

# LIGHTING NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LAKE COUNTY  
LAK. 2-0.01

THE INFORMATION CONTAINED IN THESE NOTES WILL BE SUPPLEMENTAL TO THE 1969 CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE STANDARD DRAWINGS, AND WILL THEREFORE COVER MODIFICATIONS OF, OR ADDITIONS TO SPECIFICATIONS SECTIONS 625 AND 713, AND STANDARD DRAWINGS HL-1, HL-2, HL-3 AND HL-4.

**625.03. GENERAL**

POWER WILL BE FURNISHED BY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, 55 PUBLIC SQUARE, CLEVELAND, OHIO 44114, AT THE POINTS SHOWN ON THE PLANS.

**625.05 LIGHT POLES**

MECHANICAL PROPERTIES FOR LIGHT POLES												
SHAFT SIZE	GA.	DIAM. OF BOLT CIRCLE	PROJ. ABOVE FOUNDATION	ARM LGTH.	MTG. HT.	ELAST. DEFL. RATE INCHES PER 100 LBS.	AT 2/3 YIELD STR.			AT YIELD STR.		
							LOAD (LBS.)	TOTAL DEFL. (IN.)	PERMANENT SET (IN.)	LOAD (LBS.)	TOTAL DEFL. (IN.)	PERMANENT SET (IN.)
9"X5.65"X33'-6"	11	12.5"	3"	15'	40.0'	2.92	576	17.3	0.5	865	28.3	3.0
8.5"X5.9"X26'-0"	11	11.5"	2 3/4"	10' 8 1/2"	32.5'	1.45	670	10.2	0.5	1000	16.5	2.0

† THESE VALUES ARE FOR ANCHOR BASE POLES. IF CAST BASE IS ATTACHED, USE VALUES FROM RL-SK-186, (Sheet 17) AND INCREASE MOUNTING HEIGHT BY 1.7 FT.

**625.07, 713.11, 713.13 LUMINAIRES**

UNDERPASS LUMINAIRES SHALL BE 250 WATT; HOLOPHANE "UNDERPASS WALLPACK", GENERAL ELECTRIC "WALLLIGHTER", OR EQUIVALENT BY Mc GRAW-EDISON OR OTHER.

700 WATT LUMINAIRES SHALL BE GENERAL ELECTRIC M1000, WESTINGHOUSE OV-50 OR Mc GRAW EDISON UNISTYLE, OR OTHER APPROVED EQUAL.

400 WATT LUMINAIRES SHALL BE GENERAL ELECTRIC M400, WESTINGHOUSE OV-25 OR Mc GRAW EDISON UNISTYLE, OR OTHER APPROVED EQUAL.

INTEGRAL REGULATOR BALLASTS SHALL BE DUAL RATED 240/480 VOLTS FOR 400 WATT LUMINAIRES, AND SINGLE RATED 480 VOLTS FOR 700 WATT LUMINAIRES.

**625.08 - 713.14 LAMPS**

MERCURY VAPOR LAMPS SHALL BE GENERAL ELECTRIC BONUS LINE, WESTINGHOUSE LIFE GUARD, SYLVANIA ROUGH SERVICE OR OTHER APPROVED EQUAL.

**625.11, 713.08 AND 713.09 PULL BOXES AND COVERS.**

ONLY 18" PULL BOXES SHALL BE USED IN THIS PROJECT. WHERE MULTIPLE CONDUIT RUNS ARE INVOLVED, TWO PULL BOXES, SIDE BY SIDE, ARE CALLED FOR.

ALL PULL BOXES SHALL HAVE FRENCH DRAINS WHICH DRAIN TO SLOPE OR UNDERDRAIN

COST OF DRAINS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PULL BOXES.

**625.12 TRENCH**

ALL TRENCH SHALL BE LOCATED IN LINE WITH BACK EDGE OF CONCRETE FOUNDATION AS SHOWN FOR ALTERNATE TRENCH ON STD. CONST. DWG. HL-1, EXCEPT THAT DEPTH SHALL BE AS INDICATED BY SYMBOLS.

WITHOUT PRIOR APPROVAL OF THE ENGINEER, EXCAVATIONS FOR TRENCHES SHALL NOT EXCEED 12" IN WIDTH.

**625.13 CONDUIT\***

THE CONDUIT SHOWN ON THE PLANS, CROSSING THE EXISTING PAVEMENT, SHALL BE PLACED IN AN APPROVED MANNER, SUCH AS "DRILLING" OR "JACKING".

THE CONTRACTOR SHALL PLACE THE CONDUIT WITH THE LEAST AMOUNT OF DISTURBANCE TO THE EXISTING PAVEMENT, SUBBASE, BERM OR SHOULDERS OF THE ROADWAY.

ALL PUSHPIITS OR NECESSARY EXCAVATIONS SHALL BE BACKFILLED IN ACCORDANCE WITH THE CONSTRUCTION AND MATERIAL SPECIFICATIONS REQUIRED FOR DEEP EXCAVATIONS. ALL SOD AND SEEDED AREAS DISTURBED SHALL BE REPLACED IN ACCORDANCE WITH THE STANDARD PROVISIONS. GRADING, CLEANING, SEEDING AND ALL OTHER WORK NECESSARY TO REPLACE THE EXISTING GRADE SHALL BE DONE TO THE SATISFACTION OF THE PROJECT ENGINEER.

MEASUREMENT OF THE CROSSOVER CONDUIT SHALL BE THE ACTUAL NUMBER OF LINEAL FEET MEASURED IN PLACE AS ACCEPTED BY THE ENGINEER. PAYMENT FOR CROSSOVER CONDUIT SHALL BE PER LINEAL FOOT IN PLACE: "CROSSOVER CONDUIT, 3" RIGID FERROUS METAL, TYPE II OR III AS PER PLAN."

PAYMENT SHALL BE FULL COMPENSATION FOR CONDUIT, EXCAVATION, DRILLING OR JACKING, BACKFILLING, COMPACTION, SEEDING, LABOR, MATERIAL, EQUIPMENT AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

**625.14 & 625.15 CABLE & DUCT CABLE IDENTIFICATION**

ALL CABLES, EXCEPT STRUCTURE GROUNDING SYSTEM CABLE, ENTERING AN ACCESSIBLE ENCLOSURE SUCH AS A PULL BOX, JUNCTION BOX, LIGHT POLE BASE, DEVICE HOUSING, ETC., FOR THE PURPOSE OF BEING TERMINATED OR CONNECTED TO ANOTHER CABLE SHALL BE IDENTIFIED IN SUCH ENCLOSURE WITH THE MATERIAL AND DEVICES SPECIFIED IN 713.18.

ALL CABLES SHALL BE, WITHOUT SPLICES, BETWEEN TERMINATIONS EXCEPT THAT EXOTHERMICALLY WELDED JOINTS IN STRUCTURE GROUNDING SYSTEMS SHALL NOT BE CONSIDERED AS SPLICES FOR THIS PURPOSE.

**625.25 BASIS OF PAYMENT**

BI0 ITEMS SHALL BE AS SHOWN ON SHEET NO.6 "GENERAL LIGHTING QUANTITIES".

**2" CONDUIT FEED ON WORDEN RD. STRUCTURE**

CONDUIT SHOWN ON THE PLANS, INCLUDING FLEXIBLE CONDUIT, EXPANSION FITTINGS, SURFACE MOUNTED JUNCTION BOXES (8" X 8" X 6") PLUS ATTACHMENT OF THE ABOVE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE, BID PER LINEAL FOOT FOR ITEM 625 "CONDUIT, 2" RIGID FERROUS METAL, TYPE II OR III AS PER PLAN."

PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIAL EQUIPMENT, AND INCIDENTALS TO COMPLETE THIS ITEM.

**UNDERDECK LIGHTING**

THIS ITEM SHALL CONSIST OF UNDERDECK LIGHTING COMPLETE WITH THE EXCEPTION OF LUMINAIRES, LAMPS, AND GROUNDING SYSTEM FOR THE LLOYD RD. CONN. AND RUSH RD. BRIDGES. INCLUDED SHALL BE NECESSARY CONDUITS, MOUNTINGS, FITTINGS, ALL NO. 10 WIRING, JUNCTION BOXES, AND ALL NECESSARY ITEMS TO COMPLETE THE JOB AS SHOWN ON SHEETS NO. 14 & NO. 15.

\* CONDUIT TERMINALS MUST BE SEALED, AS CALLED FOR UNDER 625.13, IMMEDIATELY UPON COMPLETION OF DUCT CABLE INSTALLATION. EMPTY CONDUITS SHALL BE IMMEDIATELY CAPPED UNTIL PULL WIRE OR CABLE IS INSTALLED. LIGHT POLE HAND HOLES AND BASE DOORS SHALL HAVE COVERS INSTALLED IMMEDIATELY UPON ERECTION OF POLE. ALL CABLE CONNECTOR KITS AND EXPOSED CABLE ENDS SHALL BE ADEQUATELY PROTECTED BY ENCLOSING IN PLASTIC BAGS, TAPING, OR OTHER APPROVED MEANS UNTIL CABLE CONNECTIONS HAVE BEEN COMPLETED. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE RESPECTIVE ITEM.

**625 TRANSFORMERS, TYPE II, 0.50 KVA; TYPE V, 1.50 KVA.**

TRANSFORMERS SHALL BE DRY-TYPE, SINGLE PHASE, 240/480 VOLT PRIMARY, 120/240 VOLT SECONDARY, TO BE MOUNTED IN SIGN LIGHTING CONTROLLER ENCLOSURES, AS SPECIFIED BELOW:

TYPE	MANUFACTURER'S CATALOG NUMBERS			CAPACITY KVA
	GENERAL ELECTRIC	JEFFERSON	WESTINGHOUSE	
II	9T5IY8	220-051	6E191	0.5 ⊕
V	9T5IY11	220-081	6E194	1.5 ★

⊕ FOR SIGNS Nos. 1, 6, 7, 9, 11, 59, AND 60.

★ FOR SIGNS Nos. 8 AND 12.

PAYMENT FOR TRANSFORMER SHALL BE PER CONTRACT UNIT PRICE BID FOR EACH TRANSFORMER INSTALLED, CONNECTED AND ACCEPTED.

**625.19 CONTROL CENTER**

THE TYPE "M" CONTROL CENTER WILL INCLUDE AN EXISTING AND A NEW SWITCH ENCLOSURE, ASSEMBLED AS SHOWN ON SHEET 16.

EACH TYPE "N" CONTROL CENTER WILL CONSIST OF A SINGLE NEW SWITCH ENCLOSURE.

NECESSARY AUXILIARY EQUIPMENT, WIRING, MOUNTING AND GROUNDING SHALL BE INCLUDED WITH ALL CONTROL CENTERS AS SHOWN ON SHEET 16.

**RESTORATION OF DISTURBED AREAS**

THE CONTRACTOR SHALL REPLACE SEEDED AND SODDED AREAS, PAVED SHOULDERS AND ALL OTHER DISTURBED SURFACES TO A CONDITION EQUAL TO THAT EXISTING BEFORE THE WORK WAS STARTED. ALL REPLACEMENTS SHALL BE DONE IN ACCORDANCE WITH THE PERTINENT SPECIFICATION ITEMS AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR ALL RESTORATION WORK, INCLUDING MATERIALS, EQUIPMENT, LABOR, INCIDENTALS AND DISPOSAL OF ALL SURPLUS MATERIALS, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR ITEMS 625.

**FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS**

THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, AND SUBSEQUENTLY REMOVE FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS AT EACH OF THE FOLLOWING APPROXIMATE LOCATIONS:

1. S.R. 2 STA. 100+50 RIGHT SIDE

2. S.R. 2 STA. 220+85 LEFT SIDE

SIGN DETAILS SHALL BE AS SPECIFIED ON STANDARD DRAWING FACI-1, CODE N-54 (1)-96 (3). THE SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FACI-2. ADDITIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL.

**FIELD OFFICE**

THE CONTRACTOR SHALL, IN ACCORDANCE WITH THE REQUIREMENTS OF SEC. 619, PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 200 SQ. FT. OF FLOOR SPACE.

**CONSTRUCTION LAYOUT STAKES**

SEE NOTE IN PROPOSAL DESCRIBING THE WORK INCLUDED IN THIS LUMP SUM PAY ITEM.

**MAINTENANCE OF TRAFFIC**

TRAFFIC SHALL BE MAINTAINED ON THE EXISTING PAVEMENT WITHOUT INTERRUPTION DURING CONSTRUCTION OF THE WORK EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL SET UP AND OPERATE HIS EQUIPMENT IN SUCH A MANNER AS TO ENCR OACH UPON THE TRAVELED WIDTH OF THE PAVEMENT TO A MINIMUM EXTENT.