



ULTRA-GREEN, INNER-CITY DEVELOPMENT

Takes Root in Tampa Thanks to StormCapture® System

Tampa, FL

To help create a sustainable, environmentally friendly community, Tampa Bay Housing Authority turned to a unique, solar powered stormwater harvesting system for their new Ultra-Green Inner-City Development known as “Encore Tampa” in Florida. The elite stormwater management system, located under the new community park, controls and harvests stormwater runoff to irrigate the new open space park. The \$450 million development includes 28-acres of sustainable, mixed-use properties that are all designed to create an environmentally sensitive ecosystem that meets current residents’ needs while preserving resources for future generations.

CONSTRUCTION CHALLENGE

Oldcastle Infrastructure designed and provided the modular underground retention system for the new stormwater management system, engineered by Clearwater-based Cardno TBE to store, treat and harvest stormwater runoff on the 28-acre site. The precast concrete StormCapture® retention system controls the volume and discharge rate of stormwater runoff. The engineered design maximizes storage volume while minimizing the project’s footprint and cost. Furthermore, the innovative design allowed for a quick and efficient installation.

PRECAST SOLUTION

“One of the coolest features that we have done from a sustainability perspective. I just don’t think anything can top the stormwater vault. This is one of the most unique stormwater management systems in the state because of its size - 18,000 square feet of vault which accommodates 33,000 cubic feet of stormwater”, said Marc Marlano, Assistant Director of Site Development, Cardno TBE, in a YouTube video featured on the ENCORE site. “If they had used a conventional stormwater system, they would have lost three developable sites. It is by far one of the slickest stormwater harvesting features in the state. There is no question about it. It’s just not done at this scale.”

DESIGN & CONSTRUCTION TEAM

Owner
Tampa Bay Housing Authority

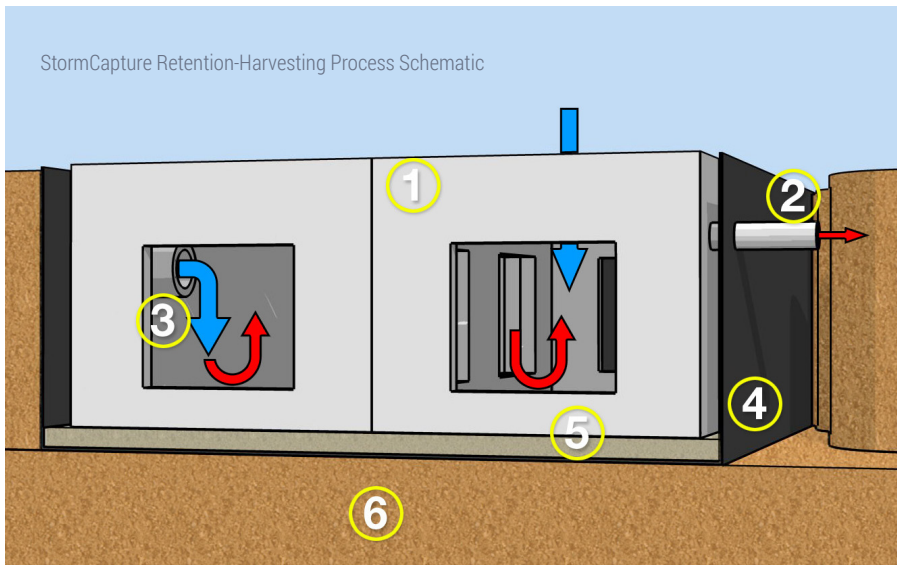
Engineer
Cardno TBE

General Contractor
Malphus and Sons, Inc.

Project Manager
ZMG Construction

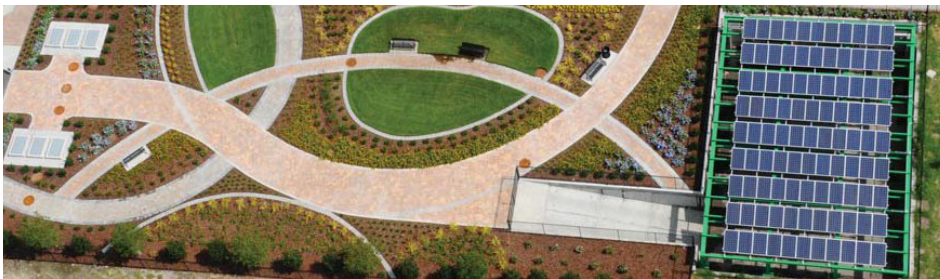
Manufacturing Facility
Oldcastle Infrastructure
Orlando, FL

Ultra-Green, Inner-City Development Takes Root in Tampa Thanks to StormCapture® System, Tampa, FL



The 18,000-square foot stormwater harvesting system includes 146 StormCapture modules that can hold up to 33,000 cubic feet of water before recycling it for irrigation use, two nutrient-separating baffle boxes with adjacent sediment chambers for pre-treatment, and irrigation equipment. All surface stormwater runoff is collected from the site, piped into the nutrient-separating baffle boxes and

sediment chambers, and stored in the StormCapture modules for irrigating the open space. control system - with a long-term design focused on accessibility for inspection and maintenance. System owners will be required to certify proper operation, as well as annual inspection and maintenance of the system as per local building permits.



SCOPE OF WORK

Complete manufacture and installation of a new stormwater management system, including:

- 146 10-foot tall StormCapture modules
- Perimeter walls for the sand filter assembly
- Precast ramp assembly into the sand filter
- Two nutrient-separating vaults
- Two sedimentation vaults

Oldcastle Infrastructure also supplied precast perimeter walls for the sand filter assembly, precast ramp assembly for equipment access into the sand filter, as well as sanitary manholes and inlets. Oldcastle also supplied 120,000-square feet of Belgard pavers for intricate hardscape and permeable walkways for the main thoroughfare to reduce the heat-island effect and aid in stormwater management.

KEY POINTS

- StormCapture modules for detention and harvesting
- Treatment-train system for pre-treatment and irrigation
- Maintenance modules for long-term service and maintenance
- Impermeable membrane for watertight system
- 15,000-square foot park on top of StormCapture system

About Oldcastle Infrastructure

Oldcastle Infrastructure, A CRH Company, is the leading provider of building materials, products and services for infrastructure projects to several market sectors nationwide, including: Building Structures, Communications, Energy, Transportation and Water.

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