

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	2008-068-TS	COOK/WILL	18	1
ILLINOIS CONTRACT NO.			60F59	

D-91-139-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

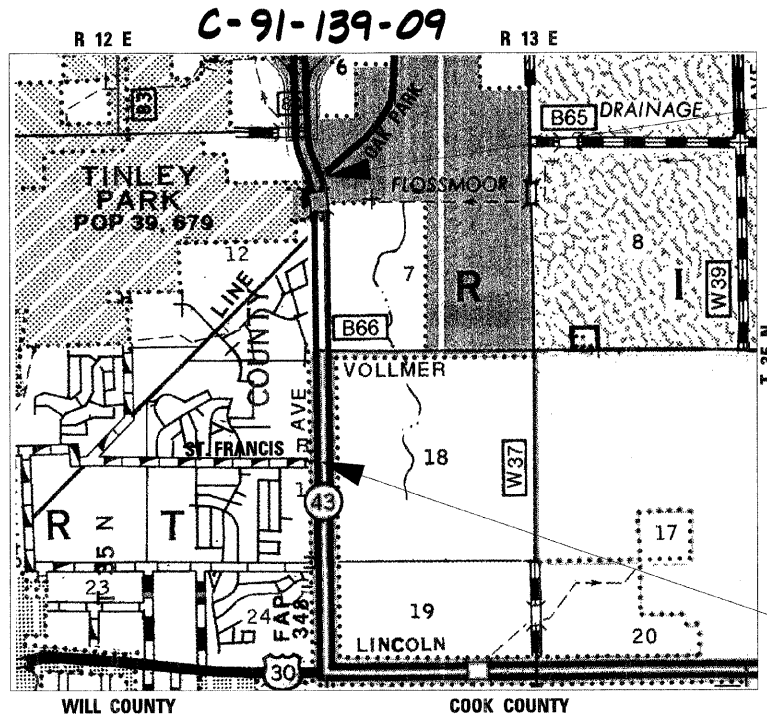
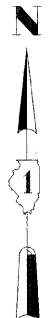
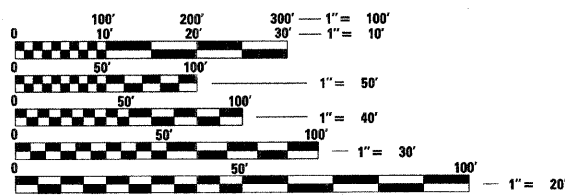
DISTRICT 1
CONGESTION MITIGATION AIR QUALITY
FIBER OPTIC COMMUNICATIONS NETWORK
IL ROUTE 43 (HARLEM AVE.) FROM
OAK PARK AVENUE TO ST. FRANCIS
F.A.P. ROUTE 348 / ILL 43 (HARLEM AVE.)
SECTION 2008-068 TS
PROJECT: CMF-0348(043)
COOK / WILL COUNTY

INDEX OF SHEETS

1. TITLE SHEET
2. SUMMARY OF QUANTITIES
- 3.- 6. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS
7. TRAFFIC SIGNAL MODIFICATION PLAN IL 43 (HARLEM AVE.) AND ST. FRANCIS/COX AVE.
8. SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM IL 43 (HARLEM AVE.) AND ST. FRANCIS/COX AVE.
9. TRAFFIC SIGNAL MODIFICATION PLAN IL 43 (HARLEM AVE.) AND VOLLMER ROAD
10. SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM IL 43 (HARLEM AVE.) AND VOLLMER ROAD
11. TRAFFIC SIGNAL MODIFICATION PLAN IL 43 (HARLEM AVE.) AND BENTON DRIVE
12. SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM IL 43 (HARLEM AVE.) AND BENTON DRIVE
13. TRAFFIC SIGNAL MODIFICATION PLAN IL 43 (HARLEM AVE.) AND OAK PARK AVE.
14. SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM IL 43 (HARLEM AVE.) AND OAK PARK AVE.
- 15.-17. INTERCONNECT PLAN
18. INTERCONNECT SCHEMATIC

STANDARD DRAWINGS

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001006 DECIMAL OF AN INCH AND A FOOT
- 701101-02 OFF-RD OPERATIONS, MULTILANE, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
- 701606-06 URBAN LANE CLOSURE, MULTILANE 1W OR 2W MOUNTABLE MEDIAN
- 701701-06 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701901-01 TRAFFIC CONTROL DEVICES
- 814001-02 HANDHOLES
- 862001-01 UNINTERRUPTABLE POWER SUPPLY (UPS)



PROJECT END (132 + 82)

PROJECT BEGIN (63 + 25)



LOCATION OF SECTION INDICATED THUS: - ■ -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED May 8, 2009
Deanna M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 26, 2009
Charles G. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT

June 26, 2009
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

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

PREPARED BY: MICHAEL T. MATZKE, P.E.
QUIGG ENGINEERING, INC.
(217)245-5375



Michael T. Matzke
SIGNATURE
APRIL 30, 2009
DATE

J.I.C. EXP. DATE: 11-30-09



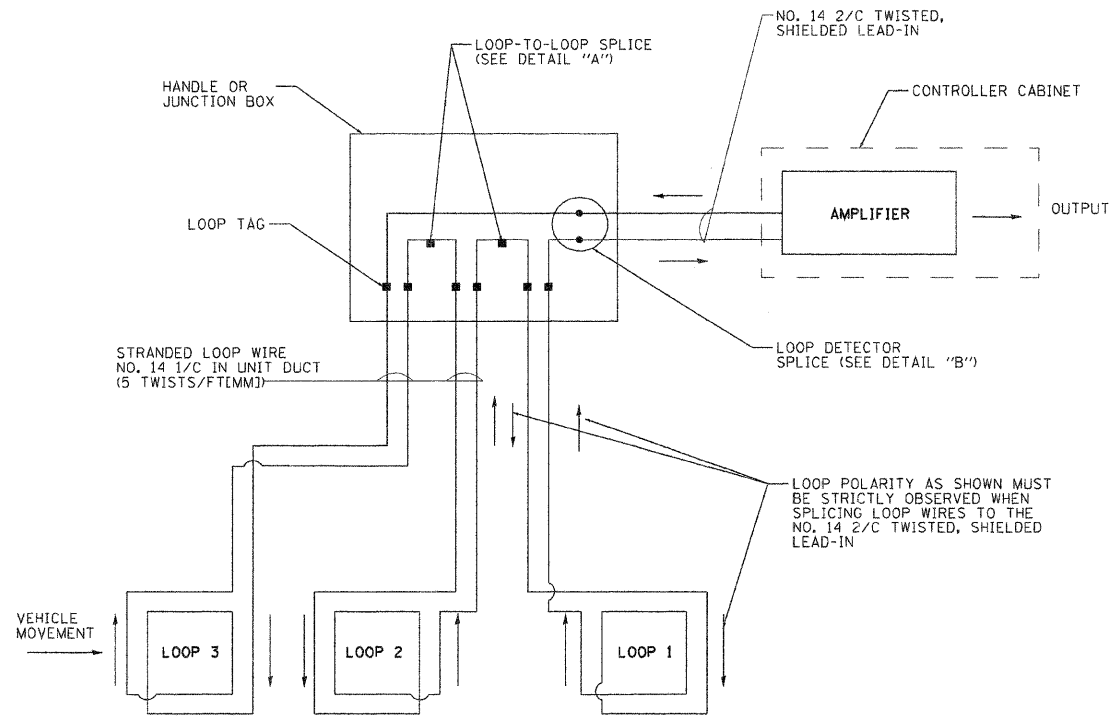
CONTRACT NO. 60F59

DISTRICT 1 - BUREAU OF TRAFFIC: STEVE TRAVIA/DARYLE DREW (847) 705-4420

SUMMARY OF QUANTITIES				COOK CO	WILL CO		COOK CO	WILL CO	
				IL 43 (HARLEM AVE.) AND ST. FRANCIS	IL 43 (HARLEM AVE.) AND VOLLMER ROAD	IL 43 (HARLEM AVE.) AND BENTON AVE.	IL 43 (HARLEM AVE.) AND OAK PARK	INTERCONNECT	
CODE NO.	PAY ITEM	CONSTRUCTION CODE	URBAN	YO31 1F	YO31 1F	YO31 1F	YO31 1F	YO31 1F	
		UNIT	TOTAL						
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	0.6	0.7	0.7	1.0	0.5	0.5
67100100	MOBILIZATION	L SUM	1	0.20	0.20	0.20	0.20	0.10	0.10
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	0.20	0.20	0.20	0.20	0.10	0.10
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.20	0.20	0.20	0.20	0.10	0.10
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	5290					2645	2645
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	140					70	70
81400200	HEAVY-DUTY HANDHOLE	EACH	8					4	4
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	5290					2645	2645
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	4	1	1	1	1		
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	2		1	1			
85700505	FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL	EACH	2	1			1		
86400100	TRANSCEIVER-FIBER OPTIC	EACH	4	1	1	1	1		
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1891				1891		
87900200	DRILL EXISTING HANDHOLE	EACH	4	1	1	1	1		
88024130	OPTICALLY PROGRAMMED SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	1				1		
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	6				6		
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3				3		
88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2				2		
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	7				7		
88500100	INDUCTIVE LOOP DETECTOR	EACH	19		14	5			
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	4	1	1	1	1		
X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	52	26			26		
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	6590					3295	3295
X0325705	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	4	1	1	1	1		
X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	4	1	1	1	1		
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MMI2F SMI2F	FOOT	6590					3295	3295

LOOP DETECTOR NOTES

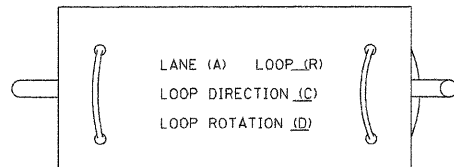
1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED 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.
3. 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 WATERPROOF 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.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVESHOLES 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" (450mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER BASE CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. 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.



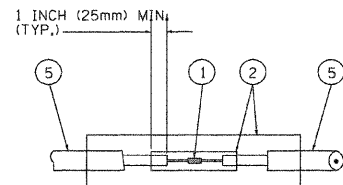
DETECTOR LOOP WIRING SCHEMATIC

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

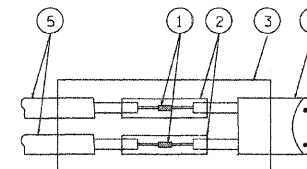
LOOP LEAD-IN CABLE TAG



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



**DETAIL "A"
LOOP-TO-LOOP SPLICE**



**DETAIL "B"
LOOP-TO-CONTROLLER SPLICE**

LOOP DETECTOR SPLICE

- ① WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- ② WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75mm), UNDERWATER GRADE.
- ③ WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150mm), UNDERWATER GRADE.
- ④ NO. 14 2/C TWISTED, SHIELDED CABLE.
- ⑤ LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS	
NAME	DATE
CADD	5/30/00
ADD NOTE NO. 8	11/12/01
BUREAU OF TRAFFIC	1-01-02

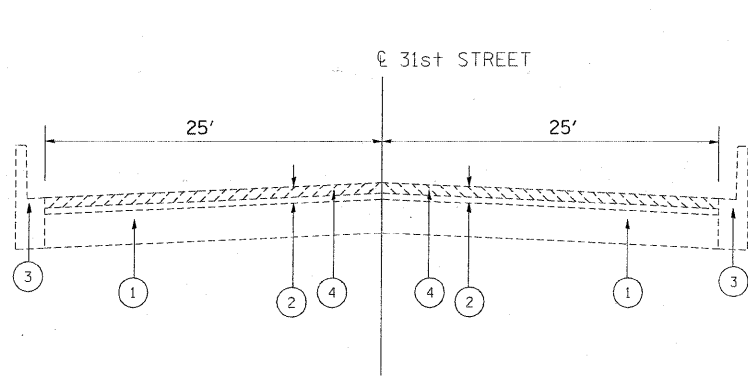
ILLINOIS DEPARTMENT OF TRANSPORTATION
**DISTRICT 1
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS**
SCALE : NTS
DATE : 12/13/05
DRAWN BY : RWP
DESIGNED BY : DAD
CHECKED BY : DAZ
SHEET 1 OF 4

FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

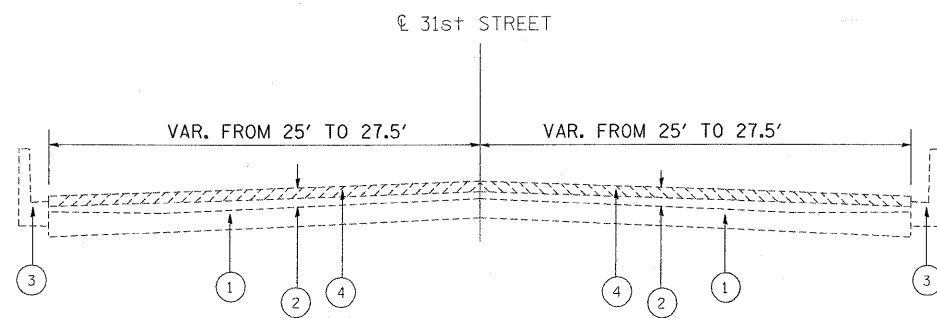
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE STANDARD
TRAFFIC SIGNAL DESIGN DETAIL**
SCALE: N.T.S. SHEET NO. 1 OF 4 SHEETS STA. TO STA.

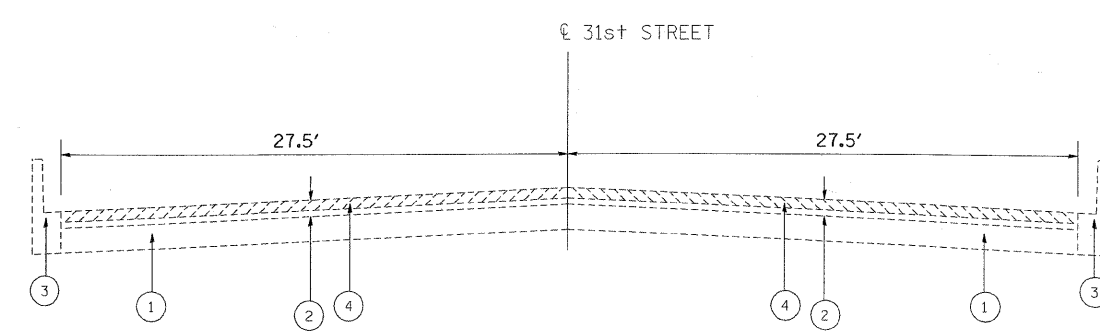
F.A.P. RTE. 348	SECTION 2008-068-TS	COUNTY COOK/WILL	TOTAL SHEETS 18	SHEET NO. 3
CONTRACT NO. 60F59				
ILLINOIS FED. AID PROJECT				



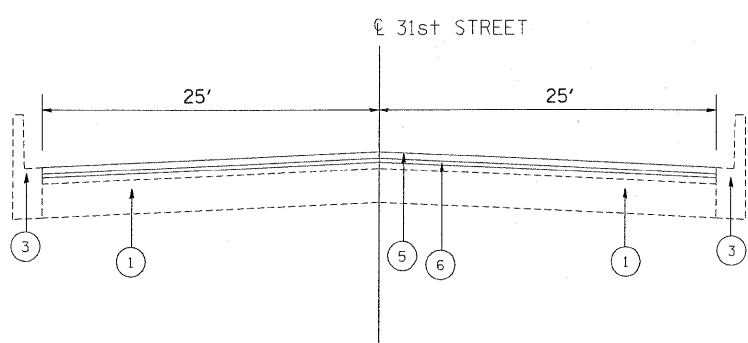
EXISTING TYPICAL SECTION
31st STREET
STA. 96+88 TO STA 164+08



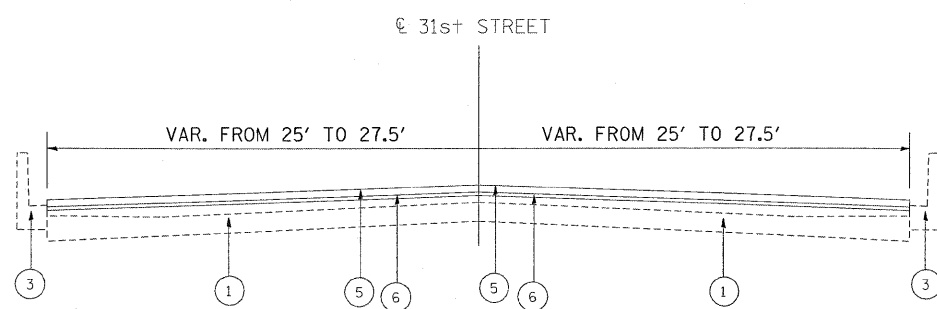
EXISTING TYPICAL SECTION
31st STREET
STA. 164+08 STA. 165+05



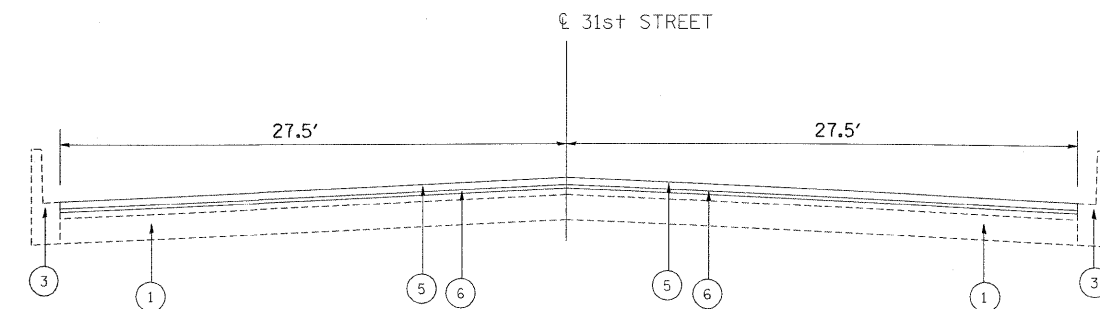
EXISTING TYPICAL SECTION
31st STREET
STA. 165+05 TO STA. 172+68
STA. 288+33 TO STA. 291+23



PROPOSED TYPICAL SECTION
31st STREET
STA. 96+88 TO STA 164+08



PROPOSED TYPICAL SECTION
31st STREET
STA. 164+08 STA. 165+05



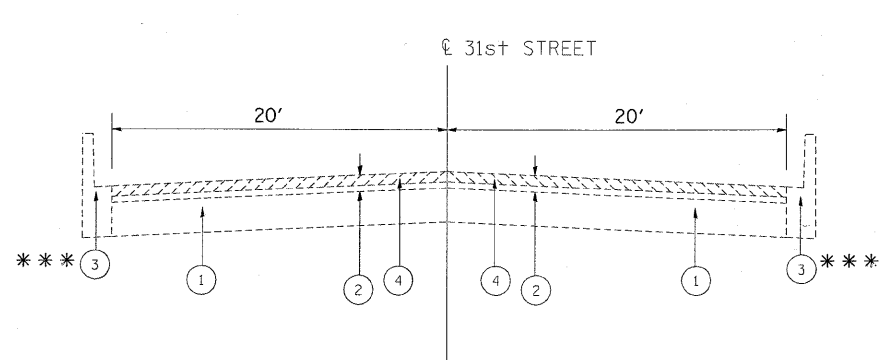
PROPOSED TYPICAL SECTION
31st STREET
STA. 165+05 TO STA. 172+68
STA. 288+33 TO STA. 291+23

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
MIXTURE TYPE	AC TYPE	AIR VOIDS
RESURFACING		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL-9.5 MM)	PG 64-22	4% @ 70 GYR
POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	SBS/SBR PG 76-28/-22	4% @ 50 GYR
PATCHING		
CLASS D PATCHES (HMA BINDER IL-19 mm)	PG 64-22*	4% @ 70 GYR
HOT-MIX ASPHALT REPLACEMENT OVER PATCHES (HMA BINDER IL-19MM)	PG 64-22*	4% @ 70 GYR

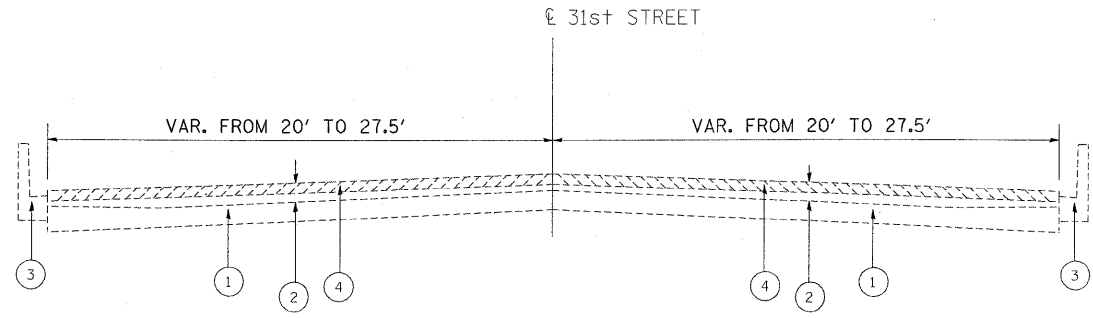
"THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LB/ SQ YD/IN"
* WHEN RAP EXCEEDS 20%, THE NEW ASPHALT BINDER IN THE MIX SHALL BE PG 58 -22.

LEGEND

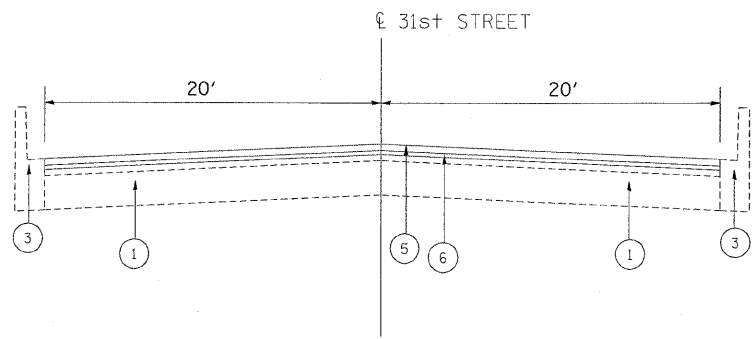
- ① EXISTING PCC PAVEMENT ±8"
- ② EXISTING HMA OVERLAY ±4"
- ③ EXISTING COMBINATION CONCRETE CURB & GUTTER
- ④ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"
- ⑤ PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 1 1/2"
- ⑥ PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"



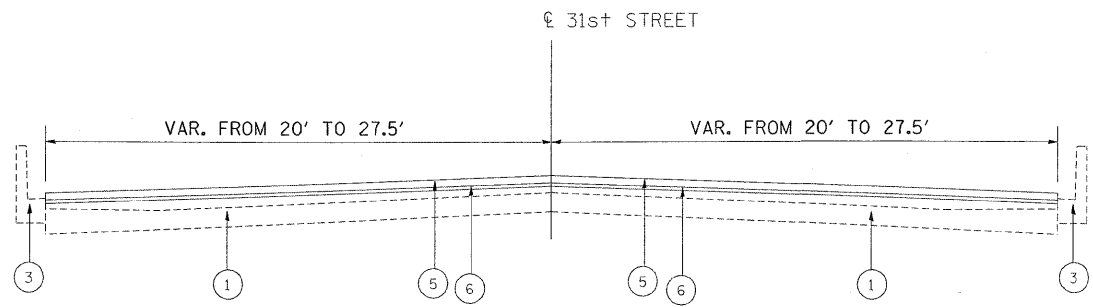
EXISTING TYPICAL SECTION
31st STREET
STA. 172+68 TO STA 286+33
STA. 203+50 TO STA 286+33



EXISTING TYPICAL SECTION
31st STREET
STA. 286+33 STA. 288+33



PROPOSED TYPICAL SECTION
31st STREET
STA. 172+68 TO STA 286+33
STA. 203+50 TO STA 286+33



PROPOSED TYPICAL SECTION
31st STREET
STA. 286+33 STA. 288+33

*** BETWEEN STA. 255+00 AND STA. 279+00 THERE IS EXISTING AGGREGATE SHOULDER

LEGEND

- ① EXISTING PCC PAVEMENT ±8"
- ② EXISTING HMA OVERLAY ±4"
- ③ EXISTING COMBINATION CONCRETE CURB & GUTTER
- ④ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4"
- ⑤ PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 1 1/2"
- ⑥ PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4"

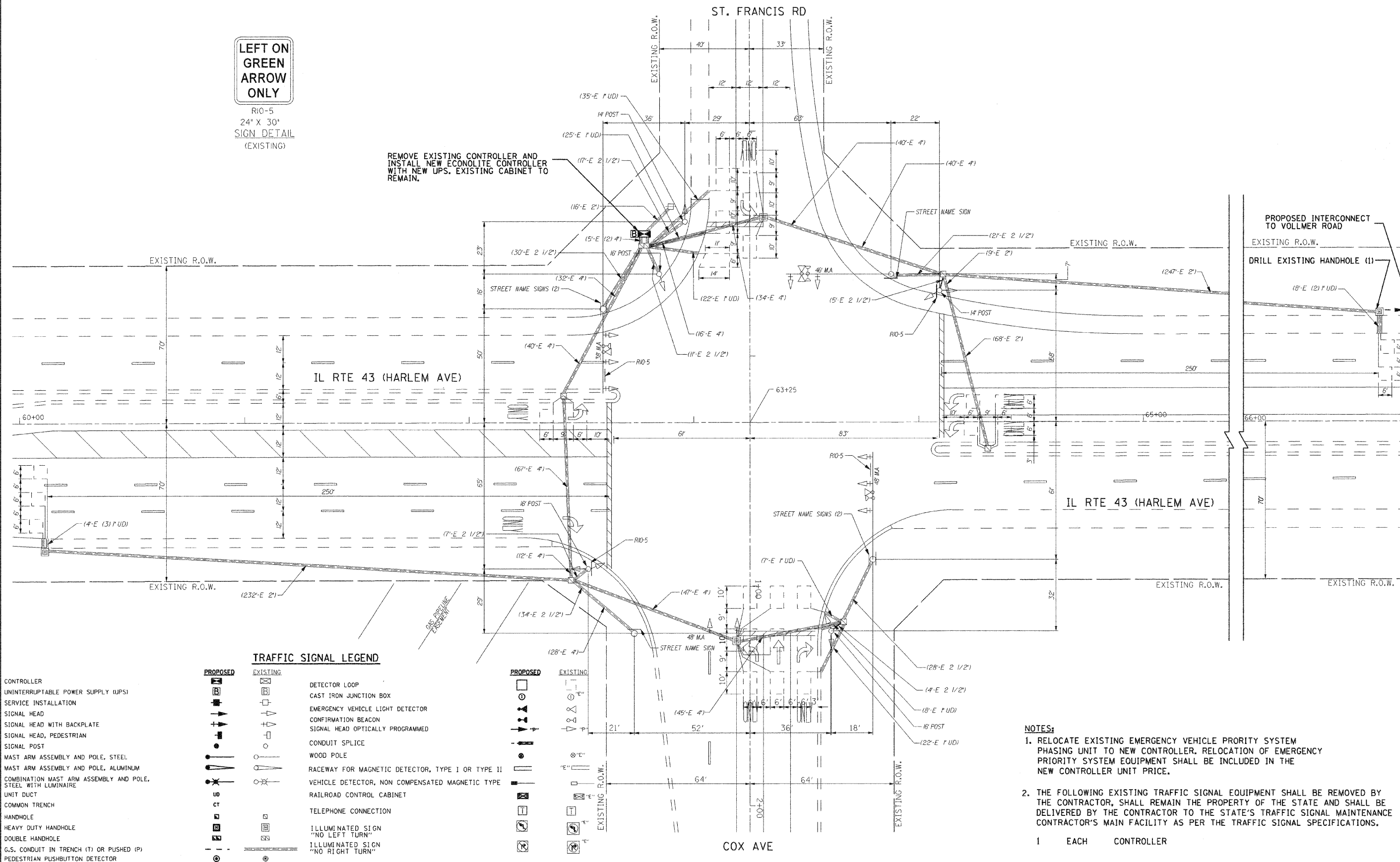
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	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -		SCALE: NTS	SHEET NO. OF SHEETS	STA. X TO STA. X	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
PLOT DATE = 6/2/2009	DATE -	REVISED -										



**LEFT ON
GREEN
ARROW
ONLY**

RI0-5
24" X 30"
SIGN DETAIL
(EXISTING)

REMOVE EXISTING CONTROLLER AND
INSTALL NEW ECONOLITE CONTROLLER
WITH NEW UPS. EXISTING CABINET TO
REMAIN.



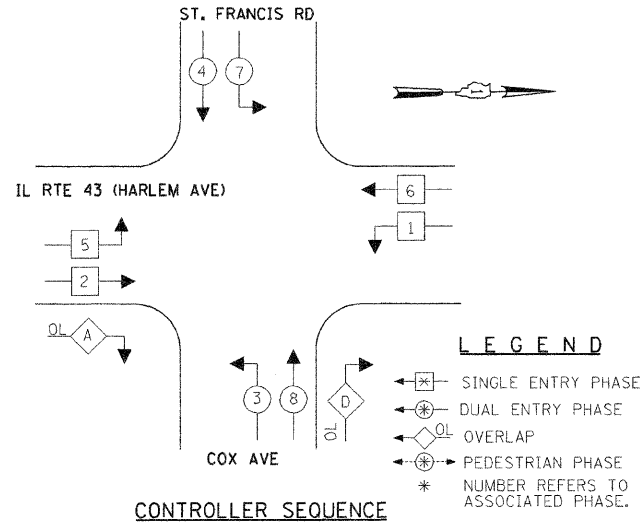
TRAFFIC SIGNAL LEGEND

PROPOSED	EXISTING	DESCRIPTION
[Symbol]	[Symbol]	CONTROLLER
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY (UPS)
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	SIGNAL HEAD
[Symbol]	[Symbol]	SIGNAL HEAD WITH BACKPLATE
[Symbol]	[Symbol]	SIGNAL HEAD, PEDESTRIAN
[Symbol]	[Symbol]	SIGNAL POST
[Symbol]	[Symbol]	MAST ARM ASSEMBLY AND POLE, STEEL
[Symbol]	[Symbol]	MAST ARM ASSEMBLY AND POLE, ALUMINUM
[Symbol]	[Symbol]	COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE
[Symbol]	[Symbol]	UNIT DUCT
[Symbol]	[Symbol]	COMMON TRENCH
[Symbol]	[Symbol]	HANDHOLE
[Symbol]	[Symbol]	HEAVY DUTY HANDHOLE
[Symbol]	[Symbol]	DOUBLE HANDHOLE
[Symbol]	[Symbol]	G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
[Symbol]	[Symbol]	PEDESTRIAN PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	DETECTOR LOOP
[Symbol]	[Symbol]	CAST IRON JUNCTION BOX
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	SIGNAL HEAD OPTICALLY PROGRAMMED
[Symbol]	[Symbol]	CONDUIT SPLICE
[Symbol]	[Symbol]	WOOD POLE
[Symbol]	[Symbol]	RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II
[Symbol]	[Symbol]	VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	TELEPHONE CONNECTION
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN "NO RIGHT TURN"
[Symbol]	[Symbol]	VIDEO VEHICLE SENSOR

- NOTES:**
1. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM PHASING UNIT TO NEW CONTROLLER. RELOCATION OF EMERGENCY PRIORITY SYSTEM EQUIPMENT SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.
 2. THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.
- 1 EACH CONTROLLER

FILE NAME =	USER NAME = #USER#	DESIGNED - MTM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC SIGNAL MODIFICATION PLAN IL 43 (HARLEM AVE.) AND ST. FRANCISCOX AVE.	F.A.P. RTE. 348	SECTION 2008-068-TS	COUNTY COOK/WILL	TOTAL SHEETS 18	SHEET NO. 7		
#FILE#		DRAWN - JJS	REVISED -			SCALE: 1"=20'	SHEET NO. 1 OF 2 SHEETS	STA. TO STA.	CONTRACT NO. 60F59			
		CHECKED - DHF	REVISED -			ILLINOIS FED. AID PROJECT						
		DATE - APRIL 2009	REVISED -									

PHASE DESIGNATION DIAGRAM

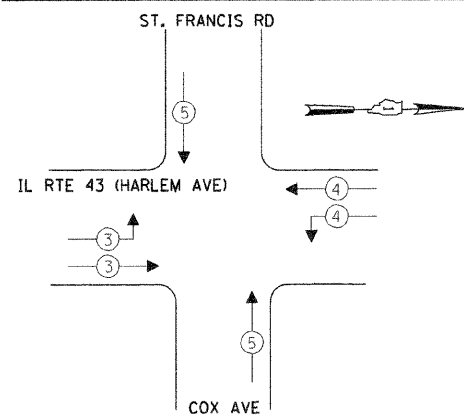


CONTROLLER SEQUENCE

RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 2	+ 3
D	= 8	+ 1

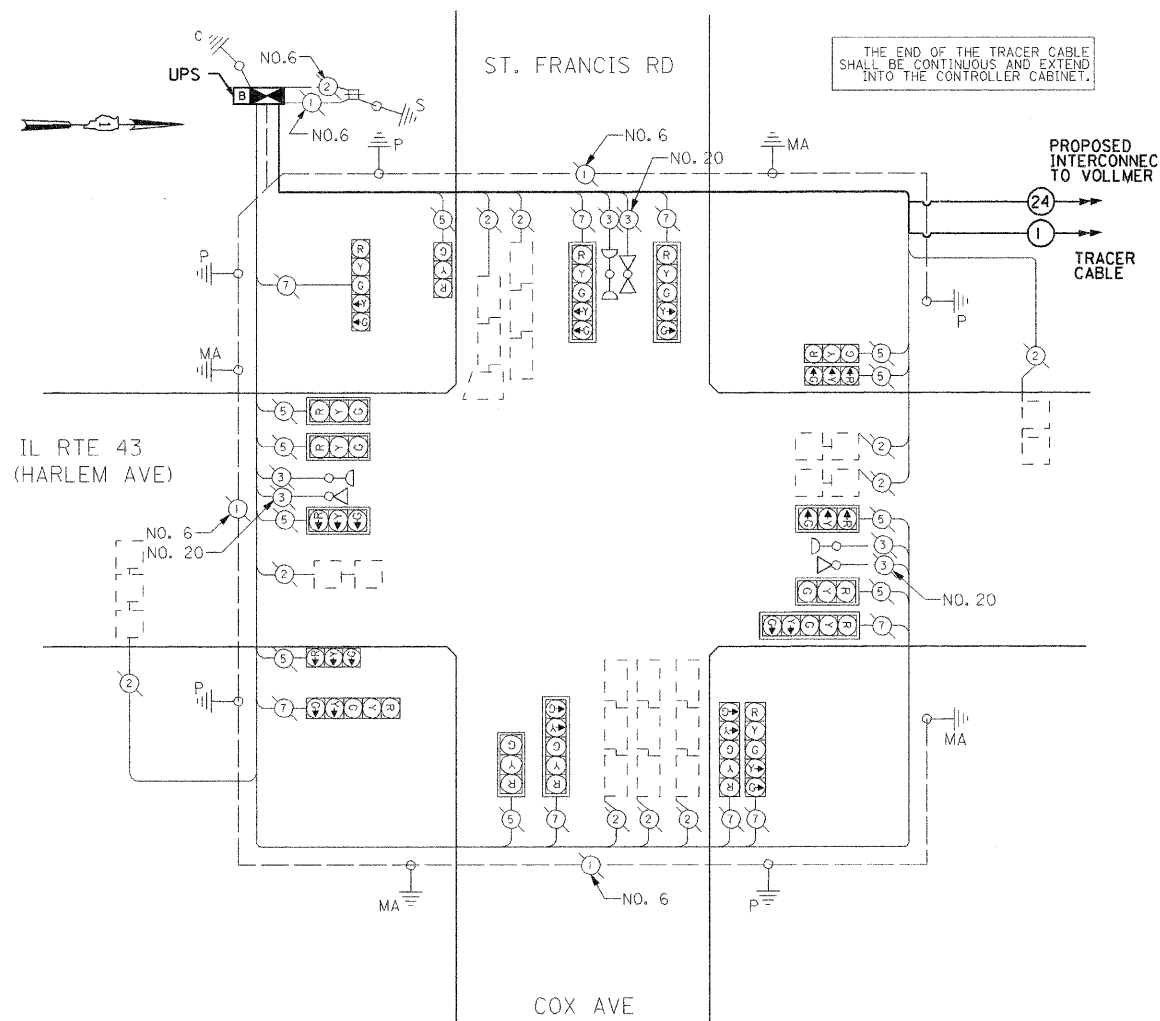
EMERGENCY VEHICLE PREEMPTION SEQUENCE



EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↕

CABLE PLAN LEGEND

- | | |
|-----------------|-----------------|
| EXISTING | PROPOSED |
| (G) | (G) |
| (R) | (R) |
| (W) | (W) |
| (P) | (P) |
| (T) | (T) |
| (V) | (V) |
| (H/C) | (H/C) |
| (P) | (P) |
| (S) | (S) |
| (V) | (V) |
| (B) | (B) |
- 8" (200mm) TRAFFIC SIGNAL SECTION
 - 12" (300mm) TRAFFIC SIGNAL SECTION
 - 12" (300mm) PEDESTRIAN SIGNAL SECTION
 - 12" (300mm) PEDESTRIAN SIGNAL SECTION
 - CONTROLLER CABINET
 - SERVICE INSTALLATION
 - TELEPHONE INSTALLATION
 - VEHICLE DETECTOR, INDUCTION LOOP
 - MAGNETIC DETECTOR
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - PUSH-BUTTON DETECTOR
 - 2 DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
 - 1 GROUND CABLE IN CONDUIT NO.6 SOLID COPPER (GREEN)
 - 24 FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F
 - SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
 - RAILROAD CONTROL CABINET
 - ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
 - ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
 - GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER
 - GROUND ROD AT POST OR MAST ARM POLE
 - GROUND ROD AT ELECTRIC SERVICE INSTALLATION
 - VIDEO DETECTION CAMERA (SINGLE)
 - UPS - BATTERY BACK-UP SYSTEM



PROPOSED CABLE PLAN

NOTE:
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

SCHEDULE OF QUANTITIES

QTY	UNIT	ITEM DESCRIPTION
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER IN EXISTING CABINET (SPECIAL)
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
1	EACH	TRANCEIVER-FIBER OPTIC
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2
26	SO FT	TEMPORARY INFORMATION SIGNING
1	EACH	DRILL EXISTING HANDHOLE

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH, AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAYS SURFACES SUCH AS SHOULDERS, MEDIAN, 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 SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS				
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	TOTAL WATTAGE
SIGNAL (RED)	18	135	17	153.0
(YELLOW)	18	135	25	112.5
(GREEN)	18	135	15	67.5
ARROW	16	135	12	19.2
PED. SIGNAL		90	25	1.00
CONTROLLER	1	100	100	100.0
ILLUM. SIGN		84		0.05
FLASHER				0.50
ENERGY COSTS TO: VILLAGE OF MATTESON				TOTAL = 452.20
ENERGY SUPPLY CONTACT: MR. HARRY JONES PHONE: (815) 724-5057 COMPANY: COMED-EDISON				

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2'=(6m+L-0.6m)=
E - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM, IL 43 (HARLEM AVE.) AND ST. FRANCIS/COX AVE.

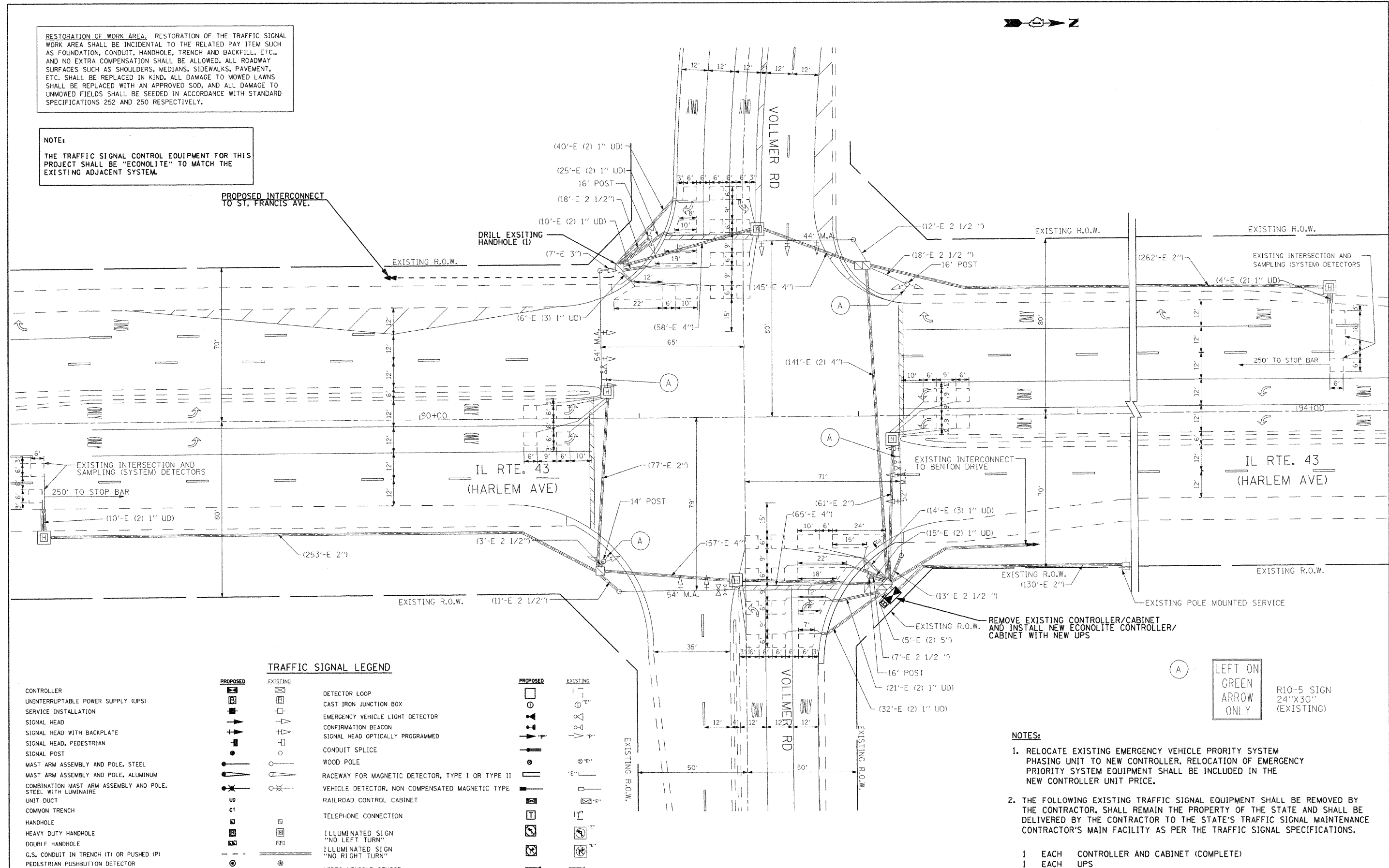
F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	2008-068-TS	COOK/WILL	18	8
CONTRACT NO. 60E59				
ILLINOIS FED. AID PROJECT				

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

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM 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:
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

PROPOSED INTERCONNECT TO ST. FRANCIS AVE.



TRAFFIC SIGNAL LEGEND

- PROPOSED**
- CONTROLLER
 - UNINTERRUPTIBLE POWER SUPPLY (UPS)
 - 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
 - COMMON TRENCH
 - HANDHOLE
 - HEAVY DUTY HANDHOLE
 - DOUBLE HANDHOLE
 - G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
 - PEDESTRIAN PUSHBUTTON DETECTOR

- EXISTING**
- DETECTOR LOOP
 - CAST IRON JUNCTION BOX
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - SIGNAL HEAD OPTICALLY PROGRAMMED
 - CONDUIT SPLICE
 - WOOD POLE
 - RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II
 - VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE
 - RAILROAD CONTROL CABINET
 - TELEPHONE CONNECTION
 - ILLUMINATED SIGN "NO LEFT TURN"
 - ILLUMINATED SIGN "NO RIGHT TURN"
 - VIDEO VEHICLE SENSOR

NOTES:

1. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM PHASING UNIT TO NEW CONTROLLER. RELOCATION OF EMERGENCY PRIORITY SYSTEM EQUIPMENT SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.
2. THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR. SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.
 - 1 EACH CONTROLLER AND CABINET (COMPLETE)
 - 1 EACH UPS

A - LEFT ON GREEN ARROW ONLY
R10-5 SIGN 24"X30" (EXISTING)

FILE NAME =	USER NAME = #USER#	DESIGNED - MTM	REVISED -
#FILE#		DRAWN - JJS	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - DHF	REVISED -
	PLOT DATE = #DATE#	DATE - APRIL 2009	REVISED -

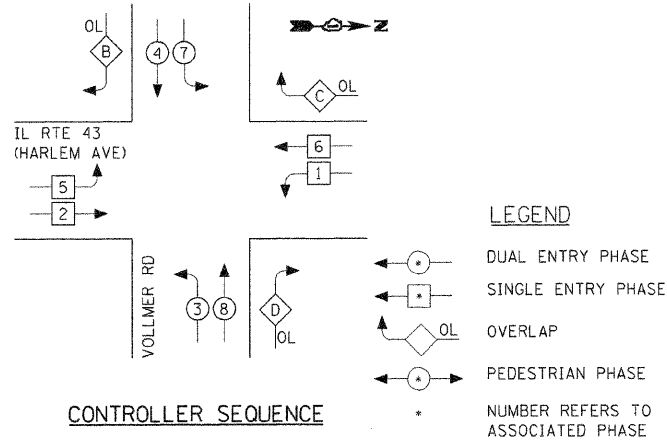
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL MODIFICATION PLAN
IL 43 (HARLEM AVE) AND VOLLMER ROAD**

SCALE: 1"=20' SHEET NO. 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	2008-068-T5	COOK/WILL	18	9
CONTRACT NO. 60F59				
ILLINOIS FED. AID PROJECT				

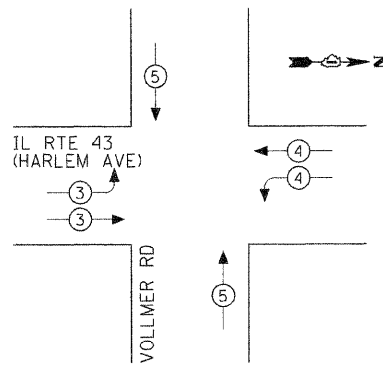
PHASE DESIGNATION DIAGRAM



RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B =	4 +	5
C =	6 +	7
D =	8 +	1

EMERGENCY VEHICLE PREEMPTION SEQUENCE



EXISTING EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↑

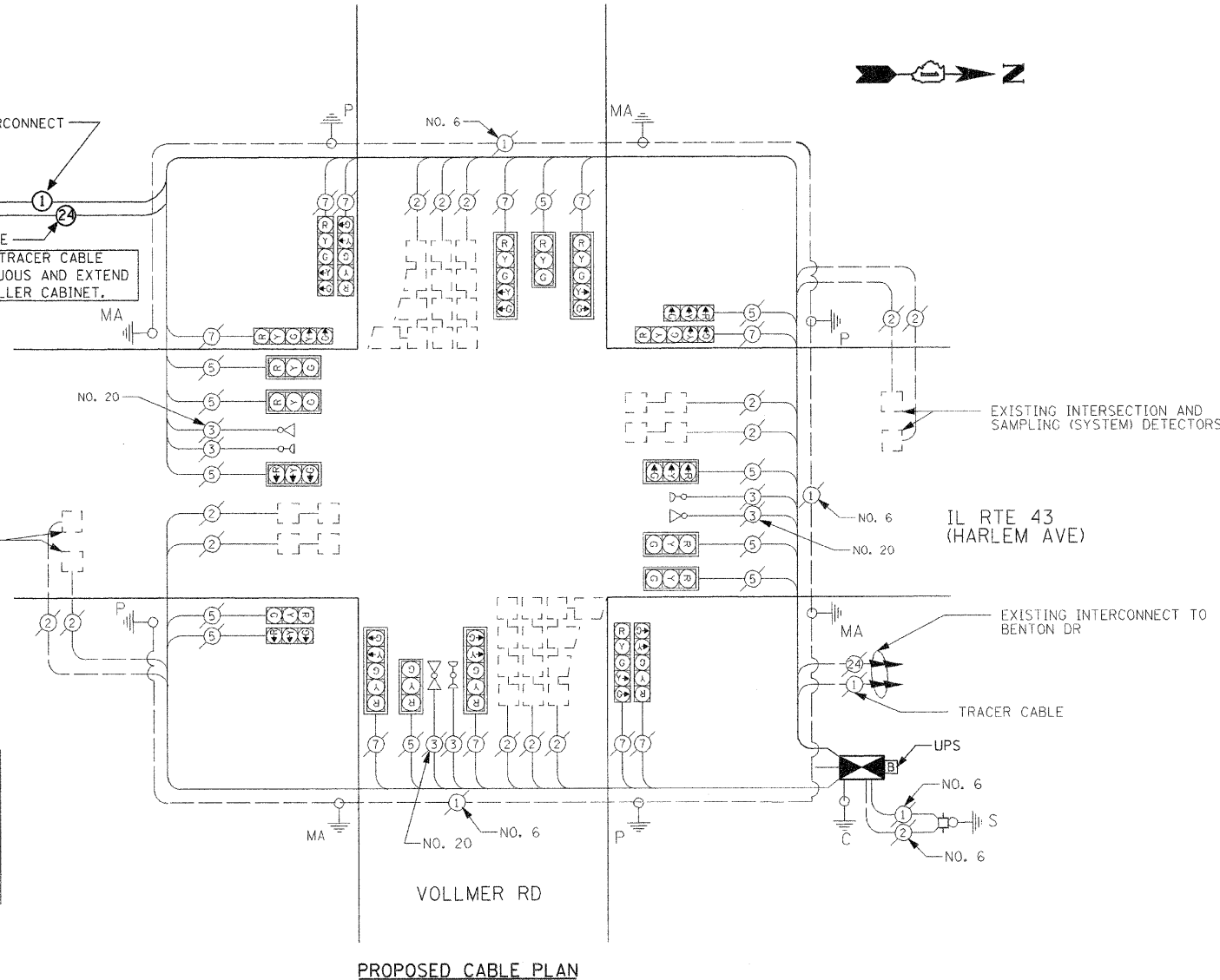
CABLE PLAN LEGEND

- EXISTING: (G) 8" (200mm) TRAFFIC SIGNAL SECTION
- PROPOSED: (R) 12" (300mm) TRAFFIC SIGNAL SECTION
- (W) 12" (300mm) PEDESTRIAN SIGNAL SECTION
- (P) 12" (300mm) PEDESTRIAN SIGNAL SECTION
- (C) CONTROLLER CABINET
- (B) UNINTERRUPTABLE POWER SUPPLY (UPS)
- (S) SERVICE INSTALLATION
- (T) TELEPHONE CONNECTION
- (V) VEHICLE DETECTOR, INDUCTION LOOP
- (M) MAGNETIC DETECTOR
- (E) EMERGENCY VEHICLE LIGHT DETECTOR
- (C) CONFIRMATION BEACON
- (P) PUSHBUTTON DETECTOR
- (2) DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
- (1) GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
- (24) FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM12F
- (R) SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
- (R) RAILROAD CONTROL CABINET
- (E) ILLUMINATED SIGN "NO LEFT TURN"
- (E) ILLUMINATED SIGN "NO RIGHT TURN"
- (H/C) GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
- (P) GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
- (S) GROUND ROD AT ELECTRIC SERVICE INSTALLATION
- (V) VIDEO VEHICLE SENSOR

PROPOSED INTERCONNECT TO ST. FRANCIS

TRACER CABLE

THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.



PROPOSED CABLE PLAN

NOTE:
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

SCHEDULE OF QUANTITIES

QTY	UNIT	ITEM DESCRIPTION
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY
1	EACH	TRANCEIVER-FIBER OPTIC
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2
14	EACH	INDUCTION LOOP DETECTOR
1	EACH	DRILL EXISTING HANDHOLE

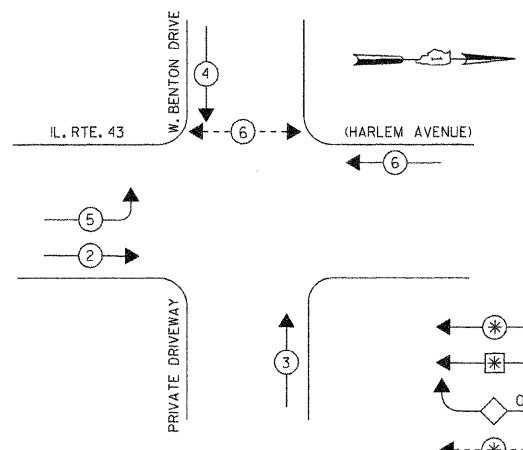
I.D.O.T
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	21		17	0.50	178.5
(YELLOW)	21		25	0.25	131.25
(GREEN)	21		15	0.25	78.75
ARROW	20		12	0.10	24.0
PED. SIGNAL	-		25	1.00	-
CONTROLLER	1		100	1.00	100.0
ILLUM. SIGN				0.05	
FLASHER				0.50	
TOTAL =					512.5

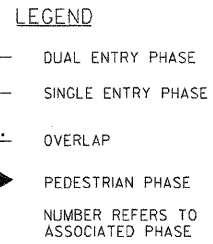
ENERGY COSTS TO:
VILLAGE OF FRANKFORT
432 WEST NEBRASKA STREET
FRANKFORT, ILLINOIS 60423
CONTACT: MICHAEL KING
PHONE: (815) 724-5027
COMPANY: CQM, ED.

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2' = (6m+L-0.6m) =
E - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

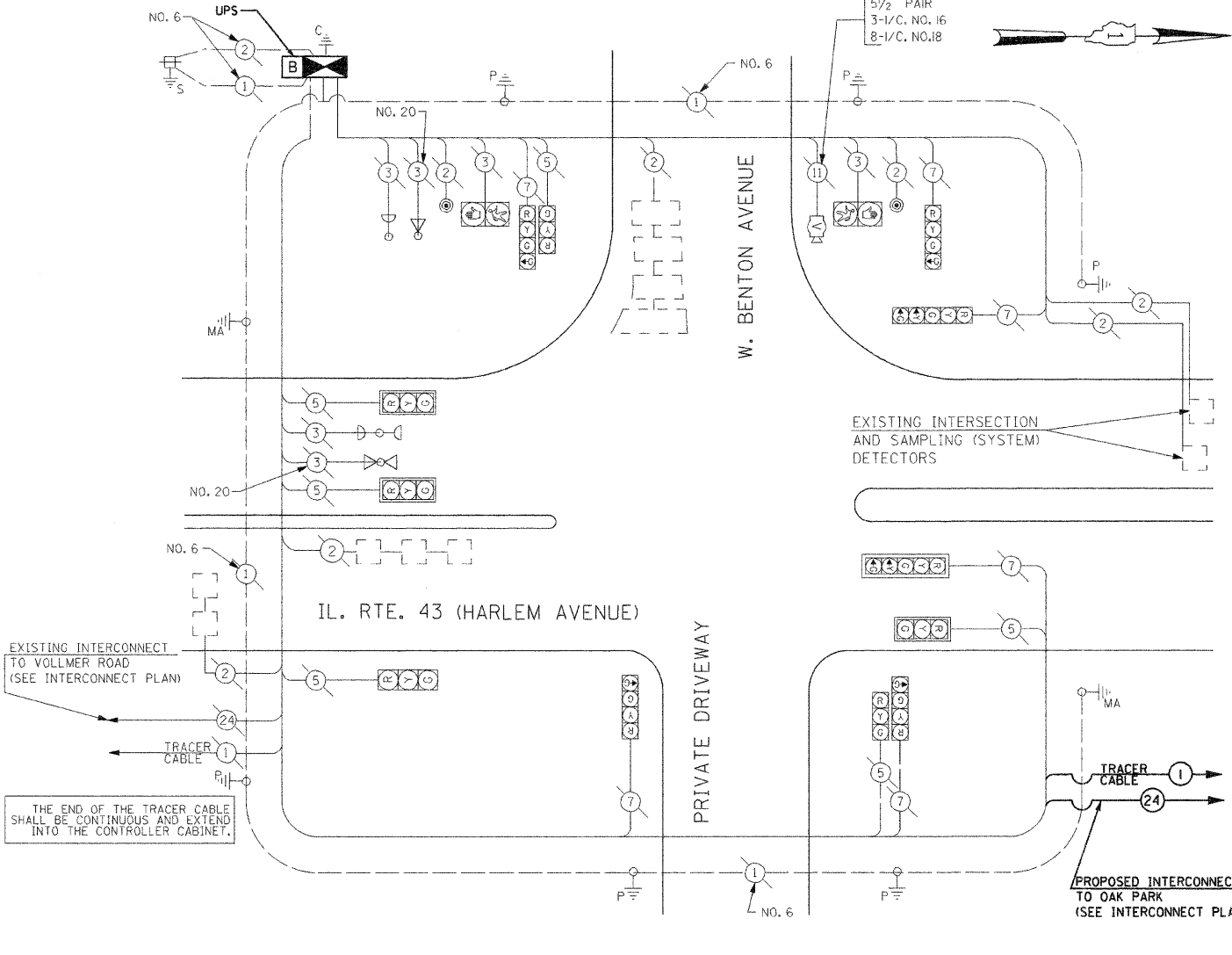
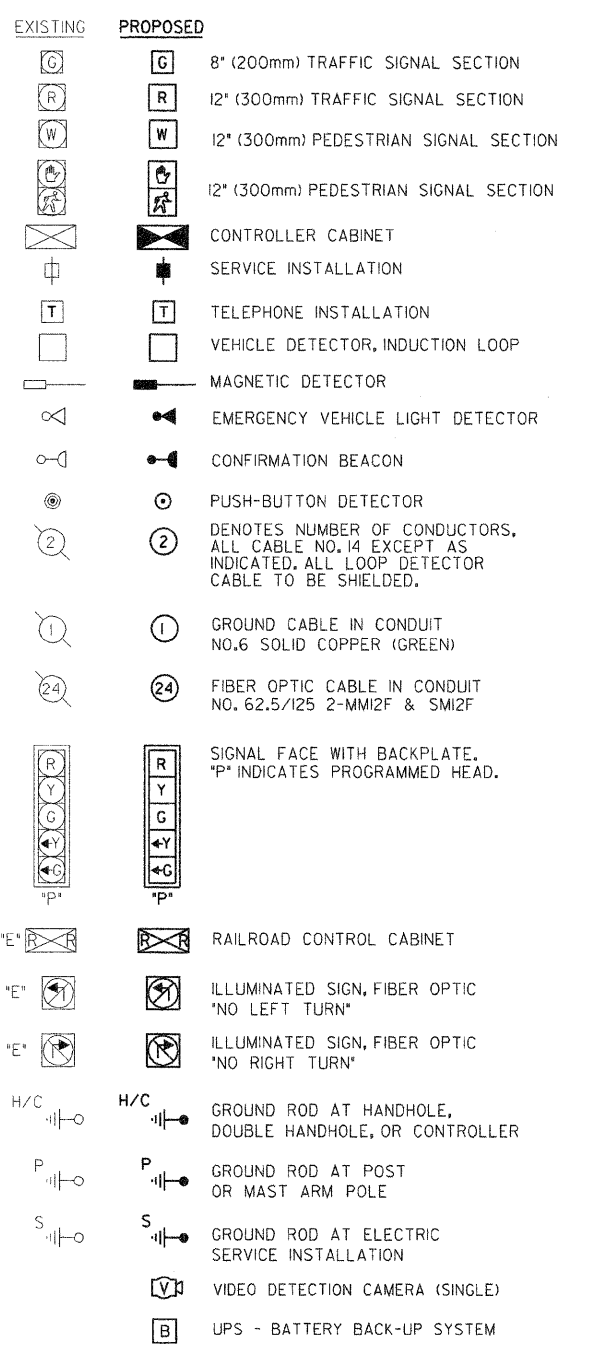
PHASE DESIGNATION DIAGRAM



CONTROLLER SEQUENCE

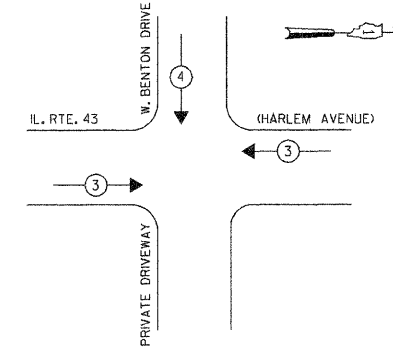


CABLE PLAN LEGEND



CABLE PLAN
NOT TO SCALE

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" TO MATCH THE EXISTING ADJACENT SYSTEM.

SCHEDULE OF QUANTITIES

QTY	UNIT	ITEM DESCRIPTION
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY
1	EACH	TRANSCIVER-FIBER OPTIC
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2
5	EACH	INDUCTIVE LOOP DETECTOR
1	EACH	DRILL EXISTING HANDHOLE

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE	% OPERATION		
SIGNAL (RED)	12	135	17	0.50	102.0
	12	135	25	0.25	75.0
	12	135	15	0.25	45.0
ARROW	8	135	12	0.10	9.6
PED. SIGNAL	2	90	25	1.00	50.0
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN				0.05	
FLASHER				0.50	
TOTAL =					381.6

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A-POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D-CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'±L-2'±
E-MAST ARM POLE		SIGNAL POST	2 (0.6)		(6m±L-0.6m)±
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.3)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.3)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.3)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

ENERGY COSTS TO:
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096
ENERGY SUPPLY CONTACT: Ms. DOLORES KREMNITZER
PHONE: (815) 724-5241
COMPANY: COMED-EDISON

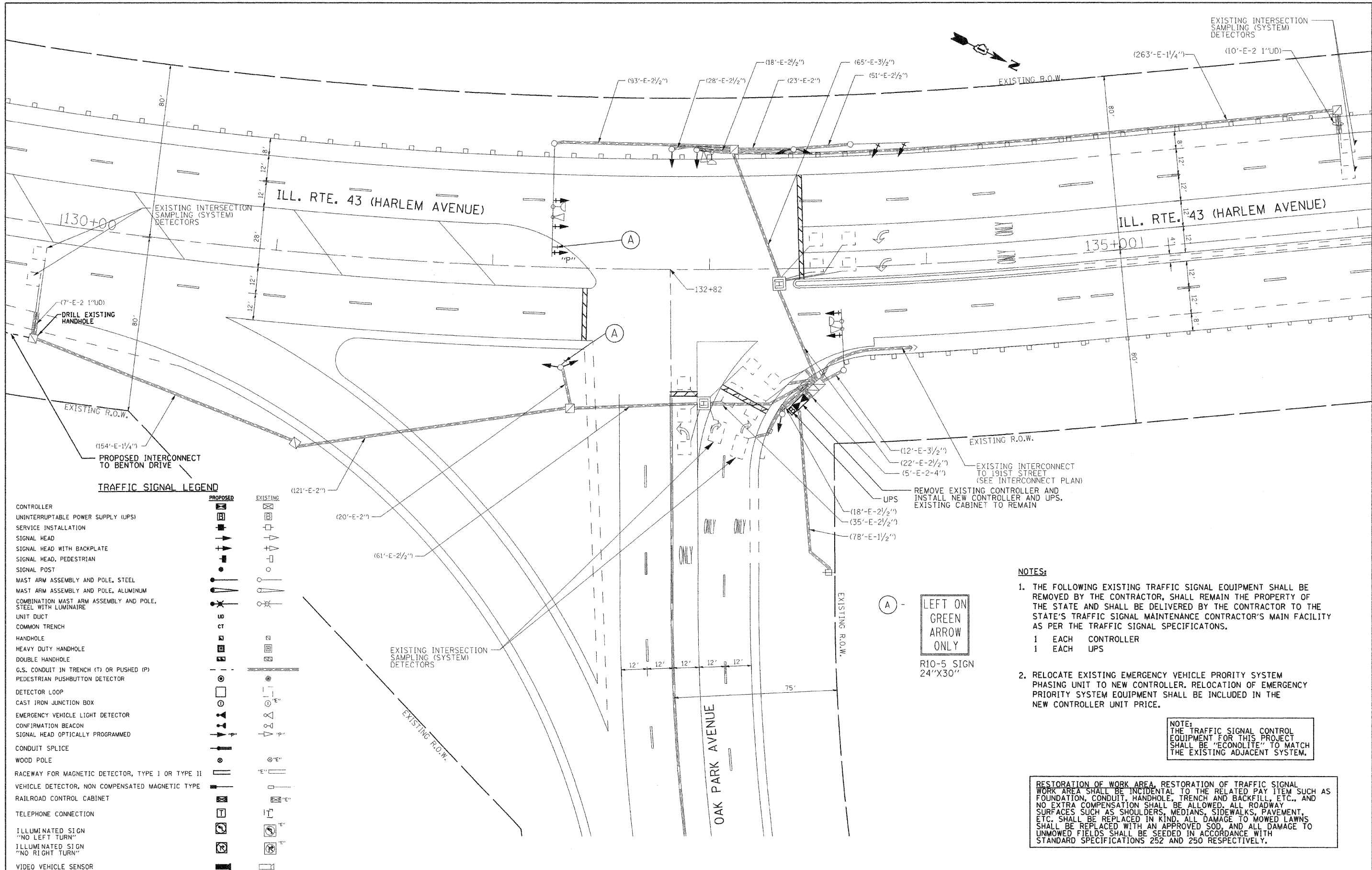
FILE NAME =	USER NAME = #USER#	DESIGNED - MTM	REVISED -
#FILE#		DRAWN - JJS	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - DHF	REVISED -
	PLOT DATE = #DATE#	DATE - APRIL 2009	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION
DIAGRAM, IL. 43 (HARLEM AVE.) AND BENTON DRIVE

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	2008-068-TS	COOK/WILL	18	12
				CONTRACT NO. 60F59
ILLINOIS FED. AID PROJECT				

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



TRAFFIC SIGNAL LEGEND

- | | | | |
|--|--|----------|--|
| CONTROLLER | | EXISTING | |
| UNINTERRUPTABLE POWER SUPPLY (UPS) | | EXISTING | |
| SERVICE INSTALLATION | | EXISTING | |
| SIGNAL HEAD | | EXISTING | |
| SIGNAL HEAD WITH BACKPLATE | | EXISTING | |
| SIGNAL HEAD, PEDESTRIAN | | EXISTING | |
| SIGNAL POST | | EXISTING | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | EXISTING | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | EXISTING | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | EXISTING | |
| UNIT DUCT | | EXISTING | |
| COMMON TRENCH | | EXISTING | |
| HANDHOLE | | EXISTING | |
| HEAVY DUTY HANDHOLE | | EXISTING | |
| DOUBLE HANDHOLE | | EXISTING | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | EXISTING | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | EXISTING | |
| DETECTOR LOOP | | EXISTING | |
| CAST IRON JUNCTION BOX | | EXISTING | |
| EMERGENCY VEHICLE LIGHT DETECTOR | | EXISTING | |
| CONFIRMATION BEACON | | EXISTING | |
| SIGNAL HEAD OPTICALLY PROGRAMMED | | EXISTING | |
| CONDUIT SPLICE | | EXISTING | |
| WOOD POLE | | EXISTING | |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | EXISTING | |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | EXISTING | |
| RAILROAD CONTROL CABINET | | EXISTING | |
| TELEPHONE CONNECTION | | EXISTING | |
| ILLUMINATED SIGN "NO LEFT TURN" | | EXISTING | |
| ILLUMINATED SIGN "NO RIGHT TURN" | | EXISTING | |
| VIDEO VEHICLE SENSOR | | EXISTING | |

NOTES:

- THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.
 - 1 EACH CONTROLLER
 - 1 EACH UPS
- RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM PHASING UNIT TO NEW CONTROLLER. RELOCATION OF EMERGENCY PRIORITY SYSTEM EQUIPMENT SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

NOTE: THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

RESTORATION OF WORK AREA, RESTORATION OF TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM 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.

LEFT ON GREEN ARROW ONLY

R10-5 SIGN 24"X30"

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL MODIFICATION PLAN
IL 43 (HARLEM AVE.) AND OAK PARK DRIVE**

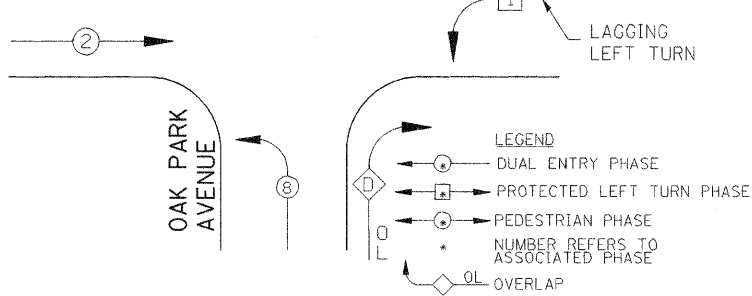
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	2008-068-TS	COOK/WILL	18	13
CONTRACT NO. 60F59				
ILLINOIS FED. AID PROJECT				

FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - MTM	REVISED -
		DRAWN - JJS	REVISED -
PLOT SCALE = #SCALE#		CHECKED - DHF	REVISED -
PLOT DATE = #DATE#		DATE - APRIL 2009	REVISED -

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

PHASE DESIGNATION DIAGRAM

ILL. ROUTE 43 (HARLEM AVENUE)

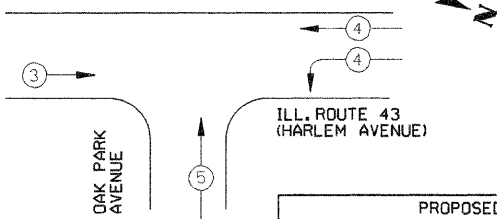


CONTROLLER SEQUENCE

RIGHT TURN OVERLAP PHASE DESIGNATION

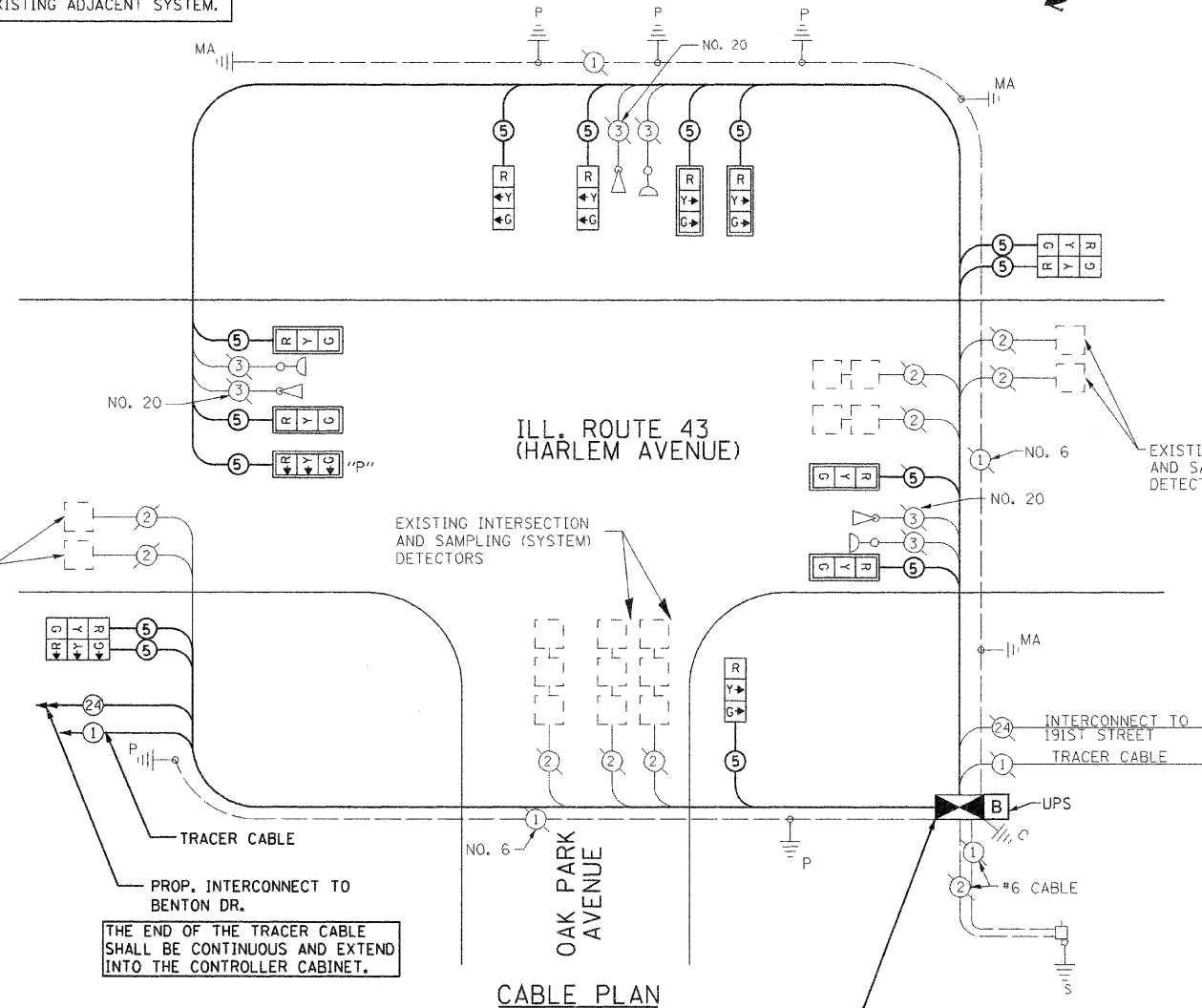
OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
D	= 8	+ 1

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↑

NOTE:
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.



CABLE PLAN LEGEND

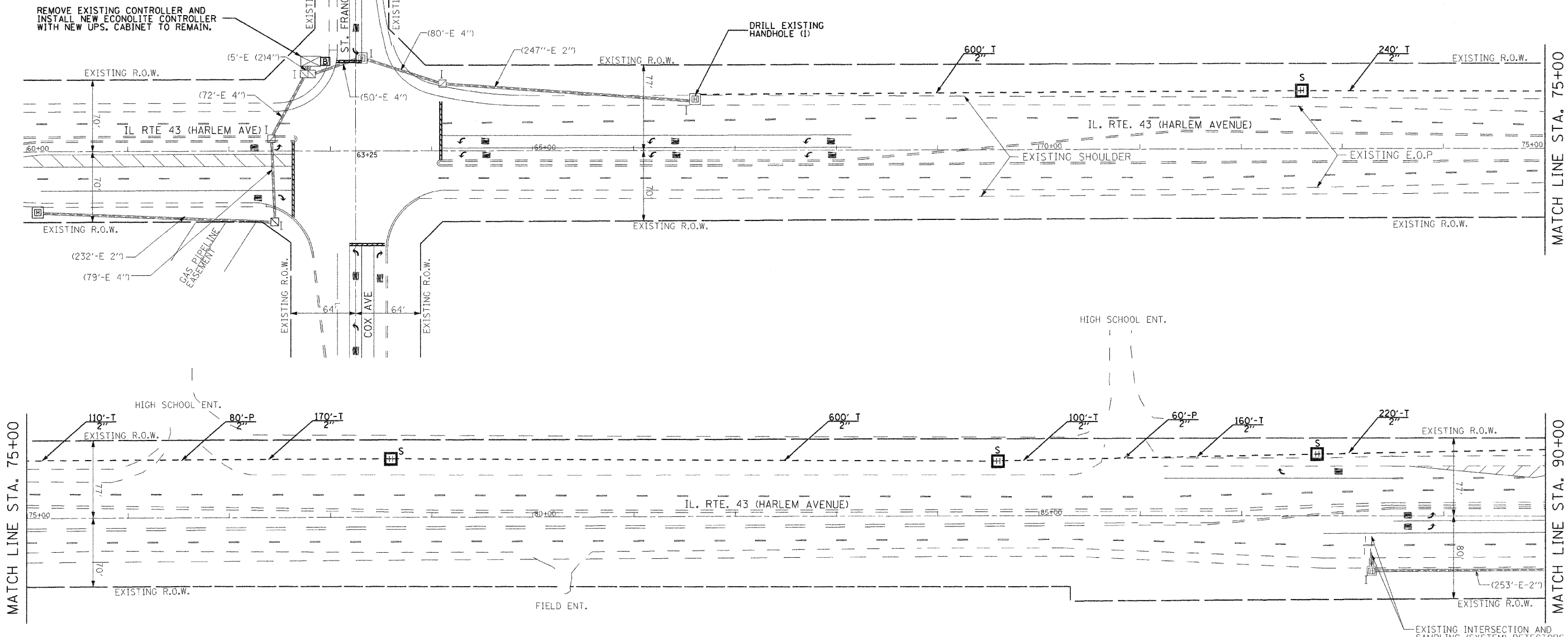
- | EXISTING | PROPOSED | |
|----------|----------|---|
| | | 8" (200mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | TELEPHONE |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED ALL LOOP DETECTOR CABLE TO BE SHIELDED |
| | | SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD |
| | | LOUVERED |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN" |
| | | ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN" |
| | | GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER |
| | | GROUND ROD AT POST OR MAST ARM POLE |
| | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F |
| | | LUMINAIRE |
| | | VIDEO DETECTION CAMERA (SINGLE) |
| | | UPS - BATTERY BACK-UP SYSTEM |

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	
SIGNAL (RED)	13	17	0.50	110.50	
(YELLOW)	13	25	0.25	81.25	
(GREEN)	13	15	0.25	48.75	
ARROW	16	12	0.10	19.20	
PED. SIGNAL		25	1.00		
CONTROLLER	1	100	1.00	100	
ILLUM. SIGN			0.05		
FLASHER			0.50		
ENERGY COSTS TO: IDOT				TOTAL =	359.7

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)	(6m+L-0.6m)=	
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL
1	EACH	TRANSCEIVER - FIBER OPTIC
1891	EACH	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14, 5C
1	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
7	EACH	TRAFFIC SIGNAL BACK PLATE, LOUVERED, ALUMINUM
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
26	SQ FT	TEMPORARY INFORMATION SIGNING
1	EACH	DRILL EXISTING HANDHOLE



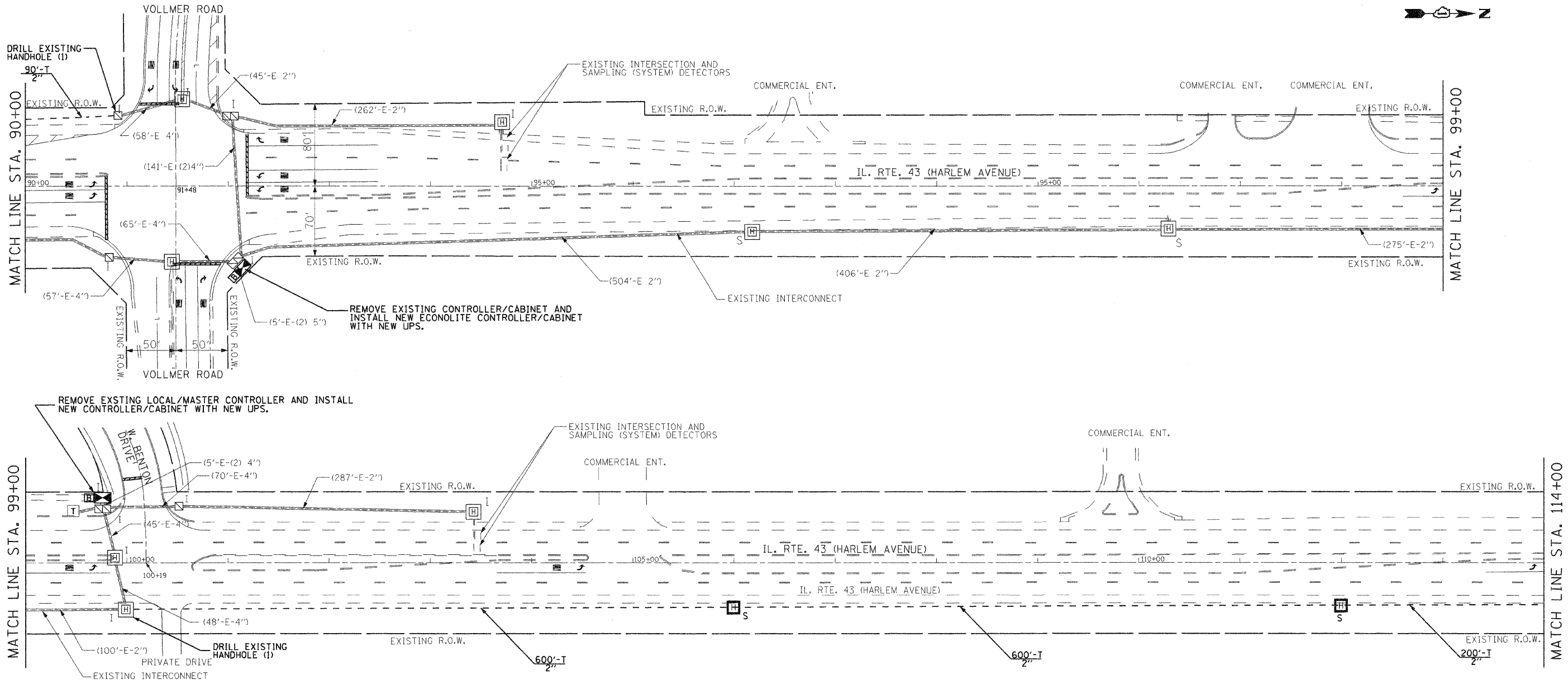
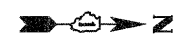
INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
UNINTERRUPTED POWER SUPPLY		[B]
CONTROLLER	[X]	[X]
HANDHOLE	[H]	[H]
DOUBLE HANDHOLE	[H]	[H]
HEAVY DUTY HANDHOLE	[H]	[H]
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	---	---
DETECTOR LOOP	[]	[]
UNIT DUCT	UD	[]
SYSTEM	S	[]
INTERSECTION	IP	I
COMMON TRENCH	CT	[]

NOTE:
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM 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.

FILE NAME =	USER NAME = #USER#	DESIGNED - MTM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTERCONNECT PLAN			F.A.P. RTE. 348	SECTION 2008-068-TS	COUNTY COOK/WILL	TOTAL SHEETS 18	SHEET NO. 15		
\$FILEL\$		DRAWN - JJS	REVISED -		IL ROUTE 43 (HARLEM AVE.) FROM ST. FRANCIS TO OAK PARK AVENUE			CONTRACT NO. 60F59						
		CHECKED - DHF	REVISED -		SCALE: 1"=50'			SHEET NO. 1 OF 3 SHEETS			STA. 60+00 TO STA. 90+00		ILLINOIS FED. AID PROJECT	
		DATE - APRIL 2009	REVISED -											



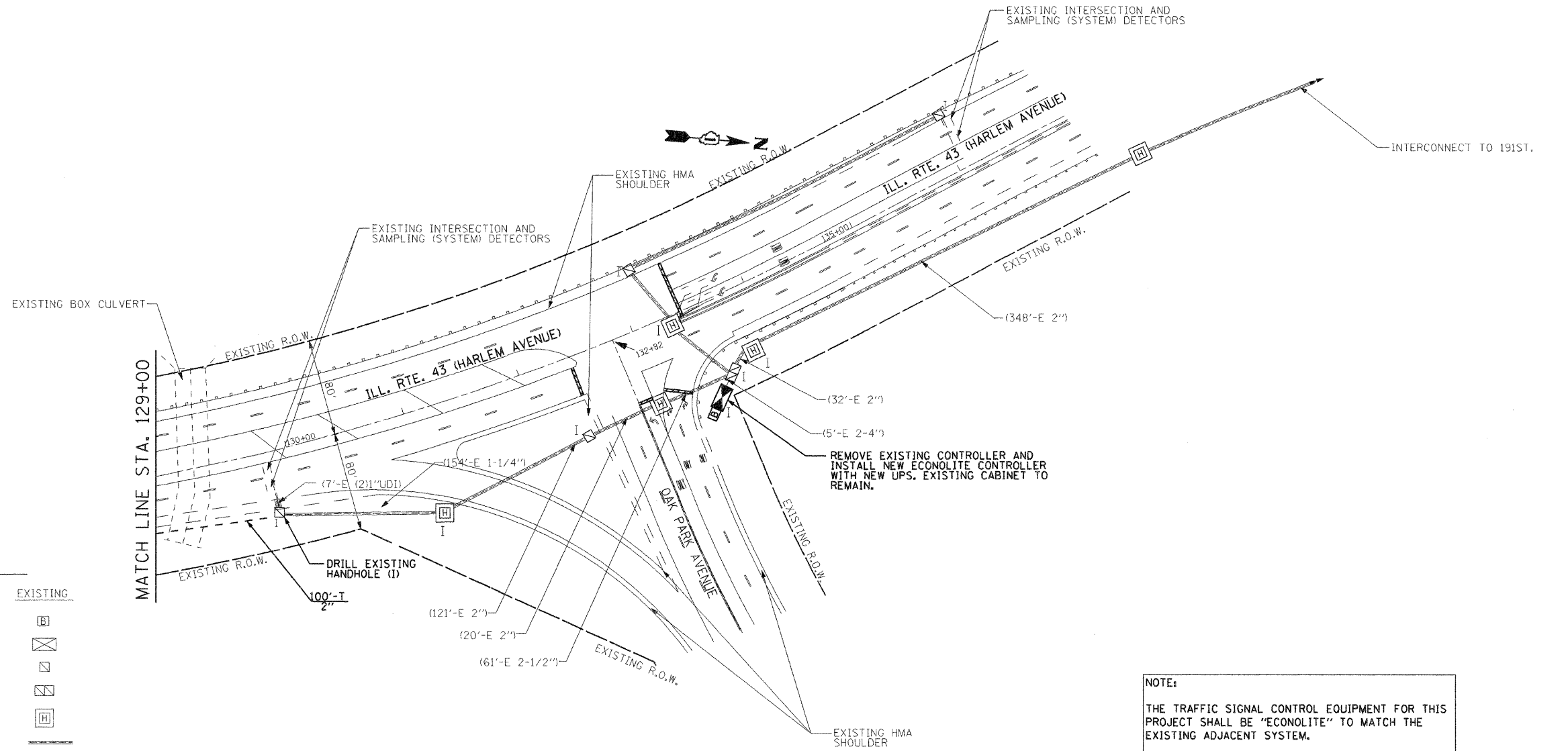
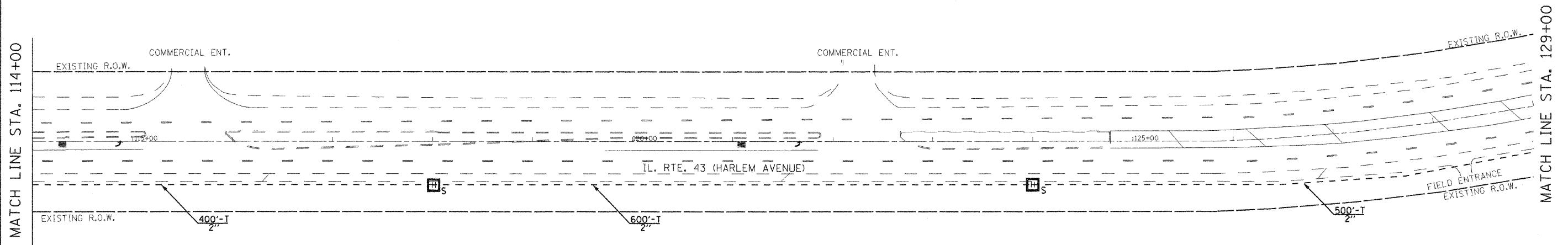
INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
UNINTERRUPTED POWER SUPPLY		
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
COMMON TRENCH	CT	

NOTE:
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FILE NAME =	USER NAME = #USER#	DESIGNED - MTM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTERCONNECT PLAN			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILEL#		DRAWN - JJS	REVISED -		IL. ROUTE 43 (HARLEM AVE.) FROM ST. FRANCIS TO OAK PARK AVENUE			348	2008-068-TS	COOK/WILL	18	16	
	PLOT SCALE = #SCALE#	CHECKED - DHF	REVISED -		SCALE: 1"=50'			SHEET NO. 2 OF 3 SHEETS			STA. 90+00 TO STA. 114+00		
	PLOT DATE = #DATE#	DATE - APRIL 2009	REVISED -					ILLINOIS FED. AID PROJECT			CONTRACT NO. 60F59		



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
UNINTERRUPTED POWER SUPPLY		
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
COMMON TRENCH	CT	

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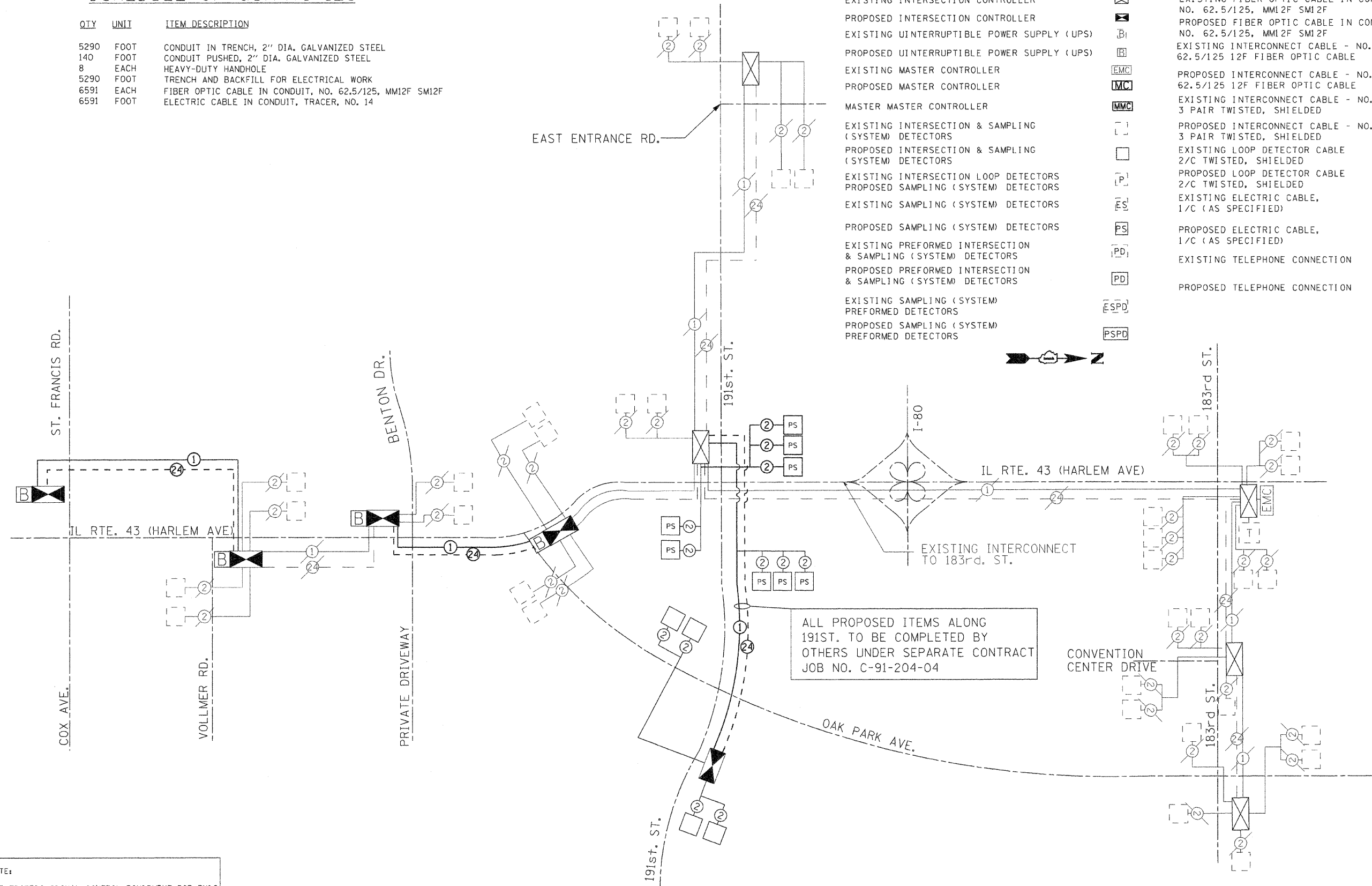
FILE NAME =	USER NAME = #USER#	DESIGNED - MTM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTERCONNECT PLAN			F.A.P. RTE. 348	SECTION 2008-068-TS	COUNTY COOK/WILL	TOTAL SHEETS 18	SHEET NO. 17
#FILE#		DRAWN - JJS	REVISED -		IL ROUTE 43 (HARLEM AVE.) FROM ST. FRANCIS TO OAK PARK AVENUE			CONTRACT NO. 60F59				
		CHECKED - DHF	REVISED -		SCALE: 1"=50'	SHEET NO. 3 OF 3 SHEETS	STA. 114+00 TO STA. 137+00	ILLINOIS FED. AID PROJECT				
		DATE - APRIL 2009	REVISED -									

SCHEDULE OF QUANTITIES

QTY	UNIT	ITEM DESCRIPTION
5290	FOOT	CONDUIT IN TRENCH, 2" DIA. GALVANIZED STEEL
140	FOOT	CONDUIT PUSHED, 2" DIA. GALVANIZED STEEL
8	EACH	HEAVY-DUTY HANDHOLE
5290	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
6591	EACH	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F
6591	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14

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 UNINTERRUPTIBLE POWER SUPPLY (UPS)		EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	
PROPOSED UNINTERRUPTIBLE POWER SUPPLY (UPS)		PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	
EXISTING MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
PROPOSED MASTER CONTROLLER		PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
MASTER MASTER CONTROLLER		EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	
EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	
PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING ELECTRIC CABLE, 1/C (AS SPECIFIED)	
EXISTING INTERSECTION LOOP DETECTORS		PROPOSED ELECTRIC CABLE, 1/C (AS SPECIFIED)	
PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING TELEPHONE CONNECTION	
EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED TELEPHONE CONNECTION	
PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS			
EXISTING SAMPLING (SYSTEM) DETECTORS			
PROPOSED SAMPLING (SYSTEM) DETECTORS			
EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS			
PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS			



ALL PROPOSED ITEMS ALONG 191ST. TO BE COMPLETED BY OTHERS UNDER SEPARATE CONTRACT JOB NO. C-91-204-04

NOTE:
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

FILE NAME =	USER NAME = #USER#	DESIGNED - MTM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTERCONNECT SCHEMATIC IL RTE. 43 (HARLEM AVE) ST. FRANCIS RD TO OAK PARK AVE.			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - LEW	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	NONE	2008-068-TS	COOK/WILL	18	18	
	PLOT SCALE = #SCALE#	CHECKED - DHF	REVISED -				TO STA.						
	PLOT DATE = #DATE#	DATE - APRIL 2009	REVISED -										CONTRACT NO. 60F59

ILLINOIS FED. AID PROJECT