

# Sediment Season Two Project Bulletin

June 2017

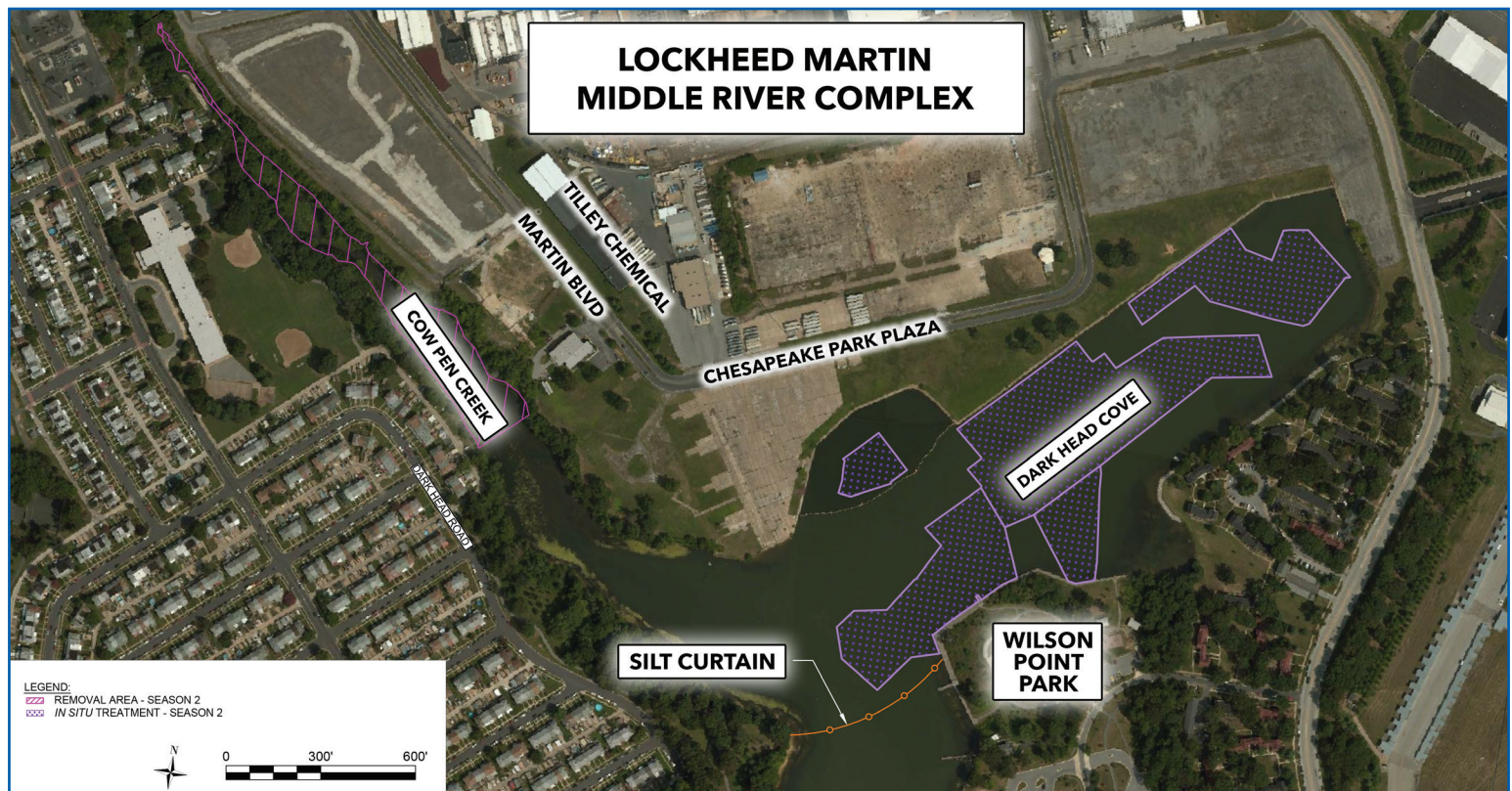
The second and final season of sediment cleanup for the Middle River Complex is planned to begin in June 2017. This season will consist mainly of excavating the streambed of Cow Pen Creek from upstream of the Middle River Complex downstream to the point where the dredging of Cow Pen Creek ended in Season One.

Season One dredging of Dark Head Cove and the lower portion of Cow Pen Creek began in mid-October 2016 and finished in early March 2017. The work was planned to be complete by February 14, the date by which in-water work is typically required to be stopped to protect fish during spawning season. However, several spots required extra dredging to meet cleanup standards. While most of that work was finished before February 14, Lockheed Martin needed additional time to re-dredge one remaining area in the cove. The Maryland Department of the Environment (MDE) granted an extension to March 8, and the work was completed on Saturday, February 18. Placement of a layer of

sand (a “residual management layer”) over the last dredged area was completed by March 3. All in-water work was finished before March 8.

In Season Two, over 12,600 cubic yards (or about 630 truckloads) of sediment will be excavated from Cow Pen Creek. Cofferdams (e.g., sand bag dams and/or water-filled portable dams) will be placed on the streambed. The water within these temporary dams will be pumped out, exposing the streambed for excavation. Fish and other aquatic animals in the area will be netted and returned to the creek downstream of the dammed area. The cofferdams will be installed, removed and reinstalled in sequence as the work proceeds down the creek. Work crews will access the creek from the Lockheed Martin side. Temporary fencing will be placed along the Hawthorne side of the creek. The Lockheed Martin team will also remove any debris and waste materials in the stream bed and along the shore.

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*A temporary bladder dam creates a dry work area.*



*A temporary coffer dam also creates a dry work area.*



*The creek bed will be shaped similar to its present meandering form and wetlands will be restored*

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Sediment in the creek bed will be removed by a track-mounted backhoe. The contaminants being removed are metals (primarily cadmium, but also copper, lead, mercury and zinc), polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs). Excavated sediments will be trucked directly onto the Lockheed Martin property and mixed with an additive used to drain and solidify sediments. Water that drains from the sediment will be collected and treated before discharge. The excavated sediment will be trucked to any one of the landfills in Virginia and Pennsylvania that have been approved by Lockheed Martin and the U.S. Army Corps of Engineers.

Stormwater that accumulates in the open excavation areas will be pumped out, passed through a portable water treatment system using settling tanks, pumps and filtration systems and tested for compliance with the water discharge permit before being released back to the creek downstream of the excavations. This procedure will enable the construction team to better manage stormwater runoff and is being planned with enough capacity to handle a large storm event. The same portable water treatment system will be used to treat water collected from draining sediment excavated from Cow Pen Creek, which is the same process used in Season One Dark Head Cove dredging.

Lockheed Martin has received a National Pollution Discharge Elimination System (NPDES) permit from MDE to release the treated stormwater below the work area back into Cow Pen Creek.

Once excavation is complete, Cow Pen Creek will be restored to a natural condition. The creek bed will be shaped similar to its present meandering form and wetlands will be restored. Native trees, shrubs and plants will be planted.

Clean sand and gravel, along with other natural structures such as root wads, will be placed on the new stream bed to provide good conditions for fish spawning and for other aquatic life. Submerged aquatic vegetation will be planted in the lower portions of Cow Pen Creek.

During the Season Two in-water work window (October 2017-February 2018), a layer of activated carbon will be distributed atop 14 acres of Dark Head Cove to treat those areas *in situ* (or in-place) where concentrations of PCBs are at low levels and dredging does not make sense. (Note: Activated carbon is commonly used in the home in water filters and aquarium filters, among other uses.) A silt curtain will be placed in Dark Head Cove during this time to prevent people from entering the work site, similar to what was in place last winter during Season One activities. The U.S. Environmental Protection Agency (EPA) has conditionally approved using this in-place treatment; it will take time for the activated carbon to integrate with the sediment in the bottom of the cove and become fully effective. Performance monitoring samples will be collected one, three and five years after the activated carbon has been placed. Final approval by the EPA for the activated carbon remedy will occur after confirmation sampling results demonstrate its effectiveness.

## For More Information

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