

West Broadway Avenue SURGE

Spokane Urban Runoff Greenway Ecosystems

Elm Street to Oak Street

SURGE provides an alternative to traditional methods of managing stormwater runoff and helps the City meet state permit requirements by mimicking nature. West Broadway SURGE is a series of storm gardens and pervious sidewalks. Storm gardens are planters with special soil that collect, treat and use stormwater runoff that would otherwise go to Riverside Park Water Reclamation Facility (the treatment plant) or during large storm overflow directly to the Spokane River. SURGE is a program designed to improve stormwater systems along the City's streets.

HOW DOES IT WORK?



COLLECTS

stormwater runoff from the street into the storm gardens



STORES

runoff in the storm gardens allowing it to gradually flow through the soil. Plants use runoff as it passes through the soil.



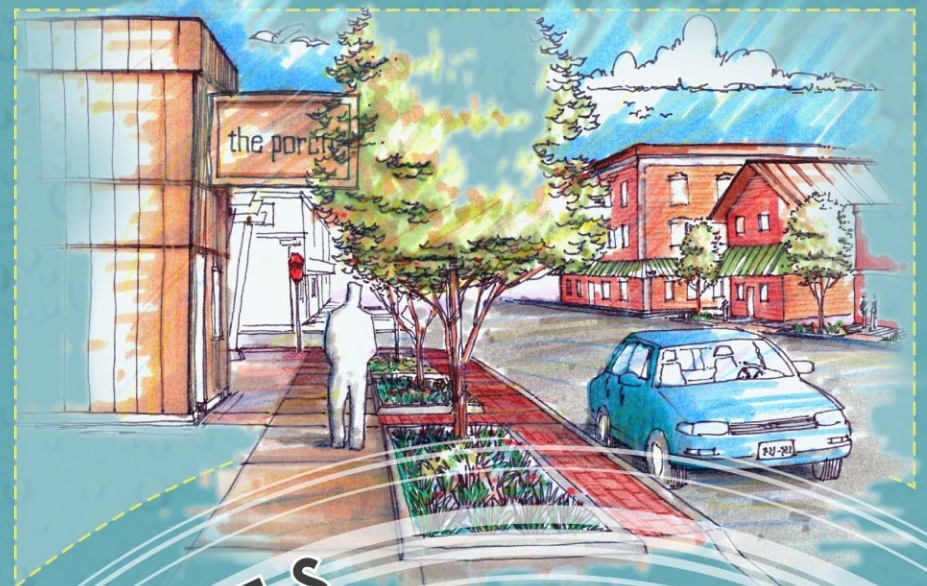
INFILTRATES

stormwater into deeper soils not used by the plants. The clean stormwater eventually recharges our aquifer.



TREATS

pollutants in the stormwater that enrich the soil and nourish plants.



THE BENEFITS

1. **REDUCES POLLUTANTS** entering the Spokane River
2. **IMPROVES OPERATION** of the City's combined sewer system
3. Increases **URBAN GREEN SPACE** with trees and plants to moderate summer temperatures and improve air quality
4. Provides an **ALTERNATIVE** for treating and managing stormwater runoff
5. Establishes **NEW STANDARDS** for the City's emerging green infrastructure system
6. Enhances the **ENVIRONMENT** by reducing the paved surfaces and naturalizing the flow of water



Successful Stormwater Management with **PLANTS and SOILS**

The Broadway Avenue SURGE Project

Spokane Urban Runoff Greenway Ecosystems

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CLEANSE and EVAPOTRANSPIRATE stormwater

role of plants

- leaves catch the rain before it hits the ground
- roots soak up stormwater
- some pollutants like nitrogen and phosphorus nourish plants

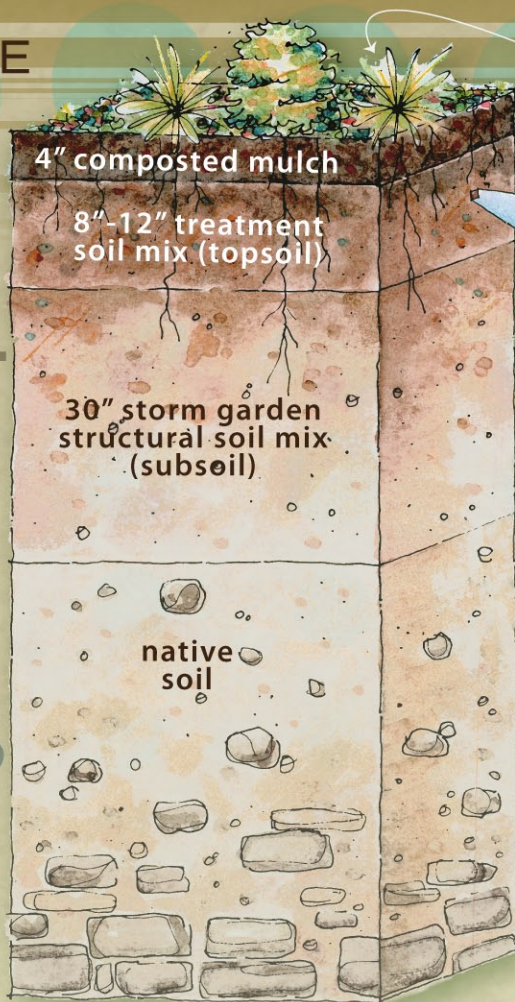
evapotranspiration

- the way plants use water
- water absorbed in the roots is sent to the leaves
- water not used by the plant is evaporated through the leaves

types of plants

- adapted to the long, dry summers and snowy winters characteristic of Spokane
- native species grown in the local area
- cultivated for an urban environment

storm garden soil profile



STORE, CLEANSE and INFILTRATE stormwater

composted mulch

- regulates moisture so roots don't dry out as quickly
- minimizes weed growth
- provides organic matter for natural biological treatment or cleansing

treatment soil

- a mix of top soil, sand and organic matter
- top soil nourishes plants & trees
- sand promotes infiltration of treated water to the aquifer
- organic matter provides biological treatment

structural soil

- a mix of gravel, top soil and moisture retaining gel
- stores water to allow gradual infiltration
- supports growth of tree roots



Sour Gum



Feather Reed Grass



Sweet Gum



Cornelian Cherry Dogwood



Blue Fescue



Creeping Mahonia



Stella De Oro Daylily



Golden Sedge



Eastern Redbud



Coral Beauty Spirea

