**ELEVATION-TYPE 15**

**STREET LIGHT DESIGN CRITERIA**

<table>
<thead>
<tr>
<th>LAND USE AND/OR STREET CLASSIFICATION</th>
<th>MINIMUM MAST ARM LENGTH (FT)</th>
<th>LEDS</th>
<th>LUMINAIRE MAST ARM DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>8</td>
<td>≤35</td>
<td>2,600-3,000</td>
</tr>
<tr>
<td>COMMERCIAL</td>
<td>12</td>
<td>≤75</td>
<td>6,500-7,000</td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>12</td>
<td>≤75</td>
<td>6,500-7,000</td>
</tr>
<tr>
<td>ARTERIAL</td>
<td>12-15</td>
<td>≤95</td>
<td>8,000-9,000</td>
</tr>
<tr>
<td>SIGNALIZED INTERSECTIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MID-BLOCK CROSSWALKS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*MINIMUM REQUIRED AT INSTALLATION

**NOTES:**
1. HANDHOLE SHALL BE LOCATED ON DOWNSTREAM SIDE OF TRAFFIC.
2. POLE AND MAST ARM MUST BE UNPAINTED GALVANIZED STEEL.
3. SEE CURRENT CALTRANS STANDARD PLANS FOR LUMINAIRE MAST ARM CONNECTION DETAIL.
4. LUMINAIRE MUST BE LIGHT EMITTING DIODE (LED) WITH 4000K TO 4500K COLOR TEMPERATURE.
5. LEDS MUST PROVIDE ILLUMINATING ENGINEERING SOCIETY (IES) TYPE II DISTRIBUTION UNLESS OTHERWISE NOTED ON THE PLANS.
6. EACH STREETLIGHT MUST HAVE AN INDIVIDUAL AND INDEPENDENT PHOTO CELL.
7. NON-SIGNALIZED INTERSECTIONS SHALL REFER TO "LAND USE AND/OR STREET CLASSIFICATION" IN TABLE ABOVE.
8. SEE CITY STANDARD DESIGN CRITERIA FOR STREET LIGHT PLACEMENT.

**LED STREETLIGHT FIXTURE:** LEOTEK EC-SERIES, GE ERS1-SERIES, OR APPROVED EQUAL.
SIGNALIZED INTERSECTIONS & MID-BLOCK CROSSWALKS*

<table>
<thead>
<tr>
<th>FUNCTIONAL CLASSIFICATION</th>
<th>MAINTAINED ILLUMINATION AT PAVEMENT WITHIN CROSSWALK AREA BASED ON FUNCTIONAL CLASSIFICATION (Lux)**</th>
<th>E_{avg}/E_{min}</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGH</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>MAJOR / MAJOR</td>
<td>34.0/3.4</td>
<td>26.0/2.5</td>
</tr>
<tr>
<td>MAJOR / COLLECTOR</td>
<td>28.0/2.9</td>
<td>22.0/2.2</td>
</tr>
<tr>
<td>MAJOR / LOCAL</td>
<td>26.0/2.6</td>
<td>20.0/2.0</td>
</tr>
<tr>
<td>COLLECTOR / COLLECTOR</td>
<td>24.0/2.4</td>
<td>18.0/1.8</td>
</tr>
<tr>
<td>COLLECTOR / LOCAL</td>
<td>21.0/2.1</td>
<td>16.0/1.6</td>
</tr>
<tr>
<td>LOCAL / LOCAL</td>
<td>18.0/1.8</td>
<td>14.0/1.4</td>
</tr>
</tbody>
</table>

* THE ILLUMINANCE LEVEL IN A MID-BLOCK CROSSWALK AREA SHOULD AT LEAST BE EQUAL TO THAT PROVIDED AT THE INTERSECTION OF TWO MAJOR STREETS.

** THE RANGE OF ILLUMINATION BETWEEN HIGH & LOW IS FOR ALL NEW INSTALLATIONS AT THE TIME OF ACCEPTANCE. DETERIORATION OF ILLUMINATION IS EXPECTED WITH TIME.

*** MINIMUM REQUIRED AT TIME OF INSTALLATION

\[
E_{avg}/E_{min} = \text{UNIFORMITY RATIO}
\]

\[
E_{avg} = \text{AVERAGE HORIZONTAL ILLUMINANCE AT WALKWAY/BIKEWAY}
\]

\[
E_{min} = \text{MINIMUM HORIZONTAL ILLUMINANCE AT WALKWAY/BIKEWAY}
\]
TERMINATE WITH GROUND BUSHING FOR METAL CONDUIT (TYP.)

MATCH SIDEWALK FINISH

PULL BOX EXPANSION MATERIAL

TO PULL BOX 1.5"Ø CONDUIT SEE PLAN VIEW BELOW

CLASS "A" CONCRETE FIELD CAST 3,500 PSI MIN (TYP.)

15 FEET NO. 4 AWG BARE COPPER GROUND WIRE REQUIRED

COVER GROUND WIRE IN TRENCH WITH EARTH (TYP.)

ELEVATION MONOLITHIC SIDEWALK

ELEVATION DETACHED SIDEWALK

PLACE EXPANSION MATERIAL AT BACK OF SIDEWALK

PULL BOX TO BE LOCATED ON DOWNSTREAM SIDE OF TRAFFIC

NOTE: FOR MONOLITHIC SIDEWALK WIDER THAN 8 FEET (MEASURED FROM BACK OF CURB), BASE LOCATION SHALL FOLLOW DETACHED SIDEWALK DETAIL.

CITY OF MOUNTAIN VIEW
PUBLIC WORKS DEPARTMENT
STANDARD DETAIL

STANDARD POLE BASE
(SHEET 1 OF 3)
SEE HANDBLE AND ANCHORAGE DETAIL E-3A

FINISHED GRADE

ELEVATION

FOR POLES TO BE INSTALLED ON EXISTING FOUNDATION:
VERIFY BOLT CIRCLES, ANCHOR BOLT SIZES, AND
DEPENDENT DIMENSIONS FOR POLES TO BE INSTALLED ON
EXISTING FOUNDATIONS BEFORE FABRICATING THE POLES.

CAST-IN-DRILLED-HOLE (CIDH) PILE FOUNDATION, REINFORCED PILE

SECTION A-A

CIDH
VERTICAL BARS, SPACED EVENLY AROUND PERIMETER
SPIRAL
5" MIN TYP.
ANCHOR BOLT
3" CLEARANCE

DETAIL A

VERTICAL BARS
10 - #6
ANCHOR PLATE
ANCHOR BOLT
SPIRAL
#4 AT 6
3" CLEARANCE

SEE DETAIL A

PERMANENT TEMPLATE OR ANCHORAGE PLATE

CITY OF MOUNTAIN VIEW
PUBLIC WORKS DEPARTMENT
STANDARD DETAIL

STANDARD POLE BASE
(SHEET 2 OF 3)
4" x 6 1/2" ROUNDED RECTANGLE HANDBOHE
REINFORCED WITH RING WELDED TO OUTSIDE OF POLE.
HANDBOHE REINFORCEMENT RING SHALL BE 1/4" X 2",
1/8" COVER PLATE. HANDBOHE SHALL BE LOCATED ON
THE DOWNSTREAM SIDE OF TRAFFIC.

1 1/4" 8"

2" MIN TO 3" MAX
MORTAR

ANOTHER PLATE
1/2" THICK MIN

1"

4-1" X 36" ANCHOR BOLTS
PROVIDE HEX NUT, LEVELING NUT,
AND 2 WASHERS FOR EACH BOLT.

HANDBOHE AND ANCHORAGE

BASE PLATE THICKNESS: 1 1/2"
ANCHOR BOLT SIZE: 1" Ø X 36"

SLOTTED BASE PLATE
*BC = BOLT CIRCLE

FOR NON-SLIP POLES ATTACH
BONDING LUG INSIDE POLE OR
TAP HOLE IN REINFORCING
FOR BONDING BOLT.

ANCHOR BOLT THREAD TOP 8" AND GALVANIZE 1'-0"

FINISHED GRADE

2'-0"

AFTER PLUMBING STANDARD,
PLACE MORTAR ALL AROUND BOLTS.
<table>
<thead>
<tr>
<th>PULL BOX</th>
<th>CHRISTY No.</th>
<th>BOX</th>
<th>COVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 3-1/2</td>
<td>N9</td>
<td>A</td>
<td>19-3/4&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>14-1/4&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>15-1/4&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D</td>
<td>10&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E</td>
<td>1-3/4&quot;</td>
</tr>
<tr>
<td>No. 5</td>
<td>N16</td>
<td>A</td>
<td>25-1/4&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>15-3/4&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>20-5/8&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D</td>
<td>10-1/2&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E</td>
<td>2&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>2-1/2&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G</td>
<td>1-3/4&quot;</td>
</tr>
</tbody>
</table>

3/8" BRASS STUD BOLTS, NUTS, AND WASHERS, 2 PER BOX. RECESS COVER FOR NUT.

STREET LIGHTING
HIGH VOLTAGE

INSCRIBE TRAFFIC SIGNAL WHEN CONTAINING SIGNAL CONDUIT

1/2" MIN.
3/4" MAX.

PRECAST REINFORCED CONCRETE
SEAL AROUND CONDUIT WITH MORTAR

GROUNDING BUSHING

SECURE BONDING JUMPER TO GROUNDING BUSHING

EXTENSION WHEN BOX HOUSES TRANSFORM OR BALLAST

CONCRETE BOTTOM, POUR IN FIELD

COURSE OF ROOFING PAPER

GROUND ROD WHEN SPECIFIED OR WHEN BOX HOUSES TRANSFORMER

NOTE:
No. 3-1/2 & 5 PULL BOX WITH HOLD-DOWN BOLTS OR APPROVED EQUAL

CITY OF MOUNTAIN VIEW
DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL

STANDARD PULL BOX
NOTES:

1. GROUNDING TYPE BUSHING IS NOT REQUIRED FOR PLASTIC CONDUIT. FOR PLASTIC CONDUIT, SPLICE GROUND WIRE IN ELECTROLIER TO GROUND WIRE IN CONDUIT.
LUMINAIRE
18"± ø × 40"± TALL WITH CLEAR TEXTURED ACRYLIC ACORN GLOBE, CAST ALUMINUM LUMINAIRE BASE AND BRASS FINIAL; LUMINAIRE FURNISHED WITH HPS LAMP, H.I.D. 120V BALLAST, PORCELAIN MOGUL BASE SOCKET, BOROCILICATE GLASS REFRACTOR, AND A PHOTOELECTRIC CONTROL AT THE BASE.

POST
ONE-PIECE CAST ALUMINUM CONSTRUCTION CONSISTING OF A TAPERED AND FLUTED BASE WITH HEXAGONAL BOTTOM, A 5" FLUTED SHAFT WITH A 3" TENON FOR CROSSARM OR LUMINAIRE MOUNTING, AND A HAND-HOLE AT THE BASE FOR ANCHORAGE AND WIRING ACCESS.

FINISH
ENTIRE POST AND LUMINAIRE BASE TO HAVE A "BLACK" POWDER COAT FINISH UNLESS SPECIFIED OTHERWISE.

HARDWARE
ALL HARDWARE TO BE STAINLESS STEEL AND ALL EXTERIOR HARDWARE TO BE TAMPER RESISTANT.

MANUFACTURERS
PRODUCTS TO BE MANUFACTURED BY ANTIQUE LAMPS, INC., WESTERN LIGHTING STANDARDS OR OTHER APPROVED EQUAL MANUFACTURERS.

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ANTIQUE LAMP, INC.</th>
<th>WESTERN LIGHTING STANDARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST</td>
<td>NY11'-6&quot;F5MOD/17M0DPT16-CA/BK</td>
<td>WPBBH11'6&quot;EF50-COLOR</td>
</tr>
<tr>
<td>LUMINAIRE</td>
<td>AA25ABF3MOD/BK-SXXX/120-X-PEC</td>
<td>FXS2PT30-COLOR</td>
</tr>
</tbody>
</table>

CLASS A CONCRETE FIELD CAST – 3,500 PSI MIN.
4 ANCHOR BOLTS AS REQUIRED BY MANUFACTURER BOLTS & NUTS & WASHERS TO BE HOT DIPPED GALVANIZED
5/8"x8' CU. GROUND ROD OR 15' #4 BARE CU. GROUND WIRE, COIL & SECURE TO ELECTRICAL GROUND NUT. COVER WITH 2" OF SOIL PRIOR TO POURING BASE.

CITY OF MOUNTAIN VIEW
DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL

TYPE B STREETLIGHT DETAILS
GLOBE DETAIL
(HALF SECTION)

3/8" HOLE ON FINIAL

STIPPLE FINISH
PAINTED BLACK

CLEAR STIPPLE FINISH

CLEAR SMOOTH FINISH

FLAT BEVEL FOUR SIDES
CAST IRON OR CAST ALUMINUM

3/8" THREADED BRASS WITH NUT & LOCK WASHER

POLYCARBONATE GLOBE WITH "GLASS LIKE" FINISH OR PRISMATIC GLASS

CITY OF MOUNTAIN VIEW
DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL

TYPE "B" STREETLIGHT
GLOBE AND FINIAL DETAILS

FILE NO. E-7
ALUMINUM FIXTURE MOUNT

3 EQUALLY SPACED 3/16" DIA. HOLES, 6-3/4" BOLT CIRCLE

3 EQUALLY SPACED 1/4" x 3/4" SET SCREWS

3 EQUALLY SPACED 1/8" x 1/2" SCREWS 6-3/4" BOLT CIRCLE

10" DIA.

CAST IRON OR CAST ALUMINUM 3/8" MIN. THICKNESS

3 EQUALLY SPACED 1/4" x 3/8" SET SCREWS

1-7/16" 1-9/16"

1/2" 1/2"

12 EQUALLY SPACED FLUTES

1-1/16" 1/2"

1-3/8" 7/8"

1 1"

6" DIA.

GLOBE HOLDER DETAIL

CITY OF MOUNTAIN VIEW
DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL

TYPE "B" STREETLIGHT FIXTURE & GLOBE HOLDER DETAILS
CAST IRON OR CAST ALUMINUM 3/8" MIN. THICKNESS

ACCESS PLATE WITH ALLEN HEAD SCREW AND BRACKET

16 EQUALLY SPACED FLUTES

21" ± VERTEX TO VERTEX

POLE DETAIL

CITY OF MOUNTAIN VIEW
DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL

TYPE "B" STREETLIGHT
POLE DETAILS
BASE DETAIL

10" ± DIA. OPENING
OF ACCESS DOOR

5" DIA. COLUMN DETAIL

12 EQUALLY SPACED FLUTES

1/4" MIN.

TO GROUNDING LUG
WELDED INSIDE POLE

SEE STREET LIGHT FUSE AND GROUND CONNECTION DETAIL
TWO NUTS AND WASHERS PER BOLT

POLE BASE

1-1/2" Ø CONDUIT TO PULL BOX

15' No. 4 AWG BARE COPPER
GROUND WIRE REQUIRED.
COVER GROUND WIRE IN
TRENCH WITH EARTH.

PCC FOOTING DETAIL

FOUR 3/4" x 18" ANCHOR BOLT @ 90°

18" 1/2"

22"

36"

1/4 ARC
NOTES:

1. SEE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS, PAGES ES-5A AND ES-5B, FOR INSTALLATION, SAWCUT, AND WINDING DETAILS.

2. USE FOUR (4) LOOPS FOR LEFT TURNS.

3. USE FOUR (4) LOOPS FOR STRAIGHT THROUGH.

4. LOOPS TO BE CUT IN A 6'x6' QUAD CONFIGURATION. LOOP MARKS SHALL BE VERIFIED BY CITY TRAFFIC STAFF (72 HOURS ADVANCE NOTIFICATION REQUIRED) UNLESS OTHERWISE NOTED.

5. DETECTOR LOOPS SHALL BE TYPE "D" AND "A" AS SHOWN. DETECTOR LOOP WIRE SHALL BE TYPE 1. LEAD IN CABLE SHALL CONFORM TO TYPE B.

6. EACH INDIVIDUAL LOOP WILL HAVE ITS WIRING BROUGHT INTO PROPER PULLBOX FOR CONNECTION TO TYPE B DETECTOR LEAD IN CABLE (DLC). LOOP WIREING IN STREET SHALL ENTER A (G5 BOX) DETECTOR HANDHOLE AT THE LIP OF GUTTER. DETECTOR HANDHOLE SHALL BE INSTALLED IF NOT EXISTING FOR ALL NEW LOOP INSTALLATIONS.

7. SEALANT SHALL BE HOT MELT RUBBERIZED ASPHALT. FINISHED PRODUCT MUST BE AT A MINIMUM STREET LEVEL OR ABOVE.

8. ANY TRAFFIC LOOP WIRE CONNECTION(S) TO BE LAID DOWN IN SIGNAL CABINET SHALL BE SOLDERED. DLC SHIELD CONDUCTORS ARE NOT TO BE BONDED TO THE GROUND, BUT WRAPPED AROUND AND SECURED TO RESPECTIVE OWNER. THEY ARE NOT TO BE SHORTER THAN SIX INCHES (6').

9. ACCEPTABLE TESTING RESULTS FOR EACH INDIVIDUAL LOOP PAIR SHALL BE 126 MICRO-HENRIES INDUCTANCE AND INFINITE MEG-OHMS TO GROUND. NO LOOP WIRING IS TO BE CONNECTED UNTIL TESTED AND APPROVED BY THE CITY'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR (72 HOURS ADVANCE NOTIFICATION REQUIRED).