

Coldwater Reserve Case Study



Project Information

Level of Certification: Four Stars
NGBS Certified

Location: Severn, MD

Size of Site: 27-acre infill site

Site Details: 50 single-family lots

Year Site Development Began: 2010

Project Team

Developer: Craftsmen Developers

Designer: Sigma Engineering

Verifier: Abell and Associates

Meaningful Partnerships: Sigma
Engineering, Severn Run Natural
Environmental Area

Key Features

Innovative Practices:

- A cluster development, allowing for smaller lots and minimizing encroachment into preservation areas.

Wildlife Habitat:

- Over ten acres of the site, adjacent to the Severn Run Natural Environmental Area preserved in wetlands and forest conservation.

Mass Transit:

- Located 3 miles from Odenton MARC Station (commuter rail and bus service).

Specifics

Coldwater Reserve exemplifies how green neighborhoods can become the new normal while meeting federal, state, and local regulations. The design of Coldwater Reserve includes regionally appropriate stormwater management features, conservation wetland and forest areas and clustered lots. These features helped improve the infill site to better mimic the natural environment and earn a four-star NGBS certification.

Coldwater Reserve's stormwater management plan was designed to meet the state of Maryland's 2007 stormwater regulations. The new regulations introduced environmental site design (ESD) as the guiding principle for stormwater management and defined its goals as "using small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources." To meet the ESD, Sigma and Craftsmen designed their version of a Coastal Plains Outfall system to accommodate the site's stormwater and runoff.

The Coastal Plains Outfall system includes four tiered pools that collect sediments and other pollutants from stormwater before it can reach local streams on the property. Each ponded areas represents four distinct vegetative habitats with native flora. The Coastal Plains Outfall design falls somewhere between a large detention pond and a bioretention basin, creating a model system that innovatively meets unique water quality and volume requirements.



Site Entrance

Key Features Cont.

Soil Disturbance and Erosion

- Approved Sediment and Erosion Control measures inspected by Anne Arundel County prior to clearing and grading.
- Primary electric, phone, and cable TV were installed in common trenches.
- Public water, sewer, and storm drains were installed within the public road bed.

Stormwater Management:

- Stormwater management design uses an existing stream as the final outfall. A Coastal Plains Outfall design will be used to minimize the quantity flow into the stream.

Landscape Plan:

- New plantings include street trees, reforestation in conservation areas, wetlands mitigation and a detailed planting plan for the Coastal Plains Outfall for stormwater management.

Slope Disturbance:

- 92.3 percent of the roads are aligned with natural topography.

Existing and Recycled Materials:

- The existing asphalt of Burns Crossing road was milled and reused as sub-base for new road construction.

The Coldwater Reserve team set aside over one-third of the property for a wetlands and forest conservation area. Adjacent to the 1,600 acres of the Severn Run Natural Environmental Area, the site's 10-acre conservation area protects extremely sensitive wetlands. A cluster design of the site's 50 lots added space for the conservation areas, while maintaining green space throughout the site. In the preservation area, the team conducted reforestation efforts, added new plantings that were integrated with the Coastal Plains Outfall system and preserved old horse trails that are used today alongside pedestrian trails. The preservation area, trails and an off-site fishing area are amenities that create a connection to nature for residents.

Satisfying Maryland's regulations was challenging due to the sheer amount and intensity – particularly for stormwater regulations. However this challenge set Coldwater Reserve up for success when seeking NGBS verification. By enduring this and ultimately receiving NGBS rating, the project was provided with this nationally recognized standard that can augment any sustainable, as well as marketing, efforts to home buyers or home builders.



Unit Exteriors

All information in this case study was provided by one or more members of the project team.

For information on certifying your project to the NGBS, visit homeinnovation.com/green