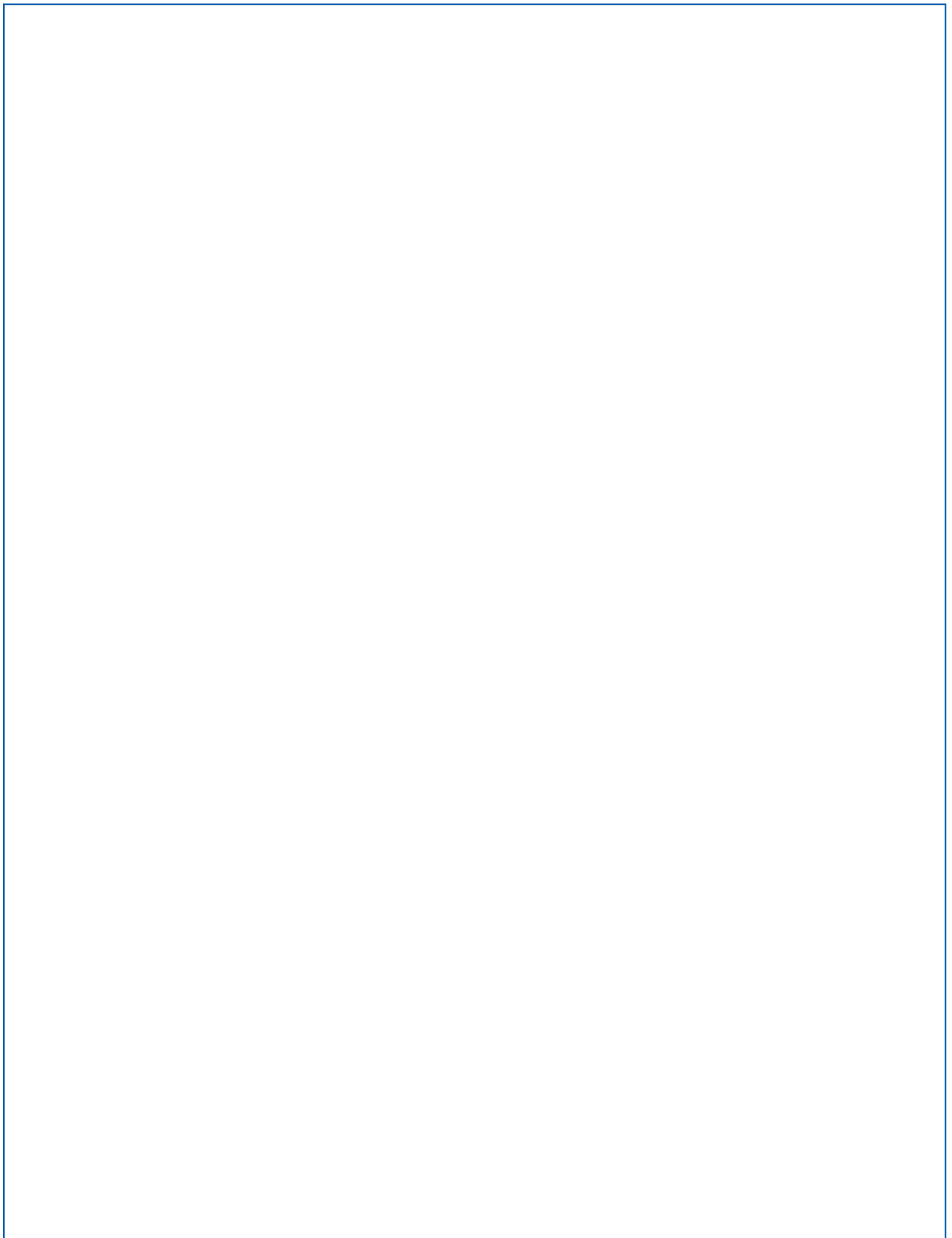


approval by the United States Environmental Protection Agency. The final Risk-Based Disposal Approval Application will be submitted in 2020 along with the final remedial action design.

Lockheed Martin's investigations indicate that PCBs and polycyclic hydrocarbons (PAHs) in REC#1 are located at depths as great as 20 feet below the soil surface. The PAHs in Block E might be associated with fill material placed



Alternative 7: Excavate impacted surface soil using conventional methods and dispose of soil at an approved off-site location. Use

FREQUENTLY ASKED QUESTIONS

Do I need to be concerned about Block E PCBs affecting me?

Block E is an industrial site; public access is restricted and will continue to be so during and after remediation. Also, the PCBs at the site are located mainly beneath the Building D slab and are not accessible to the public or workers onsite.

Besides PCBs and PAHs, what other chemicals of concern were found in Block E?

The commonly used industrial volatile solvent trichloroethene (TCE) appears to have leaked from an underground storage tank discovered in Block E in 2013. The tank was located along the Building D foundation in the southeastern portion of the site near the water tower. A significant amount of this TCE in Block E soil and groundwater was removed using a multi-phase extraction system. Enhanced bioremediation wells and piping have been installed, and a hydraulic containment system and a permeable reactive barrier are currently in design as

How will removal of the Building D slab be handled?

All concrete in Block E (an estimated 24,000 tons, some 300 truckloads) will be removed although concrete tested and verified to be clean may be crushed and reused as backfill in the excavations. Work will proceed in stages: after slab removal in one area, soil excavation and confirmation sampling will be completed, and backfilling will begin while slab removal and excavation begins in

another area. This will minimize the area of impacted soil exposed to stormwater and reduce the volume of water to be treated.

The concrete slab will be removed in manageable sections to facilitate radiological screening and sampling of the concrete and underlying floor drains. Concrete with radiological levels above Nuclear Regulatory Commission Regulatory Guidelines will be segregated from non-impacted material. Results from radiation and contamination surveys of exposed areas of the drain system and surrounding soil will determine if conditions are safe before proceeding to remove the next section of concrete. If an area of elevated radiological activity is found in the soil after slab removal, the area will be covered and secured to prevent the spread of contamination, and barricaded to prevent the entry of unauthorized personnel. Results of radiological surveys will determine how materials should be packaged and removed for disposal at an appropriately licensed facility.

Will remediation construction be risky to the community?

Risk to the community and to onsite workers from the cleanup will be insignificant. During removal of impacted soil, airborne dust will be monitored, and dust-suppression methods (such as wetting down dry areas) will be used as appropriate.

GLOSSARY

Bioremediation—Nutrients (e.g., sugars) are injected to encourage the growth of naturally occurring bacteria in soil and water under the ground. These bacteria break down contaminants into non-hazardous substances. Bioremediation may also include injections of additional bacteria to increase those already present.

Carcinogen—A substance that can cause cancer.

Chemical(s) of concern (COC)—Chemicals that might cause unacceptable adverse effects to human health or ecological receptors.

Chlorobenzene—Chlorobenzene is a colorless, aromatic, and flammable organic compound widely used as a solvent, an industrial degreaser, and in the manufacture of other compounds such as herbicides, dyes, and rubber.

Cleanup—Actions to address a release or threat of release of a hazardous substance that could adversely affect humans

For More Information

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All documents are available at the Essex Library,
410-887-0295, or on Lockheed Martin's Website at:
www.lockheedmartin.com/middleriver or



and H in 2016, and in 2017 received “No Further Action” letters for these parcels from the Maryland Department of the Environment. Further investigation and remediation

approval by the United States Environmental Protection Agency. The final Risk-Based Disposal Approval Application will be submitted in 2020 along with the final remedial action design.

Lockheed Martin's investigations indicate that PCBs and polycyclic hydrocarbons (PAHs) in REC#1 are located at depths as great as 20 feet below the soil surface. The PAHs in Block E might be associated with fill material placed historically at the site, and are a common contaminant at the Middle River Complex.

Some PCBs have moved off Block E, although this movement appears to be limited to sediment transported through the Block E stormwater drain system and into Dark Head Cove and also along the median of Chesapeake Park Plaza. Lockheed Martin removed contaminated sediment from the storm drains and inlets in 2011, and in 2014-15 removed PCB-contaminated sediment from the lower portions of the Outfall 005 stormwater drain system. Portions of the Outfall 006 and 008 systems were cleaned and additional sediments were dredged from Dark Head Cove in 2016-2017 as part of the full sediment remedy for Cow Pen Creek and Dark Head Cove. Lockheed Martin plugged the upland drain system which runs to Outfall 005 near Block E in 2015 to prevent contaminant movement until Block E can be fully remedied.

IDENTIFYING AND EVALUATING POSSIBLE CLEANUP METHODS

Lockheed Martin followed the process recommended by t-353(r-10.D-f- (i)s\$17)2.355frf-0-219rr-10.T2 s7275frf-

that human exposure will not exceed the Maryland Department of the Environment's risk level. This analysis was used to set the Remedial Action Objectives for Block E, the achievement of which should result in a "No Further Action" designation.

LOCKHEED MARTIN'S THREE REMEDIAL ACTION OBJECTIVES