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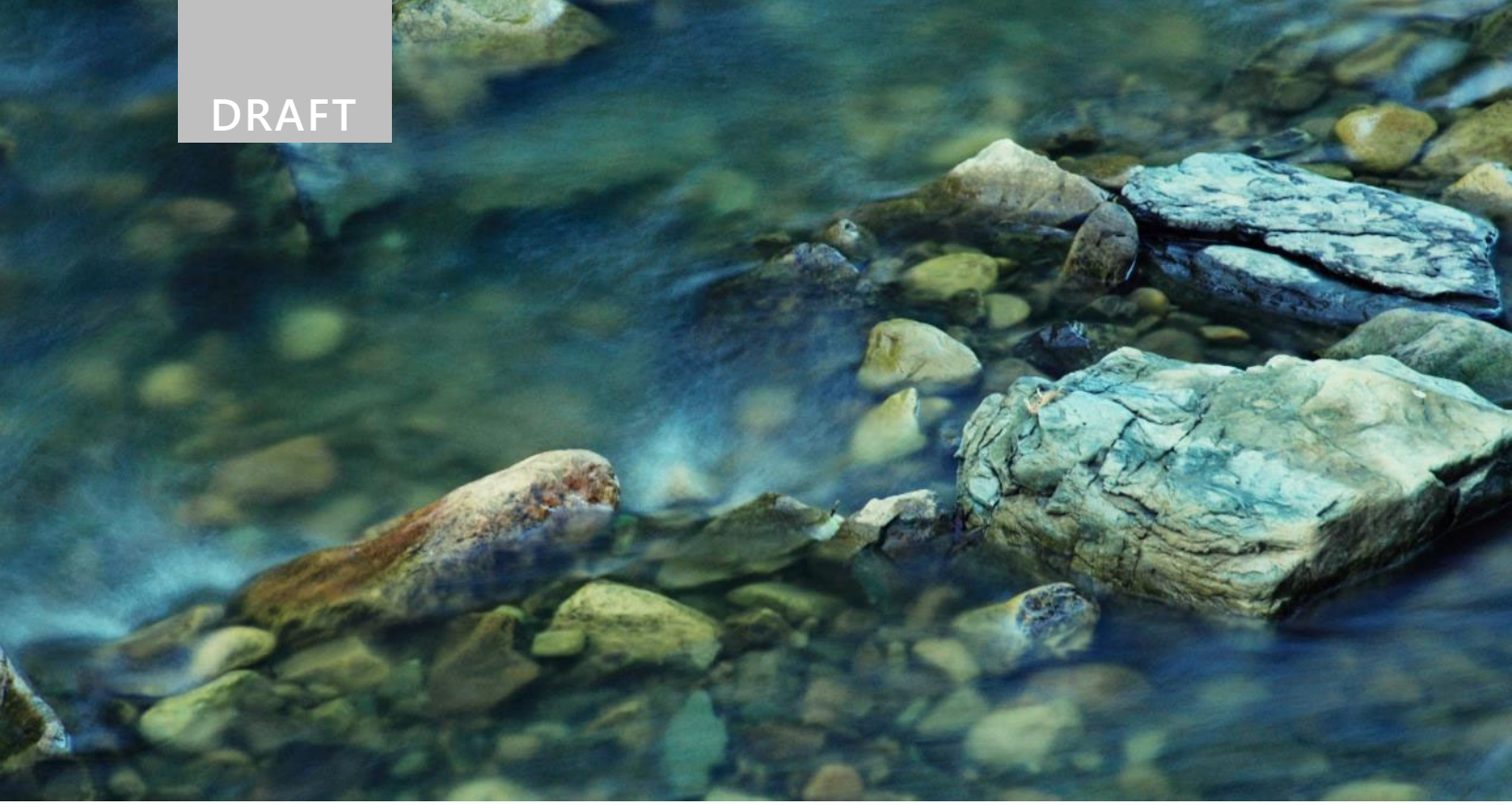

February 2025
Anacortes Former Water Treatment Plant Demolition

ANCHOR QEA

Construction Completion Report

Ecology Consent Decree No. 20761

Prepared for the Washington State Department of Ecology

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Prepared for
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Prepared by
Anchor QEA, Inc. on behalf of
City of Anacortes
904 6th Street
Corner of 6th Street and Q Avenue
Anacortes, Washington 98221

Project Number: 210528-05.01

DRAFT

ENGINEER'S CERTIFICATION

"To the best of my knowledge, information and belief, I, _____, a registered professional engineer in good standing in the State of Washington, hereby certify that the remedial action that was conducted at the Anacortes Former Water Treatment Plant Site in Mount Vernon, Washington under Consent Decree No. 20761 was performed in accordance with current professional industry standards. I also hereby certify that this report and all attachments prepared under my direction and supervision and fulfills the requirements of the Washington Administrative Code Section 173-340-400(6)(b). As to the portions of this report for which I cannot personally verify their truth and accuracy, I certify to the best of my knowledge and belief that the collection and submission of information is true and accurate and was performed by qualified personnel under my direct supervision."

Name, Engineer's Seal, Date:

Rebecca Desrosiers, PE
Project Engineer
Anchor QEA

DRAFT

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ABBREVIATIONS

µg/m^3	microgram per cubic meter
3 Kings	3 Kings Environmental, Inc.
ACM	asbestos-containing materials
AMP	Air Monitoring Plan
avg	average
Bayview	Bayview Consulting, LLC
BPW	bulk product waste
CAB	cement asbestos boards
CAP	Cleanup Action Plan
City	City of Anacortes
Ecology	Washington State Department of Ecology
EMB	EMB Consulting, LLC
FS	Feasibility Study
FWTP	Former Water Treatment Plant
HVAC	heating, ventilation, and air conditioning
mg/kg	milligram per kilogram
min	minute
MTCA	Model Toxics Control Act
PCB	polychlorinated biphenyl
PDI	Pre-Design Investigation
PM_{10}	10 microns in diameter
RI	Remedial Investigation
Site	14489 River Bend Road, Mount Vernon, Washington
USDOT	U.S. Department of Transportation
WAC	Washington Administrative Code

1 Introduction

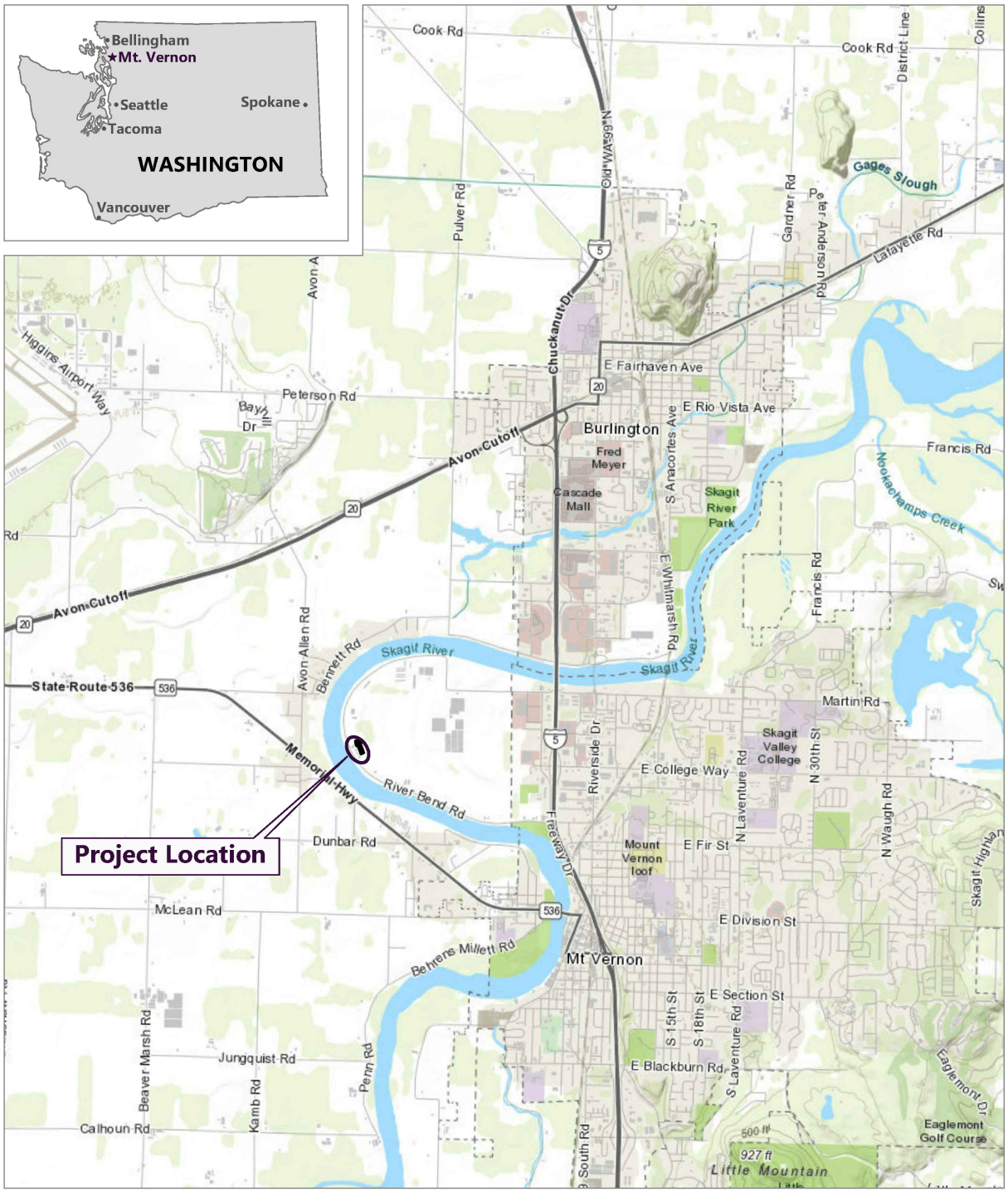
This Construction Completion Report describes the implementation of the Washington State Department of Ecology (Ecology)-selected cleanup action for the City of Anacortes (City) Former Water Treatment Plant (FWTP) at 14489 River Bend Road in Mount Vernon, Washington (Site; Figure 1-1). This Construction Completion Report was prepared on behalf of the City by Anchor QEA in general accordance with the following documents:

- Consent Decree No. 20761
- *Final Cleanup Action Plan* (CAP; Ecology 2021)
- *Final Engineering Design Report* (Anchor QEA 2022)

As described in the CAP (Ecology 2021), the following cleanup actions were required to address contamination, including polychlorinated biphenyls (PCBs), found at the Site:

- Excavation and off-Site disposal of PCB-contaminated soil
- Source control through demolition of the basin structures and off-Site disposal of contaminated building materials
- Compliance monitoring to verify that all cleanup standards were achieved
- Site restoration

Figure 1-1
Vicinity Map



SOURCE: Esri, et al

1.1 Site Background

The City operates a municipal water treatment plant at the Site. The current facilities, which became operational in 2013, replaced the FWTP that was constructed in 1969 and 1970. The FWTP facilities included an Administration Building, a Sedimentation Basin, a Filtration Basin, and a Clearwell (Figure 1-2).

During decommissioning activities performed in 2015, contaminants of potential concern were found in decommissioned FWTP building materials and in shallow soils immediately adjacent to the FWTP structures. In 2016, a Remedial Investigation (RI) was performed in accordance with the Model Toxics Control Act (MTCA), Revised Code of Washington Chapter 70.105D, and Washington Administrative Code (WAC) Chapter 173-340 to characterize the nature and extent of contaminants in Site environmental media (i.e., soil and groundwater). The results of the RI (Stantec 2019) confirmed that exterior coatings containing PCBs on the Sedimentation Basin and Filtration Basin of the FWTP were the source of PCBs in soil. PCB concentrations in soil above 1 milligram per kilogram (mg/kg) (i.e., the MTCA Method A: Unrestricted Land Use cleanup level) were limited to the upper 1 foot of soil immediately adjacent to the exterior of the Sedimentation and Filtration basins. No impacts to groundwater were identified. The Site consists of the Sedimentation and Filtration basins and the shallow soils immediately surrounding them, in which PCBs have been detected (Figure 1-2).

In 2017, the City conducted an Evaluation of Potential Human Health Risks (Intertox 2017) for the FWTP and determined that no adverse health effects are likely to have occurred to customers, workers, or water plant visitors as a result of PCBs at the former plant. The City conducted regular sampling of drinking water produced from the FWTP beginning in 1976 and continuing throughout operation of the FWTP. No samples of drinking water ever contained detectable PCB concentrations.

In accordance with the Agreed Order between the City and Ecology, a draft Feasibility Study (FS) was prepared in November 2019 (Anchor QEA 2019) to evaluate options to remediate contaminated soil and provide an overview of the remaining FWTP decommissioning activities that the City will perform to further control sources of contaminants at the Site. Alternative 2, full removal of soils with PCB concentrations exceeding 1 mg/kg, was selected as the preferred alternative in the Final FS (Anchor QEA 2020).

In December 2021, Ecology issued the CAP (Ecology 2021) for the Site requiring implementation of Alternative 2. In June 2022, the Engineering Design Report (Anchor QEA 2022) was finalized, describing the work necessary to complete and verify the remedial action required by the CAP.

Site cleanup required by the CAP (soil removal and off-Site disposal) was performed in coordination with the FTWP demolition as described in this report.

Figure 1-2
Site Overview

SOURCE: Google Earth Pro dated July 15, 2018

1.2 Project Responsibilities

Table 1-1 lists the responsibilities of the project's entities.

Table 1-1
Project Responsibilities

Entity	Project Responsibility
City of Anacortes	Overall implementation of the removal in accordance with the CAP (Ecology 2021)
Washington State Department of Ecology	Regulatory authority for the removal in accordance with the CAP (Ecology 2021)
Anchor QEA	Consulting Engineer to the City of Anacortes; performed construction quality assurance (including air monitoring) during the implementation of the cleanup
3 Kings Environmental, Inc.	The City of Anacortes' selected contractor; implemented the cleanup action
Bayview Consulting, LLC	The City of Anacortes' selected contractor; provided surveying services including documenting the as-built conditions

1.2.1 Subcontractors and Subconsultants

During the cleanup action, Anchor QEA and 3 Kings Environmental, Inc. (3 Kings), used subcontractors and subconsultants in completing select work tasks. Table 1-2 presents Anchor QEA subcontractors and subconsultants and their associated responsibilities.

Table 1-2
Anchor QEA Subcontractors and Subconsultants

Subcontractor/Subconsultant	Project Responsibility
EMB Consulting, LLC	Asbestos abatement monitoring activities
Materials Testing and Consulting, Inc.	Geotechnical analysis and field testing services
Onsite Environmental	Analytical laboratory services

Table 1-3 presents 3 Kings' subcontractors and subconsultants and their associated responsibilities.

Table 1-3
3 Kings' Subcontractors and Subconsultants

Subcontractor/Subconsultant	Project Responsibility
BCT Electrical Services	Electrician
BrandSafway	Protective barrier scaffolding installation
Clean Harbors: Environmental and Industrial Services	Chemical packing services and waste profiling and disposal
Fremont Analytical, Inc.	Laboratory analytical services
Lefeber Turf Farm	Hydroseeding
Materials Testing and Consulting, Inc.	Geotechnical analysis services and on-Site compaction testing
R Transport, Inc.	Trucking services
SanAir Technologies Laboratory	Asbestos laboratory sampling
United Rentals	Construction contact water management system design and implementation
Waypoint Engineering, Inc.	Utility protection design services

2 Overview of the Cleanup Action

The selected cleanup action included source control through demolition of the basin structures, excavation of impacted soils, and off-Site disposal of contaminated materials. This section also presents the applicable cleanup standards, applicable permits and notifications, and the contractor selection.

2.1 Soil Remediation Through Excavation and Disposal

The CAP required removal of soils exceeding PCB concentrations greater than 1 mg/kg. Excavation and off-Site disposal are common remedial technologies that use standard earthwork construction equipment. Due to the shallow extent of contaminated soil at the Site (approximately 1 foot below ground surface), no shoring or water management was required during excavation. The excavation extended 10 feet laterally from the edges of the Sedimentation and Filtration Basins. Soils were disposed of in a Subtitle D landfill, consistent with all applicable laws and regulations. Bayview Consulting, LLC (Bayview), used standard surveying techniques for staking out and documenting the extents of the excavations, as well as for creating an as-built documenting the removal and the locations of the confirmatory samples. The as-built is included in Appendix H.

2.2 Source Control Through Demolition and Disposal

The exterior coatings on the Sedimentation and Filtration basins were identified as the source of PCB contamination in the soils within the Site. To achieve a more permanent source control and prepare the Site for potential redevelopment, the FWTP structures were demolished and the coated materials sent for off-Site disposal. As part of this process, the Site structures were decommissioned in compliance with applicable laws to prevent hazardous substances from being released during the demolition process. Asbestos abatement, regulated materials removals, and confirming utility disconnections were some of the activities that were completed prior to the demolition and disposal. Wastes generated during the decommissioning and demolition of the Site structures were disposed of according to pre-demolition materials characterization sampling and applicable laws and regulations and a detailed summary of the waste management is presented in Section 5.

Building materials (i.e., concrete, brick, filter media) with PCB concentrations less than 1 mg/kg were beneficially reused as fill for subgrade excavations. Structures foundations, slabs, and sections of subgrade walls below the cleanup level were also left in place to support the excavations. Bayview created an as-built survey of the final conditions at the Site, including the remaining foundation components that were covered during Site restoration. The as-built is included in Appendix H.

2.3 Permits, Notifications, and Approvals Obtained

The following is a summary of the applicable permits and approvals that were obtained as part of the cleanup action. Copies of all permits, notifications, and approvals can be found in Appendix A.

- State Environmental Policy Act Determination
- Washington State National Pollutant Discharge Elimination System Construction Stormwater General Permit
- Northwest Clean Air Agency Asbestos and Demolition Notification Approval
- Washington State Department of Labor & Industries Asbestos Project Notification
- Skagit County Demolition Permit
- Skagit County Grading Permit

2.4 Contractor Selection

The City selected 3 Kings to implement the cleanup action at the Site. As part of the specification requirements, 3 Kings produced documents outlining the means and methods for completing the work. For reference, the following documents are included as Appendix B.

- Site Construction Plan/Site Demolition Plan Former Water Treatment Facility Demolition
- Abatement Submittal
- Storm Water Pollution Prevention Plan and Temporary Erosion Control and Sedimentation Control

3 Kings also developed a Site-specific Health and Safety Plan for the project that is not included as attachment to this completion report.

3 Work Performed

This section describes the activities conducted as part of the work.

3.1 Mobilization

3.1.1 3 Kings

On July 5, 2023, 3 Kings mobilized to the Site and set up trailers with a limited crew. Equipment and supplies were brought to the Site over the following weeks. As Site preparation tasks were completed and abatement and pre-demolition tasks were started, additional crew was mobilized to the Site.

3.1.2 Anchor QEA

On July 5, 2023, Anchor QEA's construction manager mobilized to the Site to perform construction quality assurance activities. On August 14, 2023, an additional Anchor QEA inspector was mobilized to the Site in support of the Air Monitoring Plan (AMP) implementation and demolition oversight.

3.2 Site Meetings

3.2.1 Pre-Construction Meeting

On June 22, 2023, a pre-construction meeting and inspection was held at the Site to introduce members from the City, Anchor QEA, and 3 Kings; document that the Site was prepared; and discuss the sequence of planned work activities.

3.2.2 Daily Site Safety and Coordination Meetings

Daily safety and coordination meetings were conducted by 3 Kings to discuss work planned for the day and health and safety issues. Anchor QEA attended when possible.

3.2.3 Weekly Progress Meetings

Weekly progress meetings were led by Anchor QEA. Attendees included representatives of the City, Anchor QEA, 3 Kings, and Bayview. Project status, work completed that week, upcoming work, schedule, and issues were discussed. The meetings were summarized by Anchor QEA in weekly meeting minutes distributed to the project team.

3.2.4 Monthly Progress Reports

On behalf of the City, Anchor QEA prepared monthly progress reports to Ecology to provide updates on project status.

3.2.5 Pre-Demolition Inspection Meetings

On August 15, 2023, a pre-demolition inspection was conducted by Anchor QEA and 3 Kings to document that the pre-demolition activities had been completed on the southern portion of the Sedimentation Basin and demolition could proceed in that area. Activities on the north portion of the basin were documented on the pre-demolition checklist and a second inspection on September 13, 2023.

On November 1, 2023, a pre-demolition inspection was conducted on the Filtration Basin and Administration Building to document the pre-demolition activities had been completed and demolition could proceed. Anchor QEA and 3 Kings were in attendance. Pre-demolition checklists are provided in Appendix C.

3.3 Site Preparation

Prior to the start of pre-demolition and demolition activities, 3 Kings performed Site preparation activities, which included the following:

- Installed project signage
- Installed sediment and erosion control measures in storm sewers in the vicinity of the project area (Photograph 1)
- Installed the silt fence as a sediment and erosion control measure in accordance with the project Stormwater Pollution Prevention Plan (Photograph 2)
- Installed dust protections (e.g., geotextile fabrics) on the active water treatment plant; Sedimentation Basin; Clearwell roof structures; and the heating, ventilation, and air conditioning (HVAC) intake units (Photographs 3 and 4)
- Holt Services, Inc., (subcontractor to 3 Kings) decommissioned 12 RI groundwater monitoring wells.
- United Rental (subcontractor to 3 Kings) installed the water treatment system adjacent to the new Clearwell.
- Provided mobile office trailers and coordinated with the water treatment plant for electrical and internet connections
- Provided sanitary services
- Constructed support areas (i.e., storage and decontamination areas)

Photograph 1
Typical Storm Inlet Protection Installed

Photograph 2
3 Kings Installing Silt Fencing

Photograph 3
Dust Protections Installed on the Active Sedimentation Basin

Photograph 4
3 Kings Installing Dust Protections on the Active Clearwell

3.4 Soil Remediation Through Excavation and Disposal

The primary objective of the cleanup action is PCB-impacted soil remediation through excavation and disposal. PCB-impacted soil removal work began on July 31, 2023, and was completed on August 21, 2023. Activities associated with this work were documented in daily reports prepared by Anchor QEA (provided in Appendix D).

3.4.1 Design Overview

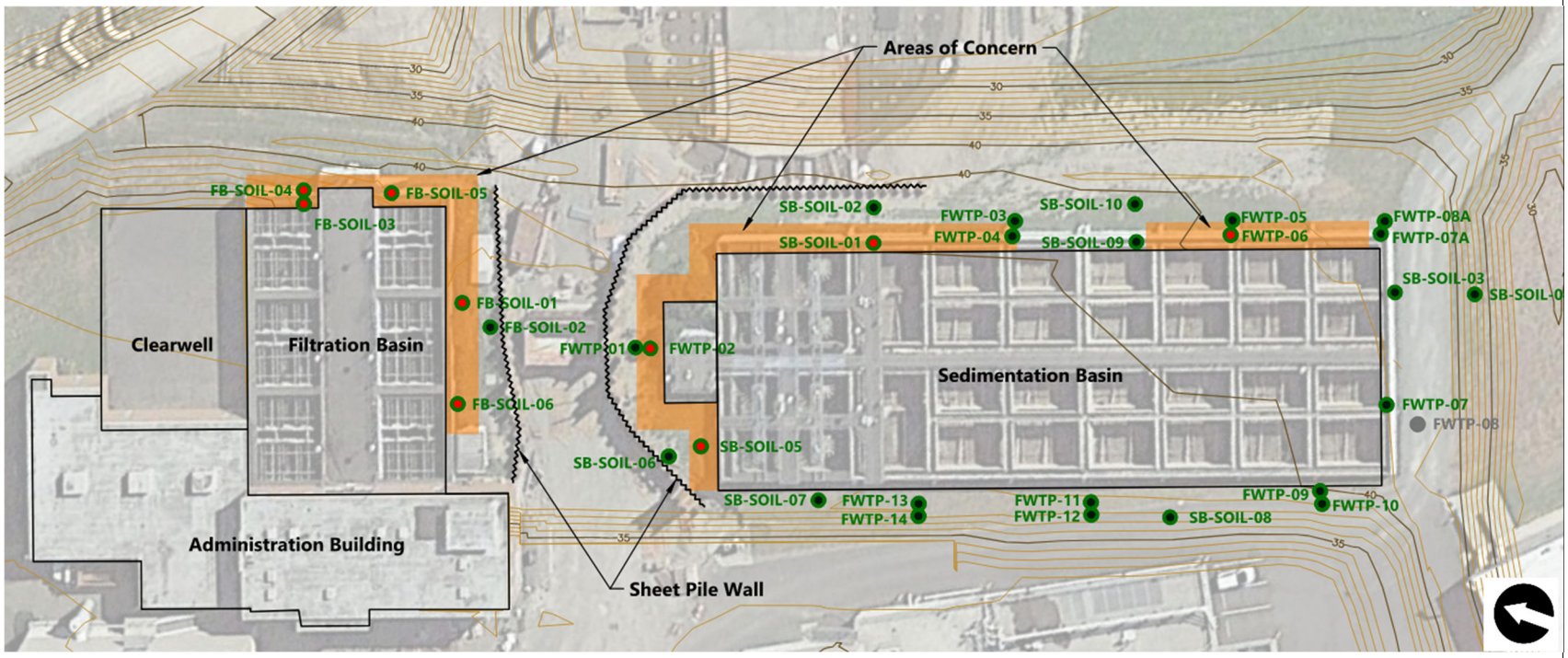
As part of the RI, 32 soil samples and 16 groundwater samples were collected for PCB analysis. PCBs were detected above 1 mg/kg (i.e., the Method A: Unrestricted Use soil cleanup level) in 7 of 32 samples, with a maximum concentration of 15.6 mg/kg. PCBs were not detected in any groundwater samples (Stantec 2019). All seven soil sample cleanup level exceedances were located in shallow soils to the exterior walls of the Filtration Basin and Sedimentation Basin and confined to the upper 1 foot of the soil.

An additional 28 soil samples were collected for PCB analysis as part of the Pre-Design Investigation (PDI). PCBs were detected above 1 mg/kg in 2 of 28 samples. Both exceedances were located in the shallow soils to the exterior wall of the Sedimentation Basin and confined to the upper 1 foot of the soil. Results for both soil investigations are summarized in Figure 5-1.

Based on the results of the RI, two areas requiring remedial action were identified. The data collected during the PDI were used to verify and refine these areas, resulting in three locations where remedial excavation were required (Figure 5-1):

- Soils along the south and east sides of the Filtration Basin
- Soils along the northern side and the north half of the eastern side of the Sedimentation Basin
- Soils along the south one-third of the eastern side of the Sedimentation Basin

Figure 5-1
Extent of PCB Concentrations Above Cleanup Standard



3.4.2 Excavation and Disposal

Beginning on July 31, 2023, 3 Kings excavated soil to a depth of 1 foot below grade from the areas designated in Figure 5-1. Soil was live loaded into dump trucks and transported to Columbia Ridge Landfill for disposal as nonregulated, PCB-containing waste. A total of 212.2 cubic yards of soil were removed. Dust suppression via water misting and spraying with water hoses was used during excavation. Anchor QEA performed particulate air monitoring during the duration of excavation.

Photograph 5
PCB-Impacted Soil Excavation Adjacent to the Sedimentation Basin

3.4.3 Confirmation Sampling and Additional Removal

Following excavation, Anchor QEA divided the overall removal area into five approximately 1,000-square-foot areas for confirmation sampling. Each area was further divided into subareas A, B, and C. Anchor QEA sampled soil from the 0- to 6-inch interval below the bottom of the excavation. Material from subareas A, B, and C were composited together to be representative of each 1,000-square-foot area. Discrete samples from subareas A, B, and C were also sent to the laboratory as hold samples pending the result of the composite sample.

Of the five composite area samples, three contained PCBs above 1 mg/kg. For those samples, their discrete samples were analyzed for PCBs. Results indicated that in each composite area, one discrete sample was above the cleanup level. One additional foot of soil was excavated from the area represented by each discrete sample above the cleanup level. After excavating the additional foot in each subarea, Anchor QEA collected discrete samples from each subarea for PCB analysis. All PCB concentrations in the three secondary discrete samples were below 1 mg/kg. Confirmation sampling results are provided in Table 3-1, attached (the full data package and validation reports are included as Appendix E).

The as-built for the MTCA soil removal is included in Appendix H and shows the surveyed extent of the removal, as well as the locations of the final confirmation samples.

3.4.4 Restoration

The excavations remained open until the completion of the demolition activities. In 2024, following demolition, the areas were backfilled as part of the overall Site restoration and are discussed in Sections 3.5.9 and 3.5.13, and the overall restoration of the Site is discussed in Section 3.6.

3.5 Source Control Through Demolition and Disposal

The second objective of the cleanup action was source control through demolition and disposal of the FWTP structures. This section summarizes the pre-demolition steps, demolition, confirmation sampling, and backfill of the remaining basins.

3.5.1 Utility Disconnections and Terminations

Utilities specific to the Sedimentation Basin were disconnected by others prior to this cleanup action. Utility disconnections for the Filtration Basin/Administration Building were completed by others prior to this cleanup action as well as prior to demolition during this cleanup action. The following subsections describe the utility disconnection activities for the Sedimentation Basin and Filtration Basin/Administration Building.

3.5.1.1 Potable Water

Prior to 3 Kings mobilizing to the Site, the water treatment plant had completed all physical water disconnections.

In the Sedimentation Basin, water disconnects were performed when the water treatment plant installed its sheet piling for the construction of the new Clearwell, physically disconnecting the basin with the Filtration Basin and Administration Building.

The following summarizes the water disconnections performed by the water treatment plant in the Filtration Basin and Administration Building:

- The lagoon discharge line was cut and capped below grade in the northeast corner of the Administration Building.
- The 36-inch finish water line pipe segment was removed at the valve tee on the main line to the north of the Filtration Basin structure. A blind flange was installed on the valve.
- The old raw water line running east-west through the south side of the Administration Building in the Chemical Storage Room was cut and capped below grade on the west side during construction of the new clear well.
- Tap water was supplied though the plant finish water piping, which was disconnected as described.
- No fire suppression system was present.

3.5.1.2 Electric

Prior to 3 Kings mobilizing to the Site, the water treatment plant had completed electrical disconnects to all structures. On the north side of the Administration Building the main electrical service lines were cut (i.e., air gapped). Temporary electric service for the Administration Building was provided through the HSP Building and also disconnected by the water treatment plant's electrician prior to the start of the cleanup activities. Electrical service to the Sedimentation Basin was previously disconnected by the water treatment plant during the construction of the new Clearwell.

An electrical vault on the south side of the Filtration Basin was inspected by 3 Kings' subcontracted electrician, BCT Electrical Services, and they verified the disconnections. 3 Kings' electrician also verified the temporary electrical disconnects preformed previously by the plant prior to the cleanup action.

3.5.1.3 Sanitary Sewer

On October 18, 2023, 3 Kings cut and capped the sanitary sewer connection on the west side of the Administration Building. There was no sanitary sewer connection associated with the Sedimentation Basin.

Photograph 6
3 Kings Disconnecting the Sanitary Sewer Line

3.5.1.4 Communication

Prior to 3 Kings mobilizing to the Site, the water treatment plant had completed communication cable disconnections.

3.5.2 Asbestos Abatement

Asbestos-containing materials (ACM) were identified by Anchor QEA's subcontractor, EMB Consulting, LLC (EMB), in the Administration Building. 3 Kings abated the ACM prior to demolition during July 2023. The *Asbestos Containing Material Inspection for Demolition* (EMB 2022) summarized the samples collected and the materials identified as ACM. Prior to initiating asbestos abatement,

3 Kings submitted required regulatory notifications and installed containment areas and decontamination areas.

ACM types that were abated include the following:

- Sink undercoating
- Roof caulking
- Floor tile mastic
- Electrical insulator blocks
- Electrical wire wrap
- Cove base mastic
- Window putty
- Cement asbestos boards (CAB)

During asbestos abatement, independent third-party project monitoring was performed by EMB. The third-party monitoring included on-Site observation and recordkeeping of abatement activities and collection of air samples to evaluate the potential for fiber release as a result of the abatement activities. There were no detected releases above regulatory levels during the abatement activities. Once satisfactory final-clearance air sampling results were obtained for a work area, the asbestos abatement activity was considered complete, and the work area was considered cleared of ACM and returned to an unregulated state.

During abatement of the electrical insulator blocks and electric wire wrap, 3 Kings identified (and EMB confirmed with sampling) additional suspect material that was inaccessible during the original survey. The unidentified ACM included approximately 30 CAB panels between fuses in the center power cabinets. 3 Kings completed the removal of the additional ACM.

All asbestos waste was double-bagged and shipped by a 3 Kings-certified asbestos transporter to the Wasco County Landfill in The Dalles, Oregon.

The CAB panels at the entrance to the Administrative Building were removed and wrapped during the week of July 31, 2023. Due to the presence of suspected PCB paint on the exterior of the boards, they were segregated and staged. In September 2023, the boards were sized within containment using manual methods and placed into U.S. Department of Transportation (USDOT)-approved 55-gallon steel drums for disposal as a PCB and asbestos comingled waste. The drums were transported by Waste Management and disposed of at their Chemical Waste Management facility in Arlington, Oregon.

Documentation, including third-party monitoring weekly reports that include the confirmation air sampling and waste characterization samples, the addendum to the original asbestos survey, and applicable asbestos closeout documentation are included in Appendix F.

Photograph 7
Abatement of Asbestos Caulking Around the Roof Drains

3.5.3 Regulated Materials Removal

Between July and November 2023, 3 Kings removed universal wastes, lamps, fluorescent light bulbs, ballasts, fire extinguishers, batteries, equipment oil, and electronic waste from the Site. 3 Kings also inspected process piping within the Administration Building, checking that they were properly drained and decommissioned.

Oil that was drained from equipment reservoirs was containerized in two 55-gallon drums and sampled by 3 Kings. Sample results indicated that it was non-PCB-containing and 3 Kings proposed

to reuse the oil in their waste oil burner for heat in their shop. This proposed recycling of the oil was approved by the City and Anchor QEA, and 3 Kings transported the drums to their facility.

Fire extinguishers were collected by 3 Kings, professionally recharged and recertified, and put into 3 King's company circulation.

Electronic waste, including the non-PCB-containing ballasts from the light fixtures in the Administration Building, were inventoried and disposed of by 3 Kings laboratory pack subcontractor, Clean Harbors.

3 Kings removed and drummed dry lime from the hoppers on the second floor, residual alum from the tank in the Chemical Storage Room and the process piping throughout the Administration Building, residual liquid from the chlorine feed lines, and residual filter aid from process piping. Clean Harbors collected laboratory analytical data from the drummed residual process material and disposed of them according to their results. Waste characterization, transportation, and disposal is summarized in Section 4.

3.5.4 Loose Paint Removal

Between August 7 and September 7, 2023, loose and flaking lead- and PCB-based paint was removed from the interior and exterior walls and ceilings of the Sedimentation Building, Filtration Basin, and Administration Building using hand tools and wet work methods (i.e., misting). The ground surface and floors were lined with 6-mil polyethylene sheeting to contain the paint chips removed from surfaces. The polyethylene sheeting with paint chips were wrapped and containerized for off-Site disposal with demolition debris. Where paint was flaking on exterior handrails, 3 Kings wrapped the rails with polyethylene sheeting to prevent the flaking paint from becoming airborne during removal. After submitting the paint analytical data to Chemical Waste Management in Arlington, Oregon, and receiving approval, the railings were removed and disposed with the demolition of the structures.

During the week of October 30, 2023, 3 Kings performed additional loose paint removal where loose paint had been covered with the filter media.

3.5.5 Filter Media Removal

During the PDI, Anchor QEA sampled the carbon and sand media from within the Filtration Basin bays. Analytical results indicated that the media did not contain PCB concentrations greater than 1 mg/kg and the media could remain on Site and be reused as backfill material. Anchor QEA collected an additional media sample on August 9, 2023, to document that pre-demolition paint removal activities had not impacted the media material. Analytical results indicated that the media still met the PCB cleanup level.

3 Kings utilized a vacuum trailer and an excavator to remove the media from the basin bays. Prior to commencing removal of the clean filter media, 3 Kings manually removed and containerized paint

that had flaked off and fallen onto the filter media. The flaking paint was disposed of with the demolition debris.

Removed media was staged around the perimeter of the Filtration Basin and reused as backfill material following the demolition.

Following filter media removal, 3 Kings removed the underlying permeable filter tiles and bricks that were not impacted by the PCB paint. Filter tiles were removed with the excavator and added to stockpile of material for reuse as backfill.

Photograph 8
Filter Media Removal with the Vacuum Unit

Photograph 9
Filter Media Removal with the Excavator

3.5.6 Sedimentation Basin Demolition

3 Kings initiated demolition of the Sedimentation Basin on August 16, 2023. 3 Kings demolished the structure using CAT 349 and CAT 336 excavators with concrete processing attachments. The demolition of the east half of the basin progressed from south to north. Then the demolition of the west side of the basin progressed both north and south from the center.

Several bays of the structure were demolished at a time. In each area, 3 Kings demolished the top of the structure coated with PCB-containing paint prior to demolition of the lower uncontaminated structure. This sequence progressed from area to area with PCB-impacted demolition, PCB-impacted debris removal, floor cleaning, and then demolition of the uncontaminated structure. This sequence was performed to avoid comingling of the PCB-impacted demolition debris with nonimpacted demolition debris. This sequence continued from area to area until the demolition was completed. The basin walls were demolished to the final elevation depicted on the contract drawings and surveyed to document the final elevations by Bayview. Contaminated material was transferred to the debris loadout location at the southeast corner of the basin for loading into roll-off containers for off-Site disposal. Floor cleaning was performed with water hoses and a Bobcat skid-steer with a sweeper attachment. After an area was cleaned, and before progressing to the uncontaminated demolition, Anchor QEA performed visual inspections and documented the contaminated material was properly segregated. Uncontaminated material was segregated in a separate part of the basin for processing and reuse as backfill following the demolition.

Dust suppression was performed by 3 Kings during demolition using fire hoses and a trailer-mounted water misting system. The application of water for dust control was controlled such that accumulation of water on the ground surface was minimal and mostly contained within the basin footprint.

Waste loadout commenced on August 21, 2023, and occurred concurrently with the building demolition. Demolition debris was loaded into intermodal waste containers and transported via trucks to Waste Management's rail facility. At the rail facility, the intermodals were placed on railcars and transported to Chemical Waste Management in Arlington, Oregon. Unpainted scrap metal, including concrete reinforcing bars, was segregated, washed of any incidental demolition dust, and placed in roll-off containers for shipment to Metro Metals in Tacoma, Washington, for recycling. The demolition and loadout of the Sedimentation Basin was completed on November 6, 2023, following the basin cleaning, confirmation sampling, and removal of the expansion joint discussed in the following sections.

Photograph 10
Sedimentation Basin Demolition

Photograph 11
PCB BPW Demolition Debris Loadout

3.5.7 Sedimentation Basin Cleaning and Confirmation Sampling

Following the demolition of the Sedimentation Basin walls, and prior to the removal of the central expansion joint, 3 Kings performed a washdown of the basin using the water hoses and Bobcat sweeper to remove fine residuals. Accumulated water and fine residuals were pumped to baker tanks for storage and treatment.

Once the washdown was complete, Anchor QEA collected three 9-point composite concrete samples from the floor of the basin to document the total PCB concentration in the concrete following demolition. Each discrete location within the composite was drilled to the depth 7.5 centimeters. The

material was composited across the nine locations and sent for laboratory analysis for total PCBs. Results were compared to the PCB cleanup level of 1 mg/kg.

After the expansion joint removal was complete, two additional composite confirmation samples were collected to document that the removal of the expansion joint material was complete and also that the joint removal activities did not impact the uncontaminated portions of the basin. All sample results were below the PCB cleanup level. Appendix G contains maps depicting the location of confirmation samples. Sample analytical data reports are located in Appendix E.

3.5.8 Sedimentation Basin Expansion Joint Removal

On October 24, 2023, 3 Kings commenced the removal of the expansion joint running east-west through the center of the Sedimentation Basin. On either side of the joint, 6 inches of concrete were removed per the contract drawings.

During the removal of the expansion joint, 3 Kings encountered two materials that had not been previously encountered: an elastic membrane under the slab and a foam material in the sidewall behind where the basin walls had been removed. Both materials were sampled by Anchor QEA for total PCBs, and both exceeded 1 mg/kg. Anchor QEA instructed 3 Kings to delineate the extent of the materials and completely remove them. Both materials were only encountered within 2 feet of the expansion joint in each direction and were fully removed and disposed of with the other PCB-containing demolition debris. The expansion joint and adjacent concrete were removed approximately 2.5 feet in either direction.

3.5.9 Sedimentation Basin Backfill and Grading

Prior to placement of backfill in the Sedimentation Basin, 3 Kings fractured the full depth of the slab at approximately 2-foot intervals to promote drainage. The first layer of backfill placed in the Sedimentation Basin was the processed uncontaminated concrete (i.e., PCB concentrations less than 1 mg/kg). 3 Kings placed this material in an approximately 8-inch thick layer across of the basin. On November 20, 2023, 3 Kings began placing the lagoon soils in the basin that the treatment plant had removed from their on-Site sediment lagoons as part of their ongoing Site maintenance. The lagoon soils had been stockpiled for use as backfill. Following the placement of the initial lagoon soil layer, Materials Testing and Consulting tested the material and determined there was too much moisture in the material to achieve the required compaction.

On January 10, 2024, Anchor QEA provided updated guidance (i.e., Field Order) to 3 Kings for backfill within the Sedimentation Basin. Revisions to the contract documents included backfilling only where necessary to support the active driveway on the west side of the basin, rebuilding the flood dike on the east side of the basin, and stabilizing the perimeter slopes around the perimeter of the basin. Additional backfill with the lagoon soil to the grades outlined in the original design and grading plan

was deferred to the City to complete as a separate project when the material was drier and more suitable to compact.

Photograph 12
Backfill of the Sedimentation Basin

3.5.10 Filtration Basin and Administration Building Demolition

3 Kings initiated demolition of the Filtration Basin and Administration Building complex on November 14, 2023. The complex consists of the filtration basins, Administration Building, Pump Room, Chlorine Storage Room, and Clearwell that underlies the majority of the above-grade structures. 3 Kings demolished the structures using a CAT 336, CAT 323, and Zaxis 450 long reach excavator with concrete processing attachments. The demolition began on the east side of the Filtration Basin complex and progressed west. Uncontaminated filtration media and underlying filter bricks and concrete that could be removed with excavators positioned outside the basin were largely removed prior to the demolition of the superstructure. Where they were not removed prior to demolition (i.e., north filter bays), those areas were sequenced separately from the painted walls surrounding, to prevent comingling of the waste streams.

3 Kings demolished the Administration Building from the center and worked out toward the edges, pulling the debris inward to avoid potentially contaminating the surrounding area or causing any damage to the active facility. Additional protective measures included a designed scaffolding erected by BrandSafway between the active HSP Building and the Administration Building to prevent demolition debris from impacting the active HSP Building. In addition, steel plates and wooden pallets were placed over the active vaults and manholes on the east side of the building as a protection measure.

The waste generated from the Administration Building demolition was designated as PCB bulk product waste (BPW) due to the interior and exterior paint coatings. Concrete floor slabs within the Chemical Storage Room, Chlorine Storage Room, and Pump Rooms were designated for processing and reuse as fill according to the pre-demolition characterization sampling and the contract documents. These areas were demolished last, once the PCB BPW was staged for loadout and the areas were cleaned with the Bobcat sweeper and water hoses. Pedestals on the Pump Room slab were characterized as PCB BPW and segregated from the remaining floor slab for disposal.

The basin walls were demolished to the final elevation depicted on the contract drawings and surveyed to document the final elevations by Bayview. Contaminated material was transferred to the debris loadout location at the southeast corner of the basin for loading into roll-off containers for off-Site disposal.

Photograph 13
Demolition of the Administration Building

Photograph 14
Demolition of the Pedestals on the Pump Room Slab

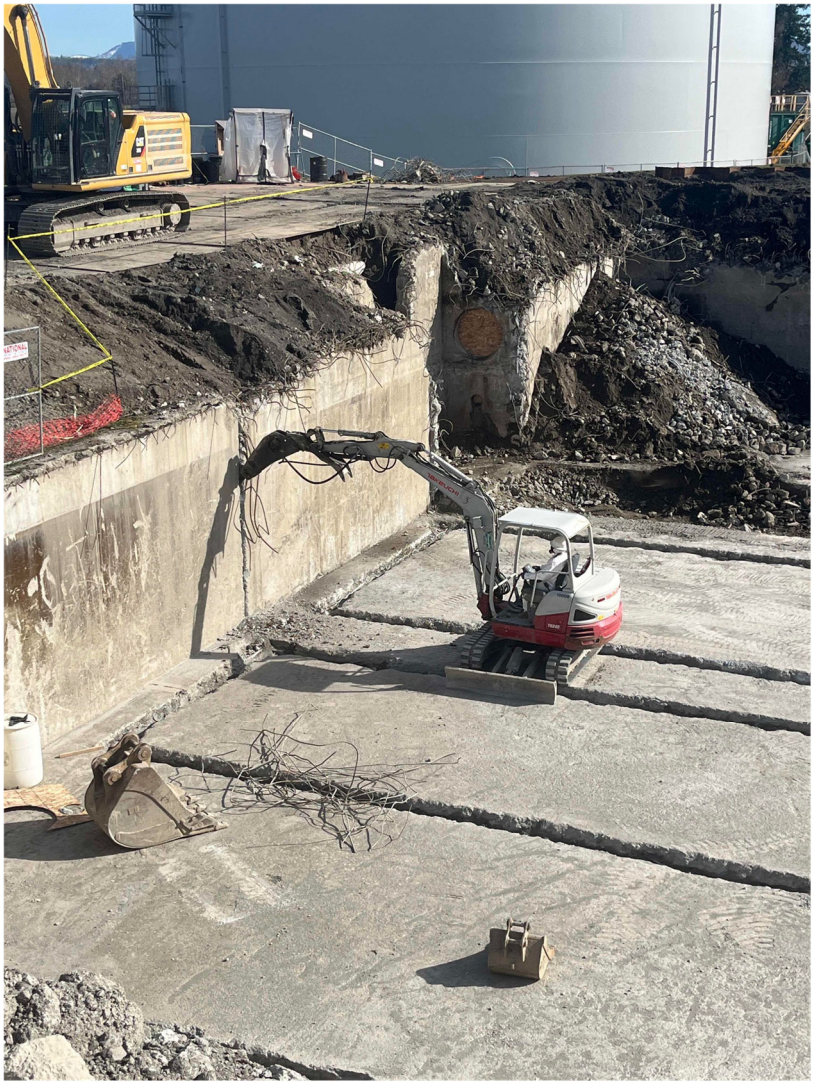
Dust suppression was performed by 3 Kings during demolition using fire hoses and a trailer-mounted water misting system. The application of water for dust control was controlled such that accumulation of water on the ground surface was minimal and mostly contained within the footprint of the structures.

Waste loadout commenced on December 11, 2023, and occurred concurrently with the building demolition. Demolition debris was loaded into intermodal waste containers and transported via trucks to Waste Management's rail facility. At the rail facility, the intermodals were placed on railcars and transported to Chemical Waste Management in Arlington, Oregon. Unpainted scrap metal, including concrete reinforcing bars, was segregated, washed of any incidental demolition dust, and placed in roll-off containers for shipment to Metro Metals in Tacoma, Washington, for recycling. The demolition and loadout of the Filtration Basin and Administration Building was completed on April 5, 2024, after the basin cleaning, confirmation sampling, and removal of the expansion joint discussed in the following sections.

3.5.11 Filtration Basin and Administration Building Expansion Joint Removal

While completing the loadout of demolition debris and the cleaning of the floors, seams and joints in the floor slabs and walls of the Clearwell were observed. The original construction drawings indicated that the seams and joints were slab expansion joints and construction joints. Anchor QEA sampled the sealant, foam, and cork materials in the joints. The sealant, foam, and cork material samples contained PCBs at concentrations greater than 1 mg/kg total PCBs and required removal as PCB BPW. EMB visually assessed the materials and determined that they were not suspect ACM and did not require special handling during removal. 3 Kings removed the joints and adjacent concrete using a hydraulic hammer attached to an excavator. Concrete step-out samples 3 inches adjacent to the joints were less than 1 mg/kg PCBs, indicating there was not a lateral leeching effect into the adjacent concrete. However, the joint removal was approximately 15 to 18 inches wide due to the width of the mini-excavator bucket. The deeper asphaltic portion of the floor slab joints were also sampled for PCBs and the sample results indicated PCBs were detected at concentrations less than 1 mg/kg, and the asphaltic material remained in place. The Clearwell expansion joint removal was documented in a Field Order and Change Order to 3 Kings, and a full list of waste characterization samples and results can be found within Appendix E.

Photograph 15
Expansion Joint Removal in the Clearwell Wall



3.5.12 Filtration Basin and Administration Building Cleaning and Confirmation Sampling

Following the demolition Filtration Basin and Administration Building and the removal of the expansion joints, 3 Kings performed a washdown of the basin using the water hoses and Bobcat sweeper. Accumulated water and fine residuals were pumped to the baker tanks for treatment.

Once the washdown was complete, Anchor QEA collected three 9-point composite samples from the floor of the basin to document the total PCB concentration in the concrete following demolition. Each discrete location within the composite was to the depth 7.5 centimeters. The material was

composited across the nine locations and sent for laboratory analysis for total PCBs. Results were compared to the cleanup level of 1 mg/kg total PCBs.

All PCB sample results were less than 1 mg/kg and maps outlining the location of confirmation samples can be found in Appendix G. Sample results can be found in Appendix E.

3.5.13 Filtration Basin and Administration Building Backfill and Grading

Prior to placement of backfill in the Filtration Basin and Administration Building, 3 Kings fractured the slab at approximately 2-foot intervals to promote drainage. On March 25, 2024, 3 Kings began backfilling and grading. The stockpiled lagoon soils were still not suitable due to elevated moisture content, and Anchor QEA provided 3 Kings with interim measures to be performed. Revisions to the backfill guidance included placing the contractor-generated fill materials (Filtration Basin media, processed concrete designated for reuse, and excavated soil removed during the demolition of the perimeter walls) in the deeper portion of the Clearwell under the former Pump Room and Pipe Gallery.

To provide stability for the remaining walls until the basin could be backfilled to the proposed final grade, gravel borrow import was specified for placement at a 3:1 slope around the perimeter of the basin. Remaining contractor-generated fill materials were placed in the center of the basin and compacted. Additional backfill with the lagoon soil to the grades outlined in the original design and grading plan was deferred to the City to complete as a separate project when the material was drier and more suitable to compact.

Photograph 16
Backfilling of the Filtration Basin and Administration Building

3.6 Site Restoration

Upon completion of the grading in the Filtration Basin and Administration Building, 3 Kings began Site restoration.

On April 11, 2024, 3 Kings subcontractor Lefeber Turf Farm hydroseeded the Sedimentation Basin area, the Filtration Basin and Administration Building area, and the surface areas adjacent to the structure footprints that were disturbed during the cleanup action.

Beginning on April 11, 2024, 3 Kings received deliveries of 1.25-inch-minus crushed rock (i.e., crushed rock with the maximum of 1.25-inch diameter in any direction) for resurfacing the main gravel road from the south gate, around the new Clearwell, to the north gate. The south portion of the work area where trucks, equipment, and disposal boxes were staged was also resurfaced with the crushed rock.

Photograph 17
Hydroseeding the Sedimentation Basin

Photograph 18
Resurfacing the Gravel Roadway

3.7 Demobilization

3 Kings and their subcontractors demobilized equipment as necessary over the course of the project as specific equipment was no longer needed on the project. Prior to demobilization from the Site, equipment or supplies that had been in contact with the PCB-contaminated building materials were decontaminated and visually reviewed by Anchor QEA. During the week of April 8, 2024, the majority of 3 Kings equipment and supplies were demobilized. The water management system tanks and carbon filters were also cleaned of residual fines, visually reviewed, and prepped for demobilization. As a conservative measure, and to avoid generating a new waste stream at the completion of the project, fines and wash water associated with the cleaning were added to the last PCB BPW intermodal shipment to Chemical Waste Management in Arlington, Oregon.

During the week of April 15, 2024, 3 Kings demobilized the remaining equipment from the Site. United Rental demobilized the water management system components and baker tanks. The two job trailers were also disconnected from the Site-provided internet and electrical and demobilized from the Site. On April 18, 2024, 3 Kings were completed with the demobilization and Anchor QEA documented the Site conditions with drone images.

Thirteen drums of process waste from the pre-demolition removals and the laboratory pack of miscellaneous chemicals from the FWTP remained on Site until their pickup by Clean Harbors on June 10, 2024.

Photograph 19
Final Site Conditions at 3 Kings Demobilization on April 18, 2024

4 Waste Management, Transportation and Disposal

This section describes the management, transportation, and off-Site disposal of waste materials generated during the cleanup action. The management, transportation, and off-Site disposal of wastes were conducted by 3 Kings. Anchor QEA and 3 Kings collected samples of previously uncharacterized waste streams. 3 Kings contracted with transportation and disposal vendors and prepared profiles and waste documentation and handled, segregated, and placed debris in the appropriate USDOT-approved containers.

4.1 Waste Quantities and Disposal

4.1.1 Summary

Waste generated during the cleanup action, waste quantities, and associated disposal facilities are summarized in Table 4-1.

Table 4-1
Waste Stream Disposal Summary

Waste Stream	Quantity	Final Disposal Facility
PCB soil	309.19 tons	WM – Columbia Ridge Landfill
PCB BPW debris	6407.23 tons	WM – Chemical Waste Management Arlington
PCB CAB	0.15 tons	WM – Chemical Waste Management Arlington
ACM debris	6 cubic yards	Wasco County Landfill
Soil cuttings	750 pounds	Clean Harbors – Grassy Mountain
Aluminum sulfate, chromium (residual)	330~~660~~ gallons	Clean Harbors – Grassy Mountain
Aluminum sulfate, chromium (pipes)	2150~~350~~ pounds	Clean Harbors – Grassy Mountain
Calcium hydroxide	880~~1,045~~ gallons	Clean Harbors – Grassy Mountain
Calcium hydroxide	3900 pounds	Clean Harbors – Grassy Mountain
Laboratory pack (misc. chemicals)	155 pounds	Clean Harbors – Aragonite LLC
Spent batteries	150 pounds	Clean Harbors – Grassy Mountain
Purged groundwater	220 gallons	Clean Harbors – Grassy Mountain
Oil, dirt, sand, absorbents, and or diesel fuel	110 gallons	Clean Harbors – Grassy Mountain
Electronic Waste	1914 pounds	Clean Harbors - LaPorte, TX
Silica Gel, Quartz	110 gallons	Clean Harbors – Grassy Mountain
Sodium Hydroxide/Sodium Hypochlorite	75 pounds	Clean Harbors – Aragonite LLC
Non-Dot, Non-RCRA Regulated Ballasts (Non-PCB)	120 pounds	Clean Harbors – Grassy Mountain

4.1.2 Waste Profiles

3 Kings established waste profiles for each waste stream together with the waste disposition facilities. The completed profiles were submitted to the disposal facilities for approval.

Approved profiles for waste streams are provided in Appendix I.

4.1.3 Manifests and Bills of Lading

All hazardous waste was transported from the Site under manifests. Each party that handled the waste signed the manifest and retained a copy. Once the waste reached its destination, the receiving facility returned a signed copy of the manifest to the City, confirming that the waste has been received by the designated facility.

Nonhazardous wastes were transported from the Site under nonhazardous waste manifests or bills of lading. Each manifest or bill of lading included a waste material description.

Copies of all manifests and nonhazardous waste manifests or bills of lading are provided in Appendix I.

4.1.4 Scrap Documentation

Scrap metals were transported to Metro Metals in Tacoma, Washington, for recycling. Bill of lading and weight tickets are provided in Appendix I.

4.1.4.1 Waste Characterization Results

Waste characterization samples during the cleanup action were collected by Anchor QEA and 3 Kings. The following summarizes the types of characterization samples.

Sedimentation Basin:

- Plastic seaming material within the concrete matrix
- Expansion joint foam
- Elastic mat adjacent to the expansion joint

Filtration Basin and Administration Building:

- Filter media
- Filter tiles
- Expansion joint foam
- Expansion joint sealant
- Expansion joint cork material
- Concrete adjacent to the expansion joints
- Asphalt joint material within the slab expansion joints

Lime Storage Building:

- Concrete characterization samples

A full list of waste characterization samples and results can be found within Appendix E.

5 Water Management

This section describes the management of stormwater and water that contacted PCB-impacted demolition debris (i.e., contact water) during the cleanup action. 3 Kings managed the stormwater and contact water during the cleanup action.

5.1 Stormwater Management

Prior to starting Site activities, 3 Kings installed inlet protection at the stormwater inlets. Inlets were inspected weekly by 3 Kings, and the inlet protection was repaired when necessary. Sediment and debris collected by the inlet protection were removed and disposed of periodically.

Clean stormwater that had collected in the Sedimentation Basin prior to contaminated structural demolition on August 16, 2023, was pumped into the Site stormwater inlets. Once demolition began, stormwater that collected within the contaminated structures was considered contact water and was pumped to the on-Site 21,000-gallon frac tanks for treatment and infiltration in the Site lagoons per Construction Stormwater General Permit WAR312587.

Building roof drains for the Administration Building were left functioning during interior and nonstructural demolition to convey noncontact water to the Waste Well portion of the Clearwell. This stormwater was pumped into the stormwater inlets up until contaminated structural demolition was started on November 7, 2023. After that point, the contact water (i.e., stormwater) was collected in the Clearwell and pumped to the on-Site frac tanks for treatment and subsequent infiltration in the Site lagoons.

5.2 Contact Water Management

During demolition of each structure, water used for dust suppression and precipitation entering the building was collected using manually operated sump pumps and conveyed to the frac tanks north of the Sedimentation Basin. Equipment and personal decontamination water was collected within the building footprints and was also pumped to the frac tanks for treatment and infiltration.

Approximately 280,000 gallons of treated contact water were collected by 3 Kings during the cleanup action. A total of 11 batch samples were collected during the cleanup action and analyzed by Fremont Analytical, Inc., for project-specific parameters. Results were compared to the chemical discharge limits set in the project specifications for the constituent's PCBs, lead, and total suspended solids concentrations. All results met project specifications and water was infiltrated in the on-Site lagoons. Analytical results for the water are provided in Appendix J.

Infiltration of the treated stormwater to on-Site lagoons was authorized in a December 8, 2023, email from the Ecology permit manager, Sylvia Graham. The submission of discharge monitoring reports for the project were not required by Ecology, as there was no discharge to surface waters for the

project. However, batch samples were also analyzed for the parameters specified in the Construction Stormwater General Permit WAR312587 and analytical results are provided in Appendix J.

6 Air Monitoring

6.1 General

During the cleanup action, Anchor QEA conducted air monitoring to document that airborne particulates (dust) that are less than 10 microns in diameter (PM_{10}) were not migrating out of the work area. Air monitoring activities were conducted in accordance with the AMP (provided in Appendix K).

Action levels for airborne particulates and the background for development of these action levels are presented in the AMP.

The following air monitoring activities were conducted as part of the Project and are described in this section:

- Equipment calibration
- Baseline air monitoring
- Meteorological monitoring
- Site perimeter monitoring

6.1.1.1 Calibration

Air monitoring equipment was maintained and calibrated in accordance with the manufacturers' procedures. Equipment calibrations were recorded in the field activity log book. Preventive maintenance and repairs were conducted in accordance with the respective manufacturers' procedures.

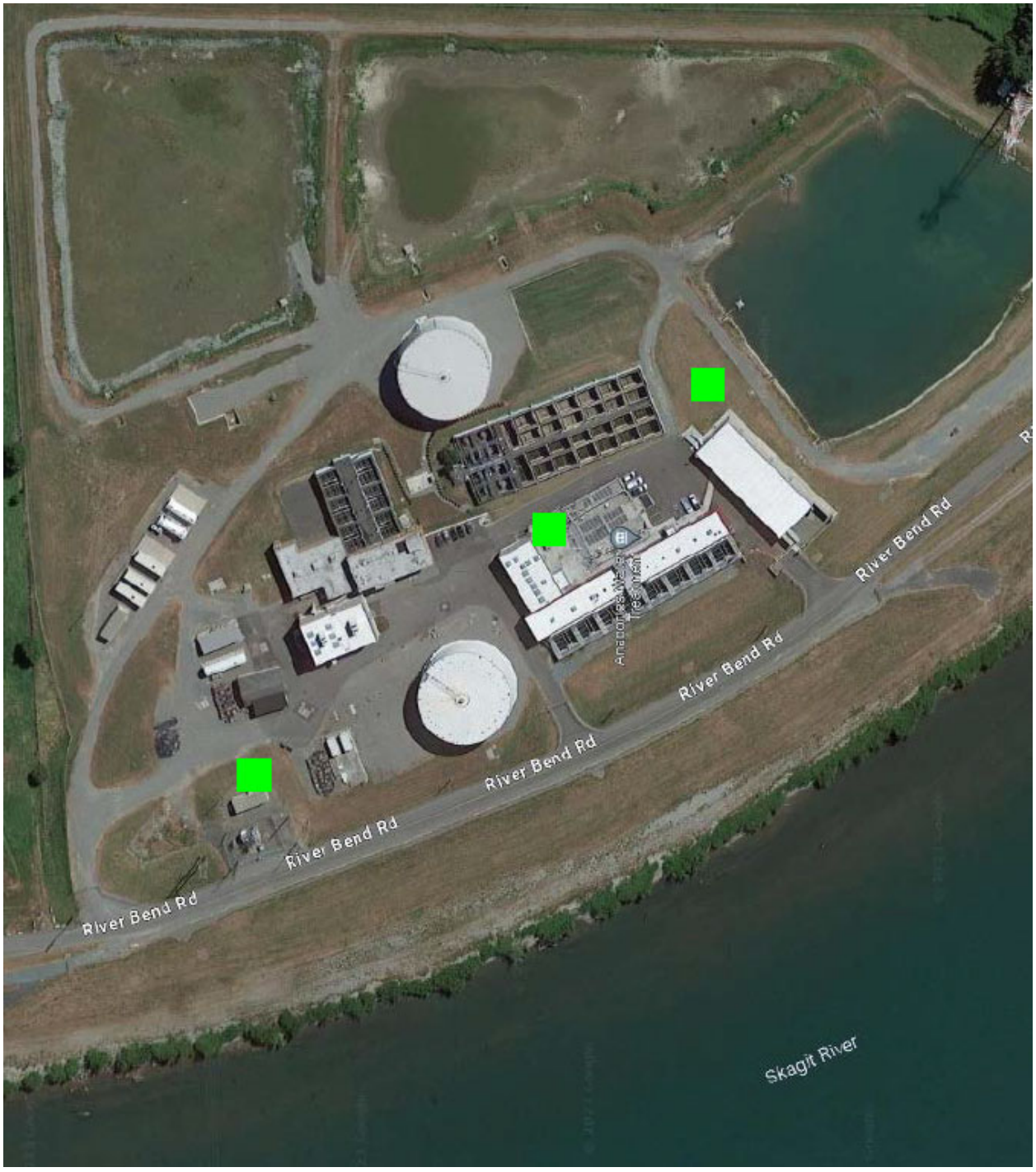
If an instrument was found to be inoperative or failed a calibration check, the instrument was removed from service and repaired or replaced. Contingency monitors were maintained on Site during the cleanup action.

6.1.1.2 Baseline Air Monitoring

Prior to conducting cleanup action activities with the potential to disturb building materials or generate dust, baseline levels for particulates were established.

Baseline PM_{10} monitoring data were collected by Anchor QEA over a period of 8 workdays leading up to the demolition between August 1 and 15, 2023. Air monitoring data was averaged every 15 minutes and over the 8-hour workday. Baseline PM_{10} air monitoring data was collected using a TSI DustTrak II 8530 real-time monitor. Readings were collected at three Site perimeter air monitoring station locations identified in the AMP and as shown in Figure 8-1.

Figure 8-1
Baseline Air Monitoring Locations



Baseline Air Monitoring Location
All locations are approximate
Source: ©2023 Airbus, Maxar Technologies, U.S. Geological Survey, Map data ©2023

Table 8-1 presents the range of 15-minute averages of PM_{10} concentrations recorded for each station.

Table 8-1
Baseline PM_{10} Air Monitoring Results—15-Minute Averages

Date	15-min Avg SP-1 (µg/m³)	15-min Avg SP-2 (µg/m³)	15-min Avg SP-3 (µg/m³)
8/1/2023	16.8–100	6.9–12.0	0.5–42.8
8/2/2023	6.0–30.4	2.0–10.0	22.0–44.6
8/3/2023	29.0–51.5	3.9–18.0	0.0–489.8
8/7/2023	9.87–21.2	0.1–7.9	0.1–8.9
8/8/2023	12.0–57.2	3.6–12.1	0.1–14.8
8/9/2023	13.6–26.3	6.0–6.5	1.2–7.0
8/14/2023	8.47–40.0	4.0–12.5	0.1–24.8
8/15/2023	21.6–55.7	6.5–40.0	0.1–35.0

Notes:
All measurement units are provided in micrograms per cubic meter (µg/m³).
Wind direction and speeds were variable throughout the Site. Winds were typically from a southerly or southeasterly direction.
Readings were collected from all four stations at 15-minute intervals to determine the average value.

Table 8-2 presents the average PM_{10} concentrations recorded during the 8-day monitoring event.

Table 8-2
Baseline PM_{10} Air Monitoring Results—Daily Averages

Date	Daily Avg SP-1 (µg/m³)	Daily Avg SP-2 (µg/m³)	Daily Avg SP-3 (µg/m³)
8/1/2023	27.6	8.8	18.18
8/2/2023	22.8	5.2	36.7
8/3/2023	34.0	7.9	29.0
8/7/2023	12.4	2.3	4.2
8/8/2023	22.7	7.4	7.6
8/9/2023	21.6	6.3	3.1
8/14/2023	17.0	9.2	13.3
8/15/2023	34.9	14.4	8.1

Notes:
All measurement units are provided in µg/m³.
Wind direction and speeds were variable throughout the Site. Winds were typically from a southerly or southeasterly direction.
Readings were collected from all four stations over an 8-hour period to determine the average value.

Based on the results of the baseline monitoring, and relatively low background levels, no modifications were made to the PM_{10} action level in the AMP.

6.1.1.3 Meteorological Monitoring

Anchor QEA conducted meteorological monitoring in accordance with the AMP. Meteorological monitoring was conducted using the Raken Construction Software, which recorded wind speed, precipitation, and temperature at least three times during the day. The windsock on Site was used to determine the wind direction on Site at least twice during the day and dictate the upwind and downwind boundaries of the Site.

6.1.1.4 Site Perimeter Monitoring

During the cleanup action activities, Site perimeter monitoring was performed by Anchor QEA to document that the cleanup action had not resulted in an exceedance of the action levels for PM_{10}. Three air monitoring stations were located around the Site perimeter: one upwind station, and two downwind stations.

While implementing cleanup action activities that had the potential to produce fugitive dust levels above the action levels, Anchor QEA conducted real-time air monitoring for PM_{10} and data at each Site perimeter monitoring location was recorded every 15 minutes.

The results of the Site perimeter monitoring are presented in Appendix L.

6.1.2 Action Level Exceedances and Corrective Actions Taken

Action level exceedances and corresponding corrective actions taken during the course of cleanup action activities are provided in Appendix M.

Of the 13 documented exceedances to Site perimeter action levels, seven were related to the cleanup actions activities. Common causes for the exceedances were dust generated during demolition or concrete crushing and tracking machinery and equipment around the Site. Following each exceedance, 3 Kings was notified and they modified their work method or increased dust suppression and the PM_{10} levels decreased below action levels. In addition to exceedances resulting from cleanup action activities, there were six exceedances to Site perimeter PM_{10} action levels that were not related to the cleanup action. These exceedances were observed at start-up of equipment in the morning and during the day and were attributed to atmospheric conditions (i.e., fog, high humidity) or off-Site work activities as they impacted upwind and downwind stations. On occasion, there were work area perimeter PM_{10} action levels exceedances that were attributed to atmospheric conditions as no dust-generating remedial activities were being conducted at the time. These exceedances are also provided and described in Appendix M.

7 References

Anchor QEA, 2019. *Draft Feasibility Study*. Former Anacortes Water Treatment Plant. November 2019.

Anchor QEA, 2020. *Final Feasibility Study*. Former Anacortes Water Treatment Plant. May 2020.

Anchor QEA, 2022. *Final Engineering Design Report*. Former Anacortes Water Treatment Plant. June 2022.

Ecology (Washington State Department of Ecology), 2021. *Final Cleanup Action Plan*. December 2021.

EMB (EMB Consulting, LLC), 2022. *Asbestos Containing Material Inspection for Demolition*. City of Anacortes Former Water Treatment Plant, Mount Vernon, Washington. June 20, 2022.

Intertox (Intertox, Inc.), 2017. *Evaluation of Potential Human Health Risks Associated with Contamination Identified in Building Materials at the Former Anacortes Water Treatment Plant*. Former Anacortes Water Treatment Plant. March 30, 2017.

Stantec (Stantec Consulting Services, Inc.), 2019. *Remedial Investigation Report*. Public Review Draft. Former Anacortes Water Treatment Plant. March 11, 2019.

Table

Table 3-1
Pre-Demolition Soil Removal Confirmation PCB Results

Sample ID	Sample Date	Sample Type	Result Units	Sample Detail	Analyte Result									
					Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Pre-Demolition Soil Removal Confirmation														
FWTP-COMP-1-2308011320	8/1/2023	SO	mg/kg	Composite from Area 1	ND	ND	ND	ND	ND	0.16	ND	0.19	ND	0.35
FWTP-COMP-1-A-2308011300	8/1/2023	SO	mg/kg		-	-	-	-	-	-	-	-	-	-
FWTP-COMP-1-B-2308011305	8/1/2023	SO	mg/kg		-	-	-	-	-	-	-	-	-	-
FWTP-COMP-1-C-2308011310	8/1/2023	SO	mg/kg		-	-	-	-	-	-	-	-	-	-
FWTP-COMP-2-2308021335	8/2/2023	SO	mg/kg	Composite from Area 2	ND	ND	ND	ND	ND	**1.0**	ND	**1.7**	ND	**2.7**
FWTP-COMP-2-A-2308021315	8/2/2023	SO	mg/kg		ND	ND	ND	ND	ND	**1.3**	**2.2**	ND	ND	**3.5**
FWTP-COMP-2-B-2308021320	8/2/2023	SO	mg/kg		ND	ND	ND	ND	ND	0.36	0.48	ND	ND	0.84
FWTP-COMP-2-C-2308021325	8/2/2023	SO	mg/kg		ND	ND	ND	ND	ND	0.34	0.56	ND	ND	0.90
FWTP-COMP-3-2308021505	8/2/2023	SO	mg/kg	Composite from Area 3	ND	ND	ND	ND	ND	0.80	ND	**1.5**	ND	**2.3**
FWTP-COMP-3-A-2308021450	8/2/2023	SO	mg/kg		ND	ND	ND	ND	ND	0.11	0.20	ND	ND	0.31
FWTP-COMP-3-B-2308021455	8/2/2023	SO	mg/kg		ND	ND	ND	ND	ND	**1.9**	**3.3**	ND	ND	**5.2**
FWTP-COMP-3-C-2308021500	8/2/2023	SO	mg/kg		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FWTP-EQB-2308021530	8/2/2023	WQ	mg/kg		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FWTP-COMP-4-2308031400	8/3/2023	SO	mg/kg	Composite from Area 4	ND	ND	ND	ND	ND	0.33	0.43	ND	ND	0.76
FWTP-COMP-4-A-2308031345	8/3/2023	SO	mg/kg		ND	ND	ND	ND	ND	0.22	0.25	ND	ND	0.47
FWTP-COMP-4-B-2308031350	8/3/2023	SO	mg/kg		ND	ND	ND	ND	ND	0.63	**1.3**	ND	ND	**1.93**
FWTP-COMP-4-C-2308031355	8/3/2023	SO	mg/kg		ND	ND	ND	ND	ND	0.16	0.15	ND	ND	0.31
FWTP-FD-2308031405	8/3/2023	SO	mg/kg	Field Duplicate from Compostie Area 4	ND	ND	ND	ND	ND	0.75	0.94	ND	ND	**1.69**
FWTP-COMP-5-2308071325	8/7/2023	SO	mg/kg	Composite from Area 5	ND	ND	ND	ND	ND	0.32	0.42	ND	ND	0.74
FWTP-COMP-5-A-2308071310	8/7/2023	SO	mg/kg		-	-	-	-	-	-	-	-	-	-
FWTP-COMP-5-B-2308071315	8/7/2023	SO	mg/kg		-	-	-	-	-	-	-	-	-	-
FWTP-COMP-5-C-2308071320	8/7/2023	SO	mg/kg		-	-	-	-	-	-	-	-	-	-
FWTP-COMP-2-A-2308091105	8/9/2023	SO	mg/kg	Additional Excavation within Area 2 (Soil Sample Interval 2–2.5 feet)	ND	ND	ND	ND	ND	0.15	0.41	ND	ND	0.56
FWTP-COMP-3-B-2308091110	8/9/2023	SO	mg/kg	Additional Excavation within Area 3 (Soil Sample Interval 2–2.5 feet)	ND	ND	ND	ND	ND	0.068	0.17	ND	ND	0.238
FWTP-COMP-4-B-2308211100	8/21/2023	SO	mg/kg	Additional Excavation within Area 4 (Soil Sample Interval 2–2.5 feet)	ND	ND	ND	ND	ND	0.063	ND	ND	ND	0.063

Notes:

1. Sample nomenclature includes the program code, sample type, location identifier, and date. For example sample FWTP-COMP-1-A-2308011300 is for the Former Water Treatment Plant demolition, composite sample from location 1A on the first of August, 2023, at 1300.

2. Soil samples are from the 6-inch interval following the 1-foot removal (1–1.5-foot interval) unless otherwise noted.

2. Shading indicates samples representative of the final soil surface after cleanup.

Program Codes:

FWTP - 2023 Former Water Treatment Plant Demolition

Sample Media Types:

SO : soil WQ: Water Quality

Abbreviations:

mg/kg: milligram per kilogram

ND: non-detect result

COMP: composite sample

EQB: equipment blank

FD: field duplicate sample

Appendix A
Permits, Notifications, and Approvals

Appendix B
Contractor Work Plans

Appendix C
Pre-Demolition Checklists

Appendix D
Construction Reports

Appendix E
Analytical Data and Validation Reports

Appendix F
Asbestos Abatement Documentation

Appendix G
Basin Confirmation Sampling Maps

Appendix H
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Appendix I
Soil Compaction Field Density Testing Results, Waste Disposal Logs and Manifests, and Scrap Recycling Documentation

Appendix J
Water Quality Reports

Appendix K
Air Monitoring Plan

Appendix L
Air Monitoring Data

Appendix M
Air Monitoring Exceedances and Actions Taken