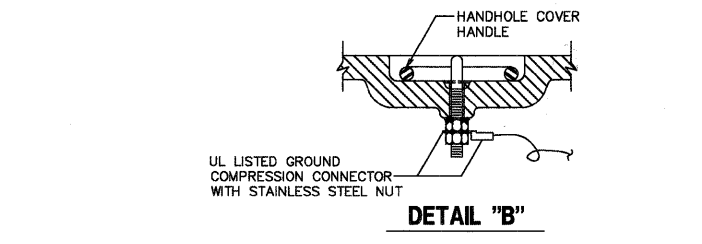
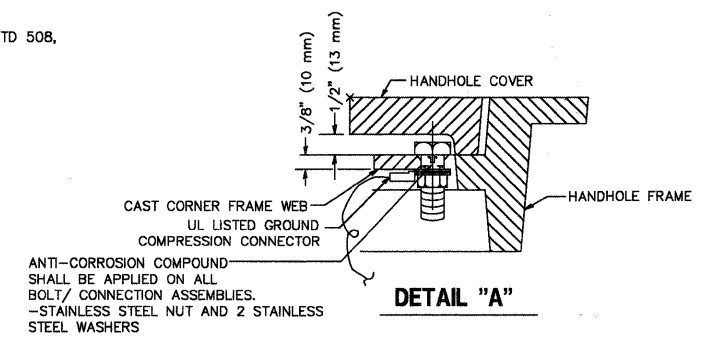
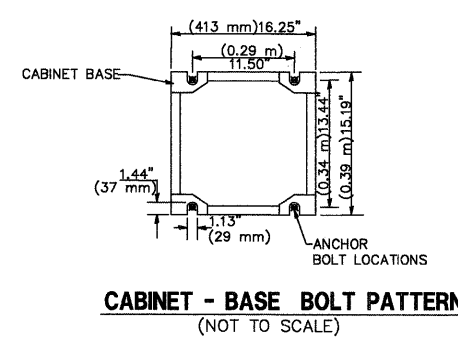
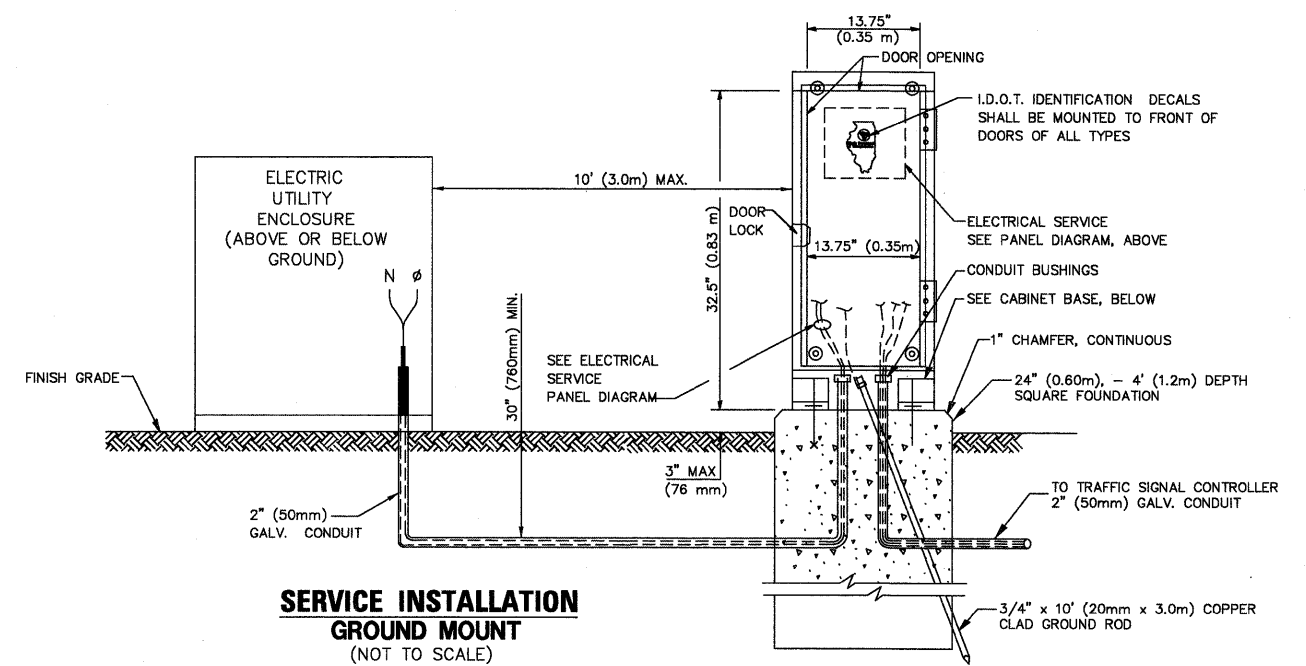
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	84
CONTRACT #: 63344				
ILLINOIS FED. AID PROJECT				

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2730	08-00259-00-TL	LAKE	86	85
STA.		TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT		

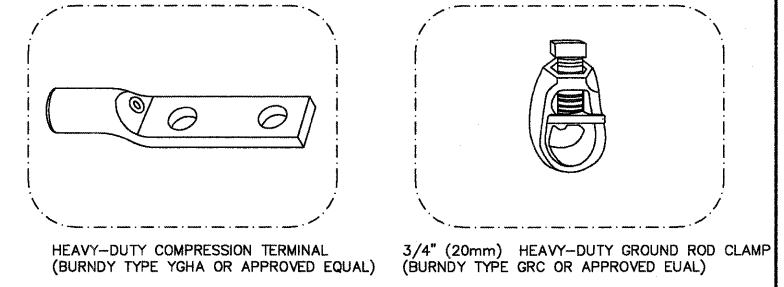
CONTRACT NO: 63344



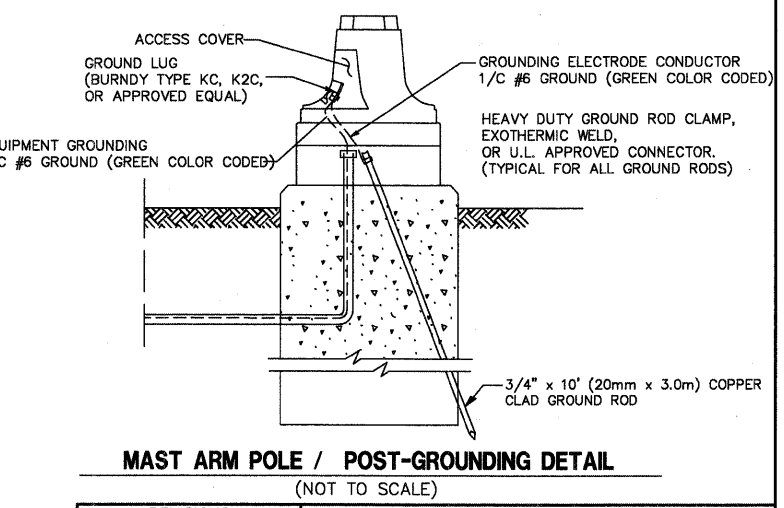
ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)



- NOTES:**
- GROUNDING SYSTEM**
- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, LAKE COUNTY DIVISION OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
 - THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
 - ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
 - THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
 - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES. 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES. 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION			
NAME	DATE	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS			
		SCALE: VERT. NONE HORIZ. 1"-01'-02"			
		DRAWN BY: RWP DESIGNED BY: DAZ CHECKED BY: DAZ SHEET 3 OF 4 GHA #4135.800			

FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -

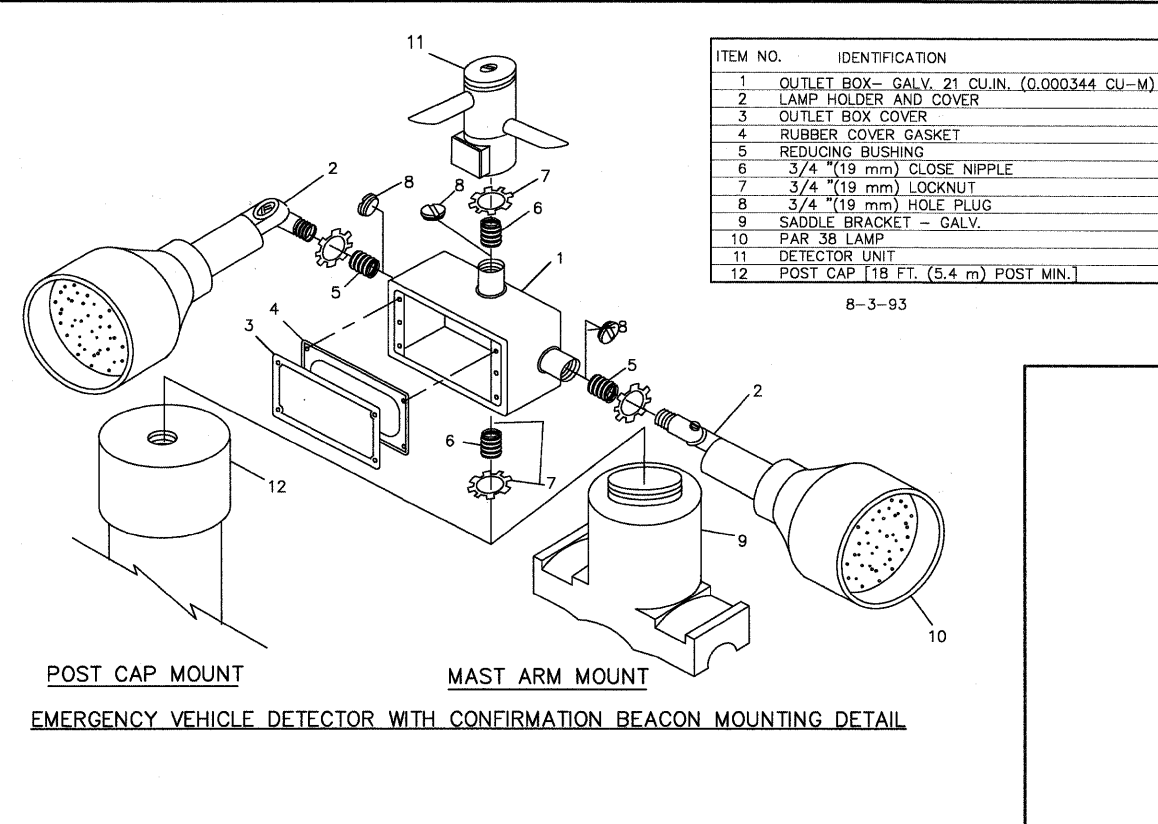
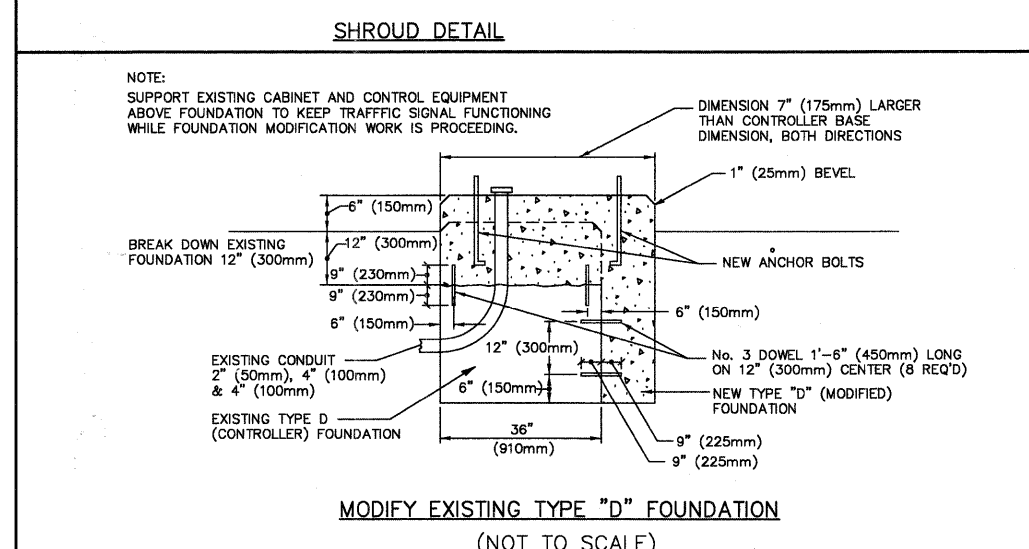
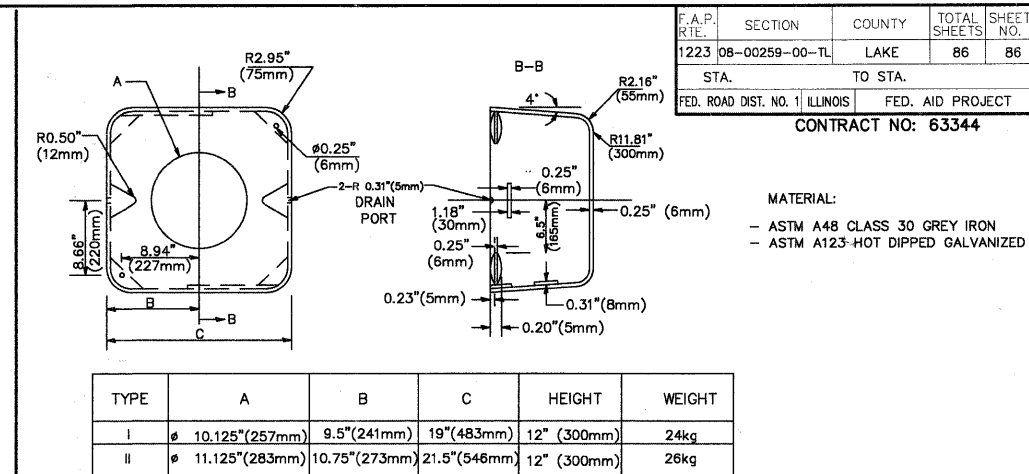
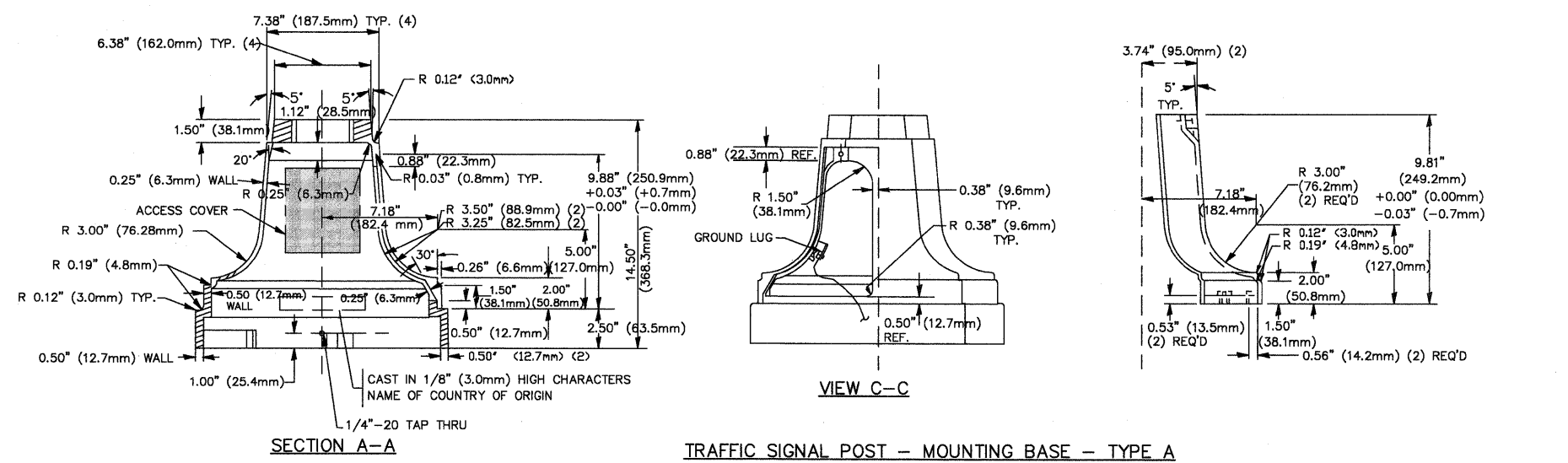
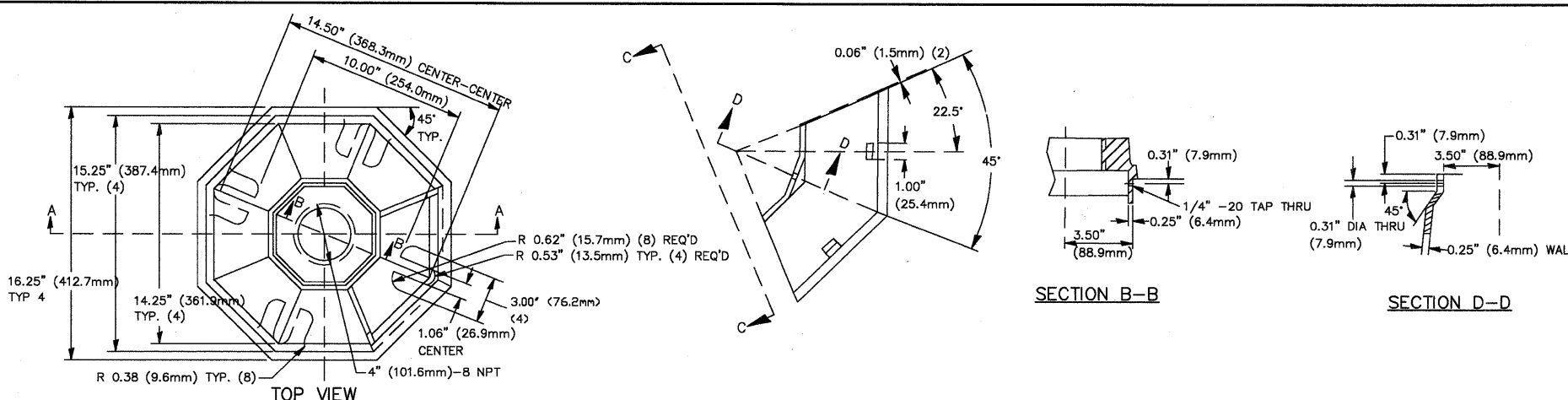


DETAIL SHEET		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE: NONE	SHEET NO. 85 OF 86 SHEETS	2730	08-00259-00-TL	LAKE	86	85
		STA. TO STA.		CONTRACT #: 63344		
ILLINOIS FED. AID PROJECT						

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1223	08-00259-00-TL	LAKE	86	86
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT NO: 63344

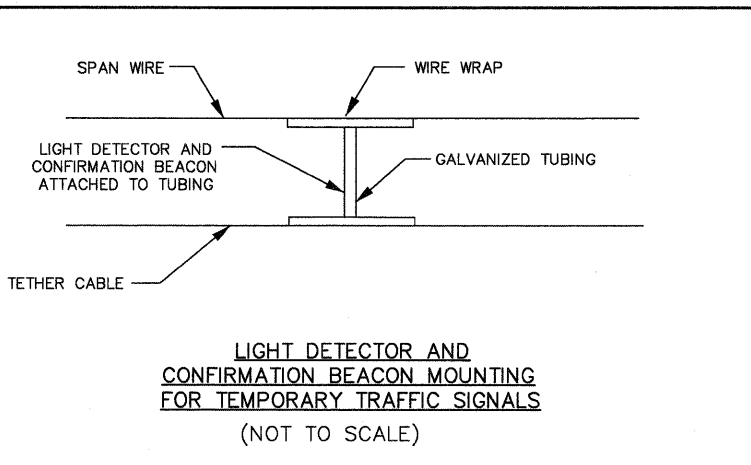
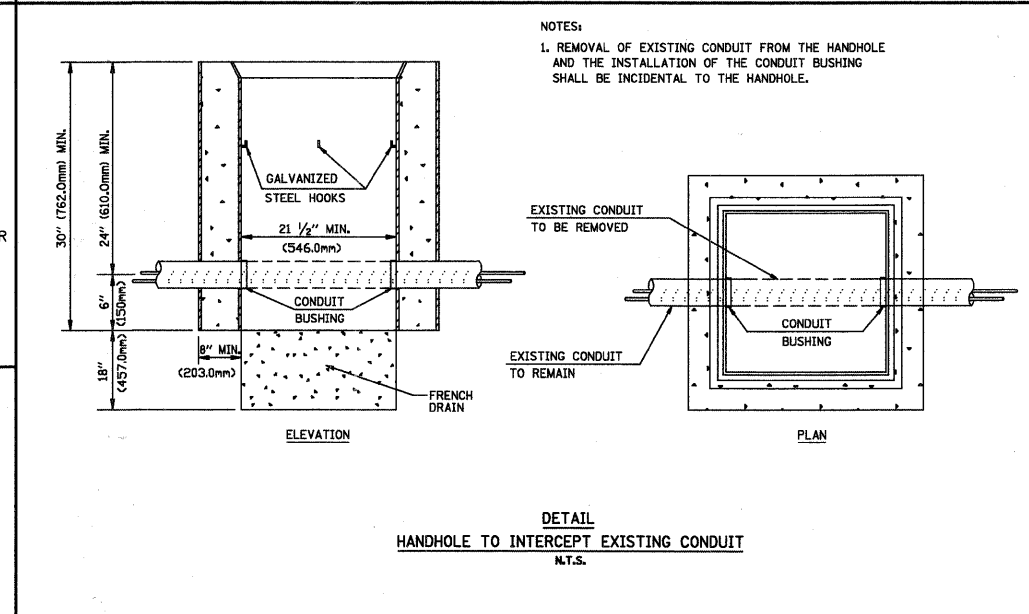
MATERIAL:
 - ASTM A48 CLASS 30 GREY IRON
 - ASTM A123-HOT DIPPED GALVANIZED



ITEM NO.	IDENTIFICATION
1	OUTLET BOX - GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\" (19 mm) CLOSE NIPPLE
7	3/4\" (19 mm) LOCKNUT
8	3/4\" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

NOTES:

- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
- ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
 ITEM #2- MULBERRY CON-0-SHADE LAMP SHIELD OR EQUIVALENT
 ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
- WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



FILE NAME = 4135.315-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED - 9/15/09 (LCDOT)
		DRAWN - ZCW	REVISED - 9/25/09 (IDOT)
		CHECKED - DPB	REVISED - 10/19/09 (LCDOT)
		DATE - 10/19/09	REVISED -



SCALE: NONE		SHEET NO. 86 OF 86 SHEETS		STA. TO STA.	
DETAIL SHEET					
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
2730	08-00259-00-TL	LAKE	86	86	
CONTRACT #: 63344					

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
 HORIZ. NONE
 DATE: 1-01-02

DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 4 OF 4
 GHA #4135.800