BEYOND
SMART CITIES
SUSTAINABLE SITES - GREEN BUILDING TECHNOLOGY
TRAINING PROGRAM
FOR GREEN BUILDING AND SUSTAINABILITY SPECIALISTS
KRISHNAJI PAWAR,LEED AP BD+C,GSAS CGP,ISO 14001:2015,GCP
GREEN BUILDING SPECIALIST CURRICULUM

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SUSTAINABLE SITES - OVERVIEW
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LEARNING OBJECTIVES
Sustainable Sites - Overview
Sustainable sites in LEED v4.1

SUSTAINABLE SITES - OVERVIEW

The Sustainable Sites (SS) credit category of LEED v4.1 was developed to ensure that the natural environment of a project is recognized and preserved throughout the whole building process, from design to construction to management.

SS credits are awarded to projects that recognize that buildings are inseparable from the landscapes on which they are constructed and that the environmental integrity of these landscapes must be maintained.

Projects that comply with SS credits can protect sensitive ecosystems by completing an early site assessment and planning the locations of buildings and hardscape areas. These steps will help avoid harming habitats, biodiversity, open space and water bodies.

SUSTAINABLE SITES - OVERVIEW +

The Rainwater Management credit within the Sustainable Sites category aims to reduce runoff volume and improve water quality by simulating the site's natural hydrology and water balance, based on historical conditions and undeveloped ecosystems in the region.

In LEED v4, buildings can earn up to 3 points for obtaining the new Rainwater Management credit, and can achieve excellent performance in this credit by managing 100 percent of rainwater with Low Impact Development and green infrastructure. This presentation will provide an overview of credit accomplishment resources, techniques, and suggestions. USGBC and GBCI specialists will discuss how water is now treated in LEED and what the future holds for the rating system.

SUSTAINABLE SITES

The Sustainable Sites (SS) category rewards decisions about the environment surrounding the building, with credits that emphasize the vital relationships among buildings, ecosystems, and ecosystem services. It focuses on restoring project site elements, integrating the site with local and regional ecosystems, & preserving the biodiversity that natural systems rely on.

CRITERIA IN THIS CATEGORY

- SS PR.CONSTRUCTION ACTIVITY POLLUTION PREVENTION
- SS CR.SITE ASSESSMENT
- SS CR.SITE DEVELOPMENT - PROTECT OR RESTORE HABITAT
- SS CR.OPEN SPACE
- SS CR. RAINWATER MANAGEMENT
- SS CR.HEAT ISLAND REDUCTION
- SS CR.LIGHT POLLUTION REDUCTION

MAXIMUM POSSIBLE CREDITS : 1 P / 10 C

SUSTAINABLE SITES

Credits in the Sustainable Sites (SS) category emphasize the importance of the relationships between buildings, ecosystems, and ecosystem services, and reward decisions made about the environment surrounding a building.

It emphasizes restoring project site features, integrating the site with local and regional ecosystems, and protecting the biodiversity upon which natural systems depend.

Additionally, proper site management can lessen pollution from building, the heat island effect, light pollution, and erosion. Buildings can be erected in a variety of sites; project teams should select the environmentally preferable choice and then maintain the site responsibly.

SUSTAINABLE SITES +

The Earth's systems are dependent on biologically varied forests, wetlands, coral reefs, and other ecosystems, which are frequently referred to as "natural capital" since they provide regenerative functions. According to a United Nations research, almost sixty percent of the globally estimated ecosystem services are currently degraded or utilized irresponsibly.

The consequences are deforestation, soil erosion, a decline in water table levels, the extinction of animals, and rivers that no longer flow into the ocean. Recent tendencies such as exurban development and sprawl separate and replace the remaining natural landscapes and farmlands with dispersed hardscape surrounded by non-native plants. In the United States alone, 34 million acres (13 759 hectares) of open space (an area the size of Illinois) were lost to development between 1982 and 2001, or almost 4 acres each minute, or 6,000 acres per day.

SUSTAINABLE SITES +

Frequently, the rainwater runoff from these hardscape areas exceeds the capacity of natural infiltration systems, hence increasing both the quantity and contamination of site runoff. Rainwater runoff transports contaminants such as oil, silt, pesticides, and lawn fertilizers directly into streams and rivers, where they contribute to eutrophication and destroy aquatic habitats and species.

According to a study conducted by the Washington State Department of Ecology, rainwater runoff from roads, parking lots, and other hardscapes annually carries approximately 200,000 barrels of petroleum into Puget Sound, which is more than half of the amount spilled in the 1989 Exxon Valdez accident in Alaska.

SUSTAINABLE SITES +

Teams who comply with the qualifications and credits for the SS category conserve sensitive ecosystems by conducting an early site evaluation and arranging the positions of structures and hardscape areas to prevent damaging habitat, open space, and waterways.

They employ low-impact development strategies that minimize construction pollution, eliminate heat island effects and light pollution, and imitate natural water flow patterns to regulate rainwater runoff. Additionally, they rehabilitate portions of the project site that are in decline.

In LEED v4, the SS category combines traditional approaches with several new strategies, such as the backlight-uplight-glare (BUG) method (Light Pollution Reduction credit), working with conservation organizations to target financial support for of-site habitat protection (Site Development—Protect or Restore Habitat credit), replicating natural site hydrology (Rainwater Management credit), and utilizing three-year aged SRI values for roofs and SR values for nonroof hardscaping (Heat Island Reduction credit).

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