Visits of green stormwater infrastructures in Seattle

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Green infrastructure is a cost-effective, resilient approach to managing wet weather impacts that provides many community benefits. While single-purpose gray stormwater infrastructure—conventional piped drainage and water treatment systems—is designed to move urban stormwater away from the built environment, green infrastructure reduces and treats stormwater at its source while delivering environmental, social, and economic benefits.

Source: https://www.epa.gov/green-infrastructure/what-green-infrastructure

Photos : Isabelle Giasson

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In Seattle's innovative green urban district of High Point, this project showcases how partnerships and great design came together to create a sustainable mixed-income community with 1,600 homes and 3,500 residents—and provide an unvarnished look at the unique challenges that surface when piloting new green technologies and strategies. It includes 120-acre Natural Drainage System, green affordable housing, public health advances that enriched the site, partnerships with City agencies and local groups, and, crucially, the community outreach that included all High Point neighbors. This mixed income social experiment.

Seattle’s First 21st Century Community

Photos : Isabelle Giasson

High Point

Photos : Isabelle Giasson

Growing Vine Street – Phase 1

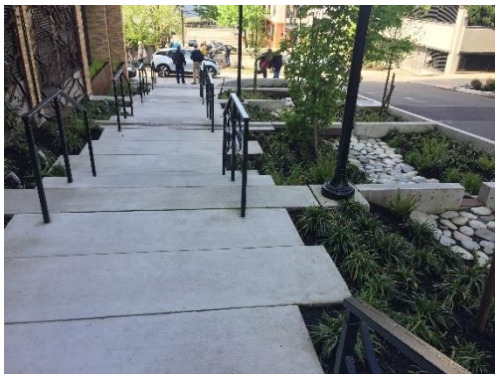
Belltown is the nation's 6th fastest growing neighborhood. The community is taking the opportunity to promote sustainable economic development while retaining the neighborhood's cultural richness and promoting an urban ecology vision. One of the ways to meet these multiple goals is with green stormwater infrastructure (GSI) tools, such as bioretention, green walls, green roofs, and rainwater harvesting.

(Amy Waterman, 2030 District)

The Seattle 2030 District is a groundbreaking high-performance building district in downtown Seattle that aims to dramatically reduce environmental impacts of building construction and operations through education and collaboration across every sector of the built environment.

Photos : Isabelle Giasson

Growing Vine Street – Phase 2



Photos : Isabelle Giasson

Greenfire Campus

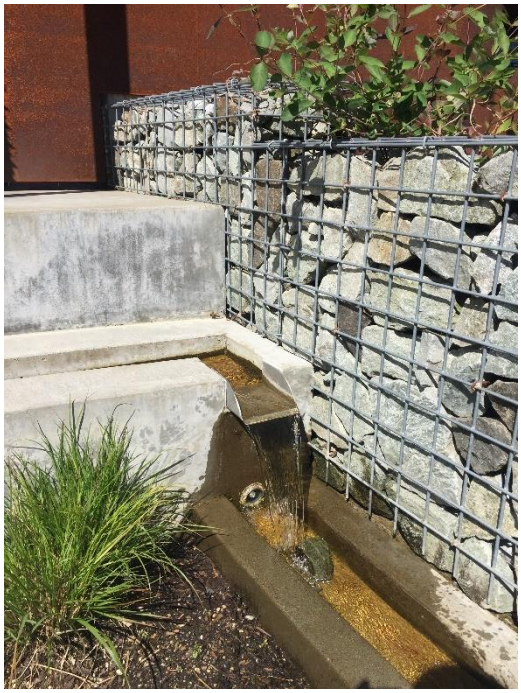
Two ideas guide the design of the Greenfire Campus: sensible sustainability and social sustainability.

Sensible sustainability represents a balance between cost and performance. Efficient buildings are becoming more affordable, but super insulation, LED (Light Emitting Diode) lights, ground source HVAC (Heating, Ventilation and Air Conditioning) and photo-voltaics may not fit into a short-term (5-10 year) financial model. But when costs are assessed in terms of long term ownership and performance, they can make a great deal of sense. Buildings designed to create a portion of their own energy, save and filter water and have an efficient envelope see payback periods of 20 years in our environment. Beyond that, as energy costs rise, these buildings will reap increased dividends.

Photos : Isabelle Giasson

The sensibly sustainable approach is useful in assessing performance criteria and comfort levels. Is it sensible to cool a building to 70 degrees on a 95 degree day, or is 80 degrees OK? Is it sensible to spend significant funds on a boiler to provide that extra margin of heating for the coldest 35 hours a year, or is there a more practical solution.

Social sustainability is the idea that our built environment can promote community. Shared amenities and diverse uses pull us together and have a positive effect on energy consumption and general mood. The Greenfire Campus includes both common recreational spaces, common utilities (a laundry) and two forms of urban agriculture: the P-Patch and edible landscape along the public way. The program for Greenfire is also diverse, placing housing near offices and commercial spaces, allowing occupants to work, live, play and produce food in the heart of Ballard.



Photos : Isabelle Giasson

Ballard Corners' Park

Corners Park includes a rain garden. To accomplish this, the park site was extended five feet into the street and a series of basins were excavated for collecting stormwater runoff. The rain garden is planted with a variety of perennials, shrubs and trees that 'don't mind getting their feet wet'. Rain gardens help to soak up rainwater from downspouts, driveways and sidewalks while protecting our local waterways. Stormwater contains pollutants from rooftops and streets. With no rain garden, stormwater drains to our streams and pollutes the watershed. A rain garden works by absorbing and filtering stormwater through amended soil layers and deep native plant roots. The rain gardens help fish and other wildlife enjoy cleaner water. When planted with the right types of plants, rain gardens also attract birds and insects.

Photos : Isabelle Giasson

Swale on Yale, Yale Ave + Pontius Ave N

In the past, rain falling on Capitol Hill flowed into the storm drainage system and directly into Lake Union, carrying with it chemicals, oils, metals, sediment and other pollutants from roadways, yards and rooftops. The Capitol Hill Water Quality Project diverts this water – totaling hundreds of millions of gallons each year – and filters out these particles using grass-like pants called sedges and rushes and microorganisms in the soil

This swale cleans rainwater from more than 430 acres of Capitol Hill – That's about the same amount of water annually as the top three feet of Lake Union!

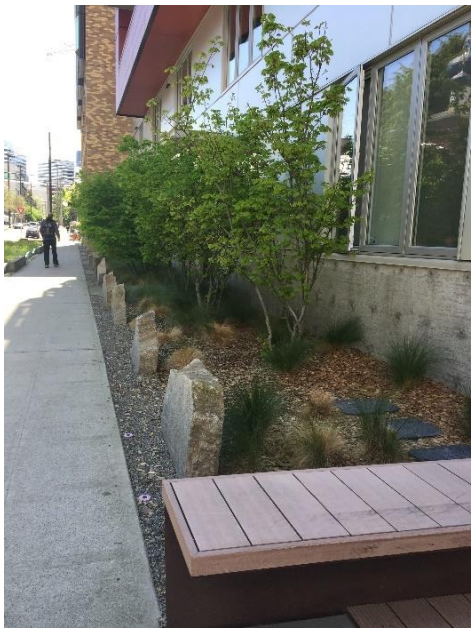
Photos : Isabelle Giasson

Stack House Apartments (Swale on Yale)

The Historic setting of the perfectly modern Stack House combines green living with warm character, fast technology, and sleek good looks, Stack House is a soothing urban refuge which features residential building next to the site of a 100-year-old Supply Laundry Building. The vintage edifice serves as an office space and restaurant space with a patio facing the courtyard. Stack House is packed full of amenities: Community Guest Suites, Two community decks – perfect for watching fireworks over Lake Union, and a Winter garden green house. The community is LEED certified and embodies green living.

- 1280 Harrison St.
- 1265 Republican St.
- 451 Yale Ave N.
- 420 Pontius Ave N.

http://www.stackhouseapartments.com/



Photos : Isabelle Giasson

Mercer Street, Bioswale Streetscaping

The Mercer Corridor stretches from Interstate 5 to 5th Ave. W, and has been one of the City of Seattle's most significant transportation challenges for over 40 years. SDOT is committed to improving the Mercer Street Corridor.

The “Mercer Mess” has been a major bottleneck in the Seattle for decades, and has been hindering access to Seattle’s fastest growing neighborhood, South Lake Union. The old Mercer and Valley streets couplet was constructed in the late 1950s as a temporary solution intended to provide access to I-5 as it was being built.

Photos : Isabelle Giasson

Green Streetscaping

Photos : Isabelle Giasson

Green Street Maynard Ave S.

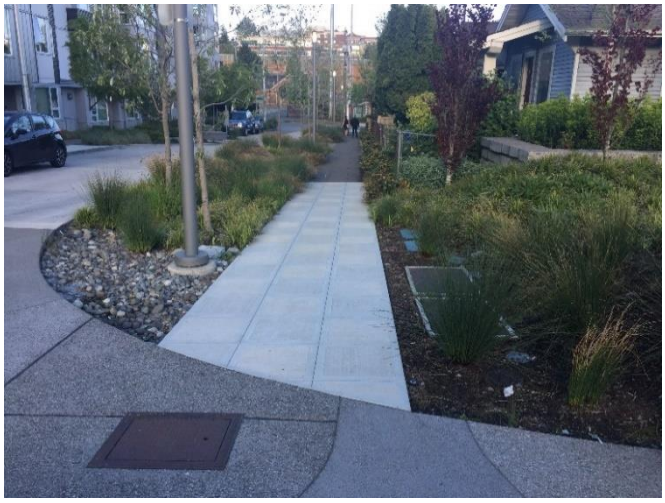
SvR was hired by the Interim Community Development Association for both civil engineering and landscape architecture services. This block-long project is funded in part through the Neighborhood Sidewalk Fund and several grants. For the street retrofit, runoff from the roof of an adjacent building flows into a cistern at the top of the block. The water then flows into a series of stormwater planters, where it is slowly filtered and detained before entering the municipal system. The sidewalk was also widened and seat walls were created to improve access and provide resting spots for pedestrians making the climb up the 16% street grade. Plantings were selected that blended with the character of the International District neighborhood's historical roots.

www.svrdesign.com

sabelle Giasson

The park space is used to strengthen community ties through programming local events and offers a great gathering place. The artistic sculptural canopy structure called "Cloud Veil" that hovers over a rounded "pillow" and the wavy concrete paving design grew out of the Hewitt and Sollod collaboration. Several other smaller pillows for seating are sprinkled through the space. The park's unique design also includes rain gardens to extend the feeling of open space for the entire block on E. James Court, a single east-bound lane. This project is community-initiated with both the purchase of the parcel and the development of the park receiving different park levy Opportunity Fund awards.

12th Ave Square Park, corner of E. James Ct.



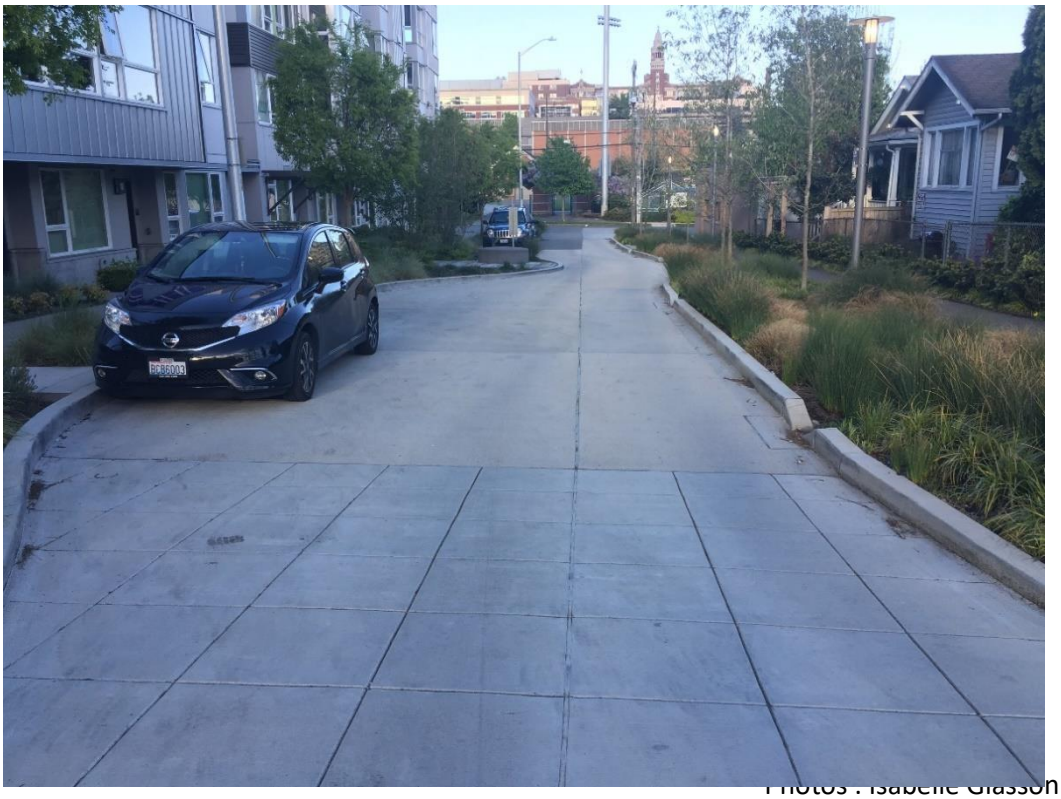
Photos : Isabelle Giasson

Seattle Unviersity

Situated between the Central Area and Capitol Hill, the 7,332 square-foot park is considered part of both communities. This is a *woonerf* designed park which provides pedestrians and cyclists priority on the street. This technique of shared spaces, traffic calming, and low speed limits contributes to improved pedestrian, bicycle, and automobile safety.

Source :

www.seattle.gov



Photos : Isabelle Glasson

Lee Miley Rain Garden

In December of 2006, 2.5 inches of rain fell in a 24-hour period, causing the basements of Lynn, Hunthausen, Xavier and the Chapel of St. Ignatus to flood. To prevent future flooding, the university had two options that cost roughly the same – build a manmade underground storage tank, or build a sustainable rain garden. Under the leadership of Lee Miley, the Facilities department advocated for a rain garden.

Rain Gardens are landscaped depressions that collect stormwater runoff from streets, sidewalks and roofs. The soil and plants remove pollutants as the runoff slowly infiltrates the groundwater table. Rain gardens also create important habitats for birds, pollinators and other beneficial insects. Lee Miley's inventive and modern rain garden design is an environmental showcase for other institutions, public spaces and residential properties.

Photos : Isabelle Giasson