

Pacific University Campus Landscape Plan

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1. Purpose

The Pacific University Campus Landscape Plan was developed in response to the need for a comprehensive landscape maintenance plan that uses scientific principles to help guide the University on a sustainable path.

The plan contains policies and procedures, adopted by the University, that govern landscape care and maintenance on the 55-acre Forest Grove campus. The other, much smaller, campuses are not included in this plan because they do not include forest nor available land. The Director of Facilities oversees the Campus Landscape Plan, and the Campus Tree Advisory Committee advises the Director on the Landscape Plan.

Where applicable, the plan follows the landscaping tenets of the Sustainable Sites Initiative (SITES) of the American Society of Landscape Artists. (Some of SITES does not apply to a pre-existing campus.) Here is a description of SITES from the ASLA website.

The [Sustainable Sites Initiative](#)™ (SITES™) is an interdisciplinary partnership led by the [American Society of Landscape Architects](#) (ASLA), the [Lady Bird Johnson Wildflower Center](#) at The University of Texas at Austin and the [United States Botanic Garden](#) to transform land development and management practices through the nation's first voluntary guidelines and rating system for sustainable landscapes, with or without buildings. The guidelines and rating system represent years of work by dozens of the country's leading sustainability experts, scientists, and design professionals and incorporate public input from hundreds of individuals and dozens of organizations to create this essential missing link in green design.

Existing design and construction rating systems include little recognition of the benefits of sustainable landscape and site design. While carbon-neutral performance remains the holy grail for green buildings, sustainable landscapes move beyond a do-no-harm approach by sequestering carbon, cleaning the air and water, increasing energy efficiency, restoring habitats, and ultimately giving back through significant economic, social, and environmental benefits never fully measured until now. The [U.S. Green Building Council](#) (USGBC), a stakeholder in the Initiative, anticipates incorporating SITES guidelines and performance benchmarks into future versions of its [LEED® Green Building Rating System](#)™.

Modeled after LEED®, the SITES benchmarks include 15 prerequisites and 51 potential credits, which collectively make up a 250-point-scale rating system. Projects can earn one through four stars for obtaining 40, 50, 60 or 80 percent of the total points, respectively. Prerequisites and credits cover areas such as the use of greenfields, brownfields or greyfields; materials; soils and vegetation; and construction and maintenance.

The plan also follows the five standards of the Arbor Day Foundation's Tree Campus USA program and addresses elements necessary for maintaining a sustainable landscape that maximizes plant, wildlife, energy conservation, education, and aesthetic values. For information on the value of sustainable landscapes, see the ASLA report, [The Case for Sustainable Landscapes](#), included here as Appendix B.

2. Campus Tree Advisory Committee

a. Committee Role

The Campus Tree Advisory Committee (CTAC)

- Advises the Director of Facilities
- Provides guidance on the approval and any subsequent amendments to the Campus Landscape Plan

- Monitors implementation of the Campus Landscape Plan
- Consults on tree and shrub care during campus planning for construction of new or renovation of existing buildings
- Consults on planning for changes to landscaping or drainage projects
- Assists with campus and community education on the benefits of a sustainable landscape
- Provides guidance on Arbor Day and other tree-planting events
- Works with the Facilities Department, Center for Civic Engagement, faculty and staff members, and students on planning service learning projects that involve the campus forest or landscaping

b. Committee Members–Seven/Term of Office

- Undergraduate student with demonstrated interests in ecology, sustainability, or forestry, chosen by the undergraduate student senate based on an application letter, resume, and recommendations
- Faculty member who teaches in biology or environmental studies, chosen by the Environmental Studies Chair, Biology Chair, and Director of Natural Sciences (need not be a faculty member in natural sciences)
- Staff member in facilities management, chosen by the Director of Facilities
- Director of the Center for a Sustainable Society or his or her designee
- Director of the Center for Civic Engagement or his or her designee
- Member of the City of Forest Grove’s Community Forestry Commission
- Alumnus/a or Professor Emeritus, chosen by the committee
- The seven members serve staggered 2-year terms that run from August through July; members may be reappointed

c. Committee Operations

- Chooses a Chair from among the committee members
- Meets at least twice per year (once in spring and once in fall) and when there are issues within its purview to address
- Produces an annual report on its activities
- Advises the Director of Facilities
- Holds open meetings, welcoming interested community members

3. Campus Landscape Plan

a. Purpose

The 55-acre Pacific University Forest Grove campus, founded in 1849, contains an extensive urban forest within a Tree City USA. The Campus Landscape Plan facilitates sound management of the Forest Grove campus landscape, adhering to scientific principles and historical practices. Its guidelines serve to maximize plant, wildlife, education, energy and resource conservation, and aesthetic values. For definitions of terms used in the plan, see Appendix A.

The campus contains many tree species, but its dominant and most noted feature is an extensive stand of approximately 100 mature Oregon white oaks (*Quercus garryana*) that grace the campus. Indeed, the University’s identity is bound together with the white oak, which is used as a symbol in fundraising efforts.

Few large stands of white oak persist in Oregon, Washington, and British Columbia—the northern part of its range—because of cutting for timber and agriculture and because of forest fire suppression and the resultant eclipsing by Douglas fir.

The University's stand of oaks harbors, perhaps, the northernmost breeding population of acorn woodpeckers (*Melanerpes formicivorus*), which relies on large stands of oaks to produce the acorns that the birds store by the thousands in granaries, essentially shallow holes in tree bark. Groups of birdwatchers from all over the Northwest make frequent trips to the campus to view these birds.

According to *A Landowner's Guide for Restoring and Managing Oregon White Oak Habitats*, published by USDI Bureau of Land Management, USDA Forest Service, Oregon Department of Forestry, and 4 other organizations, the "Oregon white oak savannas and woodlands are among the most endangered ecological communities in the Pacific Northwest." The University's white oak forest is not a natural community, but because of the forest's significance to the University's identity and because it harbors a stable acorn woodpecker population, the Campus Landscape Plan's highest priority is to maintain the health of the campus white oak forest.

The second main interest of the plan is to maintain a healthy and diverse grass, shrub, and tree landscape, consisting primarily, but not exclusively, of native species. The tree canopy covers approximately 25% of the campus, with the expectation that it would increase over time to at least 30%. Grass covers the ground under much of the tree canopy and also covers the ground in several open areas. Shrubs generally are confined to areas close to buildings.

Because grass areas cost a lot to maintain and are essentially biological deserts devoid of wildlife, grass areas should be reserved for gathering areas and, in limited cases, allow essential sight lines. Most importantly, because grass must be watered in the summer to remain green, which has important aesthetic values, grass areas under Oregon white oaks should be kept to a minimum.

b. Responsibilities for Landscape Plan

The Facilities Department is responsible for implementation of the provisions contained in the Landscape Plan. Such a plan cannot cover every conceivable practice needed for maintenance of a healthy landscape. Thus, the Campus Tree Advisory Committee (CTAC) should be consulted when situations arise that are not covered by this plan. CTAC should also review the plan on an annual basis to ensure that the most recent scientifically based practices are included.

c. Goals

- Maintain the integrity and health of the Oregon white oak forest as the highest priority.
- Increase the tree canopy area from the present level of about 25% to at least 30%.
- Rely primarily on native tree and shrub species.
- Use scientific principles for grass, shrub, and tree management, particularly regarding the white oaks.
- Where applicable, adhere to the tenets of the [Sustainable Sites Initiative™](#) (SITES™) led by the [American Society of Landscape Architects](#) (ASLA); see outline of some principles in "d" below.
- Minimize the use of biocides and chemical fertilizers.
- Minimize the adverse effects of development on the landscape.
- Maximize use of grass clippings and fallen leaves and twigs on site as mulch, or compost them on or off site.
- Reduce the use of energy to maintain the landscape.
- Promote aquifer recharge by retaining rainfall on site.

- Use landscaping to reduce building energy consumption through shading and altering microclimates.
- Remove or prune trees and shrubs that threaten the safety of buildings and pedestrians.
- Use landscaping to promote physical, mental, and social well-being.
- Promote use of the landscape for educational purposes.
- Convert the tree inventory from paper-based to electronic; include areas for notes as an aid to management.

d. Some Applicable Principles of the Sustainable Sites Initiative (SITES) for Development Projects (see Guidelines and Performance Benchmarks at [SITES](#) for details)

Prerequisite 2.1 Conduct a pre-design site assessment and explore opportunities for site sustainability. See Appendix C for the worksheet that outlines sustainable site credits.

Prerequisite 2.2 Use an integrated site development process.

Credit 2.3 Engage users and other stakeholders in site design

Prerequisite 3.1 Reduce potable water use for landscape irrigation by 50 percent from established baseline

Credit 3.5 Manage stormwater on site

Credit 3.7 Design rainwater/stormwater features to provide a landscape amenity

Prerequisite 4.2 Use appropriate, non-invasive plants

Prerequisite 4.3 Create a soil management plan

Credit 4.4 Minimize soil disturbance in design and construction

Credit 4.7 Use native plants

Credit 4.8 Preserve plant communities native to the region

Credit 4.10 Use vegetation to minimize building heating requirements

Credit 4.11 Use vegetation to minimize building cooling requirements

Credit 5.4 Reuse salvaged materials and plants

Credit 5.6 Use certified wood

Credit 5.7 Use regional materials

Credit 6.3 Promote sustainability awareness and education

Credit 6.6 Provide opportunities for outdoor physical activity

Credit 6.7 Provide views of vegetation and quiet outdoor spaces for mental restoration

Credit 6.8 Provide outdoor spaces for social interaction

Credit 6.9 Reduce light pollution

Credit 7.5 Reuse or recycle vegetation, rocks, and soil generated during construction

Prerequisite 8.1 Plan for sustainable site maintenance

Credit 8.3 Recycle organic matter generated during site operations and maintenance

Credit 8.4 Reduce outdoor energy consumption for all landscape and exterior operations

Credit 8.6 Minimize exposure to environmental tobacco smoke

Credit 8.7 Minimize generation of greenhouse gases and exposure to localized air pollutants during landscape maintenance activities

Credit 8.8 Reduce emissions and promote the use of fuel-efficient vehicles

Credit 9.1 Monitor performance of sustainable design practices

e. Planting, Maintenance, & Removal Policies

i. Tree and Shrub Selection: Recommended & Prohibited Species

- Replace with white oaks any white oaks that fall or that have to be removed because of disease or because they present a hazard; it is good practice to replace mature trees with a minimum of 3 saplings and thin later, if necessary.
- Over time, the population of mature Oregon white oaks should grow from 100 to at least 130.
- Plant only native tree species, except when part of an ongoing educational program or a designated edible landscape area; edible landscape trees should come from stock that has existed in Oregon in large numbers for many years.
- Trees should be chosen to maximize species diversity.
- Small, existing non-native trees should be replaced with native species, preferably white oaks within and surrounding the existing oak groves.
- Large, older non-native species may remain, but when removed, they should be replaced with native species, unless the species is part of ongoing educational programs.
- Shrubs should also be comprised of native species unless part of an edible landscape area or ongoing educational program. Any non-native species should come from stock that has existed in Oregon in large numbers for many years.
- Shrubs should not appear on lists of invasive species or of those that harbor diseases that affect other plant species.

ii. Tree and Shrub Health Care

- The Oregon white oak adapted to prolonged summer droughts; watering the roots in summer causes root rot from the fungus *Armillaria ostoyae*, followed by eventual tree death; several large campus oaks succumbed to root rot in the last decade; unwatered area should extend to the drip line of each tree, and lawn care workers should be instructed in essential watering practices.
- Engage the services of professional arborists to combat diseases, especially in white oaks.
- Trees and shrubs with non-treatable communicable diseases should be removed in ways that minimize spread of those diseases.
- Minimize use of biocides; when absolutely necessary to use chemicals, use integrated pest management systems that rely on scientific principles backed by data.
- Neonicotinoids that cause bee deaths are prohibited; biocides that cause harm to beneficial invertebrates, birds, and wildlife are prohibited.
- Minimize impact of development on the tree canopy; if it is necessary to remove part of the tree canopy, replace that tree canopy with an equivalent amount elsewhere on campus.
- During construction or use of any heavy equipment, care must be taken not to damage tree roots or compact the soil above them.

iii. Removals & Catastrophic Events

- The standard for removal of mature white oaks is high; a professional arborist, certified by the International Society of Arboriculture, who is well-versed in white oak diseases, must determine that a white oak cannot be saved and should be removed.
- The standard for removal of other trees is lower; they may be removed for any of a variety of reasons, with the caveat that the forest canopy should reach 30% over time.
- When trees fall or are removed, care must be taken to protect nearby trees; this includes not doing harm to roots with heavy equipment.
- Trees that threaten to fall on buildings or people because of rot or large numbers of dead limbs may be removed, with appropriate care taken not to harm nearby trees.
- Removed wood should be considered for use in campus buildings for furnishings and woodwork, as occurred in Berglund Hall and the library; we should consider offering wood not used in buildings to employees.

iv. Planting

- See Appendix D for proper planting and care techniques.

f. Prohibited Practices

- Tree topping and pollarding may not be used on any tree species, with one exception (see below); instead, trees that are candidates for topping or pollarding should be removed and replaced.
- The exception for topping and pollarding is for mature white oaks, under one condition: when that oak would need to be taken down completely because it threatened serious damage to a building or pedestrians; however, serious consideration should be given to removal and replacement; normally, topping and pollarding would be restricted to trees within stands, rather than those that stand off alone.
- Watering the roots of Oregon white oaks, except for those within 3 years of planting, between June 1 and October 1.
- Use of any biocides on trees, shrubs, or grass that might harm white oaks, acorn woodpeckers or other bird species, or beneficial invertebrates (see Tree and Shrub Health Care above).
- Planting non-native species, except as provided for under Tree and Shrub Selection above.
- Altering trees without permission from the Facilities Department; removal of minor parts for educational purposes is allowed.

f. Communication Strategies

- An annual written report on the campus landscape and CTAC activities is distributed to the community and is linked to the university website.
- A minimum of one annual report is presented to the University Council.
- CTAC works with the Office of Marketing & Communications to publicize Arbor Day and other newsworthy events.
- CTAC committee meetings are advertised and open to community members.
- Because the plan cannot cover every conceivable practice needed for maintenance of an urban landscape, the Facilities Department should consult with CTAC when situations arise not covered by the plan.
- The Campus Landscape Plan should be used as part of the planning process for renovation or new construction and should be provided to any contractor hired for construction or other purposes that might impact trees or landscaping.

4. Service Learning Projects

In order to graduate from Pacific University, all undergraduate students must complete a substantial service learning project. These may be embedded in regular courses that have a significant service learning component. Projects may be part of designated service learning courses. And they may be individual projects proposed by students and approved by the faculty through the Center for Civic Engagement. Some current and potential service learning projects are listed below.

a. Arbor Day/Earth Week and Other Tree Plantings

Students organize tree plantings on campus for Arbor Day/Earth Week, which is coordinated by ECA-Core (composed of heads of student groups that have environmental or social justice as part of their missions). Individual students, in coordination with the Facilities Department, could organize tree plantings at other times as service learning projects.

b. Tree Identification Guide

A graduated student developed an online guide to some campus trees; a description, including scientific and other interesting information, was provided for each species. This guide could be expanded as part of a service learning project.

c. Tree Inventory

The hard copy tree inventory is out of date and needs to be updated and converted to a digital format that includes useful information beyond just a list of tree species. This could be part of a service learning project.

d. The Case for Sustainable Landscapes

As part of this Campus Landscape Plan, Appendix B describes the value of sustainable landscapes. This piece could be used to generate service learning projects.

e. Coordination with Center for Civic Engagement

The Center for Civic Engagement acts as a clearinghouse for service learning projects. CTAC coordinates with the Center and the Facilities Department on potential service learning projects.