NONRESIDENTIAL

2010 CALGreen+Tier 1 Checklist

Effective for Building Permit Applications Received after March 1, 2012

(Applies to newly constructed nonresidential buildings without sleeping accommodations. **Additions, alterations, repairs and existing structures are not subject to the requirements of CALGreen.**)

APPENDIX A5 – A5.7

(Revised per City of Santa Rosa Requirements - Based on CALGreen + Tier 1)

Project Address: _____

Project Name: _____

Project Description: _____

Instructions:

1. The Owner or the Owner's agent shall employ a qualified Green Building Special Inspector, listed by the City of Santa Rosa Building Division, to perform Green Building Special Inspector services and to verify and assure the Owner and the Building Division that all required work described herein is properly planned and implemented in the project.
2. The Green Building Special Inspector shall not be the design professional or contractor for the project and shall not have a financial interest in the project for which services are being provided except for the cost of providing said services.
3. The Green Building Special Inspector, in collaboration with the owner and the design professional shall initially complete **Columns 1 and 2** of this checklist, sign and date the **CALGreen Building Acknowledgements** section at the end of this checklist and have the checklist printed on or attached to the approved plans for the project.
4. Unless verification is by City is noted, prior to final inspection by the Building Division, CALGreen Building Special Inspector shall complete **Column 3** and shall provide verification of completion prior to final inspection by City staff.

Feature or Measure	**Project Requirements**		**Verification**
Column 1	**Column 2** *When checked, these items become a part of the approved plans and must be installed or incorporated into the project.*		**Column 3** *Complete after implementation and prior to final inspection approval*
See Chapter 5 and Appendix A5 of the 2010 California Green Building Code and Santa Rosa City Code Chapter 18 for complete descriptions of features or measures listed here.	**Mandatory & Tier 1 Prerequisites**	**Tier 1 electives** *Applicant selects required elective measures*	**Verification by a 3rd party CALGreen Special Inspector or by City staff as noted**
A5.1 PLANNING AND DESIGN	***All checked items are required for the project***	***Select at least one (1) elective measure from A5.1***	***Select all measures verified in the completed project***
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. : **(Support documentation required at application submittal)**		☐	***Special Inspector*** ☐
A5.103.2 Brownfield or greyfield site redevelopment or infill area development. Select for development a brownfield in accordance with Section		☐	City Plan Check staff ☐

Feature or Measure	Project Requirements		Verification
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 percent. **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 percent of the total project site area.		☐ ☐ ☐	***Special Inspector*** ☐ ☐ ☐
DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES			
A5.105.1.1 Existing building structure. Maintain at least 75percent of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing) based on surface area. : **(Support documentation required at application submittal)** **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 percent 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.		☐ ☐ ☐	***Special Inspector*** ☐ ☐ ☐
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 sedimentation, and/or of dust/particulate matter air pollution.	☒		City Plan Check staff ☐
Description of proposed measures:	*Sheet:*	*Detail:*	
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 percent impervious, implement a storm water management plan resulting in a 25 percent		☐ ☐	City Plan Check staff ☐ ☐ City Plan Check staff

Feature or Measure	Project Requirements		Verification
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).		☐	☐
Description of proposed measures:		*Sheet:* *Detail:*	
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.		☐	***Special Inspector*** ☐
1. Bioretention (rain gardens);		☐	☐
2. Cisterns and rain barrels;		☐	☐
3. Green roofs;		☐	☐
4. Roof leader disconnection;		☐	☐
5. Permeable and porous paving;		☐	☐
6. Vegetative swales and filter strips & tree preservation;		☐	☐
7. Volume retention suitable for previously developed sites.		☐	☐
Description of proposed measures:		*Sheet:* *Detail:*	
5.106.4 Bicycle parking and changing rooms (or comply with local ordinance).			***Special Inspector***
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 percent 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 percent of motorized vehicle parking capacity, with a minimum of one space.	☒		☐
Description of proposed measures:		*Sheet:* *Detail:*	
5.106.4.3 Changing rooms. For buildings with over 10 tenant-occupants, provide changing/shower facilities in accordance with Table 5.106.4.3, or document arrangements with nearby changing/shower facilities.		☐	***Special Inspector*** ☐
Description of proposed measures:		*Sheet:* *Detail:*	
A5.106.5.1 Designated parking for fuel-efficient vehicles. 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 (up to 10 percent of total spaces). (Tier 1) Note: Supersedes 5.106.5.2	☒		***Special Inspector*** ☐
5.106.5.2.1 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	☒		☐

Feature or Measure	Project Requirements		Verification
Description of proposed measures:	*Sheet:* *Detail:*		
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.		☐	***Special Inspector*** ☐
A5.106.6 Parking capacity. Design parking capacity to meet but not exceed minimum local zoning requirements. : **(Support documentation required at application submittal)** **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.		☐ ☐	***Special Inspector*** ☐ ☐
5.106.7 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 SRI 25 (aged), for 75 percent of opaque wall areas.		☐ ☐	***Special Inspector*** ☐ ☐
5.106.8 Light pollution reduction. Outdoor lighting systems shall be designed and installed to comply with the following: 1. The minimum requirements of the 2010 California Energy Code for Lighting Zone 2 as defined in Chapter 10 of the California Administrative Code; and 2. Backlight, Uplight and Glare (BUG) ratings as defined in IESNA TM-15-106-07; and 3. Allowable BUG ratings not exceeding those shown in Table A5106.8 **Exceptions:** 1. Luminaires that qualify as exceptions in the California Energy Code 2. Emergency lighting Note: See CBC, Section 1205.6, for college campus lighting requirements for parking facilities and walkways.		☐ ☐ ☐	***Special Inspector*** ☐ ☐ ☐
Description of proposed measures:	*Sheet:* *Detail:*		
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.		☐ ☐	***Special Inspector*** ☐ ☐
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.	☒		***Special Inspector*** ☐
Description of proposed measures:	*Sheet:* *Detail:*		
A5.106.11 Heat island effect. Reduce non-roof heat islands, and roof heat islands as follows:			***Special Inspector***

Feature or Measure	Project Requirements		Verification
A5.106.11.1 Hardscape alternatives. Use <u>one</u> or a combination of strategies 1 through 3 for 50 percent of site hardscape <u>or</u> put 50 percent 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 a Solar Reflectance Index (SRI)[3] equal to or greater than the values shown in Table A5.106.11.2.1 - Tier 1. : **(Support documentation required at application submittal)**	☒		☐
A5.2 ENERGY EFFICIENCY	***All checked items are required for the project***	***No elective measures required from A5.2***	***Select all measures verified in the completed project***
PERFORMANCE REQUIREMENTS			
A5.203.1 Energy performance. Use at least 15 percent less Time-Dependent Valuation (TDV) Energy than the 2008 Title 24 Building Energy Efficiency Standards "budget" building. No calculations are required to demonstrate any specified reduction in CO2 emissions. (Tier 1).	☒		City Bldg Inspector ☐ May require HERS
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.		☐	***Special Inspector*** ☐
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. : **(Support documentation required at application submittal)**		☐	***Special Inspector*** ☐
A5.201.2.1 Data Storage. The data management\s 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. : **(Support documentation required at application submittal)**		☐	***Special Inspector*** ☐
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 percent 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 percent of the electrical service overcurrent protection device rating calculated in accordance with the 2010 California Electrical Code, or 1KW, whichever is greater, in addition to the electrical demand required to meet 1 percent of natural		☐	***Special Inspector*** ☐

Feature or Measure	Project Requirements		Verification
gas and propane use calculated in accordance with the 2010 California Plumbing Code. : **(Support documentation required at application submittal)** **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 percent 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 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. : **(Support documentation required at application submittal)**		☐	***Special Inspector*** ☐
ENERGY EFFICIENT STEEL FRAMING			
A5.213.1 Steel framing. Design for and employ techniques to avoid thermal bridging.		☐	***Special Inspector*** ☐
Description of proposed measures:	*Sheet:*	*Detail:*	

A5.3 **WATER EFFICIENCY AND CONSERVATION**	***All checked items are required for the project***	***Select at least one (1) elective measure from A5.3***	***Select all measures verified in the completed project***
INDOOR WATER USE			
5.303.1 Meters. Separate meters shall be installed for the uses described in Sections 503.1.1 and 503.1.2. **5.303.1.1 For 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 **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.	☒ ☒ ☒		***Special Inspector*** ☐ ☐ ☐
Description of proposed measures:	*Sheet:*	*Detail:*	
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 of the showerheads shall not exceed the maximum flow rates specified in the 20 percent reduction column contained in table 5.303.2.3 or the shower shall be	☒		***Special Inspector*** ☐

Feature or Measure	Project Requirements		Verification
designed to only allow one showerhead to be in operation at a time/			
A5.303.2.3.1 30% water savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30 percent shall be provided. (Tier 1) (Calculate savings by Water Use Worksheets – WS-1 and WS-3.) **(Support documentation required at application submittal)** Note: This section supersedes Section 503.2 **A5.303.2.3.2 35% water savings.** A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 35 percent shall be provided. A calculation demonstrating a 35% reduction in the building "water use baseline" as established in Table A5.303.2.2 shall be provided. **(Support documentation required at application submittal)** **A5.303.2.3.3 40% water savings.** A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 40 percent shall be provided. A calculation demonstrating a 40% reduction in the building "water use baseline" as established in Table A5.303.2.2 shall be provided. **(Support documentation required at application submittal)**	☒ ☐ ☐		***Special Inspector*** ☐ ☐ ☐
5.303.4 Wastewater reduction. Each building shall reduce the generation of wastewater by <u>one</u> of the following methods: ☐ The installation of water-conserving fixtures; or ☐ Utilizing non-potable water systems	As applicable ☒ ☒		***Special Inspector*** ☐ ☐
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.		☐ ☐ ☐ ☐ ☐	***Special Inspector*** ☐ ☐ ☐ ☐ ☐
A5.303.5 Dual plumbing. New buildings and facilities shall be dual plumbed for potable and recycled water systems.		☐	***Special Inspector*** ☐
Description of proposed measures:	*Sheet:* *Detail:*		
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 ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒		***Special Inspector*** ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Feature or Measure	Project Requirements		Verification
OUTDOOR WATER USE **See City of Santa Rosa Water Efficient Landscape Ordinance Requirements** **(Note: City WELO Complies with Tier I & Mandatory Requirements)**			**All verification by City Water Efficient Landscape Ordinance Staff**
5.304.1 Water budget. A water budget shall be developed for landscape irrigation use in accordance with Chapter 14.30 of the Santa Rosa City Code – Water Efficient Landscape.	☒		☐
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.[1]	☒		☐
5.304.3 Irrigation design. In new nonresidential projects with between 1000 and 2500 square feet of landscaped area, 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. or 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.	☒ or ☒		☐ or ☐
A5.304.4.1 Potable water reduction. Provide water efficient landscape irrigation design that reduces by the use of potable water to a quantity that does not exceed 60 percent of ETo times the landscape area. (Tier 1) 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 50percent 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.		☐	☐

Feature or Measure	Project Requirements		Verification
A5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY	***All checked items are required for the project***	***Select at least one (1) elective measure from A5.4***	***Select all measures verified in the completed project***
EFFICIENT FRAMING SYSTEMS			
A5.404.1 Wood framing. Employ advanced wood framing techniques, or OVE, as permitted by the enforcing agency.		☐	***Special Inspector*** ☐
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.		☐	***Special Inspector*** ☐
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 Use 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 percent of total materials value, based on estimated cost.		☐ ☐	***Special Inspector*** ☐ ☐
A5.405.3 Reused materials. Use salvaged, refurbished, refinished, or reused materials for at least 5percent of the total value, based on estimated cost of materials on the project.		☐	***Special Inspector*** ☐
A5.405.4 Recycled content. Use materials, equivalent in performance to virgin materials, with postconsumer or preconsumer 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 the respective values.	☒		***Special Inspector*** ☐
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 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.		☐ ☐ ☐ ☐	***Special Inspector*** ☐ ***Special Inspector*** ☐ ***Special Inspector*** ☐
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			***Special Inspector***

Feature or Measure	Project Requirements		Verification
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			
			Special Inspector
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 2010 California Building Code Section 1403.2 and 2010 California Energy Code Section 150, manufacturer's installation instructions, or local ordinance, whichever is more stringent.	☒		City Bldg Inspector ☐
5.407.2 Moisture control. Employ moisture control measures by the following methods;			***Special Inspector***
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.	☒		City Plan Check Staff ☐
5.408.2 Construction waste management plan. Submit plan per this section to enforcement authority. **(Support documentation required at application submittal) Note: May be deferred submittal prior to permit issuance.**	☒		City Plan Check Staff ☐
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.	☒		☐
A5.408.31 Enhanced Construction waste. Recycle and/or salvage for reuse a			***Special Inspector***

Feature or Measure	Project Requirements		Verification
minimum of 65 percent of non-hazardous construction and demolition debris or meet local ordinance, whichever is more stringent. (Tier 1) **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. **A5.408.3.1.1 Verification of compliance.** A copy of the completed waste management report shall be provided to the Building Department.	☒ ☒		☐ ☐
5.408.4 Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.	☒		*Special Inspector* ☐
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.		☐	*Special Inspector* ☐
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.	☒		*Special Inspector* ☐
Description of proposed measures:	*Sheet:*	*Detail:*	
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 as a minimum 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 A5.410.4. **(Support documentation required at application submittal)** **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. **(Support documentation required at application submittal)** **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 as a minimum items listed in 5.410.2.3. **(Support documentation required at application submittal)** **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, including OSHA in the Cal. Code of Regulations, is required . **5.410.2.5.1 Systems manual.** The Systems Manual shall be delivered to the building owner or representative and the 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.	☒ ☒ ☒ ☒ ☒ ☒ ☒		*Special Inspector* ☐ ☐ ☐ ☐ *Special Inspector* ☐ ☐ ☐ ☐

Feature or Measure	Project Requirements		Verification
5.410.2.6 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 or owner's representative.			
5.410.4 Testing, adjusting and balancing. Testing, adjusting and balancing of systems shall be required for buildings less than 10,000 square feet.			*Special Inspector*
5.410.4.2 Systems. Develop a written plan of procedures for testing, adjusting and balancing systems. Systems to be included for testing, adjusting and balancing shall include at a minimum, as applicable to the project, the systems listed in 5.410.3.2. **(Support documentation required at application submittal)**	☒		☐
5.410.4.3 Procedures. Perform testing, adjusting and balancing procedures in accordance with industry best practices and applicable national standards on each system.	☒		☐
5.410.4.3.1 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.	☒		☐
5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.	☒		☐
5.410.4.5 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.	☒		☐
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verification and reports to the enforcing agency.	☒		☐
A5.5 ENVIRONMENTAL QUALITY	*All checked items are required for the project*	*Select at least one (1) elective measure from A5.5*	*Select all measures verified in the completed project*
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 2010California Energy Code, Title 24, Part 6, Subchapter 7, Section 150.	☒		*Special Inspector* ☐
5.503.1.1 Woodstoves. Woodstoves shall comply with US EPA Phase II emission limits.	☒		☐
POLLUTANT CONTROL			*All verification by Special Inspector*
A5.504.1 Indoor air quality (IAQ) during construction. Maintain IAQ as provided in Sections A5.504.1.1 and A5.504.1.2.		☐	☐
A5.504.1.1 Temporary ventilation. Provide temporary ventilation during construction in accordance with Section 121 of the 2010 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.		☐	☐
A5.504.1.2 Additional IAQ measures. Employ additional measures as listed in Items 1 through 5 in A5.504.1.3:			
5.504.2 IAQ post-construction. Flush out the building per Section 5.504.2 prior to occupancy or if the building is occupied.		☐	☐
A5.504.2.1 IAQ Testing. A testing alternative may be employed after all			

Feature or Measure	Project Requirements		Verification
interior finishes have been installed, using testing protocols recognized by the United States Environmental Protection Agency (U.S. EPA) and in accordance with Section A5.504.2.1.2. Retest as required in Section 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 ($-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 Noncomplying 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		☐	☐
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 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 5.504.4.3.	☒		☐
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 as requested by 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	☒		☐

Feature or Measure	Project Requirements		Verification
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 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.	As applicable		
1. Product certifications and specifications.	☒		☐
2. Chain of custody certifications.	☒		☐
3. Other methods acceptable to the enforcing agency.	☒		☐
A5.504.4.7 Resilient flooring systems. For 80 percent 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 certified under the FloorScore program of the Resilient Floor Covering Institute. (Tier 1) (Supersedes Section 5.504.6)	☒		☐
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. 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. (Tier 1)	☒		☐
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. (Tier 1)		☐	☐
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.		☐	☐
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			

Feature or Measure	Project Requirements		Verification
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 2010 California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.	☒		☐
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 2010 California Energy Code, CCR, Title 24, Part 6 and Chapter 4 of CCR, Title 8, or the applicable local code, whichever is more stringent.	☒		☐
5.506.2 Carbon dioxide (CO2) monitoring. For buildings equipped with demand control ventilation, CO2 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).	☒		☐
Description of proposed measures:	*Sheet:*	*Detail:*	
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 2010 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 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 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.		☐	☐
Description of proposed measures:	*Sheet:*	*Detail:*	
A5.507.2 Daylight. Provide daylit spaces as required for toplighting and sidelighting in the 2010 California Energy Code. In constructing a design, consider Items 1 through 4 in A5.507.3.		☐	☐
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.		☐	☐
A5.507.3.1 Interior office spaces. Entire areas of interior office spaces may be included in the calculation if at least 75percent of each area has direct line		☐	☐

Feature or Measure	Project Requirements		Verification
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.		☐	☐
Description of proposed measures:	*Sheet:* *Detail:*		
5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E90 and ASTM E413. . **(Support documentation required at application submittal)**			
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.	As applicable		
5.508.1.1 CFCs. Install HVAC and refrigeration equipment that does not contain CFCs.	☒		☐
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.		☐	☐
ADDITIONAL ELECTIVE MEASURE			
A5.601.2.4.5 Additional elective measure. Pursuant to Tier 1 requirements, select one additional Tier 1 elective measure from any division. The total number of boxes checked under the Tier 1 electives in Column 2 must be 5 or more**.**	☒	*Total elective measures checked*	☐

INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS	*All checked items are required for the project*		*Select all measures verified in the completed project*
Qualifications			
702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	☒		***Special Inspector*** ☐
702.2 The green building special inspector for this project is listed by the City of Santa Rosa as an approved green building special inspector and is qualified and able to demonstrate competence in the discipline they inspect and verify.	☒		City Plan Check Staff ☐

Green Building Acknowledgments

Project Address: _____

Project Description: _____

Section 1 - Design Verification

Complete all lines of Section 1- "Design Verification" and submit the completed checklist (Columns 1 and 2) with the plans and building permit application to the Building Division.

The owner, design professional and green building special inspector have reviewed the plans and certify that the items checked above are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2010 California Green Building Standards Code as amended by Chapter 18 of the Santa Rosa City Code.

Owner's Signature _____ Date _____

Owner Name *(Please Print)* _____

Design Professional's Signature _____ Date _____

Design Professional's Name *(Please Print)* _____

Signature of Listed Green Building Special Inspector _____ Date _____

Listed Green Building Special Inspector's Name *(Please Print)* _____ Phone _____

Green Building Special Inspector's E-mail Address _____

Section 2 - Implementation Verification

Complete, sign and submit the completed checklist, including Column 3, together with all original signatures on Section 2 – "Implementation Verification" to the Building Division prior to Building Division final inspection.

I have inspected the work have received sufficient documentation to verify and certify that the project identified above was constructed in accordance with this Green Building Checklist and in accordance with the requirements set forth in the 2010 California Green Building Standards Code as amended by Chapter 18 of the Santa Rosa Code.

Listed City of Santa Rosa Approved CALGreen Special Inspector Signature _____ Date _____

Green Building Special Inspector's Name *(Please Print)* _____ Phone *(if different than above)* _____

Green Building Special Inspector's E-mail Address *(if different than above)* _____