

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	09-00112-00-TL	McHENRY	24+2=26	1
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT ARA-9003(419)	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

**PLANS FOR PROPOSED FEDERAL AID HIGHWAY  
F.A.P. ROUTE 305 - U.S. ROUTE 14 (VIRGINIA STREET)  
DOLE AVENUE TO DEVONSHIRE LANE/KEITH AVENUE  
A.R.R.A. IMPROVEMENT  
SECTION 09-00112-00-TL  
PROJECT NO. ARA-9003(419)  
TRAFFIC SIGNAL MODERNIZATION AND INTERCONNECT  
CITY OF CRYSTAL LAKE  
McHENRY COUNTY  
C-91-811-09**



LOCATION OF SECTION INDICATED THIS: - [shaded box] -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

APPROVED August 27, 20 09  
*[Signature]*  
CITY ENGINEER, CITY OF CRYSTAL LAKE

PASSED SEPTEMBER 2, 20 09  
*[Signature]*  
DISTRICT ONE ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID  
BASED ON LIMITED  
REVIEW SEPTEMBER 2, 20 09  
*[Signature]*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER

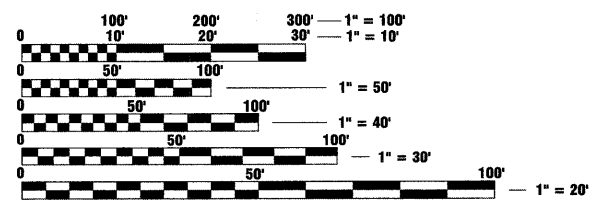


*[Signature]* 11/30/09  
REGISTERED P.E., STATE OF ILLINOIS  
PLANS PREPARED BY:  
**CIVILTECH**  
450 E. Devon Ave, Suite 300 - Itasca, Illinois 60143  
Tel: 630.773.3900 - Fax: 630.773.3975  
www.civiltechinc.com

**PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS**

**INDEX OF SHEETS**

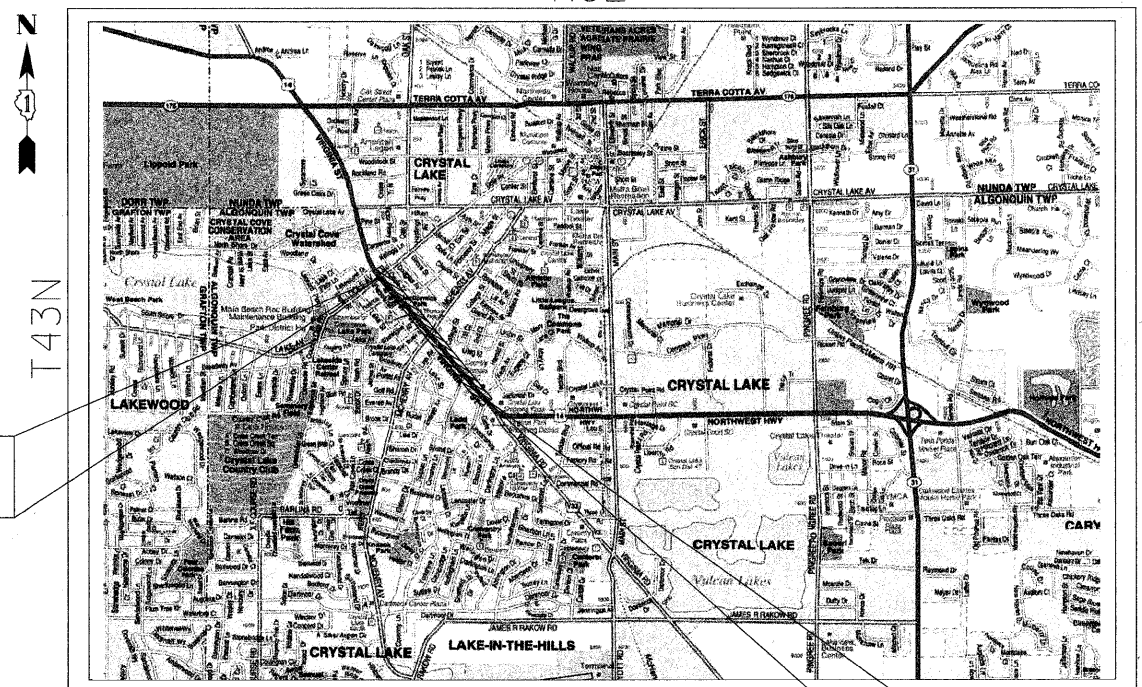
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	SUMMARY OF QUANTITIES, GENERAL NOTES AND STATE STANDARDS
3	TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN U.S. ROUTE 14 AND DOLE AVENUE
4	TEMPORARY CABLE PLAN U.S. ROUTE 14 AND DOLE AVENUE
5	TRAFFIC SIGNAL INSTALLATION PLAN U.S. ROUTE 14 AND DOLE AVENUE
6	CABLE PLAN U.S. ROUTE 14 AND DOLE AVENUE
7	TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN U.S. ROUTE 14 AND McHENRY AVENUE
8	TEMPORARY CABLE PLAN U.S. ROUTE 14 AND McHENRY AVENUE
9	TRAFFIC SIGNAL INSTALLATION PLAN U.S. ROUTE 14 AND McHENRY AVENUE
10	CABLE PLAN U.S. ROUTE 14 AND McHENRY AVENUE
11	TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN U.S. ROUTE 14 AND DEVONSHIRE LANE/KEITH AVENUE
12	TEMPORARY CABLE PLAN U.S. ROUTE 14 AND DEVONSHIRE LANE/KEITH AVENUE
13	TRAFFIC SIGNAL INSTALLATION PLAN U.S. ROUTE 14 AND DEVONSHIRE LANE/KEITH AVENUE
14	CABLE PLAN U.S. ROUTE 14 AND DEVONSHIRE LANE/KEITH AVENUE
15-17	TRAFFIC SIGNAL INTERCONNECT PLAN
18	INTERCONNECT SCHEMATIC
19-20	MAST ARM MOUNTED STREET NAME SIGNS
21-24	IDOT DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS
24a.	D.1 STANDARD TC-10 TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
24b.	D.1 STANDARD TC-1A TRAFFIC CONTROL AND PROTECTION AT TURN BAYS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

**CONTRACT NO. 63275**



PROJECT LENGTH:  
4,130 FT. (0.78 MILES)  
POSTED SPEEDS:  
U.S. ROUTE 14 (VIRGINIA STREET)  
DEVONSHIRE LANE/KEITH AVENUE TO McHENRY AVENUE - 35 MPH  
McHENRY AVENUE TO DOLE AVENUE - 30 MPH  
DESIGN DESIGNATION:  
U.S. ROUTE 14 (VIRGINIA STREET) - 24,800 (2007) - SRA

FEDERAL AID ENGINEER: MR. ALEX HOUSEH, P.E. (847) 705-4410 SCHAMBURG, IL  
CONSULTANT ENGINEER: JOSEPH EMRY, P.E. CIVILTECH ENGINEERING, INC.

J:\2266\Cad\Sheets\2266\_cover.dwg  
Aug 26, 2009 - 1:26PM

**SUMMARY OF QUANTITIES**

**GENERAL NOTES**

1. THE LOCATIONS OF THE PUBLIC OR PRIVATE UTILITIES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR WILL BE REQUIRED TO VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATION OF EACH FACILITY WITH THE UTILITY COMPANY, AND SHALL TAKE DUE CARE IN ALL PHASES OF THE CONSTRUCTION TO PROTECT ANY SUCH FACILITIES WHICH MAY BE AFFECTED BY THE WORK BY CALLING J.U.L.I.E AT (800) 892-0123. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
2. UNLESS OTHERWISE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS, ALL WORK INSTALLED UNDER THIS CONTRACT INVOLVING TRAFFIC CONTROL DEVICES SHALL BE IN STRICT ACCORDANCE WITH ANY AND ALL APPLICABLE REQUIREMENTS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.
3. THE CONTRACTOR SHALL TEST AND ADJUST ALL EMERGENCY VEHICLE PREEMPTION EQUIPMENT WITH THE LOCAL FIRE DEPARTMENT PRIOR TO THE DATE OF THE MAINTENANCE TRANSFER. THE CONTRACTOR SHALL COORDINATE THIS TESTING WITH THE ENGINEER.
4. THE CONTRACTOR SHALL PROVIDE ASSURANCE THAT THE WIRELESS INTERCONNECT WILL OPERATE PROPERLY AT ALL TIMES THROUGHOUT CONSTRUCTION. IF WIRELESS INTERCONNECT FAILS DURING TESTING OR OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING NECESSARY POLES, CABLE AND OTHER INFRASTRUCTURE FOR PROVIDING TEMPORARY AERIAL INTERCONNECT AT NO COST TO THE CONTRACT.
5. THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.
6. THIS PROJECT IS ANTICIPATED TO BE CONSTRUCTED CONCURRENTLY WITH THE VIRGINIA STREET STREETSCAPE IMPROVEMENTS PROJECT FOR THE CITY OF CRYSTAL LAKE (BY OTHERS). THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE VIRGINIA STREET STREETSCAPE PROJECT TO ENSURE THAT ALL WORK FOR BOTH PROJECTS IS COMPLETED IN AN EFFICIENT MANNER. ANY ITEMS THAT ARE DAMAGED OR REPLACED DUE TO INADEQUATE COORDINATION ON THE PART OF THE CONTRACTOR SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

**RESTORATION OF WORK AREA**  
 RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, SIDEWALK, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC., SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**IDOT STANDARDS REFERENCED**

NUMBER	DESCRIPTION
000001-05	STANDARD SYMBOLS, ABBREVIATIONS, & PATTERNS
701101-02	OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701602-04	URBAN LANE CLOSURE MULTI LANE 2W WITH BIDIRECTIONAL LEFT TURN LANE
701701-06	URBAN LANE CLOSURE MULTI LANE INTERSECTION
701801-04	LANE CLOSURE MULTI LANE 1W 2W WITH CROSSWALK OR SIDEWALK CLOSURE
701901-01	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
814001-02	HANDHOLES
814006-02	DOUBLE HANDHOLES
857001-01	STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
862001-01	UNINTERRUPTABLE POWER SUPPLY
873001-02	TRAFFIC SIGNAL GROUNDING AND BONDING
877001-04	STEEL MAST ARM ASSEMBLY AND POLE
878001-07	CONCRETE FOUNDATION DETAILS
880001-01	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
880006-01	TRAFFIC SIGNAL MOUNTING DETAILS WITH POST AND BRACKET MOUNT
886001-01	DETECTOR LOOP INSTALLATIONS
TS-05	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS

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

SUMMARY OF QUANTITIES		FUNDING BREAKDOWN		LOCATION OF WORK			
		UNIT	TOTAL	U.S. ROUTE 14 (VIRGINIA ST.) & DOLE AVE.	U.S. ROUTE 14 (VIRGINIA ST.) & McHENRY AVE.	U.S. ROUTE 14 (VIRGINIA ST.) & DEVONSHIRE LN./KEITH AV.	U.S. ROUTE 14 (VIRGINIA ST.) INTERCONNECT
CODE NO.	PAY ITEM			TRAFFIC SIGNALS Y031-1F	TRAFFIC SIGNALS Y031-1F	TRAFFIC SIGNALS Y031-1F	TRAFFIC SIGNALS Y031-1D
67100100	MOBILIZATION	L SUM	1				
70101700	TRAFFIC CONTROL AND PROTECTION	L SUM	1				
72000100	SIGN PANEL - TYPE 1	SQ FT	60	12	18	30	
72000200	SIGN PANEL - TYPE 2	SQ FT	75	25	25	25	
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	1046		172	547	327
81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	13			13	
81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	37	6	8	23	
81001100	CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL	FOOT	20	10		10	
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	1667	679	220	236	532
81018600	CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL	FOOT	64	38	26		
81018700	CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	141	56	53	32	
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	948	340	259	349	
81030100	CONDUIT SPLICE	EACH	2				2
81400100	HANDHOLE	EACH	13	5	2	4	2
81400200	HEAVY-DUTY HANDHOLE	EACH	12	4	4	4	
81400300	DOUBLE HANDHOLE	EACH	5	2	1	2	
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	1106	11	180	588	327
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2				2
85100100	PAINT EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1		1		
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	2102	567	398	1137	
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	4058	1451	1004	1603	
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	3286	1088	922	1276	
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	3942	1372	1202	1368	
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14 1 PAIR	FOOT	6042	2303	1466	2273	
87301705	ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18 3 PAIR	FOOT	7574				7574
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	207	29		178	
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.	EACH	4	1	1	2	
87502520	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT.	EACH	1	1			
87601100	PEDESTRIAN PUSH-BUTTON POST, GALVANIZED STEEL, TYPE 1	EACH	4			4	
87700160	STEEL MAST ARM ASSEMBLY AND POLE, 24 FT.	EACH	1	1			
87700180	STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.	EACH	1	1			
87700190	STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	2			2	
87700200	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1		1		
87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	2		1	1	
87700230	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1		1		
87700240	STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.	EACH	2	1		1	
87700260	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1	1			
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	20	8	4	8	
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	8	4		4	
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	120	30	45	45	
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	45	30		15	
87900200	DRILL EXISTING HANDHOLE	EACH	9		6		3
88030020	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	18	6	6	6	
88030100	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	10	4	3	3	
88030110	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	13	4	5	4	
88030220	SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1		1		
88030240	SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1			1	
88102717	PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2		2		
88102747	PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	11	4	3	4	
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	31	10	11	10	
88500100	INDUCTIVE LOOP DETECTOR	EACH	6	2	2	2	
88600100	DETECTOR LOOP, TYPE 1	FOOT	2260	677	842	741	
88700200	LIGHT DETECTOR	EACH	5	3		2	
88700300	LIGHT DETECTOR AMPLIFIER	EACH	2	1		1	
88800100	PEDESTRIAN PUSH-BUTTON	EACH	9	4	5		
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1	1	
89501400	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	2		2		
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	5638		782		4856
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	3	1	1	1	
89502380	REMOVE EXISTING HANDHOLE	EACH	26	11	5	10	
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	22	10	5	7	
X0324232	PAINT NEW MAST ARM POLE, UNDER 40 FEET	EACH	5	2	3		
X0324599	ROD AND CLEAN EXISTING CONDUIT	FOOT	4221				4221
X0325141	PAINT NEW MAST ARM POLE, 40 FEET AND OVER	EACH	2	2			
X0325737	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	3	1	1	1	
X8050015	SERVICE INSTALLATION, POLE MOUNTED	EACH	2	1		1	
X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	3	1	1	1	
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	1880	755	376	749	
X8730250	ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED	FOOT	1409	672	294	443	
X8760200	ACCESSIBLE PEDESTRIAN SIGNALS	EACH	8			8	
X8760250	VIBROTACTILE FEATURE	EACH	8			8	
X0326656	RELOCATE EXISTING TRAFFIC SIGNAL CONTROLLER AND CABINET, COMPLETE	EACH	2	1		1	
X0325037	PAINT NEW SIGNAL POST	EACH	3	2	1		

**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 MICROPROCESSORS 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 AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME 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.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE CITY OF CRYSTAL LAKE. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OF ALL EQUIPMENT TO BE RETURNED TO THE CITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

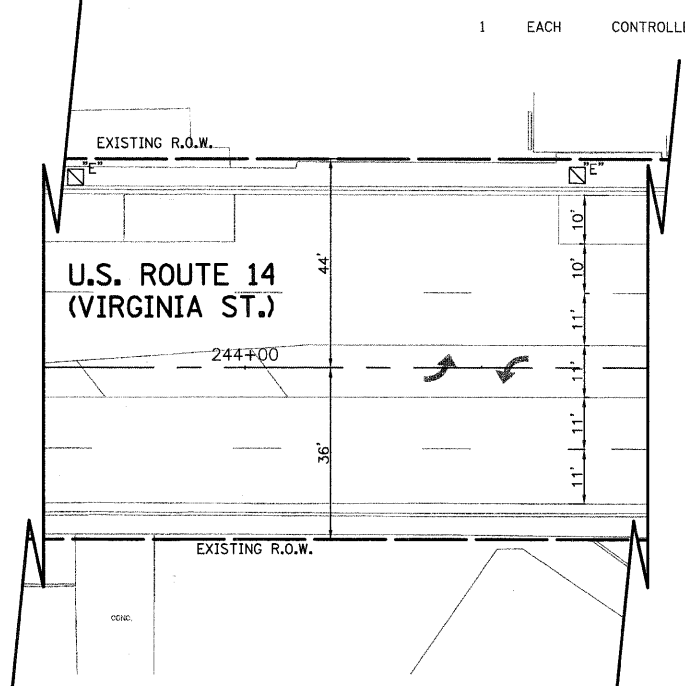
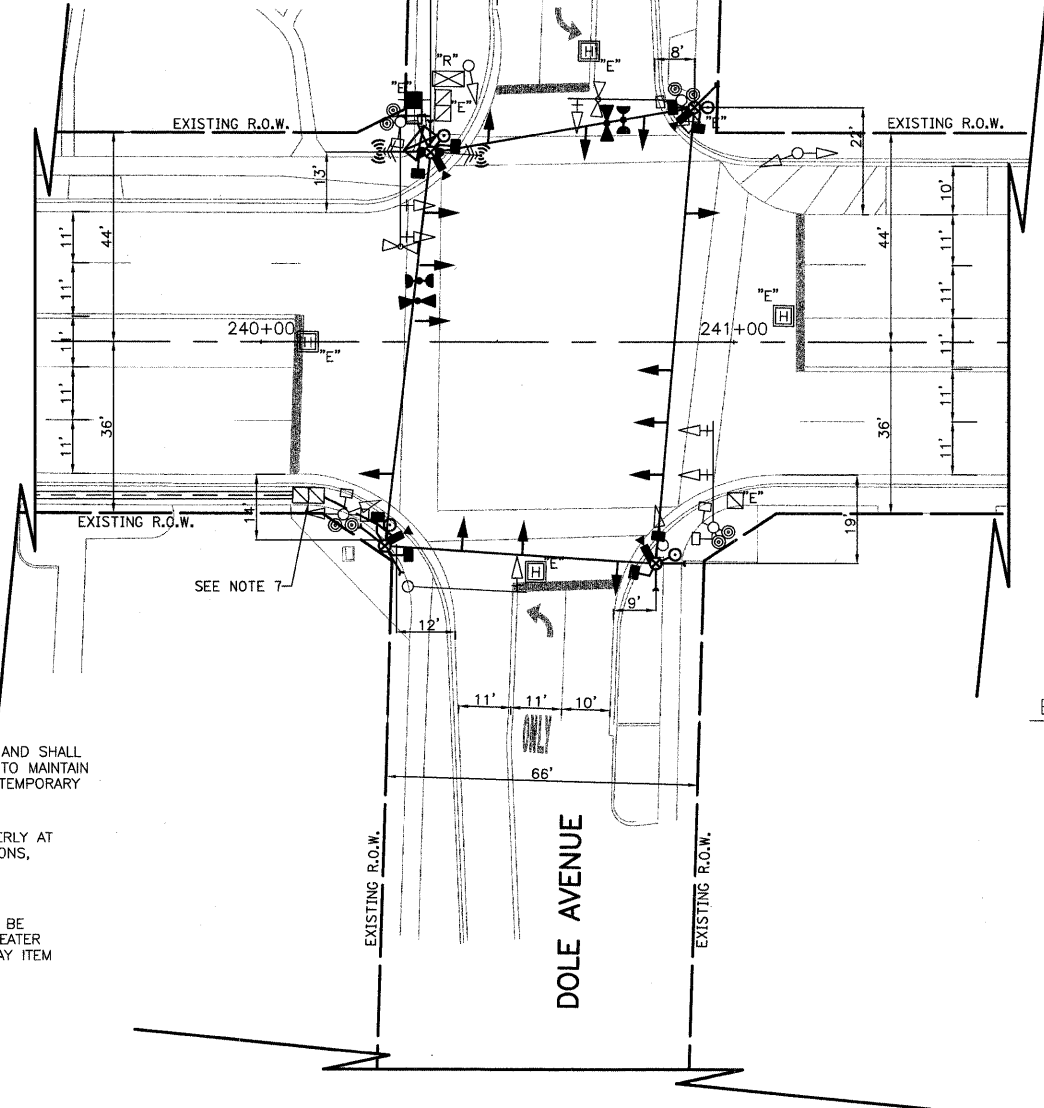
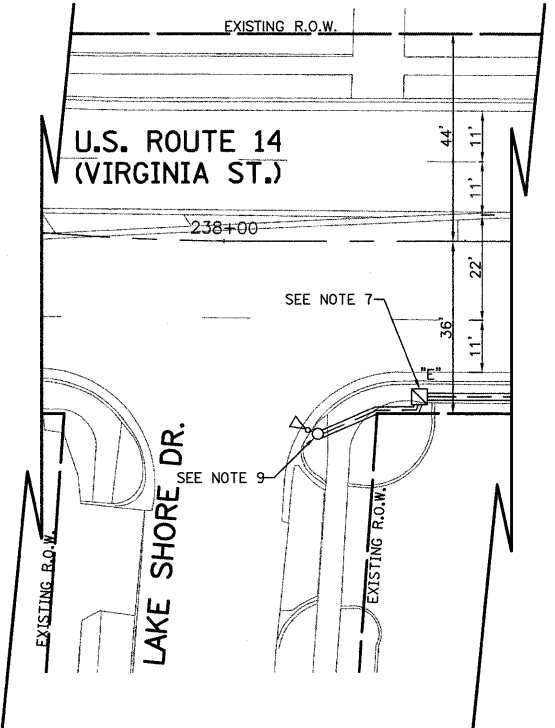
- 3 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER

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

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

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE RELOCATED TO THE PROPOSED SIGNAL BY THE CONTRACTOR. THE CONTRACTOR SHALL SAFELY STORE ALL EQUIPMENT TO BE RELOCATED TO THE PROPOSED SIGNAL AS PER THE TRAFFIC SIGNAL SPECIFICATIONS

- 1 EACH CONTROLLER AND CABINET, COMPLETE



7. THIS EXISTING SIGNAL EQUIPMENT AND CONDUIT SHALL BE MAINTAINED UNDER THE TEMPORARY SIGNAL AND SHALL NOT BE REMOVED UNTIL THE PERMANENT SIGNAL INSTALLATION IS IN OPERATION. ALL WORK REQUIRED TO MAINTAIN THE EXISTING ADVANCE LIGHT DETECTOR AND EXISTING INTERCONNECT THROUGHOUT DURATION OF THE TEMPORARY TRAFFIC SIGNAL SHALL BE INCIDENTAL TO THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION."
8. THE CONTRACTOR SHALL PROVIDE ASSURANCE THAT THE WIRELESS INTERCONNECT WILL OPERATE PROPERLY AT ALL TIMES THROUGHOUT CONSTRUCTION. IF WIRELESS INTERCONNECT FAILS DURING TESTING OR OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING NECESSARY POLES, CABLE AND OTHER INFRASTRUCTURE FOR PROVIDING TEMPORARY AERIAL INTERCONNECT AT NO COST TO THE CONTRACT.
9. IF DURING TESTING OR OPERATION OF THE WIRELESS INTERCONNECT, ADEQUATE COMMUNICATION CANNOT BE ACHIEVED BETWEEN CRYSTAL LAKE AVENUE AND DOLE AVENUE DUE TO THE HORIZONTAL CURVE, A REPEATER MAY BE INSTALLED ON THE EXISTING TRAFFIC SIGNAL POST. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION."

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

**RESTORATION OF WORK AREA.**  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

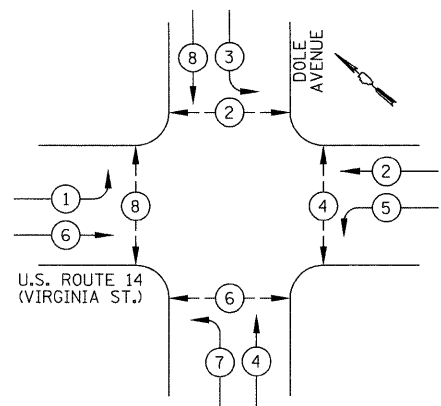
**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING ILLUMINATED SIGN TO BE RELOCATED
- EXISTING EQUIPMENT TO BE RELOCATED

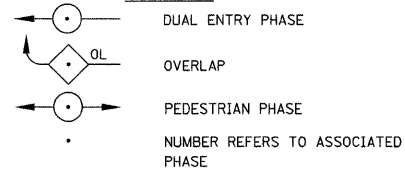
**TEMPORARY TRAFFIC SIGNAL LEGEND**

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 90 FOOT (27.4m) MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- VIDEO VEHICLE DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE
- ANTENNA

TEMPORARY CONTROLLER SEQUENCE

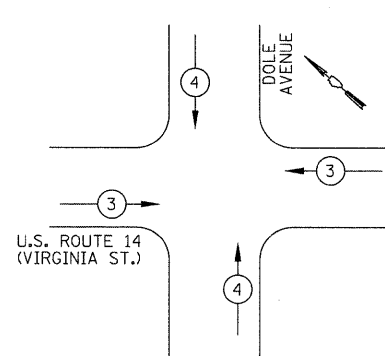


LEGEND



TEMPORARY PHASE DESIGNATION DIAGRAM

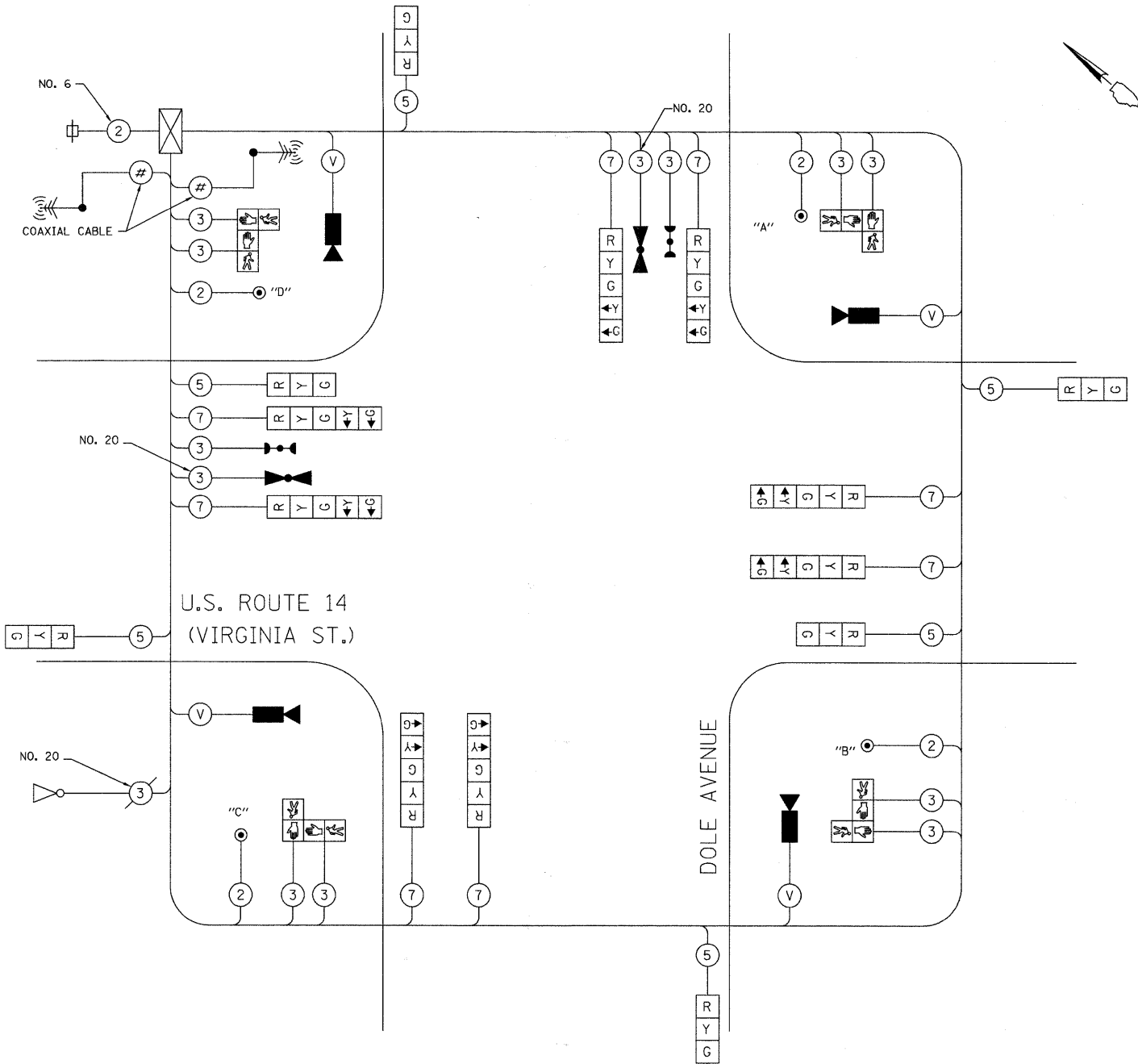
TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED TEMPORARY EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

TEMPORARY CABLE PLAN LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300mm)
- # TEMPORARY CONTROLLER CABINET
- 2 SERVICE INSTALLATION
- 2 INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED
- CONFIRMATION BEACON
- EMERGENCY VEHICLE LIGHT DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- VIDEO VEHICLE DETECTOR
- PROPOSED ANTENNA
- # COAXIAL CABLE
- V VENDOR CABLE



TEMPORARY CABLE PLAN

NOT TO SCALE

NOTE:  
 PUSH-BUTTON "A" SHALL PLACE A CALL TO PHASES 2 AND 4  
 PUSH-BUTTON "B" SHALL PLACE A CALL TO PHASES 4 AND 6  
 PUSH-BUTTON "C" SHALL PLACE A CALL TO PHASES 6 AND 8  
 PUSH-BUTTON "D" SHALL PLACE A CALL TO PHASES 8 AND 2

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

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	14		17	0.50	119
(YELLOW)	14		25	0.25	88
(GREEN)	14		15	0.25	53
ARROW	16		12	0.10	19
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
VIDEO SYSTEMS	1		150	1.00	150
FLASHER				0.50	
TOTAL =					729

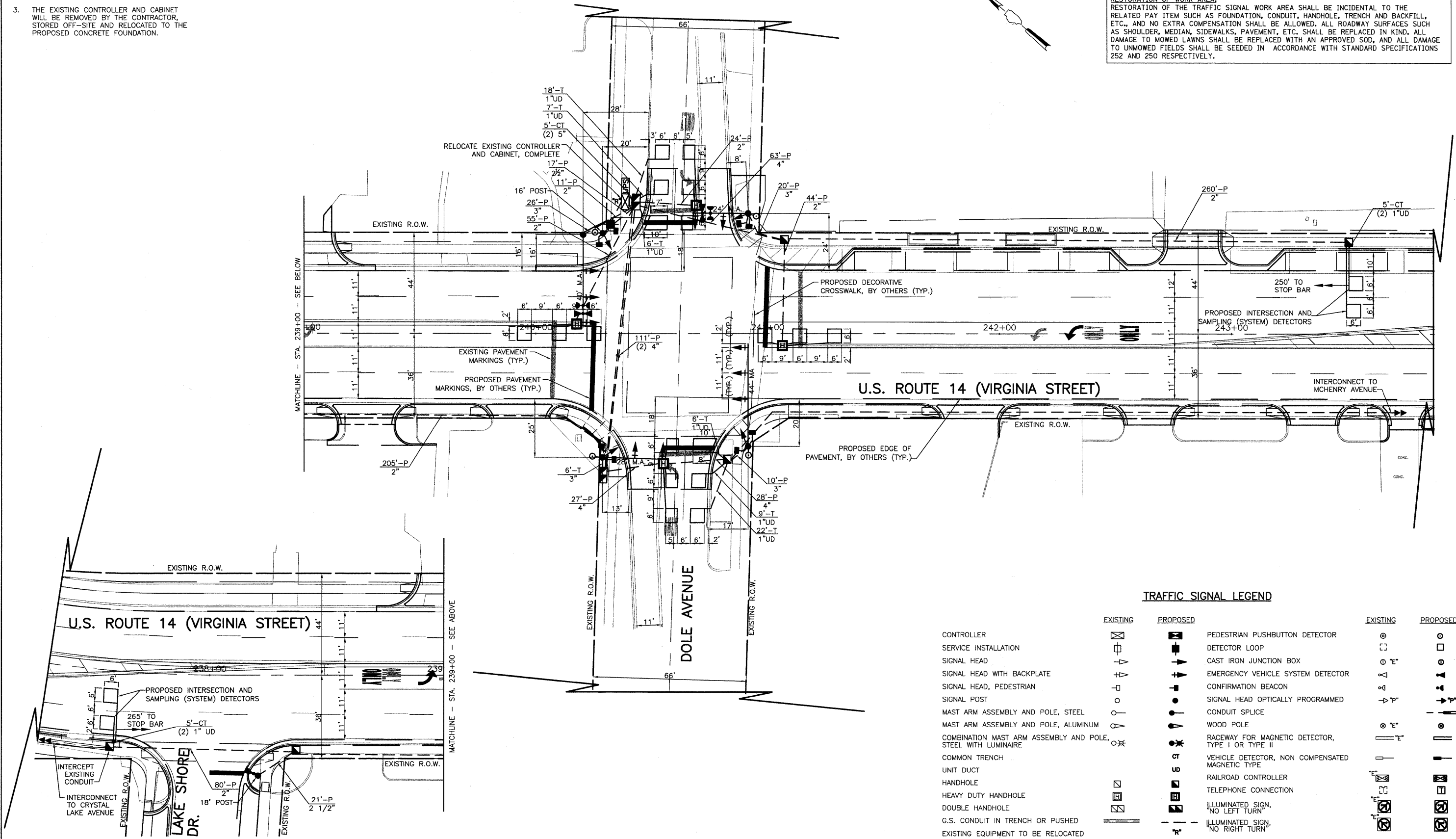
ENERGY COSTS TO: CITY OF CRYSTAL LAKE  
 100 WEST MUNICIPAL COMPLEX, P.O. BOX 597  
 CRYSTAL LAKE, IL 60039  
 ENERGY SUPPLY: CONTACT: LISA COOK  
 PHONE: (815) 477-5204  
 COMPANY: COM ED

**TRAFFIC SIGNAL NOTES**

1. ALL MAST ARM POLES AND TRAFFIC SIGNAL POSTS SHALL BE POWDER COATED BLACK.
2. ALL IMPROVEMENTS TO U.S. ROUTE 14 SHOWN AS BOLD DASHED LINES ARE TO BE COMPLETED AS PART OF THE VIRGINIA STREET STREETScape PROJECT (BY OTHERS).
3. THE EXISTING CONTROLLER AND CABINET WILL BE REMOVED BY THE CONTRACTOR, STORED OFF-SITE AND RELOCATED TO THE PROPOSED CONCRETE FOUNDATION.

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

**RESTORATION OF WORK AREA.**  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

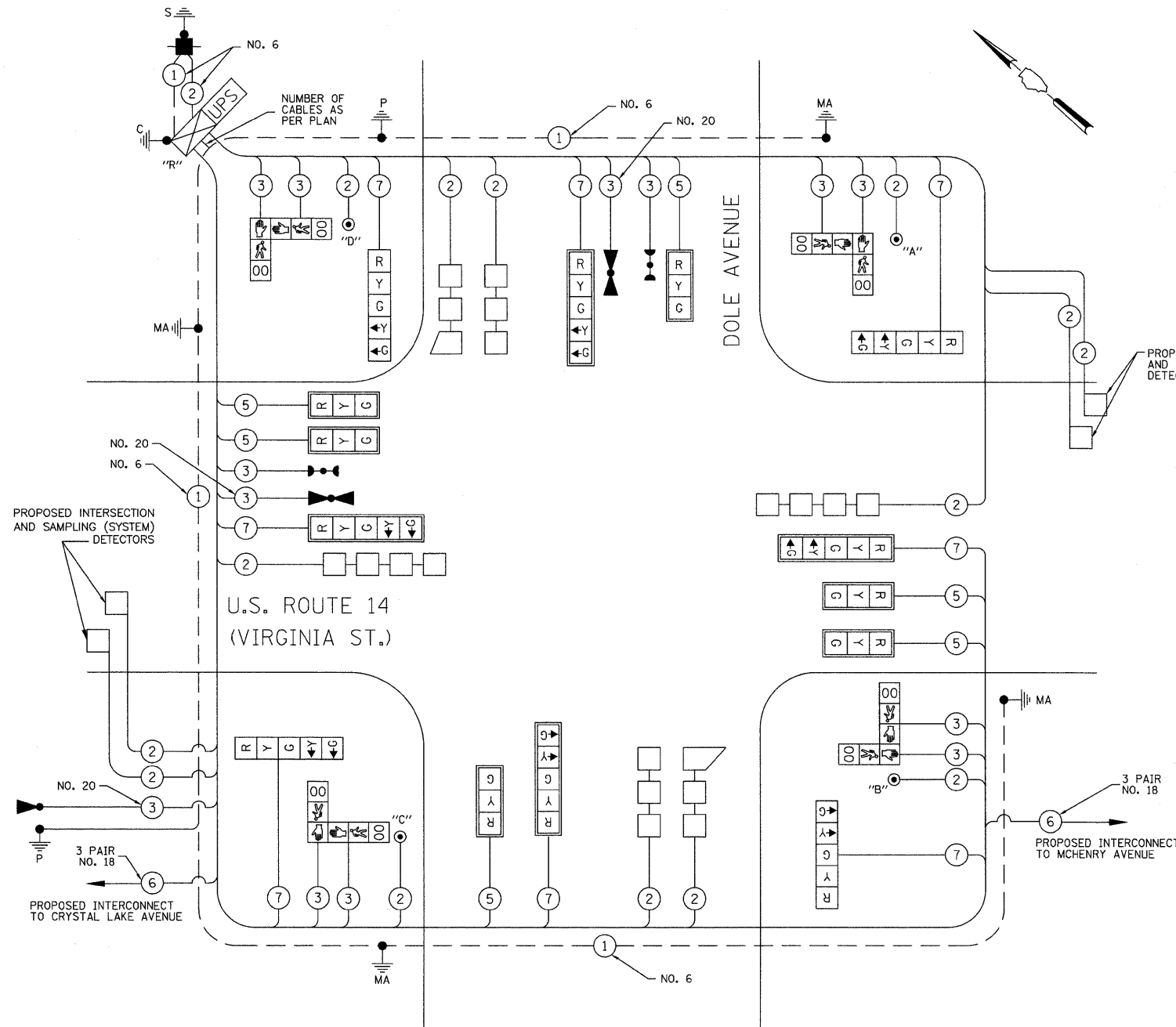


**TRAFFIC SIGNAL LEGEND**

	EXISTING	PROPOSED		EXISTING	PROPOSED
CONTROLLER			PEDESTRIAN PUSHBUTTON DETECTOR		
SERVICE INSTALLATION			DETECTOR LOOP		
SIGNAL HEAD			CAST IRON JUNCTION BOX		
SIGNAL HEAD WITH BACKPLATE			EMERGENCY VEHICLE SYSTEM DETECTOR		
SIGNAL HEAD, PEDESTRIAN			CONFIRMATION BEACON		
SIGNAL POST			SIGNAL HEAD OPTICALLY PROGRAMMED		
MAST ARM ASSEMBLY AND POLE, STEEL			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			WOOD POLE		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMMON TRENCH			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT			RAILROAD CONTROLLER		
HANDHOLE			TELEPHONE CONNECTION		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN, "NO LEFT TURN"		
DOUBLE HANDHOLE			ILLUMINATED SIGN, "NO RIGHT TURN"		
G.S. CONDUIT IN TRENCH OR PUSHED					
EXISTING EQUIPMENT TO BE RELOCATED					

**CABLE PLAN LEGEND**

- EXISTING: [Symbol] 8" (200mm) TRAFFIC SIGNAL SECTION
- PROPOSED: [Symbol] 12" (300mm) TRAFFIC SIGNAL SECTION
- [Symbol] 12" (300mm) PEDESTRIAN SIGNAL SECTION
- [Symbol] 16"x18" PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER
- [Symbol] CONTROLLER CABINET
- [Symbol] SERVICE INSTALLATION
- [Symbol] TELEPHONE CONNECTION
- [Symbol] MAGNETIC DETECTOR
- [Symbol] EMERGENCY VEHICLE LIGHT DETECTOR
- [Symbol] CONFIRMATION BEACON
- [Symbol] PUSHBUTTON DETECTOR
- [Symbol] VEHICLE DETECTOR, INDUCTION LOOP
- [Symbol] DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
- [Symbol] MICROWAVE VEHICLE SENSOR
- [Symbol] SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
- [Symbol] RAILROAD CONTROL CABINET
- [Symbol] ILLUMINATED SIGN "NO LEFT TURN"
- [Symbol] ILLUMINATED SIGN "NO RIGHT TURN"
- [Symbol] GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).
- [Symbol] GROUND ROD AT POST (P), OR MAST ARM POLE (MA).
- [Symbol] GROUND ROD AT ELECTRIC SERVICE INSTALLATION
- [Symbol] GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
- [Symbol] FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F
- [Symbol] UNINTERRUPTIBLE POWER SUPPLY
- "R" EXISTING EQUIPMENT TO BE RELOCATED

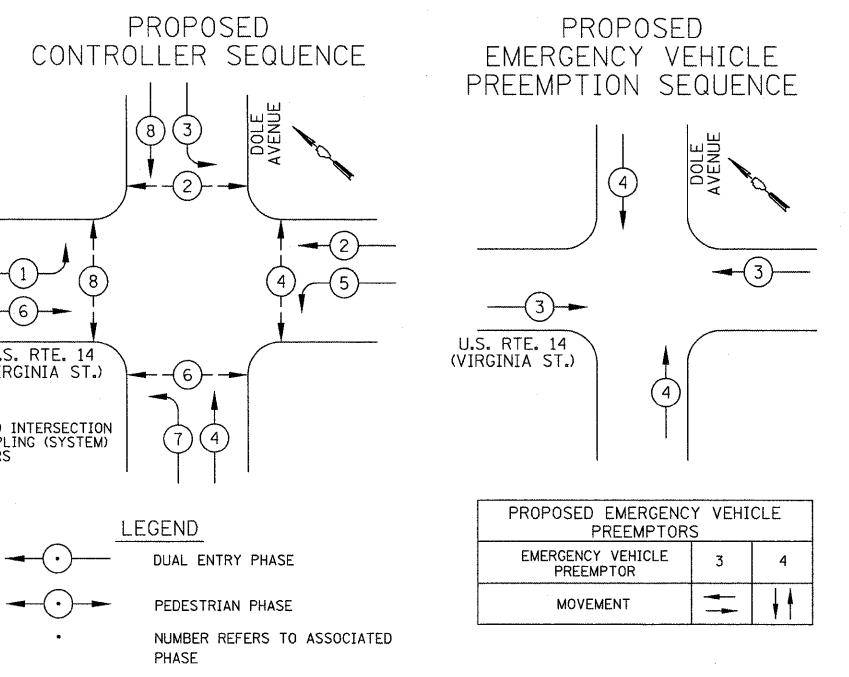


**CABLE PLAN**  
NOT TO SCALE

NOTE:  
PUSH-BUTTON "A" SHALL PLACE A CALL TO PHASES 2 AND 4  
PUSH-BUTTON "B" SHALL PLACE A CALL TO PHASES 4 AND 6  
PUSH-BUTTON "C" SHALL PLACE A CALL TO PHASES 6 AND 8  
PUSH-BUTTON "D" SHALL PLACE A CALL TO PHASES 8 AND 2

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

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



**PHASE DESIGNATION DIAGRAM**

**SCHEDULE OF QUANTITIES**

PAY ITEM	UNIT	QNTY.
SIGN PANEL - TYPE 1	SQ FT	12
SIGN PANEL - TYPE 2	SQ FT	25
CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	6
CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL	FOOT	10
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	679
CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL	FOOT	38
CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	56
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	340
HANDHOLE	EACH	5
HEAVY-DUTY HANDHOLE	EACH	4
DOUBLE HANDHOLE	EACH	2
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	11
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	567
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1451
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1088
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1372
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14 1 PAIR	FOOT	2303
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	29
TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.	EACH	1
TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 24 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	8
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	30
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	30
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	6
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	4
PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	10
INDUCTIVE LOOP DETECTOR	EACH	2
DETECTOR LOOP, TYPE 1	FOOT	677
LIGHT DETECTOR	EACH	3
LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	4
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	11
REMOVE EXISTING CONCRETE FOUNDATION	EACH	10
PAINT NEW MAST ARM POLE, UNDER 40 FEET	EACH	2
PAINT NEW MAST ARM POLE, 40 FEET AND OVER	EACH	2
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	755
ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED	FOOT	672
RELOCATE EXISTING TRAFFIC SIGNAL CONTROLLER AND CABINET, COMPLETE	EACH	1
PAINT NEW TRAFFIC SIGNAL POST	EACH	2

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	% OPERATION	
SIGNAL (RED)	14		17	0.50	119
(YELLOW)	14		25	0.25	88
(GREEN)	14		15	0.25	53
ARROW	16		12	0.10	19
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
FLASHER				0.50	
TOTAL =					579

ENERGY COSTS TO: CITY OF CRYSTAL LAKE  
100 WEST MUNICIPAL COMPLEX, P.O. BOX 597  
CRYSTAL LAKE, IL 60039  
CONTACT: LISA COOK  
PHONE: (815) 477-5204  
COMPANY: COM ED

**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

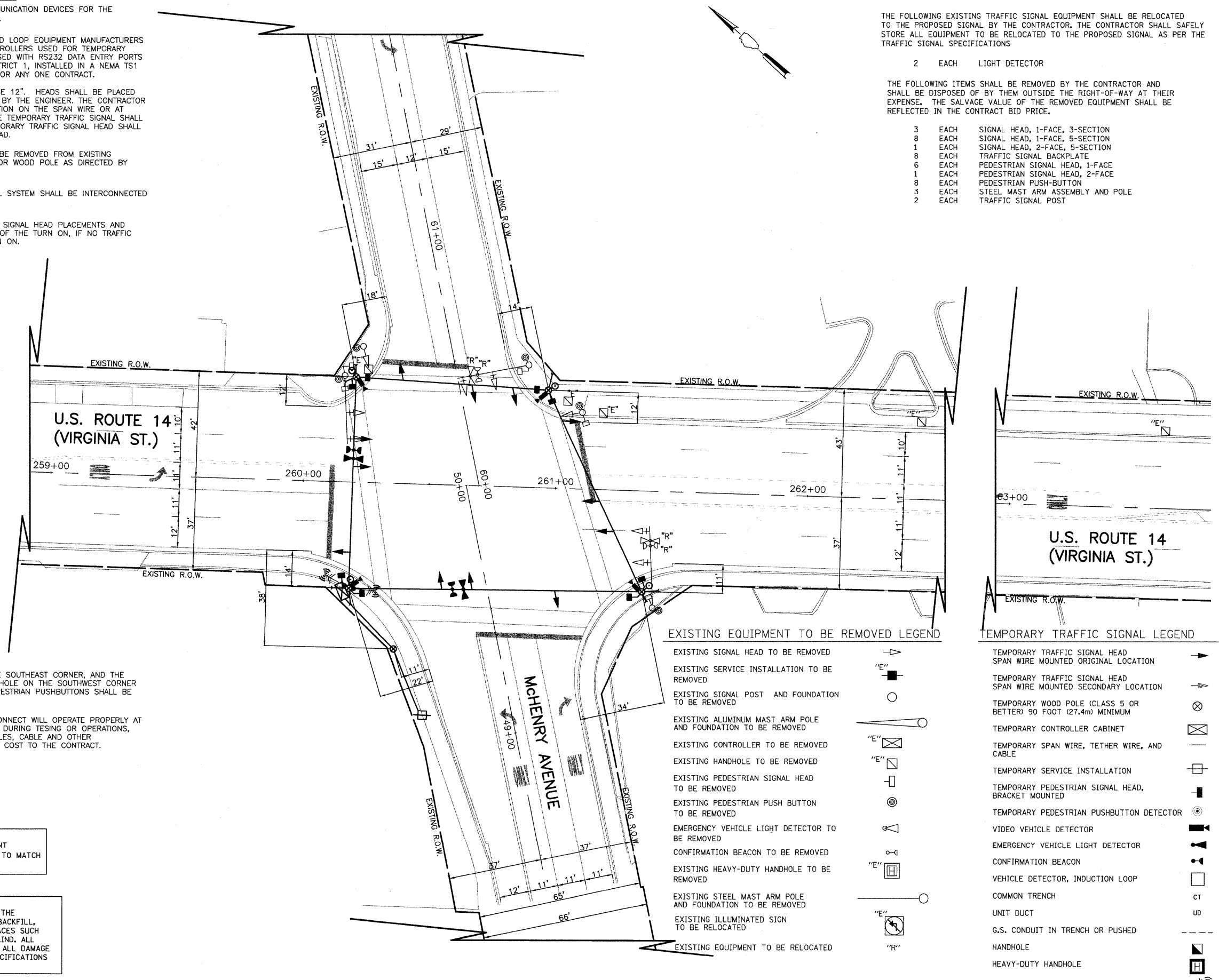
1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSORS 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 AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME 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.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE RELOCATED TO THE PROPOSED SIGNAL BY THE CONTRACTOR. THE CONTRACTOR SHALL SAFELY STORE ALL EQUIPMENT TO BE RELOCATED TO THE PROPOSED SIGNAL AS PER THE TRAFFIC SIGNAL SPECIFICATIONS

- 2 EACH LIGHT DETECTOR

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.

- 3 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 8 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 5-SECTION
- 8 EACH TRAFFIC SIGNAL BACKPLATE
- 6 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 1 EACH PEDESTRIAN SIGNAL HEAD, 2-FACE
- 8 EACH PEDESTRIAN PUSH-BUTTON
- 3 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 2 EACH TRAFFIC SIGNAL POST



7. THE EXISTING CONTROLLER, SIGNAL POST, AND DOUBLE HANDHOLE ON THE SOUTHEAST CORNER, AND THE EXISTING STEEL MAST ARM ASSEMBLY AND POLE, SIGNAL POST, AND HANDHOLE ON THE SOUTHWEST CORNER SHALL REMAIN. THE EXISTING SIGNAL HEADS, PEDESTRIAN HEADS, AND PEDESTRIAN PUSHBUTTONS SHALL BE REMOVED.
8. THE CONTRACTOR SHALL PROVIDE ASSURANCE THAT THE WIRELESS INTERCONNECT WILL OPERATE PROPERLY AT ALL TIMES THROUGHOUT CONSTRUCTION. IF WIRELESS INTERCONNECT FAILS DURING TESTING OR OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING NECESSARY POLES, CABLE AND OTHER INFRASTRUCTURE FOR PROVIDING TEMPORARY AERIAL INTERCONNECT AT NO COST TO THE CONTRACT.

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

**RESTORATION OF WORK AREA.**  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

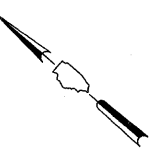
**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING ILLUMINATED SIGN TO BE RELOCATED
- EXISTING EQUIPMENT TO BE RELOCATED

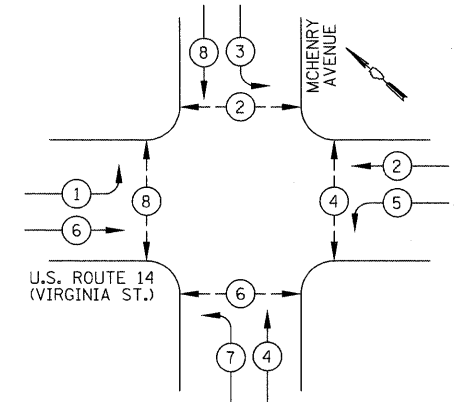
**TEMPORARY TRAFFIC SIGNAL LEGEND**

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 90 FOOT (27.4m) MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- VIDEO VEHICLE DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE
- ANTENNA

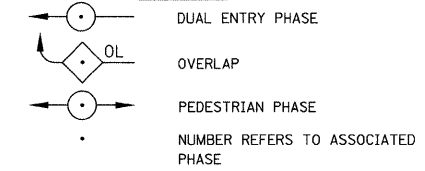
FILE NAME =	USER NAME =	DESIGNED - BRD	REVISED	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND REMOVAL PLAN U.S. ROUTE 14 (VIRGINIA ST.) AND McHENRY AVENUE</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - OJT	REVISED			305	09-00112-00-TL	McHENRY	24	7	
		CHECKED - JJE	REVISED			CONTRACT NO. 63275					
		DATE 8-31-09	REVISED			SCALE: 1" = 20' SHEET NO. 7 OF 24 SHEETS					
						FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT ARA-9003(419)			



TEMPORARY CONTROLLER SEQUENCE

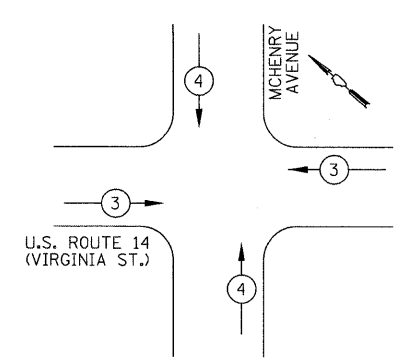


LEGEND



TEMPORARY PHASE DESIGNATION DIAGRAM

TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE



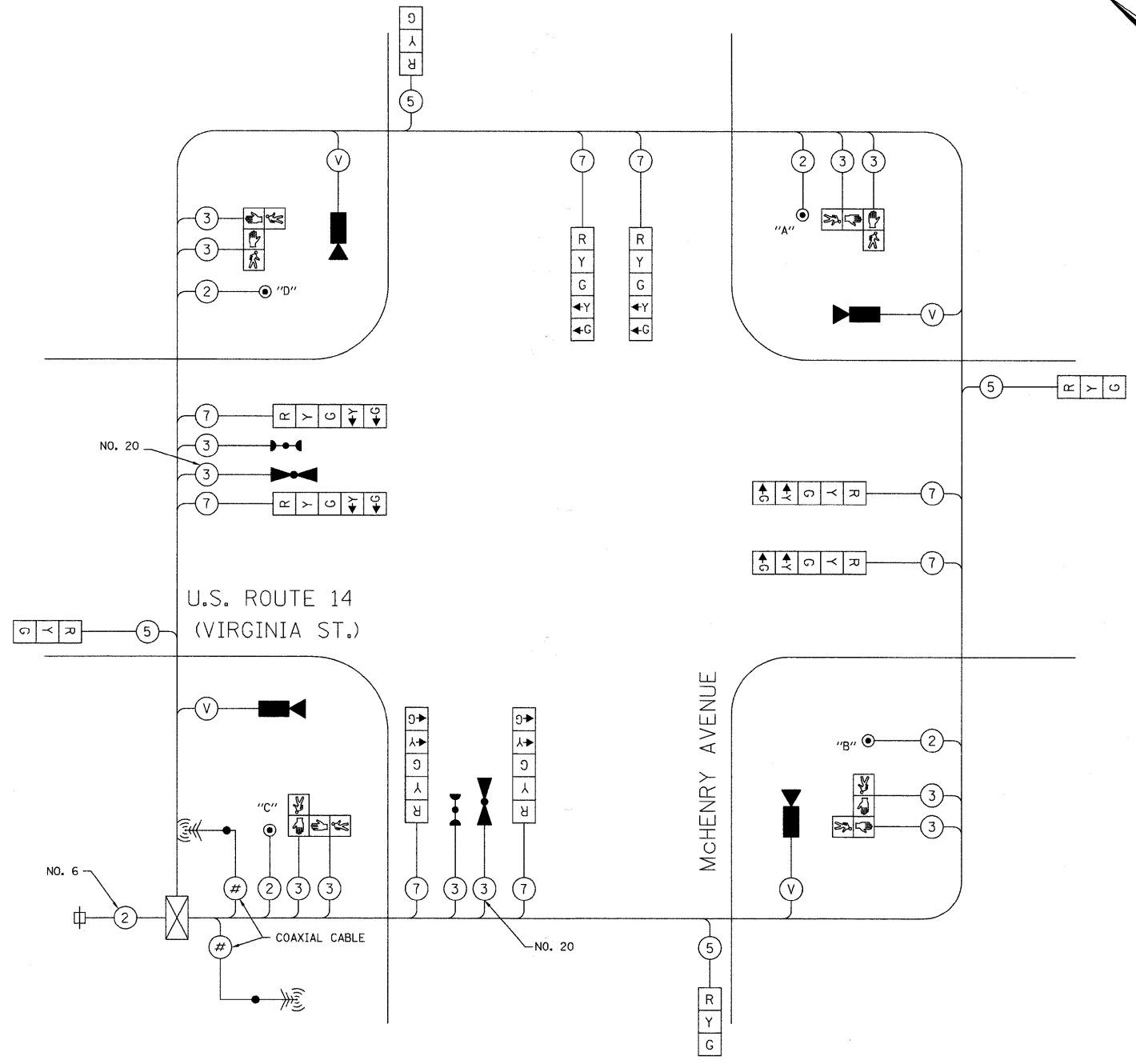
PROPOSED TEMPORARY EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

TEMPORARY CABLE PLAN LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300mm)
- X TEMPORARY CONTROLLER CABINET
- SERVICE INSTALLATION
- 2 INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED
- CONFIRMATION BEACON
- EMERGENCY VEHICLE LIGHT DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- VIDEO VEHICLE DETECTOR
- PROPOSED ANTENNA
- # COAXIAL CABLE
- V VENDOR CABLE

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



TEMPORARY CABLE PLAN

NOT TO SCALE

NOTE:  
PUSH-BUTTON "A" SHALL PLACE A CALL TO PHASES 2 AND 4  
PUSH-BUTTON "B" SHALL PLACE A CALL TO PHASES 4 AND 6  
PUSH-BUTTON "C" SHALL PLACE A CALL TO PHASES 6 AND 8  
PUSH-BUTTON "D" SHALL PLACE A CALL TO PHASES 8 AND 2

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	12		17	0.50	102
(YELLOW)	12		25	0.25	75
(GREEN)	12		15	0.25	45
ARROW	16		12	0.10	19
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
VIDEO SYSTEMS	1		150	1.00	150
FLASHER				0.50	
TOTAL =					691

ENERGY COSTS TO: CITY OF CRYSTAL LAKE  
100 WEST MUNICIPAL COMPLEX, P.O. BOX 597  
CRYSTAL LAKE, IL 60039  
CONTACT: LISA COOK  
PHONE: (815) 477-5204  
COMPANY: COM ED

FILE NAME =	USER NAME =	DESIGNED - BRD	REVISED
		DRAWN - OJT	REVISED
		CHECKED - JJE	REVISED
		DATE 8-31-09	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM,  
AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
U.S. ROUTE 14 (VIRGINIA ST.) AND MCHENRY AVENUE

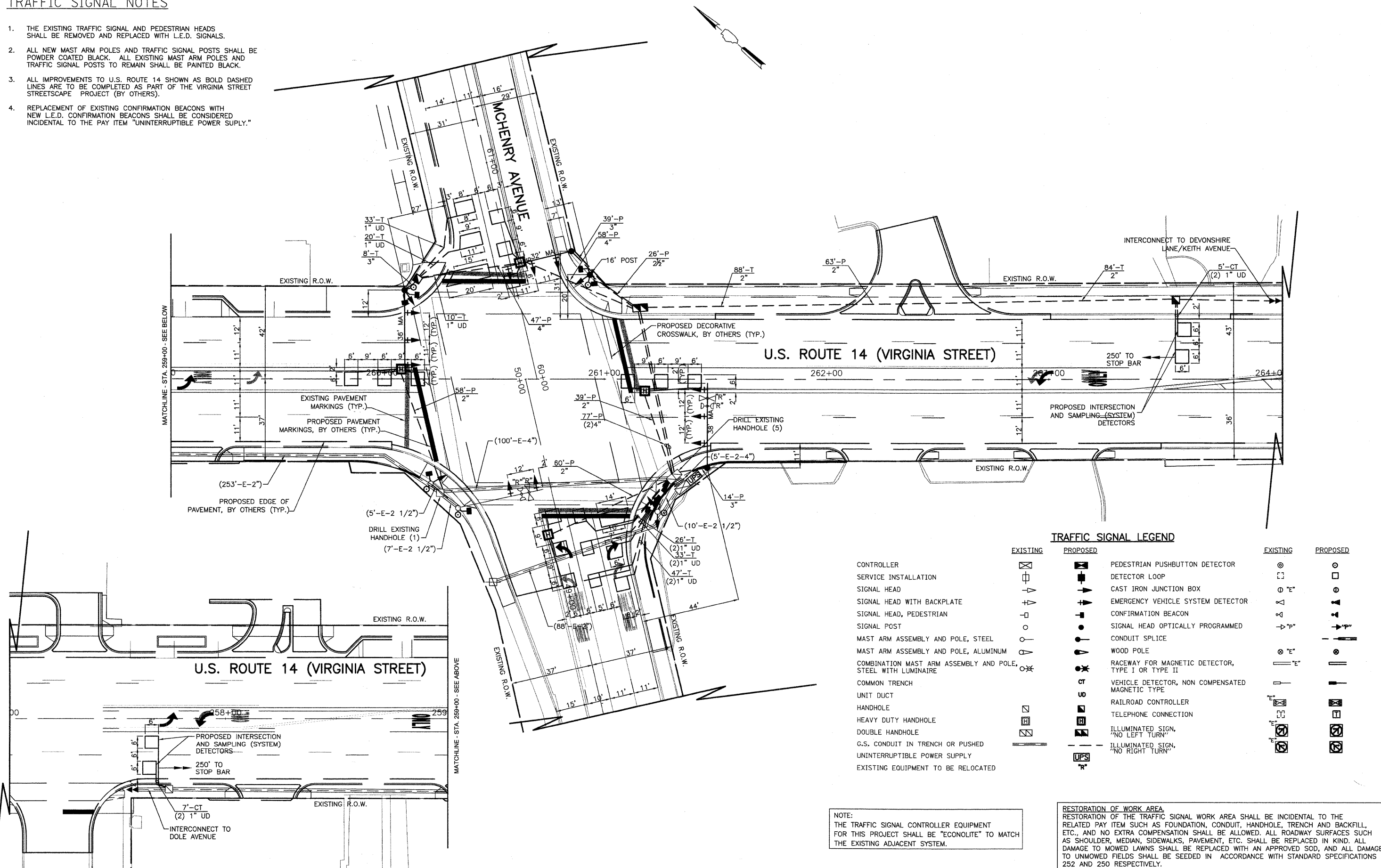
SCALE: 1" = 20' SHEET NO. 8 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	09-00112-00-TL	MCHENRY	24	8
CONTRACT NO. 63275			FED. ROAD DIST. NO. 7 ILLINOIS	
FED. AID PROJECT ARA-9003(419)				



**TRAFFIC SIGNAL NOTES**

1. THE EXISTING TRAFFIC SIGNAL AND PEDESTRIAN HEADS SHALL BE REMOVED AND REPLACED WITH L.E.D. SIGNALS.
2. ALL NEW MAST ARM POLES AND TRAFFIC SIGNAL POSTS SHALL BE POWDER COATED BLACK. ALL EXISTING MAST ARM POLES AND TRAFFIC SIGNAL POSTS TO REMAIN SHALL BE PAINTED BLACK.
3. ALL IMPROVEMENTS TO U.S. ROUTE 14 SHOWN AS BOLD DASHED LINES ARE TO BE COMPLETED AS PART OF THE VIRGINIA STREET STREETScape PROJECT (BY OTHERS).
4. REPLACEMENT OF EXISTING CONFIRMATION BEACONS WITH NEW L.E.D. CONFIRMATION BEACONS SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY."



**TRAFFIC SIGNAL LEGEND**

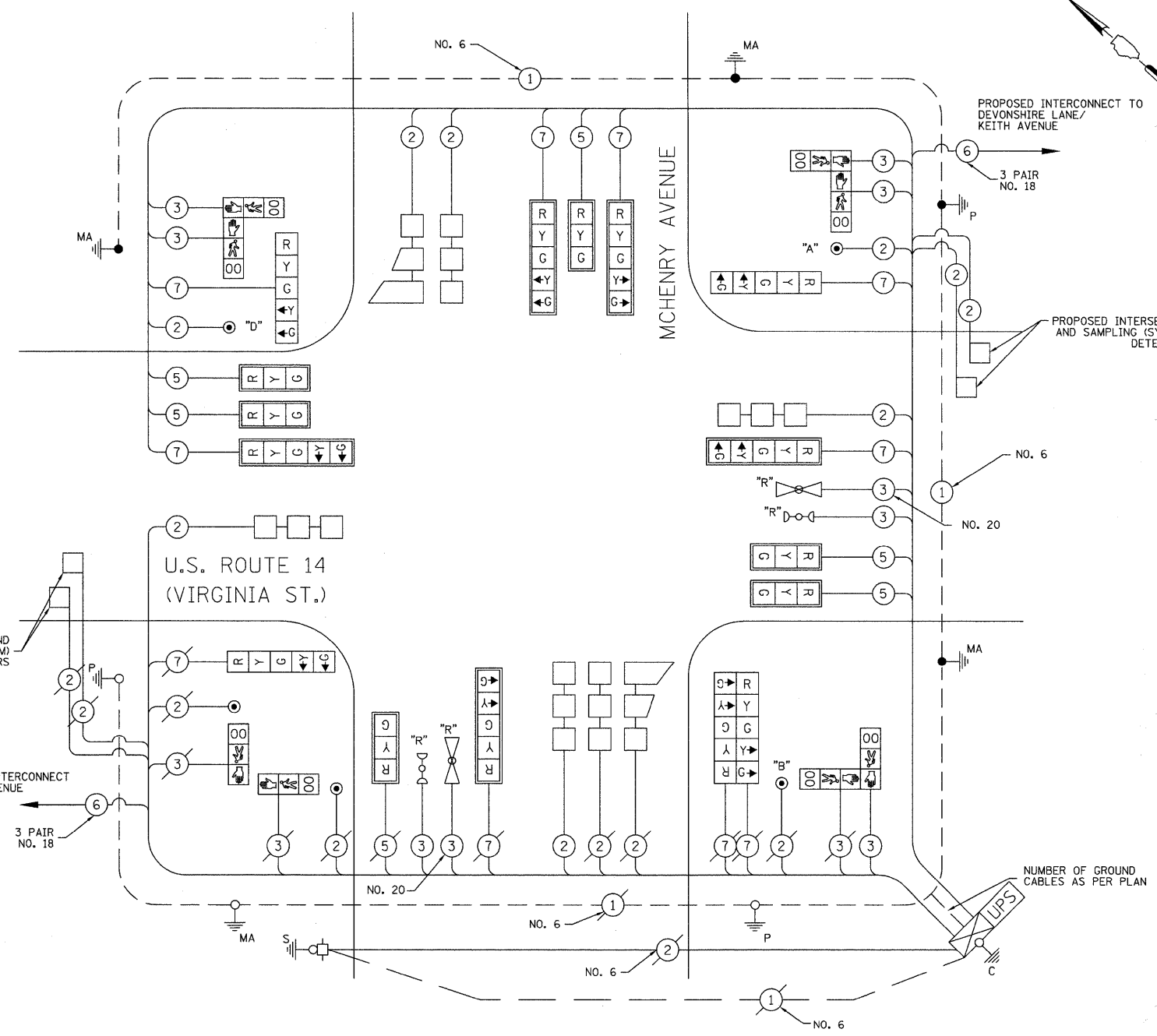
	EXISTING	PROPOSED		EXISTING	PROPOSED
CONTROLLER	[Symbol]	[Symbol]	PEDESTRIAN PUSHBUTTON DETECTOR	[Symbol]	[Symbol]
SERVICE INSTALLATION	[Symbol]	[Symbol]	DETECTOR LOOP	[Symbol]	[Symbol]
SIGNAL HEAD	[Symbol]	[Symbol]	CAST IRON JUNCTION BOX	[Symbol]	[Symbol]
SIGNAL HEAD WITH BACKPLATE	[Symbol]	[Symbol]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

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

RESTORATION OF WORK AREA.  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**CABLE PLAN LEGEND**

- |  |  |   |
|--|--|---|
|  |  | 8" (200mm) TRAFFIC SIGNAL SECTION   |
|  |  | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
|  |  | 16"x18" PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER   |
|  |  | CONTROLLER CABINET  |
|  |  | TELEPHONE CONNECTION  |
|  |  | EMERGENCY VEHICLE LIGHT DETECTOR  |
|  |  | PUSHBUTTON DETECTOR   |
|  |  | VEHICLE DETECTOR, INDUCTION LOOP  |
|  |  | DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
|  |  | MICROWAVE VEHICLE SENSOR  |
|  |  | SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD   |
|  |  | RAILROAD CONTROL CABINET  |
|  |  | ILLUMINATED SIGN "NO LEFT TURN"   |
|  |  | ILLUMINATED SIGN "NO RIGHT TURN"  |
|  |  | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).   |
|  |  | GROUND ROD AT POST (P), OR MAST ARM POLE (MA).  |
|  |  | GROUND ROD AT ELECTRIC SERVICE INSTALLATION   |
|  |  | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)  |
|  |  | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F   |
|  |  | UNINTERRUPTIBLE POWER SUPPLY  |
|  |  | EXISTING EQUIPMENT TO BE RELOCATED  |



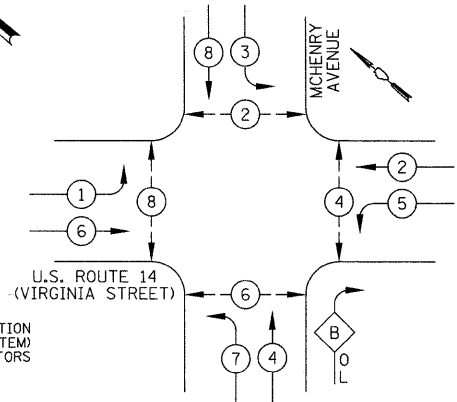
**CABLE PLAN**  
NOT TO SCALE

NOTE:  
PUSH-BUTTON "A" SHALL PLACE A CALL TO PHASES 2 AND 4  
PUSH-BUTTON "B" SHALL PLACE A CALL TO PHASES 4 AND 6  
PUSH-BUTTON "D" SHALL PLACE A CALL TO PHASES 8 AND 2

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

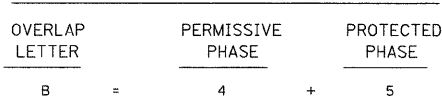
NOTE:  
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**EXISTING AND PROPOSED CONTROLLER SEQUENCE**

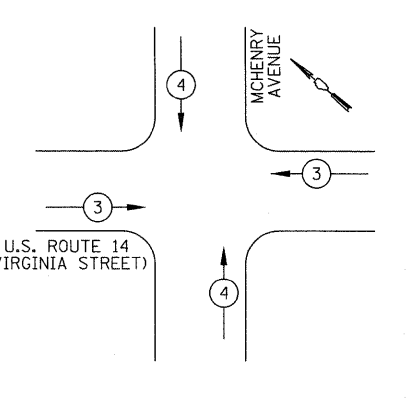


**LEGEND**  
 ○ DUAL ENTRY PHASE  
 ○ OL OVERLAP  
 ○ PEDESTRIAN PHASE  
 \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EXISTING AND PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE**



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

**SCHEDULE OF QUANTITIES**

PAY ITEM	UNIT	QNTY.
SIGN PANEL - TYPE 1	SQ FT	18
SIGN PANEL - TYPE 2	SQ FT	25
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	172
CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	8
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	220
CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL	FOOT	26
CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	53
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	259
HANDHOLE	EACH	2
HEAVY-DUTY HANDHOLE	EACH	4
DOUBLE HANDHOLE	EACH	1
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	180
PAINT EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	398
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1004
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	922
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1202
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14 1 PAIR	FOOT	1466
TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	45
DRILL EXISTING HANDHOLE	EACH	6
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	6
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	3
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	11
INDUCTIVE LOOP DETECTOR	EACH	2
DETECTOR LOOP, TYPE I	FOOT	842
PEDESTRIAN PUSH-BUTTON	EACH	5
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	2
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	782
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	5
REMOVE EXISTING CONCRETE FOUNDATION	EACH	5
PAINT NEW MAST ARM POLE, UNDER 40 FEET	EACH	3
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	376
ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED	FOOT	294
PAINT NEW TRAFFIC SIGNAL POST	EACH	1

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	16		17	0.50	136
(YELLOW)	16		25	0.25	100
(GREEN)	16		15	0.25	60
ARROW	20		12	0.10	24
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
FLASHER				0.50	
TOTAL =					620

ENERGY COSTS TO: CITY OF CRYSTAL LAKE  
100 WEST MUNICIPAL COMPLEX, P.O. BOX 597  
CRYSTAL LAKE, IL 60039  
CONTACT: LISA COOK  
PHONE: (815) 477-5204  
COMPANY: COM ED

FILE NAME =	USER NAME =	DESIGNED - BRD	REVISED
		DRAWN - OJT	REVISED
		CHECKED - JJE	REVISED
		DATE 8-31-09	REVISED

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE, AND SCHEDULE OF QUANTITIES U.S. ROUTE 14 (VIRGINIA ST.) AND McHENRY AVENUE**

F.A.P. RTE. 305	SECTION 09-00112-00-TL	COUNTY McHENRY	TOTAL SHEETS 24	SHEET NO. 10
SCALE: NONE				SHEET NO. 10 OF 24 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT ARA-9003(419)	

**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

- ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
- 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 MICROPROCESSORS 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.
- ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
- 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.
- ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
- 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.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE CITY OF CRYSTAL LAKE. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OF ALL EQUIPMENT TO BE RETURNED TO THE CITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

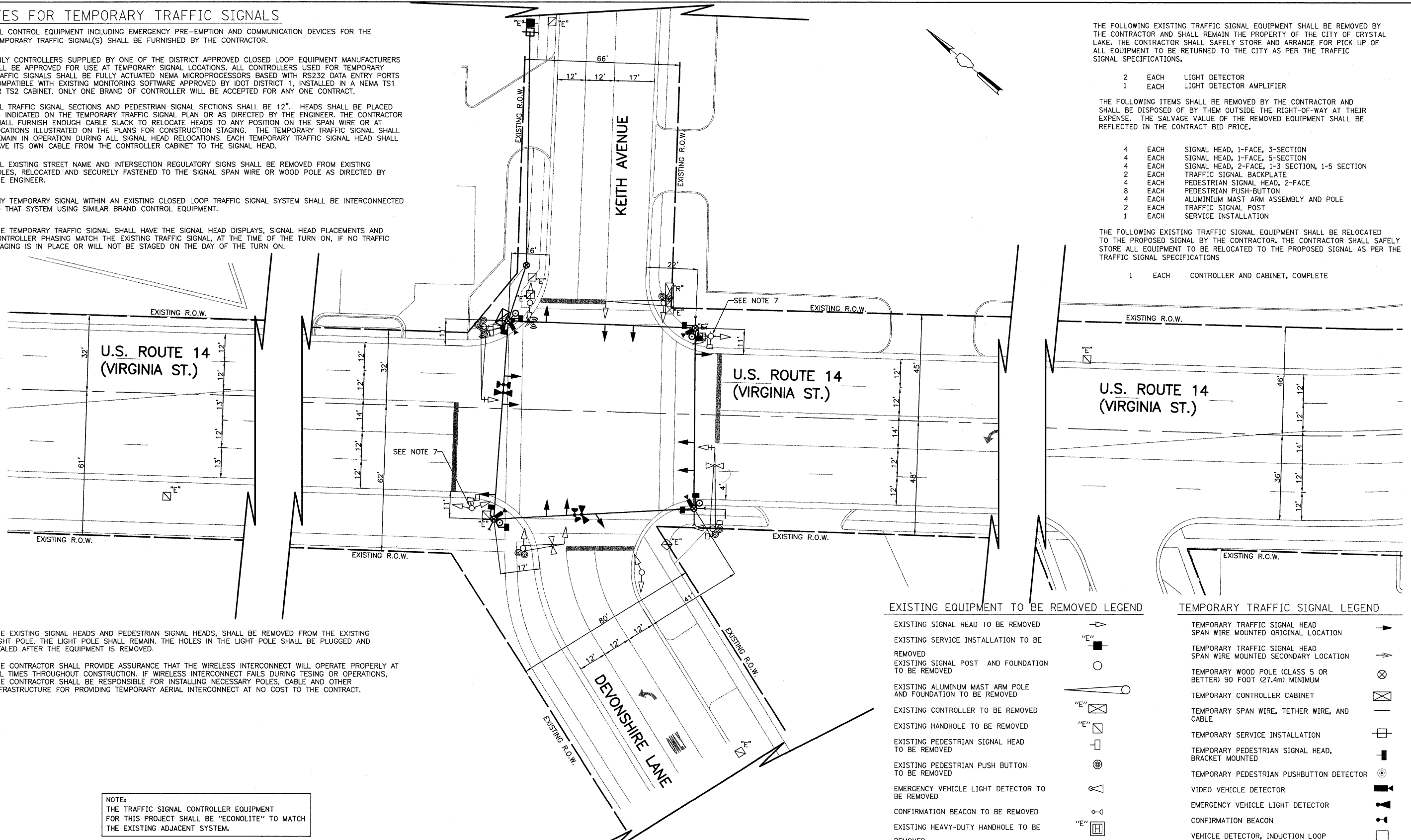
- 2 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER

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

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

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE RELOCATED TO THE PROPOSED SIGNAL BY THE CONTRACTOR. THE CONTRACTOR SHALL SAFELY STORE ALL EQUIPMENT TO BE RELOCATED TO THE PROPOSED SIGNAL AS PER THE TRAFFIC SIGNAL SPECIFICATIONS

- 1 EACH CONTROLLER AND CABINET, COMPLETE



- THE EXISTING SIGNAL HEADS AND PEDESTRIAN SIGNAL HEADS, SHALL BE REMOVED FROM THE EXISTING LIGHT POLE. THE LIGHT POLE SHALL REMAIN. THE HOLES IN THE LIGHT POLE SHALL BE PLUGGED AND SEALED AFTER THE EQUIPMENT IS REMOVED.
- THE CONTRACTOR SHALL PROVIDE ASSURANCE THAT THE WIRELESS INTERCONNECT WILL OPERATE PROPERLY AT ALL TIMES THROUGHOUT CONSTRUCTION. IF WIRELESS INTERCONNECT FAILS DURING TESING OR OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING NECESSARY POLES, CABLE AND OTHER INFRASTRUCTURE FOR PROVIDING TEMPORARY AERIAL INTERCONNECT AT NO COST TO THE CONTRACT.

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

**RESTORATION OF WORK AREA.**  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

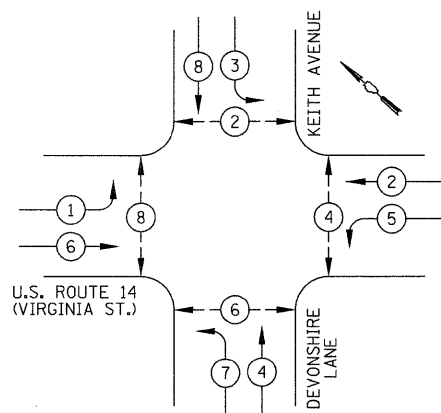
**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINIUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING ILLUMINATED SIGN TO BE RELOCATED
- EXISTING EQUIPMENT TO BE RELOCATED

**TEMPORARY TRAFFIC SIGNAL LEGEND**

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 90 FOOT (27.4m) MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- VIDEO VEHICLE DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE
- ANTENNA

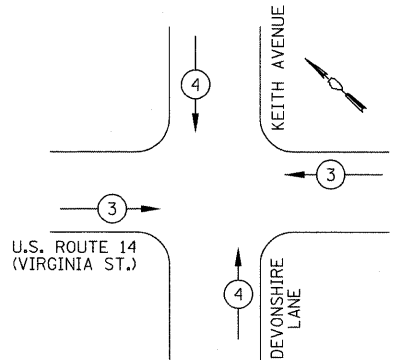
TEMPORARY CONTROLLER SEQUENCE



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

TEMPORARY PHASE DESIGNATION DIAGRAM

TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE

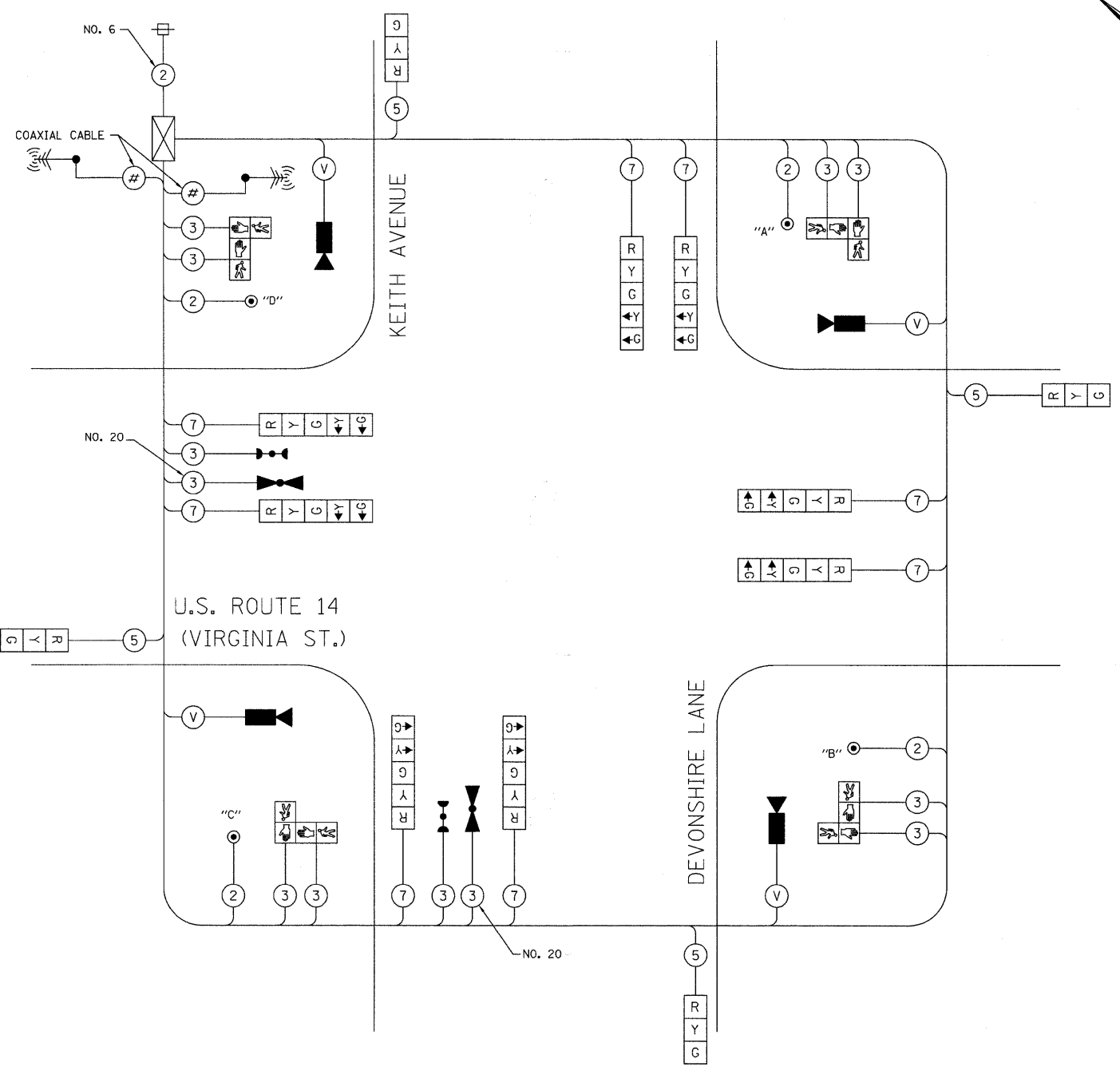


PROPOSED TEMPORARY EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

TEMPORARY CABLE PLAN LEGEND

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300mm)
- TEMPORARY CONTROLLER CABINET
- SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED
- CONFIRMATION BEACON
- EMERGENCY VEHICLE LIGHT DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- VIDEO VEHICLE DETECTOR
- PROPOSED ANTENNA
- COAXIAL CABLE
- VENDOR CABLE

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



TEMPORARY CABLE PLAN

NOT TO SCALE

NOTE:  
PUSH-BUTTON "A" SHALL PLACE A CALL TO PHASES 2 AND 4  
PUSH-BUTTON "B" SHALL PLACE A CALL TO PHASES 4 AND 6  
PUSH-BUTTON "C" SHALL PLACE A CALL TO PHASES 6 AND 8  
PUSH-BUTTON "D" SHALL PLACE A CALL TO PHASES 8 AND 2

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	12	INCAND.	17	0.50	102
(YELLOW)	12		25	0.25	75
(GREEN)	12		15	0.25	45
ARROW	16		12	0.10	19
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
VIDEO SYSTEMS	1		150	1.00	150
FLASHER				0.50	
				TOTAL =	691

ENERGY COSTS TO: CITY OF CRYSTAL LAKE  
100 WEST MUNICIPAL COMPLEX, P.O. BOX 597  
CRYSTAL LAKE, IL 60039

ENERGY SUPPLY: CONTACT: LISA COOK  
PHONE: (815) 477-5204  
COMPANY: COM ED

FILE NAME =	USER NAME =	DESIGNED - BRD	REVISED
		DRAWN - OJT	REVISED
		CHECKED - JJE	REVISED
		DATE 8-31-09	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM,  
AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
U.S. ROUTE 14 (VIRGINIA ST.) AND DEVONSHIRE LANE/KEITH AVENUE

SCALE: NONE SHEET NO. 12 OF 24 SHEETS

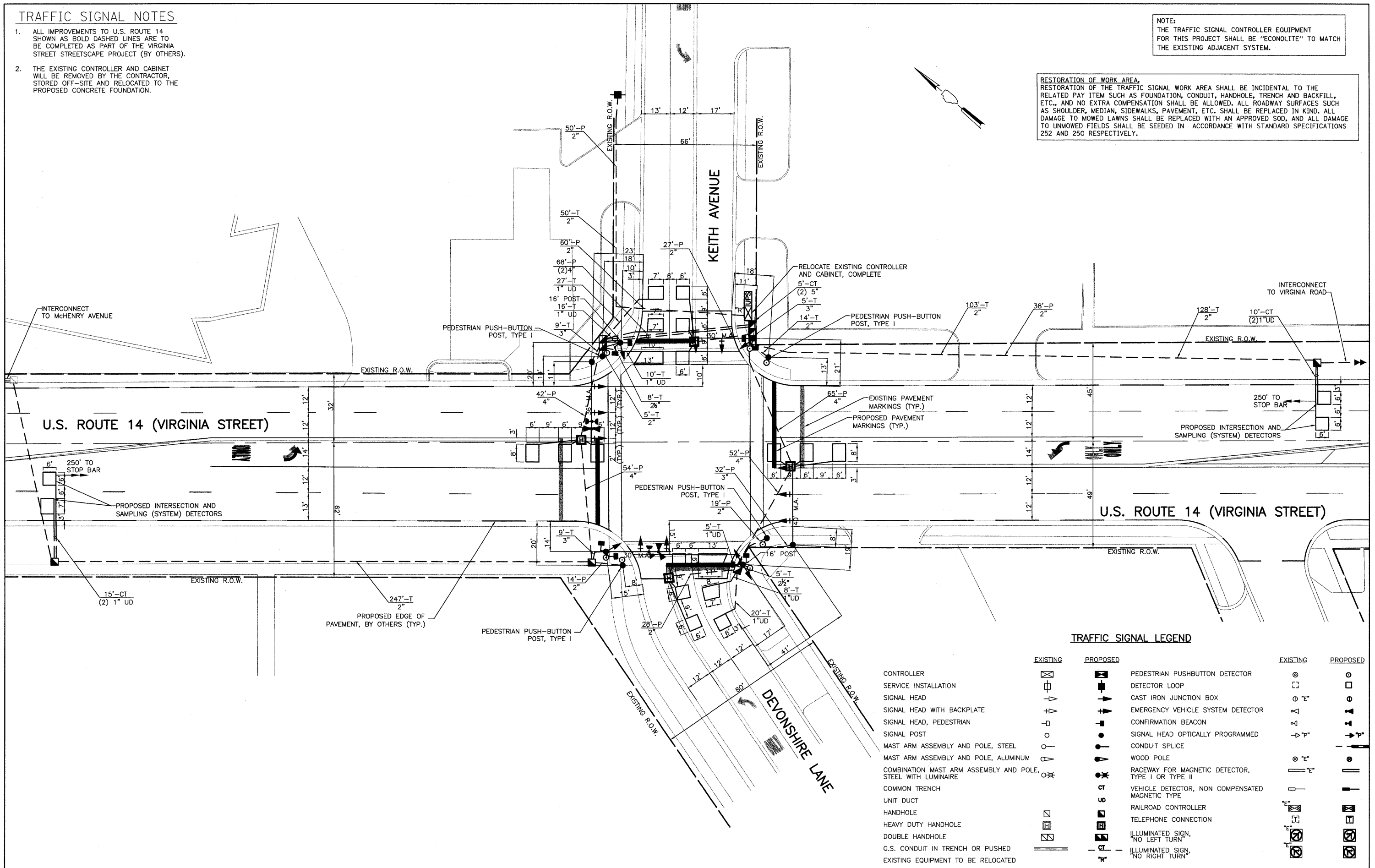
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	09-00112-00-TL	McHENRY	24	12
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT ARA-9003(419)	

**TRAFFIC SIGNAL NOTES**

1. ALL IMPROVEMENTS TO U.S. ROUTE 14 SHOWN AS BOLD DASHED LINES ARE TO BE COMPLETED AS PART OF THE VIRGINIA STREET STREETSCAPE PROJECT (BY OTHERS).
2. THE EXISTING CONTROLLER AND CABINET WILL BE REMOVED BY THE CONTRACTOR, STORED OFF-SITE AND RELOCATED TO THE PROPOSED CONCRETE FOUNDATION.

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

**RESTORATION OF WORK AREA.**  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

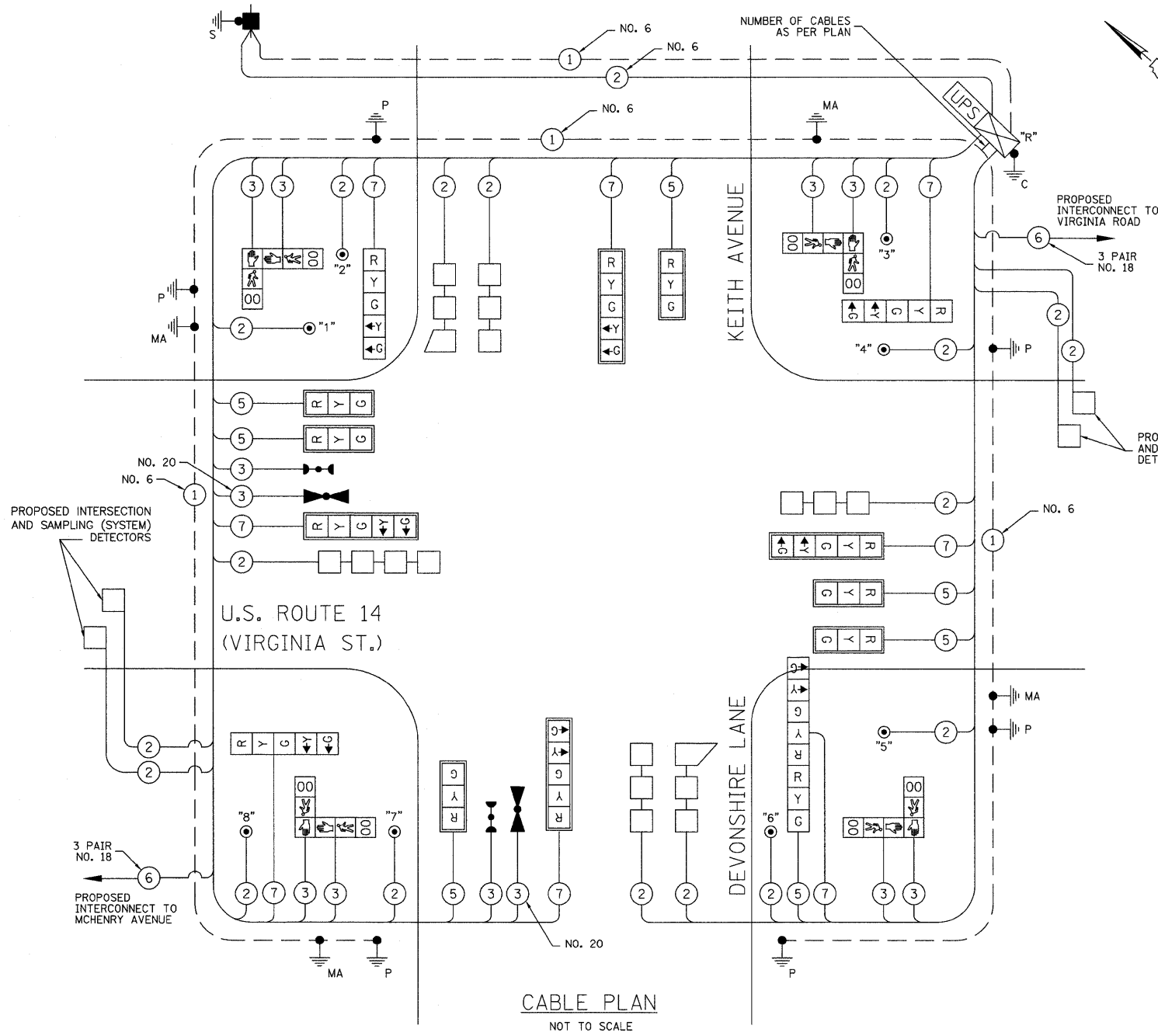


**TRAFFIC SIGNAL LEGEND**

	EXISTING	PROPOSED		EXISTING	PROPOSED
CONTROLLER	[Symbol]	[Symbol]	PEDESTRIAN PUSHBUTTON DETECTOR	[Symbol]	[Symbol]
SERVICE INSTALLATION	[Symbol]	[Symbol]	DETECTOR LOOP	[Symbol]	[Symbol]
SIGNAL HEAD	[Symbol]	[Symbol]	CAST IRON JUNCTION BOX	[Symbol]	[Symbol]
SIGNAL HEAD WITH BACKPLATE	[Symbol]	[Symbol]	EMERGENCY VEHICLE SYSTEM DETECTOR	[Symbol]	[Symbol]
SIGNAL HEAD, PEDESTRIAN	[Symbol]	[Symbol]	CONFIRMATION BEACON	[Symbol]	[Symbol]
SIGNAL POST	[Symbol]	[Symbol]	SIGNAL HEAD OPTICALLY PROGRAMMED	[Symbol]	[Symbol]
MAST ARM ASSEMBLY AND POLE, STEEL	[Symbol]	[Symbol]	CONDUIT SPLICE	[Symbol]	[Symbol]
MAST ARM ASSEMBLY AND POLE, ALUMINUM	[Symbol]	[Symbol]	WOOD POLE	[Symbol]	[Symbol]
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE	[Symbol]	[Symbol]	RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II	[Symbol]	[Symbol]
COMMON TRENCH	[Symbol]	[Symbol]	VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE	[Symbol]	[Symbol]
UNIT DUCT	[Symbol]	[Symbol]	RAILROAD CONTROLLER	[Symbol]	[Symbol]
HANDHOLE	[Symbol]	[Symbol]	TELEPHONE CONNECTION	[Symbol]	[Symbol]
HEAVY DUTY HANDHOLE	[Symbol]	[Symbol]	ILLUMINATED SIGN, "NO LEFT TURN"	[Symbol]	[Symbol]
DOUBLE HANDHOLE	[Symbol]	[Symbol]	ILLUMINATED SIGN, "NO RIGHT TURN"	[Symbol]	[Symbol]
G.S. CONDUIT IN TRENCH OR PUSHED	[Symbol]	[Symbol]			
EXISTING EQUIPMENT TO BE RELOCATED	[Symbol]	[Symbol]			

**CABLE PLAN LEGEND**

- EXISTING PROPOSED
- 8" (200mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- 16"x18" PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER
- CONTROLLER CABINET
- SERVICE INSTALLATION
- TELEPHONE CONNECTION
- MAGNETIC DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PUSHBUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- MICROWAVE VEHICLE SENSOR
- SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
- RAILROAD CONTROL CABINET
- ILLUMINATED SIGN "NO LEFT TURN"
- ILLUMINATED SIGN "NO RIGHT TURN"
- GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
- GROUND ROD AT POST (P), OR MAST ARM POLE (MA)
- GROUND ROD AT ELECTRIC SERVICE INSTALLATION
- GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
- FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F
- UNINTERRUPTIBLE POWER SUPPLY
- EXISTING EQUIPMENT TO BE RELOCATED



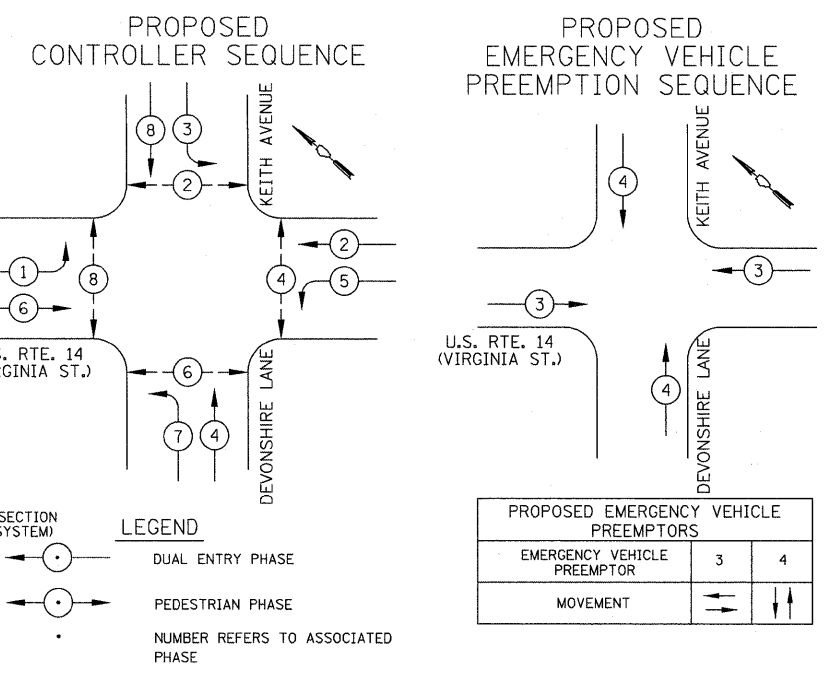
**CABLE PLAN**  
NOT TO SCALE

**ACCESSIBLE PEDESTRIAN SIGNALS**

PUSHBUTTON NUMBER	DIRECTION OF TRAVEL	PHASE	CROSSING	WALK INTERVAL MESSAGE	EXTENDED 3-SECOND DEPRESSED TIME MESSAGE
1	SOUTH	8	U.S. ROUTE 14	"WALK SIGN, U.S. ROUTE 14"	"WAIT TO CROSS U.S. ROUTE 14, TRAVELING SOUTH"
2	EAST	2	KEITH AVENUE	"WALK SIGN, KEITH AVENUE"	"WAIT TO CROSS KEITH AVENUE, TRAVELING EAST"
3	WEST	2	KEITH AVENUE	"WALK SIGN, KEITH AVENUE"	"WAIT TO CROSS KEITH AVENUE, TRAVELING WEST"
4	SOUTH	4	U.S. ROUTE 14	"WALK SIGN, U.S. ROUTE 14"	"WAIT TO CROSS U.S. ROUTE 14, TRAVELING SOUTH"
5	NORTH	4	U.S. ROUTE 14	"WALK SIGN, U.S. ROUTE 14"	"WAIT TO CROSS U.S. ROUTE 14, TRAVELING NORTH"
6	WEST	6	DEVONSHIRE LANE	"WALK SIGN, DEVONSHIRE LANE"	"WAIT TO CROSS DEVONSHIRE LANE, TRAVELING WEST"
7	EAST	6	DEVONSHIRE LANE	"WALK SIGN, DEVONSHIRE LANE"	"WAIT TO CROSS DEVONSHIRE LANE, TRAVELING EAST"
8	NORTH	8	U.S. ROUTE 14	"WALK SIGN, U.S. ROUTE 14"	"WAIT TO CROSS U.S. ROUTE 14, TRAVELING NORTH"

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

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



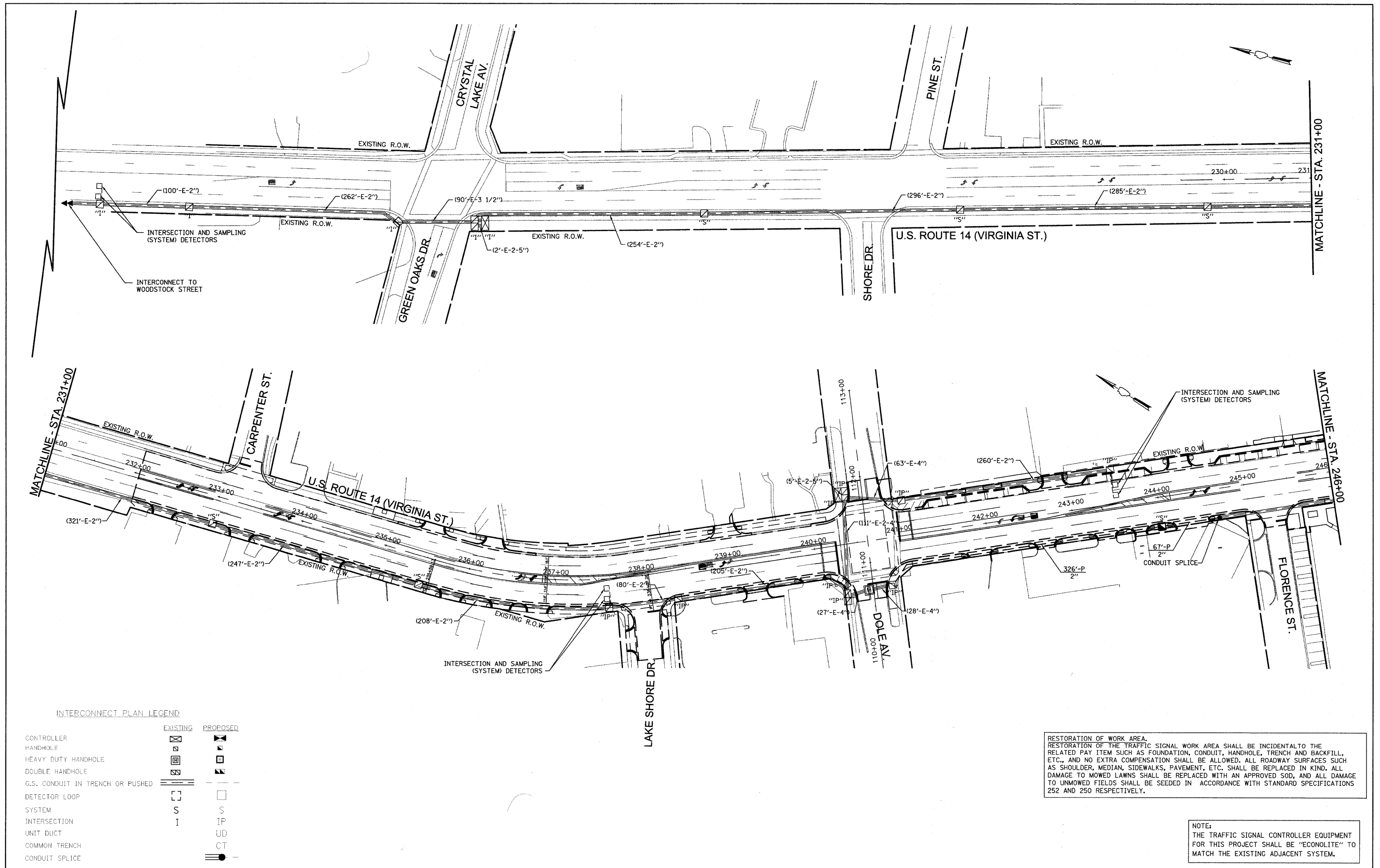
**PHASE DESIGNATION DIAGRAM**

**SCHEDULE OF QUANTITIES**

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	15		17	0.50	128
(YELLOW)	15		25	0.25	94
(GREEN)	15		15	0.25	56
ARROW	16		12	0.10	19
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
FLASHER				0.50	
TOTAL =					597

ENERGY COSTS TO: CITY OF CRYSTAL LAKE  
100 WEST MUNICIPAL COMPLEX, P.O. BOX 597  
CRYSTAL LAKE, IL 60039  
CONTACT: LISA COOK  
PHONE: (815) 477-5204  
COMPANY: COM ED

ENERGY SUPPLY:



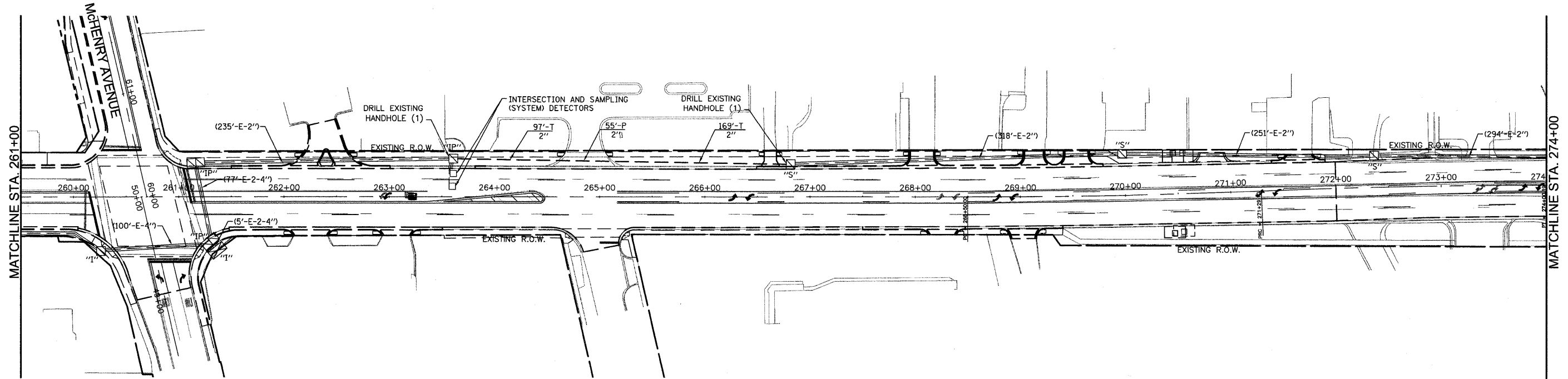
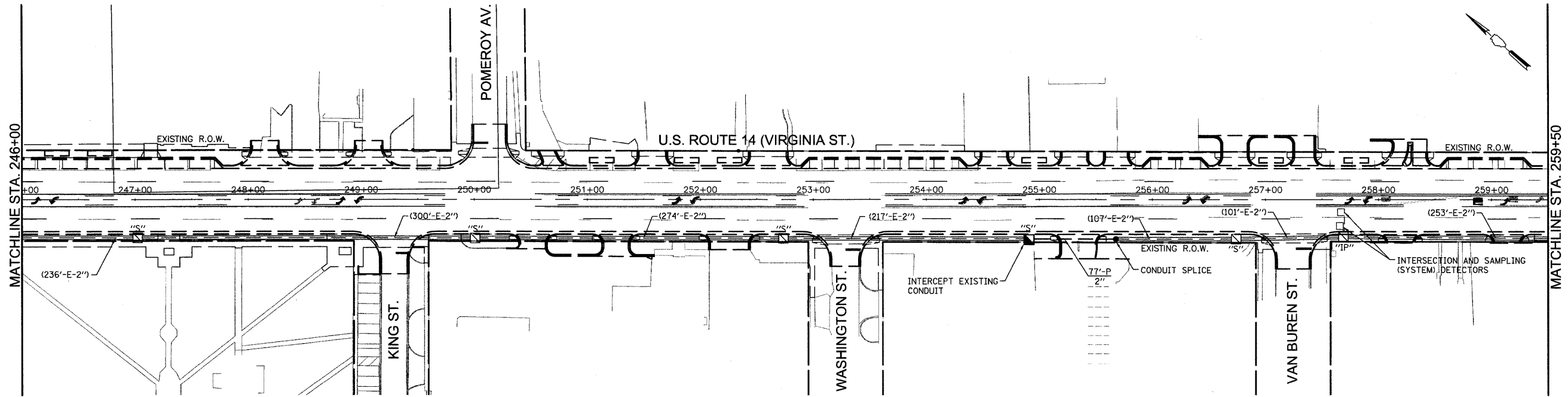
**INTERCONNECT PLAN LEGEND**

	EXISTING	PROPOSED
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM	S	S
INTERSECTION	I	IP
UNIT DUCT		UD
COMMON TRENCH		CT
CONDUIT SPLICE		

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 SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDDED 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 =	USER NAME =	DESIGNED - BRD	REVISED	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL INTERCONNECT PLAN (SHEET 1 OF 3) U.S. ROUTE 14 (VIRGINIA ST.) CRYSTAL LAKE AVENUE TO VIRGINIA ROAD</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - OJT	REVISED			305	09-00112-00-TL	McHENRY	24	15	
		CHECKED - JJE	REVISED			CONTRACT NO. 63275					
		DATE 8-31-09	REVISED			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT ARA-9003(419)					



INTERCONNECT PLAN LEGEND

	EXISTING	PROPOSED
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM	S	S
INTERSECTION	I	IP
UNIT DUCT		UD
COMMON TRENCH		CT
CONDUIT SPLICE		

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 SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE 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.

FILE NAME =	USER NAME =	DESIGNED - BRD	REVISED
		DRAWN - OJT	REVISED
		CHECKED - JJE	REVISED
		DATE 8-31-09	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

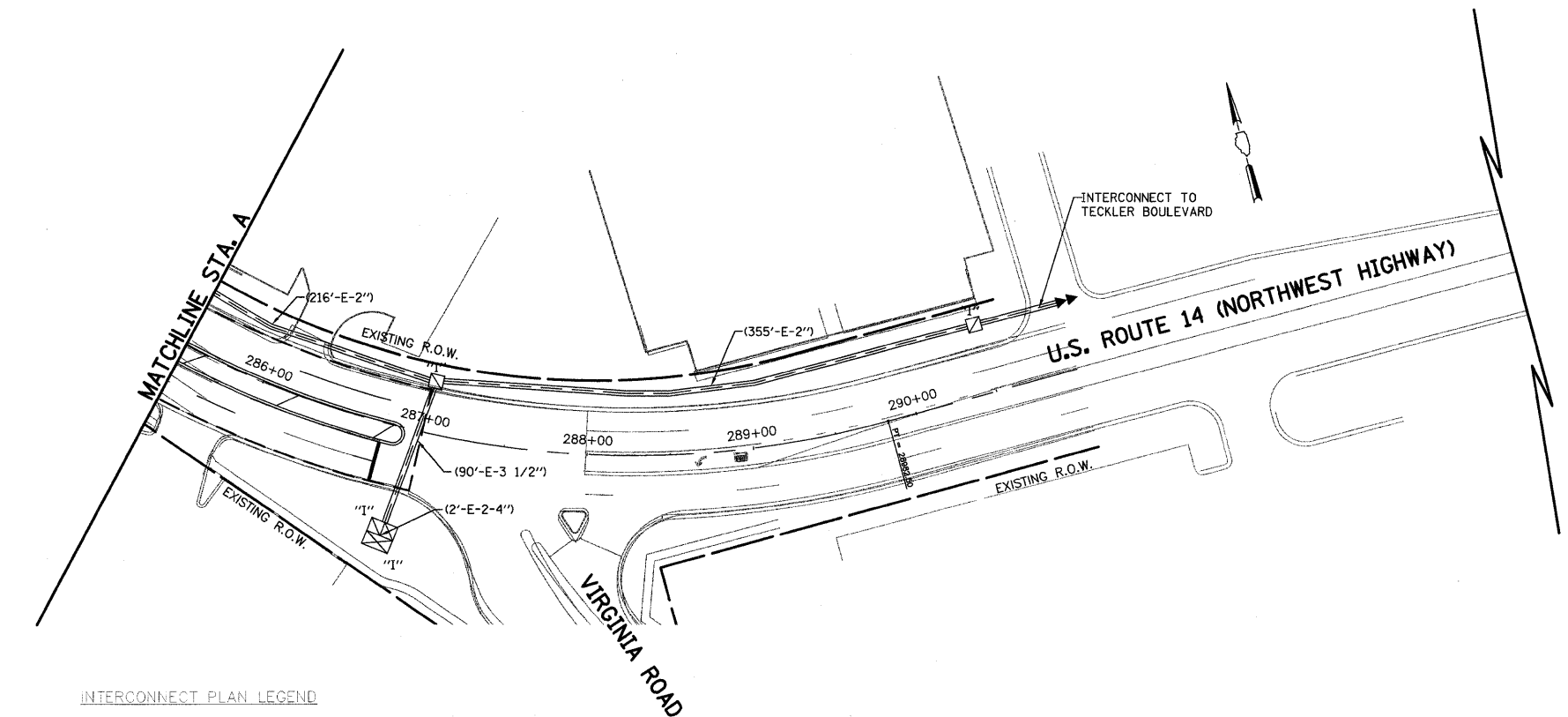
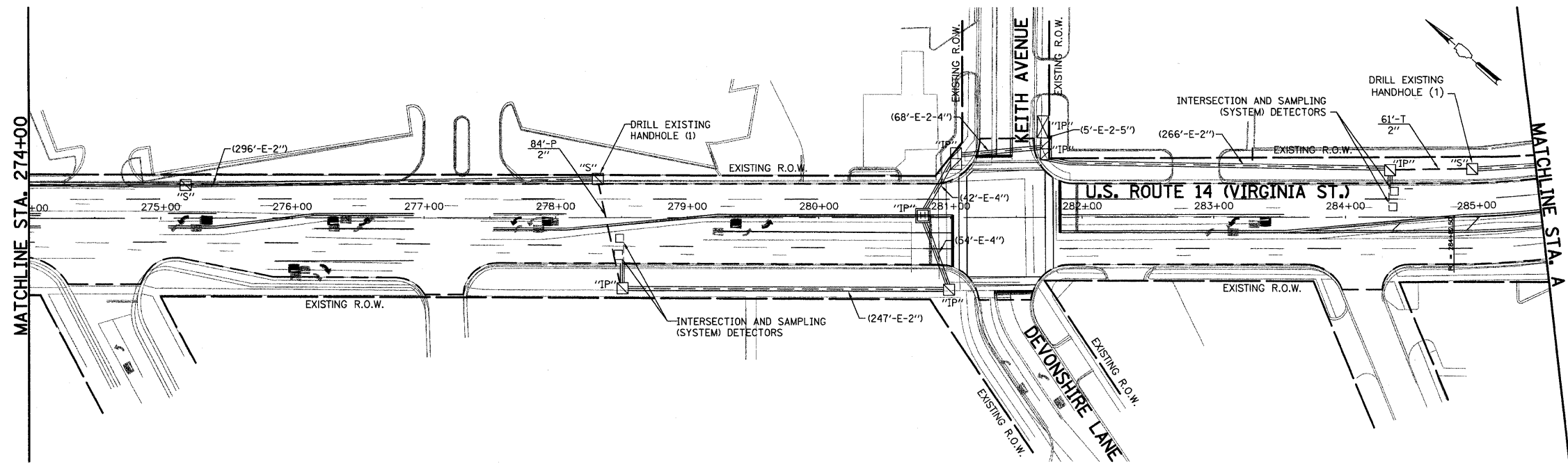
TRAFFIC SIGNAL INTERCONNECT PLAN (SHEET 2 OF 3)  
 U.S. ROUTE 14 (VIRGINIA ST.)  
 CRYSTAL LAKE AVENUE TO VIRGINIA ROAD

SCALE: 1" = 50' SHEET NO. 16 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	09-00112-00-TL	McHENRY	24	16
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT ARA-9003(419)	

CONTRACT NO. 63275



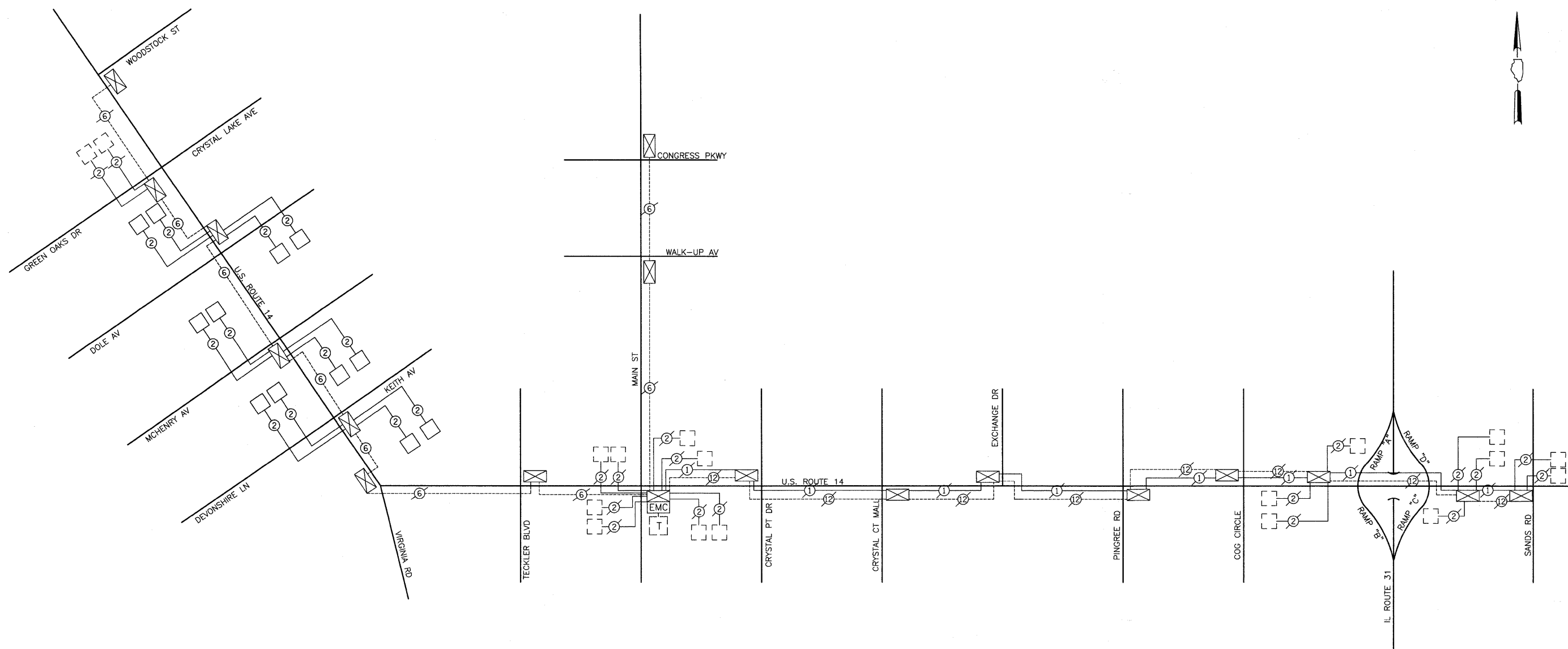


INTERCONNECT PLAN LEGEND

	EXISTING	PROPOSED
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM	S	S
INTERSECTION	I	IP
UNIT DUCT		UD
COMMON TRENCH		CT
CONDUIT SPLICE		

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 SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE 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.



INTERCONNECT SCHEMATIC LEGEND

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

SCHEDULE OF QUANTITIES

PAY ITEM	UNIT	QNTY.
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	327
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	532
CONDUIT SPLICE	EACH	2
HANDHOLE	EACH	2
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	327
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2
ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18 3 PAIR	FOOT	7574
DRILL EXISTING HANDHOLE	EACH	3
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	4856
ROD AND CLEAN EXISTING CONDUIT	FOOT	4221

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

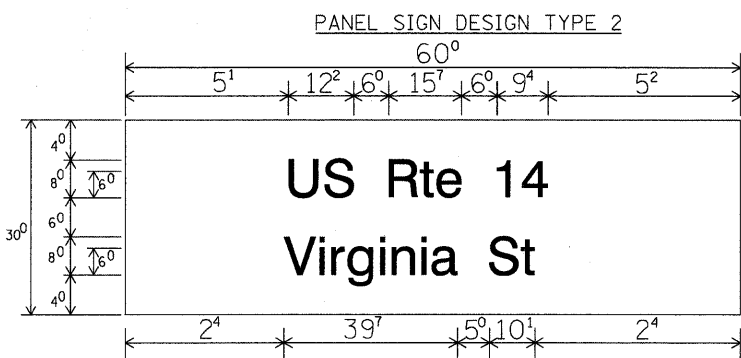
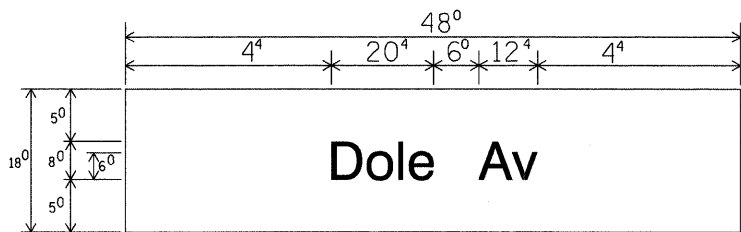
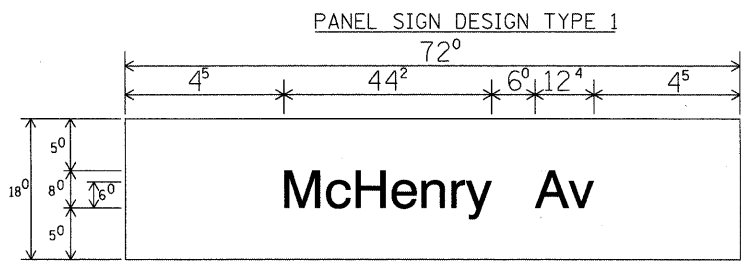
FILE NAME =	USER NAME =	DESIGNED - BRD	REVISED
		DRAWN - OJT	REVISED
		CHECKED - JJE	REVISED
		DATE 8-31-09	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC  
U.S. ROUTE 14  
ILL. ROUTE 176 TO SANDS ROAD

SCALE: NONE	SHEET NO. 18 OF 24 SHEETS	F.A.P. RTE. 305	SECTION 09-00112-00-TL	COUNTY McHENRY	TOTAL SHEETS 24	SHEET NO. 18
		FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT ARA-9003(419)		

CONTRACT NO. 63275



NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS.

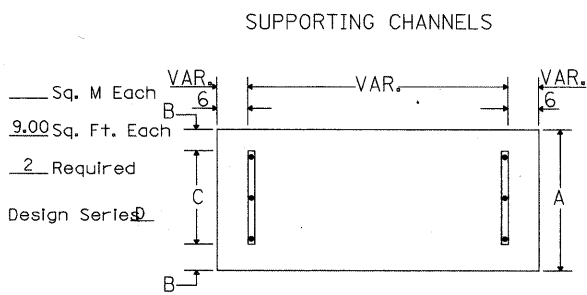
**GENERAL NOTES**

- 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 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" X 6'-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 6'-0".
- ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:

- A.K.T. CORPORATION SCHAUMBURG, IL
- TUCKER COMPANY, INC. WAUWATOSA, WI
- AMERICAN FABRICATION CO. CHICAGO HEIGHTS, IL
- WESTERN TRAFFIC CONTROL, INC. CICERO, IL

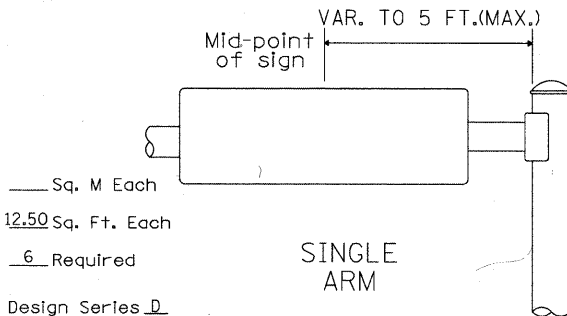
- PARTS LISTING:**
- SIGN CHANNEL PART #HPN053 (MED. CHANNEL)
  - SIGN SCREWS 1/4" x 14 x 1" H.W.H #3 SELF TAPPING WITH NEOPRENE WASHER
  - BRACKETS PART #HPN034 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

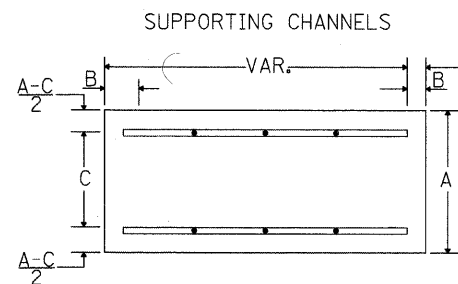


A	B	C
18"	2"	14"

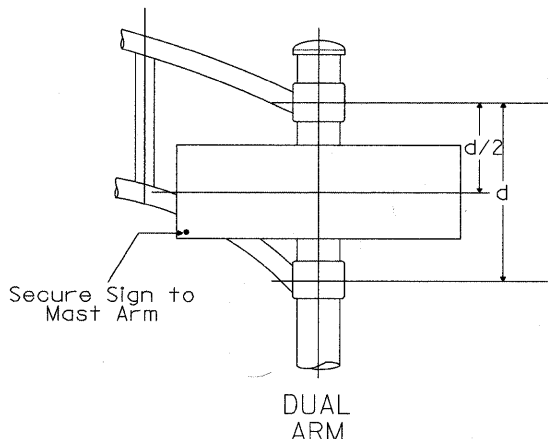
Sq. M Each  
6.00 Sq. Ft. Each  
2 Required  
Design Series D



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



A	B	C
18"	2"	12"
30"	2"	22"



UPPER TO LOWER CASE  
SPACING CHART 8-6 INCH SERIES "C & D"

EXAMPLE, 2<sup>3</sup>—DENOTES 3/8"

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

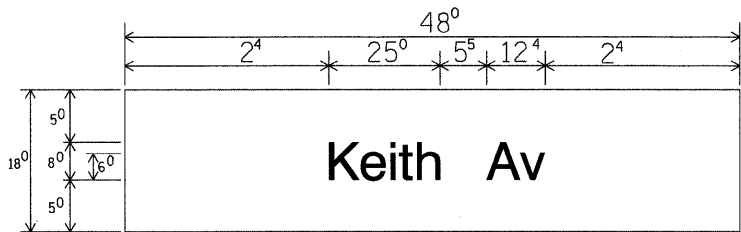
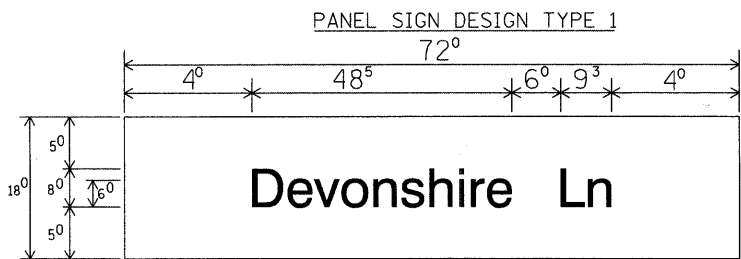
LOWER CASE TO LOWER CASE  
SPACING CHART 6 INCH SERIES "C" & "D"

F I R S T L E T T E R	SECOND LETTER															
	a c c d e		b h i k		f w		j		s t		v y		x		z	
	g o q	l m n p r u														
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
a d g h	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>2</sup>	2 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>
i j l m n q u																
b f k o p s	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
c e	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
r	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>3</sup>	0 <sup>3</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>
t z	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
v y	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>
w	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
x	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>

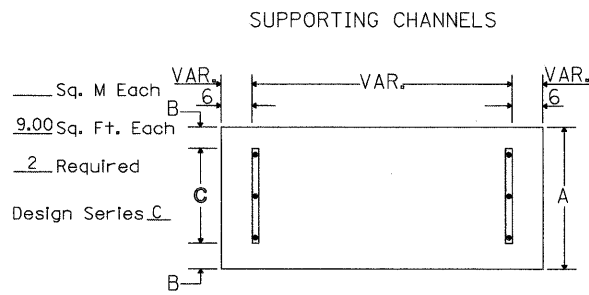
NUMBER TO NUMBER  
SPACING CHART 8 INCH SERIES "C" & "D"

F I R S T L E T T E R	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
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>
1	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>
2 3 4	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>
5	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
6	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
7	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>
8	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>

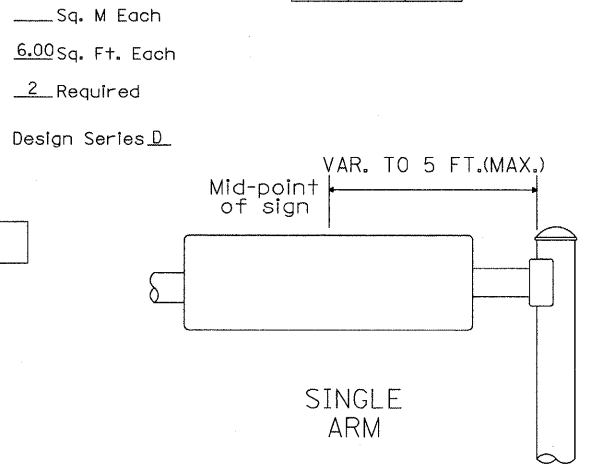
L E T T E R S	6 INCH UPPER CASE LETTERS		8 INCH UPPER CASE LETTERS		L E T T E R S	6 INCH LOWER CASE LETTERS	
	SERIES		SERIES			SERIES	
	C	D	C	D		C	D
A	3 <sup>6</sup>	5 <sup>0</sup>	5 <sup>0</sup>	6 <sup>5</sup>	a	3 <sup>5</sup>	4 <sup>2</sup>
B	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>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



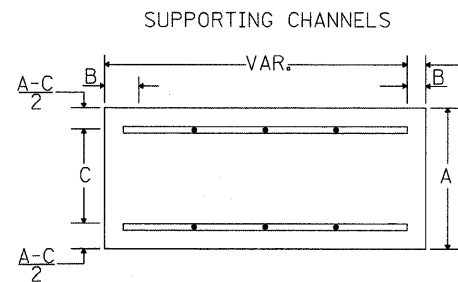
NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS.



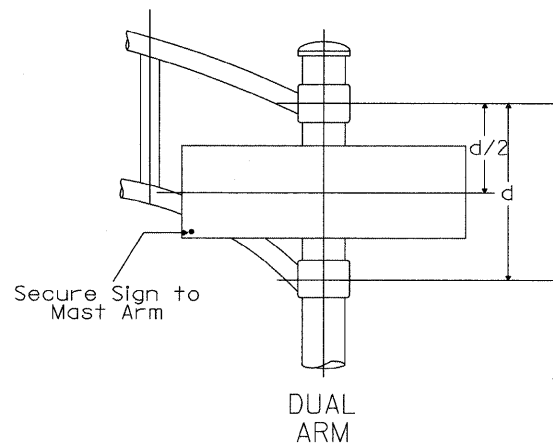
A	B	C
18"	2"	14"



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



A	B	C
18"	2"	12"
30"	2"	22"



UPPER TO LOWER CASE SPACING CHART 8-6 INCH SERIES "C & D"

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

EXAMPLE, 2<sup>③</sup>—DENOTES 3/8"

UPPER AND LOWER CASE LETTER WIDTHS

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

LOWER CASE TO LOWER CASE SPACING CHART 6 INCH SERIES "C" & "D"

F I R S T L E T T E R S	SECOND LETTER															
	a c c d e		b h i k		f w		j		s t		v y		x		z	
	g o q	l m n p r u														
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
a d g h	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>2</sup>	2 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>
i j l m n q u	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>2</sup>	2 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>
b f k o p s	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
c e	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
r	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>3</sup>	0 <sup>3</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>
t z	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
v y	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>
w	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
x	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>

NUMBER TO NUMBER SPACING CHART 8 INCH SERIES "C" & "D"

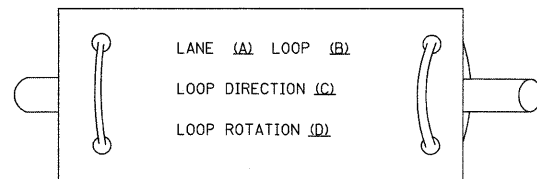
F I R S T L E T T E R S	SECOND NUMBER																			
	0		1		2		3		4		5		6		7		8		9	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>
1	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>
2 3 4	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>
5	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
6	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
7	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>
8	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>

N U M B E R	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
1	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>
2	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
3	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
4	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	5 <sup>7</sup>
5	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
6	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
7	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
8	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
9	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
0	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>

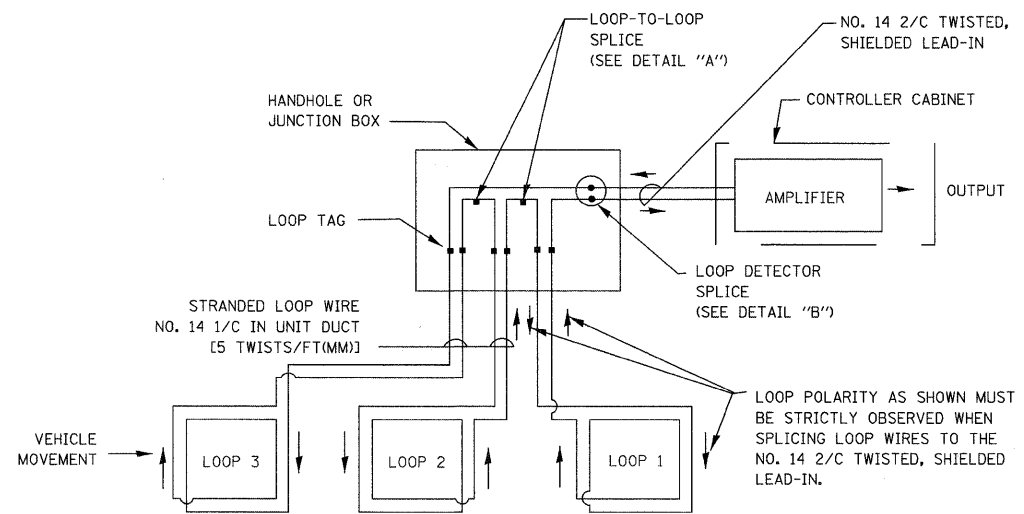
**LOOP DETECTOR NOTES**

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**

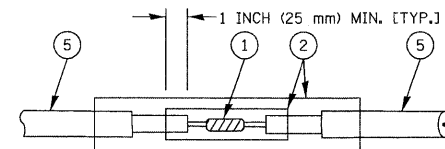


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

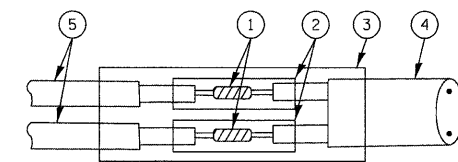


**DETECTOR LOOP WIRING SCHEMATIC**

- 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**

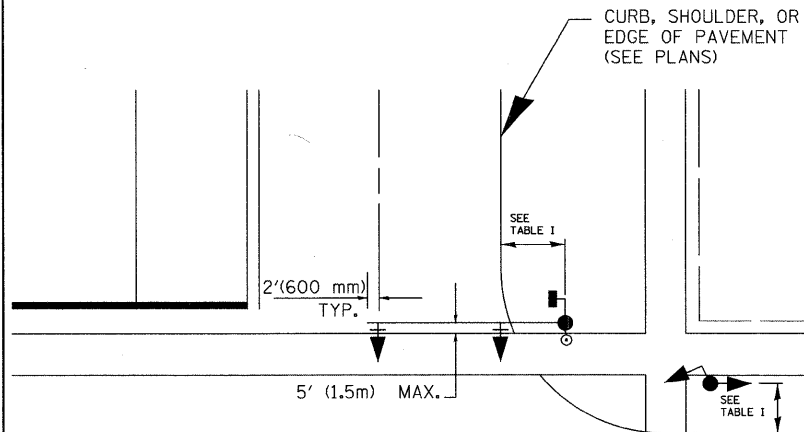
**LOOP DETECTOR SPLICE**

- 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 LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

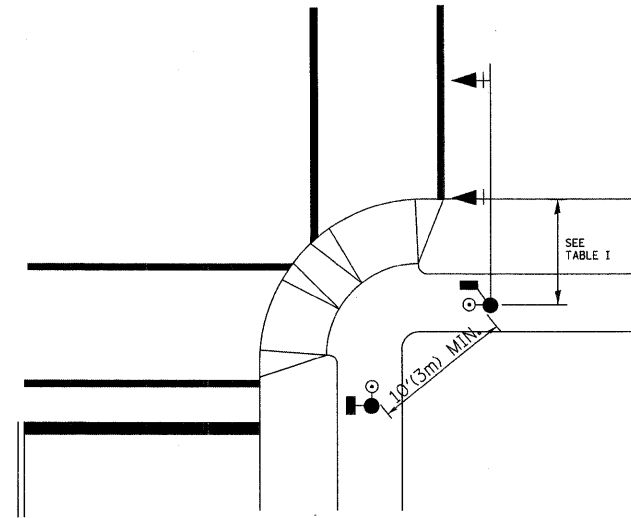
FILE NAME =	USER NAME =	DESIGNED - BRD	REVISED	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS SHEET 1 OF 4</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - OJT	REVISED			305	09-00112-00-TL	McHENRY	24	21
	PLOT SCALE =	CHECKED - JJE	REVISED			CONTRACT NO. 63275				
	PLOT DATE =	DATE 8-31-09	REVISED -			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT ARA-9003(419)				

**TRAFFIC SIGNAL MAST ARM AND POST**

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



**PEDESTRIAN SIGNAL PUSHBUTTON**



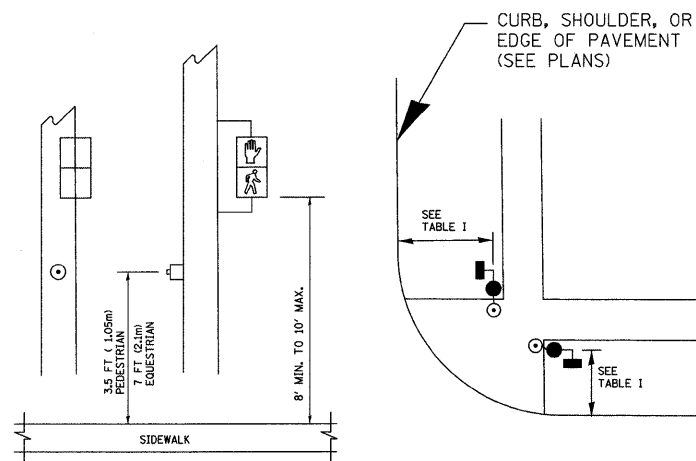
RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

**NOTES:**

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

**PEDESTRIAN SIGNAL POST**

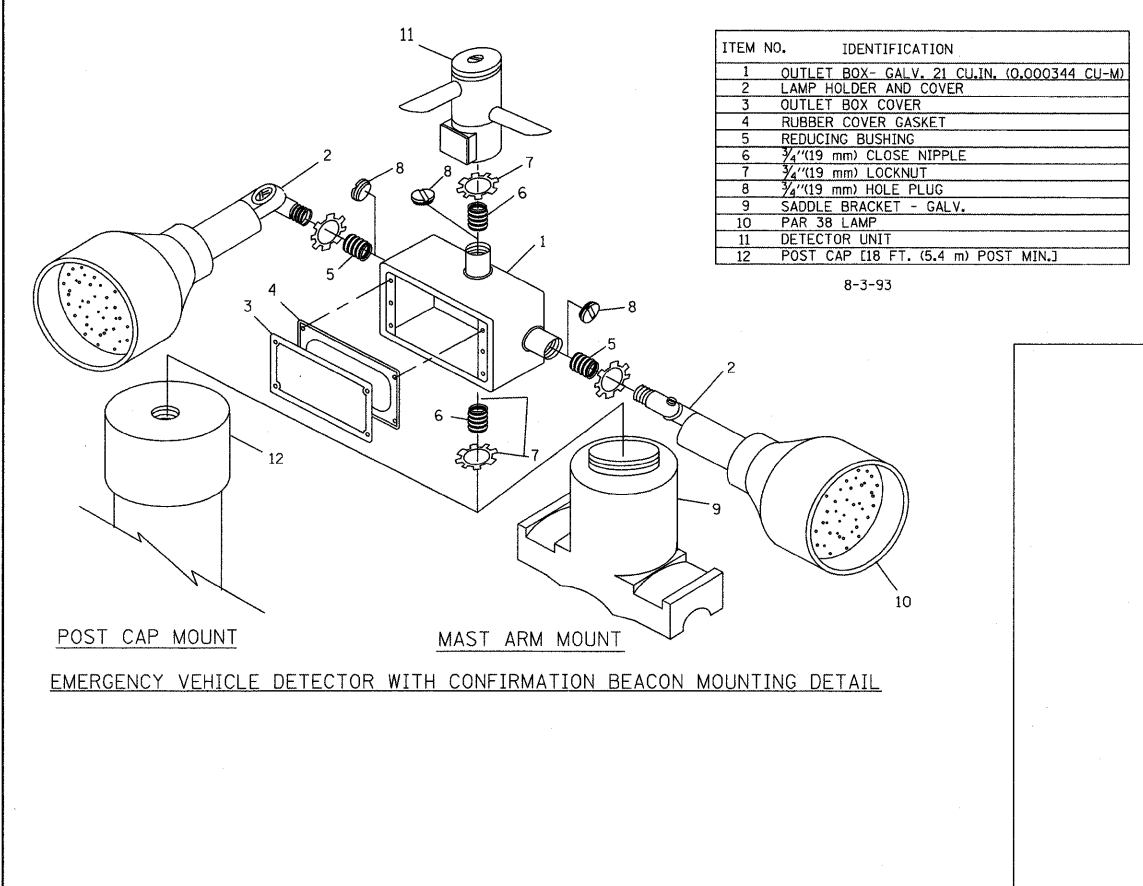
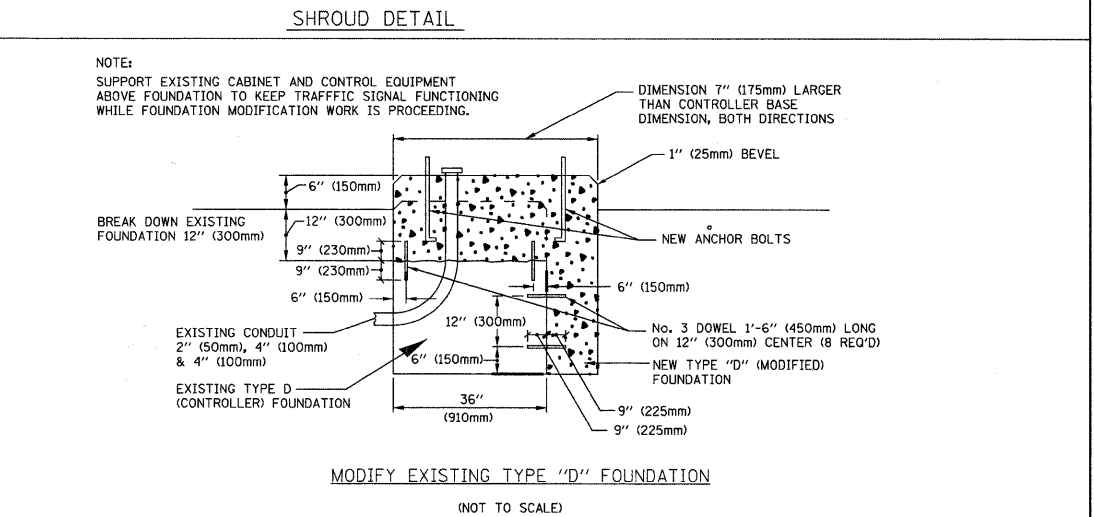
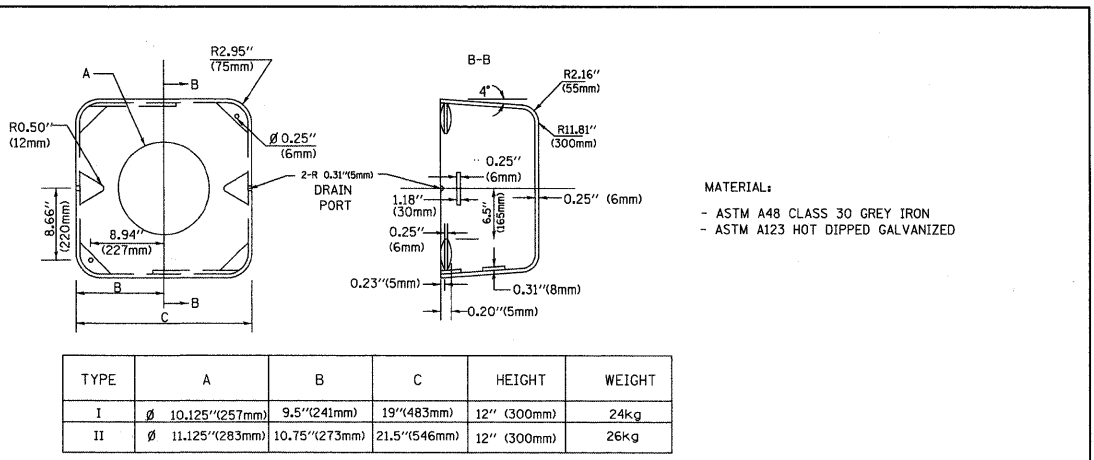
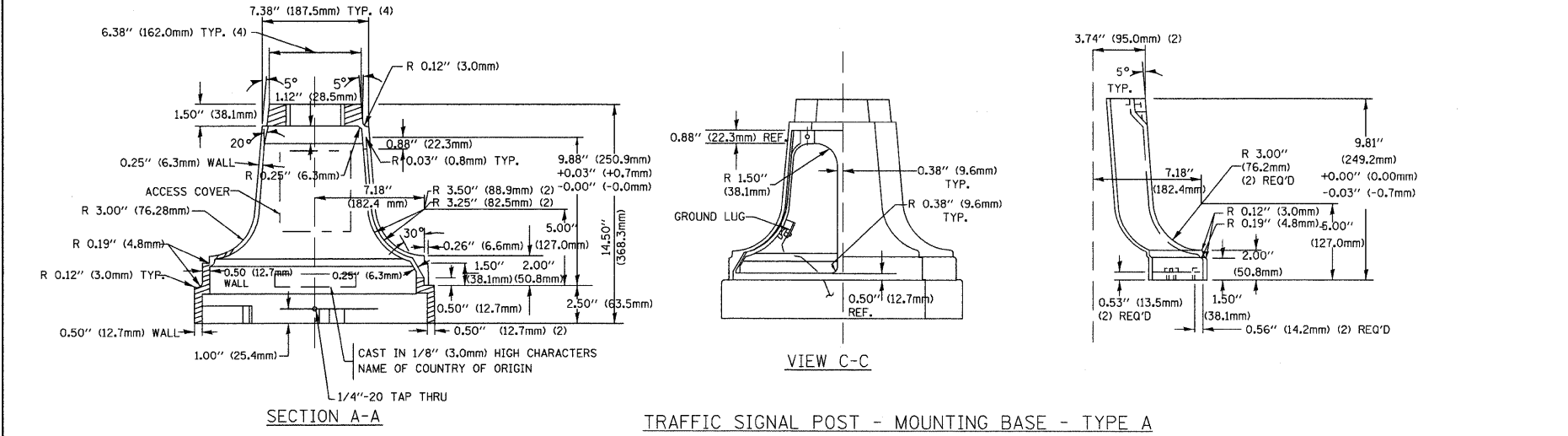
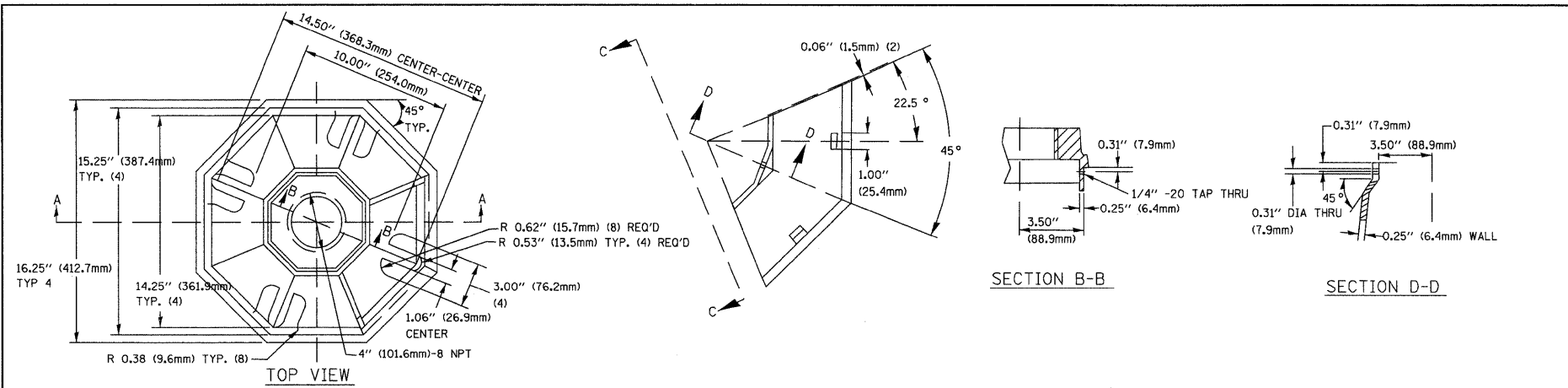
PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION



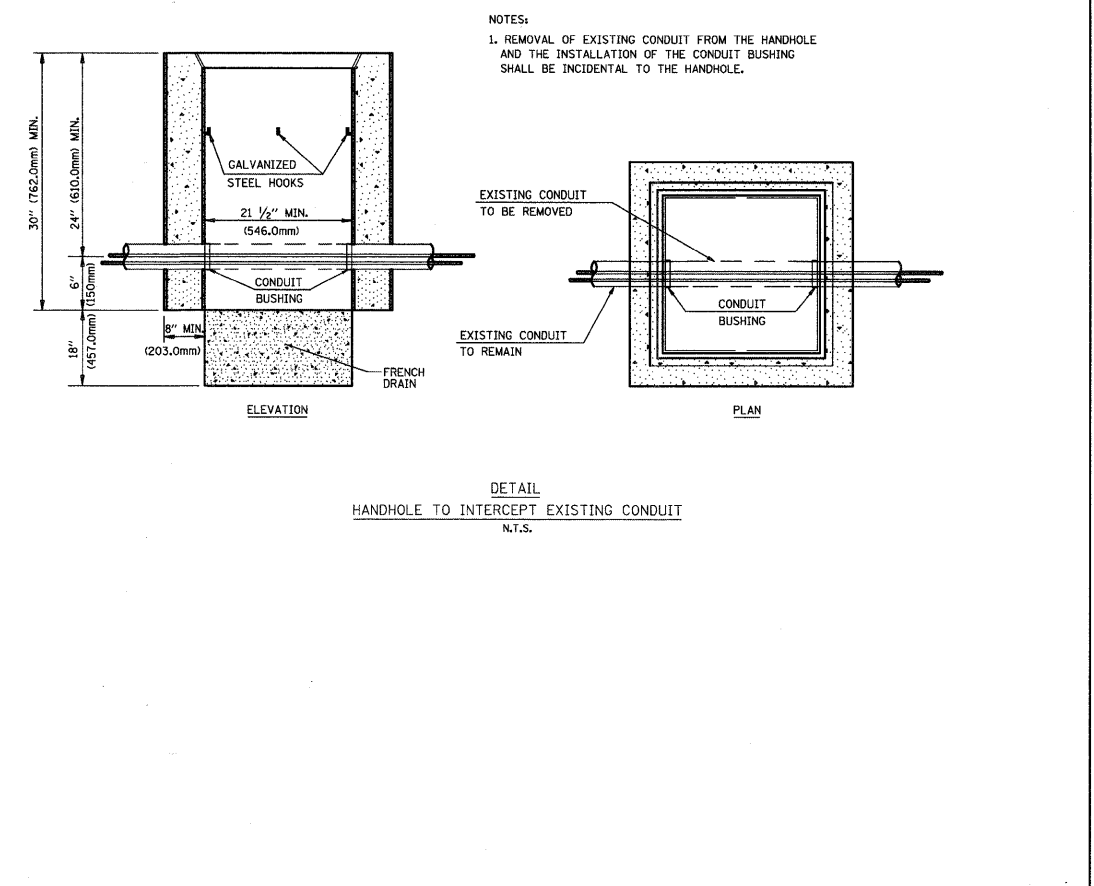
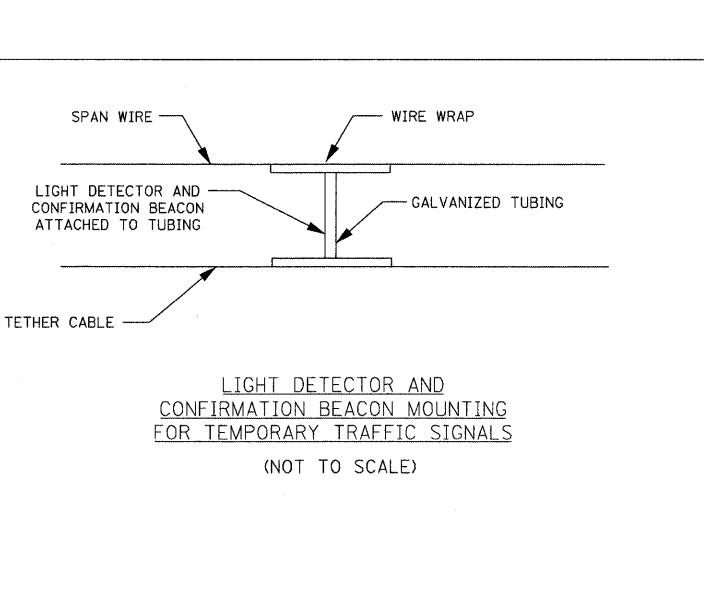
**TABLE I**

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

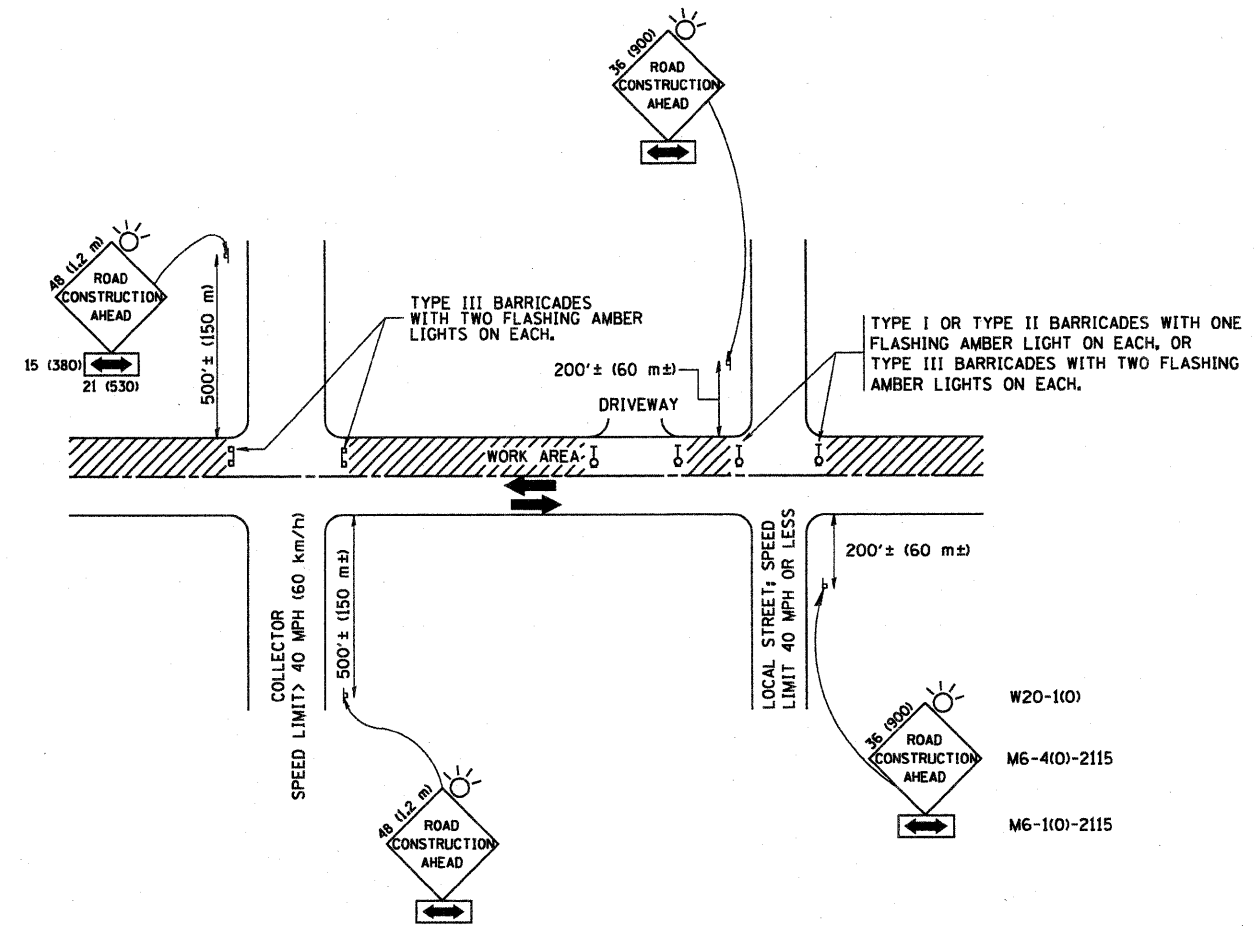




- NOTES:
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
  - ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
  - WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE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







TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS
- SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
    - ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
    - THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
  - SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
    - ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
    - THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:
- USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in millimeters (inches) unless otherwise shown.

FILE NAME = W:\distatd\22x34\to18.dgn	USER NAME = geglienobt	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLLOT SCALE = 58.800' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLLOT DATE = 1/4/2008	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

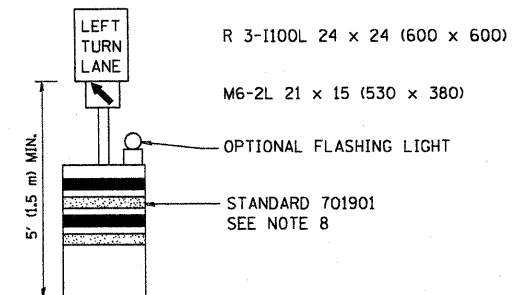
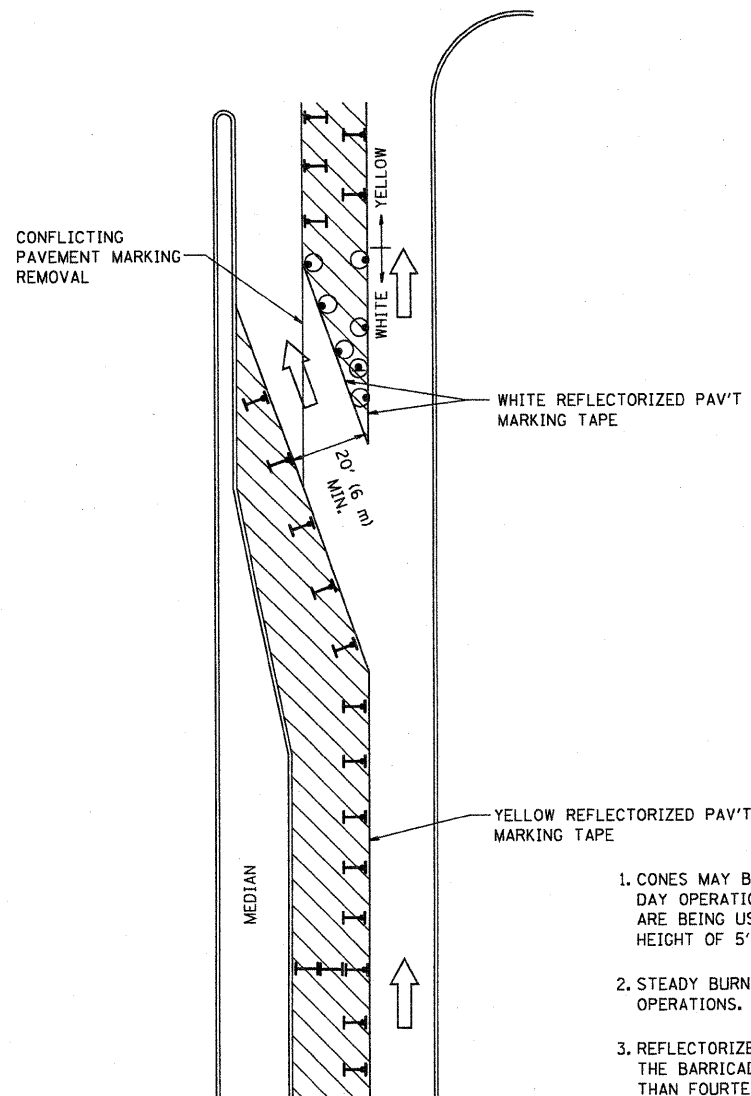
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. - RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	09-00112-00-TL	McHenry	26	24a
TC-10			CONTRACT NO. 63275	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

24a









**GENERAL NOTES**

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM OPER 725 IS REQUIRED.
8. IF A DRUM OR TYPE II BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHR 350 PREQUIREMENTS.
9. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

**LEGEND**

-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

FILE NAME =	USER NAME = drivakosgn	REVISED - T. RAMMACHER 09-08-94	REVISED - R. BORO 09-14-09
cd:\pwork\PW100T\DRIVAKOSGN\d0108315\14.dgn		REVISED - A. HOUSEH 11-07-95	REVISED -
		REVISED - A. HOUSEH 10-12-96	REVISED -
PLOT SCALE = 49.9999 ' / IN.		REVISED - T. RAMMACHER 01-06-00	REVISED -
PLOT DATE = 9/14/2009			

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS  
(TO REMAIN OPEN TO TRAFFIC)**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	09-00112-00-TL	McHenry	26	24b
	TC-14		CONTRACT NO. 63275	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

24b