



# LUXURY TOWNHOME DEVELOPMENT Shines Thanks to StormCapture<sup>®</sup> Rainwater Detention System Charlotte, NC

The Cottages at Providence is a new luxury townhome development by Wendy Field Consulting. The site designer Orsborn Engineering Group of Charlotte, North Carolina, needed a combination stormwater detention and sand filter system to control and remove pollutants from post-construction runoff for this very dense urban development.

In order to accomplish this, the site required a 17,000 cubic foot stormwater detention and sand filter system.

## PRECAST SOLUTION

Oldcastle Infrastructure supplied the stormwater detention and sand filter system at the new development by incorporating a StormCapture<sup>®</sup> modular precast concrete vault system.

Orsborn incorporated the sand filter and detention chamber into a single stormwater management system using 27 StormCapture modules. The system, installed under the driveway between two rows of townhomes, includes 19 retention modules, six sand filter chambers and two pre-treatment sedimentation modules.

## DESIGN & CONSTRUCTION TEAM

### Developer

Wendy Field & T.H. Dorsett, Inc.

### Civil Engineer

Orsborn Engineering Group

### General Contractor

Heard Ratzlaff Construction

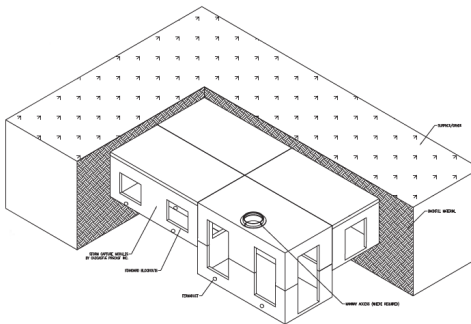
### Installation Contractor

Siteworks LLC

### Manufacturing facility

Oldcastle Infrastructure  
Concord, NC

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Typical StormCapture ISO View

The pre-treatment chambers trap sediment and floatables, while the sand filter uses sand media to filter smaller particles and other pollutants. The detention chamber stores runoff while allowing sufficient time for treatment through the sand filter. Discharge from the system is controlled by an orifice plate at the outlet pipe. The system is designed to meet AASHTO HS-20-44 for traffic loads and has multiple manholes for future maintenance access.

The stormwater management system receives water from onsite storm drains and downspout collection pipes, as well as from a grate directly over the top of one of the pre-treatment modules. Runoff then passes through the StormCapture system and then out to the storm drains.

### PROJECT DETAILS

#### Stormwater Detention and Sand Filter Stormwater Management System

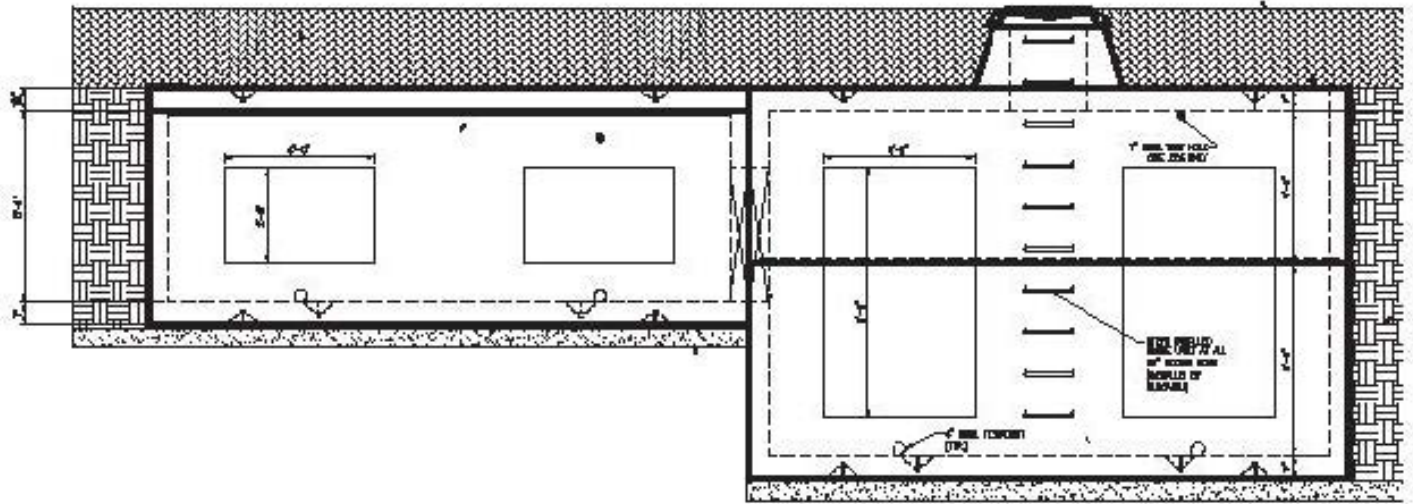
Oldcastle Infrastructure Products:

19 - 5' tall StormCapture retention modules

6 - 9' tall StormCapture sand filter chambers

2 - 9' tall StormCapture sedimentation modules

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**“The success of this job was due to the pre-construction meetings held by Scott Bovit (Owner) of Siteworks and his team. The owner and engineer were delighted to see the ease of the install and praised the quality of the material supplied”.**

Scott Polk  
Oldcastle Infrastructure

### DAY 1

The base sections of the sand filter, detention and pre-treatment modules were installed.

### DAY 2

The modular nature of the StormCapture system provided the contractor with an opportunity to install all of the internal sand filter components (under drain piping, stone and sand media) very easily while the system was still open.

### DAY 3

The tops of the modules were installed and backfilling operations were completed.

## 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.

## For More Information Contact:

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