



2013 City of Oakland CALGreen Checklist for NON-RESIDENTIAL ADDITIONS and ALTERATIONS

<u>Scope:</u> The provisions of this checklist apply to non-residential building **additions of 1,000 square feet or greater**, and/or **building alterations with a permit valuation of \$200,000 or above** and only apply to the portions of the building being added to or altered within the scope of the permitted work. <u>Repairs</u> (not additions or alterations) to existing structures are not subject to the requirements of CALGreen.

<u>PLEASE NOTE:</u> The City of Oakland has adopted local mandatory green building requirements (O.M.C. Chapter 18) in addition to the state CALGreen requirements which must be implemented for certain projects, *including:*

- 1) Projects between 5,000 and 25,000 square feet must complete the Alameda County Small Commercial Checklist and implement all applicable measures within the scope of work.
- 2) Projects that are over 25,000 square feet but where the scope of work DOES NOT meet the definition of a Major Addition/Alteration per (O.M.C. Chapter 18) must complete the process outlined in item 1 above.

3)	Projects over 25,000 square feet where the scope of work meets the definition of a Major Addition/Alteration per (O.M.C. Chapter 18) must retain a LEED Accredited Professional, complete the LEED New Construction Checklist and attain a US Green Building Council LEED Silver certification through the Green Building Certification Institute.
	Project Address:

Column 1 Feature or Measure MANDATORY MEASURES FOR ADDITIONS AND ALTERATIONS TO EXISTING NONRESIDENTIAL BUILDINGS See Chapter 5 of the 2013 California Green Building Code for complete descriptions of features or measures listed here	Column 2 Project Requirements All listed measures must be installed or incorporated into the project unless it is not applicable to the permitted work. Select all applicable measures below	Column 3 Verification Complete after implementation and prior to final inspection approval
PLANNING & DESIGN (DIVISION 5.1)		
5.106.1 Storm water pollution prevention. Meet the requirements of the City of Oakland's Municipal Code Chapter 13.16.100C Stormwater Management Ordinance. Certain projects must also comply with NPDES C.3 Requirements. Please refer to the City of Oakland's Overview of Provision C.3 and the website of the Alameda Countywide Clean Water Program: http://www.cleanwaterprogram.org/		

Project Name:

Project Description:

Modified to conform with Chapter 13.16.100C of Oakland's Municipal Code.

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5.106.4 Bicycle parking Meet the requirements of Chapter 17.117 of Oakland's Planning Code of the City of Oakland's Bike Parking Ordinance. ²		
5.106.5.2 Designated parking for fuel-efficient vehicles . For projects that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as shown based on the number of additional spaces.		
Total # of Parking Spaces Number of Required Spaces 10-25 1 26-50 3 51-75 6 76-100 8 101-150 11 151-200 16 201+ 8% of total		
5. 106.5.2.1 Parking stall marking. If applicable above, paint 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 "		
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 water measures which keep surface water away from buildings and aid in groundwater recharge.		
EFFICIENCY EFFICEINCY (Division 5.2)		
5.201.1 Scope. Building shall meet or exceed the requirements of the California Building Energy Efficiency Standards.		
WATER EFFICIENCY AND CONSERVATION (Division 5.3)		
 5.303.1 Meters. Separate submeters or metering device shall be installed for the uses described in Sections 5.303.1.1 and 5.303.1.2 below. 5.303.1.1 Additions to existing 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.		
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 Btulh (147 kW) 		
5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.		

 $^{^2\,}$ Modified to conform with Chapter 17.117 of Oakland's Planning Code.

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5.303.2 Water reduction. Plumbing fixtures shall meet the maximum flow rate values shown in CALGreen Table 5.303.2.3, OR		
Demonstrate a 20% overall water-use reduction in the building "water-use baseline" as established in CALGreen Table 5.303.2.2. (Calculate savings by Water Use Worksheets – WS-1 and WS-3.) .		
5.303.2.1 Areas of Addition or Alteration. The provisions of 5.303.2 and 5.303.3 below shall apply to new fixtures in additions or areas of alteration to the building.		
 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: 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. 5.303.3.2 Urinals. The effective flush volume of urinals shall not exceed 0.5		
gallons per flush. 5.303.3.3 Showerheads. Note: A hand-held shower shall be considered a showerhead. 5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.		
5.303.3.3.2 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 2.0 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.		
5. 303.6 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the CA Plumbing Code and shall meet the applicable standards referenced in Table 1401.1 of the CA Plumbing Code and Chapter 6 of this code.		

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5.304.1 Water budget. A water budget shall be developed for newly installed or rehabilitated landscaping or irrigation systems installed in conjunction with an addition or alteration in accordance with the California Model Water Efficient Landscape Ordinance (WELO).		
5.304.2. Outdoor potable water use. For building additions or alterations requiring upgraded water service for landscaped areas of at least 1,000 square feet but not more than 5,000 square feet, separate submeters or metering devices shall be installed for outdoor potable water use.		
5.304.3 Irrigation design. In building additions or alterations with at least 1,000 square feet but not more than 2500 square feet of cumulative added or altered landscaped area (the level at which the WELO applies), install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations.		
5.304.3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:		
 Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change. 		
 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. 		
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY (Division 5.4)		
5.407.1 Weather protection. When adding or altering an exterior wall or foundation, provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 (Weather Protection) and California Energy Code Section 150 (mandatory Features and Devices) or manufacturer's installation instructions whichever is more stringent.		
5.407.2 Moisture control. When adding or altering irrigation sprinklers or entries and openings to a building, employ moisture control measures by the following methods: 5.407.2.1 Sprinklers. Prevent irrigation spray on structures.		
5.407.2.2 Entries and openings. Design exterior entries and/or openings		
subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:		
5.407.2.2.1 Exterior Door Protection. Primary exterior entries and/or openings shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following: installed awning at least 4' in depth, door is protected by roof overhang at least 4' in depth, door is recessed		
at least 4', other methods of equivalent protection. 5.407.2.2.2 Flashing. Install flashings integrated with the drainage plane.		

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5.408.1 Construction waste management. Meet the requirements of Oakland's Municipal Code Chapter 15.34 Construction and Demolition Debris Waste Reduction and Recycling Requirements for non-residential additions or alterations that have a permit valuation greater than or equal to \$50,000 in year 2000 dollars. ³		
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. Exception: Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.		
5.410.1 Recycling by occupants. Adequate areas for collection and loading of recyclable materials adequate in number and capacity to serve that portion of the development project shall be provided per Section 17.118 of Oakland's Planning Code. ⁴		
5.410.4 Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet. Applies to new systems serving additions or alterations.		
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 in Section 5.410.4.2.		
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 HV AC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, balance the system in accordance with the procedures defined by national standards listed in Section 5.410.4.3.1 or as approved by the enforcing agency.		
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 or representative with detailed operating and maintenance instructions and copies		
of guaranties/warranties for each added or altered system prior to final inspection.		
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.		
ENVIRONMENTAL QUALITY (Division 5.5)		
5.503.1 General (Fireplaces). Meet the requirements of Oakland's Municipal Code Chapter 8.19 Wood-Burning Appliances.		
5.504.1.3 Temporary ventilation. If the HV AC system serving the added or altered area(s) 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 of the HV AC system serving the added or altered area(s) immediately prior to occupancy.		

Modified to conform with Chapter 15.34 of Oakland's Municipal Code.
Modified to conform with Section 17.118 of Oakland's Planning Code.

Modified to conform with Chapter 8.19 of the Oakland Municipal Code.

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5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.		
5.504.4 Finish material pollutant control. Newly installed finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.		
5.504.4.1 Adhesives, sealants, caulks. Newly installed adhesives and sealants used on the project shall meet the requirements of the following standards.		
 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. in Division 5 		
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.		
5.504.4.3Paints and coatings. Newly installed architectural paints and coatings shall comply with Table 5.504.4.3 in Division 5.5.		
5.504.4.3.1 Aerosol Paints and Coatings. Newly installed 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 when requested by the enforcing agency.		
5.504.4.4 Carpet systems. All newly installed carpet in the building interior shall meet the testing and product requirements of one of the standards listed in		
Section 5.504.4.4. 5.504.4.4.1 Carpet cushion. All newly installed carpet cushion 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 newly installed carpet adhesive shall meet the requirements of Table 5.504.4.1 in Division 5.5.		

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<u>Column 1</u> Feature or Measure	Column 2 Project Requirements All listed measures must be	Column 3 Verification Complete after
MANDATORY MEASURES FOR ADDITIONS AND ALTERATIONS TO EXISTING NONRESIDENTIAL BUILDINGS See Chapter 5 of the 2013 California Green Building Code for complete descriptions of features or measures listed here	installed or incorporated into the project unless it is not applicable to the permitted work. Select all applicable measures below	implementation and prior to final inspection approval
5.504.4.5 Composite wood products. Newly installed 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 in Division 5.5.		
5.504.4.5.2 Documentation. Verification of compliance with this section shall be provided when requested by the enforcing agency. Documentation shall include at least one of the following as applicable.		
 Product certifications and specifications. Chain of custody certifications. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR,Title 17, Section 93120, et seq.) Exterior grade products marked as meeting the PS-I or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards. Other methods acceptable to the enforcing agency. 		
5.504.4.6 Resilient flooring systems. For 80% of the floor area receiving newly installed resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2012 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification.		
5.504.4.6.1 Verification of compliance . Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.		
 5.504.5.3 Filters. In mechanically ventilated spaces serving additions or altered areas of buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a MERV of 8. MERV 8 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual. Exceptions: An ASHRAE 10-percent to 15-percent efficiency filter shall be permitted for an HVAC unit meeting the 2013 California Energy Code having 60,000 Btulh or less capacity per fan coil, if the energy use of 		
the air delivery system is 0.4 W tcfm or less at design air flow. 2. Existing mechanical equipment. 5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.		
5.504.7 Environmental tobacco smoke (ETS) control. Meet the requirements of Oakland's Municipal Code Chapter 8.30 Smoking.		
5.505.1 Indoor moisture control. Additions or altered spaces within buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2.		
5.506.1 Outside air delivery. Where newly installed, mechanically or naturally ventilated spaces in additions or altered spaces within buildings, shall meet the minimum requirements of Section 121 of the California Energy Code and Chapter 4 of CCR, Title 8, or the applicable local code, whichever is more stringent.		
5.506.2 Carbon dioxide (CO₂) monitoring. [Effective July 1, 2014] For additions equipped with demand control ventilation, CO ₂ sensors and ventilation controls shall be specified and installed in accordance with the requirements of the latest edition of the California Energy Code, Section 121(c)(4).		

 $^{^{\}rm 6}$ Modified to conform with Chapter 8.30 of Oakland's Municipal Code.

Column 1 Column 2 Column 3 **Feature or Measure** Verification **Project Requirements** All listed measures must be Complete after MANDATORY MEASURES FOR ADDITIONS AND ALTERATIONS installed or incorporated into the implementation and prior proiect unless it is not applicable to final inspection **EXISTING NONRESIDENTIAL BUILDINGS** to the permitted work. Select all approval applicable measures below See Chapter 5 of the 2013 California Green Building Code for complete descriptions of features or measures listed here 5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E 90 and ASTM E 413 or Choose either Prescriptive or Verify either Prescriptive OITC determined in accordance with ASTM E 1332, using either the prescriptive Performance method or Performance method or performance method in Section 5.07.4.1 or 5.507.4.2. 5.507.4.1 Exterior noise transmission, Prescriptive Method. Wall and floor-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 and 2. 5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB Lea-1Hr during or 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). or 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 (Leg-1Hr) of 50 dBA in occupied areas during any hour of operation. 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 sound transmission. Newly installed wall and floor-ceiling assemblies separating tenant spaces and public places shall have an STC of at least 40. 5.508.1 Ozone depletion and greenhouse gas reductions. New installations of HVAC, refrigeration, and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2 below. П П 5.508.1.1 Chlorofluorocarbons (CFCs.). Install HVAC, refrigeration and fire suppression equipment that does not contain CFCs. 5.508.1.2 Halons. Install HVAC, refrigeration and fire suppression equipment that do not contain Halons. **5.508.2 Supermarket refrigerant leak reduction.** New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8.000 square feet or more 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) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are non-ozone depleting refrigerants that include ammonia, carbon dioxide (CO₂), and potentially other refrigerants.

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QUALIFICATIONS			
702.1 HVAC system installers (if any) are trained and certified in the proper installation of HVAC systems.			
VERIFICATIONS			
703.1 Verification of compliance with CALGreen for Nonresidential Additions and Alterations may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance. Implementation verification shall be submitted to the Building Department after implementation of all required measures and prior to final inspection approval.			
Design Verification Complete the "Design Verification" and submit the completed checklist (Columns 1 and 2) with the plans and building permit application to the Planning and Zoning or Building Services Department as applicable. The owner and design professional 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 2013 California Green Building Standards Code.			
Owner's Signature	Date		
Owner Name (Please Print)			
Design Professional's Signature	Date		

Design Professional's Name (Please Print)