

# Biophilia in LEED v4

<p><b>LEED and Human Health</b></p> <p>Biophilic Design through</p> <ol style="list-style-type: none"> <li>1. Indoor Air Quality</li> <li>2. Material</li> <li>3. Ventilation</li> <li>4. Lightning</li> <li>5. Thermal Comfort</li> <li>6. Smoking</li> <li>7. Outdoor green space</li> </ol>	<p><b>Open Space</b></p> <p>LEED V4.1 SS Credit 1 point</p> <p>To create exterior open space that encourages interaction with the environment, social interaction, passive recreation, and physical activities</p> <p>Provide outdoor space greater than or equal to 30% of the total site area (including building footprint).</p> <p>25% of the minimum 30% total outdoor space requirement must be planted with two or more types of vegetation or have overhead vegetated canopy.</p> <p>The outdoor space must be physically accessible and be one or more of the following:</p> <ul style="list-style-type: none"> <li>• a pedestrian-oriented paving or landscape area that accommodate outdoor social activities</li> <li>• a recreation-oriented paving or landscape area that encourage physical activity;</li> <li>• a landscape area with a two or more of vegetation types that provide opportunities for year-round visual interest;</li> <li>• a garden space dedicated to community gardens or urban food production;</li> <li>• preserved or created habitat that meets the criteria of SS Credit Protect or Restore Habitat and also includes elements of human interaction.</li> </ul> <p>Extensive or intensive vegetated roofs that are physically accessible can be used toward the minimum 25% vegetation requirement, and qualifying roof-based physically accessible paving areas can be used toward credit compliance.</p> <p>Wetlands or naturally designed ponds may count as open space if the side slope gradients average 1:4 (vertical : horizontal) or less and are vegetated.</p>	<p><b>Direct Exterior Access</b></p> <p>LEED BD+C Healthcare V4 1 point</p> <p>Intent To provide patients and staff with the health benefits associated with direct access to the natural environment.</p> <p>Requirements Provide direct access to an exterior courtyard, terrace, garden, or balcony. The space must be at least 5 square feet (0.5 square meters) per patient for 75% of all inpatients and 75% of qualifying outpatients whose clinical length of stay (LOS) exceeds four hours.</p> <p>Patients whose length of stay exceeds four hours, and whose treatment makes them unable to move, such as emergency, stage 1 surgical recovery, and critical care patients, may be excluded.</p> <p>Places of respite outside the building envelope that meet the requirements of SS Credit Places of Respite that are immediately adjacent to clinical areas or with direct access from inpatient units may be included.</p> <p>Qualifying spaces must be designated as nonsmoking The spaces must also meet the requirements for outdoor air contaminant concentrations enumerated in EQ Credit Enhanced Indoor Air Quality Strategies, Option 2 and be located more than 100 feet (30 meters) from building exhaust air locations, loading docks, and roadways with idling vehicles.</p>	<p><b>Quality Views</b></p> <p>LEED BD+C Healthcare V4 1-3 point</p> <p>Intent To give building occupants a connection to the natural outdoor environment by providing quality views.</p> <p>Requirements Achieve a direct line of sight to the outdoors via vision glazing for 75% of all regularly occupied floor area. View glazing in the contributing area must provide a clear image of the exterior, not obstructed by frits, fibers, patterned glazing, or added tints that distort color balance.</p> <p>Additionally, 75% of all regularly occupied floor area must have at least two of the following four kinds of views:</p> <p>multiple lines of sight to vision glazing in different directions at least 90 degrees apart; views that include at least two of the following: (1) flora, fauna, or sky; (2) movement; and (3) objects at least 25 feet from the exterior of the glazing; unobstructed views located within the distance of three times the head height of the vision glazing; and views with a view factor of 3 or greater, as defined in "Windows and Offices; A Study of Office Worker Performance and the Indoor Environment."</p> <p>Include in the calculations any permanent interior obstructions. Movable furniture and partitions may be excluded.</p> <p>Views into interior atria may be used to meet up to 30% of the required area.</p> <p>For inpatient units (IPUs), meet the requirements above (1 point).</p> <p>For other areas, configure the building floor plates such that the floor area within 15 feet (4.5 meters) of the perimeter exceeds the perimeter area requirement (Table 1), and meet the requirements above for the perimeter area (1 point).</p>	<p><b>Designing With Nature</b></p> <p>Leed BD+C Healthcare V4 1 point</p> <p>Intent To support and improve human health, well-being, and productivity by providing and incorporating elements of nature in the indoor environment.</p> <p>Engage in the exploration of the biophilic design potential for the project and connecting people to the natural environment. The exploration must result in the development and implementation of a biophilic design plan that includes at least five distinct design strategies related to biophilic design.</p> <p>The five design strategies must address at least one of the following criteria:</p> <p>A. The project design provides regular access to Nature in the Space as defined in 14 Patterns of Biophilic Design (or Environmental Features, Light and space, Natural Patterns and Processes, as defined in Biophilic design: the theory, science and practice of bringing buildings to life, Table 1-1).</p> <p>B. The project design offers Natural Analogues as defined in 14 Patterns of Biophilic Design (or Natural Shapes and Forms as defined in Biophilic design: the theory, science and practice of bringing buildings to life, Table 1-1).</p> <p>C. The project design has spatial properties that align with the Nature of the Space as defined in 14 Patterns of Biophilic Design (or Evolved Human-nature Relationships as defined in Biophilic design: the theory, science and practice of bringing buildings to life, Table 1-1).</p> <p>D. The project uniquely connects people to the place, climate, and culture through Place-Based Relationships as defined in Biophilic design: the theory, science and practice of bringing buildings to life.</p> <p>E. The project creates sufficient opportunities for human-nature interactions within the building and within the project boundary, external to the building, creating an environment that ties the landscape and interior environments together.</p>
<p><a href="https://new.usgbc.org/health-and-wellness">https://new.usgbc.org/health-and-wellness</a></p>	<p><a href="https://drive.google.com/open?id=1j7GAd9hkfoJhnSPGONwzQ_shBRIWbJed">https://drive.google.com/open?id=1j7GAd9hkfoJhnSPGONwzQ_shBRIWbJed</a></p>	<p><a href="https://www.usgbc.org/node/2613638?return=/credits/healthcare/v4">https://www.usgbc.org/node/2613638?return=/credits/healthcare/v4</a></p>	<p><a href="https://www.usgbc.org/node/2614129?return=/credits/healthcare/v4">https://www.usgbc.org/node/2614129?return=/credits/healthcare/v4</a></p>	<p><a href="https://www.usgbc.org/node/11656182?return=/credits/healthcare/v4">https://www.usgbc.org/node/11656182?return=/credits/healthcare/v4</a></p>