CITY OF PALM DESERT

CALGreen Following is a standardized checklist of the 2019 California Green Building Standards Code (CalGreen) requirements that may be used to demonstrate compliance with the CalGreen Mandatory Measures (Chapter 5). This checklist is required for all new buildings, phased projects (1st Tenant Improvement in a shell building) additions of 1,000 square feet or more, and alterations with a permit valuation of $200,000 and more. Code sections relevant to additions, alterations and phased projects shall only apply to the portions of the building being added or altered within the scope of the permitted work.

(COPY THIS FORM ONTO THE BUILDING PLANS)

Project Address:_____ Date:_____

Sheet = Sheet # or NA
Comment = Note # or Detail #

SECTION	TOPIC	REQUIREMENTS	Sheet	Comment
Section 5.106 – PLANNING AND DESIGN (Site Development)				
5.106.1	Storm Water Pollution Prevention Plan	For newly constructed projects of less than one acre, 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 one acre or more. 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.		
5.106.4	Bicycle Parking	Comply with Sections 5.106.4.1 and 5.106.4.2; or meet local ordinance or the University of California Policy on Sustainable Practices, whichever is stricter. 5.106.4.1.1 Short-Term bicycle parking. 5.106.4.1.2 Long-Term bicycle parking.		
5.106.5.2	Designated Parking	Provide designated parking for any combination of low-emitting, fuel efficient, and carpool/van pool vehicles per Table 5.106.5.2.		
5.106.5.3	Electric Vehicle Charging	Electric vehicle (EV) charging. New Construction shall comply with Sections 5.106.5.3.1 through 5.106.5.3.5 to facilitate future installation of electric vehicle supply equipment (EVSE).		
5.106.8	Light Pollution Reduction	Comply with lighting power requirements in the California Energy Code, CCR, Part 6, and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1-4 as defined in Chapter 10 of the California Administrative Code, CCR, Part 1, using the following strategies: 1. Shield all exterior luminaires or provide cutoff luminaires per Section 132 (b) of the California Energy Code. 2. Contain interior lighting within each source. 3. Allow no more than .01 horizontal lumen footcandles to escape 15 feet beyond the site boundary. 4. Automatically control exterior lighting dusk to dawn to turn off or lower light levels during inactive periods. **Exceptions:** 1. Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and walkways.		
5.106.10	Grading and Paving	The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.		
Section 5.201 – ENERGY EFFICIENCY				
5.201.1	Scope	For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.		
Section 5.303 – WATER EFFICIENCY AND CONSERVATION (Indoor Water Use)				
5.303.1	Meters	Separate meters or metering device shall be installed for the uses described in Sections 503.1.1 and 503.1.2.		
5.303.1.1	Buildings in excess of 50,000 square feet	Separate submeters shall be installed as follows: 1. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gal/day. 2. For spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop projected to consume more than 100 gal/day.		
5.303.1.2	Excess consumption	Any building within a project or space within a building that is projected to consume more than 1,000 gal/day.		
5.303.3	Water conserving plumbing fixtures and fittings	Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Section 5.303.3		

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Section 5.304 – WATER EFFICIENCY AND CONSERVATION (Outdoor Water Use)				
5.304.1	Water budget	Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.		
5.304.6	Outdoor potable water use in landscape areas.	For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.		
5.304.6.1	Newly constructed landscapes.	New construction projects with an aggregate landscape are equal to or greater than 500 square feet.		
5.304.6.2	Rehabilitated landscapes.	Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1200 square feet.		
Section 5.305 – WATER REUSE SYSTEMS				
5.305.1	Recycled water supply systems	Recycled water supply systems shall be installed in accordance with Sections 5/305.1.1, 5.305.1.2, and the California Plumbing Code.		
Section 5.407 – MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Water Resistance and Moisture Management)				
5.407.1	Weather protection	Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions, or local ordinance, whichever is more stringent.		
5.407.2	Moisture control	Employ moisture control measures by the following methods. **5.407.2.1 Sprinklers.** Design and maintain landscape irrigation systems to prevent spray on structures. **5.407.2.2 Entries and openings.** Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings meeting one of the following: • 5.407.2.2.1 Exterior door protection • 5.504.2.2.2 Flashing		
Section 5.408 – MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Construction Waste Reduction, Disposal & 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 with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.		
5.408.1.1	Construction waste management plan	Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan for approval by the enforcement agency that: 1. Identifies the 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 and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream). 3. Identifies diversion facilities where construction and demolition waste materials 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.		
5.408.1.2	Waste Management Company	Utilize a waste management company that can provide verifiable documentation that the percentage of construction waste material diverted from the landfill complies with this section.		
5.408.2	Universal Waste	Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.		

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Section 5.408 – MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Construction Waste Reduction, Disposal & Recycling) continued				
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.		
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.		
Section 5.410 – MATERIAL CONSERVATION & RESOURCE EFFICIENCY (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 including organic waste for recycling.		
5.410.1.1	Additions	All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30 percent or more in floor area, shall provide recycling areas on site. **Exception:** Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area.		
5.410.1.2	Sample ordinance	Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the Public Resources Code. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act). **Note:** A sample ordinance for use by local agencies may be found in Appendix A of the document at the California Integrated Waste Management's web site at: http://www.ciwmb.ca.gov/Publications/LocalAsst/31000012.doc .		
5.410.2	Commissioning	For new buildings 10,000 square feet and over, building commissioning for all building systems covered by T24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in 5.410.2. All occupancies other than I occupancies and L occupancies shall comply with the California Energy Code as prescribed in California Energy Code Section 120.8. For I occupancies which me not regulated by OSHPD or for I occupancies and L occupancies which are not regulated by the California Energy Code Section 100.0 Scope; all requirements in sections 5.410.2 through 5.410.2.6 shall apply. **Exceptions:** 1. Unconditioned warehouses of any size 2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses 3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1. 4. Commissioning requirements for energy systems covered by the California Energy Code. 5. Open parking garages of any size, or open parking garage areas of any size, within a structure.		
5.410.2.1	Owner's Project Requirements (OPR)	Documented before the design phase of the project begins the OPR shall include items listed in 5.410.4.		
5.410.2.2	Basis of Design (BOD)	A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project to cover the systems listed in 5.410.2.2.		
5.410.2.3	Commissioning plan	A commissioning plan describing how the project will be commissioned shall include items listed in 5.410.2.3.		
5.410.2.4	Functional performance testing	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, including Occupational Safety and Health Act (OSHA) requirements in California Code of Regulations (CCR), Title 8, Section 5142, and other related regulations.		
5.410.2.5.1	Systems manual	A Systems Manual and Systems Operations Training are required.		

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Section 5.410 – MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Building Maintenance and Operation) continued				
5.410.2.5.2	Systems operations training	The Systems Manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in 5.410.2.5.1.		
5.410.2.6	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 representative.		
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 subject to Section 303.1.		
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: 1. HVAC systems and controls 2. Indoor and outdoor lighting and controls 3. Water heating systems 4. Renewable energy systems 5. Landscape Irrigation Systems 6. Water Reuse Systems.		
5.410.4.3	Procedures	Perform testing and adjusting procedures in accordance with industry best practices and applicable standards on each system.		
5.410.4.3.1	HVAC balancing	In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; or Associated Air Balance Council National Standards 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 (O & M) manual	Provide the building owner or representative with detailed operating and maintenance instructions and copies of guaranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.		
5.410.4.5.1	Inspection and reports	Include a copy of all inspection verifications and reports required by the enforcing agency.		
Section 5.503 – ENVIRONMENTAL QUALITY (Fireplaces)				
5.503.1	Fireplaces	Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.		
5.503.1.1	Woodstoves	Woodstoves shall comply with US EPA New Source Performance Standards (NSPS) emissions limits, where applicable, and shall have a permanent label indicating they are certified to meet the emission limit.		
Section 5.504 – ENVIRONMENTAL QUALITY (Pollutant Control)				
5.504.1	Temporary ventilation	The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30 percent based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.		
5.504.3	Covering of duct openings and protection of mechanical equipment during construction	At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.		
5.504.4	Finish material pollutant control	Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6.		

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Section 5.504 – ENVIRONMENTAL QUALITY (Pollutant Control) continued				
5.504.4.1	Adhesives, sealants and caulks	Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards. 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products as specified in subsection 2, below. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507. **Note:** Title 17 may be found at http://ccr.oal.ca.gov/.		
5.504.4.3	Paints and coatings	Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3, shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.		
5.504.4.3.1	Aerosol paints and coatings	Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in sections 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.		
5.504.4.3.2	Verification	Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following: 1. Manufacturer's product specification. 2. Field verification of on-site product containers.		
5.504.4.4	Carpet systems	All carpet installed in the building interior shall meet at least one the following product requirements: 1. Carpet and Rug Institute's Green Label Plus Program; 2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as CDPH Standard Method V1.1 or Specification 01350); 3. NSF/ANSI 140 at the Gold level or higher; 4. Scientific Certifications Systems Sustainable Choice; or 5. Compliant with the California Collaborative for High Performance Schools (2014 CA-CHPC) Criteria and listed in the CHPS High Performance Product Database.		
5.504.4.4.1	Carpet cushion	All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.		
5.504.4.4.2	Carpet adhesive	All carpet adhesive shall meet the requirements of Table 5.504.4.1.		
5.504.4.5	Composite wood products	Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 5.504.4.5		
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 five mentioned in Section 5.504.4.5.3		

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Section 5.504 – ENVIRONMENTAL QUALITY (Pollutant Control) continued				
5.504.4.6	Resilient flooring systems	For 80% of floor area receiving resilient flooring, install resilient flooring shall meet at least one the four mentioned in Section 5.504.4.6		
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 buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 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.		
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 (ETSA) control	Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and in buildings; or as enforced by ordinances, regulations, or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations, or policies are not in place, post signage to inform building occupants of the prohibitions.		
Section 5.505 – ENVIRONMENTAL QUALITY (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). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.		
Section 5.506 – ENVIRONMENTAL QUALITY (Indoor Air Quality)				
5.506.1	Outside air delivery	For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 2, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.		
5.506.2	Carbon dioxide (CO_2) monitoring	For buildings or additions equipped with demand control ventilation, CO2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).		
Section 5.507 – ENVIRONMENTAL QUALITY (Environmental Comfort)				
5.507.4	Acoustical control	Employ building assemblies and components with Sound Transmission coefficient (STC) values determined in accordance with ASTM E90 and ASTM E413.		
5.507.4.1	Exterior noise transmission, prescriptive method	Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet the 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 outlined in Section 5.507.4		
5.507.4.1.1	Noise exposure where noise contours are not readily available	Buildings exposed to a noise level of 65 dB Leq -1Hr during any hour of operation shall have building, addition or alteration exterior wall and II roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). Also applies to addition envelope and altered envelope.		
5.507.4.2	Performance method	For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed the hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation. Also applies to addition envelope and altered envelope.		
5.507.4.2.1	Site features	Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior. Also applies to addition envelope and altered envelope.		
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	Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40. **Note:** Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: http://www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf .		

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Section 5.508 – ENVIRONMENTAL QUALITY (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.		
5.508.1.1	Chlorofluorocarbons (CFCs).	Install HVAC, refrigeration and fire suppression equipment that do 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 facilities. **Exception:** Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value Jess than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (C02), and potentially other refrigerants.		

- Verification of compliance with Section 5.504.4.3.2 requires written documentation using form CDD-179 VOC Self Certify Checklist. Form must be completed prior to final inspection.
- For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by **trained personnel** with experience on projects of comparable size and complexity.
- Building Commissioning is a systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated, and maintained to meet the owner's project requirements.