

# How we're helping to combat the global water crisis

According to the New York Times<sup>1</sup>, an imminent crisis will affect a quarter of humanity in the years to come: the possibility of running out of water.

With 17 countries around the world currently experiencing high water stress, including the U.S., what can we do to help combat this issue?

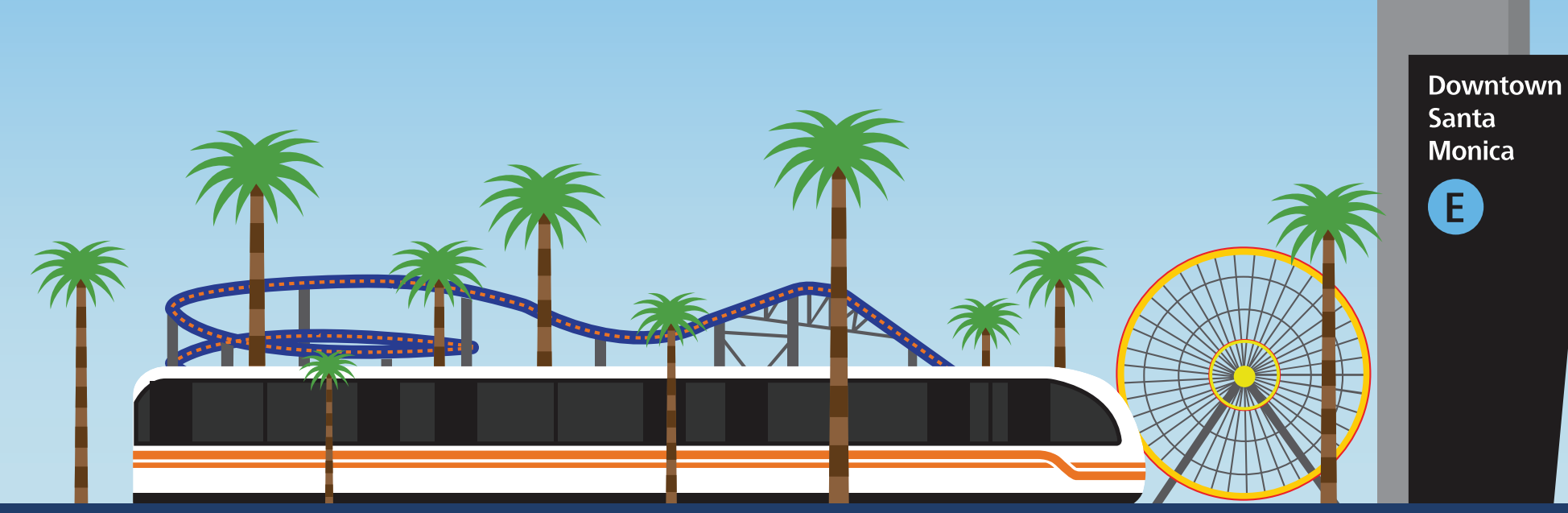
At Skanska, we are committed to building sustainably, and that includes saving water. In honor of World Environment Day, we are highlighting four Skanska projects across the country that are helping make a difference.

## Expo Line Phase 2

Los Angeles, California

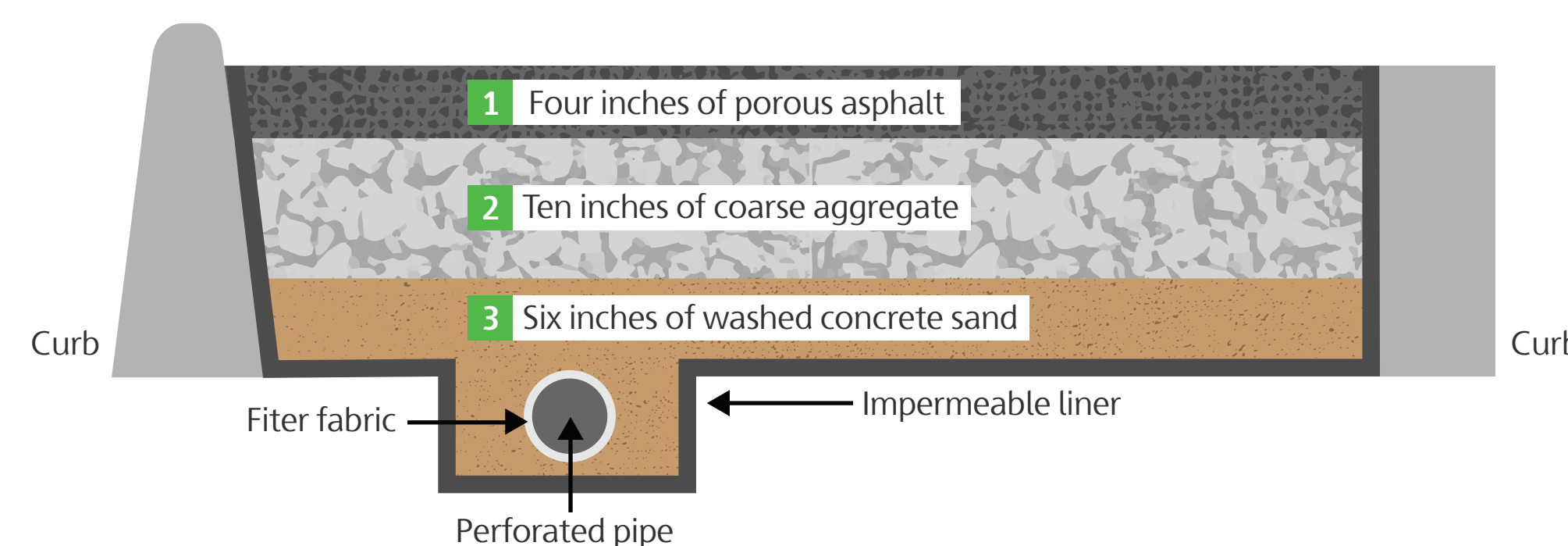
Seven miles of LA Metro light rail service that connects downtown Los Angeles to Santa Monica Beach.

 The first transit project in the U.S. to receive Envision Platinum certification



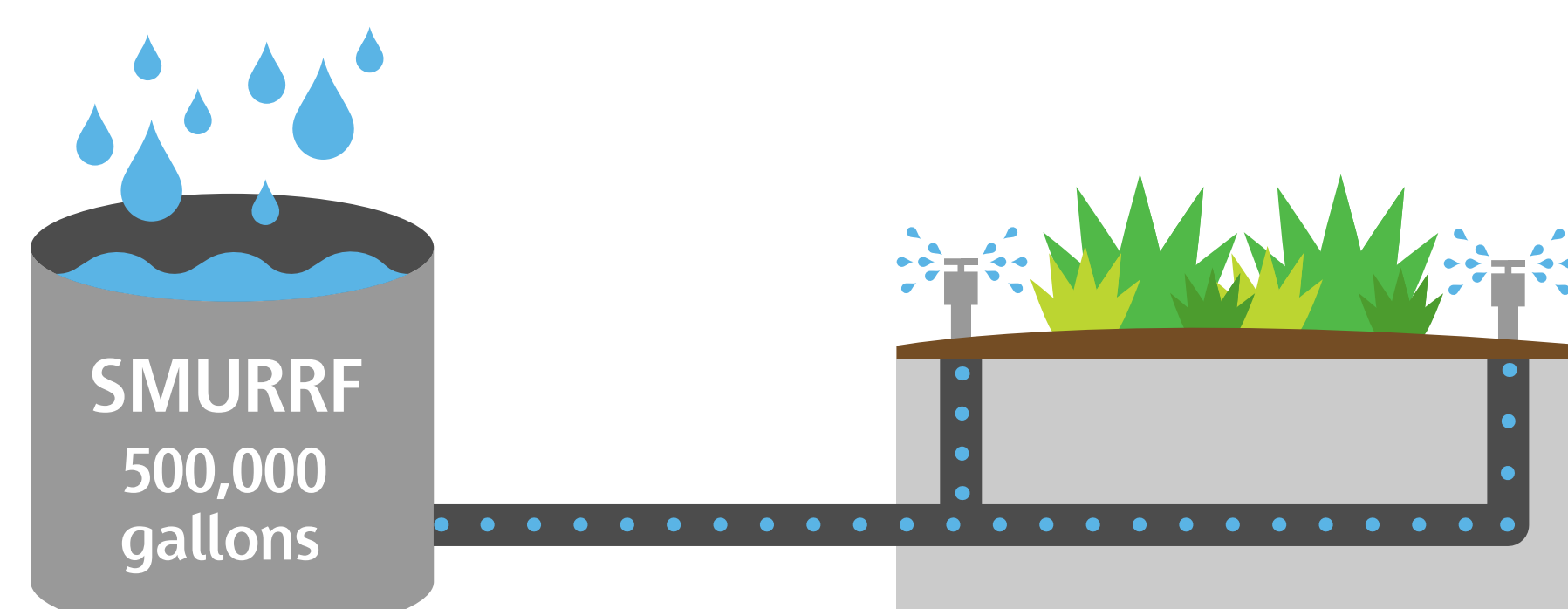
## Porous pavement to reduce water pollution and recycled water for irrigation

**40,000 square-feet of porous pavement is installed at parking stalls for two of the train stations.** The pavement consists of three layers—porous asphalt, coarse aggregate and washed concrete sand.



Below the sand sits a perforated pipe wrapped in filter fabric that prevents toxins and large debris from entering the storm drain. This enhances the water quality of the Pacific Ocean.

Recycled rainwater and greywater is sourced from the Santa Monica Urban Recycled Runoff Facility (SMURRF) for the project's 340,000 square-foot landscaping irrigation system.



**Deciduous plants, which are climate-adaptive and require less water,** thrive in landscaped areas around the stations.



### What is the impact on the local community?

The porous pavement slows down the rate at which water leaves the site and filters water entering the culvert. Since the water is going through different layers, and it's not just running along the curb, it prevents wrappers, plastics or other trash from ending up in the Pacific Ocean. We helped preserve Santa Monica's beautiful coastline by simply changing the way we built a parking lot.

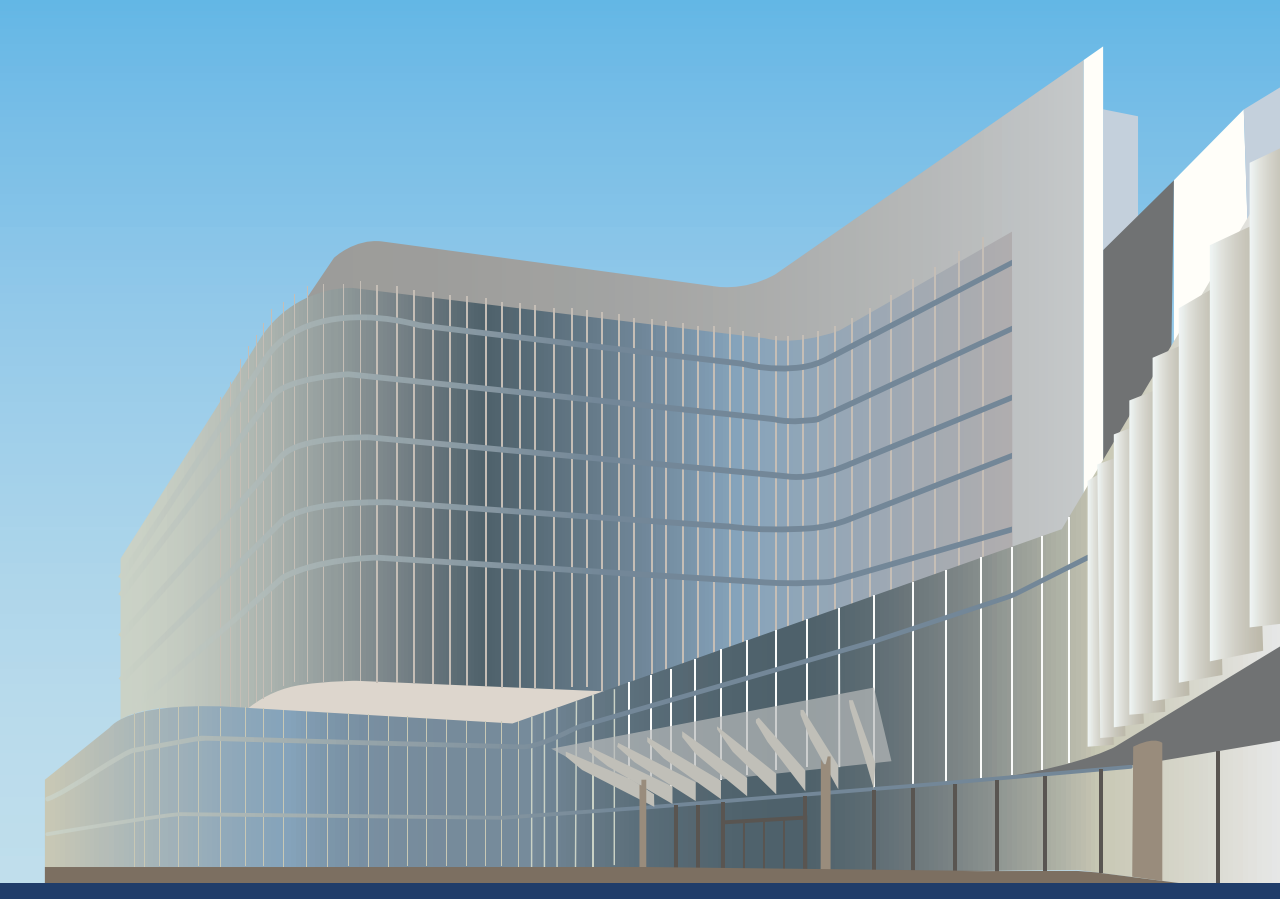
**John Bello**, project manager  
ENV SP, WELL AP, ARCSA AP, LEED AP BD+C

## University of Virginia Hospital Expansion

Charlottesville, Virginia

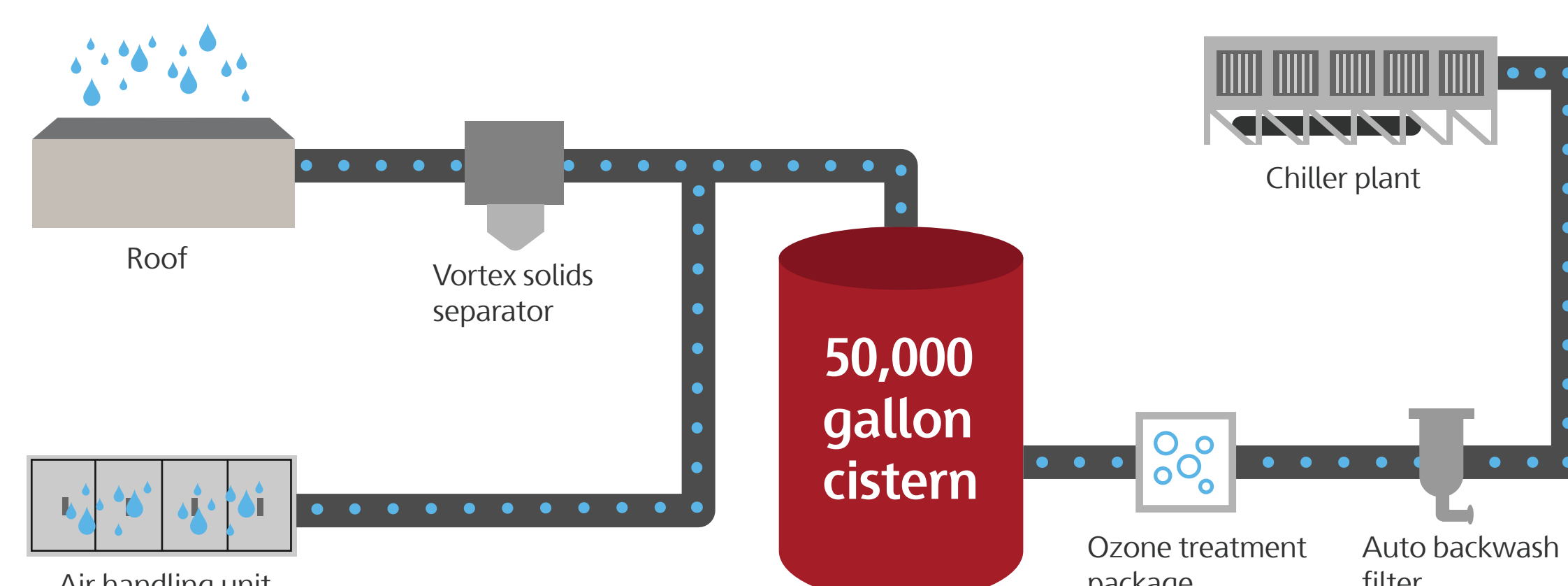
The expansion of the emergency department, operating rooms and inpatient beds at UVA's hospital.

 Pursuing LEED® Silver

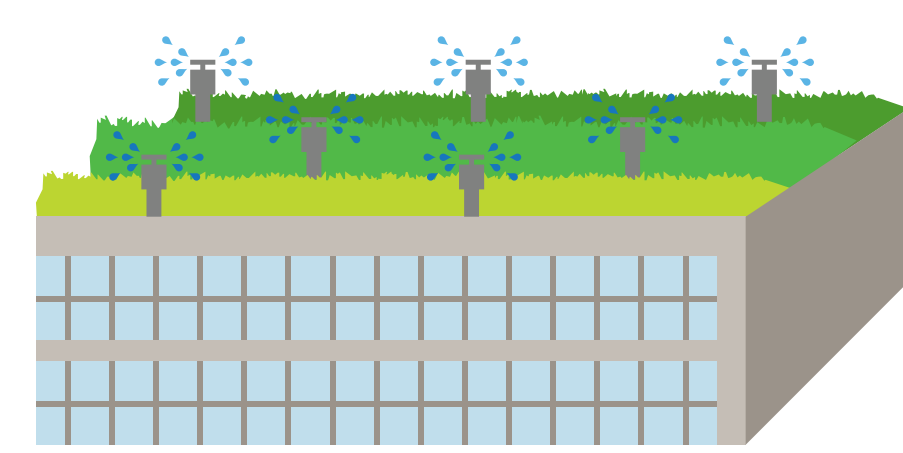


## Recycled rainwater for chiller plant and irrigation

Rainwater that is collected on the roof and filtered through a vortex solids separator combines with condensation from the air handling unit in the **underground 50,000-gallon water cistern.**



Treated rainwater is pumped out of the cistern through an ozone treatment package and treated before being diverted to the adjacent **campus chiller plant, which is tied into the UVA hospital.**



Treated rainwater is pumped out of the cistern to **irrigate the plants and grasses throughout the green roof system.**

Diverting rainwater from the roof and condensation from the air handling unit to the underground cistern will **save 3.1 million gallons of potable water per year.**

 x **3,100,000**



### What is the impact on the local community?

The rainwater reclaim system will reduce the water footprint of the entire campus by supplying a significant amount of water to the chiller plant and the green roof irrigation system. Hospital staff and patients will be able to enjoy the benefits of the green roofs, including separate employee and public sitting areas to be opened in the near future.

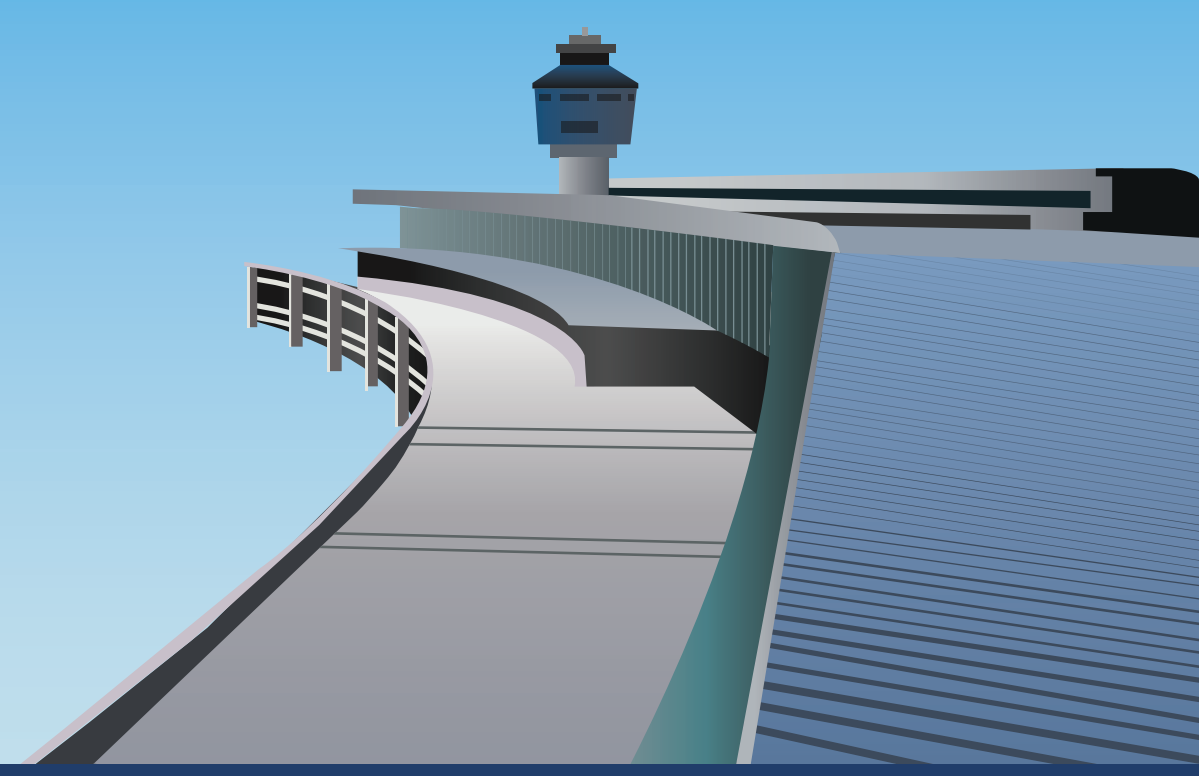
**Mark Ferguson**, MEP project manager

## LaGuardia Airport, Terminal B Redevelopment

Queens, New York

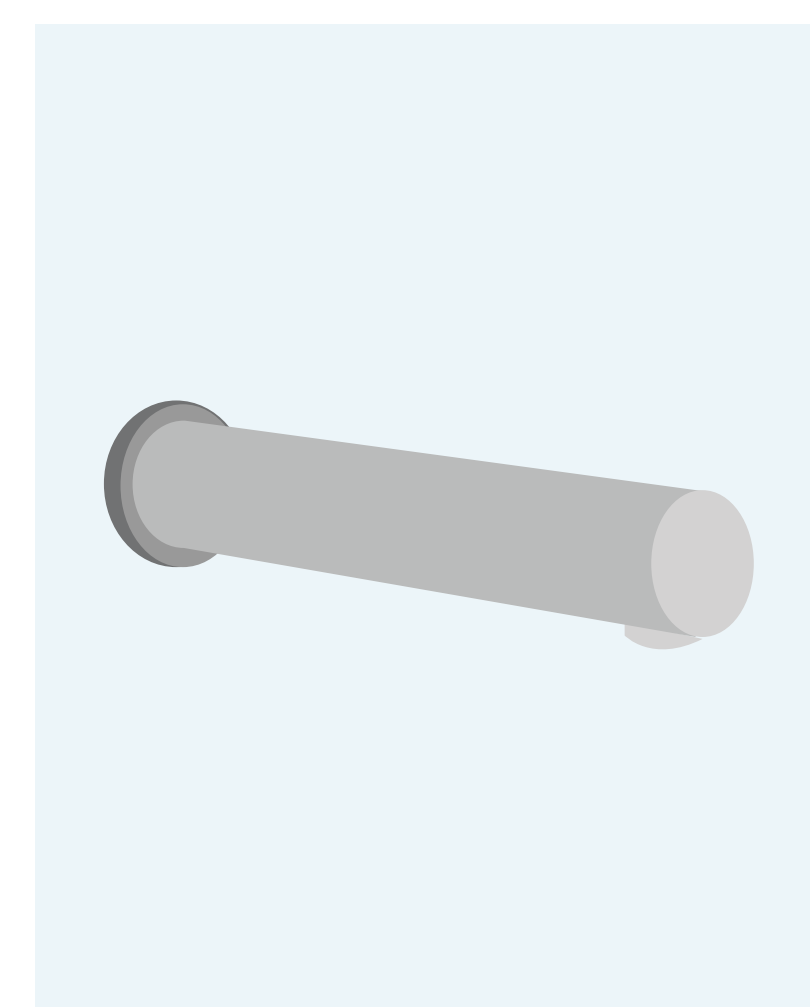
A terminal redevelopment at one of the country's busiest airports.

 The first project in the world to earn Envision V3 Platinum certification and pursuing LEED® Gold

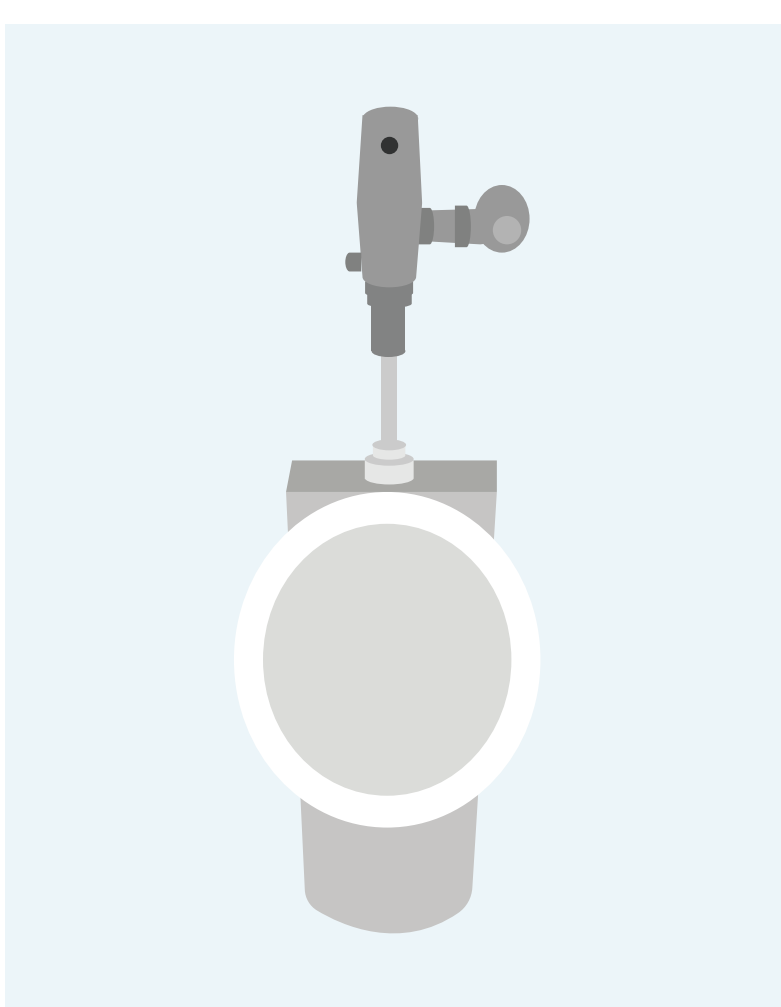


## Reduced indoor water use with low-flow fixtures

The installation of low-flow fixtures **reduces indoor water use by 40 percent.**



**Motion sensor faucets** eliminate unnecessary use of water by stopping the flow of water if a user is not detected.

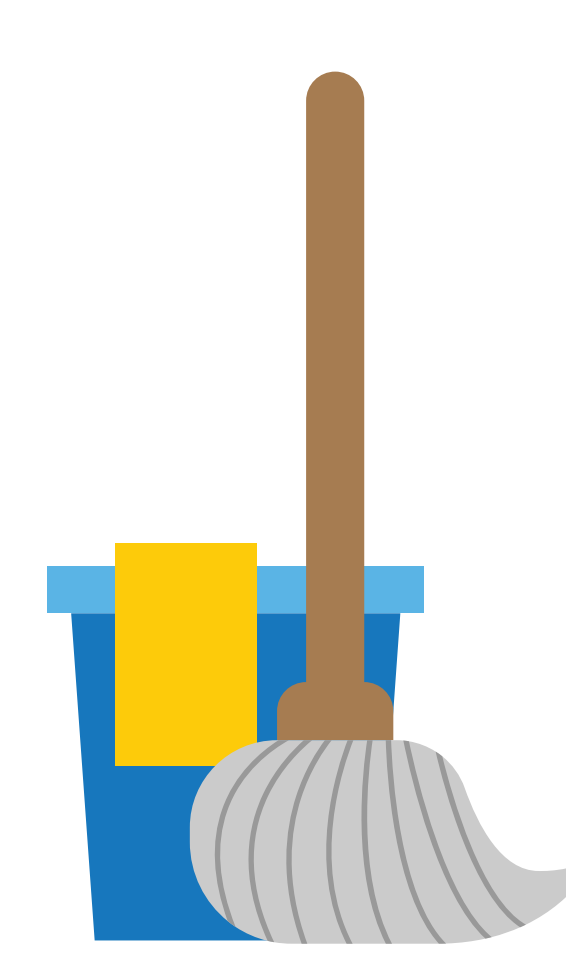


**High efficiency urinals** flush at 0.125 gallons per flush, which is 87 percent of the current U.S. standard.



**High efficiency toilets** flush at 1.1 gallons per flush, which is 31 percent of the current U.S. standard.

Rainwater will be captured from the roof of the Headhouse and fed into a 98,000-gallon underground water cistern. The groundwater will be used for irrigating the surrounding landscape, **with the goal of eventually reusing the water for indoor applications, like cleaning.**



Our team conducted a pilot program that saved 75,000 gallons of water by **reusing groundwater pumped from excavations to make lightweight concrete** instead of tapping potable water sources.



### What is the impact on the local community?

In terms of the environmental impact, the less water that is being used, the more energy we save, because that water ultimately ends up in a sanitary system, which flows into New York City's wastewater treatment plant. In general, it takes a lot of energy to pump all the water through the treatment process.

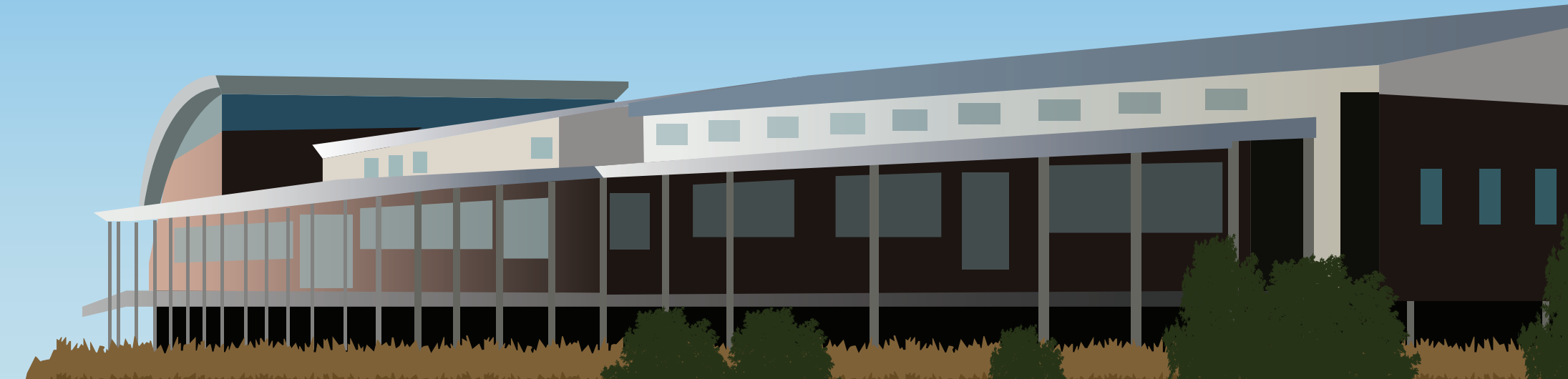
**Chris Golden**, project manager

## Brock Environmental Center

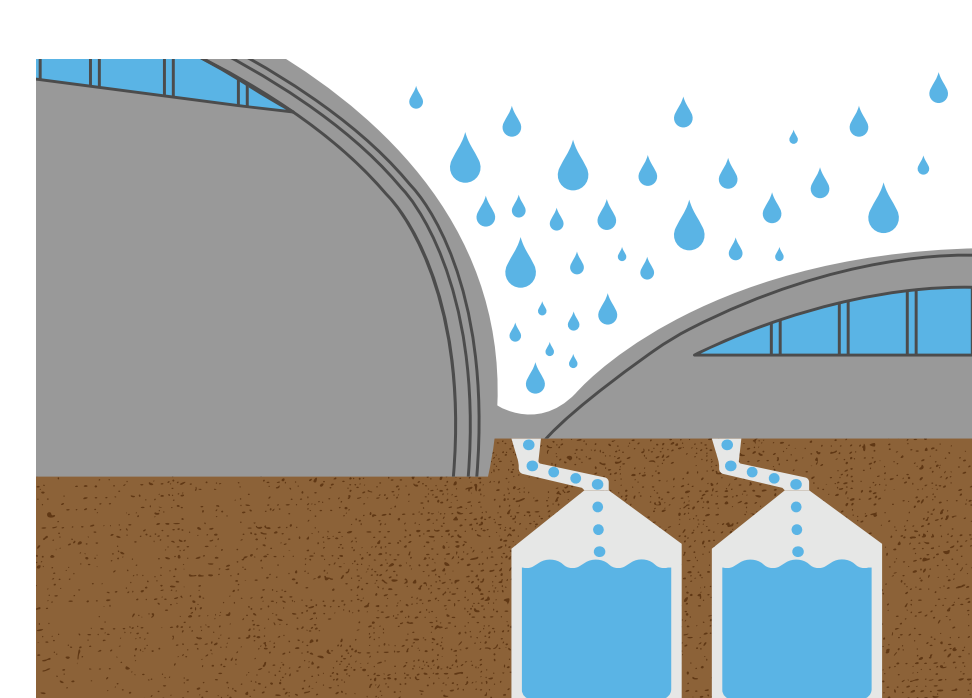
Virginia Beach, Virginia

Chesapeake Bay Foundation's office in Virginia Beach that educates visitors on the local environment.

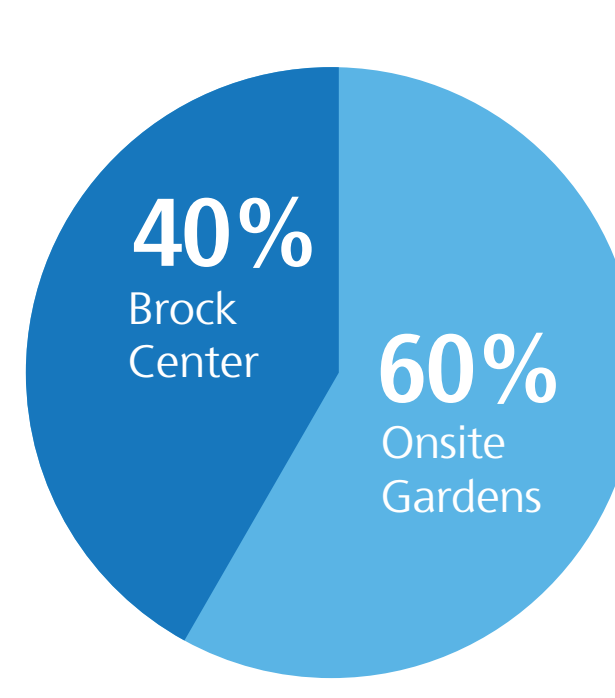
 Living Building Challenge certified



## Recycled rainwater for drinking water and beer



Rain falls on the roof and is funneled into two large cisterns underneath the building, where it passes through a filtration system and **supplies all the building's water needs, including drinking water.**



The Brock Center uses 40 percent of the rain captured from the roof. The remaining water is **diverted to onsite rain gardens of native grasses, flowers and shrubs.**

The Brock Center is the first commercial building in the continental United States permitted to **treat rainwater to drinking water standards.**



In 2017, Pleasure House Brewing in Virginia Beach **used 300 gallons of treated Brock Center rainwater** to brew the first batch of Rain Barrel beer.



### What is the impact on the local community?

The biggest benefit of the rainwater system is being able to drink rainwater and to show it has been done—we are leading by example.

**Megan O'Connell**, project manager

### Sources:

<sup>1</sup>[www.nytimes.com/interactive/2019/08/06/climate/world-water-stress.html](http://www.nytimes.com/interactive/2019/08/06/climate/world-water-stress.html)