**Burlington Planning Commission**
149 Church Street
Burlington, VT 05401
Telephone: (802) 865-7188
(802) 865-7195 (FAX)
(802) 865-7144 (TTY)
www.burlingtonvt.gov/pz



# Burlington Planning Commission

**Tuesday, July 9, 2019, 6:30 P.M.**

**City Hall, Conference Room 12, 149 Church Street**

# AGENDA

## I. Agenda

## II. Public Forum - Time Certain 6:30 p.m.

## III. Chair Report

## IV. Director's Report

## V. Approval of Green Globes Certification

The Planning Commission will consider approval of Green Globes as an alternative to LEED for High Performing Building Standards under the requirements of *planBTV: Downtown Code Section 14.4.3 b*. Information related to this item is included in the agenda packet on pages 2-62.

**Staff Recommendation:** The Commission is recommended to ask questions, discuss the standards, and take action on whether or not they should be approved.

## VI. ZA-19-10 Inclusionary Zoning – Off-campus Institutional Development

The Planning Commission will continue a discussion regarding the application of Inclusionary Zoning requirements to Institutional development located outside of the Institutional zoning district. Information related to this item is included in the agenda packet on pages 2-22.

**Staff Recommendation:** The Commission is recommended to forward their recommendations to the City Council Ordiance Committee.

## VII. Proposed ZA-19-09 Zoning Administrative Officer

The Commission will review a communication to accompany the proposed amendment to the *Burlington Comprehensive Development Ordinance* reflecting their input on the reorganization of the Planning & Zoning Department. Information related to this item is included in the agenda packet on pages 63-65.

**Staff Recommendation:** The Commission is requested to make any necessary modifications to its letter to the City Council. Following this, the Commission is recommended to approve the municipal bylaw amendment report and forward the amendment to City Council.

## VIII. ZA-20-02 Accessory Definition

The Commission will discuss a proposed amendment to the *Burlington Comprehensive Development Ordinance* regarding accessory definitions and provisions. Information related to this item is included in the agenda packet on pages 66-69.

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## IX. Committee Reports

## X. Commissioner Items

a. Next meeting is July 23, 2019 at 6:30pm in Conference Room 12

## XI. Communications

Minutes from the June 25 meeting are enclosed in the agenda packet on pages 70-72.

## XII. Adjourn

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# SMITH BUCKLEY ARCHITECTS

Planning Commission
Burlington, VT
c/o David White
dewhite@burlingtonvt.gov

May 30, 2019

Re: Form District 14.4.3b High Performance Building Standard

Planning Commission members;

I am writing to request your approval of Green Globes as an acceptable High Performance Building Standard that may be used to satisfy the requirements of the City's zoning ordinance section 14.4.3b. Our firm is committed to sustainable design, and have successfully completed the LEED certification process on several projects. We believe that Green Globes establishes a framework for creating sustainable buildings that is substantially equivalent to LEED, while being easier for the design team to use and providing a higher level of predictability as to which points will be awarded at project certification. The attached documents are submitted to support the case for approval of this standard.

Thank you for your attention.

Respectfully,

Cleary Buckley, Architect
cb@sbavt.net

Attachments: Comparison Table - for Green Globes NC 2013 vs. LEED 2009 vs LEED V4
DOE Green Building Certification Systems for Federal Buildings
Dual Certified Buildings for All GG 2018 JMH
Green Globes NC Criteria & Max. Points
Green Globes Versus LEED - City of Alexandria
Green Globes_LEED Comparison 2019
Green_Globes_NC_Technical_Reference_Manual

# Comparison of Criteria from Green Globes® for New Construction (GG NC) 2013, LEED 2009, and LEED v4

**(As of 02/15/18)**

## Overview of GG and LEED Certification Requirements

- Both versions of LEED have prerequisites for certification. Certification is based upon meeting all of those prerequisites and scoring of additional criteria within a 110 point scale. No verification on-site of actual performance required. Allows minimal interaction with reviewers during process.
- Green Globes has no prerequisites. Criteria are weighted relational to environmental impact/benefit. Certification is based upon scoring of all criteria within a 1000 point scale. Certification process includes on-site visit by a third-party sustainability expert who provides input/feedback and is accessible to the client once assigned.

## Green Globes NC and LEED Evaluation Comparison

- Green Globes and LEED cover the evaluation of a wide range of sustainability areas, but there are some differences.
- The tables below compare the areas covered by the evaluation criteria for GG NC, LEED 2009, and LEED v4.

| Green Globes New Construction Criteria Comparison to LEED 2009 and LEED v4 | | | | | | |
|---|---|---|---|---|---|---|
| | Criteria Covered? | | | Notable Differences in Coverage | | |
| **Green Globes Assessment Area & Sections** | **GG NC** | **LEED 2009** | **LEED v4** | **Green Globes for New Construction** | **LEED 2009** | **LEED v4** |
| **Project Management** | | | | | | |
| Integrated Project Management | Yes | Yes | Yes | • Allows flexibility to design individual Integrated Project Management Plan<br>• Encourages the use of a credentialed sustainability expert | • Five unspecified criteria under 'Innovation in Design Process' section – up to 5 credits possible<br>• Credit available for LEED AP in same section. | • Prescriptive criteria must be met<br>• Credit given for use of a LEED Accredited Professional |
| Construction /Environmental Management | Yes | Yes | Yes | • Overall Plan; specific issues covered in Site | • Pre-requisite for environmental practices/pollution prevention as related to construction (Site) | • Pre-requisite for environmental practices/pollution prevention as related to construction (Site) |



7805 S.W. 40th #80010 Portland OR 97219| PHONE: 503.274.0448 | WWW.THEGBI.ORG

| Green Globes New Construction Criteria Comparison to LEED 2009 and LEED v4 | | | | | | |
|---|---|---|---|---|---|---|
| | Criteria Covered? | | | Notable Differences in Coverage | | |
| **Green Globes Assessment Area & Sections** | **GG NC** | **LEED 2009** | **LEED v4** | **Green Globes for New Construction** | **LEED 2009** | **LEED v4** |
| Commissioning | Yes | Yes | Yes | • Comprehensive Whole Building Commissioning<br>• Includes O&M documentation | • Includes Basic Commissioning as a prerequisite<br>• Includes Enhanced Commissioning - contains preparation for retro-commissioning | • Includes Basic Commissioning as a prerequisite<br>• Includes Enhanced Commissioning - contains preparation for retro-commissioning |
| Indoor Air Quality (management practices) | Yes | Yes | Yes | • Includes specific major renovation criteria for an occupied building | • Construction IAQ & Pre-Occupancy Plan | • Construction IAQ plan<br>• Indoor air quality assessment |
| **Site** | | | | | | |
| Site/Development Area | Yes | Yes | Yes | • Looks at fundamental characteristics of the site, e.g. Greenfield captures farm, undeveloped, parkland, etc. | • Pre-requisite for construction site environmental plan<br>• Looks at fundamental site characteristics as well as development characteristics of the surrounding area | • Pre-requisite for construction site environmental plan<br>• Looks at fundamental site characteristics as well as development characteristics of the surrounding area |
| Ecological Impacts | Yes | Yes | Yes | • Specific Section for Ecological Impacts to handle other areas not in included in other sections | | |
| Heat Island Effect | Yes | Yes | Yes | | | |
| Bird Collisions | Yes | No | No | | | |
| Watershed Features | Yes | Yes | Yes | | | |
| Landscaping | Yes | Yes | Yes | • Comprehensive coverage | • Limited coverage | • Limited coverage, but with Habitat Restoration |
| Exterior Light Pollution | Yes | Yes | Yes | • Uses BUG (backlight-uplight-glare) method | | • Uses BUG (backlight-uplight-glare) method |

| Green Globes New Construction Criteria Comparison to LEED 2009 and LEED v4 | | | | | | |
|---|---|---|---|---|---|---|
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| **Green Globes Assessment Area & Sections** | **GG NC** | **LEED 2009** | **LEED v4** | **Green Globes for New Construction** | **LEED 2009** | **LEED v4** |
| **Energy** | | | | | | |
| Energy Performance | Yes | Yes | Yes | • Four Paths: ANSI Path A; Energy Star Target Finder; ASHRAE 90.1, Appendix G; ASHRAE bEQ<br>• Additional prescriptive criteria for energy performance (e.g. Building Envelope & Orientation and HVAC Systems and Controls etc.) | • Pre-requisite – Minimum Energy performance<br>• Methods: ASHRAE 90.1 – 2007 or optionally ASHRAE Design Guide | • Pre-requisite – Minimum Energy performance<br>• Three Options: Whole Building Energy Simulation: Cost Savings + Source Energy; Prescriptive Compliance: based on ASHRAE Energy Design Guide – restricted to smaller buildings based on occupancy; Prescriptive Compliance: based on 'Advanced Buildings Core Performance Guide' (C&S only).<br>○ Minimum threshold of energy performance design is a prerequisite for certification<br>○ Ability to earn energy performance credits within the three options based upon three factors related to project type: whole building, major renovations and core & shell |
| Energy Demand | Yes | No | Yes | • Comprehensive coverage | | • Limited to two options:<br>○ Demand Response Program<br>○ Permanent Peak Load Shifting |

| Green Globes New Construction Criteria Comparison to LEED 2009 and LEED v4 | | | | | | |
|---|---|---|---|---|---|---|
| | Criteria Covered? | | | Notable Differences in Coverage | | |
| **Green Globes Assessment Area & Sections** | **GG NC** | **LEED 2009** | **LEED v4** | **Green Globes for New Construction** | **LEED 2009** | **LEED v4** |
| Energy Measurement and Verification | Yes | Yes | Yes | • Encourages the use of the Continual Improvement of Existing Buildings (CIEB) program after 18 months of occupancy<br>• CIEB requires 12 months of operational data | • Pre-requisite - building level metering | • Pre-requisite - Building level metering<br>• Expectation to provide reconciliation of design versus actual energy performance<br>• Credit for advanced metering |
| Renewable Energy | Yes | Yes | Yes | • On-site includes ground source | | • Ground source not included<br>• Off-site renewable energy farms allowed if owned by project |
| Transportation | Yes | Yes | Yes | • Carpooling and walkability | | • Includes parking reduction and low emitting/fuel efficient vehicles |
| **Water** | | | | | | |
| Building Water Performance | Yes | Yes | Yes | • Whole building water performance<br>• Additional prescriptive criteria for water performance (e.g. fixture & equipment performance) | • Partial whole building water performance (water use reduction)<br>• Enhanced water use reduction | • Whole building water performance<br>• Two prerequisites: indoor and outdoor water use<br>• Three advanced criteria; one each for landscape; fixture and fitting; appliance and process loads |
| Alternative Sources of Water | Yes | Yes | Yes | • Wastewater measures include greywater only<br>• Additional measures addressing rainwater, drainwater, HVAC and other process water, backwash water, and treated wastewater | • Innovative Water Technologies | • Specific wastewater management, rainwater systems and reuse options |
| Water Metering | Yes | Yes | Yes | • Includes benchmarking | | • Requires minimum metering as prerequisite plus advanced metering for credit. |
| Landscape and Irrigation | Yes | Yes | Yes | • Comprehensive criteria | | • See building water performance above |

| Green Globes New Construction Criteria Comparison to LEED 2009 and LEED v4 | | | | | | |
|---|---|---|---|---|---|---|
| | Criteria Covered? | | | Notable Differences in Coverage | | |
| **Green Globes Assessment Area & Sections** | **GG NC** | **LEED 2009** | **LEED v4** | **Green Globes for New Construction** | **LEED 2009** | **LEED v4** |
| **Materials & Resources** | | | | | | |
| Materials – Building Structural | Yes | Yes | Yes | • Two Paths for material and product selection:<br>  ○ Whole Building Life Cycle Assessment<br>• Multi-Attribute select method | • Includes four (4) single attributes | • Whole building life cycle – 4-options including LCA<br>• Criteria requires environmentally preferable materials and products with a focus on a single attribute product selection process<br>• Raw materials sourcing |
| Materials – Furnishings and Fit-Outs | Yes | Yes | Yes | • Specific furnishing and fit outs included | • Same as above | • Pilot credit available - refers to "whole building", meaning the assembly (shell, core, and envelope)<br>• No furnishing and fit-out distinction |
| Building Reuse; Reused and Salvaged Materials | Yes | Yes | Yes | | | |
| Construction/Demo Waste Management | Yes | Yes | Yes | | | |
| Building Durability, Adaptability and Disassembly | Yes | No | Yes | • Includes performance and Building Life Service Plan | | • Design for Flexibility |
| Building Envelope, Roof, Foundation | Yes | No | No | • Enhancing building service life | | |

| Green Globes New Construction Criteria Comparison to LEED 2009 and LEED v4 | | | | | | |
|---|---|---|---|---|---|---|
| | Criteria Covered? | | | Notable Differences in Coverage | | |
| **Green Globes Assessment Area & Sections** | **GG NC** | **LEED 2009** | **LEED v4** | **Green Globes for New Construction** | **LEED 2009** | **LEED v4** |
| **Emissions and Other Impacts** | | | | | | |
| Heating | Yes | No | No | • Includes two paths for measuring emissions determined by circumstances of the heating system:<br>○ Building Level<br>○ District Heating | | |
| Cooling (Refrigerants) | Yes | Yes | Yes | • Incorporated best practices based upon GreenChill covering ODP (Ozone Depleting Potential) and GWP (Global Warming Potential)<br>○ Available for use by building types other than Food stores | • Fundamental Management – pre-requisite<br>• Advanced Management credit | • Fundamental Management – pre-requisite<br>• Advanced Management credit<br>• Includes Prescriptive and Performance Options<br>• Requires GreenChill certification for Food stores<br>• Specific District Energy Systems Requirements |
| Source Control-Asbestos/Radon | Yes | No | No | • Asbestos – Major Renovations | | |
| **Indoor Environment** | | | | | | |
| Ventilation | Yes | Yes | Yes | • Comprehensive coverage – ASHRAE 62<br>• Natural Ventilation<br>• Management plan not included | • Minimum air quality performance – pre-requisite<br>• Credit for Enhanced Air Quality | • Two prerequisites for certification<br>○ Minimum Air Quality<br>○ IAQ Management Plan<br>• Credit for Enhanced Air Quality |
| Indoor Pollutants | Yes | Yes | Yes | • Comprehensive pollutant source controls<br>• IAQ<br>• monitoring ventilation intakes, mold and smoking | • Prerequisite to prohibit smoking<br>• Includes pollutant source controls | • Prerequisite to prohibit smoking<br>• Includes pollutant source controls<br>• IAQ monitoring, but does not include mold and ventilation intakes |
| Lighting Systems | Yes | Yes | Yes | | • Includes criteria for quality views | • Includes criteria for quality views |

| Green Globes New Construction Criteria Comparison to LEED 2009 and LEED v4 | | | | | | |
|---|---|---|---|---|---|---|
| | Criteria Covered? | | | Notable Differences in Coverage | | |
| **Green Globes Assessment Area & Sections** | **GG NC** | **LEED 2009** | **LEED v4** | **Green Globes for New Construction** | **LEED 2009** | **LEED v4** |
| Thermal Comfort | Yes | Yes | Yes | | | |
| Acoustics | Yes | No | Yes | | • Not in all BD+C – only Hospital and School modules | |

| Additional LEED 2009 and LEED v4 Criteria Comparison to Green Globes NC | | | | | | |
|---|---|---|---|---|---|---|
| | Criteria Covered | | | Notable Differences in Coverage | | |
| **LEED Criteria** | **GG NC** | **LEED 2009** | **LEED v4** | **Green Globes for New Construction** | **LEED 2009** | **LEED v4** |
| Occupant Experience Survey | No | No | Yes | | | |
| Regional Priority | No | Yes | Yes | • Green Globes includes criteria where points are impacted by regional location. | | • Criterion is unique and specific to the region of the country the project is located |
| Innovation | No | Yes | Yes | • Criteria include state of the art, cutting edge technologies, approaches, and best practices<br>• Green Globes assessment process allows for assessors to include innovation if it meets the intent of the criterion. | | • Optional criteria for credit designed by the user and submitted to GBCI for approval |

| Assessment: Building Name | Opportunity: Industry | Proj Type | Certification Rating | Cert Score | Cert Date | Dual Cert | LEED Rating |
|---|---|---|---|---|---|---|---|
| 1101 K Street | Professional Services | CIEB | Green Globes: 3 GG | 81% | 8/21/2017 | LEED | Gold |
| USFS Northern Great Lakes Visitor Center | Government (Federal) | NC I & II | Green Globes: 2 GG | 63% | 3/1/2017 | LEED | Pending |
| 200 Occidental | Real Estate Services | NC I & II | Green Globes: 3 GG | 74% | 11/22/2016 | LEED | Platinum |
| Stoel Rives Park Avenue West | Professional Services | SI I & II | Green Globes: 4 GG | 87.8% | 11/14/2016 | LEED | Platinum |
| NASA Marshall Space Flight Center - Building 4220 | Government (Federal) | NC I & II | Green Globes: 2 GG | 68% | 2/12/2016 | LEED | Silver |
| Walgreens - Evanston (#15364) | Retail | NC I & II | Green Globes: 3 GG | 72% | 9/11/2014 | LEED; LBC | Platinum |
| Vernonia K-12 School | Education (K-12) | NC I & II | Green Globes: 3 GG | 71% | 8/7/2014 | LEED | Platinum |
| Saint Paul RiverCentre/Xcel Energy Center | Government (State & Local) | CIEB | Green Globes: 3 GG | 70% | 7/10/2014 | LEED | Certified |
| Internap Secaucus | High Tech | NC I & II | Green Globes: 3 GG | 76% | 1/24/2014 | LEED | Platinum |
| UM Wye Oak Building | Education (College) | NC I & II | Green Globes: 3 GG | 70% | 1/8/2014 | LEED | Silver |
| Greenwood Village Tenant Improvement | Professional Services | NC I & II | Green Globes: 2 GG | 68% | 11/4/2013 | LEED | Gold |
| Hands On Children's Museum | Professional Services | NC I & II | Green Globes: 3 GG | 84% | 3/18/2013 | LEED | Gold |
| Perot Museum of Nature & Science | Other | NC I & II | Green Globes: 4 GG | 85% | 11/29/2012 | LEED | Gold |
| Internap Redondo Beach (Los Angeles) | High Tech | NC I & II | Green Globes: 2 GG | 62% | 10/24/2012 | LEED | Gold |
| SJS Prairie Med / Abbott | Real Estate Services | NC I & II | Green Globes: 3 GG | 75% | 7/10/2012 | LEED | Silver |
| Drexel University - Papadakis Integrated Sciences Building | Education (College) | NC I & II | Green Globes: 3 GG | 84% | 12/28/2011 | LEED | Silver |
| Internap Dallas | High Tech | NC I & II | Green Globes: 2 GG | 66% | 12/28/2011 | LEED | Gold |
| Stanley J. Roszkowski U.S. Courthouse | Government (Federal) | NC I & II | Green Globes: 3 GG | 81% | 12/5/2011 | LEED | Gold |
| Internap Santa Clara | High Tech | NC I & II | Green Globes: 2 GG | 56% | 4/19/2011 | LEED | Silver |
| Jacob Weinberger Courthouse | Government (Federal) | CIEB | Green Globes: 4 GG | 90% | 9/15/2010 | LEED | Gold |
| Robert A. Grant Federal Building & Courthouse | Government (Federal) | CIEB | Green Globes: 4 GG | 86% | 8/15/2009 | LEED | Silver |
| ASU Walter Cronkite School of Journalism | Professional Services | NC I & II | Green Globes: 2 GG | 69% | 8/3/2009 | LEED | Silver |
| Hammond Federal Courthouse | Government (Federal) | CIEB | Green Globes: 3 GG | 83% | 7/15/2009 | LEED | Silver |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Alberici Headquarters | Real Estate Services | NC I & II | Green Globes: 4 GG | 93% | 12/31/2006 | LEED | Platinum |
| William J. Clinton Presidential Center | Other | NC I & II | Green Globes: 2 GG | 68% | 12/31/2006 | LEED | Platinum |
| Wisc Electrical Emp Benefit Fund Office Building | Utilities | NC I & II | Green Globes: 2 GG | 55% | 10/3/2006 | LEED | Certified |
| | | | | | | | |
| Dual Certified Buildings | | | | | | | |
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| Generated By: Dianne Elliott 4/3/2017 5:47 PM | | | | | | | |
| The Green Building Initiative | | | | | | | |

**Important Note:** This document is intended to help you track your Green Globes for New Construction assessment. Drop-downs have been included to indicate the intention to include or exclude each criterion, and comment fields are located throughout for notes and to identify supporting documentation for the third-party assessor. **This document is not intended to predict your project's Green Globes score or rating, nor can it be used in place of the online survey.** The online survey must be purchased and completed to pursue project certification. Final Green Globes score and rating is based upon third-party verification of the poins claimed in the online survey.

Please refer to the Technical Reference Manual to view all criteria, associated points possible, and assessment guidance.

| Criteria # | Criteria Question | Maximum Points Possible | Maximum Possible Points Notes |
|---|---|---|---|
| **3.1** | **PROJECT MANAGEMENT** | **50.0** | |
| **3.1.1** | **Integrated Design Process (IDP)** | **9.0** | |
| **3.1.1.1** | **Pre-Design Meetings** | **3.0** | |
| 3.1.1.1.1 | Was an integrated design process (IDP) employed, which included a **minimum of five** of the key design disciplines involved in the project? (Check as many key disciplines below as apply.) | 3.0 | |
| 3.1.1.1.1.1 | • Architect? | | |
| 3.1.1.1.1.2 | • Building Science or Building Forensics Expert? | | |
| 3.1.1.1.1.3 | • Civil Engineer? | | |
| 3.1.1.1.1.4 | • Commissioning Agent? | | |
| 3.1.1.1.1.5 | • Community Representative(s)? | | |
| 3.1.1.1.1.6 | • Contractor? | | |
| 3.1.1.1.1.7 | • Electrical Engineer? | | |
| 3.1.1.1.1.8 | • Energy Engineer? | | |
| 3.1.1.1.1.9 | • Facilities Manager? | | |
| 3.1.1.1.1.10 | • Interior Designer? | | |
| 3.1.1.1.1.11 | • Landscape Architect? | | |
| 3.1.1.1.1.12 | • Lighting Designer/Illuminating Engineer? | | |
| 3.1.1.1.1.13 | • Mechanical Engineer - HVAC? | | |
| 3.1.1.1.1.14 | • Mechanical Engineer - Plumbing? | | |
| 3.1.1.1.1.15 | • Owner's representative? | | |
| 3.1.1.1.1.16 | • Structural Engineer? | | |

| | | | |
|---|---|---|---|
| 3.1.1.1.1.17 | • Sustainable Design Coordinator? | | |
| 3.1.1.1.1.18 | • User Group Representative? | | |
| **3.1.1.2** | **IDP Performance Goals** | **3.0** | |
| 3.1.1.2.1 | Were (qualitative) green design goals established at the pre-design phase for the following: | 1.0 | 1-2 Yes = .5<br>3-4 Yes = 1 |
| 3.1.1.2.1.1 | • Site design? | | |
| 3.1.1.2.1.2 | • Envelope? | | |
| 3.1.1.2.1.3 | • Material efficiency? | | |
| 3.1.1.2.1.4 | • Indoor environment? | | |
| 3.1.1.2.2 | Were performance goals (metrics) established at the pre-design phase for the following: | 2.0 | 1-2 Yes = 1<br>3-4 Yes = 1.5<br>5-6 Yes = 2 |
| 3.1.1.2.2.1 | • Energy efficiency? | | |
| 3.1.1.2.2.2 | • Renewable energy (percentage of total energy)? | | |
| 3.1.1.2.2.3 | • Greenhouse gas emissions? | | |
| 3.1.1.2.2.4 | • Water conservation, efficiency, and reuse? | | |
| 3.1.1.2.2.5 | • Life cycle impact? | | |
| 3.1.1.2.2.6 | • Construction waste diversion? | | |
| **3.1.1.3** | **IDP Progress Meetings for Design** | **3.0** | |
| 3.1.1.3.1 | Did the integrated design and delivery team hold progress meetings prior to the completion of the following project phases: | 1.5 | |
| 3.1.1.3.1.1 | • At the Concept Design Phase? | 0.5 | |
| 3.1.1.3.1.2 | • At the Design Development Phase? | 0.5 | |
| 3.1.1.3.1.3 | • At the Construction Documents Phase? | 0.5 | |
| 3.1.1.3.2 | Is there a requirement that the integrated design and delivery team hold progress meetings prior to the completion of the following project milestones: | 1.5 | 1-2 Yes = 1<br>3-4 Yes = 1.5 |
| 3.1.1.3.2.1 | • Pre-Construction? | | |
| 3.1.1.3.2.2 | • 25% Completion of budget or schedule? | | |
| 3.1.1.3.2.3 | • 50% Completion of budget or schedule? | | |
| 3.1.1.3.2.4 | • Substantial Completion? | | |
| **3.1.1.4** | **Capital Asset Plan & Business Case Summary** | **0.0** | |
| 3.1.1.4.1 | For Federal building projects, did the integrated design process integrate the use of OMB's A-11, Section 7, Exhibit 300: Capital Asset Plan and Business Case Summary? | 0.0 | GPC Only |
| **3.1.2** | **Environmental Management During Construction** | **12.0** | |
| **3.1.2.1** | **Environmental Management Systems (EMS)** | **3.0** | |

| | | | |
|---|---|---|---|
| 3.1.2.1.1 | Is there a requirement that the General Contractor must document the following elements as part of their Environmental Management System (EMS): | 3.0 | |
| 3.1.2.1.1.1 | • General Contractor's Environmental Policy? | | |
| 3.1.2.1.1.2 | • Regulatory Compliance and Training? | | |
| 3.1.2.1.1.3 | • Environmental Risk Assessment that shows sensitive environmental areas and ranks potential risks that may arise from the construction? | | |
| 3.1.2.1.1.4 | • Environmental Risk Management Strategies? | | |
| 3.1.2.1.1.5 | • Environmental Management Roles, Responsibilities and Reporting Structure for the construction phase? | | |
| 3.1.2.1.1.6 | • Site and Work Instructions for site personnel outlining environmental procedures during construction? | | |
| 3.1.2.1.1.7 | • Environmental Inspection Checklists? | | |
| 3.1.2.1.1.8 | • Records of Compliance? | | |
| **3.1.2.2** | **Clean Diesel Practices** | **2.0** | |
| 3.1.2.2.1 | Is there a requirement that the General Contractor must supplement mandatory regulatory requirements by implementing one or more of the following "clean diesel" strategies: | 2.0 | |
| 3.1.2.2.1.1 | • A vehicle "idling-reduction" directive? | 0.5 | |
| 3.1.2.2.1.2 | • Use of clean fuels? | 0.5 | |
| 3.1.2.2.1.3 | • Engine upgrades that reduce emissions? | 0.5 | |
| 3.1.2.2.1.4 | • Engine maintenance records? | 0.5 | |
| **3.1.2.3** | **Building Materials and Building Envelope** | **2.0** | |
| 3.1.2.3.1 | Is there a requirement for the following construction best-practices to protect building materials and control mold: | 2.0 | |
| 3.1.2.3.1.1 | • Building materials made of organic material or those that could absorb moisture are protected in transit and at the construction site from contact with moisture and from collecting organic matter such as leaves, soil or insects? | 1.0 | |
| 3.1.2.3.1.2 | • The building envelope will be weather-tight and permitted to dry before installation of interior walls, wood floors, ceilings or HVAC systems? | 1.0 | |
| **3.1.2.4** | **IAQ during Construction** | **5.0** | |
| 3.1.2.4.1 | ~~Is there a requirement for either one of the following best practices to maintain good indoor~~ air quality?<br><br>The area under construction is to be flushed with 100% outdoor air for 14 consecutive days prior to occupancy and filters changed before it is occupied?<br>**or**<br>Baseline Indoor Air Quality testing gives positive results as per EPA "Testing for Indoor Air Quality," Section 01 81 09, (December 2007)? | 2.0 | |

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| 3.1.2.4.2 | Where parts of the building will be **occupied during construction**, are one or more of the following five basic strategies specified per SMACNA'S "IAQ Guidelines for Occupied Buildings Under Construction" to control dust, odors or irritants: | 3.0 | |
| 3.1.2.4.2.1 | • HVAC protection? | | |
| 3.1.2.4.2.2 | • Source Control? | | |
| 3.1.2.4.2.3 | • Pathway Interruption? | | |
| 3.1.2.4.2.4 | • Housekeeping? | | |
| 3.1.2.4.2.5 | • Scheduling? | | |
| **3.1.3** | **Commissioning** | **29.0** | |
| **3.1.3.1** | **Pre-Commissioning** | **3.0** | |
| 3.1.3.1.1 | Is there a requirement for the Commissioning Agent to document the "Owner's Project Requirements" for building systems as per ASHRAE Guideline 0-2005: The Commissioning Process: Annexes I and J? | 1.0 | |
| 3.1.3.1.2 | Is there a requirement to document the building's "Basis of Design" for building systems as per ASHRAE Guideline 0-2005 Annex K? | 1.0 | |
| 3.1.3.1.3 | Is there requirement for a Commissioning Authority with technical credentials as per ASHRAE Guideline 0-2005: The Commissioning Process, who reports directly to the owner, who will lead the commissioning team and coordinate the commissioning process? | 1.0 | |
| **3.1.3.2** | **Whole Building Commissioning** | **19.0** | |
| 3.1.3.2.1 | Is there a requirement that commissioning will be conducted in accordance with ASHRAE Guideline 0-2005: The Commissioning Process "The Commissioning Process: Article 5, 6 and 7" for the following: | 17.0 | |
| 3.1.3.2.1.1 | • HVAC&R systems and their controls? | 4.0 | |
| 3.1.3.2.1.2 | • Building envelope? | 3.0 | |
| 3.1.3.2.1.3 | • Structural systems? | 2.0 | |
| 3.1.3.2.1.4 | • Fire protection system? | 2.0 | |
| 3.1.3.2.1.5 | • Plumbing system? | 1.0 | |
| 3.1.3.2.1.6 | • Electrical systems? | 1.0 | |
| 3.1.3.2.1.7 | • Lighting system and their controls? | 1.0 | |
| 3.1.3.2.1.8 | • Building automation systems? | 1.0 | |
| 3.1.3.2.1.9 | • Elevating and conveying systems? | 1.0 | |
| 3.1.3.2.1.10 | • Communication systems? | 1.0 | |
| 3.1.3.2.2 | Is there a requirement to field-test partitions for noise isolation ? | 1.0 | |
| 3.1.3.2.3 | Is there a requirement that the building system commissioning will be conducted in accordance with ASHRAE Guideline 0-2005: The Commissioning Process: The Commissioning Process: Annex L? | 1.0 | |

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| **3.1.3.3** | **Training** | **1.0** | |
| 3.1.3.3.1 | Is there a requirement that there will be training for the building operators on the systems listed above in accordance with ASHRAE Guideline 0-2005: The Commissioning Process: Article 7.2.14? | 1.0 | |
| **3.1.3.4** | **Operations and Maintenance Manual** | **6.0** | |
| 3.1.3.4.1 | Is there a requirement to develop an Operations and Maintenance (O&M) Manual and/or CMMS that contains descriptions and information on the continuous tasks related to the systems and to each piece of equipment, which are necessary to operate the building efficiently? | 6.0 | |
| **3.2** | **Site** | **115.0** | |
| **3.2.1** | **Development Area** | **30.0** | |
| **3.2.1.1** | **Urban Infill and Urban Sprawl** | **10.0** | |
| 3.2.1.1.1 | Is the project located within 0.5 mile (0.8 km) of a commercial zone? | 5.0 | |
| 3.2.1.1.2 | Is the building being constructed on a previously developed site, served with existing utilities for at least a full year before construction? | 5.0 | |
| **3.2.1.2** | **Greenfields, Brownfields and Floodplains** | **20.0** | |
| 3.2.1.2.1 | Is the building being constructed on a remediated brownfield or remediated Superfund site? | 10.0 | |
| 3.2.1.2.2 | Does the project location avoid sensitive sites i.e. land that was farmland, a public park, a wooded area, prairie, wetland, wildlife corridor or recreational area for at least 3 years prior to time of purchase or from the beginning of the project? | 6.0 | |
| 3.2.1.2.3 | Is all habitable space located higher than the 100-year flood plain? | 4.0 | |
| **3.2.2** | **Ecological Impacts** | **32.0** | |
| **3.2.2.1** | **Site Disturbance and Erosion** | **8.0** | |
| | ~~Green Globes provides two paths for assessing site disturbance and erosion.~~<br><br>**Path A: Erosion and Sedimentation Control Plan** - 5 points<br><br>**Path B: Erosion and Sedimentation Control Specifications** - 5 points<br><br>Points cannot be combined between paths. Please review and select one of the two pathways below. | 5.0 | |
| **3.2.2.1.1** | **Path A: Erosion and Sedimentation Control Plan** | **0.0** | **5 points** |

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| 3.2.2.1.1.1 | Is there an Erosion and Sedimentation Control Plan, signed and stamped by a Professional Engineer? | | This is worth 5 points, but can't enter here as it will double count points at 3.3.2.2.1 line due to alternate path options. |
| **3.2.2.1.2** | **Path B: Erosion and Sedimentation Control Specifications** | **5.0** | **5 points** |
| 3.2.2.1.2.1 | In the absence of an Erosion and Sedimentation Control Plan by a Professional Engineer, do the specifications require that the General Contractor will implement the following best practices for erosion and sediment control during construction: | | |
| 3.2.2.1.2.1.1 | • Silt fences will be installed or fiber socks filled with compost/wood chips around the construction site and maintained throughout construction? | 1.0 | |
| 3.2.2.1.2.1.2 | • Gravel pads will be placed at all site entries and cleaned throughout construction? | 1.0 | |
| 3.2.2.1.2.1.3 | • Riprap will be placed around all storm sewer outlets and silt and debris removed after each 24-hour rainfall of 0.2 in. (5.08 mm) or more? | 1.0 | |
| 3.2.2.1.2.1.4 | • Disturbed soils will be corrected using erosion control mats, or mulched and seeded within 90 days of being disturbed? | 1.0 | |
| 3.2.2.1.2.1.5 | • During dry days, dust will be controlled by wetting the soil each day for 15 to 30 minutes before construction activities begin, and again after construction activities are done for the day? | 1.0 | |
| | **Answer the following question regardless of the Path chosen above.** | | |
| 3.2.2.1.3 | Is there a requirement that construction activities will be located in such a way to limit disturbance to the site? | 3.0 | |
| **3.2.2.2** | **Tree Integration** | **5.0** | |
| 3.2.2.2.1 | Are the following integrated into the landscape plan: | | |
| 3.2.2.2.1.1 | • Large trees? | 2.0 | |
| 3.2.2.2.1.2 | • Clusters of trees? | 2.0 | |
| 3.2.2.2.1.3 | • Undergrowth? | 1.0 | |
| **3.2.2.3** | **Tree Preservation** | **4.0** | |
| | ~~Green Globes provides two paths for assessing tree preservation.~~<br><br>**Path A: Tree Preservation Plan** - 4 points<br><br>**Path B: Tree Protection Specifications** - 4 points<br><br>Points cannot be combined between paths. Please review and select one of the two pathways below. | **4.0** | |

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| **3.2.2.3.1** | **Path A: Tree Preservation Plan** | **0.0** | **4 points** |
| 3.2.2.3.1.1 | Is there a Tree Preservation Plan by a certified Arborist? | | This is worth 4 points, but can't enter here as it will double count points at 3.2.2.3 line due to alternate path options. |
| **3.2.2.3.2** | **Path B: Tree Protection Specifications** | **4.0** | **4 points** |
| 3.2.2.3.2.1 | In the absence of Tree Preservation Plan by a certified Arborist, do the specifications require that the General Contractor will implement the following best practices for tree protection during construction: | | |
| 3.2.2.3.2.1.1 | • Tree protection barriers will enclose a minimum Tree Protection Zone (TPZ) around the trees and shrubs that are to be retained on the site? | 2.0 | |
| 3.2.2.3.2.1.2 | • Root protection will be installed to protect tree roots from compaction during construction? | 1.0 | |
| 3.2.2.3.2.1.3 | • Sediment control barriers will be provided where some fill or excavate will be temporarily located near a TPZ? | 1.0 | |
| **3.2.2.4** | **Heat Island Effect** | **13.0** | |
| 3.2.2.4.1 | What percentage (by area) of the roof is vegetated, and/or has a high Solar Reflectance Index (SRI) as prescribed based on the slope of the roof? | 6.0 | |
| 3.2.2.4.2 | What percentage (by area) of paved surfaces have a high SRI? | 2.0 | |
| 3.2.2.4.3 | What percentage (by area) of paved surfaces outside of the building footprint will be shaded by trees within 15 years? | 3.0 | |
| 3.2.2.4.4 | Do at least 75% of opaque wall surfaces (by area) on the east and west have an SRI of 29 or greater? | 2.0 | |
| **3.2.2.5** | **Bird Collisions** | **2.0** | |
| 3.2.2.5.1 | Are the following measures required to help ensure that birds perceive windows as being a solid object: | 2.0 | |
| 3.2.2.5.1.1 | • Visual markers? | 1.0 | |
| 3.2.2.5.1.2 | • Avoidance of reflections? | 1.0 | |
| **3.2.3** | **Stormwater Management** | **18.0** | |
| 3.2.3.1 | Is there a Stormwater Management Report by a Civil Engineer that shows that: | 18.0 | |
| 3.2.3.1.1 | • The project meets municipal and/or local watershed flood and erosion control targets (i.e. post to pre control)? | 5.0 | |
| 3.2.3.1.2 | • The project meets municipal and/or local Watershed water quality control targets (80% TSS removal)? | 5.0 | |

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| 3.2.3.1.3 | • The site will retain at least 50% of the total average annual rainfall volume as per a Site Water Balance Assessment, to be included in the Stormwater Management Report? | 5.0 | |
| 3.2.3.2 | Is the site boundary farther than 100 ft. (30.5 m) from a natural body of water? | 3.0 | |
| **3.2.4** | **Landscaping** | **28.0** | |
| 3.2.4.1 | Is there a Landscape and Irrigation Plan developed by a Landscape Architect, certified horticulturalist, or certified irrigation professional? | 6.0 | |
| 3.2.4.2 | Does the Landscape and Irrigation Plan include the following: | 3.0 | |
| 3.2.4.2.1 | • Soil type, drainage, and light conditions? | 2.0 | |
| 3.2.4.2.2 | • Structural limitations (e.g. shading, utilities, overhangs, lights) that would impact the location and growth of plants? | 1.0 | |
| 3.2.4.3 | Does the plant palette include the following: | 10.0 | |
| 3.2.4.3.1 | • Minimum of 50% of the vegetated area covered with plants that are drought-tolerant? | 3.0 | |
| 3.2.4.3.2 | • Minimum of 50% of vegetated area covered with plants (new or salvaged plantings) that are native and non-invasive? | 4.0 | |
| 3.2.4.3.3 | • Minimal turf grass? | 3.0 | |
| 3.2.4.4 | Is there a requirement that landscaped areas will be installed with the following: | 2.0 | |
| 3.2.4.4.1 | • At least 6 in. (15.2 cm) of soil; aerated, tilled and/or broken up? | 1.0 | |
| 3.2.4.4.2 | • Organic mulch as per best practices? | 1.0 | |
| 3.2.4.5 | Does the Landscape Design show that plants are located on the site as follows: | 3.0 | |
| 3.2.4.5.1 | • Plants with similar water requirements are grouped together? | 2.0 | |
| 3.2.4.5.2 | • Plants are spaced to allow for maturation at a 5-year growth rate? | 1.0 | |
| 3.2.4.6 | Is there a requirement that 15% of planned impervious walkways, patios, and driveways will be installed with pervious materials? | 4.0 | |
| **3.2.5** | **Exterior Light Pollution** | **7.0** | |
| | ~~Green Globes provides two paths for assessing exterior light pollution.~~<br><br>**Path A: Lighting Design Performance** - 10 points<br><br>**Path B: Prescriptive Lighting Requirements** - 10 points<br><br>Points cannot be combined between paths. Please review and select one of the two pathways below. | 7.0 | |
| **3.2.5.1** | **Path A: Lighting Design Performance** | **0.0** | **7 points** |

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| 3.2.5.1.1 | Is there a lighting design by an Engineer or Lighting Professional that meets all the performance requirements of the IDA - IES Model Lighting Ordinance (MLO)? | | This is worth 7 points, but can't enter here as it will double count points at 3.2.5.1 line due to alternate path options. |
| **3.2.5.2** | **Path B: Prescriptive Lighting Requirements** | **7.0** | **7 points** |
| 3.2.5.2.1 | Is there a requirement that the exterior lighting will not exceed prescribed values for the amount of light per unit of area? | 1.5 | |
| 3.2.5.2.2 | Is there a requirement that exterior lighting trespass will not exceed prescribed BUG ratings as per IDA - IES Model Lighting Ordinance (MLO), Table C for the following: | | |
| 3.2.5.2.2.1 | • Backlight trespass? | 1.5 | |
| 3.2.5.2.2.2 | • Uplight trespass? | 1.5 | |
| 3.2.5.2.2.3 | • Glare? | 1.5 | |
| 3.2.5.2.3 | Will parking lot lighting have no light emitted above 90 degrees? | 1.0 | |
| **3.3** | **Energy** | **390.0** | |
| **3.3.1** | **Energy Performance** | **100.0** | |
| **3.3.1.1** | **Assessing Energy Performance** | **100.0** | |
| | Green Globes provides four paths for assessing energy performance:<br><br>**Path A: ENERGY STAR Target Finder** - 100 points<br><br>**Path B: ANSI/ASHRAE/IESNA Standard 90.1-2010, Appendix G** - 100 points<br><br>**Path C: Building Carbon Dioxide Equivalent $CO_2e$ Emissions (ANSI/GBI 01-2010)** - 100 points<br><br>**Path D: ASHRAE Building Energy Quotient (bEQ)** - 100 points<br><br>Points cannot be combined between Paths. Please review and select one of the four pathways below. | 100.0 | |
| | Input the energy performance by responding to ONE of the following: | | |
| **3.3.1.1.1** | **Path A: ENERGY STAR Target Finder** | **100.0** | **100 points** |
| 3.3.1.1.1.1 | Input the energy performance as the ENERGY STAR percentile score derived from the Target Finder program | 100.0 | |
| **3.3.1.1.2** | **Path B: ASHRAE 90.1-2010, Appendix G** | **0.0** | **100 points** |

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| 3.3.1.1.2.1 | Input the energy performance as the percentage value compared to the reference base building, per ANSI/ASHRAE/IESNA Standard 90.1-2010, Appendix G. | | This is worth 100 points, but can't enter here as it will double count points at 3.3.1.1 line due to alternate path options. |
| **3.3.1.1.3** | **Path C: Building Carbon Dioxide Equivalent $CO_2e$ Emissions (ANSI/GBI 01-2010)** | **0.0** | **100 points + 50 bonus points** |
| 3.3.1.1.3.1 | Input the energy performance as a reduction of Carbon Dioxide Equivalent $CO_2e$ Emissions based on the ANSI/GBI 01-2010 Energy Performance Building Carbon Dioxide Equivalent $CO_2e$ Emissions protocol. | | This is worth 100 points = 50 bonus, but can't enter here as it will double count points at 3.3.1.1 line due to alternate path options. |
| **3.3.1.1.4** | **Path D: ASHRAE Building Energy Quotient (bEQ)** | **0.0** | **100 points + 25 bonus points** |
| 3.3.1.1.4.1 | Input the energy performance as per the ASHRAE Building Energy Quotient (bEQ) rating program for an "As Designed" assessment. | | This is worth 100 points + 25 bonus, but can't enter here as it will double count points at 3.3.1.1 line due to alternate path options. |
| **3.3.1.2** | **Benchmarking Energy Performance** | **0.0** | |
| 3.3.1.2.1 | Is there a program or policy in place to compare actual performance data from the first year of operation with the energy design target? | | |
| **3.3.2** | **Energy Demand** | **35.0** | |
| **3.3.2.1** | **Passive Demand Reduction** | **19.0** | |
| 3.3.2.1.1 | Does a minimum of 20% of the building envelope gross wall area have either of the following:<br>• A minimum heat capacity of 7 Btu/ft$^2$ ˚F (143 kJ/m$^2$K)?<br>• A minimum heat capacity of 5 Btu/ft$^2$ ˚F (102 kJ/m$^2$K), provided the walls have a material unit weight equal to or less than 120 lb/ft$^3$ (1920 kg/m$^3$)? | 3.0 | |

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| 3.3.2.1.2 | Do mass walls that are used as interior partitions, and constituting 20% of the building envelope gross area, have either of the following:<br><br>• A minimum heat capacity of 7 Btu/ft$^2$ ˚F (143 kJ/m$^2$K)?<br>• A minimum heat capacity of 5 Btu/ft$^2$ ˚F (102 kJ/m$^2$K), provided the walls have a material unit weight not greater than 120 lb/ft$^3$ (1900 kg/m$^3$) with the portion of the wall with the greatest heat capacity exposed to conditioned air? | 3.0 | |
| 3.3.2.1.3 | Are 50% of return air plenums located directly in contact with a floor or wall having either of the following:<br><br>• A heat capacity of at least 7 Btu/ft$^2$ ˚F (143 kJ/m$^2$K)?<br>• A heat capacity of 5 at least Btu/ft$^2$ ˚F (102 kJ/m$^2$K), provided the wall or floor has a material unit weight equal to or less than 120 lb/ft$^3$ (1900 kg/m$^3$)? | 3.0 | |
| 3.3.2.1.4 | Is there a thermal energy storage system that is capable of offsetting the peak cooling demand by more than 30%? | 10.0 | |
| **3.3.2.2** | **Power Demand Reduction** | **16.0** | |
| 3.3.2.2.1 | What is the modeled building's monthly power demand factor (lowest kW demand month ÷ peak kW demand month)? | 8.0 | |
| 3.3.2.2.2 | Is there an Energy Management System designed to reduce power demand below the non-reduced peak?<br>**or**<br>Will power demand be controlled by the electric utility as per a load shedding agreement between the building owner and the utility? | 8.0 | |
| **3.3.3** | **Metering, Measurement and Verification** | **12.0** | |
| **3.3.3.1** | **Metering** | **8.0** | |
| 3.3.3.1.1 | Is there metering (at the building level) for the following: | 4.0 | |
| 3.3.3.1.1.1 | • Electricity? | 1.0 | |
| 3.3.3.1.1.2 | • Heating fuels? | 1.0 | |
| 3.3.3.1.1.3 | • Steam? | 1.0 | |
| 3.3.3.1.1.4 | • Other? | 1.0 | |
| 3.3.3.1.1.4.1 | Describe: | | |
| 3.3.3.1.2 | Is there sub-metering installed for the following systems: | 4.0 | |
| 3.3.3.1.2.1 | • Lighting and lighting controls by floor or by zones with floor areas no greater than 20,000 ft$^2$ (1860 m$^2$)? | 0.5 | |
| 3.3.3.1.2.2 | • Plug loads by floor or by zones no greater than 20,000 ft$^2$ (1860 m$^2$)? | 0.5 | |

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| 3.3.3.1.2.3 | • Major electric HVAC equipment 5 HP or greater? | 0.5 | |
| 3.3.3.1.2.4 | • Chilled water generation? | 0.5 | |
| 3.3.3.1.2.5 | • On-site renewable energy power generation? | 0.5 | |
| 3.3.3.1.2.6 | • Heating water or steam generation? | 0.5 | |
| 3.3.3.1.2.7 | • Specialty or process electrical equipment? | 0.5 | |
| 3.3.3.1.2.8 | • Critical HVAC controls? | 0.5 | |
| **3.3.3.2** | **Measurement and Verification** | **4.0** | |
| 3.3.3.2.1 | Does the Energy Metering Reporting Plan include the following monitoring protocols (e.g. daily, monthly, seasonal, by floor etc.): | 4.0 | |
| 3.3.3.2.1.1 | • Lighting and lighting controls: daily demand and consumption by floor or by zones with floor areas no greater than 20,000 $ft^2$ (1860 $m^2$)? | 0.5 | |
| 3.3.3.2.1.2 | • Plug loads: daily demand and consumption by floor or by zones no greater than 20,000 $ft^2$ (1860 $m^2$)? | 0.5 | |
| 3.3.3.2.1.3 | • Major electric HVAC equipment 5 HP or greater: seasonal peak demand and monthly consumption? | 0.5 | |
| 3.3.3.2.1.4 | • Chilled water generation: seasonal peak output and monthly consumption? | 0.5 | |
| 3.3.3.2.1.5 | • On-site renewable energy power generation: monthly peak output, monthly production, and site specific weather characteristics? | 0.5 | |
| 3.3.3.2.1.6 | • Heating water or steam generation: seasonal peak and monthly consumption? | 0.5 | |
| 3.3.3.2.1.7 | • Specialty or process electrical equipment: daily demand and consumption? | 0.5 | |
| 3.3.3.2.1.8 | • Critical HVAC controls: status monitoring and verification? | 0.5 | |
| **3.3.4** | **Building Opaque Envelope** | **31.0** | |
| **3.3.4.1** | **Thermal Resistance and Transmittance** | **10.0** | |
| 3.3.4.1.1 | Do the thermal resistance (R/RSI) **or** the thermal transmittance (U-/C-/F-factor) values for all the opaque elements of the building envelope meet or exceed the requirements as per the Green Globes for New Construction Technical Reference Manual Table 3.3.4.1.1-A (Insulation Minimum R-values), **or** meet or does not exceed Table 3.3.4.1.1-B (Maximum Assembly U-factors, C-factors, and F-factors)? | 10.0 | |
| **3.3.4.2** | **Orientation** | **5.0** | |
| 3.3.4.2.1 | Is the building oriented such that the ratio of the north/south fenestration area to the east/west fenestration area is between 1.25 and 2.00? | 5.0 | |
| **3.3.4.3** | **Fenestration Systems** | **16.0** | |
| | Is the thermal transmittance (U-factor) of the building's fenestration system less than or equal to the values in Green Globes for New Construction Technical Reference Manual, Table 3.3.4.3: Building Envelope Requirements: Fenestration? | 8.0 | |

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| 3.3.4.3.2 | Is the Solar Heat Gain Coefficient (SHGC) of the building's fenestration system less than or equal to the values in Green Globes for New Construction Technical Reference Manual, Table 3.3.4.3 (Building Envelope Requirements: Fenestration)? | 8.0 | |
| **3.3.5** | **Lighting** | **36.0** | |
| **3.3.5.1** | **Total Lighting Power Density** | **10.0** | |
| 3.3.5.1.1 | Is the total lighting power density (LPD) of the building at or below the allowed lighting power density in Green Globes for New Construction Technical Reference Manual, Table 3.3.5.1.1-A (Building Area Method) or Table 3.3.5.1.1-B (Space-by-Space Method)? | 10.0 | |
| **3.3.5.2** | **Interior Automatic Light Shut-off Controls** | **3.0** | |
| 3.3.5.2.1 | Are there time-scheduling devices for lights **and/or** individual occupant-sensing devices? | 3.0 | |
| **3.3.5.3** | **Light Reduction Controls** | **4.0** | |
| 3.3.5.3.1 | Do all interior, non-daylighted areas have lighting controls that can reduce the lighting load by at least 50% from full lighting using any of the following technologies:<br>• Dual switching of alternate rows or luminaires?<br>• Switching of individual lamps independently of adjacent lamps within a luminaire?<br>• Switching of each lamp or luminaire?<br>• Occupancy sensors within the space? | 4.0 | |
| **3.3.5.4** | **Daylighting** | **8.0** | |
| 3.3.5.4.1 | Are the regularly occupied side-lit daylighted areas (vertical fenestration) and the top-lit daylighted areas (skylights) equal to at least 10% of the net building area? | 3.0 | |
| 3.3.5.4.2 | Is the effective aperture for vertical fenestration equal to or greater than:<br>• 0.10 $EA_{VF}$ for climate zones (CZ) 1, 2, 3A or 3B?<br>**or**<br>• 0.15 $EA_{VF}$ for climate zones 3C, 4, 5, 6, 7, 8? | 3.0 | |
| 3.3.5.4.3 | What percentage of the roof consists of skylights? | 2.0 | |
| **3.3.5.5** | **Controls for Daylighted Zones** | **6.0** | |
| 3.3.5.5.1 | Do all small daylit areas have manual or automatic photocell lighting controls? | 3.0 | |
| 3.3.5.5.2 | Do all large daylit areas have automatic photocell lighting controls? | 3.0 | |
| **3.3.5.6** | **Exterior Luminaires and Controls** | **5.0** | |
| 3.3.5.6.1 | Do exterior luminaires have lamps with an initial system efficacy of at least 60 lumens per watt? | 1.0 | |
| 3.3.5.6.2 | Are LED lamp sources used for all exterior lighting? | 1.0 | |
| 3.3.5.6.3 | Are lamps specified that have low or no mercury content? | 1.0 | |

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|---|---|---|---|
| 3.3.5.6.4 | Will one of the following controls be installed for exterior lighting:<br>• Lighting designated for dusk-to-dawn controlled by a photo sensor or astronomical time switch with 10-hour backup?<br>• Lighting not designated for dusk-to-dawn controlled by a time switch with 10-hour backup? | 2.0 | |
| **3.3.6** | **HVAC Systems and Controls** | **59.0** | |
| **3.3.6.1** | **Building Automation System** | **10.0** | |
| 3.3.6.1.1 | Is there a central Building Automation System (BAS) that encompasses all systems that affect building energy performance, lighting, and thermal comfort? | 10.0 | |
| **3.3.6.2** | **Cooling Equipment** | **13.0** | |
| 3.3.6.2.1 | Does the cooling equipment base efficiency meet ANSI/ASHRAE/IESNA Standard 90.1-2010 efficiency requirements with respect to COP, EER and SEER?<br><br>(Refer to the Green Globes New Construction Technical Manual, Table 3.3.6.2.1: Cooling Equipment Base Efficiency, to determine the points awarded) | | |
| 3.3.6.2.1.1 | Input the points awarded per Table 3.3.6.2.1: Cooling Equipment Base Efficiency: | 5.0 | |
| 3.3.6.2.2 | Does the cooling equipment base efficiency exceed ANSI/ASHRAE/IESNA Standard 90.1-2010 or ANSI/ASHRAE/IESNA Standard 90.1-2007 with respect to:<br>• Seasonal energy efficiency ratio (SEER)?<br>**or**<br>• Integrated part-load value (IPLV)?<br>**AND**<br>• The Coefficient of performance (COP)?<br>**or**<br>• Energy efficiency ratio (EER)? | | |
| 3.3.6.2.2.1 | Input the points awarded per Table 3.3.6.2.2 (Incremental Cooling Equipment Efficiency Improvement): | 8.0 | |
| **3.3.6.3** | **Cooling Towers** | **8.0** | |
| 3.3.6.3.1 | Will any of the following measures be used in cooling towers to reduce fan energy consumption:<br>• Two speed fans?<br>• Variable speed fans?<br>• Other measures? | 4.0 | |
| 3.3.6.3.2 | Is there a waterside economizer system with capacity to use outdoor air for cooling water? | 4.0 | |
| **3.3.6.4** | **Heat Pumps** | **6.0** | |

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|---|---|---|---|
| 3.3.6.4.1 | What percentage does the heating efficiency for heat pump applications exceed ANSI/ASHRAE/IESNA STANDARD 90.1-2010, ANSI/ASHRAE/IESNA Standard 90.1-2007, or International Energy Conservation Code (IECC) 2009 IECC requirements for one of the following:<br>• Heating Seasonal Performance Factor (HSPF)?<br>• Coefficient of Performance (COP)? | 6.0 | |
| **3.3.6.5** | **Heating Equipment** | **8.0** | |
| 3.3.6.5.1 | What percentage does the heating equipment exceed ANSI/ASHRAE/IESNA STANDARD 90.1-2010, ANSI/ASHRAE/IESNA Standard 90.1-2007, or International Energy Conservation Code (IECC) 2009 IECC for one of the following:<br>• Annual fuel utilization efficiency (AFUE)?<br>• Thermal efficiency (ET)?<br>• Combustion Efficiency (EC)? | 8.0 | |
| **3.3.6.6** | **Condensate Recovery** | **3.0** | |
| 3.3.6.6.1 | Are steam heating systems (including district systems) equipped to recover and return condensate (excluding trap losses)? | 3.0 | |
| **3.3.6.7** | **Steam Traps** | **2.0** | |
| 3.3.6.7.1 | Are all steam trap designs sealed/stamped by a Professional Engineer? | 1.0 | |
| 3.3.6.7.2 | Are there isolation valves to allow all steam traps to be isolated for repairs? | 1.0 | |
| **3.3.6.8** | **Domestic Hot Water Heaters** | **3.0** | |
| 3.3.6.8.1 | Do all domestic hot water heaters meet the efficiency requirements of ANSI/ASHRAE/IESNA Standard 90.1-2010, ANSI/ASHRAE/IESNA Standard 90.1-2007, or International Energy Conservation Code (IECC) 2009? | 2.0 | |
| 3.3.6.8.2 | Are all domestic hot water heaters equipped with intermittent electrical igniters and low $NO_X$ burners? | 1.0 | |
| **3.3.6.9** | **Variable Speed Control of Pumps** | **6.0** | |
| 3.3.6.9.1 | What percentage of the connected hydronic pumping power is provisioned with variable speed control? | 6.0 | |
| **3.3.7** | **Other HVAC Systems and Controls** | **32.0** | |
| **3.3.7.1** | **Minimizing Re-heat and Re-cool** | **6.0** | |
| 3.3.7.1.1 | Does the HVAC design minimize or eliminate re-heat and re-cool? | 6.0 | |
| 3.3.7.1.1.1 | Describe the HVAC design utilized. | | |
| **3.3.7.2** | **Air Economizers** | **3.0** | |
| 3.3.7.2.1 | Are there air economizers with a mode that uses outdoor air for cooling in place of mechanical cooling? | 1.0 | |
| 3.3.7.2.2 | Are there controls to shut outdoor air and exhaust air dampers during periods when the system is not operating? | 1.0 | |

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|---|---|---|---|
| 3.3.7.2.3 | Are the dampers in the air handling system “low leakage”? | 1.0 | |
| **3.3.7.3** | **Fans and Ductwork** | **7.0** | |
| 3.3.7.3.1 | Does the duct distribution system comprise the following: | | |
| 3.3.7.3.1.1 | • Diffusers and registers sized with a full flow pressure drop no greater than 0.01 in (0.03 cm) of water column? | 0.5 | |
| 3.3.7.3.1.2 | • Noise criteria (NC) of 35 or less? | 0.5 | |
| 3.3.7.3.1.3 | • Supply and return ductwork sized with a pressure drop no greater than 0.1 in (0.3 cm) of water column per 100 lineal feet (30.5 lineal meters)? | 0.5 | |
| 3.3.7.3.2 | Are there the following requirements for flexible ductwork: | | |
| 3.3.7.3.2.1 | • Flexible ductwork is no longer than 5 ft. (1.5 m) when fully stretched? | 0.5 | |
| 3.3.7.3.2.2 | • The use of flexible ductwork is limited to only connections between duct branches and diffusers, and connections between duct branches and variable air volume terminal units? | 0.5 | |
| 3.3.7.3.2.3 | • Durable elbow support is provided when flexible ductwork is used as an elbow? | 0.5 | |
| 3.3.7.3.3 | Are the duct joints sealed and have the seams been leak-tested and found to have an overall leak rate that does not exceed 5%? | 1.0 | |
| 3.3.7.3.4 | Do motors for fans meet NEMA’s Premium® “Energy Efficiency Motor Program”? | 1.0 | |
| 3.3.7.3.5 | Are variable speed fans controlled by a duct pressure set-point or an energy management control system? | 2.0 | |
| **3.3.7.4** | **Demand Controlled Ventilation** | **10.0** | |
| 3.3.7.4.1 | Are there occupancy and/or $CO_2$ sensors to control ventilation rates in regularly occupied spaces that may experience frequent variations in the number of occupants? | 4.0 | |
| 3.3.7.4.2 | Are the $CO_2$ sensors capable of maintaining calibration within 2% for a one year period of operation? | 1.0 | |
| 3.3.7.4.3 | Do the ventilation heat recovery systems include the following: | | |
| 3.3.7.4.3.1 | • Pressure-drop impact on fan power? | 1.0 | |
| 3.3.7.4.3.2 | • Bypass for economizer operation, if applicable? | 2.0 | |
| 3.3.7.4.3.3 | • MERV 13 Filtration? | 2.0 | |
| **3.3.7.5** | **Variable Refrigerant Flow Systems** | **6.0** | |
| 3.3.7.5.1 | Does the HVAC design utilize Variable Refrigerant Fllow (VRF) system technology? | 6.0 | |
| **3.3.8** | **Other Energy Efficient Equipment and Measures** | **11.0** | |
| **3.3.8.1** | **Elevators and Escalators** | **5.0** | |
| 3.3.8.1.1 | Are there regenerative braking elevators? | 3.0 | |
| 3.3.8.1.2 | Are escalators and moving walkways equipped with the capability to slow down or stop when detectors indicate no traffic? | 2.0 | |
| **3.3.8.2** | **Other Energy Efficient Equipment** | **6.0** | |

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|---|---|---|---|
| 3.3.8.2.1 | Is the building's energy efficiency increased through the use of one or more of the following energy efficient equipment: | 6.0 | |
| 3.3.8.2.1.1 | • Energy efficient lighting fixtures, lamps, and ballasts? | 2.0 | |
| 3.3.8.2.1.2 | • Energy efficient motors? | 2.0 | |
| 3.3.8.2.1.3 | • Others? | 2.0 | |
| 3.3.8.2.1.3.1 | Describe other energy efficient products (if any): | | |
| **3.3.9** | **Renewable Energy** | **50.0** | |
| **3.3.9.1** | **On-site Renewable Energy** | **32.0** | |
| 3.3.9.1.1 | Has a Study been conducted to determine the technical feasibility and life-cycle cost effectiveness of on-site renewable energy?<br><br>(For Federal building projects, see ToolTip for special Guiding Principles solar hot water requirement.) | 9.0 | |
| 3.3.9.1.2 | Were the recommendations of the Feasibility Study implemented? | 23.0 | |
| **3.3.9.2** | **Off-site Renewable Energy** | **18.0** | |
| 3.3.9.2.1 | Has the building owner committed to sign a contract to purchase either certified “green” power or certified renewable energy certificates (RECs) with a minimum three-year commitment; and if so, for what percentage of total electrical consumption of the building? | 18.0 | |
| **3.3.10** | **Energy Efficient Transportation** | **24.0** | |
| 3.3.10.1 | Is the site located within 0.25 mi (0.4 km) of a public transportation facility such as a public bus stop or train-stop? | 10.0 | |
| 3.3.10.2 | Will there be designated preferred parking for car/van pooling, and shelter from weather for persons waiting for a lift? | 2.0 | |
| 3.3.10.3 | Are there alternative fuel re-fueling facilities or electric charging stations on site or in the general vicinity? | 5.0 | |
| 3.3.10.4 | Is the site located within 0.25 mi (0.4 km) of a public bicycle path, multi-user path, or on a road with an existing dedicated bicycle lane? | 3.0 | |
| 3.3.10.5 | Is there sheltered bicycle parking for:<br>• At least 5% of the maximum number of office building occupants?<br>**or**<br>• At least 50% of units in a multi-family residential building? | 3.0 | |
| 3.3.10.6 | Is the building’s walkability index greater than 75%? | 1.0 | |
| **3.4** | **Water** | **110.0** | |
| **3.4.1** | **Water Consumption** | **42.0** | |
| 3.4.1.1 | Using the Green Globes Water Consumption Calculator, is the projected water consumption of the building less than the given baseline? | 24.0 | |

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|---|---|---|---|
| 3.4.1.2 | Are the following plumbing fixtures and fittings certified as being compliant with the requirements of the U.S. EPA's WaterSense Program: | | |
| 3.4.1.2.1 | • Toilets (Maximum effective flush 1.28 gallons)? | 2.0 | |
| 3.4.1.2.2 | • Urinals (Maximum effective flush volume 0.5 gallons)? | 2.0 | |
| 3.4.1.2.3 | • Showerheads (Maximum effective flow rate 2.0 gallons per minute)? | 2.0 | |
| 3.4.1.2.4 | • Residential lavatory faucets (Maximum flow rate 1.5 gallons per minute)? | 2.0 | |
| 3.4.1.2.5 | • Residential kitchen faucets (Maximum flow rate 2.2 gallons per minute)? | 2.0 | |
| 3.4.1.2.6 | • Non-residential lavatory faucets (Maximum flow rate 0.5 gallons per minute)? | 2.0 | |
| 3.4.1.3 | If any water fixtures not addressed by the WaterSense program requirements were used in the project design, were projected consumption rates for these fixtures determined and entered into the Green Globes Water Consumption Calculator? | 2.0 | |
| 3.4.1.3.1 | Describe other water-saving measures: | | |
| 3.4.1.4 | Are residential clothes washers ENERGY STAR labeled with a maximum water factor of 6.0 gal/ft$^3$ (23 L/m$^3$) per full cycle? | 2.0 | |
| 3.4.1.5 | Are residential dishwashers ENERGY STAR labeled with a maximum water factor of 5.8 gal/ft$^3$ (22 L/m$^3$) per full cycle? | 2.0 | |
| **3.4.2** | **Cooling Towers** | **9.0** | |
| 3.4.2.1 | Do cooling towers minimize the amount of make-up water by achieving one of the following:<br><br>• A minimum of 5 cycles of concentration for makeup waters have less than or equal to 200 ppm (200 mg/L) total hardness as calcium carbonate or 3.5 cycles for makeup waters with > 200 ppm (200 mg/L) total hardness as calcium carbonate?<br>or<br>• A minimum discharge conductivity of 1500 micromhos/cm or maximum of 150 ppm (150 mg/L) of silica measured as silicon dioxide? | 2.0 | |
| 3.4.2.2 | Do cooling towers exceed the minimum water quality criteria above by 20% or more? | 1.0 | |
| 3.4.2.3 | Are there flow meters on the make-up and blowdown lines, and conductivity controllers? | 1.0 | |
| 3.4.2.4 | What percentage of cooling consists of dry cooling? | 3.0 | |
| 3.4.2.5 | Are cooling tower(s) equipped with drift eliminators that achieve an efficiency of 0.001% or less for **counterflow** systems?<br>**or**<br>0.005% or less for **crossflow** systems? | 2.0 | |
| **3.4.3** | **Boilers and Water Heaters** | **4.0** | |
| 3.4.3.1 | Do boilers and/or water heaters have the following features: | | |

| | | | |
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| 3.4.3.1.1 | • Boilers and water heating systems of 50 bhp and above have a boiler feed makeup meter? | 1.0 | |
| 3.4.3.1.2 | • Boiler systems with over 50 bhp have condensate return systems? | 1.0 | |
| 3.4.3.1.3 | • Boilers have conductivity controllers? | 1.0 | |
| 3.4.3.1.4 | • Steam boilers have conductivity meters? | 1.0 | |
| **3.4.4** | **Water Intensive Applications** | **18.0** | |
| **3.4.4.1** | **Commercial Food Service Equipment** | **6.0** | |
| 3.4.4.1.1 | Do food services avoid water intensive equipment as follows: | | |
| 3.4.4.1.1.1 | • There is **no** once-through water-cooled equipment? | 1.0 | |
| 3.4.4.1.1.2 | • There is **no** water-fed garbage disposal? | 1.0 | |
| 3.4.4.1.2 | Do the following appliances meet the prescribed limits for water usage: | | |
| 3.4.4.1.2.1 | • Combination ovens consuming 10 gal/hr. (39 L/hr.) or less? | 1.0 | |
| 3.4.4.1.2.2 | • Pre-rinse spray valves for dish-rinsing consuming 1.5 gal/min (5.7 L/min) or less? | 1.0 | |
| 3.4.4.1.2.3 | • Boilerless/connectionless food steamers consuming less than 2 gal/hr. (7.5 L/hr.) or less? | 1.0 | |
| 3.4.4.1.2.4 | • Dishwashers consuming 5.8 gal/cycle (22 L/cycle) or less? | 1.0 | |
| **3.4.4.2** | **Laboratory and Medical Equipment** | **5.0** | |
| 3.4.4.2.1 | Are sterilizers equipped with the following: | | |
| 3.4.4.2.1.1 | • Mechanical vacuum systems? | 0.5 | |
| 3.4.4.2.1.2 | • Water tempering devices that only allow water to flow when the discharge of condensate or hot water from the sterilizer exceeds 140°F (60°C)? | 0.5 | |
| 3.4.4.2.2 | Does laboratory or medical equipment use non-potable water for once-through cooling? | 1.0 | |
| 3.4.4.2.3 | Are dry vacuum systems specified for medical/dental purposes? | 1.0 | |
| 3.4.4.2.4 | Do X-rays, MRIs, CT scans, and other imaging equipment employ digital technologies; **and/or** Do large X-ray film systems (capable of processing X-ray films of more than 5.9 in (150 mm) in length or width) employ recycling technology to reduce water waste? | 1.0 | |
| 3.4.4.2.5 | Are wet scrubbers equipped with water recirculation systems? | 1.0 | |
| **3.4.4.3** | **Laundry Equipment** | **4.0** | |
| 3.4.4.3.1 | Do coin or card-operated laundromat machines meet the prescribed water factor (WF) performance as follows (if applicable): • Single-load, soft- or hard-mount laundromat washing machines with a WF of 8 gal/ft$^3$ or less? **and/or** • Multi-load washing machines with a WF of 9.5 gal/ft$^3$ or less? | 2.0 | |

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|---|---|---|---|
| 3.4.4.3.2 | If an institutional/industrial laundry, are there the following types of washing machines:<br><br>• Tunnel washing machine that is programmable to use a specific amount of water depending on the soiling of the material to be washed?<br>• That has a water consumption of 0.96 gal/lb. (8 L/kg); or less than 1.44 gal/lb. (12 L/kg)?<br>• That has a water recycling system? | 2.0 | |
| **3.4.4.4** | **Special water features** | **3.0** | |
| 3.4.4.4.1 | Do special water features (e.g. swimming pools, spas, ornamental fountains, water playscapes) filter and re-circulate water for reuse within the system? | 2.0 | |
| 3.4.4.4.2 | Do special water features use alternate sources of water for makeup water? | 1.0 | |
| **3.4.5** | **Water Treatment** | **3.0** | |
| 3.4.5.1 | Are filtration systems equipped with pressure drop gauges that allow backwash to be based on pressure drop and not on timers? | 1.0 | |
| 3.4.5.2 | Is reverse osmosis provided that achieves one of the following:<br><br>• Rejects less than 70% of feedwater volume for a system that produces less than 100 gal. (380 L) per day?<br>**or**<br>• That rejects less than 60% of feedwater for a system that produces more than 100 gal. (380 L) per day? | 1.0 | |
| 3.4.5.3 | Are water softeners equipped with recharge controls based on volume of water treated or hardness, and not on timers? | 1.0 | |
| **3.4.6** | **Alternate Sources of Water** | **5.0** | |
| 3.4.6.1 | What percentage of water for non-potable uses will be harvested on-site or reclaimed? | 5.0 | |
| **3.4.7** | **Metering** | **11.0** | |
| 3.4.7.1 | Is there sub-metering for all water-intensive indoor applications such as commercial kitchens, commercial laundry, labs, pools, spas etc.? | 3.0 | |
| 3.4.7.2 | Is the potable water that is used for irrigation sub-metered? | 3.0 | |
| 3.4.7.3 | Are all water meters and sub-meters linked to a Meter Data Management System to store and report water consumption data? | 3.0 | |
| 3.4.7.4 | Are chilled or hot water loops equipped with makeup meters? | 2.0 | |
| **3.4.8** | **Irrigation** | **18.0** | |
| 3.4.8.1 | What percentage of exterior vegetated space does not require irrigation? | 14.0 | |
| 3.4.8.2 | Does the irrigation system include any of the following features: | | |

| | | | |
|---|---|---|---|
| 3.4.8.2.1 | • Gutter downspouts directed into planted areas or other landscape features?<br>**or**<br>• Onsite cistern and/or rainwater harvesting system, or reclaimed water system? | 1.0 | |
| 3.4.8.2.2 | • Drip or low-volume irrigation? | 1.0 | |
| 3.4.8.2.3 | • EPA WaterSense/Smart Water Application Technology (SWAT), smart controllers (ET, rain sensors, or soil moisture sensors), and automatic rain shut off devices? | 1.0 | |
| 3.4.8.2.4 | • Capability to regulate precipitation rates on sprinkler heads for differing hydrozones? | 0.5 | |
| 3.4.8.2.5 | • Swing joints or flex pipes used on all in-ground irrigation heads? | 0.5 | |
| **3.5** | **Materials & Resources** | **125.0** | |
| **3.5.1** | **Building Assembly (core and shell including envelope)** | **33.0** | |
| | [illegible] envelope):<br><br>**Path A: Performance Path for Building Assemblies** - 33 points<br><br>**Path B: Prescriptive Path for Building Assemblies** - 20 (out of 33) points<br><br>Points cannot be combined between paths. Please review and select one of the two pathways below. | 33.0 | |
| **3.5.1.1** | **Path A: Performance Path for Building Assemblies** | **33.0** | **33 points** |
| 3.5.1.1.1 | [illegible] **minimum of two** building assemblies (core and shell, including envelope) in the conceptual design phase based on life cycle impacts?<br>**or**<br>Was life cycle analysis and relative comparison of a **minimum of two** alternative building assemblies (core and shell, including envelope) performed during the conceptual design phase, which resulted in the structure and envelope selection that provides the least environmental impact based upon the comparable application? | 33.0 | |
| **3.5.1.2** | **Path B: Prescriptive Path for Building Assemblies** | **0.0** | **20 points** |
| 3.5.1.2.1 | Based upon the appropriate application and specification of comparable materials and products, what percentage of the products selected for the building assembly (core and shell, including envelope, based upon cost) have: | 0.0 | This is worth 20 points, but can't enter here as it will double count points at 3.2.5.1 line due to alternate path options. |
| 3.5.1.2.1.1 | • Environmental Product Declarations (EPDs) that utilize recognized Product Category Rules, conform to ISO standards, and minimally includes cradle-to-gate scope: | | |

| | | | |
|---|---|---|---|
| | ○ Industry Wide (Generic) EPD: Products specified for the building assembly shall include third-party certified Type III Environmental Product Declaration (EPD), including external verification where the manufacturer is explicitly recognized as a participant by the program operator?<br>**and/or**<br>○ Product Specific Declaration: Products specified for the building assembly shall be products with a publicly available product-specific third-party certified Type III Environmental Product Declaration (EPD), including external verification? | | |
| | **and/or**<br>• Third-party certifications that are based upon a multiple attribute standard(s) developed by a consensus based process from an approved standard development organization? Examples include NSF sustainability assessment standards, UL Environment sustainability standards, sustainable forestry certifications, and other consensus-based assessment standards that are multiple attribute and life cycle based. | | |
| | **and/or**<br>• Third-party certified life cycle product assessment based upon ISO 14040 and 14044, and minimally covers cradle-to-gate scope? | | |
| **3.5.2** | **Interior Fit-out (including finishes and furnishings)** | **16.0** | |
| | [illegible] furnishings):<br><br>**Path A: Performance Path for Interior Fit-Outs** - 16 points<br><br>**Path B: Prescriptive Path for Interior Fit-Outs** - 10 (out of 16) points<br><br>Points cannot be combined between paths. Please review and select one of the two pathways below. | 16.0 | |
| **3.5.2.1** | **Path A: Performance Path for Interior Fit-Outs** | **16.0** | **16 points** |
| 3.5.2.1.1 | Was life cycle analysis and relative comparison of **a minimum of two** alternative interior fit-outs (including finishes and furnishings) performed during the conceptual design phase, which resulted in the selection of an interior fit-out that provides the least environmental impact based upon comparable applications? | 16.0 | |
| **3.5.2.2** | **Path B: Prescriptive Path for Interior Fit-outs** | **0.0** | **10 points** |
| 3.5.2.2.1 | Based upon the appropriate application and specification of comparable products, what percentage of the interior fit-out materials and products (including finishes and furnishings) selected (based upon cost) have: | | |

| | | | |
|---|---|---|---|
| 3.5.2.2.1.1 | • Environmental Product Declarations (EPDs) that utilize recognized Product Category Rules, conform to ISO standards, and minimally includes cradle-to-gate scope: | | This is worth 10 points, but can't enter here as it will double count points at 3.5.2 line due to alternate path options. |
| | o Industry Wide (Generic) EPD: Products specified for the interior fit-out shall include third-party certified Type III Environmental Product Declaration (EPD), including external verification where the manufacturer is explicitly recognized as a participant by the program operator?<br>**and/or**<br>o Product Specific Declaration: Products specified for the interior fit-out shall be products with a publicly available product-specific third-party certified Type III Environmental Product Declaration (EPD), including external verification? | | |
| | **and/or**<br>• Third-party certifications that are based upon a multiple attribute standard(s) developed by a consensus based process from an approved standard development organization? Examples include NSF sustainability assessment standards, UL Environment sustainability standards, sustainable forestry certifications, and other consensus-based assessment standards that are multiple attribute and life cycle based. | | |
| | **and/or**<br>• Third-party certified life cycle product assessment based upon ISO 14040 and 14044, and minimally covers cradle-to-gate scope? | | |
| **3.5.3** | **Re-use of Existing Structures** | **26.0** | |
| **3.5.3.1** | **Façades** | **6.0** | |
| 3.5.3.1.1 | What percentage of the façade from an existing building on the site is retained and incorporated in the new design? | 6.0 | |
| **3.5.3.2** | **Structural Systems** | **6.0** | |
| 3.5.3.2.1 | What percentage of structural systems (e.g. interior walls) from an existing building on the site is retained and incorporated in the new design? | 6.0 | |
| **3.5.3.3** | **Non-structural Elements** | **14.0** | |
| 3.5.3.3.1 | What percentage of the existing interior ceilings, interior partitions, and/or demountable walls will be reused within the renovation project? | 6.0 | |
| 3.5.3.3.2 | What percentage of the existing furnishings (including systems furniture) will be re-used and/or refurbished for reuse within the renovation project? | 4.0 | |
| 3.5.3.3.3 | Is there a requirement that the project will incorporate reused and off-site salvaged materials? | 4.0 | |

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| **3.5.4** | **Waste** | **9.0** | |
| **3.5.4.1** | **Construction Waste** | **7.0** | |
| 3.5.4.1.1 | What percentage of the construction waste, including building demolition waste, will be diverted from the landfill? | 6.0 | |
| 3.5.4.1.2 | Is there a requirement to reuse existing on-site materials for site development or landscaping (e.g. crushing concrete for aggregate base or drain rock, shredding vegetative materials for mulch, etc.)? | 1.0 | |
| **3.5.4.2** | **Operational Waste** | **2.0** | |
| 3.5.4.2.1 | Does the building design address operations-related recycling programs through one or more of the following: | | |
| 3.5.4.2.1.1 | • Operational flow for waste handling and storage facilities for recycling? | 0.5 | |
| 3.5.4.2.1.2 | • Storage areas for recyclable waste at points of service? | 0.5 | |
| 3.5.4.2.1.3 | • Storage areas for recyclable waste at pick-up areas? | 0.5 | |
| 3.5.4.2.1.4 | • Operational flow for handling and storage facilities for composting? | 0.5 | |
| 3.5.4.2.2 | Indicate total storage area (in $ft^2$) for recyclable waste at points of service and pick-up areas: | | |
| **3.5.5** | **Building Service Life Plan** | **7.0** | |
| 3.5.5.1 | Is there a preliminary Building Service Life Plan that includes the expected service life estimates for the following: | | |
| 3.5.5.1.1 | • The building? | 2.0 | |
| 3.5.5.1.2 | • The structural systems, building envelope, and hardscape materials that will need to be replaced during the life of the building? | 2.0 | |
| 3.5.5.1.3 | • The mechanical, electrical, plumbing, and energy generation systems that will require inspection and/or replacement during the service life of the building? | 2.0 | |
| 3.5.5.2 | Is there a schedule for maintenance, repair, and replacement for each building element including the building fit-out (as applicable) for the duration of the building design life? | 1.0 | |
| **3.5.6** | **Resource Conservation** | **6.0** | |
| **3.5.6.1** | **Minimized Use of Raw Materials** | **3.0** | |
| 3.5.6.1.1 | Does the design specify the use of prefabricated, preassembled, and/or modular products? | 2.0 | |
| 3.5.6.1.2 | Does the building design use materials efficiently and/or minimize the use of raw materials as compared with typical construction practices? | 1.0 | |
| 3.5.6.1.3 | Give examples of products used that will result in minimal use of raw materials compared to typical construction practices: | | |
| **3.5.6.2** | **Multi-Functional Assemblies** | **1.0** | |
| 3.5.6.2.1 | Does the design incorporate assemblies that perform multiple functions? | 1.0 | |

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| 3.5.6.2.2 | Give examples of incorporated assemblies that perform multiple functions: | | |
| **3.5.6.3** | **Deconstruction and Disassembly** | **2.0** | |
| 3.5.6.3.1 | Does the building design facilitate future deconstruction, demounting and disassembly; and re-configuration? | 2.0 | |
| 3.5.6.3.2 | Give examples of incorporated building systems that are easily disassembled: | | |
| **3.5.7** | **Envelope – Roofing / Openings** | **10.0** | |
| **3.5.7.1** | **Roofing Membrane Assemblies and Systems** | **3.0** | |
| 3.5.7.1.1 | Is there a requirement that roofing membrane assemblies and systems are to be: | | |
| 3.5.7.1.1.1 | • Installed as per manufacturers' instructions and recommendations? | 1.5 | |
| 3.5.7.1.1.2 | • Field-inspected by a roofing system manufacturer's technical personnel or RCI-certified third-party roofing inspector as per the prescribed industry protocol? | 1.5 | |
| **3.5.7.2** | **Flashings** | **3.0** | |
| 3.5.7.2.1 | Is there a requirement that building envelope flashings and sheet metal assemblies are to be: | | |
| 3.5.7.2.1.1 | • Installed as per prescribed industry best practice? | 1.5 | |
| 3.5.7.2.1.2 | • Inspected as per prescribed industry protocol? | 1.5 | |
| **3.5.7.3** | **Roof and Wall Openings** | **4.0** | |
| 3.5.7.3.1 | Is there a requirement that all products for roof and wall openings (doors, windows, skylights etc.) are to: | | |
| 3.5.7.3.1.1 | • Comprise moisture management design that meets industry prescribed performance requirements? | 1.0 | |
| 3.5.7.3.1.2 | • Be installed as per prescribed industry best practice? | 1.0 | |
| 3.5.7.3.1.3 | • Be inspected as per the prescribed industry protocol, including field testing with respect to water penetration? | 2.0 | |
| **3.5.8** | **Envelope – Foundation, Waterproofing** | **6.0** | |
| **3.5.8.1** | **Foundation Systems** | **4.0** | |
| 3.5.8.1.1 | Is there a requirement that newly installed foundation systems for conditioned spaces are to: | | |
| 3.5.8.1.1.1 | • Be constructed with slab-on-ground vapor retarders conforming to prescribed industry best practices? | 0.5 | |
| 3.5.8.1.1.2 | • Be constructed such that all slabs on grade will be positioned directly over vapor retarders and capillary-break base courses? | 0.5 | |
| 3.5.8.1.1.3 | • Undergo field-inspection of all vapor retarder and waterproofing assemblies as per prescribed industry protocol? | 1.0 | |
| 3.5.8.1.2 | Is there a requirement for the following damp-proofing measures to be applied to all newly installed foundation walls in contact with grade: | | |
| 3.5.8.1.2.1 | • 5% slope grade away indicated from the building for at least 10 ft. (3.05 m)? | 0.5 | |

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| 3.5.8.1.2.2 | • Roof drainage to be directed at least 3 ft. (0.9 m) beyond the building overhang? | 0.5 | |
| 3.5.8.1.2.3 | • A foundation drainage system? | 1.0 | |
| **3.5.8.2** | **Below Grade Wall Slabs and Above Grade Horizontal Assemblies** | **2.0** | |
| 3.5.8.2.1 | Is there a requirement that waterproofing membrane assemblies are to: | | |
| 3.5.8.2.1.1 | • Be provided at all below grade slabs and foundation/basement walls that are subject to hydrostatic pressures? | 1.0 | |
| 3.5.8.2.1.2 | • Be installed as per the manufacturer's requirements, and field-inspected as per prescribed industry protocol? | 1.0 | |
| **3.5.9** | **Envelope – Cladding** | **5.0** | |
| **3.5.9.1** | **Exterior Wall Cladding Systems** | **3.0** | |
| 3.5.9.1.1 | Is there a requirement to install cladding systems as per industry best practices for one of the following:<br><br>Exterior Insulation Finishing Systems (EIFS) installed as water-managed systems in accordance with the manufacturer's requirements?<br>**or**<br>Aluminum framed glazing systems installed in accordance with the manufacturer's requirements and warranted by the manufacturer for the intended purpose?<br>**or**<br>Masonry veneer cladding installed in accordance with industry technical notes and bulletins?<br>**or**<br>Architectural precast concrete cladding systems that incorporate pressure equalized two stage joints between precast concrete panels and adjacent cladding assemblies? | 1.0 | |
| 3.5.9.1.2 | Is there a requirement to inspect the cladding installation as per the appropriate prescribed industry protocols for one of the following:<br><br>EIS cladding systems?<br>**or**<br>Aluminum framed glazing systems?<br>**or**<br>Masonry veneer cladding? | 1.0 | |
| 3.5.9.1.3 | Are joint sealers to be installed as per prescribed industry best practice, and field inspected as per prescribed industry protocol? | 1.0 | |
| **3.5.9.2** | **Rainscreen Wall Cladding** | **2.0** | |
| 3.5.9.2.1 | Do the construction documents indicate that exterior rainscreen wall cladding systems specified over framed walls are to be installed with the following: | | |
| 3.5.9.2.1.1 | • A primary and secondary line of defense? | 0.5 | |

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| 3.5.9.2.1.2 | • An air barrier? | 0.5 | |
| 3.5.9.2.1.3 | • A means for incidental bulk water intrusion to escape the cladding system assembly? | 0.5 | |
| 3.5.9.2.2 | Are rainscreen cladding assemblies required to pass requirements of AAMA 508-07 laboratory-testing? | 0.5 | |
| **3.5.10** | **Envelope – Barriers** | **7.0** | |
| **3.5.10.1** | **Air Barriers** | **4.0** | |
| 3.5.10.1.1 | Do the construction documents indicate that a continuous air barrier will be installed according to the following practices: | | |
| 3.5.10.1.1.1 | • The air barrier material of each assembly detail shows an airtight and flexible joint between the air barrier material and adjacent assemblies? | 0.5 | |
| 3.5.10.1.1.2 | • The air barrier is designed to withstand positive and negative combined design wind, fan, and stack pressures on the air barrier without damage or displacement? | 0.5 | |
| 3.5.10.1.1.3 | • The air barrier is designed to withstand movement in the structure and not displace materials under full load? | 0.5 | |
| 3.5.10.1.1.4 | • Air barrier connection details are shown between: foundation and walls; walls and windows or doors; different wall systems; wall and roof; wall and roof over conditioned space or wall and ceiling under unconditioned space; walls, floors and roof across construction, control, and expansion joints; walls, floors, and roof to utility, pipe, and duct penetrations. | 0.5 | |
| 3.5.10.1.2 | Do the construction documents indicate compliance of the continuous air barrier for the opaque building envelope was demonstrated using one of the following strategies: | 2.0 | |

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| | **Materials:** tested in accordance with ASTM E2178-11 Standard Test Method for Air Permeance of Building Materials and determined that the air permeability of individual materials did not exceed 0.02 L/s·m2 under a pressure differential of 75 Pa (0.004 cfm/ft2 @ 0.3 in. w.g. (1.6 psf)). When all joints are sealed, materials meet this requirement?<br>**or**<br>**Assemblies:** tested in accordance with ASTM E2357-11 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies, or ASTM E1677-11 Standard Specification for Air Barrier (AB) Material or System for Low-Rise Framed Building Walls, and determined that the average air leakage did not exceed 0.2 L/s·m2 under a pressure differential of 75 Pa (0.04 cfm/ft2 @ 0.3 in. w.g. (1.6 psf)). Concrete masonry walls that are sealed and painted do not have to be tested. When all joints are sealed, assemblies meet this requirement?<br>**or**<br>**Building:** tested with ASTM E779-03 or an equivalent approved method and determined that the air leakage rate of the building envelope did not exceed 2.0 L/s·m2 under a pressure differential of 75 Pa (0.4 cfm/ft2 under a pressure differntial of 0.3 in. w.g. (1.6 psf)).? | | |
| **3.5.10.2** | **Vapor Retarders** | **3.0** | |
| 3.5.10.2.1 | Do the construction documents indicate that the interior side of framed walls in Climate Zones 5, 6, 7, 8 and Marine 4 are installed with a Class I or II vapor retarder that is in accordance with the International Energy Conservation Code 2012, International Energy Conservation Code 2007 Supplement, or 2009 International Building Code Section 1405.3? | 1.0 | |
| 3.5.10.2.2 | Do the construction documents indicate that the walls of unvented crawl spaces must have insulation that is permanently fastened to the wall and extends downward from the floor to the finished grade level, and then vertically and/or horizontally for at least an additional 24 inches (60.9 cm)? | 1.0 | |
| 3.5.10.2.3 | Do the construction documents indicate that exposed earth in unvented crawl space foundations must be covered with a continuous Class I vapor retarder, and installed with the following strategies:<br><br>All joints of the vapor retarder are overlapped by 6 in (15.2 cm) and are sealed or taped?<br>**and**<br>The edges of the vapor retarder extend at least 6 in (15.2 cm) up the stem wall and are attached to the stem wall? | 1.0 | |
| **3.6** | **Emissions** | **50.0** | |
| **3.6.1** | **Heating** | **18.0** | |

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| | Green Globes provides two paths for assessing heating:<br><br>**Path A: District Heating** - 18 points<br><br>**Path B: Low Emission Boilers and Furnaces** - 18 points<br><br>Points cannot be combined between Paths. Please review and select one of the two pathways below. | 18.0 | |
| **3.6.1.1** | **Path A: District Heating** | **18.0** | **18 points** |
| 3.6.1.1.1 | Is district heating being used? | 18.0 | |
| 3.6.1.1.1.1 | Describe the type of district heating being used: | | |
| **3.6.1.2** | **Path B: Low Emission Boilers and Furnaces** | **0.0** | **18 points** |
| 3.6.1.2.1 | Are there low or ultra-low $NO_X$ emission boilers and furnaces? | | This is worth 9 points, but can't enter here as it will double count points at 3.6.1 line due to alternate path options. |
| 3.6.1.2.2 | Are there low or ultra-low CO emission boilers and furnaces? | | This is worth 9 points, but can't enter here as it will double count points at 3.6.1 line due to alternate path options. |
| **3.6.2** | **Cooling** | **29.0** | |
| 3.6.2.1 | In the case of a retrofit, is the cooling equipment new or existing? | | |
| **3.6.2.2** | **Ozone-depleting Potential** | **10.0** | |
| 3.6.2.2.1 | Does the cooling equipment (not including portable equipment) use refrigerants that have zero or “near-zero” ozone depletion potential (ODP)?<br>**or**<br>Are there no refrigerants? | 10.0 | |
| **3.6.2.3** | **Global Warming Potential** | **10.0** | |

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| 3.6.2.3.1 | Does cooling equipment (not including portable equipment) use refrigerants that have a low global warming potential ($GWP_{100}$)?<br>**or**<br>Are there no refrigerants? | 10.0 | |
| **3.6.2.4** | **Leak Detection** | **9.0** | |
| 3.6.2.4.1 | Is there a requirement that equipment installer(s) test remote commercial systems (e.g. supermarket refrigeration) as per "GreenChill Best Practices Guideline Ensuring Leak-Tight Installations of Commercial Refrigeration Equipment"? | 3.0 | |
| 3.6.2.4.2 | Are there refrigerant leak detectors capable of detecting leakage rates down to 2.0% per year for each refrigerant? | 3.0 | |
| 3.6.2.4.3 | Is there an alarm system capable of alerting the building operator to leakage thresholds? | 3.0 | |
| **3.6.3** | **Janitorial Equipment** | **3.0** | |
| 3.6.3.1 | Are there designated storage areas for hazardous materials / janitorial supplies with full height, floor-to-floor walls and mechanical ventilation? | 3.0 | |
| **3.7** | **Indoor Environment** | **160.0** | |
| **3.7.1** | **Ventilation** | **37.0** | |
| 3.7.1.1 | **Ventilation Air Quantity** | **11.0** | |
| 3.7.1.1.1 | Is the quantity of ventilation air for the building compliant with ANSI/ASHRAE 62.1-2007, ANSI/ASHRAE 62.1-2010, the International Code Council International Mechanical Code (ICC IMC) 2009, IAPMO UMC (2009): Uniform Mechanical Code, ASHRAE 170-2008 (for hospitals or healthcare occupancies), or local codes or standards? | 7.0 | |
| 3.7.1.1.2 | Do the construction documents indicate the ventilation schedule for all occupied spaces? | 4.0 | |
| 3.7.1.2 | **Air Exchange** | **8.0** | |
| | Green Globes provides three paths for assessing air exchange:<br><br>**Path A: Mechanical Ventilation Only - 8 points**<br><br>**Path B: Natural Ventilation Only - 8 points**<br><br>**Path C: Combination of Mechanical & Natural Ventilation - 8 points**<br><br>Please review and select one of the three pathways below, as appropriate to your project. | 8.0 | |
| 3.7.1.2.1 | **Path A: Mechanical Ventilation Only** | **0.0** | **8 points** |

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| 3.7.1.2.1.1 | Is the zone air distribution effectiveness $E_z$ value greater than or equal to 0.9 in all regularly occupied spaces, excluding circulation and transitional spaces? | | This is worth 8 points, but can't enter here as it will double count points at 3.7.1.2 line due to alternate path options. |
| 3.7.1.2.2 | **Path B: Natural Ventilation Only** | **8.0** | **8 points** |
| 3.7.1.2.2.1 | Are the following conditions met as per ANSI/ASHRAE 62.1-2010: Section 5.1: | | |
| 3.7.1.2.2.1.1 | • All points within habitable spaces considered to be naturally ventilated are within 25 ft. (7.6 m) of a permanent or operable wall, window or roof opening to the outdoors? | 2.0 | |
| 3.7.1.2.2.1.2 | • The unobstructed area of the opening measures at least 4% of the net floor area that is being naturally ventilated? | 2.0 | |
| 3.7.1.2.2.1.3 | • Where a interior spaces are naturally ventilated through adjoining (perimeter) rooms, the openings between the spaces were designed to have a minimum area of 8% of the net floor area of the interior room and were at least 25 $ft^2$ (2.3 $m^2$)? | 2.0 | |
| 3.7.1.2.2.1.4 | • All operable openings are readily accessible to building occupants? | 2.0 | |
| 3.7.1.2.3 | **Path C: Combination of Mechanical & Natural Ventilation** | **0.0** | |
| 3.7.1.2.3.1 | Where mechanical ventilation is employed, is the zone air distribution effectiveness $E_z$ value greater than or equal to 0.9 in all regularly occupied spaces, excluding circulation and transitional spaces? | | This is worth 4 points, but can't enter here as it will double count points at 3.7.1.2 line due to alternate path options. |
| 3.7.1.2.3.2 | Where natural ventilation is employed, are the following conditions met as per ANSI/ASHRAE 62.1-2010: Section 5.1: | | |
| 3.7.1.2.3.2.1 | • All points within habitable spaces considered to be naturally ventilated are within 25 ft. (7.6 m) of a permanent or operable wall, window or roof opening to the outdoors? | | This is worth 1 points, but can't enter here as it will double count points at 3.7.1.2 line due to alternate path options. |

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| 3.7.1.2.3.2.2 | • The unobstructed area of the opening measures at least 4% of the net floor area that is being naturally ventilated? | | This is worth 1 points, but can't enter here as it will double count points at 3.7.1.2 line due to alternate path options. |
| 3.7.1.2.3.2.3 | • Where a interior spaces are naturally ventilated through adjoining (perimeter) rooms, the openings between the spaces were designed to have a minimum area of 8% of the net floor area of the interior room and were at least 25 $ft^2$ (2.3 $m^2$)? | | This is worth 1 points, but can't enter here as it will double count points at 3.7.1.2 line due to alternate path options. |
| 3.7.1.2.3.2.4 | • All operable openings are readily accessible to building occupants? | | This is worth 1 points, but can't enter here as it will double count points at 3.7.1.2 line due to alternate path options. |
| 3.7.1.3 | **Ventilation Intakes and Exhausts** | **8.0** | |
| 3.7.1.3.1 | Are ventilation systems equipped with the following features: | | |
| 3.7.1.3.1.1 | • Exhaust outlets and plumbing vent stacks are located at least 20 ft. (6.1 m) away from outdoor air intakes? | 1.0 | |
| 3.7.1.3.1.2 | • Outdoor air intakes are located at least 30 ft. (9.1 m) away from sources of pollution? | 1.0 | |
| 3.7.1.3.1.3 | • Outdoor air intakes are protected with 0.3 in (6.4 mm) or smaller mesh screens? | 1.0 | |
| 3.7.1.3.1.4 | • For each air handling system in single or multiple arrangements, filters are compliant with ANSI/ASHRAE 62.1-2010? | 2.0 | |
| 3.7.1.3.1.5 | • Outdoor air inlets and outlets, including louvers and rain hoods, are sized appropriately as per ANSI/ASHRAE 62.1-2010? | 1.0 | |
| 3.7.1.3.1.6 | • Except in transfer air ducts, all outdoor air, return air, and supply air ductwork avoids interior liner that could harbor microbial growth and/or erode in the air stream? | 1.0 | |
| 3.7.1.3.1.7 | • Roof drainage slopes away from outdoor air intakes? | 1.0 | |
| 3.7.1.4 | **$CO_2$ Sensing and Ventilation Control Equipment** | **5.0** | |

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| 3.7.1.4.1 | Do rooms that are occupied by several people (e.g. open offices) and those that have variable occupancy (e.g. meeting rooms, assembly areas) have $CO_2$ sensing and ventilation control equipment? | 5.0 | |
| 3.7.1.5 | **Air Handling Equipment** | **5.0** | |
| 3.7.1.5.1 | Are air handling equipment equipped with MERV 13 filtration?<br>**or**<br>Does terminal equipment have the highest filtration level available for the specific equipment under consideration, and main air handlers in terminal systems equipped with MERV 13 filtration? | 5.0 | |
| **3.7.2** | **Source Control and Measurement of Indoor Pollutants** | **46.0** | |
| 3.7.2.1 | **Volatile Organic Compounds** | **10.0** | |
| 3.7.2.1.1 | Is there a requirement that adhesives and sealants (not including carpet adhesives) will comply with prescribed limits of VOCs and/or be certified? | 2.5 | |
| 3.7.2.1.2 | Is there a requirement that carpet and under-carpet adhesives will comply with the Carpet and Rug Institute's (CRI) Green Label Plus program? | 2.0 | |
| 3.7.2.1.3 | Is there a requirement that paints will comply with prescribed limits of VOCs and/or be certified? | 3.0 | |
| 3.7.2.1.4 | Is there a requirement that floors, floor coverings, and other interior products will comply with prescribed limits of VOCs and/or be certified? | 2.5 | |
| 3.7.2.2 | **Leakage, Condensation and Humidity** | **8.0** | |
| 3.7.2.2.1 | Are there the following measures to avoid fungus, mold, and bacteria: | | |
| 3.7.2.2.1.1 | • HVAC is able to monitor and control dew point? | 4.0 | |
| 3.7.2.2.1.2 | • Materials and finishes are resistant to mold growth in spaces that generate high humidity (e.g. kitchens, toilet rooms, pools, laundry facilities, shower areas, etc.)? | 2.0 | |
| 3.7.2.2.1.3 | • There are floor drains located in all areas where equipment failures may cause plumbing leaks or where certain operations may cause spills or overflows? | 2.0 | |
| 3.7.2.3 | **Access for HVAC Maintenance** | **4.0** | |
| 3.7.2.3.1 | Are there the following measures to facilitate maintenance of HVAC equipment that require routine and periodic maintenance: | | |
| 3.7.2.3.1.1 | • Access to equipment complies with the International Code Council International Mechanical Code (ICC IMC) 2009, IAPMO UMC (2009): Uniform Mechanical Code, and the manufacturer published and/or suggested recommendations? | 1.0 | |
| 3.7.2.3.1.2 | • Distribution systems are installed in accordance with ANSI/ASHRAE 62.1-2010, Section 5.13, and SMACNA's "HVAC Duct Construction Standards: Metal and Flexible 3® Edition 2005"? | 1.0 | |
| 3.7.2.3.1.3 | • Architectural features related to access are specified to be installed in accordance with the International Building Code®? | 1.0 | |
| 3.7.2.3.1.4 | • Access doors to HVAC are removable or have full degree swing? | 1.0 | |

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| 3.7.2.4 | **Carbon Monoxide Monitoring** | **4.0** | |
| 3.7.2.4.1 | Are there carbon monoxide monitoring devices and alarms in enclosed areas where there are sources of combustion? | 4.0 | |
| 3.7.2.5 | **Wet Cooling Towers** | **2.0** | |
| 3.7.2.5.1 | Do wet cooling towers have drift eliminators and inlet louvers?<br>**or**<br>Are there no wet cooling towers? | 2.0 | |
| 3.7.2.6 | **Domestic Hot Water Systems** | **2.0** | |
| 3.7.2.6.1 | Is the domestic hot water system designed to maintain hot water storage at or above 131° F (55° C)?<br>**or**<br>Is there a tankless system? | 2.0 | |
| 3.7.2.7 | **Humidification and Dehumidification Systems** | **3.0** | |
| 3.7.2.7.1 | All drain pans for dehumidifying cooling coils designed to properly capture and drain the condensate in the air handler in terms of the following:<br><br>• Drain pans have a 1/8 inch slope per foot (10 mm slope per meter) in two directions toward the drain outlet?<br>• The drain opening is located at the lowest point of the drain pan?<br>• The drain pan is sufficiently wide to span the cooling coils and is sized to prevent overflow under peak dew point conditions?<br>• A P-trap or other seal prevents ingestion of air while allowing complete drainage? | 3.0 | |
| 3.7.2.8 | **Pest and Contamination Control** | **3.0** | |
| 3.7.2.8.1 | Are the following integrated pest management strategies used: | | |
| 3.7.2.8.1.1 | • Outdoor air inlets have insect screens of 18x14 mesh for plenum systems feeding multiple air handlers? | 0.5 | |
| 3.7.2.8.1.2 | • Structural and mechanical openings are fitted with permanent protection (e.g. screens, sealants, etc.)? | 0.5 | |
| 3.7.2.8.1.3 | • Advertising signs and other assemblies affixed to the building façade are designed and constructed in a way that reduces bird habitation, and penetrations in the façade are sealed to prevent entry? | 0.5 | |
| 3.7.2.8.1.4 | • Mullions and ledges are less than 1 in (2.5 cm) deep to discourage bird roosting? | 0.5 | |
| 3.7.2.8.2 | Is there a sealed storage area for food/kitchen solid waste and recycling? | 1.0 | |
| **3.7.2.9** | **Other Indoor Pollutants (Tobacco, Radon)** | **8.0** | |
| 3.7.2.9.1 | Is there a construction management policy to prohibit smoking in the building and a provision to require that smoking be a minimum of 25 feet from the building with posted signage? | 1.0 | |

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|---|---|---|---|
| 3.7.2.9.2 | Is there a requirement to post “No Smoking” signage in the building and near all building entrances and air intakes? | 1.0 | |
| 3.7.2.9.3 | Have the following measures been met in order to address radon:<br><br>• A site-specific assessment of radon potential has been conducted?<br>• Radon mitigation measures are specified? | 5.0 | |
| 3.7.2.9.4 | Is there a requirement that the removal or abatement of asbestos and asbestos-containing materials meet all applicable state and local regulations? | 1.0 | |
| 3.7.2.10 | **Ventilation and Physical Isolation for Specialized Activities** | **2.0** | |
| 3.7.2.10.1 | Is there separate ventilation and/or physical isolation for specialized activities that generate pollutants? | 1.0 | |
| 3.7.2.10.2 | Are the separate ventilation systems for specialized activities capable of maintaining on average, a negative pressure at least 5.0 Pascals a (0.02 in of water gauge)? | 1.0 | |
| **3.7.3** | **Lighting Design and Systems** | **30.0** | |
| 3.7.3.1 | **Daylighting** | **17.0** | |
| 3.7.3.1.1 | What percent of floor area occupied for critical visual tasks achieves a minimum daylight factor (DF) of 2 (excluding all direct sunlight penetration)? | 7.0 | |
| 3.7.3.1.2 | What percentage of task areas were designed to have views to the exterior or atria within 25 ft. (7.6 m) from a window? | 5.0 | |
| 3.7.3.1.3 | Are there shading devices on southern, western, and eastern exposures? | 1.0 | |
| 3.7.3.1.4 | Are there shading devices to eliminate direct sunlight from reaching task areas? | 1.0 | |
| 3.7.3.1.5 | Are there photo-sensors in daylit areas to maintain consistent lighting levels throughout the day using both daylighting and artificial lighting? | 3.0 | |
| 3.7.3.2 | **Lighting Design** | **13.0** | |
| 3.7.3.2.1 | Do primary occupied spaces have the prescribed lighting levels for the types of tasks anticipated in the various building spaces? | 7.0 | |
| 3.7.3.2.2 | Has a Lighting Engineer signed off on calculations that show that luminance ratios do not exceed the following as per IESNA for tasks:<br><br>• 3:1 between the task and adjacent surroundings?<br>• 10:1 between the task and remote (non-adjacent) surfaces?<br>• 20:1 between the brightest and darkest surface in the field of view?<br>• 8:1 between rows of luminaires where there is indirect lighting and where ceiling luminance exceeds 425 cd/$m^2$ (124.1 fL)? | 3.0 | |

| | | | |
|---|---|---|---|
| 3.7.3.2.3 | Has a Lighting Engineer signed off on the design showing that where there is direct lighting, the average luminance does not exceed the following values for given luminaire angles:<br>• 850 cd/$m^2$ (248.1 fL) at 65° from the vertical?<br>• 350 cd/$m^2$ (102.2 fL) at 75° from the vertical?<br>• 175 cd/$m^2$ (51.1 fL) at 85° from the vertical? | 3.0 | |
| **3.7.4** | **Thermal Comfort** | **18.0** | |
| 3.7.4.1 | **Thermal Comfort Strategies** | **12.0** | |
| 3.7.4.1.1 | Do very large functional areas such as big box stores have thermal control zones that are 5,000 $ft^2$ (465 $m^2$) or less? | 3.0 | |
| 3.7.4.1.2 | Do large functional areas such as large classrooms and auditoria have thermal control zones of 1,500 $ft^2$ (140 $m^2$) or less? | 3.0 | |
| 3.7.4.1.3 | Do open circulation areas such as open offices and healthcare general patient areas have thermal control zones that are 1,000 $ft^2$ (93 $m^2$) or less? | 3.0 | |
| 3.7.4.1.4 | Do smaller functional areas such as offices, meeting rooms, and hospital/hotel rooms have thermal control zones that are 1,200 $ft^2$ (111 $m^2$) or less? | 3.0 | |
| 3.7.4.2 | **Thermal Comfort Design** | **6.0** | |
| 3.7.4.2.1 | Has an Engineer signed off on the design that shows that the building conforms to ANSI/ASHRAE 55-2010 or ANSI/ASHRAE 55-2004? | 6.0 | |
| **3.7.5** | **Acoustic Comfort** | **29.0** | |
| 3.7.5.1 | **Acoustic Comfort Design** | **18.0** | |
| 3.7.5.1.1 | Does the building design include the following acoustic design strategies: | | |
| 3.7.5.1.1.1 | • Toilets are located remotely from acoustically separated areas? | 0.5 | |
| 3.7.5.1.1.2 | • Acoustically separated areas are located away from noise producing areas such as dance studios, music rooms, cafeterias, indoor swimming pools, mechanical rooms, and gymnasia? | 1.0 | |
| 3.7.5.1.1.3 | • Entry doors to rooms opposite each other on the same corridor are staggered? | 0.5 | |
| 3.7.5.1.1.4 | • Through-wall penetrations comply with Annex B of ANSI/ASA S12.60-2010/Part 1? | 0.5 | |
| 3.7.5.1.1.5 | • Walls separating acoustically separated areas from other areas are constructed full height to underside of the next floor above or the roof deck? | 1.0 | |
| 3.7.5.1.1.6 | • Walls separating quiet areas from other areas have all joints and penetrations sealed with acoustical sealant? | 0.5 | |
| 3.7.5.1.1.7 | • Areas with high floor impact activities (dance studios, shops, gymnasia, etc.) are not located above acoustically separated areas? | 1.0 | |

| | | | |
|---|---|---|---|
| 3.7.5.1.2 | Has a Licensed Acoustical Engineer signed off on the design that shows that open office areas conform to ASTM E1573-02 with respect to spatial uniformity, temporal uniformity, spectrum shape, and sound level? | 1.0 | |
| 3.7.5.1.3 | Has a Licensed Acoustical Engineer signed off on a design that complies with minimum Sound Transmission Class (STC) ratings of floor/ceiling assemblies, walls and doors between acoustically separated areas (learning spaces), and adjacent spaces as follows and as applicable: | | |
| 3.7.5.1.3.1 | • STC-45 where the adjacent space is a corridor, stair, office, or conference room? | 1.0 | |
| 3.7.5.1.3.2 | • STC-50 where the adjacent space is a quiet area, speech clinic, health clinic, classroom, or an exterior wall? | 1.0 | |
| 3.7.5.1.3.3 | • STC-50 for doors to quiet areas? | 1.0 | |
| 3.7.5.1.3.4 | • STC-40 for doors to music rooms, cafeterias, natatoria (e.g. swimming pool), or gymnasia? | 1.0 | |
| 3.7.5.1.3.5 | • STC-35 for exterior windows? | 1.0 | |
| 3.7.5.1.4 | Does the Impact Insulation Class (IIC) design of all floor-ceiling assemblies have a minimum rating of IIC-50? | 2.0 | |
| 3.7.5.1.4.1 | • Indicate the Impact Insulation Class (IIC) value: | | |
| 3.7.5.1.5 | Has a Licensed Acoustical Engineer signed off on a design that shows Reverberation Time (RT) in quiet areas and all areas where speech intelligibility is important does not exceed the following values as applicable:<br><br>• 0.6 seconds in spaces less than 10,000 cu. ft. in volume?<br>• 0.7 seconds in spaces 10,000 - 20,000 cu. ft.?<br>• Compliance with Annex C of ANSI/ASA S12.60-2010/Part 1 in spaces larger than 20,000 cu.? | 5.0 | |
| 3.7.5.2 | **Mechanical, Plumbing, and Electrical** | **11.0** | |
| 3.7.5.2.1 | Has a Licensed Acoustical Engineer signed off on a design that complies with minimum background sound levels associated with mechanical systems as follows: | | |
| 3.7.5.2.1.1 | • Airborn sound power levels from HVAC units do not exceed Room Criteria detailed in ASHRAE Systems Application Handbook 2007, Chapter 47, Table 42 for listed spaces when HVAC units are in operation? | 1.5 | |
| 3.7.5.2.1.2 | • Spaces are designed such that room background noise using Room Criteria (RC) ratings complies with ASHRAE Systems Application Handbook 2007 Chapter 47, Table 42? | 1.0 | |
| 3.7.5.2.2 | Has a Licensed Acoustical Engineer signed off on the design such that there are the measures are present to minimize airborn noise from the HVAC system: | | |
| 3.7.5.2.2.1 | • Duct transitions are spread out and graduated to minimize generation of turbulence and air flow separations? | 0.5 | |

| | | | |
|---|---|---|---|
| 3.7.5.2.2.2 | • Secondary attenuators are located immediately downstream of duct fittings that would otherwise generate noise? | 0.5 | |
| 3.7.5.2.2.3 | • Air flow velocities in low pressure ductwork did not exceed the following values?<br>○ For main duct trunk lines: 900 f/m (4.5 m/s)<br>○ For branch ducts: 700 f/m (3.5 m/s)<br>○ For final run outs: 400 f/m (2.0 m/s)<br>○ For main vertical ducts in shafts: 1200 f/m (6 m/s) | 0.5 | |
| 3.7.5.2.2.4 | • Where significant cross talk paths exist between two habitable spaces, there are sound attenuators and/or silencers, or ducts are designed in a "Z" configuration? | 0.5 | |
| 3.7.5.2.2.5 | • HVAC grilles and diffusers comply with ANSI/ASA S12.60-2010/Part 1? | 0.5 | |
| 3.7.5.2.3 | Has a Licensed Acoustical Engineer signed off on the design such that it adheres to the following best practices to minimize structure-borne noise from the HVAC system: | | |
| 3.7.5.2.3.1 | • Fans and other powered HVAC equipment are acoustically separated from the structure using vibration isolators? | 1.0 | |
| 3.7.5.2.3.2 | • Ducts are supported on resilient mounts to isolate them from the structural system, and ducts are isolated using resilient material where they pass through walls? | 1.0 | |
| 3.7.5.2.4 | Has a Licensed Acoustical Engineer signed off on the design such that it adheres to the following best practices to mitigate noise from the plumbing system: | | |
| 3.7.5.2.4.1 | • Piping was not run above quiet areas and learning spaces with the exception of sprinklers and radiant heating systems? | 1.0 | |
| 3.7.5.2.4.2 | • Waste water piping noise is mitigated using cast iron pipe or with acoustic insulation above quiet areas and learning spaces, and a water hammer arrester was used? | 1.0 | |
| 3.7.5.2.5 | Has a Licensed Acoustical Engineer signed off on the design such that it complies with the following best practices to minimize noise from the electrical system: | | |
| 3.7.5.2.5.1 | • Low-noise ballasts are installed in quiet areas and all other areas where speech intelligibility is important? | 1.0 | |
| 3.7.5.2.5.2 | • Noise from light fixtures and other electrical fixtures does not exceed values indicated in ANSI/ASA S12.60-2010/Part 1? | 1.0 | |
| **Total** | | **1000.0** | |

Green Building Resources LLC
7402 Whitacre Road
Madison, Wisconsin 53717
608-332-8444
eric@greenbuildingresourcesonline.com

February 3, 2019

Ms. Stephanie Free
Urban Planner III
City of Alexandria
301 King Street
Alexandria, Virginia 22314

RE: Green Building Policy Dated January 2019

Dear Ms. Free:

I am sending this letter to extend my congratulations to the City of Alexandria for considering such an impressive policy to make your City greener and more sustainable while helping to reduce carbon in our atmosphere, one of the greatest challenges of our lifetime. Your City has established itself as a leader with this move and I wish you every success.

I have worked on many green building projects across the country over the past 19 years and understand that you are seeking feedback on how green building rating systems can be used to enhance your efforts. I respectfully submit this letter to you in the hopes that you can find my experience helpful in achieving your goals.

I attended the first annual meeting of USBGC in 1994, worked on one of the first pilot LEED Version 1.0 projects in 2000, and since then have worked on projects seeking certification under LEED Versions 2.0, 2.2, 3.0 (2009), and now 4.0 projects. In total, I have worked on over 50 LEED projects with six of those receiving LEED Platinum Awards. On most of these projects, I served as the Commissioning Authority and on many of them I also served as the LEED Supervisor, primarily responsible for developing the required paperwork and calculations, and uploading all required information to the LEED website. These projects include a hospital, office buildings, manufacturing facilities, schools, a bank, training facilities, retail facilities, and a clinic.

I was introduced to Green Globes 14 years ago and was asked, by the State of Wisconsin, to evaluate and compare LEED to Green Globes. I reviewed the Green Globes system and worked on three projects that became dual-certified through both rating systems. In my conclusion to the State of Wisconsin, I recommended Green Globes as an excellent alternate to LEED. Since then, I have worked on over 100 Green Globes projects for new construction, existing building, core and shell, sustainable interiors, and guiding principles. These projects include most commercial building types including medical facilities, office buildings, multifamily buildings, retail facilities, manufacturing facilities, banks, warehouses, recreational centers, schools, university facilities, a mass transit facility and a power plant.

I found Green Globes to be technically equal to LEED while having the benefits of being faster to implement, less expensive, and providing a better product for users. The key to these benefits is the use of an assigned Assessor as opposed to the LEED rating system which relies on remote reviews of paperwork submittals and calculations. Although LEED was first to market in the United States, it has faced many challenges in establishing market acceptance. To date, fewer than 1% of the United States commercial building inventory is in the LEED system and the most recent release of LEED, Version 4, has seen very little (almost insignificant) market penetration. LEED's complexity and reliance on remote reviewers has been a major detractor for widespread user acceptance. Furthermore, the remote reviewer never sees the building and has no way of verifying that what is in the design made its way into the construction of the building.

The path that too many designers and contractors have taken, many driven by their frustration with LEED, has been to claim they provide "LEED certifiable buildings" or "buildings that follow the LEED checklist". During my career I have toured many of these buildings and found they were no different than other buildings constructed using nothing more than standard practice.

Green Globes and LEED use the same building science and references; however, the Green Globes approach uses an Assessor, an experience professional who works with the design and construction teams and walks through the building after it is complete. This approach significantly reduces the amount of paperwork required and, I believe, increases accuracy as it catches last minute value engineering decisions that can make or break a good green building.

In conclusion, I congratulate you on putting an emphasis on third-party certification of green buildings and encourage you to allow users a choice of LEED or Green Globes as having equivalent standing in your policy.

Please contact me at 608-332-8444 or eric@greenbuildingresourcesonline.com if you have any questions and thank you for your leadership.

Sincerely yours,

Eric T. Truelove, PE, GGA, LEED AP BD&C
Principal
Green Building Resources LLC

# Comparing Green Globes & LEED

| Program Features | Green Globes | LEED |
|---|---|---|
| Has completed an American National Standard using ANSI-approved consensus process | YES | NO |
| Nationally Accepted Program | YES | YES |
| Program Delivery | Online, Interactive survey | Online submission of forms |
| 1-on-1 Customer Support | YES | NO |
| New Construction Assessment | YES | YES |
| Existing Building Assessment | YES | YES |
| Core & Shell | YES | YES |
| Tenant Fitout | YES | YES |
| Total Program Points | 1,000 | 110 plus prerequisites |
| Minimum Points Required for Certification | YES | YES |
| Weighted Criteria & Partial Credit | YES | Limited |
| Program Prerequisites | NO | YES |
| Flexibility for Non-Applicable Criteria | YES | NO |
| Energy Performance (New Construction) | Four pathways for assessing energy performance, including benchmarking to Energy Star | Benchmarks against hypothetical building model |
| Incorporates Life Cycle Assessment (LCA) | YES | YES |
| On-site Building Walk Through with Expert Assessor | YES | NO |
| Support from Certifying Agency | Green Globes provides an experienced Assessor who is either AIA, PE or experienced Facility Manager | LEED assigns a non-technical support person to help the user navigate through the LEED online system |
| Communication with Certifying Agency | Project teams can communicate with GBI's Chief Engineer and Project Managers and third-party Green Globes Assessor | LEED does not allow direct contact with technical reviewers unless you are in a disagreement during appeals which occur after the "final" score is delivered |
| Sustainability Recommendation with Customized Reports | YES | NO |
| Certification Process | Preliminary Design assessment followed by third-party Assessor on-site assessment | Complete and submit assessment form, wait for results |
| Certification Rating System | Four Green Globes, Three Green Globes, Two Green Globes, One Green Globes | LEED Platinum, LEED Gold, LEED Silver, Certified LEED |
| Certification Personnel Training Program | Green Globes Professional (GGP) | LEED AP |
| Time to Complete Certification | Green Globes can be completed within 30 days of building occupancy | Delays have been noted between 6-24 months with added costs for appeals and interpretations |
| Cost to Certify a Typical Building >100,000 sq ft | $ | $$$ |
| Certification Success Rate | The failure rate is negligible because the Green Globes process is collaborative, transparent and results driven, by way of online evaluations, detailed reports and third-party assessors | LEED's failure rate is high based on buildings that register and do not achieve certification |

Rules and Regulations

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## DEPARTMENT OF ENERGY

### 10 CFR Parts 433, 435 and 436

**[Docket No. EE–RM/STD–02–112]**

**RIN 1904–AC13**

## Green Building Certification Systems for Federal Buildings

**AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.

**ACTION:** Final rule.

**SUMMARY:** The U.S. Department of Energy (DOE) issues a final rule that implements a provision in the Energy Conservation and Production Act, as amended by the Energy Independence and Security Act of 2007, which requires DOE to identify a green building certification system and level that DOE determines to be the most likely to encourage a comprehensive and environmentally-sound approach to certification of green buildings. DOE's green building certification system review must be based on the General Services Administration's review of third-party green building certification systems and levels and criteria outlined in the Energy Independence and Security Act of 2007. Under the regulations established today, if a Federal agency chooses to use a green building certification system for a new building or major renovation covered by today's rule, the green building certification system for Federal buildings must meet the certification standards established in today's rule.

**DATES:** This rule is effective November 13, 2014. The incorporation by reference of certain publications listed in this rule was approved by the Director of the Federal Register on November 13, 2014.

**ADDRESSES:** This rulemaking can be identified by docket number EE–RM/STD–02–112 and or RIN number 1904–AC13.

*Docket:* The docket is available for review at *http://www.regulations.gov* including **Federal Register** Notices, public meeting attendee lists, transcripts, comments and other supporting documents/materials. All documents in the docket are listed in the *http://www.regulations.gov* index. However, not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure.

For further information on how to review materials in the docket, contact Ms. Brenda Edwards at (202) 586–2945 or email *Brenda.Edwards@ee.doe.gov.*

**FOR FURTHER INFORMATION CONTACT:** For technical issues, contact Sarah Jensen, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Federal Energy Management Program, EE–5F, 1000 Independence Avenue SW., Washington, DC 20585–0121, (202) 287–6033, email: *sarah.jensen@ee.doe.gov.* For legal issues, contact Ami Grace-Tardy, U.S. Department of Energy, Office of the General Counsel, Forrestal Building, GC–71, 1000 Independence Avenue SW., Washington, DC 20585, (202) 586–5709, email: *ami.grace-tardy@hq.doe.gov.*

**SUPPLEMENTARY INFORMATION:**

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## I. Introduction

### *A. Background*

Section 305 of the Energy Conservation and Production Act (ECPA; Pub. L. 94–385) established energy conservation requirements for Federal buildings. (42 U.S.C. 6834) Section 433(a) of the Energy Independence and Security Act of 2007 (EISA 2007; Pub. L. 110–140) amended section 305 of ECPA to require, among other things, DOE to identify a green certification system and level for rating Federal buildings that DOE determines to be the most likely to encourage a comprehensive and environmentally sound approach to such certification and rating. (42 U.S.C. 6834(a)(3)(D)(i)(III)) Section 433 of EISA 2007 also revised the definition of ''Federal building'' applicable to the regulations for Federal buildings. (42 U.S.C. 6832(6)).

DOE's green building certification system review must be based on the General Services Administration's (GSA) review of third-party green building certification systems and other criteria outlined in EISA 2007, including: The ability and availability of assessors and auditors to independently verify the criteria and metrics; the ability of the applicable certification organization to collect and reflect public comment; the ability of the standard to be developed and revised through a consensus-based process; and an evaluation of the robustness of the criteria for a high-performance green building; national recognition within the building industry (42 U.S.C. 6834(a)(3)(D)(iii)).

As required under EISA 2007, at least once every five years, GSA must conduct a study to evaluate third-party green building certification systems and levels taking into consideration these same criteria. (42 U.S.C. 6834(a)(3)(D)(iv)) After completion of each study, DOE must review and update its recommended certification systems and levels, taking into account GSA's evaluation. (42 U.S.C. 6834(a)(3)(D)(i)(III)) By rule, DOE also may allow Federal agencies to develop their own internal certification processes. (42 U.S.C. 6834(a)(3)(D)(v)).

As required by Section 436(h) of EISA 2007, in 2008 GSA identified the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Silver as a green building certification system and level that meets the criteria expressly identified in the statute. In the 2011 sustainable design notice of proposed rulemaking (''sustainable design NOPR'') DOE requested comment on other green rating systems and associated levels/points that also would meet the statutory criteria. *See* 75 FR 29933, 29938–39 (May 28, 2010).

On October 25, 2013, the GSA Administrator sent his latest green building certification system evaluation to DOE.[1] The Administrator

[1] Letter from Daniel Tangherlini, GSA Administrator, to Ernest Moniz, Secretary of Energy, dated October 25, 2013. Letter and all supporting material may be found on GSA's Web site at *http://www.gsa.gov/portal/content/131983.*

recommended that Federal agencies utilize the 2009 LEED [2] or the Green Building Initiative's Green Globes 2010 [3] certification system. For new construction and major renovations, GSA recommended that Federal agencies obtain at least a LEED Silver rating, or, if using Green Globes, at least 2 Green Globes.

Today's rule updates the Federal energy efficiency standards by adding criteria that green building rating systems must meet. Federal agencies are not required to use a green building rating system, but if they choose to do so, the systems must meet these criteria. The Federal commercial and multi-family high-rise residential energy efficiency standards are contained in 10 CFR part 433. The Federal low-rise residential energy efficiency standards are contained in 10 CFR part 435. Today's rule adds the green building certification criteria for both 10 CFR part 433 and 10 CFR part 435. Today's rule also reorganizes and renumbers existing text in these parts to accommodate the addition of the provisions regarding green building certification systems for Federal buildings.

*B. Summary of the Final Rule*

In May 2010, DOE published a notice of proposed rulemaking (NOPR) that addressed the use of sustainable design principles for the siting, design, and construction of Federal buildings, and the use of water conservation technologies to achieve energy efficiency. This proposed rulemaking also provides criteria for identifying a certification system and level for green buildings that encourages a comprehensive and environmentally-sound approach to certification of green buildings. 75 FR 29933. Today's rule finalizes only the provisions of the NOPR that pertained to green building certification systems. DOE is continuing to assess the sustainable design principles in the NOPR in light of an ongoing process to revise the 2008 Guiding Principles for High Performance and Sustainable Buildings: New Construction and Major Renovations (Guiding Principles), which served as a basis for those provisions of the NOPR.

DOE recognizes the degree to which EISA 2007 requirements for Federal agencies to incorporate sustainable design principles into new construction and major renovations overlap with standing Executive Order requirements that agencies maintain specific sustainable building standards. Executive Orders 13423 and 13514 require that all new Federal construction and major renovations comply with the Guiding Principles. Although using a green building certification system is optional, DOE recognizes that many agencies use green building certification systems to assist them in supporting efforts to comply with the Guiding Principles.

Under today's rule, if an agency chooses to use a green building certification system, agencies must choose a green building certification system that meets certain criteria as discussed below and agencies are encouraged to take into consideration GSA's set of recommendations. DOE made one change to the ''green building certification system'' criteria from the NOPR by requiring a verification system for post-occupancy assessment of the rated buildings to demonstrate continued energy and water savings at least every four years after initial occupancy.

This rule applies to certain new Federal buildings, and major renovations to Federal buildings, for which design for construction began on or after October 14, 2015. The new Federal buildings, and major renovations to Federal buildings covered by today's rule are covered by EISA 2007 and include new Federal buildings, or major renovations to Federal buildings, that are also: (1) Public buildings, as defined in 40 U.S.C. 3301 for which a transmittal of a prospectus to Congress is required under 40 U.S.C. 3307; or (2) Federal buildings for which the construction cost or major renovation cost is at least $2,500,000 (2007 dollars, adjusted for inflation). The term ''Federal building'' means any building to be constructed by, or for the use of, any Federal agency. The term includes buildings built for the purpose of being leased by a Federal agency, and privatized military housing. (42 U.S.C. 6832)

## II. Discussion of Comments and Changes to the Final Rule

DOE received a wide variety of comments from 62 different entities in response to the sustainable design NOPR. All of the 62 comments supported the general premise of this rule to improve sustainability in Federal buildings. All public comments are available for review on the regulations.gov Web site under Docket Number DOE–EERE–OT–2010–0007. Comments that are directly pertinent to the green building certification system portion of the rule are discussed and addressed in greater detail below.

*A. Scope*

Leased Buildings

EISA 2007 modified the ECPA definition of ''Federal building'' to apply to ''any building to be constructed by, or for the use of, any Federal agency. Such term shall include buildings built for the purpose of being leased by a Federal agency, and privatized military housing.'' (42 U.S.C. 6832(6)) In the NOPR, DOE requested comments on the proposed definition of ''new Federal building'' (based on the statutory ''Federal building'' definition) and on limiting the inclusion of leased buildings in the definition of ''Federal building'' to new leased buildings in which a Federal agency has significant control over the design of the building (e.g., ''lease-constructs''). 75 FR 29934.

Several commenters, including Indian Health Services (IHS) and the U.S. Green Building Council (USGBC), agreed with DOE's proposal to limit the coverage of leased buildings to those in which a Federal agency has ''significant control'' over building design. (IHS, No. 45 at p. 1 [4]; Green Mechanical Council (GMC), No. 60 at p. 5) Several comments suggested that the rule should apply to all buildings that the government leases, including buildings that the Federal agency does not have ''significant control'' over building design. (Kaplow, No. 6 at p. 1; U.S. Fuel Cell Council, No. 13 at p. 2; National Electrical Manufacturers Association (NEMA), No. 36 at p. 3; Solar Energy Industries Association (SEIA), No. 58 at pp. 2–3, Natural Resources Defense Council (NRDC), No. 64 at pp. 3–4; Earthjustice, No. 71 at p. 9) DOE has not expressly added the ''significant control'' restriction to the rule for leased buildings because the ECPA definition of ''Federal building'' includes the limitation of buildings that are built specifically for the Federal government. Construction design for a building built specifically for use of the Federal government, including under lease to a Federal agency, is, presumably, under the significant control of the Federal owner or Federal lessee. U.S. General Services Administration (GSA) recommended adding rule language stating that leased buildings include

[2] LEED information is available at *http://www.usgbc.org/leed.*

[3] Green Globes information is available at *http://www.thegbi.org/green-globes/.*

[4] Notations of this form appear throughout this document and identify statements made in written comments or at public hearings that DOE has received and has included in the docket for this rulemaking. For example, ''IHS, No. 45 at p. 1'' refers to a comment: (1) From Indian Health Services; (2) in document number 45 in the docket of this rulemaking; and (3) appearing on page 1 of the submission.

projects ''in which the government initiates the solicitation of bids expressly for the construction of a building or facility to meet a Federal agency need.'' (GSA, No. 72 at p. 5) DOE agrees that GSA's proposed clarification reflects ECPA, but DOE does not believe that GSA's language need be included in today's rule as the rule specifies that it applies to buildings built for the purposes of being leased by a Federal agency.

Covered Buildings

NRDC and Earthjustice commented that DOE's interpretation of the scope of buildings covered under statutory requirements at 42 U.S.C. 6834(a)(3)(D)(i) is incorrect. (NRDC, No. 64 at p. 3; Earthjustice, No. 71 at pp. 7–9) These commenters believe that the limiting criteria in 42 U.S.C. 6834(a)(3)(D)(i) [5] apply only to ''major renovations'' and not to new buildings. DOE believes that this is an incorrect interpretation of the statute for several reasons. The first phrase set-off in commas (starting with ''with respect to which'') reasonably modifies the previous phrase referring to both new Federal buildings and those undergoing major renovations. The second phrase set-off in commas (starting with ''in the case of public buildings'') reasonably characterizes the first phrase. The third phrase (starting with ''or of at least $2,500,000'') and the ''or'' that begins the phrase indicate that the first and second phrases are one factor to apply to the subset of buildings at issue and the third phrase is another factor to apply to this subset of buildings. Moreover, if the commenters' interpretation that the limiting factors only apply to major renovations was correct, then other sections of ECPA would be without meaning. Specifically, Congress amended ECPA and set sustainable design requirements for new Federal buildings, if life-cycle cost-effective, under EPACT 2005. (See 42 U.S.C. 6834(a)(3)(A))(i)(II)). Then, in EISA 2007, Congress amended ECPA again, to apply sustainable design requirements to a subset of new Federal buildings or major renovations, without regard to life-cycle-cost-effectiveness. (See 42 U.S.C. 6834(a)(3)(D)(i)). If the EISA 2007 amendments applied to all new Federal buildings, as commenters suggest, then the EPACT 2005 provisions would be meaningless. While Congress could have rescinded the earlier EPACT 2005 sustainable design provisions, it chose not to and, therefore, DOE's interpretation that 42 U.S.C. 6834(D)(i) only applies to a subset of Federal buildings is reasonable.

In the final rule, DOE removed the second EISA 2007 condition, ''public buildings'' (as defined at 40 U.S.C. 3301) for which a prospectus is required from Congress, from the scope of coverage for low-rise residential buildings. The definition of ''public building'' at 40 U.S.C. 3301 exempts buildings and construction projects that are on or used in connection with housing and residential projects. (See 40 U.S.C. 3301(a)(5)(C)(vi)) Therefore, EISA-covered low-rise residential buildings only include those buildings with construction costs of at least $2.5 million.

Compliance Date of Rule

DOE received a number of comments on the compliance date proposed in the NOPR. This compliance date is consistent with the compliance date that DOE has used for baseline Federal building energy efficiency standards at 10 CFR parts 433 and 435 for several years. Under 10 CFR parts 433 and 435, ''design for construction'' means the stage when the energy efficiency and sustainability details (such as insulation levels, HVAC systems, water-using systems, etc.) are either explicitly determined or implicitly included in a project cost specification. Agencies that have already programmed or budgeted for building construction before the publication of today's rule likely have not included the costs of complying with the requirements of this rule. To apply the rule to these buildings would likely impose unanticipated costs that could compromise important functional aspects of the building or agency mission. Applying the rule to buildings for which design for construction begins one year after publication of the final rule helps ensure that agencies can anticipate and incorporate the cost of meeting this rule in the construction budget or make other necessary adjustments.

Overseas Facilities

Comments received on the Fossil Fuel Reduction Notice of Proposed Rulemaking (''fossil fuel reduction NOPR'') (75 FR 63404) (October 15, 2010) asked about application of the rule to overseas facilities where the agency does not have complete control over building design, and these comments are equally applicable to today's final rule. DOE recognizes that several agencies have buildings overseas and these buildings may be subject to a variety of legal authorities specific to that agency. For example, DOD commented that an agency may not have complete control over the design of a new or renovated building or may face technical challenges in meeting the proposed rule in overseas locations.[6] Today's final rule does not expressly address the extent to which it may be applicable to buildings overseas as each individual agency is best positioned to understand the various and sometimes unique authorities that may be applicable to overseas buildings of that agency. However, today's rule applies to overseas facilities to the extent the requirements are consistent with applicable law.

Privatized Military Housing

A public comment on a related DOE rulemaking that also proposed to amend 10 CFR Parts 433 and 435, ''Fossil Fuel-Generated Energy Consumption Reduction for New Federal Buildings and Major Renovations of Federal Buildings'' (75 FR 63404) (October 15, 2010), stated that DOE needed to clarify whether the rule applies to privatized military housing. EISA 2007 modified the ECPA definition of ''Federal building'' to apply to ''any building to be constructed by, or for the use of, any Federal agency. Such term shall include buildings built for the purpose of being leased by a Federal agency, and privatized military housing.'' (42 U.S.C. 6832(5)) In addition, Congress again mentioned privatized military housing in EISA 2007 when it specified that, ''with respect to privatized military housing, the Secretary of Defense, after consultation with the Secretary [of Energy] may, through rulemaking, develop alternative criteria to those established in subclauses (I) [fossil fuel reduction requirements] and (III) [sustainable design requirements] of clause (i).'' (42 U.S.C. 6834(a)(3)(D)(vi)) With respect to EISA-covered buildings, privatized military housing may not meet the definition of ''public building'' at 40 U.S.C. 3301(a)(5), but privatized military housing with construction costs of at least $2.5 million would be EISA-covered buildings.

Application of $2.5 Million Threshold on a Per Building Basis

Sunnovation encouraged DOE to clarify that multi-unit residential projects under a single contract should

[5] Under ECPA, as amended, today's rule applies to the following EISA-covered buildings: ''New Federal buildings and Federal buildings undergoing major renovations, with respect to which the Administrator of General Services is required to transmit a prospectus to Congress under section 3307 of Title 40, in the case of public buildings (as defined in section 3301 of Title 40), or of at least $2,500,000 in costs adjusted annually for inflation for other buildings,'' (42 U.S.C. 6834(a)(3)(D)(i)).

[6] DOD–N, No. 25B at p. 8, Docket No. EERE–2010–BT–STD–0031.

be considered jointly when determining whether the $2.5 million threshold is met, as opposed to applying the $2.5 million threshold per building. (Sunnovation, No. 28 at p. 2) The cost threshold applies on a per building basis. EISA 2007 sets requirements for ''new Federal buildings and Federal buildings undergoing major renovations.'' (See 42 U.S.C. 6834(a)(3)(D)(i)(I)) Nothing in the statute states that this threshold applies across multiple buildings that are part of one project.

*B. Green Building Certification*

Compliance With Other Requirements

DOE requested comments as to whether the minimum allowable level for green building rating systems should comply with the Guiding Principles and all applicable executive orders. 75 FR 29939. The DOI stated that ''If federal buildings, however, are designed, built, and perform in accordance with legislative mandates, the Guiding Principles, and all applicable executive orders, they are inherently green buildings . . . Seeking an additional green building rating is redundant.'' (DOI, No. 44 at p. 7) GSA commented that it should not be necessary to mandate minimum rating levels. (GSA, No. 72 at p. 12) As today's rule explicitly states, DOE is not requiring Federal agencies to use a green building certification system. Federal agencies may wish to use a green building rating system as a tool to help them meet the Guiding Principles or their own internal sustainability goals, although agencies are not required to use such a system. DOE encourages Federal agencies to consider GSA's 2013 recommendations when choosing a green building certification system.[7] DOE notes that under Executive Orders 13423 and 13514, Federal agencies are already required to ensure that new construction and major renovations of agency buildings comply with the Guiding Principles. In today's rule, DOE requires that agencies should select a green building certification system that meets the prescribed criteria and a level of certification that promotes attainment of the Guiding Principles.

Independent Third-Party Verification

GSA said that DOE needs to clarify the concept of third-party verification of green building rating systems. (GSA, No. 72 at p. 12) DOE notes that the rule, based on the statutory requirement at 42 U.S.C. 6834(a)(3)(D)(iii), requires that the system under which the building is certified must allow assessors and auditors to independently verify the criteria and measurement metrics of the system. To independently verify the criteria and measurement metrics, assessors and auditors must be free from bias (financial or otherwise) when they evaluate a building for compliance with a green rating system. Federal agencies seeking certification from a green building rating system cannot assert that assessors and auditors employed by the agency are independent. DOE notes that Federal agencies that use a green building rating system do not have to use assessors and auditors, but must ensure that the green building rating system that it chooses allows for independent verification from assessors and auditors.

Choosing a Green Building Certification System

As required by Section 436(h) of EISA 2007, in 2008 GSA identified LEED Silver as a green rating system and level that meets the criteria expressly identified in the statute. DOE requested comment on other green rating systems and associated levels/points that also would meet the statutory criteria. 75 FR 29939. Subsequently, on October 25, 2013, GSA recommended that Federal agencies achieve at least a Silver rating from LEED or 2 Green Globes from the Green Building Initiative for new construction and/or major renovations in order to meet the statutory criteria.[8]

GBI asked that DOE recognize GBI's Green Globes as a certification system that meets all of the criteria called for in the NOPR, noting that Federal agencies should achieve Two Green Globes for compliance with the rule. (GBI, No, 25 at p. 7) There were many comments expressing support for the Green Globes rating system. (Duro-Last Roofing, No. 3 at p. 1; Arch Wood Protection, No. 7 at p. 1; Plastic Pipe and Fitting Association, No. 9 at p. 2; Iowa Department of Public Safety, No. 18 at p. 2; the FVA, No. 21 at p. 1; the NACGB, No. 24 at p. 3; the Sustainable Forest Initiative, No. 26 at pp. 1–2, the Hardwood Foundation, No. 27 at p. 4, The Sika Corporation, No. 42 at p. 1; Greenguard Environmental Institute, No. 46 at p. 5; the Sustainable Forestry Initiative, No. 52 at p. 2; AF&PA/AWC, No. 59 at p. 6; the American Forest Foundation, No. 61 at p. 3; and the RFCI, No. 63 at p. 7) Many of the supporters of Green Globes stressed that the system was ANSI-certified and considered ANSI certification to be important. DOE is aware that neither Green Globes nor LEED is an ANSI-certified system. Also, as GSA noted in its review of the main commercial green building rating systems, neither system fully aligned with Federal sustainable building requirements.

Others recommended that the LEED system be approved for use in Federal buildings. (USGBC, No. 60 at p. 8; Stuart D. Kaplow, No. 6 at p. 2; GSA Region 8, No. 33 at p. 4; Iowa Department of Public Safety, No. 18 at p. 1; NEMA, No. 36 at p. 6; IHS, No. 45 at p. 3; Greenguard Environmental Institute, No. 46 at p. 5; SEIU, No. 67 at p. 2; GSA, No. 72 at p. 14) Weyerhaeuser opposed the endorsement of LEED, mentioning LEED is not ANSI-certified. (Weyerhaeuser, No. 62 at p. 4) A substantial number of comments addressing forestry and wood certification considerations expressed opposition to how the USGBC LEED rating system addresses certified wood products and questioned whether LEED is developed via a consensus-based process. (AWC No. 22 at p. 4; SFI, No. 26 at p. 2; Hardwood Federation No. 51 at p. 2; AF&PA/AWC, No. 59 at p. 8; the American Forest Foundation, No. 61 at p. 3; Weyerhaeuser, No. 62 at pp. 3–4) LEED is not developed by the Federal government and, therefore, DOE cannot comment on the content of their rating system. The National Park Service recommended allowing other rating systems to be used, not just the USGBC LEED system. (NPS, No. 20 at p. 1)

NEMA advocated that a separate energy specific rating system such as ENERGY STAR Buildings be mandated. (NEMA, No. 36 at p. 6) The Sustainable Forestry Initiative expressed support for Built Green Canada. (SFI, No. 52 at p. 2) ASHRAE suggested that ASHRAE's Building Energy Quotient (Building EQ) labeling program may meet DOE's green building certification needs. (ASHRAE, No. 30 at p. 6) AGA expressed support for Green Globes, LEED, and Building EQ, the International Green Construction Code, and ASHRAE Standard 189.1–2009. (AGA, No. 50 at. p. 2)

For residential buildings, a number of commenters expressed support for the NAHB and ICC's National Green Building Standard ICC–700–2008. (Plastic Pipe and Fittings Association, No. 9 at p. 2; ICC, No. 31 at p. 2; IHS, No. 45 at p. 3, Sustainable Forest Initiative, No. 52 at p. 2; NAHB, No. 55 at p. 2, and the RFCI, No. 63 at p. 5)

DOE received numerous comments opposing and numerous comments supporting DOE choosing one or several green building certification systems that

[7] Letter and all supporting material may be found on GSA's Web site at *http://www.gsa.gov/portal/content/131983.*

[8] Letter from Daniel Tangherlini, GSA Administrator, to Ernest Moniz, Secretary of Energy, dated October 25, 2013.

meet the requirements in the sustainable design NOPR. The Society of the Plastics Industry and several other commenters expressed support for allowing flexibility for agencies in choosing a green building rating system. (SPI, No. 38 at p. 1) Many public comments from supporters of Green Globes commended this approach because it allows agencies options for using systems tailored to their needs. (AWC, No. 22 at p. 3; The Vinyl Institute, No. 23 at p. 1; NACGB, No. 24 at p. 2; Sustainable Forest Initiative, No. 26 at p. 2) . Several commenters, including the RFCI and the NACGB, recommended that DOE determine which green rating systems are acceptable for use for Federal buildings. (RFCI, No. 63 at p. 10; NACGB, No. 65 at p. 6)

DOE is not approving by this rule any specific green building rating systems for use in new Federal buildings and major renovations. Instead, DOE is specifying in regulation criteria for determining acceptable green building rating systems to allow agencies flexibility in choosing a rating system, including the possibility of using new or improved rating systems that are not currently available or known. In this way, DOE is allowing Federal agencies to use the system most appropriate for their buildings. Any rating system complying with the criteria outlined in today's rule shall be permitted. DOE also encourages Federal agencies to consider GSA's 2013 green building certification system recommendations. In addition, after the GSA Office of High Performance Green Federal Buildings completes its next analysis of green rating systems as required by EISA 2007 Section 436(h), DOE will review GSA's results and may seek to amend the criteria established in today's rule.

One commenter asked what is meant by the phrase ''consensus process'' in the rule. (Myers, No. 53 at p 2) For purposes of today's rule, DOE clarifies that a ''consensus-based'' process is a group decision-making process that seeks not only the agreement of most participants, but also the resolution or mitigation of minority objections.

NEMA recommended that DOE consider the use of existing certification systems that address occupied buildings and make any additional criteria of importance known to the certification bodies. (NEMA, No. 36 at p. 6) NAVFAC stated DOE should provide additional alternatives for verifying post-occupancy the continued energy and environmental performance of new and renovated buildings. (NAVFAC, No. 47 at p. 8) The final rule requires that the certification system include a verification system to demonstrate continued energy and water savings at least every four years after initial occupancy. Requiring the demonstration every four years will make the frequency consistent with other Federal building audit cycles such as the energy and water evaluations required under EISA Section 432.

Internal Certification Process

ECPA gives DOE the option of including a section in the rulemaking that would permit Federal agencies to develop internal green building certification processes to rate their buildings. (42 U.S.C. 6834(a)(3)(D)(v)) The NOPR proposed allowing agencies to request DOE approval of internal green building certification processes. GSA commented that agencies should not be allowed to self-certify buildings through an internal green building certification process. (GSA, No. 72 at p. 12) DOI asked for clarification regarding whether the DOI Sustainable Building Assessment and Compliance Tool or the ENERGY STAR Portfolio Manager are considered internal green building rating systems. (DOI, No. 44 at p. 6) In the final rule, DOE has not included provisions on internal green building rating systems as contained in the proposed rule because DOE's decision to allow agencies to use any green building rating system that meets the criteria in today's rule makes this provision unnecessary. In addition, regardless of any regulatory text, under today's rule, Federal agencies that choose not to use green building rating system, such as LEED or Green Globes, can use any appropriate, internal system to ensure that any new Federal buildings or major renovations of Federal buildings meet the requirements in today's rule.

Effect on State and Local Governments

NAHB expressed concern that ''today's mandates for federal buildings will morph into requirements for private development'' because many state and local governments shadow Federal rulemakings. (NAHB, no. 55 at p. 5) DOE notes NAHB's concern, but the Federal government has a statutory obligation to lead by example. (See 42 U.S.C. 6831) State and local governments and private entities have no obligation to adopt any elements of today's rule.

Codifying EISA Life-Cycle Limit

Additionally, today's final rule amends the life-cycle analysis provisions established in 10 CFR part 436 subpart A. Section 544 of the National Energy Conservation Policy Act (NECPA) directed DOE to establish practical and effective present value methods for estimating and comparing life-cycle costs for Federal buildings, based on capital and operating costs during a period of the expected life of the building's energy system or 25 years, whichever is shorter. DOE established life-cycle cost analyses methodologies and procedures in 10 CFR part 436 subpart A. Section 441 of EISA 2007 amended section 544 of NECPA by replacing the 25 year limit with a 40 year limit. (See, 42 U.S.C. 8254(a)(1)) Today's final rule amends the life-cycle costs analyses regulations to reflect the statutory change. Because the amendment to part 436 involves a nondiscretionary changes, the Department finds that public notice and comment are unnecessary pursuant to 5 U.S.C. 553(b)(B).

## III. Regulatory Analyses

### *A. Review Under Executive Order 12866 and 13563*

Today's final rule is a ''significant regulatory action'' under Executive Order 12866, ''Regulatory Planning and Review.'' 58 FR 51735 (October 4, 1993). Accordingly, today's action was subject to review by the Office of Information and Regulatory Affairs in the Office of Management and Budget (OMB). OMB has completed its review. DOE has also reviewed this regulation pursuant to Executive Order 13563, issued on January 18, 2011. 76 FR 3281 (January 21, 2011). EO 13563 is supplemental to and explicitly reaffirms the principles, structures, and definitions governing regulatory review established in Executive Order 12866.

DOE expects that Federal building construction costs will increase as a result of this rule and the cost increase will vary from project to project. A 2004 study commissioned by GSA entitled *GSA LEED Cost Study* estimates that a Gold certification under the LEED rating system will increase the cost of a mid-rise Federal courthouse or office building by 1.4% to 8.1%.[9]

Given that green building certification for Federal buildings is voluntary, DOE can only make assumptions about the amount of Federal agency participation and costs that such a certification might entail. The cost impact for any building will vary depending upon the level of green building certification being pursued, the square footage of the building and the degree of service the agency expects from a certification body such as LEED or Green Globes in order to review the design of the building.

[9] See *https://www.wbdg.org/ccb/GSAMAN/gsaleed.pdf.*

Existing Federal requirements mandate that construction of new Federal buildings be at a level of performance that meets the current ASHRAE or IECC specification, or 30% beyond the current ASHRAE or IECC specification, if life-cycle cost effective. Any added costs incurred associated with this rulemaking due to the agency voluntarily certifying that building as meeting a green building rating system will likely be as a result of the process of seeking and obtaining that certification.

*B. Review Under the Regulatory Flexibility Act*

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires the preparation of an initial regulatory flexibility analysis for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, *Proper Consideration of Small Entities in Agency Rulemaking,* 67 FR 53461 (August 16, 2002), DOE published procedures and policies on February 19, 2003, to ensure that the potential impacts of its rules on small entities are properly considered during the rulemaking process (68 FR 7990). The Department has made its procedures and policies available on the Office of General Counsel's Web site: *http://www.gc.doe.gov.*

DOE has reviewed today's rule under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. Today's rulemaking applies only to the design and construction of new Federal buildings and major renovation to Federal buildings. As such, the only entities directly regulated by this rulemaking would be Federal agencies. DOE does not believe that there will be any impacts on small entities such as small businesses, small organizations, or small governmental jurisdictions.

On the basis of the foregoing, DOE certified that the proposed rule would not have a significant economic impact on a substantial number of small entities. DOE received no comments on the impact of the proposed rule on small entities. As a result, DOE has adopted the prior certification without change.

*C. Review Under the Paperwork Reduction Act of 1995*

This rulemaking will impose no new information or record keeping requirements. Accordingly, Office of Management and Budget (OMB) clearance is not required under the Paperwork Reduction Act. (44 U.S.C. 3501 *et seq.*)

*D. Review Under the National Environmental Policy Act of 1969*

DOE prepared an Environmental Assessment (EA) entitled, 10 CFR 433, ''Energy Efficiency Standards for the Design and Construction of New Federal Commercial and Multi-Family High-Rise Residential Buildings'' and 10 CFR 435, ''Energy Efficiency Standards for the Design and Construction of New Federal Residential Low-Rise Residential Buildings'' pursuant to the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR parts 1500–1508), the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 et seq.), and DOE's NEPA Implementing Procedures (10 CFR part 1021).

The EA addresses the possible environmental effects attributable to the implementation of the final rule. Under today's rule, if an agency chooses to use a green building certification system to certify its buildings for any purpose, the chosen green building certification system must meet certain criteria established by the rule. The rule is not expected to cause any adverse health effects, and thus would have no environmental justice impacts affecting low-income or minority populations. The rule would not have an adverse effect on historic or archaeological sites, and would not be affected by a terrorist act. The rule will have no significant impact on sensitive environmental resources, including wetlands/floodplains, prime agricultural lands, endangered species, and sensitive ecosystems. Therefore, DOE has issued a Finding of No Significant Impact (FONSI), pursuant to NEPA, the regulations of the Council on Environmental Quality (40 CFR parts 1500–1508), and DOE's regulations for compliance with NEPA (10 CFR part 1021).

*E. Review Under Executive Order 13132, ''Federalism''*

Executive Order 13132, ''Federalism,'' 64 FR 43255 (August 4, 1999), imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. (65 FR 13735) DOE examined this rule and determined that it does not preempt State law and does not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of Government. No further action is required by Executive Order 13132.

*F. Review Under Executive Order 12988, ''Civil Justice Reform''*

With respect to the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, ''Civil Justice Reform,'' 61 FR 4729 (February 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) Eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; and (3) provide a clear legal standard for affected conduct, rather than a general standard and promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation: (1) Clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct, while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in section 3(a) and section 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, this rule meets the relevant standards of Executive Order 12988.

*G. Review Under the Unfunded Mandates Reform Act of 1995*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) (Pub. L. 104–4) requires each Federal agency to assess the effects of Federal regulatory

actions on State, local, and tribal governments and the private sector. For a proposed regulatory action likely to result in a rule that may cause the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector of $100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a) and (b)) The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and tribal governments on a proposed ''significant intergovernmental mandate,'' and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA (62 FR 12820) (also available at *http://www.gc.doe.gov*). This final rule contains neither an intergovernmental mandate nor a mandate that may result in the expenditure of $100 million or more in any year by State, local, and tribal governments, in the aggregate, or by the private sector so these requirements under the Unfunded Mandates Reform Act do not apply.

*H. Review Under the Treasury and General Government Appropriations Act of 1999*

Section 654 of the Treasury and General Government Appropriations Act of 1999 (Pub. L. 105–277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This final rule would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

*I. Review Under Executive Order 12630, ''Governmental Actions and Interference With Constitutionally Protected Property Rights''*

The Department has determined, under Executive Order 12630, ''Governmental Actions and Interference with Constitutionally Protected Property Rights,'' 53 FR 8859 (March 18, 1988), that this rule would not result in any takings which might require compensation under the Fifth Amendment to the United States Constitution.

*J. Review Under the Treasury and General Government Appropriations Act, 2001*

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516, note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (February 22, 2002), and DOE's guidelines were published at 67 FR 62446 (October 7, 2002). DOE has reviewed today's final rule under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

*K. Review Under Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use''*

Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,'' 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to the Office of Information and Regulatory Affairs (OIRA), Office of Management and Budget, a Statement of Energy Effects for any proposed significant energy action. A ''significant energy action'' is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) Is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy, or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use. This final rule would not have a significant adverse effect on the supply, distribution, or use of energy and, therefore, is not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

## IV. Congressional Notification

As required by 5 U.S.C. 801, DOE will report to Congress on the promulgation of this rule prior to its effective date. The report will state that it has been determined that the rule is not a ''major rule'' as defined by 5 U.S.C. 804(2).

**List of Subjects**

*10 CFR Parts 433 and 435*

Buildings and facilities, Energy conservation, Engineers, Federal buildings and facilities, Housing, Incorporation by reference, Sustainable design.

*10 CFR Part 436*

Energy conservation, Federal buildings and facilities, Reporting and recordkeeping, Requirements, Solar energy.

Issued in Washington, DC, on October 3, 2014.

**David T. Danielson,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

For the reasons set out in the preamble, the Department of Energy amends chapter II of title 10 of the Code of Federal Regulations as set forth below:

## PART 433—ENERGY EFFICIENCY STANDARDS FOR THE DESIGN AND CONSTRUCTION OF NEW FEDERAL COMMERCIAL AND MULTI–FAMILY HIGH–RISE RESIDENTIAL BUILDINGS

■ 1. The authority citation for part 433 continues to read as follows:

**Authority:** 42 U.S.C. 6831–6832, 6834–6835; 42 U.S.C. 7101 *et seq.*

■ 2. Revise the part heading for part 433 as set forth above.

■ 3. In § 433.1:

■ a. Redesignate the existing text as paragraph (a);

■ b. Add and reserve paragraph (b); and

■ c. Add paragraph (c) to read as follows:

### § 433.1 Purpose and scope.

* * * * *

(c) This part also establishes green building certification requirements for new Federal buildings that are commercial and multi-family high-rise residential buildings and major renovations to Federal buildings that are commercial and multi-family high-rise residential buildings, for which design for construction began on or after October 14, 2015.

### § 433.3 [Amended]

■ 4. In § 433.3 in paragraphs (b)(1), (b)(2) and (b)(3) remove ''433.4, 433.5'' and add in their place ''433.100, and 433.101.''

### §§ 433.4 through 433.7 [Removed and Reserved]

■ 5. Remove and reserve §§ 433.4 through 433.7.

■ 6. Add subpart A to part 433 to read as follows:

**Subpart A—Energy Efficiency Performance**



## Subpart A—Energy Efficiency Performance

### § 433.100 Energy efficiency performance standard.

(a) (1) All Federal agencies shall design new Federal buildings that are commercial and multi-family high-rise residential buildings, for which design for construction began on or after January 3, 2007, but before August 10, 2012, to:

(i) Meet ASHRAE 90.1–2004, (incorporated by reference, see § 433.3); and

(ii) If life-cycle cost-effective, achieve energy consumption levels, calculated consistent with paragraph (b) of this section, that are at least 30 percent below the levels of the ASHRAE Baseline Building 2004.

(2) All Federal agencies shall design new Federal buildings that are commercial and multi-family high-rise residential buildings, for which design for construction began on or after August 10, 2012, to:

(i) Meet ASHRAE 90.1–2007, (incorporated by reference, see § 433.3); and

(ii) If life-cycle cost-effective, achieve energy consumption levels, calculated consistent with paragraph (b) of this section, that are at least 30 percent below the levels of the ASHRAE Baseline Building 2007.

(3) All Federal agencies shall design new Federal buildings that are commercial and multi-family high-rise residential buildings, for which design for construction began on or after July 9, 2014, to:

(i) Meet ASHRAE 90.1–2010, (incorporated by reference, see § 433.3); and

(ii) If life-cycle cost-effective, achieve energy consumption levels, calculated consistent with paragraph (b) of this section, that are at least 30 percent below the levels of the ASHRAE Baseline Building 2010.

(b) Energy consumption for the purposes of calculating the 30 percent savings shall include space heating, space cooling, ventilation, service water heating, lighting and all other energy consuming systems normally specified as part of the building design except for receptacle and process loads.

(c) If a 30 percent reduction is not life-cycle cost-effective, the design of the proposed building shall be modified so as to achieve an energy consumption level at or better than the maximum level of energy efficiency that is life-cycle cost-effective, but at a minimum complies with paragraph (a) of this section.

### § 433.101 Performance level determination.

(a)(1) For Federal buildings for which design for construction began on or after January 3, 2007, but before August 10, 2012, each Federal agency shall determine energy consumption levels for both the ASHRAE Baseline Building 2004 and proposed building by using the Performance Rating Method found in Appendix G of ASHRAE 90.1–2004 (incorporated by reference, see § 433.3), except the formula for calculating the Performance Rating in paragraph G1.2 shall read as follows:

(i) Percentage improvement = 100 × ((Baseline building consumption—Receptacle and process loads)—(Proposed building consumption—Receptacle and process loads))/(Baseline building consumption—Receptacle and process loads) (which simplifies as follows):

(ii) Percentage improvement = 100 × (Baseline building consumption—Proposed building consumption)/(Baseline building consumption—Receptacle and process loads).

(2) For Federal buildings for which design for construction began on or after August 10, 2012, each Federal agency shall determine energy consumption levels for both the ASHRAE Baseline Building 2007 and proposed building by using the Performance Rating Method found in Appendix G of ASHRAE 90.1–2007 (incorporated by reference, see § 433.3), except the formula for calculating the Performance Rating in paragraph G1.2 shall read as follows:

(i) Percentage improvement = 100 × ((Baseline building consumption—Receptacle and process loads)—(Proposed building consumption—Receptacle and process loads))/(Baseline building consumption—Receptacle and process loads) (which simplifies as follows):

(ii) Percentage improvement = 100 × (Baseline building consumption—Proposed building consumption)/(Baseline building consumption—Receptacle and process loads).

(3) For Federal buildings for which design for construction began on or after July 9, 2014, each Federal agency shall determine energy consumption levels for both the ASHRAE Baseline Building 2007 and proposed building by using the Performance Rating Method found in Appendix G of ASHRAE 90.1–2010 (incorporated by reference, see § 433.3), except the formula for calculating the Performance Rating in paragraph G1.2 shall read as follows:

(i) Percentage improvement = 100 × ((Baseline building consumption—Receptacle and process loads)—(Proposed building consumption—Receptacle and process loads))/(Baseline building consumption—Receptacle and process loads) (which simplifies as follows):

(ii) Percentage improvement = 100 × (Baseline building consumption—Proposed building consumption)/(Baseline building consumption—Receptacle and process loads).

(b) Each Federal agency shall consider laboratory fume hoods and kitchen ventilation systems as part of the ASHRAE-covered HVAC loads subject to the 30 percent savings requirements, rather than as process loads.

■ 7. Add and reserve subpart B to part 433 to read as follows:

## Subpart B—Reduction in Fossil Fuel-Generated Energy Consumption [Reserved]

■ 8. Add subpart C to part 433 to read as follows:

## Subpart C—Green Building Certification for Federal Buildings

### § 433.300 Green building certification.

(a) If a Federal agency chooses to use a green building certification system to certify a new Federal building or a Federal building undergoing a major renovation and such building is also either a public building (as defined in 40 U.S.C. 3301) for which transmittal of a prospectus to Congress is required under 40 U.S.C. 3307, or a Federal building for which estimated new building or major renovation design and construction costs are at least $2,500,000 (in 2007 dollars, adjusted for inflation), and design for construction began on or after October 14, 2015.

(b) The system under which the building is certified must:

(1) Allow assessors and auditors to independently verify the criteria and measurement metrics of the system;

(2) Be developed by a certification organization that:

(i) Provides an opportunity for public comment on the system; and

(ii) Provides an opportunity for development and revision of the system through a consensus-based process;

(3) Be nationally recognized within the building industry;

(4) Be subject to periodic evaluation and assessment of the environmental and energy benefits that result under the rating system; and

(5) Include a verification system for post-occupancy assessment of the rated

buildings to demonstrate continued energy and water savings at least every four years after initial occupancy.

(c) *Certification level.* The building must be certified to a level that promotes the high performance sustainable building guidelines referenced in Executive Order 13423 ''Strengthening Federal Environmental, Energy, and Transportation Management'' and Executive Order 13514 ''Federal Leadership in Environmental, Energy and Economic Performance.''

## PART 435—ENERGY EFFICIENCY STANDARDS FOR THE DESIGN AND CONSTRUCTION OF NEW FEDERAL LOW-RISE RESIDENTIAL BUILDINGS

■ 9. The authority citation for part 435 continues to read as follows:

**Authority:** 42 U.S.C. 6831–6832, 6834–6835; 42 U.S.C. 7101 *et seq.*

■ 10. The heading for part 435 is revised to read as set forth above.

■ 11. In § 435.1:

■ a. Redesignate the existing text as paragraph (a);

■ b. Add and reserve paragraph (b); and

■ c. Add paragraph (c) to read as follows:

### § 435.1 Purpose and scope.

* * * * *

(c) This part also establishes green building certification requirements for new Federal buildings that are low-rise residential buildings and major renovations to Federal buildings that are low-rise residential buildings, for which design for construction began on or after October 14, 2015.

### §§ 435.6 and 435.7 [Removed]

■ 12. Remove §§ 435.6 and 435.7.

### § 435.8 [Redesignated as § 435.6]

■ 13. Section 435.8 is redesignated as § 435.6.

### Subparts B and C of Part 435 [Redesignated]

■ 14. Redesignate subparts B and C of part 435 as subparts D and E of part 435.

■ 15. Redesignate §§ 435.300 through 435.306 as §§ 435.500 through 435.506 respectively.

■ 16. Add and reserve a new subpart B to read as follows:

### Subpart B—Reduction in Fossil Fuel-Generated Energy Consumption [Reserved]

■ 17. Add a new subpart C to read as follows:

### Subpart C—Green Building Certification for Federal Buildings

### § 435.300 Green building certification.

(a) If a Federal agency chooses to use a green building certification system to certify a new Federal building or a Federal building undergoing a major renovation and construction costs for such new building or major renovation are at least $2,500,000 (in 2007 dollars, adjusted for inflation), and design for construction began on or after October 14, 2015:

(b) The system under which the building is certified must:

(1) Allow assessors and auditors to independently verify the criteria and measurement metrics of the system;

(2) Be developed by a certification organization that

(i) Provides an opportunity for public comment on the system; and

(ii) Provides an opportunity for development and revision of the system through a consensus-based process;

(3) Be nationally recognized within the building industry;

(4) Be subject to periodic evaluation and assessment of the environmental and energy benefits that result under the rating system; and

(5) Include a verification system for post occupancy assessment of the rated buildings to demonstrate continued energy and water savings at least every four years after initial occupancy.

(c) *Certification level.* The building must be certified to a level that promotes the high performance sustainable building guidelines referenced in Executive Order 13423 ''Strengthening Federal Environmental, Energy, and Transportation Management'' and Executive Order 13514 ''Federal Leadership in Environmental, Energy and Economic Performance.''

## PART 436—FEDERAL ENERGY MANAGEMENT AND PLANNING PROGRAMS

■ 18. The authority citation for part 436 is revised to read as follows:

**Authority:** 42 U.S.C. 7101 et seq.; 42 U.S.C. 8254; 42 U.S.C. 8258; 42 U.S.C. 8259b.

### Subpart A—Methodology and Procedures for Life Cycle Cost Analyses

■ 19. Revise § 436.14(d) to read as follows:

### § 436.14 Methodological assumptions.

* * * * *

(d) Each Federal agency shall assume that the appropriate study period is as follows:

(1) For evaluating and ranking alternative retrofits for an existing Federal building, the study period is the expected life of the retrofit, or 40 years from the beginning of beneficial use, whichever is shorter.

(2) For determining the life cycle costs or net savings of mutually exclusive alternatives for a given building energy system or building water system (e.g., alternative designs for a particular system or size of a new or retrofit building energy system or building water system), a uniform study period for all alternatives shall be assumed which is equal to—

(i) The estimated life of the mutually exclusive alternative having the longest life, not to exceed 40 years from the beginning of beneficial use with appropriate replacement and salvage values for each of the other alternatives; or

(ii) The lowest common multiple of the expected lives of the alternative, not to exceed 40 from the beginning of beneficial use with appropriate replacement and salvage values for each alternative.

(3) For evaluating alternative designs for a new Federal building, the study period extends from the base year through the expected life of the building or 40 years from the beginning of beneficial use, whichever is shorter.

* * * * *

[FR Doc. 2014–24150 Filed 10–10–14; 8:45 am]

BILLING CODE 6450–01–P

## DEPARTMENT OF COMMERCE

### Bureau of Industry and Security

### 15 CFR Part 774

[Docket No. 140131087–4087–01]

RIN 0694–AG08

## Revisions to the Commerce Control List: Imposition of Controls on Integrated Circuits, Helicopter Landing System Radars, Seismic Detection Systems, and Technology for IR Up-Conversion Devices

**AGENCY:** Bureau of Industry and Security, Commerce.

**ACTION:** Interim final rule with request for comments.

**SUMMARY:** In this rule, the Bureau of Industry and Security (BIS) amends the Export Administration Regulations (EAR) to impose foreign policy controls on read-out integrated circuits and related ''software'' and ''technology,'' radar for helicopter autonomous landing systems, seismic intrusion detection

**Department of Planning and Zoning**
149 Church Street, City Hall
Burlington, VT 05401
www.burlingtonvt.gov/pz
Phone: (802) 865-7188
Fax: (802) 865-7195

*David White, AICP, Director*
*Meagan Tuttle, AICP, Comprehensive Planner*
*Jay Appleton, GIS Manager*
*Scott Gustin, AICP, CFM, Principal Planner*
*Mary O'Neil, AICP, Principal Planner*
*Ryan Morrison, Assistant Planner*
*Shaleigh Draper, Zoning Clerk*
*Layne Darfler, Planning Technician*

**TO:** Burlington Planning Commission
**FROM:** Scott Gustin, Principal Planner
**DATE:** April 29, 2019
**RE:** CDO Amendment ZA-19-09: Zoning Administrative Officer

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## Overview & Background

In anticipation of the Planning & Zoning Department restructuring associated with the City's permit reform effort, the City Attorney has recommended that Sec. 2.3.2, *Appointment*, of the *CDO* be amended to disjoin the director of planning and zoning position from that of the zoning administrative officer and reflect the ZAO appointment process.

## Proposed Amendment

### Amendment Type

| Text Amendment | Map Amendment | Text & Map Amendment |
|---|---|---|

### Purpose Statement

The purpose of this proposed amendment is to disjoin the director of planning and zoning from the zoning administrative officer within the Burlington Comprehensive Development Ordinance.

### Proposed Amendments

To achieve the goals identified above, the proposed amendment affects the following sections of the *Burlington Comprehensive Development Ordinance*:

**Sec. 2.3.2 Appointment**

The ~~director of planning and zoning shall serve, ex officio, as the~~ city's zoning administrative officer (ZAO or administrative officer), ~~and upon the recommendation of the planning commission~~ shall be appointed by the mayor with approval of the majority of the full city council ~~legislative body~~ for a term of up to three years. ~~The ZAO may be removed for cause at any time by the legislative body after consultation with the planning commission.~~

## Relationship to planBTV

*This following discussion of conformance with the goals and policies of planBTV is prepared in accordance with the provisions of 24 V.S.A. §4441(c).*

Compatibility with Proposed Future Land Use & Density

The proposed amendment has no impact on the proposed future land use and density goals contained within planBTV (the City's Municipal Development Plan).

Impact on Safe & Affordable Housing

The proposed amendment has no impact on the provision of safe and affordable housing.

Planned Community Facilities

The proposed amendment has no impact on planned community facilities.

## Process Overview

The following chart summarizes the current stage in the zoning amendment process, and identifies any recommended actions:

<table>
<tr><td colspan="5">Planning Commission Process</td></tr>
<tr><td rowspan="2">Draft Amendment prepared by:<br>Staff, per city-wide charter vote</td><td rowspan="2">Presentation to & discussion by Commission<br>4/9/2019</td><td rowspan="2">Approve for Public Hearing<br>4/9/2019</td><td rowspan="2">Public Hearing<br>5/28/2019</td><td>Forward to Council<br>7/9/2019</td></tr>
<tr><td>Continue discussion</td></tr>
<tr><td colspan="5">City Council Process</td></tr>
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www.burlingtonvt.gov/pz



**TO:** Burlington City Council
Mayor Weinberger
**FROM:** Burlington Planning Commission
**DATE:** July 9, 2019
**RE:** ZA-19-09: Commissioner Comments on reorganization and changes to appointments

**DRAFT**

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The Planning Commission has forwarded ZA-19-09 to the City Council for adoption in order to ensure that the *Burlington Comprehensive Development Ordinance* is consistent with the City Charter, which was amended in March 2019 by the voters. The charter change created two new departments, the Planning Department and the Department of Permitting and Inspections, and gave the Mayor the authority to appoint the Planning Director and Zoning Administrative Officer. The Commission understands that the changes to the City's charter, the FY2020 budget, and department appointments have all been approved consistent with this change. Additionally, the Commission recognizes the need to forward this amendment in order to eliminate inconsistencies between the City's ordinances and the charter, but offers the following comments on the reorganization that prompted these changes.

Leading up to the city-wide vote, the Commission discussed the proposal to reorganize the Planning & Zoning Department to 1) meet the intent of the permit reform process to create a single permitting department, and to 2) consider the merger of the long-range planning functions of the department with CEDO. As a part of this reorganization, the proposal included a change to the appointment of the Planning Director to be by the Mayor instead of the Planning Commission. The Commission supported the creation of a "one-stop" permitting center for the City. However, the Commission voiced its concerns about splitting the long-range planning and zoning functions of the department, as well as the Mayoral appointment of the Planning Director. Ultimately, the Commission recommended keeping planning and zoning within the same department, even if that meant that planning staff joined a new permitting and inspections department, and that the Planning Commission retain authority to appoint the director.

More specifically, regarding the separation of planning and zoning functions, the Commission was concerned about the loss of coordination among the staff and the Commission over the course of creating plans, subsequent amendments to or new ordinances created from those plans, through the administration and interpretation of the ordinance. The Commission felt strongly that these functions should stay within the same department. Further, it felt that if there was a desire to more closely align zoning with other permitting functions, or planning with other policy functions, these roles should have been brought into one larger department.

Regarding the appointment of the Planning Director, the Commission was concerned that this would result in a loss of oversight by the Planning Commission into the development and administration of the ordinance by the Department(s). Additionally, the concern was raised about how disputes or inconsistencies between the intent of the ordinances, developed by planning, and the administration/interpretation of the ordinances, implemented by the permitting department, would be resolved if there was not a single line of accountability at the department-head and commission levels.

Ultimately, while the Commission has forwarded ZA-19-09 for the Council's action, it does so without recommendation due to the enclosed concerns with the reorganization of the City's planning and zoning functions. Thank you for considering these comments as you deliberate on the adoption of this amendment.

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*Layne Darfler, Planning Technician*

**TO:** Burlington Planning Commission
**FROM:** Scott Gustin
**DATE:** February 25, 2019
**RE:** Proposed CDO Amendment: Accessory Uses & Structures

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## Overview & Background

This amendment stems from staff's observation of inconsistent treatment of "accessory" in various sections of the Compressive Development Ordinance. The Planning Commission Ordinance Committee reviewed this amendment at their December 2018 and February 2019 meetings and forwarded it for discussion by the full Planning Commission.

The CDO makes multiple references to the term "accessory" in a variety of different scenarios such as accessory uses, accessory structures, and accessory dwelling units. The idea is predicated on the distinction between principal and accessory, whether in reference to structures or uses. Within the context of the CDO, the term "principal" refers to the main structure or use of a property. "Accessory" refers to an adjunct structure or use that is customary and incidental to the principal structure or use. A principal use or structure may stand on its own. An accessory use or structure must always be associated with a primary use or structure.

Some common examples of an accessory/principal relationship include a shed associated with a single family home or administrative office space associated with a grocery store use.
The focus here is on "accessory;" however, is bears noting that the term "principal" (or primary) is not defined in Article 13. Providing such definition is recommended.

Accessory is essentially about a feature's scope and context as it relates to the primary feature. The term should be plainly and simply defined to establish clear guidelines while affording necessary flexibility for any particular set of circumstances. Over-defining the term or trying to articulate standards for particular situations lessens flexibility.

## Recommended Amendment Details

### Amendment Type

| Text Amendment | Map Amendment | Text & Map Amendment |
|---|---|---|

### Purpose Statement & Summary

The purpose of this amendment is to provide clarity as to what "accessory" is and to establish consistency in the application of "accessory" throughout the CDO. Some adjustment is made to the definition of the term "accessory," and misuse of the term is corrected in two places. Some related clean-up is also included, such as relocating several "accessory" exemptions under the exemptions section of the CDO. Finally, the term "principal" is also defined.

**Proposed Amendments**

- Amend Sec. 3.1.2 (c) to include exemptions relocated from Sec. 4.4.5 (d) 4 E.

  **Sec. 3.1.2 (c)**, *Exemptions*

  The following shall be exempt from the requirements of this Ordinance and shall not be required to obtain a zoning permit:

  (1) – (15) As written.

  (16) Seasonal skating rinks

  *[Note: Renumbering to place seasonal skating rinks as # 12, following #11 Children's play structures, may be more intuitive than simply tagging on at the end.]*

- Amend Sec. 4.4.5 (d) 4 to reference "accessory" as defined in Article 13 and to relocate exemptions in subsection E to Sec. 3.1.2 (c).

  **Sec. 4.4.5 (d) 4**, *Accessory Residential Structures and Uses*

  **4. Accessory Residential Structures and Uses**

  An accessory structure and/or use as defined in Article 13 and provided under Sec. 5.1.1 and 5.1.2 customarily incidental and subordinate to a principal residential use, including but not limited to private garages, carriage houses, barns, storage sheds, tennis courts, swimming pools, cabanas for swimming pools and detached fireplaces may be permitted as follows:

  A. Accessory Structures shall meet the dimensional requirement set forth in the district in which they are located pursuant to Sec. 4.4.5(b) of this Article and related requirements in Art 5, Part 2;

  B. Any accessory structure that is seventy-five percent (75%) or greater of the ground floor area of the principle structure shall be subject to the site plan and design review provisions of Art. 3, Part 4 and the applicable standards of Art 6;

  C. Private garages shall be limited to as many stalls as there are bedrooms in the dwelling to which it is accessory, provided that the ground floor area is less than seventy-five percent (75%) of the ground floor area of the principle structure;

  D. The outdoor overnight storage of commercial vehicles not otherwise associated with an approved home occupation or made available for the exclusive use of the residential occupants, or the outdoor storage of more than one unregistered vehicle, shall be prohibited. Any and all vehicles shall be stored in an approved parking space; and,

  ~~E. Uncovered play structures, seasonal skating rinks, raised planting beds shall not require a zoning permit.~~ *[Note: This provision to be located with all other exemptions in Sec. 3.1.2 (c).]*

- Amend Sec. 5.1.2 (e) to remove the arbitrary 500 sf limit on nonresidential structures and to refer instead to the applicable provisions of Article 4.

  **Sec. 5.1.2**

  **(d) Accessory Residential Structures:**

  An accessory structure customarily incidental and subordinate to a principal residential use shall also be governed by the provisions of Sec. 4.4.5(d)4.

**(e) Accessory Nonresidential Structures:**

An accessory structure customarily incidental and subordinate to a principal nonresidential use may be permitted subject to the provisions of Article 4 ~~provided the gross floor area of any accessory structure does not exceed five hundred (500) square feet or contain living space~~.

- Amend Sec. 11.1.6 to replace incorrect use of the term "accessory" with correct "non-residential."

**Sec. 11.1.6 ~~Accessory~~ Non-Residential Facilities**

(a) – (b) As written.

- Amend Article 13: Definitions to include "temporal" in the definition of "accessory," to delete incorrect use of "accessory" in the "animal" definitions, and to define the term "principal."

**Accessory Appurtenance, Building or Use:** A use or detached building that:

(a) Is located on the same lot as the principal use or building served;

(b) Is clearly incidental to and customarily found in connection with the principal use or building; and

(c) Is subordinate in area, temporal extent, or purpose to the principal use or building served, and is not to exceed twenty-five percent (25%) of the gross area or sales of the principal use or building served.

**Animal**

- **Boarding:** An establishment involving any structure, land, or combination thereof used, designed, or arranged for the keeping of five (5) or more domestic pets more than three (3) months of age for profit or exchange, inclusive of equines but exclusive of other livestock used for agricultural purposes in areas approved for agricultural uses. The keeping of four (4) or less such animals more than three (3) months of age for personal enjoyment shall not be considered "boarding" for the purposes of this ordinance.
- **Domestic Pet**: Any canine, feline, or European ferret (Mustela putorious furo) and such other domestic animals as the Secretary of the Agency of Agriculture, Food and Markets shall establish by rule and that has been bred or raised to live in or about the habitation of humans, and is dependent on people for food and shelter.
- **Livestock:** Animals used for food production (including eggs, milk, honey, and meat) or fiber.
- **Grooming:** Any establishment where domestic pets are bathed, clipped, or combed for the purpose of enhancing their aesthetic value or health.
- **Hospitals:** An establishment for the care and treatment of the diseases and injuries of animals and where animals may be boarded during their convalescence. (See Veterinarian Office)
- **Kennel:** A~~ccessory~~ building or enclosure for the keeping of domestic pets.
- **Barn or coop**: A~~ccessory~~ building or enclosure for the keeping of livestock.
- **Shelter:** A facility used to house or contain stray, homeless, abandoned, or unwanted domestic pets or livestock for the purpose of providing temporary kenneling and finding permanent adoptive homes and that is owned, operated, or maintained by a public body, an established humane society, animal welfare society, society for the prevention of cruelty to animals, or other nonprofit organization devoted to the welfare, protection, and human treatment of animals.

- **Store, Pet**: A retail sales establishment primarily involved in the sale of domestic pets, such as dogs, cats, fish, birds, and reptiles, excluding exotic animals and livestock.

**Principal (also Primary) Structure or Use**
A structure that accommodates the principal use of the lot or use that is the main purpose for which a site is developed and occupied.

## Relationship to planBTV

*This following discussion of conformance with the goals and policies of planBTV is prepared in accordance with the provisions of 24 V.S.A. §4441(c).*

Proposed Future Land Use & Density
The proposed amendment does not directly pertain to any specific goals and policies of *planBTV*. Insofar as it clarifies and codifies parameters around distinctions between accessory and primary structures and uses, the amendment facilitates implementation of land use standards generally. Therefore, the proposed amendment has little impact on future land use or density, and are limited to adjusted parameters around the use of "accessory" as defined in the *CDO*.

Impact on Safe & Affordable Housing
The proposed amendment has no impact on the availability of safe and affordable housing. The standards as to accessory dwelling units are unaffected by this amendment.

Planned Community Facilities
The proposed amendment has no impact on planned community facilities.

**Process Overview**
The following chart summarizes the current stage in the zoning amendment process, and identifies any recommended actions:

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# Burlington Planning Commission

## Tuesday, June 25, 2019, 6:30 P.M.

## Conference Room 12, City Hall, 149 Church Street

# Draft Minutes

| | |
|---|---|
| Members Present | A Montroll, B Baker, A Friend, E Lee, Y Bradley, H Roen |
| Members Absent | J Wallace-Brodeur |
| Staff Present | D White, S Gustin, T Rawlings |

## I. Agenda

| | |
|---|---|
| Call to Order | Time: 6:40pm |
| Agenda | No changes to the agenda |

## II. Public Forum

| Name | Comment | Commission Action |
|---|---|---|
| | none | |

## III. Report of the Chair

| | |
|---|---|
| A Montroll | PC annual report presented to Council |

## IV. Report of the Director

| | |
|---|---|
| D White | • Dept. Transition<br>• Housing Summit<br>• Copies of planBTV & South End available |

## V. Public Hearing: ZA-19-10 Inclusionary Zoning Update

| | | |
|---|---|---|
| **Action**: Refer ZA-19-10 to City Council along with the report and the recommendation that the Council Ordinance Committee re-introduce/reconsider changes to unit size limits in Sec. 9.1.14 based on comments heard at Public Hearing. Commission will continue to deliberate on proposed revision to Sec. 9.1.9 and advance their recommendations to the Ordinance Committee as soon as possible. | | |
| Motion by: E. Lee | Second by: Y. Bradley | Vote: Approved Unanimously |
| Type: Public Hearing, Discussion, Action | Presented by: S Gustin, T Rawlings | |
| Public Hearing | | |
| • E. Bergman – acknowledges a lot of good work done. Was Councilor who originally sponsored this ordinance. 3 issues – elimination of parking lessens social benefit as low income residents continue to need a vehicle. It transfers the cost to the low income tenant rather than developer. AMI based on MSA which is overall higher income and therefore skews affordable rents higher than they actually are in BTV. Should be more reflective of actual BTV incomes. In lieu fees for small development are too little (?) and are same in richer and poorer neighborhoods and should be higher in richer neighborhoods. | | |
| • B. Winroth – the total number of IZ units should be the same or more. IZ units shouldn't be segregated from market rate units. People shouldn't be forced to be housed with students. For more IZ housing. | | |

| |
|---|
| • B. McGavisk – Concerned about reducing payment in lieu and removing 1.5 multiplier for off-site. Would like to see institutions reduce cost of housing. Shouldn't restrict parking for low income tenants. Should instead invest in transit |
| • F. VonTurkovitch – had proposed change to the unit size. Sec. 9.1.14 which results in a barrier to certain projects. |
| • C. Winkleman – Financial aid doesn't cover housing so without IZ students are paying full-rate. Need a lever to help students who can't afford housing. Why hasn't City focused more on "exclusionary" effect of rest of zoning (RL districts) where no IZ units can or will be built. The result is creating greater segregation and not addressing the overall purpose of IZ to begin with. Unit size should be equal to market rate not smaller. AMI should reflect renters in BTV which earn much less. Should increase the number of units required – 25%. |
| • L. Bunders (Champlain) – 194 College St. project is not income based and residents are diverse. Financial aid covers full package including housing at Champlain |
| • C. Delphia – Low income tenants should not have to pay for parking in addition to housing. Housing prices are increasing leaving no place to go, and if you are without a car you can't live outside of BTV. Students need affordable housing too. |
| • M. Monte – Many CHT projects are closely connected to IZ. Size limit makes sense, but worried in some cases it may create units larger than are needed. Parking demand is dependent on location so therefore need flexibility. One-size fits all means more expensive units. In lieu changes are important and will result in more money going into the HTF which will result in more affordable housing. IZWG discussed exclusionary nature of zoning and this is reflected in the allowances (or not) for off-site as an option. This doesn't solve the problem, but leans in the right direction. Doesn't appreciate characterization of "ghetto-izing" buildings – inappropriate and disgusting remark. Part of a national network supporting IZ, and feels this is one of the most progressive ordinances in the country today. |
| • E. Mahnke – Been involved in this issue for very many years. IZ is not a panacea to our housing challenges – never meant to be. IZ brings no public subsidy so therefore the units must stand on their own. Partnerships with non-profits therefore brings a much deeper level of affordability. Good process and good work balancing interests of diverse developers and advocates. Many original recommendations of report never advanced after thoughtful discussion and analysis. 2-bdrm rent affordable to some earning $53,755. Originally opposed parking (should be included in rent calculation). Size limits may be something to look into further. AMI has some balancing with lower income rural areas, but not perfect and few better alternatives. |
| • J. Knodell – Thanks for good work. Chaired the IZ Working Group. A complex issue with many inter-related parts. Intended to ensure that as many projects as possible participate which was basis for payment in lieu and off-site options. Need reasonable data sources with the understanding they are imperfect. |
| • A. Montroll – read memo from Mayor into the record. |
| Commission Discussion/Notes:<br>• E. Lee – can't support if low income students don't have clear access to affordable units.<br>• A. Friend – Committee struggled to find a mechanism to define and measure affordability for students<br>• T. Rawlings – Many/most IZ ordinances are not applicable to institutions. It can be seen as a barrier to creation of new student housing which runs counter to broader affordable housing objectives. Income testing for students is very difficult given various aid packages that may be made available. |

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| • B. Baker – Institutional housing is likely to be larger in scale and therefore more able to absorb subsidy cost of IZ units<br>• May want to re-consider unit size limits |

## VI. Committee Reports

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|---|---|
| Executive | No Report. Next meeting July 9 at 5:30 |
| Ordinance | Met to discuss Institutional IZ requirements |
| Long Range | No Report |

## VII. Commissioner Items

| | |
|---|---|
| Next Meeting | Tuesday, June 25, 2019 @ 6:30pm in Conference Room 12, City Hall |
| E. Lee – what requirements are there for the provision of accessible units – ADA and/or Universal Design? Are there incentives? Refer topic to Exec. Committee for future scheduling | |

## VIII. Minutes & Communications

| **Action**: Approve Minutes & Accept Communications | | |
|---|---|---|
| Motion by: Y. Bradley | Second by: A. Friend | Vote: Approved Unanimously |
| Changes to Minutes: none | | |
| Communications Filed:<br>• Memo from Mayor re: IZ amendment | | |

## IX. Adjourn

| Adjournment | Time: 8:17pm | |
|---|---|---|
| Motion: E. Lee | Second: H. Roen | Vote: Approved Unanimously |

Respectfully submitted by: D.E. White

**Burlington Planning Commission**
149 Church Street
Burlington, VT 05401
Telephone: (802) 865-7188
(802) 865-7195 (FAX)
(802) 865-7144 (TTY)
www.burlingtonvt.gov/pz



# Burlington Planning Commission
## Tuesday, July 09, 2019, 6:30 P.M.
## Conference Room 12, City Hall, 149 Church Street
# Minutes

| | |
|---|---|
| Members Present | A Montroll, B Baker, A Friend, H Roen, J Wallace-Brodeur |
| Members Absent | E Lee, Y Bradley |
| Staff Present | D White, M Tuttle |

## I. Agenda

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|---|---|
| Call to Order | Time: 6:32pm |
| Agenda | No changes to the agenda |

## II. Public Forum

| Name | Comment | Commission Action |
|---|---|---|
| | • | |

## III. Report of the Chair

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|---|---|
| A Montroll | • No Report |

## IV. Report of the Director

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|---|---|
| D White | • |

## V. Approval of Green Globes Certification

| | | |
|---|---|---|
| Put on agenda for action at next meeting, invite participants to comment | | |
| Motion by: A Montroll | Second by: Y Bradley | Vote: |
| Type: Discussion | Presented by: Cleary Buckley, D White | |

Discussion/Notes:

- D White noted Article 14's High Performing Building requirements gives the Commission the opportunity to approve additional standards that are functionally equivalent or better than LEED Gold, Passivehaus, and PETAL. PC's requirements to consider a new program are: nationally recognized standard, equivalent, and quantifiable.
- C Buckley shared that the team for the Cambria Hotel looked really closely at Passivehaus, liked its focus on energy savings; however, program comes from residential buildings so both scale/type of building and climate its been applied to are not comparable to BTV. PETAL is a great program, but the bar is much higher than any of the other programs. Left with LEED as the only option to consider for a commercial building of this scale. The approved standards in Article 14 are not the same, don't necessarily offer predictability for a building of this scale.
- Team looked into Green Globes (GG), based on a 1000 point scale; to obtain "globes" project must achieve a certain % of those points. In assessment, it seems that one globe is equivalent to LEED certified, where 4 globes is equivalent to platinum, etc.
- D White noted that GG and LEED from the same European model—GG became Canadian program, LEED the US program. Passivehaus and PETAL are very focused on energy efficiency,

where GG and LEED are more comprehensive. US govt has analyzed how the program performs relative to federal standards for high performing buildings and has approved GG. There is some controversy around governance, but there is consensus about its performance. Research by staff suggests this is a worthwhile standard, recommend 3 globes to be equivalent to the LEED Gold standard. Burlington Electric is very supportive of this program, and shared that it was used by Champlain College on the 194 St. Paul Street project.

Commissioner Discussion:

- How many have been subject to this requirement? D White noted that just CityPlace, which is pursuing LEED.
- Commissioners felt that there should be more options, that this program seemed like a good alternative, that it covered more considerations from a sustainability perspective, and that greater predictability, reliable technical assistance, and a cheaper option to get certification were all positive aspects.
- Commissioners preferred to discuss this at another meeting to have an opportunity for more comments by the public, especially given the fact that this is the first time the Commission is approving an additional program, and there were programs that weren't accepted in the original ordinance.
- S Bushor: Wonders if the controversy is political about what agency gets to be the 'gold standard'. Supports the idea of a hearing, but don't want to see a project held up if there is already another building in BTV using this standard.
- C Buckley: Noted that registering with an approved program is a pre-application requirement. While the request is to apply it to all projects, Hotel Cambria can't apply using this standard until it is approved.

## VI. Proposed ZA-19-10 Inclusionary Zoning – Off Campus Institutional Development

| Action: Continue discussion at next meeting | | |
|---|---|---|
| Motion by: | Second by: | Vote: |
| Type: Discussion, Action | Presented by: D White | |

Discussion/Notes:

- L Kingsbury, UVM Campus Planning, and Joe Speidel, UVM Govt Relations, addressed the PC's questions from last meeting:
  - Housing decisions are need-blind; not made based on a student's financial aid award
  - Financial aid considers cost of attendance (tuition, fees, housing, food) as a total figure based on cost assumptions for either on- or off-campus living arrangements, compared to family's all-inclusive ability to pay. Intent of financial aid is to level the playing field.
  - UVM requires all 1st and 2nd years to live on campus. Any new student housing would likely be in the Redstone model, where UVM would not be placing students or guaranteeing housing in the buildings. City may need to look at how they define student housing.
  - 17% of undergraduate population in AY17-18 were below 65% AMI.
  - Asks the PC to consider: an option that achieves the goal of creating more student housing; how do institutions meet the 15% AMI requirement if AMI comes out in the middle of an AY.

Commissioner Discussion:

- Why would people in the business of creating housing of a significant scale in BTV, including the institutions, not be required to participate in a program intended to create affordable housing?
- If a goal of IZ is to have a % of affordable units in a building, would that force the institutions to make housing decisions based on need?

- The way the draft language is written addresses applicability, but some missing considerations, specifically about restrictions on the rental rates
- It seems that what we want is to have more funding available to support students' stipends, rather than requiring the cost of the unit to be lower. Like a payment in lieu model.
- What are the definitions of "exclusive use" and "formal relationship" with institutions?
- S Bushor: This is trying to write something that meets the spirit of IZ, but it doesn't address the problem which is that students can't afford to live on campus. Institutions offer stipends in form of financial aid, but don't discount the base rent.

## VII. Proposed ZA-19-09 Zoning Administrative Officer

| Action: Deferred to next meeting due to time | | |
|---|---|---|
| Motion by: | Second by: | Vote: |
| Type: Discussion, Action | Presented by: | |

## VIII. Proposed ZA-20-02 Accessory Definition

| Action: Deferred to next meeting due to time | | |
|---|---|---|
| Motion by: | Second by: | Vote: |
| Type: Discussion, Action | Presented by: | |

## IX. Committee Reports

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|---|---|
| Executive | |
| Ordinance | No Report |
| Long Range | No Report |

## X. Commissioner Items

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|---|---|
| Next Meeting | Tuesday, July 23, 2019 @ 6:30pm in Conference Room 12, City Hall |

## XI. Communications

| Action: Accept the communications | | |
|---|---|---|
| Motion by: H Roen | Second by: A Friend | Vote: Approved Unanimously |
| Minutues Filed"<br>- June 25<br>Communications Filed:<br>AARP ADU<br>Letter S Burling | | |

## XII. Adjourn

| Adjournment | Time: 8:03 pm | |
|---|---|---|
| Motion: B Baker | Second: H Roen | Vote: Approved Unanimously |

Signed: July 26, 2019

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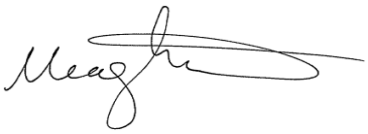
Andy Montroll, Chair

Respectfully submitted by:



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Meagan Tuttle, Comprehensive Planner