STREET LIGHTING STANDARDS:

1. GENERAL:

SAFETY LIGHTING SHALL BE PROVIDED IN ACCORDANCE WITH THIS STD. PLAN AT INTERSECTIONS AND ALL OTHER LOCATIONS WHERE ILLUMINATION IS JUSTIFIED BY THE NEED FOR SIGHT DISTANCE, AS DETERMINED BY THE CITY ENGINEER.

ALL STREET LIGHT LAYOUTS AND LIGHTING DESIGNS SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.

FOR THE PURPOSES OF THIS PLAN, A COMMUTER STREET SHALL BY CONSIDERED TO BE A LOCAL STREET.

2. ELECTROLIERS:

ELECTROLIERS SHALL BE MARBELITE POLES UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

ELECTROLIERS SHALL BE PLACED AT LOT LINES WHENEVER PRACTICAL.

AT INTERSECTIONS, ELECTROLIERS SHALL BE PLACED NEAR THE END OF THE CURB RETURN ON THE FAR RIGHT SIDE OF THE INTERSECTION. AT A "T" INTERSECTION, AN ELECTROLIER SHALL BE PLACED AT THE HEAD OF THE INTERSECTION OR LOCATED NEAR THE END OF CURB RETURN ON THE FAR RIGHT SIDE OF INTERSECTION.

ELECTROLIERS IN MEDIAN ISLANDS SHALL NOT BE PLACED CLOSER THAN 100 FEET FROM AN ARTERIAL HIGHWAY OR COLLECTOR STREET INTERSECTION. ELECTROLIERS SHALL NOT BE PLACED IN MEDIAN ISLANDS LESS THAN (6) FEET IN WIDTH.

ELECTROLIERS SHALL BE PLACED ALTERNATELY ON EACH SIDE OF THE ROADWAY WHEN INSTALLED ALONG THE SIDES OF A ROADWAY.
ELECTROLIERS SHALL BE SPACED IN ACCORDANCE WITH THE FOLLOWING:

LOCATION	MINIMUM HPSV LAMP SIZE (LUMENS)	ELECTROLIERS	SPACING (FEET)
A. INTERSECTION OF TWO LOCAL STREETS	5,800	1	N/A
B. T INTERSECTION OF LOCAL STREET WITH ARTERIAL HIGHWAY	22,000	1	N/A
C. FULL INTERSECTION OF LOCAL STREET WITH ARTERIAL	22,000	2	N/A
D. INTERSECTION OF TWO ARTERIAL HIGHWAYS	30,000	4	N/A

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LOCATION	MIN. HPSV LAMP SIZE	ELEC.	MIN. SPACING (FEET)
E. LOCAL STREETS	5,800	1	180
F. LOCAL STREET CUL-DE-SAC	5,800	1	N/A
G. SECONDARY HIGHWAY	16,000	1	180
H. PRIMARY HIGHWAY			
(WITH RAISED MEDIAN)	9,500 (DBL)	1	180
(WITHOUT RAISED MEDIAN)	16,000	1	180
I. MAJOR HIGHWAY			
(WITH RAISED MEDIAN)	9,500 (DBL)	1	180
(WITHOUT RAISED MEDIAN)	16,000	1	180

3. LUMINAIRES AND MAST ARMS:

MISSION BELL HEADS WITH SCROLLS AND BONNETS ARE REQUIRED.

LUMINAIRES AT SIGNALIZED INTERSECTIONS SHALL BE EQUIPPED WITH GLARE SHIELDS OR HAVE INTEGRAL CUTOFF FEATURES.

MOUNTING HEIGHT OF LUMINAIRES SHALL CONFORM TO THE FOLLOWING:
A. 30-FOOT MINIMUM FOR GREATER THAN 9,500 LUMENS.
B. 25-FOOT MINIMUM FOR 9,500 LUMENS OR LESS.

MINIMUM LENGTH OF MAST ARMS SHALL CONFORM TO THE FOLLOWING:
A. 6-FOOT MINIMUM.

4. LAMPS:

LAMPS SHALL BE HIGH PRESSURE SODIUM VAPOR (HPSV).

5. MISCELLANEOUS MATERIALS AND WORKMANSHIP:

MATERIALS AND WORK SHALL CONFORM TO OR EXCEED THE APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, THE ELECTRICAL SAFETY ORDERS OF THE DEPARTMENT OF INDUSTRIAL SAFETY, STATE OF CALIFORNIA, AND THE AMERICAN SOCIETY FOR TESTING MATERIALS.

IN ADDITION TO THE ABOVE, NON-UTILITY-OWNED STREET LIGHTING INSTALLATIONS SHALL CONFORM TO THE LATEST PUBLICATION OF SECTION 307 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREEN BOOK") AND THIS STANDARD PLAN.

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THE CONSTRUCTION PRACTICES AND MATERIALS USED FOR STREET LIGHTS OWNED BY UTILITIES SUBJECT TO THE REGULATION OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION ARE SPECIFIED EXCLUSIVELY BY THE ORDERS OF THE COMMISSION. ALL STREET LIGHTS OWNED BY REGULATED UTILITIES SHALL CONFORM TO OR EXCEED THE REQUIREMENTS OF GENERAL ORDERS 95 AND 128.

6. SERVICE AND MAINTENANCE

SERVICES AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE LIGHTING FACILITY.

DESIGN CRITERIA ILLUMINATION LEVEL

1. GENERAL:

REQUIRED SPACING AND LUMEN LEVELS MAY BE MODIFIED ON AN EXCEPTIONAL BASIS FOR PURPOSES OF CRIME PREVENTION OR ENERGY SAVINGS. ALL MODIFICATIONS SHALL MEET THE LIGHTING LEVELS SPECIFIED BELOW AND SHALL BE SUPPORTED BY ADEQUATE CALCULATIONS APPROVED BY THE CITY ENGINEER. CONSISTENCY OF ELECTROLIER SPACING AND LAMP LUMEN LEVELS SHALL BE MAINTAINED ALONG ALL HIGHWAYS WHENEVER POSSIBLE.

LIGHTING LEVELS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

2. ARTERIAL HIGHWAYS:

DESCRIPTION	AVERAGE HORIZONTAL FOOTCANDLES
ARTERIAL HIGHWAYS	0.40
SIDEWALKS (ROADSIDE)	0.25
ON-ROAD BIKEWAYS (MARKED)	0.25
OFF-ROAD WALKWAYS AND BIKE PATHS	0.25
PEDESTRIAN TUNNELS	4.0
PEDESTRIAN OVERPASS	0.3
PEDESTRIAN STAIRWAYS	0.6

3. LOCAL STREETS:

ELECTROLIERS SHALL BE SPACED ACCORDING TO THE CRITERIA SPECIFIED IN "ELECTROLIER" SECTION. THE SPACING MAY BE MODIFIED ON AN EXCEPTIONAL BASIS FOR PURPOSES IF CRIME PREVENTION, BUT THE AVERAGE LIGHTING LEVEL SHALL NOT EXCEED 0.25 HORIZONTAL FOOTCANDLES.

4. UNIFORMITY:

THE ILLUMINATION LEVELS IN THE ABOVE TABLE ARE MINIMUMS AND PROVIDE EFFECTIVE VISIBILITY ONLY WHEN COMBINED WITH UNIFORMITY OF ILLUMINATION. UNIFORMITY MAY BE EXPRESSED IN SEVERAL WAYS. THE AVERAGE LEVEL-TO-MINIMUM POINT METHOD USES THE AVERAGE ILLUMINATION OF THE ROADWAY DESIGN AREA BETWEEN TWO ADJACENT LUMINAIRES DIVIDED BY THE LOWEST VALUE AT ANY POINT IN THE AREA EXCEPT ON LOCAL STREETS. UNDER THIS METHOD, THE AVERAGE-TO-MINIMUM RATIO SHALL NOT EXCEED 6 TO 1.

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