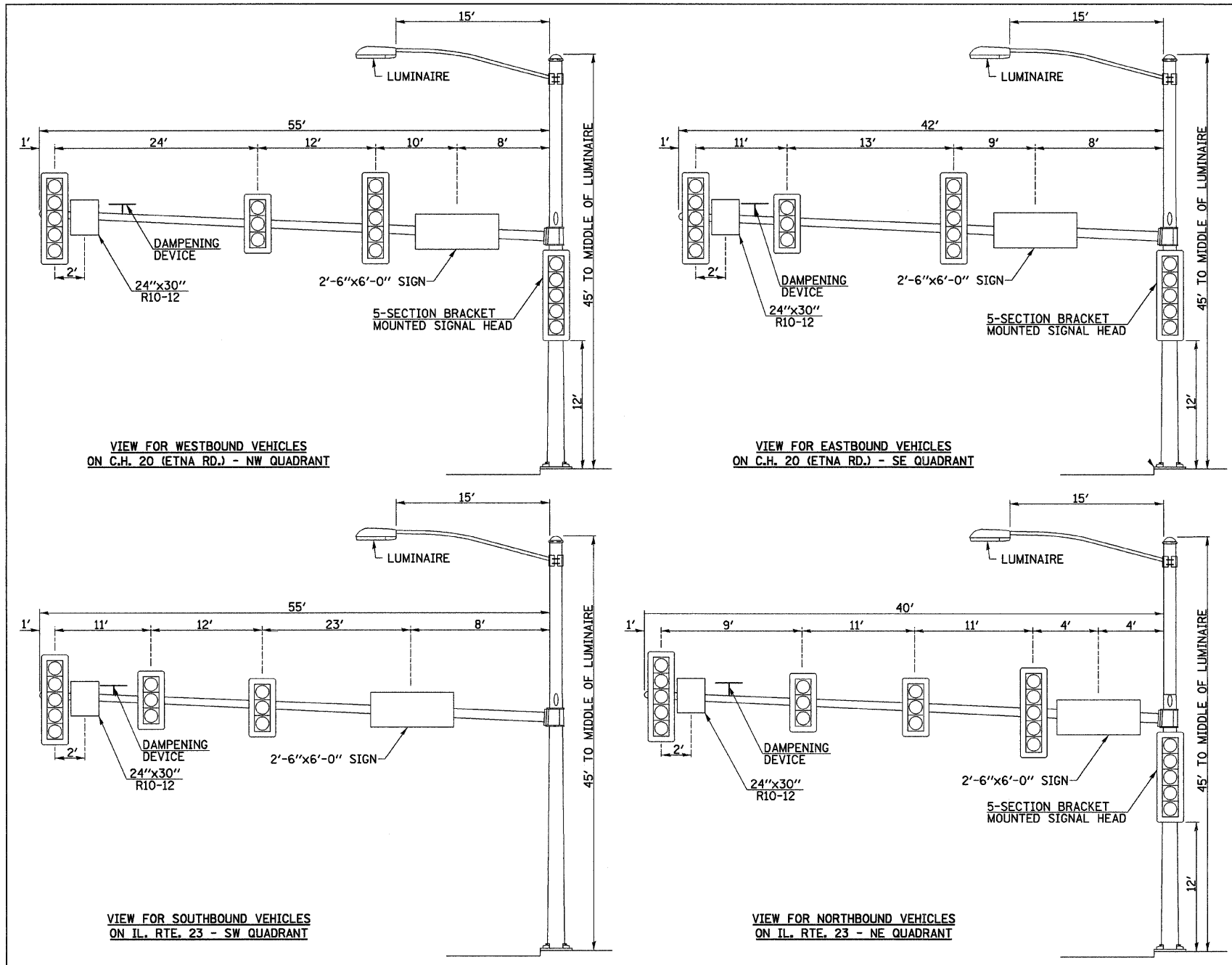


CONTRACT NO. 87352



MAST ARM LOADING DETAILS
(NO SCALE)

- GENERAL NOTES:
1. THE CONTRACTOR SHALL CONTACT THE UNITED CITY OF OTTAWA (815-433-0161) A MINIMUM OF 72 HOURS PRIOR TO BEGINNING WORK.
 2. THE TRAFFIC SIGNAL SECTION AT THE ILLINOIS DEPARTMENT OF TRANSPORTATION, DISTRICT 3, SHALL BE NOTIFIED AT (815 434-8506) AT LEAST 72 HOURS PRIOR TO TURNING ON ANY FLASHER OR CONTROLLER UNITS.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY DURING CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED FOR NON-EMERGENCY WORK. THE JULIE NUMBER IS (800-892-0123).
 4. ALL TRAFFIC CONTROL AND OTHER ADVISORY SIGNS NEEDED FOR CONSTRUCTION ARE TO BE FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 701 OF THE STANDARD SPECIFICATIONS.
 5. ALL TRAFFIC SIGNAL HEADS SHALL BE 12-INCH POLYCARBONATE.
 6. TRAFFIC SIGNAL HEADS SHALL BE PROPERLY COVERED PRIOR TO INTERSECTION TURN-ON OR AS DIRECTED BY THE ENGINEER. THIS COST SHALL BE INCLUDED WITH THE COST OF THE ASSOCIATED TRAFFIC SIGNAL PAY ITEMS.
 7. A 1/4" DIAMETER CONTINUOUS RODENT RESISTANT NYLON ROPE SHALL BE FURNISHED AND LEFT IN PLACE IN ALL CONDUITS BETWEEN HANDHOLES AND FOUNDATIONS OR CONTROLLER. THIS COST SHALL BE INCLUDED WITH THE COST OF CONDUIT PAY ITEM.
 8. THE CONTRACTOR SHALL ARRANGE FOR A FACTORY OR SUPPLIER REPRESENTATIVE TO BE PRESENT AT THE INTERSECTION WHEN THE SIGNAL IS TURNED ON. COST TO BE INCLUDED WITH THE TRAFFIC SIGNAL CONTROLLER PAY ITEM.
 9. ALL CONDUIT IN TRENCH SHALL BE P.V.C. ALL CONDUIT PUSHED MAY BE P.V.C. OR GALVANIZED STEEL. CONDUIT ATTACHED TO STRUCTURES SHALL BE GALVANIZED STEEL.
 10. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN 2' MINIMUM DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES.
 11. THE ELECTRICAL CONDUCTORS FOR ALL TRAFFIC SIGNAL HEADS SHALL BE SOLID, SOFT COPPER.
 12. ALL THREADS OF BOLTS USED IN ASSEMBLY OF TRAFFIC SIGNAL COMPONENTS SHALL BE COATED WITH A NON-LEAD BASED ANTI-SEIZE COMPOUND, SIMILAR TO LEAD PLATE, PRIOR TO ASSEMBLY.
 13. ALL HARDWARE SHALL BE TIGHTENED AND WELL SECURED, CABLES SHALL BE NEATLY WOUND IN HANDHOLES. CABLES SHALL BE NEATLY TRAINED IN THE CONTROLLER CABINET.
 14. ALL TRAFFIC SIGNAL WIRING SHALL EXTEND FROM CONTROLLER TO SIGNAL SPLICES IN JUNCTION BOXES OR HANDHOLES WILL NOT BE ALLOWED.
 15. THE CONTROLLER CABINET SHALL BE PLACED SO THAT A TECHNICIAN MAY SEE THE INTERSECTION OVER THE TOP OF THE CABINET WHILE WATCHING THE COMPONENTS IN THE CABINET.
 16. THE PROPOSED TRAFFIC SIGNAL CONTROLLER CABINET SHALL BE FURNISHED WITH A MANUAL CONTROL SWITCH AND MANUAL CONTROL CORD WITHIN THE POLICE DOOR COMPARTMENT. THE WORK SHALL BE INCLUDED IN THE CONTROLLER CABINET PAY ITEM.
 17. THE CONTRACTOR SHALL PROVIDE A SELF-ADHERED PHASE DIAGRAM ON THE INSIDE OF THE CONTROLLER CABINET DOOR.
 18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ELECTRICAL SERVICE FOR THE TRAFFIC SIGNALS. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY PRIOR TO BEGINNING WORK TO OBTAIN THE UTILITY COMPANY REQUIREMENTS FOR THE SERVICE INSTALLATION.
 19. BACKPLATES SHALL BE POLYCARBONATE, LOUVERED FORMED BACKPLATES.
 20. ALL VEHICLE AND PEDESTRIAN SIGNAL HEADS SHALL HAVE POLYCARBONATE BLACK HOUSING AND BLACK BRACKETS.
 21. THE ELEVATION OF THE TOP OF THE DOUBLE HANDHOLE SHALL BE LESS THAN THE ELEVATION OF THE TOP OF THE CONTROLLER FOUNDATION.
 22. ALL UNINTERRUPTABLE POWER SUPPLIES SHALL BE EQUIPPED WITH ALPHA GUARD MONITORS.
 23. ALL GROUNDING MATERIALS FOR CONCRETE FOUNDATIONS SHALL REFER TO SECTION 807 OF THE STANDARD SPECIFICATIONS.
 24. ALL AREAS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED WITH SEED OR SOD TO THE SATISFACTION OF THE ENGINEER. SEEDING OR SODDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET OR IN AN UNTILLABLE CONDITION.
 25. THE FIBER OPTIC CABLE SHALL BE LABELED WITH DIRECTION AND ASSIGNMENT NUMBER.
 26. THE SURGE PROTECTOR IN THE CONTROLLER CABINET SHALL HAVE AN INDICATOR LIGHT.
 27. THE MAST ARMS SHALL BE LOCATED A MINIMUM 6' FROM THE FACE OF CURB OR A MINIMUM 18' FROM THE EDGE OF PAVEMENT TO THE FACE OF FOUNDATION WHERE THERE IS NO CURB, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IN CURB AREA, GET MORE THAN 6' IF POSSIBLE IF THE SIGNAL HEAD STILL LINES UP IN CENTER OF LANE.
 28. IF THERE IS A PAY ITEM, CHANGEABLE MESSAGE SIGNS ARE REQUIRED FOR BOTH DIRECTIONS. ONE WEEK PRIOR TO SIGNAL TURN-ON, THE MESSAGE SHOULD READ "NEW SIGNAL AHEAD/TURN ON DATE." FOR THREE WEEKS AFTER, THE MESSAGE SHOULD READ "NEW SIGNAL AHEAD/BE PREPARED TO STOP"
 29. ALL SIGNAL HEADS ON AN INDIVIDUAL SPAN WIRE SHALL BE MOUNTED SO THAT THE "RED" INDICATIONS ARE LEVEL WITH EACH OTHER.
 30. THE CONTRACTOR SHALL PROVIDE 3 FEET OF SLACK CABLE IN THE CONTROLLER AND ON THE WOOD POLES. THE SLACK IS IN ADDITION TO THE VERTICAL LENGTH OF CABLE DEFINED IN THE STANDARD SPECIFICATIONS AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR ELECTRICAL CABLE OF THE TYPE SPECIFIED.
 31. TEMPORARY WOOD POLES SHALL BE LOCATED A MINIMUM OF 6' FROM THE FACE OF CURB OR A MINIMUM 18' FROM THE EDGE OF PAVEMENT WHERE THERE IS NO CURB, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 32. ALL TEMPORARY WOOD POLES SHALL BE INSTALLED SO THAT A MINIMUM OF 30' OF POLE IS ABOVE THE EXISTING PAVEMENT ELEVATION ADJACENT TO THE POLE. A SUFFICIENT LENGTH OF POLE SHALL BE BURIED AND BACK GUYED TO ALLOW THE INSTALLATION TO WITHSTAND A 70 M.P.H. SUSTAINED WIND LOADING.
 33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE WOOD POLE LOCATIONS BEFORE ORDERING TO DETERMINE IF LONGER POLES ARE REQUIRED.
 34. THE STREET NAME SIGNS ON THE TEMPORARY TRAFFIC SIGNAL SPAN WIRES SHALL BE RELOCATED TO THE NEW MAST ARM ASSEMBLIES AND PAID FOR AS RELOCATE SIGN PANEL - TYPE 2.

FOUNDATION DEPTH TABLE		
TYPE	LOCATION	FOUNDATION
TYPE E 36"	NE QUADRANT	
40' STEEL MAST ARM	C.H. 20 (ETNA RD.) & IL. RTE. 23	15'
TYPE A	NE QUADRANT	
16' SIGNAL POST	C.H. 20 (ETNA RD.) & IL. RTE. 23	4'
TYPE E 36"	NW QUADRANT	
42' STEEL COMBINATION MAST ARM	C.H. 20 (ETNA RD.) & IL. RTE. 23	15'
TYPE A	NW QUADRANT	
16' SIGNAL POST	C.H. 20 (ETNA RD.) & IL. RTE. 23	4'
TYPE E 36"	SE QUADRANT	
55' STEEL COMBINATION MAST ARM	C.H. 20 (ETNA RD.) & IL. RTE. 23	15'
TYPE A	SE QUADRANT	
16' SIGNAL POST	C.H. 20 (ETNA RD.) & IL. RTE. 23	4'
TYPE E 36"	SW QUADRANT	
55' STEEL MAST ARM	C.H. 20 (ETNA RD.) & IL. RTE. 23	15'
TYPE A	SW QUADRANT	
16' SIGNAL POST	C.H. 20 (ETNA RD.) & IL. RTE. 23	4'
TYPE C	NW QUADRANT	
CONTROLLER FOUNDATION	C.H. 20 (ETNA RD.) & IL. RTE. 23	4'
TYPE A	NW QUADRANT	
GROUND MOUNT SERVICE INSTALLATION	C.H. 20 (ETNA RD.) & IL. RTE. 23	4'

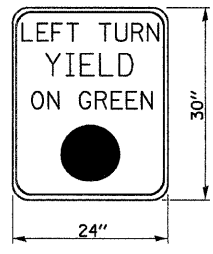
NOTES:
(APPLY TO ALL MAST ARM LOADING DIAGRAMS)
DAMPENING DEVICE SHALL CONSIST OF 24"x30" TYPE 1 UNPAINTED ALUMINUM SIGN STOCK MOUNTED HORIZONTALLY ON TOP OF THE MAST ARM WITH THE 36" LENGTH PERPENDICULAR TO THE MAST ARM. THE COST OF THE DAMPENING DEVICE AND ITS INSTALLATION IS INCLUDED IN THE MAST ARM PAY ITEM.

LUMINAIRES TO BE RELOCATED FROM EXISTING MAST ARM ASSEMBLIES.

ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

ALL MAST ARM FOUNDATIONS TO BE 36" DIAMETER.

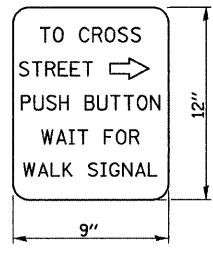
EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM ASSEMBLIES.



LEFT TURN YIELD ON GREEN SIGN
TYPE R10-12

TYPE B SHEETING REQUIRED.
14 EACH REQUIRED.

THIS SIGN SHALL BE LOCATED 6" TO 12" TO THE RIGHT OF EACH 5-SECTION MAST ARM MOUNTED LEFT TURN SIGNAL. COST TO BE INCLUDED IN THE COST OF 5-SECTION MAST ARM MOUNTED SIGNAL HEAD PAY ITEM.

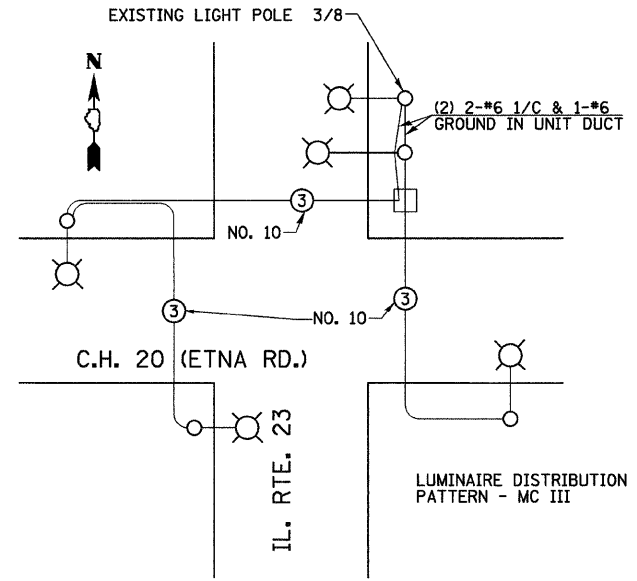


PEDESTRIAN PUSH-BUTTON SIGN
TYPE R10-4A (L OR R)

TYPE B SHEETING REQUIRED.
8 EACH REQUIRED.

THE CONTRACTOR SHALL SUPPLY AND MOUNT ONE SIGN WITH EACH PEDESTRIAN PUSH-BUTTON. COST TO BE INCLUDED IN THE COST OF PEDESTRIAN PUSH-BUTTON PAY ITEM.

COLORS:
LEGEND - BLACK
BACKGROUND - WHITE



LIGHTING CIRCUIT DIAGRAM