

CERTIFICATE OF COMPLIANCE (Part 1 of 2) OLTG-1-C

PROJECT NAME: COURTNEY'S SAND CASTLE DATE: 11/25/2009
 PROJECT ADDRESS: LA PATA PARK - SAN CLEMENTE, CA
 PRINCIPAL DESIGNER-LIGHTING: TELEPHONE: Building Permit #
 DOCUMENTATION AUTHOR: DREAM ENGINEERING INC. TELEPHONE: (760) 245-9997 Checked by/Date Enforcement Agency Use

GENERAL INFORMATION
 DATE OF PLANS: 11/25/2009 OUTDOOR LIGHTING ZONE: 1.71 1.72 1.73 1.74
 FUNCTION TYPE: OUTDOOR LIGHTING OUTDOOR SIGNS INDOOR SIGNS
 PHASE OF CONSTRUCTION: NEW CONSTRUCTION ADDITION ALTERATION

STATEMENT OF COMPLIANCE
 This Certificate of Compliance lists outdoor lighting system specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building lighting requirements. The documentation prepare hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR: JUAN A. ARAUJO SIGNATURE: DATE: 11/25/2009
 The Principal Lighting Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications and with any other calculations submitted with this permit application. The proposed building has been designed to meet the lighting requirements contained in the applicable parts of Sections 110, 115, 120 through 132, 140, and 149 of Title 24, Part 6.

I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or electrical engineer, or I am a licensed architect.
 I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 6373.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
 I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

PRINCIPAL LIGHTING DESIGNER'S NAME: JUAN A. ARAUJO SIGNATURE: DATE: DEC 31, 2009 LIC. # E.E.: 16537

INSTRUCTIONS TO APPLICANT OUTDOOR LIGHTING COMPLIANCE & WORKSHEETS
 For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.

LTG-1-C Parts 1 of 4 and 2 of 4 Certificate of Compliance Required on plans for all summits for outdoor lighting. Part 2 of 2 may be incorporated in schedules on plans.
 This section applies to all outdoor lighting whether attached to buildings, poles, structures or self supporting including but not limited to, landscape areas including parking lots, lighting for building entrances, sales and non-sales canopies, lighting for all outdoor sales areas, and lighting for building facades.

LTG-2-C LIGHTING COMPLIANCE SUMMARY. Applicable Parts required for ALL outdoor lighting allowances (Except for Signs).
 LTG-3-C AREA CALCULATIONS WORKSHEETS. Applicable parts required for all outdoor area calculations.
 LTG-4-C SIGN LIGHTING COMPLIANCE. Required for all internally and externally illuminated signs, for both indoor and outdoor signs.

2005 Nonresidential Compliance Forms April 2005

CERTIFICATE OF COMPLIANCE (Part 2 of 2) OLTG-1-C

PROJECT NAME: COURTNEY'S SAND CASTLE DATE: 11/25/2009
Lighting Schedules on Plans Show that Outdoor Lighting Meets Allowed Lighting Power

Lighting power allowances for general site illumination on OLTG-2-C Part 1 of 4
 Not Applicable
 Lighting power allowances for local ordinances or for security multipliers on OLTG-2-C Part 2 of 4
 Not Applicable
 Lighting power allowances for specific applications other than vehicle service stations with canopies on OLTG-2-C Part 3 of 4
 Not Applicable
 Lighting power allowances for vehicle service station canopies on OLTG-2-C Part 4 of 4
 Not Applicable
 Sign lighting compliance on OLTG-4-C
 Not Applicable

Mandatory Measures on Plans Show that Outdoor Lighting Meets Outdoor Lighting Controls and Equipment
 (Indicate location on plans of Note Block for Mandatory Measures)

Installed lighting power has been determined in accordance with § 139(c)(1)
 Not Applicable
 All permanently installed luminaires with lamps rated over 100 watts either have a lamp efficacy of at least 80 lumens per watt or are controlled by a motion sensor § 132(a)
 Not Applicable
 All luminaires with lamps rated greater than 175 watts in landscape areas including parking lots, building entrances, canopies, and all outdoor sales areas meet the Cutoff Requirements of § 132(b)
 Not Applicable
 All permanently installed outdoor lighting meets the Control Requirements of § 132(c)(1)
 Not Applicable
 Building facades, parking lots, garages, canopies, and outdoor sales areas meet the Multi-Level Lighting Requirements of § 152(d)(2)
 Not Applicable

MANDATORY LIGHTING MEASURES FOR INTERIOR AND DAYLIT AREAS

CONTROL LOCATION	CONTROL IDENTIFICATION	CONTROL TYPE (Auto Time Switch, Photo-sensor, Etc)	AREA CONTROLLED	NOTE TO FIELD
		N/A		

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LIGHTING COMPLIANCE SUMMARY (Part 1 of 4) OLTG-2-C

PROJECT NAME: COURTNEY'S SAND CASTLE DATE: 11/25/2009
Lighting Power Allowances - GENERAL SITE ILLUMINATION - (Table 147-A)

A Lighting Application Category (Table 147-A)	Allotted Watts				Luminaire				Installed Watts				O Total Installed Watts (L x M x N)
	B Area (ft ² or Length (ft))	C Allowed Wattage (W/ft ²)	D Allowed Watts (W)	E Code for Luminaire Type	F Description	G Cutoff Designation	H Type	I Lumens	J Number of Luminaires	K Watts per Lumen	L Number of Luminaires	M Watts per Lumen	
SECURITY LTG	35434	0.15	5315	W1	POST TOP	CUTOFF	MH	1	100	1	116	11	1279
				W2	POST TOP	CUTOFF	MH	1	100	1	116	6	696
				B1	WALL MOUNT	CUTOFF	MH	1	100	1	116	6	696
				S1	WALL MOUNT	CUTOFF	MH	1	100	1	116	4	465
				C1	CEILING	T5	1	28	1	29	18	18	465
				D1	CEILING	CUTOFF	T5	1	50	1	51	1	51
Total Allotted Watts				5315					Total Installed Watts				3655

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SECTION 147 - REQUIREMENTS FOR OUTDOOR LIGHTING
 This section applies to all outdoor lighting whether attached to buildings, poles, structures or self supporting including but not limited to, landscape areas including parking lots, lighting for building entrances, sales and non-sales canopies, lighting for all outdoor sales areas, and lighting for building facades.

EXCEPTIONS TO SECTION 147:
 1. Temporary outdoor lighting.
 2. Lighting used in or around swimming pools, water features, or other locations subject to Article 680 of the California Electrical Code.
 3. Lighting for public streets, roadways, highways, and traffic signage lighting, including lighting for driveway entrances occurring in the public right-of-way.
 4. Lighting for sports and athletic fields, and children's playground.
 5. Lighting for industrial sites, including but not limited to rail yards, maritime shipyards and docks, piers and marinas, chemical and petroleum processing plants, and aviation facilities.
 6. Automated Teller Machine lighting.
 7. Lighting of public monuments.
 8. Internally illuminated, externally illuminated, and unfiltered signs.
 9. Lighting used in or around swimming pools, water features, or other locations subject to Article 680 of the California Electrical Code.
 10. Lighting of tunnels, bridges, stairs, and ramps.
 11. Landscape lighting.

(a) **Outdoor Lighting Power.** An outdoor lighting installation complies with this section if the actual outdoor lighting power calculated under Subsection (b) is no greater than the allowed outdoor lighting power calculated under Subsection (c). The allowed outdoor lighting shall be calculated by Lighting Zone as defined in Section 10-11.4. Local governments may amend lighting zones in compliance with Section 10-11.4. Trading off lighting power allowances with any indoor areas shall not be permitted.

(b) **Calculation of Actual Lighting Power.** The actual lighting power of outdoor lighting is the total watts of all lighting systems (including ballast or transformer loss).

(c) **Calculation of Allowed Lighting Power.** The allowed lighting power shall be calculated as follows:
 1. Determine the allowed lighting power for general illumination of the site as follows:
 A. In plan view of the site, determine the illuminated area. The illuminated area is defined as any area within a square pattern around each luminaire or pole that is six times the luminaire mounting height, with the luminaire in the middle of the pattern, less any area that is within a building, under a canopy, beyond property lines, or obstructed by a sign or structure.
 B. Determine a lighting application from Table 147-A for each portion of the illuminated area. Determine the allowed area for each application. Note that the allowed area only applies to illuminated areas. Only portions of the site that are inside the illuminated area determined in step A qualify for allowed lighting power for general illumination. Multiply the allowed area of each lighting application by the allowed lighting power density from Table 147-A. Only applications listed in Table 147-A shall be included. Each portion of the illuminated area shall only be assigned one lighting application, and the assigned lighting applications shall be consistent with the actual use of the area. The allowed area of a site roadway, driveway, sidewalk, walkway or bikeway shall be determined by either of the following methods:
 i. The actual paved area plus 5 feet on either side of the centerline path of travel; or
 ii. A 25 foot wide area running along the axis of the path of travel and including as much of the paved area of the site roadway, driveway, sidewalk, walkway or bikeway as possible. Any overlapping area of another lighting application shall be subtracted from the area of the other lighting application. In this case the allowed lighting power is the length of the centerline of the path times the allowed power per unit length.
EXCEPTION 1 to Section 147 (c) 1 B: For hardscape including parking lots, site roadways, driveways, sidewalks, walkways or bikeways, when specific light levels are required by law through a local ordinance, the allowed lighting power densities specified in TABLE 147-C may be used to calculate the allowed lighting power.
EXCEPTION 2 to Section 147 (c) 1 B: For retail parking lots in lighting zones 1, 2, and 3, hardscape areas within 100 feet of the entrance of senior housing facilities, and parking lots and walkways within 60 feet of building entrances for law enforcement, fire, ambulance and emergency vehicle facilities, the allowed lighting power densities specified in Table 147-A may be adjusted by applying the multipliers for special security requirements in TABLE 147-D to establish allowed lighting power for those special applications. Luminaires qualifying for those adjusted allowances shall not be used to determine allowed power for general illumination. The adjusted lighting power allowances shall be separate allotments, which shall be compiled with separately without tradeoffs.

 2. Determine the allowed lighting power for specific applications as follows:
 A. Determine the allowed lighting power for building facade. The allowed lighting power for lighting the facade shall be the smaller of the product of the area of the facade and the allowed lighting power density for it from Table 147-B, or the actual power used to illuminate the facade. Only areas of the facade that are illuminated without obstruction or interference, by one or more luminaires, shall be used. Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 B. Determine the allowed lighting power for outdoor sales frontage. The allowed lighting power for outdoor sales frontage shall be the smaller of the product of the frontage (in feet) and the allowed lighting power density per foot from Table 147-B, or the actual power used to illuminate the frontage. Sales frontage shall be immediately adjacent to the principal viewing location and unobstructed for its viewing length. A corner sales lot may include both sides provided that a different principal viewing location exists for each side. Measured in plan view, only sections of the outdoor sales area that are along the frontage and are within a 3 mounting heights of frontage luminaires shall be eligible for this power allowance. Luminaires qualifying for this allowance shall be located in plan view between the principal viewing location and the frontage outdoor sales area, and shall not be used to determine allowed lighting power for general illumination.
 C. Determine the allowed lighting power for ornamental lighting. The allowed lighting power for ornamental lighting shall be the smaller of the product of the total area of the site external to buildings, and the allowed lighting power density for ornamental lighting from Table 147-B, or the actual power used for ornamental lighting. Luminaires qualifying for this allowance shall employ lamps rated 100 watts or less, and shall not be used to determine allowed lighting power for general illumination.
 D. Determine the allowed lighting power for lighting under canopies. The allowed lighting power for lighting under a canopy shall be the smaller of the product of the area in plan view of the horizontal projection of the canopy and the allowed lighting power density for either a vehicle service station with or without canopies, for all other sales canopies, or for non-sales canopies from Table 147-B or the actual power used for lighting mounted beneath the canopy. Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 E. Determine the allowed lighting power for lighting of vehicle service stations without canopies. The allowed lighting power for an uncovered a service station without canopy shall be the smaller of the product of the allowed lighting power density for a vehicle service station with or without canopies and 500 square foot per double-sided fuel dispenser, or the actual power used to illuminate this area (in cases where the site only allows fuel to be dispensed on one side of the dispenser, the allowed lighting power shall be the smaller of the product of the allowed lighting power density and 250 square feet per dispenser or the actual power). Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 F. Determine the allowed lighting power for lighting of vehicle service station hardscape areas. The allowed lighting power for vehicle service station hardscape areas shall be the smaller of the product of the area of the vehicle service station hardscape area and the allowed lighting power density from Table 147-B, or the actual power used to illuminate this area. Vehicle service station hardscape areas include all vehicle service station outdoor hardscape areas beyond the horizontal projection of the canopy in plan view. Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 G. Determine the allowed lighting power for drive-up windows. The allowed lighting power for drive-up windows shall be the smaller of the product of the area of the drive-up window and the allowed lighting power density from Table 147-B, or the actual power used to illuminate this area. Drive-up window area is the product of the width of the window plus six feet and the distance 30 feet outward from the window. Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 H. Determine the allowed lighting power for guardrail facilities. The allowed lighting power for guardrail facilities shall be the smaller of the product of the area of the guardrail facility and the allowed lighting power densities specified in Tables 147-B. The guardrail facility area includes the guardhouse interior area plus the product of the entrance width of 25 feet and length of 80 feet. Guarded facilities include the entrance driveway, gatehouse, and guardhouse interior areas that provide access to secure areas controlled by security personnel who stop and may inspect vehicles and vehicle occupants including identification documentation, vehicle license plates, and vehicle contents. Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 I. Determine the allowed lighting power for outdoor dining. The allowed lighting power for outdoor dining shall be the smaller of the product of the outdoor dining area and the allowed lighting power density from Table 147-B, or the actual power used to illuminate this area. Outdoor dining areas are hardscape areas used to serve and consume food and beverages. Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 3. The Allowed Lighting Power shall be the total of the allowed power for general illumination of the site as determined in Section 147 (c) 1 C and the sum of all the allowed power for specific applications determined under Section 147 (c) 2. The allowed outdoor power and the allowed indoor power determined in Section 146 (b) shall be separate allotments, which shall be not separately without tradeoffs between the separate allotments.
OTHERWISE NOTED)

Lighting Application Allowed Area Lighting Zone
 1. Lighting Zone
 2. Lighting Zone
 3. Lighting Zone
 4. Hardscape for automotive vehicle use, including parking lots, driveways and site roads.
 Method (i.) Actual paved area plus 5' perimeter of adjacent unpaved land. Includes planters and landscaped areas less than 10' wide that are enclosed by hardscape or at least three sides - 0.25 C 0.6 B 15 C 10
 Hardscape for pedestrian use including plazas, sidewalks, walkways and bikeways
 Method (i.) Actual paved area plus 5 feet of unpaved land on either side of path of travel. Shall include all continuous paved area before including adjacent grounds - 0.05 C 0.6 B 17 C 21
 Hardscape for driveways, site roads, sidewalks, walkways and bikeways
 Method (i.) 25' wide path incorporating as much of the paved area of the site roadway, driveway, sidewalk, walkway or bikeway as possible - 1.0 watt 1.5 watt 4.0 watt 5.0 watt
 Building Entrances (Self-walk canopy) Width of doors plus 3 ft on either side times a distance of 18 feet outer - 0.35 C 0.6 70 1 00
 Outdoor Sales Lot Actual portion of uncovered outdoor sales lot used exclusively for display of vehicles or other merchandise for sale. All adjacent access drives, walkway areas, customer parking areas, vehicle service or storage areas that are not surrounded on at least three sides by sales area shall be considered hardscape. - 0.35 C 0.76 1 25 C 00
TABLE 147-B LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS (WATT) UNLESS OTHERWISE NOTED)
 Lighting Application Lighting Zone 1 Lighting Zone 2 Lighting Zone 3 Lighting Zone 4
 Building Facades Not allowed 0.18 C 0.25 0.50
 Outdoor Sales Frontage (Footcandle in linear feet) Not allowed 22.5 watt 35.5 watt 55 watt
 Vehicle Service Station with or without canopy 0.70 1.15 1.62 2.40
 Vehicle Service Station Hardscape 0.05 0.20 0.40 0.80
 All Other Sales Canopies Not allowed 0.70 1.00 1.25
 Non sales canopies 0.12 0.25 0.50 0.70
 Ornamental Lighting Not allowed 0.01 0.02 0.04
 Drive Up Windows C 12 0.25 C 0.70 C
 Guardrail Facilities 0.19 0.40 0.80 1.10
 Outdoor Dining 0.25 C 0.18 0.25 0.55
 2005 Building Energy Efficiency Standards Page 157
TABLE 147-C ALTERNATIVE POWER ALLOWANCE FOR ORDNANCE REQUIREMENTS
 Required light levels by law through a local ordinance (national foot-candle average)
 Allowed Lighting Power Density (W/ft²)
 0.5 C 0.6
 1.0 2.0
 1.5 3.0
 2.0 C 1.2
 3.0 C 1.9
 4.0 or greater 0.25
TABLE 147-D MULTIPLIERS FOR SPECIAL SECURITY REQUIREMENTS
 H. Determine the allowed lighting power for guardrail facilities. The allowed lighting power for guardrail facilities shall be the smaller of the product of the area of the guardrail facility and the allowed lighting power densities specified in Tables 147-B. The guardrail facility area includes the guardhouse interior area plus the product of the entrance width of 25 feet and length of 80 feet. Guarded facilities include the entrance driveway, gatehouse, and guardhouse interior areas that provide access to secure areas controlled by security personnel who stop and may inspect vehicles and vehicle occupants including identification documentation, vehicle license plates, and vehicle contents. Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 I. Determine the allowed lighting power for outdoor dining. The allowed lighting power for outdoor dining shall be the smaller of the product of the outdoor dining area and the allowed lighting power density from Table 147-B, or the actual power used to illuminate this area. Outdoor dining areas are hardscape areas used to serve and consume food and beverages. Luminaires qualifying for this allowance shall not be used to determine allowed lighting power for general illumination.
 3. The Allowed Lighting Power shall be the total of the allowed power for general illumination of the site as determined in Section 147 (c) 1 C and the sum of all the allowed power for specific applications determined under Section 147 (c) 2. The allowed outdoor power and the allowed indoor power determined in Section 146 (b) shall be separate allotments, which shall be not separately without tradeoffs between the separate allotments.
OTHERWISE NOTED)

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REGISTERED PROFESSIONAL ENGINEER
 JUAN A. ARAUJO
 NO. E 18997
 EXPIRES: DEC. 31, 2009
 STATE OF CALIFORNIA

DRYAN ENGINEERING INC.
 Consulting Electrical & Mechanical Engineers
 Providing Efficient Services - California - Arizona - Nevada - Texas
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APPROVED BY: AL KING, DIRECTOR OF BEACHES, PARKS, & RECREATION DATE: _____

REVISIONS

NO.	DESCRIPTION	REVISED	APPROVED	DATE

JOB NO.: 05-100467
 SAMP: 649-1000
 SCALE: AS SHOWN
 DESIGNED BY: SMP

REGISTERED LANDSCAPE ARCHITECT
 PATRICK MURPHY
 STATE OF CALIFORNIA

PLANS PREPARED BY:

 PREPARED UNDER THE SUPERVISION OF:
 PATRICK MURPHY
 DATE: _____
 R.I.A. # 1881

CITY OF SAN CLEMENTE
 DEPARTMENT OF BEACHES, PARKS, & RECREATION

LA PATA PARK - COURTNEY'S SAND CASTLE

TITLE 24 COMPLIANCE FORMS

DRAWING NO.: CSC-31
 SHEET NO.: 178
 OF 178

BID SET