CERTIFICATE OF COMPLIANCE (Part 1 of 4) LTG-1-C

PROJECT NAME: MUIR FUNDAMENTAL SCHOOL BUILDING 6	DATE: 11/21/2008
PROJECT ADDRESS: 1951 N. MABURY STREET SANTA ANA	Building Permit #
PRINCIPAL DESIGNER - LIGHTING: NESTOR IGNACIO — TELEPHONE: 909.477.6915	
DOCUMENTATION AUTHOR: TMAD Taylor & Gains (PAS) — TELEPHONE: (626) 351-8881	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS: 11/21/2008	BUILDING CONDITIONED FLOOR AREA: 9,810 Sq.Ft.		CLIMATE ZONE: 8
BUILDING TYPE	☒ NONRESIDENTIAL	☐ HIGH RISE RESIDENTIAL	☐ HOTEL/MOTEL GUEST ROOM
	☒ CONDITIONED SPACES	☐ UNCONDITIONED SPACES	☐ INDOOR & OUTDOOR SIGNS
PHASE OF CONSTRUCTION	☐ NEW CONSTRUCTION	☐ ADDITION	☐ ALTERATION
METHOD OF LIGHTING COMPLIANCE	☒ COMPLETE BUILDING ☐ COMMON LIGHTING	☐ AREA CATEGORY ☐ TAILORED	☐ PERFORMANCE

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications needed 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 preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE
Nestor Ignacio	[signature]	

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 Sections 110, 119, 130 - 132, 146, 148 & 149 of Title 24, Part 6.

- ☐ The plans & specifications meet the requirements of Part 6 (Sections 10-103a).
- ☐ The installation certificates meet the requirements of Part 6 (10-103a 3).
- ☐ The operation & maintenance information meet the requirements of Part 6 (10-103c).

Please Check One: (These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

- ☐ 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 5537.2 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 the exemption to 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 - NAME	SIGNATURE	DATE	LIC. #
NESTOR IGNACIO	[signature]		

LIGHTING MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures

LIGHTING COMPLIANCE FORMS & WORKSHEETS (Check box if worksheet is included)

- ☒ LTG-1-C, Parts 1 of 4 and 2 of 4: Certificate of Compliance. Part 1 of 4 and 2 of 4 are required for all submittals
- ☒ LTG-1-C, Part 3 of 4: Certificate of Compliance. Part 3 of 4 submittal is required only if Control Credits are claimed
- ☒ LTG-1-C, Part 4 of 4: Certificate of Compliance. Part 4 of 4 submittal is required when lighting controls are installed
- ☒ LTG-2-C: Indoor Lighting Schedule
- ☐ LTG-3-C: Portable Lighting Worksheet
- ☒ LTG-4-C: Lighting Controls Credit Worksheet
- ☒ LTG-5-C: Indoor Lighting Power Allowance
- ☐ LTG-6-C: Tailored Method Worksheet
- ☐ LTG-7-C: Room Cavity Ratio Worksheet
- ☐ LTG-8-C: Common Lighting Systems Method Worksheet
- ☐ LTG-9-C: Line Voltage Track Lighting Worksheet

CERTIFICATE OF COMPLIANCE (Part 2 of 4) LTG-1-C

PROJECT NAME: MUIR FUNDAMENTAL SCHOOL BUILDING 6 — DATE: 11/21/2008

INSTALLED INDOOR LIGHTING POWER FOR CONDITIONED AND UNCONDITIONED SPACES

	INSTALLED WATTS
INSTALLED LIGHTING, CONDITIONED SPACES (From LTG-2-C)	13,951
PORTABLE LIGHTING (From LTG-3-C)	0
LIGHTING CONTROL CREDIT, CONDITIONED SPACES (From LTG-4-C)	2,790
CONDITIONED SPACE ADJUSTED INSTALLED LIGHTING POWER	11,161
INSTALLED LIGHTING, UNCONDITIONED SPACES (From LTG-2-C)	0
LIGHTING CONTROL CREDIT, UNCONDITIONED SPACES (From LTG-4-C)	0
UNCONDITIONED SPACE ADJUSTED INSTALLED LIGHTING POWER	0

ALLOWED INDOOR LIGHTING POWER FOR CONDITIONED SPACES

- ☒ COMPLETE BUILDING METHOD (From LTG-5-C)
- ☐ AREA CATEGORY METHOD (From LTG-5-C)
- ☐ TAILORED METHOD (From LTG-5-C)

ALLOWED LIGHTING POWER — ALLOWED WATTS: 11,772

ALTERNATE COMPLIANCE

- ☐ PERFORMANCE METHOD
- ☐ COMMMON LIGHTING SYSTEM (From LTG-8-C)

ALLOWED INDOOR LIGHTING POWER FOR UNCONDITIONED SPACES (From LTG-5-C) 0

MANDATORY INDOOR AND DAYLIGHTING AUTOMATIC CONTROLS

CONTROL LOCATION (Room #)	CONTROL IDENTIFICATION	CONTROL TYPE (Auto Time Switch, Dimming, etc.)	SPACE CONTROLLED	Check if Daylighting	NOTE TO FIELD

NOTES TO FIELD - For Building Department Use Only

CERTIFICATE OF COMPLIANCE (Part 3 of 4) LTG-1-C

PROJECT NAME: MUIR FUNDAMENTAL SCHOOL BUILDING 6 — DATE: 11/21/2008

CONTROLS FOR CREDIT IN CONDITIONED AND UNCONDITIONED SPACES

CONTROL LOCATION (Room # or Dwg. #)	CONTROL IDENTIFICATION	CONTROL TYPE (Occupant, Daylight, Dimming, etc.)	LUMINAIRES CONTROLLED TYPE	# OF LUMINAIRES	NOTE TO FIELD
BUILDING 6		Occ Sensor - <= 250 sqft	B	6	
BUILDING 6		Occ Sensor - <= 250 sqft	A	210	
BUILDING 6		Occ Sensor - <= 250 sqft	C	8	
BUILDING 6		Occ Sensor - <= 250 sqft	D	3	

NOTES TO FIELD - For Building Department Use Only

CERTIFICATE OF COMPLIANCE (Part 4 of 4) LTG-1-C

PROJECT NAME: MUIR FUNDAMENTAL SCHOOL BUILDING 6 — DATE: 11/21/2008

Designer:
This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for lighting systems. The designer is required to check the boxes by all acceptance tests that apply and list all equipment that require an acceptance test. If all equipment of a certain type requires a test, list the equipment description and the number of systems to be tested in parentheses. The NJ number designates the Section in the Appendix of the Nonresidential ACM Manual that describes the test. Also indicate the person responsible for performing the tests (i.e. the installing contractor, design professional or an agent selected by the owner). Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Building Departments:
Before an occupancy permit is granted for a newly constructed building or space, or a new lighting system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance. In addition a Certificate of Acceptance, LTG-1-A, Forms shall be submitted to the building department that:

A. Certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of 10-103(b) and Title 24 Part 6.

Test Description	Test Performed By:
☐ LTG-2-A: Lighting Control Acceptance Document - Occupancy Sensor Acceptance - Manual Daylight Controls Acceptance - Automatic Time Switch Control Acceptance Equipment requiring acceptance testing	
☐ LTG-3-A: Automatic Daylighting Controls Acceptance Document Equipment requiring acceptance testing	

INDOOR LIGHTING SCHEDULE (Part 1 of 2) LTG-2-C

PROJECT NAME: MUIR FUNDAMENTAL SCHOOL BUILDING 6 — DATE: 11/21/2008

INSTALLED LIGHTING POWER FOR CONDITIONED SPACES

Name	Luminaire Type Description	C Lamp Type	D Number of Lamps per Luminaire	E Watts per Lamp	F Number of Ballast per Luminaire	G Watts per Luminaire	H CEC Default? Yes	No	I Number of Luminaires	J Installed Watts (G x I)
A	(2) 4 ft Fluorescent T8 Rapid Start Elec	F32T8	2	32	1.0	62.0	X		210	13,020
B	(2) 4 ft Fluorescent T8 Rapid Start Elec	F32T8	2	32	1.0	62.0	X		6	372
C	(2) 4 ft Fluorescent T8 Rapid Start Elec	F32T8	2	32	1.0	62.0	X		8	496
D	(1) 18w Compact Fluorescent Triple 4 Pin Elec	CFM 18W/GX24q-2	1	18	1.0	21.0	X		3	63

PAGE TOTAL	13,951
BUILDING TOTAL (sum of all pages)	13,951
PORTABLE LIGHTING (From LTG-3-C)	0
CONTROL CREDIT (From LTG-4-C)	2,790
ADJUSTED ACTUAL WATTS	11,161

LIGHTING CONTROLS CREDIT WORKSHEET (Part 1 of 2) LTG-4-C

CONTROL CREDITS FOR CONDITIONED SPACES

PROJECT NAME: MUIR FUNDAMENTAL SCHOOL BUILDING 6 — DATE: 11/21/2008

A ROOM # ZONE ID CONDITIONED AREAS	B LIGHTING CONTROL DESCRIPTION	C PLAN REF.	D ROOM AREA (SF)	E WINDOW WALL RATIO	F DAYLIGHTING GLAZING VLT	G SKYLIGHT EFFECTIVE APERTURE	H WATTS OF CONTROL LIGHTING	I LIGHTING ADJUST. FACTOR	J CONTROL CREDIT WATTS (H X I)
BUILDING 6	Occ Sensor - <= 250 sqft	B	9,810				372	0.20	74
BUILDING 6	Occ Sensor - <= 250 sqft	A	9,810				13,020	0.20	2,604
BUILDING 6	Occ Sensor - <= 250 sqft	C	9,810				496	0.20	99
BUILDING 6	Occ Sensor - <= 250 sqft	D	9,810				63	0.20	13

1) From Equation 146-A
2) From Table 146-A

PAGE TOTAL	2,790
BUILDING TOTAL	2,790

Enter in LTG-2-C: Lighting Control Credit

INDOOR LIGHTING POWER ALLOWANCE LTG-5-C

PROJECT NAME: MUIR FUNDAMENTAL SCHOOL BUILDING 6 — DATE: 11/21/2008

ALLOWED LIGHTING POWER (Choose One Method)

COMPLETE BUILDING METHOD - CONDITIONED SPACES

BUILDING CATEGORY (From Section 146 Table 146-B)	WATTS PER SF	COMPLETE BLDG. AREA	ALLOWED WATTS
Comp Bldg School	1.20	9,810	11,772

AREA CATEGORY METHOD - CONDITIONED SPACES

AREA CATEGORY (From Section 146 Table 146-C)	WATTS PER SF	AREA (SF)	ALLOWED WATTS

PAGE TOTAL
BUILDING TOTAL — AREA — WATTS

TAILORED METHOD - CONDITIONED SPACES

TOTAL ALLOWED WATTS (From LTG-6-C or from computer run.)

UNCONDITIONED SPACES

Complete Building and Area Catagory Methods Category (From Section 146 Table 146-B&C)	WATTS PER SF	AREA (SF)	ALLOWED WATTS

PAGE TOTAL
BUILDING TOTAL — AREA — WATTS

TAILORED METHOD - UNCONDITIONED SPACES

TOTAL UNCONDITIONED SPACES ALLOWED WATTS (From LTG-5-C and LTG-6-C)

LIGHTING MANDATORY MEASURES LTG-MM

PROJECT NAME: MUIR FUNDAMENTAL SCHOOL BUILDING 6 — DATE: 11/21/2008

DESCRIPTION	Designer	Enforcement
☒ 131(d)1 For every floor, all interior lighting systems shall be equipped with a separate automatic control to shut off the lighting. This automatic control shall meet the requirements of Section 119 and may be an occupancy sensor, automatic time switch, or other device capable of automatically shutting off the lighting.		
☒ 131(d)2 Override for Building Lighting Shut-off: The automatic building shut-off system is provided with a manual, accessible override switch in sight of the lights. The area of override is not to exceed 5,000 square feet.		
☒ 119(h) Automatic Control Devices Certified: All automatic control devices specified are certified, all alternate equipment shall be certified and installed as directed by the manufacturer.		
☒ 111 Fluorescent Ballast and Luminaires Certified: All fluorescent fixtures specified for the project are certified and listed in the Directory. All installed fixtures shall be certified.		
☒ 131(a) Individual Room/Area Controls: Each room and area in this building is equipped with a separate switch or occupancy sensor device for each area with floor-to-ceiling walls.		
☒ 131(b) Uniform Reduction for Individual Rooms: All rooms and areas greater than 100 square feet and more than 0.8 watts per square foot of lighting load shall be controlled with bi-level switching for uniform reduction of lighting within the room.		
☐ 131(c) Daylight Area Control: All rooms with windows and skylights that are greater than 250 square feet and that allow for the effective use of daylight in the area shall have 50% of the lamps in each daylit area controlled by a separate switch; or the effective use of daylight cannot be accomplished because the windows are continuously shaded by a building on the adjacent lot. Diagram of shading during different times of the year is included on plans.		
☒ 131(e) Display Lighting. Display lighting shall be separately switched on circuits that are 20 amps or less.		

gkkworks
2355 Main Street Suite 220
Irvine | CA 92614
949 250 1500
949 955 2708 fax

Architect Seal: LICENSED ARCHITECT GUILLERMO AGUILAR NO. C13165 REN.: MAY. 2011 STATE OF CALIFORNIA

Consultant and Seal
TMAD TAYLOR & GAINES — STRUCTURAL, MECHANICAL, ELECTRICAL, CIVIL
800 North Ferrari Lane, Suite 100
Ontario, California 91764
Phone: 909.477.6915 Fax: 909.477.6916
Project No. 2008.125.00

REGISTERED PROFESSIONAL ENGINEER NESTOR C. IGNACIO, JR. Lic. E16934 Exp. 6-30-2011 ELECTRICAL STATE OF CALIFORNIA

Agency Approval

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL. 04-110031
AC / FLS / SS RH
DATE NOV 2 4 2009

No.	Date	Revision/Issue
	12/08/08	DSA SUBMITTAL
	02/11/09	DSA SUBMITTAL
	5/11/09	DSA BACKCHECK
	12/15/2011	BID SET

Project Name: MUIR FUNDAMENTAL SCHOOL MODERNIZATION
1951 MABURY ST.
SANTA ANA, CA 92707

Checked By: RA — Drawn By: KA

Sheet Title: BUILDING 6 TITLE 24 CALCULATION

Sheet Number: E0.8

Project Number: 10021-010-00 — Scale: NONE

© 2009 gkkworks, All Rights Reserved
NO PART OF THE CONTENTS OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF GKKWORKS.

N:\20.CAD\TTG_Projects\2008\2008-125-00\Mpe\E0-8.dwg 10/02/2009