I. MATERIALS

THE ALUMINUM POLES SHALL BE AS FOLLOWS:

THE STREET LIGHT POLE SHALL CONSIST OF A ROUND, TAPERED, SPUN ALUMINUM SHAFT WITH A POLE TOP AND A BASE WELDED TO THE LOWER END OF THE SHAFT. THE UNIT SHALL SHIP COMPLETE WITH A TRANSFORMER BASE, A SINGLE BRACKET AS SPECIFIED, AND ANCHOR BOLTS. THE COMPLETE UNIT SHALL BE DESIGNED FOR WIND LOADING OF 90 MILES PER HOUR, 3 SECOND GUST PER AASHTO 2013.

THE POLE SHAFT SHALL BE 10" X 6" X 35'–9" AND BE 6063 ALLOY T–6 WITH MINIMUM WALL THICKNESS 0.156. THE SHAFT SHALL HAVE NO LONGITUDINAL OR CIRCUMFERENTIAL WELDS EXCEPT AT THE LOWER END JOINING THE SHAFT TO THE BASE. A 1/2"–13 UNC TAPPED HOLE SHALL BE PROVIDED FOR THE GROUNDING LUG.

AN OPENING SHALL BE FURNISHED NEAR THE TOP OF THE SHAFT TO PROVIDE A CABLE ENTRANCE FROM THE SHAFT INTO THE BRACKET ARM. A SPECIAL CAST ADAPTER SHALL BE WELDED INTO THIS OPENING, PROVIDING A SMOOTH CABLE GUIDE FOR WIRING AND A SUPPORT FOR THE ATTACHING PLATE WHICH IS WELDED TO THE BRACKET ARM. THE TOP OF THE SHAFT SHALL BE EQUIPPED WITH A CAST ALUMINUM REMOVABLE POLE TOP HELD SECURELY IN PLACE BY MEANS OF SET SCREWS.

THE BRACKET ARM SHALL BE A TRUSS TYPE DESIGN WITH 3'–3" RISE. THE UPPER AND LOWER MEMBERS SHALL BE JOINED NEAR THE LUMINAIRE END OF THE ARM AND BRACED WITH A VERTICAL STRUT. THE UPPER MEMBER SHALL BE CONTINUOUS FOR WIRING AND SHALL BE A TAPERED TUBE OVALIZED AT THE POLE SHAFT END WITH THE MAJOR DIMENSION OF THE OVAL IN A HORIZONTAL PLATE. ITS NOMINAL WALL THICKNESS SHALL BE 1/8". THE LOWER MEMBER SHALL BE STANDARD PIPE. THE VERTICAL STRUT SHALL BE OVALIZED STANDARD PIPE. BOTH UPPER AND LOWER MEMBERS SHALL BE ATTACHED TO THE POLE SHAFT WITH FORMED POLE BANDS, ALLOY 6063–T6, WITH 1/2"–13NC STAINLESS STEEL HARDWARE. WIRING AT THE UPPER ATTACHMENT SHALL PASS THROUGH A GROMMETED 1" DIAMETER HOLE. THE MATERIAL OF THE MAIN BRACKET MEMBERS AND THEIR ATTACHMENTS SHALL BE ALLOY 6063–T6. THE BRACKET ARM SHALL INCORPORATE A 2" PIPE SIZE SLIP FITTER TENON AT LEAST 8" LONG

THE TRANSFORMER BASE SHALL BE APPROXIMATELY 17" HIGH, 15.38" SQUARE AT THE BASE AND 13.12" SQUARE AT THE TOP. THE DOOR OPENING IN THE BASE SHALL BE APPROXIMATELY 9.25" X 9.75" X 11.75" AND THE DOOR SHALL BE ATTACHED TO THE BASE WITH A STAINLESS STEEL PIANO HINGE. THE HINGE SHALL BE PLACED AT THE TOP OF THE DOOR AND ATTACHED TO THE BASE AND THE DOOR WITH STAINLESS STEEL RIVETS. THE DOOR SHALL BE HELD IN PLACE WITH A TAMPER RESISTANT FASTENER AT THE BOTTOM.

EACH BASE SHALL BE PROVIDED WITH FOUR (4) LOOSE BEARING PLATES AND NUTS TO FASTEN THE BASE DOWN TO THE ANCHOR BOLTS. THE TRANSFORMER BASE SHALL FASTEN TO THE SHAFT ANCHOR BASE BY MEANS OF FOUR (4) LOOSE BEARING PLATES AND FOUR (4) HOT DIPPED GALVANIZED HEX HEAD STEEL MACHINE BOLTS AND NUTS. ALL BEARING PLATES SHALL BE HOT DIPPED GALVANIZED.

FOUR (4) 1"X48"+4" HIGH STRENGTH, HOT DIPPED GALVANIZED, HOOKED STEEL ANCHOR BOLTS, FITTED WITH A HEX NUT, SHALL BE FURNISHED WITH THE POLES. EACH ANCHOR BOLT BE THREADED AT THE TOP END. THREADED ENDS AND ALL NUTS SHALL BE GALVANIZED. ANCHOR BOLTS SHALL BE CAPABLE OF RESISTING AT YIELD STRENGTH STRESS THE BENDING MOVEMENT OF THE SHAFT AT ITS YIELD STRENGTH STRESS.

ALL HARDWARE (BOLTS, NUTS AND WASHERS–BUT NOT INCLUDING ANCHOR BOLTS) NOT OTHERWISE SPECIFICALLY DESIGNATED IN THIS SPECIFICATION, SHALL BE ALUMINUM OR STAINLESS STEEL (AT THE OPTION OF THE SUPPLIER).

THW SHAFT AND BRACKET ARM ASSEMBLY SHALL BE TIE–WRAPPED WITH A HEAVY WATER RESISTANT PAPER FOR PROTECTION DURING SHIPMENT AND INSTALLATION.

THE SHAFT, BRACKET ARM ASSEMBLY AND TRANSFORMER BASE SHALL BE MANUFACTURED PER HAPCO DRAWING #113386 OR APPROVED EQUAL.

BRACKET LENGTH (IN FEET)	APPROVED PART # (OR EQUAL)
10	HAPCO #113386–010
12	HAPCO #113386–012
15	HAPCO #113386–015

II. FINISH

ALL ALUMINUM SURFACES ON THE POLE AND BASE COVER SHALL BE ROTARY SANDED TO A SATIN GROUND FINISH AND BRACKETS SHALL BE ETCHED TO A MATTE FINISH. THE POLE AND BRACKET ASSEMBLY SHALL EITHER HAVE A NATURAL ALUMINUM SATIN GROUND FINISH, OR A POWDER COAT PAINT FINISH. FOR POWDER COAT PAINT FINISH, THE FINISH SHALL BE AN ELECTRO–STATICALLY APPLIED POLYESTER OR URETHANE POWDER COAT, OVEN CURED AND BONDED AT APPROXIMATELY 400 DEGREES F, TO A DRY FILM THICKNESS OF 2–4 MILS.

TO SPECIFY THE POLE FINISH, THE DESIGNER SHALL REPLACE THE "XX" CALL OUT IN THE BASIS OF PAYMENT DESCRIPTION NOTED BELOW WITH THE APPROPRIATE 2–LETTER DESIGNATION FROM THE FOLLOWING TABLE, "SG" IS THE PRIMARY DESIRED FINISH FOR THIS SPECIFICATION. THE USE OF POWDER COAT PAINT FINISH REQUIRES PRIOR COORDINATION WITH AND WRITTEN APPROVAL FROM THE DIVISION OF POWER.

PAY ITEM FINISH DESIGNATION	FINISH SPECIFICATION
SG	SATIN GROUND ALUMINUM
BZ	POWDER COAT DARK BRONZE–P031
BK	POWDER COAT BLACK–P01

III. INSTALLATION

THE POLES AND BASES SHALL BE SET ON THE FOUNDATION SECURELY ANCHORED TO THE ANCHOR RODS SO THAT THE T–BASE DOOR IS FACING AWAY FROM THE CURB. BASES SHALL BE PROPERLY PLUMBED BY MEANS OF SHIMS.

THIS POLE REQUIRES THE USE OF MIS–202; STREET LIGHT FOUNDATION, 8' (PAID SEPARATELY) FOR NEW POLE INSTALLATIONS.

IV. BASIS OF PAYMENT

ITEM	UNIT	DESCRIPTION
MIS–302	EACH	POLE, ALUMINUM, 10' BRACKET, T–BASE, 40' MOUNTING HEIGHT, XX
MIS–302	EACH	POLE, ALUMINUM, 12' BRACKET, T–BASE, 40' MOUNTING HEIGHT, XX
MIS–302	EACH	POLE, ALUMINUM, 15' BRACKET, T–BASE, 40' MOUNTING HEIGHT, XX

MIS-302

DEPARTMENT OF PUBLIC UTILITIES - DIVISION OF POWER
CITY OF COLUMBUS, OHIO

POLE, ALUMINUM, X' BRACKET,
T-BASE, 40' MOUNTING HEIGHT
10', 12', 15' BRACKET

DRAWN BY: SAW	DATE: 10/25/24	
SCALE: NONE	SHEET: 1 OF 1	302