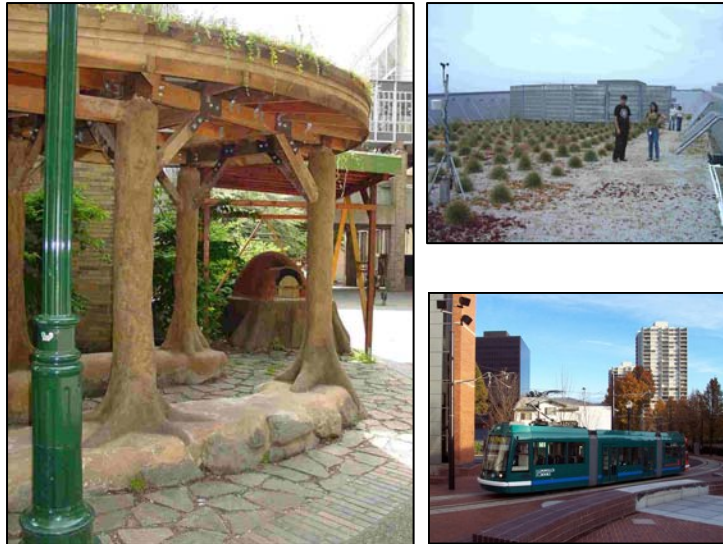


Campus Sustainability Tour

2009 — 2010



At PSU, we describe *sustainability* as giving present and future generations the opportunity to enjoy productive and rewarding lives in a world in which our economy, environment, and social institutions prosper simultaneously.

Picture a healthy environment that supports a thriving economy, strong families and vibrant communities, a place where all citizens are valued and engaged in governance. Social, economic and environmental realms function as an interconnected, dynamic system rather than separate parts. Using this approach, it is hoped that a balance will be achieved for a balanced society.

Resources:

The PSU EcoWiki - www.ecowiki.pdx.edu

PSU Sustainability - www.pdx.edu/sustainability

PSU Bicycle Cooperative - www.bikeshop.pdx.edu

Tri-Met - www.trimet.org

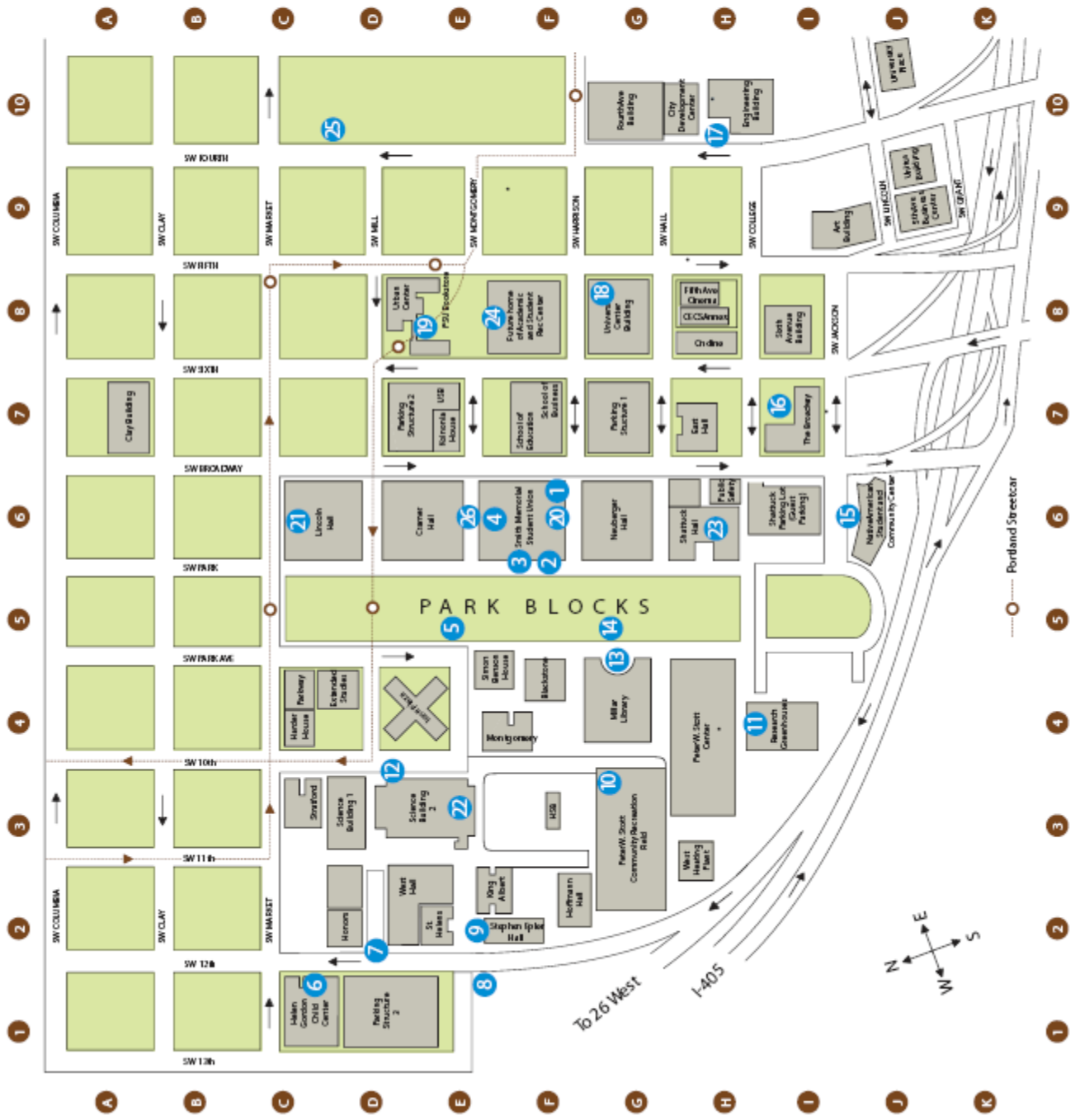
City of Portland - www.portlandonline.com

The United States Green Building Council - www.usgbc.org

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1 Food for Thought Café - Basement of Smith Memorial Student Union



Food for Thought (FFT) is a student-operated café serving organic coffee as well as vegetarian, vegan, and locally produced organic foods. It began when a group of students with a passion developed a business plan and worked with community partners to create this successful project. In addition to sustainable food options, FFT generates less trash by serving food on reusable dishware and practicing pre- and post-consumer composting. FFT also serves as a gathering place and hosts guest speakers discussing social and environmental issues.

2 Cob Oven and Dialogue Dome—SW corner Smith Union

The cob oven and dialogue dome projects were started by students and are the first natural building structures on campus. Constructed mostly of cob (a mixture of sand, clay, and straw similar to adobe) and refurbished local materials, this project features an herb and permaculture garden, a cob oven, and a dome shelter with an eco-roof. The purpose of the structure is to build community and encourage conversations about sustainability.



3 Aramark Food Service—Main Floor Smith Memorial Student Union

PSU's food service provider, Aramark, is making sustainability strides with their food, waste management practices, and commitment to sustainability. Aramark reduces waste through their recycling efforts and their participation in the Portland Composts! program. Kitchen food scraps are collected separately from other wastes and transported off-site to be turned into compost. Additionally, all events serviced by catering feature compostable disposables such as napkins, coffee cups, and utensils.



4 PSU Recycles! - Bins located throughout campus



Recycling on campus has grown tremendously in recent years thanks to PSU's resource management contract, the hiring of a full-time Resource Management Coordinator, and a dedicated crew of student workers. The main goals of the program are to reduce the total amount of waste generated on campus and to reuse and recycle as much as possible from our waste stream. PSU Recycles! also coordinates an office supply exchange program for faculty, staff and student groups. PSU ReUses!, located in Cramer Hall 180, collects unwanted office supplies and redistributes them to others on campus.

5 Park Blocks Native Plant Garden

The South Park Blocks enhance PSU's campus by providing a green space and connection to nature within the confines of bustling downtown Portland. The trees provide shade, absorb carbon dioxide and pollutants, and naturally control stormwater runoff. As you walk through the Park Blocks, notice the areas along the north side of the Montgomery Street walking path. Instead of grass, which must be mowed, watered, and chemically treated to maintain its appearance, this area was planted with native plants that require less watering and fewer pesticides & herbicides than conventionally landscaped areas. Keep your eyes open for other naturally planted areas around campus!

6 Helen Gordon Child Development Center (HGCDC) — SW 12th & Market Street

Built in 1928, the Center is on the National Register of Historic Places and was one of the earliest structures in America designed specifically as a daycare facility. The building is an Oregon State

Energy Efficiency Design (SEED) project and utilizes various energy conservation measures. Efficient lighting and clear glass in doorways minimize electricity costs and exposed utilities throughout hallway ceilings on the first floor and heated floors are present in the infant and toddler rooms.



Stormwater management design is also evident around the building. Planters were placed at the northwest corner and next to the parking garage to manage water runoff from the roof and playground and to filter out pollutants and reduce volume to improve water quality.

7 12th Ave Green Street—East side of SW 12th Avenue at Montgomery Street



The Green Street project slows the rate of stormwater draining into the Willamette River when it rains. Runoff from SW 12th flows downhill along the existing curb until it reaches the first of four stormwater planters. A 12-inch curb channels the street runoff into the first stormwater planter. The landscape system within each planter allows the water to filter in the soil at a rate of four inches per hour. If a rain event is intense enough, water will exit through the second curb cut, flow back out into the street and eventually enter the next planter.

8 The Community Garden—SW 12th Ave. and Montgomery

PSU's community garden has a thirty-year history and was recently reinvigorated by a dedicated group of students. Utilizing land previously-occupied by the demolished Adeline Hall, PSU students doubled the size of the garden. The garden now includes 50 plots and raised beds, containing plants such as fruit trees, berries, bamboo, and a large herb garden. Brick pathways are in place to provide a large wheelchair-accessible plot. The garden provides an outdoor growing, learning, and community space for the students of PSU.



9 Epler Hall— SW 12th Avenue and Montgomery

Stephen Epler Residence Hall was Portland's first mixed-use LEED Silver building. Design features on each side of the building reflect its orientation to the sun. The north side has large oversized windows to let in maximum light, while the other sides have smaller windows and sunshades that help keep the building cool during summer months. Epler uses natural ventilation driven by convection to draw hot air out of the building when it is not wanted. This reduces the building's overall reliance on mechanical and electrical systems and allows for the absence of an air conditioning system. Epler Hall also features heat recovery "wheels" in exhaust fans that are used to preheat intake air. Epler's use of low-e windows, solar shades, and energy-efficient lighting results in significant energy savings.



Rain falling on the roof is directed to several river-rock filled "splash boxes" in the public plaza. From there, water travels through channels between the brick pavers in the plaza to several planter boxes. The water is filtered as it passes through the planters before entering a large underground storage tank. The water from this tank is then treated with UV light before returning to the surface for use in the public toilets and irrigation. It reduces the building's need for municipally-treated potable water by approximately 110,000 gallons annually.

10 Peter W. Stott Community Recreation Field - SW Harrison Street at SW 10th Ave.

It may look like an ordinary turf field, but the Stott Center Community Recreation Field is made of 150,000 recycled athletic shoes! This is a great example of giving materials a second life. The shoes were collected in the Nike Reuse-A-Shoe program, which has donated over 120 of these surfaces around the world. The field is open to all community members and students at PSU.



11 PSU Biology Research Greenhouses - SW 10th Ave. and College St.



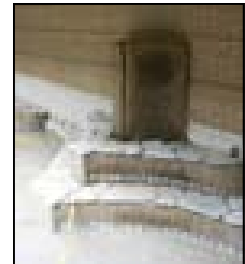
These were the first LEED-Certified greenhouses in the United States, achieving LEED Silver. Planters on the north and south sides of the building filter pollutants from roof runoff before the water enters the City's stormwater system. The driveway is made of permeable pavers, allowing water to infiltrate with its open-grid design. Inside the buildings, the lumber for cabinets and counters is Forest Stewardship Council-certified, and low-flow water systems used in the bathroom and for the potting sinks conserve water usage.

12 Native plants and Dry Garden - Intersection of SW 10th Ave and SW Mill St.



The Northeast corner of this intersection has a demonstration "dry garden" installed in 2007. This mediterranean-style garden needs no irrigation. The substrate is a mix of gravel and soil. The gravel acts as mulch to help retain water around the base and roots of the plants. The plants here are picked especially for dry gardening because they require less water.

The Southwest corner of the street is planted and maintained by the Environmental Club. The buffer between the street and the sidewalk used to be full of invasive weeds like English Ivy, but now consists of all native plants. Look for the nurse log around the middle of the strip which gives nutrients to many different types of plant-life. The garden has been certified as a wildlife habitat by the National Wildlife Federation.



13 Millar Library Cob Bench - PSU Park Blocks

This beautiful cob bench was a collaborative effort involving Freshman Inquiry and Senior Capstone students, as well as a Portland-based nonprofit called the City Repair Project. The tiered bench is comprised of a mixture of sand, clay, and straw similar to adobe, and is located beneath the Millar Library awning, where it serves as a community gathering and study space.

14 Energy-efficient Outdoor Lighting - Park Blocks

With electricity costs at nearly \$3 million annually, PSU is taking advantage of a variety of opportunities to install more energy efficient lighting and equipment. The outdoor lights in the Park Blocks are one example of these upgrades. Not only are the lamps more energy-efficient, they also guide light downwards to reduce light pollution.



15 Native American Student & Community Center (NASCC) - SW Jackson and Broadway



NASCC provides a meeting place for Native Americans and community members to gather and celebrate cultural traditions. The Center is also used for conferences and meetings. Design elements of this building include natural day-lighting and an elaborate "Sky Catcher" roof-top garden that features tribal medicinal and ceremonial plants. The Center is not air conditioned, but rather utilizes mechanically-assisted natural ventilation to regulate temperature. The Center was

built using certified sustainable wood products, local stone and brick. The garden roof is open to visitors between 9AM and 5PM.

16 **Broadway Building - SW Jackson Street and SW 6th**

The LEED Silver-certified Broadway building contains 15,000 sq. feet of retail space on the ground floor, university classrooms and offices on the second floor, and eight floors of student housing. Environmentally friendly features include: an 18,000 sq. foot eco-roof, a climate-responsive design to reduce the building's overall reliance on energy consumptive mechanical and electrical systems, low-flow water fixtures which reduce water consumption, high performance window glass to increase energy efficiency, and low toxicity room finishes. PSU estimates that Broadway Housing's use of low-flow fixtures, such as double-flush

toilets and other conservation designs, will reduce water usage in the building by 20 percent. The Broadway received a 2005 BEST Award for Stormwater Management.



17 **Engineering Building - SW 4th Avenue**

This academic building is certified LEED Gold. The building has a partially visible rainwater harvesting system that collects water for use in the hydraulics lab and for flushing toilets on the first floor. It utilizes dual-flush toilets as well as waterless urinals. Through the use of a geo-thermal system the building also pumps both hot and cold ground water to moderate the indoor temperature. This ground water heat-pump system saves energy and eliminates the need for a cooling tower.

18 **The PSU Bike Co-op - University Center Building on Harrison St.**

PSU Transportation and Parking Services, winner of a 2005 BEST Award for Transportation Alternatives, provides numerous alternatives to driving. Options include subsidized public transit passes, a zipcar membership program for faculty and staff, streetcar passes, and discounted parking rates for carpoolers. TAPS also coordinates PSU's Bike Co-op where, for a small co-op membership fee, members are offered a convenient location for purchasing parts and making repairs. These options reduce pollution and create a more pedestrian friendly cityscape.



19 **Urban Center and University Plaza - SW 6th Avenue and Mill Street**

The Urban Center Building is home to the College of Urban and Public Affairs and also contains retail space. The building's HVAC system is up-to-date and energy-efficient, rooms feature motion sensor light fixtures, building materials contain recycled content, and daylighting principles reduce heating and cooling needs.



University Plaza is a public transportation hub for the University District. The Streetcar winds through the Urban Plaza and is adjacent to the Tri-Met transit mall. The new MAX Green Line station, scheduled to open in fall of 2009, will further integrate PSU and the Portland community.

20 The GreenSpace - Room 028 Smith Memorial Student Union (next to Food for Thought)

PSU's new student sustainability resource center was created by a coalition of ASPSU senators, Environmental Club and sustainability staff. The GreenSpace opens during New Student Week 2009 and will feature couches, tables, student group mail boxes, computers, a library and storage for a variety of student groups who organize around sustainability issues. PSU has also hired a full-time Sustainability Leadership and Outreach Coordinator and five students focused on engaging students and developing leadership in sustainability.

21 Lincoln Hall - SW Park & Mill

Lincoln Hall is a nearly 100-year old campus treasure - the first building occupied by PSU in the Park Blocks - and is now home to the PSU Center for Performing Arts. The renovation of this building, a seismic and mechanical systems upgrade, is scheduled for overall completion in June 2009. A new roof and electrical, plumbing, heating and cooling system retrofits will improve energy efficiency. Stimulus dollars were used to outfit the building with new, energy efficient windows. LEED Silver certification is expected to be awarded.



22 Science Building 2—SW 10th Avenue & Montgomery

This major renovation to begin in June 2009 will combine building infrastructure upgrades and the expansion and modernization of labs and teaching space, creating the Science and Research Teaching Center. A new hazardous waste handling facility will also be incorporated. Green features will include optimizes energy performance through efficient lighting, lab equipment and HVAC upgrades, the use of certified wood and low-VOC paints and adhesives, and on-site third party solar energy production. The project is applying for LEED Silver and completion is targeted for May 2011.



23 Shattuck Hall—SW Park & Hall

A major renovation of this 95-year old building was completed in Sept. 2008, with upgrades to seismic, heating & cooling, electrical, plumbing, and communications systems. It is now home to ten general classrooms, the Department of Architecture, wood and metal shops, a fine-art foundry, and CPSO. A unique feature includes exposed, visible elements of building design to give students working examples of construction techniques. Green features include low-flow toilets, radiant heating floor tiles, and natural lighting. The building is currently awaiting official LEED Gold certification.



24 Academic Student Recreation Center (ASRC) - SW 6th Avenue at Urban Center Plaza



Slated for completion in Jan. 2010, the building is seeking LEED Gold certification and will include a green roof terrace with a rainwater collection cistern that will supply water for fire sprinklers and flushing toilets, high-efficiency windows, optimized heating and cooling systems, two Forestry Stewardship Council certified gym floors, and a running track made of sustainable materials including recycled athletic shoes. Additionally, heat will be reclaimed from the indoor pool and used to preheat incoming water. The campus steam and chilled water loop has also been extended to this building.