

## Maintaining the Historic Legacy



Commodore John Barry Gate, USNA, Annapolis

The US Naval Academy, the undergraduate college for the country's naval service in Annapolis, MD, was originally founded in 1845 by then-Secretary of the Navy George Bancroft. Located on 10 acres of old Fort Severn, the academy campus is sited where the Severn River flows into the Chesapeake Bay. Across the Severn River is the Naval Support Activity Annapolis, the site of a recent remediation project.

Mark Friar, site construction manager with Agviq LLC, a subsidiary of Point Hope Alaska's parent company Tikigaq, explains that the Severn River is a major tributary to the bay.

"After years of collecting facility runoff, the academy's 4-acre lagoon filled with sediment conveyed by the runoff. A makeshift berm surrounding this area had originally been installed to try and contain sediment, which allows it to settle before the waters flow down a 27-foot slope toward the Severn River through a deteriorated 12-inch corrugated metal pipe, but this area needed an entire overhaul."

Under the Navy's Environmental Restoration Program, the lagoon berm was rebuilt and principal and emergency spillways constructed to contain sediment and prevent erosion from the facility's stormwater runoff.



Aerial view of the spillway, Photo courtesy of AGVIQ, LLC and US Naval Academy

Next to the lagoon is a wetland called Woolchurch Cove, which acts as a collecting site for lagoon spillover during heavy storms. The cove holds sediment as well and allows the collected overflow to simply settle and percolate. “The catchment lagoon receives quite a bit of stormwater from parking lots up above, coming through conveyance pipes and making its way down to the ravine,” he says. “That water flows into the lagoon; adequate protection from sediments reaching the Severn River is of primary concern.”



View of USNA Main Campus across Severn River from Woolchurch Cove at NSA Annapolis



With the approval of the Maryland Department of the Environment (MDE), the effort was tied in with a landfill cap remediation project. Agviq worked on both efforts at the same time.

“When we moved to the site, the existing berm was extremely deteriorated, and we had to be very careful of our construction methods to ensure the berm was stable during construction.”

The Snout and the Best Management Products trash screen were installed during the project.

“We got hooked up with T. J. Mullen and his company, BMP, through our project engineers, CH2M Hill, and the site quality-control manager,” says Friar. “As we were procuring the principal spillway concrete structure, now in the lagoon, they suggested we include the Snout and trash screen from BMP to achieve design requirements in providing protection of the principal spillway inlet from debris. The Snout and trash screen specifications were provided to NAVFAC for review and subsequently approved for use on the principal spillway structure.”

Today the berm has been successfully rehabilitated with erosion mats, riprap, tons of gravel, topsoil, grass, and realignment of a road. These improvements have made a big difference controlling erosion and ensuring the berm is protected from major storms. The BMP products play a key role, located at the critical point of the principal spillway where lagoon waters are making their final way towards the Severn River. The trash screen keeps large branches and debris from clogging the system, and the Snout funnels clean water through the spillway toward the river.

Friar says, “It’s great to have clients and suppliers who definitely want to be good neighbors to their land and its legacies.”



Mark Friar and a colleague inspect the water quality structure with the SNOUT and TrashScreen

By Barbara Hesselgrave- Excerpted from “Protecting Storm Drain Inlets,” June 2016, [Stormwater Magazine](#)