INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

SCALES { PLAN 1"= 20' AND 1"= 50' ; PROFILE HORIZ. N.A. ; PROFILE VERT. N.A. ; CROSS SECTION N.A. }

DISTRICT 1

CONGESTION MITIGATION AIR QUALITY
FIBER OPTIC COMMUNICATIONS NETWORK

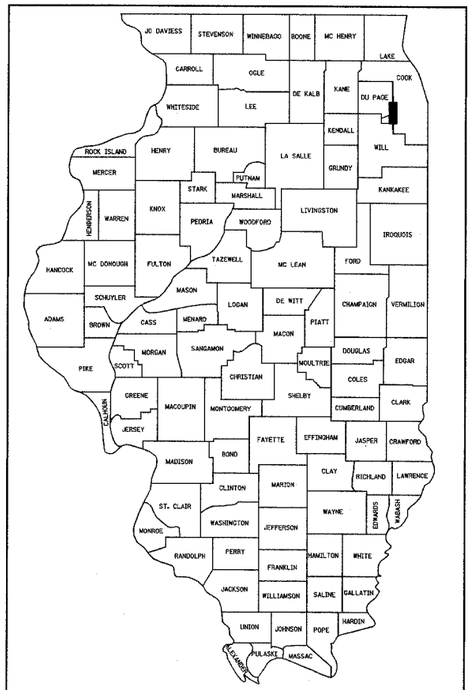
ILLINOIS ROUTE 171 (ARCHER AVENUE)
FROM ILLINOIS ROUTE 83 TO BELL ROAD

F.A.P. ROUTE 577
SECTION 2006-004TS
C-91-295-06
COOK ~~/DUPAGE~~ COUNTY

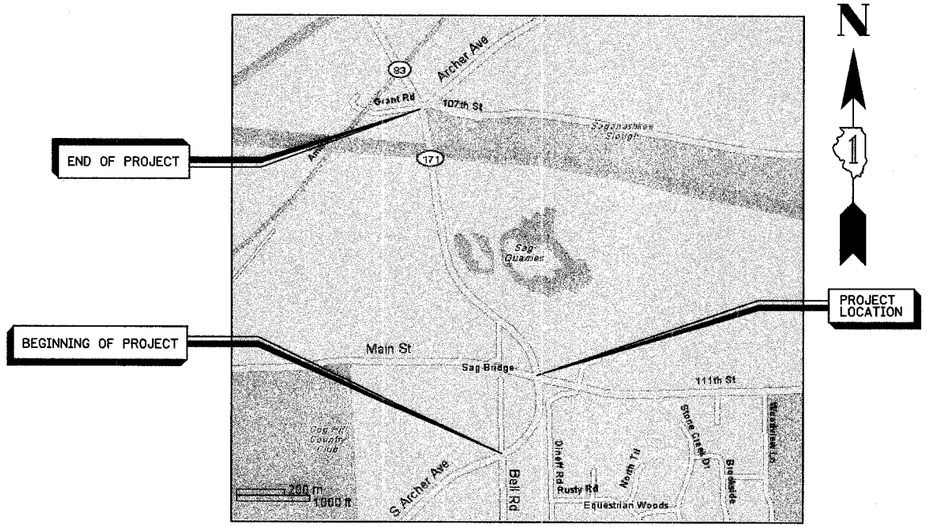
PROJECT: CMF-0577(217)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK ~~/DUPAGE~~	19	1
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-295-06



LOCATION OF SECTION INDICATED THUS: -



LEMONT TOWNSHIP

THOMAS Mc CABE
062-041179
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 20

Diane M O'Keefe /SM
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

February 2, 20 07
Eric E Harm /SM
Interim ENGINEER OF DESIGN AND ENVIRONMENT

February 2 20 07
Milton R. Sees, P.E. /SM
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

CALL J.U.L.I.E. TOLL FREE 800-892-0123
48 - HOURS BEFORE DIGGING

PRINTED BY AUTHORITY OF
THE STATE OF ILLINOIS

STANDARD DRAWINGS

(701006-02)	(701011-01)	(701101-01)	(701301-02)	(702001-06)
(424001-04)	720001	813001-01	(814001-01)	814006
857001	(877001-02)	877006-02	877011-02	(878001-05)
880001	(880006)	(886001)	805001	
701201-02	701316-03	701321-08	701406-04	701501-03
701502-01	(701606-04)	(701601-04)	(701701-04)	701801-03

NOTE: STANDARD DRAWINGS REQUIRED (CIRCLED).

CONTRACT NO. 60B19

PREPARED BY: Stephen M Travia 10/18/2006
TRAFFIC ENGINEER DATE

BUREAU OF TRAFFIC: STEVE TRAVIA / DARYLE DREW 847-705-4420

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK	19	2
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

	PERCENTAGES						
	LOCATION OF WORK		80% FED. 20% STATE	IL ROUTE 171 (ARCHER AVE.) AT BELL RD.	IL ROUTE 171 (ARCHER AVE.) AT IL ROUTE 83 (111TH ST.)	IL ROUTE 171 (ARCHER AVE.) AT IL ROUTE 83	INTERCONNECT
	SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE			
CODE NO.	ITEM	UNIT	URBAN TOTAL	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	1	1	1	2
67100100	MOBILIZATION	L SUM	1	0.25	0.25	0.25	0.25
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	0.25	0.25	0.25	0.25
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1	0.25	0.25	0.25	0.25
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.25	0.25	0.25	0.25
X8140074	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	13		5	8	
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	4243	251			3992
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	180				180
X8110115	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL, PVC COATED	FOOT	910				910
81400100	HANDHOLE	EACH	9				9
X8130200	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE	EACH	1				1
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	4243	251			3992
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1	1	
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	2		1	1	
85700300	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1	1			
86000100	MASTER CONTROLLER	EACH	1	1			
86400100	TRANSCEIVER - FIBER OPTIC	EACH	3	1	1	1	
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	310		169	141	
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	6220				6220
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	635		635		
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR	FOOT	5072	781	3085	1206	
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM 12F & SM12F	FOOT	6220				6220
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO.6 1C	FOOT	2072		1089	983	
87900200	DRILL EXISTING HANDHOLE	EACH	7	3			4
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	5	1		4	
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	14	5	4	5	
88030070	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED	EACH	1			1	
88030080	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED	EACH	1			1	
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	6	1	4	1	
88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3	2		1	
88030220	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1		1		
88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	2	1		1	
88030320	SIGNAL HEAD, LED, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED	EACH	1		1		
88030315	SIGNAL HEAD, LED, 3-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2		2		
X8808120	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	8			8	
X8808121	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED	EACH	2			2	
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	31	6	8	17	
88500100	INDUCTIVE LOOP DETECTOR	EACH	38	7	15	16	
X8050015	SERVICE INSTALLATION, POLE MOUNTED	EACH	2		1	1	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	3	1	1	1	
X0325096	OPTIMIZE TRAFFIC SIGNAL SYSTEM	L SUM	1				1

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

IL ROUTE 171 (ARCHER AVENUE)
FROM IL ROUTE 83 TO BELL ROAD
LEMONT, ILLINOIS

SCALE: N.T.S.
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	3
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

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" (150 mm). 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 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.

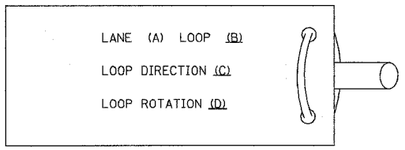
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND 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.

6. 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.

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.

LOOP LEAD-IN CABLE TAG

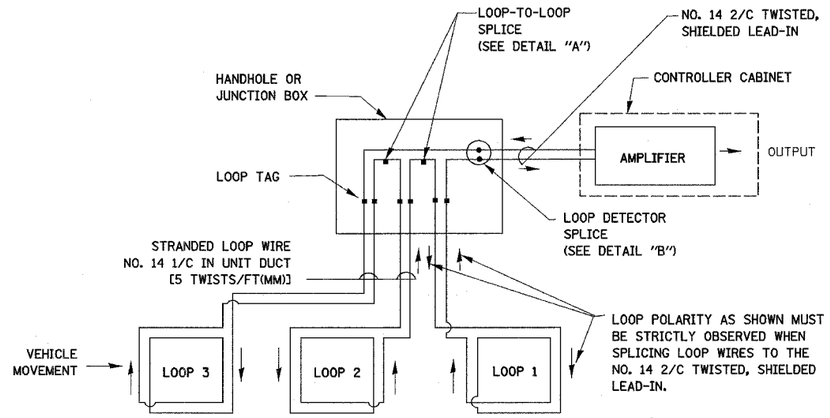


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.

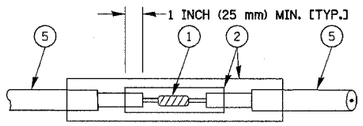
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

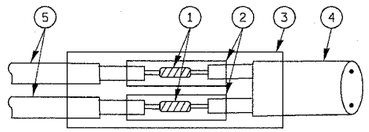


DETECTOR LOOP WIRING SCHEMATIC

- 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.



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" (75 mm), UNDERWATER GRADE.

(3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 6" (150 mm), UNDERWATER GRADE.

(4) NO. 14 2/C TWISTED, SHIELDED CABLE.

(5) LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: N.T.S.
DATE 08-15-06

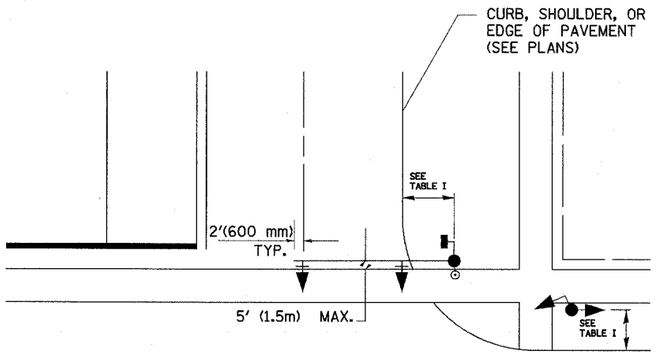
DRAWN BY RWP
DESIGNED BY DAD
CHECKED BY DAZ
SHEET 1 OF 4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

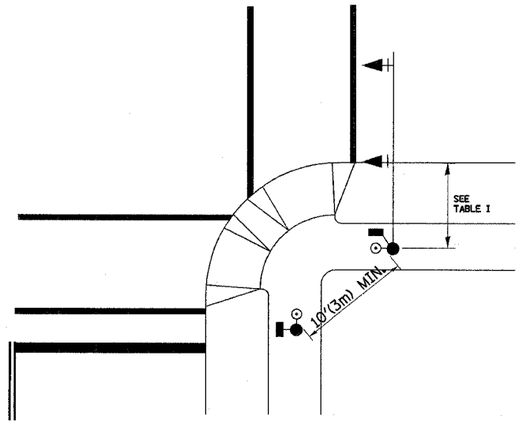
CONTRACT NO. 60B19

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:

1. 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

2. 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.

3. 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.

4. 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

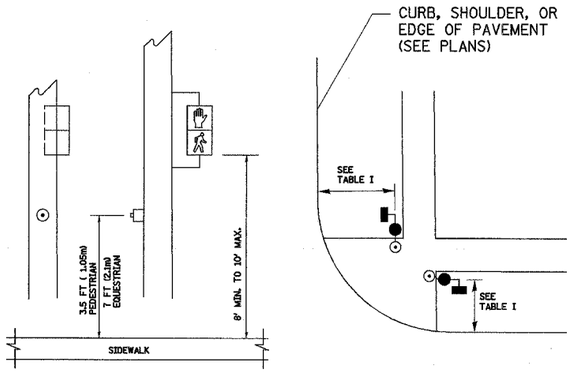


TABLE I

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

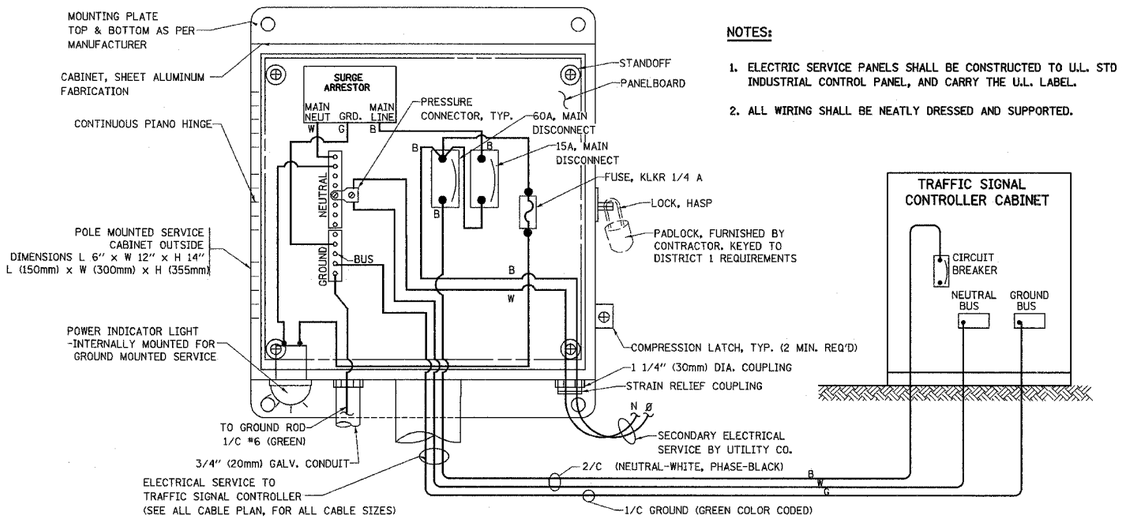
DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: N.T.S.
DATE 08-15-06

DRAWN BY RWP
DESIGNED BY DAD
CHECKED BY DAZ
SHEET 2 OF 4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	5
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19



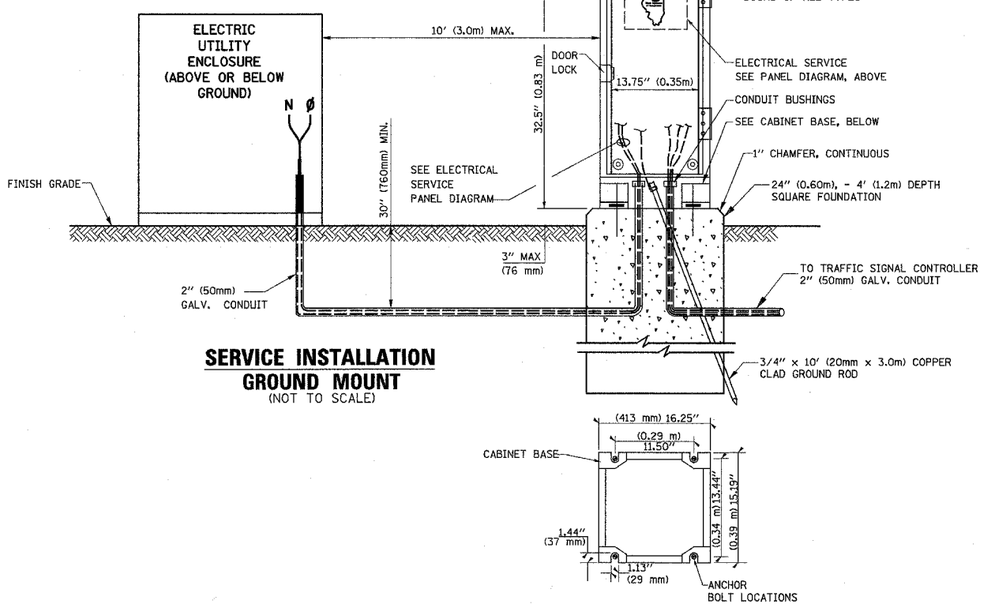
NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)

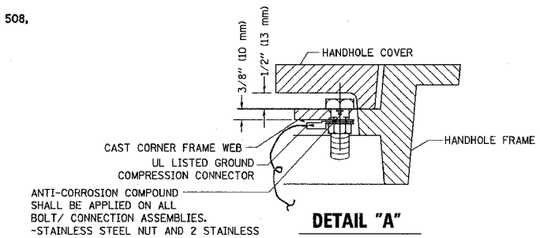


SERVICE INSTALLATION GROUND MOUNT

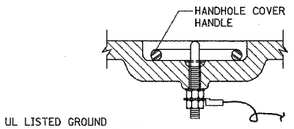
(NOT TO SCALE)

CABINET – BASE BOLT PATTERN

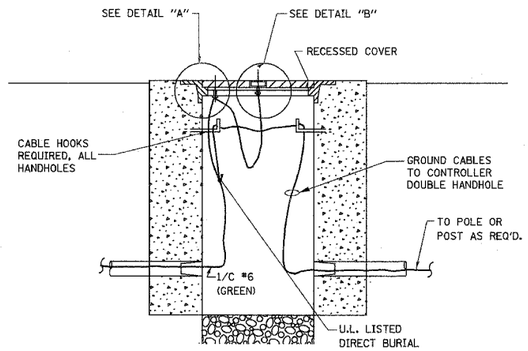
(NOT TO SCALE)



DETAIL "A"

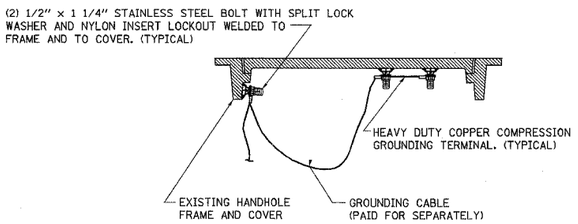


DETAIL "B"



HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



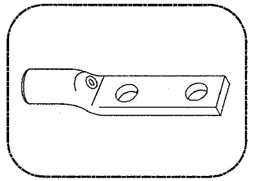
EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)

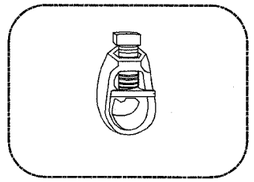
NOTES:

GROUNDING SYSTEM

1. 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, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. 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.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



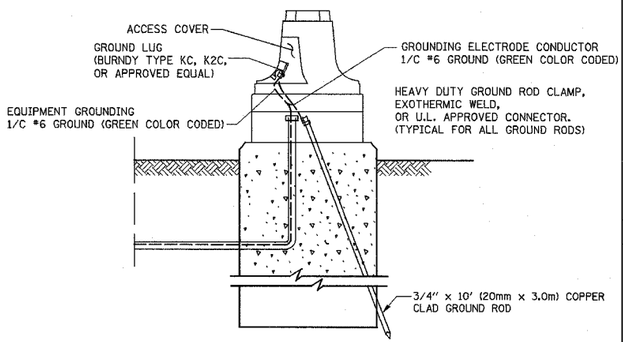
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EUAL)

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.



MAST ARM POLE / POST–GROUNDING DETAIL

(NOT TO SCALE)

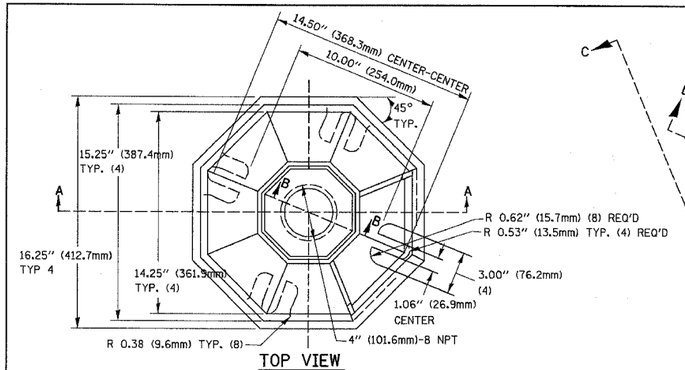
REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

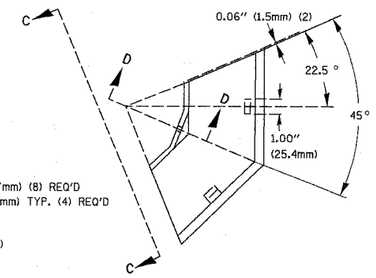
DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

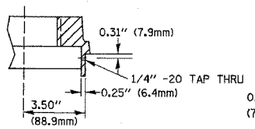
SCALE: N.T.S.
DATE 08-15-06

DRAWN BY RWP
DESIGNED BY DAD
CHECKED BY DAZ
SHEET 3 OF 4

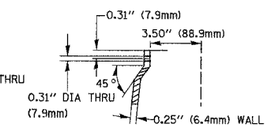


TOP VIEW

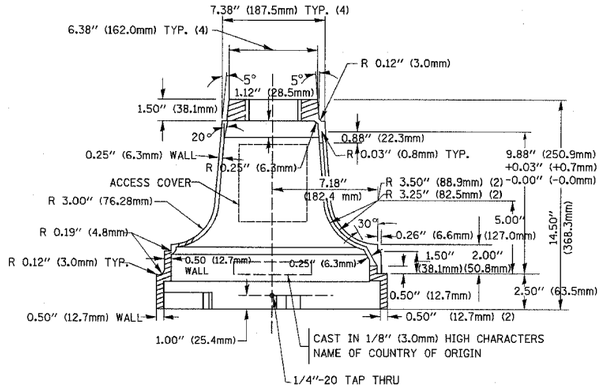




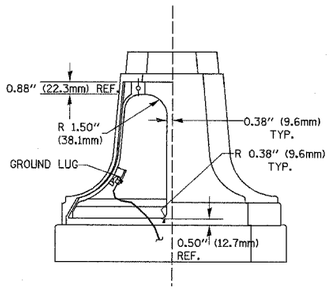
SECTION B-B



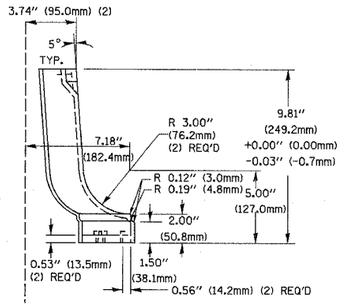
SECTION D-D



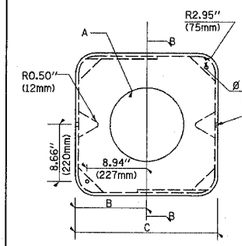
SECTION A-A

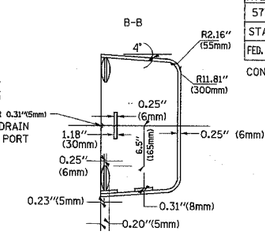


VIEW C-C



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A





F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

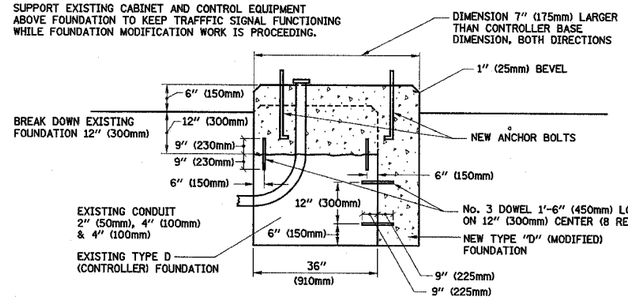
CONTRACT NO. 60B19

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

TYPE	A	B	C	HEIGHT	WEIGHT
I	Ø 10.125"(257mm)	9.5"(241mm)	19"(483mm)	12" (300mm)	24kg
II	Ø 11.125"(283mm)	10.75"(273mm)	21.5"(546mm)	12" (300mm)	26kg

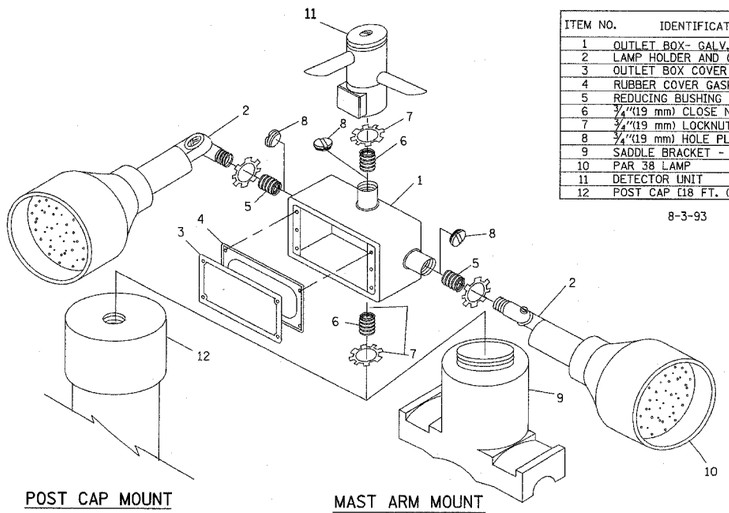
SHROUD DETAIL

NOTE:
SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)



POST CAP MOUNT

MAST ARM MOUNT

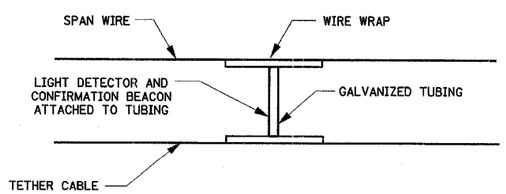
EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

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	¾"(19 mm) CLOSE NIPPLE
7	¾"(19 mm) LOCKNUT
8	¾"(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.)

8-3-93

NOTES:

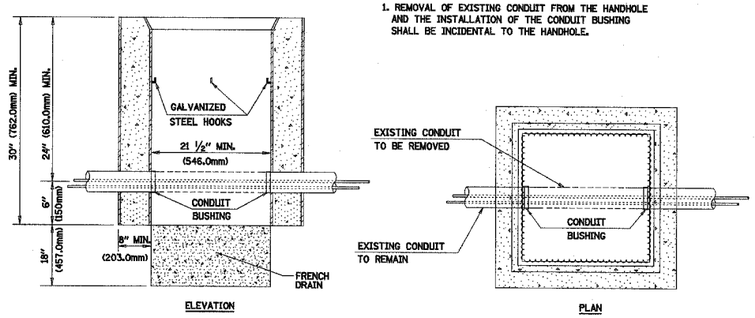
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
   ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
   ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A ¾"(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.



LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS

(NOT TO SCALE)

NOTES:
1. REMOVAL OF EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHING SHALL BE INCIDENTAL TO THE HANDHOLE.



DETAIL
HANDHOLE TO INTERCEPT EXISTING CONDUIT
N.T.S.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

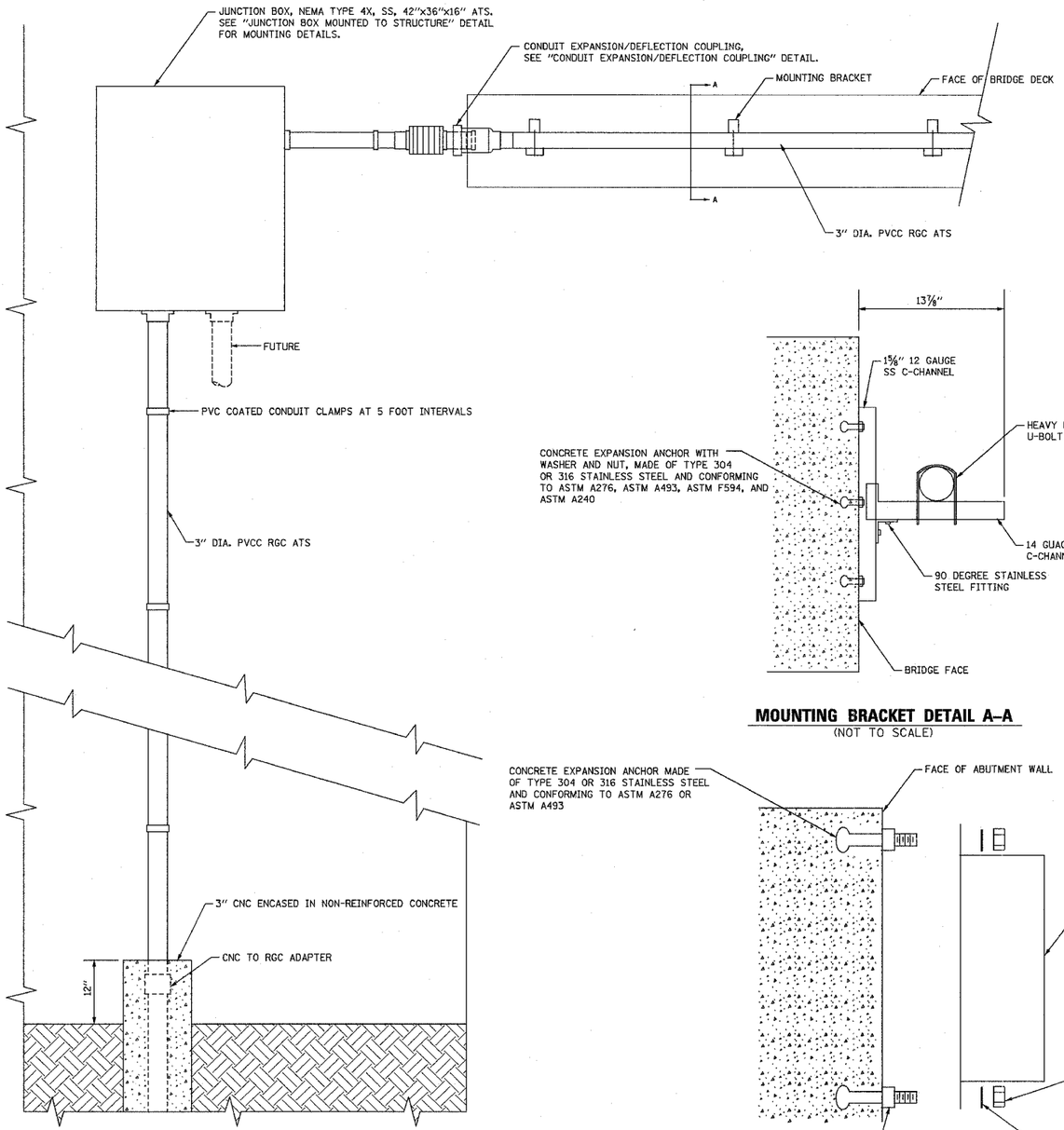
DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: N.T.S.
DATE 08-15-06

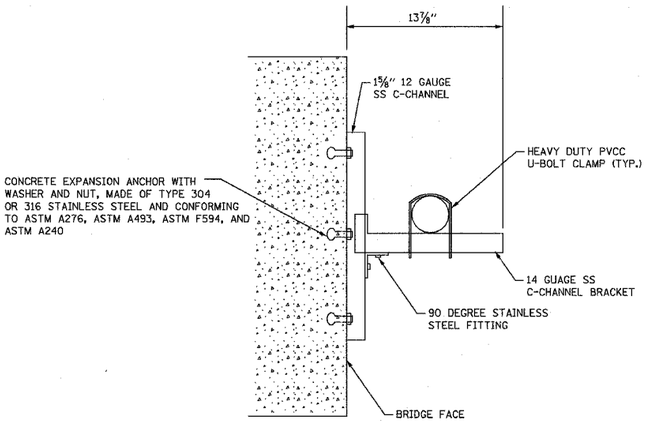
DRAWN BY RWP
DESIGNED BY DAD
CHECKED BY DAZ
SHEET 4 OF 4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	7
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

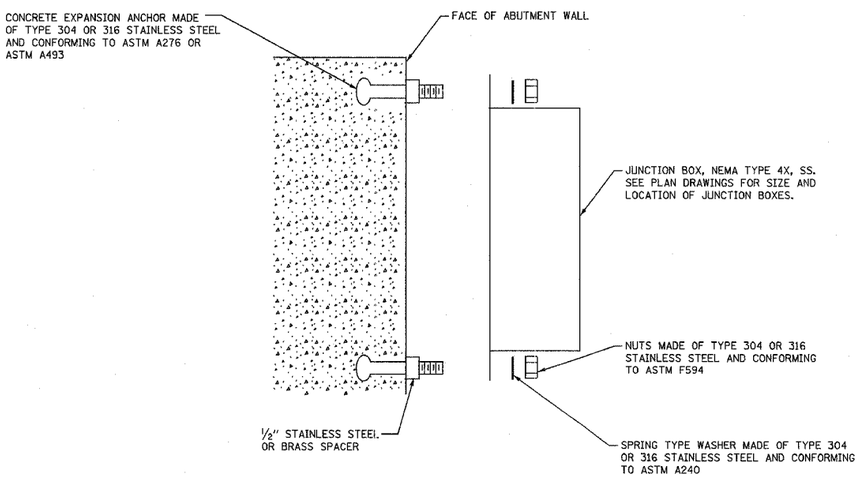
CONTRACT NO. 60B19



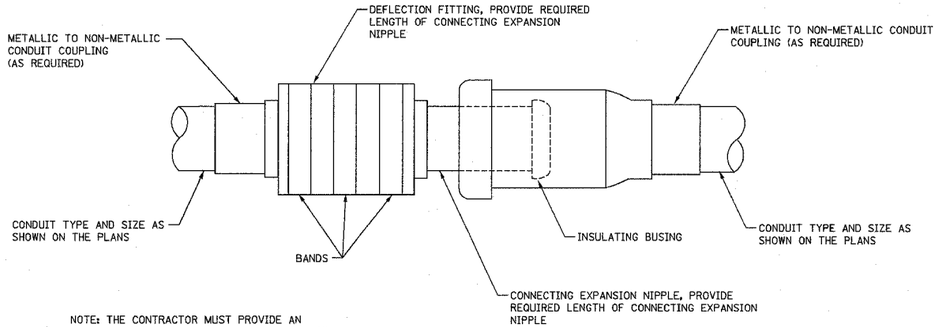
OVERPASS CONDUIT INSTALLATION DETAIL
(NOT TO SCALE)



MOUNTING BRACKET DETAIL A–A
(NOT TO SCALE)

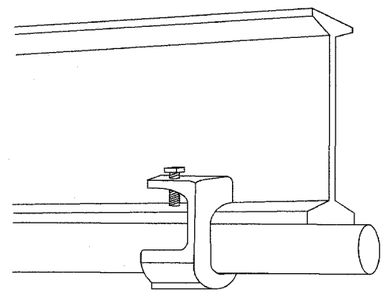


JUNCTION BOX MOUNTED TO STRUCTURE
(NOT TO SCALE)



NOTE: THE CONTRACTOR MUST PROVIDE AN EXPANSION/DEFLECTION FITTING AT EACH LOCATION WHERE THE CONDUIT RUN TRAVERSES AN EXPANSION JOINT.

CONDUIT EXPANSION/DEFLECTION COUPLING DETAIL
EXPANSION/DEFLECTION FITTING, O-Z/GEDNEY AX/DX OR APPROVED EQUAL
(NOT TO SCALE)



RIGID METAL CONDUIT ATTACHED TO STRUCTURE
(NOT TO SCALE)

SEXTON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS	
NAME	DATE
VO	8/11/06

ILLINOIS DEPARTMENT OF TRANSPORTATION

CONDUIT EXPANSION/DEFLECTION FITTING AND CONDUIT INSTALLATION DETAILS

SCALE: N.T.S.
DATE 08-15-06

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL MASTER CONTROLLER AND LOCAL CONTROLLER AND TYPE V CABINET, RE-USE EXISTING FOUNDATION.
2. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION BRACKET MOUNTED.
3. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
4. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARN MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
5. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 2-3 SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 2-3 SECTION, BRACKET MOUNTED.
6. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED.
7. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

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.

- 6 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION

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 FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

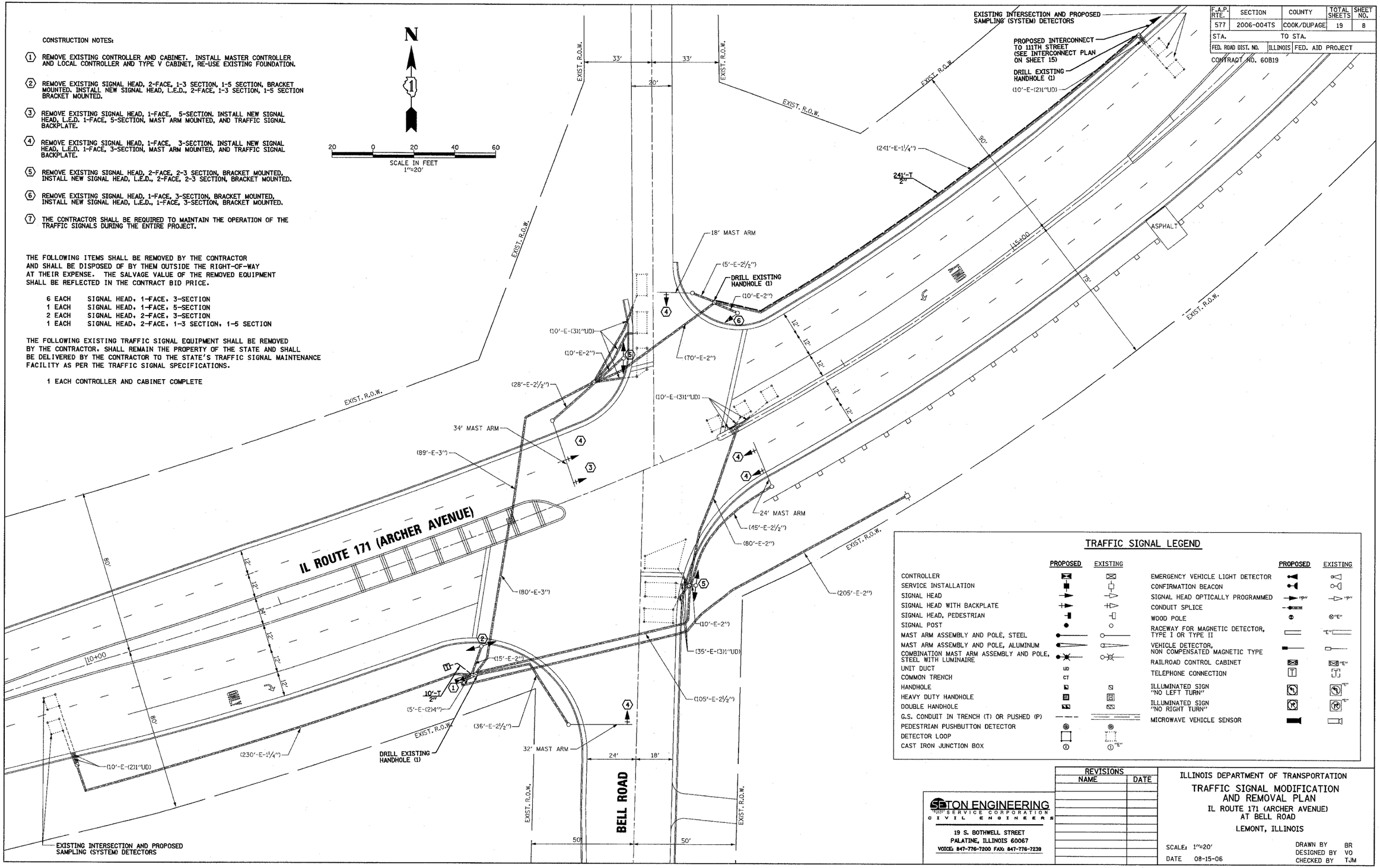
1 EACH CONTROLLER AND CABINET COMPLETE

N

SCALE IN FEET
1"=20'

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	8
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19



TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
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	UD	
COMMON TRENCH	CT	
HANDHOLE		
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP		
CAST IRON JUNCTION BOX	S	S "E"

	PROPOSED	EXISTING
EMERGENCY VEHICLE LIGHT DETECTOR		
CONFIRMATION BEACON		
SIGNAL HEAD OPTICALLY PROGRAMMED	"P"	"P"
CONDUIT SPLICE		
WOOD POLE		"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		"E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
RAILROAD CONTROL CABINET		"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN "NO LEFT TURN"		"E"
ILLUMINATED SIGN "NO RIGHT TURN"		"E"
MICROWAVE VEHICLE SENSOR		

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN

IL ROUTE 171 (ARCHER AVENUE) AT BELL ROAD

LEMONT, ILLINOIS

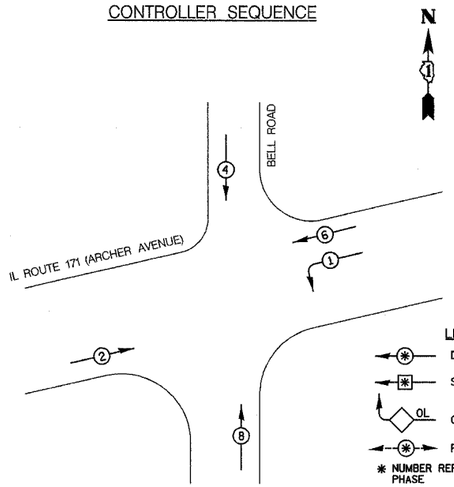
SCALE: 1"=20'
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

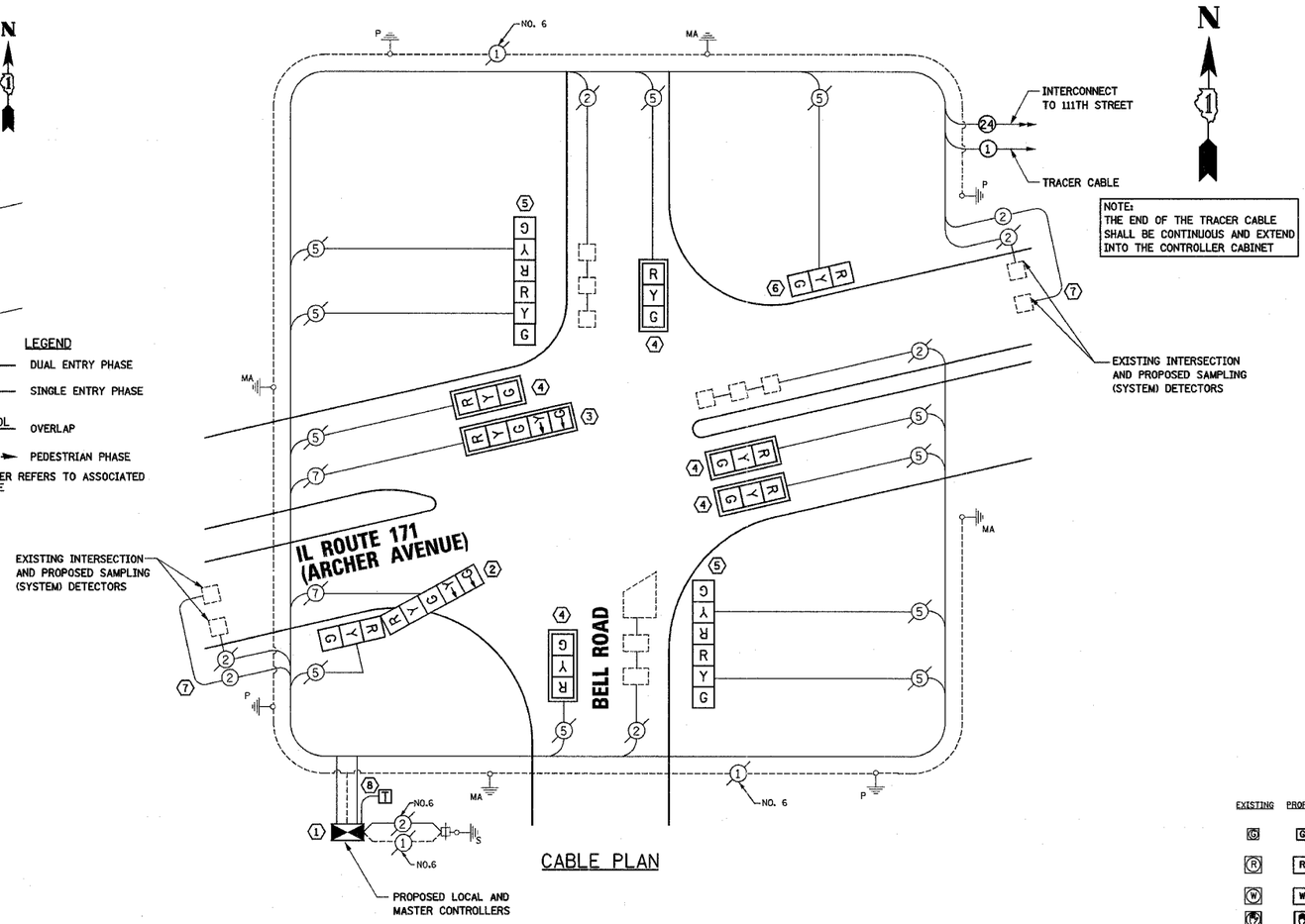
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	9
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60819

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM



CABLE PLAN

CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL MASTER CONTROLLER AND LOCAL CONTROLLER AND TYPE V CABINET, RE-USE EXISTING FOUNDATION.
2. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION BRACKET MOUNTED.
3. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
4. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
5. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 3-SECTION, BRACKET MOUNTED.
6. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED.
7. INSTALL NEW ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14, 1 PAIR.
8. INSTALL 1" UNIT DUCT FOR THE AMERITECH SERVICE FROM THE POINT OF ENTRY OF THE TELEPHONE CONDUIT IN THE DOUBLE HANDHOLE THROUGH THE CONTROLLER CABINET FOUNDATION. THIS WORK SHALL BE INCIDENTAL TO THE MASTER CONTROLLER PAY ITEM.
9. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

CABLE PLAN LEGEND

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

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	251
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	251
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1
MASTER CONTROLLER	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR	FOOT	781
DRILL EXISTING HANDHOLE	EACH	3
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	6
INDUCTIVE LOOP DETECTOR	EACH	7
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1

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

TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	X% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	13	135	17	0.50	110.5
(YELLOW)	13	135	25	0.25	81.25
(GREEN)	13	135	15	0.25	48.75
ARROW	4	135	12	0.10	4.8
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	100	100	1.00	100.0
				TOTAL =	345.3

ENERGY COSTS - BILLED TO: ILLINOIS DEPT. OF TRANSPORTATION
(ADDRESS) 201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY - CONTACT: DOLORES KREMNITZER
PHONE: (815) 724-5716
COMPANY: COM ED

FOUNDATION (DEPTH)	(FT.) (m)
TYPE A - POST	4 (1.2)
D - FOUNDATION	4 (1.2)
C - M. ARM POLE	
24" (600mm)	10 (3.0)
30" (750mm)	15 (4.6)

CABLE SLACK	(FT.) (m)
HANDHOLE	6.5 (2.0)
DOUBLE HANDHOLE	13 (4.0)
SIGNAL POST	2 (1.0)
CONTROLLER CAB.	1 (0.5)
FIBER OPTIC	13 (4.0)
ELECTRIC SERVICE	1 (0.5)
GROUND CABLE	1 (0.5)

VERTICAL	(FT.) (m)
ALL FOUNDATIONS	3.5 (1.0)
MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
BRACKET MOUNTED	13 (4.0)
PED. PUSHBUTTON	4 (1.2)
ELECTRIC SERVICE	13.5 (4.1)
SERVICE TO GROUND	13.5 (4.1)
POST MOUNTED	6 (1.8)

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, AND SCHEDULE OF QUANTITIES

IL ROUTE 171 (ARCHER AVENUE)
AT BELL ROAD
LEMONT, ILLINOIS

SCALE: N.T.S.
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, RE-USE EXISTING FOUNDATION.
2. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
3. REMOVE EXISTING SIGNAL HEAD, 3-FACE, 5-SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 3-FACE, 5-SECTION, BRACKET MOUNTED.
4. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
5. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 5-SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED.
6. REMOVE EXISTING SIGNAL HEAD, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 3-FACE, 1-3 SECTION, 2-5 SECTION BRACKET MOUNTED.
7. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
8. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

N

SCALE IN FEET
1"=20'

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

(3'-E-(3)1"UD)

IL ROUTE 83 / IL ROUTE 171 (ARCHER AVENUE)

EXIST. R.O.W.

(7'-E-1"UD)

(260'-E-1¼")

(88'-E-3")

(48'-E-2½")

(168'-E-1½")

30' MAST ARM

24' MAST ARM

PROPOSED INTERCONNECT TO 107TH STREET (SEE INTERCONNECT PLAN ON SHEET 16)

(1'-E-1"UD)

(40'-E-2½")

(94'-E-2")

(235'-E-1¼")

(17'-E-1"UD)

(7'-E-1"UD)

(1'-E-1"UD)

(5'-E-(2)4")

(58'-E-3½")

26'

(85'-E-3")

(18'-E-1"UD)

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.

- 2 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 14 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SERVICE INSTALLATION

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 FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

1 EACH CONTROLLER AND CABINET COMPLETE

CHICAGO – JOLIET ROAD (SAG-LEMONT HWY.)

100'

12'

(3'-E-(2)1"UD)

(264'-E-1¼")

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

(65'-E-3½")

(8'-E-1"UD)

(1'-E-1"UD)

(17'-E-1"UD)

(12'-E-2")

(60'-E-3")

(50'-E-2½")

PROPOSED INTERCONNECT TO BELL RD. (SEE INTERCONNECT PLAN ON SHEET 16)

24' MAST ARM

(40'-E-3")

(8'-E-1"UD)

(3'-E-1"UD)

(8'-E-1"UD)

IL ROUTE 171 (ARCHER AVENUE)

EXIST. R.O.W.

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

(3'-E-(3)1"UD)

IL ROUTE 83 (111TH STREET)

26' MAST ARM

(44'-E-2½")

(78'-E-2½")

(245'-E-1¼")

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
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	UD	
COMMON TRENCH	CT	
HANDHOLE	▣	▣
HEAVY DUTY HANDHOLE	▣H	▣H
DOUBLE HANDHOLE	▣▣	▣▣
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	———	———
PEDESTRIAN PUSHBUTTON DETECTOR	◉	◉
DETECTOR LOOP	□	□ "E"
CAST IRON JUNCTION BOX	Ⓙ	Ⓙ "E"

	PROPOSED	EXISTING
EMERGENCY VEHICLE LIGHT DETECTOR	◄	◁
CONFIRMATION BEACON	◄●	◁○
SIGNAL HEAD OPTICALLY PROGRAMMED	►"P"	▷"P"
CONDUIT SPLICE	—●	—○
WOOD POLE	Ⓟ	⊗"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II	▭	▭ "E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE	▬	▭
RAILROAD CONTROL CABINET	▣	▣"E"
TELEPHONE CONNECTION	T	T "E"
ILLUMINATED SIGN "NO LEFT TURN"	◄	◁ "E"
ILLUMINATED SIGN "NO RIGHT TURN"	►	▷ "E"
MICROWAVE VEHICLE SENSOR	▬	▭

REVISIONS	
NAME	DATE

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN

IL ROUTE 171 (ARCHER AVENUE)
AT IL ROUTE 83 (111TH STREET)
LEMONT, ILLINOIS

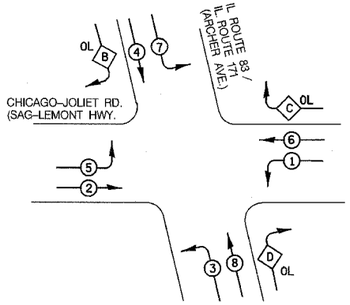
SCALE: 1"=20'
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	11
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

CONTROLLER SEQUENCE



LEGEND

- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- OL OVERLAP
- PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE

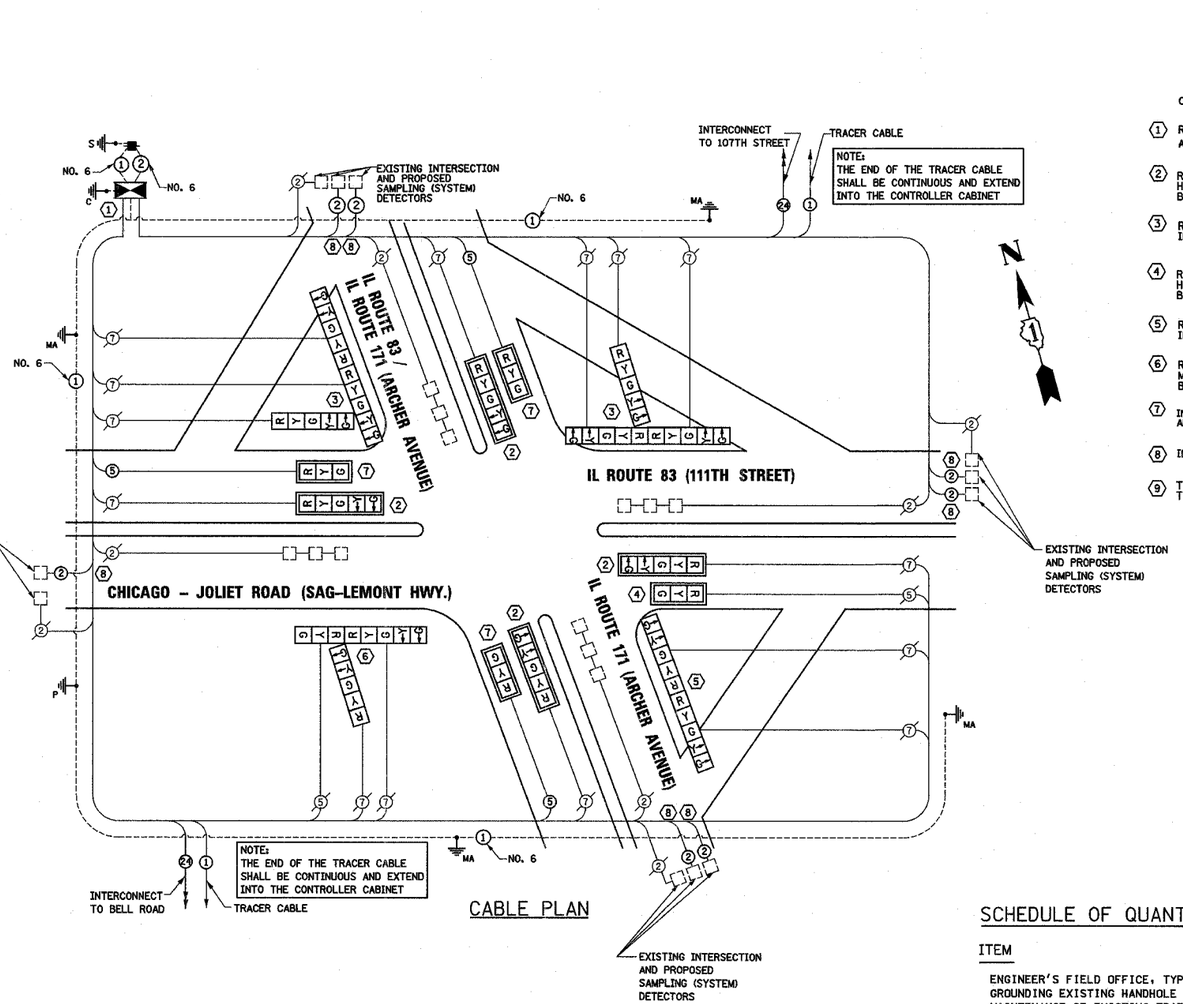
PHASE DESIGNATION DIAGRAM

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

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 CONNECTION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
(2)	(2)	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOOP DETECTOR CABLE TO BE SHIELDED.

EXISTING	PROPOSED	
(1)	(1)	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
(24)	(24)	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM12F
		SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
"E"		RAILROAD CONTROL CABINET
"E"		ILLUMINATED SIGN "NO LEFT TURN"
"E"		ILLUMINATED SIGN "NO RIGHT TURN"
H/C	C	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).
P	P	GROUND ROD AT POST (P), OR MAST ARM POLE (MA).
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		MICROWAVE VEHICLE SENSOR



CABLE PLAN

CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, RE-USE EXISTING FOUNDATION.
2. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
3. REMOVE EXISTING SIGNAL HEAD, 3-FACE, 5-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 3-FACE, 5-SECTION, BRACKET MOUNTED.
4. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
5. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 5-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED.
6. REMOVE EXISTING SIGNAL HEAD, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED.
7. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
8. INSTALL NEW ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14, 1 PAIR.
9. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1
GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	5
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
TRANSCEIVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	169
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	635
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR	FOOT	3085
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	1089
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	4
SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 3-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	15
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1

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

TYPE	NO. LAMPS X	WATTAGE INCAND.	WATTAGE LED	X % OPERATION	TOTAL WATTAGE
SIGNAL (RED)	16	135	17	0.50	136.0
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	28	135	12	0.10	33.6
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	100	100	1.00	100.0
TOTAL =					429.6

ENERGY COSTS - BILLED TO: ILLINOIS DEPT. OF TRANSPORTATION
(ADDRESS) 201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY - CONTACT: DOLORES KREMNITZER
PHONE: (815) 724-5716
COMPANY: COM 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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 =
C - 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)

SEXTON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, SEQUENCE OF OPERATIONS, AND SCHEDULE OF QUANTITIES

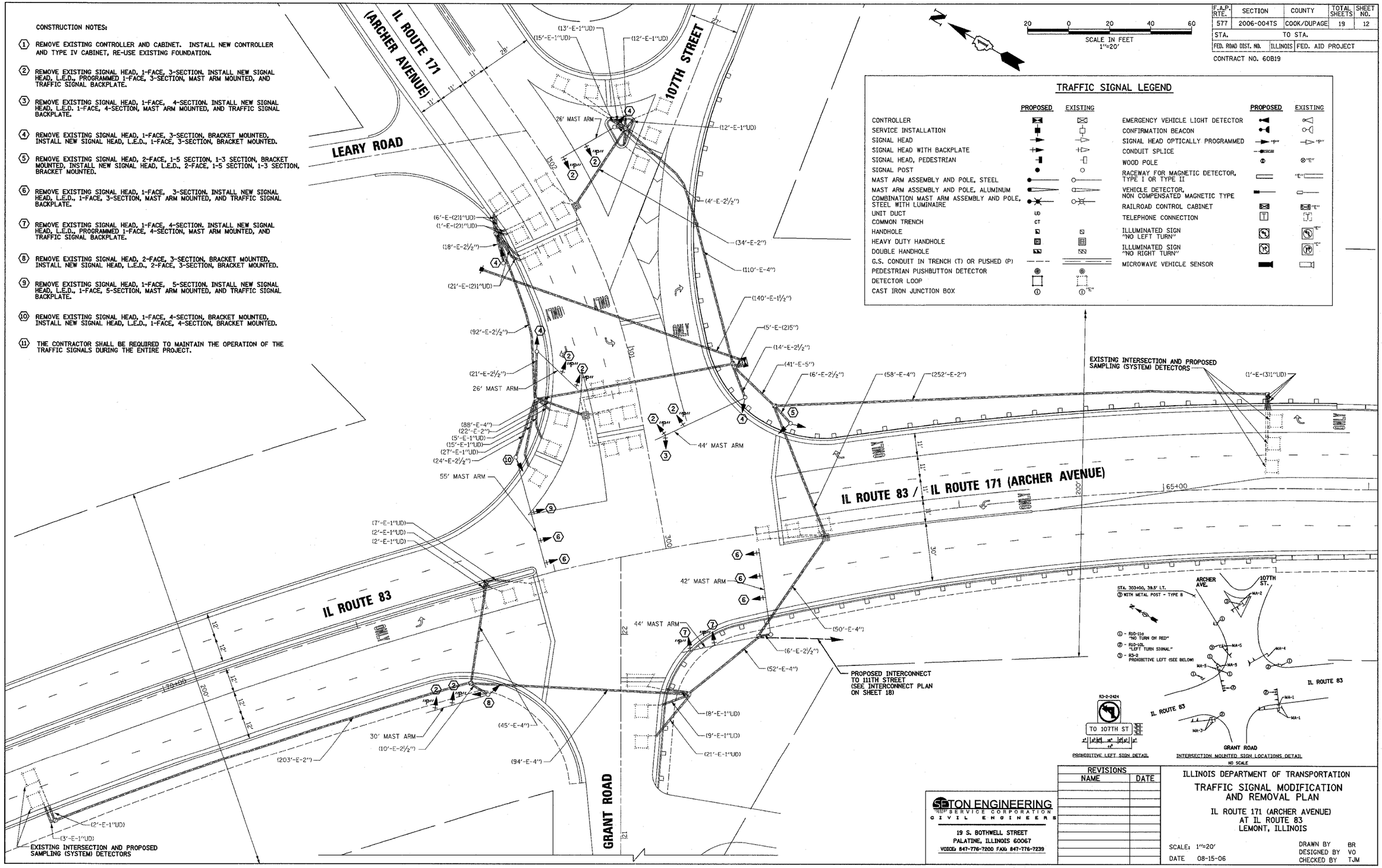
IL ROUTE 171 (ARCHER AVENUE)
AT IL ROUTE 83 (111TH STREET)
LEMONT, ILLINOIS

SCALE: N.T.S.
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, RE-USE EXISTING FOUNDATION.
2. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., PROGRAMMED 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
3. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 4-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 4-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
4. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED.
5. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-5 SECTION, 1-3 SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 1-5 SECTION, 1-3 SECTION, BRACKET MOUNTED.
6. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
7. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 4-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., PROGRAMMED 1-FACE, 4-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
8. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 3-SECTION, BRACKET MOUNTED.
9. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
10. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 4-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 4-SECTION, BRACKET MOUNTED.
11. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.



SCALE IN FEET
1"=20'

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	12
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
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	UD	
COMMON TRENCH	CT	
HANDHOLE	H	H
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE	HH	HH
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	———	———
PEDESTRIAN PUSHBUTTON DETECTOR	◉	◉
DETECTOR LOOP	□	□
CAST IRON JUNCTION BOX	①	①"E"

	PROPOSED	EXISTING
EMERGENCY VEHICLE LIGHT DETECTOR	◄	◁
CONFIRMATION BEACON	●◄	○◁
SIGNAL HEAD OPTICALLY PROGRAMMED	►"P"	▷"P"
CONDUIT SPLICE	—⊠—	
WOOD POLE		⊘"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		"E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE	▬	▭
RAILROAD CONTROL CABINET	⊠	⊠"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN "NO LEFT TURN"	⊘	⊘"E"
ILLUMINATED SIGN "NO RIGHT TURN"	⊘	⊘"E"
MICROWAVE VEHICLE SENSOR	▬	▭

SEATON ENGINEERING
A DIVISION OF SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN

IL ROUTE 171 (ARCHER AVENUE)
AT IL ROUTE 83
LEMONT, ILLINOIS

SCALE: 1"=20'
DATE 08-15-06

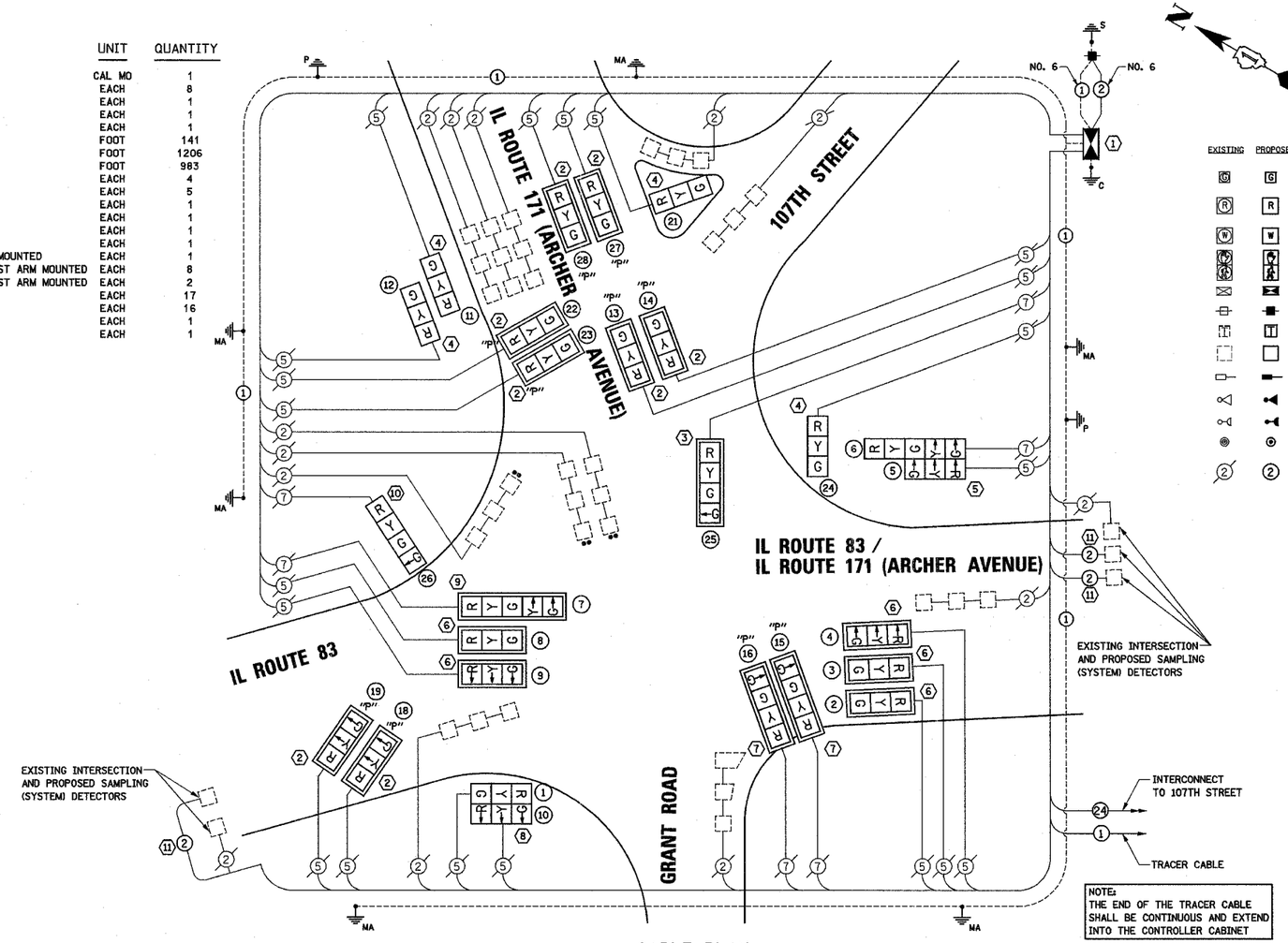
DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	13
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1
GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	8
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
TRANSCEIVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SERVICE, NO.6, 2C	FOOT	141
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR	FOOT	1206
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO.6, 1C	FOOT	983
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	8
OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	17
INDUCTIVE LOOP DETECTOR	EACH	16
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1



CABLE PLAN

•• PHASE 3 PRESENCE DETECTORS

CABLE PLAN LEGEND

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

CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, RE-USE EXISTING FOUNDATION.
2. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., PROGRAMMED 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
3. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 4-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 4-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
4. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED.
5. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-5 SECTION, 1-3 SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 1-5 SECTION, 1-3 SECTION, BRACKET MOUNTED.
6. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
7. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 4-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., PROGRAMMED 1-FACE, 4-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
8. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 3-SECTION, BRACKET MOUNTED.
9. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
10. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 4-SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 4-SECTION, BRACKET MOUNTED.
11. INSTALL NEW ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14, 1 PAIR.
12. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS X	WATTAGE INCAND.	WATTAGE LED	X % OPERATION	
SIGNAL (RED)	26	135	17	0.50	221
(YELLOW)	26	135	25	0.25	162.5
(GREEN)	26	135	15	0.25	97.5
ARROW	8	135	12	0.10	9.6
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	100	100	1.00	100.0
				TOTAL =	590.6

ENERGY COSTS - BILLED TO: ILLINOIS DEPT. OF TRANSPORTATION
(ADDRESS) 201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY - CONTACT: DOLORES KREMNITZER
PHONE: (815) 724-5716
COMPANY: COM 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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
C - M. ARM POLE		SIGNAL POST	2 (1.0)		
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)

SEPTON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, AND SCHEDULE OF QUANTITIES

IL ROUTE 171 (ARCHER AVENUE)
AT IL ROUTE 83
LEMONT, ILLINOIS

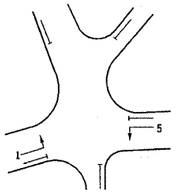
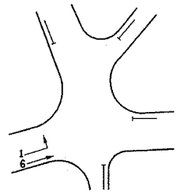
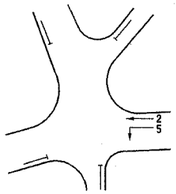
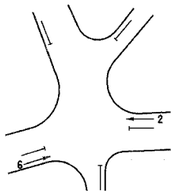
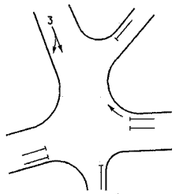
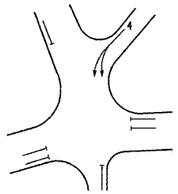
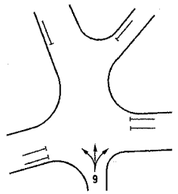
SCALE: N.T.S.
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	14
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

SEQUENCE OF OPERATIONS

MOVEMENT								
PHASE	1 + 5	1 + 6	2 + 5	2 + 6	3	4	9	
INTERVAL	1 2A 2B 3A 3B 4A 4B 5A 5B 5C 5D	6 7A 7B 8A 8B 9A 9B 10A 10B 10C 10D	11 12A 12B 13A 13B 14A 14B 15A 15B 16A 16B 16C 16D	17 18A 18B 19A 19B 20A 20B 21A 21B 22A 22B 22C 22D 23A 23B	24 25A 25B 25C 25D 26A 26B 26C 26D	27 28A 28B 28C 28D 29A 29B	30 31A 31B 32A 32B 32C 32D	
CHANGE TO	/ 1+6 2+5 1+5 3 OR 9 4	/ 1+5 2+6 1+5 3 OR 9 4	/ 1+5 1+6 OR 9 2+6 3 4	/ 1+5 1+6 2+5 3 2+6 4 9	/ 1+5, 1+6, 2+5 2+6 OR 9 4	/ 1+5, 1+6, 2+5 2+6 OR 9 3	/ 1+5, 1+6, 2+5, 2+6 OR 3 4	
IL RTE 83 S/B NEAR RIGHT, RIGHT AND CENTER MAST ARM SIGNALS ①②③	R R R R R R R R R R	G Y R G G Y R Y R R R	R R R R R R R R R R R R	G Y R G G Y R Y R Y R R R Y R	R R R R R R R R R	R R R R R R R	R R R R R R R	
IL RTE 83 S/B FAR LEFT AND LEFT MAST ARM SIGNALS ④⑤	←G ←G ←G ←Y ←R ←Y ←R ←Y ←R ←R ←R	←G ←G ←G ←Y ←R ←Y ←R ←Y ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R	
IL RTE 83 N/B NEAR RIGHT AND RIGHT MAST ARM SIGNALS ⑥⑦	R R R R R R R R R R R	R R R R R R R R R R R	G Y R Y R G G Y G→ R G→ Y R R R	G Y R Y R G G Y G→ R G→ Y R R R Y R	R G→ R Y→ R R R R Y→ R R R R Y R	R R R R R R R	R R R R R R R	
IL RTE 83 N/B CENTER MAST ARM SIGNAL ⑧	R R R R R R R R R R R	R R R R R R R R R R R	G Y R Y R G G Y R Y R R R G Y R	Y R R R G Y R Y R G G Y R Y R R R Y R	R R R R R R R R R R R R R R R	R R R R R R R R R R R R R	R R R R R R R	
IL RTE 83 N/B FAR LEFT AND LEFT MAST ARM SIGNALS ⑨⑩	←G →Y ←R ←G ←G ←Y ←R ←Y ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R	←G ←G ←G →Y ←R →Y ←R →Y ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R ←R	←R ←R ←R ←R ←R ←R ←R	
ARCHER AVE. W/B AT 107TH ST. NEAR RIGHT, FAR RIGHT AND MAST ARM SIGNALS ⑪⑫⑬⑭	R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R R R R R R	R R R R R R R R R R R R R R	G Y R R R Y R R R R R R R R R	R R R R R R R R R R R R R	R R R R R R R	
ARCHER AVE. W/B AT IL RTE 83 ALL RIGHT MAST ARM SIGNALS ⑱⑲	R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R R R R R R	R R R R R R R R R R R R R R	G→ G→ G→ Y→ R G→ G→ G→ G→ G→ G→ G→ Y→ R G→ G→	R R R R R R R	R R R R R R R	
ARCHER AVE. W/B AT IL RTE 83 ALL LEFT MAST ARM SIGNALS ⑮⑯	R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R R R R R R	R R R R R R R R R R R R R R	G ←G G ←G G ←G Y R G ←G G ←G G ←G G ←G G ←G G ←G Y R G ←G G ←G	R R R R R R R	R R R R R R R	
107TH ST. NW/B NEAR RIGHT AND MAST ARM SIGNALS ㉑㉒㉓	R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R R R R R R	R R R R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R	G Y R R R Y R R R R R R R	
GRANT RD. E/B FAR RIGHT SIGNAL ㉔	R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R R R R R R	R R R R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R	G Y R Y R R R	
GRANT RD. E/B MAST ARM AND FAR LEFT SIGNALS ㉕㉖	R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R R R R R R	R R R R R R R R R R R R R R	R R R R R R R R R R R	R R R R R R R	G ←G Y R Y R R R	
ARCHER AVE. E/B AT 107TH ST. MAST ARM SIGNALS ㉗㉘	G G G G G G G G Y R	G G G G G G G G Y R	G G G G G G G G Y R G G G G G G G G Y R	G G G G G G G G Y R G G G G G G G G Y R R R R R R R	G G G G G G G Y R R R R R R R	G G G G G G G	G G G G G Y R	

SEATON ENGINEERING
DEP SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

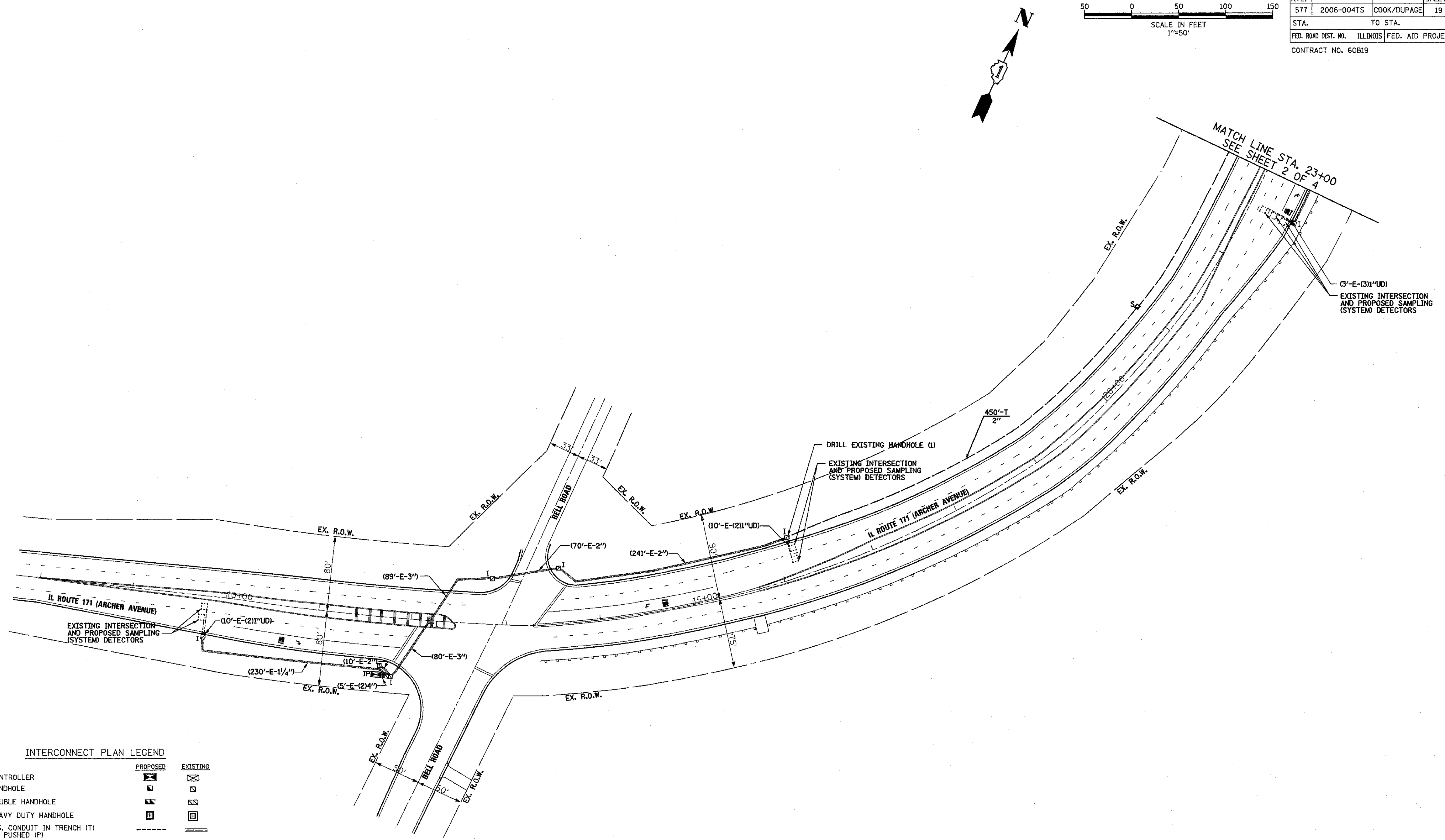
SEQUENCE OF OPERATIONS
IL ROUTE 171 (ARCHER AVENUE)
AT IL ROUTE 83
LEMONT, ILLINOIS

SCALE: N.T.S.
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	15
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
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
TELEPHONE CONNECTION	T	T

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN

IL ROUTE 171 (ARCHER AVENUE)
FROM IL ROUTE 83 TO BELL ROAD
LEMONT, ILLINOIS
SHEET 1 OF 4

SCALE: 1"= 50'
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	16
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

50 0 50 100 150
SCALE IN FEET
1"=50'

N

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
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
TELEPHONE CONNECTION	T	T

MATCH LINE STA. 23+00
SEE SHEET 1 OF 4

MATCH LINE STA. 39+00
SEE SHEET 3 OF 4

EX. R.O.W.
100'
450'-T 2"
DRILL EXISTING HANDHOLE (1)
IL ROUTE 171 (ARCHER AVENUE)
CHICAGO - JOLIET ROAD (SAG-LEMONT HWY.)
(65'-E-3½")
(264'-E-1¼")
(3'-E-(2)1"UD)
EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS
(58'-E-3½")
(5'-E-(2)4")
IP
(88'-E-3")
(260'-E-1¼")
(3'-E-(3)1"UD)
(100'-E-3")
(78'-E-2½")
(245'-E-1¼")
EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS
IL ROUTE 83 / IL ROUTE 171 (ARCHER AVENUE)
130+00
135+00
ASPHALT
BELL ROAD
BRICK PAVERS
397'-T 2"
100'-P 2"
COOK COUNTY FOREST PRESERVE
460'-T 2"
(85'-E-3")
IL ROUTE 83 (111TH STREET)
(235'-E-1¼")
DRILL EXISTING HANDHOLE (1)
(3'-E-(3)1"UD)
EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

REVISIONS NAME	DATE

SEATON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN

IL ROUTE 171 (ARCHER AVENUE)
FROM IL ROUTE 83 TO BELL ROAD
LEMONT, ILLINOIS
SHEET 2 OF 4

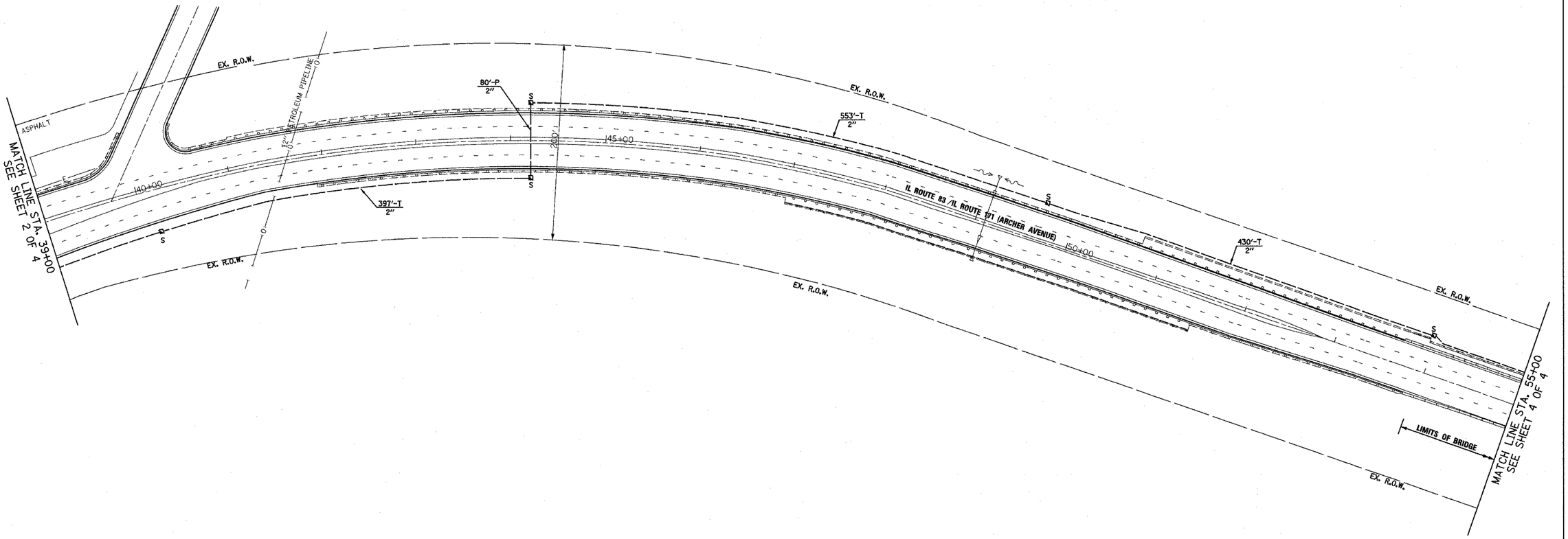
SCALE: 1"= 50'
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	17
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

50 0 50 100 150
SCALE IN FEET
1"=50'



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	▣	▣
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪	◪
HEAVY DUTY HANDHOLE	H	H
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	-------	-------
DETECTOR LOOP	□	□
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION	T	T

SEXTON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN

IL ROUTE 171 (ARCHER AVENUE)
FROM IL ROUTE 83 TO BELL ROAD
LEMONT, ILLINOIS
SHEET 3 OF 4

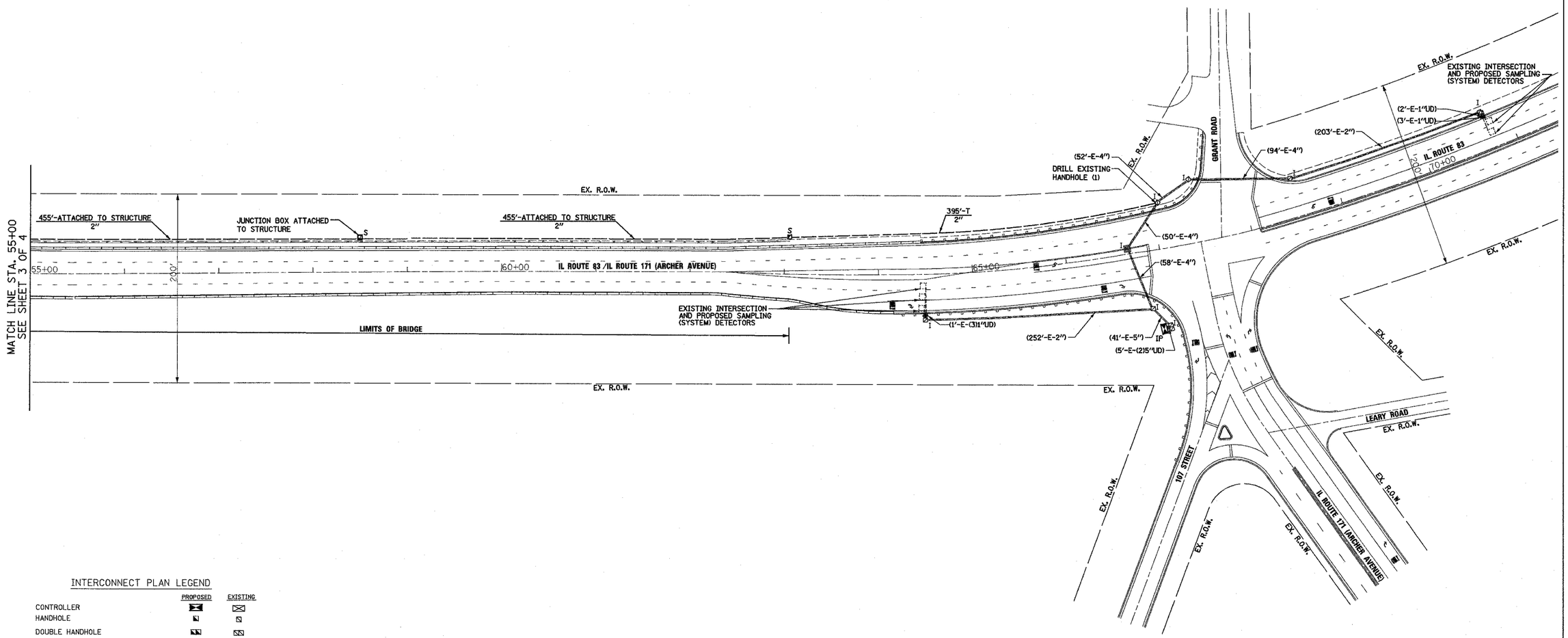
SCALE: 1"= 50'
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	18
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19

50 0 50 100 150
SCALE IN FEET
1"=50'



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	⊠	⊠
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪◪	◪◪
HEAVY DUTY HANDHOLE	H	H
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	------	═══
DETECTOR LOOP	□	□
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION	T	T

REVISIONS NAME	DATE

SEATON ENGINEERING
THE SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN

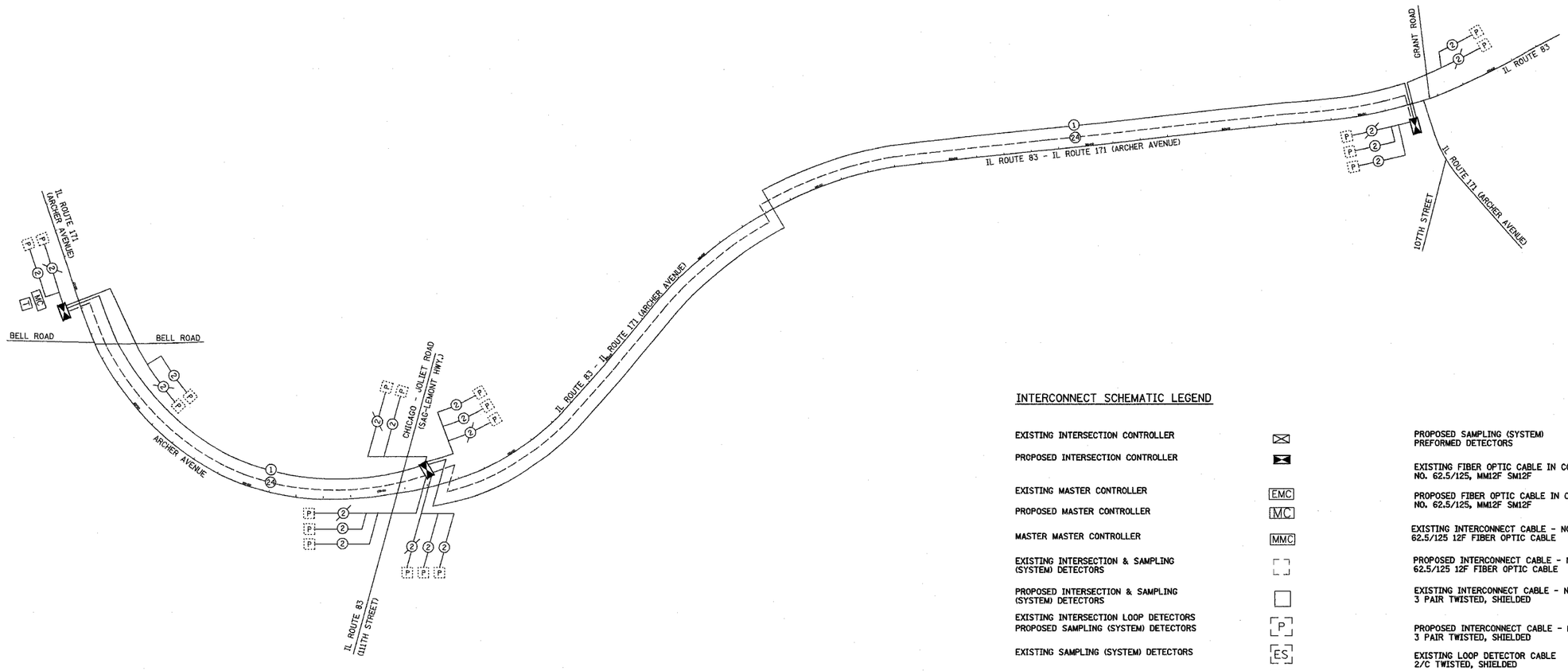
IL ROUTE 171 (ARCHER AVENUE)
FROM IL ROUTE 83 TO BELL ROAD
LEMONT, ILLINOIS
SHEET 4 OF 4

SCALE: 1"= 50'
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
577	2006-004TS	COOK/DUPAGE	19	19
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60B19



SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	3992
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	180
CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	910
HANDHOLE	EACH	9
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE	EACH	1
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	3992
ELECTRIC CABLE IN CONDUIT, TRACER, NO.14 1C	FOOT	6220
FIBER OPTIC CABLE IN CONDUIT, NO.62.5/125MM 12F & SM12F	FOOT	6220
DRILL EXISTING HANDHOLE	EACH	4
OPTIMIZE TRAFFIC SIGNAL SYSTEM	L. SUM	1

INTERCONNECT SCHEMATIC LEGEND

- EXISTING INTERSECTION CONTROLLER
- PROPOSED INTERSECTION CONTROLLER
- EXISTING MASTER CONTROLLER (EMC)
- PROPOSED MASTER CONTROLLER (MC)
- MASTER MASTER CONTROLLER (MMC)
- EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- EXISTING INTERSECTION LOOP DETECTORS
  PROPOSED SAMPLING (SYSTEM) DETECTORS (P)
- EXISTING SAMPLING (SYSTEM) DETECTORS (ES)
- PROPOSED SAMPLING (SYSTEM) DETECTORS (PS)
- EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS. (ESP)
- EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED SAMPLING (SYSTEM) DETECTORS. (ESPS)
- EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS (PD)
- PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS (PD)
- EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS (ESPD)
- PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS (PSPD)
- EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F (24)
- PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F (24)
- EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE (12)
- PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE (12)
- EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED (6)
- PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED (6)
- EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED (2)
- PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED (2)
- EXISTING ELECTRIC CABLE, 1/C NO. 10 (1)
- PROPOSED ELECTRIC CABLE, 1/C NO. 14 (1)
- EXISTING TELEPHONE CONNECTION (T)
- PROPOSED TELEPHONE CONNECTION (T)

REVISIONS NAME	DATE

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC

IL ROUTE 171 (ARCHER AVENUE)
FROM IL ROUTE 83 TO BELL ROAD
LEMONT, ILLINOIS

SCALE: N.T.S.
DATE 08-15-06

DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM