

Honorable Mention

CATEGORY

1

Nature in Neighborhoods:  
Integrating Habitats Winners Series

Mixed-use development and riparian forest

# Green Village



Creative connections

Regenerative design

Subterranean strategy

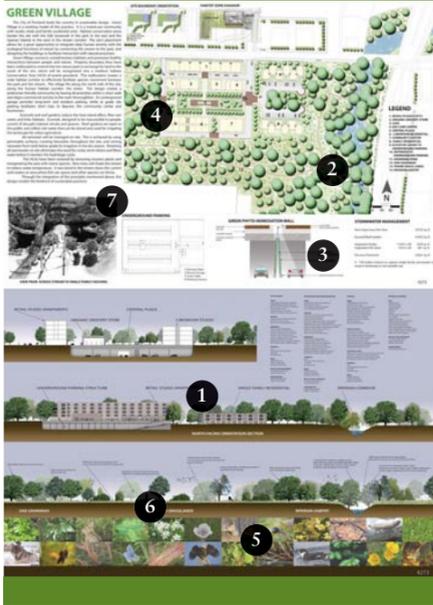
Clever corridors

Transition zones

Know your neighbors

Streamside dwelling





# Snapshot of a winner

A transformation in site planning, development and management practices can elevate the importance of ecosystem services and preserve their essential functions, while improving the resiliency of our watersheds, the livability of our neighborhoods and the health of future generations. *Green Village's* design integrates residents' day-to-day needs with the local ecology by focusing on interactive connections to nature.

**Green Village:** Daily interactions between people and nature foster stronger, healthier communities and sense of place

## Inhabitant profiles



Tree swallow (U.S. Fish and Wildlife), Cedar waxwing (U.S. Fish and Wildlife), Chalcidona Checkerspot butterfly

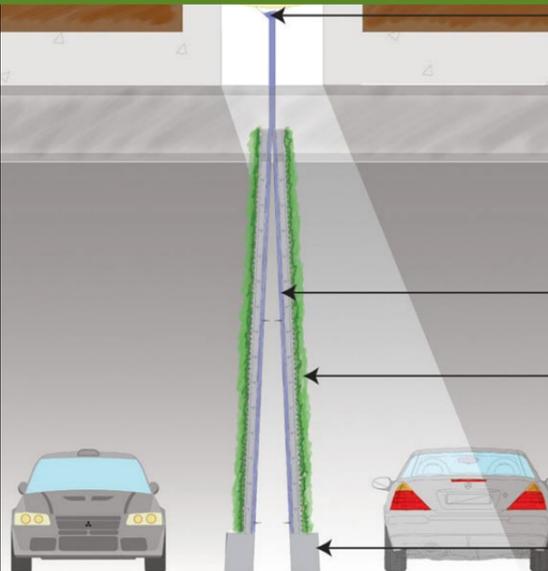
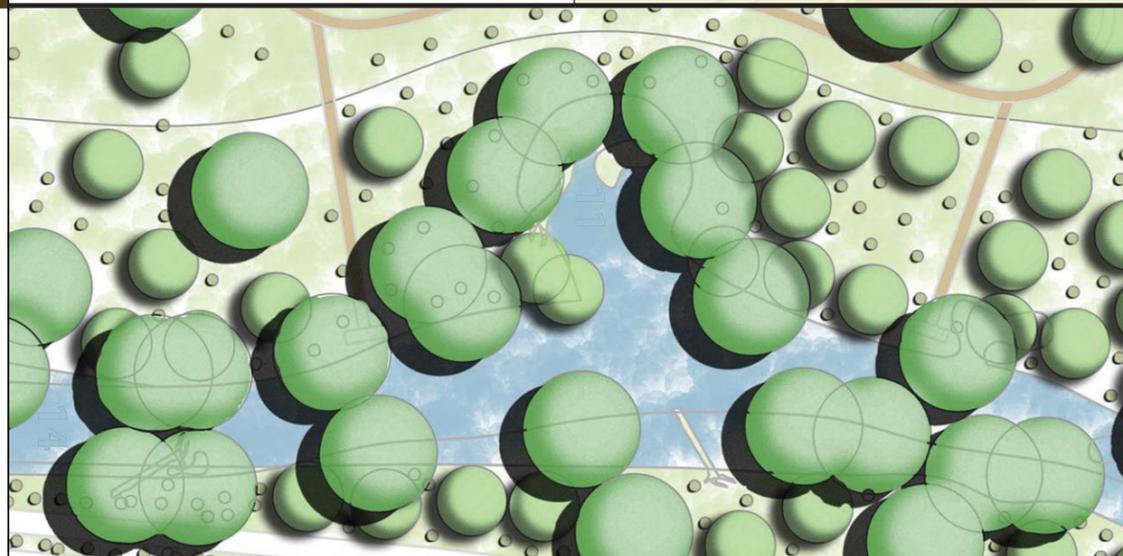


## ① Creative connections

Working in partnership with adjacent property owners, property boundary lines were extended into the nature park in exchange for a land easement south of the site. This reallocation created a larger wildlife habitat corridor that facilitates safe movement for species between the park and the stream. Community-led restoration efforts improve the habitat quality *and* build positive neighborhood relationships and connections.

## ② Regenerative design

Any landscape has the potential to not only restore but regenerate natural ecosystem services and benefits. Here, the natural meander of the stream is restored and riparian shade trees are planted to reestablish viable fish habitat in an urban development. Not only are habitat, air and water quality improved, the site will continue to provide and increase these benefits as the vegetation matures and biodiversity increases.



## ③ Subterranean strategy

Underground parking becomes part of the stormwater management system. A break in prepared topsoil incorporates a light panel and water drain grating. Beneath the concrete ceiling and support beams, an irrigation cavity drains water through a dripline, along a green wall, and into water retention planters that are subtle, lush dividers between parking spaces. This vegetated, subterranean stormwater strategy also helps improve the air quality by removing particulate matter generated by car exhaust.

“Outstanding from a planning standpoint. The urban form, pedestrian scale, mix of housing types and strong orientation to the river are all excellent qualities.”

– David Yocca, jurist

“These designers make a bold assumption in proposing to swap property with the adjacent park to achieve a larger contiguous habitat connection. I applaud the display of thinking beyond the site boundaries.”

– Joan Nassauer, jurist



## ④ Clever corridors

All of the resident activities and amenities are concentrated along the same central corridor, achieving more expansive wildlife habitats elsewhere on site. The pedestrian-friendly community features a ‘20-minute neighborhood’ concept: retail stores, cafes, an organic grocery store, a day care center, a community center, are all within walking distance of residences. The tree-lined corridor also includes a central plaza gathering area.



## ⑤ Transition zones

Developed areas and habitat areas are seamlessly linked by transition zones. These zones act as buffers that simultaneously bridge and distinguish between the built and natural environments.



## ⑥ Know your neighbors

Get to know the residents in your neighborhood – both people and wildlife. You may find partners for neighborhood-scale restoration projects and build a network of local community stewards.



## ⑦ Streamside dwelling

Residences at the edge of the stream's riparian area have smaller footprints and promote healthy interactions between the people and wildlife who both live there.

**Bold boundary lines for better design**

Clean air, clean water and habitat areas do not stop at city limits, county lines or property boundaries. This design looks at the challenges that cross these lines and proposes bold partnerships and 'out of bounds' thinking to create higher quality habitat and vibrant, dense development. Property lines are redrawn, extending into the nature park in exchange for land to the south of the site, which is revegetated to improve the habitat value. This reallocation creates a wide habitat corridor to effectively facilitate species movement between the park and the stream. Dense clustering of amenities along a developed, 'human' corridor fosters a safe, dynamic, walkable community.

**Team members**

- Arizona State University**  
Tempe, Ariz.
- Ashley Poulton**  
e-mail: ashley.poulton@asu.edu
- Juan A. Rodriguez Martin**
- Josh Trommler**
- Valeria Bravo**
- Brett Gehring**

"It's gratifying to see the thoughtful application of current thinking on what makes human settlements sustainable for their inhabitants. Personal needs are taken care of with a day care, cafe, organic grocery store—necessities that usually require driving—in addition to creating a respectful relationship with nature."  
 — Susan Szenasy, jurist

**Jurists**

- Stefan Behnisch**, principal  
Behnisch Architects  
Stuttgart, Germany and Venice, Calif.
- Joan Nassauer**, professor  
Landscape architecture  
University of Michigan  
Ann Arbor, Mich.
- Tom Schueler**, founder  
Center for Watershed Protection  
Ellicott City, Md.
- Susan Szenasy**, editor-in-chief  
Metropolis Magazine  
New York, N.Y.
- Jim Winkler**, president  
Winkler Development Corporation  
Portland, Ore.
- David Yocca**, director  
Conservation Design Forum  
Elmhurst, Ill.



# GREEN VILLAGE

The City of Portland leads the country in sustainable design. Green Village is a working model of this practice. It is a mixed-use community with studio, retail, and family residential units. Habitat conservation areas border the site with the Oak Savannah in the park to the east and the riparian habitat to the west in the stream corridor. The site's placement allows for a great opportunity to integrate daily human activity with the ecological functions of nature by connecting the stream to the park, and designing the buildings to facilitate interaction with natural processes.

Green Village connects complimentary habitats and promotes healthy interactions between people and nature. Property boundary lines have been reallocated to extend into the nature park in exchange for land to the south of the site, which will be revegetated into a medium Habitat Conservation Area (HCA) of prairie grassland. This reallocation creates a wide habitat corridor to effectively facilitate species movement between the park and the stream. The village fits along the north side of the site, along the human habitat corridor—the street. The design creates a pedestrian friendly community by having all amenities within a short walk and aligns commercial activity to the main thoroughfare. An underground garage provides long-term and resident parking, while at grade site parking facilitates short trips to daycare, the community center and businesses.

Ecoroofs and roof gardens reduce the heat-island effect, filter rain water, and links habitats. Ecoroofs, designed to be inaccessible to people, consist of drought tolerant shrubs and grasses. Roof gardens are open to the public and collect rain water that can be stored and used for irrigating the landscape for urban agriculture.

All rainwater will be managed on site. This is achieved by using permeable surfaces, creating bioswales throughout the site, and storing rainwater from roofs below grade for irrigation in the dry season. Retaining all stormwater on site eliminates the need for costly storm drains and filters water before it reenters the hydrologic cycle.

The HCAs have been restored by removing invasive plants and revegetating the area with native species. New trees will shade the stream to reduce water temperature. A new bend in the stream slows the current and creates an area where fish can spawn and other species can thrive.

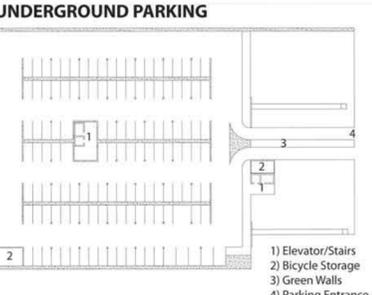
Through the integration of the principles mentioned above, this design models the forefront of sustainable practices.



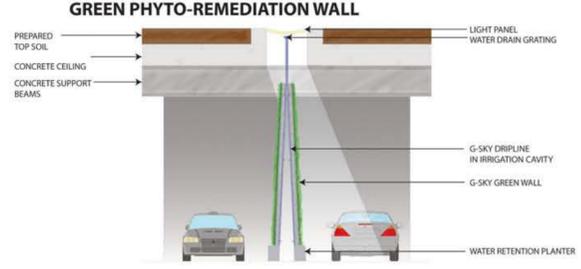
VIEW FROM ACROSS STREAM TO SINGLE FAMILY HOUSING



- LEGEND**
1. RETAIL/STUDIO LOFTS
  2. ORGANIC GROCERY STORE
  3. CAFE
  4. DAY CARE CENTER
  5. CENTRAL PLAZA
  6. 2-BEDROOM RESIDENTIAL
  7. COMMUNITY CENTER
  8. FAMILY RESIDENTIAL
  9. ELEVATOR/STAIRS TO UNDERGROUND PARKING
  10. ENTRANCE TO UNDERGROUND PARKING
  11. SPAWNING POND
  12. OAK SAVANNAH
  13. PRAIRIE GRASSLANDS
  14. RIPARIAN HABITAT



- 1) Elevator/Stairs
- 2) Bicycle Storage
- 3) Green Walls
- 4) Parking Entrance

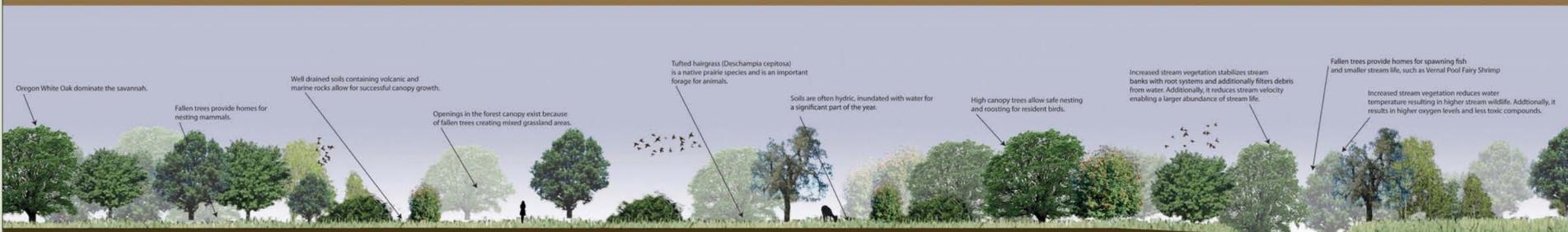


**STORMWATER MANAGEMENT**

New Impervious Site Area	32723 sq. ft.
Ecoroof/Roof Garden	41872 sq. ft.
Vegetated Swales	11437 x .09
Vegetated Infil. Basin	7570 x .09
Pervious Pavement	54261 sq. ft.
4 - 150 Gallon Cisterns to capture single family stormwater to reuse in landscape or non-potable use.	4273



- | OAK SAVANNAH   | PRAIRIE GRASSLAND/PRAIRIE GRASSLAND   | RIPARIAN  | RIPARIAN (CONTINUED)  |
|--|---|---|---|
| <b>TREES</b><br>Oregon White Oak ( <i>Quercus garryana</i> )<br>Pacific Madrone ( <i>Arbutus menziesii</i> )<br>Black Cottonwood ( <i>Populus trichocarpa</i> )<br>Red Alder ( <i>Alnus rubra</i> )<br>Oregon Ash ( <i>Fraxinus latifolia</i> )<br>Gentian's Ribwort ( <i>Fraxinus gentryana</i> )   | <b>TREES</b><br>Oregon White Oak ( <i>Quercus garryana</i> )<br>Hazel ( <i>Corylus ovalis</i> )<br>Serviceberry ( <i>Ambrosia arbutifolia</i> )<br>Cascara ( <i>Rhamnus purshiana</i> )   | <b>TREES</b><br>Pacific Willow ( <i>Salix lasiolepis</i> )<br>Red Alder ( <i>Alnus rubra</i> )<br>Black Cottonwood ( <i>Populus trichocarpa</i> )<br>Big Leaf Maple ( <i>Acer macrophyllum</i> )<br>Douglas Fir ( <i>Pseudotsuga menziesii</i> )<br>Ponderosa Pine ( <i>Pinus ponderosa</i> )<br>Western Red Cedar ( <i>Thuja plicata</i> )<br>Oregon Ash ( <i>Fraxinus latifolia</i> )<br>Lodgepole Pine ( <i>Pinus contorta</i> )<br>Spruce ( <i>Picea ssp.</i> )<br>Grand Fir ( <i>Abies grandis</i> ) | <b>FISH</b><br>Wentz Sucker<br>Shorthead Sucker<br>Long River Sucker<br>Oregon Chub<br>Bull Trout<br>Salmon<br>Columbia River Chum Salmon<br>Coho Salmon<br>Oregon Coast Coho<br>Middle Columbia River Steelhead<br>Snake River Basin Steelhead<br>Snake River Sockeye Salmon<br>Lower Columbia River Steelhead<br>Upper Willamette River Chinook Salmon<br>Lower Columbia River Chinook Salmon<br>Snake River Chinook Salmon |
| <b>GRASSES</b><br>California Fescue ( <i>Festuca californica</i> )<br>Red Fescue ( <i>Festuca rubra</i> )<br>Kahlo Fescue ( <i>Festuca dabneyana</i> )   | <b>GRASSES</b><br>Tufted Hair Grass ( <i>Deschampsia cespitosa</i> )<br>Carnia ( <i>Eriophorum spicatum</i> )<br>Red Fescue ( <i>Festuca rubra</i> )<br>Blackfoot's Rock-Cress ( <i>Arabis monticola</i> )<br>Applegate's Milkweeds ( <i>Asclepias speciosa</i> )<br>Williams' Daisy ( <i>Eriogonum decumbens var. decumbens</i> )<br>Meadow's Lupine ( <i>Lupinus albus</i> )<br>California Fescue ( <i>Festuca californica</i> )<br>Kahlo Fescue ( <i>Festuca dabneyana</i> )<br>Maho Fescue ( <i>Festuca rubra</i> )<br>Maho Fescue ( <i>Festuca dabneyana</i> ) | <b>GRASSES</b><br>Tufted Hair Grass ( <i>Deschampsia cespitosa</i> )<br>Yellow Water Lily ( <i>Najas polytrichoides</i> )<br>Pondweed ( <i>Potamogeton ssp.</i> )<br>Rough Pappus Flower ( <i>Phragmites communis</i> )<br>Water Hyacinth ( <i>Eichhornia crassipes</i> )<br>Fringed Bromes ( <i>Bromus ciliatus</i> )  | <b>REPTILES AND AMPHIBIANS</b><br>Columbia Spotted Frog<br>Oregon Spotted Frog<br>Western Pond Turtle<br>Vernal Pool Fairy Shrimp   |
| <b>PERENNIALS</b><br>Mission Bell ( <i>Fritillaria affinis</i> )<br>Scarlet Fritillary ( <i>Fritillaria recurva</i> )<br>Sandberg's Bluegrass ( <i>Poa sandbergii</i> )<br>American Verbena ( <i>Verbena stricta</i> )<br>Tobacco's Impatiens ( <i>Impatiens tomentosifolia</i> )<br>Hood's Catchfly ( <i>Thymophanes</i> )<br>Broadleaf Strawberry ( <i>Fragaria virginiana</i> )<br>Rose Checkermallow ( <i>Gidleya vegetans</i> ) | <b>PERENNIALS</b><br>Mission Bell ( <i>Fritillaria affinis</i> )<br>Scarlet Fritillary ( <i>Fritillaria recurva</i> )<br>Sandberg's Bluegrass ( <i>Poa sandbergii</i> )<br>American Verbena ( <i>Verbena stricta</i> )<br>Tobacco's Impatiens ( <i>Impatiens tomentosifolia</i> )<br>Hood's Catchfly ( <i>Thymophanes</i> )<br>Broadleaf Strawberry ( <i>Fragaria virginiana</i> )<br>Rose Checkermallow ( <i>Gidleya vegetans</i> )  | <b>AQUATIC PLANTS</b><br>Duckweed ( <i>Lemma ssp.</i> )<br>Water Starwort ( <i>Callitriche ssp.</i> )<br>Water Buttercup ( <i>Ranunculus aquatilis</i> )<br>Yellow Water Lily ( <i>Najas polytrichoides</i> )<br>Pondweed ( <i>Potamogeton ssp.</i> )<br>Rough Pappus Flower ( <i>Phragmites communis</i> )<br>Water Hyacinth ( <i>Eichhornia crassipes</i> )<br>Fringed Bromes ( <i>Bromus ciliatus</i> )  | <b>INVERTEBRATES</b><br>Vernal Pool Fairy Shrimp  |
| <b>MAMMALS</b><br>Lynx<br>Columbian White Tailed Deer<br>Gray Wolf<br>Snowshoe Hare  | <b>MAMMALS</b><br>Lynx<br>Columbian White Tailed Deer<br>Gray Wolf<br>Snowshoe Hare   | <b>MAMMALS</b><br>Lynx<br>Columbian White Tailed Deer<br>Gray Wolf<br>Snowshoe Hare   | <b>BIRDS</b><br>Marbled Murrelet<br>American Bald Eagle<br>Northern Spotted Owl   |
| <b>BIRDS</b><br>Marbled Murrelet<br>American Bald Eagle<br>Northern Spotted Owl  | <b>BIRDS</b><br>Marbled Murrelet<br>American Bald Eagle<br>Northern Spotted Owl   | <b>BIRDS</b><br>Marbled Murrelet<br>American Bald Eagle<br>Northern Spotted Owl   | <b>REPTILES AND AMPHIBIANS</b><br>Columbia Spotted Frog<br>Oregon Spotted Frog  |
| <b>REPTILES AND AMPHIBIANS</b><br>Columbia Spotted Frog<br>Oregon Spotted Frog   | <b>REPTILES AND AMPHIBIANS</b><br>Columbia Spotted Frog<br>Oregon Spotted Frog  | <b>REPTILES AND AMPHIBIANS</b><br>Columbia Spotted Frog<br>Oregon Spotted Frog  | <b>INVERTEBRATES</b><br>Fender's Blue Butterfly<br>Taylor's Checkerspot   |
| <b>INVERTEBRATES</b><br>Fender's Blue Butterfly<br>Taylor's Checkerspot  | <b>INVERTEBRATES</b><br>Fender's Blue Butterfly<br>Taylor's Checkerspot   | <b>INVERTEBRATES</b><br>Fender's Blue Butterfly<br>Taylor's Checkerspot   |   |



## Metro regional government

serves 1.4 million people who live in the 25 cities and three counties of the Portland metropolitan area. Metro's Nature in Neighborhoods initiative brings the regional government and local jurisdictions together to help ensure that the region's wildlife and people thrive in a healthy urban ecosystem.

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600 NE Grand Ave.  
Portland, OR 97232-2736  
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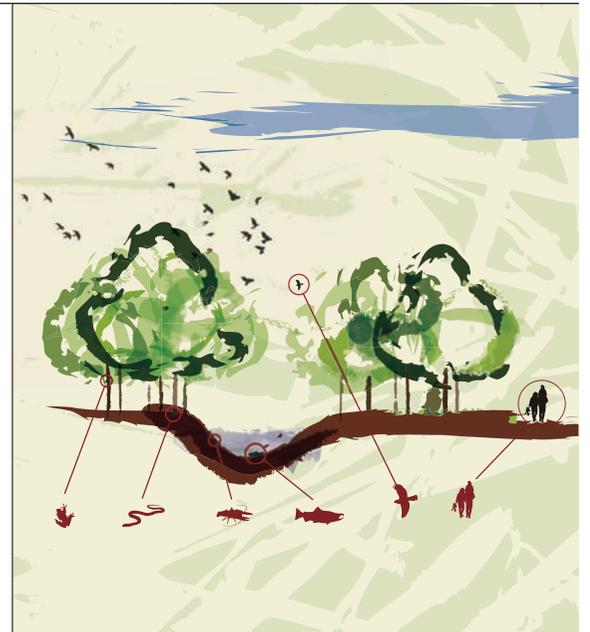


## Nature in Neighborhoods: Integrating Habitats Winners Series

### Blend. Balance. Integrate.

Collaborate to redefine the built environment and restore nature.

More than 100 teams from around the world submitted entries to the Integrating Habitats design competition, proving that every space in which we live, work, shop and play can create places for both people and nature. These designs redefine current standards of environmental sustainability. The award winners illustrate new types of nature-friendly designs that balance development, human needs and the health of natural systems we all depend upon.



[www.oregonmetro.gov/integratinghabitats](http://www.oregonmetro.gov/integratinghabitats)

“Our region has taken a leap forward. We’ve moved from mere production of green buildings to helping establish a richer and more authentic approach to a carbon-neutral, environmentally-sensitive development strategy.” – Jim Winkler, jurist