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with the Toxic Substances Control Act (TSCA) PCB regulations based on the as-found PDB concentration. Verification samples will be collected following the soil removal actions to document that remaining soil PCB concentrations are less than 1 mg/kg. If verification samples indicate that the removal objectives have not been met, additional soil removal will be conducted, followed by additional verification sampling; this process will continue until the cleanup objectives have been met.

Once the soil remedial actions are completed, restoration of the stream channel and wetlands areas will be performed in accordance to United States Army Corps of Engineers (USACOE) requirements.

A public outreach and communications plan will be developed and implemented for this project to ensure that opportunities for stakeholder awareness, information and involvement are provided.

To manage the source of PCBs from the Airdock facility, Lockheed Martin has completed a number of source control and remedial actions at the Airdock and provided US

2.3 PCB WASTE CLASSIFICATION AND MANAGEMENT

Soils and sediment containing PCB will, for purposes of this project, be managed as PCB remediation wastes under §761.3. The excavated material will be managed and disposed of based on the “as found” total PCB concentration of individual samples collected in situ.

As a conservative measure, soils and sediments containing PCBs with concentrations equal to or greater than 25 mg/kg will be disposed off site at a TSCA-permitted landfill; soils with a PCB concentration between 1 mg/kg and less than 25 mg/kg PCBs may be disposed off site at a Subtitle D landfill that is permitted to accept wastes containing PCBs at concentrations less than 50 mg/kg, consistent with § 761.61(a)(5)(v)(A). Soil with less than 1 mg/kg PCBs will remain within the excavation area without further conditions.

3. SAMPLING APPROACH AND CHARACTERIZATION DATA

The purpose of the sampling conducted along Haley's Ditch to date has been to characterize the horizontal and vertical extent of PCBs along Haley's Ditch. Deposition of the solid particles from the Airdock siding was assumed to occur in the channel of Haley's ditch and in adjacent low-lying areas subject to flooding during high stream flow events when Haley's Ditch exceeded its banks. The investigation included a series of sample transects established along Haley's Ditch at 100 foot intervals. Samples were collected for PCB analysis along each interval in the centerline of the channel of Haley's Ditch, at the top of stream bank, and at approximately 25 foot intervals extending away from the centerline of the channel on each side until sample results indicated PCBs were present at less than 1 mg/kg or property boundaries or some other physical obstruction or field condition limited the extent of soil sampling.

3.1 CHARACTERIZATION SAMPLING AND ANALYSIS METHOD

Soil sampling methods for all sampling events used direct-push technology to advance shallow borings. Soil core diameters were approximately 1.25 to 2 inches (3.2 to 5.1 cm). Sample core thickness ranged from 3 to 12 inches (7.6 to 30.5 cm); samples were subsequently analyzed starting with the 0" to 6" and 6" to 12" samples in 6-inch vertical increments until PCB concentrations less than 1 mg/kg were detected, to a maximum sample depth of 3 feet, or to refusal, whichever was encountered first. Samples were submitted to Severn Trent Laboratories, Inc. (STL) in Chicago, Illinois, or North Canton, Ohio for laboratory analysis of total PCBs using EPA Method 8082, modified to include Aroclor 1268.

3.2 CHARACTERIZATION SAMPLE COLLECTION EVENTS AND RESULTS

Preliminary investigative sampling in Haley's Ditch was conducted during June 2005 on property owned by Lockheed Martin. This initial sampling event indicated the presence of PCBs in sediment and floodplain soils along Haley's Ditch but did not delineate the full horizontal extent. Thus, additional investigation activities to delineate the extent of PCBs were implemented subsequent to obtaining access agreements with various private property owners. Soil and sediment sampling in the southern portion of Haley's Ditch was conducted in 2005 followed by investigations in the northern portion of the ditch in 2006. In 2008 additional samples were collected from both the southern and northern areas to further refine the characterization for purposes of the initial identification of areas to be excavated. The analytical results of the 2005 and 2006 Haley's Ditch investigation activities have been previously reported to USEPA in submissions dated December 21, 2005 and January 24, 2007. In combination, the various

PCB soil and sediment delineation tasks resulted in the analysis of 512 samples. All of these results are included in Table 1.

PCBs were detected in both surface and subsurface floodplain soil samples (see Table 1 and Figures 3 to 5). Soil samples exhibited PCB concentrations greater than 1 mg/kg with no uniform vertical distribution. PCBs were detected at four soil sampling locations in three discrete areas at concentrations exceeding 50 mg/kg (areas shaded green in Figure 2). PCBs detected in sediment samples were at concentrations below 50 mg/kg.

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4. SOIL REMEDIATION PLAN

Remedial activities for Haley’s Ditch will consist of removing all unconsolidated soft sediments (estimated removal depth 1 - 3 feet) and removing surface and subsurface soil along the banks and nearby floodplain soil of the ditch as illustrated by Figures 2 through 6. A 50-foot by 50-foot grid with 25-foot-that bypass pumping will be conducted in sections along the ditch. Energy dissipation measures will be employed to control potential erosion at the discharge locations. By-pass pumping will be conducted to facilitate “in-the-dry” excavation to the extent practical and minimize potential sediment transport from the remediation area to downstream portions of the ditch. Sediment removal activities and by-pass pumping will be suspended during significant storm events to further minimize potential sediment transport; sediment removal activities will be completed in anticipation of storm events such that disturbed sediments are not present within the channel during storm events.

4.3 SOIL REMOVAL AND HANDLING

Soil removal activities will be conducted in manageable segments beginning at the south (upstream) and progressing north (downstream). Sediment removal activities will also include the removal of accumulated sediments from a culvert that extends from the north side of Triplett Boulevard to the headwaters of Haley’s Ditch; this action will complete the removal of sediments from the storm drain system extending from the Airdock to Haley’s Ditch. Backfilling and restoration will be conducted concurrently following verification that cleanup objectives have been achieved.

It is anticipated that approximately 600 cubic yards of sediment and 10,000 cubic yards of soil will be excavated. Excavated sediment and soil will be transferred to a material staging area for short term storage (expected storage duration would be 1 to 3 days) when direct loading into dump trucks or other transportation containers is not feasible. Separate lined and bermed staging areas will be used for material containing more than 1 mg/kg but less than 25 mg/kg and for material containing greater than or equal to 25 mg/kg. If needed, natural drainage will be used to dewater the sediment and soil prior to loading for off-site transport and disposal and water generated by this process will be managed in accordance with Section 4.5 below. Any bulk PCB remediation waste at concentrations less than or equal to 50 mg/kg shall be stored onsite in accordance with § 761.65(c)(9). Although not anticipated to be necessary, stabilization may also be conducted via the addition and mixing of lime, Portland cement, or dry soil, if necessary to meet disposal facility requirements. Sediment and soil not requiring dewatering or stabilization may be directly loaded into trucks for immediate off-site transport for disposal.

Soil excavation will extend to the limits shown on Figures 3, 4 and 5 for the ground surface to one foot depth, one foot depth to two foot depth, and two foot depth to three foot depth respectively. Additional soil will be removed if verification sampling, as described in Section 4.6, indicates that remaining PCB’s concentrations exceed 1 mg/kg.

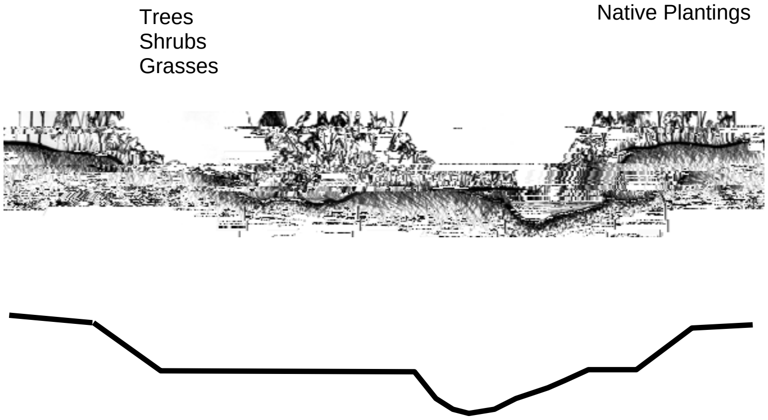
Each sub-grid will be sampled independently for cleanup verification purposes and the following sampling procedures will be used to locate, collect and analyze the samples. A coordinate-based random number generator will be used to identify three of the 25 samples squares from each excavation sub-grid. Three individual samples will be collected and composited from the center of each randomly identified sample square from each sub-grid using a core sampler with a diameter ≥2 cm and ≤ 3 cm from the base of the excavation to a maximum depth of 7.5 cm. Verification samples will be submitted for laboratory analysis

Additional characterization samples will be collected at the perimeter of the excavation area at each depth level of the excavation to compliment prior characterization samples and verification samples collected during the soil removal process, to create a sample set with a minimum horizontal spacing of 50 feet along the perimeter and at one foot deep intervals to fully define the area where the in-place PCB concentration is less than 1 mg/kg.

4.7 SITE RESTORATION PLAN

A proposed stream restoration project incorporating natural channel design strategies and native plantings is proposed for Haley's Ditch in conjunction with the PCB cleanup. The ditch will be replaced with a meandering stream designed to improve system hydraulics and habitat along the remediation corridor. The stream and wetland restoration will be completed in accordance with a Nationwide Wetlands Permit 38 pre-construction notice which will be submitted to the USACOE. The overall goal of the restoration is to enhance the hydraulic performance and habitat quality within the remediated area.

The existing condition of Haley's Ditch is largely the result of past management activities (not conducted by Lockheed Martin nor having anything to do with Airdock activities or operations). The past channelization of the ditch initiated a channel evolution process of down cutting and widening, leaving bank heights on average of 3 to 4 feet and eliminated



Conceptual Restored Channel

4.8 PROPOSED SCHEDULE

Lockheed Martin is planning to begin the remedial activities during June or July 2009 or earlier contingent upon approvals from USEPA, USACOE, and OEPA and any other land owner or other required approval. Completion of the site remediation activities will require approximately 140 days. The first 20 days will include contractor mobilization and site preparation. The next 120 days will include the sediment and soil removal efforts, material processing, site restoration, and demobilization from the site.

Table 1 - Haley's Ditch Soil And Sediment Data Summary

Sample ID	Total PCB Concentration (mg/kg)

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Total PCB Concentration (mg/kg)

Sample ID

Sample ID	**Total PCB Concentration (mg/kg)**					
	Sample Depth (ft bgs)					
	0.0 - 0.5	**0.5 - 1.0**	**1.0 - 1.5**	**1.5 - 2.0**	**2.0 - 2.5**	**2.5 - 3.0**
LM-SD08	0.27	ND	NC	NC	NC	NC
LM-SD09	**20.8 J**	0.76 J	0.66	NC	NC	NC
LM-SD10	0.55 J	0.94 J	NC	NC	NC	NC
LM-SD11	0.98 J	0.49 J	NC	NC	NC	NC
LM-SD12	**1.04 J [0.76 J]**	**1.66 J [4.6 J]**	NC	NC	NC	NC
LM-SD13	0.74 J	**1.52 J**	NC	NC	NC	NC
LM-SD14	0.42	ND	NC	NC	NC	NC
LM-SD15	**3.7 J [0.66 J]**	0.54 [0.79 J]	ND	ND	NA	NA
LM-SD16	**2.31 J**	**2.8 J**	**4.97 J**	**9.40**	NC	NC
LM-SD17	**2**	0.135	NA	NA	NA	NC
LM-SD18	0.83	ND	NA	NA	NC	NC
LM-SD19	**3.61**	**1.32**	NC	NC	NC	NC
LM-SD20	**10.1 [10]**	**9.6**	**14**	**8.1**	NC	NC
LM-SD21	**1.67**	**8.6**	**21.3**			

Figures

1 Site Aerial Photograph

2 Haley’s Ditch Proposed Soil And Sediment Removal Limits And Sample Locations

3 Haley’s Ditch Total PCBs Data And Soil And Sediment Removal Limits (0-1 Ft)

4 Haley’s Ditch Total PCBs Data And Soil And Sediment Removal Limits (1-2 Ft)

5 Haley’s Ditch Total PCBs Data And Soil And Sediment Removal Limits (2-3 Ft)

6 Haley’s Ditch Proposed Confirmation Sampling Grid

LEGEND:

STORM SEWER