Conveyance and Stormwater Art

Description
Stormwater conveyance is the flow, movement or transfer of stormwater from one location to another. Stormwater conveyance techniques deliberately transport water from where it falls to where it will be treated. All Low Impact Development Approaches (LIDA) convey stormwater, and the movement and slowing of water through these facilities improves water quality and attenuates peak stormwater flows.

There are design standards for each type of LIDA, but there is flexibility to allow creativity and site-specific adaptation for how stormwater enters and passes through these facilities to meet required performance criteria.

Application & Limitations
There are two general methods of stormwater conveyance, underground and above ground.

1. Underground conveyance channels stormwater in pipes below-ground and typically requires a plumbing permit. (See Design and Construction Standards for additional details and requirements.)

2. Above-ground conveyance moves water on the surface of the ground. In applicable locations, such as LIDA facilities, the benefits of above-ground conveyance may include:
   - Lower construction costs due to less excavation and underground piping
   - Less site disturbance
   - Improved oxygenation and cleansing of water
   - More opportunities for artistic and creative design
   - Enhanced public awareness of urban stormwater
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Estacada Library. Stormwater is conveyed from the rooftop to an infiltration basin. As the basin fills with water, it overflows into a connected series of swales and additional infiltration basins that convey stormwater around the library.

New Seasons, 20th and Division, Portland. A whimsical steel sculpture conveys stormwater from a grocery store rooftop into an infiltration planter.

Headwaters at Tryon Creek, SW Portland. Headwaters is a residential development where senior housing, town homes, and an apartment building were designed to be integrated with the daylighting (removal from an underground piping system) of a tributary of Tryon Creek.

North Main Village, Milwaukie. Stormwater is the featured design element for this residential courtyard. Water from rooftops is conveyed by steel scuppers into decorative planters to meandering runnels and water quality swales.
PSU Stephen Epler Hall. Stormwater from the impermeable plaza area is directed to bands of granite stone that are strategically placed at low drainage points to convey stormwater to a series of flow-through planters.

“Downspout 101”, Seattle (artist Buster Simpson). The branching downspout is part of a public art project called “Growing Vine Street” that uses visual and provocative conveyance techniques to raise awareness of the stormwater flowing through the neighborhood.

Team Estrogen Warehouse, Washington County. Stormwater from the warehouse roof is conveyed by a scupper into a concrete splash basin. The velocity of the water is slowed before the water flows into a vegetated swale.

Block 11, Washougal, WA. Stormwater from surrounding rooftops is directed into the plaza’s vertical sculpture before entering flow-through planters.
New Seasons, Beaverton. This example was brought up in our first meeting to be included in this fact sheet.

Headwaters at Tryon Creek, SW Portland. The rounded and stepped design of these infiltration planters are molded to the specific conditions of the site. The concrete walls are a creative interpretation of check dams that are used to convey water across flat surfaces over steep topography.

Local 49, Portland. Stormwater is conveyed from the rooftop by a decorative stainless steel metal scupper into the courtyard. Water flows from the scupper into a concrete runnel, detention basin and planters.