

CONTRACT NO. 87352

SCHEDULE OF TRAFFIC SIGNAL QUANTITIES - IL. RTE. 23 & C.H. 20 (ETNA RD.)

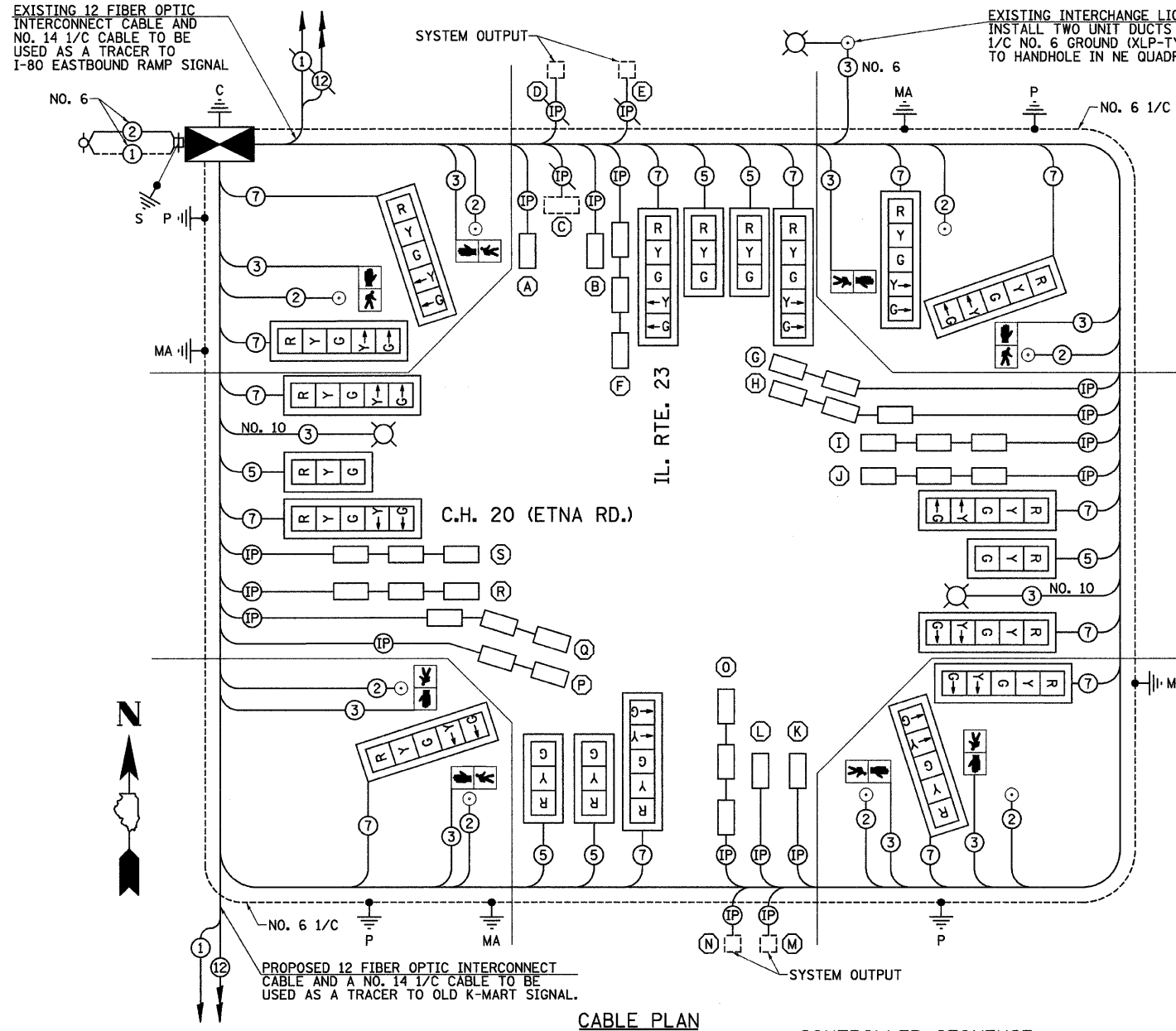
PAY ITEM	UNIT	ITEM	IL. RTE. 23 & C.H. 20 (ETNA RD.)	INTER-CONNECT	TOTAL
72400720	FOOT	RELOCATE SIGN PANEL - TYPE 2	60		60
81012600	FOOT	CONDUIT IN TRENCH, 2" DIA., PVC	29	87	116
81012700	FOOT	CONDUIT IN TRENCH, 2 1/2" DIA., PVC	79		79
81012800	FOOT	CONDUIT IN TRENCH, 3" DIA., PVC	89		89
81012900	FOOT	CONDUIT IN TRENCH, 3 1/2" DIA., PVC	89		89
81018800	FOOT	CONDUIT PUSHED, 3 1/2" DIA., GALVANIZED STEEL	108		108
81400700	EACH	HANDHOLE, PORTLAND CEMENT CONCRETE	6		6
81603035	FOOT	UNIT DUCT, 600V, 2-1C NO. 6, 1/C NO. 6 GROUND (XLP-TYPE USE), 1" POLYETHYLENE	408		408
81700110	FOOT	ELECTRIC CABLE IN CONDUIT, 600V (EPR-TYPE RHW) 1/C NO. 10	2307		2307
81900200	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK	635	87	722
82102250	EACH	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	4		4
84200500	EACH	REMOVAL OF EXISTING LIGHTING UNIT, SALVAGE	2		2
85700205	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	1		1
86200300	EACH	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED	1		1
86400100	EACH	TRANSCEIVER - FIBER OPTIC		1	1
87100140	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 12F		588	588
87301205	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 1C		588	588
87301215	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	1618		1618
87301225	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	1686		1686
87301245	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	1530		1530
87301255	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	3143		3143
87301305	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	3907		3907
87301805	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	61		61
87502500	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	4		4
87702930	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 40 FT.	1		1
87702940	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 42 FT.	1		1
87703000	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 55 FT.	2		2
87800100	FOOT	CONCRETE FOUNDATION, TYPE A	16		16
87800150	FOOT	CONCRETE FOUNDATION, TYPE C	4		4
87800415	FOOT	CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER	60		60
87900200	EACH	DRILL EXISTING HANDHOLE	13	1	14
88040090	EACH	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	6		6
88040150	EACH	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	7		7
88040160	EACH	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	7		7
88102810	EACH	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED	8		8
88200410	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	20		20
88500100	EACH	INDUCTIVE LOOP DETECTOR	18		18
88600100	FOOT	DETECTOR LOOP, TYPE 1	2379		2379
88800100	EACH	PEDESTRIAN PUSH-BUTTON	8		8
89000100	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION	1		1
89502300	FOOT	REMOVE ELECTRIC CABLE FROM CONDUIT	10959	1068	12027
89502350	FOOT	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	20		20
89502375	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	1		1
X8050015	EACH	SERVICE INSTALLATION, POLE MOUNTED	1		1
X8730027	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1/C	727		727
XX002856	L SUM	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM		1	1

CABLE PLAN NOTES

THE INDUCTIVE LOOP DETECTORS SHALL BE RACK MOUNTED AND THE REVISION NUMBER SHOULD BE 34 OR HIGHER.

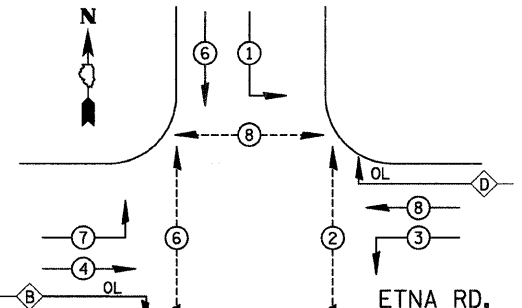
CABLE PLAN LEGEND

- | | | |
|----------|----------|---|
| EXISTING | PROPOSED | |
| | | 8" (200 mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300 mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300 mm) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | TELEPHONE CONNECTION |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MMI2F & SM12F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD. |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN" |
| | | ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN" |
| | | GROUND ROD AT HANDHOLE(H), DOUBLE HANDHOLE(H) OR CONTROLLER(C) |
| | | GROUND ROD AT POST(P) OR MAST ARM POLE(MA) |
| | | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | 250W HPS LUMINAIRE |



CABLE PLAN

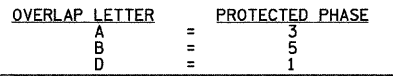
CONTROLLER SEQUENCE



LEGEND

- * DUAL ENTRY PHASE
- * PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE.

PHASE DESIGNATION DIAGRAM



PROPOSED SIGNAL ELECTRICAL LOAD CHART			
IL. RTE. 23			
SIGNAL SECTION	NUMBER	WATTAGE EACH	BURN TIME %
RED	9	17	33
YELLOW	9	25	5
GREEN	9	15	62
YELLOW ARROW	6	12	5
GREEN ARROW	6	12	5
PEDESTRIAN WALK	4	7	62
PEDESTRIAN DON'T WK	4	10	38
C.H. 20 (ETNA RD.)			
SIGNAL SECTION	NUMBER	WATTAGE EACH	BURN TIME %
RED	10	17	67
YELLOW	10	25	5
GREEN	10	15	28
YELLOW ARROW	8	12	5
GREEN ARROW	8	12	5
PEDESTRIAN WALK	4	7	28
PEDESTRIAN DON'T WK	4	10	72
TRAFFIC SIGNAL CABINET			
ITEM	NUMBER	WATTAGE EACH	BURN TIME %
CONTROLLER	1	100	100
LOOP DETECTORS	18	4	100

ENERGY COSTS TO: CITY OF OTTAWA
EXISTING SERVICE INSTALLATION

DETECTOR LOOP INDUCTION CHART

LOOP SYSTEM	PHASE - LABLE	NUMBER OF TURNS	INDUCTANCE (MH)	FREQUENCY (HERTZ)	J PIN STATUS
A	6 - SB STBR RL	3	171	46673	OFF
B	6 - SB STBR LL	3	171	46673	OFF
C	6 - SB MID				TO BE ABANDONED
D	6 - SB FAR RL	6	EXISTING	EXISTING	ON
E	6 - SB FAR LL	6	EXISTING	EXISTING	ON
F	1 - SB LT	3	483	27771	ON
G	8 - WB RT RT	3	296	35475	ON
H	8 - WB RT LT	3	422	29710	ON
I	8 - WB STBR	3	526	26612	ON
J	3 - WB LT	3	526	26612	ON
K	2 - NB STBR RL	3	234	39898	OFF
L	2 - NB STBR LL	3	234	39898	OFF
M	2 - NB FAR RL	6	EXISTING	EXISTING	ON
N	2 - NB FAR LL	6	EXISTING	EXISTING	ON
O	5 - NB LT	3	456	28581	ON
P	4 - EB RT RT	3	294	35595	ON
Q	4 - EB RT LT	3	510	27026	ON
R	4 - EB STBR	3	577	25408	ON
S	7 - EB LT	3	577	25408	ON

J PIN STATUS: "ON" MEANS STANDARD DETECTION SETUP. "OFF" MEANS THE J WIRE HAS BEEN DISCONNECTED, BUT INTACT AT THE HARNESS PANEL WITH THE NECESSARY SPADE CONNECTION ATTACHED, MARKED, AND INSULATED.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT ON THIS PROJECT IS "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

NOTES:
A SELF-ADHERE PHASE DIAGRAM SHALL BE PLACED INSIDE THE CABINET DOOR.
SPlicing OF THE EXISTING FIBER OPTIC CABLE WILL NOT BE ALLOWED IN THE NEW CONTROLLER CABINET.