AUSTIN COMMUNITY COLLEGE HIGHLAND CAMPUS

In 2010 Austin Community College (ACC) was envisioned to transform the aging Highland Mall in Central Austin into a state-of-the-art college campus and regional center for workforce training and lifelong learning. The new campus encompasses 200,000 square feet and features modern instruction space, science labs, tutoring space, library, student commons, faculty offices, and ACCelerator – a high-tech learning lab designed to enhance student success. In its second phase of the revitalization, ACC included a rainwater and A/C condensate storage cistern to collect and store water for irrigating an adjacent 2.6-acre public park.

With the Highland campus, ACC intends to serve as an anchor for the larger redevelopment of the Highland area into a vibrant, walkable, and sustainable mixed-use district. In keeping with the institution's ambitious sustainability goals, ACC has a standard practice of including rainwater and A/C condensate collection in all their new development. Pushing the envelope on including sustainability elements, ACC designed their onsite water reuse system to collect rainwater and A/C condensate from the adjoining building and store it in the 680,000 gallon cistern constructed under their parking garage. Rainwater and A/C condensate will be treated, stored, and then used to meet the outdoor irrigation demands of the public green space and park. Final design of the treatment process is still underway, but given the proposed sources and end uses, it is expected that the collected water will undergo simple filtration and minor disinfection with either UV or Chlorine to allow for spray irrigation. The onsite water reuse system includes a backup supply from the City of Austin's potable water system should the collection cistern run dry, and the water leaving the cistern will be metered to track how much potable water is being saved.

Drivers

ACC included an onsite water reuse system in their project to offset the potable water demands of their project, taking a long-term view to address the water supply challenges in Central Texas. ACC's intention to include as many sustainability practices as they could in the project design, even in an unassuming parking garage, was an added driver. Additionally, including the cistern allowed them to earn points for ParkSmart certification, a program that defines, measures and recognizes high-performing, sustainable garages. The onsite reuse system will also serve as a demonstration project and education resource for faculty and students engaged in sustainability topics.

Operations and Maintenance

The operation and maintenance for the onsite water reuse system will be handled by ACC's in-house maintenance staff. The water distribution system is sub-metered and set up to alert the team in real-time through the Building Management System (a computer-based control system installed in buildings that controls and monitors the building's mechanical and electrical equipment) if there are any issues. In addition to monitoring the performance of their rainwater and A/C condensate collection system, a building maintenance dashboard will serve as another educational resource for ACC students.

System Cost

The total cost for this system is estimated to be $2.2 million. The overwhelming majority of this cost is the storage system and piping. However, it should be noted that the cistern was designed and constructed early in the project, before estimates of supply and demand were developed. As a result, the storage is able to capture more water than is actually needed for the park irrigation, and the cost for the anticipated supply is potentially higher than a typical project providing $1.8 million GPY of irrigation supply. If new supplies are identified, this project has the potential to provide additional water at only minimal additional cost. The design and installation of the treatment system for this project has been quoted at under $10,000.

Ownership

The onsite water reuse system at the ACC Highland campus is owned and operated by Austin Community College.

Reference Contact

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Project Status:	Storage: completed Treatment: in design
Size:	415,000 sq.ft.
Onsite water sources:	Rainwater, A/C condensate
End uses:	Irrigation
Treatment Train Components	TBD
Potable water savings:	1.8 Million GPY
Estimated utility savings:	$10,000
Drivers:	ParkSmart points, Organization sustainability goals, demonstration project for students
System Cost:	$2.2M
Annual O&M Cost:	TBD
Owner:	Austin Community College