LEED BD+C: Homes | v4

Rainwater management

Possible 3 points

Glossary

Intent

To reduce rainwater runoff volume from the site.

Requirements

Projects that must comply with local requirements of the National Pollutant Discharge Elimination System (NPDES) must follow Case 2.

Case 1. Low impact development

Use low-impact development (LID) techniques to minimize the amount of stormwater that leaves the site. Examples of acceptable techniques include the following:

- planting areas with native or adapted plant material (e.g. trees shrubs);
- installing a vegetated roof;
- using permeable paving, consisting of porous above-ground materials (e.g., open pavers, engineered products), a base layer designed to drain water away from the home, and (often) a 6-inch-deep (150 millimeters) subbase; and
- installing permanent infiltration or collection features (e.g., vegetated swale, rain garden, rainwater cistern) that can handle 100% of the runoff from a two-year, 24-hour storm.

Single-family home projects may use Table 1 or Table 2 to determine points; multifamily projects must use Table 1.

To determine compliance for single-family and multifamily homes, calculate the percentage of the lot area, including the area under roof, that is permeable or can direct water to an on-site catchment or infiltration feature.

Table 1. Points for permeable area, as percentage of total lot area

Percentage	Points
50–64%	1
65–79%	2
≥80%	3

As an alternative approach to determining compliance for single-family homes only, credit is given for reducing the total impermeable area compared to the ENERGY STAR reference home, as listed in Table 2.

Table 2. Conditioned floor area of reference home, by number of bedrooms

	1	2	3	4	5	6	7	8 or more
Floor area (square feet)	1,000	1,600	2,200	2,800	3,400	4,000	4,600	+ 600 ft^2 per additional bedroom
Floor area (square meters)	93	148	204	260	315	371	426	+ 55.6 square meters per additional bedrooms

Thresholds for total impermeable area are then calculated according to the values in Table 3, column 1.

Table 3. Points for reducing total impermeable area

Impermeable area (square feet)	Points
Reference home size * 1	1
Reference home size * 0.66	2
Reference home size * 0.33	3

Case 2. National Pollutant Discharge Elimination System (NPDES) projects

Using low-impact development and green infrastructure to replicate natural site hydrology, manage on-site the runoff from the developed site for the percentile regional or local rainfall events listed in Table 4.

Use daily rainfall data and the methodology in the U.S. Environmental Protection Agency's Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects, under Section 438 of the Energy Independence and Security Act, to determine the percentile amount.

Table 4. Points for on-site management of water from rainfall events

Percentile rainfall event	Points
95th	2
98th	3