Purple-Roof®

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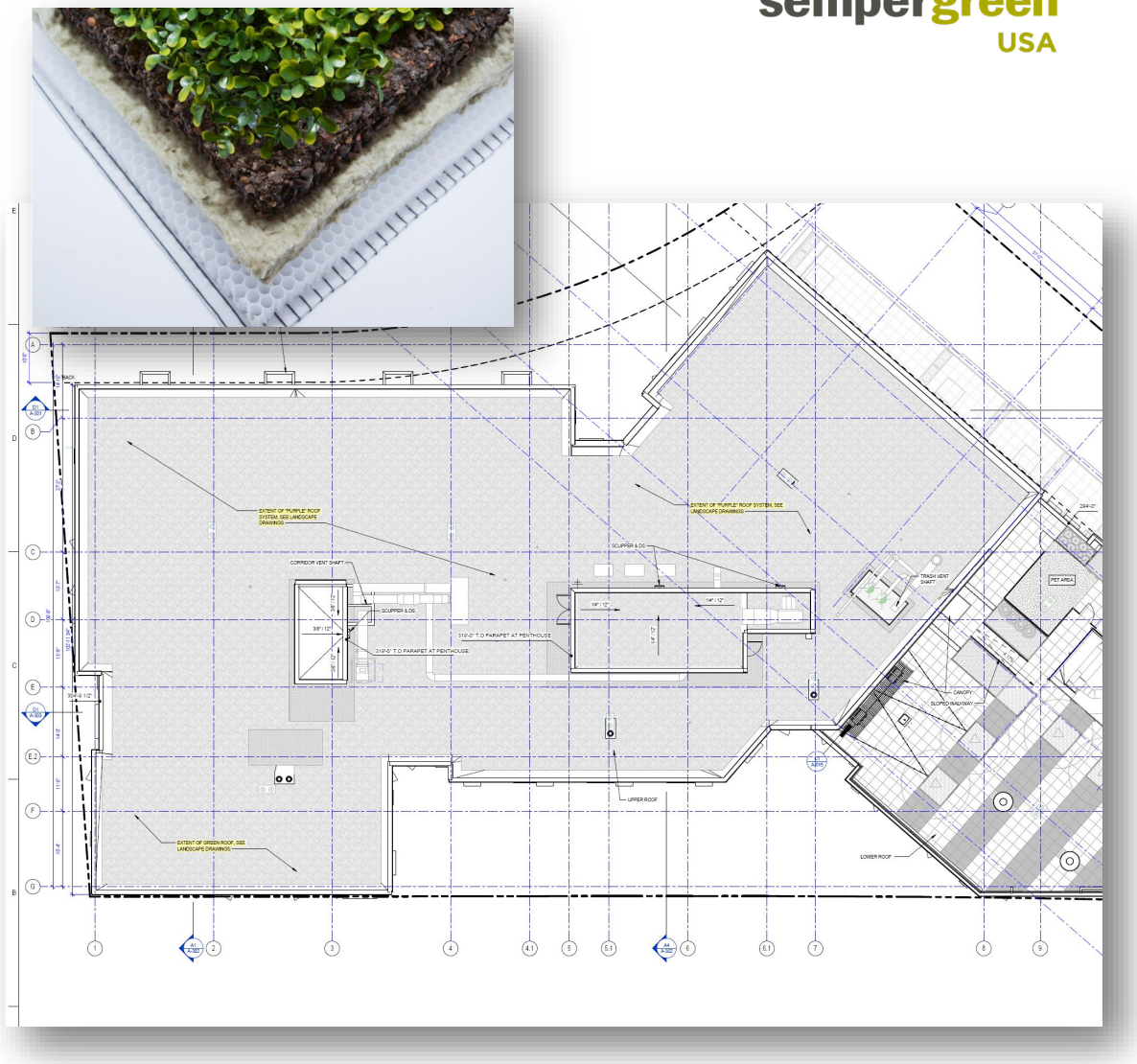
CASE STUDY- YESLER TERRACE, SEATTLE WA



A 13,000 square foot green roof was installed at Yesler Terrace, located at 821 S Washington in Seattle, WA. This project features a Purple-Roof system with a 3+1+1 profile, designed for advanced stormwater management. The Purple-Roof system provides 1810 cubic feet of retention and 2650 cubic feet of detention, combining for a total storage capacity of 4460 cubic feet. These features are vital for mitigating the impact of heavy rainfall and reducing the burden on Seattle's stormwater systems.

Retention refers to the green roof's ability to hold rainwater and release it gradually, preventing immediate runoff. This process is crucial for reducing peak flow rates and minimizing the risk of flooding. Detention involves temporarily storing stormwater and releasing it at a controlled rate. This dual functionality helps in managing large volumes of water efficiently, ensuring that the city's drainage systems are not overwhelmed during heavy rain events. Notably, the system at Yesler Terrace has reduced the outflow of a 25-year storm by an impressive 79%.

The Purple-Roof system's ability to provide retention and detention means that no additional treatments, such as a tank or retention pond, are needed for the water that drains from the roof. This integrated approach simplifies the overall stormwater management strategy for the building.

The green roof at Yesler Terrace exemplifies sustainable urban development. By incorporating vegetation into the built environment, the project promotes biodiversity, reduces the urban heat island effect, and improves air quality. The Purple-Roof system's ability to manage stormwater effectively also contributes to cleaner waterways and reduced pollution levels.

The installation of the Purple-Roof system at Yesler Terrace enhances the building's aesthetic appeal and provides significant environmental benefits, making it a model for future urban development projects. This project demonstrates the effectiveness of advanced green roof systems in urban environments, highlighting the importance of sustainable building practices in modern urban planning.

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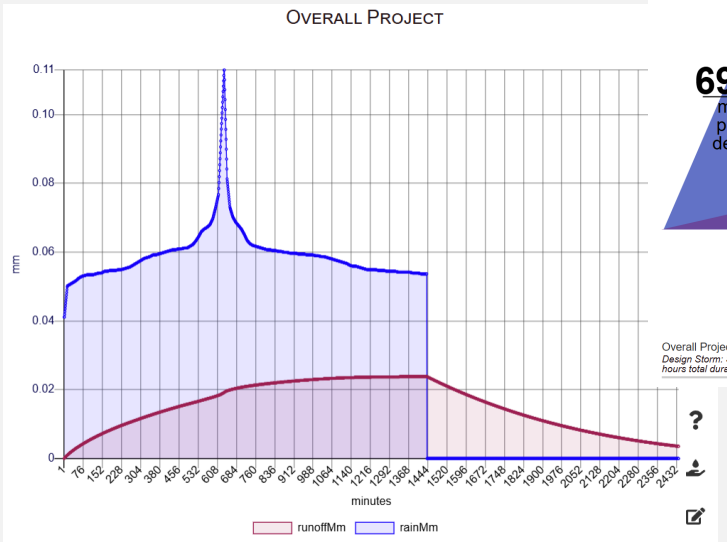
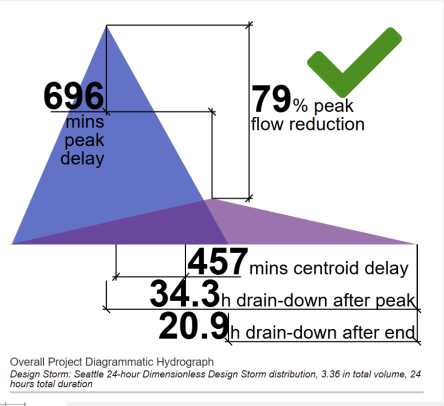
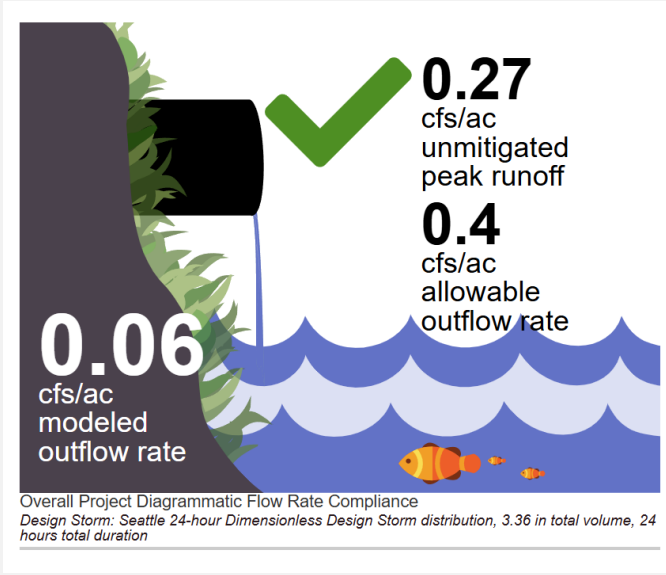
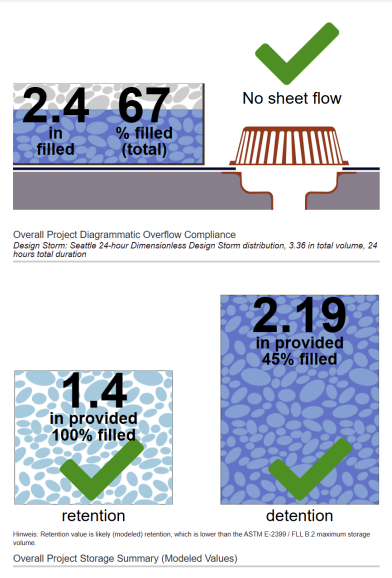
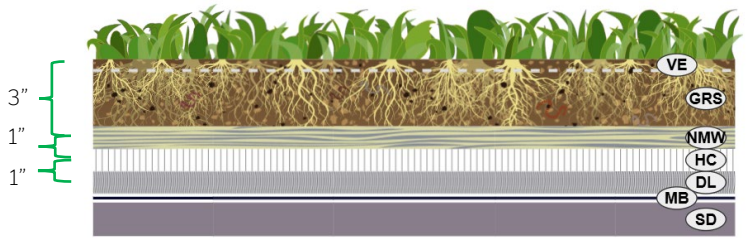


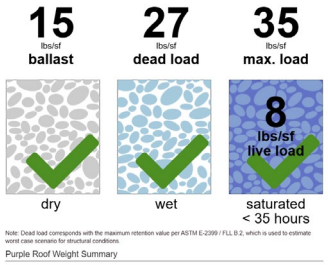






VEGETATED “3+1+1” PROFILE





	thickness (inches)	component	use
VE	0.5	Sedum Mat	Vegetation prevents erosion of the growing medium and is the primary driver for evapotranspiration (retention).
GRS	2.5	Green roof soil	Engineered soil media (or green roof soil) is the primary rooting medium and nutrient source for plants, provides weight (ballast) to prevent wind uplift, and retains water.
NMW	1	Needled mineral wool	Needled mineral wool layer manufactured from 100% rock that serves to efficiently retain stormwater, and serves as a secondary rooting medium.
HC	1	Honeycomb	Water storage reservoir consisting of a series of vertical tubes that detain (hold) water for up to several hours after rainfall.
DL	0.2	Detention layer	Specialized drainage composite that regulates flow rates, particularly during large storms.
MB	0.25	Waterproofing Membrane	Water-impenetrable membrane that prevents water penetration into the building.* Thickness of membrane per specific product selection.

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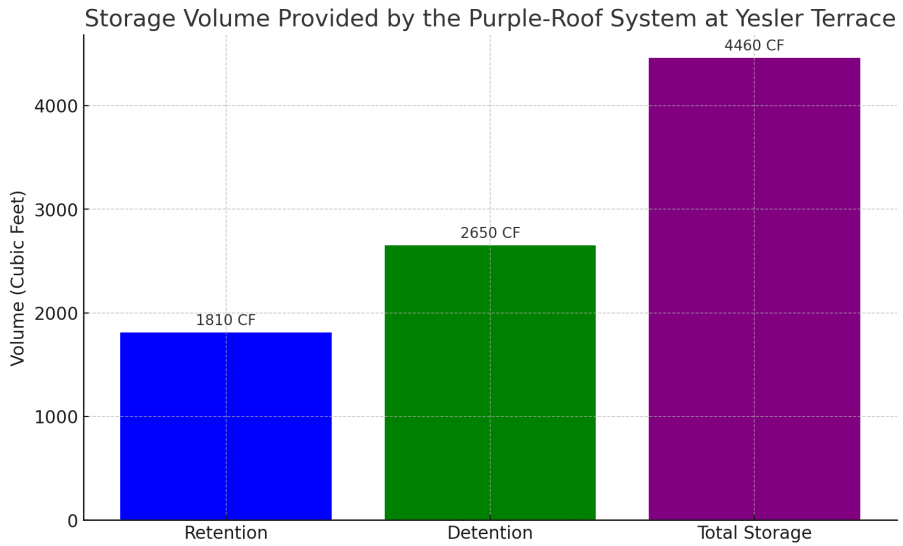

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Equivalent to 3.8 standard ocean containers of storage

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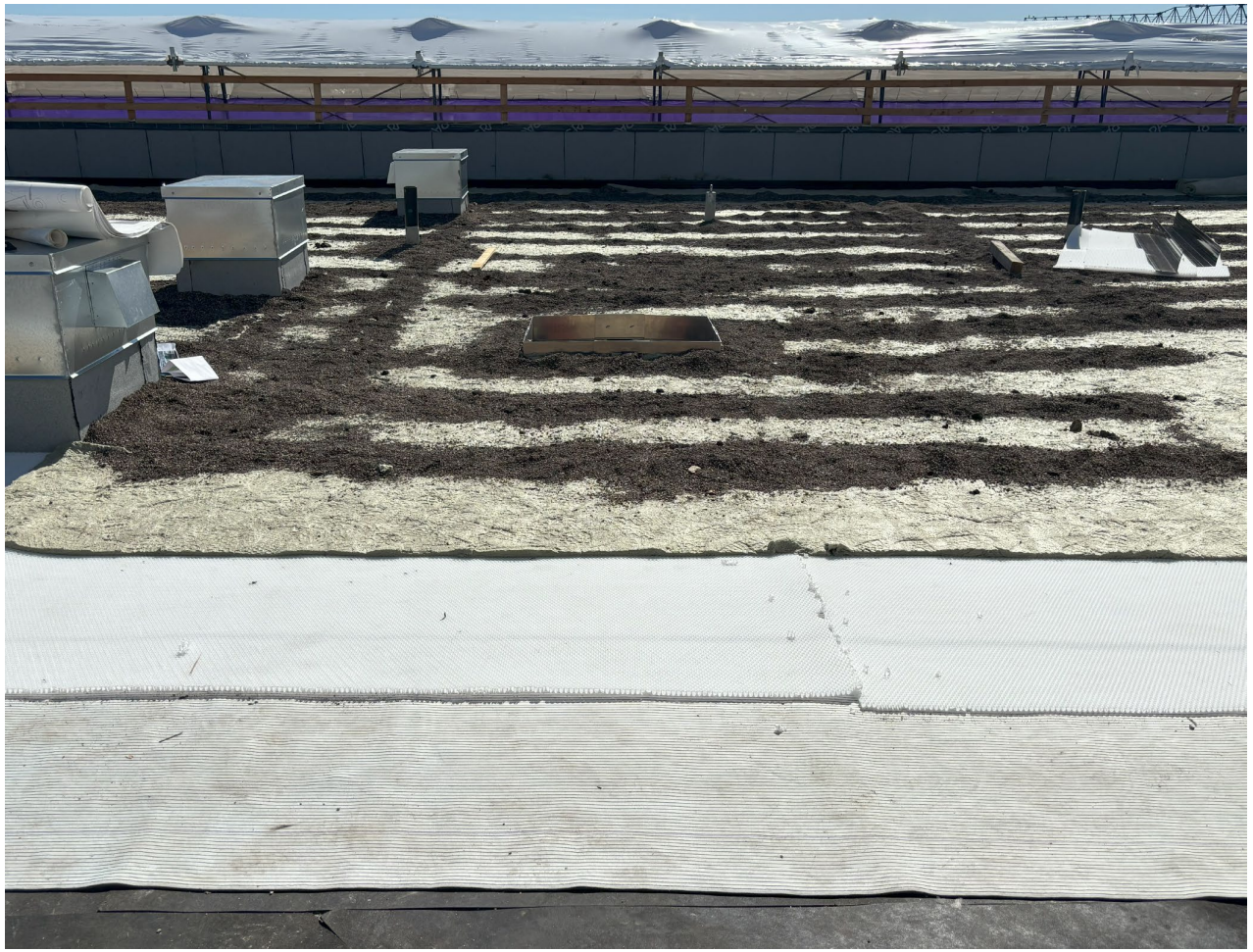

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Project Information:

Location:	821 S. Washington, Seattle WA
Client:	Seattle Housing Authority (SHA)
Design Architect:	GGLO
Installer:	Teufel Landscape
Civil:	SvR Design
Landscape:	Site Workshop
Waterproofing:	Soprema