01003 – GREEN BUILDING GUIDELINES

PART 1: GENERAL

1.01 RELATED SECTIONS

A. Section 01004 – Energy Guidelines

B. Section 01008 – Energy Modeling Guidelines

1.02 INTENT AND BACKGROUND

A. The intent of this Section is to clarify Cornell’s “Green Building” goals and mandates.

B. For the purpose of this Guideline, a Green Building at Cornell is a building designed to minimize adverse environmental impacts and be sustainable as measured by the U.S. Green Building Council’s (USGBC’s) Leadership in Energy and Environmental Design (LEED) rating system.

C. Cornell University requires all new buildings and major renovations to meet “LEED/30” standards. “LEED/30” means that new buildings and major renovations must be certified to at least LEED Silver level and must, without consideration for supply side energy systems use not more than 70% of the ENERGY required for building operation as determined by the LEED modeling protocols described in Section 01008 – Energy Modeling Guidelines. Additionally, projects must also strive to achieve a 50% energy savings using the same methodology and analyze costs and project impacts of reaching this goal so that Cornell staff can determine final energy goals.


E. Cornell is also a signatory to the American College and University Presidents Climate Commitment (PCC). By signing this document, Cornell has committed to reducing carbon emissions associated with campus energy use and transportation, with the ultimate goal of achieving a “carbon neutral” campus. Additional information regarding carbon neutrality goals can be obtained at http://www.sustainablecampus.cornell.edu/climate/.

1.03 OBJECTIVES

A. Cornell desires buildings and facilities which maximize sustainability while meeting the architectural, educational, research, outreach, and fiscal needs of the University.
B. All significant new construction or major renovation projects shall conform to Cornell’s LEED/30 policy unless specifically excluded in writing by an authorized Facilities Services representative (in consultation with Cornell’s senior administration).

C. The requirements of the LEED/30 policy are minimum requirements. Many Cornell projects exceed these requirements, either by attaining a higher level of LEED certification (Gold or Platinum) and/or through a design which requires even lower energy use. Objectives for each project shall be determined by Cornell in consultation with the Architect/Engineer for each project.

1.04 ROLES AND RESPONSIBILITIES

A. LEED certification is granted only after a third-party review process. Members of each project team shall collaborate to produce the design, construction, and post-construction documentation necessary to earn LEED certification.

B. Cornell will assign a Cornell LEED Representative to each project to assist with Green Building process and certification. The roles and responsibilities of project consultants (Architects and Engineers) and Cornell LEED Representative may vary from project to project as stipulated in the Architect/Engineer agreement. At a minimum, Cornell’s LEED Representative can help document campus-wide programs and practices which help earn LEED credits. On some projects, the Cornell LEED Representative provides the central coordination for LEED submittals and submits much of the information on behalf of the project. These roles must be clarified as part of the Owner agreement.

C. Some LEED requirements are related to construction practices which may not be under the control of the design Architect or Engineer. Construction managers and contractors therefore may share responsibility for attaining LEED certification.

D. To clarify specific roles and responsibilities, Cornell uses a “Project Responsibility Matrix”. A “sample” matrix in the format provided for the Contractor is attached at the end of this Section for reference only. The Architect/Engineer shall collaborate with Cornell staff to clarify project-specific roles and responsibilities of each party participating in the project.

PART 2: GREEN BUILDING DESIGN REQUIREMENTS

2.01 DETERMINING GREEN BUILDING GOALS

A. The expectations with regard to green building goals for the design team proposing work on a Cornell University building may vary from project-to-project. Specific contractual requirements will be inserted into the services contract of the design team before contract signing.
B. Each project shall incorporate at least one project-specific workshop (or “design charrette”) at the start of the project planning and design effort. This workshop shall provide background on the project purpose, scale, and broad building type and then work point-by-point through the LEED rating system to determine appropriate project criteria or goals for the project in each LEED strategy area. Multiple meetings may be appropriate for larger projects.

C. The workshop shall include representatives of the Architect, Engineer, Cornell Project Manager, Cornell LEED Representative, Facilities Engineering, academic or facility user staff, and others as determined by the Cornell Project Manager.

D. As part of the design workshop, energy use intensity (EUI) design criteria shall be determined for the project. See Section 01004 – Energy Standards.

E. Immediately following the first green design workshop, the Architect/Engineer shall document the green building project goals in both narrative form and through a point-by-point tally of the LEED credits that the project is pursuing. This documentation shall be coordinated with the Cornell LEED Coordinator, shared with the broader Cornell project team, and revised as consensus is developed regarding the strategies that will be part of the project as the design is developed further.

2.02 DOCUMENTING PROGRESS TOWARDS GREEN BUILDING GOALS

A. See Section 01008 – Energy Modeling Standard regarding required documentation of energy modeling.

B. In addition to energy modeling, each formal design submittal stipulated in the Owner-Architect/Engineer agreement shall include updated information regarding the status of the green building/sustainability aspects of design. This information shall include, at a minimum, a revised narrative and completed LEED checklist indicating the LEED strategies and anticipated points that the project as designed and intended to be constructed will attain.

1. As progress advances, update and clarify the project-specific goals and expectations, working with Cornell’s LEED Coordinator to identify LEED project limit lines and campus-earned LEED points and strategies in addition to building-specific points and strategies.

2. Conceptual or pre-schematic submittals may identify LEED point expectations using terms like “expected, likely, possible, or not likely”. As the design moves into schematic and design development, however, the responsible Architect/Engineer shall identify all design-related points clearly as “design criteria” or “design goals” and update the Responsibility Matrix (or similar tool) so that the intent and responsibility is clear.
regarding the attainment of each LEED strategy point. At these latter stages in design, the use of phrasing such as “possible” or “likely”, if used, shall be minimized and restricted to those points which rely heavily on the construction process.

3. Provide definitive estimates of the points expected to be obtained at each stage with all applicable calculations documented to show compliance with the respective LEED point criteria.

2.03 CONTRACT DOCUMENTS

A. For projects with LEED goals, Contract Documents shall include the following:

1. Clear description of LEED goals and contractor responsibilities as applicable for each specific LEED point, using a form similar to the Responsibility Matrix included as an attachment to this guidance standard.

2. Specific submittal details and format needed by the Construction Management team to track and document achievement and progress of LEED submittals. A copy of a sample LEED submittal cover sheet is included as an attachment to this guideline standard.

3. Individual specifications which specify materials which conform to the LEED design criteria (e.g., specifying low-VOC paints; conforming carpets and flooring; filter ratings; products of regional manufacture, etc. as applicable) and provide the LEED performance criteria that product substitutions or “as equals” must attain in order to be considered.

2.04 POST DESIGN RESPONSIBILITIES

A. Architect/Engineer shall be responsible to verify products for applicable LEED criteria during the submittal process, and to reject products that do not meet established LEED project requirements.

1. In the event of conflict between LEED goals and other project goals discovered after design, Architect/Engineer shall consult with Owner’s LEED Representative prior to approving any material which does not meet project’s LEED goals with a clear recommendation of appropriate action.

B. Except where otherwise specified in the Agreement, Architect/Engineer typically maintains responsibility for signing/certifying LEED submittals which document design-related LEED achievements. All formal submittals shall be coordinated with and reviewed by the Cornell LEED Representative prior to formal submittal.
1. In collaboration with the Cornell LEED Representative, Architect/Engineer shall continue to support the LEED certification process through the successful achievement of the final LEED rating, including formal written responses to third-party reviewer’s questions and requests for additional information or clarification.
## Design and Construction Standards

### Category EE: Sustainable Sites

#### Prerequisite: Erosion and Sediment Control
- **Task Description**: Incorporate Erosion and Sediment Control Plans in Design Package, reference Stormwater Pollution Prevention Plan (SWPPP).
- **Contractor's Reference**: No contractor submittals are required.

#### SS-1: Site Selection
- **Task Description**: Sign Submittal Template, gather and submit drawings to document point.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-4-2: Bicycle Storage and Transportation, Public
- **Task Description**: Design project to meet requirements; prepare submittal template; gather and submit drawings to document point.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-4.4: Parking Capacities
- **Task Description**: Design project to meet requirements; prepare submittal template; gather and submit drawings to document point.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-5.1: Site Development, Protect or Restore Habitat
- **Task Description**: Design project to meet requirements; prepare submittal template; gather and submit drawings to document point.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-5.2: Site Development, Maximize Open Space
- **Task Description**: Design project to meet requirements; prepare submittal template; gather and submit drawings to document point.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-6.1: Stormwater Management, Quantity Control
- **Task Description**: Prepare calculations to verify goal attainment; implement the measures shown on the Contract Drawings and in the SWPPP.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-6.2: Stormwater Management, Treatment
- **Task Description**: Prepare calculations to verify goal attainment; implement the measures shown on the Contract Drawings and in the SWPPP.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-7.1: Landscape and Exterior Design to Prevent Heat Islands, Non-Roof
- **Task Description**: Prepare submittal template; gather and submit drawings and calculations to document point.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-7.2: Landscape and Exterior Design to Prevent Heat Islands, Roof
- **Task Description**: Prepare submittal template; gather and submit drawings and calculations to document point.
- **Contractor's Reference**: No contractor submittals are required.

#### SS-8: Light Pollution Prevention
- **Task Description**: Prepare site photometric plan; prepare submittal template; gather and submit drawings to document point.
- **Contractor's Reference**: No contractor submittals are required.

### Category WE: Water Efficiency

#### WE-3.1 and WE-3.2: Water Use Reduction (30%) (2 points)
- **Task Description**: Design systems and specify fixtures which meet the water reduction goals; document design with calculations.
- **Contractor's Reference**: Call sheets for all fixtures providing water use rates.

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**Attachment 1: SAMPLE LEED Responsibility Matrix**
**ATTACHMENT 2: SAMPLE Submittal Cover Form**

**SUBMITTAL COVER FORM**
Cornell University - LATC Dairy Barn
Owner - Cornell University - CALS

**GENERAL PRODUCT INFORMATION**

<table>
<thead>
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<th>Subcontractor:</th>
<th>Date</th>
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<td>Submittal Register Number:</td>
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<td>Product:</td>
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<tr>
<td>Manufacturer:</td>
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</tr>
<tr>
<td>Supplier:</td>
<td></td>
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<td>Total Product Cost:</td>
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**PRODUCT COMPONENT INFORMATION**

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<th>Product Component</th>
<th>Location of Extraction of Raw Materials</th>
<th>% Weight</th>
<th>Distance to Manufacturer</th>
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<tbody>
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</table>

**PRODUCT SPECIFIC INFORMATION**

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<th>VOC Content (g/L)</th>
<th>Location of Manufacture (City/State)</th>
<th>% Post-Consumer Recycled Content</th>
<th>% Post-Industrial Recycled Content</th>
<th>Interior or Exterior product use?</th>
<th>Supporting Document Type Attached</th>
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**Notes:**
- **Note 1:** VOC Content required for adhesives, sealants, paints, coatings, flooring.
- **Note 2:** "Manufacture" refers to the final assembly of components into the building product that is furnished and installed by tradesmen. For example, if the hardware comes from Dallas, TX; the lumber from Keene, NH; and the joist is assembled in Syracuse, NY; then the Location of Manufacture is Syracuse, NY.
- **Note 3:** Only required on composite wood/agrifiber products (plywood, OSB, door cores, etc.)
- **Note 4:** Examples of supporting document types include "Cut sheet," "Letter from manufacturer," "MSDS," or "Product literature." Document must be from manufacturer.
- **Note 5:** This information to be provided for any product manufactured (See Note 2) within 500 miles of Ithaca, NY. Consult Matt Kozlowski of Cornell (MK239@cornell.edu) to clarify locations within that radius if necessary.
- **Note 6:** % Weight = (Weight of Component / Weight of Product) * 100

**Brief Description of Product Use & Location of Use:**

**SUBCONTRACTOR CERTIFICATION**
We hereby certify that the material information contained herein is an accurate representation of the material qualifications to be provided by us, as components of the final project construction. Furthermore, we understand that any change in such qualifications during the purchasing period will require prior written approval from the General Contractor and the Owner.

Reviewed By: 
Date: 

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