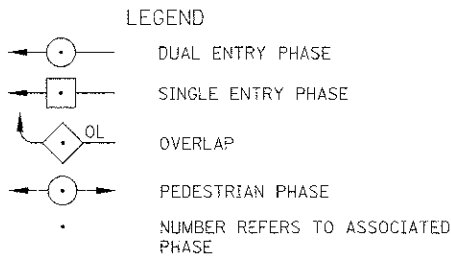
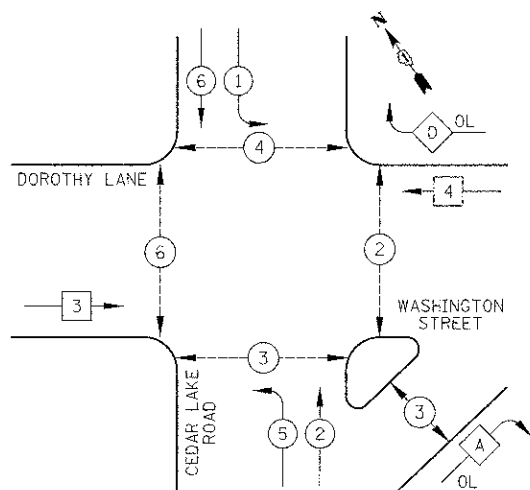


SCHEDULE OF QUANTITIES

PAY ITEM	UNIT	QNTY.
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	45
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	48
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3 1/2" DIA.	FOOT	36
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	531
HANDHOLE	EACH	2
DOUBLE HANDHOLE	EACH	3
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	2694
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2563
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1675
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	2835
ELECTRIC CABLE IN CONDUIT, SERVICE NO. 6 2C	FOOT	69
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	861
CONCRETE FOUNDATION, TYPE A	FOOT	12
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	60
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	4
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 1-4 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	3
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	11
LIGHT DETECTOR	EACH	3
LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	10
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	11
REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	1
ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	533
ELECTRIC CABLE IN CONDUIT, COAXIAL	FOOT	165
ELECTRIC CABLE IN CONDUIT, VIDEO, NO. 20 4 C	FOOT	165
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 28 FT. (SPECIAL)	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 38 FT. (SPECIAL)	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 48 FT. (SPECIAL)	EACH	1
TRAFFIC SIGNAL POST, 36 FOOT, (SPECIAL)	EACH	3
LED INTERNALLY ILLUMINATED STREET NAME SIGN	EACH	4
REMOTE CONTROLLED VIDEO SYSTEM	EACH	1
LAYER II (DATA LINK) SWITCH	EACH	1
VIDEO ENCODER	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 40 FT. (SPECIAL)	EACH	1
ROADSIDE DETECTOR	EACH	1
OUTDOOR RATED NETWORK CABLE	FOOT	110
RELOCATE SWITCH	EACH	1
RELOCATE EXISTING ENCODER	EACH	1
RELOCATE EXISTING REMOTE-CONTROLLED VIDEO SYSTEM	EACH	1

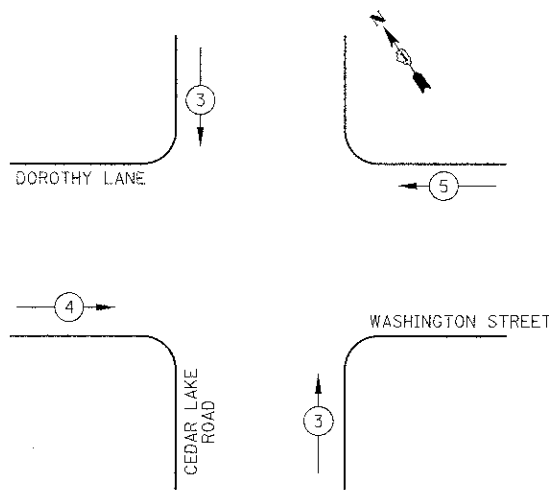
PROPOSED CONTROLLER SEQUENCE



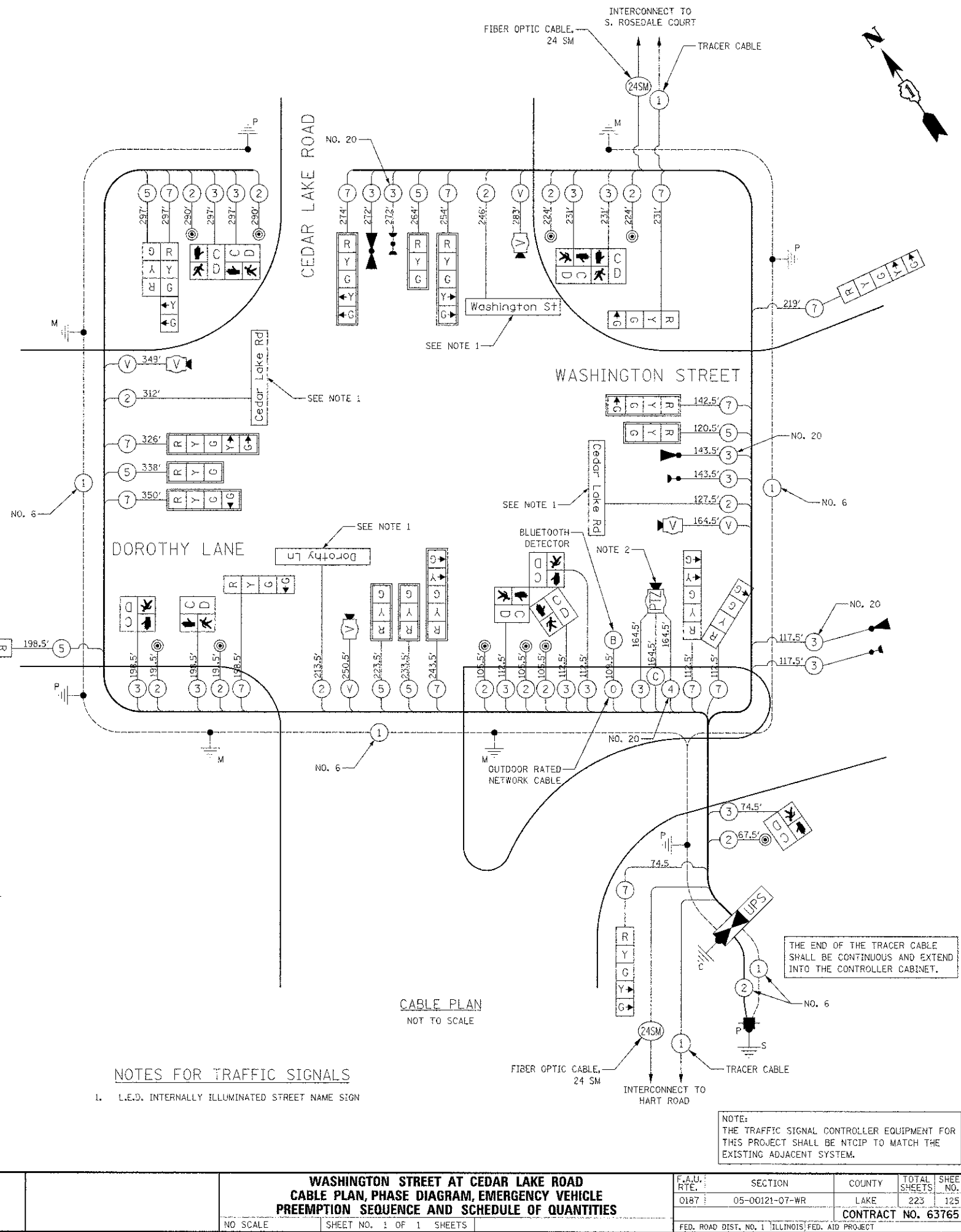
PHASE DESIGNATION DIAGRAM

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	2	4
D	4	1

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



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



NOTES FOR TRAFFIC SIGNALS

1. L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN

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

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
		INCAND.	LED		
SIGNAL (RED)	21		10	0.50	105.0
(YELLOW)	21		19	0.25	99.8
(GREEN)	26		11	0.25	71.5
ARROW	14		9	0.10	12.6
PED. SIGNAL	10		9	1.00	90.0
CONTROLLER	1		100	1.00	100.0
VIDEO SYSTEM	1		150	1.00	150.0
LUMINAIRE		250		0.50	
LED STREET NAME SIGNS	4		64	0.50	128.0
BATTERY BACKUP	1		25	1.00	25.0
FLASHER				0.60	
TOTAL =					781.9
ENERGY COSTS TO: LAKE COUNTY DIVISION OF TRANSPORTATION 600 W. WINCHESTER ROAD LIBERTYVILLE, IL 60048					
ENERGY SUPPLY: CONTACT: KIM KANGAS PHONE: (847) 816-5497 COMPANY: COM ED					