SHANNON & WILSON

MEMORANDUM

TO: Chris Kelley, Washington State Department of Ecology

FROM: Meg Strong, LG, LHG

DATE: June 6, 2022

PROJECT: Agreed Order 6069: 8801 Property

PROJ. #: 21-1-12567-030

SUBJECT: Modified Excavation Plan for Area 4

Hotspot removal at 8801 East Marginal Way South, Tukwila, Washington (8801 property, Figure 1) has been completed, except in Area 4. The Area 4 hotspot excavation targets the removal of polychlorinated biphenyls (PCBs) (as the primary component) and copper (as a secondary component) that are present within former backfill material in the southwest corner of the 8801 property. The Area 4 hotspot excavation was suspended when it was discovered the lateral and vertical extent of PCBs and copper above their respective remediation levels (0.5 milligram per kilogram (mg/kg) PCBs and 250 mg/kg copper) was greater than anticipated. To delineate the extent of PCBs and copper above their remediation levels, the entire southwest corner of the 8801 property was investigated by advancing 84 borings and collecting and analyzing 189 soil samples at depths from 1 to 15 feet below ground surface (bgs). Based on the results of the investigation, some of the soil containing copper at concentrations exceeding its remediation level is infeasible to excavate and remove because of its depth or location. Accordingly, the excavation plan for Area 4 must be modified. The purpose of this memorandum is to present the modified excavation plan and explain why that plan presents no adverse impact to human health or the environment and would still meet the remedial action objectives of the Area 4 hotspot excavation.

This memorandum has been revised from the version dated March 4, 2022, to incorporate a disproportionate cost analysis and address other comments provided by the Washington State Department of Ecology (Ecology).

BACKGROUND

The Area 4 hotspot is in the southwest corner of the 8801 property (Figure 2). Historically, the southern portion of the 8801 property was owned by Monsanto and sold to Kenworth (a PACCAR company) in 1966. In 1966, the west of the southern portion sloped down to the adjacent Lower Duwamish Waterway (LDW). In approximately 1967 a berm was constructed to enclose the western and southern sides and form the southwest corner of the 8801 property. The berm squared off the southwest boundary of the 8801 property to its

current configuration. Based on permit drawings (not as built drawings), the berm was designed to be approximately 30 feet wide at its base, 12 feet wide at its top, and 15 feet high. Once constructed the area behind the berm was backfilled with fill to bring the area level with the remaining 8801 property. Based on recent observations during excavation and investigation work, the berm is densely compacted and constructed of large cobbles, concrete blocks, and boulders, as well as smaller pieces of concrete and rock. The fill material that was placed behind the berm has been observed during excavation work to be present in the interstitial spaces between the rock and concrete on the inward-facing sides of the berm. The outward-facing (LDW) sides of the berm are armored with large block rip rap.

The remedial approaches and objectives for the 8801 property, including Area 4 and the other hotspot areas, were evaluated and documented in the Feasibility Study and summarized in the Interim Action Work Plan, both dated July 27, 2020 (Shannon & Wilson, 2020a and 2020b). These were later modified in a shoreline-specific addendum to the two reports (Shannon & Wilson, 2020c). The contaminants of concern for each hotspot area were identified and a disproportionate cost analysis (DCA) was completed for the alternative remedial approaches. Based on the conclusions of the Feasibility Study, remediation levels of 0.5 mg/kg for PCBs as total aroclors and 250 mg/kg for copper were selected.

Eight hotspot areas were targeted for remediation at the 8801 property. Seven of the hotspots have been excavated. The Area 4 excavation has been suspended, pending a decision on its excavation limits, as described in this memorandum.

The relevant remedial action objectives for Area 4 are:

- Protect current and future worker exposure to soil contaminants.
- Protect current and future beneficial use of surface water and sediments in the LDW by attaining groundwater cleanup levels (CULs) before groundwater migrates to the LDW.
- Allow for landscaping to be established within the 100-foot river buffer.

EXCAVATION AND INVESTIGATION OF AREA 4

The Area 4 excavation commenced on September 15, 2021. Sidewall and base soil samples were collected as the excavation progressed to evaluate compliance with the remediation levels. Copper was frequently detected in sidewall samples at concentrations exceeding its remediation level and PCBs were sporadically detected at concentrations exceeding its remediation level. The detected concentrations did not appear to follow a gradient or pattern, and values ranged by an order-of-magnitude between duplicates and/or adjacent

samples. These observations are consistent with mixed fill material, such as that placed in the southwest corner of the 8801 property.

As the Area 4 excavation progressed, it was expanded beyond its originally estimated limits to remove soil containing primarily copper and some PCBs at concentrations exceeding their respective remediation levels. In response to the ever-expanding excavation, the Area 4 excavation was suspended on November 3, 2021, after consultation with Ecology.

On three separate occasions between October 29, 2021, and January 21, 2022, a push probe rig was used to collect soil samples from around the excavation perimeter and to delineate the lateral and vertical extent of PCBs and copper above their respective remediation levels. A total of 84 borings were advanced from 1 feet bgs up to 15 feet bgs approximately every 10 feet north to south and approximately every 20 feet west to east. The boring locations are shown in Figures 3 through 5. A total of 189 soil samples were analyzed from the borings. The sample locations were designed to be representative of excavation sidewall or bottom samples. If a sample result exceeded the remediation level for PCBs or copper, the adjacent or deeper sample was analyzed. The sampling and quality control procedures were performed in accordance with the protocols detailed in the Compliance Monitoring Plan (Shannon & Wilson, 2021a).

The entire southwest corner of the 8801 property was investigated in this manner. The results of the investigation identified the lateral and vertical extent of PCBs exceeding its remediation level. The lateral extent of copper exceeding its remediation level was identified to the north, northwest, and east. Copper was detected at concentrations exceeding its remediation level at depths greater than 15 feet bgs in one location and within the berm along the western and southern boundaries of the 8801 property. The distribution and concentration of PCBs and copper detected in the Area 4 samples is presented in Table 1 and depicted in Figures 3 through 5 and 7 through 9. The sample results indicate that copper is widespread in the fill material and extends vertically to depths exceeding 15 feet bgs and laterally into the berm on the southern and western boundaries of the 8801 property.

Excavation to remove all soil containing copper at concentrations exceeding its remediation level is not feasible for the following reasons. First, the depth of an excavation to remove copper to the remediation level would need to extend to at least 16 feet bgs in one location, and to at least 15 feet bgs in two other locations. The groundwater table is as high as 8 feet bgs. Accordingly, excavation below 8 feet bgs would require dewatering and shoring. Second, the excavation would need to extend into the berm along the western and southern boundaries of the 8801 property. The berm is constructed of rock and concrete rip rap and

protects the 8801 property from erosion by the LDW. Some of the copper-impacted soil within the berm is embedded between the rock. It would not be possible to remove the copper-impacted soil from within the berm without undermining its stability.

ASSESSMENT

This section assesses the risk to human health and the environment of leaving copper in soil in the southwest corner of the 8801 property at concentrations exceeding its remediation level.

The modified excavation plan will removal PCB above the remediation level and leave behind some of the soil containing copper above its remediation level. Leaving the copper-impacted soil in place presents no risk to human health or to the environment for several reasons. First, the copper concentrations proposed to remain will be below the direct contact value of 3,200 mg/kg. Second, after the expanded excavation is completed, Area 4 will be covered with a clay cap and asphalt/concrete covers that will limit infiltration of stormwater and the potential for mobilization of copper. Third, and most importantly, copper is not mobilizing to groundwater or the adjacent LDW, as demonstrated through groundwater and sediment sampling. The following sections provide the assessment of the risk of leaving the copper-impacted soil in place that support these statements.

Human Health

Since groundwater and the adjacent LDW are non-potable, the only pathway for human health exposure is contact by site workers. Seafood consumption is not a pathway because copper does not bioaccumulate. The human health exposure concentration for direct contact with copper is 3,200 mg/kg. Of the 260 samples analyzed for copper during the excavation and investigation work in the southwest corner of the 8801 property, only ten samples exceeded the direct contact value, and three of the samples were duplicates where the primary sample results were much lower than 3,200 mg/kg (for example, primary sample A4-SIDE86:1.5 and duplicate A4-SIDE210:1.5 were 2,202 and 4,940 mg/kg, respectively). The locations of the samples with values above 3,200 mg/kg for copper are shown in Figure 5. The soil in these locations will be removed under the modified excavation plan for Area 4, resulting in the removal from Area 4 of the soil containing copper at concentrations above the direct contact value.

After completion of Area 4 hotspot excavation, the excavation will be covered with a clay cap and overlain by a drainage layer, consisting of 4- to 6-inch quarry spalls. Soil and landscaping will be placed above the drainage layer (Figure 6). The clay cap will act as a

barrier to infiltration of stormwater. The drainage layer will not be in contact with the fill material and drain water away above the clay cap and from the overlying soil and landscaping to the interior of the property where it will be collected and directed to the stormwater treatment systems. If any portion of the Area 4 excavation is more than 100 feet from the shoreline that area will be backfilled with clean soil and covered with asphalt or concrete. The clay cap, drainage layer, asphalt/concrete covers, and overlying soil and landscaping will isolate the native material from direct contact by humans and will prevent infiltration of stormwater to the underlying soil.

Sediment

Protection of the adjacent LDW sediments is the primary driver for the Area 4 excavation. The excavation activities will not disturb sediments within the LDW and the clay cap and drainage layer that will be placed above the fill material within 100 feet of the shoreline after completion of the Area 4 excavation will drain stormwater to the interior of the property, where it will be collected and directed to the stormwater treatment systems.

Given that the LDW is immediately adjacent on two sides of the southwest corner of the 8801 property, the potential for erosion of material to sediment may exist. This potential pathway was considered by examining sediment data adjacent to the 8801 property collected in 2009. A total of 45 discrete samples collected in both the near-surface sediment (top 10 centimeters) and in sediment cores (up to 10 feet bgs) did not contain copper concentrations above the sediment screening number of 390 mg/kg, and sediment concentrations adjacent to the 8801 property are significantly below this value. This data indicates erosion of copper from the fill material to the adjacent LDW has not occurred either recently (per the near-surface sediment results), or in the past (based on the core sample results).

Surface Water

Although groundwater on the 8801 property and surface water in the adjacent LDW are non-potable for human consumption, aquatic species live in and migrate through the water. The CUL for copper in groundwater on the 8801 property is 8 micrograms per liter (µg/L). A groundwater monitoring well (MW-30A) is present in the southwest corner of the 8801 property immediately adjacent to samples collected for the Area 4 excavation and borings. Those samples have copper concentrations above the 250 mg/kg remediation level as follows: 1,060 mg/kg (A4-SIDE55:6.5), 1,240 mg/kg (A4-SIDE23:6), 1,700 mg/kg (A4-SIDE55:2), and 2,300 mg/kg (A4-SIDE29:6.5). Groundwater samples collected and analyzed from MW-30A between 2002 and 2019 (samples were collected in 2002, February 2006 [two samples, one at high tide, one at low tide], August 2006, 2011, and 2019) had both total and

dissolved copper concentrations well below 8 µg/L. Detection concentrations ranged from less than 0.5 to 3.17 µg/L, indicating the copper is not significantly dissolving into the water.

A seep sample was also collected adjacent to the southwest corner of the 8801 property during sediment sampling work in 2006 and 2007. The seep sample was collected from a screened tube driven into the tidally influenced shoreline near where seeps have been observed. The sample was collected before the tide returned after low tide. The sample was analyzed for total and dissolved copper but had high turbidity (greater than 5 nephelometric turbidity units) that caused the sample to contain particulates. Consequently, the total copper concentration in the sample was 9.4 µg/L. The dissolved sample (that is more representative of water passing through a porous medium) result was 6.5 µg/L, below the groundwater CUL of 8 µg/L. Adjacent sediment was also analyzed for copper at the time, and results were below the sediment screening level for copper, as discussed previously.

Saturated Zone

As discussed in the Feasibility Study and Interim Action Work Plan, the groundwater at the 8801 property and the chemicals in the saturated zone are in equilibrium (Shannon & Wilson, 2020a, and 2020b). The equilibrium was achieved because the surface was paved and the subsurface undisturbed for decades. The approach to remediation at the 8801 property has been removal of the higher concentrations of chemicals of concern, many of which were in the unsaturated zone, and then pave the surface to prevent infiltration and potential leaching.

Based on survey information and tidal studies at the 8801 property as detailed in the Remedial Investigation report (Amec Earth & Environmental, Inc., 2011), flood levels are approximately 1.5 feet bgs (8.4 ± feet National Geodetic Vertical Datum [NGVD]), and mean high tides are approximately 5.5 feet bgs (4.58 ± feet NGVD). Tidal impacts in the southwest corner were recorded during the tidal studies to vary by about 7 feet in depth between the mean high high water and the mean low low water at approximately 12.5 feet bgs (-2.33 ± feet NGVD). Since the southwest corner of the 8801 property is tidally impacted, all but the top 2 to 3 feet of fill can be saturated during different tidal cycles and when the LDW is in flood, even though the groundwater table is approximately 8 feet bgs. This means that the equilibrium condition discussed occurs for much of the fill material in the southwest corner of the 8801 property, as demonstrated by the groundwater and seep sampling results. Excavation to remove all of the copper will impact this equilibrium; the larger and deeper the excavation, the greater the impact is likely to be.

To demonstrate the extent of potential impact that excavation into the saturated zone may have on the mobility of the copper in the soil, samples of the fill material were recently collected and analyzed using the Synthetic Precipitation Leaching Precipitation Test (SPLP), U.S. Environmental Protection Agency Method 1312. This test method includes rotating (tumbling) the sample with a liquid for 18 hours, filtering the liquid, and then analyzing the liquid for copper. Two separate soil samples were analyzed by this method and each of the samples were analyzed using two different extraction liquids. In the first test, a weak acid was used per the SPLP test method. In the second test, de-ionized water was used. Both sets of liquids were filtered through 0.8- or a 0.45-micron filters before analyzing for copper. The 0.8-micron filter is per the SPLP test method, and the 0.45-micron filter is per the typical groundwater analysis method. The results of the tests are shown in Exhibit 1 below.

Exhibit 1: Copper Analysis and Synthetic Precipitation Leaching Precipitation Test Results

Sample	Soil Total Copper	SPLP by EPA Method 1312			
		Weak Acid Filter = 0.8 µm	DI Water Filter = 0.8 µm	Weak Acid Filter = 0.45 µm	DI Water Filter = 0.45 µm
A4-SIDE133:2	1,240 mg/kg	151 µg/L	205 µg/L	67.3 µg/L	86.5 µg/L
A4-SIDE133:5.5	132 mg/kg	23 µg/L	104 µg/L	13.5 µg/L	28.9 µg/L

EPA = U.S. Environmental Protection Agency; DI = deionized; µm = micrograms per meter

As can be observed from the test results, the agitation caused by tumbling the sample resulted in the mobilization of copper into the test liquid. Even for the soil sample with a copper concentration below the remediation level (A4-SIDE133:5.5), agitation resulted in a copper concentration that exceeds the groundwater CUL of 8 µg/L. Excavation into the saturated zone in an area that is tidal affected, even with dewatering, will be similar to the agitation caused by tumbling the soil samples, particularly at deeper depths, since the deeper depths are lower than the adjacent LDW even at low tide, meaning water will preferentially flow to the excavation. It can be inferred that undertaking a deep excavation will result in agitating and mobilizing the copper in soil, generating exceedances of the groundwater CUL. It can be further inferred that the larger the excavation, the greater the mobilization of copper into groundwater. These SPLP test results demonstrate that minimizing the excavation depth, where possible, will minimize the potential mobilization of the copper into groundwater and out to the LDW. As noted previously, there is not currently copper exceedances in either the sediment or groundwater.

After completion of the Area 4 excavation, the portion of the excavation within 100 feet of the shoreline will be backfilled with clean soil and covered with a clay cap, which will prevent infiltration of stormwater. Overlying the clay cap will be a drainage layer which will direct water away from the clay cap (Figure 6). Any portion of the excavation beyond

100 feet of the shoreline will be backfilled with clean soil and covered with asphalt or concrete. The clay cap and asphalt/concrete covers will prevent chemicals in the unsaturated zone from being leached and allow the saturated zone to reach equilibrium with any remaining chemicals.

ALTERNATIVE MODIFIED EXCAVATION PLANS FOR AREA 4

The excavation plan for Area 4 must be modified based on the results of the recent investigation. It is not feasible to excavate and remove soil all the soil with copper at concentrations exceeding its remediation level in Area 4. The key objective of the Area 4 excavation is to remove all soil containing PCBs above its remediation level, except for a small pocket of soil located beneath a stormwater vault, as discussed in the IAWP. A secondary objective is to remove a substantial mass of soil containing copper at concentrations above its remediation level. Two alternative modified excavation plans for Area 4 have been identified that would accomplish these objectives:

- Alternative 1: This alternative would consist of excavation throughout the southwest corner of the 8801 property, other than within the berm along the western and southern boundaries, to achieve the remediation levels for both PCBs and copper from ground surface to greater than 15 feet bgs, except for a small pocket of PCB-impacted soil located beneath a stormwater vault, as discussed in the IAWP. The excavation footprint would be approximately 15,000 square feet. Shoring and dewatering would be required to excavate at depths below the water table, which is about 8 feet bgs. Engineering controls and institutional controls would be implemented because soil would be left in place with concentrations that exceed the CULs for PCBs and copper (0.0000022 and 36 mg/kg, respectively). The engineering controls would consist of a clay cap and asphalt or concrete covers. After completion of the Area 4 excavation, the portion of the excavation within 100 feet of the shoreline would be backfilled with clean soil and covered with a clay cap, which would prevent infiltration of stormwater. Overlying the clay cap would be a drainage layer, which would direct water away from the clay cap (Figure 6). The portion of the excavation beyond 100 feet of the shoreline would be backfilled with clean soil and covered with asphalt or concrete. The institutional controls would consist of an environmental covenant that establishes activities and use limitations (AULs). The engineering controls and institutional controls are described in the approved Engineering Design Report (Shannon & Wilson, 2021b).
- Alternative 2: This alternative would consist of excavation in the southwest corner of the 8801 property to achieve the remediation level for PCBs, except for a small pocket of PCB-impacted soil located beneath a stormwater vault, as discussed in the IAWP. Because copper and PCBs are co-located throughout the fill material, removal of the

PCB-impacted soil will also remove a substantial mass of copper-impacted soil. The excavation footprint would be approximately 8,000 square feet. The excavation would extend up to 8 feet bgs in most areas, with one location that would extend to 15 feet bgs. Shoring would not be required due to limited excavation below the water table. Limited dewatering would be required. Engineering controls and institutional controls would be implemented because soil would be left in place with concentrations that exceed the CULs for PCBs and copper. The engineering controls would consist of a clay cap and asphalt or concrete covers. The institutional controls would consist of an environmental covenant that establishes AULs. The engineering controls and institutional controls are described in the approved Engineering Design Report (Shannon & Wilson, 2021b).

DISPROPORTIONATE COST ANALYSIS

A DCA was prepared to compare the benefits and costs of the alternative modified excavation plans for Area 4 with a no action alternative. The DCA was performed in accordance with the Washington Administrative Code (WAC) Chapter 173-340-360.

The DCA uses seven criteria to compare, contrast, and rank each remedial alternative:

- **Protectiveness.** The degree to which the alternative protects human health and the environment, including:
  - The degree to which the alternative reduces existing risks,
  - The time required for the alternative to reduce risks at the site and attain cleanup standards,
  - The on-site and offsite risks resulting from implementing the alternative, and
  - Improvement of the overall environmental quality.
- **Permanence.** The degree to which the alternative permanently reduces the toxicity, mobility, mass, or volume or hazardous substances, including:
  - The adequacy of the alternative in destroying the hazardous substances,
  - The reduction or elimination of hazardous substance releases and sources of releases,
  - The degree of irreversibility of waste treatment process, and
  - The characteristics and quantity of treatment residuals generated.
- **Effectiveness over the long-term.** The degree to which the alternative is effective over the long term. Factors to consider include:
    - Degree of certainty that the alternative will be successful;
    - The reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed CULs;

  - The resilience of the alternative to climate change impacts;
  - The magnitude of residual risk with the alternative in place; and
  - The effectiveness of controls required to manage treatment residues or remaining wastes.

- **Management of short-term risks.** The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of the alternative to manage such risks.
- **Technical and administrative implementability**. The ability to implement the alternative, including consideration of:
  - Whether the alternative is technically possible;
  - The availability of necessary offsite facilities, services, and materials;
  - Administrative and regulatory requirements;
  - Scheduling, size, and complexity;
  - Monitoring requirements;
  - Access for construction operations and monitoring; and
  - Integration with existing facility operations and other current or potential remedial actions.
- **Consideration of public concerns.** Whether the community has concerns about the alternative and, if so, the extent to which the alternative addresses those concerns.
- **Cost**. Cost considerations include design, construction, and installation costs; post-construction costs; and agency oversight costs. Long-term costs include the cost of operation and maintenance, monitoring, equipment replacement, and maintaining institutional controls.

Scores of 0 to 10 are assigned to each criterion for each alternative. The weighted overall benefit score is calculated for each alternative using weighting factors and the raw benefit score for each of the six DCA criteria (all except cost) (Exhibit 2). A higher weighted overall benefit score indicates a larger benefit if the associated alternative was implemented, when compared to an alternative with a lower weighted overall benefit score.

Exhibit 1: Formula for Weighted Overall Benefit Score

Formula	MTCA Criteria	Weight Factor	Raw Benefit Score
$\text{Weighted Overall Benefit Score} = \sum_{\text{Criteria}} \left(\begin{matrix}\text{weight} \\ \text{factor}\end{matrix} * \begin{matrix}\text{raw} \\ \text{benefit} \\ \text{score}\end{matrix} \right)$	Protectiveness	30%	(0-10)
	Permanence	20%	(0-10)
	Effectiveness Over Long-term	20%	(0-10)
	Management of Short-term Risks	10%	(0-10)
	Technical and Administrative Implementability	10%	(0-10)
	Consideration of Public Concerns	10%	(0-10)
	Cost	0%	(0-10)

NOTE:
A Raw Benefit Score between 0 to 10 was estimated for each remedial alternative based on the projected outcomes.

The total cost over the lifetime of the alternative is estimated. An alternative's costs are considered disproportionate to benefits if the incremental costs of a more permanent alternative are greater than the incremental benefits achieved by that alternative over those of the lower cost alternatives (WAC 173-340-360(3)(e)(i)). This is evaluated using a Benefit/Cost Ratio, where a lower Benefit/Cost Ratio may indicate that the incremental cost is disproportionately large for the incremental benefit (Exhibit 3).

Exhibit 2: Formula for Benefit/Cost Ratio

$$\text{Benefit/Cost Ratio} = \frac{\text{Weighted Overall Benefit Score}}{\text{Cost}}$$

The estimations, calculations, and rankings of alternatives are summarized in the DCA (Tables 2 through 4). A graph illustrating the cost versus the weighted benefit of each alternative is provided as Exhibit 4:

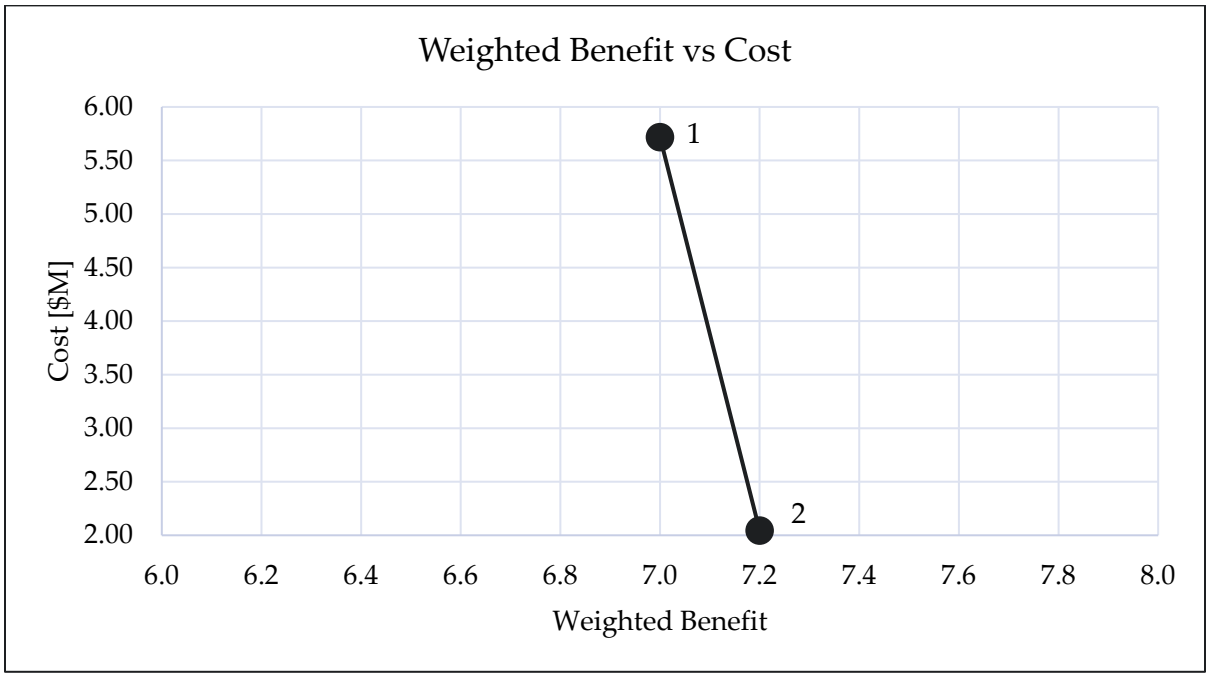

Exhibit 3: Graph Showing Comparison of Benefit/Cost Ratio for Excavation Alternatives

Alternative 1 has an estimated cost of $ 5.72 million and a weighted benefit score of 7.0. Alternative 2 has an estimated cost of $ 2.04 million and a weighted benefit score of 7.2. Accordingly, Alternative 2 has a more favorable benefit/cost ratio.

In addition to Alternative 1 having a less favorable benefit/cost ratio, the alternative would require excavation extending to 15 feet bgs or greater over much of the footprint of the excavation. This is too large and deep an area to excavate close to the LDW. The excavation would be deeper than the LDW and the base of berm that lies between the LDW and the excavation. Even with dewatering, a large excavation below the LDW level, as demonstrated by the SPLP testing, would agitate the copper in soil and water and potentially result in copper getting into the LDW rather than being left in situ, thus increasing the impact from copper rather than reducing it.

Based on the results of the DCA, Alternative 2 is selected as the preferred modified excavation plan for Area 4.

MODIFIED EXCAVATION PLAN FOR AREA 4

The modified excavation plan for Area 4 for Alternative 2 is depicted in plan view on Figures 3 through 5 and in cross section on Figures 7 through 9. The excavation will remove all soil from the southwest corner of the 8801 property containing PCBs at concentrations

exceeding its remediation level, except for a small pocket of PCB-impacted soil located beneath a stormwater vault, as discussed in the IAWP. The modified excavation will also remove approximately 85% of the copper in the southwest corner of the 8801 property. Only approximately 8% of the remaining volume of copper will exceed the remediation level of 250 mg/kg. The excavation will also remove copper concentrations that exceed the direct contact value of 3,200 mg/kg.

The modified excavation plan for Area 4 would be undertaken following the same specifications as other hotspot excavations at the 8801 property. The excavation area is a designated contaminated area and entry will be controlled. Trucks will be directly loaded, and the excavated material transferred to Waste Management's Duwamish Reload facility before being placed on a train and shipped to its Subtitle D facility in Oregon. Water generated during dewatering will be stored in settling tanks, filtered through sand and granulated activated carbon before being held in holding tanks. Prior to discharge to the sanitary sewer, water samples will be collected and analyzed for parameters designated by the permit requirements. If the water meets the requirements, the water will be discharged to the sanitary sewer; if not, it will be run through the filters and tested again. After the initial discharge, the water will be tested in accordance with the monthly requirements of the permit.

The limits of the modified Area 4 excavation are depicted in Figures 3 through 9 and are based on the analytical results of the 266 soil samples collected during the investigation of the southwest corner of the 8801 property. The analytical results from 62 existing samples (shown on Figures 4 and 5) will be used as confirmation sidewall and bottom samples for the excavation. No additional sidewall or base samples will be collected because of the quantity and distribution of existing data.

After completion of the excavation, the portion of the excavation within 100 feet of the shoreline will be backfilled with clean soil and covered with a clay cap. Overlying the clay cap will be a drainage layer, which will direct water away from the clay cap. The portion of the excavation beyond 100 feet of the shoreline will be backfilled with clean soil and covered with asphalt or concrete.

Institutional Controls

Since chemicals will remain on the 8801 property at concentrations greater than the CULs, institutional controls will be implemented using an environmental covenant developed in accordance with WAC 173-340-440 and Ecology's Toxics Cleanup Program Procedure 440A. In general, the environmental covenant will restrict activities that could disturb or expose contaminated soil beneath the clay cap and asphalt/concrete covers, require regular

inspections of the clay cap and asphalt/concrete covers, and restrict the use of groundwater on the property. The requirements for the environmental covenant are described in the approved Engineering Design Report (Shannon & Wilson, 2021b).

Compliance Monitoring

Post-excavation compliance monitoring will include groundwater sampling at downgradient groundwater monitoring wells along the western boundary of the 8801 property to determine if CULs have been achieved. The locations of the proposed confirmation wells, selected analyses, and schedule are provided in the Compliance Monitoring Plan (Shannon & Wilson, 2021a). Monitoring wells will be installed or replaced as needed. The location of the compliance monitoring wells in the southwest corner of the 8801 property are shown in Exhibit 4. Exhibit 4 shows the approximate extent of the modified excavation for Area 4 in green shading and the wells with the orange halo are compliance monitoring wells. The groundwater gradient is to the left (west).

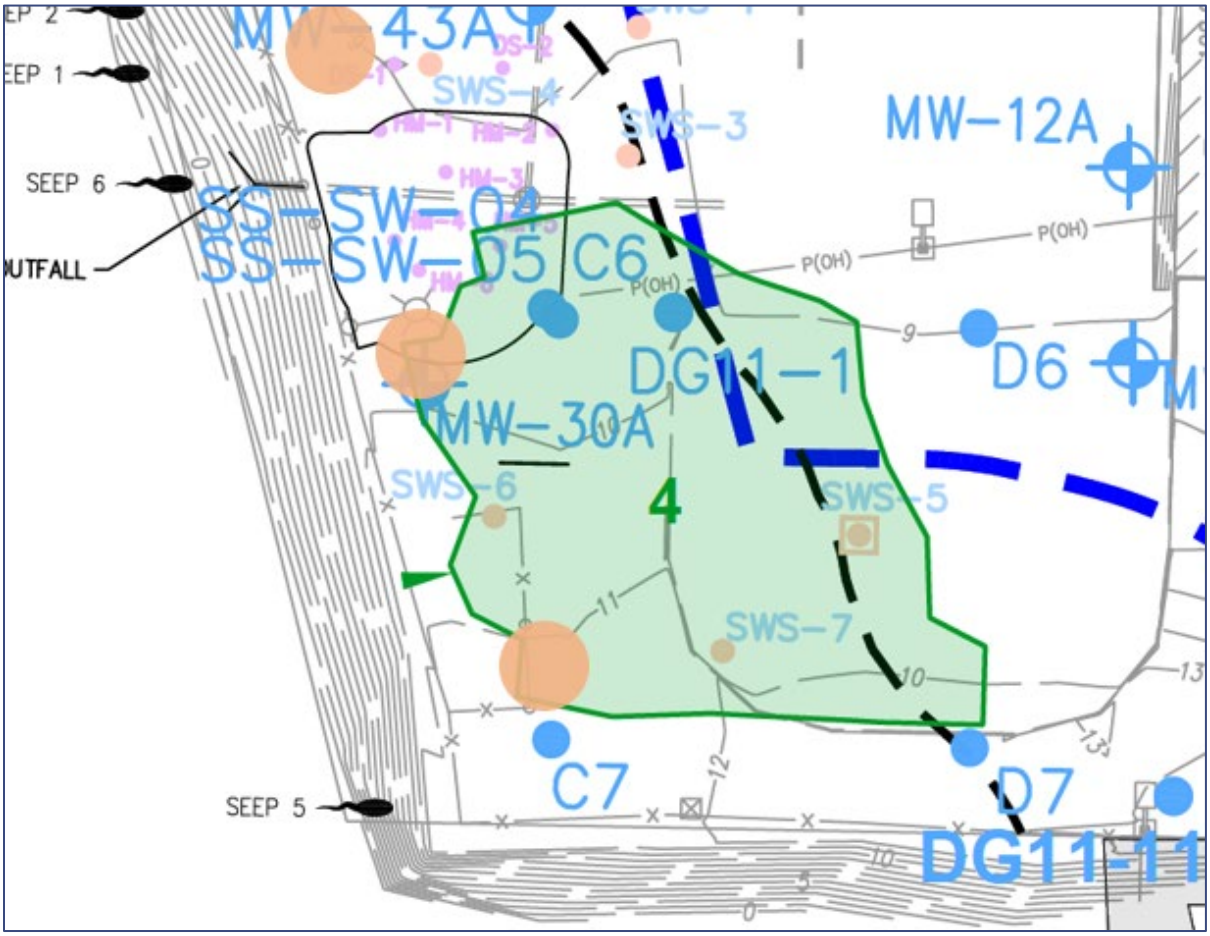

Exhibit 4: Location of Compliance Monitoring Wells (Orange Halo) at the SW Corner of the 8801 Property

In accordance with the Compliance Monitoring Plan, compliance groundwater sampling will include analyses for concentrations of PCBs and total and dissolved copper, as well as other relevant site chemicals of concern.

The compliance monitoring wells will be sampled on a quarterly basis for two years following completion of active remediation. The frequency of monitoring will then be assessed in coordination with Ecology. Although compliance monitoring will start after completion of excavation activities, due to disturbance of soil below the water level during excavation, chemical concentrations may not equilibrate until one year after completion of excavation.

If copper is detected at compliance wells at greater than the CUL after one year following completion of excavations, Ecology will be notified, and a responsive action will be developed and implemented. The presumptive action will be additional monitoring a longer time period.

CONCLUSION

The excavation plan for Area 4 has been modified to account for the infeasibility of removing all soil containing copper at concentrations exceeding its remediation level. The modified excavation plan will continue to meet two key objectives of the Area 4 excavation: (1) to remove all soil containing PCBs above its remediation level, except for a small pocket of soil located beneath a stormwater vault, as discussed in the IAWP; and (2) to remove a substantial mass of soil containing copper at concentrations above its remediation level.

There is no material risk associated with leaving the copper-impacted soil in place for the following reasons:

- Removal of the copper that is co-located with PCBs within both the unsaturated and saturated zone will significantly reduce the mass of remaining copper.
- Detected copper concentrations above the direct contact human health exposure limit will be removed. Impacts to workers from copper will be removed by the excavation.
- Limiting the extent of the excavation to just target PCBs, rather than chasing all the copper, reduces the potential to mobilize the copper into groundwater and sediments while removing elevated copper and PCBs.
- Once the excavation is completed, a clay cap will be installed above the Area 4 excavation and along the shoreline. The clay cap will prevent downward migration of stormwater that could cause leaching from unsaturated soil, will allow equilibrium conditions to be re-established, and will prevent human exposure to the buried copper.

- Excavation already completed at Area 4 has removed a mass of copper and the additional excavation will remove approximately 85% of the soil that remains in the southwest corner of the 8801 property containing copper above its remediation level.
- Post-remediation site conditions will be like the pre-remediation site conditions, which did not result in leaching of copper from soil to groundwater at concentrations above the CULs or generate impacts to the sediment.

The modified excavation will achieve the remedial action objectives for the hotspot excavations at the 8801 property, which include:

- Protect current and future worker exposure to soil contaminants.
- Protect current and future beneficial use of surface water and sediments in the LDW by attaining groundwater CULs before groundwater migrates to the LDW.
- Allow for landscaping to be established within the 100-foot river buffer.

The modified excavation plan for Area 4 is feasible to implement from an engineering perspective, removes the risk of human exposure to PCBs and copper, removes the risk of ecological impacts from PCBs (copper was not previously impacting the ecological environment), and achieves the objectives for the remediation work at the 8801 property.

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MJS:RBP:SKH:SWG/mjs

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Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-1	7	46.3	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	0.0480	<0.0113	<0.0113	0.0480
	8	35.5	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126
A4-2	7	**711**	<0.0112	<0.0112	<0.0112	<0.0112	<0.0112	0.460	<0.0112	<0.0112	<0.0112	0.460
	8	149	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108
	9	132	<0.0106	<0.0106	<0.0106	<0.0106	<0.0106	<0.0106	<0.0106	<0.0106	<0.0106	<0.0106
A4-3	7	85.9	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	0.0512	<0.0111	<0.0111	<0.0111	0.0512
	8	29.1	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117
	8†	29.8	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119
A4-4	7	**312**	<0.0104	<0.0104	<0.0104	<0.0104	<0.0104	0.126	<0.0104	<0.0104	<0.0104	0.126
	8	105	<0.0107	<0.0107	<0.0107	<0.0107	<0.0107	<0.0107	<0.0107	<0.0107	<0.0107	<0.0107
	9	219	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101
A4-SIDE1	2	—	<0.00897	<0.00897	<0.00897	<0.00897	<0.0111	0.0522 J	<0.0111	<0.0111	<0.0111	0.0522 J
	6	—	<0.00636	<0.00636	<0.00636	<0.00636	<0.00785	**0.502**	<0.00785	<0.00785	<0.00785	**0.502**
A4-SIDE2	2	46.1	<0.00880	<0.00880	<0.00880	<0.00880	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109
	6	**1020 E**	<0.00876	<0.00876	<0.00876	<0.00876	<0.0108	0.160	<0.0108	<0.0108	<0.0108	0.160
A4-SIDE3	2	**250 E**	<0.00905	<0.00905	<0.00905	<0.00905	<0.0112	0.0171 J	<0.0112	<0.0112	<0.0112	0.0171 J
	6	**846 E**	<0.00899	<0.00899	<0.00899	<0.00899	<0.0111	0.289	<0.0111	<0.0111	<0.0111	0.289
A4-SIDE4	2	**2460 E**	<0.00905	<0.00905	<0.00905	<0.00905	<0.0112	0.404	<0.0112	<0.0112	<0.0112	0.404
	6	**772 E**	<0.00868	<0.00868	<0.00868	<0.00868	<0.0107	0.126	<0.0107	<0.0107	<0.0107	0.126
A4-SIDE5	2	**2170 E**	<0.00847	<0.00847	<0.00847	<0.00847	<0.0104	**0.515**	<0.0104	<0.0104	<0.0104	**0.515**
	2†	—	<0.00941	<0.00941	<0.00941	<0.00941	<0.0116	**0.822**	<0.0116	<0.0116	<0.0116	**0.822**
	6	**306 E**	<0.00996	<0.00996	<0.00996	<0.00996	<0.0123	0.179	<0.0123	<0.0123	<0.0123	0.179
A4-SIDE6	2	**1490 E**	<0.00928	<0.00928	<0.00928	<0.00928	<0.0114	0.143	<0.0114	<0.0114	<0.0114	0.143
	6	29.1	<0.0106	<0.0106	<0.0106	<0.0106	<0.0130	<0.0130	<0.0130	<0.0130	<0.0130	<0.0130
A4-SIDE7	2	205	<0.00930	<0.00930	<0.00930	<0.00930	<0.0115	0.0991	<0.0115	<0.0115	<0.0115	0.0991
	6	**1170 E**	<0.00901	<0.00901	<0.00901	<0.00901	<0.0111	**2.95**	<0.0111	<0.0111	<0.0111	**2.95**
A4-SIDE8	2	10.8	<0.00749	<0.00749	<0.00749	<0.00749	<0.00924	<0.00924	<0.00924	<0.00924	<0.00924	<0.00924
	6	11.9	<0.00772	<0.00772	<0.00772	<0.00772	<0.00952	<0.00952	<0.00952	<0.00952	<0.00952	<0.00952

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE9	2	163	<0.00986	<0.00986	<0.00986	<0.00986	<0.0122	<0.0122	<0.0122	<0.0122	<0.0122	<0.0122
	6	**1110 E**	<0.00889	<0.00889	<0.00889	<0.00889	<0.0110	0.484	<0.0110	<0.0110	<0.0110	0.484
A4-SIDE10	2	41.1	<0.00868	<0.00868	<0.00868	<0.00868	<0.0107	<0.0107	<0.0107	<0.0107	<0.0107	<0.0107
	6	—	<0.00945	<0.00945	<0.00945	<0.00945	<0.0117	**0.589**	<0.0117	<0.0117	<0.0117	**0.589**
A4-SIDE11	2	**272**	<0.00643	<0.00643	<0.00643	<0.00643	<0.00794	0.149	<0.00794	<0.00794	<0.00794	0.149
	6	**1650 E**	<0.00698	<0.00698	<0.00698	<0.00698	<0.00861	0.412	<0.00861	<0.00861	<0.00861	0.412
A4-SIDE12	2	92.1	<0.00721	<0.00721	<0.00721	<0.00721	<0.00889	0.0101 J	<0.00889	<0.00889	<0.00889	0.0101 J
	6	**1240 E**	<0.00677	<0.00677	<0.00677	<0.00677	<0.00835	0.275	<0.00835	<0.00835	<0.00835	0.275
A4-SIDE13	2	192	<0.00612	<0.00612	<0.00612	<0.00612	<0.00755	0.308	<0.00755	<0.00755	<0.00755	0.308
	6	**1360 E**	<0.00669	<0.00669	<0.00669	<0.00669	<0.00825	0.405	<0.00825	<0.00825	<0.00825	0.405
A4-SIDE14	3	74.1	<0.00635	<0.00635	<0.00635	<0.00635	<0.00783	0.0264 J	<0.00783	<0.00783	<0.00783	0.0264 J
	6	**805**	<0.00670	<0.00670	<0.00670	<0.00670	<0.00827	0.143	<0.00827	<0.00827	<0.00827	0.143
A4-SIDE15	2	**446**	<0.00694	<0.00694	<0.00694	<0.00694	<0.00856	0.0369 J	<0.00856	<0.00856	<0.00856	0.0369 J
	6	**1300**	<0.00771	<0.00771	<0.00771	<0.00771	<0.00951	0.133	<0.00951	<0.00951	<0.00951	0.133
A4-SIDE16	2	66.8	<0.00398	<0.00398	<0.00398	<0.00398	<0.00491	0.0219 J	<0.00491	<0.00491	<0.00491	0.0219 J
	6	157	<0.00417	<0.00417	<0.00417	<0.00417	<0.00515	0.0348 J	<0.00515	<0.00515	<0.00515	0.0348 J
A4-SIDE17	2	**2580 E**	<0.00421	<0.00421	<0.00421	<0.00421	<0.00520	**0.608**	<0.00520	<0.00520	<0.00520	**0.608**
	2†	**1910**	<0.00453	<0.00453	<0.00453	<0.00453	<0.00560	0.462	<0.00560	<0.00560	<0.00560	0.462
	6	24.8	<0.00520	<0.00520	<0.00520	<0.00520	<0.00640	<0.00640	<0.00640	<0.00640	<0.00640	<0.00640
A4-SIDE18	2	**733**	<0.00430	<0.00430	<0.00430	<0.00430	<0.00530	0.130	<0.00530	<0.00530	<0.00530	0.130
	6	41.0	<0.00486	<0.00486	<0.00486	<0.00486	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600
A4-SIDE19	2	41.3	<0.00424	<0.00424	<0.00424	<0.00424	<0.00520	<0.00520	<0.00520	<0.00520	<0.00520	<0.00520
	6	27.3	<0.00469	<0.00469	<0.00469	<0.00469	<0.00580	<0.00580	<0.00580	<0.00580	<0.00580	<0.00580
A4-SIDE20	2	34.2	<0.00428	<0.00428	<0.00428	<0.00428	<0.00530	0.0121 J	<0.00530	<0.00530	<0.00530	0.0121 J
	6	**560**	<0.00435	<0.00435	<0.00435	<0.00435	<0.00535	0.0473 J	<0.00535	<0.00535	<0.00535	0.0473 J
A4-SIDE21	2	**1630**	<0.0211	<0.0211	<0.0211	<0.0211	<0.0211	0.329	<0.0211	<0.0211	<0.0211	0.329
	6	**1910**	<0.0199	<0.0199	<0.0199	<0.0199	<0.0199	**0.619**	<0.0199	<0.0199	<0.0199	**0.619**

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE22	2	49.8	<0.0210	<0.0210	<0.0210	<0.0210	<0.0210	0.0332 J	<0.0210	<0.0210	<0.0210	0.0332 J
	6	**821**	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	**0.617**	<0.0214	<0.0214	<0.0214	**0.617**
A4-SIDE23	2	16.1	<0.0185	<0.0185	<0.0185	<0.0185	<0.0185	0.0548	<0.0185	<0.0185	<0.0185	0.0548
	6	**1240**	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	**0.555**	<0.0193	<0.0193	<0.0193	**0.555**
A4-SIDE24	2	73.9	<0.0196	<0.0196	<0.0196	<0.0196	<0.0196	0.0428	<0.0196	<0.0196	<0.0196	0.0428
	6	**1910**	<0.0222	<0.0222	<0.0222	<0.0222	<0.0222	**1.12**	<0.0222	<0.0222	<0.0222	**1.12**
A4-SIDE25	2	**1710**	<0.0223	<0.0223	<0.0223	<0.0223	<0.0223	0.120	<0.0223	<0.0223	<0.0223	0.120
	6	**956 JL***	<0.0220	<0.0220	<0.0220	<0.0220	<0.0220	0.157	<0.0220	<0.0220	<0.0220	0.157
A4-SIDE26	2	**514**	<0.0205	<0.0205	<0.0205	<0.0205	<0.0205	0.0425	<0.0205	<0.0205	<0.0205	0.0425
	6	**1140**	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	0.451	<0.0248	<0.0248	<0.0248	0.451
A4-SIDE27	2	**1770**	<0.0202	<0.0202	<0.0202	<0.0202	<0.0202	0.397	<0.0202	<0.0202	<0.0202	0.397
	6	36.9	<0.0221	<0.0221	<0.0221	<0.0221	<0.0221	0.0283 J	<0.0221	<0.0221	<0.0221	0.0283 J
	6†	37.4	<0.0242	<0.0242	<0.0242	<0.0242	<0.0242	0.0160 J	<0.0242	<0.0242	<0.0242	0.0160 J
A4-SIDE28	2	**628**	<0.0249	<0.0249	<0.0249	<0.0249	<0.0249	0.293	<0.0249	<0.0249	<0.0249	0.293
	6	34.2	<0.0249	<0.0249	<0.0249	<0.0249	<0.0249	0.0266 J	<0.0249	<0.0249	<0.0249	0.0266 J
A4-SIDE29	2	135	<0.0290	<0.0290	<0.0290	<0.0290	<0.0290	0.0862	<0.0290	<0.0290	<0.0290	0.0862
	6.5	**2300**	<0.0272	<0.0272	<0.0272	<0.0272	<0.0272	0.398	<0.0272	<0.0272	<0.0272	0.398
A4-SIDE30	2	**274**	<0.0266	<0.0266	<0.0266	<0.0266	<0.0266	0.0884	<0.0266	<0.0266	<0.0266	0.0884
	6	**333**	<0.0290	<0.0290	<0.0290	<0.0290	<0.0290	0.0444 J	<0.0290	<0.0290	<0.0290	0.0444 J
A4-SIDE31	2	144	<0.0266	<0.0266	<0.0266	<0.0266	<0.0266	0.0175 J	<0.0266	<0.0266	<0.0266	0.0175 J
	6	**634**	<0.0288	<0.0288	<0.0288	<0.0288	<0.0288	0.0510 J	<0.0288	<0.0288	<0.0288	0.0510 J
A4-SIDE32	8	**416**	<0.0282	<0.0282	<0.0282	<0.0282	<0.0282	0.0716	<0.0282	<0.0282	<0.0282	0.0716
A4-SIDE33	2	**1430 E**	—	—	—	—	—	—	—	—	—	—
	6	**383**	—	—	—	—	—	—	—	—	—	—
A4-SIDE34	2	71.0 J*	<0.0272	<0.0272	<0.0272	<0.0272	<0.0272	<0.0272	<0.0272	<0.0272	<0.0272	<0.0272
	2†	182 J*	<0.0268	<0.0268	<0.0268	<0.0268	<0.0268	0.0268 J	<0.0268	<0.0268	<0.0268	0.0268 J
	6	**1210**	<0.0229	<0.0229	<0.0229	<0.0229	<0.0229	0.148	<0.0229	<0.0229	<0.0229	0.148
	8	**934**	<0.0260	<0.0260	<0.0260	<0.0260	<0.0260	0.0925	<0.0260	<0.0260	<0.0260	0.0925

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE35	2	191	—	—	—	—	—	—	—	—	—	—
	6	**1310 E**	—	—	—	—	—	—	—	—	—	—
A4-SIDE36	2	**784**	<0.0268	<0.0268	<0.0268	<0.0268	<0.0268	**0.595**	<0.0268	<0.0268	<0.0268	**0.595**
	6	**2010**	<0.0285	<0.0285	<0.0285	<0.0285	<0.0285	**0.973**	<0.0285	<0.0285	<0.0285	**0.973**
A4-SIDE37	2	**1590**	<0.0295	<0.0295	<0.0295	<0.0295	<0.0295	0.331	<0.0295	<0.0295	<0.0295	0.331
	6	**1830**	<0.0280	<0.0280	<0.0280	<0.0280	<0.0280	0.479	<0.0280	<0.0280	<0.0280	0.479
	8	**2250**	<0.0263	<0.0263	<0.0263	<0.0263	<0.0263	**0.564**	<0.0263	<0.0263	<0.0263	**0.564**
	9	**1900 E**	<0.0253	<0.0253	<0.0253	<0.0253	<0.0253	**1.58**	<0.0253	<0.0253	<0.0253	**1.58**
A4-SIDE38	2	**908**	<0.0251	<0.0251	<0.0251	<0.0251	<0.0251	0.203	<0.0251	<0.0251	<0.0251	0.203
	6	**2090 E**	<0.0273	<0.0273	<0.0273	<0.0273	<0.0273	**1.59**	<0.0273	<0.0273	<0.0273	**1.59**
A4-SIDE39	2	**2010**	<0.0295	<0.0295	<0.0295	<0.0295	<0.0295	**0.513**	<0.0295	<0.0295	<0.0295	**0.513**
	6	**2750**	<0.0207	<0.0207	<0.0207	<0.0207	<0.0207	0.330	<0.0207	<0.0207	<0.0207	0.330
A4-SIDE40	1	**356**	—	—	—	—	—	—	—	—	—	—
A4-SIDE41	2	248	<0.0311	<0.0311	<0.0311	<0.0311	<0.0311	0.0766	<0.0311	<0.0311	<0.0311	0.0766
	6	35.3	<0.0304	<0.0304	<0.0304	<0.0304	<0.0304	0.0501 J	<0.0304	<0.0304	<0.0304	0.0501 J
A4-SIDE42	2	100	<0.0233	<0.0233	<0.0233	<0.0233	<0.0233	0.0363 J	<0.0233	<0.0233	<0.0233	0.0363 J
A4-SIDE43	1	**1030**	<0.0281	<0.0281	<0.0281	<0.0281	<0.0281	**0.989**	<0.0281	<0.0281	<0.0281	**0.989**
A4-SIDE44	1	161	<0.0305	<0.0305	<0.0305	<0.0305	<0.0305	0.0380 J	<0.0305	<0.0305	<0.0305	0.0380 J
A4-SIDE45	1	**1740**	<0.0293	<0.0293	<0.0293	<0.0293	<0.0293	**0.572**	<0.0293	<0.0293	<0.0293	**0.572**
	6	47.4	<0.0302	<0.0302	<0.0302	<0.0302	<0.0302	0.0222 J	<0.0302	<0.0302	<0.0302	0.0222 J
A4-SIDE46	2	**2460 E**	<0.0281	<0.0281	<0.0281	<0.0281	<0.0281	**2.28 J***	<0.0281	<0.0281	<0.0281	**2.28**
	2†	**1970 E**	<0.0249	<0.0249	<0.0249	<0.0249	<0.0249	**1.30 J***	<0.0249	<0.0249	<0.0249	**1.30**
A4-SIDE47	2	**1400**	<0.0211	<0.0211	<0.0211	<0.0211	<0.0211	0.303	<0.0211	<0.0211	<0.0211	0.303
A4-SIDE48	4.5	**268**	<0.00717	<0.00717	<0.00717	<0.00717	<0.00885	0.0601	<0.00885	<0.00885	<0.00885	0.0601
A4-SIDE49	4.5	35.4	<0.00667	<0.00667	<0.00667	<0.00667	<0.00823	<0.00823	<0.00823	<0.00823	0.00823	<0.00823
A4-SIDE50	2	38.7	<0.00708	<0.00708	<0.00708	<0.00708	<0.00874	<0.00874	<0.00874	<0.00874	<0.00874	<0.00874
	2†	40.2	<0.00676	<0.00676	<0.00676	<0.00676	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	0.00882
	5	146	<0.00766	<0.00766	<0.00766	<0.00766	<0.00945	0.0390	<0.00945	<0.00945	<0.00945	0.0390

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE51	2	148	<0.00680	<0.00680	<0.00680	<0.00680	<0.00839	0.0885	<0.00839	<0.00839	<0.00839	0.0885
	5	**2460**	<0.00678	<0.00678	<0.00678	<0.00678	<0.00836	0.0557	<0.00836	<0.00836	<0.00836	0.0557
A4-SIDE52	2	191	<0.00660	<0.00660	<0.00660	<0.00660	<0.00814	0.0305	<0.00814	<0.00814	<0.00814	0.0305
	5	84.5	<0.00676	<0.00676	<0.00676	<0.00676	<0.00835	0.130	<0.00835	<0.00835	<0.00835	0.130
	8	**546**	<0.00860	<0.00860	<0.00860	<0.00860	<0.0106	0.0868	<0.0106	<0.0106	<0.0106	0.0868
	9	**917**	<0.00850	<0.00850	<0.00850	<0.00850	<0.0105	0.105	<0.0105	<0.0105	<0.0105	0.105
	10	154	<0.00786	<0.00786	<0.00786	<0.00786	<0.00970	0.0576	<0.00970	<0.00970	<0.00970	0.0576
A4-SIDE55	2	**1700**	<0.00748	<0.00748	<0.00748	<0.00748	<0.00922	0.0780	<0.00922	<0.00922	<0.00922	0.0780
	6.5	**1060**	<0.00730	<0.00730	<0.00730	<0.00730	<0.00901	0.297	<0.00901	<0.00901	<0.00901	0.297
A4-SIDE56	2	**264**	<0.00664	<0.00664	<0.00664	<0.00664	<0.00820	0.0253	<0.00820	<0.00820	<0.00820	0.0253
	5	**332**	<0.00627	<0.00627	<0.00627	<0.00627	<0.00773	0.0421	<0.00773	<0.00773	<0.00773	0.0421
A4-SIDE57	9	**376**	<0.00665	<0.00665	<0.00665	<0.00665	<0.00821	0.0469	<0.00821	<0.00821	<0.00821	0.0469
	10	**3160**	<0.00798	<0.00798	<0.00798	<0.00798	<0.00985	0.319	<0.00985	<0.00985	<0.00985	0.319
	11	**2080 J***	<0.00767	<0.00767	<0.00767	<0.00767	<0.00947	0.116	<0.00947	<0.00947	<0.00947	0.116
	12	227	<0.00775	<0.00775	<0.00775	<0.00775	<0.00957	0.0993	<0.00957	<0.00957	<0.00957	0.0993
A4-SIDE58	2	**601 J***	<0.00690	<0.00690	<0.00690	<0.00690	<0.00852	**0.810**	<0.00852	<0.00852	<0.00852	**0.810**
	2†	**3400 J***	<0.00682	<0.00682	<0.00682	<0.00682	<0.00842	**1.32**	<0.00842	<0.00842	<0.00842	**1.32**
	6	**1110**	<0.00709	<0.00709	<0.00709	<0.00709	<0.00875	0.0591	<0.00875	<0.00875	<0.00875	0.0591
A4-SIDE59	2	**1820**	<0.00655	<0.00655	<0.00655	<0.00655	<0.00808	0.126	<0.00808	<0.00808	<0.00808	0.126
	6	**1780**	<0.00722	<0.00722	<0.00722	<0.00722	<0.00891	0.285	<0.00891	<0.00891	<0.00891	0.285
	8	**1180**	<0.0104	<0.0104	<0.0104	<0.0104	<0.0129	0.129	<0.0129	<0.0129	<0.0129	0.129
	9	**4530**	<0.00881	<0.00881	<0.00881	<0.00881	<0.0109	**1.36**	<0.0109	<0.0109	<0.0109	**1.36**
	10	**1610**	<0.00745	<0.00745	<0.00745	<0.00745	<0.00919	0.223	<0.00919	<0.00919	<0.00919	0.223
	11	**964**	<0.00671	<0.00671	<0.00671	<0.00671	<0.00828	0.308	<0.00828	<0.00828	<0.00828	0.308
	12	**2120**	<0.00801	<0.00801	<0.00801	<0.00801	<0.00988	0.296	<0.00988	<0.00988	<0.00988	0.296
	13	**1000**	<0.00725	<0.00725	<0.00725	<0.00725	<0.00894	0.161	<0.00894	<0.00894	<0.00894	0.161
	14	**409**	<0.00809	<0.00809	<0.00809	<0.00809	<0.00998	0.0420	<0.00998	<0.00998	<0.00998	0.0420
	15	121	<0.00840	<0.00840	<0.00840	<0.00840	<0.0104	0.165	<0.0104	<0.0104	<0.0104	0.165

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE60	10	**1640**	<0.00627	<0.00627	<0.00627	<0.00627	<0.00774	**0.535**	<0.00774	<0.00774	<0.00774	**0.535**
	11	**3060**	<0.00844	<0.00844	<0.00844	<0.00844	<0.0104	0.437	<0.0104	<0.0104	<0.0104	0.437
	11.5	**2530**	<0.00723	<0.00723	<0.00723	<0.00723	<0.00893	**0.890**	<0.00893	<0.00893	<0.00893	**0.890**
	13	**2480**	<0.00772	<0.00772	<0.00772	<0.00772	<0.00952	**0.662**	<0.00952	<0.00952	<0.00952	**0.662**
	14	**354**	<0.00739	<0.00739	<0.00739	<0.00739	<0.00912	0.146	<0.00912	<0.00912	<0.00912	0.146
	15	168 J*	<0.00868	<0.00868	<0.00868	<0.00868	<0.0107	0.167	<0.0107	<0.0107	<0.0107	0.167
A4-SIDE61	2	**1590**	<0.00698	<0.00698	<0.00698	<0.00698	<0.00861	0.208	<0.00861	<0.00861	<0.00861	0.208
	5.5	**2170**	<0.00647	<0.00647	<0.00647	<0.00647	<0.00799	0.127	<0.00799	<0.00799	<0.00799	0.127
	8	**852**	<0.00827	<0.00827	<0.00827	<0.00827	<0.0102	0.183	<0.0102	<0.0102	<0.0102	0.183
	10	**1410**	<0.00756	<0.00756	<0.00756	<0.00756	<0.00932	0.277	<0.00932	<0.00932	<0.00932	0.277
	11	**1510**	<0.00708	<0.00708	<0.00708	<0.00708	<0.00874	**1.00**	<0.00874	<0.00874	<0.00874	**1.00**
	12	**980**	<0.00687	<0.00687	<0.00687	<0.00687	<0.00848	0.314	<0.00848	<0.00848	<0.00848	0.314
	13	**1100**	<0.00712	<0.00712	<0.00712	<0.00712	<0.00878	0.230	<0.00878	<0.00878	<0.00878	0.230
	14	**1360**	<0.00701	<0.00701	<0.00701	<0.00701	<0.00865	**0.655**	<0.00865	<0.00865	<0.00865	**0.655**
	15	**349**	<0.00703	<0.00703	<0.00703	<0.00703	<0.00867	0.135	0.00867 J*	<0.00867	<0.00867	0.135
A4-SIDE62	2	**2820**	<0.00634	<0.00634	<0.00634	<0.00634	<0.00782	0.426	<0.00782	<0.00782	<0.00782	0.426
	5	**476 J***	<0.00694	<0.00694	<0.00694	<0.00694	<0.00856	0.0508	<0.00856	<0.00856	<0.00856	0.0508
	6	**401**	<0.00780	<0.00780	<0.00780	<0.00780	<0.00962	0.254	<0.00962	<0.00962	<0.00962	0.254
	8	**352**	<0.00753	<0.00753	<0.00753	<0.00753	<0.00929	0.340	<0.00929	<0.00929	<0.00929	0.340
	9	**277**	<0.00792	<0.00792	<0.00792	<0.00792	<0.00977	0.138	<0.00977	<0.00977	<0.00977	0.138
	10	**927**	<0.00797	<0.00797	<0.00797	<0.00797	<0.00984	0.234	<0.00984	<0.00984	<0.00984	0.234
	11	175	<0.00849	<0.00849	<0.00849	<0.00849	<0.0105	0.0800	<0.0105	<0.0105	<0.0105	0.0800
A4-SIDE63	2	229	<0.00706	<0.00706	<0.00706	<0.00706	<0.00871	0.0659	<0.00871	<0.00871	<0.00871	0.0659
	5	**295**	<0.00653	<0.00653	<0.00653	<0.00653	<0.00805	0.0117	<0.00805	<0.00805	<0.00805	0.0117
	6	127	<0.00924	<0.00924	<0.00924	<0.00924	<0.0114	0.0176	<0.0114	<0.0114	<0.0114	0.0176
A4-SIDE64	2	21.8	<0.00735 J*	<0.00735	<0.00735	<0.00735	<0.00908	<0.00908	<0.00908 J*	<0.00908	<0.00908	<0.00908
	5	208	<0.00853	<0.00853	<0.00853	<0.00853	<0.0105	0.161	<0.0105	<0.0105	<0.0105	0.161

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE65	2	161	<0.00776 J*	<0.00776	<0.00776	<0.00776	<0.00958	0.0917	<0.00958 J*	<0.00958	<0.00958	0.0917
	5	**260**	<0.00767	<0.00767	<0.00767	<0.00767	<0.00946	0.0441	<0.00946	<0.00946	<0.00946	0.0441
A4-SIDE66	1.5	26.2	<0.00956	<0.00956	<0.00956	<0.00956	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118
	5	15.3	<0.00806	<0.00806	<0.00806	<0.00806	<0.00994	<0.00994	<0.00994	<0.00994	<0.00994	<0.00994
A4-SIDE67	3	**1840**	<0.00827	<0.00827	<0.00827	<0.00827	<0.0102	**1.51**	<0.0102	<0.0102	<0.0102	**1.51**
	6	**1140**	<0.00728	<0.00728	<0.00728	<0.00728	<0.00898	0.370	<0.00898	<0.00898	<0.00898	0.370
A4-SIDE68	2	**1190**	<0.00711	<0.00711	<0.00711	<0.00711	<0.00878	0.314	<0.00878	<0.00878	<0.00878	0.314
	7	**3720**	<0.0657	<0.0657	<0.0657	<0.0657	<0.0810	**2.12**	<0.0810	<0.0810	<0.0810	**2.12**
A4-SIDE69	1.5	**893**	<0.00702	<0.00702	<0.00702	<0.00702	<0.00866	0.234	<0.00866	<0.00866	<0.00866	<0.00866
	1.5†	**972**	<0.00642	<0.00642	<0.00642	<0.00642	<0.00792	0.214	<0.00792	<0.00792	<0.00792	0.214
	6.5	33.6	<0.00685	<0.00685	<0.00685	<0.00685	<0.00846	0.0207	<0.00846	<0.00846	<0.00846	0.0207
A4-SIDE70	2	**719**	<0.00716	<0.00716	<0.00716	<0.00716	<0.00884	0.500	<0.00884	<0.00884	<0.00884	0.500
	7	29.8	<0.00639	<0.00639	<0.00639	<0.00639	<0.00789	<0.00789	<0.00789	<0.00789	<0.00789	<0.00789
A4-SIDE71	2.5	**3920**	<0.00741	<0.00741	<0.00741	<0.00741	<0.00914	0.212	<0.00914	<0.00914	<0.00914	0.212
	7	**389**	<0.00687	<0.00687	<0.00687	<0.00687	<0.00847	0.0705	<0.00847	<0.00847	<0.00847	0.0705
	8	66.6	<0.00821	<0.00821	<0.00821	<0.00821	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101
A4-SIDE72	2	**1300**	<0.00852	<0.00852	<0.00852	<0.00852	<0.0105	0.135	<0.0105	<0.0105	<0.0105	0.135
	6.5	**1120**	<0.0101	<0.0101	<0.0101	<0.0101	<0.0124	0.0952	<0.0124	<0.0124	<0.0124	0.0952
A4-SIDE73	2.5	**716**	<0.00811	<0.00811	<0.00811	<0.00811	<0.0100	0.0202	<0.0100	<0.0100	<0.0100	0.0202
	2.5†	**664**	<0.00762	<0.00762	<0.00762	<0.00762	<0.00940	0.0255	<0.00940	<0.00940	<0.00940	0.0255
	7	**1710**	<0.00925	<0.00925	<0.00925	<0.00925	<0.0114	0.103	<0.0114	<0.0114	<0.0114	0.103
A4-SIDE74	2.5	161	<0.00769	<0.00769	<0.00769	<0.00769	<0.00949	0.0490	<0.00949	<0.00949	<0.00949	0.0490
	7	**445**	<0.00907	<0.00907	<0.00907	<0.00907	<0.0112	0.106	<0.0112	<0.0112	<0.0112	0.106

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE75	2	**2020**	<0.00769	<0.00769	<0.00769	<0.00769	<0.00948	0.175	<0.00948	<0.00948	<0.00948	0.175
	8	40.4	<0.00701	<0.00701	<0.00701	<0.00701	<0.00865	**0.889**	<0.00865	<0.00865	<0.00865	**0.889**
	9	**1670**	<0.00679	<0.00679	<0.00679	<0.00679	<0.00837	**1.15**	<0.00837	<0.00837	<0.00837	**1.15**
	10	**258**	<0.00669	<0.00669	<0.00669	<0.00669	<0.00826	0.0595	<0.00826	<0.00826	<0.00826	0.0595
	11	**2520**	—	—	—	—	—	—	—	—	—	—
A4-SIDE76	1.5	**1200**	<0.00812	<0.00812	<0.00812	<0.00812	<0.00998	0.176 J*	<0.00998	<0.00998	<0.00998	0.176
	1.5†	**780**	<0.00769	<0.00769	<0.00769	<0.00769	<0.00948	0.100 J*	<0.00948	<0.00948	<0.00948	0.100
	7	**783**	<0.00663	<0.00663	<0.00663	<0.00663	<0.00818	0.345	<0.00818	<0.00818	<0.00818	0.345
	8	**2620**	<0.00721	<0.00721	<0.00721	<0.00721	<0.00889	**1.22**	<0.00889	<0.00889	<0.00889	**1.22**
	9	**2320**	<0.00616	<0.00616	<0.00616	<0.00616	<0.00760	**1.55**	<0.00760	<0.00760	<0.00760	**1.55**
	10	**2250**	<0.00745	<0.00745	<0.00745	<0.00745	<0.00919	**0.895**	<0.00919	<0.00919	<0.00919	**0.895**
	11	**1250**	<0.00668	<0.00668	<0.00668	<0.00668	<0.00824	0.129	<0.00824	<0.00824	<0.00824	0.129
	12	**1340**	<0.00910	<0.00910	<0.00910	<0.00910	<0.0112	**0.517**	<0.0112	<0.0112	<0.0112	**0.517**
	13	**706**	<0.00764	<0.00764	<0.00764	<0.00764	<0.00943	0.245	<0.00943	<0.00943	<0.00943	0.245
	14	45.9	<0.00931	<0.00931	<0.00931	<0.00931	<0.0115	0.113	<0.0115	<0.0115	<0.0115	0.113
A4-SIDE77	2	**568**	<0.00794	<0.00794	<0.00794	<0.00794	<0.00979	0.0673	<0.00979	<0.00979	<0.00979	0.0673
	6.5	**897**	<0.00812	<0.00812	<0.00812	<0.00812	<0.0100	**0.714**	<0.0100	<0.0100	<0.0100	**0.714**
A4-SIDE78	1.5	**2870**	<0.00814	<0.00814	<0.00814	<0.00814	<0.0100	0.465	<0.0100	<0.0100	<0.0100	0.465
	1.5†	**3370**	<0.00865	<0.00865	<0.00865	<0.00865	<0.0107	**0.616**	<0.0107	<0.0107	<0.0107	**0.616**
	7	**566**	<0.0794	<0.0794	<0.0794	<0.0794	<0.0979	**4.30**	<0.0979	<0.0979	<0.0979	**4.30**
	8	**407**	<0.00741	<0.00741	<0.00741	<0.00741	<0.00914	0.0962	0.0754	<0.00914	<0.00914	0.172
	9	**258**	<0.00809	<0.00809	<0.00809	<0.00809	<0.00998	0.0645	<0.00998	<0.00998	<0.00998	0.0645
	10	225	—	—	—	—	—	—	—	—	—	—
A4-SIDE79	2	**1110**	<0.00856	<0.00856	<0.00856	<0.00856	<0.0106	**0.535**	<0.0106	<0.0106	<0.0106	**0.535**
	5	**472**	<0.00868	<0.00868	<0.00868	<0.00868	<0.0107	0.346	<0.0107	<0.0107	<0.0107	0.346
	6	**1030**	<0.00881	<0.00881	<0.00881	<0.00881	<0.0109	0.475	<0.0109	<0.0109	<0.0109	0.475
	7	**461**	<0.00938	<0.00938	<0.00938	<0.00938	<0.0116	0.0494	<0.0116	<0.0116	<0.0116	0.0494
	8	166	<0.0102	<0.0102	<0.0102	<0.0102	<0.0125	0.0168	<0.0125	<0.0125	<0.0125	0.0168

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE80	1.5	**782**	<0.00908	<0.00908	<0.00908	<0.00908	<0.0112	0.244	<0.0112	<0.0112	<0.0112	0.244
	5	**914**	<0.0101	<0.0101	<0.0101	<0.0101	<0.0124	0.434	<0.0124	<0.0124	<0.0124	0.434
A4-SIDE81	2	**825**	<0.00888	<0.00888	<0.00888	<0.00888	<0.0110	**2.88**	<0.0110	<0.0110	<0.0110	**2.88**
	6	**658**	<0.00850	<0.00850	<0.00850	<0.00850	<0.0105	**1.06**	<0.0105	<0.0105	<0.0105	**1.06**
A4-SIDE82	1.5	**3550**	<0.00907	<0.00907	<0.00907	<0.00907	<0.0112	**0.837**	<0.0112	<0.0112	<0.0112	**0.837**
	7	**1390**	<0.00910	<0.00910	<0.00910	<0.00910	<0.0112	0.216	<0.0112	<0.0112	<0.0112	0.216
	8	**334**	<0.0106	<0.0106	<0.0106	<0.0106	<0.0131	0.0740	<0.0131	<0.0131	<0.0131	0.0740
	9	**292**	—	—	—	—	—	—	—	—	—	—
A4-SIDE83	3	**1120**	<0.00874	<0.00874	<0.00874	<0.00874	<0.0108	**0.767**	<0.0108	<0.0108	<0.0108	**0.767**
	6	**1380**	<0.00888	<0.00888	<0.00888	<0.00888	<0.0110	**0.781**	<0.0110	<0.0110	<0.0110	**0.781**
A4-SIDE84	3	**373**	<0.00873	<0.00873	<0.00873	<0.00873	<0.0108	0.151	<0.0108	<0.0108	<0.0108	0.151
A4-SIDE86	1.5	**2020 J***	<0.00869	<0.00869	<0.00869	<0.00869	<0.0107	**0.727**	<0.0107	<0.0107	<0.0107	**0.727**
	1.5†	**4940 J***	<0.00806	<0.00806	<0.00806	<0.00806	<0.00994	**0.518**	<0.00994	<0.00994	<0.00994	**0.518**
	7	**1540**	<0.00919	<0.00919	<0.00919	<0.00919	<0.0113	0.339	<0.0113	<0.0113	<0.0113	0.339
A4-SIDE87	2	**5050**	<0.00788	<0.00788	<0.00788	<0.00788	<0.00973	**1.00**	<0.00973	<0.00973	<0.00973	**1.00**
	6.5	**2220**	<0.00790	<0.00790	<0.00790	<0.00790	<0.00975	**0.973**	<0.00975	<0.00975	<0.00975	**0.973**
A4-SIDE88	1.5	**1130**	<0.00662	<0.00662	<0.00662	<0.00662	<0.00816	0.137	<0.00816	<0.00816	<0.00816	0.137
	1.5†	**775**	<0.00629	<0.00629	<0.00629	<0.00629	<0.00776	0.101	<0.00776	<0.00776	<0.00776	0.101
	7	**2590**	<0.00702	<0.00702	<0.00702	<0.00702	<0.00866	0.448	<0.00866	<0.00866	<0.00866	0.448
A4-SIDE92	1.5	18.3	<0.00745	<0.00745	<0.00745	<0.00745	<0.00919	<0.00919	<0.00919	<0.00919	<0.00919	<0.00919
	5	148	<0.00724	<0.00724	<0.00724	<0.00724	<0.00892	<0.00892	<0.00892	<0.00892	<0.00892	<0.00892
A4-SIDE125	2	45.1	<0.00898	<0.00898	<0.00898	<0.00898	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111
	6	11.9	<0.0102	<0.0102	<0.0102	<0.0102	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126
	8	19.6	<0.00997	<0.00997	<0.00997	<0.00997	<0.0123	<0.0123	<0.0123	<0.0123	<0.0123	<0.0123
A4-SIDE126	2	208	<0.0101	<0.0101	<0.0101	<0.0101	<0.0124	0.154	<0.0124	<0.0124	<0.0124	0.154
	6	35.4	<0.00963	<0.00963	<0.00963	<0.00963	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
A4-SIDE127	2	69.7	<0.00997	<0.00997	<0.00997	<0.00997	<0.0123	<0.0123	<0.0123	<0.0123	<0.0123	<0.0123
	6	36.3	<0.00945	<0.00945	<0.00945	<0.00945	<0.0117	0.215	<0.0117	<0.0117	<0.0117	0.215
	8	25.1	<0.00916	<0.00916	<0.00916	<0.00916	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113
A4-SIDE128	1	91.2	<0.00885	<0.00885	<0.00885	<0.00885	<0.0109	0.0903	<0.0109	<0.0109	<0.0109	0.0903
	6	**499**	<0.00938	<0.00938	<0.00938	<0.00938	<0.0116	0.0566	<0.0116	<0.0116	<0.0116	0.0566
A4-SIDE129	1	**3930**	<0.00899	<0.00899	<0.00899	<0.00899	<0.0111	**5.33**	<0.0111	<0.0111	<0.0111	**5.33**
	6.2	**3870**	<0.00849	<0.00849	<0.00849	<0.00849	<0.0105	**2.69**	<0.0105	<0.0105	<0.0105	**2.69**
A4-SIDE130	2	**744**	<0.00871	<0.00871	<0.00871	<0.00871	<0.0107	0.0392	<0.0107	<0.0107	<0.0107	0.0392
	6	155	<0.00882	<0.00882	<0.00882	<0.00882	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109
A4-SIDE131	2	**2260**	—	—	—	—	—	—	—	—	—	—
A4-SIDE132	2	**1480**	—	—	—	—	—	—	—	—	—	—
A4-SIDE133	2	**1240**	<0.00861	<0.00861	<0.00861	<0.00861	<0.0106	0.203	<0.0106	<0.0106	<0.0106	0.203
	5.5	132	<0.00808	<0.00808	<0.00808	<0.00808	<0.00996	0.0482	<0.00996	<0.00996	<0.00996	0.0482
A4-SIDE134	2	**807 J***	<0.00859	<0.00859	<0.00859	<0.00859	<0.0106	0.297 J*	<0.0106	<0.0106	<0.0106	0.297 J*
	2†	**353 J***	<0.00860	<0.00860	<0.00860	<0.00860	<0.0106	0.0808 J*	<0.0106	<0.0106	<0.0106	0.0808 J*
	6	**684**	<0.00939	<0.00939	<0.00939	<0.00939	<0.0116	0.126	<0.0116	<0.0116	<0.0116	0.126
C6	3-4.5	226	<0.00348	<0.0133	<0.00576	<0.00208	<0.00178	0.251	<0.00087	<0.00146	<0.0062	0.251
DG11-1	3-4	-	<0.019	<0.019	<0.019	<0.019	<0.14	0.59	1.1N	-	-	**1.69**
	10-11	-	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	-	-	<0.0038
SS-SW-04	4.5-5	**911**	-	-	-	-	-	-	-	-	-	0.27
SS-SW-05	7.5-8	**336**	-	-	-	-	-	-	-	-	-	0.119
SS-SW-06	4.5-5	12.5	-	-	-	-	-	-	-	-	-	0.039

Table 1: Area 4 Copper and PCB Sample Results

Analyte		Copper	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	TOTAL PCBS
Remediation Level		250										0.5
Location ID	Depth [ft bgs]											
SS-SW-09	4.5-5	130	-	-	-	-	-	-	-	-	-	0.054

NOTES:

1 Remediation levels used for screening levels unless otherwise noted.

2 Units are milligrams per kilogram (mg/kg).

3 Samples not analyzed from locations A4-SIDE53, A4-SIDE54, A4-SIDE85, A4-SIDE89, A4-SIDE90, and A4-SIDE91.

4 Results reported from Fremont Analytical work orders 2102417, 2109220, 2110054, 2110067, 2110251, 2110287, 2110520, 2112242, 2112277, 2112301, 2112321, and 2201334.

† Sample is a duplicate. See below for a list of duplicates and primary samples.

Sample A4-103:8 is a field-duplicate of sample A4-3:8.

Sample *A4-SIDE100:2* is a field-duplicate of sample *A4-SIDE5:2* .

Sample *A4-SIDE101:2* is a field-duplicate of sample *A4-SIDE17:2* .

Sample *A4-SIDE102:6* is a field-duplicate of sample *A4-SIDE27:6* .

Sample *A4-SIDE103:2* is a field-duplicate of sample *A4-SIDE34:2* .

Sample *A4-SIDE104:2* is a field-duplicate of sample *A4-SIDE46:2* .

Sample *A4-SIDE211:1.5* is a field-duplicate of sample *A4-SIDE88:1.5* .

Sample A4-SIDE200:2 is a field-duplicate of sample A4-SIDE50:2.

Sample A4-SIDE201:2 is a field-duplicate of sample A4-SIDE58:2.

Sample A4-SIDE203:1.5 is a field-duplicate of sample A4-SIDE69:1.5.

Sample A4-SIDE204:2.5 is a field-duplicate of sample A4-SIDE73:2.5.

Sample A4-SIDE205:1.5 is a field-duplicate of sample A4-SIDE76:1.5.

Sample A4-SIDE206:1.5 is a field-duplicate of sample A4-SIDE78:1.5.

Sample A4-SIDE210:1.5 is a field-duplicate of sample A4-SIDE86:1.5.

Sample A4-SIDE217:2 is a field-duplicate of sample A4-SIDE134:2.

— Analysis not requested.

< Analyte was not detected; reported as less than the reporting limit (<MDL).

Bold The detected concentration exceeds the regulatory limit for the associated analyte.

Previously removed via excavation at Area 4 (view in conjuction with figures for spatial distribution).

Proposed to be removed via excavation during expansion of Area 4 (view in conjuction with figures for spatial distribution).

Proposed to remain in place after the proposed expansion is completed (view in conjuction with figures for spatial distribution).

E Result exceeds laboratory calibration range. Flag applied by the laboratory.

J Estimated concentration, detected greater than the method detection limit (MDL) and less than the RL. Flag applied by the laboratory.

J* Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson, Inc. (*)

JL* Estimated concentration, biased low due to quality control failures. Flag applied by Shannon & Wilson, Inc. (*)

bgs = below ground surface; ft = feet; mg/kg = milligram per kilogram; PCB = polychlorinated biphenyl

Table 2: Evaluation of Requirements for Cleanup Actions

Requirements		Remedial Action Alternatives		
		No Action	Alternative 1 Soil Excavation/Disposal to RLs for PCBs and Copper and Engineering and Institutional Controls	Alternative 2 Soil Excavation/Disposal to RLs for PCBs, Removal of Co-located Copper, and Engineering and Institutional Controls
Requirements for cleanup actions (Preliminary Draft Rule, WAC 173-340-360[3])				
General Requirements	Protects human health and the environment.	No	Yes	Yes
	Complies with cleanup standards.	No	Yes	Yes
	Complies with applicable state and federal laws.	No	Yes	Yes
	Prevent or minimize present and future releases and migration of hazardous substances in the environment.	No	Yes	Yes
	Provide resilience to climate change impacts that have a high likelihood of occurring and severely compromising its long-term effectiveness.	No	Yes	Yes
	Provide for compliance monitoring.	No	Yes	Yes
	Provide for a reasonable restoration time frame.	No	Yes	Yes
	Use permanent solutions to the maximum extent practicable.	No	Yes	Yes
	Consider public concerns.	No	Yes	Yes
Action-Specific Requirements	Use remediation levels when and as required.	No	Yes	Yes.
	Use institutional controls when and as required.	No	Yes	Yes
	Use financial assurances when and as required.	No	Yes	Yes
	Provide for periodic reviews when and as required.	No	Yes	Yes
	Not rely primarily on institutional controls and monitoring where it is technically possible to implement a more permanent cleanup action for all or a portion of the site.	No	Yes.	Yes.
	Not relay primarily on dilution and dispersion unless the incremental costs of any active remedial measures over the costs of dilution and dispersion grossly exceed the incremental degree of benefits of active remedial measures over the benefits of dilution and dispersion.	No	N/A	N/A
Equitable Distribution of Benefits and Burdens	How the alternative may benefit or burden any highly impacted community affected by the site.	N/A	The alternative is not expected to have a significant benefit or burden on highly-impacted communities. Site work would create some noise and degraded visual appeal for approximately 1 year when viewed from the Lower Duwamish Waterway, which is used by tribes for fishing. However, the effect is expected to be limited, relatively short duration, and negligible when compared to other site work being performed concurrently for the site redevelopment.	The alternative is not expected to have a significant benefit or burden on highly-impacted communities. Site work would create some noise and degraded visual appeal for approximately 2 months when viewed from the Lower Duwamish Waterway, which is used by tribes for fishing. However, the effect is expected to be limited, relatively short duration, and negligible when compared to other site work being performed concurrently for the site redevelopment.
	The degree to which the alternative equitably distributes its benefits and burdens between any highly impacted and other communities affected by the site.	N/A	The alternative is not expected to have significant impacts on highly impacted communities or other communities.	The alternative is not expected to have significant impacts on highly impacted communities or other communities.

PCB = polychlorinated biphenyl; RL = remediation level

Table 3: Evaluation of Other Requirements

Remedial Action Alternatives		Alternative 1 Soil Excavation/Disposal to RLs for PCBs and Copper and Engineering and Institutional Controls	Alternative 2 Soil Excavation/Disposal to RLs for PCBs, Removal of Co-located Copper, and Engineering and Institutional Controls
Brief Description		Soil that exceeds RLs for PCBs and copper will be excavated and disposed offsite. The excavation is estimated to extend to at least 15 feet depth throughout the southwest corner of the property (15,000 square feet) since that is the depth of previous fill, which is estimated to be the source of contamination. Shoring and dewatering would be required to excavate at depth over a large area. The shoreline berm and stormwater treatment system will not be excavated due to impracticability of removing the infrastructure. Engineering controls and institutional controls will be implemented since soil will be left in place with concentrations that exceed the CULs for PCBs and copper. Engineering controls consists of a clay layer installed as part of the landscaped shoreline buffer and the remaining area will be paved. Institutional controls consist of a covenant that establishes AULs.	Soil that exceeds the RL for PCBs will be excavated and disposed offsite. Co-located copper will be removed and disposed offsite. The excavation footprint would be 8,000 square feet and will extend up to 8 feet depth in most areas but one location would extend to 15 feet depth. Shoring would not be required due to limited excavation beneath the water table. Limited dewatering would be required. The shoreline berm and stormwater treatment system will not be excavated due to impracticability of removing the infrastructure. Engineering controls and institutional controls will be implemented since soil will be left in place with concentrations that exceed the CULs for PCBs and copper. Engineering controls consists of a clay layer installed as part of the landscaped shoreline buffer and the remaining area will be paved. Institutional controls consist of a covenant that establishes AULs.
Reasonable restoration timeframe?	**(Preliminary Draft Rule, WAC 173-340-360[4])**		
Estimated restoration timeframe (years)		2	1
Risk posed by site to human health and environment		Moderate Workers will have moderate exposures	Moderate Workers will have moderate exposures
Practicality of achieving a shorter restoration timeframe?		Yes The property could be restored in a shorter timeframe with limited removal of soil (remove all PCB detection that are greated than the RL), and with engineering and institutional controls.	No Excavation of all soil exceeding RLs is expected to be impracticable since it is impractiable to excavate the shoreline berm or to excavate large areas at depth below the water table (approxiamtely 8 feet) due to proximitty to the river.
Long-term effectiveness of the alternative.		Yes The alternative is effective in the long term.	Yes The alternative is effective in the long term.
Consistent with current use of site, surrounding area, and resources?		Yes Property is vacant. Activities will not affect surrounding businesses.	Yes Property is vacant. Activities will not affect surrounding businesses.
Consistent with planned future use of site, surrounding area, and resources?		Yes No impacts off-site	Yes No impacts off-site
Availability of alternate water supply		Not Applicable Groundwater not used	Not Applicable Groundwater not used
Likely effectiveness and reliability of institutional controls		High Maintain clay cap and asphalt/concrete cover. Prevent use of groundwater	High Maintain clay cap and asphalt/concrete cover. Prevent use of groundwater
Ability to monitor and control chemical migration from site		Yes Compliance monitoring wells will be sampled.	Yes Compliance monitoring wells will be sampled.
Toxicity of the hazardous substances on the site		High PCBs	High PCBs
Natural processes that reduce concentrations of hazardous substances and have been documented to occur at the site or under similar conditions.		Not Applicable	Not Applicable
Permanent to maximum extent practicable?	**(disproportionate cost analysis, Preliminary Draft Rule, WAC 173-340-360[5])**		
Benefit evaluation			
Protectiveness	30%	9 Contamination exceeding RLs is removed. Some contamination that exceeds CULs remains in place. Engineering and institutional controls reduces risk of direct contact, injestion, and leaching for residual contamination.	8 PCBs that exceed the RL will be removed but PCBs that exceed the CUL wll remain in place. Copper that exceeds the CUL and RL will remain in place. Engineering and institutional controls reduces risk of direct contact, injestion, and leaching for residual contamination.
Permanence	20%	9 Contamination exceeding RLs is removed. Some contamination that exceeds CULs remains in place.	7 PCBs that exceed the RL will be removed but PCBs that exceed the CUL wll remain in place. Some copper that exceeds the CUL and RL will remain in place.
Effectiveness over long-term	20%	8 Removal of contaminated soil is effective; however, saturated soil was at equililibrum with groundwater prior to remediation and concentrations of chemicals in downgradient groundwater were not observed to exceed cleanup levels.	7 Compared to Alternative 1, residual concnetrations of copper are higher; however, saturated soil was at equililibrum with groundwater prior to remediation and concentrations of chemicals in downgradient groundwater were not observed to exceed cleanup levels. Therefore, the incremental benefit of Alternative 1 over Alternative 2 is fairly small.
Management of short-term risks	10%	4 A deeper and extensive excavation has a higher potential to expose workers. A deeper and extension excavation will result in more disturbance to saturated soil which will increase the potential for turbid water to flush out of the excavation to the river.	7 A less deep and less extensive excavation is easier to control and less potential for exposure to workers or flushing of turbid water to the river.
Technical and administrative implementability	10%	1 Large scale excavation below the water table and next to the river is complex. The excavation would extend over a large area to a bottom dpeth that is several feet deeper than the adjacent river.	8 An excavation with limited excavation to 15 feet depth (more excavation is to 6 and 8 feet depth) is more feasible to implement.
Consideration of public concerns	10%	4 Visible impacts would be sitewide and large quantity of excavated contaminated materials are transported through the surrounding neighborhood. However, the surrounding area is industrial.	5 Visible impacts would be present sitewide; however, the surrounding area is industrial and excavated quantities would not be exceptional.
Overall weighted benefit score	100%	7.0	7.2
Cost evaluation ($M)			
Initial capital cost to construct		4.03	1.20
Annual O&M cost		0.84	0.84
Estimated restoration timeframe [years]		2	1
O&M cost over restoration timeframe		1.69	0.84
Total cost over life of remedy		5.72	2.04
Ratio of benefit/cost		1.22	3.52

AUL = Activity and Use Limitation; COCs = contaminants of concern; CUL = preliminary cleanup level; O&M = operation and maintenance; PCB = polychlorinated biphenyl; RL = remediation level; WAC = Washington Administrative Code

Table 4: Cost Breakdown for Alternatives

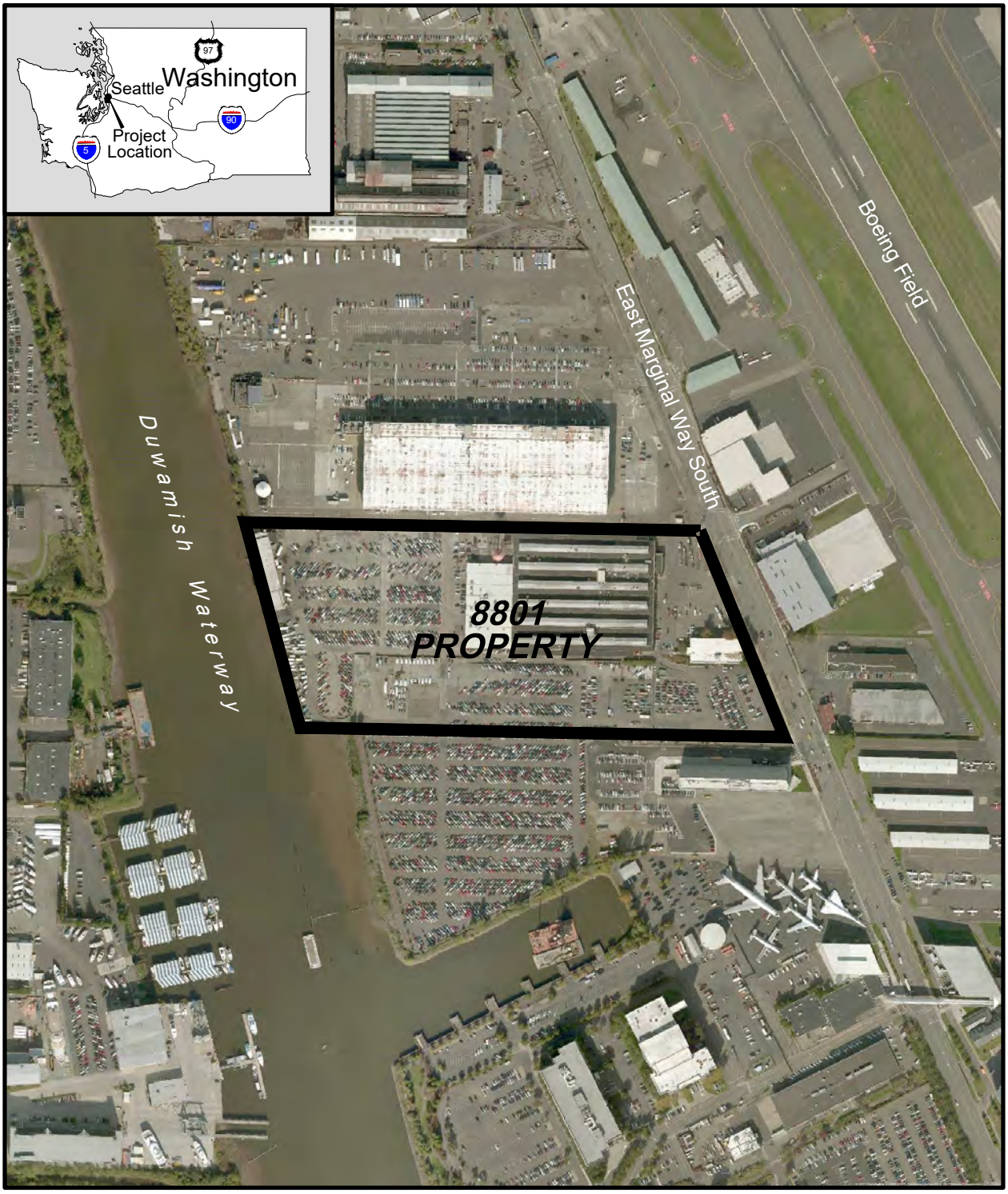
Remedial Action Alternatives	Alternative 1 Soil Excavation/Disposal to RLs for PCBs and Copper and Engineering and Institutional Controls	Alternative 2 Soil Excavation/Disposal to RLs for PCBs, Removal of Co-located Copper, and Engineering and Institutional Controls
Brief Description	Soil that exceeds RLs for PCBs and copper will be excavated and disposed offsite. The excavation is estimated to extend to at least 15 feet depth throughout the southwest corner of the property (15,000 square feet) since that is the depth of previous fill, which is estimated to be the source of contamination. Shoring and dewatering would be required to excavate at depth over a large area. The shoreline berm and stormwater treatment system will not be excavated due to impracticability of removing the infrastructure. Engineering controls and institutional controls will be implemented since soil will be left in place with concentrations that exceed the CULs for PCBs and copper. Engineering controls consists of a clay layer installed as part of the landscaped shoreline buffer and the remaining area will be paved. Institutional controls consist of a covenant that establishes AULs.	Soil that exceeds the RL for PCBs will be excavated and disposed offsite. Co-located copper will be removed and disposed offsite. The excavation footprint would be 8,000 square feet and will extend up to 8 feet depth in most areas but one location would extend to 15 feet depth. Shoring would not be required due to limited excavation beneath the water table. Limited dewatering would be required. The shoreline berm and stormwater treatment system will not be excavated due to impracticability of removing the infrastructure. Engineering controls and institutional controls will be implemented since soil will be left in place with concentrations that exceed the CULs for PCBs and copper. Engineering controls consists of a clay layer installed as part of the landscaped shoreline buffer and the remaining area will be paved. Institutional controls consist of a covenant that establishes AULs.
Capital Costs		
Capital Direct Cost (Installed)		
Contractor Submittals	$45	$20
Mob/Demob	$15	$10
Site Survey	$8	$6
Shoring system	$193	$0
Excavation of soil	$294	$85
Transportation of excavated soil	$217	$63
Disposal of excavated soil	$778	$224
Dewatering, treatment, and disposal	$166	$86
Imported fill procurement, transport, placement, and compaction	$1,021	$273
Surface Restoration (clay layer and pavement)	$72	$39
Capital Indirect Costs		
Engineering/Oversight/Documentation	$829	$236
Implement Environmental Covenant	$30	$30
Ecology Oversight	$30	$20
Closure Documentation	$25	$17
Tukwila Business Permit	$10	$10
Combined Tukwila Taxes and Fees (10% capital costs, 2% Labor)	$299	$87
Total Capital Cost	$4,033	$1,205
Periodic Costs		
Cover Inspection/Maintenance Costs- Institutional Control*	$6 30 year total	$3 30 year total
Compliance Monitoring Wells Sampling/Reporting	$800 30 year total	$800 30 year total
Project Management	$15 30 year total	$15 30 year total
5-Year Reporting	$5 5 reports over 30 years	$5 5 reports over 30 years
Combined Sales Tax for Tukwila, Washington (10% capital costs, 2% Labor)	$17	$16
Total Periodic Cost:	$843	$840
Total Cleanup Cost (Capital + Periodic Cost)		
Average	$4,876	$2,045
Low End (-30%)	$3,413	$1,431
High End (+50%)	$7,314	$3,067

NOTES:

Costs are in thousands of dollars for year 2022.

Costs do not include net present worth adjustment.

*Annual stormwater maintenance costs are incurred by owner/tenant and not included within this cost estimate.



0 500 1,000

Approximate Scale in Feet

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VICINITY MAP

June 2022 21-1-12567-030

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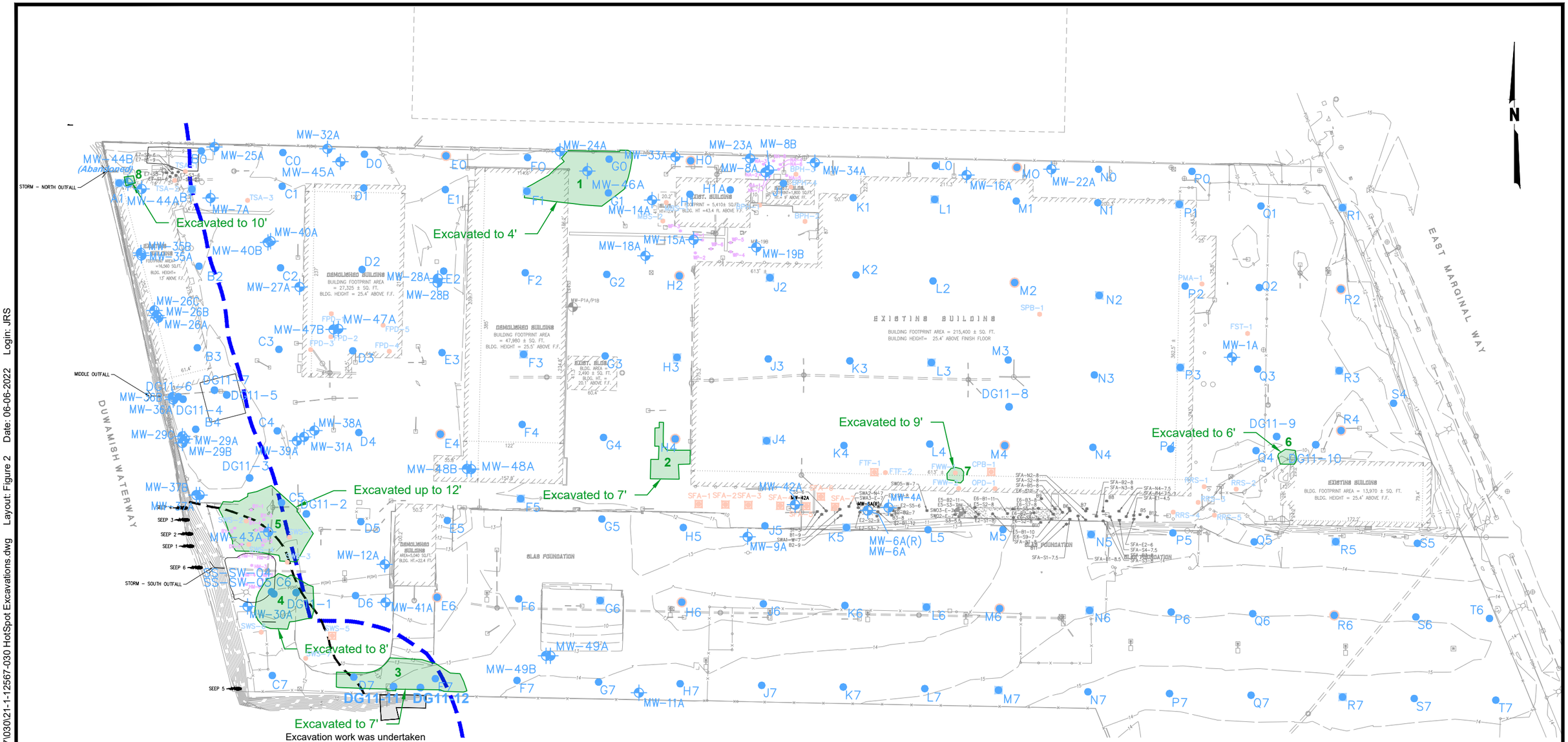
FIG. 1

Filename: C:\Users\jrs\CAD Group Dropbox\JDrive\211\12567\030\21-1-12567-030 Vicinity Map.dwg Date: 06-06-2022 Login: JRS



LEGEND

- 3 — Estimated Excavation Extents with Area Number Designation
- Estimated Location of Former Duwamish River Shoreline
- 100' River Buffer
- Soil Sample
- MW–36B — Groundwater Monitoring Well
- Fenceline
- ' — Feet

NOTES

1. Exploration locations are approximate.
2. Base map and historic exploration points are from Kennedy-Jenks Figures 2 and 3, 046001.00/Report/Po4SK003.
3. Excavation Limits are based from the file J1743.07 12-23-21.dwg, received January 31, 2022.

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HOTSPOT EXCAVATIONS

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Filename: C:\Users\jrs\CAD Group Dropbox\JDrive\21\12567\030\21-1-12567-030 HotSpot Excavations.dwg Layout: Figure 2 Date: 06-06-2022 Login: JRS

AREA 5 - Excavation Completed

South Stormwater Treatment System
(Inactive During Site Redevelopment)

SS-SW-09*

SS-SW-06*

SS-SW-04*
SS-SW-05*

C6

DG11-1

A4-1

A4-2

A4-3

A4-4

AREA 4 - Current Extent of Excavation

A4-A

A4-A'

A4-B

A4-B'

A4-C

A4-C'

MW 12A

MW 30A

MW 41A

AREA 3 - Excavation Completed

Downslope of Shoreline
Rip Rap Berm

Duwami River

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N

0 18 36

Scale in Feet

LEGEND

MW 12A — Monitoring Well Designation and Approximate Location

1 — Sample Designation and Approximate Location

Extent of Proposed Expansion

8' — Depth to Bottom of Excavation Below Ground Surface (in Feet)

Current Extent of Excavation

DG11-1 — Soil Sample Designation and Approximate Location

A4-A — Excavation Profile

* Sample collected during installation of the stormwater t*reatment system in 2007. Reported in AMEC, 2012, Final Remedial Investigation Report, 8801 East Marginal Way South, Tukwila, Washington.*

NOTE

Sample designations with numbers (##) only are abbreviated. Sample designations are A4-SIDE##.

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AREA 4 OVERVIEW

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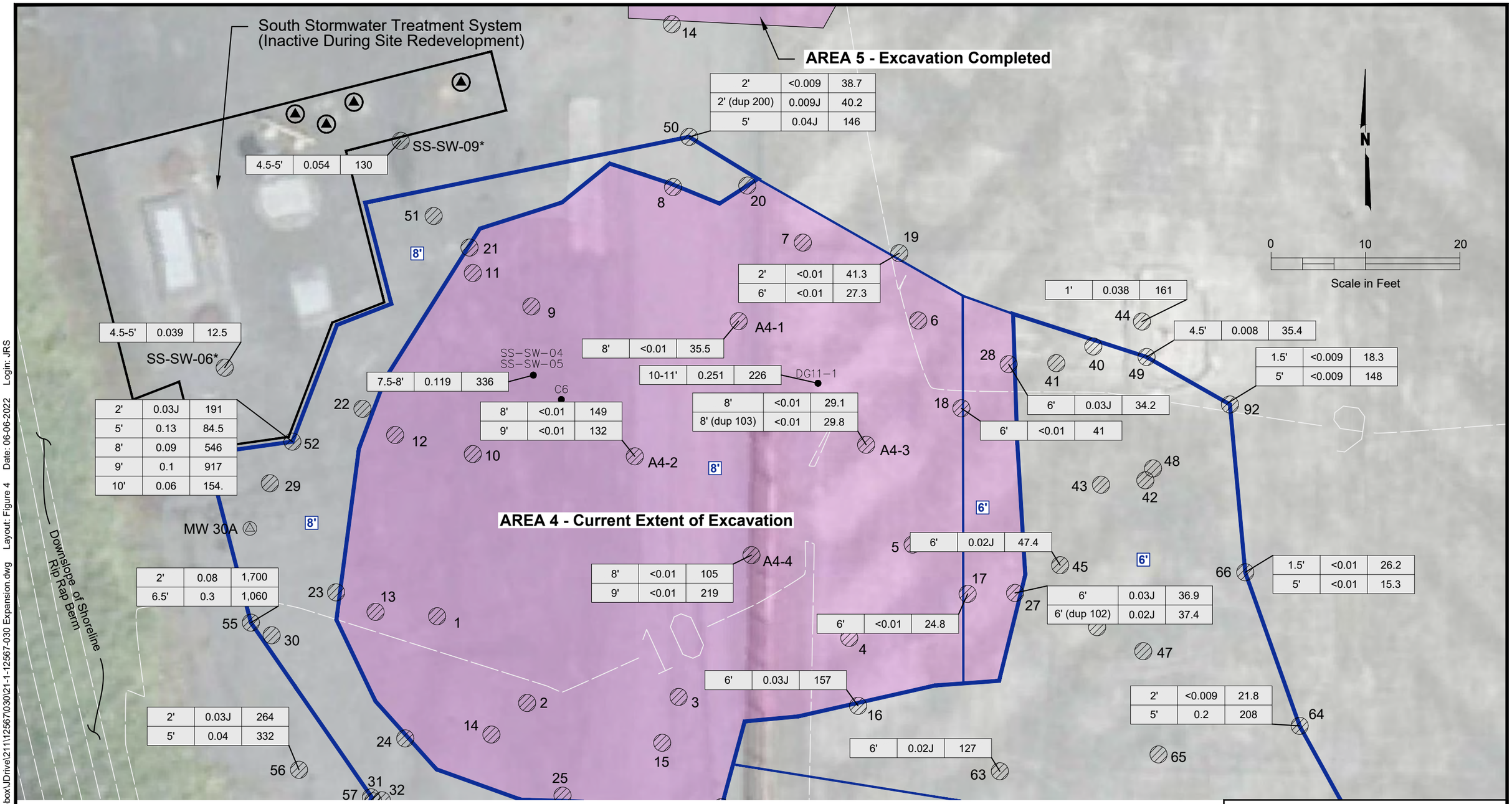
FIG. 3

Filename: C:\Users\jrs\CAD Group Dropbox\JDrive\21\12567\030\21-1-12567-030 Expansion Profiles.dwg Layout: Figure 3 Date: 06-06-2022 Login: JRS



LEGEND

- MW 12A — Monitoring Well Designation and Approximate Location
- 1 — Sample Designation and Approximate Location
- Extent of Proposed Expansion
- 8' — Depth to Bottom of Excavation Below Ground Surface (in Feet)
- Current Extent of Excavation
- Manhole
- DG11–1 — Soil Sample Designation and Approximate Location

SAMPLE NOTES

< = Analyte was not detected; reported as less than the method detection limit (<MDL).

J = Estimated concentration, detected greater than the method detection limit (MDL) and less than the reporting limit (RL).

* = Sample collected during installation of the stormwater *treatment system in 2007. Reported in AMEC, 2012, Final Remedial Investigation Report, 8801 East Marginal Way South, Tukwila, Washington.*

NOTES

1. Sample results are displayed for sample that will remain in place after the proposed expansion.
2. Table key with established project specific remediation level (mg/kg):

Depth	Total PCB Aroclors	Copper
#'	0.5	250

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AREA 4 NORTH DETAIL

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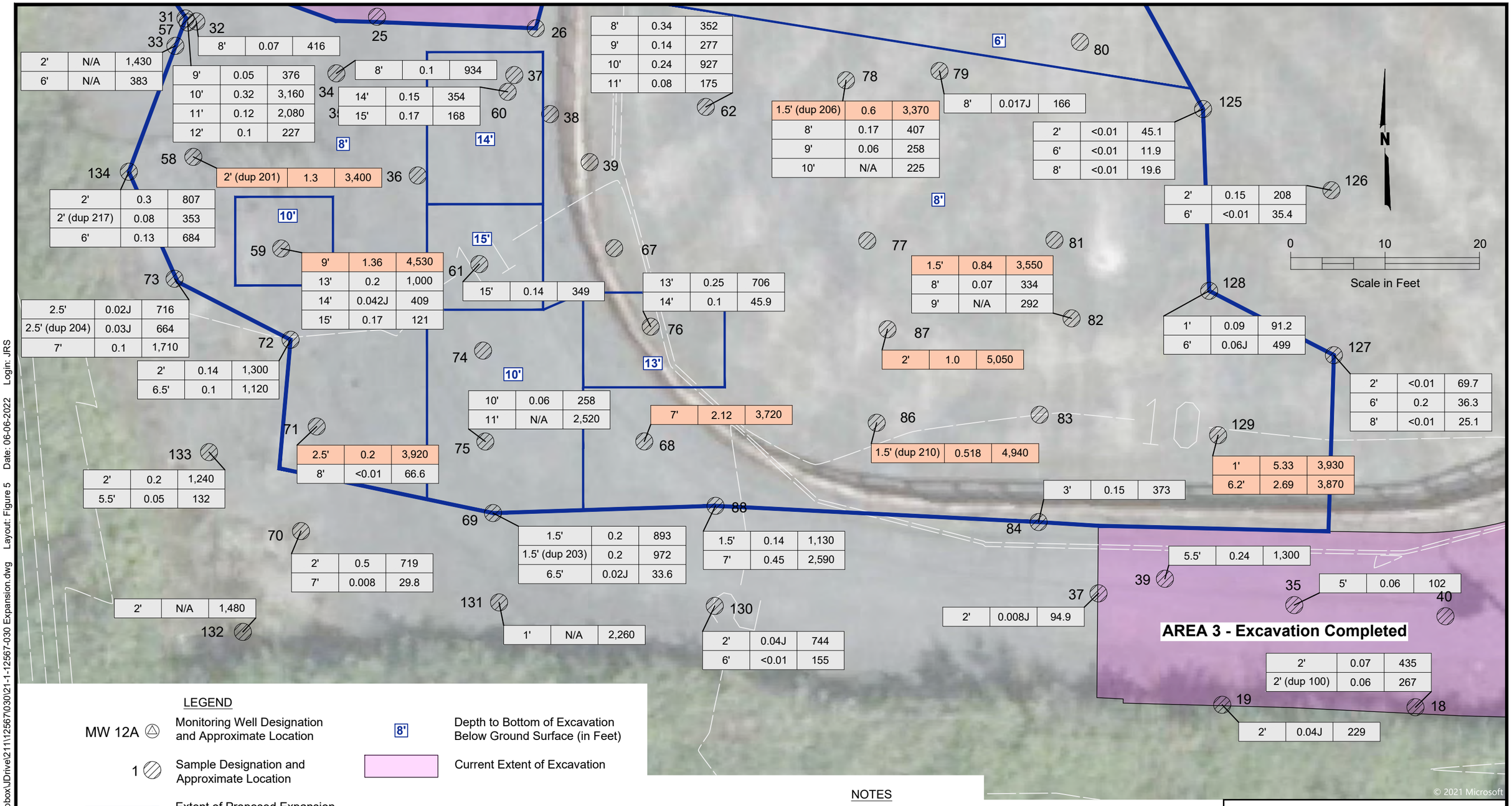
FIG. 4

Filename: C:\Users\jrs\CAD Group Dropbox\JDrive\21\12567\030\21-1-12567-030 Expansion.dwg Layout: Figure 4 Date: 06-06-2022 Login: JRS



LEGEND

MW 12A — Monitoring Well Designation and Approximate Location	8' — Depth to Bottom of Excavation Below Ground Surface (in Feet)
1 — Sample Designation and Approximate Location	Current Extent of Excavation
Extent of Proposed Expansion	

SAMPLE NOTES

< = Analyte was not detected; reported as less than the method detection limit (<MDL).

J = Estimated concentration, detected greater than the method detection limit (MDL) and less than the reporting limit (RL).

NOTES

1. The locations of samples 125 through 134 were visually estimated. Survey information for these locations is not yet available.
2. Sample results are displayed for sample that will remain in place after the proposed expansion.
3. Table key with established project specific remediation level (mg/kg):

Depth	Total PCB Aroclors	Copper
#'	0.5	250

Samples with greater than 3,200 copper. Samples will be removed during expansion excavation.

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AREA 4 SOUTH DETAIL

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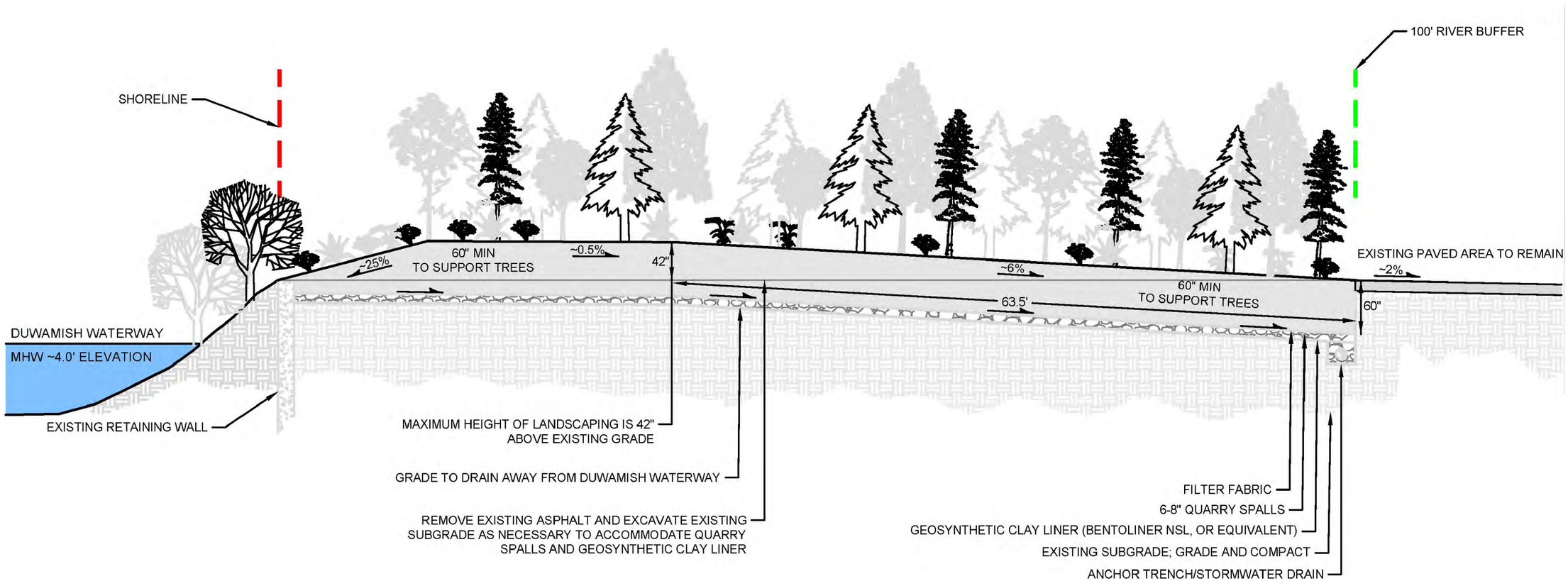
FIG. 5

Filename: C:\Users\jrs\CAD Group Dropbox\JDrive\211\12567\030121-1-12567-030 Expansion.dwg Layout: Figure 5 Login: JRS Date: 06-06-2022



0 10 20

Approximate Scale in Feet

NOTES

1. Landscaping is Consistent with the Planting Plan prepared by Soundview Consultants, Dated 02/12/2020.
2. Figure adapted from "Centerpoint Tukwila - Proposed Shoreline Cross-Section" of *Centerpoint Tukwila* dated 10/29/2020 by Soundview Consultants, Inc.

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CROSS SECTION OF CAP, DRAINAGE AND LANDSCAPING

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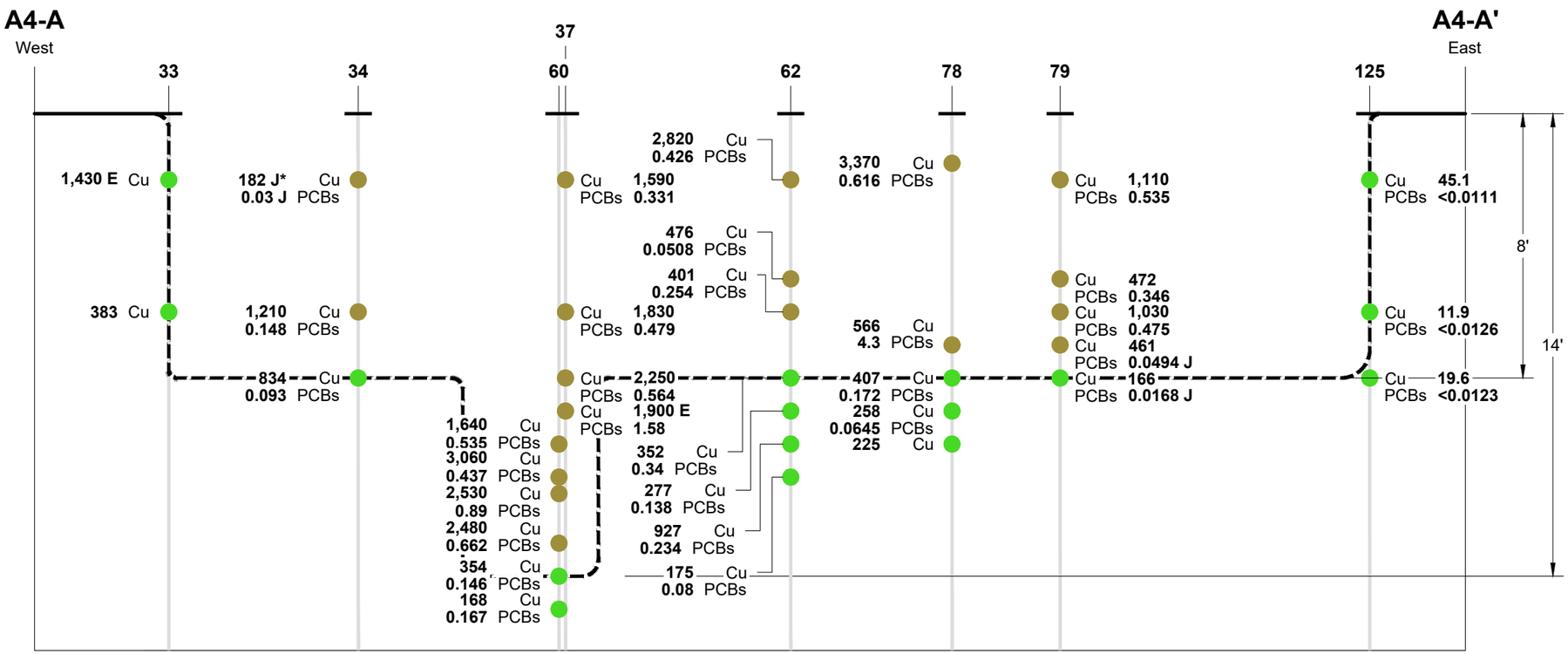
FIG. 6



ABBREVIATIONS

Cu = Copper

mg/kg = Milligrams per Kilograms

PCBs = Polychlorinated Biphenyls

< = Not Detected Above Laboratory Reporting Limit

PROFILE LEGEND

E6 — Designation of Boring

Proposed Excavation Limits

Data Result in mg/kg

Data Result in mg/kg (Within the Proposed Excavation)

DATA TABLE	REMEDIATION LEVELS (mg/kg)
Total PCB Aroclors	0.5
Copper	250

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CROSS SECTION A4-A

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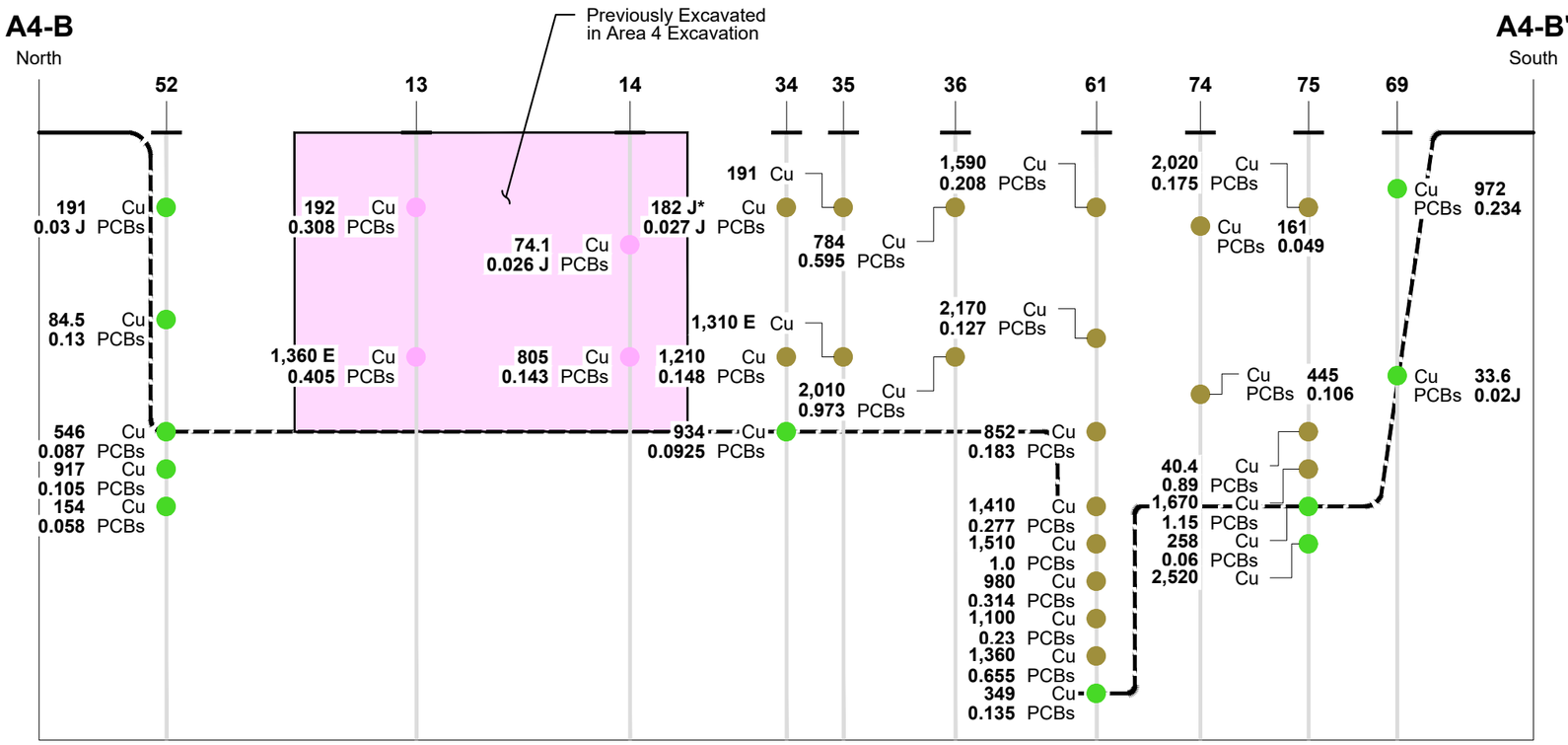
FIG. 7

Filename: C:\Users\jrs\CAD Group Dropbox\JDrive\21\1\12567\030\21-1-12567-030 Expansion Profiles.dwg Layout: Figure 7 Date: 06-06-2022 Login: JRS



ABBREVIATIONS

Cu = Copper

mg/kg = Milligrams per Kilograms

PCBs = Polychlorinated Biphenyls

< = Not Detected Above Laboratory Reporting Limit

PROFILE LEGEND

E6 — Designation of Boring

Proposed Excavation Limits

Data Result in mg/kg

Data Result in mg/kg (Within the Proposed Excavation)

Data Result in mg/kg (Removed via Excavation)

DATA TABLE	REMEDIATION LEVELS (mg/kg)
Total PCB Aroclors	0.5
Copper	250

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CROSS SECTION A4-B

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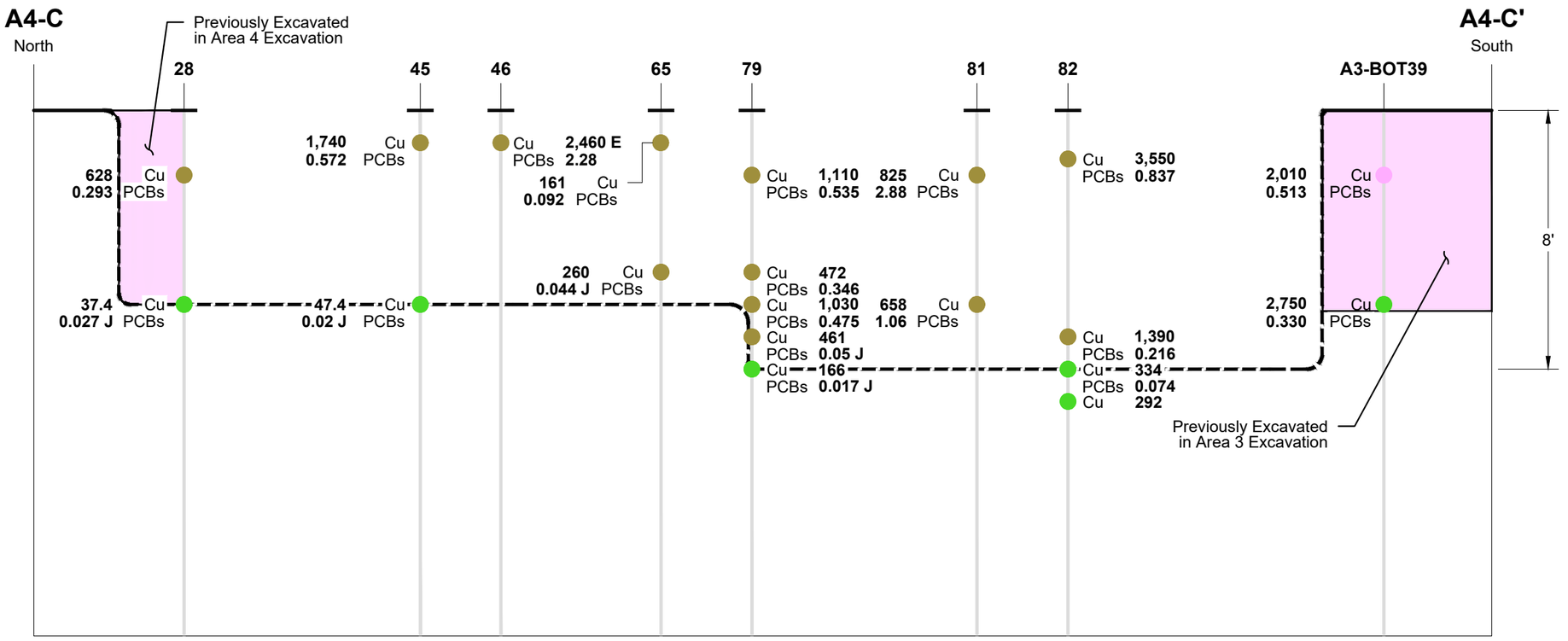
FIG. 8



ABBREVIATIONS

Cu = Copper

mg/kg = Milligrams per Kilograms

PCBs = Polychlorinated Biphenyls

< = Not Detected Above Laboratory Reporting Limit

PROFILE LEGEND

E6 — Designation of Boring

Proposed Excavation Limits

Data Result in mg/kg

Data Result in mg/kg (Within the Proposed Excavation)

Data Result in mg/kg (Removed via Excavation)

DATA TABLE	REMEDIATION LEVELS (mg/kg)
Total PCB Aroclors	0.5
Copper	250

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CROSS SECTION A4-C

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FIG. 9

Filename: C:\Users\jrs\CAD Group Dropbox\JDrive\211\12567\030\21-1-12567-030 Expansion Profiles.dwg Layout: Figure 9 Date: 06-06-2022 Login: JRS