

LEED for Neighborhood Development



LEED for Neighborhood Development



What is it?

How is it different from NC?

Portland-area projects.

Terry Miller
Green Building Services
July 24, 2007

LEED Programs



The LEED Family of Rating Systems

LEED for New Construction

LEED for Commercial Interiors

LEED for Core and Shell

LEED for Existing Buildings

Application Guides
LEED for:
• Laboratories
• Multi-building Campuses

Pilot Programs

LEED for Homes

LEED for Neighborhood Developments

LEED for Retail

Future Programs

LEED for Schools

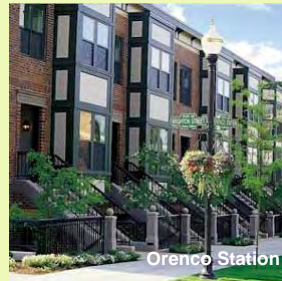
LEED for Healthcare

LEED for Neighborhood Development

LEED for Neighborhood Development



- First national standard for neighborhood design
- Integrates Smart Growth, New Urbanism, and green building
- Pilot developed by:
 - U.S. Green Building Council
 - The Congress for the New Urbanism
 - The Natural Resources Defense Council

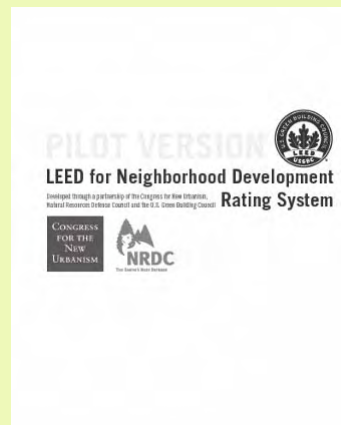


- Pilot launched February, 2006
- www.usgbc.org

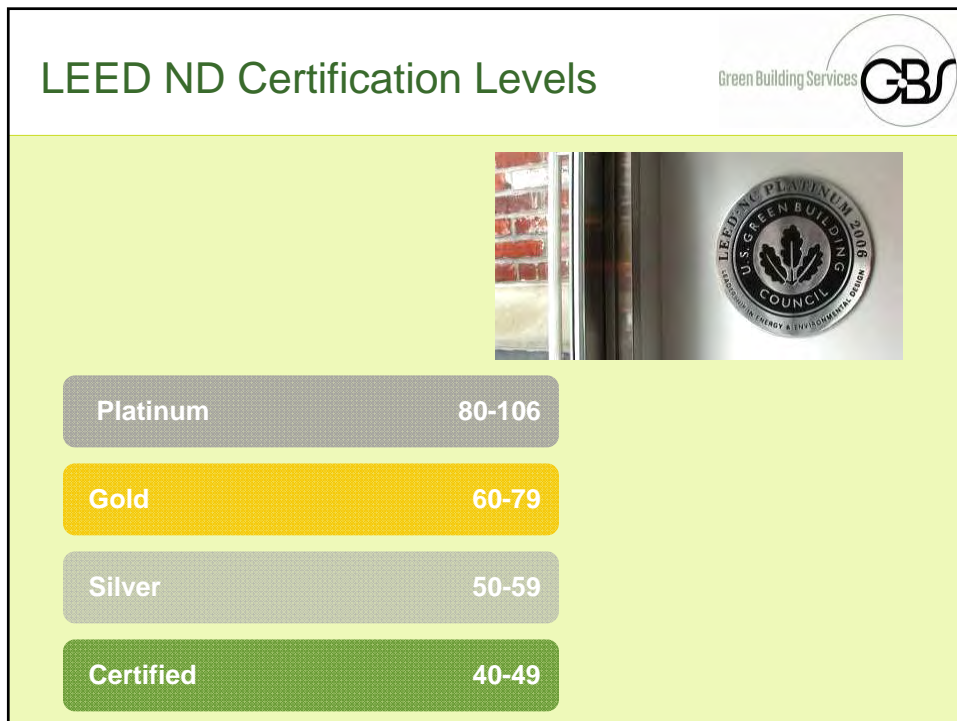
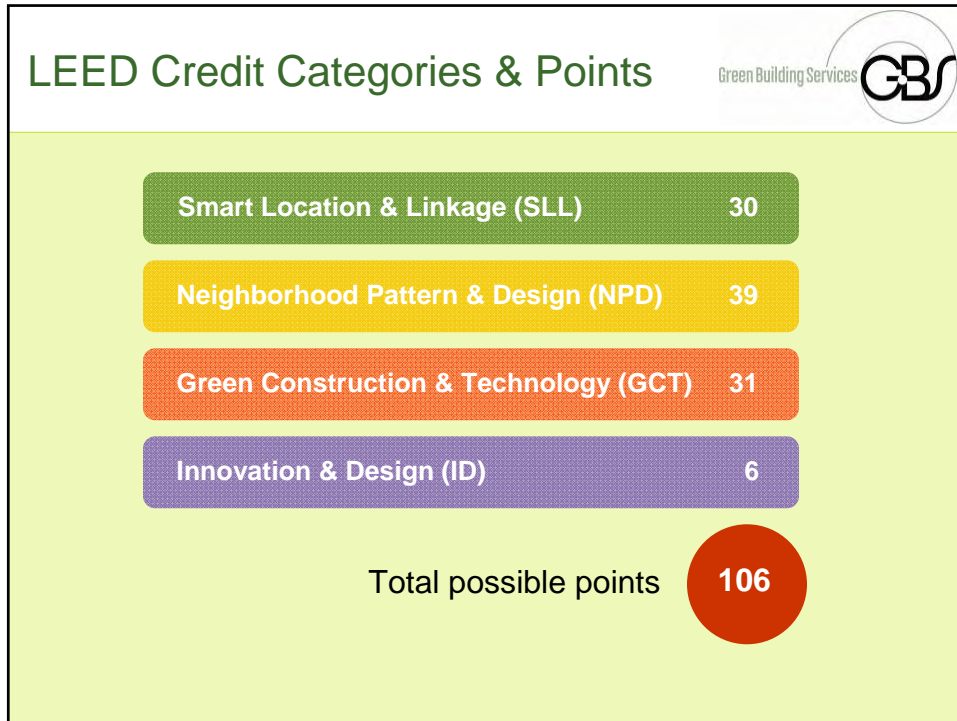
LEED for Neighborhood Development



- **3 Categories of Concern**
 - PLUS Design Process & Innovation
- LEED ND Rating System Contains:
 - 9 prerequisites
 - 47 credits that have 100 core points
 - 5 Innovation Design & Process points
 - 1 point for having a LEED Accredited Professional involved in the process
 - **Total of 106 points available**



LEED for Neighborhood Development



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• The Pilot

- 300+ projects accepted
- 18 months pilot period

PILOT PROGRAM: NEIGHBORHOOD DEVELOPMENT

OVERVIEW OF LEED FOR NEIGHBORHOOD DEVELOPMENT PILOT PROGRAM

LEED for Neighborhood Development is a rating system that integrates the principles of smart growth, new urbanism, and green building into the first national standard for neighborhood design. It is being developed by the U.S. Green Building Council in partnership with Congress for New Urbanism and the National Resources Defense Council. After pilot, the rating system will become part of the comprehensive suite of LEED assessment tools to promote sustainable design, construction, and operations of built environments.

Objectives of the Pilot:
The objective of pilot testing LEED for Neighborhood Development is to ensure that the rating system is practical for application and is an effective tool for introducing smart growth, new urbanist, and greenbuilding practices to developers.

Schedule:
Expressions of interest for participation in the LEED for Neighborhood Development Pilot Program will be accepted through April 6, 2007. Up to 10 pilot projects will be selected and notified by early May. An orientation workshop will be conducted with pilot project owners after projects are selected. Details to be announced. The pilot program will continue for 18 months, after which the LEED for Neighborhood Development Core Committee will begin assessing the experience gained from the pilot program in order to make the rating system for public comment available.

Benefits to Pilot Participants:
Pilot participants will benefit from participation through the following opportunities:
- Developments have a first in the neighborhood that embrace smart growth, new urbanism, and greenbuilding design.
- Help promote the LEED for Neighborhood Development rating system by providing feedback regarding implementation issues for the LEED for Neighborhood Development Core Committee.
- Possible recognition, through a case study and other promotional efforts, as an early adopter in sustainable neighborhood development.

Application Requirements for Participation in the Pilot:
Pilot project applicants who wish to participate in the pilot for LEED for Neighborhood Development will need to:
- Submit the following forms and a completed LEED for Neighborhood Development project checklist for a specific neighborhood project.
- Projects must encompass a minimum of 100,000 sq ft of gross floor area through the use of a minimum of 100 residential units.
- Projects must be located in an urban or suburban area.
- Projects must be located in a jurisdiction that has adopted a comprehensive zoning ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive smart growth ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive green building ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable design ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable construction ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable operations ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable maintenance ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable transportation ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable utility ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable waste management ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable water management ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable energy management ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable climate change ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable air quality ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable noise ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable light ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable heat island ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable urban heat island ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable urban heat island mitigation ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable urban heat island mitigation ordinance.
- Projects must be located in a jurisdiction that has adopted a comprehensive sustainable urban heat island mitigation ordinance.

Pilot Application Contact:
If you have any questions about this application, please contact Dana Zycherman, LEED Program Coordinator (USGBC), phone: 202-648-1110, or email: dzycherman@usgbc.org.

LEED for Neighborhood Development



• Pilot Certification Fees:

Certification Fees

Project Size	Certification Fee
Less than 20 acres	\$8,000
20 - 100 acres	\$14,000
Greater than 100 acres	\$20,000

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Three-Stage Certification Process

LEED for Neighborhood Development has three stages of certification. In the following form, projects will be asked to indicate which stage best fits the project.

Optional Pre-Review (Stage 1)

This stage is available but not required at any point before the entitlement process begins. If pre-review approval of the plan is achieved, USGBC will issue a letter stating that if the project is built as proposed, it will be able to achieve LEED for Neighborhood Development certification. The purpose of this letter is to assist the developer in building a case for entitlement among land use planning authorities, as well as a case for financing and occupant commitments.

Certification of an Approved Plan (Stage 2)

This stage takes place after the developer has been granted any necessary entitlements to build the project to plan. Any changes to the pre-reviewed plan that could potentially affect prerequisite or credit achievement would be communicated to USGBC as part of this submission. If certification of the approved plan is achieved, USGBC will issue a certificate stating that the approved plan is LEED for Neighborhood Development certified and it will be listed as a LEED for Neighborhood Development Certified Plan.

Certification of a Completed Neighborhood Development (Stage 3)

This stage takes place when construction is complete or nearly complete. Any changes to the certified approved plan that could potentially affect prerequisite or credit achievement would be communicated to USGBC as part of this submission. If certification of the completed neighborhood development is achieved, USGBC will issue plaques or similar awards for public display at the project site and it will be listed as a LEED Certified Completed Neighborhood Development.


Submittals vary by stage

LEED for Neighborhood Development



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LEED-ND Prerequisites



- All credit categories have prerequisites
- 9 total prerequisites
- Start with the prerequisites!*

Smart Location & Linkage	30 Possible Points
Prereq 1 Smart Location	Required
Prereq 2 Proximity to Water and Wastewater Infrastructure	Required
Prereq 3 Imperiled Species and Ecological Communities	Required
Prereq 4 Wetland and Water Body Conservation	Required
Prereq 5 Agricultural Land Conservation	Required
Prereq 6 Floodplain Avoidance	Required

LEED Credits



Smart Location & Linkage

SLL Prerequisite 2: Proximity to Water and Wastewater Infrastructure

Required

Intent

Encourage new development within and near existing communities in order to reduce multiple environmental impacts caused by sprawl. Conserve natural and financial resources required for construction and maintenance of infrastructure.

Requirements

OPTION 1

Locate the **project** on a site served by existing water and wastewater infrastructure. Replacement or other on-location improvements to existing infrastructure are considered *existing* for the purpose of achieving this option;

OR

OPTION 2

Locate the project within a legally adopted planned water and wastewater service area and provide new water and wastewater infrastructure for the project.


Submittals

During the pilot program, project teams are encouraged to suggest replacement documentation that may be easier to access or produce than the items listed below, but still clearly verifies that the requirements have been met. The certification reviewers will evaluate the adequacy of the potential replacement documentation on a case-by-case basis.

LEED for Neighborhood Development

LEED for Neighborhood Development Pilot Project Checklist		Green Building Services 	
<p>LEED for Neighborhood Development Pilot Project Checklist</p> <p>Project Name: _____ Primary Contact: _____</p> <p><i>Instructions: In the Points Earned column, enter "Yes," "No," or "N/A." In the "Prerequisite" column, enter the expected number of points earned. In the "Prerequisite" column, enter the number of points earned. For prerequisites with more than one compliance path, enter the compliance path option # in column 2, in the row under the "Prerequisite" column.</i></p>			
Smart Location & Linkage		30 Points Possible	
Prereq 1	Smart Location	Required	
	Option #:		
Prereq 2	Proximity to Water and Wastewater Infrastructure	Required	
	Option #:		
Prereq 3	Imperiled Species and Ecological Communities	Required	
	Option #:		
Prereq 4	Wetland and Water Body Conservation	Required	
	Option #:		
Prereq 5	Farmland Conservation	Required	
	Option #:		
Prereq 6	Floodplain Avoidance	Required	
	Option #:		
Credit 1	Brownfield Redevelopment	2	
Credit 2	High Priority Brownfields Redevelopment	1	
Credit 3	Preferred Location	10	
Credit 4	Reduced Automobile Dependence	6	
Credit 5	Bicycle Network	1	
Credit 6	Housing and Jobs Proximity	3	
Credit 7	School Proximity	1	
Credit 8	Steep Slope Protection	1	
Credit 9	Site Design for Habitat or Wetlands Conservation	1	
Credit 10	Restoration of Habitat or Wetlands	1	
Credit 11	Conservation Management of Habitat or Wetlands	1	
Neighborhood Pattern & Design		39 Points Possible	
Prereq 1	Open Community	Required	
Prereq 2	Compact Development	Required	
Credit 1	Compact Development	7	
Credit 12	Access to Public Spaces	1	
Credit 13	Access to Active Public Spaces	1	
Credit 14	Universal Accessibility	1	
Credit 15	Community Outreach and Involvement	1	
Credit 16	Local Food Production	1	
Green Construction & Technology		31 Points Possible	
Prereq 1	Construction Activity Pollution Prevention	Required	
Credit 1	LEED Certified Green Buildings	3	
Credit 2	Energy Efficiency in Buildings	3	
Credit 3	Reduced Water Use	3	
Credit 4	Building Reuse and Adaptive Reuse	2	
Credit 5	Reuse of Historic Buildings	1	
Credit 6	Minimize Site Disturbance through Site Design	1	
Credit 7	Minimize Site Disturbance during Construction	1	
Credit 8	Contaminant Reduction in Brownfields Remediation	1	
Credit 9	Stormwater Management	5	
Credit 10	Heat Island Reduction	1	
Credit 11	Solar Orientation	1	
Credit 12	On-Site Energy Generation	1	
Credit 13	On-Site Renewable Energy Sources	1	
Credit 14	District Heating & Cooling	1	
Credit 15	Infrastructure Energy Efficiency	1	
Credit 16	Wastewater Management	1	
Credit 17	Recycled Content for Infrastructure	1	
Credit 18	Construction Waste Management	1	
Credit 19	Comprehensive Waste Management	1	
Credit 20	Light Pollution Reduction	1	
Innovation & Design Process		6 Points	
Credit 11	Innovation in Design: Provide Specific Title	1	
Credit 12	Innovation in Design: Provide Specific Title	1	
Credit 13	Innovation in Design: Provide Specific Title	1	
Credit 14	Innovation in Design: Provide Specific Title	1	
Credit 15	Innovation in Design: Provide Specific Title	1	
Credit 2	LEED Accredited Professional	1	
Project Totals (pre-certification estimates)		106 Points	
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80-106 points			

LEED for Neighborhood Development

Green Building Services 

Three Categories of Concern:

- 1) Smart Location & Linkage (SLL)
- 2) Neighborhood Pattern & Design (NPD)

Northwest Landing
- 3) Green Construction & Technology

LEED for Neighborhood Development

LEED for Neighborhood Development Smart Location & Linkage

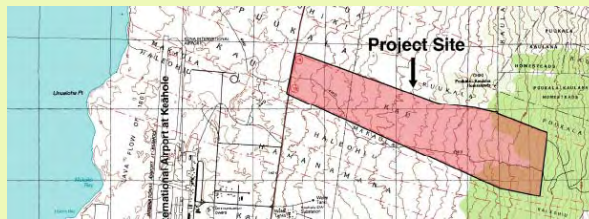


Smart Location & Linkage:

What conditions does the project

inherit and create

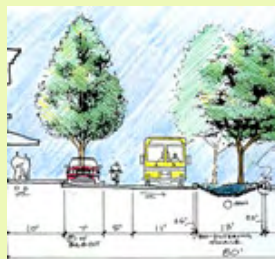
*through its **location**?*



LEED for Neighborhood Development SLL - prerequisites



- Smart Location
- Proximity to Water and Wastewater Infrastructure
- Imperiled Species and Ecological Communities
- Wetland and Water Body Conservation
- Farmland Conservation
- Floodplain Avoidance



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LEED for Neighborhood Development SLL - prerequisites



Example:

SLL Prerequisite 1: "Smart Location"

Options:

1. Infill; OR,
2. 50% DU and business entrances within ¼ mile walk of existing/planned bus or streetcar or ½ mile of rapid transit, light/heavy passenger rail or ferry terminal; OR,
3. Boundary within ¼ or ½ mile walk of four or six existing diverse uses; OR,
4. In MPO research area where VMT < regional average.

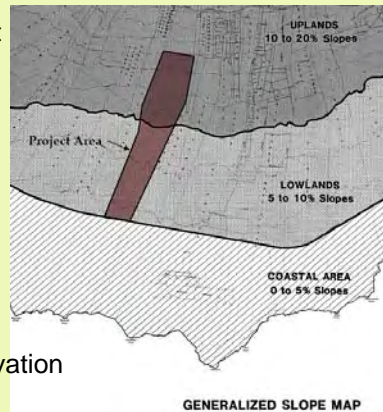
Appendix A: List of Diverse Uses

- Bank
- Child care facility (licensed)
- Community/civic center
- Convenience store
- Hair care
- Hardware store
- Health club or outdoor recreation facility
- Laundry/dry cleaner
- Library
- Medical/dental office
- Pharmacy (stand-alone)
- Place of worship
- Police/fire station
- Post office
- Restaurant
- School
- Senior care facility
- Supermarket
- Theater

LEED for Neighborhood Development SLL- credits



- Contaminated Brownfields Redevelopment
- High Priority Brownfields Redevelopment
- Preferred Locations
- Reduced Auto Dependence
- Bicycle Network
- Housing and Jobs Proximity
- School Proximity
- Steep Slope Protection
- Site Design for Habitat or Wetland Conservation
- Restoration of Habitat or Wetlands
- Conservation Management of Habitat or Wetlands



LEED for Neighborhood Development

LEED for Neighborhood Development SLL - credits



Example:

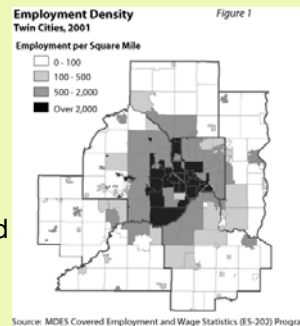
SLL Credit 6: "Housing and Jobs Proximity" (3 points)

Options:

1. Residential equals at least 25% project building square footage; AND, project within ½ mile of a pre-project jobs equal to or greater than 50% of the number of dwelling units

OR

2. Non-residential component equal at least 25% project building square footage; AND, on infill site ½ mile to existing rail stop, and ½ walk distance to number of existing dwelling units equal to or greater than 50% of newly created jobs.



<http://www.deed.state.mn.us>

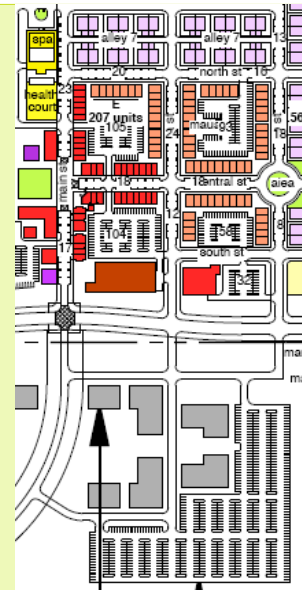
LEED for Neighborhood Development Neighborhood Pattern & Design



Neighborhood Pattern & Design:

*How can the project's
plan and program*

leverage and contribute to the neighborhood?



LEED for Neighborhood Development

LEED for Neighborhood Development NPD prerequisites and credits



- Open Community
- Compact Development
- Diversity of Uses
- Diversity of Housing Types
- Affordable Rental Housing
- Affordable For-Sale Housing
- Reduced Parking Footprint
- Walkable Streets
- Street Network
- Transit Amenities
- Transportation Demand Management
- Access to Surrounding Vicinity
- Access to Public Spaces
- Access to Active Spaces
- Universal Accessibility
- Community Outreach and Involvement
- Local Food Production



LEED for Neighborhood Development NPD prerequisites



Example:
NPD Prerequisite 2: "Compact Development"

Requirements (all)

- Residential density 7 DU/acre
- Non-residential density .5 FAR
- If serviced by transit agency with specified density requirements, must meet minimum instead
- Must be achieved by 50% completion of residential components or within 5 years that the first building is occupied



www.awfulgood.com


LEED for Neighborhood Development

LEED for Neighborhood Development
NPD Credits

Example:
NPD Credit 5: "Affordable For-Sale Housing"

Options:

- 10% of total for-sale units priced for households up to 80% of AMI (1 pt)
- 20% of total for-sale units priced for households up to 120% of AMI (1 pt)
- Both (2 pts)



www.affordablehousinginstitute.org

LEED for Neighborhood Development
NPD Credits

Example:
NPD Credit 8: "Street Network"

Requirement

- Pedestrian or bicycle through-connections for 50% cul-de-sacs; AND,

Options:

1. PROJECTS < 7 ACRES- Street network grid density within ¼ mile radius from project center (or within the project) falls within one of the specified ranges
2. PROJECTS > 7 ACRES- Project street network grid density falls within one of the specified ranges

Street grid density (centerline miles/sq.mi.)	Points Earned
20 – 29	1
>30	2

LEED for Neighborhood Development

LEED for Neighborhood Development NPD Credits



Example:

NPD Credit 12: "Access to Public Spaces"

Requirements (all)

- Locate or design project so that a park, green plaza or square at least 1/6 acre in area, and at least 150' in width, lies within walk distance of 90% of the dwelling units and non-residential building entrances in the project.
- Parks < 1 acre must have a proportion no narrower than 1 x 4.
- PROJECTS > 7 ACRES: taken together, all parks in the project average at least ½ acre in size.



www.pps.org

LEED for Neighborhood Development NPD Credits



Example:

NPD Credit 16: "Local Food Production"

Options

1. Neighborhood Farms and Gardens
2. Community Supported Agriculture (80% of households within 2 years)
3. ¼ mile to existing Farmer's Market

Project density (dwelling unit/acre)	Required growing space (sq ft per dwelling unit)
7 to 14	200
> 14 and ≤ 22	100
> 22 and ≤ 28	80
> 28 and ≤ 35	70
> 35	60



www.beavertonoregon.gov

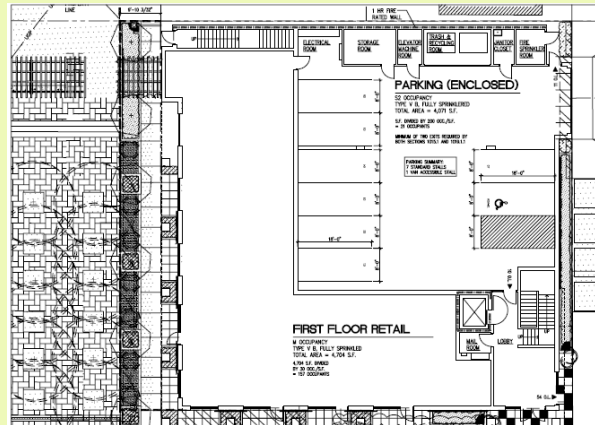
LEED for Neighborhood Development

LEED for Neighborhood Development Green Construction & Technology



Green Construction & Technology:

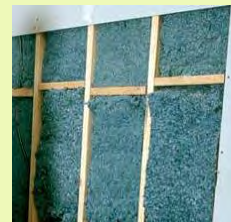
How can the buildings and infrastructure maximize efficiency, minimize environmental impact and support the local community?



LEED for Neighborhood Development GCT prerequisite and credits



- **Construction Activity Pollution Prevention**
 - LEED Certified Green Buildings
 - Energy Efficiency in Buildings
 - Reduced Water Use
 - Building Reuse and Adaptive Reuse
 - Reuse of Historic Buildings
 - Minimize Site Disturbance Through Site Design
 - Minimize Site Disturbance During Construction
 - Contaminant Reduction in Brownfields Remediation
 - Stormwater Management
 - Heat Island Reduction
 - Solar Orientation



LEED for Neighborhood Development

LEED for Neighborhood Development

GCT credits (contd.)



- On-Site Power Generation
- On-Site Renewable Energy Sources
- District Heating & Cooling
- Infrastructure Energy Efficiency
- Wastewater Management
- Recycled Content in Infrastructure
- Construction Waste Management
- Comprehensive Waste Management
- Light Pollution Reduction



LEED for Neighborhood Development

GCT credits

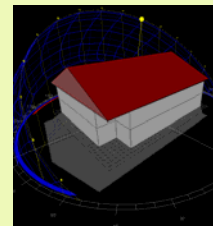


Example:

GCT Credit 11: "Solar Orientation"

Options

1. BLOCK DESIGN- For 75% or more of the project's blocks, one axis of each block is within 15 degrees of east/west and the east/west length is at least as long or longer as the north/south length
2. BUILDING DESIGN- Design and orient 75% of buildings such that one axis is 1.5 times longer than the other and the longer axis is within 15 degrees of east/west axis; AND, south-facing vertical surfaces must not be more than 25% shaded



LEED for Neighborhood Development

LEED for Neighborhood Development GCT credits



Example:

GCT Credit 14: "District Heating and Cooling"

Requirements

- Design and incorporate into the project a district heating or cooling system for space conditioning such that at least 80% of the project total square footage is connected, and at least 80% of the project total heating or cooling load is connected.

LEED-ND Strategy- Location



Location plays a strong role and sets the stage for
LEED-ND performance

Strategy	Prerequisite	Requirement	Weight	Score
1. Location	1.1.1.1	Previously developed infill sites	10	10
		Proximity to existing public and alternative transportation	10	10
		Proximity to diverse uses	10	10
		Density	10	10
2. Transportation	2.1.1.1	Proximity to existing public and alternative transportation	10	10
		Proximity to diverse uses	10	10
		Density	10	10
		Proximity to existing public and alternative transportation	10	10
3. Density	3.1.1.1	Proximity to existing public and alternative transportation	10	10
		Proximity to diverse uses	10	10
		Density	10	10
		Proximity to existing public and alternative transportation	10	10
4. Proximity to Diverse Uses	4.1.1.1	Proximity to existing public and alternative transportation	10	10
		Proximity to diverse uses	10	10
		Density	10	10
		Proximity to existing public and alternative transportation	10	10

Location-influenced credits

- Previously developed infill sites (6 prereqs, 8 credits, 10+ points)
- Proximity to existing public and alternative transportation
- Proximity to diverse uses
- Density

LEED for Neighborhood Development

LEED-ND
Strategy- Planning and Design


Green Building Services 

Planning and design leverage and enhance location to improve LEED performance

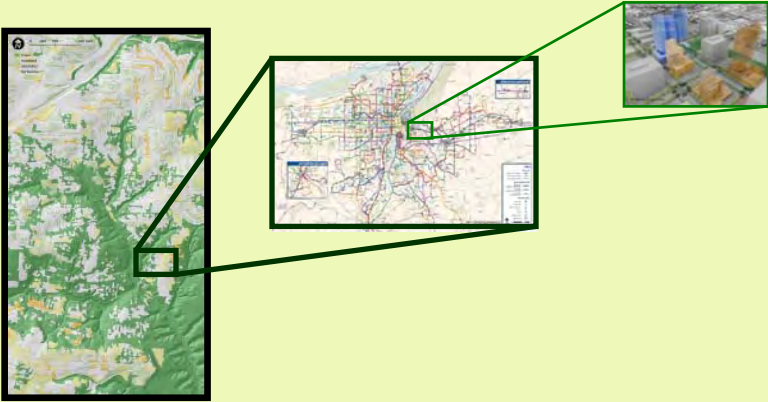
Section	Item	Score	Weight
3 Planning and Design	3.1 Site and Community Analysis	1	15
	3.1.1 Analyze the site and surrounding area to understand the context and constraints of the project.	1	15
	3.1.2 Identify opportunities for sustainable development and design.	1	15
	3.2 Planning and Design	1	15
	3.2.1 Develop a comprehensive planning and design strategy.	1	15
	3.2.2 Implement the strategy through the design and construction process.	1	15
	3.2.3 Monitor and evaluate the performance of the project against the strategy.	1	15
	3.2.4 Report on the results and lessons learned from the project.	1	15
	3.2.5 Use the results and lessons learned to inform future projects.	1	15
	3.2.6 Communicate the results and lessons learned to the community.	1	15
	3.2.7 Collaborate with stakeholders to address challenges and opportunities.	1	15
	3.2.8 Ensure the project is financially viable and socially equitable.	1	15
	3.2.9 Promote the benefits of the project to the community.	1	15
	3.2.10 Protect and enhance natural resources and cultural heritage.	1	15
	3.2.11 Address the needs of vulnerable populations.	1	15
3.2.12 Address the needs of future generations.	1	15	

Planning and Design-influenced credits

LEED-ND

Green Building Services 

- Green building intent at a bigger scale



LEED for Neighborhood Development

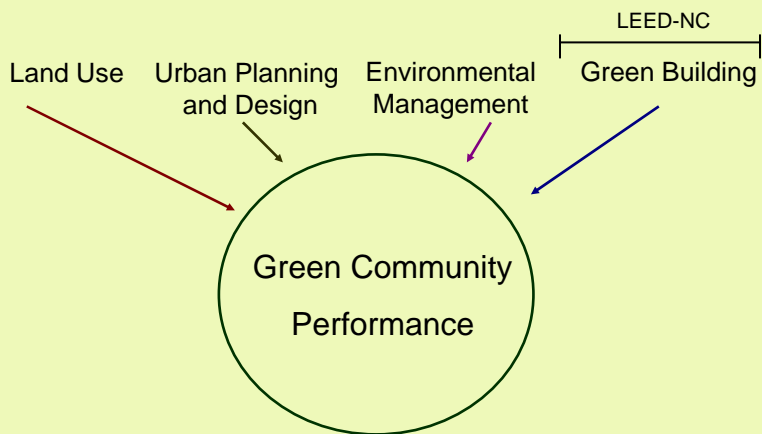
LEED-ND vs. LEED-NC



This could be a LEED project




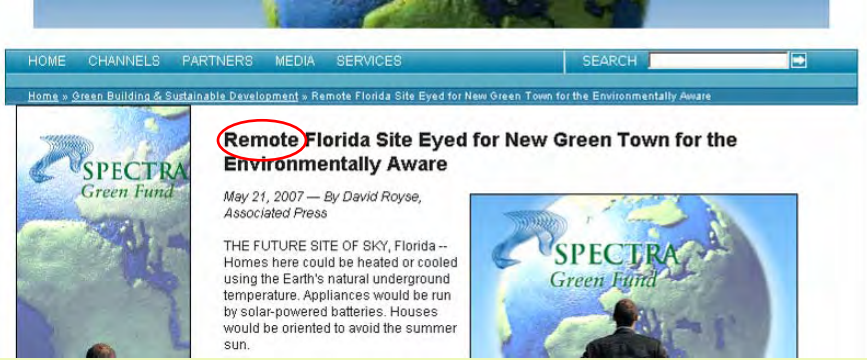
LEED-ND vs. LEED-NC



LEED for Neighborhood Development

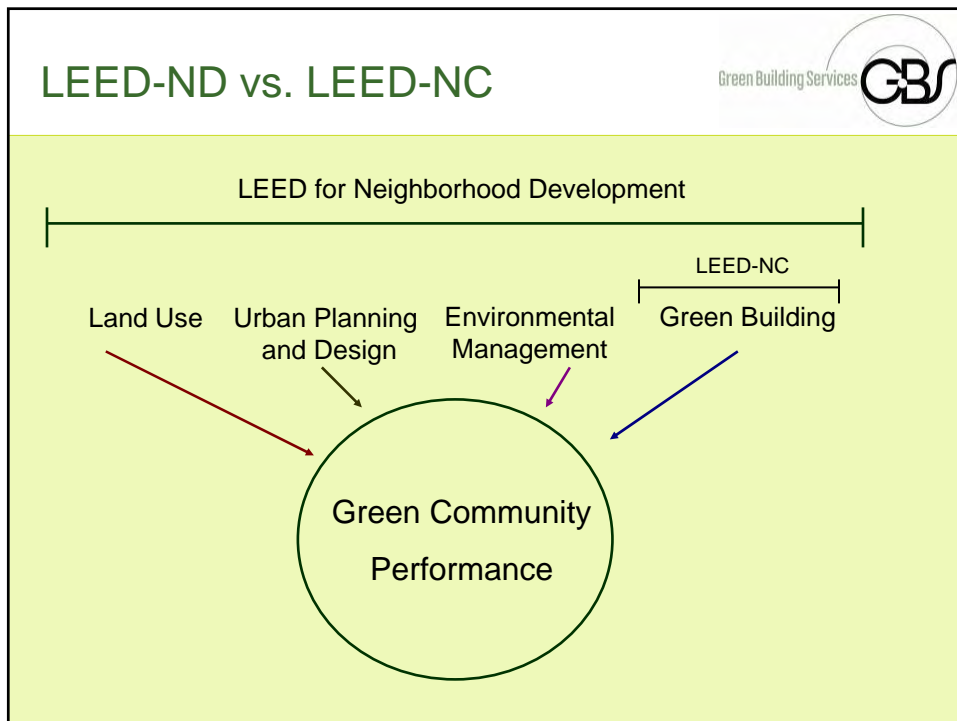
LEED-ND vs. LEED-NC

Green Building Services 



The screenshot shows a news article from ENR.com. The title is "Remote Florida Site Eyed for New Green Town for the Environmentally Aware". The article is dated May 21, 2007, and is by David Royle, Associated Press. The text describes a future site in SKY, Florida, where homes will be heated or cooled using the Earth's natural underground temperature, and appliances will be run by solar-powered batteries. The article is part of the "SPECTRA Green Fund" series.

www.enr.com



LEED for Neighborhood Development

LEED-ND vs. LEED-NC



- Intended to complement
 - LEED-EB, NC, CS

Green Construction & Technology

GCT Credit 1: LEED Certified Green Buildings
1 to 3 Points

Intent

Encourage the design and construction of buildings to utilize green building practices.

LEED-ND vs. LEED-NC



- Similarities
 - Infill development and density
 - Energy
 - Water and Stormwater
 - C&D Waste Recycling
 - Renewable Energy
 - Light Pollution
 - Heat Island Reduction
 - Site development practices
 - Building reuse



LEED for Neighborhood Development

LEED-ND vs. LEED-NC



- Differences
 - Location matters...a lot
 - District scale
 - heating, cooling, wastewater, energy
 - infrastructure efficiency and content

Portland area projects



- Washougal Blocks
 - multi-block infill project
 - LEED-NC on at least one of four buildings
 - targeting Gold



LEED for Neighborhood Development

Portland area projects



- Eliot Tower
 - 230-unit, mixed use condo tower in cultural district
 - Targeting Silver, possibly Gold



Portland area projects



- Ladd Tower
 - 330-unit, mixed use apartment tower in cultural district
 - Targeting ND-Gold and NC-Silver
 - Preserves Ladd Carriage House
 - Rehabs Old Church

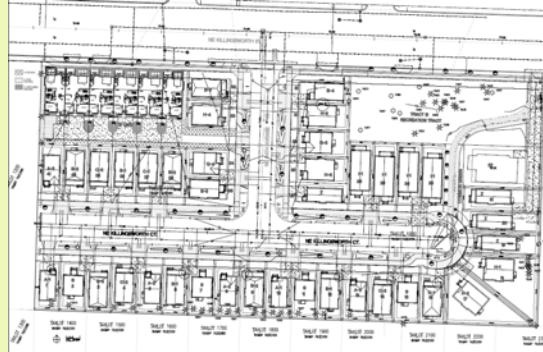


LEED for Neighborhood Development

Portland area projects



- Helensview
 - 52-unit, affordably-priced infill development (40 SFR, 12 condos)
 - LEED-H and LEED-ND, targeting at least Certified



Portland area projects



- Assessment & Tracking
 - Old Town/China Town



LEED for Neighborhood Development

Portland area projects



- Others
 - Orenco Station
 - Pearl District
 - SOWA



LEED-ND



Questions?