

# Urban Green Infrastructure Forum

March 10, 2010

Presented by the Duwamish River Cleanup Coalition  
and EOS Alliance

Welcome

Erick McWayne, EOS Alliance

Moderators

Cari Simson, Duwamish River Cleanup Coalition

Laura Treadway, Antioch University Seattle  
Environment & Community Program



Laura Treadway

Seattle is known  
for its rain.

But have you  
stopped to think  
about what happens  
when it rains here?



150 years ago, this is what our region looked like. When it rained, water soaked into the ground, percolated into the soil, and fed rivers and trees.

Rain now  
falls onto  
buildings and  
paved roads  
– all sorts of  
impervious  
surfaces –



David Shankbone



and flows into storm  
drains, picking up  
pollutants along the  
way.

# Stormwater is “death by 1000 cuts” to Puget Sound



According to Department of Ecology, approximately 14 million pounds of heavy metals, flame retardants, dioxins, oil and grease, and other dangerous pollutants are washing into the Sound each year – and that’s a conservative estimate. (Sightline)

Stormwater is now  
the **#1 cause of  
pollution** in Puget  
Sound.



Laura Treadway

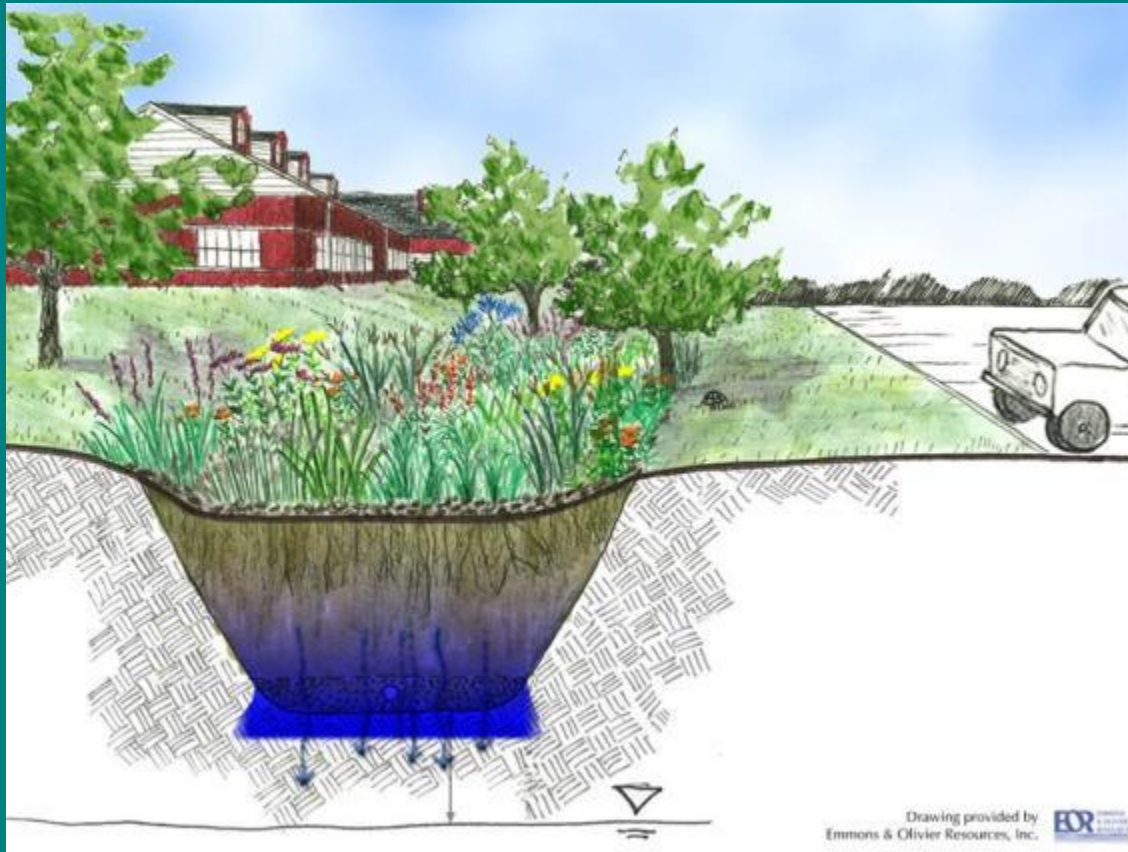
Laura Treadway



With no other place to go, rainwater runoff overwhelms our stormwater system, causing flooding, landslides, and other forms of property damage.

*Green infrastructure, low impact development (LID), and natural drainage systems* are related solutions to the problem of stormwater.

These methods try to replicate the natural water cycle in a built environment.



A *green roof* is a roof that is covered in plants and absorbs rainwater, rather than letting it run off.



Seattle City Hall

Rain barrels, cisterns, and other forms of *rainwater harvesting* collect water from roofs and downspouts for reuse in watering lawns, gardens, flushing toilets and other non-potable uses.



*Pervious concrete* and *permeable paving* allow rainwater to infiltrate into the ground rather than running off into a stormwater system.



NECSA



Iowa USDA

*Healthy soils* can absorb high levels of water during rainstorms, reducing runoff and the need for watering during the dry months.



*Rain gardens, bioswales, and bioretention cells* are all planted, sunken areas or ditches which collect rainwater and allow it to soak into the soil. This filters pollutants and sediments and reduces runoff.



SvR

Seattle is a leader in developing natural drainage systems projects.



EPA



SPU

High Point

# The Georgetown Riverview Restoration Project

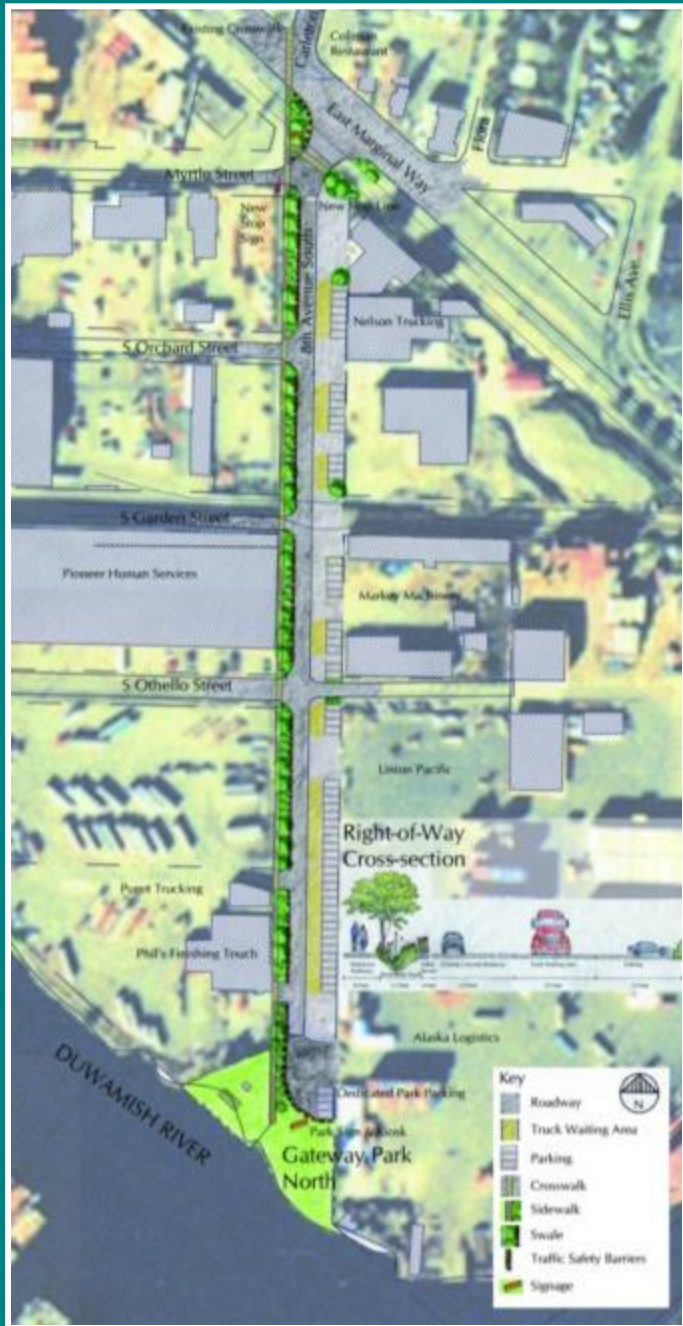
A collaborative project along 8th Avenue South in Georgetown to improve:

- Connection to Duwamish River ecosystem
- Pedestrian/Traffic safety – for residents & businesses
- Parking and truck mobility
- Stormwater drainage and pollution control



## 2006 Streetscape design

- Created opportunities for participatory design
- Community envisioned future improvements to 8th Avenue South and Gateway Park
- Additional involvement from businesses along street: Markey, Nelson Trucking
- Seattle University engineering student case study suggested drainage design improvements



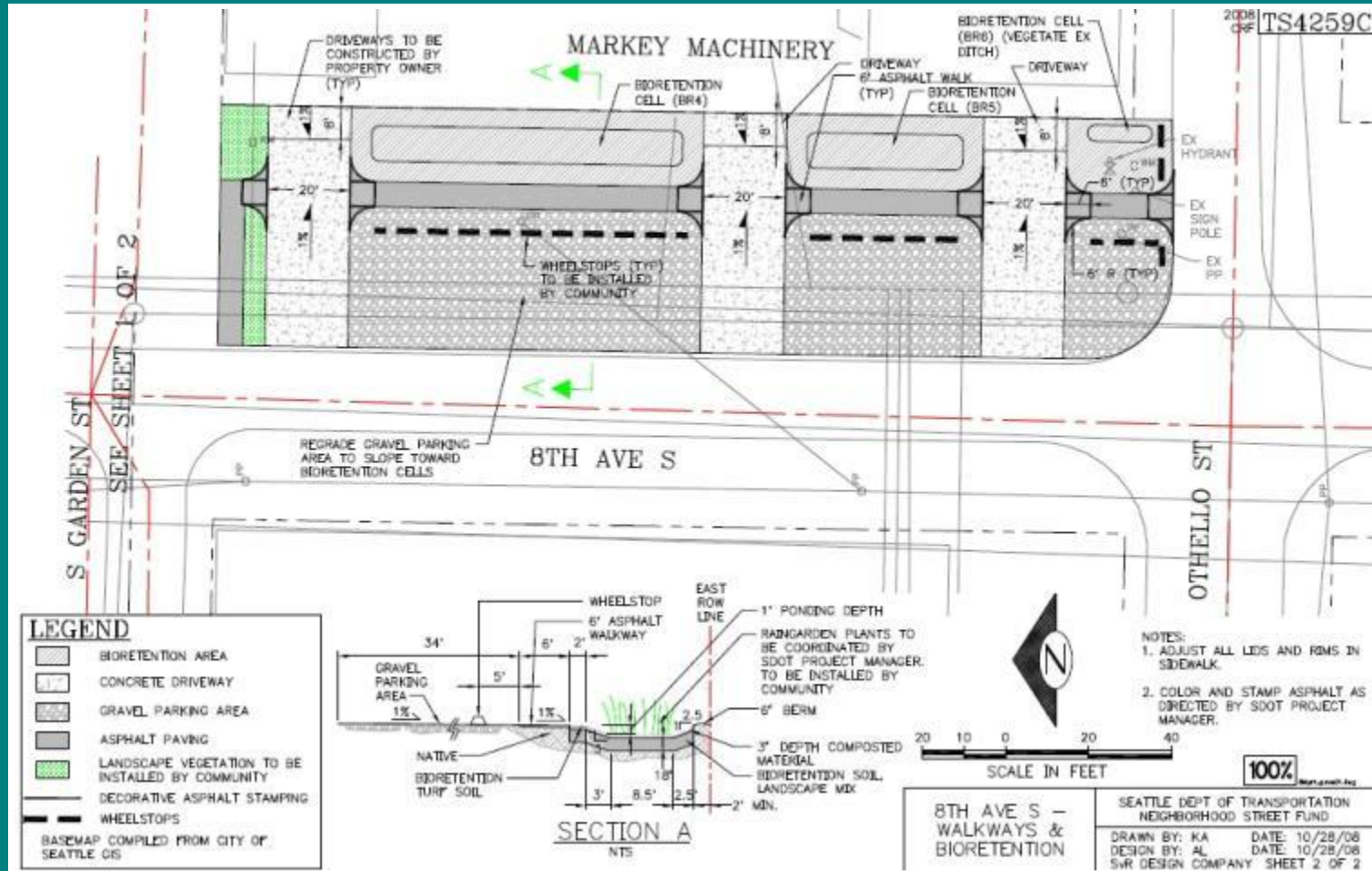
Water pooling  
in roadway on  
8<sup>th</sup> Avenue  
South after  
heavy rains



The street is not  
equipped with  
any piped, or  
“grey,”  
stormwater  
infrastructure



# SDOT and SvR Design create design for natural drainage in front of businesses, 2008



October 2009: Swales are dug in front of Markey Machinery by SDOT



They are immediately successful in collecting stormwater

December 2009: Initial planting party – more will follow in spring 2010



This project is unique in that it is a bioswale built in an industrial neighborhood of Seattle – a pilot project



# Panelists

- Jennifer Carlson, Artist and Landscape Designer, Haven Illustrated LLC
- Amalia Leighton, Professional Engineer, SvR Design Company
- John Phillips, Water Quality Planner, King County Wastewater
- Bob Spencer, Residential RainWise Program Lead, Seattle Public Utilities