

1. ONE STANDARD SHALL BE LOCATED AT EACH INTERSECTION. SPACING FOR STREET LIGHTS BETWEEN INTERSECTIONS SHALL BE AS INDICATED ON ST-20 OR AS OTHER WISE SPECIFIED BY THE CITY ENGINEER.
2. CONDUCTORS ARE REQUIRED TO BE ENCLOSED IN APPROVED GRAY ELECTRICAL (1 ¼" MINIMUM) CONDUITS. P & C DUCT (DB60) OR EQUIVALENT CONDUIT IS NOT PERMITTED. SCHEDULE 80 P.V.C. SHALL BE USED IN ALL LOCATIONS UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. ALL ROADWAY CROSSINGS SHALL BE INSTALLED PERPENDICULAR TO CURB LINE (NO ANGLE CROSSINGS SHALL BE PERMITTED).
3. WIRING SHALL BE TYPE XLPE-USE, THW OR THWN, SUITABLE FOR DAMP LOCATIONS. MINIMUM WIRE SIZE IS NO. 8 COPPER; WHERE MULTIPLE FIXTURES AND EXTENDED DISTANCES ON ONE CIRCUIT IS USED, THE FIXTURE CONNECTIONS AND SPLICES SHALL BE MADE IN PULL BOXES AND THE WIRE SIZE SHALL BE IN ACCORDANCE WITH NEC. LOAD AND VOLTAGE DROP CALCULATIONS WILL BE REQUIRED TO SIZE THE CONDUCTOR WIRE ADEQUATELY.
4. METAL POLES SHALL BE GROUNDED AS REQUIRED BY NEC ART. #410-30 AND 250-52(3). ARTICLE 410-30 REQUIRES MECHANICALLY-CONNECTED GROUNDING CONDUCTOR TO BE INSTALLED IN PERMANENT MANNER. USE OF NON-METALLIC CONDUIT REQUIRES A SEPARATE GROUNDING CONDUCTOR. ARTICLE 250-52(2) REQUIRES AN EFFECTIVE GROUNDING PATH WHICH SHALL BE PERMANENT AND CONTINUOUS AND WITH SUFFICIENT CAPACITY TO CONDUCT SAFELY ANY FAULT CURRENT LIKELY TO BE IMPOSED ON IT. IT SHALL ALSO BE SUFFICIENTLY LOW IMPEDANCE TO CONDUCT THE FAULT CURRENT TO GROUND AND TO FACILITATE OPERATION OF THE CIRCUIT PROTECTIVE DEVICES.
5. GROUND WIRE FROM FOUNDATION SHALL BE ATTACHED TO BONDING BOLT ON POLE LOCATED IN INSPECTION BOX. ALL SURFACE IN CONTACT WITH THE GROUND WIRE AT BONDING BOLT SHALL BE SANDED AND CLEAR OF ALL PAINT, GALVANIZING OR ANY INTERFERENCE TO WITHIN 1/4" FROM WIRE.
6. LOCKJAW LIDS MUST BE GROUNDED AS PER MANUFACTURER RECOMMENDATIONS.
7. CONTROLS SHALL BE PROVIDED FOR AUTOMATIC OPERATION. PHOTO-ELECRTC CELLS MUST BE ORIENTATED TO THE NORTH.
8. ALL STREET LIGHT POLES AND BASE COVERS SHALL BE GALVANIZED STEEL.
9. CONTRACTOR SHALL SUBMIT TO CITY ENGINEER AN ACCURATE AS-BUILT SCHEMATIC OF ALL CONDUIT PATHS, LOCATIONS OF RESPECTIVE JUNCTION (PULL) BOXES AND UTILITY POWER POINT OF CONNECTION PRIOR TO ENERGIZING OR FINAL ACCEPTANCE OF ALL OFF-SITE IMPROVEMENTS.
10. NO LIGHTS WILL BE ENERGIZED UNTIL THE CITY ENGINEER RECEIVES ACCURATE AS-BUILT SCHEMATIC OF ALL CONDUIT PATHS. CAST-IN PLACE CLASS A (SIX SACK MIX) CONCRETE FOUNDATION SHALL BE USED.
11. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE CITY ENGINEER AND SHALL BE TESTED FOR SATISFACTORY OPERATION BEFORE FINAL APPROVAL IS GIVEN. SUCH TESTING SHALL BE AT THE EXPENSE OF THE CONTRACTOR. REQUIRED INSPECTIONS INCLUDE; FOUNDATION, TRENCHING, MATERIALS AND COMPLETED ASSEMBLY.
12. ADDITIONALLY, ALL INSTALLATION AND CONNECTION CHARGES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
13. METHOD OF INSTALLATION AND MATERIALS USED SHALL MEET CITY OF MADERA STANDARDS.
14. ALL SPLICES SHALL BE IN APPROVED CONCRETE JUNCTION BOXES. SPLICES SHALL BE MADE WATER PROOF WHEN BELOW GRADE. PULL BOXES SHALL BE INSTALLED AT 200 FEET MAXIMUM SPACING OR 200 MAX FOR TERMINATION POINTS. SPLICE BOXES SHALL BE CHRISTY N9, CALTRANS SIZE 3 1/2, ELECTRICAL BOX OR EQUAL. A JUNCTION BOX IS REQUIRED AT EACH POLE WITHIN 6' AT BASE.
15. OVER CURRENT PROTECTION: PROVIDE "TRON, IN LINE" BREAK-AWAY TYPE WATERPROOF FUSEHOLDERS RATED AT 30 AMPS 250 VOLTS (OR APPROVED EQUAL) WITH PROPER FUSING OF 10 AMP FUSE PER LOAD REQUIREMENTS FOR EACH STREET LIGHT WHEN INSTALLED. USE FERRAZ SHAWMUT NO. FEB-11-11-BA OR APPROVED EQUAL.
16. LIGHT FIXTURES SHALL BE COBRA HEAD TYPE, LED LIGHTING AS DIRECTED BY CITY ENGINEER, COMPLETE WITH DRIVER, PHOTO CELL AND RECEPTACLE, HORIZONTAL CUT-OFF LENS & RATED AT 120 VOLTS A.C. IF 120 VOLTS A.C. IS NOT AVAILABLE FOR SERVICE FROM P.G.&E., OTHER SERVICE VOLTAGE MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.
17. ALL CONDUCTORS SHALL HAVE INSULATION COLORS APPROPRIATE TO THEIR USE AND ALL APPLICABLE CODES. THE USE OF COLORED PHASE TAPE SHALL NOT BE ALLOWED.
18. ALL CIRCUITS SHALL BE METERED.

**SPECIFICATIONS  
STREET LIGHT INSTALLATION**

REF. & REV.
MARCH 2005
JULY 2013
SEPT 2015
JAN 2018

CITY OF MADERA

**ST-24**