

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	54-87 K-6657-01	2002	647	1122

NOTE:
WHENEVER THE PLAN SPECIFICATIONS CONFLICT WITH THE STANDARD KANSAS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, 1990 EDITION, THE PLAN SPECIFICATIONS SHALL GOVERN.

CONSTRUCTION:
SEE STANDARD SPECIFICATIONS, 1990 EDITION, SECTION 801.

LIGHT STANDARDS:
(A) STEEL STANDARDS: THE LIGHT STANDARDS SHALL COMPLY WITH THE REQUIRMENTS OF A.S.T.M. 607 WITH THE EXCEPTIONS AND/OR ADDITIONS AS LISTED IN THE STANDARD KANSAS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, 1990 EDITION, SECTION 1606.02 (C). THE LIGHT STANDARDS WITH 12 m MOUNTING SHALL BE ONE (1) SECTION. THE DIAMETER OF THE STANDARDS SHALL BE SHOWN ON THE DETAIL SHEETS.

(a) BASE: THE BASE SHALL BE EITHER A ONE (1) PIECE STEEL BASE COMPLYING WITH THE REQUIRMENTS OF A.S.T.M. A-27, GRADE 65-35, A STEEL FORGED BASE COMPLYING WITH THE REQUIRMENTS OF A.S.T.M. A-668, CLASS C OR A PLATE BASE COMPLYING WITH THE REQUIRMENTS OF A.S.T.M. A 36-77A. THE BASE SHALL BE SECURED TO THE BOTTOM SECTION BY TWO (2) CONTINUOUS ELECTRIC ARC WELDS.

(b) MASTARMS: THE MASTARMS SHALL BE FABRICATED FROM 50 mm STANDARD PIPE MEETING THE REQUIRMENTS OF A.S.T.M. A-53 OR A.S.T.M. A-35.

(c) FINISH: THE BASE, MASTARMS, AND LIGHT STANDARDS SHALL ~~BE GALVANIZED ACCORDING TO ASTM A-123. COLOR SHALL BE BLACK.~~

(B) ALUMINUM STANDARDS: STANDARDS SHALL CONFORM TO THE PLAN DRAWINGS AND SPECIFICATIONS. THE SHAFT SHALL BE SPUN FROM ONE PIECE OF SEAMLESS TUBING (A.S.T.M. B-429) ALUMINUM ASSOCIATION ALLOY 6063-T6, WITH MINIMUM NOMINAL WALL THICKNESS OF 5 mm FOR 12 m MOUNTING HEIGHT. AFTER FABRICATION IT SHALL HAVE MECHANICAL STRENGTH OF NOT LESS THAN T6 TEMPER. THE SHAFT SHALL HAVE NO LONGITUDINAL NOR CIRCUMFERENTIAL WELDS EXCEPT AT THE LOWER END JOINING THE SHAFT TO THE BASE.

(a) BASE: A ONE-PIECE CAST ALUMINUM (A.S.T.M. B-108 ALLOY S.G. 70A-T6) ANCHOR BASE OF ADEQUATE STRENGTH, SHAPE AND SIZE BE SECURED TO THE LOWER END OF THE SHAFT BY TWO (2) CONTINUOUS WELDS. THE BASE SHALL TELESCOPE THE SHAFT AND THE ONE WELD SHALL BE ON THE INSIDE OF THE BASE AT THE END OF THE SHAFT WHILE THE OTHER WELD SHALL BE ON THE OUTSIDE AT THE TOP OF THE BASE. (THE TWO (2) WELDS SHALL DEVELOP THE DESIGN STRENGTH OF THE POLE ASSEMBLY.)

(b) MASTARMS: SINGLE MEMBER TYPE: THE BRACKET ARM ASSEMBLY SHALL CONSIST OF A TAPERED ALUMINUM ARM, OVALIPTIC IN SHAPE AT THE POLE END AND TAPERING TO A MINIMUM OF 60 mm O.D. AT THE LUMINAIRE END, MADE OF (A.S.T.M. B-429) ALUMINUM ASSOCIATION ALLOY 6063-T6 TUBING.

TRUSS TYPE MEMBER: THE UPPER AND LOWER MEMBERS SHALL BE 50 mm IPS ALUMINUM PIPE, (A.S.T.M. B-429) ALUMINUM ASSOCIATION ALLOY 6063-T6.

(c) FINISH: ALL HARDWARE (BOLTS, NUTS, AND WASHERS - BUT NOT INCLUDING ANCHOR BOLTS) NOT OTHERWISE SPECIFICALLY DESIGNATED IN THE SPECIFICATIONS, SHALL BE ALUMINUM OR STAINLESS STEEL. ALL MATERIALS SHALL BE FURNISHED IN BLACK COLOR.

ELECTRICAL MATERIAL:

(A) PHOTO CELL : PHOTO-ELECTRIC CONTROLL SHALL BE SOLID STATE TYPE, 1000 W/1800 VA, SINGLE POLE, SINGLE THROW, TWIST LOCK MOUNTING, 105 TO 300 VOLT OPERATION. THE OPERATING LEVELS SHALL BE 16.1 Lux ON AND 3.6 Lux OFF, WITH AN ALLOWABLE 5.4 Lux VARIANCE ON OR OFF. THE PHOTO-ELECTRIC CONTROL SHALL HAVE A MINIMUM OF 30 SECOND TIME DELAY AND FAIL IN THE ON MODE.

(B) CONDUCTOR: CONDUCTOR SHALL BE STRANDED ANNEALED COPPER MEETING THE REQUIREMENTS OF A.S.T.M. B-8 AND A.S.T.M. B-33.

(a) SECONDARY CABLE: SECONDARY CABLE SHALL BE COPPER SINGLE CONDUCTOR CABLE FOR OPERATION AT 600 VOLTS MAXIMUM. MATERIAL SHALL MEET THE APPLICABLE REQUIREMENTS OF I.C.E.A. STANDARD S-19-81, WITH THERMOPLASTIC INSULATION OF GRS-RUBBER BASE MEETING APPENDIX K(A) OF I.C.E.A. AND LISTED BY U.L. AS TYPE USE-2 FOR DIRECT BURIAL: OR, MATERIAL SHALL MEET THE APPLICATION REQUIREMENTS OF I.C.E.A. STANDARD S-66-524, WITH THERMO-SETTING INSULATION OF CROSS LINK POLYETHYLENE MEETING REQUIREMENTS OF COLUMN "A" OF I.C.E.A. AND LISTED BY U.L. AS TYPE USE-2.

DSNR: WAN OPER: WAN SCALE: 500
E:1997/97362/WKA647.DGN 4-10-2002 7:36:57 LAST REV: BY:

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NO.	DATE	REVISION	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

CONSTRUCTION AND MATERIAL
REQUIREMENTS FOR
HIGHWAY LIGHTING

VEP0051

FHWA APPROVAL	8/16/94	APP'D	LINDA G. VOSS
DESIGNED	KG	DETAILED	MALEMSCHMIDT
DESIGN CK.	DETAIL CK.	LV	QUAN. CK.
			TRACE CK.