CITY OF ORLAND

BUILDING DEPARTMENT

815 Fourth Street
Orland, CA 95963
Telephone (530) 865-1606
Fax (530) 865-1632

2019 CALGreen+Tier 1 Checklist
Non-Residential

Applies to building permit applications received on or after January 1, 2020,
for newly constructed nonresidential buildings

Project Address: _____

Project Name: _____ Permit Number: _____

Project Description: _____

Instructions:

1. The Owner or the Owner's agent shall employ an ICC certified CALGreen Inspector, listed by the City of Orland Building Department, to perform CALGreen Inspector services and to verify and assure the Owner and the Building Department that all required work described herein is properly planned and implemented in the project.
2. The CALGreen 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 CALGreen 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. Prior to final inspection by the Building Department, CALGreen Inspector, except where verification by City is noted, shall complete **Column 3** and 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 2016 California Green Building Code 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 Inspector or by City staff as noted**
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***
SECTION A5. SITE SELECTION			
A5.103.1 Community connectivity. Locate project on a previously developed site within a ½ mile radius of at least ten basic services, listed in Section A5.103.1: **(Support documentation required at application submittal)**		☐	***CALGreen Inspector*** ☐

Feature or Measure	Project Requirements		Verification
A5.103.2 Brownfield or greyfield site redevelopment or infill area development. If feasible 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. **A5.103.2.1 Brownfield redevelopment.** Develop a site documented as contaminated and fully remediated or on a site defined as a brownfield.		☐ ☐	City Plan Check Staff ☐ ☐
SECTION A5.104 SITE PRESERVATION			
A5.104.1 Reduce development footprint and optimize open space. Optimize open space on the project site in accordance with Sections A5.104.1.1, A5.104.1.2 or A5.104.1.3. **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 footprintarea. **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.		☐ ☐ ☐	City Plan Check Staff ☐ ☐ ☐
SECTION A5.105 DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES			
A5.105.1.1 Existing building structure. Maintain at least 75 percent 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.		☐ ☐ ☐	*CALGreen Inspector* ☐ ☐ ☐
SECTION A5.106 SITE DEVELOPMENT			
5.106.1 Storm water pollution prevention plan. (< 1 acre) Newly constructed projects which disturb less than one acre of land shall prevent the pollution of storm water runoff from the construction activities by complying with lawfully enacted storm water management and/or erosion control ordinances.	☒		City Plan Check Staff ☐

City of Orland | Building Department | 815 Fourth Street, Orland, CA 95963
Ph. (530) 865-1606 Fax. (530) 865-1632 Website www.cityoforland.com

Feature or Measure	Project Requirements		Verification
Description of proposed measures:	*Sheet:*	*Detail:*	
A5.106.2 Storm Water Pollution Plan (>1 acre). Comply with Orland City Code, NCRWQCB construction permit and NPDES permit.	☒		City Plan Check Staff ☐
Description of proposed measures:	*Sheet:*	*Detail:*	
A5.106.2 Storm water design. Design storm water runoff rate quantity and quality in conformance with Section A5.106.3 (LID), or by local requirements, whichever are stricter.		☐	City Plan Check Staff
Description of proposed measures:	*Sheet:*	*Detail:*	
A5.106.3 Low impact development (LID). Mitigate storm water runoff from the 85th percentile event through the application of LID strategies. 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. 1. Bioretention (rain gardens)/filtration planters; 2. Cisterns and rain barrels (precipitation capture); 3. Green roofs; 4. Roof leader or impervious area disconnection; 5. Permeable and porous paving; 6. Vegetative swales and filter strips; 7. Tree preservation and tree plantings; 8. Landscaping soil quality; 9. Stream buffer 10. Volume retention suitable for previously developed sites. **A5.106.3.1 Implementation.** Coordinate with NC RWQCB permit if applicable. **A5.106.3.2 Greyfield or infill site.** Manage 40 percent of the average annual rainfall on the site's impervious surfaces through infiltration, reuse or evapotranspiration.		☐ Min. of 2 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	City Plan Check Staff ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Description of proposed measures:	*Sheet:*	*Detail:*	
5.106.4 Bicycle parking. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. **5.106.4.1 Bicycle parking.** Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet with the applicable zoning code, whichever is stricter. **5.106.4.1.1 Short-term bicycle parking.** If the new 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 new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack. **5.106.4.1.2 Long-term bicycle parking.** For new buildings with 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces with a minimum of one space.	☒ ☒ ☒		City Plan Check Staff ☐ ☐ ☐

Feature or Measure	Project Requirements		Verification
5.106.4.1.4 For New Shell Buildings. In phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces. Minimum one bicycle parking facility. **5.106.4.1.5** Acceptable parking facilities shall be convenient from the street and shall meet one of the following: 1. Covered, lockable enclosures with permanently anchored racks for bicycles; 2. Lockable bicycle rooms with permanently anchored racks; or 3. Lockable, permanently anchored bicycle lockers.	☒ ☒		☐ ☐
Description of proposed measures:	*Sheet:* *Detail:*		
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.		☐	City Plan Check Staff ☐
Description of proposed measures:	*Sheet:* *Detail:*		
A5.106.5.1.1 Designated parking for clean air vehicles. Provide 10% of total designated parking spaces for any combination of low-emitting, fuel- efficient, and carpool/van pool vehicles as shown in Table A5.106.5.1.1. (Tier 1) Note: Supersedes 5.106.5.2 **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/ VANPOOL/EV	☒ ☒		City Plan Check Staff
Description of proposed measures:	*Sheet:* *Detail:*		
A5.106.5.3 Electric vehicle (EV) charging. Construction shall comply with Section A5.106.5.3.1 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code* and *California Electrical Code* and as follows: **A5.106.5.3.1 Tier 1.** Table A5.106.5.3.1 shall be used to determine the number of multiple charging spaces required for future installation of EVSE. Refer to Section 5.106.5.3.2 for design space requirements. **5.106.5.3.2 Multiple charging space requirements. [N]** When multiple charging stations are required per Table A5.106.5.3.1 raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to the following: 1. The type and location of the EVSE. 2. The raceway(s) shall originate at a service panel or a subpanel(s) serving the area and shall terminate in close proximity to the proposed location of the charging equipment and into a listed suitable cabinet, box, enclosure or equivalent. 3. Plan design shall be based upon 40-ampere minimum branch circuits. 4. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-sitedistribution		☐ ☐	***CALGreen Inspector*** ☐ ☐

City of Orland | Building Department | 815 Fourth Street, Orland, CA 95963
Ph. (530) 865-1606 Fax. (530) 865-1632 Website www.cityoforland.com

Feature or Measure	Project Requirements		Verification
transformers and have sufficient capacity to simultaneously charge all required EV's at its full rated amperage. 5. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuits(s) for the future installation of the EVSE. **A5.106.5.3.3 Identification**. The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as "EV CAPABLE." The raceway termination location shall be permanently and visibly marked as "EV CAPABLE." **A5.106.5.3.4** Future charging stations qualify as designated parking as described in Section A5.106.5.1 Designated parking for clean air vehicles.		☐	☐
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 onsite 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.		☐	*CALGreen Inspector* ☐
A5.106.7 Exterior wall shading. Meet requirements in the current edition of the California Energy Code and with either A5.106.7.1 or A5.106.7.2 for wall surfaces: **A5.106.7.1 Fenestration.** Provide vegetative or man-made shading devices for all fenestration on east-, south- and west-facing walls. **A5.106.7.1.1 East and west walls**. Shading devices shall have 30% coverage to a height of 20 feet or to the top of the exterior wall, whichever is less. **A5.106.7.1.2 South walls**. Shading devices shall have 60% coverage to a height of 20 feet or to the top of the exterior wall, whichever is less. **A5.106.7.2 Opaque wall areas**. Use wall surfacing with SRI 25 (aged), for 75% of opaque wall areas.		☐ ☐ ☐	*CALGreen Inspector* ☐ ☐ ☐
5.106.8 Light pollution reduction. Outdoor lighting systems shall be designed and installed to comply with the following:	☒		*CALGreen Inspector* ☐

City of Orland | Building Department | 815 Fourth Street, Orland, CA 95963
Ph. (530) 865-1606 Fax. (530) 865-1632 Website www.cityoforland.com

Feature or Measure	Project Requirements		Verification
1. The minimum requirements of the 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 IES TM-15-11; and 3. Uplight and Glare ratings per California Energy Code Tables 130.2A and 130.2B 4. Allowable BUG ratings not exceeding those shown in Table 5.106.8 **Exceptions:** **1.** Luminaires that qualify as exceptions in the California Energy Code. **2.** Emergency lighting.	☒ ☒ ☒		☐ ☐ ☐
Description of proposed measures:	*Sheet:* *Detail:*		
5.106.10 Grading and Paving. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include swales, water collection and disposal systems, French drains, water retention gardens or other measures which keep surface water away from buildings and aid in groundwater recharge.	☒		City Plan Check Staff ☐
Description of proposed measures:	*Sheet:* *Detail:*		
A5.106.11 Heat island effect. Reduce non-roof heat islands, and roof heat islands as follows: **A5.106.11.1 Hardscape alternatives.** Use <u>one</u> or a combination of strategies 1 and 2 for 50 percent of site hardscape <u>or</u> put 50 percent of parking underground. 1. Use light colored materials with an initial solar reflectance value of at least 30 as determined in accordance with ASTM Standards E1918 or C1549. 2. Use open-grid pavement system or pervious or permeable pavement system. **A5.106.11.2 Cool Roof.** Use roofing materials having a minimum 3-year aged solar reflectance and thermal emittance complying with Sections A5.106.11.2.1 and A5.106.11.2.2 or a minimum aged Solar Reflectance Index (SRI) equal to or greater than the values shown in Table A5.106.11.2.2 - Tier 1.	☒	☐ ☐ ☐	City Plan Check Staff ☐ ☐ ☐ ☐
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***
SECTION 5.201 **PERFORMANCE REQUIREMENTS**			
5.201.1 Scope. Building meets or exceeds the requirements of the 2019 California Building Energy Code. (Tier 1 not adopted.)	☒		City Plan Check Staff ☐
Description of proposed measures:	*Sheet:* *Detail:*		

City of Orland | Building Department | 815 Fourth Street, Orland, CA 95963
Ph. (530) 865-1606 Fax. (530) 865-1632 Website www.cityoforland.com

Feature or Measure	Project Requirements		Verification
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*
SECTION 5.303 **INDOOR WATER USE**			
5.303.1 Meters. Submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.			*CALGreen Inspector*
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. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:			
a. Makeup water for cooling towers where flow through is greater than 500 gpm			
b. Makeup water for evaporative coolers greater than 6 gpm			
c. Steam and hot-water boilers with energy input more than 500,000 Btu/hr			
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.	☒		☐
Description of proposed measures:	*Sheet:* *Detail:*		
A5.303.2.3.1 Tier 1 – 12-percent savings. A schedule of plumbing fixtures and fixture fitting that will reduce the overall use of potable water within the building by 12 percent 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 12-percent reduction in potable water use shall be demonstrated by one of the following methods:	☒		*CALGreen Inspector* ☐
1. Prescriptive method. Each plumbing fixture and fitting shall not exceed the maximum flow rate greater than or equal to 12-percent reduction as specified in Table A5.303.2.3.1; or		☐	☐
2. Performance method. A calculation demonstrating a 12-percent reduction in the building "water use baseline" as established in Table A5.303.2.2 shall be provided.		☐	☐
A5.303.2.3.4 Nonpotable water systems for indoor use. Utilizing nonpotable water systems (such as captured rainwater, treated gray water, and recycled water) intended to supply water closets, urinals, and other allowed uses, may be used in the calculations demonstrating the 12% reduction. The nonpotable water systems shall comply with the current edition of the California Plumbing Code.		☐	☐
A5.303.3 Appliances and fixtures for commercial application. Appliances and fixtures shall meet the following:			*CALGreen Inspector*
1. Clothes washers shall have a maximum Water Factor (WF) that will reduce the use of water by 10% below the California Energy Commissions WF standards.		☐	☐
2. Dishwashers shall meet the criteria in A5.303.3(2)(a) & (b)		☐	☐
3. Ice makers shall be air cooled.		☐	☐
4. Food steamers shall be connectionless or boilerless and shall consume not more than 2 gph per pan		☐	☐
5. The use and installation of water softeners shall be limited or prohibited by local agencies.		☐	☐

City of Orland | Building Department | 815 Fourth Street, Orland, CA 95963
Ph. (530) 865-1606 Fax. (530) 865-1632 Website www.cityoforland.com

Feature or Measure	Project Requirements		Verification
6. Combination ovens shall not consume more than 1.5 gph per pan, including condensate water.		☐	☐
7. Commercial pre-rinse spray valves manufactured on or before January 1, 2006 shall function at equal to or less than 1.6 gpm at 60 psi and be capable of cleaning 60 plates in 30 seconds per plate, be equipped with an integral automatic shutoff, and operate at static pressure of at least 30 psi when designed for a flow rate of 1.3 gpm or less.		☐	☐
8. Food waste pulping systems shall use no more than 2 gpm of potable water.		☐	☐
5.303.3 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:			*CALGreen Inspector*
5.303.3.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank - Type Toilets. **Note:** The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.	☒ or ☒		☐ ☐
5.303.3.2 Urinals			
5.303.3.2.1 Wall Mounted urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.	☒		☐
5.303.2.2 Floor-mounted urinals. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.	☒		☐
5.303.3.3 Showerheads			
5.303.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA Water Sense Specification for Showerheads.	☒		☐
5.303.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. **Note:** A hand-held shower shall be considered a showerhead.	☒		☐
5.303.3.4 Faucets and fountains			
5.303.3.4.1 Nonresidential lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minutes at 60 PSI. **5.303.3.4.2 Kitchen faucets** kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.	☒		☐
5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi].	☒		☐
5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.	☒		☐
5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per cycle/20 [rim space (inches) 60 psi].	☒		☐
5.303.4 Food Waste Disposers. Not allowed (See Wastewater discharge permit)			
A5.303.4.1 Non-water Urinals. Installed in accordance with California Plumbing Code.		☐	*CALGreen Inspector* ☐

Feature or Measure	Project Requirements		Verification
A5.303.5 Dual plumbing. New buildings and facilities shall be dual plumbed for potable and recycled water systems for toilet flushing when recycled water is available.		☐	*CALGreen Inspector*
Description of proposed measures:	*Sheet:*	*Detail:*	
5.303.6 Standards for plumbing fixtures and fitting. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code,* and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code* and in Chapter 6 of this code.	☒		*CALGreen Inspector*
SECTION 5.304 **OUTDOOR WATER USE** **See City of Orland Water Efficient Landscape Ordinance 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 Orland City Code – Water Efficient Landscape.	☒		☐
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. See Orland City Code.	☒		☐
Irrigation design. In new nonresidential projects with at least 1000 but not more than 2500 square feet of landscaped area, install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations. **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.	☒ ☒		☐ ☐
A5.304.6 Restoration of areas disturbed by construction. Restore all landscape areas disturbed during construction by planting with local native and/or non-invasive vegetation.		☐	☐
A5.304.7 Previously developed sites. On previously developed or graded sites restore or protect at least 50 percent 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. See California Plumbing Code.		☐	☐

Feature or Measure	Project Requirements		Verification
SECTION A5.305 **Water Reuse Systems**			
Section A5.305.1 Non-Potable Water Systems. Nonpotable water system for indoor or outdoor use shall comply with the California Plumbing Code		☐	*CALGreen Inspector* ☐
Section A5.302.2 Irrigation Systems. Irrigation system uses recycled water.		☐	☐
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***
SECTION A5.404 **EFFICIENT FRAMING SYSTEMS**			
A5.404.1 Wood framing. Employ advanced wood framing techniques, or OVE, as permitted by the enforcing agency. See A5.404.1.2 for advanced framing techniques. **A5.404.1.1 Structural or fire-resistance integrity.** The OVE selected shall not conflict with structural framing methods or fire-rated assemblies required by the California Building code.		☐	*CALGreen Inspector* ☐
SECTION A5.405 **MATERIAL SOURCES**			*CALGreen Inspector*
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 and products made from solid wood, engineered wood, bamboo, wool, cotton, cork, straw, natural fibers, products made from crops (soy-based, corn-based) and other bio-based materials with a least 50% bio-based content. **A5.405.2.1 Certified wood:** 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 the 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.		☐	☐

Feature or Measure	Project Requirements		Verification
A5.405.4 Recycled content. Use materials, equivalent in performance to virgin materials, with postconsumer or pre-consumer recycled content value (RCV) for not less than 10% of the total value, based on estimated cost of materials on the project. Provide documentation for the respective values. (Tier 1) See Sections A5.405.4.1 through A5.405.4.5. Note: See local building department for alternative approval.	☒		☐
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. Shall comply with one of the following standards for cement:		☐	☐
1. Portland cement shall meet ASTM C 150.			
2. Blended Cement shall meet ASTM C 595 or ASTM C 1157.			
3. Other hydraulic cements shall meet ASTM C 1157.			
A5.405.5.2 Concrete. Unless otherwise directed by the Engineer of Record, use concrete manufactured with cementitious materials in accordance with Sections A5.405.5.2.1 and A5.405.5.2.1.1, as approved by the enforcing agency.		☐	☐
A5.405.5.2.1 Supplementary cementitious materials (SCMs). Use concrete made with one or more of the supplementary cementitious materials (SCMs) conforming with the standards 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 A5.4-14.		☐	☐
Exception: Minimums in mix designs approved by the Engineer of Record may be lower where high early strength is needed for concrete products or to meet an accelerated project schedule.			
A5.405.5.3 Additional means of compliance. Any of the measures in Sections A5.405.5.3.1 and A5.405.3.2 may be employed for the production of cement or concrete, depending on their availability and suitability, in conjunction with A5.405.5.2.		☐	☐
SECTION A.5.406 **ENHANCED DURABILITY AND REDUCED MAINTENANCE**			
A5.406.1 Choice of materials. Compared to other products in a given product category, choose materials proven to be characterized by one or more of the following:			***CALGreen 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.		☐	☐
SECTION 5.407 **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 1402.2 and California Energy Code Section 150, manufacturer's installation instructions, or local ordinance, whichever is more stringent.	☒		City Bldg Inspector ☐

City of Orland | Building Department | 815 Fourth Street, Orland, CA 95963
Ph. (530) 865-1606 Fax. (530) 865-1632 Website www.cityoforland.com

Feature or Measure	Project Requirements		Verification
5.407.2 Moisture control. Employ moisture control measures by the following methods;			*CALGreen Inspector*
5.407.2.1 Sprinklers. Prevent irrigation system spray on structures.	☒		☐
5.407.2.2 Entries and openings. Design exterior entries and openings to prevent water intrusion into buildings. See 5.407.2.2.1 and 5.407.2.2.2.	☒		☐
SECTION 5.408 **CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING**			
5.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; meet a local construction and demolition waste management ordinance, whichever is more stringent.			*CALGreen Inspector*
Exception: Excavated soil and land-clearing debris.			
5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that	☒		☐
1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.			
2. Determines if construction demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).			
3. Identifies diversion facilities where construction and demolition waste material collected will be taken.			
4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.	or		
5.408.1.2 Waste management company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section	☒		☐
Note: The owner or contractor shall make the determination if the construction and demolition waste material will be diverted by a waste management company.			
Exceptions to Sections 5.408.1.1 and 5.408.1.2: 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. 3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets			
5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65 percent minimum requirement as approved by the enforcing agency.	☒		☐
5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1 through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.	☒		☐

Feature or Measure	Project Requirements		Verification
5.408.3 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. For a phased project, such material may be stockpiled on site until the storage site is developed. **Exception**: Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.	If applicable ☒		*CALGreen Inspector* ☐
A5.408.3.1 Enhanced Construction waste reduction –Tier 1. Divert to recycle or salvage at least 65 percent of non-hazardous construction and demolition waste generated at the site. **A5.408.3.1.2 Verification of compliance.** A copy of the completed waste management report or documentation of certification of waste management company utilized 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. 3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets.	☒ ☒		*CALGreen Inspector* ☐ ☐
SECTION A5.409 **LIFE CYCLE ASSESSMENT**			
A5.409.1 General. Life cycle assessment shall be ISO 14044 compliant. The service life of the building and materials assemblies shall not be less than 60 years. **A5.409.2 Whole building life cycle assessment.** Conduct a whole building life assessment, including operating energy, showing that the building project achieves at least a 10 percent improvement for at least three of the impacts listed in Section A5.409.2.2, one of which shall be climate change, compared to a reference building of similar size. **A.5.409.2.1 Building components.** The building envelope, structural elements, including footings and foundations, interior ceilings, walls, and floors; and exterior finishes shall be considered tin the assessment. **Exceptions:** 1. Plumbing, mechanical and electrical systems and controls; fire and smoke detection and alarm systems and controls; and conveying systems. 2. Interior finishes are not required to be included. **A5.409.3 Materials and system assemblies.** If whole building analysis of the project is not elected, select a minimum of 50% of materials or assemblies based on life cycle assessment of at least three for the impacts listed in Section A5.409.2.2, one of which shall be climate change. **A5.409.4 Substitution for prescriptive standards.** Performance of a life cycle assessment completed in accordance with Section A5.409.2 may be substituted for other prescriptive provisions of Division A5.4, including those made mandatory through local adoption of Tier 1 in Division A5.6. **A5.409.5 Verification of compliance**. Documentation of compliance shall be provided as follows: 1. The assessment is performed in accordance with ISO 14044. 2. The project meets the requirements of other parts of Title 24. 3. A copy of the analysis shall be made available to the enforcement authority. 4. A copy of the analysis and any maintenance or training recommendations shall be included in the operation and maintenance manual.		☐ ☐ ☐ ☐ ☐	*CALGreen Inspector* ☐ ☐ ☐ ☐ ☐

Feature or Measure	Project Requirements		Verification
SECTION 5.410 **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.	☒		*CALGreen Inspector* ☐
Description of proposed measures:	*Sheet:*	*Detail:*	
5.410.2 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. Commissioning requirements shall include as a minimum, items listed in 5.410.2. See exceptions for excluded buildings.	☒		*CALGreen Inspector* ☐
5.410.2.1 Owner's or Owner Representative'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 shall include items 1-6 listed in A5.410.2.1. **(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. The BOD shall cover the systems listed in 1-6 of 5.410.2.2. **(Support documentation required at application submittal)**	☒		☐
5.410.2.3 Commissioning plan. Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. A commissioning plan shall include items listed 1-5 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 are 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 1-7 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 1-4 in 5.410.2.5.2.	☒		☐
5.410.2.6 Commissioning report. A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or owner's representative.	☒		☐
	☒		☐
5.410.4 Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet.			*CALGreen Inspector*
5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed 1-6 in 5.410.4.2. **(Support documentation required at application submittal)**	☒		☐
5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable 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.	☒		☐

Feature or Measure	Project Requirements		Verification
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 (O&M) 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 verifications and reports to the enforcing agency.	☒		☐
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***
SECTION 5.503 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.	☒		***CALGreen Inspector*** ☐
5.503.1.1 Woodstoves. Woodstoves shall comply with US EPA New Source Performance Standards emission limits.	☒		☐
SECTION A5.504 POLLUTANT CONTROL			
5.504.1 Temporary ventilation. If the HVAC system is used during construction, use return air filters with a 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.	☒		***CALGreen 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.			***CALGreen Inspector***
A5.504.1.1 Temporary ventilation. Provide temporary ventilation during construction in accordance with Section 120.1 of the California Energy Code, CCR, Title 24, Part 6, and Chapter 4 of CCR, Title 8, and as listed in Items 1 and 2 in A5.504.1.1		☐	☐
A5.504.1.2 Additional IAQ measures. Employ additional measures as listed in Items 1 through 5 in A5.504.1.2.		☐	☐
A5.504.2 IAQ post-construction. After all interior finishes have been installed, flush out the building per Section 5.504.2 for at least 14 days (at least 4 days prior to occupancy).			***CALGreen Inspector***
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 States Environmental Protection Agency (U.S. EPA) and in accordance with Section A5.504.2.1.2. (If the 14 days flush-out is not feasible).		☐	☐
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;		☐	☐

Feature or Measure	Project Requirements		Verification
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 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, cooling and ventilation 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, water and debris which may enter the system.	☒		*CALGreen Inspector* ☐
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 94522 (c)(2) and (d)(2) et seq) and BAAQUD Regulation 8 Rule 49. **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 five 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 504.4.1.	☒ ☒ ☒ ☒ ☒ ☒ ☒		*CALGreen Inspector* ☐ ☐ ☐ ☐ ☐ ☐ ☐

Feature or Measure	Project Requirements		Verification
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 5.504.4.5	☒		☐

5.504.4.5.3 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. Product labeled and invoiced as meeting Composite wood Products regulations 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards 5. Other methods acceptable to the enforcing agency	☒		☐
A5.504.4.5.1 No added Formaldehyde.		☐	☐
A5.504.4.7 Resilient flooring systems. For 90 percent of floor area receiving 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 High Performance Schools Data-base; products compliant with CHPS criteria certified under the Greenguard Children and Schools program; certified under the Resilient Floor Covering Institute FloorScore program; or meet California Department of Public Health 2010 Standard. (Tier 1) (Supersedes 5.501.4.6)	☒		☐
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 all of the following: (Tier 1) 1. Chapter 12-13 in Title 24, Part 12, the California Referenced Standards Code 2. The VOC-emission limits defined in 2014 CA-CHPS criteria and listed on its High-Performance Products Database. 3. California Department of public Health 2010 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1 February 2010.	☒		☐ *CALGreen Inspector*
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, the California Building Code and with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its High-Performance Products Data-base.		☐	☐
A5.504.4.9.1 Verification of compliance. Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.		☐	☐

Feature or Measure	Project Requirements		Verification
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 13.	☒		☐
5.504.7 Environmental tobacco smoke (ETS) control. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows where outdoor areas are provided for smoking, and in buildings as already prohibited by other laws or regulations; or as enforced by ordinances, regulations, or policies, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of prohibitions.	☒		☐
SECTION 5.505 **INDOOR MOISTURE CONTROL**			
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (ventilation) and Chapter 14 (Exterior walls).	☒		*CALGreen Inspector* ☐
Section 5.506 **INDOOR AIR QUALITY**			
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements for Ventilation) of the latest edition of the California Energy Code, CCR, Title 24, Part 6 and Chapter 4 of CCR, Title 8.	☒		*CALGreen Inspector* ☐
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 120(c)(4).	☒		☐
Description of proposed measures:	*Sheet:*	*Detail:*	
Section 5.507 **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.			*CALGreen Inspector*
A5.507.1.1 Single-occupant spaces. Provide individual controls that meet energy use requirements in the 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 daylighting controls for at least 90 percent of the building occupants.		☐	☐

Feature or Measure	Project Requirements		Verification
A5.507.1.1.2 Thermal comfort. Provide individual thermal comfort controls for at least 50 percent of the building occupants as listed by 1 & 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 such as classrooms and conference rooms.		☐ ☐	☐ ☐
Description of proposed measures:		*Sheet:* *Detail:*	
A5.507.2 Daylight. Provide daylit spaces as required for toplighting and sidelighting in the California Energy Code. In constructing a design, consider Items listed 1 through 4 in A5.507.2.		☐	*CALGreen Inspector* ☐
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 Section 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.		☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
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 or Outdoor- Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either prescriptive **or** performance method in Section 5.507.4.1 or 5.507.4.2. **(Support documentation required prior to permit issuance)** **Exception:** Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings. **5.507.4.1 Exterior noise transmission, Prescriptive Method**. Wall and roof- ceiling assemblies exposed to the noise source making up the building envelope shall have exterior wall and roof-ceiling assemblies meeting a composite STC rating of at least 50 or a composite OITC rating of no less than 40 with exterior windows of a minimum STC of 40 or OITC of 30 in the locations described in Items 1 (airports) and 2 (freeway, railroad, industrial source, etc.) **5.507.4.1.1 Noise exposure where noise contours are not readily available.** Buildings exposed to a noise level of 65 dB L_{eq}-1Hr during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC or rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). **5.507.4.2 Exterior noise transmission, Performance Method.** For buildings located as defined in Sections 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (L_{eq}-1Hr) of 50 dBA in occupied areas during any hour of operation.	☒ ☒ ☒ ☒		*CALGreen Inspector* ☐ ☐ ☐ ☐

City of Orland | Building Department | 815 Fourth Street, Orland, CA 95963
Ph. (530) 865-1606 Fax. (530) 865-1632 Website www.cityoforland.com

Feature or Measure	Project Requirements		Verification
5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the project to mitigate sound migration to the interior.	☒		☐
5.507.4.2.2 Documentation of compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.	☒		☐
5.507.4.3 Interior noise transmission, <u>Performance Method</u>. Wall and floor ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.	☒		☐
Section 5.508 OUTDOOR AIR QUALITY			
5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration, and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.	As applicable		***CALGreen Inspector***
5.508.1.1 Chlorofluorocarbons (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.		☐ ☐	☐ ☐
5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provision of this section when installed in retail food stores of 8,000 sq. ft. or more of conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) include both new facilities and the replacement of existing refrigeration systems in existing facilities. **Exception:** Refrigeration systems containing low-global warming potential (low GWP) refrigerant with GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO2), and potentially other refrigerants. **Note:** See all requirements for refrigerant piping, valves, refrigerated service cases, refrigerant receivers, pressure testing and system evacuation contained under section 5.508.2	☒		☐

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.	☒		*CALGreen Inspector* ☐

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.	☒		*CALGreen Inspector* ☐
702.2 The ICC certified CALGreen Inspector for this project is listed by the City of Orland as an approved CALGreen Inspector and is qualified and able to demonstrate competence in the discipline they inspect and verify.	☒		City Plan Check Staff ☐
Verifications			
703.1 Verification. 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.	☒		*CALGreen Inspector* ☐

CALGreen Building Acknowledgments

Project Address: _____

Project Description: _____

Building Permit # _____

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 Department.

The owner, design professional and ICC certified CALGreen 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 2019 California Green Building Standards.

Owner's Signature _____ Date _____

Owner Name *(Please Print)* _____

Design Professional's Signature _____ Date _____

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

City of Orland's Approved CALGreen Inspector Signature _____ Date _____

City of Orland's Approved CALGreen Inspector's Name *(Please Print)* _____ ICC Certification Number _____

CALGreen Inspector's E-mail Address _____ Phone _____

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 Department prior to 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 CALGreen Checklist and in accordance with the requirements set forth in the 2019 California Green Building Standards Code.

City of Orland's Approved CALGreen Inspector Signature _____ Date _____

CALGreen Inspector's Name *(Please Print)* _____ Phone *(if different than above)* _____

CALGreen Inspector's E-mail Address *(if different than above)* _____