

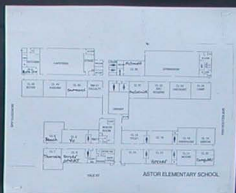








Thank You, Astor Volunteers & Supporters! 2002-03



Come play with water!

Fun art activities for the whole family!
Explore the world of water, and get ready to help design
and build our own special Water Garden at Astor School

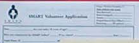


Astor School
Water Exploratorium
Saturday, Sept. 27th
10 am - 1pm in the east courtyard

Come play with water!

Fun art activities for the whole family!
Explore the world of water, and get ready to help design
of our own special Water Garden at Art

WANT TO CHANGE
the WORLD?



SPARK (Short Reading & Reader-Taking) needs volunteers to read with K-5 students one hour a week throughout the school year.

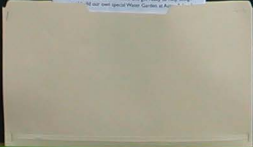
Fill out an application and start making a difference in the lives of children at Astor Elementary!



if you can read,
you can volunteer



YOU CAN!
read with kids!



Join us for

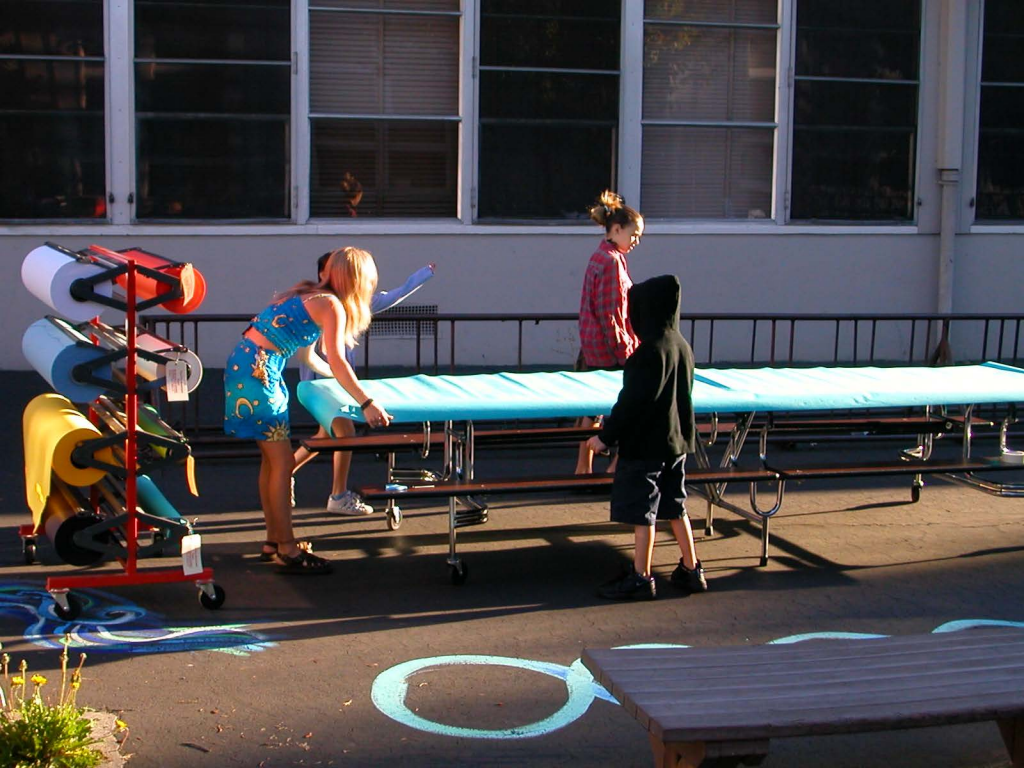
WATER FUN

SAT. SEPT. 27 ~
~10AM TO 1PM~
COURTYARD~
~ EAST SIDE of SCHOOL

EXPLORE the world of
water and get ready to help
design and build our own
special Water Garden at
Astor School!

See our water table outside
the cafeteria on
Back to School Night!!!!

FUN activities





Sounds



①



②



③



④



TURN
INSIDE/OUT
↓



Sat.
Sept.
27

EXPLORE
WATER

puns

activities

10 AM

to 1 PM

stories

art

come play
with
WATER

Sat. Sept 27 10AM
in ASTOR Court yard to 1PM

Join us **Water
Fun!**

activities

art stuff

This Saturday

SEPT. 27

10AM - 1 PM

**Astor Courtyard
(east side)**

Educating students and citizens about rainwater runoff and water quality, while using the arts to celebrate the aesthetic properties of water.

Year 2

September 2001-September 2002

Project goes from conceptual plan to reality. Teacher Dan Evans leads an after-school club with a core group of committed students, design professionals and parents. Landscape designer Martha Koehn helps students come up with the conceptual plan. In the fall, in January, engineers help students finally test the soil for percolation, and begin to create a site plan. In March, landscape architect and parent Dean Apollis refines the site plan, and native plant specialist Gretchen Vachris works with students to design plantings. Urban Water Works construction manager Neil Aronowicz arranges for discounted materials and labor from local businesses. After the groundbreaking in May, Dan Evans leads a summer long community construction process.



Construction of garden draining ditches in background



Path leading to new amphitheater



Path and dugout on planting day



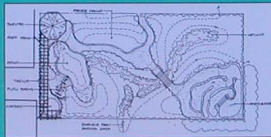
Lead teacher uses hose to plant tree



Large group of people plant tree



Large pile of dirt and debris, with path and tree



Group of people plant tree in new amphitheater

Environmental Impact

Allows 500,000 gallons of water per year to percolate back into the ground, rather than flowing into the sewer system.

Reduces the amount of non-point-source pollution entering the Willamette River.

Positively impacts the local water table.

Supplies more than adequate water to support the plants in the 7,500 sq. ft. garden.

Provides habitat for beneficial insects and supports a greater diversity of plant and wildlife.

Models sustainable methods for cleaning and reusing harvested rainwater.

Creates a growing number of educated and empowered students, teachers and community members.

Components

Claims that hold harvested rainwater recharged from nearby Classroom roofs.

Flow forms and sculptures that educate about the natural flow of water.

A pond that provides habitat for plants and animals, and water for the rest of the garden during summer dry season.

A shelter and amphitheater for use by students and neighboring community.

A series of "Living Machines" that use plants and small organisms to clean water (future feature).

Year 3

September 2002-June 2003

Transformation from a pile of dirt into an alive garden filled with plants and water. Students spend class time putting in wetlands plants and trees, monitoring water levels and quality. In January the test comes, a large storm event that closes bridges and streets around Portland. The water garden performs just as planned. Water from the surrounding roofs and parking lot fills the pond, the sewer and the wetland, then overflows into the field, and quickly percolates into the ground. While the surrounding streets are awash in stormwater, the defined Living Water Garden is flourishing.

Project Coordinator: Erin Waddell, Urban Water Works

Lead Teacher/Construction Manager: Dan Evans, Olinette Arts Middle School

Participating Teachers: Mary Morris, Kate Bore, Shannon Wilson, Andrew Butterfield, Anne Quinn, Bill Harris, School

Principal: Tom Brachman

Construction Manager: Neil Aronowicz, Urban Water Works

Engineering, Design, and Art Professionals: Ocean Arts International, Flow Forms, Aronowicz, CH2M Hill, Martha Koehn, Gretchen Vachris, Valerie Clark, Suzanne Segalovic, Dean Apollis, Peg Butler, Julia Warshawski, Linda Landis

Architect:

Amateur Volunteer: Hannah Jacobson

Funding: Metro, Portland Bureau of Environmental Services, P.J. Waddell Foundation, PGE and private donations.

daVinci Living Water Garden

A collaboration between daVinci Arts Middle School, Portland, Oregon and Urban Water Works 2000-2003.

Year 1

May 2000- June 2001

An integrated, multi-disciplinary and school-wide water-themed curriculum. With science teacher Dan Evans, 170 students explore watersheds, urban water pollution and treatment, wetland ecosystems, wetland TN cycles and various sustainable agriculture/food production methods. Other students at the school study poetry. Also garden design, native plants, and local water issues. In June 2001, the students, parents and local professionals participate in a design contest to begin developing garden plans.



Testing findings of water filtration



Four Boys Performing the Sixth Year's Symposium of the Water Garden, June 2001



Close-up of student working

Urban Water Works

is a non-profit organization dedicated to changing how we relate to water in the urban environment. We facilitate collaborations between artists, scientists and community members to create projects that make natural water systems and watershed history and culture meaningful. We began in March 1999 as a diverse group of people inspired by Santa Domingo work on the Living Water Garden in Chengdu, China. Our interdisciplinary approach has brought together landscape designers, engineers, poets, visual artists, other observers, hydrologists, teachers and writers to explore, imagine and create new possibilities for water treatment in the city.

www.urbanwaterworks.org



Passions of Today

Water owns a mind of its own

Blue sky on a clear day

Clear liquid diamonds

It picks its shape the spot

Blue sky on a clear day

A lake is nature's bathtub

It trickles down the gossamer

Water crash upon each other

A lake is nature's bathtub

Never only one shape

Waves crash upon each other

Rippling at the slightest disruption

Never only one shape

Clear liquid diamonds

Rippling at the slightest disruption

Water owns a mind of its own

The Student Symposium helps share some collaborative and inspiring poems called Passions.



Exploring the process of making the water



Experimenting with Testing Methods



Four boys in their class



Showing findings to their parents



Community design process to determine ideas for the Living Water Garden. Students help the process, bringing in their knowledge from the rest of their study.

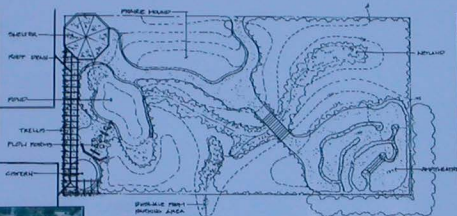
DaVinci Living Water Garden

A collaboration between DaVinci Arts Middle School and Urban Water Works 2000-2003.

Educating students and citizens about stormwater runoff and water quality,
while using the arts to celebrate the aesthetic properties of water.



Designed and built by the students, teachers and parents of DaVinci, assisted by volunteer professionals brought in by Urban Water Works.



Retains stormwater runoff from 15,000 sq. ft. of roof and parking lot, into a 7,200 square foot water garden.



Built on the site of an abandoned tennis court, it includes a system of concrete, pond, constructed wetland, and bioretention media that collects, cleans and absorbs 100% of the water that it captures.



Don Evans, lead teacher for the DaVinci Living Water Garden project



Provides recreational and educational opportunities for the school and surrounding community and is a model for stormwater diversion that could be implemented by average households.

Urban Water Works
the confluence of art, science & community

Urban Water Works

is a non-profit organization dedicated to changing how we relate to water in the urban environment. We develop collaborations between artists,

scientists and community members to create projects that make natural water systems and watersheds visible and culturally integrated.

We began in March 1999 as a diverse group of people inspired by Betty Dornon's work on the Living Water Garden in Chengdu, China.

Our interdisciplinary approach has brought together landscape designers, engineers, poets, visual artists, urban planners, hydrologists, teachers and weekend ecologists, and created new opportunities for water treatment in the city.

Bringing art and science together to restore living water in urban landscapes

WAPPATO WETLANDS SCULPTURE PARK

Blending water treatment, recreation, education and culture in the River District

design by Betty Damon & Ann Baker, research by Anne Mavor, Portland, Oregon Chapter of Keepers of the Waters 503-452-3154 urbanwaterworks.com
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CONCEPT

A wetland sculpture garden and visible stormwater treatment system on the Willamette River. Inspired by the wappato wetlands that once filled the Portland area. Wappato (jarrowhead) tubers were a staple for the Chinook tribes that lived along the lower Columbia River.

OBJECTIVES

- Treat stormwater runoff from near by development through visible and beautiful living systems
- Become an international model of sustainable waterfront development
- Help restore salmon habitat
- Clean, restore and daylight Tanner Creek
- Utilize native, insectary, food and fiber plants
- Highlight and honor our local indigenous cultures through design elements by Native American artists
- Connect the River District to Portland's Greenway Trail
- Provide recreational opportunities for the River District

BENEFITS

- Enhance River District as a whole legacy for future, environmental health
- Lead the city and region in sustainable development
- Clean stormwater from surrounding urban development and deliver fresh clean water to the Willamette River
- Help solve multiple environmental problems (CSO, ESA)
- Inspirational way for the new River District development to interface with the river
- Draw retail consumers, tourists and community members to area
- Provide a fun place for children and families to learn about water

MAJOR FEATURES

- Wappato Ponds Ecological Garden**
Treats stormwater and Tanner Creek
- Living Water Sculpture Garden**
Treats stormwater and river water through a salmon shaped interactive sculpture
- Children's Water Learning Playground**
Flow pattern and aquatic life play structures, interactive water sculptures
- Water Theme Restaurant & Patio**
Native cuisine, local foods, retail outlets
- Water Resources Building**
Clearinghouse for living water conservation and information
- Flow form sculpture stairway**
- Spiral fishing pier**
Wheelchair accessible pier and observation points
- Sculptural Rain Pavilion**
Visitors can comfortably view treatment system

ADDITIONAL FEATURES

Living Technologies

Solar and wind powered electricity, natural water treatment and filtration

Pathways and bridges over constructed wetlands

Gives easy access to visitors

Long Houses

Informational resting areas based on Chinook Tribe design

Undulating natural shoreline Supports native plants, insects and fish









