LEED Certification

Process Management Guidebook for Projects in the District of Columbia

Mayor Adrian M. Fenty

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This Guidebook was commissioned by the District of Columbia Office of Property Management (OPM) in order to assist OPM's Project Managers as well as external Architecture and Engineering service providers and Contractors with achieving LEED Certification as required by the District of Columbia Green Building Act. It is intended to provide guidance, to facilitate the LEED process and to assist project teams in making sound economic and environmental decisions for LEED projects. It is not intended to replace the LEED Reference Guides, which are all essential tools when designing and building a project under the LEED Rating System, nor is it intended to replace the services of a sustainable design consultant, should the project scope or complexity benefit from outside expertise. This Guidebook is intended to provide greater insight into the LEED process specifically for projects located in the District of Columbia.

The Leadership in Energy and Environmental Design (LEED) Rating System was developed by the United States Green Building Council (USGBC) and the term "LEED" is trademarked. It should not be used to describe projects that are not Registered with the USGBC, Certified by the USGBC or not intending to pursue LEED Certification. All LEED-related materials, such as the LEED Reference Guides, are copyrighted and should not be copied or distributed without permission from the USGBC.

At the time of publication of this Guidebook, the LEED Rating Systems referred to are:

- LEED for New Construction and Major Renovations v2.2
- LEED for Commercial Interiors v2.0
- LEED for Core and Shell v2.0
- LEED for Existing Buildings: Operations and Maintenance
- LEED for Schools
- LEED for Homes

Current LEED Rating Systems are anticipated to be updated in 2009. All projects registered for LEED with the USGBC before updated Ratings Systems are released will still be using the Rating Systems listed above, and therefore this Guidebook.

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Supplemental documents currently available in addition to this Guidebook:

A. LEED For New Constructions & Major Renovations v2.2 (LEED-NC)
Useful for Project design teams and contractors

B. LEED For Commercial Interiors v2.0 (LEED-CI)
Useful for Project design teams and contractors

C. OPM LEED Policies
Useful for all projects under LEED-NC, LEED-CI, LEED-EB, etc.

Introduction

Setting the national standard for high performance buildings, the District of Columbia, under the leadership of Mayor Adrian Fenty and the District Council, passed the **Green Building Act 2006.** This legislation is innovative in its combined mandated and incentivized approach to green building, as well as its inclusion of both publicly and privately funded construction and major renovation projects. Under the Act, publicly owned, funded or financed projects are required to achieve sustainable building standards in the LEED and Green Communities rating systems (though many jurisdictions already require LEED in the public sector). In addition, the Act requires LEED Certification for privately funded construction projects, starting in 2012. DC was the first jurisdiction to enact legislation that mandates LEED Certification in the private sector and quickly inspired similar legislation in other jurisdictions.

Beyond requiring compliance with LEED and Green Communities, the Green Building Act also requires the establishment of a green building incentives program, a Green Building Fund to support incentive programs, a 'greening' of DC building codes, a Green Building Advisory Council and the priority leasing of green buildings by the Office of Property Management (OPM).

Augmenting the Green Building Act of 2006, the District of Columbia once again set the national standard for high performance buildings by passing the **Clean and Affordable Energy Act 2008.** Among other requirements, the recently passed Act requires annual energy performance reporting using the U.S. Department of Energy's free, online Energy Star Target Finder reporting tool. Publicly owned buildings of 10,000 square feet or more must be benchmarked and reported beginning in 2009 and commercial properties of 200,000 square feet or more must be benchmarked and reported beginning in 2010. For commercial properties, the threshold will lower annually by 50,000 square feet until 2013, when properties at 50,000 square feet or more must be benchmarked and reported.

Enforcement of high performance building standards in the Green Building Act is the responsibility of the District Department of Consumer and Regulatory Affairs (DCRA), who will require compliance verification before issuing building construction permits.

Enforcement of the Energy Star benchmarking and reporting is the responsibility of the District Department of the Environment (DDOE). Relevant details of the Green Building Act of 2006 and the Clean and Affordable Energy Act of 2008 are explained in more detail in the next chapter.

The District of Columbia has set the national standard for State action on reducing greenhouse emissions and improving the energy efficiency of publicly and privately sponsored new building construction and major renovations.

This Guidebook and supplementary manuals were commissioned by the District Office of Property Management (OPM), Construction Division, to fortify public project managers and A/E service providers with the practical tools to ensure that their projects reach the goals set by the District.

Green Building Act & Clean and Affordable Energy Act

High Performance Building Standards in the District of Columbia

1. Summary of Mandatory High Performance Building Standards

A. Effective in 2008:

i. All publicly funded, financed or owned non-residential buildings seeking a construction permit* must achieve certification under one of the rating systems below:

a. LEED for New Construction & Major Renovations v2.2, Silver level or higher
b. LEED for Core & Shell v2.0, Silver level or higher
c. LEED for Schools (K-12), Certified level or higher

ii. All publicly funded, financed or owned residential buildings of 10,000 square feet or more seeking a construction permit* must achieve certification under one of the rating systems below:

a. Green Communities 2006
b. LEED for Homes, Silver level or higher
c. LEED for New Construction or Major Renovations v2.2, Silver level or higher

iii. All tenant improvements of 30,000 square feet or more in a District-owned building seeking a construction permit* must achieve certification under the rating system below:

a. LEED for Commercial Interiors v2.0, Certified level or higher

B. Effective in 2009:

i. All existing District owned property of 10,000 square feet or more must be benchmarked annually using the Energy Star Target Finder tool, and scores must reported to the District Department of the Environment (DDOE)

ii. All privately owned building projects of 50,000 square feet or more seeking a construction permit* from the District Department of Consumer and Regulatory Affairs (DCRA) must submit a LEED Scorecard with the construction permit application

C. Effective in 2010:

i. All properties purchased from the District (or acquired in a transaction where the District was an instrument of sale) seeking a construction permit* must achieve certification under one of the rating systems below:

a. LEED for New Construction & Major Renovations v2.2, Certified level or higher
b. LEED for Core & Shell v2.0, Certified level or higher

ii. All existing commercial properties of 200,000 square feet or more must be benchmarked annually using the Energy Star Target Finder tool, and scores must reported to the District Department of the Environment (DDOE)

D. Effective in 2011:

i. All existing commercial properties of 150,000 square feet or more must be benchmarked annually using the Energy Star Target Finder tool, and scores must reported to the District Department of the Environment (DDOE)

E. Effective in 2012:

i. All privately owned, non-residential buildings of 50,000 square feet or more seeking a construction permit* must achieve certification under one of the rating systems below:

a. LEED for New Construction & Major Renovations v2.2, Certified level or higher
b. LEED for Core & Shell v2.0, Certified level or higher
c. LEED for Schools (K-12), Certified level or higher

ii. All existing commercial properties of 100,000 square feet or more must be benchmarked annually using the Energy Star Target Finder tool, and scores must reported to the District Department of the Environment (DDOE)

F. Effective in 2013:
   i. All existing commercial properties of 50,000 square feet or more must be benchmarked annually using the Energy Star Target Finder tool, and scores must reported to the District Department of the Environment (DDOE)

**Certification requirements are applicable to all new construction and substantial improvement projects. 'Substantial improvement' is defined as any scope of work where the cost of improvements is 50% or more of the market value of the property prior to its improvements.*

2. Summary of Expedited Permitting, as part of the Green Building Incentives Program

A. Effective in 2009:

   i. All privately owned, non-residential buildings seeking **Expedited Permitting** from the District Department of Consumer and Regulatory Affairs (DCRA) must achieve LEED Certification under one of the rating systems below:

      a. LEED for New Construction & Major Renovations v2.2, Certified level or higher
      b. LEED for Core & Shell v2.0, Certified level or higher
      c. LEED for Commercial Interiors, Certified level or higher
      d. LEED for Schools, Certified Level or higher

   ii. All privately owned, residential buildings seeking **Expedited Permitting** from the District Department of Consumer and Regulatory Affairs (DCRA) must achieve LEED Certification under one of the rating systems below:

      a. LEED for New Construction & Major Renovations v2.2, Certified level or higher
      b. LEED for Core & Shell v2.0, Certified level or higher
      c. LEED for Homes, Certified level or higher
      d. Green Communities 2006

B. Effective in 2012

   i. All privately owned, non-residential buildings seeking **Expedited Permitting** from the District Department of Consumer and Regulatory Affairs (DCRA) must achieve LEED Certification under one of the rating systems below:

      a. LEED for New Construction & Major Renovations v2.2, Silver level or higher
      b. LEED for Core & Shell v2.0, Silver level or higher
      c. LEED for Commercial Interiors, Silver level or higher
      d. LEED for Schools (K-12), Silver level or higher

   ii. All privately owned, residential buildings seeking **Expedited Permitting** from the District Department of Consumer and Regulatory Affairs (DCRA) must achieve LEED Certification under one of the rating systems below:

      a. LEED for New Construction & Major Renovations v2.2, Silver level or higher
      b. LEED for Core & Shell v2.0, Silver level or higher
      c. LEED for Homes, Silver level or higher
      d. Green Communities 2006

Compliance verification documents to be submitted to DCRA for mandated or expedited green building projects; all phases must be completed before a permit will be issued.

		Non-Residential, Publically Owned, Financed or Funded Projects/Privately Funded Projects (Expedited) *Subject to LEED Certification Requirements*	**Residential, Publically Owned, Financed or FundedProjects** *Subject to Green Communities Requirements*
	DCRA Requirements	**Documents to be submitted to DCRA**	**Documents to be submitted to DCRA**
0% within 60 days of award	1. Registration	1. Receipt from USGBC for LEED Project Registration	1. Proof of Green Communities Registration (optional, for projects seeking grants)
	2. Integrated Sustainable Design Charrette (all disciplines)	2. Charrette Agenda, Sign-in Sheet, Meeting Minutes	2/3. Preliminary Green Communities Checklist form (This document contains two tabs; the first tab includes documentation of an integrated design process and the second tab identifies how the project will meet the criteria).
	3. Preliminary Sustainable Design Strategy Evaluation	3. Preliminary LEED Scorecard	
Information Session with DCRA			
35%	4. Public Agency Engagement	4. Meeting schedule and participant list for regular meetings with relevant agency(ies). (e.g. OPM, OPEFM, DCPR, etc.)	4. Meeting schedule and participant list for regular meetings with relevant agency(ies). (e.g. DCHA, DMPED, DHCD, HFA, etc.)
	5. Design Investigation and Strategy Development	5a. Updated LEED Scorecard	5a. Updated Green Communities Checklist form.
		5b. Preliminary Sustainable Approach Narrative (1-3 pages)	5b. Preliminary Green Communities Progress Report.
		5c. Schematic drawings (site plan, plan, sections, elevations) indicating integration of LEED-compliant strategies	5c. Schematic drawings (site plan, plan, sections, elevations) indicating integration of Green Communities-compliant strategies
Pre-Development Review Meeting with DCRA			
65%	6. Confirmed Sustainable Design Strategy	6a. Final LEED Scorecard	6a. Final Green Communities Checklist Form
		6b. Final Sustainable Approach Narrative (1-3 pages)	6b. Updated Green Communities Progress Report.
	7. Successful Sustainable Design Integration	7a. Revised project drawings demonstrating LEED requirements are integrated into project design	7a. Revised project drawings demonstrating Green Communities requirements are integrated into project design.
		7b. Completed LEED Letter Templates for every Prerequisite and Credit that will be attempted (and are listed on the scorecard)	
	8. Sustainable Design Verification	8. Receipt for submittal of Design Phase Review Documents to the USGBC	
Pre-Development Review Meeting with DCRA			
95%	9. Sustainable Design Verification	9. Preliminary Design Phase Review, issued by USGBC **OR** DCRA LEED Scorecard indexed to supporting plans, specifications and additional documents demonstrating compliance with LEED criteria	9. DCRA Green Communities Checklist Form, indexed to supporting plans, specifications and additional documents demonstrating compliance with Green Communities criteria.
100%	10. Sustainable Design Verification	10. Final Design Phase Review, issued by USGBC	10. DCRA approved Green Communities Checklist Form **and** Final Green Communities Progress Report.
Complete Project Permit Set is Submitted			
	Recommended Owner Requirements	**Recommended Documents to be submitted to Owner by the General Contractor**	
Within 60 days of Contract Award	11. Construction Phase Compliance Verification	11a. Copy of LEED-AP Certificate for General Contractor's on-site LEED documentation coordinator	
		11b. LEED Kick-off meeting (agenda, sign-in sheet)	
		11c. Construction Waste Management Plan	
		11d. Indoor Air Quality Management Plan	
Monthly	12. Construction Phase Compliance Verification	12. General Contractor's LEED documentation with signed, completed cover sheet	
Temporary Certificate of Occupancy is Issued			
	OPM/DCRA/DDOE Requirements	**Documents to be submitted to OPM, DCRA & DDOE**	**Documents to be submitted to DCRA & DDOE**
Completion	13. Sustainable Construction Verification	13a. Construction Phase Review, issued by USGBC	13. Final, approved Green Communities compliance workbook (all disciplines).
		13b. Final LEED Certification Award, issued by USGBC	
Final Certificate of Occupancy is Issued; Bond is Returned (for Expedited Projects)			

DC Green Building Code Updates

Code Changes that Align with LEED Criteria

DC Government projects are subject to the same DC building code requirements as all other projects in DC.[1]

DC is in the process of updating its building codes for the first time since 2003. As with codes already in place in many jurisdictions (including Maryland and Virginia), DC's new codes will be based on the International Code Council's 2006 family of International Building Codes (the 2006 "I-codes") with local amendments. The DC-specific amendments are titled the "DC Construction Code Supplement Of 2008" and are contained in "DCMR 12."

DC's Green Building Act (GBA) requires the Mayor to "submit to the Council for approval construction code revisions that shall incorporate as many green building practices as practicable…"

Mayor Fenty has been a leader[2] in pushing for a 30% improvement in building energy codes. The proposed codes require that low-rise residential buildings be 30% more energy efficient than permitted by the 2006 I-codes and will likely require the same for all other buildings.[3]

A package of green building code amendments based on best practices from around the country was developed for DC in a process led by the District Department of the Environment (DDOE), its contractors, the Green Building Advisory Council (GBAC), Department of Consumer and Regulatory Affairs (DCRA) and a wide group of stakeholders including the Office of Property Management (OPM), developers, builders, architects, and engineers. DCRA included most of the package in its proposed DC Construction Code Supplement of 2008 submitted to the City Council in June 2008. Council member Mary Cheh chairs the relevant committee of the DC Council. On July 11, CM Cheh's Committee reported the codes up to the full DC Council. Absent action by the Council or the Mayor, the codes will be passively adopted 45-days after introduction (in October of 2008 due to the Council recess).

The new building code will become mandatory one year after they are adopted. So, the new codes will become mandatory in October 2009. Building designers will be able to choose to use either DC's new or old building codes for building permit applications submitted during the one year transition period following the new code's adoption.

As of October, 2009, all permit applications will be subject to new code requirements.

1. Proposed code changes reduce code impediments to green building

The proposed codes permit (without need for a waiver) the following green building practices for which a waiver is required under the current codes:

1. Waterless urinals
2. Polypropylene pipes
3. Base outside air ventilation rates on actual indoor air quality measurements (i.e. use of carbon dioxide monitoring) or sophisticated models that account for occupancy, filtering and off-gassing.

The proposed codes also make it easier to disconnect downspouts to enable on-site retention of stormwater by removing the requirement for a master plumber.

In fact, building codes in DC and across the US already permit most green building materials and practices. Unfortunately, the building permitting process has long created impediments to green building. Most of these impediments were not due to the codes themselves, but to a lack of familiarity with green building on the part of some code officials, designers, trades people, builders, and others who believed that certain green building practices and materials were not permitted by building codes or who feared that inclusion of green building elements would delay the permitting process.[4]

[1] To be eligible for expediting permitting as authorized by the Green Building Act (GBA) projects which the GBA already requires to achieve LEED Certification must achieve a higher LEED level (i.e. Silver, Gold or Platinum) than the level required for private projects.
[2] www.ddoe.dc.gov/ddoe/cwp/view,a,11,q,497577,ddoeNav_GID,1458.asp
[3] See www.imt.org/codes/ for updates.
[4] For instance, some incorrectly believed that codes prohibit piping of rainwater or greywater into a building, when in fact such piping is permitted for flushing toilets and irrigation so long as precautions like backflow preventers are employed to prevent mixing with upstream potable water.

Fortunately, the design and construction communities are rapidly embracing green building. DCRA is committed to providing education and training to its plan reviewers and inspectors on green building practices. Though there is much work to do, DCRA has already made great progress. For instance, DCRA quickly and routinely grants waivers for waterless urinals and one particular LEED platinum project received permits in less than 30 days – far faster than traditional projects, which is was great advantage for the builder.

2. Proposed DC codes' Green Building Requirements

The proposed codes mandate these new green building practices:

A. Water Efficiency

Improve water efficiency by requiring low-flow plumbing fixtures. Faucets, flush fixtures and shower fixtures will contribute to one or more LEED water efficiency Credits through a combination of uses. Use of all required fixtures should approximate 40% water savings from the LEED baseline (Energy Policy Act of 1992), or 3 Credits in LEED-NC v2.2.

New DC low-flow plumbing requirements summary:

PLUMBING FIXTURE OR FIXTURE FITTING	MAXIMUM FLOW RATE OR QUANTITY
Lavatory, private	1.5 gpm at 60psi
Lavatory, public, (metering)	0.25 gallon per metering cycle
Lavatory, public (other than metering)	0.5 gpm at 60 psi
Showerhead	2.0 gpm at 80psi
Sink faucet	2.2 gpm at 60 psi
Urinal	0.5 gallon per flushing cycle
Water closet	1.28 gallons per flushing cycle OR Dual flush valve at 1.6/1.1gallons per flush

B. Cool Roofs

75% or more of the area of flat roofs must be cool roofs, lime-stone ballasted or green roofs.[5] These roofs are eligible for the LEED Sustainable Sites Credit "Urban Heat Island, Roof". Green roofs are eligible for several additional LEED Sustainable Sites Credits including "Stormwater Design, Quantity Control"; "Stormwater Design, Quality Control"; "Site Development, Protect & Restore Habitat"; "Site Development, Maximize Open Space"; and through selective use of vegetation materials, may also contribute to Water Efficiency Credits.

SECTION 1511A COOL ROOF REQUIREMENTS

Roof coverings for roof slopes less than or equal to two units vertical in 12 units horizontal (17-percent slope or less) for buildings and covered parking shall conform to the this section. A minimum of 75% of the entire roof surface not used for roof penetrations, renewable energy power systems (e.g. photovoltaics or solar thermal collectors), harvesting systems for rainwater to be used on-site, or green roofing systems shall be covered with products that comply with one or more of the following:

(a) Have a minimum initial SRI[6] of 78.
(b) Comply with the criteria for the U.S. EPA's Energy Star Program Requirements for Roof Products – Eligibility Criteria.

[5]www.imt.org/codes/codes.doc
[6]Solar Reflective Index. The solar reflective index (SRI) shall be calculated in accordance with ASTM E1980 for medium-speed wind conditions. The SRI shall be based upon solar reflectance as measured in accordance with ASTM E1918 or ASTM C1549, and the thermal emittance as measured in accordance with ASTM E408 or ASTM C1371. For roofing products, the values for solar reflectance and thermal emittance shall be determined by a laboratory accredited by a nationally recognized accreditation organization, such as the Cool Roof Rating Council CRRC-1 Product Rating Program, and shall be labeled and certified by the manufacturer.

Exceptions to cool roof requirements:

1. Building projects where an annual energy analysis simulation demonstrates that the total annual building energy cost and total annual CO2e, as calculated in accordance with ASHRAE Standard 189.1 7.5.2 and 7.5.3, are both 2% less for the proposed roof than with a roof with an initial SRI of 78.

2. Roofs used to shade or cover parking and roofs over semi-heated spaces or used as outdoor recreation space by the occupants of the building shall be permitted to be either landscaped or have a minimum initial *SRI* of 29. A default *SRI* value of 35 for new concrete without added color pigment is allowed to be used in lieu of measurements. 3. Terraces on setbacks comprising less than 25% of the area of the largest floor plate in the building.

4. Roofs ballasted at a minimum weight of 17 pounds per square foot with limestone or a ballast with a solar reflectance of at least 30% shall be permitted to comprise part or all of the 75% required area coverage.

5. Green roofs shall be permitted to comprise part or all of the 75 percent required area coverage.

C. Ventilation and Exhaust

Prohibit recirculation of air vented from bathrooms and kitchens.

D. Energy Efficiency

Commercials buildings will need to be 30% more efficient than ASHRAE 90.1 as demonstrated by energy modeling or achieving advanced prescriptive energy efficiency guidelines.

Meeting new higher DC energy code requirements will earn points under LEED-NC v2.2 Energy and Atmosphere Credit 1: Optimize Energy Performance. Buildings whose energy models demonstrate at least 28% greater energy efficiency than ASHRAE 90.1 2004 are eligible for 6 LEED points under Energy and Atmosphere Credit 1: Optimize Energy Performance; achieving 31.5% better than ASHRAE 90.1 2004 is eligible for 7 LEED points under the same Credit.

As an alternative to energy modeling, the proposed codes give several prescriptive alternatives. These are acceptable for LEED Prerequisite compliance and LEED Credits, where applicable, and are available online:

- Buildings less than 100,000 square feet shall have the alternative option to meet the requirements of the New Building Institute Core Performance Guide.

- Office buildings less than 20,000 square feet shall have the alternative option to meet the requirements of the ASHRAE Advanced Energy Design Guide for Small Office Buildings (30%). FREE: www.ashrae.org/aedg

- Retail buildings less than 20,000 square feet shall have the alternative option to meet the requirements of the ASHRAE Advanced Energy Design Guide for Small Retail Building (30%). FREE: www.ashrae.org/aedg

- K-12 Schools shall have the alternative option to meet the requirements of the ASHRAE Advanced Energy Design Guide for K-12 School Buildings (30%). FREE: www.ashrae.org/aedg

- Warehouses and Self Storage buildings less than 50,000 square feet shall have the alternative option to meet the requirements of The ASHRAE 30% Advanced Energy Design Guide for Small Warehouses and Self Storage Buildings. FREE: www.ashrae.org/aedg

Improvement or Level Required to Meet the 2030 Challenge

Code or Standard	Commercial	Residential
ASHRAE 90.1-2004	30% below	N/A
ASHRAE 90-1-2007	25% below	N/A
ASHRAE 189 (in progress)	Meets target	N/A
IECC 2006	30% below	30% below
California Title 24 – 2005	N/A	15%–25% below
California Title 24 – 2008	10% below	N/A
Oregon Energy Code	25% below	30% below
Washington Energy Code	25% below	25%–30% below
RESNET HERS Index	N/A	65 or less
LEED-NC 2.2 and LEED for Homes	New construction, EA credit 1: 6 points Renovation, EA credit 1: 8 points	HERS Index 65
LEED 2009 (in progress)	New construction, EA credit 1: 7 points Renovation, EA credit 1: 9 points	N/A
GBI Standard (in progress)	Path A, 8.1.1.1: 150 points	N/A
EECC Option (prescriptive path)	N/A	EC-154
NBI Option (prescriptive path)	New construction, Core Performance with enhanced features	N/A

Adapted from *Meeting the 2030 Challenge Through Building Codes*, 2008

Benchmarking DC's New Building Codes

The Architecture 2030 challenge calls for an immediate 50% reduction in the fossil fuel consumption of new buildings, compared with a baseline drawn from the 2003 Commercial Building Energy Consumption Survey (CBECS) for commercial buildings and Residential Energy Consumption Survey (RECS) for residential buildings.

The following chart (next page) shows the alignment of a 50% reduction with the ASHRAE standards referenced in both LEED and DC building codes. For example, new buildings seeking Certification under LEED-NCv2.2 must come in 30% below the ASHRAE 90.1-2004 standard to meet the Architecture 2030 Challenge. A project achieving this reduction will be compliant with DC's updated energy performance requirements and will also earn 6 points in Energy & Atmosphere Credit 1: Optimize Energy Performance, in the LEED-NCv2.2 rating system.

DC Building code updates that would mandate compliance with the ASHRAE 189.1 standard for energy efficiency are currently under evaluation by the District Council. This standard will also meet the Architecture 2030 goals for immediate reduction of 50%.

Read about the Architecture 2030 Challenge here: www.architecture2030.org

U.S. Mayors Climate Protection Agreement, signed by Washington, DC Mayor Adrian Fenty: www.usmayors.org/climateprotection/agreement.htm

LEED Rating System Overview

Understanding Challenges and Opportunities with Using LEED in the District of Columbia

The LEED Rating Systems are intended to be challenging in order to advance better design and construction practices. The Rating Systems are periodically updated to 'raise the bar' as the industry catches up to these practices and as environmental challenges continue to grow. Although LEED Certification is not intended to be easy, it is also not intended to be prohibitive, costly or to be impossible to achieve. Design and construction teams will have to work harder to create better buildings and must be willing to try new materials, products and methods, but LEED is readily achievable when teams initiate the discussion early, establish clear goals and organize the project in accordance with the LEED process.

The District of Columbia is well located to benefit from many green building resources, from products to services. By being an early adopter, DC has grown a wealth of professional services and construction firms that are savvy to green building practices. These skills, in addition to other local resources, are available to your LEED project. In addition, LEED rewards density, urban infill and re-development projects, all typical project attributes in the District. By nature of location, DC projects have access to numerous strategies and LEED Credits at little to no cost. It is entirely reasonable to pursue and achieve LEED Silver or a higher level of Certification in the District.

Furthermore, DC building codes have been recently updated to require many measures that inherently meet or exceed LEED requirements. Therefore a legally compliant project will automatically meet many LEED criteria, though proper documentation will still be required to achieve LEED Credits and Prerequisites, and ultimately Certification. DC building code changes are summarized in the DC Green Building Code Updates chapter and will be correlated in relevant chapters throughout the Guidebook.

Note: Throughout this Guidebook, terms in **BOLD** will be defined in context as well as in the Glossary.

How was LEED created?

Many LEED-novices are under the impression that the USGBC is a government agency. This is false. The USGBC is a non-profit organization dedicated to encouraging healthier buildings and advancing the sustainable building industry. It is a good idea to visit the USGBC website (www.usgbc.org) to get the full story, however it is important to understand that the LEED Rating Systems were all developed by professionals like you: Architects, Engineers, Developers, Contractors, Owners, Designers, Product Manufacturers, etc. It was designed by your peers - who do understand the difficulties of adopting new practices – to be challenging, but fair and practical. Each section in the LEED Rating Systems was developed and is maintained by Technical Advisory Groups (TAGs) that are comprised of USGBC members. Improvements are made periodically and new releases of the Rating Systems are posted in draft form on the USGBC website with public comment periods open to everyone. Comments are reviewed and responded to by the TAGs. New versions of the LEED Rating Systems are only released after USGBC members vote on it. Essentially, your peers developed it and continue to improve upon it, with the help of LEED stakeholders like you.

How does the LEED Rating System work?

There are a lot of rumors and myths about LEED, such as that it is too difficult, it reduces sustainable design to mere checklists, it is overly structured and it is too limiting of creativity in sustainable design. This is not the case!

First, there are many benefits to LEED, which is why it is required in the District and is incentivized and required in many surrounding jurisdictions (and all over the world!). LEED offers true third-party verification of design and construction. In absence of LEED, a project team designs a 'green' building and a construction company builds it. The public and most importantly, the Owner, have no way of knowing if a project has been 'green-washed' or if it is truly a sustainable project. Without measuring performance against some baseline and without clear metrics, how can we identify which projects are green, or answer the question, "how green is it?" And without verification, an Owner has no way of really knowing if they are truly getting the high-performance building that they have invested in. LEED brings value to sustainable and green building in a many ways, particularly in that LEED:

- Creates market demand, increasing availability of products, materials, technologies and labor while bringing costs down
- Creates a common language to facilitate the discussion around sustainable building
- Creates common metrics so that performance can be measured and verified
- Creates clear performance thresholds so that projects can pursue environmental goals and levels of LEED Certification appropriate for the project budget, schedule and program
- Verifies design and construction practices with third party reviews

Second, LEED is actually quite flexible if project teams understand how it works. A Rating System is comprised of a set of **Prerequisites** and **Credits**, organized into specific categories. While all Prerequisites must be achieved for a project to be eligible for LEED Certification, Credits do not all have to be attained and it is important that project teams identify those Credits that make the most sense for a specific project. It is okay to opt not to pursue certain Credits if they are not practical for the project budget, schedule or program.

Every Prerequisite and Credit has an 'intent'. Typically there are multiple paths towards achievement called 'compliance paths'. The intent is very important, because sometimes a project's unique circumstances make it seem as though the project is not eligible for a LEED Credit.

Project teams may be able to develop an alternative compliance path that is not described in the LEED Rating System, however it may meet the intent of the Credit nonetheless. If this is the case, there are opportunities to be creative within the LEED process. When project teams are in this situation, there is an avenue to pursue a Credit under an alternative approach: **Credit Interpretation Requests (CIRs) and Rulings**. The project team bears the 'burden of proof' and must make a legitimate case that the proposed alternative compliance path meets the intent and shows clear and quantifiable environmental benefit. There are instructions for the Credit Interpretation Request process on the USGBC website (www.usgbc.org/DisplayPage.aspx?CMSPageID=168&).

Third, LEED is not intended to be the beginning or the end of sustainable design. It is not intended to limit the progress of greener design or to represent all facets of sustainability. It is intended to provide a manageable framework that helps bring the building industry forward and improves baseline building practices. Project teams should not feel as though a sustainable strategy is not worth pursuing just because a LEED Credit is not awarded for that strategy.

LEED does have limitations, and green strategies that make sense for a particular project should be pursued on their own merit. However, LEED also provides opportunities for Innovation and Design (the last section in every LEED Rating System). Although there are many pre-approved compliance paths for achieving Credits in this section, every project team is encouraged to develop new strategies that can demonstrate clear environmental benefit. These new strategies can be verified through the CIR process described above, or submitted with normal Credit documentation where feedback and opportunities to refine the approach will be given.

Which LEED is right for your project?

LEED for New Construction and Major Renovations (LEED-NC v2.2)

- Any size
- Commercial or Multi-family Residential
- New buildings, where more than 50% of the interior is built out
- Renovations involving HVAC, envelope, and/or major interior rehabilitation
- Renovations where more than 50% of occupants must relocate
- Change in occupancy type

LEED for Commercial Interiors (LEED-CI) v2.0

- Any size
- New interior build-outs
- Major interior rehabilitation
- Renovations to whole building that do not significantly address HVAC or envelope
- Tenant scope

LEED for Core and Shell (LEED-CS) v2.0

- Any size
- New buildings
- Speculative office buildings
- New buildings, where less than 50% of the interior is built out
- Major renovation to HVAC, envelope, but not interiors

LEED for Schools

- K-12 education facilities (required)
- Higher education facilities (recommended)

LEED for Existing Buildings: Operations & Maintenance

- Buildings two years old or more
- Minor renovations
- Changes in operations & maintenance policies

LEED for Homes

- Single Family or Multi-family Residential
- Market rate

The Cost of LEED

The Cost of LEED

The costs to pursue LEED Certification will vary from project to project. The following information provides a summary of current LEED Certification costs, typical construction cost premiums and typical soft costs. This is not a guarantee that a specific project's sustainable design or construction costs will match those shown here. This information is provided to give guidance and a starting point for project budgeting.

	Less than 50,000 Square Feet	50,000-500,000 Square Feet	More than 500,000 Square Feet
LEED for: New Construction, Commercial Interiors, Core and Shell, and Schools	Fixed Rate	Based on Sq. Ft.	Fixed Rate
Design Review			
Members	$1,250.00	$0.025/ Square Foot	$12,500.00
Non-Members	$1,500.00	$0.03/ Square Foot	$15,000.00
Construction Review			
Members	$500.00	$0.01/ Square Foot	$5,000.00
Non-Members	$750.00	$0.015/ Square Foot	$7,500.00
Combined Design & Construction Review			
Members	$1,750.00	$0.035/ Square Foot	$17,500.00
Non-Members	$2,250.00	$0.045/ Square Foot	$22,500.00
LEED for Existing Buildings	Fixed Rate	Based on Sq. Ft.	Fixed Rate
Initial Certification Review			
Members	$1,250.00	$0.025/ Square Foot	$12,500.00
Non-Members	$1,500.00	$0.03/ Square Foot	$15,000.00

LEED Registration and Certification Fees

LEED Registration Fees

(All fees are subject to change, per the USGBC, and are non-refundable)

Project Registration may only be completed online. Please note that Registration is different than Certification. Registration should occur at the beginning of a project and it is a fixed fee.

Registration Fees:

- Members $450.00
- Non-Members $600.00

LEED for Existing Buildings:
Registration fees are waived for buildings pursuing LEED-EB if they have received LEED Certification for New Construction, Core and Shell, or Schools under the USGBC Rating Systems.

LEED Certification Fees

Updated information is always available on the USGBC's website: www.usgbc.org/DisplayPage.aspx?CMSPageID=65

Certification is a process that concludes at the end of design and construction phases, when the team submits all LEED **Letter Templates** and documentation. This fee is based on square footage.

LEED for Existing Buildings Recertification Fees: Existing Building recertification fees are 50% of the fee shown above for EB initial certification. This fee is due when the customer submits the application for recertification review.

LEED for Core & Shell Precertification Fees

Fixed Rates:

i) Members $2500.00
ii) Non-Members $3500.00

Platinum Certification Rebates: Projects that are awarded LEED platinum certification will receive a rebate for all certification fees. The rebate applies to projects that certify using LEED for New Construction, LEED for Existing Buildings, LEED for Commercial Interiors, LEED for Core & Shell, or LEED for Schools. Projects that certify under future versions of LEED (excluding pilot projects and LEED for Homes projects) will also be eligible.

Registration fees, appeal review fees, and any additional fees required to expedite LEED certification will not be refunded.

Expedited Certification: Project teams may seek expedited reviews at $5000 per phase (i.e. Design Phase Review or Construction Phase Review). This is not guaranteed – the team must propose an expedited review timeline (based on the USGBC outline for expedited reviews) and this fee is charged in addition to normal certification fees. It is a flat fee.

Hard Costs

- The cost per square foot for buildings seeking LEED certification falls into the existing range of costs for buildings of similar program types.[7]
- The construction cost premium for most green buildings falls within 2%.[8] LEED Certified level projects incur about 1% cost premium.[9] Green buildings can achieve LEED Silver (and occasionally Gold) levels for cost increase of less than 2.5%.[10]
- New green building costs ranged from 0.4% reduction to 8.1% increase dependant on LEED level achieved. Major renovation costs ranged from 1.4% to 7.8% increase, depending on LEED level achieved.[11]
- **Water Efficiency:** water efficient fixtures range from no-added cost to $100-200 upcharge for ultra low flush and water free fixtures. By reducing water and sewer costs, these fixtures usually pay for themselves in 9 months - 1 year.
- **Green Power:** Green-e Certified Renewable Energy Credits (RECs) can be found for as little as $0.05 per kWh. For projects that do not have direct access to green power through their local utilities, this is a very affordable option. There is no direct payback, however there are considerable implications for company image.
- **Green Building Materials** (e.g. recycled content, regional, rapidly renewable, low-emitting): These can often be incorporated at zero to minimal added construction cost, however there may be documentation costs if a project pursues LEED. No added Urea-formaldehyde composite wood and certified wood are exceptions. These materials may incur up to a 10% premium and cost depends upon availability.
- **Increased Ventilation:** This adds little construction cost, but can add significantly to cost of operations if natural ventilation or operable windows are not employed, particularly if the outside air temperature or humidity is significantly different from indoor conditions. Increased operations costs can be offset by energy recovery systems.

[7]Langdon, Davis "Costing Green: A Comprehensive Cost Database and Budgeting Methodology" July, 2004 | http://www.davislangdon.com/USA/Research/ResearchFinder/2004-Costing-Green-A-Comprehensive-Cost-Database-and-Budgeting-Methodology
[8]Kats, Greg "The Costs and Financial Benefits of Green Buildings" October, 2003 | http://www.usgbc.org/Docs/News/News477.pdf
[9]"Building for Sustainability" - Study for David and Lucille Packard Foundation Los Altos Project, October 2002 | http://www.hpsarch.com/careers/2002-Matrix.pdf
[10]Steven Winters Associates "GSA LEED Cost Study" October, 2004 |
[11]IBID

- **Lighting Controls:** Individual lighting controls can be most cost-effectively incorporated into system furniture task lighting. Daylight harvesting controls typically average $100/fixture and pay for themselves in 1-3 years.

- **Thermal Comfort Controls:** Individual thermal comfort controls can be most cost-effectively incorporated into underfloor air distribution and operable windows; increased VAV distribution can incur greater cost with fewer benefits.

Soft Costs

- **3rd Party LEED project management:** LEED consulting typically starts around $40,000-60,000 through project certification, but will vary depending on the building size, complexity of scope, level of LEED certification targeted, level of LEED experience among disciplines and the construction team, and difficulty of integrating LEED into the project process. Starting early (in pre-design or schematic design) can help keep the LEED management feed under control. The later the process starts, the more difficult it is to manage the process.

- **Energy Modeling:** Depending on the project size and project scope, energy modeling (using DOE2, eQUEST or Trane Trace) typically starts around $20,000. All LEED projects must show compliance with LEED energy performance criteria. Smaller projects should consider using the prescriptive compliance path options, instead of energy modeling (explained in the DC Green Building Code Updates chapter as well as the LEED-NC supplemental guide).

- **Fundamental Commissioning:** Fundamental Cx may cost $1.50-3.00/sf for comprehensive building systems. This is a Prerequisite and must be included in all LEED projects.

- **Enhanced Commissioning:** Enhanced Cx typically adds an additional $1.00-2.00/sf.[12] This is an additional Credit that is optional.

  Whole building commissioning can also be estimated at 1-2% of total construction costs. Interior build-outs may only include lighting controls and be much less costly. With an average of 18% energy savings from building commissioning, this service typically pays for itself in 1-5 years.[13]

- **LEED Documentation:** the true cost of documentation is not in the paper work, it is in the enhanced level of design and in the ongoing design verification process. Some A/E firms will charge a 'documentation' fee. Others will charge a 'sustainable design' fee. Some firms will not charge a fee at all, as they already strive to incorporate sustainability into common practice. Regardless of what the additional fee is called, it is usually reflective of a more integrated and iterative design process, where the design and ultimate building performance is enhanced by a feedback loop. Once the design is verified against LEED performance criteria, the documentation process merely requires that the team upload copies of the drawings and calculations.

  Fees for LEED documentation will vary based on the following:

  - Project scope
  - Project complexity
  - LEED experience level of the team (A/E firms)
  - Phase at which LEED is initiated
  - Level of certification targeted

[12]Langdon, Davis "Cost of Green Revisited: Reexamining the Feasibility and Cost Impact of Sustainable Design in the Light of Increased Market Adoption" July, 2007

[13]Mills, Ethan, et al "The Cost-Effectiveness of Commercial-Building Commissioning" Lawrence Berkeley National Laboratory, Dec. 2004 | eetd.lbl.gov/emills/PUBS/Cx-Costs-Benefits.html

Managing LEED Certification by Project Phase

The LEED Certification process is fairly accommodating of project schedules, however this Guidebook provides recommendations for successfully managing the process in an efficient and economical manner. A matrix outlining LEED steps, milestones, responsibilities and roles is provided in this Guidebook. Wherever possible, requirements and procedures specific to the DC Office of Property Management (OPM), the DC Department of the Environment (DDOE) and the DC Department of Consumer and Regulatory Affairs (DCRA) which are relevant to LEED are incorporated into this matrix. Unique projects may need to adjust this timeline as well as roles and responsibilities to accommodate specific project needs.

1. Getting Started

Sustainable design and LEED requirements are most efficient and economical to integrate into a project if the process begins early. Many project teams unfamiliar with LEED will delay the onset of the process, fearing it will adversely impact a project schedule. In actuality, putting off the discussion about sustainable design and LEED goals is inefficient and often results in burdening a project schedule and budget if the issue is discussed too late in the design process. Ideally, sustainable design and LEED requirements are integrated early on into the project design process rather than added on at the end.

Although there are recommended timeframes for completing each of the steps outlined in this chapter, it is important to note that every single one of these steps must be completed to achieve certification, with the exception of Precertification which is optional and available to LEED for Core & Shell projects only.

If the project team starts to implement LEED in a later phase than indicated in this overview, the team simply must perform the steps in a subsequent phase.

2. Planning/Pre-design

The best time to initiate the LEED discussion is before the project is awarded. When responding to a Request for Proposal (RFP), developing a proposal or Statement of Intent or describing a project approach and preparing for an interview, it is a good idea to have had at least one discussion or meeting amongst known team members (e.g. Architects, Civil Engineers, Mechanical, Electrical and Plumbing (MEP) Engineers, Landscape Architects) around sustainability and LEED. In this way, the team can consider special site conditions and programmatic considerations, outline a strategy and be prepared to start the project off on the right foot when it is awarded. For example, simple design decisions about building orientation and massing may have tremendous impact on the ultimate energy performance of the building. These decisions can be made in a timely and cost effective manner if they are addressed before the building is already designed. This initial pre-award meeting can be a conference call, an in-person meeting or even a mini-charrette. Including a 'sustainable design approach' narrative in your proposal can go a long way toward convincing a client that the team understands the LEED requirements inherent in the project scope.

Once the project is awarded, there are key activities that will help a project get started on the right foot.

A. It is important that the project team designate a **LEED coordinator**, someone who can manage the process and keep all team members on track throughout the project. Although many project teams elect to hire a third-party sustainable design consultant for this role, it is not always necessary if there is a team member with some LEED experience under their belt. This Guidebook will use the term 'LEED coordinator' in reference to *either* an internal *or* external (third-party) LEED coordinator or green building consultant.

At a minimum, a LEED coordinator should be a **LEED Accredited Professional (LEED-AP)** so that there is a working knowledge of the Rating System and the Certification process. If the project is particularly complex, the scope is extensive, or there are unusual budget or schedule constraints, a third party consultant may well be a good investment to ensure that the project achieves its goals.

If the project team does not include any LEED-APs, then a third party consultant may also be a particularly valuable asset as they can coach the team through the process and all team members will be more knowledgeable and better prepared for subsequent LEED projects. Third party consultants generally work on a great number and variety of LEED projects and are able to bring a wealth of experience to the table. On the other hand, if the project team designates an internal team member as the LEED coordinator, it is important that the LEED coordinator has dedicated time for managing the LEED Certification process.

B. Once the LEED coordinator has been designated it is essential to register the project for LEED Certification with the USGBC as soon as feasible. Registration takes only a few minutes, requires very little information about location, size, budget and scope (all of which can be modified at a later date if necessary) and currently costs only $450 for USGBC members or $600 for non-members. Find out if your firm is a USGBC member before registering the project so that the discount is given.

OPM projects may be able to register with the District's USGBC membership if the project team does not already include any USGBC members.

Early registration is very important because the rating system is updated periodically, usually becoming more stringent. Registering a project early (recommended in Schematic Design phase) ensures that the project will retain eligibility for the current LEED Rating System – the one under which it is designed. If the Rating System changes while a project is in design or construction and the project is not registered, it can lose its eligibility if it does not meet the newer LEED standards.

Remember, it only takes a few minutes and $450 to preserve eligibility.

See the Steps to LEED Certification Chapter for detailed instructions on Project Registration.

Compliance verification documents to be submitted to DCRA in this phase; all phases must be completed before a permit will be issued. OPM project teams must submit duplicate copies of all documents to OPM.

		Non-Residential, Publically Owned, Financed or Funded Projects/Privately Funded Projects (Expedited) *Subject to LEED Certification Requirements*
	DCRA Requirements	**Documents to be submitted to DCRA**
0% within 60 days of award	1. Registration	1. Receipt from USGBC for LEED Project Registration
	2. Integrated Sustainable Design Charrette (all disciplines)	2. Charrette Agenda, Sign-in Sheet, Meeting Minutes
	3. Preliminary Sustainable Design Strategy Evaluation	3. Preliminary LEED Scorecard

3. Schematic Design

It is most efficient and economical to establish clear LEED goals and strategies as early as possible in the design process. In this way, sustainable design elements are integrated into the design from its inception rather than becoming additive or reactive features. It is especially important to your construction budget that LEED requirements not engender change orders because they were not addressed soon enough.

In some cases, sustainable strategies with perceived first-costs may be offset immediately by savings. For example, a vegetated (green) roof may incur a cost premium above a typical roofing material, but may preclude the necessity for structural stormwater management. So while it appears on the surface to add to the cost of a project, there may be an immediate economic benefit to this strategy. This strategy and others will be discussed in more detail, but it is important to note that early discussions about sustainable design usually result in a more economical LEED strategy.

Key steps to LEED management in the schematic design phase include:

A. Once a LEED coordinator or sustainable design consultant has been designated, and the project design has begun, it is important to hold a **Sustainable Design Charrette.** This is an all-team meeting that typically takes 4-8 hours (duration may vary, depending on the needs of the project). It should include at a minimum: the Owner, the Architect, the Civil Engineer, the MEP Engineers, and may include (if applicable) the Landscape Architect, the Lighting Designer, the Interior Designer, the Acoustic Engineer and the Structural Engineer. If available at this point in the project, the charrette may also include the Building Engineer, a cost consultant, and the Commissioning Agent.

It is a good idea to come to the sustainable design charrette prepared with site plans, information about the program and project design requirements, any preliminary design documents, and information about site conditions, local zoning ordinances, building codes, stormwater treatment requirements, open space requirements and parking requirements, etc.

At the charrette, the entire project team should review the project in the context of LEED requirements and discuss strategies that make sense for the program, budget and schedule. These strategies should be recorded on a **LEED Scorecard** or worksheet, along with designated responsibilities for further design investigation and due dates for reporting back to the team. A LEED Scorecard is a summary of Credits marked as 'yes,' 'maybe,' or 'no'. The scorecard is used to help teams organize, review, and target Credits applicable to the project. It can be continually updated in order to evaluate each Credit's status.

Investigation may include cost research as well as trial calculations to benchmark what is readily achievable by the project. Detailed information about specific strategies for LEED Credits and Prerequisites is provided in the supplementary guidebooks for LEED-NC and LEED-CI. Blank LEED Scorecards are available free on the USGBC website (www.usgbc.org/DisplayPage.aspx?CMSPageID=1447).

A representative sample scorecard for OPM projects is also provided in each LEED section (i.e. LEED-NC, LEED-CI). Although the sample scorecard indicates specific strategies and Credits recommended by OPM, project teams should customize their approach as no two projects are equal and LEED is most effective when it is tailored to a project's individual needs. Project teams are also encouraged to exceed the minimum requirements for LEED Certification at the Silver level. This builds in a buffer in case all attempted Credits are not achieved, and helps ensure projects meet at least the required LEED Silver standard.

B. Following the charrette, the LEED coordinator should update the scorecard to reflect the current LEED goals and strategy, indicating responsibilities and due dates. The scorecard should be immediately reissued to the project team and should be maintained as a living document throughout the progress of the project. It is important that at a minimum the LEED coordinator keeps track of this historical information as the LEED Rating System changes constantly through the **Credit Interpretation Request** process, and a Credit that may have seemed unachievable in the first review may become more easily achievable at a later date through a new, accepted alternative compliance path.

C. After the sustainable design charrette, it is important to set up the project on **LEED Online**. All projects seeking LEED Certification must submit documentation on LEED Online. LEED Online is the venue where the USGBC reviews documentation and provides feedback to the

project team. Setting up the project on LEED Online usually takes around 30-45 minutes and is done by the **Project Administrator** (this is the LEED Online title for the person who has registered the project). If someone other than the LEED coordinator has registered the project, then the Project Administrator can assign the LEED coordinator to the **Project Team Manager** role (which has the same capabilities as the Project Administrator) or contact the USGBC to have the Project Administrator role switched to the LEED coordinator.

The Project Administrator (or Project Team Manager) is able to invite project team members to join the project site on LEED Online and to assign team members, Credits and Prerequisites to various team roles. For example, a member of the design team may be assigned to the role 'Architect'. All of the Credits that must be completed by the Architect will be designated as such by the Project Administrator. Although all team members can view all of the posted documentation online, only the party assigned to the same role as a particular Credit can alter, upload or delete documentation for that Credit. For example, only the team member assigned to the role 'Civil Engineer' may post documentation under a Credit assigned to the Civil Engineer. At the time of publication of this Guidebook, there are at least two LEED Online tutorials available for free online. Please see the Resources chapter of this guide for further information on LEED tutorials.

D. It is important to provide access to LEED Online to all team members once they are invited to join the project site. LEED Online offers a wealth of tools, including **Letter Templates**, Credit calculators, Credit Interpretation Requests and Rulings, and an electronic LEED Scorecard. All team members should visit the project site on LEED Online once the project is registered so that they can review the Letter Templates for Credits to which they are assigned. Letter Templates outline and clarify Credit requirements. If team members are aware of the Credit requirements as they design, and can verify that the design meets those requirements as they design, then the team will not have to go back and re-design or add in elements later to demonstrate LEED compliance.

All team members responsible for LEED design integration and documentation should sign on to the project site on LEED Online and make themselves aware of their documentation responsibilities. If team members are aware of LEED documentation requirements early on, then they can integrate these requirements into design documents, precluding the necessity for altering documents or changing the design at a later date. Making changes to the design or to construction documents in order to accommodate LEED requirements late in the process only makes LEED less effective and less efficient. It is also time consuming and therefore not a very economical strategy either.

Compliance verification documents to be submitted to DCRA in this phase; all phases must be completed before a permit will be issued. OPM project teams must submit duplicate copies of all documents to OPM.

		Non-Residential, Publically Owned, Financed or Funded Projects/Privately Funded Projects (Expedited) *Subject to LEED Certification Requirements*
	DCRA Requirements	**Documents to be submitted to DCRA**
35%	4. Public Agency Engagement	4. Meeting schedule and participant list for regular meetings with relevant agency(ies). (e.g. OPM, OPEFM, DCPR, etc.)
	5. Design Investigation and Strategy Development	5a. Updated LEED Scorecard
		5b. Preliminary Sustainable Approach Narrative (1-3 pages)
		5c. Schematic drawings (site plan, plan, sections, elevations) indicating integration of LEED-compliant strategies

4. Design Development

This phase is really crucial in designing a high-performance, sustainable building. Many decisions about strategy are made in this phase as a result of design investigation and cost estimation. It is important when researching costs and benefits of specific green building measures that the design team thinks holistically. For instance, a vegetated roof system may add a $10/sf cost premium to a project however it may preclude the need for structural storm water management, so the project saves the cost of a cistern or sand filter. When undertaking the value engineering process, it is important to remember that many sustainable design elements aren't just line items and striking something from the design may cause rises in costs elsewhere.

The Project Administrator or Project Team Manager should ensure that the entire design team has access to the tools on LEED Online in this phase. All participants should be using the calculators (typically inherent in the LEED Letter Templates) to verify that the design will meet LEED requirements. Design team members should also familiarize themselves with the Letter Templates and make note of the documentation requirements to ensure that drawings contain the necessary information to show compliance.

By the end of the DD phase, the project team should have a confirmed LEED Scorecard as well as a clear strategy for achieving each Prerequisite and Credit. Some minor changes to the LEED strategy may be made in the ensuing project phases, but the bulk of the planning, research and integration of LEED should be complete before the Construction Documents phase.

A. Enhanced Commissioning (optional, all projects)

Fundamental commissioning of the building is a required Prerequisite that is part of the Construction Submittal, but if the project team intends to pursue EA Credit 3: Enhanced Commissioning, the DD phase is also the key timeframe for the Enhanced Commissioning process to begin. The Commissioning Authority will review the MEP design documents, the Owner's Project Requirements and the Basis of Design. The MEP team will need to document their response to the Commissioning Authority's comments in order to obtain this Credit. This process can help assure that the appropriate systems and appropriate sizing of those systems are used in the building. This is important because optimizing mechanical, electrical and plumbing design are critical to building performance over its lifespan.

B. Precertification
(optional, LEED for Core & Shell only)

If a project is pursuing Certification under the LEED-CS rating system, the end of DD is an ideal time to seek Precertification from the USGBC. This service is provided to help project Owners market to prospective tenants, and may assist teams pursuing Expedited Permitting from the District to demonstrate a commitment to a specific level of LEED Certification. Precertification is available for a flat rate of $2500 (USGBC members)/$3500 (non-members) per project and an overview of the Precertification process is posted on the LEED website: www.usgbc.org/ShowFile.aspx?DocumentID=2257.

Precertification does not guarantee the level of eventual certification, nor does it require the project team to a certain level of certification, however it is important that the level of Precertification sought is in line with the eventual project certification goals. In other words, don't promise a LEED Platinum project if you can only deliver Gold and so on. It is better to pre-certify at a lower level that the project may eventually exceed than to over-promise.

C. Design Phase Review
(all projects, all rating systems)

In order to best manage the LEED certification process, it is recommended that the project team undergo the Design Phase Review in the CDs phase. Feedback from the USGBC can inform early Value Engineering decisions, helping the project team identify the most cost effective and successful LEED strategies to achieve the desired level of certification. The design team will be able to use this information to make decisions about what to include in final sets of Construction Documents.

All LEED project documentation must be submitted on LEED Online. Upon registration and payment, each project is given its own LEED project website for storing team documentation and managing the submittal and feedback process. It is important to note that the USGBC will not review any documentation or LEED Letter Templates until the whole phase is completed and submitted and payment is rendered. Team members may continue to modify their Letter Templates and upload, delete, modify and re-upload documents as often as they wish before the submittal date.

See the Steps to LEED Certification Chapter for detailed instructions on Precertification and Design Phase Review.

Compliance verification documents to be submitted to DCRA in this phase; all phases must be completed before a permit will be issued. OPM project teams must submit duplicate copies of all documents to OPM.

		Non-Residential, Publically Owned, Financed or Funded Projects/Privately Funded Projects (Expedited) *Subject to LEED Certification Requirements*
	DCRA Requirements	**Documents to be submitted to DCRA**
65%	6. Confirmed Sustainable Design Strategy	6a. Final LEED Scorecard
		6b. Final Sustainable Approach Narrative (1-3 pages)
	7. Successful Sustainable Design Integration	7a. Revised project drawings demonstrating LEED requirements are integrated into project design
		7b. Completed LEED Letter Templates for every Prerequisite and Credit that will be attempted (and are listed on the scorecard)
	8. Sustainable Design Verification	8. Receipt for submittal of Design Phase Review Documents to the USGBC

5. Construction Documents

It is critical that all LEED requirements show up in both construction drawings and specifications. For example, projects pursuing EQ Credit 1 for Outdoor Air Delivery Monitoring must show the location and number of carbon dioxide monitors on the plans. Projects pursuing EQ Credits 4.1-4.4 for Low-Emitting Materials must include both performance criteria (restricting chemical content and harmful emissions) and documentation requirements in the specifications. Projects pursing EQ Credit 5 must show deck-to-deck partitions and separate exhaust for high volume copy rooms and janitor's closets, in addition to showing walk-off mats at all major building entry points at least 6' in the direction of travel. These are three examples of the level of detail that should be reflected in the construction documents to help to project meet LEED requirements and to demonstrate compliance to the USGBC. Other Credits will have other implications and documentation requirements.

Specifications are a critical component to successfully implementing LEED requirements on the job site. In addition to providing guidance regarding performance criteria for building products and materials, the specifications should clearly indicate what documentation submittals look like and which LEED Credits should be documented in each spec section. The more detailed the specifications are about LEED requirements and documentation expectations, the easier it will be for the General Contractor to manage the process on the job site.

See the Specifications Guidance chapter for details.
Project Owners may wish to require an early submittal of Construction Waste Management and Indoor Air Quality Management Plans by the contractor to ensure these requirements are understood and implemented from ground-breaking onward.

Project Owners may also wish to require LEED progress reports in addition to normal project progress reports. Contract documents can require that Construction Waste Management, Recycled Content, Regional Materials and other materials Credits be tracked consistently and updated reports provided at regular intervals.

Some project Owners even tie these progress reports to payments to ensure that the proper documentation is collected in a timely manner. It is extremely difficult to obtain materials documentation once sub-contractors have been compensated and their contracts closed out.

An internal LEED coordinator should review the project specifications to ensure that they reflect all LEED requirements associated with the targeted strategy. Having detailed and thorough documents will assist General Contractors and Sub-contractors estimate project costs and bid on the project accurately, keeping project costs in line without having to sacrifice sustainability later in the **Value Engineering** process.

The LEED coordinator should also participate in any pre-bid conferences to assist in clarifying the project's LEED strategy and sustainability goals.

Compliance verification documents to be submitted to DCRA in this phase; all phases must be completed before a permit will be issued. OPM project teams must submit duplicate copies of all documents to OPM.

	OPM Requirements	Documents to be submitted to OPM and the Architect's LEED coordinator by the General Contractor
Within 60 days of Contract Award	11. Construction Phase Compliance Verification	11a. Copy of LEED-AP Certificate for General Contractor's on-site LEED documentation coordinator
		11b. LEED Kick-off meeting (agenda, sign-in sheet)
		11c. Construction Waste Management Plan
		11d. Indoor Air Quality Management Plan
Monthly	12. Construction Phase Compliance Verification	12. General Contractor's LEED documentation with signed, completed cover sheet
Temporary Certificate of Occupancy is Issued		
	OPM/DCRA/DDOE Requirements	**Documents to be submitted to OPM, DCRA & DDOE**
Completion	13. Sustainable Construction Verification	13a. Construction Phase Review, issued by USGBC
		13b. Final LEED Certification Award, issued by USGBC
Final Certificate of Occupancy is Issued; Bond is Returned (for Expedited Projects)		

6. Construction Administration

The best strategy to ensure successful implementation of LEED requirements on the job site is to hold a sustainable design kick-off meeting with the General Contractor and sub-contractors for major trades and disciplines (e.g. mechanical, plumbing, electric, concrete or steel). At this kick-off meeting, the Architect's LEED coordinator should review the LEED Scorecard with the General Contractor and major sub-contractors, paying particular attention to all Construction Phase LEED Prerequisites and Credits. At the meeting, the LEED performance criteria and documentation requirements should be reviewed. Just because it is in the specifications, does not mean that it has been read or understood!

The General Contractor should appoint its own internal LEED coordinator or consultant to manage the documentation process and to coordinate with the subcontractors to collect all of the information required to demonstrate LEED compliance. OPM requires that the General Contractor appoint a LEED-AP to manage LEED documentation and implementation on site.

Responsibilities for the Contractor's LEED coordinator include compiling all LEED construction phase documentation and providing progress reports to the Architect's LEED coordinator as well as to OPM. The Contractor's LEED coordinator must complete and sign the cover sheet include in the Specification Guidance chapter of this Guidebook.

The Architect is responsible for customizing the LEED Progress Report Cover Sheet document as well as LEED Documentation Submittal Requirements throughout the specifications so that contract documents and progress reporting tool are applicable only to the Credits and Prerequisites included in the specific project's unique LEED strategy.
The Architect's LEED coordinator should review the General Contractor's Construction Waste Management Plan and Indoor Air Quality Management Plan and make recommendations to assure compliance with LEED requirements.

The Architect's LEED coordinator should also assist the Architect by reviewing submittals, advising on LEED compliance and assisting the General Contractor in locating suitable product and material substitutions when necessary. The Architect's LEED coordinator should assist the General Contractor in evaluating the merits of materials and products relevant to LEED requirements and by reviewing ongoing calculations and documentation to benchmark against LEED Credit thresholds.

The Architect's LEED coordinator should make periodic visits to the job site to verify that the Sedimentation and Erosion Control Plan is being followed (it is a Prerequisite!), the Construction Indoor Air Quality Management Plan is being followed, and that documentation is being collected consistently and appears complete and accurate to date.

As individual Materials & Resources Credits are completed, the Architect's LEED coordinator may review these and close them out. A well-run LEED project should have only Commissioning and Construction Waste Management documentation to complete at project completion.

Although the USGBC will probably never visit your job site, remember that projects located in the District are highly visible to the USGBC staff (the main office is located in Washington, DC) and that LEED projects should be on their best behavior.

A. Construction Phase Review

At the project's completion, the Architect's LEED coordinator should coordinate with the General Contractor and the project team the submittal of all construction related documentation to the USGBC for **Construction Phase Review**. When the USGBC feedback is received with requests for Clarification, the Architect's LEED coordinator should work with the General Contractor's LEED coordinator and project design team to amend or reinforce construction documentation as needed and re-submit to the USGBC.

Should any Credit appeals be needed (for Credits not granted in the two rounds of Construction phase documentation review), the Contractor's LEED coordinator should manage the process of revising the documentation and appealing the Credit.

It is important to note that if the project does not meet the LEED criteria, a Credit appeal may involve making changes to the building, which will require change orders, revised drawings, etc. These will be the responsibility of the design team. Both LEED coordinators should remain in contact with the USGBC throughout the project and assist the Owner and the project team until Certification is awarded.

See the Steps to LEED Certification Chapter for detailed instructions on Construction Phase Review.

B. Certification

Once both rounds of the Construction Phase Review are complete, the USGBC will offer the project a final certification award. The project team can choose not to accept the award, if there are any Credits that need to be appealed. If the project team and project Owner are happy with the level of certification offered, they may accept the award and a LEED Plaque with mounting hardware will be sent. Projects teams that would like to integrate the plaque into the building architecture (e.g. have the emblem etched into glass or stone walls, floors, etc.) may obtain specifications from the USGBC to do so.

Compliance verification documents to be submitted to OPM, DCRA and DDOE in construction and upon completion before a Certificate of Occupancy will be issued.

	OPM Requirements	**Documents to be submitted to OPM and the Architect's LEED coordinator by the General Contractor**
Within 60 days of Contract Award	11. Construction Phase Compliance Verification	11a. Copy of LEED-AP Certificate for General Contractor's on-site LEED documentation coordinator
		11b. LEED Kick-off meeting (agenda, sign-in sheet)
		11c. Construction Waste Management Plan
		11d. Indoor Air Quality Management Plan
Monthly	12. Construction Phase Compliance Verification	12. General Contractor's LEED documentation with signed, completed cover sheet
Temporary Certificate of Occupancy is Issued		
	OPM/DCRA/DDOE Requirements	**Documents to be submitted to OPM, DCRA & DDOE**
Completion	13. Sustainable Construction Verification	13a. Construction Phase Review, issued by USGBC
		13b. Final LEED Certification Award, issued by USGBC
Final Certificate of Occupancy is Issued; Bond is Returned (for Expedited Projects)		

	Pre-Design	Schematic Design	Design Development	Construction Documents/Pre-bid	Construction Administration	Completion	LEED Certification	Occupancy
Project Team*	A/E team establishes preliminary sustainable design strategy	• Participate in whole team integrated sustainable design charrette • Establish LEED goals • Design investigation; submit CIRs as needed	• Integrate LEED req'ts with design, develop alternative compliance paths or innovative design strategies • Attend interim LEED check-in meetings	"Green" plans/drawings, specification, documents, as needed	Contractor & subcontractor LEED orientation Design team reviews LEED submittals for compliance	• Complete construction phase documentation (General Contractor, Sub-Contractors, CxA) • Assist in Construction Phase clarifications		• Assist Owner with M&V plan • Assist Owner with thermal comfort survey
OPM	• Integrate sustainable design req'ts: a) RFP b) Interview c) Selection Process • Award project	• Participate in whole team integrated sustainable design charrette; establish LEED goals • Issue RFP for Commissioning services & pay Project Registration Fee	• Pay USGBC for Credit Interpretation Requests, if needed • Participate in interim LEED check-in meetings • Pay USGBC for Design Phase Review	• Clarify LEED requirements at pre-bid mtgs • Include LEED performance & documentation req'ts in contract documents	Tie payments to monthly LEED progress reports.	• Pay Construction Phase Review fee to USGBC • Accept Certification-award or appeal credits		• Execute M&V plan • Conduct thermal comfort survey • Implement Education & Outreach program • Register Project For LEED-EB: O&M
LEED Coordinator	Assist with preliminary sustainable design strategy, integrate with proposal	• Review with design team: a) LEED Requirements b) Documentation roles & responsibilities c) LEED scorecard • Facilitate sustainable design charrette • Register Project • Set up project & team on LEED Online • Research Credit Interpretation Rulings (CIRs) • Submit CIRs as needed • Assist with RFP for commisioning services	• Research: a) CIRs b) Sustainable materials & technologies for design team, as needed • Assist with launch of commisioning services Submit LEED core & shell projects for Pre-certification	• Review plans, specifications, documentation for LEED compliance • Submit Design Phase Review package to USGBC • Provide additional documentation & clarification as needed • Coordinate credits & prereq. appeals as needed	LEED kick-off meeting at job site; review LEED with Construction team Review for LEED compliance: a) Submittals b) Construction documentation c) Calculations d) Site visits Submit CIRs as needed	• Assist construction team and CxA with construction phase documentation • Submit Construction Phase Review package to USGBC • Assist with clarification requests and appeals as needed • Accept Certification award or appeal credits		• Assist in development of case study for Education & Outreach credit • Assist Owner in registering Project for LEED-EB: O&M
w/ USGBC		Register project for LEED & purchase Reference Guide for team, if needed	Coordinate & submit Credit Interpretation Requests	Design Phase Review: documentation, submittal, clarifications	Construction Phase Review: documentation, submittal, clarifications	• Requests for clarification issued • Final certification award offered		LEED Certification is awarded
Submittals	0%	35%	65%	95% | 100%	Monthly	At Completion		Provide proof of LEED Certification to DDOE & DCRA for final Certificate of Occupancy
OPM**	✓	✓	✓	✓ ✓	✓	✓		
DCRA	✓	✓	✓	✓ ✓		✓		
DDOE	✓					✓		

Keep design team on track to meet desired LEED/Sustainable goals & requirements.

Keep construction team on track to meet desired LEED/ Sustainable goals & requirements.

*Project Team includes: Architect, Civil Engineer, Mechanical Engineer, Electrical Engineer, Plumbing Engineer, Interior Designer, Landscape Architect, Lighting Designer, Acoustic Consultant, Specifications Writer, Commissioning Authority/ Agent, General Contractor, Sub-Contractors, Building Engineer

** For OPM projects only

Steps to LEED Certification

When and How Do You Interact With the USGBC and LEED Online?

The steps to project certification are few, but there is a lot of work behind each step, and as this process spans the entire design and construction timeline, it requires attention, consistency and oversight. The steps are listed in brief below, and are described in more detail in this chapter. Although you will see in the project roles and responsibilities matrix that there are recommended timeframes for completing each of these steps, it is important to note that every single one of these steps must be completed to achieve certification. If the project team starts late, the team must perform more of the steps in less time.

Terms in **BOLD** will be defined in context below as well as in the Glossary. LEED Online tutorials are shown in the Resources chapter of this Guidebook, and provide a visual demonstration of the steps described in this Guidebook. It is highly recommended that the Project Administrator or Project Team Manager for LEED Online become familiar with the LEED Online website and its features.

LEED Online can function slowly at times, depending on the level of traffic the site is experiencing at any given time. Please exercise patience! If you are having technical problems with the website, you should contact the USGBC.

PROJECT CERTIFICATION STEPS	WHEN
1 Project Registration*	Pre-Design or SD
2 Team Administration	Pre-Design or SD
3 Scorecard Administration	SD
4 CIR (Credit Interpretation Request)*	at any time needed
5 Prerequisite and Credit Documentation	DD and CA
6 Project Narrative	DD
7 Project Summary	DD
8 General Documents	DD
9 Precertification *(optional, for LEED-CS projects only)**	DD
10 Design Phase Review*	DD or CDs
11 Construction Phase Review*	CA/Completion

1. Project Registration

A. When should I Register a Project?

Register your project as soon as it is awarded or as soon as possible thereafter.

B. Why is Registering early so important?

Registering the project provides the team access to the tools needed to measure and verify that the design will meet LEED requirements. It is important that team members are able to do this as they go, rather than waiting until the design is complete, necessitating changes to the design to meet LEED requirements. Tools include: an electronic LEED Scorecard; a common website for the team to post draft documentation for internal review; LEED Letter Templates, with embedded calculators to assist in design verification; access to posted Credit Interpretation Requests and official Credit Interpretation Rulings, which clarify the USGBC's expectations and expand the sustainable design strategies and approaches permissible under the LEED rating system.

Registering the project also preserves the project's eligibility under the current rating system at the time of registration. The LEED rating systems are on track to be updated annually, becoming more stringent every year. If the team is designing under a particular rating system, that is the rating system that should be used to evaluate the project. Project teams who delay registration jeopardize the project's eligibility for LEED Certification at all, and they inhibit the team's ability to design in accordance with LEED requirements effectively.

LEED is not an additive system whereby a team can simply add LEED elements to a project at the last minute and expect to achieve Certification. Sustainable design and LEED criteria must be integrated into the design to be effective, economical and to achieve Certification.

C. Who Registers the Project?

Anyone on the team can register the project, whether it is the Owner, the Project Manager, the Sustainability Coordinator, the LEED Consultant, etc. The person who registers the project will be, by default, the **Project Administrator** who manages the project on LEED Online. If this person does not wish to be the Project Administrator, the role can be switched to another team member at any time by contacting the LEED support staff at the USGBC via email, or by assigning another team member to the **Project Team Manager** role on LEED Online. This role has the same authority and capabilities as the Project Administrator. If more than one team member wishes to share the responsibilities for managing the Certification process, the Project Administrator can assign more than one Project Team Manager, all of whom will have the same level of access to manage the project on LEED Online. Ideally, each team should identify one Project Administrator or Project Team Manager to coordinate and oversee all LEED Online activities.

You will need a USGBC **Site User Account** to register a project. If you do not already have one, it is easy to sign up and it is free. You do not need to be a USGBC member to have an account, however, if your company or organization is a member, you will want to have the company ID handy to add you your account so that you can receive the member discount when registering the project.

D. How do I Register a Project?

Registering a LEED project takes five minutes and is only $450 for USGBC member organizations/ companies and $600 for non-member companies. You can register a project here: www.usgbc.org/ DisplayPage.aspx?CMSPageID=65.

You will need the following information to register a project. This information can be modified later, so do not hesitate to register the project with whatever information you have available as soon as possible. You do not need to declare the level of LEED Certification pursued at this time or any time during the process. Have this information when you register:

a. LEED Rating System that you are registering under (e.g. LEED-NC, LEED-CI, LEED-CS)

b. Project Name

c. Is the project confidential? (it will not show up on the public USGBC website if you indicate that it is confidential)

d. Project Address (an intersection is fine if you do not have an address yet)

e. Project Administrator Contact Information (this is, by default, already filled in with the profile information of the person registering it, but it can be filled in with another team member's information if the Project Administrator is known at the time of registration and it is not the person registering the project)

f. Project Owner's Name, Organization and Email address

g. Project Details:
   i. Owner Type (i.e. private, non-profit, government, etc.)
   ii. Project Scope (i.e. interior, core & shell, single building, multiple buildings)
   iii. Site Condition (i.e. brownfield, greenfield, previously developed, previously undeveloped)
   iv. Occupant Type (i.e. government, mixed, for profit, non-profit)
   v. Owner Occupied? (yes or no)
   vi. Gross Square Footage (estimated)
   vii. Project Budget (estimated)
   viii. Current Project Phase (e.g. planning, SD, DD, CDs, CA, occupied, etc.)

h. Project Type (many options, check off as many as apply)

After completing this simple registration form, click on the 'Proceed to Payment' button on the bottom of the screen.

You may elect to pay immediately by Credit card, or to pay by check. If you pay by Credit card, a receipt will typically be emailed to you within a few minutes. If you elect to pay by check, you will receive an invoice and payment instructions by email as well.

Remember! The project is not officially registered until payment is received by the USGBC and processed. If you are registering a project before a rating system change, you want to either pay by Credit card or give yourself plenty of time for a check transaction.

2. Team Administration

A. When should I set up the Project Team on LEED Online?

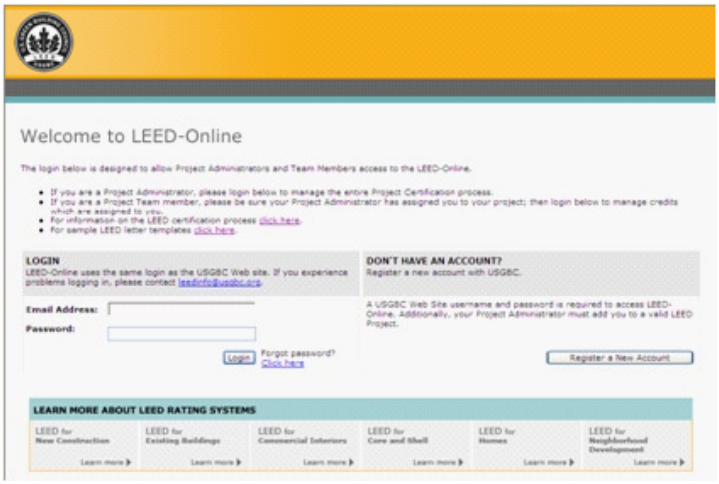
All projects seeking LEED Certification must submit documentation on LEED Online. This is the only venue where the USGBC reviews documentation and provides feedback to the project team. In order to provide the team with early access to tools, Letter Templates and information about Credit documentation requirements, as well as a place to post documentation as it is completed, it is important to set up the project team and the scorecard on LEED Online either before the **Sustainable Design Charrette,** or immediately afterwards, ones roles and responsibilities have been discussed in relation to the LEED strategy. If not all team members are engaged yet (e.g. General Contractor), their roles may be assigned at a later date. Credits can be assigned to roles at any time.

B. Who sets up the Project Team on LEED Online?

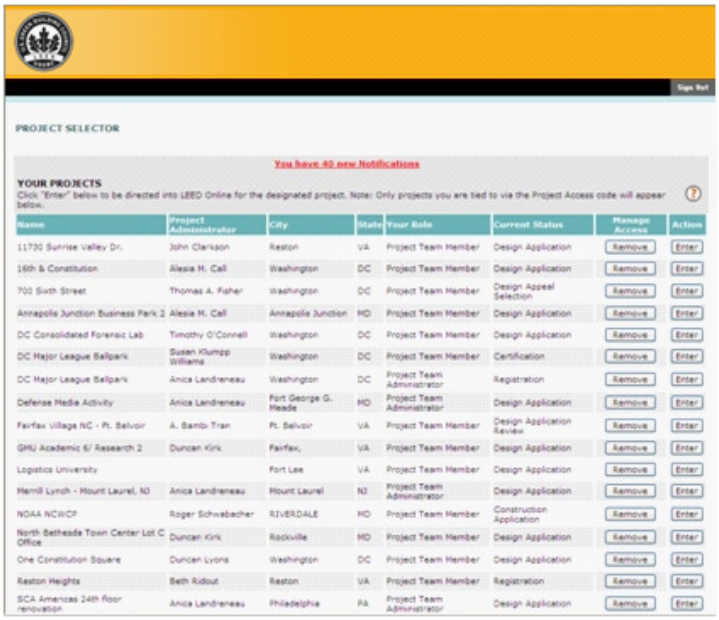
Setting up the project team on LEED Online usually takes only a few minutes and is done by the Project Administrator. If the Project Administrator wishes to reassign the role, they may either ask the USGBC to assign the role to someone else (contact leedinfo@usgbc.org). They may invite the sustainable design coordinator/ LEED consultant to join the team (described below), invite them to join the project on LEED Online, and assign them to the **Project Team Manager** role so they may take over the Project Administrator responsibilities.

C. How is the Project site on LEED Online accessed?

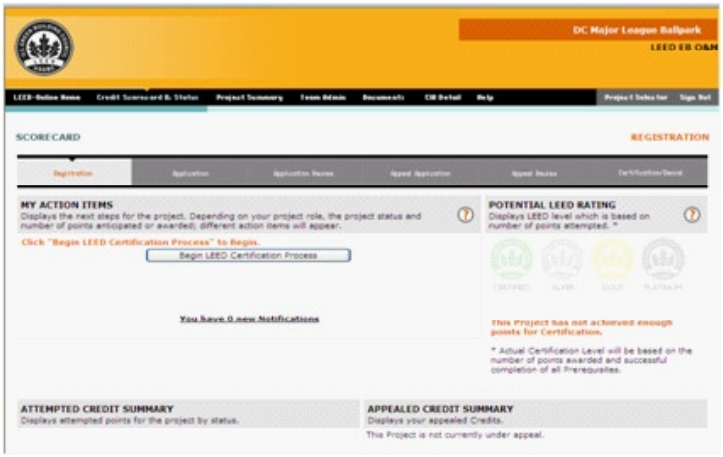
The Project Administrator should log into the LEED Online website (www.leedonline.usgbc.org). You will first arrive at the Project Selector Page. If you are only involved in one LEED project, you will see its name and should click on the 'Enter' button to the right of the project name. If you are on multiple LEED Project teams, you will need to select the appropriate project and click on the 'Enter' button to the right of its name. If you are adding a new project and have the **Project Access Code,** you may enter it at the bottom of the page. You will repeat these steps each time you log into LEED Online to access any particular project.



Step One: Log into LEED Online.



Step Two: 'Enter' your project from the project selector page.



Step Three: Once you have entered the project's LEED Online site, you must click on the button 'Begin LEED Certification Process'.

D. How is the Project Team created and managed on LEED Online?

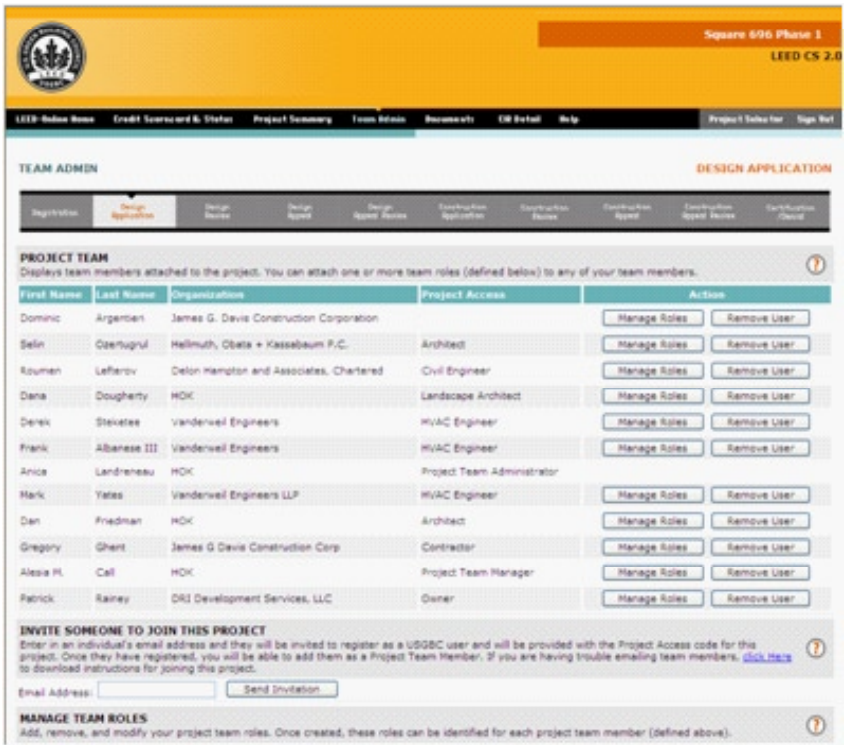
After logging into the project on LEED Online and initiating the LEED Certification Process, you should be on the Credit Scorecard and Status page. From here you can click on the 'Team Admin' tab at the top of the page and you will be directed to the page for project team management.

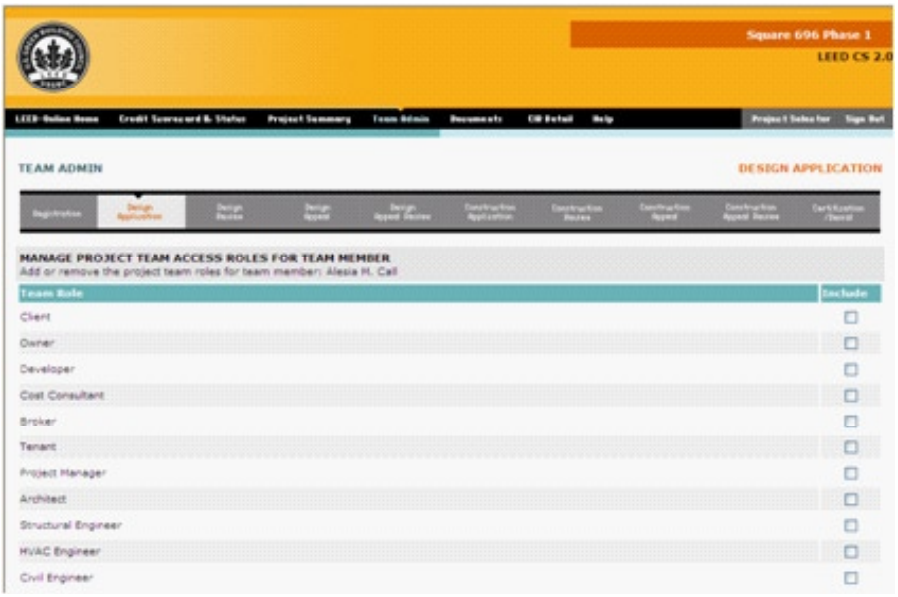
Under the 'Project Team' heading, you will see 'Invite Someone to Join this Project' and a space to input an email address. You should add team email addresses, one at a time, and click the 'Send Invitation' button after each. Team members will receive an email with instructions for logging on to LEED Online, registering a new **Site User Account** if necessary, and for adding the **Project Access Code.**

Once team members have accepted the invitation and added the Project Access Code to their Site User Account, their names and affiliation will show up under the 'Project Team' heading on the 'Team Admin' tab.

Each team member has two buttons to the right of their name: 'Manage Roles' and 'Remove User'. When a team member has joined the project on LEED Online, the Project Administrator or Project Team Manager must click on the 'Manage Roles' button and assign a role to that team member to give them access to upload documentation and complete LEED letter templates. For example, a member of the design team may be assigned to the role 'Architect'. All of the Credits that must be completed by the Architect will be designated as such by the Project Administrator.

Although all team members can view all of the posted documentation online, only the party assigned to the same role as a particular Credit can alter, upload or delete documentation for that Credit. For example, only the team member assigned to the role 'Civil Engineer' may post documentation under Credit assigned to the Civil Engineer.





All team members will be able to view all Credit documentation on the **LEED Online** Project Site, but will only be able to add, delete or alter the documentation for roles they are officially assigned to by the **Project Administrator** or **Project Team Manager**(s). Also, the Project Administrator or Project Team Manager(s) may at any time create and assign new roles within the project.

Project team members may be assigned to more than one role. For instance, a team member may be both Project Team Manager and Architect. Simply check off as many roles as you wish to assign to that team member and then click on the 'Update' button at the bottom of the page. Roles can also be assigned to more than one team member. You may have several team members assigned to the 'HVAC Engineer' or 'Owner' role, for example. Anyone assigned to a role can add, alter or delete Credit documentation for any **Prerequisite** or **Credit** also assigned to that role. They may also fill out, make changes to and save the **LEED Letter Templates** for any Prerequisite or Credit also assigned to that role.

Changes to the Project Team can be made at any time, and new team members can be added whenever they are needed, simply by following the same instructions above. Team members can also be removed by clicking on the 'Remove User' button to the right of their name if they are no longer part of the team.

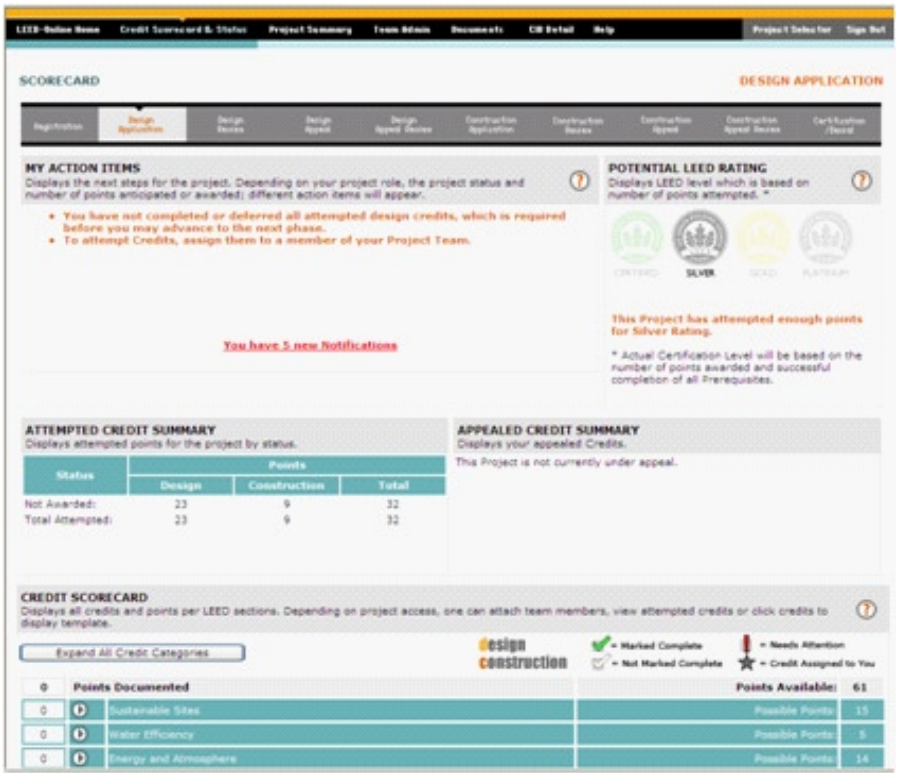
3. Scorecard Administration

A. When should the LEED Scorecard be set up on LEED Online?

All projects seeking LEED Certification must submit documentation on LEED Online. This is the only venue where the USGBC reviews documentation and provides feedback to the project team. In order to provide the team with early access to tools, letter templates and information about Credit documentation requirements, as well as a place to post documentation as it is completed, it is important to set up the project team and the scorecard on LEED Online either before the **Sustainable Design Charrette**, or immediately after team member roles and responsibilities have been discussed in relation to the LEED strategy.

B. Who sets up the LEED Scorecard?

Setting up the LEED Scorecard is typically done by the Project Administrator. If the Project Administrator wishes to reassign the role, they may either ask the USGBC to assign the Project Administrator role to someone else (contact leedinfo@usgbc.org), or they may invite the Sustainable Design Coordinator/LEED Consultant to join the team, invite them to join the project on LEED Online, and assign them to the **Project Team Manager** role so they may take over the Project Administrator responsibilities.



Click on the 'Expand All Credit Categories' button in the middle of this page to see your project's electronic scorecard.

C. How is the LEED Scorecard set up and managed on LEED Online?

Every time you log onto LEED Online and select your project from the Project Selector page, it will automatically open onto the project's 'Credit Scorecard & Status' page. If you are on another task and wish to navigate back to this age, simple click on the 'Credit Scorecard & Status' tab at the top of your screen and you will be brought back to this page.

Every Prerequisite and Credit will be marked 'Credit Not Attempted' to the right, until you select a role from the drop down menu. For example, for SSpr1 Construction Activity Pollution Prevention, you may want to scroll through the drop down menu until you find the 'Civil Engineer' and select that role to be responsible for documenting this Prerequisite.

All Prerequisites must be assigned to a role as they must all be completed. Any Credits you choose to pursue should also be assigned to a role. If you are not sure if the team will pursue a certain Credit, you should assign it initially, so that the team member responsible for analyzing the feasibility of this Credit will have access to the LEED Letter Template and any tools, calculators, etc. to verify whether the design can meet the LEED criteria or not. You can always opt to discontinue pursuit of any given Credit at a later date, so do not hesitate to assign any and all Credits you are considering for your project.

You will notice that once a **Prerequisite** or **Credit** has been assigned to a team member (or team role), that the name of the Credit becomes a hyperlink, able to direct you to that Prerequisite or Credit's own individual page where the LEED Letter Template is accessed and documentation will be uploaded.

There is a handy symbol key at the top of your scorecard to explain all of the various symbols that you will see on your scorecard throughout the process. In addition, at the time of publication of this Guidebook, there are at least two LEED Online tutorials available for free online. Please see the LEED General Resources chapter of this guide for further information on LEED tutorials.

4.Credit Interpretation Request (CIR)

A. When should Credit Interpretation Requests Be Submitted?

The Credit Interpretation Request (CIR) and ruling process was established for project applicants seeking technical and administrative guidance on how LEED Credits apply to their projects. If there are any Credits or Prerequisites where you feel your project meets the intent, but the approach is not explicitly described in the LEED Reference Guide, you should submit a Credit Interpretation Request (CIR). CIRs may be submitted at any time during the LEED Certification process.

CIRs are collected every other week and passed to the Technical Advisory Group (TAG) for that section of the LEED Rating System. For example, the Sustainable Sites TAG will review any CIRs for Sustainable Sites Credits. The TAG discusses the merit of the Credit approach proposed in the CIR and posts both the request and the ruling on LEED Online for all project teams to access. The Credit Interpretation Response will either reject the proposed approach (usually for insufficient environmental merit), allow it for the specific project only, or allow it for the project in question as well as all future projects with similar design constraints and sustainable design solutions.

By posting these Credit Interpretation Requests and Rulings online, the CIR process is transparent and fair. All project teams are given equal access to alternative approaches and Credit clarification.

Teams should be aware of the following:

- There are no longer two (2) free CIRs with every project registration (since team members can access all existing CIRs via the USGBC website).
- CIRs cost $220 each. A project may submit an unlimited number of requests.
- CIRs are evaluated by the Technical Advisory Group that oversees the particular section in which the Credit or Prerequisite falls.
- Rulings are posted with the requests; the process is transparent and every project team has access to this decision making process via the CIR website.
- Any registered project team member or USGBC member can research all of the existing CIRs for free.

- Project team members should always research existing CIRs when Credits or Prerequisites present challenges.

- Often teams can borrow an alternative compliance path that has already been submitted by another project team and approved.

- Project teams should submit new CIRs only when they are unable to find answers within the existing CIRs and Rulings.

B. Who Submits Credit Interpretation Requests?

Any LEED registered project team member can submit a new Credit Interpretation Request on LEED-Online. Only LEED registered project team members can submit CIRs.

C. How are Credit Interpretation Request submitted?

This document advises CIR customers on how to most effectively use the CIR process. Note that project teams must adhere to the CIRs current at the time of registration in addition to the rulings received for their own CIRs. For CIR guidance, please refer to: www.usgbc.org/ShowFile.aspx?DocumentID=1510.

Access to existing Credit Interpretations and Rulings (CIRs) is available through the Project Certification portion of the USGBC web site once you are Signed In. To view existing Credit Interpretations and Rulings, please refer to: www.usgbc.org/LEED/Credit/CIRMain.aspx?CMSPageID=1432&CategoryID=1195&.

Only USGBC members, LEED registered project team members, and workshop attendees have access to view CIRs. (Note: workshop attendees only have access for one year from the date of the workshop).

5. Prerequisite and Credit Documentation

A. When should team members access Prerequisites and Credits?

The preliminary LEED strategy should have been established by the project team at the Sustainable Design Charrette, which should ideally occur early in Schematic Design. No matter when the charrette is held, a whole team meeting to discuss strategy, roles and responsibilities is the only way to launch and manage a LEED project successfully. Immediately following this charrette, all team members should have been invited to join the project site on LEED Online and assigned to team roles. In addition, all Prerequisites and pursued Credits should have also been assigned to team roles so that team members may have access to them. Prerequisites and Credits should be hyperlinked to their own pages at this point and access to the **LEED Letter Templates** and documentation uploading should be available.

Team members should review their Letter Templates as soon as possible so that they are aware of **Performance Criteria** and **Documentation** responsibilities necessary to demonstrate that the project design meets LEED requirements. If team members are knowledgeable about LEED expectations from the beginning, they can very likely incorporate the LEED requirements into the project design and documents and will not need to make changes later in the process. This assists in efficient documentation as well as accurate cost estimation.

It is important to note that you may upload any amount of documentation at any time. You may work on your Letter Templates in increments. The USGBC will not review any documentation until the entire phase (Design Phase or Construction Phase) has been completed, the full set of Prerequisite and Credit documentation (including the project summary, narrative and general documents) has been submitted by the Project Team Administrator, and the USGBC has been paid to review the documentation.

Team members should feel free to upload partial documentation and to work on completing their Letter Templates as they have the information available. Documentation can be uploaded, deleted, revised and re-uploaded as often as you want. The LEED Online project site is a great place to store it in a secure (only team members have access) and easily accessible place. Storing even

incomplete documentation on the project's LEED site allows the Project Administrator/Sustainable Design Coordinator/Green Building Consultant to review the documentation and offer feedback (see Notes below, under item C.).

B. Who documents LEED Prerequisites and Credits?

Every team member that is assigned as the responsible party for a particular Prerequisite or Credit will need to complete the LEED Letter Template and provide documentation. The Project Administrator or Project Team Manager(s) may assist in uploading documents or in reviewing the documentation for completeness and accuracy, but the Project Administrator should not be expected to complete documentation for other disciplines.

C. How do team members access LEED Letter Templates and upload documentation?

As a team member, log into the LEED Online website (www.leedonline.usgbc.org). You will first arrive at the Project Selector Page. If you are only involved in one LEED project, you will see its name and should click on the 'Enter' button to the right of the project name. If you are on multiple LEED Project teams, you will need to select the appropriate project and click on the 'Enter' button to the right of its name. If you are adding a new project and have the **Project Access Code,** you may enter it at the bottom of the page. You will repeat these steps each time you log into LEED Online to access any particular project.

Once you log into LEED Online and select your project on the Project Selector Page, you should automatically be taken to the Credit Scorecard & Status page. You may need to click on the 'Expand All Credit Categories' button to see the entire scorecard and all of your Credits. You may then navigate to a specific Credit from the Credit Scorecard & Status page by clicking on the specific LEED Prerequisite or Credit to which you are assigned. This opens up the 'homepage' for that Prerequisite or Credit.

Once you have arrived on your Credit's 'homepage', you will see headings for: **i) Claim of Credit Status**, **ii) Letter Template**, **iii) Review Comments**, and **iv) Notes**:

i. **Claim of Credit Status -** This area provides an update on your Credit. It is only visible to the responsible team member, Project Team Manager and the Project Administrator. If Clarification has been requested by your documentation review team, or if the Credit is 'Anticipated' following its review, this status will show up here in addition to the main project Credit Scorecard & Status page.
This area also allows you to tweak your Credit pursuit. In some cases, when a Credit is worth more than one point (such as WE 3.1-3.2), you will be able to indicate how many points you are pursuing. If you are working on a Design Phase Credit and wish to Defer to Construction Phase Review, this is also where that option will appear. If you wish to Unattempt this Credit, you will be able to click on the 'Unattempt' button and do so. The Project Administrator and the Project Team Manager may also Unattempt any Credit. This will remove any and all documentation you have uploaded, so please be careful to only 'Unattempt' a Credit when you have confirmed that you absolutely do not wish to pursue it. The Credit can be reattempted later, but you will need to redo the Letter Template and re-upload any documentation.

ii. **LEED Letter Template –** This is where you may download your Letter Template. You will need the Adobe Reader version compatible with these templates – you may download it directly from the link on this page. The LEED Letter Templates will often contain embedded calculators (when calculations are necessary to demonstrate Credit compliance) and are therefore large files. Please be patient when opening the Letter Templates.

Every Prerequisite and Credit has a LEED Letter Template that must be completed, no exceptions. You cannot earn a Prerequisite or Credit without submitting a template for it.

If you are completing a template normally, you must complete every box that is bordered in red, no exceptions. The first items to fill out are your name and company name, at the top of the template. Directly below this, if there is more than one compliance path for achieving this Credit, you will need to select which compliance path you are using. Please note that multiple compliance paths are color-coded and you will only need to fill out information in sections bordered in the same color as the compliance path that you have selected.

There is often a mandatory Credit narrative (bordered in red) or a sheet description log that must be provided. Use this space to briefly describe your Credit approach as well as list any file names of the documents that you will be uploading to support that Credit.

You must complete the electronic signature at the bottom of the page to see your 'Points Documented' at the bottom of your Letter Template. Your electronic signature includes your name, the date, user ID (your email address) and your password. If you have filled out the template correctly and your project is earning one or more points, your points should appear in the bottom, right-hand side of the template. If your points do not appear, double check first to make sure all boxes in red have been filled out, and then check your calculations to make sure the information was entered correctly and that the project calculations show the Credit performance criteria have been met.

In some circumstances, you may choose to complete your calculations outside of the template, for example, in one of the construction materials Letter Templates, if you have more entries than there are lines available, or in a low-emitting materials Credit, if you need to use the VOC budget method to demonstrate compliance. If you plan to submit information that is required in the template in some other form, then you will need to specify that you are doing so in the template 'Narrative (optional)' box, usually on the last page of the template. You will also need to mark an 'x' in the box to indicate "The project is seeking point(s) for this Credit using an alternate compliance approach." And indicate how many points you believe the project will earn using the approach you have described in the box labeled 'Alternative Compliance Points Documented". You can use the Narrative (optional) box or upload a separate narrative to describe your approach in more detail.

When you have filled out as much of your template as you intend to at any given time, you will need to 'sign' the template with the date and your password and click on 'Save Template to LEED Online'.

Remember, the USGBC will not review this until the whole documentation package is completed, submitted and the review is paid for, so do not worry about working on this template often and re-saving your work whenever you have added something.

The embedded calculators in LEED Letter Templates can serve as valuable tools to verify that your design will meet LEED criteria. You should review them early on to understand what information you will ultimately need to provide, and you should use the templates as yard sticks to measure your design in iterations, as your design evolves.

iii. **Sample Letter Templates –** If you do not have a registered project and you wish to view letter templates, you may do so here: www.usgbc.org/DisplayPage.aspx?CMSPageID=1447

iv. **Review Comments –** Once the project has been submitted for either the Design Phase or Construction Phase Review, the reviewers' comments will be posted here when they become available. Please see the Design Phase Review section below for more information.

v. **Notes –** This is an area where team members can leave messages for one another regarding documentation. The notes will not be viewed by the USGBC; the notes feature exists entirely to facilitate communication amongst the team. The project team member responsible for documenting the Credit can leave questions for the Project Administrator, for example. The Project Administrator or Project Team Manager(s) may leave comments on draft documentation that has been uploaded. It is not required to use this feature, but it can be a helpful tool.

6. Project Narrative

A. When should the Project Narrative be completed?

The Project Narrative may be completed at any time, but must be completed before the **Design Phase Review** or **Precertification**, whichever comes first.

B. Who completes the Project Narrative?

Typically the LEED coordinator or green building consultant refines the final document, but it may be based on project descriptions already written by other project team members. For example, if the project is a Planned Unit Development, then there is likely already a general description of the project that can provide a basis for the LEED **Project Narrative.**

C. What is the Project Narrative?

The project narrative is a 1-3 page document that describes the overall project and highlights up to three environmental achievements. This document exists to give reviewers a big-picture perspective on the project's sustainable design strategy and how the building (or multiple buildings) works. There may be multiple reviewers examining different components of your project's LEED documentation (for example, an MEP engineer may review MEP Credits, while an Architect may review architectural Credits). Without a Project Narrative, the reviewers might have a hard time grasping the project in its entirety and would not be able to review the project accurately.

D. How is the Project Narrative submitted?

Under the 'Documents' tab on your project site on LEED Online, the **Project Administrator** or **Project Team Manager** may upload the Project Narrative. This can only be done by someone with one of these two roles. For the **Design Phase Review,** this must be uploaded on LEED Online.

If you are submitting your project for **Precertification,** the Project Narrative can be included on the CD's or in the binders with the rest of the Precertification submittals.

7. Project Summary

A. When should the project Summary be completed?

The Project Summary must be completed before the **Design Phase Review**. It can be revised before the **Construction Phase Review** if any of the information changes. The information in the Project Summary must match the information in all Prerequisite and Credit documentation or there will be Requests for Clarification from the **LEED Reviewers.**

B. Who completes the Project Summary?

The Project Administrator or Project Team Manager must complete the Project Summary. No other team members will have access, however, other team members may be called upon to provide the information needed.

C. What is the Project Summary?

The Project Summary can be found under the 'Project Summary' tab at the top of the screen on the project site on LEED Online. This page contains several tabs to provide additional project information. The information entered at the time of Registration will automatically be entered in some of the fields. This page provides an opportunity to modify and expound on that information as the project is further developed. This page also provides a data overview of your project to the LEED Reviewers so that they have a common reference point.

D. How is the Project Summary submitted to LEED Online?

Project Administrators or Project Team Managers can access the Project Summary by clicking on the 'Project Summary' tab. There are several sub-tabs with different types of information, such as a description of the project Owner, Manager, Architect, Address, etc. All fields on all tabs must be completed before the project can be submitted for either the **Design Phase Review** or **Construction Phase Review.** Fields can be modified by clicking on the 'Edit' button at the bottom right-hand side of any of the tabs on this page. Once fields have been completed or modified as desired, click on the 'Update' button at bottom, right.

8. General Documents

A. When should General Documents be completed?

The General Documents may be completed at any time, but must be completed before the **Design Phase Review** or **Precertification,** whichever comes first. General Documents submitted for Precertification will probably need to be updated before a Design Phase Review, depending on timing of these two activities. Newer documents may be submitted before the **Construction Phase Review** if the design changes. Design Phase Credits may need to be updated if this is the case.

B. Who completes the General Documents?

The Project Administrator or Project Team Manager must upload the General Documents as no other team members will have access. However, other team members must provide the files needed.

C. What are the General Documents?

General Documents include site plans, floor plans, elevations, sections, photos, renderings or computer models that describe the project. These documents are uploaded in a central location on the project site on LEED Online to give reviewers a big-picture perspective on the project. There may be multiple reviewers examining different components of your project's LEED documentation (for example, an MEP engineer may review MEP Credits, while an Architect may review architectural Credits). In addition, some files may need to be uploaded repeatedly for several Credits and as an alternative, may be located in this area and referred to in individual Credit narratives (as in, 'See site plan in General Documents').

D. How are General Documents submitted?

Project Administrators or Project Team Managers can upload General Documents by clicking on the 'Documents' tab at the top of the screen on the project site on LEED Online, or by clicking on the 'Documents' sub-tab on the Project Summary page. All required documents must be completed before the project can be submitted for either the **Design Phase Review** or **Construction Phase Review.** Documents can be added or deleted by clicking on the 'Edit' button at the bottom right-hand side of any of the tabs on this page. Once documents have been uploaded, click on the 'Update' button at bottom, right.
If you are submitting your project for **Precertification** (LEED-CI only), then your General Documents can be included on your CD's or in your binders with your other submittals.

9. Precertification (optional, for LEED-CS projects only)

A. When should Precertification be completed?

If you are designing a building under the LEED for Core and Shell (LEED-CS) Rating System, you can apply for Precertification as soon as your **LEED Strategy** is defined. Typically this is possible as early as the Design Development phase, however some project teams may opt to wait until the Construction Documents phase to submit. If you are seeking **Expedited Permitting** from the DC Department of Consumer and Regulatory Affairs (DCRA), you may be required to submit your project for Precertification in the Design Development phase.

B. Who completes Precertification?

Typically the Sustainable Design Coordinator or LEED Consultant will prepare submittals for **Precertification**. Since this is an optional service provided by the USGBC and not submitted on LEED Online, it is up to the project team to determine who will oversee this effort.

C. What is Precertification?

If a project is pursuing Certification under the LEED-CS rating system, the end of Design Development is an ideal time to seek **Precertification** from the USGBC. This service is provided to help project Owners market to prospective tenants, and may assist teams pursuing **Expedited Permitting** from the District to demonstrate a commitment to a specific level of LEED Certification. Precertification is available for a flat rate of $2500 (USGBC members)/$3500 (non-members) per project. Information regarding this process including timing for the submittal and review is posted on the LEED website: www.usgbc.org/ShowFile.aspx?DocumentID=2257.

Precertification does not guarantee the level of eventual certification, nor does it commit the project team to a certain level of certification, however it is important that the level of Precertification sought is in line with the eventual project certification goals. In other words, don't promise a LEED Platinum project if you can only deliver Gold and so on. It is better to pre-certify at a lower level that the project may eventually exceed than to over-promise.

D. How are Precertification applications submitted?

In order to attempt **Precertification,** the project team will need to assemble a 1-3 page **Project Narrative,** highlighting the sustainable approach and some **General Documents** such as site plan, floor plans, sections and elevations or renderings (as available at this stage). The project team will also need to create a **LEED Scorecard** where all Credits are marked as 'yes' or 'no'. This scorecard is an intermediate LEED status evaluation and does not commit the project to any Credits, or eliminate the possibility of pursuing additional Credits later. This scorecard provides an overview of the Credits to be included in the Precertification application.

In addition to the overview documents described above, the project team must complete a sample **LEED Letter Template** (found here: www.usgbc.org/DisplayPage.aspx?CMSPageID=146) for every **Prerequisite** and every **Credit** marked as 'yes' on the **LEED Scorecard.** The letter templates should be filled out by the responsible party to the fullest extent possible at this phase in design and should include a narrative statement describing how the team intends to achieve the Credit. For example, for IEQ Credit 4.1 Low Emitting Materials: Adhesives & Sealants, the Architect can describe in a short paragraph that the project specifications will include requirements that all adhesives and sealants must meet the criteria in the South Coast Air Quality Management District Rule #1168. At the time of Precertification, no additional documentation is needed, just a description of the strategy or approach to meet the requirements of each Prerequisite and Credit. These letter templates should be filled out and saved in another location or downloaded from LEED Online so that they may be included in the submittal package.

The **Precertification** package may be submitted in hardcopy format (two binders) or electronically (on two CDs). The Precertification package must include a **LEED Scorecard, Project Narrative, General Documents** and **LEED Letter Templates** for all Prerequisites and all Credits that the team has marked as 'yes' on the scorecard. Project teams will receive an initial review from the USGBC with **Requests for Clarification.** Project teams will have 30 days to respond to these requests and submit revised Letter Templates or general documents in binders or on CDs. If the project team needs more time than 30 days, they may request additional time.

After second review, the USGBC will issue a Precertification award. Again, this is for marketing value only. Going through the Precertification process does not guarantee that specific Credits or that the same level of Certification will be achieved in the eventual **Design Phase Review** and **Construction Phase Review.**

In order to hasten the review process, teams are advised to communicate their anticipated submittal dates to the USGBC so that the USGBC will have adequate reviewers on hand to review documentation and submittals.

10. Design Phase Review

A. When should the Design Phase Review be completed?

As soon as the project team is able to complete Credit documentation and **LEED Letter Templates** for all Design Phase Prerequisites and Credits, it is a good idea to submit. It may take 4-6 weeks to hear back from the USGBC with the initial round of **Requests for Clarification,** another 30 days to submit additional or clarified documentation, and another 2-4 weeks for the final **Design Phase Review.** Knowing if the project will achieve certain Design Phase Credits can inform some early Value Engineering decisions, so, ideally this Review will take place in Design Development or Construction Documents, before the plans go out to bid.

In order to hasten the review process, teams are advised to communicate their anticipated submittal dates to the USGBC so that the USGBC will have adequate reviewers on hand to review documentation and submittals.

B. Who completes the Design Phase Review application?

The **Project Administrator** or **Project Team Manager** will submit the project for the Design Phase review, however all team members (design disciplines and Owner) are responsible for completing their **LEED Letter Templates,** uploading supporting documentation files and assisting the Project Administrator in gathering the information necessary for the **Project Narrative,** the **Project Summary** and the **General Documents.** Documentation guidance for specific Prerequisites and Credits is provided in the Appendices of this Guidebook.

C. What is the Design Phase Review?

All LEED **Prerequisites** and **Credits** are marked on the LEED Online Credit Scorecard & Status page with either a yellow letter 'd' or an orange letter 'c' next to them. This is to help you understand which Credits will be reviewed in the **Design Phase Review** (marked 'd') and in the **Construction Phase Review** (marked 'c').

Credits marked 'd' may be deferred until the Construction Phase Review if the compliance strategy is not clear or adequate supporting documentation is not available yet. For example, if the project is seeking an Innovation and

Design (ID) Credit for Green Housekeeping, the contract for services may not be available until closer to the project completion date. Or as another example, if a project is seeking EQc6.1 Controllability of Systems: Lighting, and intends to make task lighting a component, this may need to be deferred until task lighting is purchased, closer to project completion.

D. How is the Design Phase Review submitted?

The project team should be completing documentation through the design process. Documentation should consist of drawings, specification sections, calculations and other information to demonstrate LEED criteria are met through design. In addition, team members must complete their **LEED Letter Templates** for each Prerequisite or Credit that they are assigned to.

All Design Phase Prerequisites and Credits must be marked as complete or deferred until construction phase review if they are planned to be attempted. The 'Submit' button will not appear on the Credit Scorecard & Status page until this is done.

Some teams prefer to have individual members mark their own Prerequisites and Credits as complete to indicate to the **Project Administrator** or Project Team Manager that they are ready for an internal review. Other teams prefer to leave the Prerequisites and Credits marked as incomplete until the **Project Administrator** has reviewed them and marked them as complete to indicate to that team member that they are done. It is a matter of personal preference and either way will work. Discuss the best communication strategy for your team early in the process, so that all team members may receive timely and valuable feedback.

The entire package and process for the **Design Phase Review** should look like this:

i. Under the Documents tab, **Project Administrator** or Project Team Manager uploads **Project Narrative** and **General Documents,** including project plans, sections, elevations and renderings to provide LEED reviewers with a comprehensive overview of the project/building(s).

ii. Under the Project Summary tab, Project Administrator or Project Team Manager updates project information, building upon and modifying information entered at time of project registration.

iii. Under the Credit Scorecard & Status tab, team members click on each individual Prerequisite and Credits pursued to access the LEED Letter Templates and to upload supporting documentation files specific to those Prerequisites and Credits.

iv. Under the Credit Scorecard & Status tab, the Project Administrator or Project Team Manager clicks on each individual Prerequisite and Credit pursued to access the completed LEED Letter Templates and to review uploaded documentation specific to those Credits and Prerequisites.

v. For each Design Phase Prerequisite and Credit the Project Administrator or team member must click on the 'Mark as Complete' button or opt to 'Defer to Construction Phase Review' before submitting project documents for the Design Phase Review.

vi. A green check mark will appear next to each Prerequisite and Credit marked as Complete on the Credit Scorecard & Status page.

vii. Once all documentation is complete, the Project Administrator will submit the package to the USGBC for a Design Phase Review. Payment may be rendered immediately by Credit card, or by check.

viii. Fees for Design Phase and Construction Phase Reviews may be found here: www.usgbc.org/DisplayPage.aspx?CMSPageID=65#fees.

ix. Once payment is rendered, received and processed, the USGBC will commence reviewing the Design Phase application.

Within 4-6 weeks the team should receive a preliminary response on design Credit strategies and documentation from the USGBC with Requests for Clarification.

x. Requests for Clarification will be sent to the Project Administrator in a PDF report document as well as posted individually on each Prerequisite's and Credit's individual page.

xi. Prerequisites and Credits will be marked 'Anticipated' or 'Pending Clarification' on the LEED Scorecard and Status page. Team members have 30 days to respond by clarifying documentation and narratives, providing additional documentation or by withdrawing the Credit. Teams may request more time if needed.

xii. The USGBC will review the updated Prerequisite and Credit Documentation and provide a final report within 2-4 weeks. Design Phase Prerequisites and Credits will be marked as 'Anticipated' or 'Denied' at this time. Denied Credits may be appealed, if desired. As they are required, denied Prerequisites must be appealed.

xiii. The Project Administrator must either click on the 'Accept Review' or 'Appeal Review' button to indicate to the USGBC how the team wishes to proceed.

xiv. Appeals cost $500 per Prerequisite or Credit. Depending on the complexity of the appeal, this can add an additional 2-4 weeks onto the Design Phase Review timeline. Details about Appeals may be found here: www.usgbc.org/DisplayPage.aspx?CMSPageID=1497#certification_award

xv. The project has officially moved into the Construction Phase.

11. Construction Phase Review

A. When should the Construction Phase Review be completed?

The Construction Phase Review should be completed once the project construction is substantially complete. The project has one year from completion of the project to complete LEED Certification proceedings, but this should be done as soon as possible, while project team members are still available to provide documentation and clarifications.

In order to accelerate the review process, teams are advised to communicate their anticipated submittal dates to the USGBC so that the USGBC will have adequate reviewers on hand to review documentation and submittals.

B. Who completes the Construction Phase Review?

The **Project Administrator** or **Project Team Manager** will submit the project for the Construction Phase review, however all construction team members are responsible for completing their **LEED Letter Templates,** uploading supporting documentation files and assisting the Project Administrator in gathering the information necessary for the application package. Documentation guidance for specific Prerequisites and Credits is provided in the Appendices.

C. What is the Construction Phase Review?

All LEED **Prerequisites** and **Credits** are marked on the LEED Online Credit Scorecard & Status page with either a yellow letter 'd' or an orange letter 'c' next to them. This is to help you understand which Credits will be reviewed in the **Design Phase Review** (marked 'd') and in the **Construction Phase Review** (marked 'c').

D. How is the Construction Phase Review submitted?

The project team should be completing documentation throughout the construction process. Documentation should consist of photos, product data, letters from manufacturers, calculations and other information to demonstrate LEED criteria are met through construction. In addition, team members must complete their **LEED Letter Templates** for each Prerequisite or Credit that they are assigned to.

All attempted Construction Phase Prerequisites and Credits must be marked as complete if they are to be attempted. The 'Submit' button will not appear on the Credit Scorecard & Status page until this is done.

Some teams prefer to have individual members mark their own Prerequisites and Credits as complete to indicate to the **Project Administrator** that they are ready for an internal review. Other teams prefer to leave the Prerequisites and Credits marked as incomplete until the **Project Administrator** has reviewed them and marked them as complete to indicate to that team member that they are done. It is a matter of team preference and either way will work. Discuss the best communication strategy for your team early in the process, so that all team members may receive timely and valuable feedback.

The entire package and process for the **Construction Phase Review** should be as follows:

i. Under the Credit Scorecard & Status tab, team members click on each individual Prerequisite and Credits pursued to access the **LEED Letter Templates** and to upload supporting documentation files specific to those Prerequisites and Credits.

ii. Under the Credit Scorecard & Status tab, the Project Administrator clicks on each individual Prerequisite and Credit pursued to access the completed **LEED Letter Templates** and to review uploaded documentation specific to those Credits and Prerequisites.

iii. For each Construction Phase Prerequisite and Credit the **Project Administrator** or team member must click on the 'Mark as Complete' button before submitting project documents for the **Construction Phase Review.**

iv. A green check mark will appear next to each Prerequisite and Credit marked as Complete on the Credit Scorecard & Status page.

v. Once the Review has been accepted, the Project Administrator will need to click on the **'Update Credit Status'** button to access the Construction Phase Prerequisites and Credits. If any Design Phase Prerequisite or Credit has changed, the Project Administrator may indicate so at this time. Credits may be marked 'Unchanged', 'Changed – Please Reevaluate' or 'Changed – No Longer Attempting' from a drop-down menu on the right.

vi. Once the Design Phase Credits have been marked appropriately ('Unchanged' is the default), the Project Administrator should click on the button 'Click Here to Continue Certification Process'.

vii. Once all documentation is complete, the **Project Administrator** will submit the package to the USGBC for a **Construction Phase Review.** Payment may be rendered immediately by Credit card, or by check.

viii. Fees for the Construction Phase Reviews may be found here: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=65#fees

ix. Once payment is rendered, received and processed, the USGBC will commence reviewing the Construction Phase application. Within 4-6 weeks the team should receive a preliminary response on design Credit strategies and documentation from the USGBC with **Requests for Clarification.**

x. **Requests for Clarification** will be sent to the Project Administrator in a PDF report document as well as posted individually on each Prerequisite's and Credit's individual page.

xi. Prerequisites and Credits will be marked **'Anticipated'** or **'Pending Clarification'** on the LEED Scorecard and Status page. Team members have 30 days to respond by clarifying documentation and narratives, providing additional documentation or by withdrawing the Credit. Teams may request more time if needed.

xii. The USGBC will review the updated Prerequisite and Credit Documentation and provide a final report within 2-4 weeks. Construction Phase Prerequisites and Credits will be marked as **'Anticipated'** or **'Denied'** at this time. Denied Credits may be appealed, if desired. As they are required, denied Prerequisites must be appealed.

xiii. The **Project Administrator** must either click on the 'Accept Review' or 'Appeal Review' button to indicate to the USGBC how the team wishes to proceed.

xiv. **Appeals** cost $500 per Prerequisite or Credit. Depending on the complexity of the appeal, this can add an additional 2-4 weeks onto the construction Phase Review timeline.

xv. Once the Review has been accepted, the Project Administrator will receive an offer of Certification – a short form must be completed to indicate that the project team accepts the level of Certification offered by the USGBC for the project.

xvi. The project has officially been LEED Certified. The project will receive a plaque and certificates for team members.

Specification Guidance

Construction Progress Reporting and Documentation

One of the hardest challenges to obtaining a LEED Certification is ensuring that the sustainable elements you incorporate into your design are implemented on the job site. Specifications are one of the primary vehicles for conveying to your construction team the importance of meeting LEED performance criteria and documentation requirements. In addition to that, specifications that clearly outline LEED performance criteria and documentation requirements will assist in accurate cost estimation and bidding.

The single most important thing to remember about sustainable building specifications is that you cannot limit your reference to LEED and the inherent performance criteria and documentation requirements to just one specification section in Division 1 (i.e. "Sustainable Design Requirements"). In addition to this section in Division 1, you must integrate the sustainable design requirements into the entire set of specifications. Most subcontractors will not read the entire set; they may only focus on the sections specific to their trade. If you isolate the LEED information in just one section, the odds are you are not going to see a successful LEED project Certified at the level you aspire to.

Specifications are a critical component to successfully implementing LEED requirements on the job site. In addition to providing guidance as to the performance criteria for building products and materials, the specifications should clearly indicate what documentation submittals look like and which LEED Credits should be documented in each spec section. The more detailed the specifications are about LEED requirements and documentation expectations, the easier it will be for the General Contractor to manage the process on the job site.

Project Owners may wish to require an early submittal of Construction Waste Management and Indoor Air Quality Management Plans by the contractor to ensure these requirements are understood and implemented from ground-breaking onward. Project Owners may also wish to require LEED progress reports in addition to normal project progress reports. Contract documents can require that **Construction Waste Management,** recycled content, regional materials and other materials Credits be tracked consistently and updated reports provided at regular intervals. Some project Owners even tie these progress reports to payments, to ensure that the proper documentation is collected in a timely manner. It is extremely difficult to obtain material documentation once sub-contractors have been compensated and their contracts closed out.

An internal LEED coordinator should review the project specifications to ensure that they reflect all LEED requirements associated with the targeted LEED strategy. Having detailed and thorough documents will assist General Contractors and Sub-contractors estimate project costs and bid on the project accurately, keeping project costs in line without having to sacrifice sustainability later in the **Value Engineering** process. The LEED coordinator should also participate in any pre-bid conferences to assist in clarifying the project's LEED strategy and sustainability goals.

Two excellent resources for finding good, baseline green and LEED specifications may be found online. You will find excellent examples for integrating LEED **Performance Criteria** on these sites.

1. BuildingGreen

This website includes free access to four critical specification sections relevant to LEED as well as very useful advice about integrating LEED into the entire spec set. Project Architects or Specification writers may download these complete sections and amend them to suit the specific project's LEED strategy.

www.buildinggreen.com/guidespecs/

These guideline specifications were set up to be adapted to new development, retrofits, and maintenance as needed. The following are organized into four Division 01 sections:

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

2. Whole Building Design Guide

This website includes access to some free resources (such as the Unified Facilities Guide Specifications, the Veterans Administration Master Specifications and the Federal Green Guide for Specifiers) as well as to those that must be purchased (such as MasterSpec). www.wbdg.org

The information that follows provides guidance for Recommended LEED Submittal Requirements. This section is intended to augment your Specifications to ensure that you receive the documentation needed from the General Contractor to achieve Construction Phase LEED Prerequisites and Credits.

Division 1 – GENERAL PROGRESS

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. Preliminary Documentation

The General Contractor must provide the following within 60 days of award:

- Construction Waste Management Plan
- Indoor Air Quality Management Plan
- LEED Kick-off Meeting Attendance (Sign-in sheet)

B. Construction Progress Documentation

The General Contractor is required to designate a LEED Accredited Professional (LEED-AP) to manage the LEED documentation process during construction activity.

The General Contractor must provide LEED calculation updates and documentation progress reports monthly. These progress reports will be required for payment. Monthly updates must include calculations for the following when applicable to your project's LEED strategy:

- Erosion and Sedimentation Control
- Construction Waste Management
- Indoor Air Quality Management
- Materials Reuse
- Recycled Content
- Regional Materials
- Rapidly Renewable Materials
- Certified Wood
- Low Emitting Materials

GENERAL CONTRACTOR'S LEED PROGRESS REPORT COVER SHEET FOR OPM PROJECTS

The General Contractor MUST include this LEED Documentation Checklist with all monthly progress reports to OPM. The Architect is responsible for customizing this form so that it is applicable to the specific project.

This submittal contains (to be provided within 60 days of award):

- ☐ Construction Waste Management Plan
- ☐ Indoor Air Quality Management Plan
- ☐ LEED Kick-off Meeting Attendance (Sign-in sheet)

This submittal contains a MONTHLY UPDATE:

- ☐ Sedimentation and Erosion Control Plan
  - ☐ Photos of the Sedimentation and Erosion Control Plan implementation are included
- ☐ Construction Waste Management
  - ☐ Calculations to date are included
  - ☐ Dump tickets are included
  - ☐ Receipts for materials accepted by a salvaging business or organization are included
  - ☐ Receipts for materials accepted at recycling facilities are included
- ☐ Indoor Air Quality Management
  - ☐ The IAQ Management Plan has been reviewed with all mechanical subcontractors
  - ☐ Photos of the implementation of the IAQ Management Plan are included
  - ☐ MERV 8 filter product numbers are included
- ☐ Materials Reuse
  - ☐ Calculations to date are included
  - ☐ Receipts for salvaged materials used in the project are included
- ☐ Recycled Content
  - ☐ Calculations to date are included
  - ☐ Product data or letters from the manufacturer verifying pre-consumer and post-consumer recycled content are included
- ☐ Regional Materials
  - ☐ Calculations to date are included
  - ☐ Letters from manufacturer indicating location of raw or salvaged materials are included
  - ☐ Letters from manufacturer indicating location of manufacture are included
  - ☐ Yahoo or Google maps indicating distance from above locations to project site are included
- ☐ Rapidly Renewable Materials
  - ☐ Calculations to date are included
  - ☐ Product data or letters from the manufacturer verifying percent of rapidly renewable content are included
- ☐ Certified Wood
  - ☐ Calculations to date are included
  - ☐ FSC Chain of Custody Certificates are included
- ☐ Low Emitting Adhesives, Sealants, Paints and Coatings
  - ☐ MSDS indicating the VOC content in g/L for all of the above materials are provided
- ☐ Low Emitting Carpet
  - ☐ CRI Green Label Plus Certification numbers are provided
- ☐ Low Emitting Composite Wood and Agrifiber

☐ Product Data or MSDS verifying no added urea formaldehyde in composite wood and agrifiber products are provided

Submitted by (signature): _____

Submitted by (print): _____

Submitted on (date): _____

☐ The above party is the General Contractor's on-site LEED documentation coordinator

☐ The above party is designated a LEED Accredited Professional by the United States Green Building Council

Division 2 – EXISTING CONDITIONS

For Sustainable Sites Prerequisite 1, the Contractor is responsible for implementing the Construction Activity Pollution prevention plan, also called Sedimentation and Erosion Control Plan.

The General Contractor is responsible for providing and implementing the Construction Waste Management Plan. All demolition debris must be included in project calculations. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

- Documentation of steps taken to prevent sedimentation and erosion on the project site, including narrative description and at least one (1) photograph taken on at least two (2) occasions of measures included in the Sedimentation and Erosion Control Plan
- Overall Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion
- Monthly reports from a third-party waste hauler/recycler *or*
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste *and*
- Receipts for all recycled and salvaged waste accepted *and*
- Dump tickets for all waste that is not diverted from landfill

Division 03 - Concrete

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. For all adhesives, sealants, paints and coatings applied on site, and within or penetrating the weather proofing membrane, the Contractor must provide:

- Material Safety and Data Sheets (MSDS) that state the Volatile Organic Compound (VOC) content for the product in grams per liter (g/L)

B. For all recycled content products, the Contractor must provide:

- Product data or letter from the manufacturer indicating both Pre-Consumer (or Post-Industrial) and Post-Consumer Recycled Content as a percentage of the whole product or material
- The total percentage of recycled content of the project as a whole, based on cost of recycled materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost

C. For all regionally manufactured products assemblies and materials, the Contractor must provide:

- Letter from the manufacturer that states the location of manufacture (must be within a 500 mile radius of project site) and the location of harvest/extraction/salvage or mining for all materials or components of the finished product or assembly (must also be within a 500 mile radius of the project site)
- Evidence of proximity of materials harvest/extraction/salvage/mining and product manufacture to the project site in the form of Yahoo or Google Maps, or equivalent
- The total percentage of regional content of the project as a whole, based on cost of regional materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

D. For construction waste management, the Contractor must provide:

- Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.
- Monthly reports from a third-party waste hauler/recycler or
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste and
- Receipts for all recycled and salvaged waste accepted and
- Dump tickets for all waste that is not diverted from landfill

Division 4 – MASONRY

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. For all adhesives, sealants, paints and coatings applied on site, and within or penetrating the weather proofing membrane, the Contractor must provide:

- Material Safety and Data Sheets (MSDS) that state the Volatile Organic Compound (VOC) content for the product in grams per liter (g/L)

B. For all recycled content products, the Contractor must provide:

- Product data or letter from the manufacturer indicating both Pre-Consumer (or Post-Industrial) and Post-Consumer Recycled Content as a percentage of the whole product or material
- The total percentage of recycled content of the project as a whole, based on cost of recycled materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost

C. For all regionally manufactured products, assemblies and materials, the Contractor must provide:

- Letter from the manufacturer that states the location of manufacture (must be within a 500 mile radius of project site) and the location of harvest/extraction/salvage or mining for all materials or components of the finished product or assembly (must also be within a 500 mile radius of the project site)
- Evidence of proximity of materials harvest/extraction/salvage/mining and product manufacture to the project site in the form of Yahoo or Google Maps, or equivalent
- The total percentage of regional content of the project as a whole, based on cost of regional materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

D. For construction waste management, the Contractor must provide:

- Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.
- Monthly reports from a third-party waste hauler/recycler or
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste and
- Receipts for all recycled and salvaged waste accepted and
- Dump tickets for all waste that is not diverted from landfill

Division 5 – METALS

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. For all adhesives, sealants, paints and coatings applied on site, and within or penetrating the weather proofing membrane, the Contractor must provide:

- Material Safety and Data Sheets (MSDS) that state the Volatile Organic Compound (VOC) content for the product in grams per liter (g/L)

B. For all recycled content products, the Contractor must provide:

- Product data or letter from the manufacturer indicating both Pre-Consumer (or Post-Industrial) and Post-Consumer Recycled Content as a percentage of the whole product or material
- The total percentage of recycled content of the project as a whole, based on cost of recycled materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost

C. For all regionally manufactured products, assemblies and materials, the Contractor must provide:

- Letter from the manufacturer that states the location of manufacture (must be within a 500 mile radius of project site) and the location of harvest/extraction/salvage or mining for all materials or components of the finished product or assembly (must also be within a 500 mile radius of the project site)
- Evidence of proximity of materials harvest/extraction/salvage/mining and product manufacture to the project site in the form of Yahoo or Google Maps, or equivalent
- The total percentage of regional content of the project as a whole, based on cost of regional materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

D. For construction waste management, the Contractor must provide:

- Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.
- Monthly reports from a third-party waste hauler/recycler or
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste *and*
- Receipts for all recycled and salvaged waste accepted and
- Dump tickets for all waste that is not diverted from landfill

Division 6 – WOOD, PLASTICS, and COMPOSITES

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. For all adhesives, sealants, paints and coatings applied on site, and within or penetrating the weather proofing membrane, the Contractor must provide:

- Material Safety and Data Sheets (MSDS) that state the Volatile Organic Compound (VOC) content for the product in grams per liter (g/L)

B. For all composite wood products (i.e. Oriented Strand Board, Medium Density Fiberboard, particle board, plywood, agrifiber panels, strawboard, wheatboard, etc.), the Contractor must provide:

- Product data or letter from the manufacturer that states 'No Added Urea-Formaldehyde'
- Product data or MSDS stating the VOC content of any laminate or veneer adhesives in grams per liter

C. For all recycled content products, the Contractor must provide:

- Product data or letter from the manufacturer indicating both Pre-Consumer (or Post-Industrial) and Post-Consumer Recycled Content as a percentage of the whole product or material
- The total percentage of recycled content of the project as a whole, based on cost of recycled materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

D. For all regionally manufactured products, assemblies and materials, the Contractor must provide:

- Letter from the manufacturer that states the location of manufacture (must be within a 500 mile radius of project site) and the location of harvest/extraction/salvage or mining for all materials or components of the finished product or assembly (must also be within a 500 mile radius of the project site)
- Evidence of proximity of materials harvest/extraction/salvage/mining and product manufacture to the project site in the form of Yahoo or Google Maps, or equivalent
- The total percentage of regional content of the project as a whole, based on cost of regional materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost

E. For reused or salvaged wood, the Contractor must provide:

- Letter from the vendor or source of the product and provide its market value or the market value for equivalent products if purchased new
- The total percentage of reused or salvaged content of the project as a whole, based on cost of reused or salvaged materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

F. For FSC-Certified wood, the Contractor must provide:

- Chain of Custody Certificates for wood products (i.e. dimensional lumber, wood trim, blocking, veneer) that are certified by the Forest Stewardship Council (FSC)
- Documentation that a minimum of 50% of all wood products by cost are FSC-Certified

G. For construction waste management, the Contractor must provide:

- Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.
- Monthly reports from a third-party waste hauler/recycler or
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste and
- Receipts for all recycled and salvaged waste accepted and
- Dump tickets for all waste that is not diverted from landfill

Division 7 – THERMAL and MOISTURE PROTECTION

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. For all adhesives, sealants, paints and coatings applied on site, and within or penetrating the weather proofing membrane, the Contractor must provide:

- Material Safety and Data Sheets (MSDS) that state the Volatile Organic Compound (VOC) content for the product in grams per liter (g/L)

B. For all recycled content products (e.g. recycled cotton batt insulation), the Contractor must provide:

- Product data or letter from the manufacturer indicating both Pre-Consumer (or Post-Industrial) and Post-Consumer Recycled Content as a percentage of the whole product or material
- The total percentage of recycled content of the project as a whole, based on cost of recycled materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

C. For all regionally manufactured products, assemblies and materials, the Contractor must provide:

- Letter from the manufacturer that states the location of manufacture (must be within a 500 miles radius of project site) and the location of harvest/extraction/salvage or mining for all materials or components of the finished product or assembly (must also be within a 500 mile radius of the project site)
- Evidence of proximity of materials harvest/extraction/salvage/mining and product manufacture to the project site in the form of Yahoo or Google Maps, or equivalent
- The total percentage of regional content of the project as a whole, based on cost of regional materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost

D. For rapidly renewable materials (e.g. soy-based foam insulation), the Contractor must provide:

- Product data or letter from the manufacturer indicating the source of the rapidly renewable materials and the percentage of rapidly renewable material contained in the finished product or assembly
- The total percentage of rapidly renewable content of the project as a whole, based on the cost of rapidly renewable materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

E. For construction waste management, the Contractor must provide:

- Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.
- Monthly reports from a third-party waste hauler/recycler or
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste and
- Receipts for all recycled and salvaged waste accepted and
- Dump tickets for all waste that is not diverted from landfill

Division 8 – DOORS and WINDOWS

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. For all adhesives, sealants, paints and coatings applied on site, and within or penetrating the weather proofing membrane, the Contractor must provide:

- Material Safety and Data Sheets (MSDS) that state the Volatile Organic Compound (VOC) content for the product in grams per liter (g/L)

B. For all recycled content products (e.g. metal doors; curtain wall systems including aluminum, glass), the Contractor must provide:

- Product data or letter from the manufacturer indicating both Pre-Consumer (or Post-Industrial) and Post-Consumer Recycled Content as a percentage of the whole product or material

- The total percentage of recycled content of the project as a whole, based on cost of recycled materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

C. For all regionally manufactured products, assemblies and materials, the Contractor must provide:

- Letter from the manufacturer that states the location of manufacture (must be within a 500 miles radius of project site) and the location of harvest/extraction/salvage or mining for all materials or components of the finished product or assembly (must also be within a 500 mile radius of the project site)
- Evidence of proximity of materials harvest/extraction/salvage/mining and product manufacture to the project site in the form of Yahoo or Google Maps, or equivalent
- The total percentage of regional content of the project as a whole, based on cost of regional materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

D. For reused or salvaged materials, fixtures or hardware, the Contractor must provide:

- Letter from the vendor or source of the product and provide its market value or the market value for equivalent products if purchased new
- The total percentage of reused or salvaged content of the project as a whole, based on cost of reused or salvaged materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

E. For FSC-Certified wood (e.g. door veneers), the Contractor must provide:

- Chain of Custody Certificates for wood products (i.e. dimensional lumber, wood trim, blocking, veneer) that are certified by the Forest Stewardship Council (FSC)
- Documentation that a minimum of 50% of all wood products by cost are FSC-Certified

F. For construction waste management, the Contractor must provide:

- Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.
- Monthly reports from a third-party waste hauler/recycler or
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste and
- Receipts for all recycled and salvaged waste accepted and
- Dump tickets for all waste that is not diverted from landfill

Division 9 – FINISHES

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. For all adhesives, sealants, paints and coatings applied on site, the Contractor must provide:

- Material Safety and Data Sheets (MSDS) that state the Volatile Organic Compound (VOC) content for the product in grams per liter (g/L)

B. For carpet systems, the Contractor must provide:

- Product data including MSDS for carpet adhesives that state the Volatile Organic Compound (VOC) content for the product in grams per liter and

- Product data or statement from the manufacturer that provides the Green Label Plus Certification number for the carpet product

C. For resilient flooring, the Contractor must provide:

- Product data or letter from the manufacturer that states that the product is FloorScore Certified

D. For all composite wood products (i.e. Oriented Strand Board, Medium Density Fiberboard, particle board, plywood, agrifiber panels, strawboard, wheatboard, etc.), the Contractor must provide:

- Product data or letter from the manufacturer that states 'No Added Urea-Formaldehyde'
- Product data or MSDS stating the VOC content of any laminate or veneer adhesives in grams per liter

E. For all recycled content products (e.g. gypsum board, carpet, ceiling tiles), the Contractor must provide:

- Product data or letter from the manufacturer indicating both Pre-Consumer (or Post-Industrial) and Post-Consumer Recycled Content as a percentage of the whole product or material
- The total percentage of recycled content of the project as a whole, based on cost of recycled materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

F. For all regionally manufactured products, assemblies and materials, the Contractor must provide:

- Letter from the manufacturer that states the location of manufacture (must be within a 500 mile radius of project site) and the location of harvest/extraction/salvage or mining for all materials or components of the finished product or assembly (must also be within a 500 mile radius of the project site)
- Evidence of proximity of materials harvest/extraction/salvage/mining and product manufacture to the project site in the form of Yahoo or Google Maps, or equivalent
- The total percentage of regional content of the project as a whole, based on cost of regional materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost

G. For rapidly renewable materials (e.g. cork, bamboo, soy, linoleum, wool, cotton, etc.), the Contractor must provide:

- Product data or letter from the manufacturer indicating the source of the rapidly renewable materials and the percentage of rapidly renewable material contained in the finished product or assembly
- The total percentage of rapidly renewable content of the project as a whole, based on the cost of rapidly renewable materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

H. For reused or salvaged materials, fixtures or hardware, the Contractor must provide:

- Letter from the vendor or source of the product and provide its market value or the market value for equivalent products if purchased new
- The total percentage of reused or salvaged content of the project as a whole, based on cost of reused or salvaged materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

I. For FSC-Certified wood, the Contractor must provide:

- Chain of Custody Certificates for wood products (i.e. dimensional lumber, wood trim, blocking, veneer) that are certified by the Forest Stewardship Council (FSC)
- Documentation that a minimum of 50% of all wood products by cost are FSC-Certified

J. For construction waste management, the Contractor must provide:

- Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.
- Monthly reports from a third-party waste hauler/recycler or
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste and
- Receipts for all recycled and salvaged waste accepted and
- Dump tickets for all waste that is not diverted from landfill

Division 10 – SPECIALTIES

Where submittals are required to demonstrate compliance with LEED requirements, an additional set must be provided to the Architect's LEED coordinator for review.

RELATED SECTIONS

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

LEED DOCUMENTATION SUBMITTALS

A. For all adhesives, sealants, paints and coatings applied on site and within the weather proofing membrane (including touch-ups), the Contractor must provide:

- Material Safety and Data Sheets (MSDS) that state the Volatile Organic Compound (VOC) content for the product in grams per liter (g/L)

B. For all composite wood products (i.e. Oriented Strand Board, Medium Density Fiberboard, particle board, plywood, agrifiber panels, strawboard, wheatboard; used for countertop substrates, backer board, etc.), the Contractor must provide:

- Product data or letter from the manufacturer that states 'No Added Urea-Formaldehyde'
- Product data or MSDS stating the VOC content of any laminate or veneer adhesives in grams per liter

C. For all recycled content products (including lockers, toilet partitions), the Contractor must provide:

- Product data or letter from the manufacturer indicating both Pre-Consumer (or Post-Industrial) and Post-Consumer Recycled Content as a percentage of the whole product or material
- The total percentage of recycled content of the project as a whole, based on cost of recycled materials and products as a fraction of the Total Materials Cost for Divisions 2-10. The Contractor may use 45% of the total construction cost for Divisions 2-10 as a default Total Materials Cost.

D. For construction waste management, the Contractor must provide:

- Construction Waste Management Plan indicating materials to be diverted from landfill, methods of diversion and targeted percentage of diversion. The General Contractor may track waste by weight (tons) or volume (cubic yards) so long as the method of tracking is consistent throughout the project.
- Monthly reports from a third-party waste hauler/recycler or
- Monthly reports of waste sorted on site and diverted by the Contractor as a percentage of total waste and
- Receipts for all recycled and salvaged waste accepted and
- Dump tickets for all waste that is not diverted from landfill

LEED General Resources

All websites represent free resources. Any mention of products or services is for informational purposes only. Inclusion in this Resources chapter does not imply endorsement or approval by the District of Columbia Office of Property Management.
This list is not intended to be exhaustive, merely a representation of various products, materials and sources of information to get LEED project teams started. New sustainable products, materials, services and technologies enter the market every day and may not be included in this Guidebook because they were not available at the time of publication or were unknown to the authors of this Guidebook.

DC Green Building Resources

Green DC Green Building Webpage: green.dc.gov/green/cwp/view,a,1231,q,460953.asp

DC Green Building Act: www.dccouncil.washington.dc.us/images/00001/20061218152322.pdf or green.dc.gov/green/lib/green/pdfs/GreenBuilding_act06.pdf

Department of Consumer and Regulatory Affairs (DCRA) Green Building Act At-a-Glance Fact Sheet: dcra.dc.gov/dcra/lib/dcra/information/publications/green_building.pdf

District Department of the Environment (DDOE): ddoe.dc.gov/ddoe/site/default.asp

Greening DC Building Codes: www.imt.org/codes/

Greening the Washington Metropolitan Region's Built Environment (Metropolitan Washington Council of Governments): www.mwcog.org/store/item.asp?PUBLICATION_ID=304

Greening Federal Facilities: www1.eere.energy.gov/femp/pdfs/29267-0.pdf

Sustainable Business Network of Washington (SBNOW): www.sbnow.org/template/index.cfm

LEED Online and USGBC Website Tutorials

At the time of publication of this Guidebook, there are at least two LEED Online tutorials available for free online. These can be located by using an internet search engine and the phrase "LEED Online tutorial".
LEED Online Tutorial: www.vimeo.com/346688
Using the USGBC Website Effectively Tutorial: www.vimeo.com/346954

Sustainable Building Essential Websites (commercial and residential)

1. U.S. Department of Energy office of Energy
   Efficiency and Renewable Energy (EERE) Building Technologies Program: www1.eere.energy.gov/buildings/

2. Advanced Buildings: Eco-Friendly Building
   Techniques for earth friendly & energy efficient construction: www.advancedbuildings.org

3. The Center for the Built Environment: www.cbe.berkeley.edu

4. Whole Building Design Guide (created for Federal facilities, but offers a wealth of invaluable resources to any sustainable design team): www.wbdg.org

5. Mechanical Contractor's Guide to LEED: www.greencontractors.us/how/
6. Southface: www.southface.org

7. U.S. Department of Veteran Affairs Sustainable Design and Energy Reduction Manual: www.va.gov/facmgt/standard/energy.asp

8. BuildingGreen: www.buildinggreen.com

LEED Reference Documents:

www.usgbc.org/DisplayPage.aspx?CMSPageID=1762

LEED Pubic Policies Searchable Database:

www.usgbc.org/PublicPolicy/SearchPublicPolicies.aspx?PageID=1776

LEED Specifications:

Two excellent resources for finding good, baseline specifications may be found online:

Whole Building Design Guide
This website includes access to some free resources (such as the Unified Facilities Guide Specifications, the Veterans Administration Master Specifications and the Federal Green Guide for Specifiers) as well as to those that must be purchased (such as MasterSpec). www.wbdg.org/sitemap.php#ps

BuildingGreen
This website includes free access to four critical specification sections relevant to LEED as well as very useful advice about integrating LEED into the entire spec set: www.buildinggreen.com/guidespecs/index.cfm

- 01 74 19 Construction Waste Management
- 01 81 09 Testing for Indoor Air Quality
- 01 81 13 Sustainable Design Requirements
- 01 91 00 General Commissioning Requirements

Government

AIA Local Green Building Incentive programs: greenerbuildings.com/files/document/LLgreenincentives(5-19).pdf

Environmental Law Institute's Municipal Green Building Policies: www.elistore.org/reports_detail.asp?ID=11295

Sustainlane open-source knowledge base includes 110 best practice documents and a secure directory of participating government officials from over 450 cities, counties and states: www.sustainlane.us

Glossary

Alternative Compliance Approach – The USGBC can be flexible in how a team documents and fulfills Credit requirements. For example, a project team may be able to fulfill the necessary Credit requirements or meet the Credit intent through an alternative yet equally applicable pathway. In this case, a team member must simply write a short paragraph within the template narrative box describing any additional comments or notes for special circumstances regarding the project's Credit approach. Project teams may want to submit a **Credit Interpretation Request** if they are in doubt that an alternative approach will be acceptable to the USGBC.

Anticipated – Following Precertification and design reviews, USGBC reviewers will mark Prerequisites and Credits as **'Anticipated,'** 'Request for Clarification,' or **'Denied'.** Those Prerequisites and Credits with sufficient documentation to prove that the project team has met the Credit's intent and requirements are marked as **'anticipated'** and need no further explanation at that point of the phase review. Credits are not 'Awarded' until the project is complete.

Appeals - Denied Credits may be appealed, if desired. Denied Prerequisites must be appealed to achieve certification at any level. Appeals cost $500 per Prerequisite or Credit. Depending on the complexity of the appeal, this can add an additional 2-4 weeks onto the Design Phase Review timeline.

Construction Phase Review - All LEED **Prerequisites** and **Credits** are marked on the LEED Online Credit Scorecard & Status page with either a yellow letter 'd' or an orange letter 'c' next to them. The Construction Phase Review should be completed once the project construction is substantially complete. The project has one year to complete Certification proceedings, but this should be done as soon as possible, while project team members are still available to provide documentation and clarifications. The **Project Administrator** or Project **Team Manager** will submit the project for the Construction Phase review, however all construction team members are responsible for completing their **LEED Letter Templates,** uploading supporting documentation files and assisting the Project Administrator in gathering the information necessary for the application package. If any design phase **'anticipated'** Credits have changed than the project team must submit additional documentation to maintain continued compliance. Once the USGBC has received your complete design phase application and fee, the USGBC will formally rule on the entire application. Anticipated Credits that have not changed will be marked as "achieved."

Credit – The USGBC has different rating systems in order to maintain applicability for individual projects. Credits are the building blocks of the point systems. Credits may vary in their point value within each rating system used to address site selection, water savings, energy efficiency, materials and resources, and indoor environmental quality. There are minimum levels of Credits necessary in order to obtain certification at various levels (e.g. Certified, Silver, Gold, and Platinum).
Credit Synergies - The USGBC uses the term Credit synergies to refer to the combination of strategies that span multiple Credits to achieve a sum greater than its parts.

Credit Interpretation Requests – CIRs should be obtained when it is not clear that a desirable, proposed, or planned strategy will comply with a Credit's requirements. CIRs cannot be used to seek variances, changes in, or exceptions to the existing language of Credit requirements and the quantitative thresholds they include. Before submitting a CIR, check the USGBC's online resource for previous CIRs (one must have a site user account in order to do this). Prior CIR's that address your inquiry may be used for Credit documentation of another project. The inquiry should include only essential project strategy and background information and should be presented in the context of the Credit intent. No attachments are permitted. See Guidelines for CIR customers: http://www.usgbc.org/showfile.aspx?documentid=1510

Denied – For each review, Prerequisites and Credits will be marked as **'Anticipated'** or **'Denied'**. Prerequisites and Credits which still have not demonstrated sufficient documentation of completed requirements following both the initial review and requests for clarification, will be marked as **'denied.'** Denied Credits may be **appealed,** if desired. Denied Prerequisites must be appealed to achieve certification at any level. Appeals cost $500 per Prerequisite or Credit. Depending on the complexity of the appeal, this can add an additional 2-4 weeks onto the Design Phase Review timeline.

Design Phase Review - All LEED **Prerequisites** and **Credits** are marked on the LEED Online Credit Scorecard & Status page with either a yellow letter 'd' or an orange letter 'c' next to them. Credits marked 'd' may be deferred until the Construction Phase Review if the compliance strategy is not clear or adequate supporting documentation is not available yet. The **Project Administrator** or Project **Team Manager** will submit the project for the Design Phase review, however all team members (design disciplines and Owner) are responsible for completing their **LEED Letter Templates,** uploading supporting documentation files and assisting the Project Administrator in gathering the information necessary for the **Project Narrative,** the **Project Summary** and the **General Documents.** Once the USGBC has received your complete design phase application and fee, the USGBC will formally rule by designating Credits as either **'Anticipated'** or **'Denied.'**

Documentation – Documentation may consist of the **Project Narrative,** the **Project Summary, General Documents,** cut sheets, completed templates, photos, etc. Proper documentation is dependent upon the submittal requirement of each individual Credit. Refer to the USGBC reference guide for the appropriate documentation required.

Exemplary Performance – Some Credits allow for a project team to achieve an extra point for illustrating substantially and quantifiably higher environmental benefits to that Credit's requirements.

Expedited Permitting - If you are seeking expedited permitting from the DC Department of Consumer and Regulatory Affairs (DCRA), you may be required to submit your project for Precertification in the Design Development phase. Expedited permitting allows for project teams to begin construction sooner, saving time and expenses associated with lengthier permitting processes.

General Documents - site plans, floor plans, sections and elevations or renderings (as available). The documents must be submitted to the USGBC in conjunction with a **Project Narrative** and the **Design Phase Review** package.

Greenhouse Gas Emissions (GHGs) - The gases present in the earth's atmosphere which maintain the near-surface global temperatures through the known greenhouse effect.

LEED Letter Templates – Teams members are assigned specific roles and may fill out, make changes to and save the LEED Letter Templates for any **Prerequisite** or **Credit** also assigned to their role. Prerequisites and Credits should be hyperlinked to their own pages. Team members should review their Letter Templates as soon as possible so that they are aware of **Performance Criteria** and **Documentation** responsibilities necessary to demonstrate that the project design meets LEED requirements.

LEED Online – Online portal for LEED information, resources, and support for project documentation. Website where project team members manage projects details, upload Credit templates, view and submit Credit Interpretation Requests as well as view and respond to reviewer comments.

LEED Project Team Manager - The Project Team Manager role shares the same access to the project site on LEED Online as the **Project Administrator.** The Project Team Manager must receive an invitation to join the project site on LEED Online, must accept the invitation and join the project, and must be assigned to the Project Team Manager role by the Project Administrator.

LEED Reviewers – Reviewers may be architects, landscape architects, MEP Engineers, contractors, and employees of the USGBC, all of whom may review documentation and provide feedback for project certification.

LEED Scorecard – A summary of a project's Credits marked as 'yes,' 'maybe,' or 'no'. The scorecard should be used during the **Sustainable Design Charrette** to help teams organize, review, and target Credits and as well as continually update it in order to evaluate each Credit's status. The LEED Scorecard should be submitted with general documentation for **Precertification** in which each Credit is either marked as a 'yes' or 'no'.

Performance Criteria – Standards specified as requirements for each Credit and Prerequisite. Team members should review their Letter Templates as soon as possible so that they are aware of Performance Criteria and **Documentation** responsibilities necessary to demonstrate that the project design meets LEED requirements.

Precertification – Marketing a building's image as one that has implemented sustainable strategies into its design, provides owners an opportunity to promote the building more successfully. If you are designing a building under the LEED for Core and Shell (LEED-CS) Rating System, you can apply for Precertification as soon as your **LEED Strategy** is defined. Typically this is possible as early as the Design Development Phase; however some project teams may opt to wait until the Construction Documents phase to submit.

Prerequisite – Mandatory performance criteria. A project will not achieve LEED certification at any level without demonstrating compliance for all Prerequisites. Denied Prerequisites must be **appealed.**

Project Access Code – If you are adding a new project and have the Project Access Code, you may enter it at the bottom of the project access page in order to join a project team on LEED Online.

Project Administrator – The Project Administrator is, by default, the person who registers the project with the USGBC, however it can be changed to any team member by sending a written request to the LEED support staff (leedinfo@usgbc.org). The Project Administrator can also assign the role Project Team Manager to other team member(s); this role shares the same access to the project site on LEED Online as the Project Administrator.

The key responsibilities of the Project Administrator:

1. Registers the project under the appropriate rating system
2. Invites team members to join the project site on LEED Online
3. Assigns team members to project roles (once they have accepted the invitation and joined the project on LEED Online)
4. Can assign any team member(s) to the 'Project Team Manager' role so that another team member can have same capabilities as Project Administrator
5. Assigns Prerequisites and Credits to team members/roles
6. Can mark any Prerequisite or Credit as complete or incomplete
7. Can upload documentation under any Prerequisite or Credit
8. Can save LEED Letter Templates under any Prerequisite or Credit
9. Can change the project summary details (information provided at time of registration)
10. Uploads plans, sections, elevations, renderings, photos, general documents and the project narrative before submitting documentation for the Design Phase Review
11. Submits documentation and payment for the Design Phase Review
12. Submits revised documentation responding to the Requests for Clarification in the initial Design Phase Review
13. Confirms Credits 'Anticipated' in the Design Phase Review immediately prior to submitting documentation for the Construction Phase Review
14. Submits documentation and payment for the Construction Phase Review
15. Submits revised documentation responding to the Requests for Clarification in the initial Construction Phase Review

EVERY TEAM MEMBER is responsible for uploading his or her own documentation. The Administrator role is to assist and to manage, but not to complete documentation for the team.

Project Narrative – The project narrative is a 1-3 page document that describes the overall project and highlights up to three environmental achievements. This document exists to give reviewers a big-picture perspective on the project's sustainable design strategy and how the building (or multiple buildings) works. There may be multiple reviewers examining different components of your project's LEED documentation (for example, an MEP engineer may review MEP Credits, while an Architect may review architectural Credits). Without a Project Narrative, the reviewers might have a hard time grasping the project in its entirety and would not be able to review the project accurately. It can be revised before the **Construction Phase Review** if any of the information changes. The information in the Project Summary must match the information in all Prerequisite and Credit documentation or there will be **Requests for Clarification** from the **LEED Reviewers.**

Requests for Clarification – Once payment is provided for a Precertification, design or construction phase submittal, the USGBC will commence reviewing the application. Within 4-6 weeks the team should receive a preliminary response on Credit strategies and documentation from the USGBC with **Requests for Clarification.** Requests for Clarification will be sent to the Project Administrator in a PDF report document as well as posted individually on each Prerequisite's and Credit's individual page. The USGBC will review the updated Prerequisite and Credit Documentation and provide a final report within 2-4 weeks Prerequisites and Credits will be marked as **'Anticipated'** or **'Denied'** at this time. Denied Credits may be appealed, if desired. Denied Prerequisites must be appealed.

Site User Account – You will need a site user account through the USGBC to register a project. This is free and only requires that site users provide basic contact information.

Sustainable Design Charrette – It is essential that the entire project team (owner, architect, civil engineer, MEP engineer, LEED coordinator, etc.) sit down as early in the design process as possible and discuss the sustainable design strategy for the project. This 'charrette' may last a half-day or an entire day, and it provides the team with the necessary level of a) understanding of LEED requirements, b) commitment to LEED strategy and c) accountability to the team, to ensure a successfully LEED Certified project.

Sustainable Design Coordinator – This person supports the design and operations of a sustainable building and typically is the **LEED Project Administrator** or **LEED Project Team Manager** on LEED Online. This person may also play the role of outside consultant to the owner or project team. The coordinator takes on the role of leading the sustainable design charrette and overseeing the LEED process through all phases.

Update Credit Status – Once the Review has been accepted, the Project Administrator will need to click on the 'Update Credit Status' button to access the Construction Phase Prerequisites and Credits. If any Design Phase Prerequisite or Credit has changed, the Project Administrator may indicate so at this time. Credits may be marked 'Unchanged', 'Changed – Please Reevaluate' or 'Changed – No Longer Attempting' from a drop-down menu on the right.

Value Engineering – Value Engineering (VE) is a systematic method to improve the "value" of goods and services by using an examination of function. Value, as defined, is the ratio of function to cost. Value can therefore be increased by either improving the function or reducing the cost. Unfortunately in the built environment, many exercises in Value Engineering reduce both cost and function. A sustainable design strategy that achieves many Credits at once may appear to be costly as a single line item, but if it is eliminated in the Value Engineering process, it may cost you eligibility for your LEED Credits as well as incur some unforeseen costs, cancelling out any savings you hoped to achieve in VE.