Fact Sheet

Middle River, Maryland

Middle River Complex

The property consists of eight parcels of land, called tax

production facilities, some operations of Lockheed Martin Mission Systems and Training, and Lockheed Martin Applied NanoStructured Solutions.

Block A contains Lockheed Martin offices. The Maryland Department of the Environment agrees that Block A does not require remediation. However, Block A is subject to the same land-use restriction regarding use of groundwater as Block B because it is also adjacent to Block I.

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reduce potential risks associated with long-term direct contact, uptake of contaminants by fsh, and potential impact to organisms residing in the sediment. (Consumption of fsh taken in these waters is guided by Maryland Department of the Environment and Maryland Department of Natural Resources fsh advisories for the Chesapeake Bay and the Baltimore region, which include the Middle River area.) The potential health risks to people swimming and wading in Dark Head Cove and Cow Pen Creek are within the U.S. Environmental Protection Agency's acceptable risk range and just above Maryland's target, noting that the most impacted sediments are submerged at all times.

Lockheed Martin is currently developing its preferred approach to remediating sediment in Cow Pen Creek, Dark Head Cove and Dark Head Creek adjacent to the Middle River Complex. The approach includes removing about 48,800 cubic yards (3,300 truckloads) of contaminated sediments from more than 12.5 acres; in situ ("in place") treatment to reduce contaminant mobility over an additional 8.5 acres; and monitored natural recovery, relying on natural processes to return sediment to natural levels (for comparison, one football feld is approximately equal to 1-1/3 acre). The preferred approach includes shoreline stabilization, habitat enhancement and creek bed plantings. Lockheed Martin presented this approach to the public, the Maryland Department of the Environment and the U.S. Environmental Protection Agency and received only minor comment. Moving forward, additional tests will assess benthic organisms (such as worms) and environmental conditions in the sediment, which will help determine the level of activated carbon to be used in in situ treatment. Test results will be submitted to regulators for approval and subsequent incorporation into design of the remedy. Lockheed Martin anticipates conducting cleanup from 2016 to 2017.

Because the Cow Pen Creek and Dark Head Cove waters are owned by the State of Maryland and are considered waters of the United States, the Maryland Department of the Environment will make cleanup decisions in consultation with other agencies, including the U.S. Environmental Protection Agency, the Maryland Department of Natural Resources, the U.S. Army Corps of Engineers and the Maryland Critical Areas Commission. The sediment remediation will require additional permits and will include additional opportunities for public review.

Mission Systems and Training and MRA Systems, Inc. Facilities

Lockheed Martin continues to conduct environmental tests in and outside Buildings A, B and C (Tax Block I) to evaluate the extent of contamination in soil, groundwater and sub-slab vapor and assess if there is a potential risk to human health. Soil-gas sampling indicates the presence of volatile organic compounds (VOCs) in several locations under and outside of the buildings. In early 2008, as a precaution, Lockheed Martin installed sub-slab vapor-mitigation systems in the two areas of Buildings A and C where sub-slab vapor concentrations exceed established screening concentrations. The systems have signifcantly reduced VOC concentrations in vapors under the buildings and have helped maintain concentrations in indoor air below the conservative screening levels of the U.S. Environmental Protection Agency and the Maryland Department of the Environment.

Recent air samples collected while the Building A system was shut down for maintenance revealed that concentrations of volatile organic compounds (VOCs) remain below risk levels even when the system is not operating. Nonetheless, the mitigation system will continue to be operated proactively. Monitoring in the Building C basement identifed additional areas of VOCs in sub-slab vapor in the east-central part of the basement. Although indoor air samples do not indicate unacceptable levels, the Building C sub-slab vapor-mitigation system was expanded proactively in 2012-13 to address this area. The mitigation systems may be modifed to increase the capture of sub-slab vapors where necessary and shut down when data indicate they are no longer necessary.

Sampling of indoor air quality in the Lockheed Martin Mission System and Training's Vertical Launching System (VLS) facility in 2006 indicated no need for additional sampling.

Martin State Airport

Lockheed Martin conducts environmental investigations at Martin State Airport, including sampling of the adjacent Frog Mortar and Stansbury Creeks, under the regulatory authority of Maryland's Controlled Hazardous Substance Enforcement Division. As it no longer owns any part of Martin State Airport, Lockheed Martin coordinates all investigations, remediation and permitting activities at Martin State Airport in monthly meetings with the Maryland Aviation Administration (the property owner) and the Maryland Air National Guard (a major tenant at the airport).

Dump Road Area

Investigations in the Dump Road Area revealed the presence of contaminants—concentrations of chlorinated volatile

organic compounds (VOCs) such as trichloroethene, as well as cis-1,2 dichloroethene and vinyl chloride in levels exceeding federal and Maryland groundwater standards—in a plume originating from the Dump Road Area and moving towards Frog Mortar Creek. Lockheed Martin is proceeding with the design of an Interim Remedial Action (IRA) to contain flow of the contaminated groundwater from the Dump Road Area towards Frog Mortar Creek. The IRA will contain the groundwater through a series

A Citizens' Guide on groundwater is available at www.lockheedmartin.com/martinstate

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Figure 2

of extraction wells located parallel to Frog Mortar Creek near the southeast portion of the Dump Road Area that will feed to a water treatment facility. The IRA design and permitting activities are reviewed regularly by the Maryland Aviation Administration and the Maryland Air National Guard; construction and operation of the treatment system requires coordination with multiple agencies at the county, state and federal level. Public review and comment related to the proposed plan for the IRA occurred in early 2012. Construction of the IRA is expected to begin in late 2015, with operation anticipated to begin in 2016.

Lockheed Martin is also evaluating supplementing groundwater treatment with in situ remedies to reduce the potential for human and environmental exposure to the contaminants remaining in the soil of the Dump Road Area, and potentially to decrease the time needed to treat groundwater. Soil remedies could include stabilization, covering or other treatment of soils, which would reduce the risk of exposure without signi f cant disruption to airport operations and limit negative impact to the Chesapeake Bay Critical Area bordering Frog Mortar Creek. Lockheed Martin is coordinating its plans with the Maryland Aviation Administration to lessen the risk of exposure to workers conducting airport maintenance in the area.

Lockheed Martin continues to investigate potential sources of groundwater contamination in the Dump Road Area and close to the airport's Taxiway Tango. These investigations will help determine where additional cleanup actions could further reduce groundwater contamination. Lockheed Martin and the Maryland Aviation Administration also will work together to determine what environmental conditions may need to be addressed in conjunction with a planned renovation of Taxiway Tango.

Frog Mortar Creek

While earlier sampling indicted no issues of concern, sampling in the last four years indicate the discharge of some concentrations of the volatile organic compounds (VOCs) trichloroethene (TCE) and vinyl chloride above Ambient Water Quality Criteria in an area adjacent to the shoreline of Frog Mortar Creek in the Dump Road Area. Consequently, following a public information meeting, in April 2012 the Maryland Department of the Environment issued a water contact advisory for a 2,000-foot long stretch of shoreline next to the airport, recommending that swimming within 200 feet of the shoreline be limited to less than 4 hours per day for 20 days of the year. Lockheed Martin and the Maryland Department of the Environment have established an on-going surface water monitoring program for Frog Mortar Creek where 40 water samples are collected 6 times a year, focusing on the summer swimming months. Results are published for individual sampling events (monthly in the summer) and in an annual report.

Stansbury Creek

Lockheed Martin collected sediment samples in Stansbury Creek in 2009 to identify and characterize the nature and extent of possible contamination resulting from current and past airport activities. Elevated concentrations of polycyclic aromatic hydrocarbons (PAHs) were found next to one outfall that drains paved surfaces associated with airport operations. These concentrations were consistent with regional f ndings, and risks to human health and the environment appear negligible. In 2010, the Maryland Department of the Environment noti f ed Lockheed Martin that based on the agency's review of the Corporation's reports, no remediation was required for Stansbury Creek at that time.

Strawberry Point

Investigation of Strawberry Point began with records research, followed by investigations in areas where materials may have been buried. Soil and groundwater were sampled in the wooded area of Strawberry Point and no evidence of any waste disposal was found.

The Greater Strawberry Point area of Martin State Airport has been investigated since 2010 to determine the nature and extent of any environmental contamination in soil and groundwater in areas of former Lockheed Martin operations. Soil and groundwater investigations in the southern area of Greater Strawberry Point, from the airport fuel storage area north to the airport maintenance facility, did not encounter contaminants at levels that present a risk to human health or the environmentaStrawbesediry Pt have esn human health

TCE — trichloroethene — a volatile organic compound (VOC) used to clean metals and in specialty adhesives. It was used commonly as a degreaser in industrial operations. Trichloroethylene is another, older name for the same chemical.

UST — underground storage tank

VCP — Voluntary Cleanup Program. Operated by Maryland Department of the Environment. Participation by companies is voluntary. The program is used to clean up brownfeld sites (abandoned or underused industrial and commercial facilities available for re-use).

VLS — Vertical Launching System

VOC — volatile organic compound — A type of chemical that transforms from a liquid to a gas at room temperature.

Further Information

Final environmental reports and other public information covering Lockheed Martin's studies at the Middle River Complex and Martin State Airport sites may be found at the Essex Public Library at 1110 Eastern Boulevard, Essex, Maryland, 21221.

For more information, call 410-887-0295. Information also is available on the Lockheed Martin website: www.lockheedmartin.com/middleriver or www.lockheedmartin.