

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				0021	0021	0021	0021
				90% FEDERAL 10% STATE ROADWAY	90% FEDERAL 7.5% STATE 2.5% CITY TRAF. SIGNALS	100% CITY SAFETY (EVP)	90% FEDERAL 10% STATE INTERCONNECT
			<i>URBAN</i>				
△ 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	1374	1374			
△ 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	2,038	2,038			
△ 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	15	15			
△ 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	218	218			
△ 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	188	188			
78300100	PAVEMENT MARKING REMOVAL	SO FT	3,543	3,543			
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	157	157			
△ 80500020	SERVICE INSTALLATION - POLE MOUNTED	EACH	1	1			
△ 81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1895	1472		423	
△ 81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2.5" DIA.	FOOT	48	48			
△ 81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	56	56			
△ 81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	508	508			
△ 81400100	HANDHOLE	EACH	6	6			
△ 81400200	HEAVY-DUTY HANDHOLE	EACH	4	4			

△ SPECIALTY ITEM

△ Rev. 4-9-14

Rev.

FILE NAME: #FILE#

USER NAME: #USER#	DESIGNED - BFH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE: #SCALE#	DRAWN - BFH	REVISED -		UR RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)		351	539N-1	COOK	49	5
PLOT DATE: #DATE#	CHECKED - BA	REVISED -		SCALE: N.T.S. SHEET 3 OF 6 SHEETS STA. TO STA.		CONTRACT NO. 60W90				
	DATE - 1/31/14	REVISED -		ILLINOIS FED. AID PROJECT						

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				0021	0021	0021	0021
				90% FEDERAL 10% STATE ROADWAY	90% FEDERAL 7.5% STATE 2.5% CITY TRAF. SIGNALS	100% CITY SAFETY (EVP)	90% FEDERAL 10% STATE INTERCONNECT
△ 81400300	DOUBLE HANDHOLE	EACH	2		2		
△ 85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2				2
△ 85000400	MAINTENANCE OF TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1		1		
△ 86000300	MASTER CONTROLLER IN TYPE V CABINET	EACH	1		1		
△ 86200300	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED	EACH	1		1		
△ 86400100	TRANSCEIVER-FIBER OPTIC	EACH	1				1
△ 87100020	FIBER OPTIC CABLE IN CONDUIT, NO. G2.5/125, MM12F SM12F	FOOT	1,350				1,350
△ 87300925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	1975				1975
△ 87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	970		970	△	
△ 87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	3900		3900		
△ 87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	800		800		
△ 87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	5500		5500		
△ 87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	195		195		
△ 87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	830		830		

URBAN

Handwritten annotations in a cloud-like shape around the cable rows, including the numbers 1975, 970, 3900, 800, and 5500, and a triangle symbol.

△ SPECIALTY ITEM

Rev. 4-9-14

Rev.

FILE NAME * #FELE# SHT_PLAN	USER NAME * #USER#	DESIGNED - BFH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE * #SCALE#	DRAWN - BFH	REVISED -		UR RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)		351	539N-1	COOK	49	6
	PLOT DATE * #DATE#	CHECKED - BA	REVISED -		SCALE: N.T.S. SHEET 4 OF 6 SHEETS STA. TO STA.		CONTRACT NO. 60W90				
	DATE - 1/31/14	REVISED -			[ILLINOIS] FED. AID PROJECT						

CODE NO.	ITEM	UNIT	URBAN TOTAL QUANTITY	CONSTRUCTION CODE			
				0021	0021	0021	0021
				90% FEDERAL 10% STATE ROADWAY	90% FEDERAL 7.5% STATE 2.5% CITY TRAF. SIGNALS	100% CITY SAFETY (EVP)	90% FEDERAL 10% STATE INTERCONNECT
△ 87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	4		4		
△ 87700270	STEEL MAST ARM ASSEMBLY AND POLE, 46 FT.	EACH	1		1		
△ 87700230	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1		1		
△ 87700290	STEEL MAST ARM ASSEMBLY AND POLE, 50 FT.	EACH	1		1		
△ 87702985	STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	EACH	1		1		△
△ 87702659	STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 44 FT. AND 22 FT.	EACH	1		1		
△ 87700330	STEEL MAST ARM ASSEMBLY AND POLE, 56 FT.	EACH	2		2		△
△ 87702702	STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 52 FT. AND 26 FT.	EACH	1		1		
△ 87703000	STEEL MAST ARM ASSEMBLY AND POLE, 55 FT.	EACH	1		1		△
△ 87800100	CONCRETE FOUNDATION, TYPE A	FOOT	16		16		
△ 87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4		4		
△ 87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	56		56		△
△ 87800430	CONCRETE FOUNDATION, TYPE E 42-INCH DIAMETER	FOOT	42		42		△
△ 87900200	DRILL EXISTING HANDHOLE	EACH	2			2	
△ 88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	12		12		△
△ 88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	2		2		△
△ 88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	2		2		
△ 88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2		2		△
△ 88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2		2		
△ 88030240	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, 5-SECTION BRACKET MOUNTED	EACH	2		2		
△ 88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	14		14		
△ 88500100	INDUCTIVE LOOP DETECTOR	EACH	18		18		

△ SPECIALTY ITEM

Rev. 4-9-14

Rev.

FILE NAME: *BFILE*	USER NAME: *USER*	DESIGNED - BFH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE: *SCALE*	DRAWN - BFH	REVISED -		UR RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)	351	539N-1	COOK	49	7	
	PLOT DATE: *DATE*	CHECKED - BA	REVISED -		SCALE: N.T.S.	SHEET 5 OF 6 SHEETS	STA. TO STA.	CONTRACT NO. 60W90		ILLINOIS FED. AID PROJECT	

4/15/14 10:03

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				0021	0021	0021	0021
				90% FEDERAL 10% STATE ROADWAY	90% FEDERAL 7.5% STATE 2.5% CITY TRAF. SIGNALS	100% CITY SAFETY (EVP)	90% FEDERAL 10% STATE INTERCONNECT
	URBAN						
△ 88600100	DETECTOR LOOP, TYPE I	FOOT	985		985		
△ 88700200	LIGHT DETECTOR	EACH	4			4	
△ 88700300	LIGHT DETECTOR AMPLIFIER	EACH	1			1	
△ 89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1		1		
△ 89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1		1		
△ 89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	9		9		
△ 89502380	REMOVE EXISTING HANDHOLE	EACH	11		11		
△ 89502382	REMOVE EXISTING DOUBLE HANDHOLE	EACH	1		1		
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1			
△ X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	970			970	△
X8730250	ELECTRICAL CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	887			887	
X4060110	BITUMINOUS MATERIALS (PRIME COAT)	POUND	815	815			
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1			
X8570226	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1				△
Z0030850	TEMPORARY INFORMATION SIGNING	50 FT	103	103			
△ X8600105	MASTER CONTROLLER (SPECIAL)	EACH	1			1	
△ Z0033046	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	1			1	
△ X8620200	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	1		1		
△ X8710024	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F, 5M 24F	FOOT	1350			1350	
△ Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1		1		
△ X8570231	FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	EACH	1		1		△

△ SPECIALTY ITEM

△ Rev. 4-9-14

Rev.

FILE NAME = WFILE1

USER NAME = *USER*	DESIGNED - BFH	REVISED -
DRAWN - BFH	CHECKED - BA	REVISED -
PLOT SCALE = *SCALE*	DATE - 1/31/14	REVISED -
PLOT DATE = *DATE*		

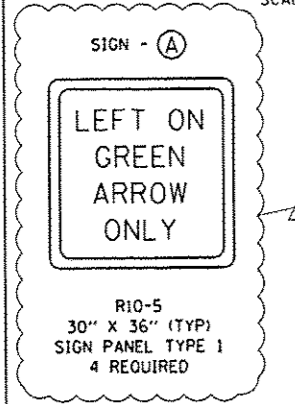
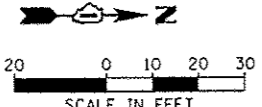
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES
UR RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	539N-1	COOK	49	8
SCALE: N.T.S.			SHEET 6 OF 6 SHEETS	STA. TO STA.
ILLINOIS FED. AID PROJECT				

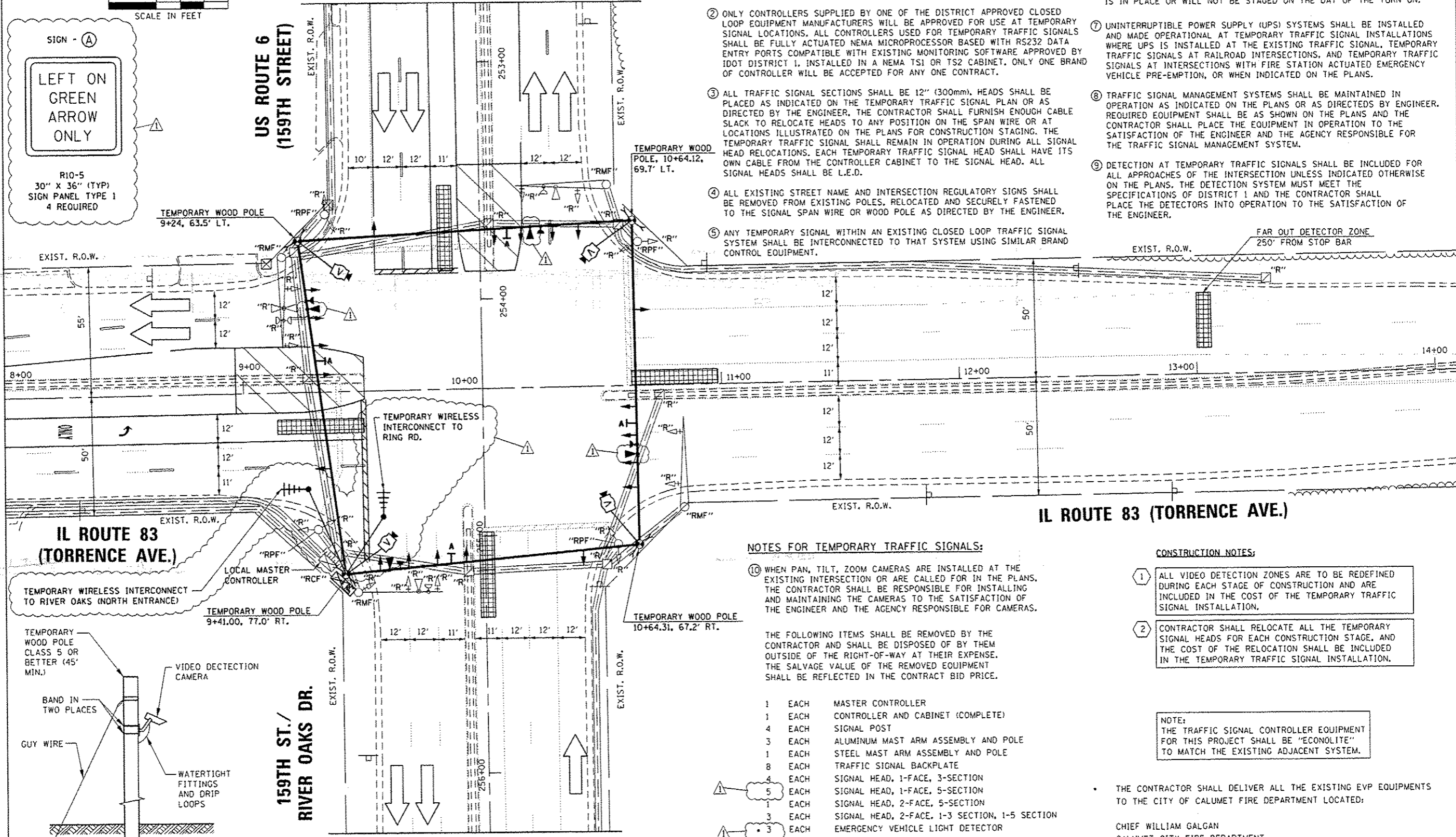
SHT. PLAN

CONTRACT NO. 60W90



MATCH LINE STA 252+75 SEE SHEET 22

US ROUTE 6
(159TH STREET)

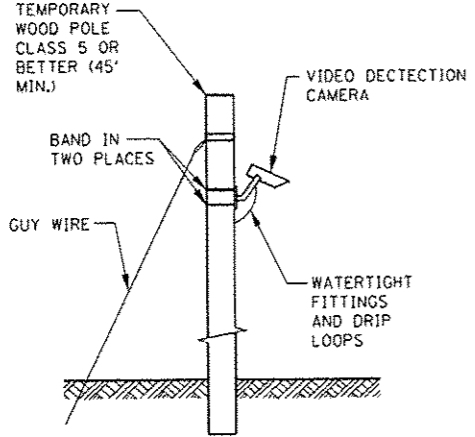


IL ROUTE 83
(TORRENCE AVE.)

IL ROUTE 83 (TORRENCE AVE.)

159TH ST./
RIVER OAKS DR.

MATCH LINE STA 256+25 SEE SHEET 22



TEMPORARY VIDEO DETECTION MOUNTING DETAIL
NOT TO SCALE

NOTES FOR TEMPORARY TRAFFIC SIGNALS:

- ① ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL (S) SHALL BE FURNISHED BY THE CONTRACTOR.
- ② ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1. INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
- ③ ALL TRAFFIC SIGNAL SECTIONS SHALL BE 12" (300mm). HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD. ALL SIGNAL HEADS SHALL BE L.E.D.
- ④ ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
- ⑤ ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
- ⑥ THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.
- ⑦ UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
- ⑧ TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
- ⑨ DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.

NOTES FOR TEMPORARY TRAFFIC SIGNALS:

- ⑩ WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR CAMERAS.

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

- 1 EACH MASTER CONTROLLER
- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 4 EACH SIGNAL POST
- 3 EACH ALUMINUM MAST ARM ASSEMBLY AND POLE
- 1 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 8 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 5 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 5-SECTION
- 3 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 3 EACH EMERGENCY VEHICLE LIGHT DETECTOR
- 3 EACH CONFIRMATION BEACON
- 1 EACH LIGHT DETECTOR AMPLIFIER
- 1 EACH SERVICE INSTALLATION

CONSTRUCTION NOTES:

- ① ALL VIDEO DETECTION ZONES ARE TO BE REDEFINED DURING EACH STAGE OF CONSTRUCTION AND ARE INCLUDED IN THE COST OF THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.
- ② CONTRACTOR SHALL RELOCATE ALL THE TEMPORARY SIGNAL HEADS FOR EACH CONSTRUCTION STAGE, AND THE COST OF THE RELOCATION SHALL BE INCLUDED IN THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

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

THE CONTRACTOR SHALL DELIVER ALL THE EXISTING EVP EQUIPMENTS TO THE CITY OF CALUMET FIRE DEPARTMENT LOCATED:

CHIEF WILLIAM GALGAN
CALUMET CITY FIRE DEPARTMENT
1270 PULASKI ROAD
CALUMET CITY, ILLINOIS 60409
(708) 891-8145

ADDENDUM 1

USER NAME * #USER#	DESIGNED - BFH	REVISED -
PLOT SCALE * #SCALE#	DRAWN - BFH	REVISED -
PLOT DATE * #DATE#	CHECKED - BA	REVISED -
	DATE - 1/31/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE I - TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN
US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	539N-1	COOK	49	21
				CONTRACT NO. 60W90
ILLINOIS FED. AID PROJECT				

SCALE: 1"=20' SHEET 1 OF 5 SHEETS STA. TO STA.

FILE NAME * RETELS

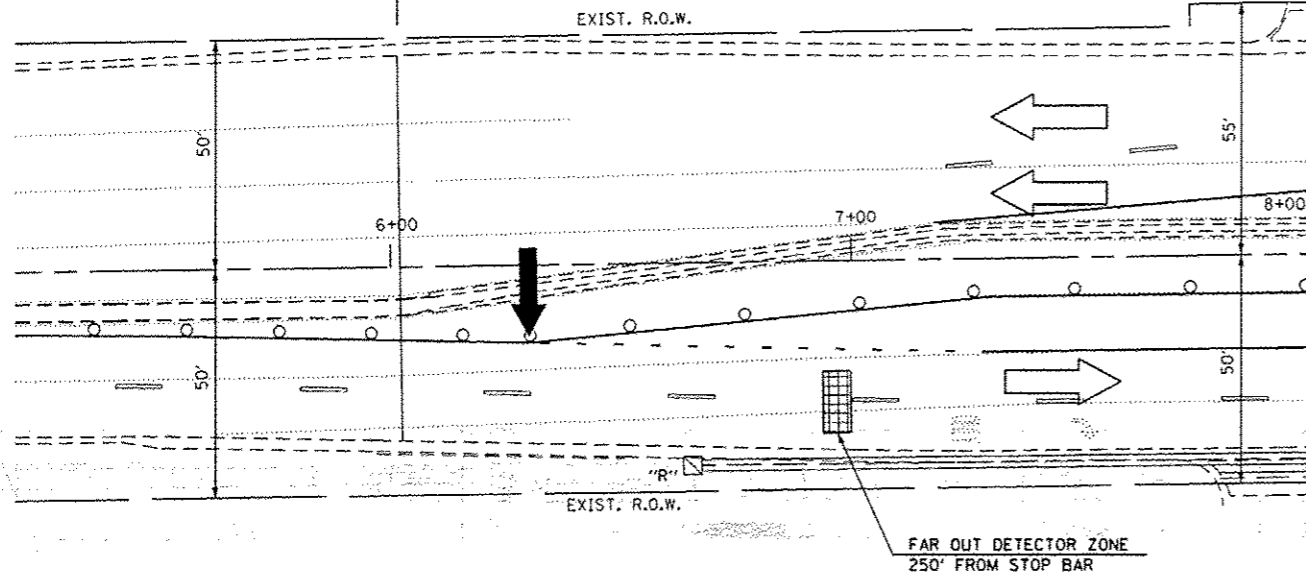
SMT_PLAN

**PROJECT LIMIT
STA. 6 + 02**

**IL ROUTE 83
(TORRENCE AVE.)**

**PROJECT LIMIT
STA. 250 + 17**

**US ROUTE 6
(159TH STREET)**



MATCH LINE STA 8+00 SEE SHEET 21

MATCH LINE STA 256+25 SEE SHEET 21

**159TH ST./
RIVER OAKS DR.**

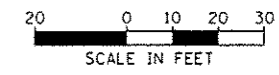
FAR OUT DETECTOR ZONE
250' FROM STOP BAR

FAR OUT DETECTOR ZONE
250' FROM STOP BAR

MATCH LINE STA 252+75 SEE SHEET 21

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

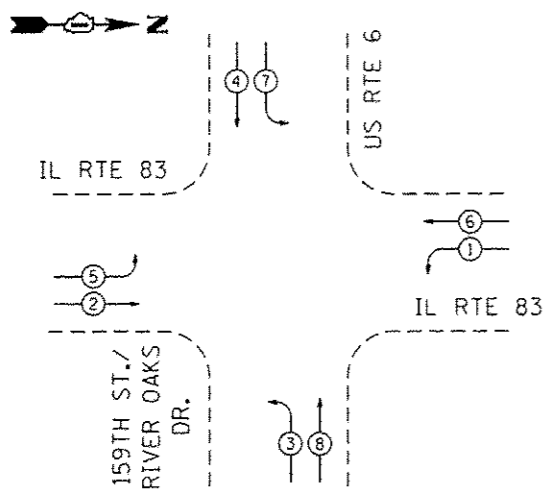
**PROJECT LIMIT
STA. 258 + 36**



ADDENDUM 1

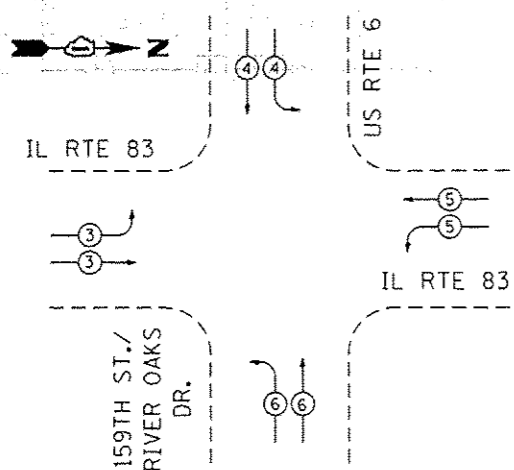
FILE NAME * #FILES* SHT_PLAN	USER NAME * #USER*	DESIGNED - BFH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE * #SCALE*	DRAWN - BFH	REVISED -		US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)	351	539N-1	COOK	49	22		
	PLOT DATE * #DATE*	CHECKED - BA	REVISED -		SCALE: 1"=20'	SHEET 2	OF 5 SHEETS	STA.	TO STA.	CONTRACT NO. 60W90		
		DATE - 1/31/14	REVISED -			ILLINOIS FED. AID PROJECT						

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE

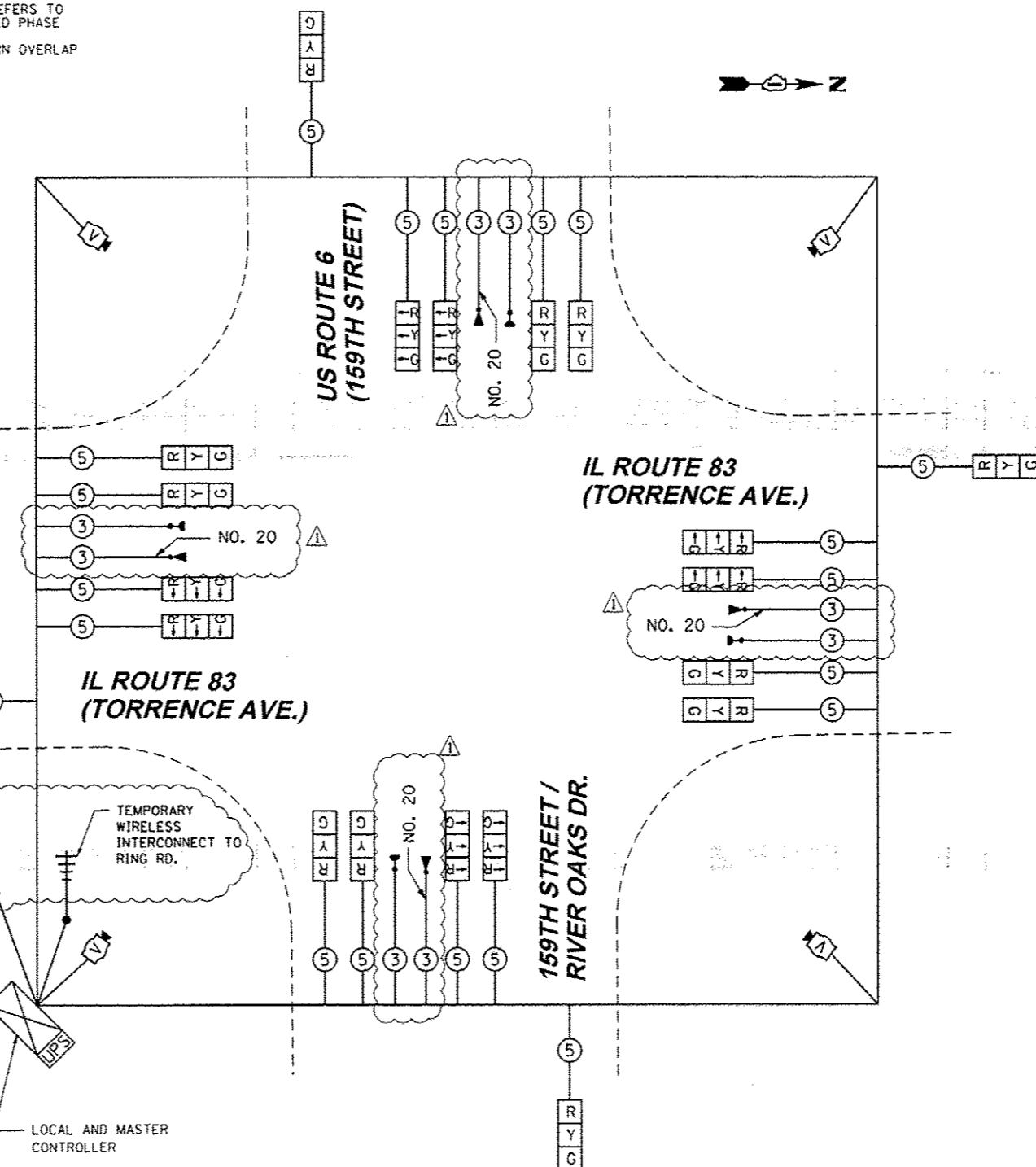


PHASE DESIGNATION DIAGRAM LEGEND

- ⊕ DUAL ENTRY PHASE
- ⊕ SINGLE ENTRY PHASE
- ⊕ PEDESTRIAN PHASE
- + NUMBER REFERS TO ASSOCIATED PHASE
- OL RIGHT TURN OVERLAP

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 CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.



CABLE PLAN

PROPOSED EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTORS	3	4	5	6
MOVEMENT				

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. OF LAMPS	WATTAGE	LED	% OPERATION	
SIGNAL (RED)	20	17	0.50		170.0
(YELLOW)	20	25	0.25		125.0
(GREEN)	20	15	0.25		75.0
ARROW		12	0.10		
PED. SIGNAL		25	1.00		
CONTROLLER	1	100	1.00		100.0
VIDEO SYSTEM	1	150	1.00		150.0
FLASHER		25	0.50		
ENERGY COST TO:					TOTAL= 620.0

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAY/DISTRICT 1
 201 WEST CENTER COURT/SCHAUMBURG, ILLINOIS 60196-1096
 ENERGY SUPPLY CONTACT: ANTHONY EXCALANTE
 PHONE: (708) 878-9908
 COMPANY: COMMONWEALTH EDISON

USER NAME * USER *	DESIGNED - BFH	REVISED -
DESIGNED - BFH	DRAWN - BFH	REVISED -
PLLOT SCALE * SCALE *	CHECKED - BA	REVISED -
PLLOT DATE * DATE *	DATE - 1/31/14	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE
 US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)
 SCALE: N.T.S. SHEET 3 OF 5 SHEETS STA. TO STA.

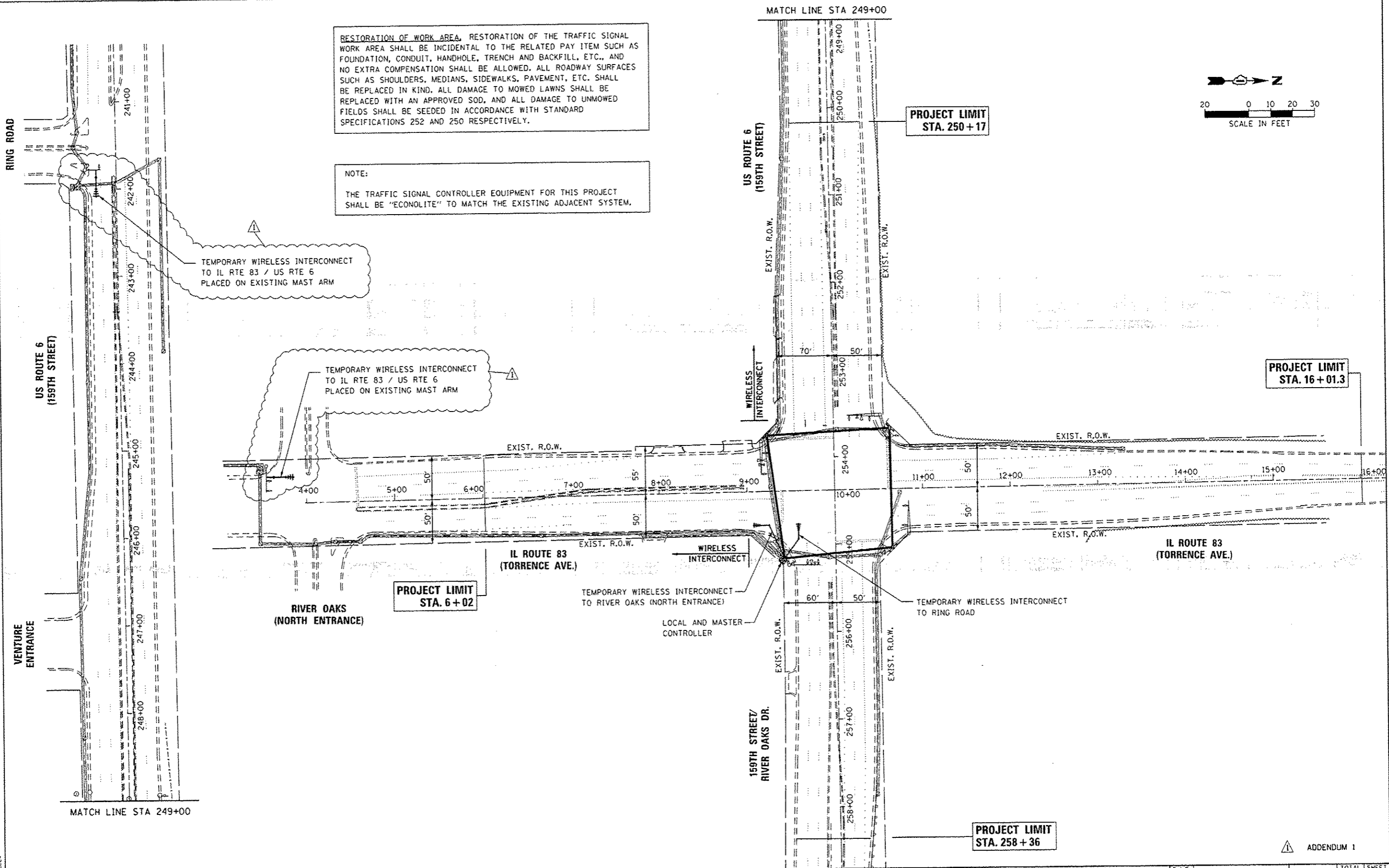
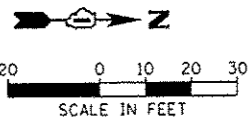
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	539N-1	COOK	49	23
CONTRACT NO. 60W90			ILLINOIS FED. AID PROJECT	

ADDENDUM 1

FILE NAME * FILES *

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 SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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



FILE NAME = *FILEL*
SHT_PLAN

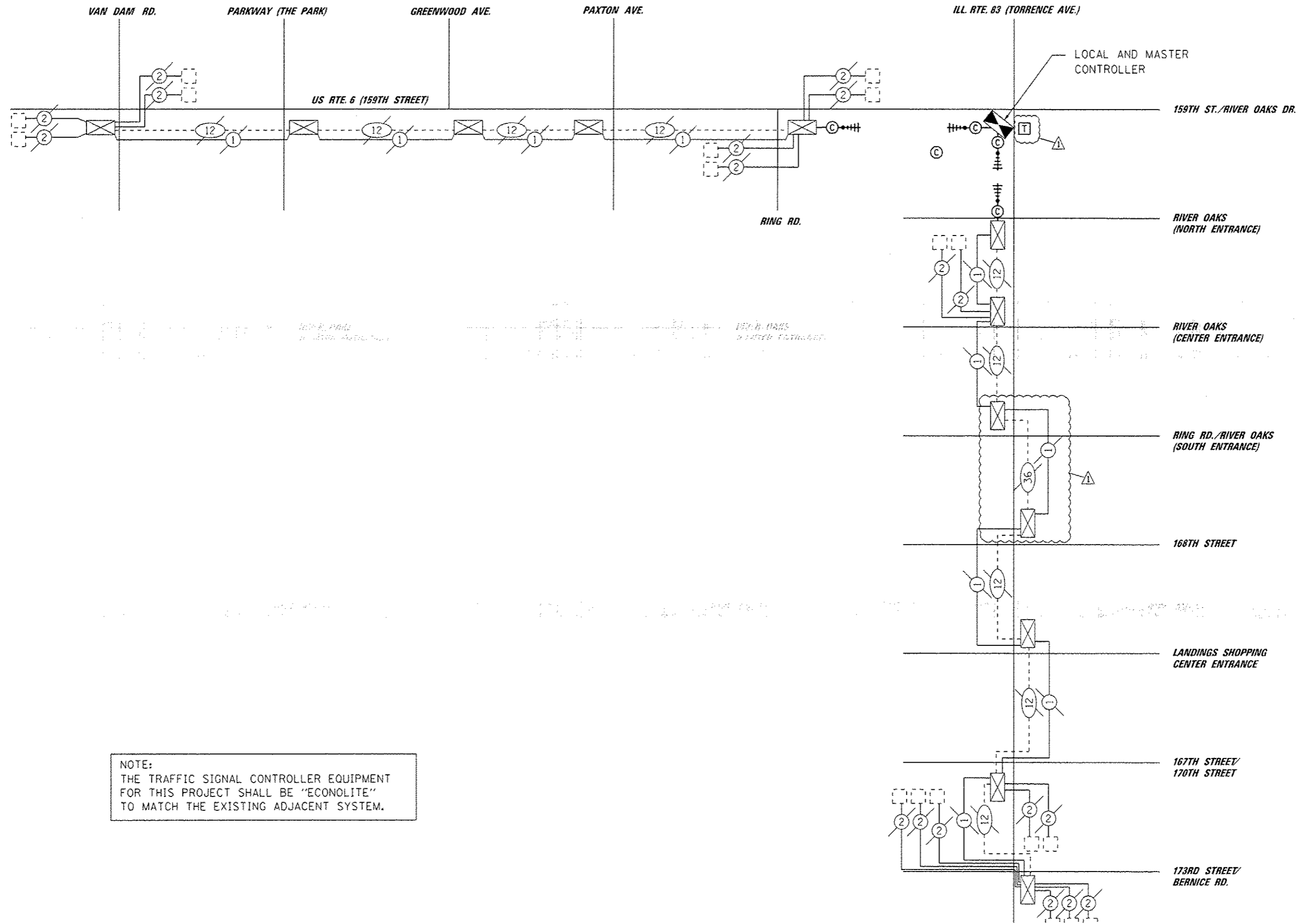
USER NAME * USER*	DESIGNED - BFH	REVISED -
	DRAWN - BFH	REVISED -
PLOT SCALE * SCALES*	CHECKED - BA	REVISED -
PLOT DATE * DATE*	DATE - 1/31/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCONNECT PLAN
US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)
SCALE: 1"=50' SHEET 4 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	539N-1	COOK	49	24
CONTRACT NO. 60W90				
ILLINOIS FED. AID PROJECT				

ADDENDUM 1



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

ADDENDUM 1

FILE NAME * #FILES*

USER NAME * #USER*	DESIGNED - BFH	REVISED -
	DRAWN - BFH	REVISED -
PLOT SCALE * #SCALE*	CHECKED - BA	REVISED -
PLOT DATE * #DATE*	DATE - 1/31/14	REVISED -

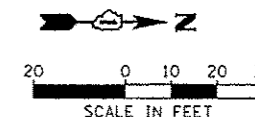
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCONNECT SCHEMATIC PLAN
 US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)
 SCALE: N.T.S. SHEET 5 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	539N-1	COOK	49	25
CONTRACT NO. 60W90				
ILLINOIS FED. AID PROJECT				

MATCH LINE STA 252+75 SEE SHEET 27

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.



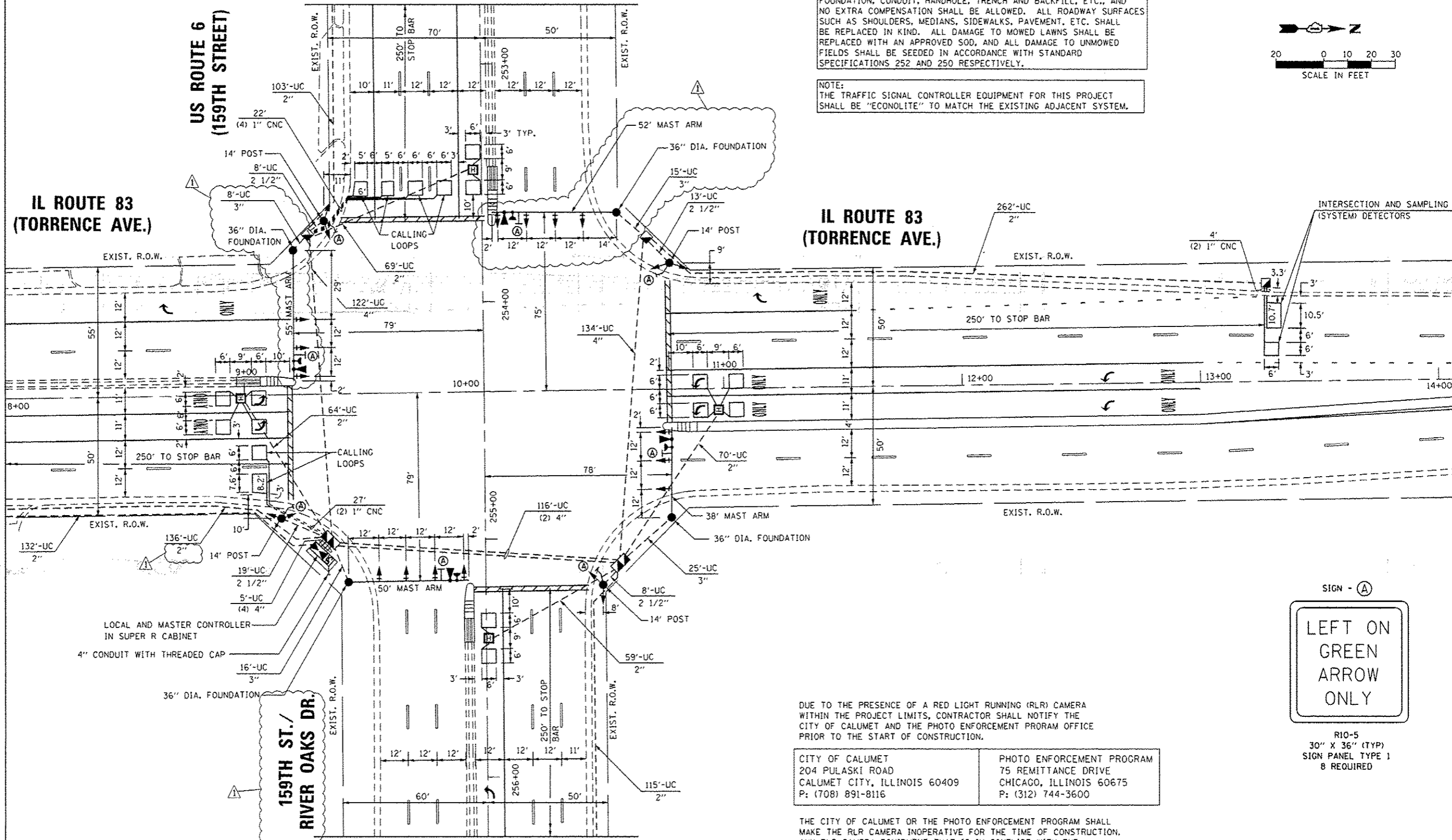
NOTE:
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

MATCH LINE STA 8+00 SEE SHEET 27

IL ROUTE 83
(TORRENCE AVE.)

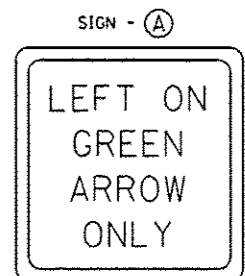
IL ROUTE 83
(TORRENCE AVE.)

INTERSECTION AND SAMPLING
(SYSTEM) DETECTORS



LOCAL AND MASTER CONTROLLER
IN SUPER R CABINET
4" CONDUIT WITH THREADED CAP

159TH ST./
RIVER OAKS DR.



R10-5
30" X 36" (TYP)
SIGN PANEL TYPE 1
8 REQUIRED

DUE TO THE PRESENCE OF A RED LIGHT RUNNING (RLR) CAMERA WITHIN THE PROJECT LIMITS, CONTRACTOR SHALL NOTIFY THE CITY OF CALUMET AND THE PHOTO ENFORCEMENT PROGRAM OFFICE PRIOR TO THE START OF CONSTRUCTION.

CITY OF CALUMET 204 PULASKI ROAD CALUMET CITY, ILLINOIS 60409 P: (708) 891-8116	PHOTO ENFORCEMENT PROGRAM 75 REMITTANCE DRIVE CHICAGO, ILLINOIS 60675 P: (312) 744-3600
--	--

THE CITY OF CALUMET OR THE PHOTO ENFORCEMENT PROGRAM SHALL MAKE THE RLR CAMERA INOPERATIVE FOR THE TIME OF CONSTRUCTION. ANY RLR CAMERA EQUIPMENT THAT IS IN CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY ITS RESPECTIVE OWNERS PRIOR TO THE START OF CONSTRUCTION.

ADDENDUM 1

MATCH LINE STA 256+25 SEE SHEET 27

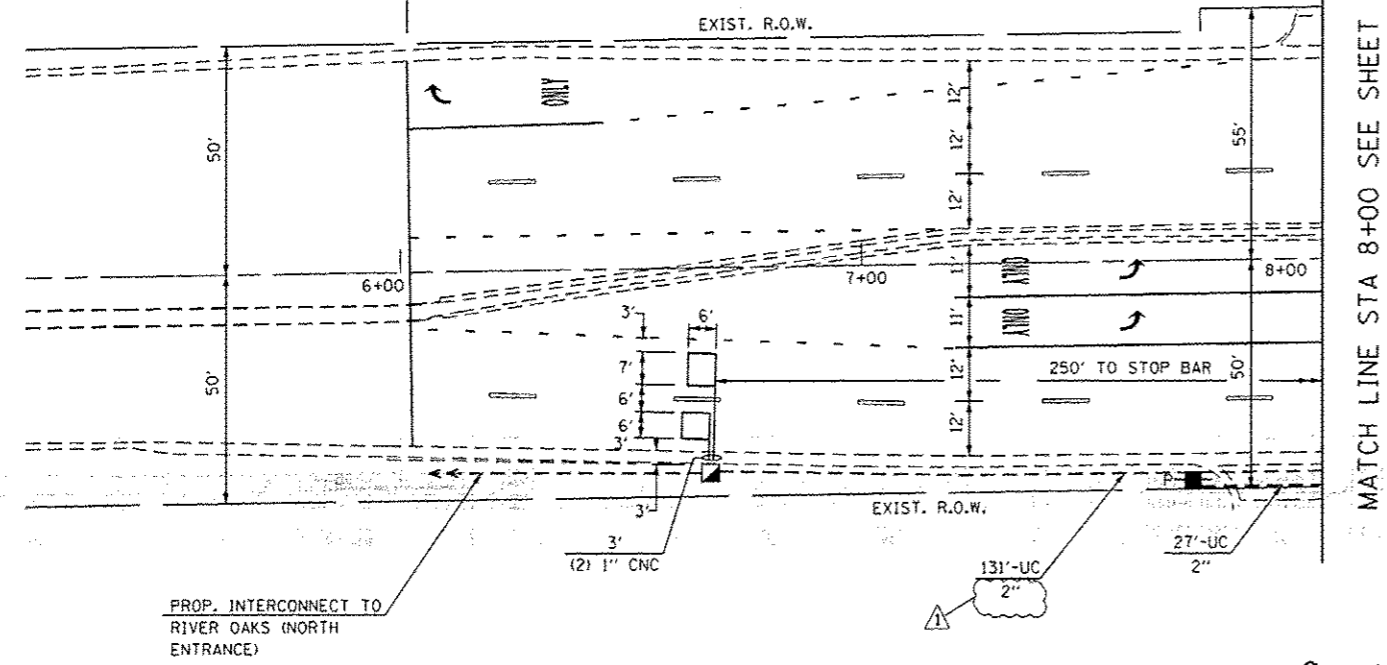
SHT. PLAN	USER NAME * USER*	DESIGNED - BFN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC SIGNAL MODERNIZATION PLAN			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE * SCALES*	DRAWN - BFN	REVISED -		US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)	351	539N-1	COOK	49	26		
	PLOT DATE * DATE*	CHECKED - BA	REVISED -		SCALE: 1"=20'	SHEET 1	OF 6 SHEETS	STA.	TO STA.	CONTRACT NO. 60W90		
		DATE - 1/31/14	REVISED -							ILLINOIS FED. AID PROJECT		

TS 175

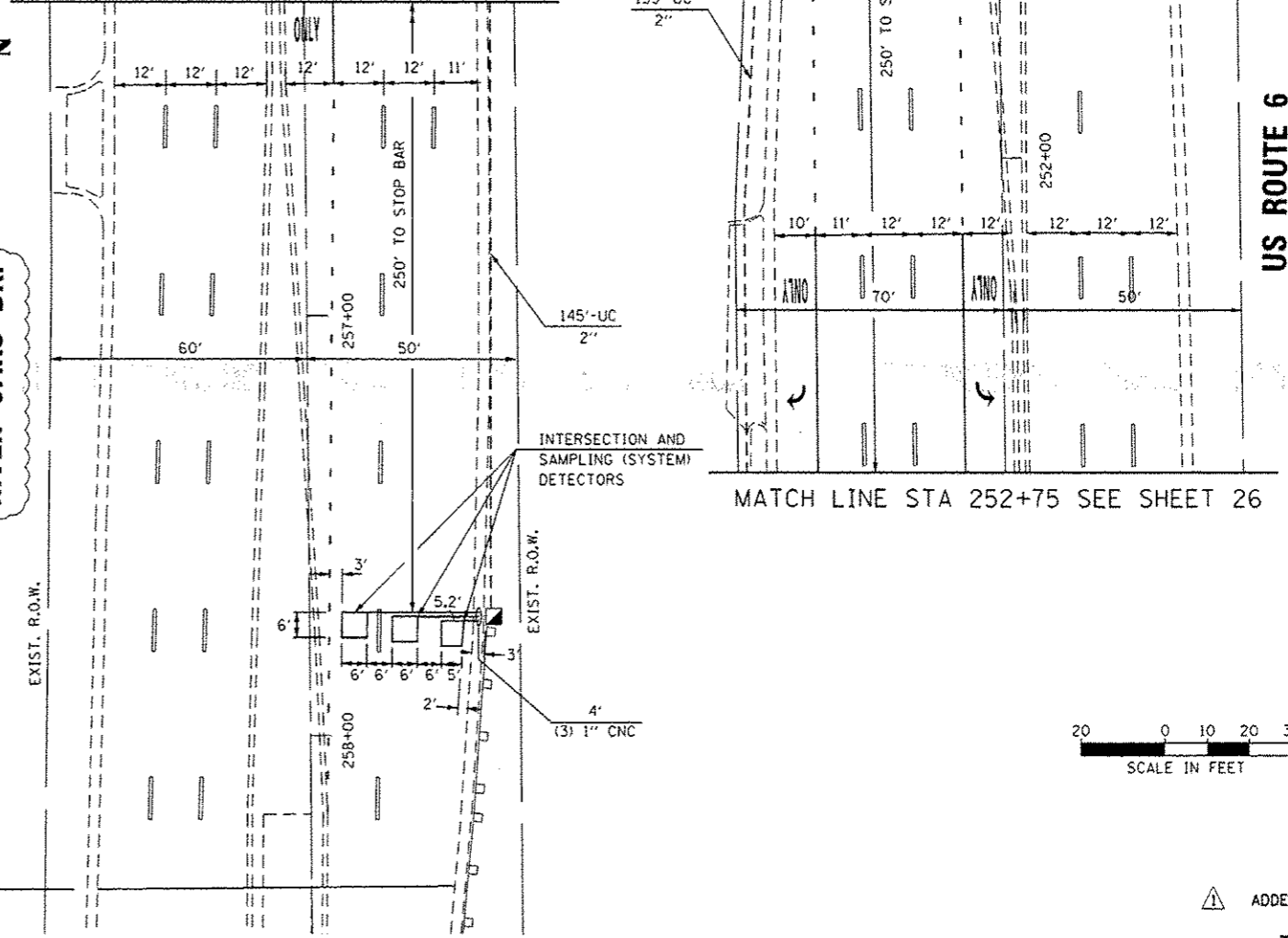
**PROJECT LIMIT
STA. 6+02**

**IL ROUTE 83
(TORRENCE AVE.)**

**PROJECT LIMIT
STA. 250+17**



MATCH LINE STA 256+25 SEE SHEET 26

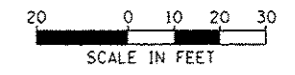


**159TH ST./
RIVER OAKS DR.**

**PROJECT LIMIT
STA. 258+36**

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.

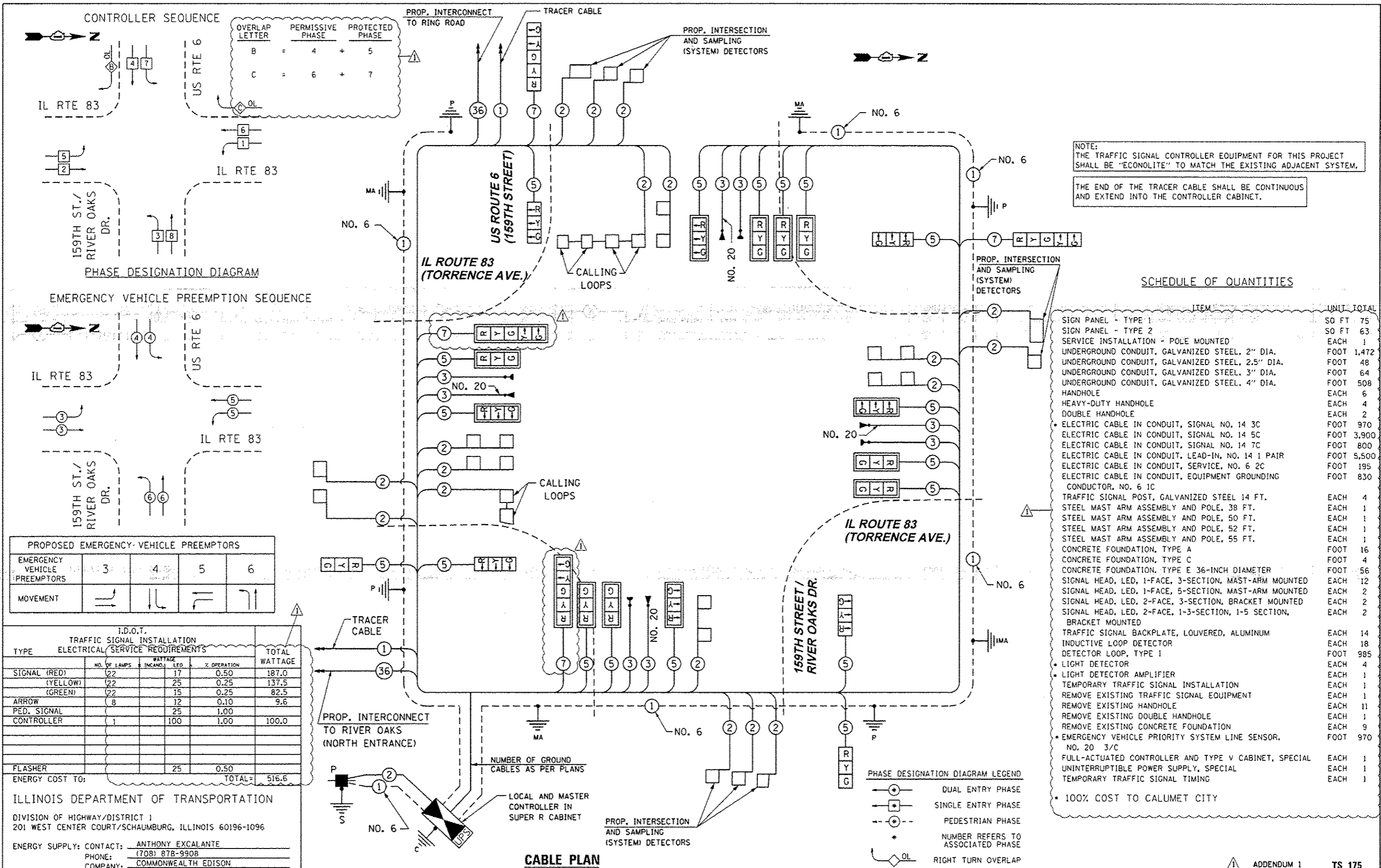
NOTE:
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.



ADDENDUM 1

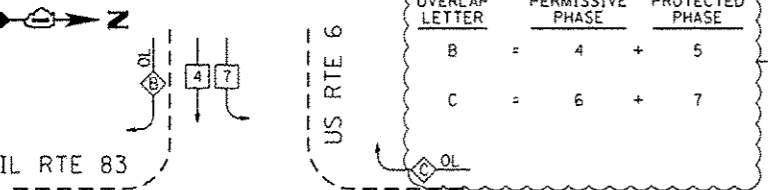
TS 175

FILE NAME - 8FILES SHT_PLAN	USER NAME - *USER*	DESIGNED - BFH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC SIGNAL MODERNIZATION PLAN US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)			F.A.P. RTE. 351	SECTION 539N-1	COUNTY COOK	TOTAL SHEETS 49	SHEET NO. 27	
	PLOT SCALE - *SCALE*	DRAWN - BFH	REVISED -		SCALE: 1"=20'	SHEET 2	OF 6 SHEETS	STA.	TO STA.	CONTRACT NO. 60W90			
	PLOT DATE - *DATE*	CHECKED - BA	REVISED -			ILLINOIS FED. AID PROJECT							
		DATE - 1/31/14	REVISED -										

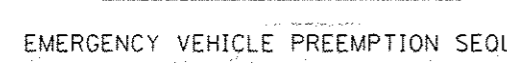


NOTE:
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.
THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

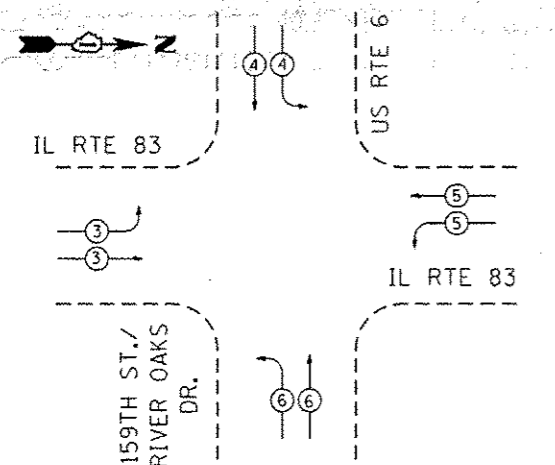
CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTORS	3	4	5	6
MOVEMENT	[Symbol]	[Symbol]	[Symbol]	[Symbol]

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

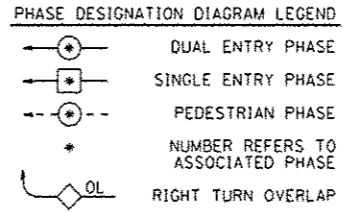
TYPE	NO. OF LAMPS	INCAND.	LED	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	22		17	0.50	187.0
(YELLOW)	22		25	0.25	137.5
(GREEN)	22		15	0.25	82.5
ARROW	8		12	0.10	9.6
PED. SIGNAL			25	1.00	
CONTROLLER	1		100	1.00	100.0
FLASHER			25	0.50	
ENERGY COST TO:					TOTAL: 516.6

ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAY/DISTRICT 1
201 WEST CENTER COURT/SCHAUMBURG, ILLINOIS 60196-1096
ENERGY SUPPLY: CONTACT: ANTHONY EXCALANTE
PHONE: (708) 878-9908
COMPANY: COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

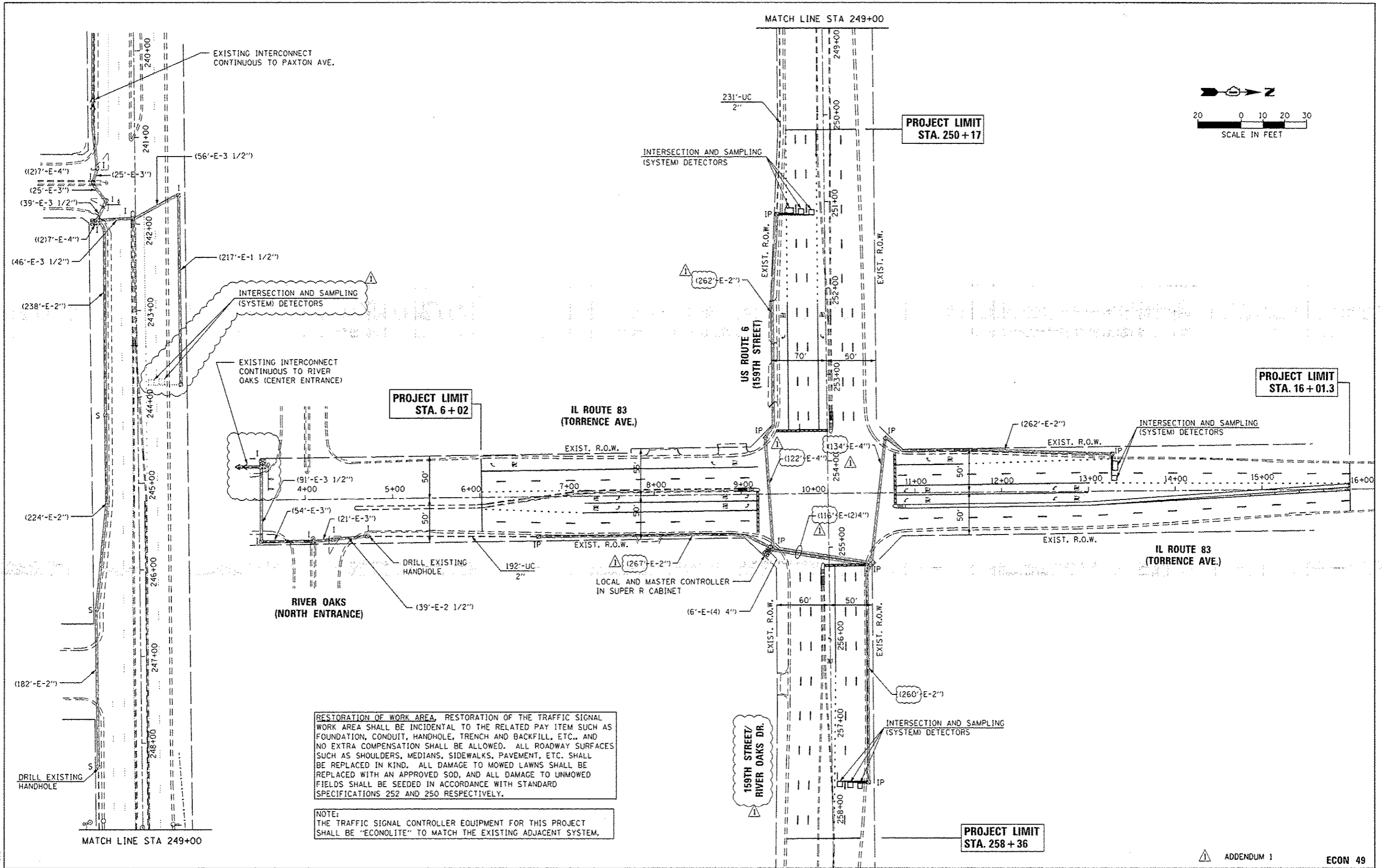
ITEM	UNIT	TOTAL
SIGN PANEL - TYPE 1	SO FT	75
SIGN PANEL - TYPE 2	SO FT	63
SERVICE INSTALLATION - POLE MOUNTED	EACH	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1,472
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2.5" DIA.	FOOT	48
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	64
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	508
HANDHOLE	EACH	6
HEAVY-DUTY HANDHOLE	EACH	4
DOUBLE HANDHOLE	EACH	2
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	970
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	3,900
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	800
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	5,500
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	195
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	830
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	4
STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 50 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 55 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	16
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	56
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	12
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2
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	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	14
INDUCTIVE LOOP DETECTOR	EACH	18
DETECTOR LOOP, TYPE 1	FOOT	985
LIGHT DETECTOR	EACH	4
LIGHT DETECTOR AMPLIFIER	EACH	1
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	11
REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR, NO. 20 3/C	FOOT	970
FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	EACH	1
UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
100% COST TO CALUMET CITY		

CABLE PLAN



USER NAME	DESIGNED	REVISOR
USER#	BFH	
	BFH	
	BA	

DATE: 1/31/14

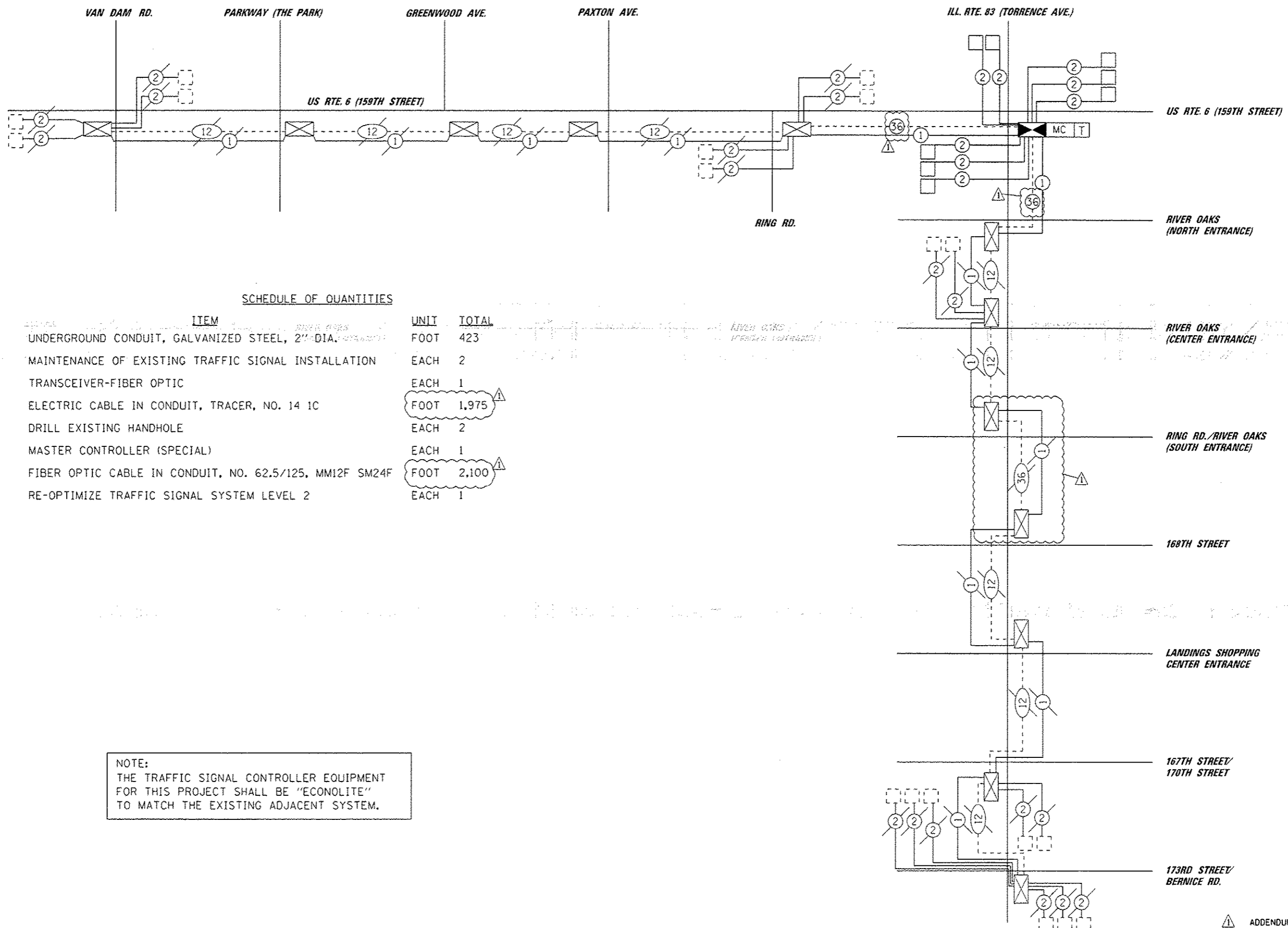


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NOTE:
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

FILE NAME: #FILES* SHT.PLAN	USER NAME: #USERS*	DESIGNED - BFH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTERCONNECT PLAN US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)		F.A.P. RTE. 351	SECTION 539N-1	COUNTY COOK	TOTAL SHEETS 49	SHEET NO. 29
	PLOT SCALE: #SCALE*	CHECKED - BA	REVISED -		SCALE: 1"=50'	SHEET 4 OF 6 SHEETS	STA. TO STA.	CONTRACT NO. 60W90			
PLOT DATE: #DATE*	DATE - 1/31/14	REVISED -	REVISED -				ILLINOIS FED. AID PROJECT				

ADDENDUM 1 ECON 49



SCHEDULE OF QUANTITIES

ITEM	UNIT	TOTAL
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	423
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2
TRANSCEIVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	1,975
DRILL EXISTING HANDHOLE	EACH	2
MASTER CONTROLLER (SPECIAL)	EACH	1
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F	FOOT	2,100
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	1

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

FILE NAME * \$FILES\$

USER NAME * \$USER\$	DESIGNED - BFH	REVISED -
PLOT SCALE * \$SCALE\$	DRAWN - BFH	REVISED -
PLOT DATE * \$DATE\$	CHECKED - BA	REVISED -
	DATE - 1/31/14	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT SCHEMATIC PLAN
US RTE. 6 (159TH STREET) AND IL RTE. 83 (TORRENCE AVENUE)**

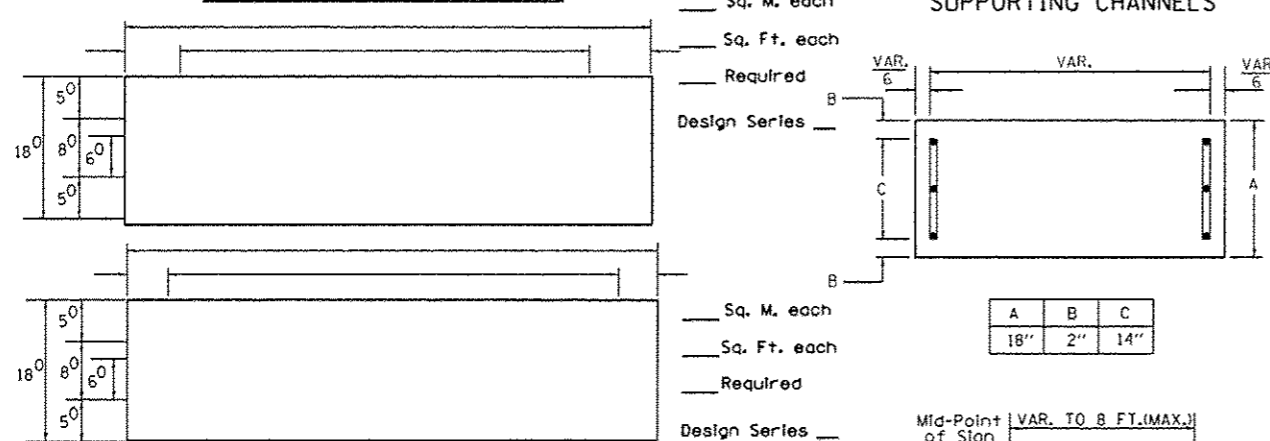
F.A.P. RTE. 351	SECTION 539N-1	COUNTY COOK	TOTAL SHEETS 49	SHEET NO. 30
CONTRACT NO. 60W90				
ILLINOIS FED. AID PROJECT				

ADDENDUM 1

ECON 49

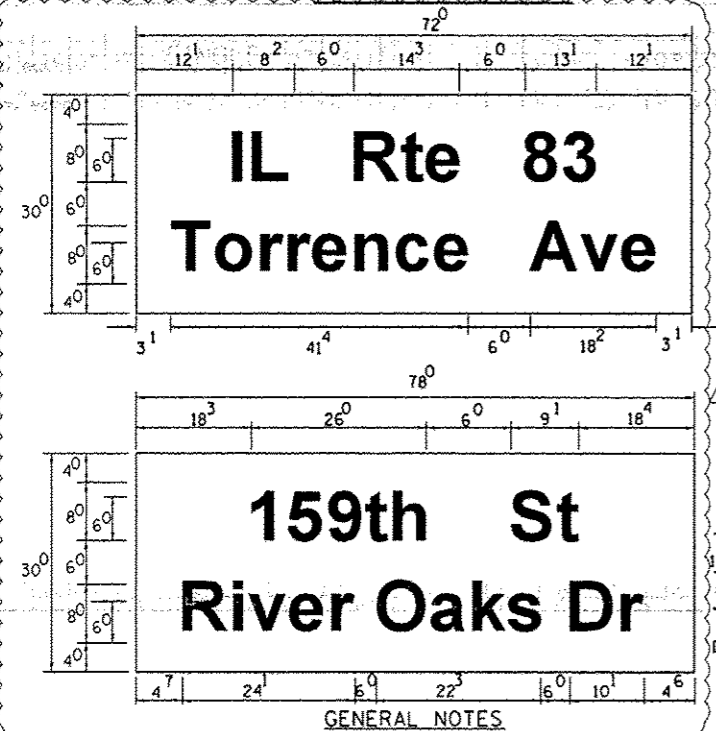
SCALE: 1"=50' SHEET 5 OF 6 SHEETS STA. TO STA.

PANEL SIGN DESIGN TYPE 1 OR TYPE 2

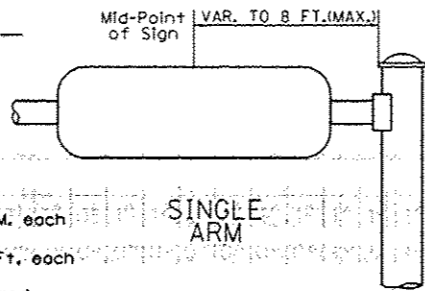


NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

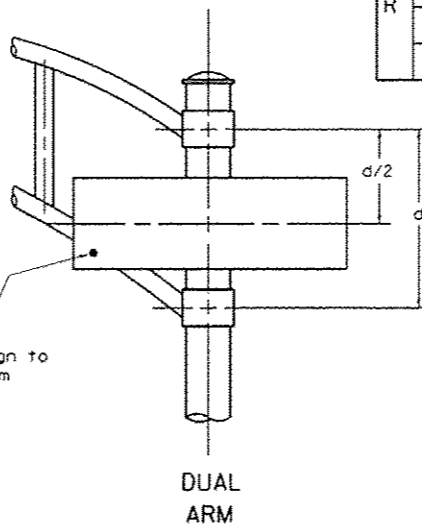
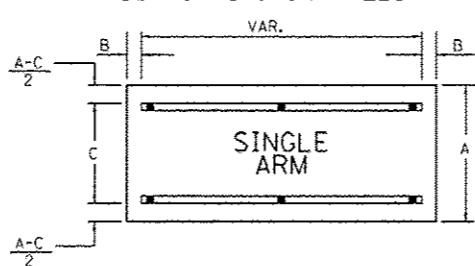
PANEL SIGN DESIGN TYPE 2



SUPPORTING CHANNELS



SUPPORTING CHANNELS



SIGNIFIX ALUMINUM CHANNEL FRAMING SYSTEM shall be used. See Note #5.

Upper Case To Lower Case
Spacing Chart 8-6 Inch Series "C & D"

SERIES	SECOND LETTER															
	o c d e		b h i k l		f w		j		s t		v y		x		z	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
A W X	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ²	1 ²	1 ⁴
B	1 ⁴	1 ⁵	2 ⁰	2 ¹	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ²	1 ⁴	1 ⁶	1 ⁷
C E G	1 ⁴	1 ⁵	2 ⁰	2 ¹	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ²	1 ⁴	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵
D O O R	1 ⁴	1 ⁵	2 ⁰	2 ¹	1 ⁴	1 ⁵	0 ⁶	1 ⁰	1 ²	1 ⁴	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵
F	0 ⁵	0 ⁶	1 ⁴	1 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	0 ⁶	1 ⁰	0 ⁶	1 ⁰	0 ⁶	1 ⁰	1 ¹	1 ²
H I M N	2 ⁰	2 ¹	2 ²	2 ⁴	2 ⁰	2 ¹	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁶	1 ⁷	2 ⁰	2 ¹	2 ⁰	2 ¹
J U	2 ⁰	2 ¹	2 ⁰	2 ¹	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	2 ⁰	2 ¹
K L	1 ¹	1 ²	1 ⁶	1 ⁷	1 ¹	1 ²	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ²	1 ⁴
P	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ²	1 ⁴	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ²	1 ⁴	1 ²	1 ⁴
S	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ²	1 ⁴	1 ²	1 ⁴	1 ²	1 ⁴	1 ²	1 ⁴
T	1 ¹	1 ²	1 ⁶	1 ⁷	0 ⁵	1 ⁰	0 ⁶	1 ⁰	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ²	1 ⁴
V	0 ⁶	1 ⁰	1 ⁴	1 ⁵	1 ¹	1 ²	0 ⁶	1 ⁰	1 ²	1 ⁴	1 ²	1 ⁴	1 ²	1 ⁴	1 ²	1 ⁴
Y	0 ⁵	0 ⁶	1 ⁴	1 ⁵	0 ⁶	1 ⁰	0 ⁵	0 ⁶	0 ⁵	0 ⁷	0 ⁵	0 ⁶	0 ⁶	1 ⁰	1 ¹	1 ²
Z	1 ⁶	1 ⁷	2 ²	2 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁶	1 ⁷	2 ⁰	2 ¹

EXAMPLE, 2³ DENOTES 3/8"

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS				8 INCH UPPER CASE LETTERS				LETTERS	6 INCH LOWER CASE LETTERS	
	SERIES		SERIES		SERIES		SERIES			C	D
	C	D	C	D	C	D	C	D	C	D	
A	3 ⁶	5 ⁰	5 ⁰	6 ⁵	a	3 ⁵	4 ²				
B	3 ²	4 ⁰	4 ³	5 ³	b	3 ⁵	4 ²				
C	3 ²	4 ⁰	4 ³	5 ³	c	3 ⁵	4 ¹				
D	3 ²	4 ⁰	4 ³	5 ³	d	3 ⁵	4 ²				
E	3 ⁰	3 ⁵	4 ⁰	4 ⁷	e	3 ⁵	4 ²				
F	3 ⁰	3 ⁵	4 ⁰	4 ⁷	f	2 ³	2 ⁶				
G	3 ²	4 ⁰	4 ³	5 ³	g	3 ⁵	4 ²				
H	3 ²	4 ⁰	4 ³	5 ³	h	3 ⁵	4 ²				
I	0 ⁷	0 ⁷	1 ¹	1 ²	i	1 ¹	1 ¹				
J	3 ⁰	3 ⁶	4 ⁰	5 ⁰	j	2 ⁰	2 ²				
K	3 ²	4 ¹	4 ³	5 ⁴	k	3 ⁵	4 ²				
L	3 ⁰	3 ⁵	4 ⁰	4 ⁷	l	1 ¹	1 ¹				
M	3 ⁷	4 ⁵	5 ¹	6 ¹	m	6 ⁰	7 ⁰				
N	3 ²	4 ⁰	4 ³	5 ³	n	3 ⁵	4 ²				
O	3 ⁴	4 ²	4 ⁵	5 ⁵	o	3 ⁶	4 ³				
P	3 ²	4 ⁰	4 ³	5 ³	p	3 ⁵	4 ²				
Q	3 ⁴	4 ²	4 ⁵	5 ⁵	q	3 ⁵	4 ²				
R	3 ²	4 ⁰	4 ³	5 ³	r	2 ⁶	3 ²				
S	3 ²	4 ⁰	4 ³	5 ³	s	3 ⁶	4 ²				
T	3 ⁰	3 ⁵	4 ⁰	4 ⁷	t	2 ⁷	3 ²				
U	3 ²	4 ⁰	4 ³	5 ³	u	3 ⁵	4 ²				
V	3 ⁵	4 ⁴	4 ⁷	6 ⁰	v	4 ²	4 ⁷				
W	4 ⁴	5 ²	6 ⁰	7 ⁰	w	5 ⁵	6 ⁴				
X	3 ⁴	4 ⁰	4 ⁵	5 ³	x	4 ⁴	5 ¹				
Y	3 ⁶	5 ⁰	5 ⁰	6 ⁶	y	4 ⁶	5 ³				
Z	3 ²	4 ⁰	4 ³	5 ³	z	3 ⁶	4 ³				

Lower Case To Lower Case
Spacing Chart 6 Inch Series "C & D"

SERIES	SECOND LETTER															
	o c d e		b h i k l		f w		j		s t		v y		x		z	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
o a d h g l j	1 ⁶	1 ⁷	2 ²	2 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁶	1 ⁷
i m n q u	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ¹	1 ²	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ²	1 ⁴	1 ²	1 ⁴
b f k o p s	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ²	1 ⁴	1 ²	1 ⁴	1 ²	1 ⁴	1 ²	1 ⁴
c e	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ²	1 ⁴	1 ²	1 ⁴	1 ²	1 ⁴	1 ²	1 ⁴
r	0 ⁶	1 ⁰	1 ²	1 ⁴	0 ⁶	1 ⁰	0 ³	0 ³	0 ⁵	0 ⁶	0 ⁵	0 ⁶	0 ⁶	1 ⁰	0 ⁶	1 ⁰
t z	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ²	1 ⁴	0 ⁶	1 ⁰	1 ¹	1 ²	1 ¹	1 ²	1 ²	1 ⁴	1 ²	1 ⁴
v y	1 ¹	1 ²	1 ⁴	1 ⁵	1 ¹	1 ²	0 ⁵	0 ⁶	0 ⁶	1 ⁰	0 ⁶	1 ⁰	1 ¹	1 ²	1 ¹	1 ²
w	1 ¹	1 ²	1 ⁴	1 ⁵	1 ¹	1 ²	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ²	1 ⁴
x	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ¹	1 ²	0 ⁵	0 ⁶	1 ¹	1 ²	1 ¹	1 ²	1 ¹	1 ²	1 ²	1 ⁴

Number To Number
Spacing Chart 8 Inch Series "C & D"

SERIES	SECOND NUMBER																			
	0		1		2		3		4		5		6		7		8		9	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ⁶	1 ⁷
1	2 ⁰	2 ¹	2 ⁰	2 ¹	2 ⁰	2 ¹	1 ⁶	1 ⁷	1 ⁴	1 ⁵	2 ⁰	2 ¹	2 ⁰	2 ¹	1 ⁴	1 ⁵	2 ⁰	2 ¹	2 ⁰	2 ¹
2 3 4	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁶	1 ⁷	1 ⁴	1 ⁵
5	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ¹	1 ²	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ⁴	1 ⁵
6	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ²	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ⁴	1 ⁵
7	1 ²	1 ⁴	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ²	1 ⁵	0 ⁵	0 ⁶	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴
8	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ²	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ⁴	1 ⁵

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
1	1 ²	1 ⁴	1 ⁵	2 ⁰
2	3 ²	4 ⁰	4 ³	5 ³
3	3 ²	4 ⁰	4 ³	5 ³
4	3 ⁵	4 ³	4 ⁷	5 ⁷
5	3 ²	4 ⁰	4 ³	5 ³
6	3 ²	4 ⁰	4 ³	5 ³
7	3 ²	4 ⁰	4 ³	5 ³
8	3 ²	4 ⁰	4 ³	5 ³
9	3 ²	4 ⁰	4 ³	5 ³
0	3 ⁴	4 ²	4 ⁵	5 ⁵

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
- THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 8'-0".
- ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
- SIGNIFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNIFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
 - * J.O. HERBERT CO. MIDLOTHIAN, VA.
 - * WESTERN REMAC INC. WOODRIDGE, IL.

PARTS LISTING:
SIGN CHANNEL PART #HPN053 (MED. CHANNEL)
SIGN SCREWS 1/4" x 14 x 1" H.W