Metric

GENERAL NOTES:

1. ALL TRAFFIC SIGNAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH NEW YORK STATE STANDARD SHEETS M680-1 THRU M680-17 INCLUSIVE, AS APPLICABLE, EXCEPT AS MODIFIED BELOW OR IN THE CONTRACT PLANS.

2. ALL TRAFFIC SIGNAL ITEMS SHALL MEET THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED JANUARY 2, 2002 WITH ALL CURRENT ADDENDA UNLESS OTHERWISE STATED IN THE CONTRACT PLANS.

3. WHERE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (N.E.M.A.) SPECIFICATION EQUIPMENT IS TO BE INSTALLED, SUCH EQUIPMENT SHALL MEET ALL REQUIREMENTS OF N.E.M.A. SPECIFICATION NUMBER TS1-1989 AS AMENDED.

4. WHERE CONVENTIONAL N.E.M.A. SPECIFICATION OR INTERSECTION FLASHER EQUIPMENT IS TO BE INSTALLED, IT SHALL BE INSPECTED BY NEW YORK STATE SIGNAL MAINTENANCE FORCES BEFORE THE SIGNAL IS ENERGIZED. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN EACH SIGNAL IN CONTINUOUS OPERATION AS SPECIFIED BY THE TABLE OF OPERATIONS FOR 30 DAYS BEFORE FINAL ACCEPTANCE IS GRANTED.

5. UPON COMPLETION OF WORK N.Y.S.D.O.T. TRAFFIC SIGNAL MAINTENANCE PERSONNEL WILL PERFORM AN INSPECTION OF THE SIGNAL SYSTEM. AT THE TIME OF THE INSPECTION, THE CONTRACTOR SHALL UNBAG THE NEW SIGNAL HEADS AND SHALL PROVIDE ACCESS TO ALL PULLBOXES FOR INSPECTION PURPOSES. THE CONTRACTOR SHALL BE NOTIFIED OF ANY DEFECTS FOUND DURING THE INSPECTION AND WILL MAKE THE NECESSARY CORRECTIONS BEFORE THE SIGNAL WILL BE ACCEPTED. THE CONTRACTOR SHALL PROVIDE SUFFICIENT PERSONNEL AND TRAFFIC CONTROL DEVICES TO SAFELY MAINTAIN TRAFFIC THROUGH THE INTERSECTION WHILE THE INSPECTION IS BEING PERFORMED. THE SIGNAL HEADS SHALL BE REBAGGED SHOULD THE INSPECTION FAIL.

6. THE CONTRACTOR WILL NOT BE PERMITTED TO CLOSE DOWN ANY TRAFFIC LANES DURING PEAK HOURS (7AM-9AM AND 3PM-6PM MONDAY THRU FRIDAY), AND AS OTHERWISE NOTED, UNLESS WRITTEN PERMISSION IS GRANTED IN ADVANCE FROM THE REGIONAL TRAFFIC ENGINEER.

7. CONSTRUCTION SIGNS SHALL BE INSTALLED ON ALL LEGS OF THE INTERSECTION WHILE THE CONTRACTOR IS WORKING ON THE INTERSECTION. ADDITIONAL CONSTRUCTION SIGNS SHALL BE INSTALLED AS REQUIRED BY THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES OR AS DIRECTED BY THE RESIDENT ENGINEER.

8. UNLESS OTHERWISE NOTED, THE STATE OF NEW YORK SHALL HAVE MAINTENANCE JURISDICTION OVER THE SIGNAL IN THIS CONTRACT UPON COMPLETION OF ITS INSTALLATION AND OFFICIAL ACCEPTANCE.

9. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY THAT WILL BE SUPPLYING POWER TO TRAFFIC SIGNAL EQUIPMENT AT THE INTERSECTION WITHIN 30 DAYS OF THE CONTRACT AWARD. THE CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE NEW YORK BOARD OF FIRE UNDERWRITERS IN THEIR SIGNAL INSTALLATION AND IT MUST PASS A FIRE UNDERWRITERS INSPECTION BEFORE SERVICE CONNECTION WILL BE MADE BY THE UTILITY COMPANY. THE COST OF THIS INSPECTION SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS TRAFFIC SIGNAL ITEMS.

10. THE LOCATIONS OF ALL UNDERGROUND OBJECTS HAVE NOT BEEN SHOWN ON THE PLANS. THE CONTRACTOR SHALL SATISFY HIMSELF OF EXISTING CONDITIONS AND SUPPORT AND PROTECT ALL LINES ENCOUNTERED IN THE TRENCHING AND EXCAVATION OPERATIONS.

11. IF, AT ANY TIME DURING THE INSTALLATION OF THE POLES, SIGNAL SPAN WIRE(S), OR MESSENGER CABLE(S), IT IS DISCOVERED THAT THE MINIMUM CLEARANCES FROM PRIMARY AND/OR SECONDARY POWER CONDUCTORS AS REQUIRED BY SECTION 23 OF THE NATIONAL ELECTRICAL SAFETY CODE (ANSI STANDARD C2-1997) AND LOCAL UTILITY CODES CANNOT BE ACHIEVED, THE UTILITY COMPANY OWNING SUCH CONDUCTORS SHALL BE NOTIFIED IN WRITING OF THE PROBLEM. NO FURTHER WORK SHALL BE DONE UNTIL SAID POWER LINES HAVE BEEN RELOCATED TO PROVIDE THE PROPER CLEARANCES.

12. UNDER NO CONDITION SHALL THE CONTRACTOR MAKE HIS OWN SERVICE CONNECTION. ALL SERVICE CONNECTIONS SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANY.

13. WHERE UNFORESEEN UNDERGROUND UTILITIES MAKE IT NECESSARY TO RELOCATE SIGNAL POLES MORE THAN 1.5 m FROM THEIR ORIGINAL LOCATIONS AS SHOWN ON THE CONTRACT PLANS, THE NYSDOT REGIONAL TRAFFIC ENGINEER SHALL BE NOTIFIED IMMEDIATELY AND ALTERNATE LOCATIONS WILL BE SUPPLIED BY THE DESIGNERS.

14. THE COST OF THE CONDUIT WITHIN THE POLE FOUNDATION SHALL BE INCLUDED IN THE PRICE BID FOR THE FOUNDATION. ALL POLE BASES SHALL HAVE ONE UNUSED CONDUIT IN THE BASE WHICH WILL BE RUN TO THE NEAREST PULLBOX. THE COST OF THE CONDUIT BETWEEN THE BASE AND THE PULLBOX WILL BE PAID FOR UNDER THE APPROPRIATE CONDUIT ITEM.

15. WHERE ONE CONDUIT IS TOO SMALL TO PERMIT THE PASSAGE OF THE REQUIRED SIGNAL WIRING, TWO OR MORE CONDUITS SHALL BE USED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE NUMBER OF CONDUITS NEEDED.

16. INDIVIDUAL LENGTHS OF GALVANIZED STEEL CONDUIT SHALL BE CONNECTED TOGETHER WITH THREADED GALVANIZED STEEL COUPLINGS.

17. WHERE SOUND BEDROCK IS ENCOUNTERED DURING POLE EXCAVATION OPERATIONS, AND THE DEPTH OF SOIL OVER THE ROCK IS ONE THIRD OR LESS THAN THE "MINIMUM EMBEDMENT" LENGTH GIVEN IN THE TABLE ON STANDARD SHEET M680-13, THEN THE FOOTING LENGTH MAY BE DECREASED SO AS TO PROVIDE AN EMBEDMENT INTO THE ROCK EQUAL TO THE FOOTING DIAMETER PLUS 600 mm. FOR DEEPER OVERBURDENS, THE FOOTING LENGTH MAY BE DECREASED TO PROVIDE AN EMBEDMENT INTO THE ROCK EQUAL TO THE FOOTING DIAMETER. IF THE RESULTING DEPTH IS LESS THAN THE LENGTH OF THE ANCHOR BOLTS, THE CONTRACTOR SHALL EXCAVATE TO THE LENGTH OF THE ANCHOR BOLTS PLUS 150 mm.

18. FOR NEW ANCHOR BASE SIGNAL POLE INSTALLATIONS:
    A) THE CONCRETE POLE FOUNDATION SHALL CURE FOR A MINIMUM OF 14 DAYS BEFORE THE SIGNAL POLE IS ERECTED, AND FOR A MINIMUM OF 28 DAYS BEFORE THE SPAN WIRE AND SIGNAL HEADS ARE INSTALLED.
    B) THE COST OF THE ANCHOR BOLTS AND THE STEEL REINFORCING SHALL BE INCLUDED IN THE PRICE BID UNDER ITEM 680.5001M - POLE EXCAVATION AND CONCRETE FOUNDATION.

19. ALL ANCHOR BASE TRAFFIC SIGNAL SPAN WIRE POLES SHALL BE EQUIPPED WITH ANCHOR BOLT COVERS.

20. ALL POLES SHALL BE EQUIPPED WITH A GROUNDING TERMINAL ACCESSIBLE THROUGH THE HANDHOLE IN THE POLE AS PER SECTION 724-03 OF THE NYSDOT STANDARD SPECIFICATIONS. THIS TERMINAL SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE POLE FROM THE HANDHOLE. TERMINALS LOCATED ADJACENT TO THE HANDHOLE SHALL NOT BE ACCEPTABLE.

21. ALL TRAFFIC SIGNAL POLES SHALL BE INSTALLED SO THAT THE POLES SHALL HAVE A MINUMUM RAKE OF $1/4$ OF THE DIAMETER OF THE SIGNAL POLE MEASURED AT ITS BASE AFTER LOADING.

22. ALL HOLES FOR L.B. CONDULETS AND THIMBLEBOLTS SHALL BE DRILLED. THE USE OF CUTTING TORCHES SHALL NOT BE PERMITTED UNLESS WRITTEN PERMISSION IS GRANTED IN ADVANCE BY THE NYSDOT REGIONAL TRAFFIC ENGINEER.

23. ALL THIMBLEBOLTS USED FOR TRAFFIC SIGNAL SPAN WIRE AND/OR MESSENGER CABLE ATTACHMENTS AS SHOWN ON STANDARD SHEETS M680-1, M680-10, M680-14 AND M680-14R1 SHALL BE $3/4$ NPS AND SHALL HAVE A BREAKING STRENGTH EQUAL TO THAT OF THE ATTACHED SPAN WIRE AS SHOWN IN NOTE 6 ON STANDARD SHEET M680-1. THIMBLEBOLTS ARE TO BE USED IN PLACE OF THE EYEBOLTS SPECIFIED ON THE STANDARD SHEETS.

24. WHERE SIGNAL CABLE IS INSTALLED ON A SPAN WIRE OR MESSENGER CABLE, IT SHALL BE SUPPORTED AT INTERVALS OF NOT GREATER THAN 375 mm BY COPPERWELD (COPPER COVERED STEEL) CABLE RINGS APPROVED BY THE RESIDENT ENGINEER. STEEL OR PLASTIC CABLE BANDS, OR TAPING WILL NOT BE PERMITTED.

25. POWER SHALL BE SUPPLIED TO THE SIGNALS VIA A 1NPS METAL STEEL CONDUIT TO BE PAID FOR UNDER ITEM 680.520103 M - CONDUIT, METAL STEEL, ZINC COATED, 1NPS. THE PRICE BID UNDER THIS ITEM SHALL INCLUDE THE COST OF INSTALLING THE CONDUIT AND WEATHERHEAD AS WELL AS THE COST OF ATTACHING THE METER SOCKET (SUPPLIED BY THE UTILITY COMPANY FURNISHING POWER) TO THE SIGNAL POLE AS SHOWN ON THE ELECTRIC SERVICE DETAIL(S) IN THE PLANS. FOR NIAGARA MOHAWK INSTALLATIONS, THE METER SOCKET SHALL BE SUPPLIED UNDER ITEM 01680.9092 M.

26. THE SIGNAL SYSTEM SHALL BE EQUIPPED WITH AN ITEM 15680.94 M - RAINTIGHT DISCONNECT BOX WHICH SHALL BE INSTALLED BETWEEN THE METER SOCKET AND THE CONTROLLER. THE SERVICE CABLE SHALL BE RUN FROM THE DISCONNECT BOX THROUGH A CHASE NIPPLE THROUGH THE BACK OF THE DISCONNECT BOX INTO THE SIGNAL POLE AND THENCE THROUGH THE LARGE L.B. CONDULET INTO THE CONTROLLER CABINET.

27. THE LOCATION AND ORIENTATION OF THE POLE MOUNTED CABINET SHALL BE BASED ON THE FOLLOWING:
    A) PROVIDING ACCESS TO THE CONTROLLER FROM WITHIN THE RIGHT OF WAY.
    B) PROVIDING PROTECTION TO THE CONTROLLER FROM SNOWPLOWS AND ERRANT VEHICLES.
    C) PREVENTING THE CONTROLLER FROM OVERHANGING THE SIDEWALK OR PRESENTING A HAZARD TO PEDESTRIANS.
    D) PROVIDING VISIBILITY OF THE SIGNAL HEADS DURING MAINTENANCE OPERATIONS.
    THE CABINET SHALL BE INSTALLED SO THAT THE BOTTOM OF THE CABINET IS 1.1m ABOVE THE STANDING PAD.

28. EACH PHASE SHALL HAVE ITS OWN GROUND WIRE.

29. A CARD SHALL BE PLACED ON THE INSIDE DOOR OF EACH CONTROLLER CABINET LISTING ALL THE COMPONENT PARTS BY SERIAL NUMBER, THE DATE OF INSTALLATION, AND DATE OF OFFICIAL OPERATION. WHERE NEW YORK STATE MICROCOMPUTERS ARE TO BE USED, THIS WILL BE DONE BY THE NYSDOT REGIONAL MAINTENANCE FORCES.

30. BALANCE ADJUSTERS AND SWIVEL BALANCERS WILL BE INSTALLED AT EACH SIGNAL HEAD ASSEMBLY.

31. ON ALL SIGNAL HEAD ASSEMBLIES ALL FEMALE THREADED CONNECTING HARDWARE SHALL BE MANUFACTURED WITH TWO SET SCREWS AND ALL THREADED PIPE NIPPLES SHALL HAVE TAPERED THREADS.

32. THE BOTTOMS OF ALL SINGLE SECTION TRAFFIC SIGNAL HEADS SHALL BE LOCATED A MINIMUM OF 5.7 m TO 5.9 m ABOVE THE PAVEMENT SURFACE.

33. ALL SPAN WIRE CONNECTIONS TO THE SIGNAL HEADS SHALL BE MADE DIRECTLY TO THE TERMINAL BLOCK(S) INSIDE OF EACH SIGNAL HEAD ASSEMBLY; PIGTAILS AND EXPOSED SPLICES SHALL NOT BE PERMITTED. WHERE TWO SIGNAL HEADS ARE TO BE WIRED FROM THE SAME CABLE, THE SIGNALS SHALL BE DAISY CHAINED WITH ONE LENGTH OF WIRE RUNNING FROM THE CONTROLLER ENTERING THE FIRST SIGNALS WEATHER HEAD AND A SECOND LENGTH LEAVING THE WEATHER HEAD AND RUNNING TO THE OTHER SIGNALS WEATHER HEAD.

34. ONCE TRAFFIC SIGNAL HEAD ASSEMBLIES HAVE BEEN INSTALLED AND ADJUSTED IN THE FIELD TO THE SATISFACTION OF NYSDOT TRAFFIC MAINTENANCE PERSONNEL, THE CONTRACTOR SHALL APPLY A BEAD OF SILICONE SEALANT AROUND THE SERRATED LOCK RING AT ALL LOCATIONS WHERE VERTICAL PIPE NIPPLES ARE ATTACHED TO THE TOP SURFACES OF BOTH TRAFFIC SIGNAL SECTIONS AND PIPE CROSS BODIES TO PREVENT WATER INFILTRATION INTO THE SIGNAL ASSEMBLY.

LEGEND

PROPOSED	EXISTING	DESCRIPTION
●	○	SIGNAL POLE
●■	○□	POLE MOUNTED CONTROLLER
———	— — —	SPAN WIRE ASSEMBLY
▬	⊂⊃	CONDUIT
2	6	PULLBOX (TRAFFIC SIGNALS & NUMBER)
•→	○▷	TRAFFIC SIGNAL HEAD - 1WAY
↕→	↕▷	TRAFFIC SIGNAL HEAD - 2 WAY
③		SIGNAL FACE & NUMBER
Ø		PHASE
▬	▭	REFLECTORIZED PAV'T STRIPES
■	□	UTILITY POLE
⊣		OVERHEAD TRAFFIC SIGN

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1992)

IN CHARGE OF T. KARIS DESIGNED BY C. PRISK CHECKED BY M. WIESZCHOWSKI ESTIMATED BY C. PRISK CHECKED BY M. WIESZCHOWSKI DRAFTED BY C. KAHLBAUGH CHECKED BY T. BURTNICK DATE 2/04

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GENERAL NOTES AND LEGEND

SURVEYED BY C.H.A. & V.S.E.	DATE 12/93
DESIGNED BY C.A.P.	DATE 2/04
DRAWN BY C.A.K.	DATE 2/04
CHECKED BY M.R.W.	DATE 2/04

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