

INNOVATIVE WATER MANAGEMENT: HASSALO ON EIGHTH \$1.48 MILLION IN REDUCED FEES



GBD Architects / Lara Swimmer photographer

- Project Narrative -

The Hassalo on Eighth project encompasses three new multifamily housing buildings set to transform east Portland's Lloyd District. The Lloyd Eco-District is close to downtown and the street car and is highly walkable. It also has a large 750 bike storage area. Kyle Andersen of GBD Architects said, "We were thrilled to have the opportunity to design a large scale eco-district utilizing leading-edge technology. The integration of the multiple large green roofs covering over 38,000 square feet and the largest on-site urban waste water treatment facility in North America (aka N.O.R.M. – Natural Organic Recycling Machine) were key components to this project. It is because of the innovative water management design elements that a significant refund on SDC's was provided by the city's Bureau of Environmental Services"

The entire development, along with an existing office tower, is connected to N.O.R.M. (Natural Organic Recycling Machine). N.O.R.M. treats and recycles 100% of the grey and black water on site. All site sewer treatment happens in N.O.R.M. instead of in the City's wastewater treatment system and water is reused on-site. The project's two green roofs reduce peak flows during large rain events by retaining stormwater, preventing stormwater flows from overwhelming the system.

Due to the cutting edge stormwater management strategies the project was allowed a refund of the system development charges (water and sewer fees) the owner had to pay for this new district. The refund totaled \$1.48 million, almost half of the City's three million dollar fee.

About Columbia Green Technologies

Columbia Green Technologies offers comprehensive green roof solutions; from extensive to intensive green roofs, available with both layered and tray-based systems. We offer complimentary, project-specific stormwater calculations to help your green roof project demonstrate a return on investment.

- Quick Facts -

- Built 2015
- Extensive Green Roofs covering 25,650 s.f. and intensive roof gardens
- Uses a combination Natural Organic Recycling Machine/ Green Roof for water management
- System: Columbia Green Technologies' Extensive Layered system planted with sedum tiles
- The Green Roofs retain stormwater and reduce peak flows during rain events
- Three buildings with a total of 657 housing units and over 50,000 s.f. of retail space
- Located in Portland, Oregon
- On track for LEED ND Platinum
- Savings: Refunded \$1.48 million, or almost half of the City's 3 million dollar SDC charges due to water management system.

- Project Team -

American Assets Trust	Owner / Developer
Turner Construction	General Contractor
GBD Architects	Architect
Teufel Landscape	Green Roof Installer

"Hassalo on Eight is one of the most innovative and self-sustaining developments within a recognized Eco-District in the nation. In my opinion, this will be the modern building standard for the construction of resilient cities. The Columbia Green Technologies green roof is significant to the performance of our buildings as it retains stormwater on the roof, reducing demand on an already undersized city storm/ sewer system."

-Wade Lange, American Assets Trust

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