

Sustainable Development Plan

U n i v e r s i t y o f O r e g o n

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Updated September 2005



1999-2000 Development Policy, Implementation and Transportation Subcommittee
University Planning Office
University of Oregon

1999-2000 Development, Policy, Implementation, and Transportation Subcommittee of
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Updated September 2005

Revisions include solely editorial and typographical corrections to clarify
the original intent of the document and to reference the 2005 Campus Plan.



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Sustainable Development Plan

University of Oregon

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Large canopy trees, such as this beech, have important environmental and design roles on campus.



On-campus bus stations and free bus passes make transit easy to use.



Lillis Business Complex was the first LEED-certified building on campus. It contains a comprehensive mix of sustainable design features.

Sustainable Development Plan

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University Planning Office

Introduction

The purpose of the Sustainable Development Plan is to describe the intent and implementation of the Campus Plan's "Sustainable Development" policy and pattern.

This Plan is a "subject plan" policy refinement of the Campus Plan.

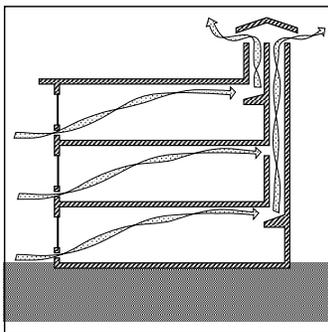
The Campus Plan's "Policy 12: Sustainable Development" Policy states:

"All construction projects shall adhere to the university's Sustainable Development Plan."



Moss Street Children's Center bioswale

Sustainable Development Pattern



Today's development, repair, maintenance and operations of the University of Oregon have an impact on the local environment and the ability of future generations to thrive. The physical environment of the university—its landscape and buildings—must also support and enhance the excellence of our academic programs. Therefore: develop, revelop, and remodel in ways that incorporate sustainable design principles.

Source: UO 2005 Campus Plan

The university's physical environment has a substantial impact on the quality of the environment:

- More than 60% of all electricity and more than 30% of all energy consumed in the United States are used in buildings.
- More than 35% of all municipal solid waste comes from building construction and operations. Current construction practices create 2 to 2-1/2 pounds of solid waste per square foot.
- Buildings consume 40% of raw stone, gravel, and sand and 25% of virgin wood used each year.
- 25% of all treated water is used in buildings.

As a result, there are substantial environmental benefits to practicing sustainable design on campus. In addition to environmental benefits, there are economic and health/safety benefits associated with sustainable design:

- Conservation of energy is one of the most significant aspects of environmentally conscious design. An energy-efficient design reduces the amount of raw materials consumed, annual operating costs, and the amount of carbon dioxide produced.
- The improved comfort, performance, and aesthetics of environmentally conscious buildings result in lower operating costs. Recent studies show that making a building environmentally responsive can increase worker productivity by 6% to 15% or more.
- Recycling demolition materials can substantially reduce the amount of solid waste produced and lower landfill fees.
- Building restoration, historic preservation, renovation, and adaptive reuse offer the greatest opportunity for conservation of embodied energy—the amount of energy required to produce, transport, construct, install, maintain, and dispose of a material—in a building.
- Using building materials with low embodied energy preserves natural resources and strengthens local industries.
- Reducing water usage and increasing on-site storm water drainage preserve water quality and lower operating costs.

(Data from The U.S. Green Building Council and The Ecology of Architecture by Laura Zeiher, 1996, which includes statistics from Rocky Mountain Institute's Primer on Sustainable Building.)

The University of Oregon's Sustainable Development Plan was prepared by the 1999-2000 Development Policy, Implementation, and Transportation (DPIT) Subcommittee of the Campus Planning Committee. The process for developing the plan is described in Appendix C.

Sustainable Development Patterns

The plan consists of thirteen patterns grouped into seven categories addressing sustainable design.

Planning and Design Process:

- Project Management
- Performance Standards
- Living Design
- Connection to the Environment

Water:

- Water

Energy:

- Save Energy

Land Use/Transportation:

- Use Wisely What We Have
- Car-less Commuting

Materials and Resources:

- Life Cycle Costs

Sites/Landscaping:

- Site Benefits
- Healthy Ecosystems
- Campus Trees

Indoor Environmental Quality:

- Local Occupancy Control

All construction projects must consider each pattern.

Each pattern is followed by a series of approaches and examples designed to serve as a guide for its implementation. The University of Oregon's Campus Plan contains many patterns and policies that address sustainable design principles. References to these existing policies and patterns are included in the approaches and examples.

Planning and Design Process

Project Management

Effective sustainable development begins when the project is conceived.

Management of the project design and construction process will affect the overall success of sustainable development.

Therefore: Integrate sustainable practices into the entire design and construction process.

Approaches/Examples:

- Require project's Request for Qualifications to include a section asking potential architects to explain their experience in environmentally sustainable design.
- Ensure user involvement in the development process (supported by Campus Plan Policy 1: Process and Participation, page 11). This participation allows individuals to inject their own values (including concepts of sustainable design) into the decision-making process.
- Schedule time early in the design process to discuss sustainable design.
- Revisit completed buildings to determine which systems are working.

Performance Standards

Sustainable principles must be measured and enforced according to a defined set of standards to ensure effective implementation.

Therefore: All new construction projects that are required to comply with the State Energy Efficiency Design (SEED) program* shall be rated according to the current LEED Green Building Rating System. These projects shall achieve the equivalence of at least the base level of LEED certification (and strive for a higher level) unless there is a compelling reason why this is not possible.**

** This applies to Class 1 buildings as defined by the SEED program (generally defined as new construction or renovations over 10,000 square feet).*

*** The LEED Green Building Rating System, created by the U.S. Green Building Council, is a set of performance standards based on accepted energy and environmental principles that strike a balance between known effective practices and emerging concepts. Projects earn credits for satisfying each criterion; different levels of green building certification are awarded based on the total credits earned. (Refer to Appendix A for more information.)*

Note: All construction projects must also meet the State of Oregon Sustainable Facilities Standards and Guidelines established November 1, 2004. Generally, new construction must meet the point equivalent of a LEED Silver rating, alterations and renovations must meet the point equivalent of a LEED Certified rating, and a Sustainability Plan must be developed at the start of each project. (Refer to <http://egov.oregon.gov/DAS/FAC/docs/1256010.pdf> for more information.)

Approaches/Examples:

- Review the required standards at the onset of a project. The LEED Rating System covers many, but not all, of the concepts addressed in the sustainable patterns listed below.

Living Design

The people who occupy, operate, and maintain the completed building/site will determine whether sustainable principles embodied in the building/site design are successful over time.

Therefore: Design the building/site to encourage the people who occupy, operate, and maintain the building/site to practice environmentally sustainable methods.

Approaches/Examples:

- Keep it simple. Avoid complicated high-cost systems that are difficult to operate, maintain, and repair.
- Prepare an environmentally sound building/site management and maintenance plan. Train faculty, staff, and students to observe standards of care for the building/site to maximize efficient use.

Connection to the Environment

When people feel connected to and are knowledgeable about their environment, they will take better care of it. The university provides an ideal setting for sharing this knowledge.

Therefore: The campus development process and resulting designs/policies will provide opportunities to educate people about the university's cultural and environmental features.

Approaches/Examples:

- Ensure user involvement in the building/site development process and land-use development policy making (supported by Campus Plan Policy 1: Process and Participation, page 11).
- Encourage participation of students (i.e., class projects such as environmental restoration and monitoring, design projects, etc.) and integrate environmental knowledge into courses.
- Use campus environments and building/site projects as educational tools to demonstrate the importance of the environment and sustainable design concepts (i.e., habitat trees, informational displays such as plaques indicating the design parameters—daylighting, foot-candles, and occupancy—in each classroom or energy-use, “real time” displays).

Land Use/Transportation

Use Wisely What We Have*

New construction reduces limited land inventories and valuable natural resources on and off campus. Development also may put pressure on green open spaces, landscape features, and historic resources that contribute to the university's cultural character and stimulating intellectual environment.

Therefore: All new campus growth should promote efficient development and, whenever beneficial, make use of existing facilities to preserve valuable open space and historic resources.

** This pattern is also contained in the Campus Plan.*

Approaches/Examples:

- Give priority to maintaining and renovating existing buildings and to retrofitting existing buildings to their maximum energy efficiency. Conduct an analysis to determine the viability of reusing existing structures by taking into account the environmental and cultural benefits of doing so.
- Preserve, complete, and/or extend the fundamental open-space framework (Campus Plan Policy 2: Open-space Framework, page 23).
- Promote efficient development within the established open-space framework, four-story limit and maximum allowed densities according to the Campus Plan.
- Justify space needs on the basis of demonstrated need (supported by Campus Plan Policy 4: Space Use and Organization, page 36).

Car-less Commuting

Even the most energy efficient, state-of-the-art green campus will carry a significant environmental burden if people get in their cars each day to get to campus. If ways can be found to make it easier and cheaper to get around without a car, people will leave their cars at home.

Therefore: The university will provide incentives for walking, bicycling, busing, and ride sharing, will discourage the use of single-occupancy cars, and will strive to link transportation planning to land-use planning.

Approaches/Examples:

- Apply Campus Plan Policy 9: Transportation and related transportation patterns. Implement Transportation Demand Management (TDM) strategies contained in the UO Transportation Plan and 1996 Transportation Study recommendations.
- Maximize housing options within walking and biking distance for students, staff, and faculty (UO Transportation Plan and Student Housing pattern, page 67).

- Contain the instructional core within a six- to seven-minute walking circle to allow for pedestrian travel (Campus Plan Policy 4: Space Use and Organization, page 36, and University Shape and Diameter pattern, page 67).

Sites/Landscape

Site Benefits

Every site is unique and has local environmental qualities which can be used to enhance the sustainability of development.

Therefore: All new development will site and orient the building and landscape features to take advantage of site conditions and context within the parameters of the established organizational framework of the campus.

Approaches/Examples:

- Orient buildings to make optimal use of site conditions such as solar, airflow, lighting, soil, vegetative, and topographic conditions (supported by the Campus Plan's Site Repair pattern, page 65).
- Make usable outdoor spaces (supported by the Campus Plan's Accessible Green pattern on page 54, Positive Outdoor Space pattern on page 63, and South Facing Outdoors pattern on page 66).
- Select and position landscape materials to aid in achieving energy efficiency. Take advantage of trees to reduce cooling loads and use hedgerows or shrubbery to help channel cool summer breezes into the building.

Healthy Ecosystems

Ecologically healthy landscapes are essential to long-term maintenance of local ecosystems and biodiversity. Each site consists of interconnected living systems, all linked to the environment beyond the site's boundaries.

Therefore: All development will protect the existing ecosystems to the greatest extent possible.

Approaches/Examples:

- Protect parks, forests, wetlands, wildlife habitats, agricultural land, and watersheds to the greatest extent possible.
- Consider how the landscaped areas are linked to one another and create natural corridors for plants and birds. Integrate bird food sources and shelter. Tie these corridors in with the established open-space framework.

- Use native or well-adapted species for landscaping when appropriate while recognizing the importance of a variety of plant materials necessary for instructional use.
- Maintain an Integrated Pest Management approach which carefully considers plant selection and design and minimizes use of herbicides, pesticides, fertilizers, and irrigation.
- Preserve the integrity of the site, in particular trees, significant plant materials, and topsoil. Develop on previously disturbed areas (supported by the Campus Plan's Site Repair pattern, page 65).
- Recycle yard waste into compost for reuse on campus.
- Maximize noise containment of building systems.
- Minimize night lighting within safety parameters. Selection of exterior lighting standards should be consistent with energy conservation concerns (Campus Plan, page 30, and Campus Outdoor Lighting Plan).
- Make underground systems easily accessible. Use vaults where possible to avoid tearing up the landscape (Campus Plan, page 42).

Campus Trees*

The UO campus is an arboretum and a tree identification classroom. Not only are there many unusual trees, memorial trees, and otherwise special trees, but trees also play an important part in the formation of open spaces (for example, by creating edges) and as components of local ecosystems. Building projects often are considered for sites that are occupied by trees, setting up a conflict between programmatic and aesthetic or environmental needs.

Therefore: Whenever possible, build in ways that preserve or relocate trees and plan for continued enhancement of the campus' forest. If any trees must be removed, follow the requirements of the university's *Campus Tree Plan*.

** A similar version of this pattern is also contained in the Campus Plan.*

Approaches/Examples:

- Implement the Campus Tree Plan.
- If proposed development requires removal of a tree, provide funds to replace the tree either on the development site or elsewhere on campus, as determined by the Campus Tree Plan.
- Preserve and protect the integrity of trees (Campus Plan, page 30 (f)-(h), and the Campus Tree Plan).
- Consider whether the massing and shape of proposed development provide adequate space for large-canopy trees, a defining feature of the campus's landscape (Campus Tree Plan).
- Ensure there is room for new trees to grow and survive (Campus Tree Plan).

Water

Water

Water is one of Oregon's most precious resources. Every building site is in a watershed connected to waterways and wetlands.

Therefore: All development will protect and augment natural drainage and will treat storm-water runoff on site to the maximum extent possible.

Approaches/Examples:

- Maximize on-site storm-water management. Focus on filtering runoff resulting from rainfall events that are equal to or less than 1" (about 80% of all rainfall events in Eugene). Limit off-site drainage whenever possible.
- Use plant materials and terrain to slow and absorb runoff, filter sediments, and facilitate infiltration. When appropriate, consider overland flows and ponds to temporarily impound water and allow a slower rate of infiltration (supported by the Campus Plan's Water Quality pattern, page 68).
- Maximize pervious surfaces to permit water infiltration where possible. Make use of the existing pathway network, design paving to serve multiple purposes, and minimize buildings' footprints.
- Minimize the need for landscape irrigation. Use weather-based irrigation controls to minimize runoff and excess water use. Establish high and low maintenance landscaping zones—group plants with similar water-use needs—and tie into the individual irrigation zones. High-maintenance zones should be around major building entries and high-traffic areas.
- Use natural drainage ways wherever possible.
- When appropriate, make use of gray water and water-saving devices.
- Use plantings that can tolerate low summer watering.

Energy

Save Energy

Ongoing energy use is probably the single greatest environmental impact of a building. Decisions made during the design and construction of a building will affect the environmental performance of that building for decades through its energy consumption.

Therefore: Retrofitting existing buildings and designing new buildings for low energy use shall be a priority. Designs will maximize use of passive systems and take advantage of the interactions between separate building elements such as windows, lighting, and mechanical systems.

Approaches/Examples:

- Give top priority to the university's commitment to a vigorous program of energy conservation.

- When possible, retrofit existing buildings to their maximum energy efficiency while preserving their historic character.
- Reduce thermal loads entering the building as much as possible. Consider the building envelope design carefully, including glazing selection, window and door shading, wall construction, roof color, and building shape.
- Make use of thermal mass to absorb heat and shift peak heating to off-peak hours. Design floor and ceiling surfaces to take advantage of thermal mass.
- Integrate a well-controlled daylighting system with other building systems and the overall building design—footprint, surface reflection, location of windows and other openings, and light distribution (supported by the Campus Plan’s Quality of Light pattern on page 64 and Wings of Light pattern on page 68).
- Maximize plug-in unit efficiencies (i.e., use flat panel vs. CRT computers, occupancy sensors on power strips, etc.).
- Maximize lighting efficiencies and reduce heat gain—design for specific tasks, maximize room cavity optics, and provide effective control. Light the minimum area for the minimum time (i.e., use occupancy sensors).
- Use properly-sized efficient heating and ventilating systems. Avoid using a mechanical air-conditioning system if at all possible.
- Take advantage of passive cooling and ventilation (supported by the Campus Plan’s Operable Windows pattern, page 61) and tie into HVAC systems.
- Take advantage of passive solar energy and, when possible, active solar energy.

Materials and Resources

Life Cycle Costs

Most of the environmental impacts associated with construction materials have already occurred by the time the materials are installed. The longer a building or constructed landscape and associated materials last, the longer the environmental impacts from the building can be amortized. Therefore: Consider the full range of life cycle costs for materials (source extraction, manufacturing, and shipping) in the building/site design. Maximize longevity and reduce material use; reuse; and recycle (in that order of priority) to the greatest extent possible.

Approaches/Examples:

- Do more with less. Reduce the amount of materials as long as the durability and structural integrity of the building or constructed landscape are not compromised.
- Make the building/site design adaptable (supported by Campus Plan Policy 6: Maintenance and Building Service on page 41 and the Flexibility and Longevity pattern on page 58).
- Reduce the overall building footprint and design building dimensions to optimize material use, reduce cut-off waste, and simplify the building geometry.

- Use recyclable products and those with recycled material content.
- Reuse materials, components, equipment, and furnishings.
- Use materials with low embodied energy costs associated with them.
- Avoid materials that generate ozone-depleting chemicals (VOCs, HCFCs, etc.) during manufacture and/or use, that are made from toxic or hazardous constituents (benzene, arsenic, etc.), and/or that unduly deplete limited natural resources such as old-growth timber.
- Avoid the need to maintain an extensive inventory of a variety of similar parts (supported by Campus Plan Policy 6: Maintenance and Building Service on page 41).
- Maximize reuse and recycling of construction waste and demolition debris. Sort waste for recycling.
- Provide recycling/waste collection areas that are easily accessible by the occupants, accommodate collection needs specific to the project, and meet the recycling program's standard design parameters.
- Consider providing filtered drinking water in the building to minimize the waste associated with bottled water.

Indoor Environmental Quality

Local Occupancy Control

Every building serves a different purpose and every occupant has a different comfort level. Often users are willing to accommodate a greater range of interior temperatures, thus reducing demand on the HVAC system, if they have some degree of local control. Also, comfortable spaces increase occupant productivity.

Therefore: Design systems to accommodate the intended occupancy use patterns. Maximize the flexibility and control of each occupant's local environment (i.e., office) to the greatest degree possible so the efficiency of the entire system is not taxed or superseded by differing individual needs.

Approaches/Examples:

- Determine how and when the building is in use and determine the acceptable range of interior temperature and light levels. Design the interior environmental systems to function within these parameters keeping in mind the need to be adaptable (supported by Campus Plan user group involvement process). Focus on reducing energy use during no or low use periods (i.e., overnight).
- In the absence of compelling reasons to the contrary, make all exterior windows operable (Campus Plan's Operable Windows pattern, page 61).
- Maximize local thermostat and lighting controls to the greatest extent feasible. When using occupancy sensors, integrate local control overrides.
- Avoid materials that generate ozone-depleting chemicals (VOCs, HCFCs, etc.) during manufacture and/or use, or that are made from toxic or hazardous constituents (benzene, arsenic, etc.).
- Flush the building prior to occupancy when necessary to reduce toxic emissions

Future Work

Benchmarks and Evaluation – Overall, the policies and patterns contained in this plan should be reviewed every five years by the Campus Planning Committee to determine their effectiveness. In addition, focus on ways to increase sustainable efforts. Specifically, consider the feasibility of increasing the required level of LEED certification. In order to conduct periodic evaluations, the university should establish benchmarks that can be tracked over time.

Comprehensive Sustainable Effort – Sustainable development plays an important role in the university’s overall effort to become environmentally sustainable. While this plan focuses on implementing sustainable measures for campus development, it is the Campus Planning Committee’s desire that other departments and offices will implement sustainable measures in other areas of campus operations as supported by the University of Oregon Comprehensive Environmental Policy Statement (see Appendix B). For example, reduced energy use associated with a new building will ultimately depend upon educating the building’s occupants and securing their commitment to developing energy-saving habits.

Staffing & Funding Support – Although sustainable efforts will result in cost savings for the university over time, there are up-front costs associated with effective implementation. In particular, encourage and support funding to establish a staff position that would serve as the manager for campus-wide sustainability efforts and be responsible for training and educating staff, faculty, and students (similar to Kurt Teichert’s role as Environmental Coordinator at Brown University—see Appendix C). This manager, who would ideally be part of Administration, would work with all university units to develop a comprehensive sustainable approach on campus as described above and perform periodic evaluations. In addition, the manager would develop some expertise in energy efficient and environmentally sustainable design and construction. This expertise would be available to user groups, for example, who must make design choices based on both initial cost and life-cycle costs.

Incentives – The Campus Planning Committee encourages the university to develop incentives for implementing energy conservation measures to enhance sustainable efforts. Currently, building users do not pay for energy use or building maintenance. Therefore, they do not have any incentive to operate buildings efficiently or to pay for energy-efficient features or more durable building materials. It would be ideal to link maintenance and operations costs to building design decisions. Individual departments and the university as a whole should share the benefits of energy conservation and improved building maintenance/operations.

APPENDICES

Appendix A - LEED Green Building Rating System

For additional information, refer to the U.S. Green Building Council web page: <http://www.usgbc.org>, or contact the University Planning Office at (541)346-5562.

Yes	?	No		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sustainable Sites 14 Points	
Y			Prereq 1	Erosion & Sedimentation Control Required
			Credit 1	Site Selection 1
			Credit 2	Development Density 1
			Credit 3	Brownfield Redevelopment 1
			Credit 4.1	Alternative Transportation , Public Transportation Access 1
			Credit 4.2	Alternative Transportation , Bicycle Storage & Changing Rooms 1
			Credit 4.3	Alternative Transportation , Alternative Fuel Vehicles 1
			Credit 4.4	Alternative Transportation , Parking Capacity and Carpooling 1
			Credit 5.1	Reduced Site Disturbance , Protect or Restore Open Space 1
			Credit 5.2	Reduced Site Disturbance , Development Footprint 1
			Credit 6.1	Stormwater Management , Rate and Quantity 1
			Credit 6.2	Stormwater Management , Treatment 1
			Credit 7.1	Landscape & Exterior Design to Reduce Heat Islands , Non-Roof 1
			Credit 7.2	Landscape & Exterior Design to Reduce Heat Islands , Roof 1
			Credit 8	Light Pollution Reduction 1
Yes	?	No		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water Efficiency 5 Points	
			Credit 1.1	Water Efficient Landscaping , Reduce by 50% 1
			Credit 1.2	Water Efficient Landscaping , No Potable Use or No Irrigation 1
			Credit 2	Innovative Wastewater Technologies 1
			Credit 3.1	Water Use Reduction , 20% Reduction 1
			Credit 3.2	Water Use Reduction , 30% Reduction 1
Yes	?	No		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Energy & Atmosphere 17 Points	
Y			Prereq 1	Fundamental Building Systems Commissioning Required
Y			Prereq 2	Minimum Energy Performance Required
Y			Prereq 3	CFC Reduction in HVAC&R Equipment Required
			Credit 1	Optimize Energy Performance 1 to 10
			Credit 2.1	Renewable Energy , 5% 1
			Credit 2.2	Renewable Energy , 10% 1
			Credit 2.3	Renewable Energy , 20% 1
			Credit 3	Additional Commissioning 1
			Credit 4	Ozone Depletion 1
			Credit 5	Measurement & Verification 1
			Credit 6	Green Power 1

continued...

Yes ? No

Materials & Resources 13 Points

Y	Prereq 1	Storage & Collection of Recyclables	Required
	Credit 1.1	Building Reuse , Maintain 75% of Existing Shell	1
	Credit 1.2	Building Reuse , Maintain 100% of Shell	1
	Credit 1.3	Building Reuse , Maintain 100% Shell & 50% Non-Shell	1
	Credit 2.1	Construction Waste Management , Divert 50%	1
	Credit 2.2	Construction Waste Management , Divert 75%	1
	Credit 3.1	Resource Reuse , Specify 5%	1
	Credit 3.2	Resource Reuse , Specify 10%	1
	Credit 4.1	Recycled Content , Specify 5% (post-consumer + _ post-industrial)	1
	Credit 4.2	Recycled Content , Specify 10% (post-consumer + _ post-industrial)	1
	Credit 5.1	Local/Regional Materials , 20% Manufactured Locally	1
	Credit 5.2	Local/Regional Materials , of 20% Above, 50% Harvested Locally	1
	Credit 6	Rapidly Renewable Materials	1
	Credit 7	Certified Wood	1

Yes ? No

Indoor Environmental Quality 15 Points

Y	Prereq 1	Minimum IAQ Performance	Required
Y	Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required
	Credit 1	Carbon Dioxide (CO₂) Monitoring	1
	Credit 2	Ventilation Effectiveness	1
	Credit 3.1	Construction IAQ Management Plan , During Construction	1
	Credit 3.2	Construction IAQ Management Plan , Before Occupancy	1
	Credit 4.1	Low-Emitting Materials , Adhesives & Sealants	1
	Credit 4.2	Low-Emitting Materials , Paints	1
	Credit 4.3	Low-Emitting Materials , Carpet	1
	Credit 4.4	Low-Emitting Materials , Composite Wood & Agrifiber	1
	Credit 5	Indoor Chemical & Pollutant Source Control	1
	Credit 6.1	Controllability of Systems , Perimeter	1
	Credit 6.2	Controllability of Systems , Non-Perimeter	1
	Credit 7.1	Thermal Comfort , Comply with ASHRAE 55-1992	1
	Credit 7.2	Thermal Comfort , Permanent Monitoring System	1
	Credit 8.1	Daylight & Views , Daylight 75% of Spaces	1
	Credit 8.2	Daylight & Views , Views for 90% of Spaces	1

Yes ? No

Innovation & Design Process 5 Points

	Credit 1.1	Innovation in Design : Provide Specific Title	1
	Credit 1.2	Innovation in Design : Provide Specific Title	1
	Credit 1.3	Innovation in Design : Provide Specific Title	1
	Credit 1.4	Innovation in Design : Provide Specific Title	1
	Credit 2	LEED™ Accredited Professional	1

Yes ? No

Project Totals (pre-certification estimates) 69 Points

Certified 26-32 points Silver 33-38 points Gold 39-51 points Platinum 52-69 points

Appendix B - Comprehensive Environmental Policy Statement

Comprehensive Environmental Policy Statement For The University of Oregon

Effective Date: July 1, 1997
Approved Spring, 1997 by:
Council of Deans
Faculty Advisory Council
President's Small Executive Staff
Issued by: Vice President for Administration

4.1 Environmental - General

The University of Oregon establishes this policy to identify general goals and strategies for a commitment to environmental responsibility. Through enacting and implementing the vision of this policy the University of Oregon will be a positive example and play a significant role in the advancement of environmental stewardship on the campus and in the local and greater community.

Policy:

As established in the Mission Statement, "The University of Oregon strives to enrich the public that sustains it through the acceptance of the challenge of an evolving social, political and technological environment by inviting and guiding change..." In keeping with this vision and to maintain the campus effectively while also working to preserve the rights of future generations, the University affirms its commitment to environmental excellence and actively promotes the public's right to a healthy, quality environment. The University of Oregon will work toward the goal of balancing fiscal and environmental responsibility in making decisions and in general University practices. The University acknowledges its role and responsibility to provide educational, social, and financial leadership to achieve the goals of the policy.

Goals and Strategies:

- I. Commitment to Environmental Education. The University recognizes on-going education for all members of the university community about the importance of environmental responsibility and the provisions of the Comprehensive Environmental Policy.
 - A. The University commits to assuring that the University community is aware of the Comprehensive Environmental Policy and understands its roles in its implementation.
 - B. The University recognizes its academic role in fostering leadership by educating the university community about environmental responsibility and will continue to support environmental education in the curriculum.

- II. Environmentally Responsible Purchasing Policies. The University recognizes that one of the primary methods of exercising its commitment to environmental responsibility is through its purchasing choices. The University will strive to obtain maximum value for its expenditures and will work towards obtaining the “best value” by balancing short and long-term costs, maintenance, life-cycle, and environmental costs in purchasing goods and services.
- A. The University acknowledges that environmentally responsible purchasing choices will help create and sustain markets for environmentally responsible and recycled content products.
 - B. The University commits to the goal of making environmentally and fiscally responsible purchasing choices that consider life cycle costs, long-term implications, and relative environmental harm of products.
 - C. Purchasing policies will encourage obtaining products that minimize waste products, have high recycled content, use environmental production methods, demonstrate maximum durability or biodegradability, reparability, energy-efficiency, non- toxicity, and recyclability.
- III. Efficient Use and Conservation of Energy, Water, and Other Resources. The University recognizes the importance of conservation efforts and efficient use of resources as the primary method to be used to reduce resource consumption.
- A. The University commits to minimizing the consumption of energy, water, and other resources by eliminating wasteful practices and promoting efficient use.
 - B. The University strives to maximize energy efficiency in existing buildings, renovations, and new construction.
 - C. The University commits to exploring and implementing well- considered and feasible conservation measures in existing buildings, renovations, and new construction.
 - D. The University will explore the application of developing technologies for energy systems and use of resources, as well as the potential for use of renewable energy resources.
- IV. Minimize Solid Waste Production. The University recognizes the importance of minimizing solid waste generation by the community. The University will establish policies and processes that will reduce solid waste generation; first through reduction, secondarily through reuse, and finally through recycling.
- A. The University commits to waste source reduction, especially at the point of purchase.
 - B. The University supports reuse of materials to maximize fiscal, environmental, and energy efficiency.
 - C. The University supports development of food waste composting and bio-mass resource recovery programs.
 - D. The University commits to a comprehensive recycling program as the final step in solid waste reduction and as a means to transform waste into a resource.
- V. Minimize Hazardous Waste and Toxic Materials On Campus. The University acknowledges the importance of safe management of hazardous and toxic materials and will continue to establish policies and processes to maintain efficient use, tracking, storage, and disposal of hazardous and toxic materials.
- A. The University commits to keeping the presence of toxic materials on campus and the generation of hazardous waste within the university community at reasonable levels for work and research on campus.
 - B. The University supports environmentally responsible disposal of hazardous waste.
 - C. The University commits to keeping the presence of radioactive materials used on campus at reasonable levels as needed for research and supports environmentally responsible disposal of radioactive waste from within the university community.

- V. Environmentally Responsible Campus Design and Planning Principles. The University recognizes the importance of environmentally responsible practices in developing the physical characteristics of its community. The University will consider environmental implications in the development, construction, and operation of campus infrastructure, grounds, and buildings.
- A. The University will strive to balance sound fiscal practices and environmental responsibility in the maintenance and further development of the planning and building of campus facilities.
 - B. The University will work toward the goals of providing landscaping and grounds maintenance practices that use vegetation compatible with the local environment and that use integrated pest management techniques.
 - C. The University has an ongoing commitment to facilitating pedestrian travel, bicycle use, and other modes of transportation that minimize environmental impact.

Follow Up, Review, and Update Units, as determined by University administration, are required to prepare their own sub-policies based on the framework established in this Comprehensive Environmental Policy within one year from the date of ratification of this policy. Subsequent plans for implementation shall be developed within one year from the date of ratification of the policy and following sub-policies.

The Office of Environmental Health and Safety shall be responsible for administering and monitoring this policy. All members of the university community are invited to support the University's effort to meet the goals of this policy by contacting the Office of Environmental Health and Safety and offering comments and suggestions for improvement. With the support and advice of the Environmental Issues Committee, the Office of Environmental Health and Safety will supervise the biannual review of this policy statement and give recommendations for updates as needed.

Clarification of the University's Political Position

The University of Oregon maintains a neutral political position and has a long-standing policy that it will not implement policies or undertake practices that would be generally understood to be political in character. The phrases "environmental responsibility" and "social leadership" in this policy shall not be interpreted to compromise, conflict with, or violate this neutral political position.

Appendix C - Process and Background

The Sustainable Development Plan was prepared by the 1999-2000 Development, Policy, Implementation, and Transportation (DPIT) Subcommittee of the Campus Planning Committee as directed by the university president at the committee's request. Attached is a copy of the memo sent by the Campus Planning Committee to the president as well as a copy of the response from Dan Williams on behalf of the president.

The DPIT subcommittee began work on the Sustainable Development Guidelines in Winter 1999/2000 by reviewing a wide variety of guidelines from other universities and organizations. After developing the first draft guidelines, the guidelines were widely distributed in Spring 2000 to interested parties for review and comment.

In addition, Kurt Teichert, Environmental Coordinator for Brown University, visited the University of Oregon in April 2000 to meet with the DPIT Subcommittee and Facilities Services staff. He shared ideas about how to improve environmentally sustainable practices and how to integrate ideas into the draft guidelines. The DPIT Subcommittee also sponsored a panel discussion on campus sustainable development with Kurt Teichert, Charlie Stephens (Oregon Department of Energy), Rob Pena (sustainable architect), Frank Vignola (Physics/solar energy), and Mike Russo (Lundquist College of Business/sustainable business). This event was part of the April 2000 H.O.P.E.S. conference, coordinated every year by Architecture and Allied Arts students to focus on ways to integrate sustainable solutions into design practices.

In addition, graduate students participating in the Spring 2000 Sustainable Architecture class were invited to critique the draft guidelines. This resulted in a comparison study of other Universities as well as an analysis of how the current Gilbert Hall Additions and Alterations project would be affected by the proposed guidelines. In July 2000, the DPIT Subcommittee considered all comments and suggestions prior to preparing a final draft for full Campus Planning Committee Review.

On October 5, 2000, the Campus Planning Committee held a public hearing to amend the Long Range Campus Development Plan to include the Sustainable Development Pattern. At that meeting, the Campus Planning Committee also reviewed and approved the Sustainable Development Plan. The Campus Planning Committee sent a memo to the president explaining the need for staff support to implement a comprehensive sustainable approach across campus (refer to attached). On February 15, 2001, the University received notice that the City of Eugene had determined the "sustainable development" pattern to be consistent with the Area Metro Plan.

In September 2005, staff updated the plan. Revisions include solely editorial and typographical corrections to clarify the original intent of the document and to reference the 2005 Campus Plan.

MEMORANDUM

TO: Dave Frohnmayer
President, University of Oregon

FROM: Dean Livelybrooks, Acting Chair
on behalf of the Campus Planning Committee

RE: University of Oregon Sustainable Policy Improvements

VISION: The University of Oregon should be a world leader in creating and maintaining an environmentally sustainable institution. The University should set examples in the design, construction, and operation of the campus, the management of its fiscal and human resources and the actions of its faculty, staff, and students.

RATIONALE: The University has in place policies (Long Range Campus Development Plan, University of Oregon Comprehensive Environmental Policy Statement) which generally support the idea of sustainability, and has done a credible job on many fronts. However, the policies lack strong enforcement measures and specificity, and have not always led to state of the art or innovative implementation of these policies.

Future generations may well remember the late 20th and early 21st century as a period of critical, perhaps irreversible, activity that defined the environmental character of the biosphere. The State of Oregon has often been on the cutting edge of environmental policy and many university faculty are internationally known for their contributions to creating and disseminating knowledge about sustainable structures and processes.

Because of its special position within a milieu that values the environment and its concentration of intellectual resources, the university has an obligation to the people of the state to lead the way in the creation of a sustainable world.

RECOMMENDATION: The Campus Planning Committee (CPC) recommends that the university adopt more rigorous policies that require state of the art sustainable structures and processes, and encourage and reward innovation that extend our knowledge and capabilities beyond the state of the art. These policies should be backed with measurable goals and accompanied by a plan of action, timetable and the resources necessary to achieve these goals. The CPC recommends that the president direct the 1999/2000 CPC undertake, as a priority, the creation of guidelines which include quantifiable goals for developing buildings and landscape that are environmentally sustainable.

University of Oregon
Campus Planning Committee

Environmental Policy Position Paper
Background Report
September 27, 1999

Current Practice:

University of Oregon planning efforts have been particularly successful with regard to energy efficiency. All of the campus buildings built within the last ten years have received energy awards for their energy efficient design. Recent award winners include the Moshofsky Indoor Practice Center, the Knight Law Center, and the Student Recreation and Fitness Center.

In the last ten years the university has become nationally known for its innovative and successful promotion of alternative methods of travel to the campus. Currently it is estimated that over 60 percent of all who come to the campus arrive by alternative methods of travel. In comparison, in the remainder of the Eugene-Springfield metropolitan area, only 25 percent use alternative modes to get to their destinations.

Individuals concerned with the environment can have a great effect by simply choosing, whenever possible, methods of travel other than cars. The university has several programs in place to encourage this, including the Lane Transit District (LTD) bus pass system where all University of Oregon employees and students ride for free; the comprehensive system of available bicycle storage such as covered racks and secured covered bicycle parking areas; the availability of housing on and near campus; and the tandem taxi alternative.

Supportive Policies:

The Long Range Campus Development Plan (June 1991):

The Long Range Campus Development Plan (LRCDP) already contains a number of general policies that promote energy conservation in land development, building maintenance, landscape design and the transportation plan.

The University of Oregon planning philosophy that guides campus design requires that individual members of the university community have a meaningful voice in planning its physical aspects. This participation allows individuals to inject their own values (including concepts of sustainable growth) into the decision-making process. The most important step individuals and departments can take toward a sustainable future is to be active participants in the planning processes for new buildings and spaces on campus.

The LRCDP refers to a series of patterns to guide development of the campus. Some of these patterns encourage the creation of a sustainable environment, including those related to operable windows, bike racks and paths, and providing alternative modes of transportation within a local transport area.

Transportation policies are set by the Campus Planning Committee and are articulated in the Long Range Campus Development Plan. Policies within the plan include accommodating the travel needs of campus users, with special emphasis of encouraging travel by means other than the car. In addition, the Land Development Policies state that the University's instructional core should be

contained within a six- to seven-minute walking circle to allow for pedestrian travel.

Building maintenance policies specify that new buildings and remodels should use high quality, durable, and low maintenance materials.

Landscape policies specify that landscape materials should be selected and positioned to aid in achieving energy efficiency. In addition, selection of exterior lighting standards should be consistent with energy conservation concerns.

With regard to utility systems, policy #10 states that the University is committed in principle and in practice to a vigorous program of energy conservation. This commitment is expressed in ongoing research and development in several disciplines and in many of the policies articulated in the LRCDP. To this end, the University will pursue funding for projects that will enhance the University's ability to co-generate electricity. In addition, the University shall insist that the design of new developments and of major remodeling projects clearly and positively respond to the Oregon Legislative Assembly's policy declarations related to the conservation of energy (ORS 469.011 and ORS 276.900). Finally, the University shall require preparation of an acceptable life cycle cost analysis for all new construction and major remodeling projects as provided by ORS 276.915 and shall observe applicable provisions of the maximum lighting standards for public buildings, promulgated by the Oregon Department of Commerce as Chapter 814, Division 22 of the Oregon Administrative Rules.

University of Oregon Comprehensive Environmental Policy Statement (July 1, 1997):

Sections III and VI of the University of Oregon Comprehensive Environmental Policy Statement provide a clear interest, on the part of the University, to pursue measures leading to a more sustainable environment.

Section III: Efficient Use and Conservation of Energy, Water, and Other Resources.

The University recognizes the importance of conservation efforts and efficient use of resources as the primary method to be used to reduce resource consumption (refer to Appendix B for full text).

Section VI: Environmentally Responsible Campus Design and Planning Principles.

The University recognizes the importance of environmentally responsible practices in developing the physical characteristics of its community. The University will consider environmental implications in the development, construction, and operation of campus infrastructure, grounds, and buildings (refer to Appendix B for full text).

Approach for Additional Efforts:

Sustainability concepts can be implemented through systematic innovation in facilities as well as through human resource and transportation policies.

Sustainable development guidelines (and references to existing related policies established since the creation of the LRCDP) can be included in future revisions of the Long Range Campus Development Plan. Refer to the Draft Sustainable Development Guidelines for more information on work in progress.

November 29, 1999

MEMORANDUM

To: Jerry Medler, Chair
Campus Planning Committee

From: Dan Williams
Vice President for Administration

Subject: Environmental Policy Position Paper

I have reviewed the Environmental Policy Position Paper prepared by the Campus Planning Committee that recommends that the president direct the 1999/2000 Campus Planning Committee to undertake, as a priority, the creation of guidelines which include quantifiable goals for developing buildings and landscapes that are environmentally sustainable.

I commend the committee for its work and support its efforts to create and maintain an environmentally sustainable institution. I accept the committee's recommendation and, therefore, ask you to work with University Planning Office staff and the Campus Planning Committee to develop guidelines to be considered for incorporation into the Long Range Campus Development Plan.

As the committee goes about its work, it needs to keep in mind that such efforts must fit into the existing context of the university. The creation of new policies must support the institution's missions in teaching, research, and service to the State of Oregon. Furthermore, new policies should fit into the existing framework of policies and patterns of the Long Range Campus Development Plan. Also, it is important to remember that proposed actions should be attainable with the limited staff time and resources currently available.

Therefore, the university may be able to adopt more rigorous policies (as guidelines) as recommended in the Environmental Policy Position Paper, but it may not be able to fully attain the stated goals of "requiring" state of the art sustainable structures and processes and measurable goals.

Thank you for your continued efforts providing leadership for this important university committee. I look forward to the results of this effort.

cc: Dean Livelybrooks

October 11, 2000

MEMORANDUM

TO: Dave Frohnmayer
President, University of Oregon

FROM: Jerry Medler, Chair and Dean Livelybrooks, Subcommittee chair
on behalf of the Campus Planning Committee

RE: Implementation of the Sustainable Development Plan

Last year, the Campus Planning Committee sent you a memo with the following vision:

“The University of Oregon should be a world leader in creating and maintaining an environmentally sustainable institution. The University should set examples in the design, construction, and operation of the campus, the management of its fiscal and human resources and the actions of its faculty, staff, and students.”

Following your approval, the Campus Planning Committee began developing Sustainable Development Guidelines in January 2000. Governor Kitzhaber’s executive order addressing sustainability issued in May 2000 supports our efforts and clarifies the importance of moving forward.

On October 5, the Campus Planning Committee reviewed and recommended approval of an amendment to the Long Range Campus Development Plan which adds a primary pattern applicable to all development on campus:

“(q) Sustainable Development

The development, repair, maintenance and operations of the University of Oregon today have an impact on the local environment and the ability of future generations to thrive. The physical environment of the University - landscape and buildings - must also support and enhance the excellence of our academic programs.

Therefore: The University will strive to become a national leader in sustainable development. All development, repair, maintenance and operations of the University of Oregon campus shall incorporate sustainable design principles including existing and future land use, landscaping, building, and transportation plans. Sustainable endeavors will support the University’s missions of teaching, research, and public service. [Refer to the Level 3 Sustainable Development Plan]”

An accompanying Sustainable Development Plan describes in more detail the intent of this primary “Sustainable Development” pattern. (refer to attached). In particular, the plan states that, to be effective, the university must commit funding to establish a staff position who would serve as the manager for campus-wide sustainability efforts and be responsible for training and educating staff, faculty and students. This new position— ideally a member of administration— would work with all university units to develop a comprehensive, sustainable approach on campus and perform periodic evaluations.

In addition, the manager would develop expertise in energy efficient and environmentally sustainable design and construction. This expertise would be available to user groups, for example, who must make design choices based on both initial cost and life-cycle costs. To illustrate the type of position we envision, we have attached a job description for a similar manager at Brown University.

This new staff position is an essential component of a comprehensive effort towards becoming a sustainable campus. While the Sustainable Development Plan focuses on implementing sustainable measures for campus development, it is the Campus Planning Committee's hope that other departments and offices will work together to plan for and practice sustainability in other areas of campus operations as supported by the University of Oregon Comprehensive Environmental Policy Statement. For example, reduced energy use associated with a new building will ultimately depend upon educating the building's occupants and securing their commitment to developing energy saving habits. Placement of building energy-use monitors in public places (e.g., Atrium of Willamette Hall; EMU main NW entrance) would serve as feedback for building occupants.

The Campus Planning Committee knows you will seriously consider this request for a new staff position. We strongly believe that the up-front costs required to create this position will be greatly outweighed by the substantial long term benefits and cost savings associated with effective sustainable practices. It is also apparent - given the observed lack of full compliance and campus-wide coordination with policies set forth in the UO Comprehensive Environmental Policy Statement - that policies and patterns alone are insufficient to ensure that the University makes significant progress in the area of environmental sustainability.

Please feel free to contact Dean Livelybrooks at 346-5855 or Christine Thompson, University Planning, at 346-5572 if you have any questions or would like additional information.

ATTACHMENT:

**Description of Kurt Teichert's Position as
Environmental Coordinator at Brown University**

The position is funded out of the Provosts Office and officially reports up the academic side of the organizational chart through the Center for Environmental Studies, but the primary collaboration on campus is with Plant Operations (our facilities management dept.) and Planning and Construction (our real estate and new construction dept.) and Purchasing, Risk Management, etc.

The summary job description:

Time%, Major Responsibilities, Supporting Actions and End-Results

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30% Major Responsibility: Encourage and assist students and faculty (for example in Environmental Studies 11 and ES41) in identifying potential conservation opportunities at Brown which could be studied.

Supporting Actions: Maintain a regularly updated list of potential projects. Provide advice to students, faculty, and teaching assistants. Monitor the project-related work of students and teaching assistants.

End-Result: Student-written project reports with recommendations for possible implementation by the University.

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50% Major Responsibility: Encourage and assist Brown University administrative staff as well as students and faculty to identify and implement conservation opportunities that allow Brown to act in as environmentally responsible a fashion as feasible.

Supporting Actions: Work with Plant Operations, Planning and Construction, University Food Services, Purchasing Department, and other offices as necessary to improve measurement and to develop an accurate awareness of Brown's consumption (for example energy use) and to reduce unnecessary environmental impacts. Prepare cost analyses and feasibility studies. Help develop contract language and specifications. Organize environmental education programs which effectively increase new students, faculty, and staff awareness of their environmental impacts.

End-Result: In its day-to-day operations, Brown has a less negative impact on the environment and in many cases the University saves financial resources as well.

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20% Major Responsibility: Represent Brown University environmental conservation efforts to society at large, including environmental organizations, government agencies and other educational institutions.

Supporting Actions: Attend conferences, speak at educational institutions, and manage Internet LISTSERV information lists and Web pages.

End-Result: Brown is a national leader and information resource for campus environmental stewardship programs.