

LUMINAIRE OVS 200 HPS
OVS 150 HPS
LAMP LUI150 HPS SSV G

SOCKET POSITION: OH-3
REFLECTOR: SEMI-SPECULAR
REFRACTOR: FLAT GLASS
LO: 5.25
OTHER VARIABLES: 9-6-85 H1+3

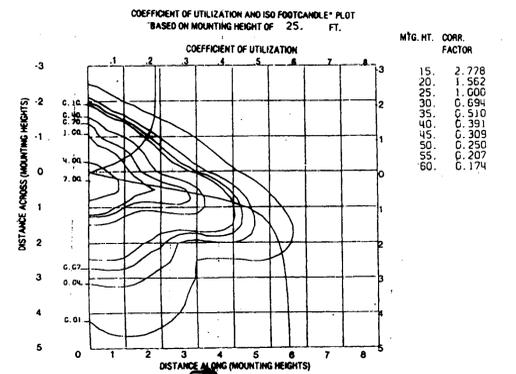
TEST NO. 763658

CLASSIFICATION: II MEDIUM CUTOFF
(ANSI 1977)

DISTRIBUTION BY ZONES (% OF LAMP LUMENS)
DOWNWARD STREET SIDE: 56.7 %
DOWNWARD HOUSE SIDE: 10.0 %
UPWARD STREET SIDE: 0.0 %
UPWARD HOUSE SIDE: 0.0 %
TOTAL EFFICIENCY: 75.3 %

CANDELA DATA
MAX CD: 32936 AT 74.9 H 70.5 V
MADN CD: 3610

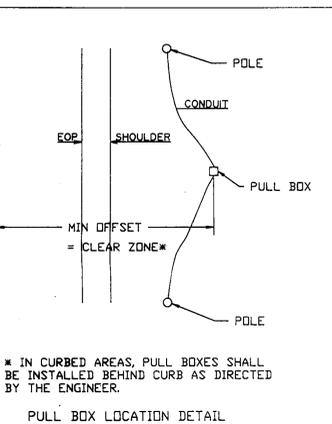
*NOTE: ISO FOOTCANDLE AND CANDELA VALUES ARE PER 16500 LAMP LUMENS



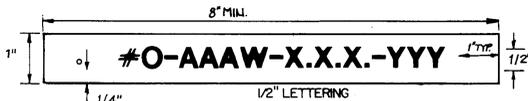
THIS TEST WAS MADE IN ACCORDANCE WITH THE IES APPROVED METHOD FOR PHOTOMETRIC TESTING

13 PHOTOMETRIC DATA SHEET
N.T.S.

NOTE:
ALL PHOTOMETRIC DATA PROVIDED FOR FIXTURE OVS 200 HPS SHALL BE THE SAME AS OVS 150 HPS EXCEPT UTILIZE A MULTIPLIER OF 1.33.



DATUM
VERTICAL N.G.V.D. 1929
HORIZONTAL N.A.D. 1927



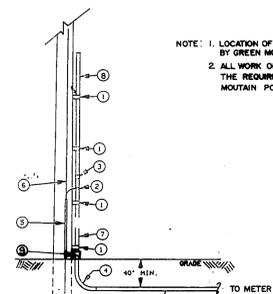
TAG NOTE:
1) #O, INDICATES DESIGNATED POLE NUMBER.
2) AAAM, INDICATES LIGHT FIXTURE WATTAGE.
3) X.X.X., INDICATES TYPE OF LIGHTING
4) YYY, INDICATES DISTRIBUTION TYPE.

LEGEND: BLACK OR WHITE (NON-REFL.) - STAMPED PRIOR TO PAINTING.
BACKGROUND: NATURAL ALUMINUM OR FLAT BLACK SURFACE, SAME AS POLE FINISH.

- NOTES:
1. THE TAG SHALL BE MOUNTED ON ALL STREET LIGHT POLES IN SUCH A MANNER AS NOT TO BE EASILY REMOVED, SUCH AS WELDED, RIVETED, OR BOLTED WITH VANDAL PROOF BOLTS.
 2. THE LETTERS SHALL BE PUNCHED, STAMPED, ENGRAVED, OR PHOTO-ETCHED. STAMPING SHALL PENETRATE AT LEAST 1/2 THE BASE MATERIAL THICKNESS. THE PHOTO-ETCHING WOULD NOT PENETRATE 1/2 THE BASE MATERIAL THICKNESS.
 3. THE BASE MATERIAL FOR THE TAG SHALL BE ALUMINUM WITH A MINIMUM THICKNESS OF 0.100 INCHES.
 4. THE TAG SHALL BE ATTACHED TO THE POLE ABOVE THE HANDHOLE, 6 INCHES MAXIMUM. IF THE POLE HAS A TRANSFORMER BASE, ATTACH TAG TO COVER.

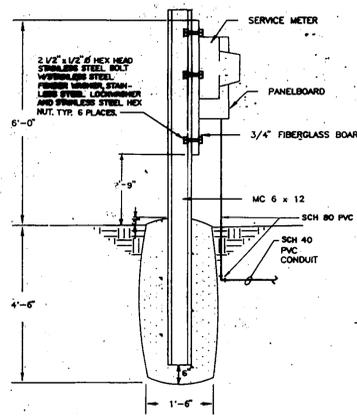
14 DETAILS FOR TAGS ATTACHED TO STREET LIGHT POLES
N.T.S.

NOTE:
1. ALL WORK ASSOCIATED WITH THE SERVICE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF GREEN MOUNTAIN POWER COMPANY.



ITEM	MATERIAL	REQ.
1	Bracket, standard 2.5"	3
2	Clamp, standard 2.5"	1
3	Adapter, female 2.5" rigid PVC	1
4	2.5" Elbow, 36" min. radius	1
5	Protective sleeve, 3/4" x 1/2" x 10'	1
6	Wire, 100' x 1/8"	1
7	Conduit, 2.5" SCH 80 PVC	1
8	Additional Conduit as Required by G.M.P.	
9	SLIP JOINT, SCH 80 PVC	

NOTE:
1. THE CONTRACTOR TO INSTALL ALL UNDERGROUND CONDUIT AND THE FIRST SECTION ON THE POLE. THE CONTRACTOR SHALL SUPPLY THE ADDITIONAL CONDUIT REQUIRED ON THE POLE FOR INSTALLATION BY GREEN MOUNTAIN POWER COMPANY. A MINIMUM OF 50' OF SERVICE CONDUCTORS SHALL BE LEFT AT THE BASE OF THE POLE FOR INSTALLATION BY GREEN MOUNTAIN POWER.



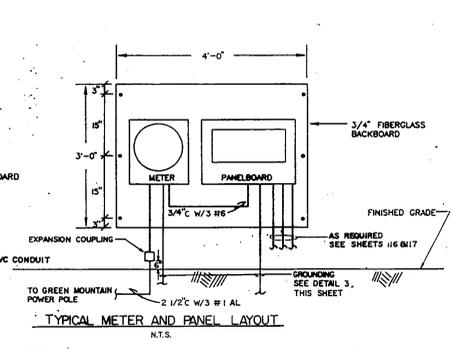
NOTES:
1. ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE METER AND PANELBOARD SHALL BE INCLUDED IN ITEM 679.15
2. PAINT THE CHANNELS FROM THREE INCHES INTO CONCRETE TO TOP WITH ONE COAT OF RED OXIDE PRIMER AND ONE COAT OF CHANNEL FINISH COAT - COLOR SILVER. COORDINATE PRIMER WITH EXAMINER'S RECOMMENDATIONS. PAINT CHANNELS BEFORE INSTALLING FIBERGLASS BACKBOARD.

GENERAL
ALL ELECTRICAL MATERIAL AND INSTALLATION SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, STATE CODES, AND REQUIREMENTS OF THE LOCAL UTILITY COMPANY AT THE POWER SOURCE.
THE LAST CONCRETE POLE BASE AT THE END OF EACH CIRCUIT SHALL HAVE A CONDUIT SWEEP WITH CAP INSTALLED FOR FUTURE USE.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND SCHEDULING WORK WITH THE LOCAL UTILITIES, AND FOR OBTAINING ALL NECESSARY PERMITS.
THE LOAD ON EACH BRANCH OF A THREE WIRE CIRCUIT SHALL BE AS BALANCED AS POSSIBLE, LOAD TO NEUTRAL.

WORK TO BE DONE BY THE CONTRACTOR
THE CONTRACTOR SHALL:
1. INSTALL NEW CONCRETE BASES, POLES, LUMINAIRES, WIRING, CONDUIT, PULLBOXES, GROUND RODS, JUNCTION BOXES, EXPANSION COUPLINGS, POLE MOUNTING BRACKETS, POLE RISER, WEATHER HEAD, METER SOCKET, RAIN TIGHT CABINET WITH OVERLOAD DISCONNECTS FOR EACH CIRCUIT, MAIN SAFETY SWITCH, AND OTHER RELATED MATERIAL HARDWARE.
2. INSTALL METAL TAGS ON THE HANDHOLES OF THE NEW POLES WITH INFORMATION AS INDICATED IN THE DETAILS FOR TAGS ATTACHED TO STREET LIGHT POLES.
3. BE RESPONSIBLE FOR POWER COSTS AND MAINTENANCE OF NEW STREET LIGHTS UNTIL ACCEPTANCE OF THE PROJECT.
4. MAKE CONTACT WITH AND PERFORM WORK IN ACCORDANCE WITH THE UTILITY COMPANY AT THE POWER SOURCE.
5. BE RESPONSIBLE FOR ACQUIRING ANY PERMITS WHICH MAY BE NECESSARY.
6. INSTALL BREAKAWAY FEATURE AS REQUIRED.
PAYMENT FOR THE ABOVE WORK WILL BE SUBSIDIARY TO ITEM 679.16, STREET LIGHTING.
PAYMENT FOR STREET LIGHT POLE MOUNTING BRACKETS AND OTHER NECESSARY HARDWARE FOR ATTACHING CONDUIT TO THE STRUCTURE SHALL BE UNDER ITEM 679.15, STREET LIGHTING.

CONCRETE BASES
THE OFFSET FOR CONCRETE BASES (EDGE OF SHOULDER TO CENTER OF CONCRETE BASE) TO BE A MINIMUM OF SIZE (6') FEET OR AS OTHERWISE NOTED ON THE PLANS.
WHEN GUARDRAIL EXISTS, THE GUARDRAIL DEFLECTION OR THE SIDE SLOPE WILL GOVERN MINIMUM OR MAXIMUM OFFSET. WITH A 1-3 OR 1-2 SIDE SLOPE, THE PREFERRED LIGHT POLE OFFSET IS FOUR (4') FEET MAXIMUM.
MINIMUM CONCRETE BASE SIZES SHALL BE 2 1/2' X 8' FOR POLES WITH ARMS 15'-0" FEET IN LENGTH. ALSO POLES WITH A 40' FOOT OR GREATER MOUNTING HEIGHT REQUIRE A LARGER CONCRETE BASE. TO BE SPECIFIED IF REQUIRED.
WHEN CONCRETE BASES ARE INSTALLED IN SLOPING GROUND, THE GREATEST EXPOSED HEIGHT TO KEEP ALL OF THE TOP ABOVE GROUND MUST BE DOUBLED AND THEN ADDED TO THE MINIMUM DEPTH FOR THE TOTAL BASE HEIGHT.
CARE SHOULD BE TAKEN WHERE CONCRETE BASES, DRAINAGE STRUCTURES OR UTILITIES ARE CLOSE TOGETHER.

CONDUIT
THE CONDUIT IN THE CONCRETE BASE SHALL EXIT THE BASE 40 INCHES BELOW THE TOP OF THE CONCRETE BASE.
A 2-1/2 INCH (I.D.) MINIMUM CONDUIT SHALL BE USED AT ALL LOCATIONS UNLESS OTHERWISE NOTED ON THE PLANS. ALL CONDUIT SHALL BE SCHEDULE 40 RIGID PVC MEETING NEMA TC2 STANDARD EXCEPT AS NOTED ON THE PLANS.
FINAL CONDUIT DEPTH SHALL BE 40 INCHES OR AS DIRECTED BY THE ENGINEER.
MINIMUM RADIUS FOR SWEEPS SHALL BE 36 INCHES.
A 6 INCH WIDE YELLOW MARKING TAPE (PLASTIC) SHALL BE INSTALLED OVER THE CONDUIT. THE TAPE SHALL BE PLACED 30 INCHES ABOVE THE CONDUIT.
A MAXIMUM OF 270 DEGREES IN TOTAL BENDS WILL BE PERMITTED IN A SINGLE RUN OF CONDUIT.



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GENERAL STREET LIGHT NOTES

GROUNDING
IN ADDITION TO A GROUND ROD AT EACH CONCRETE POLE BASE, A CONTINUOUS GROUNDING CIRCUIT (MINIMUM #6 A.W.G. COPPER CONDUCTOR) SHALL BE RUN BACK TO A CIRCUIT PROTECTIVE DEVICE AT THE POWER SOURCE OR TRANSFORMER. ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE.
ALL CONDUIT MUST INCLUDE A GROUNDING CONDUCTOR, AND RIGID STEEL CONDUIT SHALL BE PROPERLY CONNECTED AT THE JOINTS SO AS TO BE WATERTIGHT AND MAINTAIN ELECTRICAL CONTINUITY AND HAVE GROUNDING BUSHINGS SO AS TO ACT AS A GROUND CONDUCTOR.

POLES, ANCHOR BASES AND ARMS
NO STREET LIGHT POLE SHAFT WALL THICKNESS SHALL BE LESS THAN 0.188" AND SHALL HAVE A MINIMUM 8" INCH (O.D.) BOTTOM DIMENSION.
ALL NEW STREET LIGHT POLES AND LUMINAIRE ARMS SHALL BE ALUMINUM IN ACCORDANCE WITH SUBSECTION 753.01 (B).
ALL STREET LIGHT POLES SHALL HAVE A FRANGIBLE OR BREAKAWAY DEVICE BETWEEN THE POLE BASE AND CONCRETE BASE UNLESS SO STATED ON THE PLANS OR BE PROPERLY PROTECTED BY GUARDRAIL.

WIRE
ALL WIRING SHOWN ON THE PLANS SHALL BE ALUMINUM OR COPPER AND SIZED AS SPECIFIED ON THE PLANS. ALL WIRE TO HAVE TYPE XHHW INSULATION OR EQUIVALENT.
USE #10 A.W.G. STRANDED COPPER WIRES IN EACH POLE BETWEEN THE POLE BASE AND THE LUMINAIRE.
USE #6 A.W.G. COPPER (MINIMUM) FOR THE CONTINUOUS GROUND CIRCUIT.
ALL WIRE CONNECTIONS IN THE LIGHT POLE BASES SHALL BE MADE WITH THE PROPER, IN LINE OR WYE TYPE WATERPROOF DISCONNECT KIT. THE LOAD SIDE OF THE LUMINAIRE SHALL BE FUSED AT 3 TIMES THE LOAD.

PULLBOXES
FOR DETAILS SEE SHEET 115 B

LUMINAIRES
LUMINAIRES SHALL BE DESIGNED FOR STREET LIGHTING AND THE INDICATED LIGHT DISTRIBUTION. THEY SHALL INCLUDE AN ALUMINUM HOUSING WITH EASY ACCESS TO THE BALLAST ASSEMBLY, PHOTO-ELECTRIC CONTROL, FILTERED OPTICAL ASSEMBLY, METAL CUT-OFF DISTRIBUTION AND REGULATOR BALLAST FOR APPROPRIATE VOLTAGE HIGH PRESSURE SODIUM LAMPS.
LIGHT DISTRIBUTION IS BASED ON CROUSE-HINDS PHOTOMETRIC DATA DRAWINGS OVS150 HPS, MEDIUM CUT-OFF, TYPE II DISTRIBUTION, DATED 09-06-85 AND DRAWING OVS200 HPS, MEDIUM CUT-OFF, TYPE II DISTRIBUTION, DATED 09-06-85.
THE ABOVE PHOTOMETRIC DATA DRAWINGS WERE USED FOR DESIGN PURPOSES ON THIS PROJECT. OTHER MANUFACTURER'S PRODUCTS MAY BE SUBSTITUTED IF THE INSTALLED LUMINAIRE LIGHT UTILIZATION AND MINIMUM FOOTCANDLES ON THE ROADWAY AND SHOULDER ARE AT LEAST AS GREAT AS THAT INDICATED BY THE ABOVE PHOTOMETRICS.

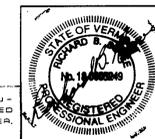
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CONDUIT SLEEVE
MINIMUM WALL THICKNESS FOR RIGID PLASTIC PIPE SLEEVES SHALL BE 1/35TH THE DIAMETER. ALL CONDUIT RUNS UNDER ROADWAY SHALL BE INSTALLED IN RIGID PLASTIC PIPE SLEEVES. THE SLEEVE SHALL EXTEND TO WITHIN 2 FEET OF THE SIDE OF A CONCRETE BASE OR PULLBOX. WHERE NO CONCRETE BASE OR PULLBOX IS PRESENT, THE SLEEVE SHALL EXTEND 2' FEET BEYOND THE OUTSIDE EDGE OF SHOULDER OR FACE OF CURB. BACKFILLING AROUND A SLEEVE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
WHEN JACKING A SLEEVE UNDER A ROADWAY IT SHALL BE STEEL WITH A MINIMUM DIAMETER OF 8" INCHES AND MINIMUM WALL THICKNESS OF 3/8 INCH. ACTUAL LENGTH TO BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER.

BUILT AS DESIGNED 4/19/94 SC
REV. 3/28/91 - ADDED DETAILS
INTERSECTION LIGHTING DETAILS



SURVEYED BY: _____ DATE _____
DRAWN BY: N.M.R. DATE 8/90
TRACED BY: _____ DATE _____
VERMONT ROUTE 289 (FA.P.)
TOWN OF ESSEX
PROJ. WILLISTON NO. PB 033-1(2)
COLCHESTER
SHEET 114 OF 400

ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER IS ILLEGAL.