

The WaterHub at Duke University

Program Need:

The WaterHub is an eco-engineered wastewater treatment plant designed to provide on-demand reclaimed water as make-up water for non-potable sources at the University's utility plants. The WaterHub will significantly reduce the University's overall impact to the environment, while conserving community water resources for more beneficial purposes.

Project Scope:

The WaterHub Project will include:

- Process Treatment Plant
- Greenhouse Space
- Office and Lab Space
- Mechanical/Equipment Area
- Educational and Outreach Space



Gross Square Feet (new)	7,000
Construction Start	January 2019
Architect	FLAD Architects

The process design for the WaterHub uses adaptive technologies to break down organic material more efficiently and with lower energy and physical footprint requirements than traditional activated sludge treatment systems. By design all treatment is carried out below the surface where odors are mitigated by covering and sealing tanks with vapor barriers, aggregate, and natural vegetation. This innovative design allows the WaterHub to provide on-demand recycled water and enhance the academic research and community outreach activities.

Architecture & Engineering:

The basis of the design will be a roughly 7,000 square foot facility with a greenhouse, mechanical area, storage and office/lab space. The building façade & cladding are flexible with various design options for a seamless integration into Campus aesthetics.

Site/Location:

The location of the WaterHub is adjacent to Chemistry gated parking lot and Biological Sciences greenhouses. This site location offers close proximity to Duke pond and Chiller Plant 2. The site also offers access to a large sewershed and has limited future development potential.

Sustainability:

This project will be an example of water reuse and sustainability across campus. The WaterHub will conserve community water resources, reduce nutrient load on the system and reduce the overall strain on downstream municipal infrastructure but will not seek USGBC's LEED certification.