Local Planners Catalog of LEED-ND Measures

A Restatement of LEED-ND Using a Local Plan/Code Framework

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by

CRITERION PLANNERS

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Introduction

LEED for Neighborhood Development (ND) is a rating system that integrates the principles of smart growth, new urbanism, and green construction into a comprehensive set of criteria for judging the sustainability of neighborhoods (www.usgbc.org/leed/nd). Local governments can accelerate sustainable development by leveraging the ND rating system in three ways:

- Using the rating system to guide or certify publicly-sponsored development projects.

- Requiring or encouraging private developments to either certify or demonstrate certification equivalency.

- Adopting local sustainability policies and regulations that are derived from ND standards.

This catalog serves the third approach. It reorganizes the ND rating system into a local plan/code framework more familiar to planners than the standard LEED taxonomy. The catalog also simplifies the presentation of ND standards as shown in Table 1 with several credits consolidated under single measures. The objective is to make ND standards more accessible to local planners, and by doing so, better inform policy-making and standard-setting. Notable features of the catalog include:

- All ND credits have been included, except *Innovation & Design Process* and *Regional Priority* which are uniquely LEED-oriented.

- Requirements language has been taken directly from the ND rating system, except for minor editing for clarity, brevity, and conformance with ND addenda and GBCI interpretations. In some cases, measure subtitles have been reworded to be more descriptive of measure content. However, no changes have been made to the substance of any ND standards or thresholds.

- ND *prerequisites* have been renamed *minimum requirements,* which are intended for application to development types and/or areas selected by a community. ND *credits* have been renamed *electives,* which are intended to be voluntary actions undertaken by developers to qualify for local incentives or other regulatory advantages. For some measures, the ND point structure has been retained to signify gradations of project performance. The overall ND point system is not being recommended for local governments, but points have been retained in a few cases to illustrate how the relative merit of projects are judged under ND.

- In the text, actions originally required of developers have been rephrased to match a local government's position as policy administrator or regulator, as in:
    - *Give priority to…*provide preferential treatment in exchange for an action.
    - *Obtain commitments for…*either regulate, encourage, or negotiate an action.
    - *Require/must…*mandate an action.
    - *Allow…*enable an action.

The catalog does not specify the details of these implementations, leaving those to jurisdiction preferences for structuring policies and regulations. In particular, the catalog does not define "covered projects" that would be subject to such policies and regulations. For example, the City of Palo Alto CA is applying ND criteria to virtually all development on parcels one-quarter acre or larger citywide, whereas the City of Nashville TN limits its ND incentives to a single downtown district.

The catalog only provides a convenient means of identifying ND standards that may be of interest to a community. The measures are not written in formal plan or ordinance language. If staff decides to seriously consider a particular measure, they should refer to the original LEED-ND Rating System text and companion ND Reference Guide section, and obtain legal counsel advice about feasible options for local adaptation of the measure.

Staff searching for rating system-based policies and standards that have been vetted by subject matter experts should also consult other community-relevant rating systems and tools, including: Earthcraft Communities, Enterprise Green Communities, ISI Envision, APA Great Neighborhoods, GreenLITES, Greenroads, GreenTRIP, Living Building Challenge, SITES, STAR Community Index, and the US EDA Triple Bottom Line Tool.

Table 1. Local Govt. Catalog Measures Cross-Reference to LEED-ND Credits

Local Government Catalog Measures	Applicable LEED-ND Credits
Planning Process	
Outreach & Involvement	NPDc12
Land-Use	
Priority Development Areas	SLLp1, c1, c3
Priority Redevelopment Areas	SLLpc1, c2
Density	NPDp2, c2
Mixed-Uses	SLLp1, NPDc3
Housing Diversity	NPDc4
Housing/Jobs Balance	SLLc5
Food Production & Sales	NPDc13
Energy Facilities	GIBc11, c12
Transportation	
Pedestrian Network	NPDp1, c1, c15
Bicycle Network & Storage	SLLc4, NPDc5
Transit Service	SLLp1, NPDc3, c7
Street Network	SLLP1, c1, NPDc1, c6
Motor Vehicle Parking	NPDc1, c5, c8
Transportation Demand Mgmt	NPDc8
Resource Protection	
Wildlife Habitat	SLLp2, c7-9
Water Resources	SLLp3, p4, c7-9
Soils	SLLp5, c2, c6
Buildings	
Form and Function	NPDp1, c1
Visitability & Universal Design	NPDc11
Green Performance	GIBp1-3, c1-3
Reuse & Historic Preservation	GIBc5-6
Construction Waste Management	GIBc16
Site Development	
Site Disturbance	GIBp4, c7
Climate Integration	NPDc14, GIBc9-10
Water Resources	GIBc4, c8, c14
Exterior Lighting	GIBc17
Public Facilities & Services	
Civic & Recreation Spaces	NPDc9-10
School Campuses	NPDc15
Infrastructure Content & Efficiency	GIBc13, c15
Solid Waste Management	GIBc16

Electives

Obtain commitments from project developers to exceed codified public participation requirements using one or more of the following electives.

PRE-DESIGN OUTREACH

Meet with adjacent property owners, residents, business owners, and workers; local planning and community development officials; and any current residents or workers at project sites to solicit and document input on proposed projects prior to commencing a design.

DESIGN OUTREACH

Work directly with community associations and local government to advertise and host an open community meeting, other than an official public hearing, to generate comments at the beginning of project design.

DESIGN CHARRETTE

Host the community meeting described above, and conduct a public design charrette or interactive workshop of at least two days that includes, at a minimum, participation by a representative group of nearby property owners, residents, business owners, and workers in the preparation of project design alternatives.

INCORPORATE PUBLIC INPUT INTO FINAL DESIGN

Modify a project's design as a direct result of community input, or if modifications are not made, document why community input did not generate final design modifications.

ONGOING COMMUNICATIONS

Establish ongoing means for communication between project developers and the community throughout a project's design and construction phases, and in cases where a developer maintains any control during the post-construction phase.

Land-Use: ***Priority Development Areas***

Minimum Requirements

These requirements are designed to be applied as policy statements and/or an overlay of areas that meet the criteria.

ALL PROJECTS

Either locate projects on sites served by existing water and wastewater infrastructure, or locate them within a legally adopted, publicly-owned, planned water and wastewater service area, and provide new water and wastewater infrastructure for projects using any combination of on-site or off-site technologies that are locally approved.

OPTION 1. INFILL SITES

Give priority to projects that locate on infill sites that meet any of the following four conditions for a given project:

a. At least 75% of its boundary borders parcels that individually are at least 50% previously developed, and that in aggregate are at least 75% previously developed.
b. The site, in combination with bordering parcels, forms an aggregate parcel whose boundary is 75% bounded by parcels that individually are at least 50% previously developed, and that in aggregate are at least 75% previously developed.
c. At least 75% of the land area, exclusive of rights-of-way, within a ½ mile distance from the project boundary is previously developed.
d. The lands within a ½ mile distance from the project boundary have a pre-project connectivity of at least 140 intersections per square mile.

OPTION 2. ADJACENT SITES WITH CONNECTIVITY

Give priority to projects that locate on sites that are adjacent to previously developed land where the connectivity of a site and adjacent land is at least 90 intersections/square mile as measured within a ½-mile distance of a continuous segment of the project boundary, equal to or greater than 25% of the project boundary, that is adjacent to previous development. Locate and/or design projects such that a through-street and/or non-motorized right-of-way intersects the project boundary at least every 600 feet on average, and at least every 800 feet, connecting it with an existing street and/or right of way outside the project.

OPTION 3. TRANSIT ROUTES WITH ADEQUATE SERVICE

Give priority to projects that locate on sites with existing and/or planned transit service such that at least 50% of dwelling units and nonresidential building entrances (inclusive of existing buildings) are within a ¼ mile walk distance of bus and/or streetcar stops, or within a ½ mile walk distance of bus rapid transit stops, light or heavy rail stations, and/or ferry terminals, and the transit service at those stops in aggregate meets the minimums listed in Table 1 (both weekday and weekend trip minimums must be met). Weekend trips must include service on both Saturday and Sunday.

Table 1. Minimum daily transit service

	Weekday trips	Weekend daily trips (Sat and Sun each)
Projects with multiple transit types (bus, streetcar, BRT, rail, or ferry)	60	40
Projects with commuter rail or ferry service only	24	6

If transit service is planned but not yet operational, a project must demonstrate one of the following:

a. The relevant transit agency has a signed full funding grant agreement with the Federal Transit Administration that includes a revenue operations date for the start of transit service. The revenue operations date must be no later than the occupancy date of 50% of the project's total building square footage.

b. For bus, streetcar, bus rapid transit, or ferry service, the transit agency must certify that it has an approved budget that includes specifically allocated funds sufficient to provide the planned service at the levels listed above and that service at these levels will commence no later than occupancy of 50% of the project's total building square footage.

c. For rail service other than streetcars, the transit agency must certify that preliminary engineering for a rail line has commenced. In addition, the service must meet either of these two requirements: a state legislature or local subdivision of the state has authorized the transit agency to expend funds to establish rail transit service that will commence no later than occupancy of 50% of the project's total building square footage; or a municipality has dedicated funding or reimbursement commitments from future tax revenue for the development of stations, platforms, or other rail transit infrastructure that will service the project no later than occupancy of 50% of the project's total building square footage.

OPTION 4. SITES WITH WALKABLE DIVERSE USES

Give priority to projects with residential components equaling at least 30% of a project's total building square footage (exclusive of portions of parking structures devoted exclusively to parking), and locating near existing diverse uses (listed below) such that their project boundary is within ¼-mile walk distance of at least five diverse uses, or geographic centers are within ½-mile walk distance of at least seven diverse uses. In either case the qualifying uses must include at least one food retail establishment and at least one use from each of two other categories:

Diverse Uses

Food Retail
Supermarket
Other food store with produce

Community-Serving Retail
Any retail

Services
Bank
Gym, health club
Hair care
Laundry, dry cleaner
Restaurant (no drive-throughs)

Civic and Community Facilities
Adult or senior care
Child care
Community or recreation center
Cultural arts facility
Educational facility
Family entertainment venue
Government office
Place of worship
Medical clinic
Police or fire station
Post office
Public library
Public park
Social services center

Elective: *Preferred Locations*

LOCATION TYPES

Give additional priority to projects in the following locations:

a. Previously developed sites that are not adjacent site or infill sites (1 point).
b. Adjacent sites that are also previously developed sites (2 points).
c. Infill sites that are not previously developed sites (3 points).
d. Infill sites that are also previously developed sites (5 points).

VICINITY CONNECTIVITY LEVELS

Give additional priority to projects in areas that have existing connectivity within 1/2 mile of project boundaries, as listed in Table 2.

Table 2. Points for connectivity within 1/2 mile of project

Intersections per square mile	Points
≥200 and <250	1
≥250 and <300	2
≥300 and <350	3
≥350 and <400	4
≥400	5

Elective: *Transit-Served Locations*

Give additional priority to projects on sites with existing transit service such that at least 50% of dwelling units and nonresidential building entrances (inclusive of existing buildings) are within a ¼-mile walk distance of bus or streetcar stops, or within a ½-mile walk distance of bus rapid transit stops, light or heavy rail stations, or ferry terminals, and the transit service at those stops in aggregate meets the minimums listed in Tables 3 and 4. Both weekday and weekend daily trip minimums must be met to earn points at a particular threshold.

Projects larger than 125 acres can meet the requirements by locating on sites with existing transit service such that at least 40% of dwelling units and nonresidential building entrances (inclusive of existing buildings) are within a ¼-mile walk distance of bus or streetcar stops, or within a ½-mile walk distance of bus rapid transit stops, lightor heavy rail stations, or ferry terminals, and the transit service at those stops in aggregate meets the minimums listed in Tables 3 and 4 (both weekday and weekend daily trip minimums must be met to earn points at a particular threshold).

Projects greater than 500 acres can meet the requirements by locating on a site with existing transit service such that at least 30% of dwelling units and nonresidential building entrances (inclusive of existing buildings) are within a ¼-mile walk distance of bus or streetcar stops, or within a ½-mile walk distance of bus rapid transit stops, light or heavy rail stations, or ferry terminals, and the transit service

at those stops in aggregate meets the minimums listed in Tables 3 and 4(both weekday and weekend trip minimums must be met to earn points at a particular threshold).

Table 3. Minimum daily transit service for projects with multiple transit types (bus, streetcar, rail, or ferry).

Weekday trips	Weekend daily trips (Sat and Sun each)	Points
60	40	1
76	50	2
100	65	3
132	85	4
180	130	5
246	150	6
320	200	7

Table 4. Minimum daily transit service for projects with commuter rail or ferry service only

Weekday trips	Weekend daily trips	Points
24	6	1
40	8	2
60	12	3

Projects served by two or more transit routes such that no one route provides more than 60% of the prescribed levels may earn 1 bonus point, up to a maximum 7 points.

Land-Use: ***Priority Redevelopment Areas***

These electives are designed to be applied as policy statements and/or an overlay of areas that meet the criteria.

Electives

BROWNFIELD SITES

Give priority to projects that locate on sites that have been documented as contaminated and remediated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment or a local Voluntary Cleanup Program) or on sites defined as a brownfields by local, state, or federal government agencies; and in both cases where a controlling public authority approves the protective measures and/or cleanup as effective, safe, and appropriate for future use of the site. (Also see brownfield remediation under *Resource Protection: Soils*)

OTHER PRIORITY REDEVELOPMENT AREAS

Give priority to projects that locate in the following redevelopment areas: EPA National Priorities List, Federal Empowerment Zone, Federal Enterprise Community, Federal Renewal Community, Department of Justice Weed and Seed Strategy Community, Department of the Treasury Community Development Financial Institutions Fund Qualified Low-Income Community (a subset of the New Markets Tax Credit Program), or Department of Housing and Urban Development Qualified Census Tract or Difficult Development Area.

Land-Use: ***Density***

NOTE: *The following densities are based on the ND method of density calculation that includes buildable land that is not constructed upon, making ND densities somewhat lower than net densities typically used by local governments, e.g. the ND minimum of 7 DU/acre would equate to 8 DU/net acre as used in a local zoning ordinance.*

Minimum Requirements

OPTION 1. PROJECT DENSITIES IN HIGH-CAPACITY TRANSIT CORRIDORS

For projects with existing and/or planned transit service that equals or exceeds 76 weekday and 50 weekend daily transit trips, require that projects build at the following minimum densities in transit walksheds:

a. For residential components: 12 or more dwelling units per acre of buildable land within a ¼-mile walk to bus or streetcar stops, or ½-mile walk to BRT, rail, or ferry stops.
b. For residential components falling outside the walk distances: 7 or more dwelling units per acre of buildable land.
c. For non-residential components located within the walk distances: 0.80 floor-area ratio (FAR) or greater of buildable land available for nonresidential uses.
d. For non-residential components falling outside the walk distances: 0.50 FAR or greater of buildable land available for nonresidential uses.

If project locations are served by a transit agency that has minimum service densities that are greater than the required densities, projects must achieve the higher transit agency densities.

OPTION 2. DENSITIES IN ALL OTHER LOCATIONS

Require that projects build any residential components at a density of 7 or more dwelling units per acre of buildable land available for residential uses; or any non-residential components of a project at a density of 0.50 FAR or greater of buildable land available for non-residential uses.

ALL PROJECTS

Density calculations include all planned and existing buildings within a project boundary, excluding those portions of parking structures devoted exclusively to parking. The specified density must be achieved within five years of the date that the first building of any type is occupied. If one component of a project, residential or non-residential, meets the minimum density requirement but the other component does not, include only the qualifying density. Use that component's dwelling units per acre or non-residential floor area in the numerator and the total buildable land area in the denominator. If the resulting density meets the minimum threshold, the requirement is achieved.

Elective

Obtain commitments from developers to design and build projects such that residential and non-residential components achieve the densities per acre of buildable land listed in Table 1 (excluding portions of parking structures devoted to parking).

Table 1. Points for density per acre of buildable land

Residential density (DU/acre)	Nonresidential density (FAR)	Points
> 10 and ≤ 13	> 0.75 and ≤ 1.0	1
> 13 and ≤ 18	> 1.0 and ≤ 1.25	2
> 18 and ≤ 25	> 1.25 and ≤ 1.75	3
> 25 and ≤ 38	> 1.75 and ≤ 2.25	4
> 38 and ≤ 63	> 2.25 and ≤ 3.0	5
> 63	> 3.0	6

ALSO SEE THE DENSITY PROVISIONS OF THE FOLLOWING MEASURES: WETLANDS, AGRICULTURAL SOILS, LOCAL FOOD PRODUCTION, SITE DISTURBANCE, AND RAINWATER MANAGEMENT.

Land-Use: ***Mixed-Uses***

Minimum Requirement

SITES WITH WALKABLE DIVERSE USES *(Option 4 from Priority Development Areas)*

Give priority to projects with residential components equaling at least 30% of a project's total building square footage (exclusive of portions of parking structures devoted exclusively to parking) that locate near existing diverse uses (listed below) so that their project boundaries are within ¼-mile walk distance of at least five diverse uses, or such that their geographic centers are within ½-mile walk distance of at least seven diverse uses. In either case the qualifying uses must include at least one food retail establishment and at least one use from each of two other categories:

Diverse Uses

Food Retail
Supermarket
Other food store with produce
Community-Serving Retail
Any retail
Services
Bank
Gym, health club
Hair care
Laundry, dry cleaner
Restaurant (no drive-throughs)
Civic and Community Facilities
Adult or senior care
Child care
Community or recreation center
Cultural arts facility
Educational facility
Family entertainment venue
Government office
Place of worship
Medical clinic
Police or fire station
Post office
Public library
Public park
Social services center

Electives

ALL PROJECTS

Give priority to projects that are located and/or designed such that 50% of dwelling units are within a 1/4-mile walk distance of the number of diverse uses in Table 1, including at least one use from each of the four categories. For projects with no dwellings, 50% of dwelling units within 1/4 mile of a project boundary must be within a 1/4-mile walk distance of the number of diverse uses specified in Table 1, including at least one food retail store and at least one establishment from each of two other categories. Establishments may be inside or outside a project and may be existing or planned diverse uses. The specified number of diverse uses must be in place according to the occupancy percentages indicated in Table 1 (exclusive of portions of parking structures devoted to parking):

Table 1. Points for diverse uses within 1/4-mile walk distance, by time of occupancy

Diverse uses	Percentage occupancy of total square footage	Points
4–6	20%	1
7–10	30%	2
11–18	40%	3
≥ 19	50%	4

CLUSTERED USES IN PROJECTS 40 ACRES OR GREATER

In addition to achieving Table 1 points, projects 40 acres or greater should cluster diverse uses into neighborhood centers. In each neighborhood center, the following restrictions apply:

a. A single establishment may not be counted in two categories or as two types of diverse use (e.g., a place of worship may be counted only once even if it also contains a daycare facility, and a retail store may be counted only once even if it sells products in several categories).

b. Establishments in a mixed-use building may each count if they are distinctly operated enterprises with separate exterior entrances, but no more than half of the minimum number of diverse uses can be situated in a single building or under a common roof.

c. Within each neighborhood center, for 1 or 2 points the principal entries of the establishments must be within a 300-foot walk distance from a single common point that represents the center of the cluster, or for 3 or 4 points, within a 400-foot walk distance.

d. Only two establishments in a single category may be counted (e.g. if five restaurants are within the required distance, only two may be counted).

Cluster diverse uses into neighborhood centers as follows (minimum must be achieved, but not all diverse uses must be located in centers):

Table 2. Points for clustering of diverse uses

Diverse uses	Minimum uses per neighborhood center	Points
4–6	3	1
7–10	5	2
11–18	7	3
≥19	9	4

Projects with multiple centers must determine points earned based on the number of uses in the centers weighted by the percentage of total dwelling units within a ¼-mile walk distance from each center's common point.

TRANSIT SERVICE FOR PROJECTS WITH RETAIL OF 150,000 OR MORE SQUARE FEET

Projects with retail uses totaling 150,000 or more square feet, including at least one retail establishment totaling 75,000 or more square feet, must also implement the Reduced Automobile Dependence transit

elective. If transit service is planned but not yet operational to such projects, projects must demonstrate one of the following:

a. The relevant transit agency has a signed full funding grant agreement with the Federal Transit Administration that includes a revenue operations date for the start of transit service. The revenue operations date must be no later than the occupancy date of 50% of the project's total building square footage.

b. For bus, streetcar, bus rapid transit, or ferry service, the transit agency must certify that it has an approved budget that includes specifically allocated funds sufficient to provide the planned service at the levels listed above and that service at these levels will commence no later than occupancy of 50% of the project's total building square footage.

c. For rail service other than streetcars, the transit agency must certify that preliminary engineering for a rail line has commenced. In addition, the service must meet either of these two requirements: a state legislature or local subdivision of the state has authorized the transit agency to expend funds to establish rail transit service that will commence no later than occupancy of 50% of a project's total building square footage; or a municipality has dedicated funding or reimbursement commitments from future tax revenue for the development of stations, platforms, or other rail transit infrastructure that will service the project no later than occupancy of 50% of a project's total building square footage.

Land-Use: ***Housing Diversity***

Electives

DIVERSE HOUSING TYPES

Obtain commitments for a sufficient variety of housing sizes and types in residential projects such that the total variety of planned and existing housing within projects achieve a Simpson Diversity Index score greater than 0.5, using the housing categories below. Projects of less than 125 acres may calculate the Simpson Diversity Index for the area within ¼ mile of the project's geographic center. The Simpson Diversity Index calculates the probability that any two randomly selected dwelling units in a project will be of a different type.

Diversity Index Score = $1 - \sum (n/N)^2$

where n = the total number of dwelling units in a single category, and N = the total number of dwelling units in all categories.

Table 1. Points for housing diversity

Simpson Diversity Index score	Points
> 0.5 to < 0.6	1
≥ 0.6 to < 0.7	2
≥ 0.7	3

Housing categories are defined according to the dwelling unit's net square footage, exclusive of any garage, as listed in Table 2.

Table 2. Housing categories

Type	Square feet
Detached residential, large	> 1,250
Detached residential, small	≤ 1,250
Duplex or townhouse, large	> 1,250
Duplex or townhouse, small	≤ 1,250
Dwelling unit in multiunit building with no elevator, large	> 1,250
Dwelling unit in multiunit building with no elevator, medium	> 750 to ≤ 1,250
Dwelling unit in multiunit building with no elevator, small	≤ 750
Dwelling unit in multiunit building with elevator, 4 stories or fewer, large	> 1,250
Dwelling unit in multiunit building with elevator, 4 stories or fewer, medium	> 750 to ≤ 1,250
Dwelling unit in multiunit building with elevator, 4 stories or fewer, small	≤ 750
Dwelling unit in multiunit building with elevator, 5 to 8 stories, large	> 1,250
Dwelling unit in multiunit building with elevator, 5 to 8 stories, medium	> 750 to ≤ 1,250
Dwelling unit in multiunit building with elevator, 5 to 8 stories, small	≤ 750
Dwelling unit in multiunit building with elevator, 9 stories or more, large	> 1,250
Dwelling unit in multiunit building with elevator, 9 stories or more, medium	> 750 to ≤ 1,250

Dwelling unit in multiunit building with elevator, 9 stories or more, small	≤ 750
Live-work space, large	> 1,250
Live-work space, small	≤ 1,250
Accessory dwelling unit, large	> 1,250
Accessory dwelling unit, small	≤ 1,250

For the purposes of this requirement, townhouse and live-work units may have individual ground-level entrances and/or be within a multiunit or mixed-use building. Double counting is prohibited; each dwelling may be classified in only one category. The number of stories in a building is inclusive of the ground floor regardless of its use.

AFFORDABLE HOUSING

Obtain commitments for projects with residential components to include a proportion of new rental and/or for-sale dwelling units priced for households earning below the area median income (AMI). Rental units must be maintained at affordable levels for a minimum of 15 years. Existing dwelling units are exempt from requirement calculations. A maximum of 3 points may be earned by meeting any combination of thresholds in Table 3.

Table 3. Points for affordable housing

Rental dwelling units				For-sale dwelling units			
Priced up to 60% AMI		Priced up to 80% AMI		Priced up to 100% AMI		Priced up to 120% AMI	
Percentage of total rental units	Points	Percentage of total rental units	Points	Percentage of total for-sale units	Points	Percentage of total for-sale units	Points
5	1	10	1	5	1	8	1
10	2	15	2	10	2	10	2
15	3	25	3	15	3	--	--

AMI = area median income.

MIXED-INCOME DIVERSE NEIGHBORHOODS

Projects may earn 1 additional point by earning at least 2 points in Option 1 and at least 2 points in Option 2 (at least one of which must be for providing housing at or below 100% AMI).

Land-Use: ***Housing/Jobs Balance***

Electives

PROJECTS WITH AFFORDABLE RESIDENTIAL COMPONENTS (3 points)

Obtain commitments from projects with residential components equaling at least 30% of total building square footage (exclusive of parking structures) to locate and/or design the projects such that their geographic center (or boundary if the project exceeds 500 acres) is within ½-mile walk distance of existing full-time-equivalent jobs whose number is equal to or greater than the number of dwelling units in a project; and satisfy the requirements necessary to earn at least one point under the Housing Diversity Affordable Housing elective.

PROJECTS WITH RESIDENTIAL COMPONENTS (2 points)

Obtain commitments from projects with residential components equaling at least 30% of total building square footage (exclusive of parking structures) to locate and/or design the projects such that their geographic center (or boundary if the project exceeds 500 acres) is within ½-mile walk distance of existing full-time-equivalent jobs whose number is equal to or greater than the number of dwelling units in a project.

INFILL PROJECTS WITH NON-RESIDENTIAL COMPONENTS (1 point)

Obtain commitments from projects with non-residential components equaling at least 30% of total building square footage (exclusive of parking structures) to locate and/or design the projects on infill sites whose geographic centers (or boundary if the project exceeds 500 acres) are within ½-mile walk distance of an existing rail transit, ferry, or tram stop, and within ½-mile walk distance of existing dwelling units whose number is equal to or greater than 50% of the number of new full-time-equivalent jobs created as part of a project.

Electives

PRODUCE GROWING LOCATIONS

Obtain commitments from projects to establish CC&Rs or other forms of deed restrictions, which state that growing produce is not prohibited in any part of project areas, including any portion of all yards, balconies, patios, or roofs; or within greenhouses sited in accordance with local zoning standards.

NEIGHBORHOOD GARDENS

Obtain commitments to create dedicated permanent and viable growing spaces and/or related facilities (such as greenhouses) within projects according to the square footage areas specified in Table 1 (exclusive of existing dwellings). Insure that commitments include provisions for solar access, fencing, watering systems, garden bed enhancements (such as raised beds), secure storage space for tools, and pedestrian access for these spaces. Insure that the spaces are owned and managed by an entity that includes occupants of the project in its decision making, such as a community group, homeowners' association, or public body.

Table 1. Minimum garden space, by project density

Project density (DU/acre)	Growing space (sf/DU)
> 7 and ≤14	200
> 14 and ≤ 22	100
> 22 and ≤ 28	80
> 28 and ≤ 35	70
> 35	60

Existing community gardens outside a project boundary, but within a 1/2 mile walk distance of the project's geographic center, can satisfy this option if the garden otherwise meets all of the option requirements.

COMMUNITY-SUPPORTED AGRICULTURE

Obtain commitments from projects to purchase of shares in community-supported agriculture (CSA) programs located within 150 miles of project sites for at least 80% of dwelling units within a project (exclusive of existing dwelling units) for two years, beginning with each dwelling unit's occupancy until the 80% threshold is reached. Shares must be delivered to a point within 1/2 mile of a project's geographic center on a regular schedule not less than twice per month at least four months of the year.

PROXIMITY TO FARMERS' MARKETS

Give priority to projects that locate their geographic centers within a 1/2-mile walk distance of existing or planned farmers' markets that are open or will operate at least once weekly for at least five months

annually. Farmers' market vendors may sell only items grown within 150 miles of a project sites. A planned farmers' market must have firm commitments from farmers and vendors that the market will meet all the above requirements and be in full operation by the time of 50% occupancy of a project's total square footage.

Electives

ON-SITE RENEWABLE ENERGY SYSTEMS

Allow on-site non-polluting renewable energy generation systems, including solar, wind, geothermal, small-scale or micro hydroelectric, and/or biomass-fueled systems; and obtain commitments for such systems to produce at least 5% of a project's annual electrical and thermal energy cost (exclusive of existing buildings) as established through an accepted building energy performance simulation tool. Points are awarded as listed in Table 1.

Table 1. Points for on-site renewable energy generation

Percentage of annual electrical and thermal energy cost	Points
5%	1
12.5%	2
20%	3

DISTRICT HEATING & COOLING SYSTEMS

Allow district heating and/or cooling systems for space conditioning and/or water heating of new buildings (at least two buildings total); and obtain commitments for such systems to provide at least 80% of a project's annual heating and/or cooling demand. Single-family residential buildings and existing buildings of any type may be excluded from the calculation.

Each system component that is addressed by ANSI/ASHRAE/IESNA Standard 90.1–2007 must have an overall efficiency performance at least 10% better than that specified by the standard's prescriptive requirements. Additionally, annual district pumping energy consumption that exceeds 2.5% of the annual thermal energy output of the heating and cooling plant (with 1 kWh of electricity equal to 3,413 Btus) must be offset by increases in the component's efficiency beyond the specified 10% improvement.

If combined heat and power (CHP)technology is used to achieve the requirement, a project must show equivalence by demonstrating that energy savings from the CHP plant are equal or greater than the energy savings that would result from using components that are 10% better than ANSI/ASHRAE/IESNA Standard 90.1-2077.

Transportation: ***Pedestrian Network***

Minimum Requirement

Continuous sidewalks or equivalent all-weather provisions for walking must be provided along both sides of 90% of streets or frontage within a project, including the project side of streets bordering a project. New sidewalks, whether adjacent to streets or not, must be at least 8 feet wide on retail or mixed-use blocks and at least 4 feet wide on all other blocks. Equivalent provisions for walking include woonerfs and all-weather-surface footpaths. Alleys, driveways, and reconstructed existing sidewalks are excluded from these calculations.

Electives

SIDEWALKS

Continuous sidewalks or equivalent provisions for walking must be available along both sides of *all* streets within a project, including the project side of streets bordering the project. New sidewalks, whether adjacent to streets or not, must be at least *10* feet wide on retail or mixed-use blocks and at least *5* feet wide on all other blocks. Equivalent provisions for walking include woonerfs and all-weather-surface footpaths at least 5 feet wide. At-grade crossings with driveways must not account for more than 10% of the length of sidewalks within a project.

SCHOOL WALKING ROUTES

Streets within and/or bordering a project boundary that lead from dwelling units to a school site must have a complete network of sidewalks on both sides and either bicycle lanes, traffic control, and/or traffic calming measures. If a school is planned as part of a project, it must be designed such that pedestrians and bicyclists can easily reach building entrances without crossing bus zones, parking entrances, and student drop-off areas.

ALSO SEE MEASURES FOR WALKABILITY TO: TRANSIT, DIVERSE USES, SCHOOLS, AND CIVIC AND RECREATION SPACES.

Transportation: ***Bicycle Network & Storage***

Electives

BICYCLE NETWORK

Obtain commitments for projects to be designed and/or located such that they meet at least one of the following three requirements:

a. An existing bicycle network of at least 5 continuous miles in length is within ¼-mile bicycling distance of the project boundary.
b. If the project is 100% residential, an existing bicycle network begins within ¼-mile bicycling distance of the project boundary and connects to a school or employment center within 3 miles' bicycling distance.
c. An existing bicycle network within ¼-mile bicycling distance of the project boundary connects to at least ten diverse uses (see list above) within 3 miles' bicycling distance from the project boundary.

BICYCLE STORAGE

Projects must provide bicycle parking and storage capacity to new buildings as follows:

a. **Multiunit residential.** Provide at least one secure, enclosed bicycle storage space per occupant for 30% of the planned occupancy but no fewer than one per unit. Provide secure visitor bicycle racks on-site, with at least one bicycle space per ten dwelling units but no fewer than four spaces per project site.
b. **Retail.** Provide at least one secure, enclosed bicycle storage space per new retail worker for 10% of retail worker planned occupancy. Provide visitor or customer bicycle racks on-site, with at least one bicycle space per 5,000 square feet of retail space, but no fewer than one bicycle space per business or four bicycle spaces per project site, whichever is greater. Provide at least one on-site shower with changing facility for any development with 100 or more new workers and at least one additional on-site shower with changing facility for every 150 new workers thereafter.
c. **Nonresidential other than retail.** Provide at least one secure, enclosed bicycle storage space per new occupant for 10% of planned occupancy. Provide visitor bicycle racks on-site with at least one bicycle space per 10,000 square feet of new commercial nonretail space but not fewer than four bicycle spaces per building. Provide at least one on-site shower with changing facility for any development with 100 or more new workers and at least one additional on-site shower with changing facility for every 150 new workers thereafter.

Secure, enclosed bicycle storage areas must be locked and easily accessible to residents and/or workers. Informational signage on using the storage facilities must be provided. Visitors' and customers' bicycle racks must be clearly visible from a main entry, located within 100 feet of the door, served with night lighting, and protected from damage from nearby vehicles. If a building has multiple main entries, bicycle racks must be proportionally dispersed within 100 feet of each. Shower and changing facility requirements may be met by providing the equivalent of free access to on-site health club shower facilities, if the health club can be accessed without going outside. Informational signage on using the shower facilities must be provided.

Transportation: ***Transit Service***

Minimum Requirement

TRANSIT ROUTES WITH ADEQUATE SERVICE (*Option 3 from Priority Development Areas*)

Obtain commitments for transit service to projects at stops that in the aggregate meets the minimums listed in Table 1 (both weekday and weekend trip minimums must be met). Weekend trips must include service on both Saturday and Sunday.

Table 1. Minimum daily transit service

	Weekday trips	Weekend daily trips (Sat and Sun each)
Routes of any transit type (bus, streetcar, BRT, rail, or ferry)	60	40
Routes of commuter rail or ferry service only	24	6

Electives

PROJECTS WITH REGION-SERVING RETAIL OF 150,000 OR MORE SQUARE FEET

Obtain commitments to provide region-serving retail projects with the minimum daily transit service levels shown in Table 1.

TRANSIT STOPS

Obtain commitments from developers to work with the transit agency to identify stop locations within and/or bordering project boundaries where transit agency-approved shelters and any other agency-required improvements, including bicycle racks, will be installed no later than construction of 50% of total project square footage. Shelters must be covered, be at least partially enclosed to buffer wind and rain, and have seating and illumination. Any required bicycle racks must have a two-point support system for locking the frame and wheels and be securely affixed to the ground or a building. Also, identify locations within and bordering project boundaries where the transit agency determines that stops will be warranted within two years of project completion, either because of increased ridership on existing routes resulting from the project or because of planned future transit. At those locations, reserve space for transit shelters and any required improvements, including bicycle racks. In lieu of or in addition to new stops, this elective can be satisfied with a commitment from the transit agency to provide increased service to the transit stops that will have been installed at the time of 50% build-out.

Work with the transit agency or agencies serving a project to provide kiosks, bulletin boards, and/or signs that display transit schedules and route information at each public transit stop within and bordering a project.

Transportation: ***Street Network***

Minimum Requirements

SITES WITH CONNECTIVITY (Option 2 *from Priority Development Areas*)

Give priority to projects where connectivity is at least 90 intersections/square mile as measured within a ½-mile distance of a continuous segment of a project boundary, equal to or greater than 25% of a project boundary, and that is adjacent to previous development. Locate and/or design projects such that a through-street and/or non-motorized right-of-way intersects project boundaries at least every 600 feet on average, and at least every 800 feet, connecting them with an existing street and/or right of way outside projects.

Electives

VICINITY CONNECTIVITY

Give additional priority to projects in areas that have connectivity within 1/2 mile of project boundaries as listed to Table 1.

Table 1. Points for connectivity within 1/2 mile of project boundary

Intersections per square mile	Points
≥200 and <250	1
≥250 and <300	2
≥300 and <350	3
≥350 and <400	4
≥400	5

INTERNAL CONNECTIVITY FOR PROJECTS

Give additional priority to locating and/or designing projects such that their internal connectivity and/or the connectivity within a 1/4-mile distance of the project boundary falls within one of the ranges listed in Table 2.

Table 2. Points for internal connectivity

Street intersections per square mile	Points
> 300 and ≤ 400	1
> 400	2

BOUNDARY CONNECTIVITY FOR PROJECTS

Give additional priority to locating and/or designing projects such that a through-street and/or non-motorized right-of-way intersects or terminates at project boundaries at least every 400 feet or at

existing abutting street intervals and intersections, whichever is the shorter distance. Include a pedestrian or bicycle through-connection in at least 90% of any new culs-de-sac at project boundaries. This does not apply to portions of a boundary where connections cannot be made because of physical obstacles, such as prior platting of property, construction of existing buildings or other barriers, slopes over 15%, wetlands and water bodies, railroad and utility rights-of-way, existing limited-access motor vehicle rights-of-way, and parks and dedicated open space.

TRAFFIC SPEED

75% of new residential-only streets within projects should be designed for a target speed of no more than 20 mph. 70% of new non-residential and/or mixed-use streets within projects should be designed for a target speed of no more than 25 mph. A multi-way boulevard, with travel lanes separated from access lanes by medians, may apply this requirement to its outer access lanes only (through-lanes are exempt), provided pedestrian crosswalks are installed across the boulevard at intervals no greater than 800 feet.

Transportation: ***Motor Vehicle Parking***

Electives

ON-STREET PARKING

Provide on-street parking on a minimum of 70% of both sides of all streets. The percentage of on-street parking is calculated by dividing the length of street designated for parking by the total length of the curb along each street, including curb cuts, driveways, and intersection radii. Space within the parking lane that is occupied by corner bulb-outs (within 24 feet of an intersection), transit stops, and motorcycle or bicycle parking may be counted as designated for parking in this calculation. Woonerfs are not considered streets for this elective.

OFF-STREET PARKING

For new non-residential buildings and multiunit residential buildings, obtain commitments to not build new off-street parking lots, or to locate all new off-street surface parking lots at the side or rear of buildings, leaving building frontages facing streets free of surface parking lots.

Use no more than 20% of the total development footprint of a project for all new off-street surface parking facilities, with no individual surface parking lot allowed to be larger than 2 acres. For the purposes of this elective, surface parking facilities include ground-level garages unless they are under habitable building space. Underground or multi-story parking facilities can be used to provide additional capacity, and on-street parking spaces are exempt from this limitation.

UNBUNDLING OF PARKING

Obtain commitments for 90% of multiunit residential units and/or non-residential square footage to be unbundled, allowing the associated parking spaces to be sold or rented separately from the dwelling units and/or nonresidential square footage.

Transportation: ***Transportation Demand Management***

Electives

TDM PROGRAM

Obtain commitments to create and implement comprehensive transportation demand management (TDM) programs for projects that reduce weekday peak-period motor vehicle trips by at least 20% compared with a baseline case, and are funded for a minimum of three years following build-out of projects. The TDM program must be prepared by a qualified transportation professional. Any trip reduction effects of the following Electives may not be included in calculating the 20% threshold.

TRANSIT PASSES

Obtain commitments to provide transit passes valid for at least one year, subsidized to be half of regular price or cheaper, to each occupant locating within a project during the first three years of project occupancy (or longer).

DEVELOPER-SPONSORED TRANSIT

Obtain commitments for provision of year-round, developer-sponsored private transit service (with vans, shuttles, buses) from at least one central point in a project to other major transit facilities, and/or other destinations such as a retail or employment center, with service no less frequent than 45 daily weekday trips and 30 daily weekend trips. The service must begin by the time a project total square footage is 20% occupied and must be guaranteed for at least three years beyond project build-out. Twenty percent occupancy is defined as residents living in 20% of the dwelling units and/or employees working in 20% of the total nonresidential square footage. Provide transit stop shelters and bicycle racks adequate to meet projected demand but no less than one shelter and one bicycle rack at each transit stop. Shelters must be covered, be at least partially enclosed to buffer wind and rain, and have seating and illumination. Bicycle racks must have a two-point support system for locking the frame and wheels and must be securely affixed to the ground or a building.

VEHICLE SHARING

Obtain commitments to service projects with vehicle sharing such that 50% of dwelling units and non-residential building entrances are within a ¼ mile walk distance of at least one vehicle in a vehicle-sharing program for up to 100 dwelling units or employees. For each vehicle, dedicate one parking space accessible to vehicle-sharing members. If a project has more than 100 dwelling units and/or employees and has a minimum transit service of 60 daily weekday trips and 40 daily weekend trips within a ¼-1/2-mile walk of at least 50% of project dwellings and business entrances, at least one additional vehicle and parking space for every 100 dwelling units and/or employees must be available. If a project has more than 100 dwelling units and/or employees but does not have transit service at the frequencies specified above, at least one additional vehicle and parking space for every 200 dwelling units and/or employees must be available. Where new vehicle locations are created, a vehicle sharing program must begin by the time the project total square footage is 20% occupied; commit to providing vehicles to the locations

for at least two years. Twenty percent occupancy is defined as residents living in 20% of the project dwelling units and/or employees working in 20% of the total nonresidential square footage of the project.

Resource Protection: ***Wildlife Habitat***

Minimum Requirements

ALL PROJECTS

Insure that consultation occurs with the state Natural Heritage Program and state fish and wildlife agencies to determine whether species listed as threatened or endangered under the federal Endangered Species Act, the state's endangered species act, or species or ecological communities classified by NatureServe as GH (possibly extinct), G1 (critically imperiled), or G2 (imperiled) have been or are likely to be found on a project site because of the presence of suitable habitat and nearby occurrences. If the consultations are inconclusive and site conditions indicate that imperiled species or ecological communities could be present, obtain commitments to use a qualified biologist to perform biological surveys using accepted methodologies during appropriate seasons to determine whether such species or communities occur or are likely to occur on the site.

OPTION 1. SITES WITHOUT AFFECTED SPECIES OR ECOLOGICAL COMMUNITY

The requirement is satisfied if the consultation and any necessary biological surveys determine that no such imperiled species or ecological communities have been found or have a high likelihood of occurring.

OPTION 2. SITES WITH AFFECTED SPECIES OR ECOLOGICAL COMMUNITY WHERE HABITAT CONSERVATION PLAN IS IN PLACE

Comply with an approved habitat conservation plan under the Endangered Species Act for each identified species or ecological community.

OPTION 3. SITES WITH AFFECTED SPECIES OR ECOLOGICAL COMMUNITY: PREPARE A HABITAT CONSERVATION PLAN EQUIVALENT

Work with a qualified biologist, a nongovernmental conservation organization, or the appropriate state, regional, or local agency to create and implement a conservation plan that includes the following actions:

a. Identify and map the extent of the habitat and the appropriate buffer, not less than 100 feet, according to best available scientific information.
b. To the maximum extent practicable, protect the identified habitat and buffer in perpetuity by donating or selling the land or a conservation easement on the land to an accredited land trust or relevant public agency.
c. If on-site protection can be accomplished, analyze threats from development and develop a monitoring and management plan that eliminates or significantly reduces the threats.
d. If any portion of the identified habitat and buffer cannot be protected in perpetuity, quantify the effects by acres or number of plants and/or animals affected, and protect from development in

perpetuity habitat of similar or better quality, on-site or off-site, by donating or selling a conservation easement on it to an accredited land trust or relevant public agency. The donation or easement must cover an amount of land equal to or larger than the area that cannot be protected.

Electives

SITES WITH SIGNIFICANT HABITAT

Obtain commitments from developers to work with the state Natural Heritage Program and the state fish and wildlife agency to delineate significant habitat on sites. Do not disturb significant habitat or portions of a site within an appropriate buffer around the habitat. The geographic extent of the habitat and buffer must be identified by a qualified biologist, a nongovernmental conservation organization, or the appropriate state or regional agency. Protect significant habitat and its identified buffers from development in perpetuity by obtaining commitments to donate or sell the land, or a conservation easement on the land, to an accredited land trust or relevant public agency (a deed covenant is not sufficient to meet this requirement). Obtain commitments to ongoing management activities, along with parties responsible for management and funding available, so that habitat is maintained in preproject condition or better for a minimum of three years after a project is built out.

Significant habitat for this elective includes the following:

a. Habitat for species that are listed or are candidates for listing under state or federal endangered species acts, habitat for species of special concern in the state, and/or habitat for those species and/or ecological communities classified as G1, G2, G3, and/or S1 and S2 species by NatureServe.
b. Locally or regionally significant habitat of any size, or patches of predominantly native vegetation at least 150 acres (even if some of the 150 acres lies outside the project boundary).
c. Habitat flagged for conservation under a regional or state conservation or green infrastructure plan.

HABITAT RESTORATION

Obtain commitments to use only native plants to restore predevelopment native ecological communities, water bodies, or wetlands on project sites in an area equal to or greater than 10% of a project development footprint. Insure that projects work with a qualified biologist such that restored areas will have the native species assemblages, hydrology, and other habitat characteristics that likely occurred in predevelopment conditions. Obtain commitments to protect such areas from development in perpetuity by donating or selling the land, or a conservation easement on the land, to an accredited land trust or relevant public agency (a deed covenant is not sufficient to meet this requirement). Insure a commitment to ongoing management activities, along with parties responsible for management and funding available, so that restored areas are maintained for a minimum of three years after a project is built out or the restoration is completed, whichever is later.

LONG-TERM HABITAT MANAGEMENT

Obtain commitments to create and implement long-term (at least ten-year) management plans for new or existing on-site native habitats, water bodies, and/or wetlands and their buffers, and to create a guaranteed funding source for management. Insure that developers use a qualified biologist or a professional from a natural resources agency or natural resources consulting firm in writing the management plan and conducting or evaluating the ongoing management. The plan must include biological objectives consistent with habitat and/or water resource conservation, and it must identify (1) procedures, including personnel to carry them out, for maintaining the conservation areas; (2) estimated implementation costs and funding sources; and (3) threats that the project poses for habitat and/or water resources within conservation areas (e.g., introduction of exotic species, intrusion of residents in habitat areas) and measures to substantially reduce those threats.

Minimum Requirements

WETLANDS & WATER BODIES OPTION 1. SITES WITH NO RESOURCES

Give priority to projects located on sites that include no wetlands, no water bodies, no land within 50 feet of wetlands, and no land within 100 feet of water bodies.

WETLANDS & WATER BODIES OPTION 2. SITES WITH RESOURCES

Obtain commitments to locate and/or design projects such that pre-project wetlands, water bodies, land within 50 feet of wetlands, and land within 100 feet of water bodies are not affected by new development, unless the development is minor improvements or is on previously developed land. Or comply with the Stormwater Management electives and limit any impacts beyond minor improvements to less than the percentage of buffer land listed in Table 1.

Table 1. Maximum allowable area of impacts within buffer zone, by density

Residential density (DU/acre)*	Nonresidential density (FAR)*	Percentage of buffer land** where impacts beyond minor improvements are allowed
> 25	> 1.75	≤ 20%
> 18 and ≤ 25	> 1.25 to ≤ 1.75	≤ 15%
> 10 and ≤ 18	> .75 to ≤ 1.25	≤ 10%
≤ 10	≤ .75	≤ 5%

DU = dwelling unit; FAR = floor-area ratio.

* For this option, a mixed-use project may use either its residential or its nonresidential density to determine the percentage of allowable impacts, regardless of which is higher.

** For this option, buffer width may vary as long as the total buffer area is equal to the area within 50 feet of wetlands and/or within 100 feet of water bodies, minus excluded features (see below). The minimum buffer width, however, is 25 feet for wetlands and 50 feet for water bodies, measured from the edge. In the minimum buffer, only minor improvements and/or improvements that result in no ecological impairment of the wetland or water body, as determined by a qualified biologist, are allowed.

WETLANDS SUBJECT TO LEED-ND MINIMUM REQUIREMENTS

For purposes of LEED-ND, the following features are not considered wetlands, water bodies, or buffer land that must be protected for the purposes of this prerequisite:

a. Previously developed land.

b. Man-made water bodies (such as industrial mining pits, concrete-lined canals, or stormwater retention ponds) that lack natural edges and floors or native ecological communities in the water and along the edge.

c. Man-made linear wetlands that result from the interruption of natural drainages by existing rights-of-way.

d. Wetlands that were man-made incidentally and have been rated "poor" for all measured wetland functions. Wetland quality assessment must be performed by a qualified biologist using a method that is accepted by state or regional permitting agencies.

For purposes of LEED-ND, minor improvements within a buffer may be undertaken to enhance appreciation for the wetland or water body, provided such facilities are open to public access. Only the following improvements are permitted:

a. Bicycle and pedestrian pathways no more than 12 feet wide, of which no more than 8 feet may be impervious.

b. Activities to maintain or restore native natural communities and/or natural hydrology.

c. One single-story structure not exceeding 500 square feet per 300 linear feet of buffer, on average.

d. Grade changes necessary to ensure public access.

e. Clearings, limited to one per 300 linear feet of buffer on average, not exceeding 500 square feet each, for tables, benches, and access for non-motorized recreational watercraft. Off-street parking is not considered a minor improvement.

f. Removal of hazardous trees; up to 75% of dead trees; trees less than 6 inches diameter at breast height; trees under 40% condition rating; and up to 20% of trees more than 6 inches diameter at breast height with a condition rating of 40% or higher. The condition rating must be based on an assessment by an arborist certified by the International Society of Arboriculture (ISA) using ISA standard measures.

g. Brownfield remediation activities.

Direct impacts to wetlands and water bodies are prohibited, except for minimal-impact structures, such as an elevated boardwalk, that allow access to the water for educational and recreational purposes. Structures that protrude into wetlands or water bodies may be replaced, provided the replacement structure has the same or smaller footprint and a similar height.

FLOODPLAINS OPTION 1. SITES WITHOUT FLOODPLAINS

Give priority to projects located on sites that do not contain any land within a 100-year high- or moderate-risk floodplain as defined and mapped by the Federal Emergency Management Agency (FEMA) or a state or local floodplain management agency, whichever is more recent.

FLOODPLAINS OPTION 2. INFILL OR PREVIOUSLY DEVELOPED SITES WITH FLOODPLAINS

Give priority to projects on infill sites or previously developed sites, or in a non-conveyance area of river or coastal floodplain without storm surge potential where compensatory storage is used in accordance with a FEMA-approved mitigation plan. Comply with the National Flood Insurance Program (NFIP) requirements for developing any portions of the site that lie within a 100-year high-or moderate-risk floodplain, as defined in Option 1. If a project includes construction of any critical facility, such as a hospital, water and sewage treatment facility, emergency center, or fire or police station, the critical facility must be designed and built so as to be protected and operable during a 500-year event, as defined by FEMA.

FLOODPLAINS OPTION 3. ALL OTHER SITES WITH FLOODPLAINS

If any part of a development site is located within a 100-year high- or moderate-risk floodplain, as defined above, obtain commitments to develop only on portions of the site that are not in the floodplain, or that have been previously developed, or that are in a non-conveyance area of river or coastal floodplain without storm surge potential where compensatory storage is used in accordance with a FEMA-approved mitigation plan. Previously developed portions in the floodplain must be developed according to NFIP requirements. If development includes construction of any critical facility, as described above, the critical facility must be designed and built so as to be protected and operable during a 500-year event, as defined by FEMA.

Elective

SITES WITH WETLANDS AND WATER BODIES

Obtain commitments to design projects to conserve 100% of all water bodies, wetlands, land within 100 feet of water bodies, and land within 50 feet of wetlands on the site. Insure that developers use a qualified biologist, conduct an assessment, or compile existing assessments, showing the extent to which those water bodies and/or wetlands perform the following functions: (1) water quality maintenance, (2) wildlife habitat protection, and (3) hydrologic function maintenance, including flood protection. Assign appropriate buffers (not less than 100 feet for water bodies and 50 feet for wetlands) based on the functions provided, contiguous soils and slopes, and contiguous land uses. Do not disturb wetlands, water bodies, and their buffers, and protect them from development in perpetuity by donating or selling the land, or a conservation easement on the land, to an accredited land trust or relevant public agency (a deed covenant is not sufficient to meet this requirement). Obtain commitments to ongoing management activities, along with parties responsible for management and funding available, so that habitat is maintained in pre-project condition or better for a minimum of three years after a project is built out.

ALSO SEE WILDLIFE HABITAT ELECTIVES

Resource Protection: ***Soils***

Minimum Requirements

OPTION 1. SITES WITHOUT AFFECTED AGRICULTURAL SOILS

Give priority to projects whose development footprints do not disturb prime soils, unique soils, or soils of state significance as identified in a state Natural Resources Conservation Service soil survey.

OPTION 2. INFILL SITES ON AGRICULTURAL SOILS

Allow the loss of agricultural soils when projects are located on infill sites..

OPTION 3. TRANSIT-SERVED SITES ON AGRICULTURAL SOILS

Allow the loss of agricultural soils when projects are located on adequately transit-served sites.

OPTION 4. LOCATE IN DEVELOPMENT RIGHTS RECEIVING AREA FOR AGRICULTURAL SOILS

Give priority to projects located within designated receiving areas for development rights under a publicly administered farmland protection program that provides for the transfer of development rights from lands designated for conservation to lands designated for development.

OPTION 5. SITES WITH IMPACTED AGRICULTURAL SOILS

If a project development footprint encroaches on agricultural soils (prime, unique, or state significance), as identified in a state Natural Resources Conservation Service soil survey, obtain commitments to mitigate soil losses through the purchase of easements providing permanent protection from development on land with comparable soils in accordance with the ratios in Table 1.

Table 1. Mitigation ratios for projects

Residential density (DU per acre of buildable land available for residential use)	Nonresidential density (FAR of buildable land available for nonresidential use)	Mitigation ratio (acres of easement : acres of project on prime, unique, or significant soil)
> 7 and ≤ 8.5	> 0.50 and ≤ 0.67	2 to 1
> 8.5 and ≤ 10	> 0.67 and ≤ 0.75	1.5 to 1
> 10 and ≤ 11.5	> 0.75 and ≤ 0.87	1 to 1
> 11.5 and ≤ 13	> 0.87 and ≤ 1.0	.5 to 1
> 13	> 1.0	No mitigation

All off-site mitigation must be located within 100 miles of the project. Up to 15% of the impacted soils area may be exempted from the density requirements if it is permanently dedicated for community

gardens, and may also count toward the mitigation requirement for the remainder of the site. Portions of parking structures devoted exclusively to parking must be excluded from the numerator when calculating the floor-area ratio (FAR). The mitigation ratio for a mixed-use project is calculated as follows:

1. Determine the total square footage of all residential and nonresidential uses.
2. Calculate the percentage residential and percentage nonresidential of the total square footage.
3. Determine the density of the residential and nonresidential components as measured in dwelling units per acre and FAR, respectively.
4. Referring to Table 1, find the appropriate mitigation ratios for the residential and nonresidential components.
5. If the mitigation ratios are different, multiply the mitigation ratio of the residential component by its percentage of the total square footage, and multiply the mitigation ratio of the nonresidential component by its percentage.
6. Average the two ratios. The result is the required mitigation ratio.

Electives

NO DISTURBANCE OF STEEP SLOPES OVER 15%

Give additional priority to projects on sites that have no existing slopes greater than 15%, or that avoid disturbing portions of sites that have existing slopes greater than 15%.

PREVIOUSLY DEVELOPED SITES WITH SLOPES OVER 15%

On portions of previously developed sites with existing slopes greater than 15%, obtain commitments to restore the slope area with native plants or noninvasive adapted plants according to Table 1.

Table 1. Required restoration area of slope

Slope	Restoration
>40%	100%
26% to 40%	60%
15% to 25%	40%

In addition, obtain commitments to develop covenants, conditions, and restrictions (CC&Rs) or other binding documents that will protect the specified steep slope areas in perpetuity.

UNDEVELOPED SITES WITH SLOPES OVER 15%

On portions of sites that are not previously developed, obtain commitments to protect existing undisturbed slopes over 15% as follows:

a. Do not disturb slopes greater than 40% and do not disturb portions of the project site within 50 feet horizontally of the top of the slope and 75 feet horizontally from the toe of the slope.
b. Limit development to no more than 40% of slopes between 25% and 40% and to no more than 60% of slopes between 15% and 25%.

c. Locate development such that the percentage of the development footprint that is on existing slopes less than 15% is greater than the percentage of buildable land that has existing slopes less than 15%.

d. Develop CC&Rs, development agreements, or other binding documents that will protect steep slopes in perpetuity.

BROWNFIELD SOIL REMEDIATION & SITE REUSE

Give priority to projects on sites which are documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment or a local Voluntary Cleanup Program), or on sites defined as a brownfield by a local, state, or federal government agency; and remediate site contamination such that the controlling public authority approves the protective measures and/or cleanup as effective, safe, and appropriate for the future use of the sites. (*also see Priority Redevelopment Areas*)

Minimum Requirements

Obtain commitments and/or establish design guidelines that result in projects achieving the following:

a. For 90% of new building frontage, a principal functional entry on the front façade faces a public space, such as a street, square, park, paseo, or plaza, but not a parking lot, and is connected to sidewalks or equivalent provisions for walking. The square, park, or plaza must be at least 50 feet wide at a point perpendicular to each entry.
b. At least 15% of existing and new street frontage within and bordering a project has a minimum building-height-to-street-width ratio of 1:3 (i.e., a minimum of 1 foot of building height for every 3 feet of street width).
c. Continuous sidewalks or equivalent all-weather provisions for walking are provided along both sides of 90% of streets or frontage within a project, including the project side of streets bordering a project. New sidewalks, whether adjacent to streets or not, must be at least 8 feet wide on retail or mixed-use blocks and at least 4 feet wide on all other blocks. Equivalent provisions for walking include woonerfs and all-weather-surface footpaths. Alleys, driveways, and reconstructed existing sidewalks are excluded from these calculations.
d. No more than 20% of the street frontages within a project can be faced directly by garage and service bay openings.

Projects in a designated historic district subject to review by an historic preservation entity are exempt from (b), (c), and (d) if approval for compliance is not granted by the review body.

Electives

Enable development projects to earn a maximum of 12 points according to the schedule in Table 1:

Table 1. Points for urban design/walkable street features

Features achieved	Points
2–3	1
4–5	2
6–7	3
8–9	4
10	7

Façades and Entries

a. At least 80% of the total linear feet of street-facing building façades in a project are no more than 25 feet from the property line.

b. At least 50% of the total linear feet of street-facing building façades in a project are no more than 18 feet from the property line.

c. At least 50% of the total linear feet of mixed-use and non-residential street-facing building façades in a project are within 1 foot of a sidewalk or equivalent provision for walking.

d. Functional entries to buildings occur at an average of 75 feet or less along non-residential or mixed-use buildings or blocks.

e. Functional entries to buildings occur at an average of 30 feet or less along non-residential or mixed-use buildings or blocks (items d and e are cumulative).

Ground-Level Functions

f. All ground-level retail, service, and trade uses that face a public space have clear glass on at least 60% of their façades between 3 and 8 feet above grade.

g. If a façade extends along a sidewalk, no more than 40% of its length or 50 feet, whichever is less, is blank (without doors or windows).

h. Any ground-level retail, service, or trade windows must be kept visible (unshuttered) at night; this must be stipulated in covenants, conditions, and restrictions (CC&Rs) or other binding documents.

i. If a project has ground-floor dwelling units, the principal floor of at least 50% of those units must have an elevated finished floor no less than 24 inches above the sidewalk grade. Below-grade basement spaces and/or accessory dwelling units are exempt from this requirement.

j. In non-residential or mixed-use projects, 50% or more of the total number of office buildings include ground-floor retail along 60% of the length of the street-level façade; 100% of mixed-use buildings include ground-floor retail, live-work spaces, and/or ground-floor dwelling units along at least 60% of the street-level façade; and all businesses and/or other community services on the ground floor are accessible directly from sidewalks along a public space, such as a street, square, paseo, or plaza, but not a parking lot.

k. At least 40% of all street frontage within a project has a minimum building-height-to-street-width ratio of 1:3 (i.e., a minimum of 1 foot of building height for every 3 feet of street width).

Tree-Lined or Shaded Streets

l. Design and build the project to provide street trees on both sides of at least 60% of new and existing streets within the project and on the project side of bordering streets, between the vehicle travel way and walkway, at intervals averaging no more than 40 feet (excluding driveways and utility vaults). Alternatively, provide trees or other structures that provide shade over at least 40% of the length of sidewalks on streets within or contiguous to the project. Trees must provide shade within ten years of landscape installation. Use the estimated crown diameter (the width of the shade if the sun is directly above the tree) to calculate the shaded area. Obtain a registered landscape architect's determination that planting details are appropriate to growing healthy trees, taking into account tree species, root medium, and width and soil volume of planter strips or wells, and that the selected tree species are not considered invasive in the project context according to USDA or the state agricultural extension service

Electives

OPTION 1. PROJECTS WITH DWELLING UNITS

For each new project dwelling unit of the following residential building types, obtain commitments to design them as follows:

Single dwelling unit buildings. Design a minimum of 20% of the dwelling units (and not less than one) in accordance with ICC/ANSI A117.1, Type C, Visitable Unit, each of which has an open-space plan for primary functions (an area for cooking, eating, and social gathering), as well as a sleeping area and a full bathroom.

Multiunit building with two or three dwelling units. Design a minimum of 20% of the dwelling units (and not less than one) in accordance with ICC/ANSI A117.1, Type C, Visitable Unit, each of which has a kitchen, dining area, living area, full bathroom, and bedroom on the accessible level. If a project has both attached and detached single dwelling unit buildings, the requirements apply to each type separately. Similarly, if a project has both 2- and 3- dwelling unit buildings, the requirements apply to each type.

Multiunit buildings with four or more dwelling units. This category includes mixed-use buildings with dwelling units. Design a minimum of 20% of the dwelling units (and not less than one) to incorporate the universal design requirements stated below, or comply with Option 2. Choose at least one of the following three strategies for universal design:

a. Throughout the homes, include at least five of the following universal design features to facilitate universal function, access, and user ability:

- Easy-to-grip lever door handles.
- Easy-to-grip cabinet and drawer loop handles.
- Easy-to-grip locking mechanisms on doors and windows.
- Easy-to-grip single-lever faucet handles.
- Easy-touch rocker or hands-free switches.
- Motion-detector lighting at entrance, in hallways and stairwells, and in closets, and motion-detector light switches in garages, utility spaces, and basements.
- Large, high-contrast print for controls, signals, and the house or unit numbers.
- A built-in shelf, bench, or table with knee space below, located outside the entry door with weather protection overhead, such as porch or stoop with roof, awning, or other overhead covering.
- A minimum 32-inch clear door opening width for all doorways.
- Tread at the entrance, on stairs, and other areas where slipping is common, with color contrast difference between stair treads and risers.
- Interior floor surfaces (e.g., low-pile carpets, hard-surface flooring) that provide easy passage for a wheelchair or walker, with color contrast between floor surfaces and trim. No carpet is permitted in a kitchen, bathroom, or other wet areas of the dwelling unit; OR

On the main floor of the homes (or on another floor, if an elevator or stair lift is provided), provide a kitchen with hard-surface flooring, plumbing with single-lever controls, a 5-foot turning radius, and at least four of the following universal design features to facilitate universal function, access, and user-ability:

- Variable-height (28- to 42-inch) or adjustable work surfaces, such as countertops, sinks, and/or cooktops.
- Clear knee space under sink and cooktops (this requirement can be met by installing removable base cabinets or fold-back or self-storing doors), cooktops and ranges with front or side-mounted controls, and wall-mounted ovens at a height to accommodate a seated adult.
- A toe kick area at the base of lower cabinets with a minimum height of 9 inches, and full-extension drawers and shelves in at least half (by volume) of the cabinets.
- Contrasting color treatment between countertops, front edges, and floor.
- Adjustable-height shelves in wall cabinets.
- Glare-free task lighting to illuminate work areas without too much reflectivity; OR

b. On the main floor of the buildings (or on another floor, if an elevator or stair lift is provided), include all of the following:

In at least one accessible bedroom,

- Size the room to accommodate a twin bed with a 5-foot turning radius around the bed.
- Install a clothes closet with a 32-inch clear opening with adjustable-height closet rods and shelves.

In at least one full bathroom on the same floor as the bedroom,

- Provide adequate maneuvering space with a 30-by-48-inch clear floor space at each fixture.
- Center the toilet 18 inches from any side wall, cabinet, or tub, and allow a 3-foot clear space in front.
- Install broad blocking in walls around toilet, tub, and/or shower for future placement and relocation of grab bars
- Provide knee space under the lavatory (this requirement may be met by installing removable base cabinets or fold-back or self-storing doors).
- Install a long mirror whose bottom is no more than 36 inches above the finished floor and whose top is at least 72 inches high.

In addition, all bathrooms must have hard-surface flooring, all plumbing fixtures must have single-lever controls, and tubs or showers must have hand-held shower heads.

OPTION 2. PROJECTS WITH NONCOMPLIANT PUBLIC RIGHTS-OF-WAY OR TRAVEL ROUTES

For projects with only non-residential components, or residential components that are not within the scope of Option 1, but have public rights-of-way or other publicly accessible travel routes within the project that are not in compliance with Americans with Disabilities Act (for private sector and local and state government facilities) or the Architectural Barriers Act (for federally funded facilities), obtain commitments to design, construct, and/or retrofit 100% of the rights-of-way and/or travel routes in accordance with the ADA-ABA Accessibility Guidelines, as applicable.

Minimum Requirements

BUILDING CERTIFICATION

Require at least one whole building within a project to be certified through LEED for New Construction, LEED for Existing Buildings: Operations & Maintenance, LEED for Homes, LEED for Schools, LEED for Retail: New Construction, or LEED for Core and Shell (with at least 75% of the floor area certified under LEED for Commercial Interiors or LEED for Retail: Commercial Interiors), or through a green building rating system requiring review by independent, impartial, third-party certifying bodies as defined by ISO/IEC 17021.

BUILDING ENERGY EFFICIENCY

a) For new single-family residential buildings and new multi-unit residential buildings three stories or fewer, require that 90% of the buildings in a project must meet ENERGY STAR or equivalent criteria. Projects may demonstrate compliance with ENERGY STAR criteria through the prescriptive requirements of a Builder Option Package, the Home Energy Rating System (HERS) index, or a combination of the two.

b) For 90% of the building floor area (rounded up to the next whole building) of all non-residential buildings, mixed-use buildings, and multi-unit residential buildings four stories or more constructed as part of a project or undergoing major renovations as part of a project, require the following:

1. New buildings must demonstrate an average 10% improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007 (with errata but without addenda). Buildings undergoing major renovations must demonstrate an average 5% improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007.

2. Projects must document building energy efficiency using one or a combination of the following:

a. Produce a LEED-compliant energy model following the methodology outlined in the LEED rating system appropriate to each building's scope, including demonstration by a whole building project computer simulation using the building performance rating method in Appendix G of ANSI/ASHRAE/IESNA Standard 90.1–2007. Appendix G requires that the energy analysis done for the building performance rating method include all energy costs associated with the building project. Projects in California may use Title 24–2005, Part 6, in place of ANSI/ASHRAE/IESNA Standard 90.1–2007.

b. Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide listed below, appropriate to each building's scope. Comply with all applicable criteria as established in the guide for the climate zone in which the project is located.

- ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 (office occupancy buildings less than 20,000 square feet).
- ASHRAE Advanced Energy Design Guide for Small Retail Buildings 2006 (retail occupancy buildings less than 20,000 square feet).

- ASHRAE Advanced Energy Design Guide for Small Warehouses and Self-Storage Buildings 2008 (warehouse or self-storage occupancy less than 50,000 square feet).
- ASHRAE Advanced Energy Design Guide for K–12 School Buildings (K–12 school occupancy less than 200,000 square feet).

c. For buildings less than 100,000 square feet, comply with the prescriptive measures identified in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute, as follows:

- Comply with Section 1, Design Process Strategies, and Section 2, Core Performance Requirements, of the Core Performance Guide.
- Health care, warehouse and laboratory projects are ineligible for this path.

If method (a) is used for all of the floor area evaluated in this prerequisite, the total percentage improvement is calculated as a sum of energy costs for each building compared with a baseline. If any combination of methods (a), (b), and (c) is used, the total percentage improvement is calculated as a weighted average based on building floor area. In determining the weighted average, buildings pursuing (a) will be credited at the percentage value determined by the energy model. Buildings pursuing (b) or (c) will be credited at 12% better than ANSI/ASHRAE/IESNA Standard 90.1–2007 for new buildings and 8% better for existing building renovations.

BUILDING WATER EFFICIENCY

a) For new single-family residential buildings and new multi-unit residential buildings three stories or fewer, require that 90% of buildings in a project must use a combination of fixtures that would earn 3 points under LEED for Homes 2008 Credit 3, Indoor Water Use.

b) For non-residential buildings, mixed-use buildings, and multifamily residential buildings four stories or more, require the following:

1. Indoor water usage in new buildings and buildings undergoing major renovations as part of a project must be an average 20% less than in baseline buildings. The baseline usage is based on the requirements of the Energy Policy Act of 1992 and subsequent rulings by the Department of Energy, the requirements of the Energy Policy Act of 2005, and the fixture performance standards in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code as to fixture performance. Calculations are based on estimated occupant usage and include only the following fixtures and fixture fittings (as applicable to the project scope): water closets (toilets), urinals, lavatory faucets, showers, kitchen sink faucets, and prerinse spray valves. The water efficiency threshold is calculated as a weighted average of water usage for the buildings constructed as part of the project based on their conditioned square footage. Projects may also follow the LEED for Multiple Buildings and On-Campus Building Application Guide alternative calculation methodology to show compliance with this requirement.

Table 1. National efficiency baselines

Commercial fixtures, fittings, or appliances	Baseline water usage
Commercial toilet	1.6 gpf[1] Except blow-out fixtures, 3.5 gpf
Commercial urinal	1.0 gpf
Commercial lavatory (restroom) faucet	2.2 gpm at 60 psi, private applications only (hotel-motel guest rooms, hospital patient rooms) 0.5 gpm at 60 psi[2] all others except private applications 0.25 gallons per cycle for metering faucets
Commercial prerinse spray valve (for food service applications)	Flow rate ≤ 1.6 gpm (no pressure specified; no performance requirement)

Residential Fixtures, Fittings, and Appliances	Baseline water usage
Residential toilet	1.6 gpf
Residential lavatory (bathroom) faucet	2.2 gpm at 60 psi
Residential kitchen faucet	
Residential showerhead	2.5 gpm at 80 psi per shower stall

The following fixtures, fittings, and appliances are outside the scope of the water use reduction calculation:

a. Commercial steam cookers.
b. Commercial dishwashers.
c. Automatic commercial ice makers.
d. Commercial (family-sized) clothes washers.
e. Residential clothes washers.
f. Standard and compact residential dishwashers.

Buildings: ***Reuse and Historic Preservation***

Electives

BUILDING RESUSE

Obtain commitments to reuse existing habitable building stock on a project site, achieving the greater of the following two thresholds (based on surface area):

a. 50% of one existing building structure (including structural floor and roof decking) and envelope (including exterior skin and framing but excluding window assemblies and nonstructural roofing material).
b. 20% of the total existing building stock (including structure and envelope, as defined above).

Hazardous materials that are remediated as a part of the project scope must be excluded from the calculations. Building reuse must not result in the demolition of any historic buildings, or portions thereof, or alter any cultural landscapes. An exception is granted only if such action has been approved by an appropriate review body. For buildings listed locally, approval must be granted by the local historic preservation review board, or equivalent. For buildings listed in a state register or in the National Register of Historic Places, approval must appear in a programmatic agreement with the State Historic Preservation Office.

HISTORIC PRESERVATION

If an historic building on a project site is to be rehabilitated, it must be rehabilitated in accordance with local review or federal standards for rehabilitation, whichever is more restrictive, using one of the following approaches:

a. Obtain approval, in the form of a "certificate of appropriateness," from a locally appointed historic preservation commission or architectural review board for any exterior alterations or additions.
b. If federal funds are used for the project, obtain confirmation from a state historic preservation office or the National Park Service that the rehabilitation satisfies the Secretary of the Interior's Standards for Rehabilitation.
c. If a building or site is listed in or determined eligible for the National Register of Historic Places but is not subject to federal or local review board review, include on the project team a preservation professional who meets the federal qualifications for historic architect and attests to conformance to the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Historic preservation activities must not result in the demolition of any historic buildings, or portions thereof, or alter any cultural landscapes. An exception is granted only if such action has been approved by an appropriate review body. For buildings listed locally, approval must be granted by the local historic preservation review board, or equivalent. For buildings listed in a state register or in the National Register of Historic Places, approval must appear in a programmatic agreement with the State Historic Preservation Office.

Buildings: ***Construction Waste Management***

Elective

Obtain commitments from projects to recycle and/or salvage at least 50% of non-hazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and specifies whether the materials will be stored on-site or commingled. Excavated soil and land-clearing debris do not contribute to this elective.

Site Development: ***Site Disturbance***

Minimum Requirements

Require that projects create and implement an erosion and sedimentation control plan for all new construction activities associated with a project. The plan must incorporate practices such as phasing, seeding, grading, mulching, filter socks, stabilized site entrances, preservation of existing vegetation, and other best management practices (BMPs) to control erosion and sedimentation in runoff from the entire project site during construction. The plan must list the BMPs employed and describe how they accomplish the following objectives:

a. Prevent loss of soil during construction by stormwater runoff and/or wind erosion, including but not limited to stockpiling of topsoil for reuse.
b. Prevent sedimentation of any affected stormwater conveyance systems or receiving streams.
c. Prevent polluting the air with dust and particulate matter.

The erosion and sedimentation control plan must describe how the project team will do the following:

a. Preserve vegetation and mark clearing limits.
b. Establish and delineate construction access.
c. Control flow rates.
d. Install sediment controls.
e. Stabilize soils.
f. Protect slopes.
g. Protect drain inlets.
h. Stabilize channels and outlets.
i. Control pollutants.
j. Control dewatering.
k. Maintain the BMPs.
l. Manage the erosion and sedimentation control plan.

The BMPs must be selected from the Washington State Department of Ecology's Stormwater Management Manual for Western Washington, Volume II, Construction Stormwater Pollution Prevention (2005 edition), or a locally approved equivalent, whichever is more stringent, and must comply with all federal, state, and local erosion and sedimentation control regulations.

Electives

DEVELOPMENT FOOTPRINTS ON PREVIOUSLY DEVELOPED LAND

Give priority to projects where 100% of the development footprint and construction impact zone on areas that are previously developed.

UNDEVELOPED PORTION OF PROJECTS TO BE LEFT UNDISTURBED

Depending on the density of a project, do not allow development or disturbance on a portion of the land that has not been previously developed, exclusive of the following: any land preserved by codified law, LEED for Neighborhood Development prerequisites, local plan-designated non-buildable areas, or other areas covered by binding documents protecting them from development in perpetuity. Densities and minimum percentages are as follows (mixed-use projects must use the lowest applicable density or calculate a weighted average):

Table 1. Minimum undeveloped area, by project density

Residential density (DU/acre)	Nonresidential density (FAR)	Minimum area left undisturbed
< 15	< .50	20%
15–21	.50 – 1.0	15%
> 21	> 1.0	10%

CONSTRUCTION IMPACT ZONE

For portions of a site that are not previously developed, identify construction impact zones that limit disturbance to a minimum of 40 feet beyond the building perimeter; 10 feet beyond surface walkways, patios, surface parking and utilities less than 12 inches in diameter; 15 feet beyond street curbs and main utility branch trenches; and 25 feet beyond constructed areas with permeable surfaces (such as pervious paving areas, stormwater retention facilities, and playing fields) that require additional staging areas to limit compaction in the constructed zone.

TREE PROTECTION

Survey project sites to identify the following:

a. Trees in good or excellent condition, as determined by an arborist certified by the International Society of Arboriculture (ISA).
b. Any heritage or champion trees of special importance to the community because of their age, size, type, historical association, or horticultural value, as defined by a government forester.
c. All trees larger than 6 inches in diameter at breast height (dbh, 4 feet 6 inches above ground).
d. Any invasive tree species present on the site, and whether those trees threaten the health of other trees to be preserved on the site, as determined by an ISA-certified arborist.

Preserve the following trees that are identified as in good or excellent condition:

a. All heritage or champion trees and trees whose dbh exceeds 50% of the state champion dbh for the species.
b. A minimum of 75% of all noninvasive trees (including the above) larger than 18 inches dbh.
c. A minimum of 25% of all noninvasive trees (including the above) larger than 12 inches dbh if deciduous, and 6 inches dbh if coniferous.

Tree condition ratings must be based on assessment by an ISA-certified arborist using ISA-approved assessment measures. Develop a plan, in consultation with and approved by an ISA-certified arborist, for the health of the trees, including fertilization and pruning, and for their protection during construction. The plan must include protective fencing located 1 foot for each 1-inch caliper from the trunk or at the tree drip line, whichever is larger, and specify that if trenching or other disturbance is necessary within the protected zone, this work must be done by hand. If disturbance includes a permanent excavation of 3 feet or deeper, the excavation must start from a point not closer than 15 feet from the tree's drip line. If an ISA-certified arborist has determined that any trees to be preserved are threatened by invasive vegetation, develop a plan to reduce the invasive vegetation to the maximum extent possible. Stipulate in CC&R or other binding documents that the undisturbed area of the preserved trees will be protected from development in perpetuity.

Electives

SOLAR ORIENTATION: BLOCKS

Give priority to projects that locate on existing or new blocks such that 75% or more of the blocks have one axis within plus or minus 15 degrees of geographical east-west, and the east-west lengths of those blocks are at least as long as the north-south lengths of the blocks.

SOLAR ORIENTATION: BUILDINGS

Obtain commitments to design and orient 75% or more of a project's total building square footage (excluding existing buildings) such that one axis of each qualifying building is at least 1.5 times longer than the other, and the longer axis is within 15 degrees of geographical east-west. The length-to-width ratio applies only to walls enclosing conditioned spaces; walls enclosing unconditioned spaces, such as garages, arcades, or porches, cannot contribute to credit achievement. The surface area of equator-facing vertical surfaces and slopes of roofs of buildings counting toward credit achievement must not be more than 25% shaded at the time of initial occupancy, measured at noon on the winter solstice.

TREE-LINED OR SHADED STREETS

Obtain commitments to provide street trees on both sides of at least 60% of new and existing streets within the project and on the project side of bordering streets, between the vehicle travel way and walkway, at intervals averaging no more than 40 feet (excluding driveways and utility vaults). Alternatively, provide trees or other structures that shade at least 40% of the length of sidewalks on streets within or contiguous to the project. Trees must provide shade within ten years of landscape installation. Use the estimated crown diameter (the width of the shade if the sun is directly above the tree) to calculate the shaded area. Obtain a registered landscape architect's determination that planting details are appropriate to growing healthy trees, taking into account tree species, root medium, and width and soil volume of planter strips or wells, and that the selected tree species are not considered invasive in the project context according to USDA or the state agricultural extension service.

HEAT ISLAND REDUCTION: NON-ROOF MEASURES

Obtain commitments to use any combination of the following strategies for 50% of the non-roof site hardscape (including roads, sidewalks, courtyards, parking lots, parking structures, and driveways):

a. Provide shade from open structures, such as those supporting solar photovoltaic panels, canopied walkways, and vine pergolas, all with a solar reflectance index (SRI) of at least 29.

b. Use paving materials with an SRI of at least 29.

c. Install an open-grid pavement system that is at least 50% pervious.

d. Provide shade from tree canopy (within ten years of landscape installation).

HEAT ISLAND REDUCTION: HIGH-REFLECTANCE AND VEGETATED ROOFS

Obtain commitments to use roofing materials that have an SRI equal to or greater than the values in Table 1 for a minimum of 75% of the roof area of all new buildings within a project; or install a vegetated ("green") roof for at least 50% of the roof area of all new buildings within a project. Combinations of SRI-compliant and vegetated roofs can be used provided they collectively cover 75% of the roof area of all new buildings.

Table 1. Minimum solar reflectance index value, by roof slope

Roof slope	SRI
Low (≤ 2:12)	78
Steep (> 2:12)	29

HEAT ISLAND REDUCTION: MIXED NON-ROOF AND ROOF MEASURES

Obtain commitments to use any of the strategies listed under Options 1 and 2 that in combination meet the following criterion:
(Area of Nonroof Measures / 0.5) + (Area of SRI Roof / 0.75) + (Area of Vegetated Roof / 0.5) ≥ Total Site Hardscape Area + Total Roof Area

Electives

RAINWATER MANAGEMENT

Obtain commitments for the preparation and implementation of comprehensive rainwater management plans for projects that retain on-site, through infiltration, evapotranspiration, and/or reuse, the rainfall volumes listed in Table 1. Rainfall volume is based on the project's development footprint, any other areas that have been graded so as to be effectively impervious, and any pollution-generating pervious surfaces, such as landscaping, that will receive treatments of fertilizers or pesticides.

The percentile rainfall event (Table 1) is the total rainfall on a given day in the record that is greater than or equal to X percent of all rainfall events over a 20- to 40+-year period. For example, a 95th percentile event in a particular region might be 1.5 inches, which would then be the volume to retain. To determine the volume to be retained, projects may use NOAA's published national rainfall data, run an approved stormwater model, or independently gather local rain gauge data and rank rainfall events. One hundred percent of the water volume from rainfall events up to the X percentile event must not be discharged to surface waters unless the harvested and reused runoff is authorized for discharge or allowed to be discharged into sanitary treatment systems.

Table 1. Points for retaining rainwater on-site

Percentile rainfall event (total volume to be retained)	Points
80%	1
85%	2
90%	3
95%	4

Projects that earn at least 2 points under this credit may earn 1 additional point by meeting each of the following site characteristics:

a. The project is located on a previously developed site (1 point).
b. The project is located on a site that meets the definition of brownfield.
c. The project is designed to be transit ready.

The BMPs for the comprehensive rainwater management plan must be selected from the Washington State Department of Ecology's Stormwater Management Manual for Western Washington, Volume V, Runoff Treatment (2005 edition), or locally approved equivalent, whichever is more stringent, and must comply with all federal, state, and local regulations. The plan must include season-specific maintenance that ensures continuous performance of the rainwater management system. For rainwater reuse systems not on a combined rainwater and sewer system, the total water reused for indoor use must not exceed 90% of the average annual rainfall. Rainwater BMPs (except cisterns) must be designed to drain down within 72 hours.

WATER-EFFICIENT LANDSCAPE IRRIGATION

Obtain commitments to reduce water consumption for outdoor landscape irrigation by 50% from a calculated midsummer baseline case. Reductions may be attributed to any combination of the following strategies, among others:

a. Plant species, plant density, and microclimate factor.

b. Irrigation efficiency.

c. Use of captured rainwater.

d. Use of recycled wastewater.

e. Use of water treated and conveyed by a public agency specifically for nonpotable uses.

f. Use of other nonpotable water sources, such as stormwater, air-conditioning condensate, and foundation drain water.

Groundwater seepage that is pumped away from the immediate vicinity of building slabs and foundations can be used for landscape irrigation and meet the intent of this elective. However, it must be demonstrated that doing so does not affect site stormwater management systems.

WASTEWATER MANAGEMENT

Obtain commitments to design and construct projects that retain on-site at least 25% of the average annual wastewater generated by a project (exclusive of existing buildings), and reuse that wastewater to replace potable water. An additional point may be awarded for retaining and reusing 50% or more. Projects must provide on-site treatment to a quality required by state and local regulations for the proposed reuse. The percentage of wastewater diverted and reused is calculated by determining the total wastewater flow using the design case and determining how much of that volume is reused on-site.

Elective

Obtain commitments from projects to document which lighting zone or zones describe the project in accordance with Table 1, and for all shared areas, follow the requirements in Table 2. “Shared areas” of a project are spaces and facilities dedicated to common use (publicly or privately owned).

Obtain commitments for at least 50% of the external luminaires in residential areas to have fixture-integrated lighting controls that use motion sensors to reduce light levels by at least 50% when no activity has been detected for 15 minutes. Also, in shared areas automatic controls must turn off exterior lighting when sufficient daylight is available, and these lights must meet the total exterior lighting power allowance requirements in Table 3.

Compliance with the light trespass requirements may alternatively be met by using only luminaires that comply with Table 4 ratings for backlight and glare. Projects must stipulate continued adherence to the requirements in CC&Rs.

Table 1. Lighting zones

Zone	Definition
LZ0	Undeveloped areas within national parks, state parks, forest land and rural areas and sites immediately adjacent to areas officially recognized as ecologically sensitive by the local zoning authority.
LZ1	Developed areas within national parks, state parks, forest land and rural areas.
LZ2	Areas predominantly consisting of residential zoning, neighborhood business districts, light industrial with limited nighttime use, and residential mixed-use areas.
LZ3	All other areas not included in LZ0, LZ1, LZ2, or LZ4 (including commercial-industrial and high-density residential).
LZ4	High-activity commercial districts in major metropolitan areas (as designated by local jurisdiction, such as local zoning authority).

Table 2. Allowable light trespass and uplight, by lighting zone

Lighting zone	Maximum horizontal and vertical illuminance (fc) at site boundary	Maximum horizontal and vertical illuminance (fc) at specified distance beyond site boundary	Maximum percentage of fixture lumens emitted above 90º or higher from nadir (straight down)
LZ0	0	0 at 0 ft.	0%
LZ1	0.01	.01 at 0 ft.	0%
LZ2*	0.10	.02 at 10 ft.	1%
LZ3*	0.20	.05 at 15 ft.	2%
LZ4*	0.60	.05 at 15 ft.	5%

fc = footcandle.

* In LZ2, LZ3, and LZ4, for project boundaries that abut public rights-of-way, light trespass requirements may be met relative to the curb line instead of the project boundary.

Table 3. Allowable lighting power densities, by lighting zone

	Lighting zone				
	LZ0	LZ1	LZ2	LZ3	LZ4
All exterior improved areas (except those listed below)	0.04 W/sf	0.04 W/sf	0.06 W/sf	0.10 W/sf	0.13 W/sf
Walkways	0.7 W/lf	0.7 W/lf	0.7 W/lf	0.8 W/lf	1.0 W/lf
Landscaping	No allowance	0.04 W/sf	0.05 W/sf	0.05 W/sf	0.05 W/sf
Entrance door (per linear foot of doorway)	20W	20W	20W	30W	30W
Entry canopy	0.25 W/sf	0.25 W/sf	0.25 W/sf	0.40 W/sf	0.40 W/sq. ft.
Illuminated building façade	No allowance	No allowance	2.5W/lf	3.75W/lf	5.0W/lf

sf = square feet; lf = linear feet.

Note: The total exterior lighting power density allowance for all shared exterior applications is the sum of the specified allowances for individual illuminated areas. The following lighting is exempted when its controls meet the above requirements and are independent of the controls for nonexempt lighting:

a. Specialized signal, directional, and marker lighting associated with transportation.
b. Advertising and directional signage.
c. Lighting integral to equipment or instrumentation and installed by its manufacturer.
d. Lighting for theatrical purposes, including performance, stage, film, and video.
e. Lighting for athletic playing fields.
f. Temporary lighting (installed for no more than 30 days and then removed for at least 30 days).
g. Lighting for industrial production, material handling, transportation sites, and associated storage areas.
h. Theme elements in theme or amusement parks.
i. Lighting to highlight features of public monuments and registered historic buildings or landmark structures.

Alternative method for meeting light trespass requirements in Table 2

A luminaire may be used if it is rated as follows according to the lighting zone of the site. If the luminaire is installed in other than the intended manner, the rating must account for the actual photometric geometry. An exception applies if at least 98% of a luminaire's emitted lumens are intercepted by man-made structures within the project. In either case, luminaires equipped with adjustable mounting devices permitting alteration of luminaire aiming in the field are not permitted.

Table 4. Allowable backlight and glare, by lighting zone

	Lighting zone				
Backlight luminaire rating	LZ0	LZ1	LZ2	LZ3	LZ4
>2 mounting heights from property line	B0	B1	B2	B3	B4
1 to 2 mounting heights from property line and properly oriented*	B0	B1	B2	B3	B3
0.5 to 1 mounting height to property line and properly oriented*	B0	B0	B1	B2	B2
<0.5 mounting height to property line adjacent to street and properly oriented*	B0	B0	B1	B2	B2
<0.5 mounting height to property line and properly oriented*	B0	B0	B0	B1	B2
Glare luminaire rating	G0	G1	G2	G3	G4

* The luminaire must be mounted with backlight toward the property line.
Note: Backlight and glare ratings are defined based on specific lumen limits for IESNA TM-15-07 solid angles, Addendum A.

Public Facilities & Services: ***Civic and Recreation Spaces***

Electives

CIVIC SPACES

Give priority to projects located and/or designed such that a civic or passive-use space, such as a square, park, paseo, or plaza, at least 1/6 acre in area lies within a ¼-mile walk distance of 90% of planned and existing dwelling units and nonresidential building entrances in projects. Spaces less than 1 acre must have a proportion no narrower than 1 unit of width to 4 units of length. For projects larger than 7 acres, locate and/or design those projects such that the median size of civic or passive-use spaces within and/or contiguous to a project is at least 1/2 acre.

RECREATION FACILITIES

Give priority to projects located and/or designed such that a publicly accessible outdoor recreation facility at least 1 acre in area, or a publicly accessible indoor recreational facility of at least 25,000 square feet, lies within a ½-mile walk distance of 90% of new and existing dwelling units and nonresidential building entrances in projects. Outdoor recreation facilities must consist of physical improvements and may include tot lots, swimming pools, and sports fields, such as baseball diamonds.

Public Facilities & Service: ***School Campuses***

Electives

CAMPUS SIZE

Obtain commitments that new school campuses will not exceed the following: high schools, 15 acres; middle schools, 10 acres; or elementary schools, 5 acres. Schools combining grade levels from more than one category may use the grade level with the higher allowable acreage. Facilities on the school site for which there is a formal joint-use agreement with another entity, such as athletic facilities, playgrounds, and multipurpose spaces in buildings, may be deducted from the total site area of the school.

CAMPUS ACCESS

For projects with a residential component that constitutes at least 30% of a project's total building square footage, give priority to such projects when at least 50% of their dwelling units are within a ½-mile walk distance of an existing or new elementary or middle school building entrance or within a 1-mile walk distance of an existing or new high school building entrance. For any new school, the school district or equivalent organization must commit in a legally binding warrant that the school will be open by the time of occupancy of 50% of the project dwelling units.

Streets within and/or bordering project boundaries that lead from dwelling units to a school site must have a complete network of sidewalks on both sides and either bicycle lanes or traffic control and/or calming measures. If a school is planned as part of a project, it must be designed such that pedestrians and cyclists can easily reach building entrances without crossing bus zones, parking entrances, and student drop-off areas.

Public Facilities & Services: ***Infrastructure Content and Efficiency***

Electives

RECYCLED CONTENT

Obtain commitments from developers to use materials for new infrastructure such that the sum of postconsumer recycled content, in-place reclaimed materials, and one-half of the preconsumer recycled content constitutes at least 50% of the total mass of infrastructure materials.

Count materials in all of the following infrastructure items as applicable to the *project:*

a. Roadways, parking lots, sidewalks, unit paving, and curbs.
b. Water retention tanks and vaults.
c. Base and subbase materials for the above.
d. Stormwater, sanitary sewer, steam energy distribution, and water piping.

Recycled content is defined in accordance with ISO/IEC 14021, Environmental labels and declaration, Self-declared environmental claims (Type II environmental labeling).

ENERGY EFFICIENCY

Obtain commitments from developers to design, purchase, and install all new jurisdiction-required infrastructure, including but not limited to traffic lights, street lights, and water and wastewater pumps, to achieve a 15% annual energy reduction below an estimated baseline energy use for this infrastructure. The baseline is calculated with the assumed use of lowest first-cost infrastructure items.

Public Facilities & Services: ***Solid Waste Management***

Electives

These measures are intended for local governments that provide comprehensive solid waste management services throughout their jurisdiction.

GENERAL RECYCLING

Include as part of a project at least one recycling or reuse station, available to all project occupants, dedicated to the separation, collection, and storage of materials for recycling; and acknowledge that the local government jurisdiction provides recycling services. The recyclable materials must include, at a minimum, materials paper, corrugated cardboard, glass, plastics and metals.

HAZARDOUS WASTES

Include as part of a project at least one drop-off point, available to all project occupants, for potentially hazardous office or household wastes; and acknowledge that the local government jurisdiction provides hazardous material collection services. Examples of potentially hazardous wastes include paints, solvents, oil, and batteries.

COMPOSTING

Include as part of a project at least one compost station or location, available to all project occupants, dedicated to the collection and composting of food and yard wastes; and acknowledge that the local government jurisdiction also provides composting services.

SIDEWALK RECYCLING RECEPTACLES

On every mixed-use or non-residential block, or at least every 800 feet, whichever is shorter, include recycling containers adjacent to other receptacles or recycling containers integrated into the design of the receptacles.

Definitions

accessory dwelling unit a subordinate dwelling unit that is attached to a principal building or contained in a separate structure on the same property as the principal unit.

adapted (or introduced) plant a species that reliably grows well in a given habitat with minimal attention from humans in the form of winter protection, pest protection, water irrigation, or fertilization once its root systems are established in the soil. Adapted plants are low maintenance but not invasive.

adjacent site a site having at least 25% of its boundary bordering parcels that are each at least 75% previously developed. A street or other right-of-way does not constitute previously developed land; instead, it is the status of the property on the other side of the street or right-of-way that matters. Any fraction of the boundary that borders waterfront other than a stream is excluded from the calculation. A site is still considered adjacent if the 25% adjacent portion of its boundary is separated from previously developed parcels by undeveloped, permanently protected land averaging no more than 400 feet in width and no more than 500 feet in any one place. The undeveloped land must be permanently preserved as natural area, riparian corridor, park, greenway, agricultural land, or designated cultural landscape. Permanent pedestrian paths connecting the project through the protected parcels to the bordering site may be counted to meet the requirement of SLL Prerequisite 1, Option 2 (that the project be connected to the adjacent parcel by a through-street or non-motorized right-of-way every 600 feet on average, provided the path or paths traverse the undeveloped land at no more than a 10% grade for walking by persons of all ages and physical abilities).

alley a publicly accessible right-of-way, generally located midblock, that can accommodate slow-speed motor vehicles, as well as bicycles and pedestrians. An alley provides access to the side or rear of abutting properties for loading, parking, and other service functions, minimizing the need for these functions to be located along streets. It may be publicly dedicated or privately owned and deeded in perpetuity for general public use.

applicant the entity that prepares the LEED-ND project submission and is responsible for project implementation. An applicant may be the developer or another cooperating entity.

appurtenance any built-in, non-structural portion of a roof system, such as skylights, ventilators, mechanical equipment, partitions, and solar energy panels.

area median income the median income of a county as determined by the U.S. Department of Housing and Urban Development.

bicycle network a continuous network consisting of any combination of physically designated in-street bicycle lanes at least 5 feet wide, off-street bicycle paths or trails at least 8 feet wide for a two-way path and at least 5 feet wide for a one-way path, and/or streets designed for a target speed of 25 miles per hour or slower.

block land bounded by the project boundary, transportation or utility rights-of-way that may be publicly dedicated or privately owned and deeded in perpetuity for general public use, waterfront, and/or comparable land division features.

brownfield real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or possible presence of a hazardous substance, pollutant, or contaminate.

build-out the time at which all habitable buildings on the project are complete and ready for occupancy.

buildable land the portion of the site where construction can occur, including land voluntarily set aside and not constructed upon. When used in density calculations, buildable land excludes public rights-of-way and land excluded from development by codified law or LEED for Neighborhood Development prerequisites. An applicant may exclude additional land not exceeding 15% of the buildable land base defined above, provided the following conditions are present:

a. The land is protected from residential and nonresidential construction by easement, deed restriction, or other enforceable legal instrument.
AND
b. Either 25% or more of the boundary of each contiguous parcel proposed for exclusion borders a water body or areas outside the project boundary that are protected by codified law; or ownership of, or management authority over, the exclusion area is transferred to a public entity.

bus rapid transit an enhanced bus system that operates on exclusive bus lanes or other transit rights-of-way; it is designed to combine the flexibility of buses with the efficiency of rail.

community-supported agriculture (CSA) a farm operation for which a community of individuals pledges support so that the farmland becomes, either legally or informally, the community's farm. The growers and consumers provide mutual support, sharing the risks and benefits of food production. Consumers receive portions of the farm's harvest throughout the growing season.

connectivity the number of publicly accessible street intersections per square mile, including intersections of streets with dedicated alleys and transit rights-of-way, and intersections of streets with non-motorized rights-of-way. If one must both enter and exit an area through the same intersection, such an intersection and any intersections beyond that point are not counted; intersections leading only to culs-de-sac are also not counted. The calculation of square mileage excludes water bodies, parks larger than 1/2 acre, public facility campuses, airports, rail yards, slopes over 15%, and areas non-buildable under codified law or the rating system. Street rights-of-way may not be excluded.

construction impact zone the project’s development footprint plus the areas around the improvement where construction crews, equipment, and/or materials are staged and moved during construction.

covenants, conditions, and restrictions limitations that may be placed on a property and its use and are made a condition of holding title or lease.

cul-de-sac a street segment that terminates without intersecting another street segment.

cultural landscape an officially designated geographic area that includes both cultural and natural resources associated with a historic event, activity, or person or that exhibits other significant cultural or aesthetic values.

density the amount of building structures constructed on the project site, measured for residential buildings as dwelling units per acre of buildable land available for residential uses, and for non-

residential buildings as the floor-area ratio of buildable land area available for nonresidential uses. In both cases, structured parking is excluded.

developer a public and/or private entity that controls a majority of the project's buildable land and is committed to making a majority of the investments required for the project implementation described in the LEED-ND submission.

development footprint the total land area of a project site covered by buildings, streets, parking areas, and other typically impermeable surfaces constructed as part of the project.

dwelling unit living quarters intended for long-term occupancy that provide facilities for cooking, sleeping, and sanitation. This does not include hotel rooms.

employment center a nonresidential area of at least 5 acres with a job density of at least 50 employees per net acre.

existing present on the date of submission of LEED-ND certification documents; similarly, an element or condition that **exists** is present on the date that LEED-ND certification documents are submitted.

floor-area ratio (FAR) the density of nonresidential land use, exclusive of parking, measured as the total nonresidential building floor area divided by the total buildable land area available for nonresidential structures. For example, on a site with 10,000 square feet of buildable land area, an FAR of 1.0 would be 10,000 square feet of building floor area. On the same site, an FAR of 1.5 would be 15,000 square feet of built floor area; an FAR of 2.0 would be 20,000 built square feet and an FAR of 0.5 would be 5,000 built square feet.

functional entry a building opening designed to be used by pedestrians and open during regular business hours. This does not include any door exclusively designated as an emergency exit, or a garage door not designed as a pedestrian entrance.

graywater untreated wastewater that has not come into contact with toilet waste. Graywater includes used water from bathtubs, showers, bathroom washbasins, and water from clothes washers and laundry tubs. It does not include wastewater from kitchen sinks or dishwashers, unless a graywater definition established by the authority having jurisdiction in the area has precedence.

habitable building a structure intended for living, working, or other types of occupancy. Habitable structures do not include stand-alone garages and utility structures such as pump stations.

heat island thermal gradient differences between developed and undeveloped areas.

historic building a building or structure listed or determined to be eligible as a historic structure or building or structure or as a contributing building or structure in a designated historic district, due to its historic, architectural, engineering, archeological, or cultural significance. The building or structure must be designated as historic by a local historic preservation review board or similar body, be listed in a state register of historic places, be listed in the National Register of Historic Places, or have been determined eligible for listing in the National Register.

historic district a group of buildings, structures, objects, and sites, of varying sizes, that have been designated as historically and architecturally significant and categorized as either contributing or noncontributing.

Home Energy Rating System (HERS) index a scoring system established by the Residential Energy Services Network (RESNET) in which a home built to the specifications of the HERS Reference Home (based on the 2006 International Energy Conservation Code) scores 100, and a net zero energy home scores 0. The lower a home's HERS Index, the more energy efficient it is.

infill site a site that meets any of the following four conditions:

a. At least 75% of its boundary borders parcels that individually are at least 50% previously developed, and that in aggregate are at least 75% previously developed.
b. The site, in combination with bordering parcels, forms an aggregate parcel whose boundary is 75% bounded by parcels that individually are at least 50% previously developed, and that in aggregate are at least 75% previously developed.
c. At least 75% of the land area, exclusive of rights-of-way, within a ½ mile distance from the project boundary is previously developed.
d. The lands within a ½ mile distance from the project boundary have a pre-project connectivity of at least 140 intersections per square mile.

A street or other right-of-way does not constitute previously developed land; it is the status of property on the other side or right-of-way of the street that matters. For conditions (a) and (b) above, any fraction of the perimeter that borders waterfront other than a stream is excluded from the calculation.

invasive plant either an indigenous or non-indigenous species or strain that is characteristically adaptable, aggressive, has a high reproductive capacity, and tends to overrun the ecosystems it inhabits.

multiunit residential consisting of four or more residential units sharing a common entry.

native (or indigenous) plant a plant species that did or would have occurred on the site or within the subject county prior to the widespread land alterations that accompanied European settlement. Cultivars of native plants may be considered native plants.

park a publicly accessible area that is permanently maintained in a seminatural condition for human recreation and relaxation; it has soil, grass, water, flora, and/or recreation improvements.

paseo a publicly accessible pedestrian path, at least 4 feet wide and no more than 12 feet wide, that provides shortcuts between buildings and through the block, connecting street frontages to rear parking areas, midblock courtyards, alleys, or other streets. A paseo may be roofed for up to 50% of its length and may be privately owned or publicly dedicated.

planned diverse use a shop, service, or facility outside the project boundary that has received a building permit and is under construction at the time of the first certificate of occupancy is issued for any building in the LEED-ND project.

planned occupancy the highest estimate of building occupants based on planned use(s) and industry standards for square foot requirements per employee. The minimum planned occupancy for multiunit

residential buildings is 1 person for a studio unit, 1.5 persons for a one-bedroom unit, and 1.25 persons per bedroom for a two- bedroom or larger unit.

plaza a publicly accessible gathering space that is integrated into the street network and allows vehicular, bicycle, and/or pedestrian travel. A plaza is generally paved, is spatially defined by building fronts paralleling at least two-thirds of its perimeter, and may be privately owned or publicly dedicated.

post-consumer generated by households or commercial, industrial, or institutional facilities in their role as end-users of a product, which can no longer be used for its intended purpose.

potable water water that meets or exceeds EPA's drinking water quality standards and is approved for human consumption by the state or local authorities having jurisdiction; it may be supplied from wells or municipal water systems.

pre-consumer diverted from the waste stream during the manufacturing process. It does not include the reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

pre-development before any development occurred on the site. Predevelopment conditions describe the natural conditions of the site prior to any human alteration, such as development of roads or buildings.

previously developed altered by paving, construction, and/or land use that would typically have required regulatory permitting to have been initiated (alterations may exist now or in the past). Previously developed land includes a platted lot on which a building was constructed if the lot is no more than 1 acre; previous development on lots larger than 1 acre is defined as the development footprint and land alterations associated with the footprint. Land that is not previously developed and altered landscapes resulting from current or historical clearing or filling, agricultural or forestry use, or preserved natural area use are considered undeveloped land. The date of previous development permit issuance constitutes the date of previous development, but permit issuance in itself does not constitute previous development.

previously developed site a site that, pre-project, consisted of at least 75% previously developed land.

pre-project before the LEED-ND project was initiated, but not necessarily before any development or disturbance took place. Pre-project conditions describe the state of the project site on the date the developer acquired rights to a majority of its buildable land through purchase or option to purchase.

prime soil earth with chemical, hydrographic, and topological properties that make it especially suited to the production of crops, as defined by the U.S. Natural Resources Conservation Service.

project the land, water, and construction that constitutes the project application. A project applicant does not have to own or control all land or water within a project boundary, but all the area within the project boundary must comply with prerequisites and attempted credits.

project boundary the platted property line of the project defining land and water within it. Projects located on publicly owned campuses that do not have internal property lines must delineate a sphere-of-influence line to be used instead. Project site is equivalent to the land and water inside the project

boundary. The project must not contain noncontiguous parcels, but parcels can be separated by public rights-of-way. Projects may also have enclaves of non-project properties that are not subject to the rating system, but such enclaves cannot exceed 2% of the total project area and cannot be described as certified.

school a kindergarten, elementary, or secondary institution for the academic instruction of children.

single-family residential any residential unit other than multiunit residential, including single, duplex, triplex, row house, townhouse and semiattached residential building types.

street a dedicated right-of-way that can accommodate one or more modes of travel, excluding alleys and paseos. A street is suitable for primary entrances and provides access to the front and/or sides of buildings and lots. A street may be privately owned as long as it is deeded in perpetuity for general public use. A street must be an addressable thoroughfare (for mail purposes) under the standards of the applicable regulating authority.

square (also **green**) a publicly accessible open area for gatherings that is wholly or partially bounded by segments of the street network. A square can be landscaped or landscaped and paved, is spatially defined by building fronts paralleling at least 45% of its perimeter, and may be privately owned or publicly dedicated.

unique soil earth with chemical, hydrographic, and topological properties that make it especially suited to specific crops, as defined by the U.S. Natural Resources Conservation Service.

walk distance the distance that a pedestrian must travel between origins and destinations without obstruction, in a safe and comfortable environment on a continuous network of sidewalks, all-weather-surface footpaths, crosswalks, woonerfs, or equivalent pedestrian facilities.

water body the surface water of a stream (first-order and higher, including intermittent streams), arroyo, river, canal, lake, estuary, bay, or ocean, excluding irrigation ditches

water and wastewater infrastructure publicly owned water and wastewater infrastructure; this excludes septic and mound wastewater treatment systems.

wetland an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas, but exclude irrigation ditches unless delineated as part of an adjacent wetland.

woonerf a street, also known as a home zone, shared zone, or living street, where pedestrians have priority over vehicles and the posted speed limit is no greater than 10 miles per hour. Physical elements within the roadway, such as shared surfaces, plantings, street furniture, parking, and play areas, slow traffic and invite pedestrians to use the entire right-of-way.

vehicle miles traveled (VMT) the number of miles driven by motorists in a specified time period, such as a day or a year, in absolute or per capita terms.