FIELD GUIDE

Jean Vollum Natural Capital Center

WELCOME

TO THE
JEAN VOLLUM NATURAL CAPITAL CENTER

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We invite you to let this Field Guide be your escort on a tour of the building and its exceptional features.

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Ecotrust's redevelopment of this century-old warehouse opened to the public in 2001. At that time, the Natural Capital Center was the first historically renovated building in the nation to be awarded a LEED Gold award for its green design. Today, a thriving community of tenants testifies to the building's success.

A PROJECT OF

ecotrust

HIKE THE BUILDING!

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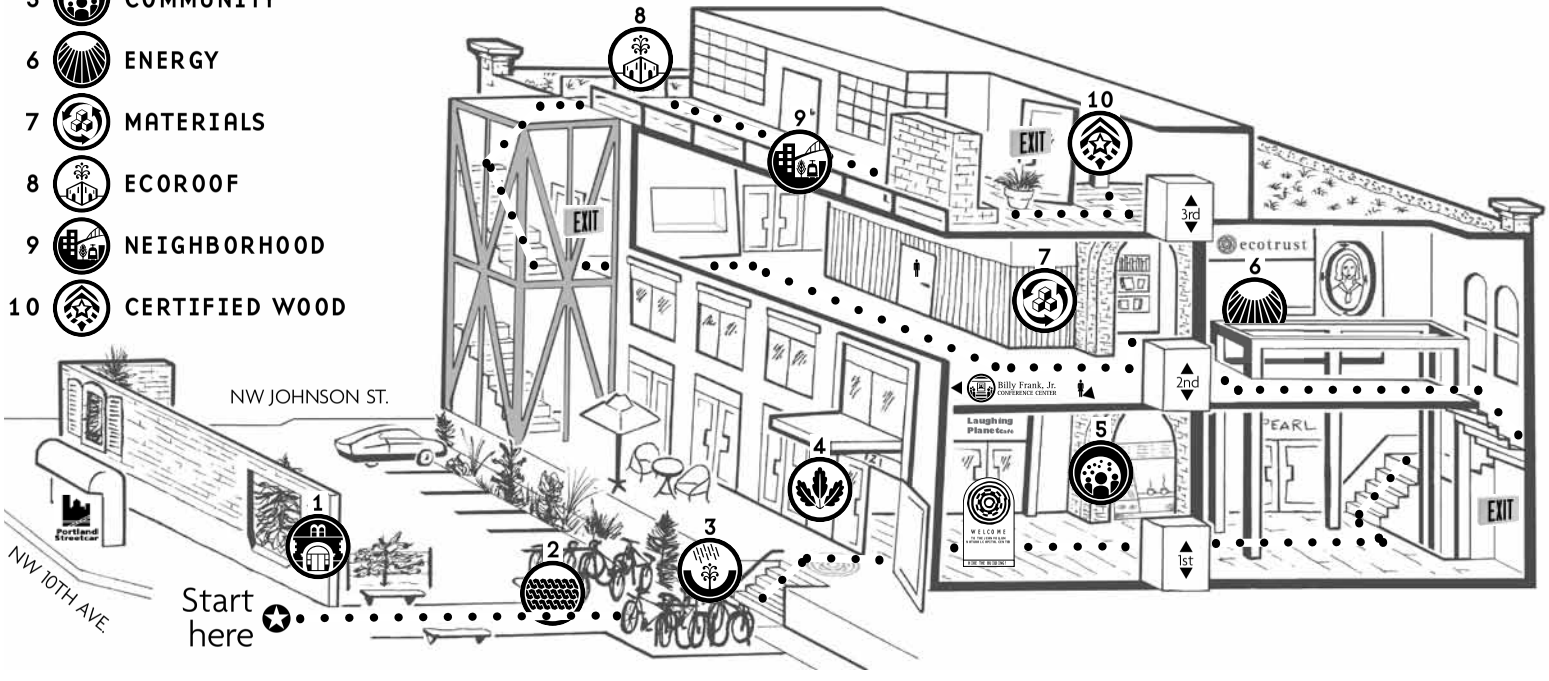


HISTORY

Some buildings serve a single purpose and are demolished to make way for the new. Others adapt. Responding to the demands of a new era, the Jean Vollum Natural Capital Center serves as a marketplace for ideas, products, and services that take their cues from nature.

Natural Capital Center timeline

- Built in 1895 in a Romanesque style inspired by architect Henry Hobson Richardson
- Purchased by Ecotrust in 1998 to demonstrate the potential of design that is both community friendly and environmentally sound
- Second building deconstructed, wall preserved on 10th Avenue as a historic remnant
- Stairtowers added for seismic stabilization; façade and parapet restored
- Completed and opened to the public in 2001

Portland and many of its residents prospered during the final decade of the nineteenth century. Among them was John McCraken, who built a thriving wholesale company distributing Monterey sand, Roche Harbor lime, Tenino sandstone, and other building supplies. Strategically situated between freight yards, McCraken's warehouse was a commercial hub for over 30 years.

By the 1930s, truck shippers had displaced the dray teams and railroads, and McCraken's warehouse adapted to the changes and became a central truck terminal, housing as many as 32 independent trucking companies plus a café and the Terminal Cigar Store.

Beginning with Ecotrust's purchase in 1998, the building experienced year another phase of the life in response ot new economic opportunities. Today, these opportunities are reflected in the growing number of Portland residents and visitors who believe their choices, purchases, and investments make a difference. We invite you to explore this building and these opportunities with us.

TRANSPORTATION

CO_2 produced by cars is a major contributor to climate change. In an urban environment, there are many ways to promote alternative transportation choices.

Support for alternative transportation

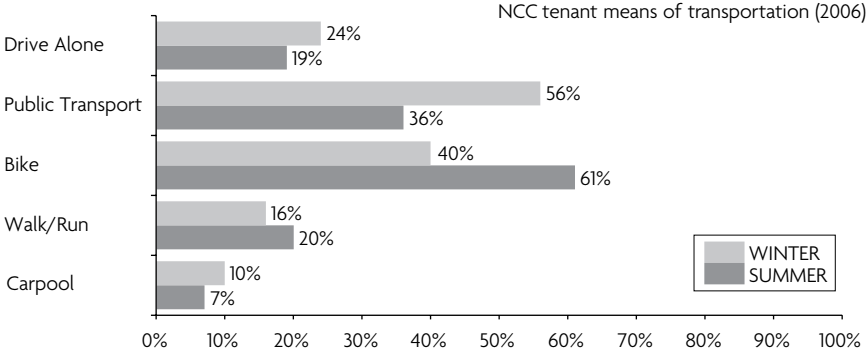
- Seventy-five space-efficient, vertical bike parking spots in the basement
- Additional 20 outdoor parking spaces for visitors to the building.
- Bicycle-sharing program for tenants
- On-site locker and shower facilities
- Employee transportation stipend instead of reserved parking
- Two electric vehicle charging stations

The Natural Capital Center supports alternative transportation in many ways. Ample bicycle parking, transportation stipends, and electric vehicle charging stations encourage tenants to seek alternatives. Locker and shower facilities are also available on-site for commuters who walk or bike to work.

Employee transportation stipends can also promote alternative methods of transportation. It's common for downtown businesses or agencies to provide parking for their employees. Instead, Ecotrust and others in the Natural Capital Center provide employees a stipend that they can use to help offset the costs of: automobile parking, public transportation, or urban housing within walking distance to work.

Commuting to work

NCC tenant means of transportation (2006)



BIOSWALES

When it rains, runoff from rooftops and pavements flows into the Willamette River, collecting sediment and absorbing chemicals harmful to aquatic life. Landscaping that retains rainwater on-site helps to protect our rivers.

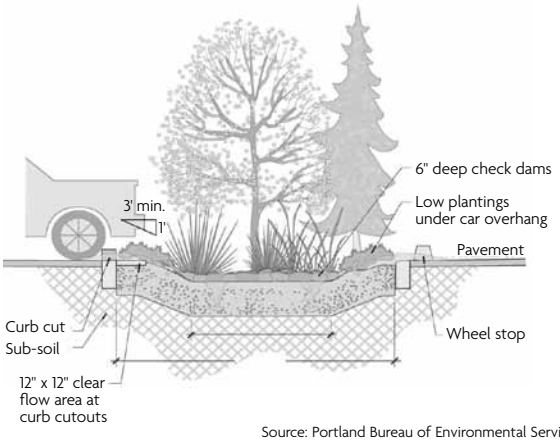
Bioswale plants

- California coffee berry
- Dwarf Oregon grape
- Espalier apple
- Incense cedar
- Lyngby's sedge
- Massachusetts bearberry
- Oregon myrtle
- Pacific ninebark
- Point Reyes bearberry
- Red twig dogwood
- Shaggy-barked manzanita
- Soft rush
- Swordfern
- White alder
- Wild lilac & frosty dawn

The landscaped depressions on either side of this walkway are called bioswales. They capture and control the flow of the building's rainwater runoff, or stormwater. By capturing stormwater, these bioswales lessen the amount of sediment and chemicals flowing into the Willamette River.

The Natural Capital Center bioswales are bottomless; the water they drain from the parking lot and the building's downspouts filters through the vegetation and soil to either evapotranspire into the atmosphere or seep into the groundwater. The native trees, shrubs, rushes, and sedges planted in the swales were carefully selected for their ability to tolerate seasonal fluctuations between inundations of water and intense heat.

The bioswales are part of a stormwater management system that includes an ecoroof and the partially permeable asphalt and concrete pavers used in the parking lot. This system is funded in part by the City of Portland's Bureau of Environmental Services and will greatly reduce, if not completely eliminate, the total volume of stormwater flowing off the Jean Vollum Natural Capital Center site.



Source: Portland Bureau of Environmental Services

GREEN BUILDING

The U.S. Green Building Council certifies projects that demonstrate Leadership in Energy and Environmental Design — the coveted LEED award for "green" buildings.

LEED benchmarks achieved, and exceeded, by the Natural Capital Center

- 20% reduction in energy use
- 75% of existing construction shell reused
- 98% of construction waste reused or reclaimed
- 50% of materials harvested locally
- Daylight available in 75% of indoor spaces
- Low toxicity carpets and paints
- Stormwater management

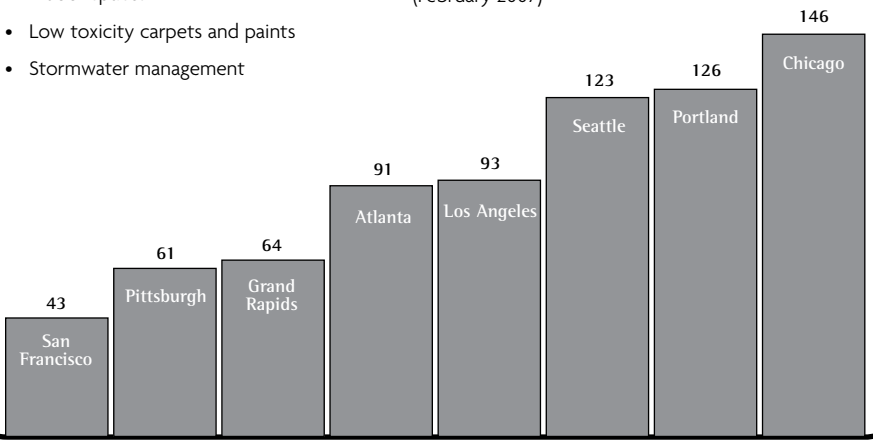
In January 2002, the Jean Vollum Natural Capital Center became the first historic restoration in the nation to receive a Leadership in Energy and Environmental Design (LEED) Gold award from the U.S. Green Building Council. The strict standards set by the council evaluate design factors such as site selection, water efficiency, energy performance, materials use, and indoor air quality.

From the beginning, the Natural Capital Center team approached the building redevelopment with the goal of honoring its history while incorporating community friendly and environmentally sound design. The LEED standards gave us a system of benchmarks worth striving for. Now that Portland is one of several cities that have adopted the LEED standard for government-funded projects, the influence of green building is transforming the market.

LEED's growing popularity signals the rise of a new approach to construction — one that creates healthier spaces for building occupants and has a lighter impact on nature.

LEEDers in Green Building

Number of registered LEED projects in each city, (February 2007)



COMMUNITY

The businesses, organizations, and public agencies housed in the Natural Capital Center work from a multitude of starting points yet share a common destination: the intersection of economic vitality, ecological health, and social equity.

Venues that nurture connectedness among the Natural Capital Center community

- Central atrium
- Communal kitchen
- Open access deck with fireplace
- Billy Frank, Jr. Conference Center
- NCC Energy Council
- Portland Farmers Market

In a thriving ecosystem, such as a forest, diversity is a hallmark of health. We like to think of the Natural Capital Center as an ecosystem, one that is healthiest when its individual components are most diverse. The process of identifying a community of tenants to inhabit the restored building was critical to the seeding of this human ecosystem. The result is that today you'll find within these brick walls a roster of non-profit, for-profit, and public institutions that embody a powerful new vision for a sustainable society.

Still, four walls alone do not create a sense of community. Synergies arise through spaces where interactions flourish. The central atrium where you are standing now, a communal kitchen, and an open-air deck and fireplace are examples of places in the building that consciously remain loosely defined and thus able to foster spontaneous connections.

Also crucial are specific venues, both formal and informal, for the sharing of knowledge and experiences. The Natural Capital Center Building Council meets every two months to discuss events, purchasing practices, an energy plan, and an annual sustainability report. Workshops and seminars are held at the Billy Frank, Jr. Conference Center, and seasonal dinners allow community participants to break bread in a traditional setting.

NCC Tenant Community

HOTLIPS PIZZA · patagonia · CITIZEN COFFEE · ecotrust · Laughing Planet Cafe · City of Portland Bureau of Planning and Sustainability · The Bill Healy Foundation · Rated · Cascadia Green Building Council · LP Livable Place · The Wild Salmon Center · I.T.S. · Billy Frank, Jr. Conference Center · portfolio 21 · Sustainable Harvest · Progressive Investment Management · Trout Mountain Forestry · Stillwater Sciences · The Conservation Fund

ENERGY

Reducing the energy consumption of buildings — through materials choices as well as innovative lighting and temperature control systems — is crucial to lessening our impact on global climate change.

Energy-saving systems

- Self-adjusting lighting sensors optimize use of natural light
- Hallway and restroom lighting equipped with occupancy sensors
- Hot Lips's hot water heater utilizes excess heat from pizza oven
- Kitchen appliances shared by tenants

This building is powered by the sun

- Photovoltaic (PV) Panels on third floor roof: 36.8 kW System
- Installed February 2009

View live solar electric generation from our roof panels:
www.ecotrust.org/ncc

A building consumes energy in several ways. First, and easiest to overlook, is the energy used in the extraction, manufacture, and transport of a building's construction materials, or its "embodied energy." The absolute lowest embodied energy is attained through careful restoration of an existing building, rather than starting construction from scratch.

The natural lighting of this old warehouse was improved through the addition of the large skylight above the stairwell and 24 smaller skylights circling the second floor.

In addition to the building's various efficiencies, in February 2009 Ecotrust completed work on a Solar or PV system located on the roof of the building. This 36.8 kilowatt system uses panels from a local solar energy company, SolarWorld. Installation of this system was possible through a tax pass through partnership with Walsh Construction and taking advantage of Business Energy Tax Credits (BETC). While most of this system is not visible to visitors, the touch screen kiosk in the atrium allows a glimpse of energy being produced. The PV Panels are estimated to produce about 10% of the buildings yearly energy needs.

Tenants of the Natural Capital Center further offset energy and natural gas use in the building by purchasing carbon offsets or green tags through Bonneville Environmental Foundation (BEF). BEF Carbon offsets fund clean energy projects across North America, with the goal to increase our energy independence and reducing our dependence on fossil fuels.

MATERIALS

Waste is, by definition, a lost opportunity. Through creative adaptation, many materials that are often discarded can become useful again.

Reclaimed materials all around us

- Rubber flooring manufactured from recycled rubber tires
- Wood paneling on this wall salvaged from deconstruction of second building
- Green paint on the wall outside the conference center from METRO's paint recycling program
- Steel plate at the entrance to the conference center formerly used under construction forklifts
- Pipes in the lighting design of the display niches formerly part of the original plumbing
- Coffee table in the Ecotrust reception area reinvented from gears of the old freight elevator
- Fabric on the armchairs in Ecotrust reception area made from 78% post-industrial recycled fiber

The Natural Capital Center redevelopment saw 98% of all construction debris reused, recycled, or reclaimed, a record for the city of Portland. The careful use of building materials not only saved landfill space and prevented the extraction of virgin materials, but also saved money and resources by eliminating needs for packaging and shipping.

When redevelopment began, a second building stood on the northwest corner of the lot. Walsh Construction Company performed an exacting, month-long deconstruction of that building to reclaim as many of its materials as possible. These materials provided most of the interior supplies for the Natural Capital Center's new third floor.

When utilizing or purchasing materials, priority was given to those that were: a) salvaged from this lot, b) made with a high percentage of recycled content, c) easily recyclable, d) regional, e) certified as sustainable, or f) manufactured by a company committed to sustainable design.

Detailed information about materials used throughout the building can be found in our Materials Guide, online at www.ecotrust.org/ncc

ECOROOF

The practice of using grass on rooftops for temperature control is centuries old. Ecoroofs, or greenroofs, can also help to improve durability, regulate water flow, and enhance the overall aesthetic value of buildings.

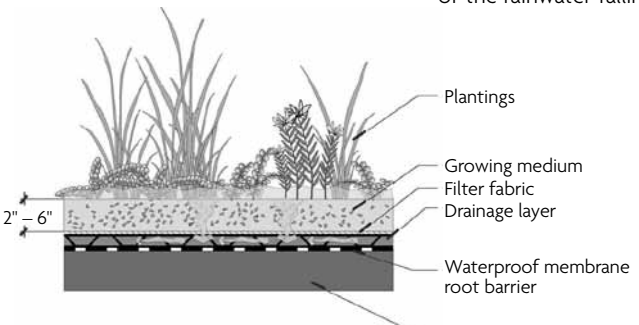
Ecoroof plants

- Coreopsis (tickseed)
- Juncus effusus (soft rush)
- Yellow-eyed grass
- Yellow monkey flower

The well-documented ability of grassy rooftops to provide temperature insulation is being rediscovered in modern construction projects around the world. In urban environments, the cumulative effect of these ecoroofs is to reduce the "heat-island effect," or higher temperatures that urban areas generate because of their paved and built surfaces. Now, the Natural Capital Center is home to the third lightweight ecoroof in the Portland area.

Using the Famos system designed in Germany, this ecoroof carries only two inches of soil and supports a mixture of hardy grasses, wildflowers, and succulents. Seeds are selected for their Pacific Northwest origin, root system, drought tolerance, and aesthetic value. The combination of native plants and minimal watering causes the ecoroof to wilt when our region is dry, be lush during the rains, and bloom as flowers emerge in spring. The plants require little maintenance.

The ecoroof is part of a stormwater management system that allows the Natural Capital Center to minimize its rainwater runoff into the Willamette River. Functioning like a sponge, the ecoroof slows the flow of water to the ground. Some of the water will evapotranspire back into the atmosphere, and the excess will drain into the bioswales in the parking lot. This stormwater system is funded in part by the City of Portland's Bureau of Environmental Services and captures at least 90% of the rainwater falling on the site.



Source: Portland Bureau of Environmental Services

NEIGHBORHOOD

Compact cities offer significant advantages for their inhabitants, while at the same time easing development pressures on the rest of the landscape.

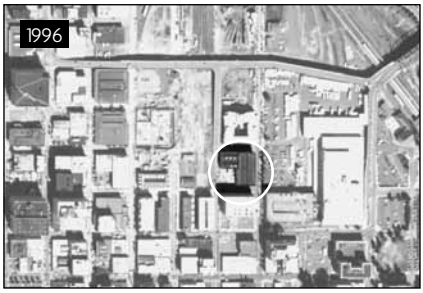
Key urban planning features

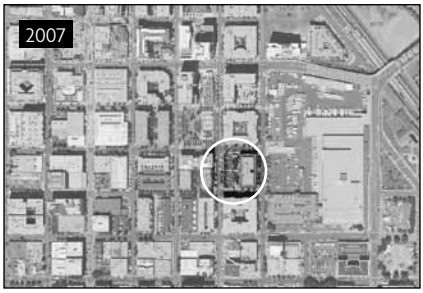
- Urban growth boundaries, like those in Oregon, ensure greater density for our cities
- Density allows for efficiencies in transportation and services
- Mixed retail, residential, and professional development fosters livability
- A diversity of housing types avoids concentrated pockets of poverty
- Today's empty warehouses can be tomorrow's green buildings

Location was pivotal to Ecotrust's purchase of the warehouse that became the Jean Vollum Natural Capital Center. Restoring a building is an investment in urban density, which supports neighborhoods that are both walkable and efficient for public transportation. The success of the Portland Streetcar, which passes in front of us on 10th Avenue, speaks for itself. Dense neighborhoods are well served by buildings that offer a mix of retail, residential, and professional uses, and so the Natural Capital Center fits right in.

The Portland River District we look out on is now experiencing a revival, but that wasn't always the case. Just one decade ago, the brick structures of this former industrial neighborhood were mostly empty. Now many in the vicinity are gone, and this building is among the few originals that are still standing. Where many developers have seen profits in razing old structures and erecting anew, Ecotrust saw value in maintaining continuity — value for ourselves, and value for our neighborhood as well.

As Patagonia founder Yvon Chouinard said at the Natural Capital Center's opening celebration, "If you're going to buy clothing, the most responsible thing you can do is go to the Salvation Army. And if you're going to open a new business, the most responsible thing you can do is find an old building and restore it." We think it's not only responsible; it's sensible too.





Source: Metro Data Resource Center

CERTIFIED WOOD

Labeling and certification systems for timber, like the ones used to verify the new wood in this building, assure consumers that their purchases were produced and manufactured with care for people and planet.

Forest Stewardship Council Principles & Criteria include

- Forest management shall not threaten or diminish the resources or tenure rights of indigenous peoples
- Communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services
- Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest
- The management plan and supporting documents shall provide rationale for the rate of annual harvest and species selection

Certified forest products originate from forests managed to ensure the long-term health of ecosystems and the communities that depend on them. The process of certifying wood is similar to that of certifying organic food: accredited third parties use environmental and social performance standards to evaluate forest management and business practices. The platinum standard for forest certification worldwide is set by the Forest Stewardship Council (FSC).

About two-thirds of the new wood used in the redevelopment of the Natural Capital Center is FSC certified. This beautiful FSC-certified guariuba hardwood flooring is a "lesser-known species." This selection sends a signal to forestland managers that diversity in the forest is a valuable asset. The decking on the outside patio is made from ipê, an FSC-certified hardwood and another lesser-known species that requires no finish; its visible color is its natural hue. Other uses of certified wood in the building include tables from The Joinery in the first floor atrium, and Iisaak-harvested paneling in the Billy Frank, Jr. Conference Center.

The third floor has become a showcase for certified forest products thanks to Metafore, a non-profit and former building tenant that promotes environmentally responsible forest products throughout North America in an effort to improve forest management worldwide.

REDEVELOPMENT OVERVIEW

Project Type
Green restoration of a historic 1895 warehouse

Concept
Encourage the exchange of environmentally and socially responsible ideas, goods, and services

Cost
$12.4 million (approx. $140/sq. ft.)

Completion Date
September 2001

Interior Space
70,000 sq. ft.

Building Footprint
20,000 sq. ft.

Lot Size
0.92 acres

Use Group
Retail, office, display, and events

Certification
- U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Gold Certified
- PGE Earth Advantage Green Certified
- Recycleworks Certified

Recognition & Awards
- Portland Oregon Visitors Association's "It's not easy being green" Award, 2002
- BEST Business Award for Best Innovation, Waste Reduction, 2002
- PGE's Renewable Power Award, 2002
- Rotary Club of Portland's 2002 Environmental Achievement Award
- Honorable Mention, Governor's Livability Awards, 2002
- 10,000 Friends of Oregon's Developer of the Year Award, 2001

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Thanks for visiting!

Please deposit this Field Guide in the drop box on the third floor, or return it to the Ecotrust reception desk on the second floor.

For more information on green buildings, visit the City of Portland's Bureau of Planning and Sustainability on the third floor or online: www.green-rated.org

Ecotrust's mission is to inspire fresh thinking
that creates economic opportunity,
social equity and environmental well-being.

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