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CHAPTER 7

INSTALLER AND SPECIAL

Building Division

CHAPTER 8
COMPLIANCE FORMS AND WORKSHEETS

WORKSHEET (WS-1)
BASELINE WATER USE

BASELINE WATER USE CALCULATION TABLE											
Fixture Type	**Quantity**		**Flow-rate (gpm)**		**Duration**		**Daily uses**		**Occupants[3, 4]**		**Gallons per day**
Showerheads		X	2.5	X	5 min.	X	1	X		=	
Showerheads Residential		X	2.5	X	8 min.	X	1	X		=	
Lavatory Faucets Residential		X	2.2	X	.25 min.	X	3	X		=	
Kitchen Faucets		X	2.2	X	4 min.	X	1	X		=	
Replacement Aerators		X	2.2	X		X		X		=	
Wash Fountains		X	2.2	X		X		X		=	
Metering Faucets		X	0.25	X	.25 min.	X	3	X		=	
Metering Faucets for Wash Fountains		X	2.2	X	.25 min.	X		X		=	
Gravity tank type Water Closets		X	1.6	X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Tank Water Closets		X	1.6	X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Valve Water Closets		X	1.6	X	1 flush	X	1 male[1] 3 female	X		=	
Electromechanical Hydraulic Water Closets		X	1.6	X	1 flush	X	1 male[1] 3 female	X		=	
Urinals		X	1.0	X	1 flush	X	2 male	X			
Total daily baseline water use (BWU)										=	
_____ (BWU) X .80 = _____ Allowable water use											

[1] Except for low-rise residential occupancies, the daily use number shall be increased to three if urinals are not installed in the room.
[2] The Flow-rate is from the CEC Appliance Efficiency Standards, Title 20 California Code of Regulations; where a conflict occurs, the CEC standards shall apply.
[3] For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.[4] For non-residential occupancies, refer to Table A, Chapter 4, 2010 California Plumbing Code, for occupant load factors.

WORKSHEET (WS-2)
20% REDUCTION WATER USE CALCULATION TABLE

20% REDUCTION WATER USE CALCULATION TABLE											
Fixture Type	**Quantity**		**Flow-rate (gpm)**[2]		**Duration**		**Daily uses**		**Occupants**[3, 4]		**Gallons per day**
Showerheads		X		X	5 min.	X	1	X		=	
Showerheads Residential		X		X	8 min.	X	1	X		=	
Lavatory Faucets Residential		X		X	.25 min.	X	3	X		=	
Kitchen Faucets		X		X	4 min.	X	1	X		=	
Replacement Aerators		X		X		X		X		=	
Wash Fountains		X		X		X		X		=	
Metering Faucets		X		X	.25 min.	X	3	X		=	
Metering Faucets for Wash Fountains		X		X	.25 min.	X		X		=	
Gravity tank type Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
HET[5] High Efficiency Toilet		X	1.28	X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Tank Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Valve Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Electromechanical Hydraulic Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Urinals		X		X	1 flush	X	2 male	X			
Urinals Non-Water Supplied		X	0.0	X	1 flush	X	2 male	X		=	
Proposed water use										=	
_____ (BWU from WS-1) X .80 = _____ Allowable water use											

[1] Except for low-rise residential occupancies, the daily use number shall be increased to three if urinals are not installed in the room.
[2] The Flow-rate is from the CEC Appliance Efficiency Standards, Title 20 California Code of Regulations; where a conflict occurs, the CEC standards shall apply.
[3] For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.[4] For non-residential occupancies, refer to Table A, Chapter 4, 2010 California Plumbing Code, for occupant load factors.[5] Includes single and dual flush water closets with an effective flush of 1.28 gallons or less
Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2.
Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.

WORKSHEET (WS-3)
30%, 35% or 40% REDUCTION WATER USE CALCULATION TABLE

30%, 35% or 40% REDUCTION WATER USE CALCULATION TABLE											
Fixture Type	**Quantity**		**Flow-rate (gpm)**[2]		**Duration**		**Daily uses**		**Occupants**[3,]		**Gallons per day**
Showerheads		X		X	5 min.	X	1	X		=	
Showerheads Residential		X		X	8 min.	X	1	X		=	
Lavatory Faucets Residential		X		X	.25 min.	X	3	X		=	
Kitchen Faucets		X		X	4 min.	X	1	X		=	
Replacement Aerators		X		X		X		X		=	
Wash Fountains		X		X		X		X		=	
Metering Faucets		X		X	.25 min.	X	3	X		=	
Metering Faucets for Wash Fountains		X		X	.25 min.	X		X		=	
Gravity tank type Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
HET[4] High Efficiency Toilet		X	1.12	X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Tank Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Valve Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Electromechanical Hydraulic Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Urinals		X		X	1 flush	X	2 male	X			
Urinals Non-Water Supplied		X	0.0	X	1 flush	X	2 male	X		=	
Proposed water use										=	
30% Reduction_____ (BWU from WS-1) X .70 = _____ Allowable water use 35% Reduction_____ (BWU from WS-1) X .65 = _____ Allowable water use 40% Reduction_____ (BWU from WS-1) X .60 = _____ Allowable water use											

[1, 2, 3, 4 and 5]: See footnotes for Water Use Worksheet WS-2.

Construction Waste Management (CWM) Plan

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: _____
Job #: _____
Project Manager: _____

Waste Hauling Company: _____
Contact Name: _____

All Subcontractors shall comply with the project's Construction Waste Management Plan.
All Subcontractor foremen shall sign the CWM Plan Acknowledgement Sheet.

Subcontractors who fail to comply with the Waste Management Plan will be subject to backcharges or withholding of payment, as deemed appropriate. For instance, Subcontractors who contaminate debris boxes that have been designated for a single material type will be subject to backcharge or withheld payment, as deemed appropriate.

1. The project's overall rate of waste diversion will be ____ %.

2. This project shall generate the least amount of waste possible by planning and ordering carefully, following all proper storage and handling procedures to reduce broken and damaged materials and reusing materials whenever possible. The majority of the waste that is generated on this jobsite will be diverted from the landfill and recycled for other use.

3. Spreadsheet 1, enclosed, identifies the waste materials that will be generated on this project, the diversion strategy for each waste type and the anticipated diversion rate.
4. Waste prevention and recycling activities will be discussed at the beginning of weekly subcontractor meetings. As each new subcontractor comes on-site, the WMP Coordinator will present him/her with a copy of the CWM Plan and provide a tour of the jobsite to identify materials to be salvaged and the procedures for handling jobsite debris. Each Subcontractor foremen will acknowledge in writing that they have read and will abide by the CWM Plan. Subcontractor Acknowledgement Sheet enclosed. The CWM Plan will be posted at the jobsite trailer.

5. Salvage: Excess materials that cannot be used in the project, nor returned to the vendor, will be offered to site workers, the owner, or donated to charity if feasible.

6. [HAULING COMPANY] will provide a commingled drop box at the jobsite for most of the construction waste. These commingled drop boxes will be taken to [Sorting Facility Name and Location]. The average diversion rate for commingled waste will be ____%. As site conditions permit, additional drop boxes will be used for particular phases of construction (e.g., concrete and wood waste) to ensure the highest waste diversion rate possible.

7. In the event that the waste diversion rate achievable via the strategy described in (6) above, is projected to be lower than what is required , then a strategy of source-separated waste diversion and/or waste stream reduction will be implemented. Source separated waste refers to jobsite waste that is not commingled but is instead allocated to a debris box designated for a single material type, such as clean wood or metal

   Notes:
   1. Waste stream reduction refers to efforts taken by the builder to reduce the amount of waste generated by the project to below four (4) pounds per square foot of building area.
   2. When using waste stream reduction measures, the gross weight of the product is subtracted from a base weight of four (4) pounds per square foot of building area. This reduction is considered additional diversion and can be used in the waste reduction percentage calculations.

8. [HAULING COMPANY] will track and calculate the quantity (in tons) of all waste leaving the project and calculate the waste diversion rate for the project. [HAULING COMPANY] will provide Project Manager with an updated monthly report on gross weight hauled and the waste diversion rate being achieved on the project. [HAULING COMPANY's] monthly report will track separately the gross weights and diversion rates for commingled debris and for each source-separated waste stream leaving the project. In the event that [HAULING COMPANY] does not service any or all of the debris boxes on the project, the [HAULING COMPANY] will work with the responsible parties to track the material type and weight (in tons) in such debris boxes in order to determine waste diversion rates for these materials.

9. In the event that Subcontractors furnish their own debris boxes as part of their scope of work, such Subcontractors shall not be excluded from complying with the CWM Plan and will provide [HAULING

COMPANY] weight and waste diversion data for their debris boxes.

10. In the event that site use constraints (such as limited space) restrict the number of debris boxes that can be used for collection of designated waste the project Superintendent will, as deemed appropriate, allocate specific areas onsite where individual material types are to be consolidated. These collection points are not to be contaminated with non-designated waste types.

11. Debris from jobsite office and meeting rooms will be collected by [DISPOSAL SERVICE COMPANY]. [DISPOSAL SERVICE COMPANY] will, at a minimum, recycle office paper, plastic, metal and cardboard.

CONSTRUCTION WASTE MANAGEMENT (CWM) WORKSHEET

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: _____

Job Number: _____

Project Manager: _____

Waste Hauling Company: _____

Construction Waste Management (CWM) Plan

Waste Material Type	Diversion Method:		Projected Diversion Rate
	Commingled and Sorted Off-site	Source Separated Onsite	
Asphalt			
Concrete			
Shotcrete			
Metals			
Wood			
Rigid Insulation			
Fiberglass Insulation			
Acoustic Ceiling Tile			
Gypsum Drywall			
Carpet/Carpet Pad			
Plastic Pipe			
Plastic Buckets			
Plastic			
Hardiplank Siding and Boards			
Glass			
Cardboard			
Pallets			
Job office trash, paper, glass & plastic bottles, cans, plastic			
Alkaline and rechargeable batteries, toner cartridges, and electronic devices			
Other:			
Other:			
Other:			

CONSTRUCTION WASTE MANAGEMENT (CWM) ACKNOWLEDGMENT

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: ______________________

Job Number: ______________________

Project Manager: ______________________

Waste Hauling Company: ______________________

CWM Plan Acknowledgment

The Foreman for each new Subcontractor that comes on site is to receive a copy of the Construction Waste Management Plan and complete this Acknowledgement Form.

I have read the Waste Management Plan for the project; I understand the goals of this plan and agree to follow the procedures described in this plan.

Date	Subcontractor Company Name	Foreman Name	Signature

APPENDIX A4

RESIDENTIAL VOLUNTARY MEASURES

SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
PLANNING AND DESIGN						
Site Selection						
A4.103.1 A site which complies with at least one of the following characteristics is selected: 1. An infill site is selected. 2. A greyfield site is selected. 3. An EPA-recognized Brownfield site is selected.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Site Preservation						
A4.104.1 An individual with oversight responsibility for the project has participated in an educational program promoting environmentally friendly design or development and has provided training or instruction to appropriate entities.		☐	☐	☐	☐	☐
Deconstruction and Reuse of Existing Materials						
A4.105.2 Existing buildings are disassembled for reuse or recycling of building materials. The proposed structure utilizes at least one of the following materials which can be easily reused: 1. Light fixtures 2. Plumbing fixtures 3. Doors and trim 4. Masonry 5. Electrical devices 6. Appliances 7. Foundations or portions of foundations		☐	☐	☐	☐	☐
Site Development						
4.106.2 A plan is developed and implemented to manage storm water drainage during construction.	☒					
4.106.3 The site shall be planned and developed to keep surface water away from buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water	☒					

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
flows.						
A4.106.1 Orient buildings to optimize the use of solar energy with the long side of the house oriented within 30° of south.		☐	☐	☐	☐	☐
A4.106.2.1 Soil analysis is performed by a licensed design professional and the findings utilized in the structural design of the building.		☐	☐	☐	☐	☐
A4.106.2.2 Soil disturbance and erosion are minimized by at least one of the following: 1.Natural drainage patterns are evaluated and erosion controls are implemented to minimize erosion during construction and after occupancy. 2.Site access is accomplished by minimizing the amount of cut and fill needed to install access roads and driveways. 3. Underground construction activities are coordinated to utilize the same trench, minimize the amount of time the disturbed soil is exposed and the soil is replaced using accepted compaction methods.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.106.2.3 Topsoil shall be protected or saved for reuse as specified in this section. Tier 1. Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion. Tier 2. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area.		☒[2]	☒[2] ☒[2]	☐	☐	☐
A4.106.3 Post construction landscape designs accomplish one or more of the following: 1. Areas disrupted during construction are restored to be consistent with native vegetation species and patterns. 2. Limit turf areas to the greatest extent possible. a. Not more than 50% for Tier 1. b. Not more than 25% for Tier 2. 3. Utilize at least 75% native Californian or drought tolerant plant and tree species appropriate for the climate zone region.		☐ ☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
4.Hydrozoning irrigation techniques are incorporated into the landscape design.		☐	☐	☐	☐	☐
A4.106.4 Permeable paving is utilized for the parking, walking, or patio surfaces in compliance with the following. Tier 1. Not less than 20% of the total parking, walking, or patio surfaces shall be permeable. Tier 2. Not less than 30% of the total parking, walking, or patio surfaces shall be permeable.		☒[2]	☒[2]	☐ ☐	☐ ☐	☐ ☐
A4.106.5 Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum Reflectance Index (SRI) equal to or greater than the values specified in Tables A4.106.5(1) and A4.106.5(2). Tier 1 roof covering shall meet or exceed the values contained in Table A4.106.5(1). Tier 2 roof covering shall meet or exceed the values contained in Table A4.106.5(2).		☒[2]	☒[2]			
Innovative Concepts and Local Environmental Conditions						
A4.107.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1.	☐	☐	☐	☐	☐	☐
Item 2.	☐	☐	☐	☐	☐	☐
Item 3.	☐	☐	☐	☐	☐	☐
ENERGY EFFICIENCY						
General						
4.201.1 Low-rise residential buildings shall meet or exceed the minimum standard design required by the California Energy Standards.	☒					

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency ☐ All	Installer or Designer ☐ All	Third party ☐ All
		Tier 1	Tier 2			
Performance Approach						
A4.203.1 Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards requirements by 15%.		☒[2]				
A4.203.1 Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards requirements by 30%.			☒[2]			
Prescriptive Approach						
Building Envelope						
A4.205.1 Radiant roof barrier is installed in Climate Zones 2, 4, and 8 through 15.		☐	☐	☐	☐	☐
A4.205.2 Exterior shading at least 18 inches in depth is provided on south and west windows.		☐	☐	☐	☐	☐
Air Sealing Package						
A4.206.1 Third party blower door test is conducted and passed to verify building envelope tightness.		☐	☐	☐	☐	☒
HVAC Design, Equipment and Installation						
A4.207.1 Radiant, hydronic, ground source and other innovative space heating and cooling systems included in the proposed design shall be designed using generally accepted industry-approved guidelines and design criteria.		☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.207.2 An HVAC system commissioning plan is developed and the following items, as appropriate, pertaining to the heating and cooling systems are inspected and certified by an independent third party agency: 1. Verify compliance with the manufacturers recommended start-up procedures. 2. Verify refrigerant charge by super-heat or other methods specified by the manufacturer. 3. Burner is set to fire at the nameplate input rating. 4. Temperature drop across the evaporator is within the manufacturers recommended range. 5. Test and verify air flow to be within 10% of the initial design air flow. 6. Static pressure within the duct system is within the manufacturers' acceptable range. 7. Verify that the whole house and exhaust ventilation systems meet Title 24 requirements. 8. Verify that the recommended maintenance procedures and schedules are documented and provided to the home owner.		☐	☐	☐	☐	☒
A4.207.2.3 Results of the commissioning inspection shall be included in the Operation and Maintenance Manual required in Section 4.410.1.		☐	☐	☐	☐	☐
A4.207.4 Install gas-fired (natural or propane) space heating equipment with an Annual Fuel Utilization Ratio (AFUE) of.90 or higher.		☐	☐	☐	☐	☐
A4.207.5 If an electric heat pump must be used, select equipment with a Heating Seasonal Performance Factor (HSPF) of 8.0 or higher.		☐	☐	☐	☐	☐
A4.207.6 When climatic conditions necessitate the installation of cooling equipment, select cooling equipment with a Seasonal Energy Efficiency Ratio (SEER) higher than 13.0 and an Energy Efficiency Ratio (EER) of at least 11.5.		☐	☐	☐	☐	☐
A4.207.7 Install ductwork to comply with at least one of the following: 1. Install ducts within the conditioned envelope of the building. 2. Install ducts in an underfloor crawl space.		☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
3. Use ducts with an R-6 insulation value or higher. 4. Install ductwork which is buried in the ceiling insulation.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.207.8 Perform duct leakage testing to verify a total leakage rate of less than 6% of the total fan flow.		☐	☐	☐	☐	☐
A4.207.9 In cooling Climate Zones 2, 4, and 8 through 15 install a whole-house fan with insulated louvers or an insulated cover.		☐	☐	☐	☐	☐
A4.207.10 ENERGY STAR ceiling fans are installed in all bedrooms and living areas.		☐	☐	☐	☐	☐
Water Heating Design, Equipment and Installation						
A4.208.1 The Energy Factor (EF) for a gas fired storage water heater is higher than .60.		☐	☐	☐	☐	☐
A4.208.2 The Energy Factor (EF) for a gas fired tankless water heater is .80 or higher.		☐	☐	☐	☐	☐
A4.208.3 Where the hot water source is more than 10 feet from a fixture, the potable water distribution system shall convey hot water using a method designed to minimize wait time for hot water to arrive at the fixture.		☐	☐	☐	☐	☐
Lighting						
A4.209.1 Building lighting consists of at least 90% ENERGY STAR qualified hard-wired fixtures.		☐	☐	☐	☐	☐
Appliances						
A4.210.1 Each appliance provided by the builder meets ENERGY STAR if an ENERGY STAR designation is applicable for that appliance.		☐	☐	☐	☐	☐
Renewable Energy						
A4.211.1 Install a solar photovoltaic (PV) system in compliance with the California Energy Commission						

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency ☐ All	Installer or Designer ☐ All	Third party ☐ All
		Tier 1	Tier 2			
New Solar Homes Partnership (NSHP).[1, 2] Install energy efficiency measures meeting either Tier I or Tier II below. Tier 1. Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards requirements by 15%. Tier 2. Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards requirements by 30%. Solar water heating may be used to assist in meeting the energy efficiency requirements of either Tier I or Tier II. [1] In addition, for either Tier I or II, each appliance provided by the builder must be Energy Star if an Energy Star designation is applicable for that appliance. [2] Information on NSHP incentives available through the California Energy Commission may be obtained at the "Go Solar California" website: www.GoSolarCalifornia.ca.gov/nshp/index.html.		☐	☐			☒ ☒
A4.211.2 A solar water heating system is installed.		☐	☐	☐	☐	☐
A4.211.3 Space on the roof surface and penetrations through the roof surface are provided for future solar installation.		☐	☐	☐	☐	☐
A4.211.4 A minimum one inch conduit is provided from the electrical service equipment for the future installation of a photovoltaic (PV) system.		☐	☐	☐	☐	☐
Elevators, Escalators and Other Equipment						
Innovative Concepts and Local Environmental Conditions						
A4.213.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1.	☐	☐	☐	☐	☐	☐
Item 2.	☐	☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1] Tier 1	Prerequisites and electives [1] Tier 2	Enforcing Agency ☐ All	Installer or Designer ☐ All	Third party ☐ All
Item 3.	☐	☐	☐	☐	☐	☐
WATER EFFICIENCY AND CONSERVATION						
Indoor Water Use						
4.303.1 Indoor water use shall be reduced by at least 20% using one of the following methods. 1. Water saving fixtures or flow restrictors shall be used. 2. A 20% reduction in baseline water use shall be demonstrated.	☒ 7/01/2011			☐	☐	☐
4.303.2 When using the calculation method specified in Section 4.303.1, multiple showerheads shall not exceed maximum flow rates.	☒ 7/01/2011			☐	☐	☐
4.303.3 Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with specified performance requirements.	☒ 7/01/2011			☐	☐	☐
A4.303.1 Kitchen faucets and dishwashers shall comply with this section. Tier 1. The maximum flow rate at a kitchen sink faucet shall not be greater than 1.5 gallons per minute at 60 psi. Tier 2. In addition to the kitchen faucet requirements for Tier 1, dishwashers in Tier 2 buildings shall be ENERGY STAR qualified and not use more than 5.8 gallons of water per cycle.		☒[2]	☒[2] ☒[2]	☐	☐	☐
A4.303.2 Non-water supplied urinals or waterless toilets are installed.		☐	☐	☐	☐	☐
Outdoor Water Use						
4.304.1 Automatic irrigation systems controllers installed at the time of final inspection shall be weather-based.	☒			☐	☐	☐
A4.304.1 Install a low-water consumption irrigation system which minimizes the use of spray type heads.		☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.304.2 A rainwater capture, storage and re-use system is designed and installed.		☐	☐	☐	☐	☐
A4.304.3 A water budget shall be developed for landscape irrigation.		☐	☐	☐	☐	☐
A4.304.4 Provide water efficient landscape irrigation design that reduces the use of potable water. Tier 1. Does not exceed 65% of ETo times the landscape area. Tier 2. Does not exceed 60% of ETo times the landscape area.		☒[2]	☒[2]	☐	☐	☐
A4.304.5 A landscape design is installed which does not utilize potable water.		☐	☐	☐	☐	☐
WATER REUSE SYTEMS						
A4.305.1 Piping is installed to permit future use of a graywater irrigation system served by the clothes washer or other fixtures.		☐	☐	☐	☐	☐
A4.305.2 Recycled water piping is installed.		☐	☐	☐	☐	☐
A4.305.3 Recycled water is used for landscape irrigation.		☐	☐	☐	☐	☐
Innovative Concepts and Local Environmental Conditions						
A4.306.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1.	☐	☐	☐	☐	☐	☐
Item 2	☐	☐	☐	☐	☐	☐
Item 3.	☐	☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY						
Foundation Systems						
A4.403.1 A Frost-Protected Shallow Foundation (FPSF) is designed and constructed.		☐	☐	☐	☐	☐
A4.403.2 Cement use in foundation mix design is reduced. Tier 1. Not less than a 20% reduction in cement use. Tier 2. Not less than a 25% reduction in cement use.		☒[2]	☒[2]	☐	☐	☐
Efficient Framing Techniques						
A4.404.1 Beams and headers and trimmers are the minimum size to adequately support the load.		☐	☐	☐	☐	☐
A4.404.2 Building dimensions and layouts are designed to minimize waste.		☐	☐	☐	☐	☐
A4.404.3 Use pre-manufactured building systems to eliminate solid sawn lumber whenever possible.		☐	☐	☐	☐	☐
A4.404.4 Material lists are included in the plans which specify material quantity and provide direction for on-site cuts.		☐	☐	☐	☐	☐
Material Sources						
A4.405.1 One or more of the following building materials, that do not require additional resources for finishing are used: 1. Exterior trim not requiring paint or stain. 2. Windows not requiring paint or stain. 3. Siding or exterior wall coverings which do not require paint or stain.		☐	☐	☐	☐	☐
A4.405.2 Floors that do not require additional coverings are used including but not limited to stained, natural, or stamped concrete floors.		☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.405.3 Post-consumer or pre-consumer recycled content value (RCV) materials are used on the project. Tier 1. Not less than a 10% recycled content value. Tier 2. Not less than a 15% recycled content value.		☒[2]	☒[2]	☐	☐	☐
A4.405.4 Renewable source building products are used.		☐	☐	☐	☐	☐
Enhanced Durability and Reduced Maintenance						
4.406.1 Joints and openings. Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the enforcing agency.	☒			☐	☐	☐
Water Resistance and Moisture Management						
A4.407.1 Install foundation and landscape drains.		☐	☐	☐	☐	☐
A4.407.2 Install gutter and downspout systems to route water at least 5 feet away from the foundation or connect to landscape drains which discharge to a dry well, sump, bioswale, rainwater capture system or other approved on-site location.		☐	☐	☐	☐	☐
A4.407.3 Provide flashing details on the building plans and comply with accepted industry standards or manufacturers instructions.		☐	☐	☐	☐	☐
A4.407.4 Protect building materials delivered to the construction site from rain and other sources of moisture.		☐	☐	☐	☐	☐
A4.407.5 In Climate Zone 16 an ice/water barrier is installed at roof valleys, eaves and wall to roof intersections.		☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.407.6 Exterior doors to the dwelling are protected to prevent water intrusion.		☐	☐	☐	☐	☐
A4.407.7 A permanent overhang or awning at least 2 feet in depth is provided.		☐	☐	☐	☐	☐
Construction Waste Reduction, Disposal and Recycling						
4.408.1 A minimum of 50% of the construction waste generated at the site is diverted to recycle or salvage.	☒			☐	☐	☐
4.408.2 Where a local jurisdiction does not have a construction and demolition waste management ordinance, a construction waste management plan shall be submitted for approval to the enforcing agency.	☒			☐	☐	☐
A4.408.1 Construction waste generated at the site is diverted to recycle or salvage in compliance with one of the following: 1. Tier 1 at least a 65% reduction 2. Tier 2 at least a 75% reduction Exception: Equivalent waste reduction methods are developed by working with local agencies.		☒[2]	☒[2]	☐ ☐	☐ ☐	☐ ☐
Building Maintenance and Operation						
4.410.1 An operation and maintenance manual shall be provided to the building occupant or owner.	☒			☐	☐	☐
Innovative Concepts and Local Environmental Conditions						
A4.411.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1.	☐	☐	☐	☐	☐	☐
Item 2	☐	☐	☐	☐	☐	☐
Item 3.	☐	☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
ENVIRONMENTAL QUALITY						
Fireplaces						
4.503.1 Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with US EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.	☒			☐	☐	☐
Pollutant Control						
4.504.1 Duct openings and other related air distribution component openings shall be covered during construction.	☒			☐	☐	☐
4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	☒			☐	☐	☐
4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits.	☒			☐	☐	☐
4.504.2.3 Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds.	☒					
4.504.2.4 Documentation shall be provided to verify that compliant VOC limit finish materials have been used.	☒			☐	☐	☐
4.504.3 Carpet and carpet systems shall be compliant with VOC limits.	☒			☐	☐	☐
4.504.4 50% of floor area receiving resilient flooring, shall comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) Low-emitting Materials List or be certified under the Resilient Floor Covering Institute (RFCI) FloorScore program.	☒					
4.504.5 Particleboard, medium density fiberboard (MDF), and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.	☒			☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.504.1 Meet the formaldehyde limits contained in Table 4.504.5 before the mandatory compliance date, or use composite wood products made with either California Air Resources Board approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins.		☐	☐	☐	☐	☐
A4.504.2 Install VOC compliant resilient flooring systems. Tier 1. At least 80% of the resilient flooring installed shall comply. Tier 2. At least 90% of the resilient flooring installed shall comply.		☒[2]	☒[2]	☐	☐	☐
A4.504.3 Thermal insulation installed in the building shall meet the following requirements: Tier 1. Install thermal insulation in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List. Tier 2. Install insulation which contains No-Added Formaldehyde (NAF) and is in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List.		☒[2]	☒[2]	☐	☐	☐
Interior Moisture Control						
4.505.2 Vapor retarder and capillary break is installed at slab on grade foundations.	☒			☐	☐	☐
4.505.3 Moisture content of building materials used in wall and floor framing is checked before enclosure.	☒			☐	☐	☐
Indoor Air Quality and Exhaust						
4.506.1 Exhaust fans which terminate outside the building are provided in every bathroom.	☒			☐	☐	☐
A4.506.1 Higher than MERV 6 filters are installed on central air or ventilation systems.		☐	☐	☐	☐	☐
A4.506.2 Direct vent appliances are used or isolated		☐	☐	☐	☐	☐

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
from the conditioned space.						
Environmental Comfort						
4.507.1 Whole house exhaust fans shall have insulated louvers or covers which close when the fan is off. Covers or louvers shall have a minimum insulation value of R-4.2.	☒			☐	☐	☐
4.507.2. Duct systems are sized, designed, and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ACCA Manual J or equivalent. 2. Size duct systems according to ACCA 29-D (Manual D) or equivalent. 3. Select heating and cooling equipment according to ACCA 36-S (Manual S) or equivalent.	☒			☐	☐	☐
Outdoor Air Quality						
Reserved						
Innovative Concepts and Local Environmental Conditions						
A4.509.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1.		☐	☐	☐	☐	☐
Item 2.		☐	☐	☐	☐	☐
Item 3.		☐	☐	☐	☐	☐
INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS						
Qualifications						
702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	☒			☐	☐	☐
702.2 Special inspectors employed by the enforcing agency must be qualified and able to demonstrate competence in the discipline they are inspecting.	☒			☐	☐	☐
Verifications						

Feature or Measure	Levels Applicant to select elective measures			Verifications Enforcing Agency to specify verification method		
	Mandatory	Prerequisites and electives [1]		Enforcing Agency	Installer or Designer	Third party
		Tier 1	Tier 2	☐ All	☐ All	☐ All
703.1 Verification of compliance with this code may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.	☒			☐	☐	☐

[1] Green building measures listed in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7.
[2] Required prerequisite for this Tier.

APPENDIX A5

NONRESIDENTIAL VOLUNTARY MEASURES

DIVISION A5.6 VOLUNTARY TIERS

SECTION A5.601 [BSC]
CALGreen TIER 1 AND TIER 2

A5.601.1 Scope. The measures contained in this appendix are not mandatory unless adopted by local government as specified in Section 101.7. The provisions of this section outline means of achieving enhanced construction or reach levels by incorporating additional green building measures. In order to meet one of the tier levels designers, builders, or property owners are required to incorporate additional green building measures necessary to meet the threshold of each level.

A5.601.2 *CALGREEN* TIER 1

A5.601.2.1 Prerequisites. To achieve *CALGreen* Tier 1 status, a project must meet all of the mandatory measures in Chapter 5, and, in addition, meet the provisions of this section.

A5.601.2.2 Energy performance. For the purposes of energy efficiency standards in this code the California Energy Commission will continue to adopt mandatory building standards.

Using an Alternative Calculation Method approved by the California Energy Commission, calculate each nonresidential building's TDV energy and CO_2 emissions, and compare it to the standard or "budget" building.

A5.601.2.3 Tier 1. Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 15%. Field verify and document the measures and calculations used to reach the desired level of efficiency following the requirements specified in the Title 24 Nonresidential Alternative Calculation Method Manual.

A5.601.2.4 Voluntary measures for *CALGreen* Tier 1. In addition to the provisions of Sections A5.601.2.1 and A5.601.2.3 above, compliance with the following voluntary measures from Appendix A5 is required for Tier 1:

1. From Division A5.1,
   a) Comply with the designated parking requirements for fuel efficient vehicles for a minimum of 10% of parking capacity per Section A5.106.5.1 and Table A5.106.5.1.1.
   b) Comply with thermal emittance, solar reflectance, or SRI values for cool roofs in Section A5.106.11.2 and Table A5.106.11.2.1.[1]
   c) Comply with one elective measure selected from this division.
2. From Division A5.3,
   a) Comply with the reduction for indoor potable water use in Section A5.303.2.31.
   b) Comply with the reduction in outdoor potable water use in Section A5.304.4.1.
   c) Comply with one elective measure selected from this division.
3. From Division A5.4,

a) Comply with recycled content of 10% of materials based on estimated total cost in Section A5.405.4.
b) Comply with the 65% reduction in construction waste in Section A5.408.3.1.
c) Comply with one elective measure selected from this division.

4. From Division A5.5,
   a) Comply with resilient flooring systems for 80% of resilient flooring in Section A5.504.4.7.
   b) Comply with thermal insulation meeting 2009 CHPS low-emitting materials list Section A5.504.4.8.
   c) Comply with one elective measure selected from this division.
5. Comply with one additional elective measure selected from any division.

A5.601.3 *CALGREEN* TIER 2

A5.601.3.1 Prerequisites. To achieve *CALGreen* Tier 2 status, a project must meet all of the mandatory measures in Chapter 5, and, in addition, meet the provisions of this section.

A5.601.3.2 Energy performance. For the purposes of energy efficiency standards in this code the California Energy Commission will continue to adopt mandatory building standards.

Using an Alternative Calculation Method approved by the California Energy Commission, calculate each nonresidential building's TDV energy and CO_2 emissions, and compare it to the standard or "budget" building.

A5.601.3.3 Tier 2. Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 30%. Field verify and document the measures and calculations used to reach the desired level of efficiency following the requirements specified in the Title 24 Nonresidential Alternative Calculation Method Manual.

A5.601.3.4 Voluntary measures for *CALGreen* Tier 2. In addition to the provisions of Sections A5.601.3.1 and A5.601.3.3 above, compliance with the following voluntary measures from Appendix A5 and additional elective measures shown in Table A5.601.3.4 is required for Tier 2:

1. From Division A5.1,
   a) Comply with the designated parking requirements for fuel efficient vehicles for a minimum of 12% of parking capacity per Section A5.106.5.1 and Table A5.106.5.1.2.
   b) Comply with thermal emittance, solar reflectance, or SRI values for cool roofs in Section A5.106.11.2 and Table A5.106.11.2.2.[1]
   c) Comply with three elective measures selected from this division.
2. From Division A5.3,
   a) Comply with the reduction for indoor potable water use in Section A5.303.2.3.2.
   b) Comply with the reduction in outdoor potable water use in Section A5.304.4.2.
   c) Comply with three elective measures selected from this division.
3. From Division A5.4,
   a) Comply with recycled content of 15% of materials based on estimated total cost in Section A5.405.4.1.
   b) Comply with the 80% reduction in construction waste in Section A5.408.3.1.
   c) Comply with three elective measures selected from this division.
4. From Division A5.5,
   a) Comply with resilient flooring systems for 90% of resilient flooring in Section A5.504.4.7.1.
   b) Comply with thermal insulation meeting 2009 CHPS low-emitting materials list and no added formaldehyde in Section A5.504.4.8.1.
   c) Comply with three elective measures selected from this division.
5. Comply with three additional elective measures selected from any division.

A5.601.4 Compliance verification. Compliance with Section A5.601.2 or A5.601.3 shall be as required in Chapter 7 of this code. Compliance documentation shall be made part of the project record as required in Section 5.410.2 or 5.410.3.

[1] Cool roof is required for compliance with Tiers 1 and 2 and may be used to meet energy standards in Part 6, exceed energy standards by 15 or 30 %, and to mitigate heat island effect.

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
REQUIREMENTS				
Project meets all of the requirements of Divisions 5.1 through 5.5.	☒	☐	☐	
PLANNING AND DESIGN				
SITE SELECTION				
A5.103.1 Community connectivity. Locate project on a previously developed site within a 1/2 mile radius of at least ten basic services, listed in Section A5.103.1.		☐	☐	
A5.103.2 Brownfield or greyfield site redevelopment or infill area development. Select for development a brownfield in accordance with Section A5.103.2.1 or on a greyfield or infill site as defined in Section A5.102. **A5.103.3.1 Brownfield redevelopment.** Develop a site documented as contaminated and fully remediated or on a site defined as a brownfield.		☐	☐	
SITE PRESERVATION				
A5.104.1.1 Local zoning requirement in place. Exceed the zoning's open space requirement for vegetated open space on the site by 25%.		☐	☐	
A5.104.1.2 No local zoning requirement in place. Provide vegetated open space area adjacent to the building equal to the building footprint area.		☐	☐	
A5.104.1.3 No open space required in zoning ordinance. Provide vegetated open space equal to 20% of the total project site area.		☐	☐	
DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES				
A5.105.1.1 Existing building structure. Maintain at least 75% of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing) based on surface area. **Exceptions:** 1. Window assemblies and non-structural roofing material. 2. Hazardous materials that are remediated as a part of the project. 3. A project with an addition of more than 2 times the square footage of the existing building.		☐	☐	
A5.105.1.2 Existing non-structural elements. Reuse existing interior non-structural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50% of the area of the completed building (including additions). **Exception:** A project with an addition of more than 2 times the square footage of the existing building.		☐	☐	
A5.105.1.3 Salvage. Salvage additional items in good condition such as light fixtures, plumbing fixtures, and doors for reuse on this project in an onsite storage area or for salvage in dedicated collection bins. Document the weight or number of the items salvaged.		☐	☐	
SITE DEVELOPMENT				
5.106.1 Storm water pollution prevention plan. For projects of one acre or less, develop a Storm Water Pollution Prevention Plan (SWPPP) that has been designed, specific to its site, conforming to the State Storm water NPDES Construction Permit or local ordinance, whichever is stricter, as is required for projects over one acre. The plan should cover prevention of soil loss by storm water run-off and/or wind erosion, of	☒			

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
sedimentation, and/or of dust/particulate matter air pollution.				
A5.106.2 Storm water design. Design storm water runoff rate and quantity in conformance with Section A5.106.3.1 and storm water runoff quality by Section A5.106.3.2, or by local requirements, whichever are stricter. **A5.106.2.1 Storm water runoff rate and quantity.** Implement a storm water management plan resulting in no net increase in rate and quantity of storm water runoff from existing to developed conditions. **Exception:** If the site is already greater than 50% impervious, implement a storm water management plan resulting in a 25% decrease in rate and quantity. **A5.106.2.2 Storm water runoff quality.** Use post construction treatment control best management practices (BMPs) to mitigate (infiltrate, filter, or treat) storm water runoff from the 85th percentile 24-hour runoff event (for volume-based BMPs) or the runoff produced by a rain event equal to two times the 85th percentile hourly intensity (for flow-based BMPs).		☐ ☐	☐ ☐	
A5.106.3 Low impact development (LID). Reduce peak runoff in compliance with Section 5.106.3.1. Employ at least two of the following methods or other best management practices to allow rainwater to soak into the ground, evaporate into the air, or collect in storage receptacles for irrigation or other beneficial uses. LID strategies include, but are not limited to those listed in A5.106.4		☐	☐	
5.106.4 Bicycle parking and changing rooms. Comply with Sections 5.106.4.1 and 5.106.4.2; or meet local ordinance, whichever is stricter. **5.106.4.1 Short-term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack. **5.106.4.2 Long-term bicycle parking**. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5% of tenant-occupied motorized vehicle parking capacity, with a minimum of one space. **A5.106.4.3 Changing rooms.** . For buildings with over 10 tenant-occupants, provide changing/shower facilities in accordance with Table A5.106.4.3, or document arrangements with nearby changing/shower facilities.	☒ ☒ ☒	☐	☐	
A5.106.5.1 Designated parking. Provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as shown in: Table A5.106.5.1.1 for Tier 1 at 10% of total spaces Table A5.106.5.1.2 for Tier 2 at 12% of total spaces **5.106.5.2 Designated parking.** Provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as shown in Table 5.106.6.2.	☒	☒ ☒	☒	
A5.106.5.3.1 Electric vehicle supply wiring. For each space required in Table A406.1.6.2.1, provide one 120 VAC 20 amp and one 208/240 V 40 amp, grounded AC outlets or panel capacity and conduit installed for future outlets and as shown in Table A5.106.5.3.1		☐	☐	
A5.106.6 Parking capacity. Design parking capacity to meet				

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
but not exceed minimum local zoning requirements. **A5.106.6.1 Reduce parking capacity.** With the approval of the enforcement authority, employ strategies to reduce on site parking area by 1. Use of on street parking or compact spaces, illustrated on the site plan, or 2. Implementation and documentation of programs that encourage occupants to carpool, ride share, or use alternate transportation.		☐ ☐	☐ ☐	
A5.106.7 Exterior walls. Meet requirements in the current edition of the California Energy Code and select one of the following for wall surfaces: 1. Provide vegetative or man-made shading devices for east-, south-, and west-facing walls with windows. 2. Use wall surfacing with minimum SRI 25 (aged), for 75% of opaque wall areas.	☐ ☐			
5.106.8 Light pollution reduction. Comply with lighting power requirements in the California Energy Code and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1-4 as defined in Chapter 10 of the California Administrative Code, using the following strategies: 1. Shield all exterior luminaires or use cutoff luminaires. 2. Contain interior lighting within each source. 3. Allow no more than .01 horizontal fc 15 ft. beyond the site. 4. Contain all exterior lighting within property boundaries. **Exception:** See Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and walkways.	☒ ☒ ☒ ☒ ☒			
A5.106.9 Building orientation. Locate and orient the building as follows: 1. Long sides facing north and south 2. Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind-driven materials.		☐ ☐	☐ ☐	
5.106.10 Grading and Paving. The site shall be planned and developed to keep surface water away from buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.	☒			
A5.106.11 Heat island effect. Reduce non-roof heat islands, and roof heat islands as follows: **A5.106.11.1 Hardscape alternatives.** Use one or a combination of strategies 1 through 3 for 50% of site hardscape or put 50% of parking underground. 1. Provide shade (mature within 5 years of occupancy). 2. Use light colored/ high-albedo materials 3. Use open-grid pavement system. **A5.106.11.2 Cool Roof.** Use roofing materials having solar reflectance, thermal emittance or Solar Reflectance Index (SRI)[3] equal to or greater than the values shown in: Table A5.106.11.2.1 – Tier 1 or Table A5.106.11.2 – Tier 2		☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	
ENERGY EFFICIENCY PERFORMANCE REQUIREMENTS				
5.201.1 Scope The California Energy Commission will continue to adopt mandatory building standards.[1]	☒			
A5.203.1 Energy performance. Using an Alternative				

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
Calculation Method approved by the California Energy Commission, calculate each nonresidential building's TDV energy and CO_2 emissions, and compare it to the standard or "budget" building. **A5.203.1.1 Tier 1.** Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 15%. **A5.203.1.2 Tier 2.** Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 30%.		☒ ☒	 ☒	
PRESCRIPTIVE MEASURES				
A5.204.1 ENERGY STAR equipment and appliances. All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable to that equipment or appliance		☐	☐	
A5.204.2 Energy monitoring. Provide sub-metering or equivalent combinations of sensor measurements and thermodynamic calculations, if appropriate, to record energy use data for each major energy system in the building. **A5.204.2.1 Data storage.** The data management system must be capable of electronically storing energy data and creating user reports showing hourly, daily, monthly and annual energy consumption for each major energy system. **A5.204.2.2 Data access.** Hourly energy use data shall be accessible through a central data management system and must be available daily.		☐ ☐ ☐	☐ ☐ ☐	
A5.204.3 Demand response. HVAC systems with Direct Digital Control Systems and centralized lighting systems shall include pre-programmed demand response strategies that are automated with either a Demand Response Automation Internet Software Client or dry contact relays. **A5.204.3.1 HVAC.** The pre-programmed demand response strategies should be capable of reducing the peak HVAC demand by cooling temperature set point adjustment. **A5.204.3.2 Lighting.** The pre-programmed demand response strategies should be capable of reducing the total lighting load by a minimum 30% through dimming control or bi-level switching. **A5.204.3.3 Software clients.** The software clients will be capable of communicating with a DR Automation Server.		☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
RENEWABLE ENERGY				
A5.211.1 On-site renewable energy. Use on-site renewable energy for at least 1% of the electrical service overcurrent protection device rating calculated in accordance with the 2007 California Electrical Code, or 1KW, whichever is greater, in addition to the electrical demand required to meet 1% of natural gas and propane use calculated in accordance with the 2007 California Plumbing Code. **A5.211.1.1 Documentation.** Calculate renewable on-site system to meet the requirements of Section A5.211.1. Factor in net-metering, if offered by local utility, on an annual basis. **A5.211.3 Green Power.** Participate in the local utility's renewable energy portfolio program that provides a minimum of 50% electrical power from renewable sources. Maintain documentation through utility billings. **A5.211.4 Pre-wiring for future solar.** Install conduit from the building roof or eave to a location within the building identified as suitable for future installation of a charge		☐ ☐ ☐	☐ ☐ ☐	

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
controller (regulator) and inverter. **A5.211.4.1 Off grid pre-wiring for future solar.** If battery storage is anticipated, conduit should run to a location within the building that is stable, weather-proof, insulated against very hot and very cold weather, and isolated from occupied spaces.		☐	☐	
ELEVATORS, ESCALATORS, AND OTHER EQUIPMENT				
A5.212.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide controls to reduce the energy demand of elevators and reduce the speed of escalators. Document the controls in the project specifications and commissioning plan.		☐	☐	
ENERGY EFFICIENT STEEL FRAMING				
A5.213.1 Steel framing. Design for and employ techniques to avoid thermal bridging.		☐	☐	
WATER EFFICIENCY AND CONSERVATION				
INDOOR WATER USE				
5.303.1 Meters. Separate meters shall be installed for the uses described in Sections 503.1.1 through 503.1.3. **5.303.1.1 Buildings in excess of 50,000 square feet.** Separate submeters shall be installed as follows: 1. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gal/day. 2. For spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop projected to consume more than 100 gal/day. **A5.303.1.1.1 Outdoor potable water use.** For new water service not subject to the provisions of Water Code Section 535, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas between 500 square feet and 1000 square feet. **5.303.1.2 Excess consumption.** Any building within a project or space within a building that is projected to consume more than 1,000 gal/day.	☒ ☒ ☒	☐	☐	
5.303.2 20% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20% shall be provided. (Calculate savings by Water Use Worksheets.) **5.303.2.1 Multiple showerheads serving one shower.** When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum flow rates specified in the 20% reduction column contained in Table 5.303.2.2 or the shower shall be designed to only allow one showerhead to be in operation at a time.	☒ ☒			
A5.303.2.1 Tier 1 – 30% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30% shall be provided. **A5.303.2.2 Tier 2 – 35% Savings.** A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 35% shall be provided. **A5.303.2.2 40% Savings.** A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 40% shall be provided. (Calculate savings by Water Use Worksheets.)		☒ ☒ ☐	 ☒ ☐	

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	*CALGREEN* Tier 2	
5.303.4 Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods: 1. The installation of water-conserving fixtures or 2. Utilizing non-potable water systems	As applicable ☒ ☒			
A5.303.3 Appliances. 1. Clothes washers shall have a maximum Water Factor (WF) that will reduce the use of water. 2. Dishwashers shall meet the criteria in A5.303.3(2)(a) and (b). 3. Ice makers shall be air cooled. 4. Food steamers shall be connection-less or boiler-less. 5. The use and installation of water softeners shall be limited or prohibited by local agencies.		☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	
A5.303.5 Dual plumbing. New buildings and facilities shall be dual plumbed for potable and recycled water systems		☐	☐	
5.303.6 Plumbing Fixtures and Fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the requirements listed for each type in Items listed in Table 5.303.6. 1. Water closets (toilets) – flushometer type 2. Water closets (toilets) – tank type 3. Urinals 4. Public lavatory faucets 5. Public metering self-closing faucets 6. Residential bathroom lavatory sink faucets 7. Residential kitchen faucets 8. Residential shower heads 9. Single shower fixtures served by more than one showerhead	As applicable ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒			
OUTDOOR WATER USE				
5.304.1 Water budget. A water budget shall be developed for landscape irrigation use.[1]	☒			
5.304.2 Outdoor potable water use. For new water service, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas between 1000 square feet and 5000 square feet	☒			
5.304.3 Irrigation design. In new nonresidential projects with between 1000 and 2500 square feet of landscaped area (the level at which the MLO applies), install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations. **5.304.3.1 Irrigation controllers.** Automatic irrigation system controllers installed at the time of final inspection shall comply with the following: 1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change. 2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.	 ☒ As applicable ☒			
A5.304.4 Potable water reduction. Provide water efficient landscape irrigation design that reduces by the use of potable water. **A5.304.4.1 Tier 1** – Reduce the use of potable water to a quantity that does not exceed 60% of ETo times the		☒		

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
landscape area. **A5.304.4.2 Tier 2** –Reduce the use of potable water to a quantity that does not exceed 55% of ETo times the landscape area. Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in A5.304.4. **A5.304.4.3 Verification of compliance.** A calculation demonstrating the applicable potable water use reduction required by this section shall be provided.		☒ ☒	☒ ☒	
A5.304.5 Potable water elimination. Provide a water efficient landscape irrigation design that eliminates the use of potable water beyond the initial requirements for plant installation and establishment. Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in A5.304.4.		☐	☐	
A5.304.6 Restoration of areas disturbed by construction. Restore all areas disturbed during construction by planting with local native and/or non-invasive vegetation		☐	☐	
A5.104.7 Previously developed sites. On previously developed or graded sites, restore or protect at least 50% of the site area with native and/or non-invasive vegetation.		☐	☐	
A5.304.8 Graywater irrigation system. Install graywater collection system for onsite subsurface irrigation using graywater.		☐	☐	
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY				
EFFICIENT FRAMING SYSTEMS				
A5.404.1 Wood framing. Employ advanced wood framing techniques, or OVE, as permitted by the enforcing agency.		☐	☐	
MATERIAL SOURCES				
A5.405.1 Regional materials. Select building materials or products for permanent installation on the project that have been harvested or manufactured in California or within 500 miles of the project site, meeting the criteria listed in A5.405.1.		☐	☐	
A5.405.2 Bio-based materials. Select bio-based building materials per Section A5.405.2.1 or A5.405.2.2. **A5.405.2.1 Certified wood products.** Certified wood is an important component of green building strategies and the California Building Standards Commission will continue to develop a standard through the next code cycle. **A5.405.2.2 Rapidly renewable materials.** Use materials made from plants harvested within a ten-year cycle for at least 2.5% of total materials value, based on estimated cost.		☐ ☐	☐ ☐	
A5.405.3 Reused materials. Use salvaged, refurbished, refinished, or reused materials for at least 5% of the total value, based on estimated cost of materials on the project.		☐	☐	
A5.405.4 Recycled content, Tier 1. Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RCV) equaling at least 10% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values. **A5.405.4.1 Recycled content, Tier 2.** Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RCV) for a minimum of 15% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.		☒ ☒	☒	

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	*CALGREEN* Tier 2	
A5.405.5 Cement and concrete. Use cement and concrete made with recycled products and complying with the following sections:				
A5.405.5.1 Cement. Meet the following standards for cement:				
1. Portland Cement shall meet ASTM C 150.				
2. Blended Hydraulic Cement shall meet ASTM C 595.		☐	☐	
A5.405.5.2 Concrete. Unless otherwise directed by the engineer, use concrete manufactured with cementitious materials in accordance with Sections A5.405.5.2.1 and A5.405.5.2.2, as approved by the enforcing agency.				
A5.405.5.2.1 Supplementary cementitious materials (SCMs). Use concrete made with one or more of the SCMs listed in Section A5.405.5.2.1		☐	☐	
A5.405.5.2.1.1 Mix design equation. Use any combination of one or more SCMs, satisfying Equation A4.5-1.		☐	☐	
Exception: Minimums for concrete products requiring high early strength may be lower as directed by the engineer.				
A5.405.5.3 Additional means of compliance. Any of the following measures may be employed for the production of cement or concrete, depending on their availability and suitability, in conjunction with A5.405.5.2.				
A5.405.5.3.1 Cement. The following measures may be used in the manufacture of cement.				
A5.405.5.3.1.1 Alternative fuels. Where permitted by state or local air quality standards, use alternative fuels.		☐	☐	
A5.405.5.3.1.2 Alternative power. Use alternate electric power generated at the cement plant and/or green power purchased from the utility meeting the requirements of A5.211.		☐	☐	
A5.405.5.3.1.3 Alternative ingredients. Use inorganic processing additions and limestone meeting ASTM C 150.		☐	☐	
A5.405.5.3.2 Concrete. The following measures may be used in the manufacture of concrete,				
A5.405.5.3.2.1 Alternative energy. Use renewable or alternative energy meeting the requirements of Section A5.211.		☐	☐	
A5.405.5.3.2.2 Recycled aggregates. Use concrete made with one or more of the materials listed in Section A5.405.5.3.2.2.		☐	☐	
A5.405.5.3.2.3 Mixing water. Use water meeting ASTM C1602, either recycled water provided by the local water purveyor or water reclaimed from manufacturing processes.		☐	☐	
ENHANCED DURABILITY AND REDUCED MAINTENANCE				
A5.406.1.1 Service life. Select materials for longevity and minimal deterioration under conditions of use.		☐	☐	
A5.406.1.2 Reduced maintenance. Select materials that require little, if any, finishing.		☐	☐	
A5.406.1.3 Recyclability. Select materials that can be re-used or recycled at the end of their service life.		☐	☐	
WEATHER RESISTANCE AND MOISTURE MANAGEMENT				
5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 and California Energy Code Section 150, manufacturer's installation instructions, or local	☒			

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
ordinance, whichever is more stringent.[1]				
5.407.2 Moisture control. Employ moisture control measures by the following methods; **5.407.2.1 Sprinklers.** Prevent irrigation spray on structures. **5.407.2.2 Entries and openings.** Design exterior entries and openings to prevent water intrusion into buildings.	☒ ☒			
CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING				
5.408.1 Construction waste diversion. Establish a construction waste management plan or meet local ordinance, whichever is more stringent.	☒			
5.408.2 Construction waste management plan. Submit plan per this section to enforcement authority. **5.408.2.1 Documentation.** Provide documentation of the waste management plan that meets the requirements listed in section 5.408.2 items 1 thru 4, and the plan is accessible to the enforcement authority. **5.408.2.2 Isolated jobsites.** The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.	☒ ☒	☐	☐	
5.408.3 Construction waste. Recycle and/or salvage for reuse a minimum of 50% of non-hazardous construction and demolition debris or meet local ordinance, whichever is more stringent. **Exceptions:** 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist. **A5.408.3.1 Enhanced construction waste reduction.** Divert to recycle or salvage non-hazardous construction and demolition debris generated at the site in compliance with one of the following: Tier 1. At least a 65% reduction. Tier 2. At least an 80% reduction. **A5.408.3.1.1 Verification of compliance.** A copy of the completed waste management report shall be provided. **Exceptions:** 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.	☒ ☒	☒ ☒	☒	
5.408.4 Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.	☒			
LIFE CYCLE ASSESSMENT				
A5.409.1 Materials and system assemblies. Select materials assemblies based on life cycle assessment of their embodied energy and/or green house gas emission potentials. See A5.409.1.1 and A5.409.1.2 for available tools.		☐	☐	
BUILDING MAINTENANCE AND OPERATION				
5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling.[1]	☒			

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
5.410.2 Commissioning. For new buildings 10,000 square feet and over, building commissioning for all building systems covered by T24, Part 6, process systems, and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in 5.410.2.	☒			
5.410.2.1 Owner's Project Requirements (OPR). Documented before the design phase of the project begins the OPR shall include items listed in 5.410.4.	☒			
5.410.2.2 Basis of Design (BOD). A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project and updated periodically to cover the systems listed in 5.410.2.2.	☒			
5.410.2.3 Commissioning plan. A commissioning plan describing how the project will be commissioned shall be started during the design phase of the building project and shall include items listed in 5.410.2.3.	☒			
5.410.2.4 Functional performance testing shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications.	☒			
5.410.2.5 Documentation and training. A Systems Manual and Systems Operations Training are required.	☒			
5.410.2.5.1 Systems manual. The Systems Manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in 5.410.2.5.1.	☒			
5.410.2.5.2 Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall include items listed in 5.410.2.5.2.	☒			
5.410.2.6 Commissioning report. A complete report of commissioning process activities undertaken through the design, construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner or representative.	☒			
5.410.3 Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet.				
5.410.3.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed in 5.410.3.2.	☒			
5.410.3.3 Procedures. Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.	☒			
5.410.3.3.1 HVAC balancing. Before a new space-conditioning system serving a building or space is operated for normal use, the system should be balanced in accordance with the procedures defined by national standards listed in 5.410.3.3.1.	☒			
5.410.3.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.	☒			
5.410.3.5 Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.	☒			
5.410.3.5.1 Inspections and reports. Include a copy of all				

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	*CALGREEN* Tier 2	
inspection verifications and reports required by the enforcing agency.	☒			
ENVIRONMENTAL QUALITY				
FIREPLACES				
5.503.1. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. **5.503.1.1 Woodstoves.** Woodstoves shall comply with US EPA Phase II emission limits.	☒ As applicable ☒			
POLLUTANT CONTROL				
A5.504.1 Indoor air quality (IAQ) during construction. Maintain IAQ as provided in Sections A5.504.1.1 and A5.504.1.2. **A5.504.1.2 Temporary ventilation.** Provide temporary ventilation during construction in accordance with Section 121 of the California Energy Code, CCR, Title 24, Part 6, and Chapter 4 of CCR, Title 8, and as listed in Items 1 through 4 in A5.504.1.2. **A5.504.1.3 Additional IAQ measures.** Employ additional measures as listed in Items 1 through 5 in A5.504.1.3:		☐ ☐	☐ ☐	
A5.504.2 IAQ post-construction. Flush out the building per Section A5.504.2 prior to occupancy or if the building is occupied. **A5.504.2.1 IAQ Testing.** A testing alternative may be employed after all interior finishes have been installed, using testing protocols recognized by the United State Environmental Protection Agency (US EPA), and in accordance with A5.504.2.1.2. Retest as required in A5.504.2.1.3. **A5.504.2.1.1 Maximum levels of contaminants.** Allowable levels of contaminant concentrations measured by testing shall not exceed the following: 1. Carbon Monoxide (CO): 9 parts per million, not to exceed outdoor levels by 2 parts per million; 2. Formaldehyde: 27 parts per billion; 3. Particulates (PM10): 50 micrograms per cubic meter; 4. 4-Phenylcyclohexene (4-PCH): 6.5 micrograms per cubic meter; and 5. Total Volatile Organic Compounds (TVOC): 300 micrograms per cubic meter. **A5.504.2.1.2 Test protocols.** Testing of indoor air quality should include the elements listed in Items 1 through 4. **A5.504.2.1.3 Non-complying building areas.** For each sampling area of the building exceeding the maximum concentrations specified in Section A5.504.2.1.1, flush out with outside air and retest samples taken from the same area. Repeat the procedures until testing demonstrates compliance.		☐ ☐ As applicable ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ As applicable ☐ ☐ ☐ ☐ ☐ ☐ ☐	

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	*CALGREEN* Tier 2	
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.	☒			
5.504.4 Finish material pollutant control. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.				
5.504.4.1 Adhesives, sealants, caulks. Adhesives and sealants used on the project shall meet the requirements of the following standards.				
1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2.	☒			
2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.	☒			
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with Table 5.504.4.2 unless more stringent local limits apply.	☒			
5.504.4.3.1 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520 et seq).	☒			
5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency.	☒			
5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in 5.504.4.4.	☒			
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.	☒			
5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 804.4.1.	☒			
5.504.4.5 Composite wood products. Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4.	☒			
A5.504.4.5.1 Early compliance with formaldehyde limits. Where complying composite wood product is readily available for non-residential occupancies, meet Phase 2 requirements before the compliance dates indicated in Table 5.504.4.5 (Tier I), or use composite wood products made with either CARB-approved no-added		☐		
		☐	☐	

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* *CALGREEN* Tier 1	Tier 2	
formaldehyde (NAF) resins or CARB-approved ultra-low emitting formaldehyde (ULEF) resins (Tier II). **5.504.4.5.2 Documentation.** Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following. 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Other methods acceptable to the enforcing agency.	☒ As applicable ☒ ☒ ☒			
5.504.4.6 Resilient flooring systems. Comply with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its Low-emitting Materials List (or Product Registry), or certified under the FloorScore program of the Resilient Floor Covering Institute.	☒			
A5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.	☒			
A5.504.4.7 Resilient flooring systems, Tier 1. For 80% of floor area receiving resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its Low-emitting Materials List (or Product Registry), or certified under the FloorScore program of the Resilient Floor Covering Institute.		☒		
A5.504.4.7.1 Resilient flooring systems, Tier 2. For 100% of floor area to scheduled to receive resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its Low-emitting Materials List (or Product Registry), or certified under the FloorScore program of the Resilient Floor Covering Institute.		☒	☒	
A5.504.4.7.2 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.		☒	☒	
A5.504.4.8 Thermal Insulation, Tier 1. Comply with Chapter 12-13 in Title 24, Part 12 and with the VOC-emission limits defined in 2009 CHPS criteria and listed on its Low-emitting Materials List.		☒		
A5.504.4.8.1 Thermal insulation, Tier 2. Install No-Added Formaldehyde thermal insulation in addition to meeting A5.504.4.8.		☒	☒	
A5.504.4.8.2 Verification of compliance. Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.		☒	☒	
A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2 and with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its Low-emitting Materials List (or Product Registry).		☐	☐	
A5.504.4.9.1 Verification of compliance. Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.		☐	☐	
A5.504.5 Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas. **A5.504.5.1 Entryway systems.** Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors as listed in Items 1 through 3 in A5.504.5.1.		☐	☐	

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
A5.504.5.2 Isolation of pollutant sources. In rooms where activities produce hazardous fumes or chemicals, exhaust them and isolate them from their adjacent rooms as listed in Items 1 through 3 in A5.504.5.2. **5.504.5.3 Filters.** In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 8. **A5.504.5.3.1 Filters.** In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 11.	☒	☐ ☐	☐ ☐	
5.504.7 Environmental tobacco smoke (ETS) control. Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows where outdoor areas are provided for smoking, and in buildings; or as enforced by ordinances, regulations, or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent.	☐			
INDOOR MOISTURE AND RADON CONTROL				
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.[1]	☒			
AIR QUALITY AND EXHAUST				
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 of the California Energy Code, CCR, Title 24, Part 6 and Chapter 4 of CCR, Title 8, or the applicable local code, whichever is more stringent.[1]	☒			
5.506.2 Carbon dioxide (CO_2) monitoring. For buildings equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the latest edition of the California Energy Code, CCR, Title 24, Part 6, Section 121(c).[1]	☒			
ENVIRONMENTAL COMFORT				
A5.507.1 Lighting and thermal comfort controls. Provide controls in the workplace as described in Sections A5.507.1.1 and A5.507.1.2. **A5.507.1.1 Single-occupant spaces.** Provide individual controls that meet energy use requirements in the 2007 California Energy Code by Sections A5.507.1.1.1 and A5.507.1.1.2. **A5.507.1.1.1 Lighting.** Provide individual task lighting and/or daylighting controls for at least 90% of the building occupants. **A5.507.1.1.2 Thermal comfort.** Provide individual thermal comfort controls for at least 50% of the building occupants by Items 1 and 2 in A5.507.1.1.2. **A5.507.1.2 Multi-occupant spaces.** Provide lighting and thermal comfort system controls for all shared multi-occupant spaces.		☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
A5.507.2 Daylight. Provide daylit spaces as required for toplighting and sidelighting in the 2007 California Energy Code. In constructing a design, consider Items 1 through 4 in A5.507.3.		☐	☐	
A5.507.3Views. Achieve direct line of sight to the outdoor				

APPLICATION CHECKLIST FOR BSC	Mandatory	Voluntary *CALGREEN* Tier 1	Voluntary *CALGREEN* Tier 2	
environment via vision glazing between 2'6" and 7'6" above finish floor for building occupants in 90% of all regularly occupied areas.		☐	☐	
A5.507.3.1 Interior office spaces. Entire areas of interior office spaces may be included in the calculation if at least 75% of each area has direct line of sight to perimeter vision glazing.		☐	☐	
A5.507.3.2 Multi-occupant spaces. Include in the calculation the square footage with direct line of sight to perimeter vision glazing.		☐	☐	
5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E90 and ASTM E413.	☐			
5.507.4.1 Exterior noise transmission. Wall and floor-ceiling assemblies making up the building envelope shall have an STC of at least 50, and exterior windows shall have a minimum STC of 30 for any of the building locations listed in Items 1 through 3 in 5.507.5.1.	☐			
5.507.4.2 Interior sound. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.	☐			
OUTDOOR AIR QUALITY				
5.508.1 Ozone depletion and global warming reductions. Installations of HVAC, refrigeration, and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.				
5.508.1.1 CFCs. Install HVAC and refrigeration equipment that does not contain CFCs.[1]	As applicable ☒			
5.508.1.2 Halons. Install fire suppression equipment that does not contain Halons.[1]	☒			
A5.508.1.3 Hydrochlorofluorocarbons (HCFCs). Install HVAC and refrigeration equipment that does not contain HCFCs.		☐	☐	
A5.508.1.4 Hydrofluorocarbons (HFCs). Install HVAC complying with either of the following:				
1. Install HVAC, refrigeration and fire suppression equipment that do not contain HFCs or that do not contain HFCs with a global warming potential greater than 150.		☐	☐	
2. Install HVAC and refrigeration equipment that limit the use of HFC refrigerant through the use of a secondary heat transfer fluid with a global warming potential no greater than 1.		☐	☐	

[1] **Note:** These measures are currently required elsewhere in statute or in regulation.

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
DIVISION 5.1 - PLANNING AND DESIGN		
SITE DEVELOPMENT		
A5.106.4 Bicycle parking and changing rooms. Comply with Sections 5.106.4.1 through 5.106.4.3; or meet local ordinance or the University of California Policy on *Sustainable Practices*, whichever is stricter.		☒
A5.106.4.1 Short-term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 yards of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.		☒
A5.106.4.2 Long-term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5% of tenant-occupant motorized vehicle parking capacity, with a minimum of one space. For public schools and community colleges provide secure bicycle parking for 15% of occupants (students, teachers, and staff). Acceptable parking facilities shall be convenient from the street and may include, but not be limited to: 1. Covered, lockable enclosures with permanently anchored racks for bicycles; 2. Lockable bicycle rooms with permanently anchored racks; and 3. Lockable, permanently anchored bicycle lockers.		☒
A5.106.4.3.1 Changing rooms. For buildings with over 10 tenant-occupants, provide changing/shower facilities for tenant-occupants only in accordance with Table A5.106.4.3, or document arrangements with nearby changing/shower facilities. For public schools and community colleges, provide changing/shower facilities for the "number of administrative/teaching staff" equal to the "number of tenant-occupants" shown in Table 5.106.4.3. TABLE A5.106.4.3		☒
A5.106.5.1.1 Designated parking for fuel efficient vehicles. Provide 10% of total designated parking spaces for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as follows: TABLE A5.106.5.1.1 – 10% of Total Spaces		☒
A5.106.5.1.3 Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: **"CLEAN AIR VEHICLE"**		☒
A5.106.5.1.4 Vehicle designations. Building managers may consult with local community Transit Management Associations (TMAs) for methods of designating qualifying vehicles, such as issuing parking stickers.		☒
A5.106.5.3 Electric vehicle charging. Provide facilities meeting Section 406.7 (Electric Vehicle) of the *California Building Code* and as follows:		☒
A5.106.5.3.1 Electric vehicle supply wiring. For each space required in Table A406.1.5.2, provide one 120 VAC 20 amp and one 208/240 V 40 amp, grounded AC outlets or panel capacity and conduit installed for future outlets. TABLE A5.106.5.3.1		☒
A5.106.6 Parking capacity. Design parking capacity to meet but not exceed minimum local zoning requirements.		☒
A5.106.6.1 Reduce parking capacity. With the approval of the enforcement authority, employ strategies to reduce on-site parking area by 1. Use of on street parking or compact spaces, illustrated on the site plan, or 2. Implementation and documentation of programs that encourage occupants to carpool, ride share or use alternate transportation. Strategies for programs may be obtained from local TMAs.		☒
A5.106.7 Exterior wall shading. Meet requirements in the current edition of the California Energy Code and select one of the following for wall surfaces: 1. Provide vegetative or man-made shading devices for east-, south-, and west-facing walls with windows. 2. Use wall surfacing with minimum SRI 25 (aged), for 75% of opaque wall areas.		☒ ☒
5.106.8 Light pollution reduction.		

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
Comply with lighting power requirements in the California Energy Code, CCR, Part 6, and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1-4 as defined in Chapter 10 of the California Administrative Code, CCR, Part 1, using the following strategies: 1. Shield all exterior luminaires or provide cutoff luminaires per Section 132 (b) of the California Energy Code. 2. Contain interior lighting within each source. 3. Allow no more than .01 horizontal lumen foot candles to escape 15 feet beyond the site boundary. 4. Automatically control exterior lighting dusk to dawn to turn off or lower light levels during inactive periods. **Exceptions:** 1. Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and primary walkways. 2. Emergency lighting and lighting required for nighttime security.	☒	
A5.106.9 Building orientation. Locate and orient the building as follows: 1. When site and location permit, orient the building with the long sides facing north and south. 2. Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind-driven materials such as dust, sand, snow, and leaves with building orientation and landscape features.		☒
A5.106.9.1 Building orientation and shading. Locate, orient and shade the building as follows: 1. Provide exterior shade for south-facing windows during the peak cooling season. In Public School and Community College buildings, shade may be provided by trees, solar shade structures, or other alternate methods.		☒
5.106.10 Grading and Paving. The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.	☒	
A5.106.11 Heat island effect. Reduce non-roof heat islands by Section A5.106.11.1 and roof heat islands by A5.106.11.2.		☒
A5.106.11.1 Hardscape alternatives. Use one or a combination of strategies 1 through 3 for 50% of site hardscape or put 50% of parking underground. 1. Provide shade (mature within 5 years of occupancy). In Public School and Community College buildings, solar shade structures may be used in lieu of trees to provide required shade. 2. Use light colored/ high-albedo materials. 3. Use open-grid pavement system.		☒
A5.106.11.2 Cool roof. **A5.106.11.2 Cool Roof.** Use roofing materials having solar reflectance, thermal emittance or Solar Reflectance Index (SRI)[3] equal to or greater than the values shown in: Table A5.106.11.2.1		☒
DIVISION 5.2 -- ENERGY EFFICIENCY		
GENERAL		
5.201.1 Scope. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.	☒	
A5.203.1.1 Energy efficiency – 15% above Title 24. Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 15% and meet the requirements of Division A45.6.		☒
A5.203.1.2 Energy efficiency – 30% above Title 24. Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 30% and meet the requirements of Division A45.6.		☒
PRESCRIPTIVE MEASURES		
A5.204.1 ENERGY STAR equipment and appliances. All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable to that equipment or appliance.		☒
A5.204.2 Energy monitoring. Provide submetering or equivalent combinations of sensor measurements and thermodynamic		☒

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
calculations, if appropriate, to record energy use data for each major energy system in the building, including chillers, heat pumps, packaged AC systems, fans, pumps, cooling towers, boilers and other heating systems, lighting systems and process loads. This energy use data, once collected, shall be stored within a data management system.		
A5.204.2.1 Data storage. The data management system must be capable of electronically storing energy data and creating user reports showing hourly, daily, monthly and annual energy consumption for each major energy system. Hourly data shall be retained a minimum of 30 days, daily data shall be retained a minimum of 6 months and monthly data shall be retained a minimum of 2 years.		☒
A5.204.2.2 Data access. Hourly energy use data shall be accessible through a central data management system and must be available daily.		☒
RENEWABLE ENERGY		
A5.211.1 On-site renewable energy. Use on-site renewable energy sources such as solar, wind, geothermal, low-impact hydro, biomass and bio-gas for at least 1 percent of the electric power calculated as the product of the building service voltage and the amperage specified by the electrical service overcurrent protection device rating or 1kW (whichever is greater), in addition to the electrical demand required to meet 1 percent of the natural gas and propane use. The building project's electrical service overcurrent protection device rating shall be calculated in accordance with the 2007 *California Electrical Code*. Natural gas or propane use is calculated in accordance with the 2007 *California Plumbing Code*.		☒
A5.211.1.2 Grid neutral. Using the proposed annual electrical energy budget (kwh) as set forth by the Title 24, Part 6 of the California energy Code, and adding the additional annual energy consumption estimated for the appliances and equipment not covered by Title 24, Part 6 (e.g. kitchen and laundry equipment and appliances, swimming pool heaters and circulation pumps, industrial and art equipment, computers, etc.) calculate the site's annual electrical production and consumption ratio by dividing the proposed annual renewable electrical energy production (kwh) by the proposed annual electrical energy budget (kwh). The estimated plug loads shall be included in the annual electrical energy budget (kwh). **Exceptions:** 1. Existing buildings with one year of occupancy or greater shall use actual data of the annual electrical energy consumption of the facilities. Using the data logged for the facilities, calculate the site's annual electrical production and consumption ration by dividing the proposed annual renewable electrical energy production (kwh) by the actual annual electrical energy consumption (kwk). 2. The annual renewable electrical energy can be renewable energy produce3d off-site on a remote property owned by the applicant.		☒
A5.211.2.1 35% Grid neutral. A sites annual electrical production and consumption ratio is equal or greater than 0.35.		☒
A5.211.2.2 75% Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 0.75.		☒
A5.211.2.3 Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 1.		☒
A5.211.3 Green power. Using a calculation method approved by the California Energy Commission, calculate the renewable on-site energy system to meet the requirements of Section 511.1, expressed in kW. Factor in net-metering, if offered by local utility, on an annual basis.		☒
A5.211.4 Pre-wiring for future solar. Install conduit from the building roof or eave to a location within the building identified as suitable for future installation of a charge controller (regulator) and inverter.		☒
A5.211.4.1 Off grid pre-wiring for future solar. If battery storage is anticipated, conduit should run to a location within the building that is stable, weather-proof, insulated against very hot and very cold weather, and isolated from occupied spaces.		☒
ELEVATORS, ESCALATORS, AND OTHER EQUIPMENT		
A5.212.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide controls to reduce the energy demand of elevators for part of the day and escalators to reduce speed when no traffic is detected. Document the controls in the project specifications and commissioning plan. In Public School and Community College buildings, locate stairs conveniently to encourage their use in lieu of elevators or		☒

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
escalators.		
A5.212.1.1 Controls. Controls that reduce energy demand shall meet requirements of CCR, Title 8, Chapter 4, Subchapter 6 and shall not interrupt emergency operations for elevators required in CCR, Title 24, Part 2, *California Building Code.*		☒
DIVISION 5.3 - WATER EFFICIENCY AND CONSERVATION		
INDOOR WATER USE		
5.303.2 20% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 20% reduction in potable water use shall be demonstrated by one of the following methods. 1. Each plumbing fixture and fitting shall meet the 20% reduced flow rate specified in Table 5.303.2, or 2. A calculation demonstrating a 20% reduction in the building "water use baseline" as established in Table 5.303.1 shall be provided. TABLE 5.301.1 – INDOOR WATER USE BASELINE TABLE 5.303.2 – FIXTURE FLOW RATES	☒	
A5.303.2.1 30% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 30% reduction in potable water use shall be demonstrated by one of the following methods. 1. Each plumbing fixture and fitting shall meet the 30% reduced flow rate specified in Table A5.303.2.2, or 2. A calculation demonstrating a 30% reduction in the building "water use baseline" as established in Table A5.303.2.1 shall be provided. TABLE A5.303.2.1 - WATER USE BASELINE[5] TABLE A5.303.2.2 - FIXTURE FLOW RATE		☒
A5.303.3 Appliances. 1. Clothes washer shall have a maximum water factor (WF) that will reduce the use of water by 10 percent below the California Energy Commission's WF standards for commercial clothes washers located in Title 20 of the California Code of Regulations. 2. Dishwashers shall meet the following water use standards: a. Residential—5.8 gallons per cycle. b. Commercial—refer to Table A5.303.3. TABLE A5.303.3 - COMMERCIAL DISHWASHER WATER USE 3. Ice makers shall be air cooled. 4. Food steamers shall be connection-less or boiler-less.		☒
5.303.4 Wastewater reduction. Each building shall reduce by 20% wastewater by one of the following methods: 1. The installation of water-conserving fixtures (water closets, urinals) meeting the criteria established in sections 5.303.2 or A5.303.3	☒	
5.303.6 Plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards referenced in Table 5.503.6. TABLE 5.303.6 - STANDARDS FOR PLUMBING FIXTURES AND FIXTURE FITTINGS	☒	
OUTDOOR WATER USE		
A5.304.1 Water budget. A water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the California Department of Water Resources Model Water Efficient Landscape Ordinance where no local ordinance is applicable.		☒
A5.304.4.4 Potable water reduction. Provide water efficient landscape irrigation design that reduces the use of potable water beyond the initial requirements for plant installation and establishment by 50%. Calculations for the reduction shall be based on the water budget developed pursuant to section A5.304.1.		☒

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
Methods used to accomplish the requirements of this section must be designed to the requirements of the California Building Standards Code and shall include, but not be limited to, the following: 1. Plant coefficient. 2. Irrigation efficiency and distribution uniformity. 3. Use of captured rainwater. 4. Use of recycled water. 5. Water treated for irrigation purposes and conveyed by a water district or public entity.		
DIVISION 5.4 - MATERIAL CONSERVATION AND RESOURCE EFFICIENCY		
EFFICIENT FRAMING SYSTEMS		
A5.404.1 Wood framing. Employ advanced wood framing techniques, or OVE, as recommended by the U.S. Department of Energy's Office of Building Technology, State and Community Programs and as permitted by the enforcing agency.		☒
MATERIAL SOURCES		
A5.405.4 Recycled content. Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RCV) for a minimum of 10% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.		☒
ENHANCED DURABILITY AND REDUCED MAINTENANCE		
A5.406.1.1 Service life. Use materials, equivalent in performance to virgin materials, with postconsumer or preconsumer recycled content value (RCV) for a minimum of 10 percent of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.		☒
A5.406.1.3 Recyclability. Select materials that can be reused or recycled at the end of their service life in the project.		☒
WATER RESISTANCE AND MOISTURE MANAGEMENT		
5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by *California Building Code* Section 1403.2 (Weather Protection) and California Energy Code Section 150 (Mandatory Features and Devices), manufacturer's installation instructions, or local ordinance, whichever is more stringent.	☒	
5.407.2 Moisture control. Employ moisture control measures by the following methods.		
5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures.	☒	
5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings.	☒	
CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING		
5.408.1 Construction waste diversion. Establish a construction waste management plan for the diverted materials, or meet local construction and demolition waste management ordinance, whichever is more stringent.	☒	
5.408.2 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan for approval by the enforcement agency that: 1. Identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale. 2. Determines if materials will be sorted on-site or mixed. 3. Identifies diversion facilities where material collected will be taken. 4. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.	☒	
5.408.2.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.408.2 items 1 thru 4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency. **Exception.** Jobsites in areas were there is no mixed construction and demolition debris (C&D) processor or recycling facilities within a feasible haul distance shall meet the requirements as follows:	☒	

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
1. The enforcement agency having jurisdiction shall at its discretion, enforce the waste management plan and make exceptions as deemed necessary.		
5.408.2.2 Isolated jobsites. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.	☒	
5.408.3 Construction waste reduction of at least 50%. Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Calculate the amount of materials diverted by weight or volume, but not by both. **Exceptions:** 1. Excavated soil and land-clearing debris 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.	☒	
A5.408.3.2 Enhanced construction waste reduction. Divert to recycle or salvage non-hazardous construction and demolition debris generated at the site for at least an 80% reduction. **Exceptions:** 1. Excavated soil and land-clearing debris 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.		☒
LIFE CYCLE ASSESSMENT		
A5.409.1 Materials and system assemblies. Select materials assemblies based on life cycle assessment of their embodied energy and/or green house gas emission potentials.		☒
BUILDING MAINTENANCE AND OPERATION		
5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals.	☒	
A5.410.3 Commissioning. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's project requirements. Commissioning shall be performed in accordance with this section by personnel trained and certified in commissioning by a nationally recognized organization. Commissioning requirements shall include as a minimum: 1. Owner's Project Requirements. 2. Basis of Design. 3. Commissioning measures shown in the construction documents. 4. Commissioning Plan. 5. Functional Performance Testing. 6. Post Construction Documentation & Training. 7. Commissioning Report. All building systems and components covered by Title 24, Part 6, as well as process equipment and controls, and renewable energy systems shall be included in the scope of the Commissioning Requirements.		☒
A5.410.3.1 Owner's Project Requirements (OPR). The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. At a minimum, this documentation shall include the following: 1. Environmental and Sustainability Goals. 2. Energy Efficiency Goals. 3. Indoor Environmental Quality Requirements. 4. Equipment and Systems Expectations. 5. Building Occupant and O&M Personnel Expectations.		☒
A5.410.3.2 Basis of Design (BOD). A written explanation of how the design of the building systems meets the Owner's Project Requirements shall be completed at the design phase of the building project, and updated as necessary during the design and construction phases. At a minimum, the Basis of Design document shall cover the following systems:		☒

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
1. Heating, Ventilation, Air Conditioning (HVAC) Systems and Controls. 2. Indoor Lighting System and Controls. 3. Water Heating System. 4. Renewable Energy Systems.		
A5.410.3.3 Commissioning plan. A commissioning plan shall be completed to document how the project will be commissioned and shall be started during the design phase of the building project. The Commissioning Plan shall include the following at a minimum: 1. General Project Information. 2. Commissioning Goals. 3. Systems to be commissioned**.** Plans to test systems and components shall include at a minimum: a. A detailed explanation of the original design intent, b. Equipment and systems to be tested, including the extent of tests, c. Functions to be tested, d. Conditions under which the test shall be performed, e. Measurable criteria for acceptable performance. 4. Commissioning Team Information. 5. Commissioning Process Activities, Schedules & Responsibilities – plans for the completion of Commissioning Requirements listed in A5.410.2.4 through A5.410.2.6 shall be included.		☒
A5.410.3.4 Functional performance testing. Functional performance tests shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.		☒
A5.410.3.5 Documentation and training. A Systems Manual and Systems Operations Training are required.		☒
A5.410.3.5.1 Systems manual. Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner and facilities operator. At a minimum, the Systems Manual shall include the following: 1. Site Information, including facility description, history and current requirements. 2. Site Contact Information. 3. Basic Operations & Maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log 4. Major Systems. 5. Site Equipment Inventory and Maintenance Notes.		☒
A5.410.3.5.2 Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall include, as a minimum, the following: 1. System/Equipment overview (what it is, what it does and what other systems and/or equipment it interfaces with). 2. Review and demonstration of servicing/preventive maintenance, 3. Review of the information in the Systems Manual. 4. Review of the record drawings on the system/equipment.		☒
A5.410.3.6 Commissioning report. A complete report of commissioning process activities undertaken through the design and construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner.		☒
A5.410.4 Testing and adjusting. Testing and adjusting systems shall be required for buildings less than 10,000 square feet.		☒
A5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include at a minimum, as applicable to the project: 1. HVAC systems and controls 2. Indoor and outdoor lighting and controls 3. Water heating systems 4. Renewable energy system		☒

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
A5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.		☒
A5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards (2003); the National Environmental Balancing Bureau Procedural Standards (1983); or Associated Air Balance Council National Standards (1989).		☒
A5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.		☒
A5.410.4.5 Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.		☒
DIVISION 5.5 ENVIRONMENTAL QUALITY		
POLLUTANT CONTROL		
A5.504.1.1 Temporary ventilation. Provide temporary ventilation during construction in accordance with Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, and Chapter 4 of CCR, Title 8, and as follows: 1. Ventilation during construction shall be achieved through openings in the building shell using fans to produce a minimum of three air changes per hour. 2. During dust-producing operations, protect supply and return HVAC system openings from dust. 3. The permanent HVAC system shall only be used during construction if necessary to condition the building within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy. 4. If the building is occupied during demolition or construction, meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3.		☒
A5.504.1.2 Additional IAQ measures. Employ additional measures as follows: 1. When using generators to generate temporary power, use generators meeting the requirements of CCR, Title 13, Chapter 9, or local ordinance, whichever is more stringent. 2. Protect on-site absorbent materials from moisture. Remove and replace any materials wit 3. Store odorous and high VOC-emitting materials off-site, without packaging, for a sufficient period to allow odors and VOCs to disperse. 4. When possible, once materials are on the jobsite, install odorous and high VOC-emitting materials prior to those that are porous or fibrous. 5. Clean oil and dust from ducts prior to use.		☒
A5.504.2 IAQ Post-construction. After all interior finishes have been installed, flush out the building by supplying continuous ventilation with all air handling units at their maximum outdoor air rate and all supply fans at their maximum position and rate for at least 14 days. 1. During this time, maintain an internal temperature of at least 60°F, and relative humidity no higher than 60%. If extenuating circumstances make these temperature and humidity limits unachievable, the flush out may be conducted under conditions as close as possible to these limits, provided that documentation of the extenuating circumstances is provided in writing. 2. Occupancy may start after 4 days, provided flush-out continues for the full 14 days. During occupied times, the thermal comfort conditions of Title 24 must be met. 3. For buildings that rely on natural ventilation, exhaust fans and floor fans must be used to improve air mixing and removal during the 14-day flush out, and windows should remain open. 4. Do not “bake out” the building by increasing the temperature of the space.		☒

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
5. (If continuous ventilation is not possible, flush-out air volume must total the equivalent of 14 days of maximum outdoor air.) The air volumes for each period are then calculated and summed, and the flush out continues until the total equals the target air volume.		
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.	☒	
5.504.4.1 Adhesives, sealants, and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards. 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products as specified in subsection 2, below. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507. TABLE 5.504.4.1 - ADHESIVE AND SEALANT VOC LIMIT[1]	☒	
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3, shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.	☒	
5.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in sections 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49. TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2, 3]	☒	
5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of the following: 1. Carpet and Rug Institute's Green Label Plus Program. 2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350). 3. NSF/ANSI 140 at the Gold level 4. Scientific Certifications Systems Sustainable Choice.	☒	
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.	☒	
5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.	☒	
5.504.4.5 Composite wood products. Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the	☒	

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
dates specified in those sections, as shown in Table 5.504.4.5. TABLE 5.504.4.5 - FORMALDEHYDE LIMITS[1]		
A5.504.4.5.1 Early compliance with formaldehyde limits. Where complying composite wood product is readily available for non-residential occupancies, meet requirements before the compliance dates indicated in Table 5.504.4.5 or use composite wood products made with either CARB-approved no-added formaldehyde (NAF) resins or CARB-approved ultra-low emitting formaldehyde (ULEF) resins.		☒
5.504.4.6 Resilient flooring systems. For 50% of floor area receiving resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RFCI) Floor Score program. Documentation shall be provided that verifies that finish materials are certified to meet the pollutant emission limits.	☒	
A5.504.4.7 Resilient flooring systems. For 80% of floor area to schedule to receive resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the FloorScore program of the Resilient Floor Covering Institute.		☒
A5.504.4.8 Thermal insulation, Comply with Chapter 12-13 (Standards For Insulating Material) in Title 24, Part 12, the *California Referenced Standards Code*, and with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List Documentation shall be provided that verifies that finish materials are certified to meet the pollutant emission limits..		☒
A5.504.4.8.1.1 Thermal insulation, No-Added Formaldehyde. Install No-Added Formaldehyde thermal insulation in addition to meeting the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List.		☒
A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2, the *California Building Code*, and with the VOC-emission limits defined in the 2009 Collaborative for High Performances Schools (CHPS) criteria and listed on its Low-emitting Materials List.		☒
A5.504.5 Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas.		☒
A5.504.5.1 Entryway systems. Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors. 1. Qualifying entryways are those that serve as regular entry points for building users. 2. Acceptable entryway systems include, but are not limited to, permanently installed grates, grilles or slotted systems that allow cleaning underneath. 3. Roll-out mats are acceptable only when maintained regularly by janitorial contractors as documented in service contract, or by in-house staff as documented by written policies and procedures.		☒
A5.504.5.2 Isolation of pollutant sources. In rooms where activities produce hazardous fumes or chemicals, such as garages, janitorial or laundry rooms, and copy or printing rooms, exhaust them and isolate them from their adjacent rooms. 1. Exhaust each space with no air recirculation in accordance with ASHRAE 62.1, Table 6-4 to create negative pressure with respect to adjacent spaces with the doors to the room closed. 2. For each space, provide self-closing doors and deck to deck partitions or a hard ceiling. 3. Install low-noise, vented range hoods for all cooking appliances and in laboratory or other chemical mixing areas.		☒
5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 8.	☒	
A5.504.5.3.1 Filters. In mechanically ventilated buildings, provide regularly student occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum		☒

Application Checklist DSA-SS	Mandatory ☒	Voluntary ☒
Efficiency Reporting Value (MERV) of 11.		
INDOOR MOISTURE CONTROL		
5.505. 1 Indoor moisture control. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Section 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.	☒	
INDOOR AIR QUALITY		
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, or the applicable local code, whichever is more stringent, and Chapter 4 of CCR, Title 8.	☒	
ENVIRONMENTAL COMFORT		
A5.507.1 Lighting and thermal comfort controls. Provide controls in the workplace as described in Sections A5.507.1.1 and A5.507.1.2.		☒
A5.507.1.1 Single-occupant spaces. Provide individual controls that meet energy use requirements in the 2007 California Energy Code in accordance with Sections A5.507.1.1.1 and A5.507.1.1.2.		☒
A5.507.1.1.1 Lighting. Provide individual task lighting and/or day lighting controls for at least 90 percent of the building occupants.		☒
A5.507.1.1.2 Thermal comfort. Provide individual thermal comfort controls for at least 50 percent of the building occupants. 1. Occupants shall have control over at least one of the factors of air temperature, radiant temperature, air speed and humidity as described in ASHRAE 55-2004. 2. Occupants inside 20 feet of the plane of and within 10 feet either side of operable windows can substitute windows to control thermal comfort. The areas of operable window must meet the requirements of Section 121 (Requirements For Ventilation) of the *California Energy Code*.		☒
A5.507.1.2 Multi-occupant spaces. Provide lighting and thermal comfort system controls for all shared multi-occupant spaces, such as classrooms and conference rooms.		☒
A5.507.2 Daylight. Provide day lit spaces as required for top lighting and side lighting in the 2007 *California Energy Code*. In constructing a design, consider the following: 1. Use of light shelves and reflective room surfaces to maximize daylight penetrating the rooms. 2. Means to eliminate glare and direct sun light, including through skylights. 3. Use of photo sensors to turn off electric lighting when daylight is sufficient. 4. Not using diffuse day lighting glazing where views are desired.		☒
A5.507.3 Views. Achieve direct line of sight to the outdoor environment via vision glazing between 2' 6" and 7' 6" above finish floor for building occupants in 90 percent of all regularly occupied areas as demonstrated by plan view and section cut diagrams		☒
A5.507.3.1 Interior office spaces. Entire areas of interior office spaces may be included in the calculation if at least 75 percent of each area has direct line of sight to perimeter vision glazing.		☒
A5.507.3.2 Multi-occupant spaces. Include in the calculation the square footage with direct line of sight to perimeter vision glazing. **Exceptions to Sections A5.507.2 and A5.507.3:** Copy/printing rooms, storage areas, mechanical spaces, restrooms, auditoria and other intermittently or infrequently occupied spaces or spaces where daylight would interfere with use of the space.		☒
A5.507.5 Acoustical control. Public Schools and Community Colleges: Unoccupied, furnished classrooms must have a maximum background noise level of no more than 45 dBA LAeq, and a maximum (unoccupied, furnished) reverberation of 0.6-second time for classrooms with less than 10,000 cubic feet and a maximum (unoccupied, furnished) reverberation of 0.7-second time for classroom volumes with between 10,000 cubic feet and 20,000 cubic feet.		☒

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NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST [OSHPD 1, 2 & 4]				
Feature or Measure	**Compliance Levels**			**Notes**
	Mandatory *CALGREEN*	**Voluntary *CALGREEN***		
		Tier 1	**Tier 2**	
DIVISION A5.1 SITE PLANNING AND DESIGN				
SECTION SITE DEVELOPMENT				
A5.106.9 Building orientation. Locate and orient the building as follows: 1. Long sides facing north and south 2. Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind-driven materials.		☐	☐	
DIVISION A5.2 ENERGY EFFICIENCY **SECTION A5.203 PERFORMANCE MEASURES**				
A5.203.1 Energy performance. [OSHPD 1] **A5.203.1.1 *CALGREEN* Tier 1. [OSHPD 1]** Buildings must comply with the latest edition of "Savings By Design, Healthcare Modeling Procedures". **A.5.203.1.2 *CALGREEN* Tier 2. [OSHPD 1]** Buildings must exceed the latest edition of "Savings By Design, Healthcare Modeling Procedures" by 15%.		☐	☐	
SECTION A5.204 PRESCRIPTIVE MEASURES				
A5.204.1 ENERGY STAR equipment and appliances. All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable to that equipment or appliance		☐	☐	
A5.204.4 Commissioning. Building commissioning for all building systems covered by T24, Part 6, process systems, and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include as a minimum items listed in A5.204.4.		☐	☐	
A5.204.4.1 Owner's Project Requirements (OPR). Documented before the design phase of the project begins the OPR shall include items listed in A5.204.4.		☐	☐	
A5.204.4.2 Basis of Design (BOD). A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project and updated periodically to cover the systems listed in A5.204.4.2.		☐	☐	
A5.204.4.3 Commissioning plan. A commissioning plan describing how the project will be commissioned shall be started during the design phase of the building project and shall include as a minimum items listed in A5.204.4.3.		☐	☐	
A5.204.4.4 Functional performance testing shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications.		☐	☐	
A5.204.4.5 Post construction documentation and training. A Systems Manual and Systems Operations Training are required.		☐	☐	
A5.204.4.5.1 Systems manual. The Systems Manual				

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST [OSHPD 1, 2 & 4]				
Feature or Measure	**Compliance Levels**			**Notes**
	Mandatory *CALGREEN*	**Voluntary *CALGREEN***		
		Tier 1	**Tier 2**	
shall be delivered to the building owner and facilities operator and shall include the items listed in A5.204.4.5.1.		☐	☐	
A5.204.4.5.2 Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall include as a minimum items listed in A5.204.4.5.2.		☐	☐	
A5.204.4.6 Commissioning report. A complete report of commissioning process activities undertaken through the design, construction and post-construction phases of the building project shall be completed and provided to the owner.		☐	☐	
A5.204.6 Building orientation and shading. Locate, orient and shade the building as required in Section A5.106.11.		☐	☐	
SECTION A5.205 BUILDING ENVELOPE				
A5.205.1 Fenestration products and exterior doors.		☐	☐	
A5.205.1.1 Certification of fenestration products and exterior door other than field-fabricated.		☐	☐	
A5.205.1.2 Installation of field-fabricated fenestration and exterior doors.		☐	☐	
A5.205.2 Joints and other openings		☐	☐	
A5.205.3 Installation and roofing products.		☐	☐	
SECTION A5.207 HVAC DESIGN, EQUIPMENT AND INSTALLATION				
A5.207.1 Space-conditioning equipment certification by manufacturers.		☐	☐	
A5.207.1.1 Efficiency.		☐	☐	
A5.207.1.2 Controls for heat pumps with supplementary electric resistance heaters.		☐	☐	
A5.207.1.3 Thermostats		☐	☐	
A5.207.1.4 Gas-and oil-fired furnace standby loss controls.		☐	☐	
A5.207.2 Space conditioning systems.		☐	☐	
A5.207.2.1 Supply air temperature reset controls.		☐	☐	
A5.207.2.2 Electric resistance heating.		☐	☐	

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST [OSHPD 1, 2 & 4]				
Feature or Measure	**Compliance Levels**			**Notes**
	Mandatory *CALGREEN*	**Voluntary *CALGREEN***		
		Tier 1	**Tier 2**	
A5.207.2.3 Heat rejection systems.		☐	☐	
A5.207.2.4 Hydronic system measures.		☐	☐	
A5.207.2.5 Air distribution system duct leakage sealing.		☐	☐	
A5.207.2.6 Variable air volume control for single zone systems.		☐	☐	
A5.207.3 Service water-heating systems and equipment.		☐	☐	
A5.207.3.1 Certification by manufacturers.		☐	☐	
A5.207.3.2 Efficiency.		☐	☐	
A5.207.3.3 Installation.		☐	☐	
A5.207.4 Natural gas central furnaces, cooking equipment, and pool and spa heaters: Pilot lights prohibited.		☐	☐	
A5.207.5 Controls for space-conditioning systems.		☐	☐	
A5.207.5.1 Thermostatic controls for each zone.		☐	☐	
A5.207.5.2 Criteria for zonal thermostatic controls.		☐	☐	
A5.207.5.3 Heat pump controls.		☐	☐	
A5.207.5.4 Dampers for air supply and exhaust equipment.		☐	☐	
A5.207.5.5 Automatic demand shed controls		☐	☐	
A5.207.6 Pipe insulation.		☐	☐	
SECTION A5.209 LIGHTING				
A5.209.1 Lighting control devices, ballasts and luminaires.		☐	☐	
A5.209.1.1 All devices: Instructions and calibration.		☐	☐	
A5.209.1.2 Indicator lights.		☐	☐	

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST [OSHPD 1, 2 & 4]				
Feature or Measure	**Compliance Levels**			**Notes**
	Mandatory *CALGREEN*	**Voluntary *CALGREEN***		
		Tier 1	**Tier 2**	
A5.209.1.3 Automatic time switch control devices.		☐	☐	
A5.209.1.4 Occupant sensors, motion sensors and vacancy sensors.		☐	☐	
A5.209.1.5 Multi-level occupant sensor.		☐	☐	
A5.209.1.6 Automatic daylighting control devices.		☐	☐	
A5.209.1.7 Interior Photosensors.		☐	☐	
A5.209.1.8 Multi-level astronomical time-switch controls.		☐	☐	
A5.209.1.9 Outdoor astromomical time-switch controls.		☐	☐	
A5.209.1.10 Dimmers.		☐	☐	
A5.209.2 Indoor lighting controls		☐	☐	
A5.209.2.1 Area controls.		☐	☐	
A5.209.2.2 Multi-level lighting controls.		☐	☐	
A5.209.2.3 Daylight areas.				
A5.209.2.3.1 Daylight area		☐	☐	
A5.209.2.3.1.2 Daylight area, primary sidelit		☐	☐	
A5.209.2.3.1.3 Daylight area, secondary sidelit		☐	☐	
A5.209.2.3.1.4 Daylight area, skylit		☐	☐	
A5.209.2.3.2 Controls for luminaires providing general lighting that are in or are partially in the skylit daylight area and or the primary sidelit daylight area		☐	☐	
A5.209.2.4 Shut-off controls.		☐	☐	
A5.209.3 Outdoor lighting controls and equipment.		☐	☐	
A5.209.3.1 Outdoor lighting.		☐	☐	
A5.209.3.2 Luminaire cutoff requirements.		☐	☐	

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST [OSHPD 1, 2 & 4]				
Feature or Measure	**Compliance Levels**			**Notes**
	Mandatory *CALGREEN*	**Voluntary *CALGREEN***		
		Tier 1	**Tier 2**	
A5.209.3.3 Controls for outdoor lighting.		☐	☐	
A5.209.4 Outdoor lighting.		☐	☐	
A5.209.4.1 Outdoor lighting power trade-offs.		☐	☐	
A5.209.4.2 Outdoor lighting power.		☐	☐	
A5.209.4.3 Calculation of actual lighting power.		☐	☐	
A5.209.4.4 Calculation of allowed lighting power.		☐	☐	
A5.209.4.4.1 General hardscape lighting allowance.		☐	☐	
A5.209.4.4.2 Additional lighting power allowance for specific applications.		☐	☐	
A5.209.4.4.2.3 Additional lighting power allowance for local ordinance requirements.		☐	☐	
A5.209.5 Signs.		☐	☐	
A5.209.5.1 Maximum allowed lighting power.		☐	☐	
A5.209.5.2 Alternate lighting sources.		☐	☐	
A5.209.6 Sign lighting controls.		☐	☐	
A5.209.7 Nonresidential lighting control acceptance.		☐	☐	
SECTION A5.210 APPLIANCES				
A5.210.1 Appliances regulated by the appliance efficiency regulations.		☐	☐	
DIVISION A5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY				
SECTION A5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT				
A5.407.3 Weather Protection		☐	☐	

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST [OSHPD 1, 2 & 4]				
Feature or Measure	**Compliance Levels**			**Notes**
	Mandatory *CALGREEN*	**Voluntary *CALGREEN***		
		Tier 1	**Tier 2**	
A5.407.4.1 Moisture control		☐	☐	
A5.407.4.2 Sprinklers		☐	☐	
A5.407.4.3 Entries and openings		☐	☐	
SECTION A5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING				
A5.408.5 Construction waste diversion. Establish a construction waste management plan or meet local ordinance, whichever is more stringent.		☐	☐	
A5.408.6 Construction waste. Recycle and/or salvage for reuse a minimum of 50% of non-hazardous construction and demolition debris or meet local ordinance, whichever is more stringent. **Exceptions:** 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.		☐	☐	
A5.408.7 Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.		☐	☐	
SECTION A5.410 BUILDING MAINTENANCE AND OPERATION				
A5.410.6 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling.		☐	☐	
DIVISION A5.5 ENVIRONMENTAL QUALITY				
SECTION A5.504 POLLUTANT CONTROL				
A5.504.4.5.1 Early Compliance with formaldehyde limits. Where complying composite wood product is readily available for non-residential occupancies, meet requirements before the compliance dates indicated in Table A5.504.8.5 (Tier 1), or use composite wood products made with either CARB-approved no-added formaldehyde (NAF) resins or CARB-approved ultra-low emitting formaldehyde (ULEF) resins (Tier 2).		☐	☐	
A5.504.8 Finish material pollutant control. Finish materials shall comply with Sections A5.504.8.1 through A5.504.8.4.		☐	☐	
A5.504.8.1 Adhesives, sealants and caulks. Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards.		☐	☐	
1. Adhesives, adhesive bonding primers, ~~and~~ adhesive primers, sealants and sealant primers shall comply with		☐	☐	

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST [OSHPD 1, 2 & 4]				
Feature or Measure	**Compliance Levels**			**Notes**
	Mandatory *CALGREEN*	**Voluntary *CALGREEN***		
		Tier 1	**Tier 2**	
Table A5.504.8.1. 2. Aerosol adhesives shall meet the requirements of California Code of Regulations, Title 17, commencing with Section 94507, http://ccr.oal.ca.gov/ .		☐	☐	
A5.504.8.2 Paints and coatings. Architectural paints and coatings shall comply with Table A5.504.8.3.		☐	☐	
A5.504.8.3.2 Verification.		☐	☐	
A5.504.8.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in A5.504.8.3.		☐	☐	
A5.504.8.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.		☐	☐	
A5.504.8.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table A5.504.8.1.		☐	☐	
A5.504.8.5 Composite wood products. Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table A5.504.8.		☐	☐	
A5.504.8.5.2 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following. 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Other methods acceptable to the enforcing agency.		☐ ☐ ☐	☐ ☐ ☐	
A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2 and with the VOC-emission limits defined in the CHPS Low-emitting Materials List		☐	☐	
A5.504.5 Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas.		☐	☐	
A5.504.5.1 Entryway systems. Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors as listed in Items 1 through 3 in A5.504.5.1.		☐	☐	
A5.504.9 Environmental tobacco smoke (ETS) control. Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and in buildings; or as enforced by ordinances, regulations, or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent.		☐	☐	
SECTION A5.505 INDOOR MOISTURE CONTROL				

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST [OSHPD 1, 2 & 4]				
Feature or Measure	**Compliance Levels**			**Notes**
	Mandatory *CALGREEN*	**Voluntary *CALGREEN* Tier 1**	**Tier 2**	
A5.505.2 Indoor moisture control. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.		☐	☐	
SECTION A5.507 ENVIRONMENTAL COMFORT **Reserved**				

Table 1: NON-RESIDENTIAL BUILDINGS: Green Building Standards Code
Proposed Performance Approach

Category	Environmental Performance Goal	Tier 1	Tier 2
All	Minimum Mandatory	Meet all of the provisions of Chapter 5	Meet all of the provisions of Chapter 5
Planning and Design	Designated Parking for Fuel Efficient Vehicles	10 percent of total spaces	12 percent of total spaces
	Cool Roof to Reduce Heat Island Effect	Roof Slope < 2:12 SRI 64 Roof Slope > 2:12 SRI 16	Roof Slope < 2:12 SRI 78 Roof Slope > 2:12 SRI 20
		1 additional Elective from Division A5.1	3 additional Electives from Division A5.1
Energy Efficiency	Energy Performance	Exceed 2008 CA Energy Code by 15 percent	Exceed 2008 CA Energy Code by 30 percent
Water Efficiency and Conservation	Indoor Water Use	30 percent Savings	35 percent Savings
	Outdoor Water Use	60 percent of ETo times the landscape area	55 percent of ETo times the landscape area
		1 additional Elective from Division A5.3	3 additional Electives from Division A5.3
Material Conservation and Resource	Construction Waste Reduction	At least 65 percent reduction	At least 80 percent reduction

Efficiency	Recycled Content	Utilize recycled content materials for 10 percent of total material cost	Utilize recycled content materials for 15 percent of total material cost
		1 additional Elective from Division A5.4	3 additional Electives from Division A5.4
Environmental Quality	Low-VOC Resilient Flooring	80 percent of flooring meets CHPS VOC limits	90 percent of flooring meets CHPS VOC limits
	Low-VOC Thermal Insulation	Comply with CHPS VOC limits	Install no-added formaldehyde insulation & comply CHPS VOC limits
		1 additional Elective from Division A5.5	3 additional Electives from Division A5.5
Additional Measures	Added measures shall be achieved across at least 3 categories	1 Additional Elective	3 Additional Electives
Approximate Total Measures		14	24

Part 4 – Suggested Forms and Templates

SOIL LOSS PREVENTION PLAN CHECKLIST
FOR NEW PROJECTS LESS THAN ONE ACRE

DRAFT
CALGreen
Std. BSC-5.1-X
10-05-10

Project location: **Project area:**

Contact Name & Title:

Telephone: **Cell Phone:**

Date plan submitted: **On plans** ☐ **Separately** ☐

BMP NAME	APPLICABLE TO THIS PROJECT	CONTR. INITIAL
EROSION AND SEDIMENT CONTROL BMPs		
Scheduling construction activity	☐	
Preservation of natural features, vegetation and soil	☐	
Drainage swales or lined ditches to control stormwater flow	☐	
Mulching or hydroseeding to stablilize soils	☐	
Erosion control covers to protect slopes	☐	
Protection of storm drain inlets (gravel bags or catch basin inserts)	☐	
Perimeter sediment control (perimeter silt fence, fiber rolls)	☐	
Sediment trap or sediment basin to retain sediment on site	☐	
Stabilized construction exits	☐	
Wind erosion control	☐	
Others (specify):	☐	
	☐	
	☐	
	☐	
HOUSEKEEPING BMPs		
Material handling and waste management	☐	
Building materials stockpile management	☐	
Management of washout areas (concrete, paints, stucco, etc.)	☐	
Control of vehicle/equipment fueling to contractor's staging area	☐	
Vehicle and equipment cleaning performed off site	☐	
Spill prevention and control	☐	

Others (specify):	☐	
	☐	
	☐	
	☐	
	☐	
STORM EVENT INSPECTIONS (If applicable during project construction)		
Date and time:	☐	
Date and time:	☐	
Date and time:	☐	
Date and time:	☐	
Date and time:	☐	
Date and time:	☐	
Date and time:	☐	
	☐	
	☐	
	☐	
	☐	

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

- I certify that this Certificate of Compliance documentation is accurate and complete.
- I certify that the features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 11 of the California Code of Regulations.
- The design features identified on this Certificate of Compliance are consistent with the information documented on other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the permit application.

Signature:	
Company:	Date:

Address:	License:
City/State/Zip:	Phone:

WORKSHEET (WS-1)
BASELINE WATER USE

DRAFT
CALGreen
Std. – BSC-5.3-X
7-16-10

BASELINE WATER USE CALCULATION TABLE											
Fixture Type	**Quantity**		**Flow-rate (gpm)**		**Duration**		**Daily uses**		**Occupants[3, 4]**		**Gallons per day**
Showerheads		X	2.5	X	5 min.	X	1	X		=	
Showerheads Residential		X	2.5	X	8 min.	X	1	X		=	
Lavatory Faucets Residential		X	2.2	X	.25 min.	X	3	X		=	
Kitchen Faucets		X	2.2	X	4 min.	X	1	X		=	
Replacement Aerators		X	2.2	X		X		X		=	
Wash Fountains		X	2.2	X		X		X		=	
Metering Faucets		X	0.25	X	.25 min.	X	3	X		=	
Metering Faucets for Wash Fountains		X	2.2	X	.25 min.	X		X		=	
Gravity tank type Water Closets		X	1.6	X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Tank Water Closets		X	1.6	X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Valve Water Closets		X	1.6	X	1 flush	X	1 male[1] 3 female	X		=	
Electromechanical Hydraulic Water Closets		X	1.6	X	1 flush	X	1 male[1] 3 female	X		=	
Urinals		X	1.0	X	1 flush	X	2 male	X			
Total daily baseline water use (BWU)										=	
_____ (BWU) X .80 = _____ Allowable water use											

[1] Except for low-rise residential occupancies, the daily use number shall be increased to three if urinals are not installed in the room.
[2] The Flow-rate is from the CEC Appliance Efficiency Standards, Title 20 California Code of Regulations; where a conflict occurs, the CEC standards shall apply.
[3] For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.
[4] For non-residential occupancies, refer to Table A, Chapter 4, 2010 California Plumbing Code, for occupant load factors.

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

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Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

WORKSHEET (WS-2)
20% REDUCTION WATER USE CALCULATION TABLE

DRAFT
CALGreen
Std. – BSC-5.3-X
7-16-10

20% REDUCTION WATER USE CALCULATION TABLE											
Fixture Type	**Quantity**		**Flow-rate (gpm)**[2]		**Duration**		**Daily uses**		**Occupants**[3, 4]		**Gallons per day**
Showerheads		X		X	5 min.	X	1	X		=	
Showerheads Residential		X		X	8 min.	X	1	X		=	
Lavatory Faucets Residential		X		X	.25 min.	X	3	X		=	
Kitchen Faucets		X		X	4 min.	X	1	X		=	
Replacement Aerators		X		X		X		X		=	
Wash Fountains		X		X		X		X		=	
Metering Faucets		X		X	.25 min.	X	3	X		=	
Metering Faucets for Wash Fountains		X		X	.25 min.	X		X		=	
Gravity tank type Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
HET [5] High Efficiency Toilet		X	1.28	X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Tank Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Valve Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Electromechanical Hydraulic Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Urinals		X		X	1 flush	X	2 male	X			
Urinals Non-Water Supplied		X	0.0	X	1 flush	X	2 male	X		=	
Proposed water use										=	
_____ (BWU from WS-1) X .80 = _____ Allowable water use											

[1] Except for low-rise residential occupancies, the daily use number shall be increased to three if urinals are not installed in the room.
[2] The Flow-rate is from the CEC Appliance Efficiency Standards, Title 20 California Code of Regulations; where a conflict occurs, the CEC standards shall apply.
[3] For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.

[4] For non-residential occupancies, refer to Table A, Chapter 4, 2010 California Plumbing Code, for occupant load factors.

[5] Includes single and dual flush water closets with an effective flush of 1.28 gallons or less
Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2.
Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.

☐ Plumbing fixtures installed meet the requirements of Section 5.303.6.

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

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Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

WORKSHEET (WS-3)
30%, 35% or 40% REDUCTION WATER USE CALCULATION TABLE

DRAFT
CALGreen
Std. – BSC-5.3-X
7-16-10

30%, 35% or 40% REDUCTION WATER USE CALCULATION TABLE											
Fixture Type	**Quantity**		**Flow-rate (gpm)**[2]		**Duration**		**Daily uses**		**Occupants**[3],		**Gallons per day**
Showerheads		X		X	5 min.	X	1	X		=	
Showerheads Residential		X		X	8 min.	X	1	X		=	
Lavatory Faucets Residential		X		X	.25 min.	X	3	X		=	
Kitchen Faucets		X		X	4 min.	X	1	X		=	
Replacement Aerators		X		X		X		X		=	
Wash Fountains		X		X		X		X		=	
Metering Faucets		X		X	.25 min.	X	3	X		=	
Metering Faucets for Wash Fountains		X		X	.25 min.	X		X		=	
Gravity tank type Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
HET [4] High Efficiency Toilet		X	1.12	X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Tank Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Flushometer Valve Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Electromechanical Hydraulic Water Closets		X		X	1 flush	X	1 male[1] 3 female	X		=	
Urinals		X		X	1 flush	X	2 male	X			
Urinals Non-Water Supplied		X	0.0	X	1 flush	X	2 male	X		=	
Proposed water use										=	
30% Reduction_____ (BWU from WS-1) X .70 = _____ Allowable water use 35% Reduction_____ (BWU from WS-1) X .65 = _____ Allowable water use 40% Reduction_____ (BWU from WS-1) X .60 = _____ Allowable water use											

[1, 2, 3, 4 and 5]: See footnotes for Water Use Worksheet WS-2.

☐ Plumbing fixtures installed meet the requirements of Section 5.303.6.

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

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Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

WORKSHEET (WS-4) FIXTURE FLOW RATES	DRAFT CALGreen Std. – BSC-5.3-X 7-16-10

Fixture Type	Flow-rate	Maximum flow rate at 20% Reduction	Number installed	SUB-CONTR. INITIAL
Showerheads	2.5 gpm @ 80 psi	2 gpm @ 80 psi		
Lavatory Faucets Nonresidential	0.5 gpm @ 60 psi	0.4 gpm @ 60 psi		
Kitchen Faucets	2.2 gpm @ 60 psi	1.8 gpm @ 60 psi		
Wash Fountains	2.2 [rim space (in.) / 20 gpm @ 60 psi]	1.8 [rim space (in.) / 20 gpm @ 60 psi]		
Metering Faucets	0.25 gallons/cycle	0.2 gallons/cycle		
Metering Faucets for Wash Fountains	.25 [rim space (in.) / 20 gpm @ 60 psi]	.20 [rim space (in.) / 20 gpm @ 60 psi]		
Gravity tank type Water Closets	1.6 gallons/flush	1.28 gallons/flush[1]		
Flushometer Tank Water Closets	1.6 gallons/flush	1.28 gallons/flush[1]		
Flushometer Valve Water Closets	1.6 gallons/flush	1.28 gallons/flush[1]		
Electromechanical Hydraulic Water Closets	1.6 gallons/flush	1.28 gallons/flush[1]		
Urinals	1.0 gallons/flush	.5 gallons/flush		

[1] Includes single and dual flush water closets with an effective flush of 1.28 gallons or.
Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2.
Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.

☐ Plumbing fixtures installed meet the requirements of Section 5.303.6.

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

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Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

CONSTRUCTION WASTE MANAGEMENT (CWM) PLAN WORKSHEET

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

DRAFT
CALGreen
Std. – BSC-5.4-X
7-16-10

Project Name: _____
Job #: _____
Project Manager: _____

Waste Hauling Company: _____
Contact Name: _____

All Subcontractors shall comply with the project's Construction Waste Management Plan.
All Subcontractor foremen shall sign the CWM Plan Acknowledgement Sheet.

Subcontractors who fail to comply with the Waste Management Plan will be subject to backcharges or withholding of payment, as deemed appropriate. For instance, Subcontractors who contaminate debris boxes that have been designated for a single material type will be subject to backcharge or withheld payment, as deemed appropriate.

2. The project's overall rate of waste diversion will be ____ %.

4. This project shall generate the least amount of waste possible by planning and ordering carefully, following all proper storage and handling procedures to reduce broken and damaged materials and reusing materials whenever possible. The majority of the waste that is generated on this jobsite will be diverted from the landfill and recycled for other use.

5. Spreadsheet 1, enclosed, identifies the waste materials that will be generated on this project, the diversion strategy for each waste type and the anticipated diversion rate.

4. Waste prevention and recycling activities will be discussed at the beginning of weekly subcontractor meetings. As each new subcontractor comes on-site, the WMP Coordinator will present him/her with a copy of the CWM Plan and provide a tour of the jobsite to identify materials to be salvaged and the procedures for handling jobsite debris. Each Subcontractor foremen will acknowledge in writing that they have read and will abide by the CWM Plan. Subcontractor Acknowledgement Sheet enclosed. The CWM Plan will be posted at the jobsite trailer.

5. Salvage: Excess materials that cannot be used in the project, nor returned to the vendor, will be offered to site workers, the owner, or donated to charity if feasible.

6. [HAULING COMPANY] will provide a commingled drop box at the jobsite for most of the construction waste. These commingled drop boxes will be taken to [Sorting Facility Name and Location]. The average diversion rate for commingled waste will be ____%. As site conditions permit, additional drop boxes will be used for particular phases of construction (e.g., concrete and wood waste) to ensure the highest waste diversion rate possible.

7. In the event that the waste diversion rate achievable via the strategy described in (6) above, is projected to be lower than what is required , then a strategy of source-separated waste diversion and/or waste stream reduction will be implemented. Source separated waste refers to jobsite waste that is not commingled but is instead allocated to a debris box designated for a single material type, such as clean wood or metal

Notes:
1. Waste stream reduction refers to efforts taken by the builder to reduce the amount of waste generated by the project to below four (4) pounds per square foot of building area.
2. When using waste stream reduction measures, the gross weight of the product is subtracted from a base weight of four (4) pounds per square foot of building area. This reduction is considered additional diversion and can be used in the waste reduction percentage calculations.

8. [HAULING COMPANY] will track and calculate the quantity (in tons) of all waste leaving the project and calculate the waste diversion rate for the project. [HAULING COMPANY] will provide Project Manager with an updated monthly report on gross weight hauled and the waste diversion rate being achieved on the project. [HAULING COMPANY's] monthly report will track separately the gross weights and diversion rates for commingled debris and for each source-separated waste stream leaving the project. In the event that [HAULING COMPANY] does not service any or all of the debris boxes on the project, the [HAULING COMPANY] will work with the responsible parties to track the material type and weight (in tons) in such debris boxes in order to determine waste diversion rates for these materials.

9. In the event that Subcontractors furnish their own debris boxes as part of their scope of work, such Subcontractors shall not be excluded from complying with the CWM Plan and will provide [HAULING COMPANY] weight and waste diversion data for their debris boxes.

10. In the event that site use constraints (such as limited space) restrict the number of debris boxes that can be used for collection of designated waste the project Superintendent will, as deemed appropriate, allocate specific areas onsite where individual material types are to be consolidated. These collection points are not to be contaminated with non-designated waste types.

11. Debris from jobsite office and meeting rooms will be collected by [DISPOSAL SERVICE COMPANY]. [DISPOSAL SERVICE COMPANY] will, at a minimum, recycle office paper, plastic, metal and cardboard.

CONSTRUCTION WASTE MANAGEMENT (CWM) WORKSHEET

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

DRAFT
CALGreen
Std. – BSC-5.4-X
7-16-10

Project Name: _____
Job Number: _____
Project Manager: _____
Waste Hauling Company: _____

Construction Waste Management (CWM) Plan

Waste Material Type	Diversion Method:		Projected Diversion Rate
	Commingled and Sorted Off-site	Source Separated Onsite	
Asphalt			
Concrete			
Shotcrete			
Metals			
Wood			
Rigid Insulation			
Fiberglass Insulation			
Acoustic Ceiling Tile			
Gypsum Drywall			
Carpet/Carpet Pad			
Plastic Pipe			
Plastic Buckets			
Plastic			
Hardiplank Siding and Boards			
Glass			
Cardboard			
Pallets			
Job office trash, paper, glass & plastic bottles, cans, plastic			
Alkaline and rechargeable batteries, toner cartridges, and electronic devices			
Other:			
Other:			
Other:			

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

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Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

CONSTRUCTION WASTE MANAGEMENT (CWM) ACKNOWLEDGMENT Note: This sample form may be used to assist in documenting compliance with the waste management plan. .	DRAFT CALGreen Std. – BSC-5.4-X 7-16-10

Project Name: ______________________
Job Number: ______________________
Project Manager: ______________________
Waste Hauling Company: ______________________

CWM Plan Acknowledgment

The Foreman for each new Subcontractor that comes on site is to receive a copy of the Construction Waste Management Plan and complete this Acknowledgement Form.

I have read the Waste Management Plan for the project; I understand the goals of this plan and agree to follow the procedures described in this plan.

Date	Subcontractor Company Name	Foreman Name	Signature

Contractor (Documentation Author's /Responsible Designer's Declaration Statement) • I certify that this Certificate of Compliance documentation is accurate and complete. • I certify that the features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 11 of the California Code of Regulations. • The design features identified on this Certificate of Compliance are consistent with the information documented on other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the permit application.	
Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

# CALGreen Compliance Template- Owner's Project Requirements (OPR)	**DRAFT CALGreen Std. BSC-5.4-X 10-08-10**

[The Owner's Project Requirements (OPR) is a step of commissioning required for compliance with the 2010 CALGREEN Code, section 5.410.2.1, for newly constructed buildings greater than 10,000 sq. ft. This template is a guide to collecting the information recommended for the OPR. The information should be developed by the project team in collaboration with the Owner.]

Owner and User Requirements

a) [Typically already covered in Project Scope as described in the building program. Includes primary purpose, program and use of project. May also describe future expansion needs, flexibility, quality of materials, construction and operation costs.]

Environmental and Sustainability Goals

a) Project shall meet performance requirements required by the owner.

b) Other Owner requirements: *[e.g. Owner priorities among CALGREEN Code or other areas]*

Energy Efficiency Goals

a) Project shall comply with Title 24 building energy efficiency standards, or achieve increased level of efficiency determined by owner.

b) Lighting systems offer cost effective energy savings potential, and lighting fixtures and/or controls shall be selected to exceed Title 24 minimum efficiency requirements by level determined by owner.

c) High efficiency HVAC equipment offers cost effective energy savings, and HVAC equipment shall be selected that exceeds Title 24 minimum efficiency requirements by level determined by owner.

d) Additional energy efficiency measures that provide cost effective energy savings shall be included wherever feasible.

e) Other Owner requirements: *[e.g. orientation, siting, daylighting, cool roof, natural ventilation, landscaping]*

Indoor Environmental Quality Requirements

a) Indoor lighting requirements: *[List any specific non-standard requirements. E.g. pendant-mounted lighting, illumination requirements, special applications.]*

b) Occupant lighting control requirements: *[List any non-standard requirements. E.g. multi-mode controls for assembly spaces]*

c) Thermal comfort requirements: *[List any non-standard temperature or humidity requirements]*

d) Ventilation and filtration requirements: *[List any non-standard requirements]*

e) Occupancy HVAC control requirements: *[List any non-standard requirements. E.g. integration with existing control systems]*

f) Acoustic environment requirements: *[List any non-standard requirements. E.g. local noise sources requiring mitigation, spaces such as classrooms that require low background noise and short reverberation times]*

g) Other Owner requirements: *[E.g. natural ventilation, operable windows, daylight, views]*

Equipment and Systems Expectations

a) Special HVAC equipment requirements: *[E.g. equipment type, quality, reliability, efficiency, control system type, preferred manufacturers, maintenance requirements]*

b) Unacceptable HVAC system types or equipment: *[List if applicable]*

c) Special lighting equipment requirements: *[E.g. list preferred lamp and ballast types that comply with Owner standards if applicable]*

d) Other system requirements:

Building Occupant and O&M Personnel Expectations

Day-to-day HVAC operation by: *[occupants, operating staff]*

Periodic HVAC maintenance performed by: *[building occupants, operating staff, service company, Owner staff, other]*

Lighting system maintenance will be performed by: *[building occupants, operating staff, service company, Owner staff, other]*

Training required for building occupants: *[e.g. demonstration, instruction documents]*

Training required for operating and maintenance staff: *[e.g. demonstration, classroom training, instruction documents]*

Other Owner requirements:

CALGreen Compliance Form- Owner's Project Requirements (OPR)	DRAFT CALGreen Std. BSC-5.4-X 10-08-10

The following form may be required to be printed on the permit set of construction drawings or submitted separately. Italicized text indicates direct or partial quotes from the CALGreen Code.

CALGreen Commissioning Requirement 5.410.2.1-Owner's Project Requirements (OPR)

1. Owner's Project Requirements (OPR). The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. The OPR includes the checked elements listed below and have been approved by the Owner or Owner Representative.

	OPR Elements	**Included**
1.	Environmental and Sustainability Goals.	☐
2.	Energy Efficiency Goals.	☐
3.	Indoor Environmental Quality Requirements.	☐
4.	Project program, including facility functions and hours of operation, and need for after hours operation.	☐
5.	Equipment and Systems Expectations.	☐
6.	Building Occupant and O&M Personnel Expectations.	☐

_____ _____

Owner / Owner Representative Signature Date

CALGreen Compliance Template- Basis of Design (BOD)	DRAFT CALGreen Std. BSC-5.4-X 10-08-10

[Documentation of the Basis of Design (BOD) is a step required for compliance with 2010 CALGREEN Code, section 5.410.2.1, for newly constructed buildings greater than 10,000 sq. ft. This template is a guide for use by the design team.]

1. HVAC System

1.1. Narrative Description of System

A. [System type(s), location, control type, efficiency features, outdoor air ventilation strategy, indoor air quality features, noise reduction features, environmental benefits, other special features]

B. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

1.2. Reasons for System Selection

A. [Reasons that the selected system is a better choice than alternatives. E.g. comfort performance, efficiency, reliability, flexibility, simplicity, cost, owner preferences, site constraints, climate, availability of maintenance, acoustics]

1.3. Load Calculations

A. Load calculation method/software: _____

B. Summer outdoor design conditions: __°F drybulb, __°F wetbulb

C. Winter outdoor design conditions: __°F drybulb

D. Indoor design conditions: __°F, __%RH cooling; __°F heating

E. Internal heat gain assumptions:

Space	Lighting Load	Plug Load	Occupant Load	Infiltration Load	Other:

F. Calculated cooling loads and system size:

System/ Air Handler ID	Calculated Peak Cooling Load	Selected System Cooling Capacity	Reasons for difference between calculated load and selected system capacity

G. Other load calculation assumptions:

1.4. Sequence of Operations

A. [Operating schedules, setpoints, etc. May refer to plans and/or specifications if sequence of operations is included there.]

2. Indoor Lighting System

2.1. Narrative Description of System

A. Fixture type(s)

B. Lamp and ballast type

C. Control type

D. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

A. **Reasons for System Selection**

B. [Reasons that the selected lighting system is a better choice than alternatives. E.g. visual comfort performance, efficiency, reliability, flexibility, simplicity, cost, owner preferences, color rendering, integration with daylighting, ease of maintenance, etc.]

2.2. Lighting Design Criteria

Space ID	Space Type	Illumination Design Target (footcandles)	Source of Target (e.g. IES Standard, Owner Requirement)	Other Lighting Design Criteria: [e.g. CRI, CCT]

2.3. Lighting Power Design Targets

Space Type	Title 24 Lighting Power Allowance (watts/ft^2)	Lighting Power Design Target (watts/ft^2)

3. Water Heating System

3.1. Narrative Description of System

A. [System type(s), location, control type, efficiency features, environmental benefits, other special features]

B. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

3.2. Reasons for System Selection

A. [Reasons that the selected water heating system is a better choice than alternatives. E.g. performance, efficiency, reliability, simplicity, space constraints, cost, owner preferences, ease of maintenance, utility company incentives, etc.]

3.3. Water Heating Load Calculations

A. [Describe sizing calculation method, assumptions, and results]

4. Renewable Energy Systems

4.1. Narrative Description of System

A. [System type(s), location, inverter type, control type, performance, efficiency, energy savings, payback period]

B. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

4.2. Reasons for System Selection

A. [Reasons that the selected renewable energy systems are a better choice than alternatives. E.g. performance, efficiency, reliability, flexibility, simplicity, expandability, cost, payback period, utility company incentives, owner preference, space constraints, cost, owner preferences, ease of maintenance, etc.]

4.3. Renewable Energy System Generation Calculations

A. [Describe sizing calculation method, assumptions, and results]

5. Landscape Irrigation Systems

5.1. Narrative Description of System

A. [System type(s), location, control type, performance, efficiency, water savings]

B. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

5.2. Reasons for System Selection

A. [Reasons that the selected landscape irrigation systems are a better choice than alternatives. E.g. performance, efficiency, reliability, flexibility, simplicity, expandability, cost, payback period, utility company incentives, owner preference, cost, owner preferences, ease of maintenance, etc.]

5.3. Landscape Irrigation System Calculations

A. [Describe sizing calculation method, assumptions, and results]

6. Water Reuse Systems

6.1. Narrative Description of System

A. [System type(s), location, space requirements, equipment requirements, control type, performance, efficiency, potable water savings, payback period]

B. [Describe how system meets any special requirements listed in the Owner's Project Requirements document.]

6.2. Reasons for System Selection

A. [Reasons that the selected water reuse systems are a better choice than alternatives. E.g. performance, efficiency, reliability, flexibility, simplicity, expandability, cost, payback period, utility company incentives, owner preference, space constraints, cost, owner preferences, ease of maintenance, etc.]

6.3. Water Reuse System Calculations

[Describe sizing calculation method, assumptions, and results]

CALGreen Compliance Form- **Commissioning Measures in the Construction Documents**	**DRAFT** **CALGreen** **Std. BSC-5.4-X** **10-08-10**

The following form may be required to be printed on the permit set of construction drawings or submitted separately. Italicized text indicates direct or partial quotes from the CALGreen Code.

CALGreen Commissioning Requirement 5.410.2-Commissioning Measures in the Construction Documents

5.410.2. Commissioning measures shall be shown in the construction documents. The commissioning measures shown in the construction documents include the checked elements listed below and have been approved by the Owner, Owner Representative or Designer of record.

	Commissioning Measure Elements	**Included**
1.	Measures shown in the specifications and cross referenced	☐
2.	List of commissioned equipment and systems	☐
3.	Cx roles and responsibilities of all parties	☐
4.	Meeting requirements	☐
5.	Commissioning schedule management procedures	☐
6.	Procedures for addressing outstanding issues or non-compliance	☐
7.	Requirements for execution and documentation of installation and equipment start up	☐
8.	Specific testing requirements for each system type1	☐
9.	Submittal review and approval requirements	☐
10.	Contents and approval process of the commissioning plan	☐
11.	Cx documentation and reporting requirements	☐
12.	Facility staff training requirements and verification procedures	☐
13.	O&M manual review and approval procedures	☐
14.	Systems manual development and approval procedures	☐
15.	Definitions	☐

1These are not the detailed step-by-step test procedures, but are lists of features, elements, modes and conditions of tests for specific equipment.

_____ _____

Owner / Owner Representative or Designer of Record Signature

Date

CALGreen Compliance Form- **Commissioning Plan**	**DRAFT** **CALGreen** **Std. BSC-5.4-X** **10-08-10**

The following form may be required to be printed on the permit set of construction drawings or submitted separately. Italicized text indicates direct or partial quotes from the CALGreen Code.

CALGreen Commissioning Requirement 5.410.2.3-Commissioning Plan

5.410.2.3 Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned and shall be started during the design phase of the building project. The commissioning plan includes the checked elements listed below and has been approved by the Owner or Owner Representative.

	Commissioning Plan Elements	**Included**
1.	General project information	☐
2.	Commissioning goals	☐
4.	An explanation of original design intent	☐
5.	Equipment and systems to be commissioned and tested, including extent of tests	☐
6.	Functions to be tested and conditions of tests1	☐
7.	Measurable performance criteria	☐
8.	Cx team information	☐
9.	Cx activities, schedules and responsibilities	☐

1These are not the detailed step-by-step test procedures, but are lists of features, elements, modes and conditions of tests for specific equipment.

_____ _____

Owner / Owner Representative Signature Date

CALGreen Compliance Form- **Functional Performance Testing**	**DRAFT** **CALGreen** **Std. BSC-5.4-X** **10-08-10**

Italicized text indicates direct or partial quotes from the CALGreen Code.

CALGreen Commissioning Requirement 5.410.2.4-Functional Performance Testing

5.410.2.4 Functional performance tests shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made. Test forms have been developed for each piece of commissioned equipment and system and include the checked elements listed below. These tests have been executed with deficiencies corrected.

	Functional Test Elements	**Included**
1.	Date and parties participating	☐
2.	Signature block attesting test is complete and accurate	☐
3.	Prerequisites	☐
4.	Precautions	☐
5.	Instrumentation required	☐
6.	Reference to the source of what is being confirmed (sequences, packaged features, etc.)	☐
7.	Detailed step-by-step test instructions	☐
8.	Acceptance criteria	☐
9.	Results	☐
10.	Confirmation of returning to normal	☐
11.	Deficiency list	☐

_____ _____

Cx Coordinator Signature Date

CALGreen Compliance Form- **Systems Manual**	**DRAFT** **CALGreen** **Std. BSC-5.4-X** **10-08-10**

Italicized text indicates direct or partial quotes from the CALGreen Code.

CALGreen Commissioning Requirement 5.410.2.5.1 Documentation and Training-Systems Manual

5.410.2.5.1 Systems Manual. Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner or representative and facilities operator. The Systems Manual includes the checked elements listed below.

	System Manual Elements	**Included**
1.	Site information including facility description, history and current requirements	☐
2.	Site contact information	☐
3.	Basic operations and maintenance and troubleshooting	☐
4.	Systems covered include major systems listed under the BOD.	☐
5.	Site equipment inventory and maintenance notes	☐
6.	Special inspection verifications	☐
7.	Other resources and documentation	☐

_____ _____

Owner or Owner Representative Signature Date

CALGreen Compliance Form- **Training**	**DRAFT** **CALGreen** **Std. BSC-5.4-X** **10-08-10**

Italicized text indicates direct or partial quotes from the CALGreen Code.

CALGreen Commissioning Requirement 5.410.2.5.2 Documentation and Training-Training

5.410.2.5.2 Systems Operations Training. The training of the appropriate maintenance staff for each equipment type and/or system shall be documented in the commissioning report. The written training program includes the checked elements listed below.

	Training Program Elements	**Included**
1.	System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces)	☐
2.	Review and demonstration of servicing & preventive maintenance	☐
3.	Review of the information in the Systems Manual	☐
4.	Review of the record drawings on the system/equipment	☐

The Owner or Owner Representative attest that when the appropriate maintenance staff are made available prior to certificate of occupancy that the written training program was executed with these staff. Or, that if appropriate maintenance staff are not available, that the written training program was submitted and approved by the Owner or Owner Representative.

_____ _____

Owner or Owner Representative Signature Date

CALGreen Compliance Form- **Commissioning Report**	**DRAFT** **CALGreen** **Std. BSC-5.4-X** **10-08-10**

Italicized text indicates direct or partial quotes from the CALGreen Code.

CALGreen Commissioning Requirement 5.410.2.6-Commissioning Report

5.410.2.6 Commissioning Report. A complete report of commissioning process activities undertaken through the design, construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner or representative. The commissioning report includes the checked elements listed below and has been approved by the Owner or Owner Representative.

	Commissioning Report Elements	**Included**
1.	Executive summary with conclusions and outstanding issues	☐
2.	History of system deficiencies and resolution	☐
3.	Summary of system functional test results	☐
4.	Summary of training completion	☐
5.	Attachments of Commissioning plan, OPR, BOD, executed (filled in) installation checklists, executed functional tests, recommendations for end-of-warranty review	☐

_____ _____

Owner / Owner Representative Signature Date

FINISH MATERIAL CERTIFICATE – ADHESIVES & SEALANTS	DRAFT CALGreen Std. BSC-5.5-X 7-16-10

FINISH	WHERE USED (TYPE)	MANUFACTURER	VOC LIMIT (GPL)[1,2]	SUB-CONTR. INITIAL
ADHESIVES				
Indoor carpet adhesives			50	
Carpet pad adhesives			50	
Outdoor carpet adhesives			150	
Wood flooring adhesives			100	
Rubber floor adhesives			60	
Subfloor adhesives			50	
Ceramic tile adhesives			65	
VCT and asphalt tile adhesives			50	
Drywall & panel adhesives	Wall Surface		50	
Cove base adhesives	Floor Base		50	
Multi-purpose construction adhesives	Varies		70	
Structural glazing adhesives	Glazing		100	
Single-ply adhesives	Roof		250	
Other adhesive not specifically listed			50	
SPECIALTY APPLICATIONS				
PVC welding			510	
CPVC welding			490	
ABS welding			325	
Plastic cement welding			250	
Adhesive primer for plastic			550	

Contact adhesive			80	
Special purpose contact			250	
Structural wood member			140	
Top and trim adhesive			250	
SUBSTRAIGHT SPECIFIC APPLICATION				
Metal to metal			30	
Plastic foams / porous material			50	
Wood			30	
Fiberglass			80	
SEALANTS & CAULKS				
Architectural			250	
Marine deck			760	
Nonmembrane roof			300	
Roadway			250	
Single-ply roof membrane			450	
Other			420	
SEALANT PRIMERS				
Architectural nonporous porous			250 775	
Modified bituminous			500	
Marine deck			760	
Other			750	

1. (GPL) = Grams per liter

2. Where no local or regional air pollution control or quality management district rules are applicable, use the VOC limits in this table.

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

- I certify that this Certificate of Compliance documentation is accurate and complete.
- I certify that the features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 11 of the California Code of Regulations.
- The design features identified on this Certificate of Compliance are consistent with the information documented on other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the permit application.

Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

FINISH MATERIAL CERTIFICATE – ARCHITECTURAL COATINGS	DRAFT CALGreen Std. BSC-5.5-X 7-16-10

FINISH	WHERE USED (TYPE)	MANUFACTURER	VOC LIMIT (GPL)[1]	SUB-CONTR. INITIAL
PAINTS & COATINGS				
Flat coatings			50	
Nonflatlat coatings			100	
Nonflat high gloass coatings			150	
Specialty coatings				
Aluminum roof coatings			400	
Basement specialty coatings			400	
Bituminous roof coatings			50	
Bituminous roof primers			350	
Bond breakers			350	
Concrete curing compounds			350	
Concrete/masonry sealers			100	
Driveway sealers			50	
Dry fog coatings			150	
Faux finishing coatings			350	
Fire resistive coatings			350	
Floor coverings			100	
Form-release compounds			250	
Graphic arts coatings (sign paints)			500	
High-temperature coatings			420	
Industrial maintenance coatings			250	
Low solids coatings[2]			120	
Magnesite cement coatings			450	
Mastic texture coatings			100	
Metallic pigmented coatings			500	

Multicolor coatings			250	
Pretreatment wash primers			420	
Primers, sealers and undercoaters			100	
Reactive penetrating sealers			350	
Recycled coatings			250	
Roof coatings			50	
Rust preventative coatings			400/250[3]	
Shellacs: Clear Opaque			 730 550	
Specialty primers, sealers and undercoaters			350/100[3]	
Stains			250	
Stone consolidants			450	
Swimming pool coatings			340	
Traffic marking coatings			100	
Tub and tile refinish coatings			420	
Waterproofing membranes			250	
Wood coatings			275	
Wood preservatives			350	
Zinc-rich primers			340	

1. (GPL) = Grams per liter of coating
2. Grams of VOC per liter of coating, including water and including exempt compounds.
3. Effective on January 1, 2012

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

- I certify that this Certificate of Compliance documentation is accurate and complete.
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- The design features identified on this Certificate of Compliance are consistent with the information documented on other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the permit application.

Signature:	
Company:	Date:

Address:	License:
City/State/Zip:	Phone:

FINISH MATERIAL CERTIFICATE – COMPOSITE WOOD PRODUCTS	DRAFT CALGreen Std. BSC-5.5-X 7-16-10

FINISH	FORMALDEHYDE LIMITS[1] (Max. emissions in Parts per Million)	Effective JAN. 1, 2012	Effective JUL. 1, 2012	SUB-CONTR. INITIAL
Composite wood products				
Hardwood plywood veneer core	0.05			
Hardwood plywood composite core	0.08		0.05	
Particle board	0.09			
Medium density fiberboard	0.11			
Thin medium density fiberboard[2]	0.21	0.13		

1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333-96 (2002). For additional information, see *California Code of Regulations,* Title 17, Sections 93120 through 93120.12.

2. Thin medium density fiberboard has a maximum thickness of eight millimeters.

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

- I certify that this Certificate of Compliance documentation is accurate and complete.
- I certify that the features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 11 of the California Code of Regulations.
- The design features identified on this Certificate of Compliance are consistent with the information documented on other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the permit application.

Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

FINISH MATERIAL CERTIFICATE – FLOORING **(CARPET, CARPET CUSHION & RESILIENT)**	**DRAFT** **CALGreen** **Std. BSC-5.5-X** **7-16-10**

FINISH	MANUFACTURER	CERTIFICATION ORGANIZATION	SUB-CONTR. INITIAL
FLOORING			
Carpet 1		Carpet and Rug Institute – Green Label Plus Program	
		Specification 01350	
		NSF/ANSI 140 – Gold	
		Scientific Certification Systems – Sustainable Choice	
Carpet 2		Carpet and Rug Institute – Green Label Plus Program	
		Specification 01350	
		NSF/ANSI 140 – Gold	
		Scientific Certification Systems – Sustainable Choice	
Carpet cushion 1		Carpet and Rug Institute – Green Label Plus Program	
Carpet cushion 2		Carpet and Rug Institute – Green Label Plus Program	
Resilient flooring 1		CHPS Product Registry	
		RFCI – Floor Score Program	
		Greenguard Children & Schools	

Resilient flooring 2		CHPS Product Registry	
		RFCI – Floor Score Program	
		Greenguard Children & Schools	

Contractor (Documentation Author's /Responsible Designer's Declaration Statement)

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- I certify that the features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 11 of the California Code of Regulations.
- The design features identified on this Certificate of Compliance are consistent with the information documented on other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the permit application.

Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

Appendix A: Commissioning Project Sample(s) and Additional Forms and Templates

This appendix is supplemental to the Guide to the California Green Building Standards Code – Non-Residential (Commissioning), and is intended to provide additional resources for commissioning.

1. Commissioning sample project(s):
   http://www.documents.dgs.ca.gov/bsc/CALGreen/CX-SAMPLE-PROJECT.pdf

2. Commissioning sample Performance and Functional Testing (FPT) Template:
   http://www.documents.dgs.ca.gov/bsc/CALGreen/FPT-SAMPLE- TEMPLATE.pdf

Appendix B: Additional Commissioning Resources

This appendix is supplemental to the Guide to the California Green Building Standards Code – Non-Residential (Commissioning), and is intended to provide additional resources for commissioning.

Building Commissioning Cost Benefit Assessment report by the Lawrence Berkeley National Laboratory
http://cx.lbl.gov/2009-assessment.html

California Commissioning Collaborative
http://cacx.org