Remedial Investigation Report

October 16, 2023

BLT Transport
8010 S 259th Street
Kent, Washington 98032
FS ID: 60800
Cleanup Site ID: 16551
VCP Project No.: NW3338

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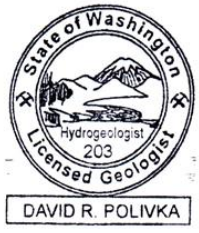

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1.0 INTRODUCTION

EcoCon, Inc. (ECI) has prepared this Remedial Investigation (RI) Report for a property located at 8010 S 259th Street in Kent Washington (Property/Subject Property) (Figure 1, Appendix A). As established in the Washington State Model Toxics Control Act (MTCA) Cleanup Regulations as established in Section 200 of Chapter 173-340 of the Washington Administrative Code (WAC 173-340-200), the "Site" is defined as:

> *"...any area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed or otherwise come to be located..."*

1.1 Purpose

The purpose of this report is to present the results of a remedial investigation conducted on the Property to characterize the nature and extent of contamination observed in the soil and to address the key requirements identified by the Washington State Department of Ecology (Ecology) in their "Further Action Letter" dated March 13, 2023, before Ecology would consider closure at the Site. In the "Further Action Letter Ecology requested

- additional borings to sample the fill in the excavation area along with the additional borings requested outside the excavation area;
- Additional characterization of Total Petroleum Hydrocarbons for diesel (TPH-D) and oil (TPH-O) and required that TPH-D and TPH-O analytical values be combined, and the total compared to the MTCA Method A Cleanup Level to assess if an exceedance of the cleanup levels have occurred;
- that additional borings and soil samples be collected to determine if contamination has extended to the north off of the Property and in a "downgradient" direction;
- that the vertical and lateral extent of arsenic in soil at the Site be further delineated and
- that a complete Remedial Investigation and a Feasibility Study (RI/FS) with a disproportionate cost analysis (DCA) be performed.
- This report presents the RI portion of Ecology's request.

1.2 General Information

1.2.1 Site Location / Description

The Property is located at 8010 S 259th Street in Kent Washington. According to the King County Assessor, the Property consists of a single tax parcel (Number 000660-0045) 56,395 square feet (1.29 acres) in size, currently zoned Commercial Manufacturing II (CM-2) by the City of Kent and is listed by the King County Assessor's office as being used for light industrial purposes. The lot is currently an asphalt paved dispatch, staging, and service yard for BLT Transport LLC that has been improved with one structure used for maintenance and office purposes and a stormwater detention system. The Subject Property is bounded:

- To the North: by a 3.00-acre parcel listed as vacant by the King County Assessor but was historically used for truck parking, a metal recycling facility known as Joseph Simon and Sons, and an

automobile wrecking yard. The parcel was an Ecology cleanup site known as Joseph Simon and Sons (Cleanup Site ID 2344);

- To the South: by 259th Street with a 5.55-acre parcel with large vacant warehouse owned and previously used by a church followed by a commercial office building;
- To the East: Is a fence company on Property that was once an automobile wrecking yard and used car sales. This property was an Ecology Cleanup Site known as Atomic Auto Wrecking and also Boyd Investment Properties (Cleanup Site ID: 2670). Further to the east is Central Avenue followed by an automobile service center and an autobody shop;
- To the West: by the Burlington Northern-Santa Fe (BNSF) railroad right-of-way followed by 1st Avenue South and a City of Kent retention pond with a window and door manufacturer north of the retention pond.

The following is an abbreviated legal description of the Parcel, as provided by the King County Assessor:

Table 1: Abbreviated Legal Description

Parcel details	Abbreviated Legal Description
King County: 000660-0045	SW RUSSELL DLC NO 41 POR NE 1/4 OF NE 1/4 STR 25-22-4 DAF - BEG NE COR SD SEC TH S 00-50 E 864.34 FT TO NXN OF C/L CO RD & C/L ST RD #5 TH S 89-20 W 30.12 TO W LN ST RD TH N 05-53 W 15.06 FT PLT & 30 FROM C/L ST RD #5 TH S 89-20W 160.74 FT TO POB TH S 89-20 W 478.92 FT M/L TO NP RR RY TH N 00-39-46 W 135.74 FT ALG SD RY TH N 89-20 E 479.07 FT TH S 00-40 E 135.73 FT TO POB - AKA - NEW LOT B KENT LLA #LL-95-20 REC #9510121176 LESS S 18 FT FOR RD PER REC 20160714000346

1.3 Site history

Based on aerial photographs the Subject Property and adjacent sites were originally developed as agricultural land prior to 1937. A 1937 aerial photograph shows the Property as an open field extending to the north with a residence on what is currently the adjacent parcel that is presently the fencing company. To the east of Central Avenue and to the southeast of the Property, there appears to be orchards.

By 1957, the central portion of the Subject Property was being used for truck parking with a vacant field to the north and an automobile wrecking yard beyond that. The areas to the east along Central Avenue were starting to be developed for commercial use.

A 1968 aerial photograph shows the entire Subject Property and the parcel to the east as an automobile wrecking yard. It was reported in Phase I environmental site assessments conducted in 1994 and 2016 that the Subject Property and the adjacent parcel were operating as Atomic Auto Wrecking with a used car dealer also present on the eastern parcel. By 2002 the Subject Property was being used for Truck Parking with BLT Trucking using the Subject Property for truck parking and maintenance by 2013.

2.0 GEOLOGY AND HYDROGEOLOGY

2.1 Geology

2.1.1 Regional Geology

The Subject Property is located within the Puget Sound Basin, which is classified as unconsolidated Pleistocene continental glacial drift. The glacial deposits predominantly consist of sand and silt, with varying amounts of gravel and cobbles (United States Geological Survey, 2005). More specifically, according to the Washington State Department Natural Resources Geologic Portal, the Subject Property is part of a meandering river valley characterized by thick fluvial and floodplain deposits of the Green and White Rivers, and numerous small streams. These deposits consist of gravel, sand, silt, with some clay. Locally could contain low-level terrace, marsh, peat and glacial deposits locally.

2.1.2 Subject Property Geology

According to soil boring logs, the soil on the Subject Property is recorded as brown to gray, poorly graded fine to coarse grained, silty sand, and sand with gravel and fill of the same material along with pea gravel. Boring logs from this investigation are presented in Appendix C.

The Natural Resources Conservation Service (NRCS) Web Soil Survey describes the soils at the Subject Property as Urban land. According to the NRCS, Urban land is soil that has been modified by disturbance of the natural layers with additions of fill material several feet thick to accommodate large industrial and housing installations. In the Green River Valley, the fill ranges from about 3 to more than 12 feet in thickness, and from gravelly sandy loam to gravelly loam in texture.

2.2 Hydrogeology

2.2.1 Regional Hydrogeology

The primary aquifers in the Puget Sound region are typically in glacial sands and gravels overlain by relatively impermeable glacial till deposits, that are present at or near the ground surface. Within these till deposits are localized areas or lenses of water-bearing sands and gravels that may result in a shallow, localized, perched water table.

Lateral and vertical migration of shallow groundwater may be impeded by the relatively impermeable nature of the till and by the sometimes-discontinuous nature of the perched water-bearing sands and gravel. In some areas the hydrogeology is controlled by large gravel deposits that are the result of advance and recessional glacial outwash or non-glacial alluvium deposited by rivers in the region.

2.2.2 Subject Property Hydrogeology

According to ECI well logs, the depth to groundwater at the Site ranges from 5 to 10 feet below ground surface (bgs). According to the United States Geological Survey (USGS) Auburn, WA, 2020, 7.5-minute quadrangle topographic map, the Property is in the Green River Valley at an elevation of approximately 40 feet above Mean Sea Level (MSL).

The Property is located between the beginning and end of a significant meander in the Green River which is situated approximately 480 feet to the southwest and 825 feet southeast of the Property and flows in a general north-northwesterly direction into Puget Sound (Elliott Bay) approximately 12.5 miles north-northwest of the Subject Property. State Route 167 is approximately 0.66 miles west of the Subject Property.

Except for during the sampling event in November 2021, the groundwater flow at Site varied from northwest in the western portion of the Property to northeast in the eastern portion of the Property with the divide in the vicinity of the central portion of the Property (Figure 3, Appendix A). ECI originally thought this was influenced by the stormwater detention system. However, the adjacent site to the north showed a northwest to southeast trending groundwater divide in the center of the site with similar flow directions. That site showed flow to the east and northeast in the eastern portion of that site and to the west and northwest in the western portion of the site and southwest in the southwestern portion of the site.

3.0 REGULATORY COMPLIANCE

Regulatory compliance for this project is based on the Washington Administrative Code (WAC) 173-340 – Model Toxic Control Act (MTCA) - Chapter 70A.305 RCW), implemented by the Washington State Department of Ecology (Ecology). Pursuant to Chapter 70A.305 RCW, Ecology has established procedures for developing cleanup levels and requirements for cleanup actions. The rules establishing these levels and requirements were developed by Ecology in consultation with a Science Advisory Board (established under the Act) and with representatives from local government, citizen, environmental, and business groups. The rules were first published in February 1991, with amendments in January 1996, February 2001, October 2007 and August 2023 (effective January 2024).

3.1 Contaminants of Concern

Based on Previous investigations ECI and Ecology have determined that the contaminants of concern (COCs) for both soil and at the Subject Site are:

- Diesel-range Organics (DRO)
- Oil-range Organics (ORO)
- Lead
- Cadmium
- Arsenic
- Polychlorinated biphenyls (PCBs)

For the metals in groundwater, both total and dissolved metals are contaminants of concern.

Given that the COCs Gasoline-Range Organics (GRO), BTEX and cPAHs have been analyzed for in previous investigations and the analytical results have been reported either below their respective laboratory Practical Quantitation Limits (PQLs) or below their respective MTCA Method A Cleanup Levels, ECI does not consider GRO, BTEX, or cPAHs to be a concern to the Subject Property.

4.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Numerous Environmental Investigations have occurred on the Subject Property. Boring and sampling locations referred to in this section are shown on Figures 2, and 4 through 7 in Appendix A. Analytical results from the previous investigations are attached in the tables in Appendix B.

4.1 Paul Siebenaler – Preliminary Site Investigation – February 1995

On February 12, 1995, Paul Siebenaler conducted a preliminary site investigation at Atomic Auto Wrecking Property. The property at the time was approximately 2 acres which includes the Subject Property. According to Tom Mr. Siebenaler, a property transfer assessment conducted by Enviros identified an area that is described as " heavy stained". The heavily stained area was adjacent to a building referred to as the storage shed located in the south-central portion of the current Subject Property. Mr. Siebenaler noted that the storage shed had engines, gasoline tanks, and transmissions stored on the ground and that the area was heavily stained with petroleum products.

Based on visual observations made at the site, Mr. Siebenaler divided the Property into three areas, 1) the heavily stained area identified in the property transfer assessment, 2) the area near a building known as the woodshed located in the southeastern portion of the current Subject Property, 3) and the rest of the site. It was noted that in Area 1, the top 4 inches were highly saturated with petroleum. The soil 6 inches below the ground surface (bgs) to 1.5 feet bgs also had significant amounts of petroleum but was visually less contaminated than the top 4 inches and the soil at 2 feet bgs did not show signs of significant contamination.

Three grab samples and 4 composite samples were collected in Area 1 ranging in depth from the surface to 2 feet bgs. Two grab Samples were collected from Area 2 at 4-inches and 1-foot bgs and one sample was collected from a localized stained area in Area 3 in What appears to be the current adjacent parcel to the east.

The samples were analyzed for Hydrocarbon Identification (HCID), Total Petroleum hydrocarbons (TPH) using EPA Method 418.1, TPH- gasoline, and the metals chromium, copper, lead, and zinc. The analytical results revealed that total petroleum hydrocarbons via EPA Method 418.1 was above the MTCA Method A Cleanup Levels in effect at that time (200 mg/kg) in all samples except one sample from Area 1 at a depth of 2.5 feet bgs. The concentrations of TPH were also greater than the current MTCA Method A Cleanup Level of 2,000 mg/kg in all of the samples collected at the site except two in Area 1, gasoline, BTEX, lead and chromium were also found in several the samples from Area 1 above the MTCA Method A Cleanup Levels.

Based on the results of the Preliminary Site Investigation, Mr. Siebenaler indicated that the approximate 400 cubic yards of contaminated soil in Area 1 and the approximate 80 cubic yard of contaminated soil in area 2 could be excavated for disposal off-site at a landfill. He also indicated that the soil to a depth of 6 inches in Area 3, the main portion of the site, could be excavated and stockpiled and that doing so would likely mix the soils enough to be below cleanup levels.

4.2 Galloway Environmental, Inc. - Environmental Restoration Work Plan - Atomic Auto Wrecking Property – 1995

In June 1995, Galloway Environmental Inc. (GEI) prepared an "Environmental Restoration Work Plan" for the Atomic Auto Wrecking Site, which included the current Subject Property. The work plan outlined the scope of work that would be used in the site restoration. The site restoration would include:

- temporarily stockpiling the "clean" materials on-site to be used as backfill following affected soil removal;
- excavating the affected soil;
- transporting approximately 400 cubic yards of the most highly impacted soil to a thermal treatment facility in Tacoma, Washington;
- on-site bioremediation of the remaining affected soils in an on-site engineered bio-treatment cell;
- backfilling the excavation with approved materials and paving the surface with asphalt;

A figure in the Site Restoration Plan indicated that the entire area of the current Subject Property would be excavated with a soil processing area near the north central portion of the Subject Property and the paved bio-treatment cell along the western Subject Property boundary.

4.3 Stemen Environmental, Inc. - Phase II Site Assessment – October 1999

In September 1999, Stemen Environmental Inc. (Stemen) conducted a Phase II site Assessment on the adjacent parcel to the east of the current Subject Property. The property, then known as the Boyd Investment Properties, was part of the Atomic Auto Wrecking investigations and remedial actions conducted in 1995 and described above.

During the 1999 investigation, Stemen collected eight discreet soil samples from eight selected sampling locations on the property and one groundwater sample. However, none of the samples were collected on the current Subject Property. The soil samples were collected from a depth of 5 to 6 feet bgs with one sample collected at a depth of 3 feet bgs. The groundwater sample was collected at a depth of approximately 9 feet bgs. All of the samples were analyzed for diesel-range organics (DRO) and oil-range organics (ORO).

The analytical results of the samples analyzed revealed that DRO and ORO were not detected in the samples. Based on the results of the investigation, Stemen concluded that:

> *"…the past uses of the subject property and the past and/or current uses of adjacent properties have not adversely impacted the environmental integrity of the subject property."*

4.4 Ecology No Further Action Letter – Boyd Investment Properties – March 2000

Based on the 1995 Paul Siebenaler preliminary site investigation and the 1999 Stemen Environmental, Inc. Phase II Site Assessment, Ecology issued a No Further Action Determination for the Boyd Investment Properties adjacent to the current Subject Property. Ecology stated:

"Based upon the above listed information, Ecology has determined that, at this time, the release of total petroleum hydrocarbons into the soil no longer poses a threat to human health or the environment. Therefore, Ecology is issuing this determination that no further remedial action is necessary at Parcel #09260024000, Boyd Investment Properties…"

And:

"Ecology's no further action determination is made only with respect to the characterization work identified in the Stemen Environmental, Inc. report listed above, and applies only to the .45-acre area of the property formerly occupied by the wrecking yards office and customer parking lot of the former Atomic Auto Wrecking Yard, located at 1037 South Central, Kent, Washington as identified in the reports. It does not apply to any other release or potential release at the property, any other areas on the property, nor any other properties owned or operated by Boyd Investment Properties".

4.5 Aerotech Environmental Consulting Inc. - Findings Summary of the State of Washington Department of Ecology File Review for: Atomic Auto Wrecking 1037 Central Avenue South Kent, Washington – May 2016

In January 2016, Aerotech Environmental Consulting Inc. (Aerotech) performed a Phase I Environmental S Site Assessment Phase I ESA). That Phase I ESA indicated that:

*"*The Subject Property was originally part of a 2.0-acre Parcel of land that housed Atomic Auto Wrecking from 1980 through early 1990s. In 1994, Atomic Auto Wrecking reported a release to the Washington State Department of Ecology and subsequently completed an Independent Cleanup. In 2000, the State of Washington Department of Ecology granted the property a No Further Action determination to the 0.45-acre area that did not include the portion of the subject Property, only the land to the east. *One of the two options are recommended: 1) Completion of a File Review with State of Washington Department of Ecology which will require approximately ten weeks to complete, or: 2) Perform a Phase II Subsurface Investigation that will require approximately 2 V; weeks and cost S8.900.*

Following the completion of the Phase I Environmental Site Assessment, BLT Transport LLC elected to have Aerotech Environmental Consulting Inc. conduct a File Review with the State of Department of Ecology."

Aerotech indicated that their file review found that:

"…petroleum impacted soils were discovered on the subject Property and east adjoining property. However, remedial activities were only conducted on the east adjoining property and not on the subject Property. No documentation of any completed remedial activities for the subject Property was contained within the State of Washington Department of Ecology Northwest Regional Office records. As such, further investigation is recommended."

4.6 EcoCon Inc. – Focused Subsurface Investigation – May and June 2016

On May 16, 2016, because a Phase I Environmental Site Assessment completed by Aerotech Environmental in 2015 identified the Property as having been an automobile wrecking yard, ECI oversaw the advancement

of eight borings on the Property to determine if the soil and/or groundwater on and beneath the Property had been impacted. These boring were located after dividing the Property into a grid of eight equal sections. One boring was advanced in each section. One soil sample was collected from each boring at a depth of 2 to 4 feet bgs. In addition, groundwater was encountered at a depth of 7 to 7.5 feet bgs and a sample was collected from each boring. The samples were analyzed for hydrocarbon Identification using the NWTPH-HCID analytical method.

The analytical results of the HCID analyses revealed that four of the soil samples contained ORO contaminants. GRO and DRO were not detected above the laboratory practical quantitation limits (PQLs). These four samples were subsequently analyzed for ORO. ORO was identified at concentrations exceeding the MTCA Method A Cleanup Level in two of the four soil samples. These were in samples from borings B2 and B3.

The analytical results of the groundwater samples revealed the presence of ORO in three of the samples analyzed by NWTPH-HCID. GRO and DRO were not detected above the laboratory PQLs. The samples that contained ORO were subsequently analyzed for ORO using method NWTPH-Dx extended with a silica gel cleanup to remove the effects of natural organic matter and silt in the samples. The analytical results did not report DRO or ORO above the laboratory PQLs.

Based on the analytical results of the soil samples, ECI returned to the Property on June 1, 2016, and excavated eight test pits in the northern portion of the Property to delineate the ORO contamination previously found. Soil samples were collected from a depth of 3 and 6 feet bgs in each test pit.

Ten of the samples were analyzed for DRO and ORO. Of the ten samples analyzed, four detected DRO and/or ORO above the laboratory PQLs but below the MTCA Method A Cleanup Levels. The analytical results from this investigation are summarized in Tables 6 and 7, Appendix B.

ECI concluded that the use of the Property as an automobile wrecking yard resulted in the release of oil-range hydrocarbons onto the surface soil in the northern portion of the Property. ECI also indicated that clean surface rock had been brought onto the Property after the automobile wrecking yard was no longer operating, which would explain why the contamination was not observed at the immediate surface.

ECI recommended:

> *"That soil containing concentrations in excess of the MTCA Method A Cleanup Level… be excavated, removed from the Property, and disposed of at an appropriate Subtitle D Landfill."*

4.7 EcoCon Inc. – Site Characterization Report – July 2016

After the initial FSI and sometime between June 1, 2016, and June 15 -16, 2016, approximately 6 to 7 feet of soil was excavated at the site for the stormwater detention system. The soil was segregated into two stockpiles. The first stockpile (SP1) was the top 2 to 3 feet of clean imported surface rock and soil over the entire stormwater detention system area. This pile was estimated to contain 1,000 cubic yards (1,500 tons) of material was potentially to be reused on the site.

The second stockpile (SP2) was the lower 2 to 4 feet below the top 2 to 3 feet excavated for stockpile SP1. This stockpile was the native soil below the imported fill and was estimated to contain 1,000 cubic yards (1,500 tons) of material and may have contained the ORO contaminated soils observed during ECI's previous investigation.

Following the stockpiling of the excavated soil by the excavation contractor, ECI returned to the site on June 15 and 16, 2016 to sample the stockpiles. ECI collected 10 samples from each stockpile for analysis. In addition, ECI collected 10 soil samples from the sidewalls and base of the northern portion of the excavation near where ORO contamination had previously been observed.

A total of 30 Samples were analyzed for DRO and ORO. The analytical results revealed that 24 of the samples had detectable concentrations of DRO and/or ORO. However, only one sample from stockpile SP2 (SP2-9) contained a concentration of ORO above the MTCA Method A Cleanup Level. Based on these results, 15 samples, (five from each stockpile and five from the excavation) were analyzed for PCBs and MTCA 5 metals.

The analytical results from the additional analyses revealed that PCBs were present above the MTCA Method A Industrial Cleanup Level in one of the samples from the northern sidewall of the excavation and that cadmium was present above the MTCA Method A Industrial Cleanup Level in six of the stockpile samples and five of the excavation samples.

ECI recommended further excavation within the stormwater detention system to remove the area with PCB contaminated soil, as well as removal of the area of stockpile SP2 with ORO contaminated soil. This was performed without ECI presence and placed into a separate stockpile (SP3). In addition, ECI recommended engaging with Ecology on possible cleanup alternatives and closure pathways.

On June 29, 2016, ECI returned to the Property and collected a composite sample from stockpile SP3 for disposal profiling (SP3-Composite). In addition, one sample from the sidewall of the over-excavated PCB area within the stormwater detention system excavation was collected for analysis. The analytical results of the sidewall sample were reported as being below the Method A Industrial Cleanup Levels. The composite sample from stockpile SP3 did not detect concentrations of the contaminants of concern above their respective laboratory PQLs and or above their respective MTCA Method A industrial Cleanup Levels. A summary of the analytical results is presented in Tables 6 and 7, Appendix B.

Based on the analytical results of the sample from stockpile SP3, a special waste profile was completed for disposal of the soil in stockpile SP3 at Republic Services Roosevelt Regional Landfill in Klickitat, Washington via their 3rd and Lander transfer station in Seattle, Washington. Copies of disposal receipts obtained by ECI showed that BLT Trucking transported a total of 175.38 tons of contaminated soil to the transfer facility on July 13 and 18, 2016. It should be noted that the disposal receipts were obtained after the completion of ECI's July 2016 Site Characterization Report.

4.8 Stormwater Detention System Installation

Following the excavation, stockpiling, and sampling of potentially contaminated soils and the disposal of the soils in stockpile SP3, the excavation contractor completed excavation of the stormwater detention system and the stormwater detention system piping was installed and backfilled with pea gravel, and the silty sand with gravel stockpiled soils. Subsequent to ECI's investigations, it is estimated that the depth of the stormwater detention system excavation was extended approximately 6 to 8 feet.

Samples of the excavated soil were not collected by the property owner during the excavation and installation of the stormwater detention system. Due to samples not being collected, in March 2021, ECI recommended additional investigations which included the advancement of soil borings and groundwater monitoring in and around the stormwater detention system excavation to confirm that the soils in that area are not contaminated from previous activities on the Subject Property.

4.9 ECI – Focused Subsurface Investigation & Groundwater Monitoring – March through November 2021

In March 2021, ECI oversaw the advancement of ten soil borings and the installation of five groundwater monitoring wells on the Property near where previous investigations had found contamination above cleanup levels during excavation for a stormwater detention system in 2016. The contaminated soil was reportedly independently remediated in 2016 by the previous owner of the Property through excavation, bioremediation, and off-site disposal. The borings advanced in March 2021 were to confirm that the soils around and beneath the stormwater detention system excavation had been effectively remediated and/or not affected by previous activities on the Property.

A total of 25 soil samples were collected from the borings and 15 were analyzed for COCs. The analytical results revealed that except for lead, total chromium, and arsenic, the contaminants of concern were reported as not being present above their respective laboratory PQLs. Lead, total chromium, and arsenic were reported above the respective laboratory PQLs in every sample analyzed. However, arsenic was the only sample reported to exceed the MTCA Method A Cleanup Levels in five of the samples collected from a depth of 15 feet bgs. The concentrations were just above the cleanup level of 20 mg/kg and ranged from 20 mg/kg to 26 mg/kg. Because arsenic was not detected above 6.92 mg/kg in shallow samples during the previous investigations or above the cleanup level in the shallow samples from the March 2021 investigation, it was ECI's opinion that the arsenic found at 15 feet bgs was not a result of activities on the Subject Property. A summary of the soil analytical results is presented in Table 7, Appendix B.

Between March 2021 and November 2021, ECI conducted four groundwater quarterly sampling events, where samples were collected from the five groundwater monitoring wells installed at the Site. The samples were collected to confirm that the groundwater had not been affected by the contamination previously found on the Property.

The analytical results showed total arsenic to be above its MTCA Method A Cleanup Level throughout the four quarters in samples from one or more monitoring wells. The samples reporting concentrations of total arsenic above the MTCA Method A Cleanup Level for the first through third consecutive groundwater

monitoring events were further analyzed for dissolved arsenic. With the exception of the second consecutive groundwater monitoring event, the analytical results for all samples were reported below the laboratory PQL for dissolved arsenic. The remaining COCs were reported below their respective laboratory PQLs or below their respective MTCA Method A Cleanup Levels for all of the monitoring wells (MW1 through MW5).

The analytical results from the second quarter sampling event reported the concentrations of dissolved arsenic above the concentration levels of the total arsenic analytical results. This can occasionally occur due to numerous reasons ranging from sampling and/or laboratory errors to the EPA acknowledged limitations with the analytical and sample preparation methods. A summary of the groundwater analytical results is presented in Table 9, Appendix B.

Because the actual reason for the discrepancy between the total and dissolved arsenic in the samples cannot be determined and that the dissolved arsenic analytical results reported during the first and third consecutive groundwater monitoring events conducted on March 30, 2021, and September 23, 2021, reported concentrations were below the laboratory PQL for arsenic, ECI does not consider the analytical results for arsenic from second quarter sampling event to be representative of true concentrations of total and/or dissolved arsenic within the groundwater at the Site.

4.10 ECI - BLT Trucking: Arsenic in Groundwater at and near the BLT Trucking Site – November 2022

During a June 24, 2022, meeting Ecology requested additional information regarding the elevated concentrations of arsenic found in the groundwater on the BLT Trucking Property. Ecology indicated that there were two possible options for addressing the arsenic. The first was to assess if there was enough empirical data to support a statistical analysis then perform a statistical analysis to show that the concentrations found were not statistically significant. The second option was to show that the arsenic was not from the Property and was within the background levels. ECI reviewed the options presented by Ecology and in a letter dated November 14, 2022, responded to Ecology's request.

In that letter, ECI indicated that based on a review of the Ecology statistical requirements for showing that the analytical results were not statistically significant, and a review of the statistical programs used by both Ecology and EPA, it was ECI's opinion that the statistical analysis was not the easiest option and would likely require more data. ECI decided to attempt to show that the arsenic was not from the Property and was within the background levels.

ECI's research revealed that the entire region was once agricultural from at least the 1930s to the mid-1960s and contained several cherry orchards. During that timeframe, it was common to use lead-arsenic pesticides. Lead-arsenic pesticide residues have been found in both the soil and groundwater of many agricultural areas around the State of Washington and are likely what has been identified at the BLT site.

ECI found that there were 117 total sites within that 2-mile radius of the BLT Property but that only 11 mentioned having arsenic above the soil and groundwater cleanup levels. One of the sites was the Joseph Simon and Sons site immediately adjacent and potentially upgradient to the BLT Property to the north. The arsenic levels found in the monitoring wells on that site ranged from below the laboratory PQL to 12.4 µg/L.

which was in the same range as was found at the BLT Trucking site at the time. The consultant for the Joseph Simon and Sons site concluded that arsenic found at that site was likely from an off-site source.

At Ecology's request, the consultant also researched background levels of arsenic in South King County and the vicinity of the site. The consultant concluded:

> *"Although specific groundwater sample locations do not appear to be in the immediate vicinity of the Joseph Simon and Sons site, the King County reports illustrate that arsenic concentrations above the MTCA Method A cleanup level of 5 µg/L are a common occurrence in the South King County area. The arsenic concentrations detected in groundwater samples collected at the Joseph Simon and Sons site appear to be consistent with those presented in the King County reports and appear to be indicative of regional background concentrations."*

Based on ECI's research and the information Presented for the Joesph Simon & Sons site, it was ECI's opinion that the arsenic that was found in the groundwater at the BLT site is not from the BLT site and is within the range of concentrations that are found regionally.

4.11 Ecology Further Action Letter – March 2023

In a letter dated March 13, 2023, Ecology indicated that "further Remedial Action" was required at the site. They stated that:

> *"Contaminated soil (TPH-D + TPH-O, PCBs, cadmium, lead, and arsenic) remains on the Property at concentrations exceeding the MTCA Method A soil cleanup levels for unrestricted land use. The vertical and lateral extents of soil contamination have not been delineated. The source of arsenic contamination has not been investigated or evaluated. The potential for soil contamination off the Property to the north has not been investigated."*

Ecology also stated that:

> *"Contaminated groundwater (arsenic) has been confirmed beneath the Property at concentrations exceeding the MTCA Method A groundwater cleanup level for unrestricted land use. Arsenic exceeding the cleanup level and background level was present in groundwater at multiple of the existing groundwater monitoring wells (MW-1 through MW-5). The extents of the groundwater contamination at the Site have not been delineated and the potential for downgradient off-Property migration has not been assessed."*

Ecology requested:

- Additional borings to sample the fill in the excavation area along with the additional borings requested outside the excavation area;
- Additional characterization of Total Petroleum Hydrocarbons for diesel (TPH-D) and oil (TPH-O) and required that TPH-D and TPH-O analytical values be combined, and the total compared to the MTCA Method A Cleanup Level to assess if an exceedance of the cleanup levels have occurred;
- Additional borings and soil samples be collected to determine if contamination has extended to the north off of the Property and in a "downgradient" direction;

That the vertical and lateral extent of arsenic in soil at the Site be further delineated and

Additional groundwater monitoring wells that are not located within or near the stormwater detention gallery to evaluate the groundwater flow.

Additional groundwater monitoring wells and groundwater sampling to delineate the extent of arsenic in groundwater at the Site and to determine whether contamination is migrating off the Property."

That a complete Remedial Investigation and a Feasibility Study (RI/FS) with a disproportionate cost analysis (DCA) be performed.

4.12 Ecology Response to ECI November 14, 2022, letter "Arsenic in Groundwater at and near the BLT Trucking Site

In an email dated May 31, 2023, Ecology indicated that they had performed a site wide statistical analysis on the soil and groundwater results from the BST site and indicated:

> "*Based on the findings, we do not think it is necessary to install any additional wells on the Property at this time. It would appear that for both groundwater and soil, the Site may be moving toward a statistical determination, however, that determination cannot be made without additional data."*

Ecology also stated that:

> *"…more arsenic groundwater data is needed, but we believe this can be achieved using the existing wells. The installation of additional monitoring wells is not needed at this time, but we request four quarters of groundwater data be collected form the existing wells…."*

5.0 SITE CHARACTERIZATION

Based on the previous investigations at the Site and discussions with Ecology, ECI prepared a Remedial Investigation/Feasibility Study Work Plan. That work plan was submitted to Ecology for comment and was approved by them with requests for some modifications via email on May 24, 2023.

Based on ECI's review of the information as of the date of this report, the scope of work in the work plan at this Site has been broken into four tasks.

- Task 1-Remedial Investigation
- Task 2-Feasibility Study
- Task 3-Implementation of Interim Remedial Actions and Investigations (as necessary)
- Task 4-Reporting and Submittal to Ecology.

ECI implemented Task 1 of the work plan in July 2023. This report presents the results of Task 1.

5.1 Utility Locating

Prior to any subsurface work the "call before you dig service" (811) was called a minimum of 72 hours in advance of site activities to identify public underground utilities. Additionally, the utility locating contractor conducted a private subsurface utility sweep to clear boring locations of any potential subsurface conflicts using electromagnetic survey techniques. In addition to the clearing of utilities, a qualified professional used ground penetrating radar (GPR), to scan for anomalies that could accurately define the stormwater detention system so borings could be placed in close proximity.

5.2 Soil Investigation

5.2.1 Soil Boring Advancement

During previous Subsurface Investigations, contamination was observed primarily in the vicinity of the stormwater detention system.

To evaluate the vertical and horizontal extent of soil contamination, ECI advanced five borings (B19 through B23) to an approximately depth of 20 feet bgs. A sixth boring was attempted west of the stormwater detention system but met with refusal between two and four feet bgs throughout a total of six (6) drilling attempts at multiple areas in the vicinity before the location was determined to be abandoned (Figure 2, Appendix A). All borings were advanced using direct-push drilling techniques by a licensed driller as required in Washington Administrative Code (WAC) 173-160 under the supervision of an ECI environmental professional.

The borings were placed in various locations in the vicinity of the stormwater detention system. Because contamination was previously observed above the MTCA Method A Cleanup Levels in the excavated soil stockpile, two (2) soil borings were placed within the stormwater detention system and the remaining three (3) soil borings were placed north of the stormwater detention system to assess the soil for the identified COCs. Because there is a 10-foot-wide sewer easement and sewer line along the northern property

boundary, the borings north of the stormwater detention system were placed between the sewer easement and the stormwater detention system.

Soil samples were collected continuously during drilling using standard Macro-Core® liners inside the 3-inch diameter push-probe drilling rod down to the maximum advanced depth of 20 feet bgs. Each 5-foot-long section of soil core was logged in detail for the lithology of the soils encountered and any changes in lithology that may affect the movement and location of groundwater and contaminants. In addition, each sample was field-screened utilizing visual (soil staining or visible product), olfactory (odor), sheen testing and a photoionization detector (PID).

5.2.2 Soil Sampling

5.2.2.1 Sample Collection and Handling Procedures

Soil samples were collected every 2 feet from the surface to the total depth of each boring for field screening and lithologic logging. Select soil samples were collected for analytical analysis to address the concerns identified by Ecology within the "Further Action Letter" dated March 13, 2023.

Previous sampling of the stockpiled soils that were not disposed of off-site and reportedly used as excavation backfill for the stormwater detention system revealed that the soil contained concentrations of PCBs, cadmium, and lead above the MTCA Method A Cleanup Level for "Unrestricted Use" but below the MTCA Method A Cleanup Level for "Industrial Uses". Because some of the soil reportedly used for backfilling contained contaminants above the Method A Cleanup Level for "Unrestricted Use", soil samples were collected from the two (2) soil borings advanced within the stormwater detention system excavation area (B19 and B20) every two feet down to approximately 12 feet bgs. A soil sample was then collected at approximately 15 feet bgs and the bottom of the borehole.

The samples collected from 2-3 feet bgs, 4-5 feet bgs, 7-8 feet bgs, the base of the fill material, soil/groundwater interface (approximately 10 feet bgs), and 15 feet bgs were selected to be analyzed for HCID, arsenic, cadmium, lead, and PCBs. This was to determine if the backfill material contained excavated soils that were greater than the MTCA Method A Cleanup Levels for "Unrestricted Use".

The soil samples from the remaining three (3) soil borings advanced outside of the former excavation area (B21, B22, and B23) were collected every two feet down to approximately 12 feet bgs, then a soil sample was collected at approximately 15 feet bgs and the bottom of the borehole. The samples collected at 2-3 feet bgs, 4-6 feet bgs, 15 feet bgs, and the soil/groundwater interface (approximately 10 feet bgs) to be analyzed for HCID, PCBs, arsenic, lead, and cadmium.

All soil samples collected, but not immediately analyzed were placed on hold at the laboratory pending the analysis of the initial samples and were selectively analyzed to further delineate contamination by depth, if necessary. All soil samples were collected in accordance with industry standard sampling techniques.

Following collection, each discrete soil sample was placed in new, laboratory provided containers. Samples for volatile organic constituents and GRO were sampled using the Ecology-required Environmental Protection Agency (EPA) 5035 sampling collection method and assigned unique sample identification numbers. The samples were identified by the boring number and the depth of the sample (e.g., B19-10 for the sample collected from boring B19 at 10 feet bgs).

Samples were then placed into a container maintained at four degrees (4°) Celsius until delivered to the laboratory for analysis under the industry standard chain of custody protocols.

5.2.2.2 Sample Analysis

Samples were delivered under industry standard chain-of-custody procedures to the Washington State Department of Ecology accredited laboratory Libby Environmental, in Lacey, Washington for analysis. The laboratory initially analyzed the samples for the primary COCs for each location and sample media as outlined in Section 5.2.2.1. Any detections that were reported for any of the samples analyzed for HCID, the respective contaminant was further quantified through their respective analysis (NWTPH-Gx for GRO and NWTPH-Dx for DRO and/or ORO).

As discussed with Ecology, the historical soil samples analyzed for arsenic in 2016 were completed by the laboratory Friedman & Bruya Inc. using EPA Method 200.8 (Inductively Coupled Plasma-Mass Spectrometry [ICP-MS]). However, the samples collected in 2021 were analyzed for arsenic by Libby Environmental Inc, in Olympia Washington using EPA Method 7010 (Graphite Furnace Atomic Absorption Spectrophotometry [GF-AA]). For ease of comparison, Ecology indicated that the same method for analyzing arsenic in soil was to be used as in the most recently completed investigation in 2021.

All soil samples were sent to Libby Environmental Inc.to be analyzed for the contaminants of concern by the same methods as was conducted in 2021. However, the equipment to analyze the arsenic was apparently out for repair and they forwarded the arsenic analysis to Friedman & Bruya Inc in Seattle for analysis. Friedman & Bruya Inc used the EPA Method 6020B, ICP-MS, to analyze for metals and not method 7010, GF-AA. Once the discrepancy was discovered, ECI selected eight representative soil samples to be re-analyzed using the EPA Method 7010 by Libby Environmental to maintain consistency in reporting.

5.3 Groundwater Investigation

Because groundwater contamination was observed during the previous investigations conducted at the Site, the RI/FS workplan indicated that ECI would conduct four (4) additional consecutive quarterly groundwater monitoring events using the existing groundwater monitoring wells at the Subject Property as requested in a May 31, 2023, email from Ecology. ECI conducted the first of the consecutive quarterly groundwater monitoring events on July 26, 2023.

5.3.1 Monitoring Well Sampling

Concurrently with the advancement and collection of the soil samples at the Subject Property, each well at the Site was sampled using industry standard sampling techniques and in general accordance with American Society of Testing and Materials (ASTM) Guideline D6771-02 "*Standard Practice for Low-Flow Purging and*

Sampling for Wells and Devices Used for Ground-Water Quality Investigations". This includes the use of low-flow sampling equipment and disposable (single use) polyethylene and silicon tubing. The sample handling procedures are described below in Section 5.3.1.1.

5.3.1.1 Sample Collection and Handling Procedures

Groundwater samples were collected using industry standard sampling techniques and in general accordance with American Society of Testing and Materials (*ASTM) Guideline* D6771-02 "*Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations*". This includes the use of low flow sampling equipment and disposable (single use) polyethylene and silicon tubing.

Given that the previous investigations at the Site had not reported concentrations above their respective cleanup levels for gasoline, diesel, oil, benzene, toluene, ethylbenzene, xylenes, PCBs, cadmium, chromium, or lead, ECI and Ecology agreed that each permanent groundwater monitoring well sample would be initially analyzed for only HCID and total and dissolved arsenic.

Groundwater samples were identified by the well number (e.g., MW1). Samples were collected in the laboratory provided analytical method specific bottles. All samples for dissolved metals were field filtered by-passing groundwater through a 0.45-micron filter while collecting the groundwater sample.

Samples were then placed into a container maintained at four degrees (4°) Celsius until delivered to the laboratory for analysis under the industry standard chain of custody protocols.

5.3.1.2 Sample Analysis

Samples were delivered under industry standard chain-of-custody procedures to the Washington State Department of Ecology accredited laboratory Libby Environmental, in Lacey, Washington for analysis. The laboratory initially analyzed the samples for the primary COCs for each location and sample media as outlined in Section 5.3.1.1. If detections were reported for any of the samples analyzed for HCID, the respective contaminant was further quantified through their respective analysis (NWTPH-Gx for GRO and NWTPH-Dx for DRO and/or ORO).

As discussed with Ecology, the historical soil samples analyzed for arsenic in 2016 were completed by the laboratory Friedman & Bruya using EPA Method 200.8 (Inductively Coupled Plasma-Mass Spectrometry [ICP-MS]). However, the samples collected in 2021 were analyzed for arsenic by Libby Environmental Inc, in Olympia Washington using EPA Method 7010 (Graphite Furnace Atomic Absorption Spectrophotometry [GF-AA]). For ease of comparison, Ecology indicated that the same method for analyzing the concentration of arsenic in groundwater should be used as was completed most recently in 2021.

All samples were sent to Libby Environmental Inc.to be analyzed for the contaminants of concern by the same methods as was conducted in 2021. However, the equipment to analyze the arsenic was apparently out for repair and they forwarded the arsenic analysis to Friedman & Bruya in Seattle Washington for analysis. Friedman & Bruya Inc used the EPA Method 6020B, ICP-MS to analyze for total and dissolved

metals and not method 7010, GF-AA. Once the discrepancy was discovered, the five groundwater samples were re-analyzed using the EPA Method 7010 by Libby Environmental to maintain consistency in reporting.

5.4 Analytical Results

5.4.1 Soil Analytical Results

A total of 38 soil samples were collected from the borings and 24 were analyzed for the select COCs. Based on field screening and the Ecology approved Scope of Work, 22 samples were analyzed for HCID, PCBs, arsenic, cadmium, and lead. Based on the analytical results for PCBs, two additional soil samples were analyzed for PCBs only.

The analytical results revealed that except for PCBs in four soil samples and cadmium in one soil sample, the contaminants of concern were reported as not being present above the respective laboratory PQLs or above their respective MTCA Method A Cleanup Levels.

The analytical results reported concentrations of PCBs (Aroclor 1254) at or above the MTCA Method A Cleanup Level of 1 mg/kg in soil samples B20-8 at 1.0 mg/kg, B21-4 at 6.4 mg/kg, B22-4 at 1.4 mg/kg, and B23-2 at 5.3 mg/kg.

Because two of the soil samples reporting concentrations of PCBs exceeding the MTCA Method A Cleanup Level (B21-4 and B22-4) which did not have the following soil sample initially analyzed for PCBs, two additional samples were analyzed for PCBs (B21-6 and B22-6). Both soil samples reported concentrations of PCBs significantly below their respective MTCA Method A Cleanup Level.

The soil samples before and after the four samples which reported concentrations of PCBs above the MTCA Method A Cleanup Levels reported concentrations below the laboratory PQL or significantly below the Method A Cleanup Level. Therefore, ECI considers the areas of reported contamination to be bound vertically.

Cadmium was reported above the MTCA Method A Cleanup Level of 2 mg/kg in one of the samples collected at a depth of 2 feet bgs (B23-2). The concentration was just above the cleanup level at 5.5 mg/kg. In addition, the soil samples collected in greater depths in soil boring B23 and all of the other soil samples from the borings advanced on the Subject Property reported concentrations of cadmium below the laboratory PQLs which are below the MTCA Method A Cleanup Levels.

Because cadmium was not detected above the laboratory PQLs anywhere else at the Site during this remedial investigation and the investigations conducted in 2021, it is ECI's opinion that the localized cadmium detection found at 2 feet bgs in soil boring B23 is not representative of the soil on the Subject Property.

The analytical results for the soil samples are summarized in the table below. The analytical results for all of the soil sample analyses performed in March 2021 and July 2023 are summarized in Table 7, Appendix B. The laboratory datasheets from the July 203 investigation are presented in Appendix G.

Table 2: Soil Analytical Results

Sample Name	Date Sampled	Total Petroleum Hydrocarbons			Metals				PCB Mixture[1]
		Gasoline-range Organic	Diesel-range Organic	Oil-range Organic	Lead	Cadmium	Arsenic (EPA Method 6020B)	Arsenic (EPA Method 7010)	
		Sample Reported in Milligrams per Kilogram (mg/Kg)							
B19-4	7/26/2023	ND	ND	**700**	**20**	<1.0	**3.45**	--	**0.22**
B19-8	7/26/2023	ND	ND	ND	**33**	<1.2	**2.84**	--	<0.12
B19-10	7/26/2023	ND	ND	ND	**7.8**	<1.1	**4.89**	**12**	<0.11
B19-15	7/26/2023	ND	ND	ND	<7.2	<1.4	**3.30**	--	<0.14
B19-18	7/26/2023	ND	ND	ND	<7.2	<1.4	**3.39**	--	<0.14
B20-2	7/26/2023	ND	ND	ND	**67**	<1.1	**3.54**	**6.5**	<0.11
B20-4	7/26/2023	ND	ND	**400**	**63**	<1.1	**2.84**	--	**0.43**
B20-8	7/26/2023	ND	ND	ND	**62**	<1.1	**3.07**	--	**1.0**
B20-10	7/26/2023	ND	ND	ND	<6.6	<1.3	**5.13**	<6.6	<0.13
B20-16	7/26/2023	ND	ND	ND	<6.9	<1.4	**3.38**	--	<0.14
B21-2	7/26/2023	ND	ND	**450**	**34**	<1.1	**2.88**	<5.6	**0.63**
B21-4	7/26/2023	ND	ND	ND	**36**	<1.1	**4.99**	**6.0**	**6.4**
B21-6	7/26/2023	--	--	--	--	--	**--**	--	**0.19**
B21-10	7/26/2023	ND	ND	ND	<7.1	<1.4	**3.22**	--	<0.14
B21-15	7/26/2023	ND	ND	ND	<7.7	<1.5	**3.69**	--	<0.15
B22-2	7/26/2023	ND	ND	ND	**43**	<1.1	**6.82**	<5.5	**0.80**

[1] **PCB Mixtures.** Cleanup level based on applicable federal law (40 C.F.R. 761.61). This is a total value for all PCBs.

Sample Name	Date Sampled	Total Petroleum Hydrocarbons			Metals				PCB Mixture[1]
		Gasoline-range Organic	Diesel-range Organic	Oil-range Organic	Lead	Cadmium	Arsenic (EPA Method 6020B)	Arsenic (EPA Method 7010)	
		Sample Reported in Milligrams per Kilogram (mg/Kg)							
B22-4	7/26/2023	ND	ND	ND	**87**	<1.1	**3.80**	<5.6	**1.4**
B22-6	7/26/2023	--	--	--	--	--	--	--	**0.36**
B22-12	7/26/2023	ND	ND	ND	**65**	<1.5	**1.97**	<7.5	<0.15
B22-15	7/26/2023	ND	ND	ND	<6.8	<1.4	**1.49**	--	<0.14
B23-2	7/26/2023	ND	ND	**650**	**240**	**3.5**	**4.36**	--	**5.3**
B23-4	7/26/2023	ND	ND	ND	**14**	<1.1	**5.90**	--	<0.11
B23-10	7/26/2023	ND	ND	ND	<7.0	<1.4	**1.91**	--	<0.14
B23-15	7/26/2023	ND	ND	ND	<6.9	<1.4	**1.89**	--	<0.14
Laboratory PQL[2]		Varies	Varies	Varies	Varies	Varies	Varies	Varies	Varies
Method A CUL[3]		30/100	2,000	2,000	250	2	20	20	1

5.4.2 Groundwater Analytical Results

The groundwater monitoring event was conducted on July 26, 2023, and groundwater samples were collected from the five groundwater monitoring wells (MW1 through MW5) installed on the Subject Property. The samples were collected to assess the condition of the groundwater affected by the contamination historically found on the Subject Property.

The groundwater sample collected from MW4 reported an HCID detection of heavy oil. The laboratory further analyzed the groundwater sample using Method NWTPH-Dx extended, and the analysis reported a heavy oil concentration of 1,500 µg/L which is in excess of the MTCA Method A Cleanup Level of 500 µg/L.

Of the samples with total arsenic concentrations reported greater than the laboratory PQLs, only the sample analyzed by the 6020B method (ICP-MS) from monitoring well MW5 had a concentration below the MTCA

[2] Practical Quantitative Limits
[3] Washington Model Toxic Control Act Method A Cleanup Levels

Method A Cleanup Level of 5.0 µg/L. For the dissolved arsenic analyzed by the 6020B method (ICP-MS), only the samples from wells MW1 and MW2 had concentrations that did not exceed the MTCA Method A Cleanup Level of 5.0 µg/L.

The analyses of the groundwater samples by EPA Method 7010 (GF-AA) revealed a significant difference in the arsenic concentrations than was reported by EPA method 6020B (ICP-MS). The analytical results of the groundwater samples analyzed using EPA Method 7010 (GF-AA) were all reported as being above the MTCA Method A Cleanup Level for both total and dissolved arsenic and in general were significantly higher than the results reported using EPA Method 6020B.

Subsequent to the Ecology March 13, 2923 "Further Action" opinion letter, Ecology performed a "Site-wide statistical analysis on the groundwater data". Ecology indicated that:

> *"Statistical analysis for compliance in groundwater is generally done per well, but she did an analysis Site-wide to get a broader idea of the groundwater data."*

Ecology went on to say:

> *"Based on the findings …, we do not think it is necessary to install any additional wells on the Property at this time. It would appear that for both groundwater and soil, the Site may be moving toward a statistical determination, however, that determination cannot be made without additional data."*
>
> *"If groundwater results show a significant increase in arsenic concentrations, then the need for additional wells will be assessed at that time."*

A review of the arsenic analytical data for July 26, 2023, revealed an increase in the concentration of total arsenic in wells MW2, MW3, MW4, and MW5. This increase was significantly higher in several of the wells. However, it was also noted that during the July 26, 2023, sampling event that the field parameter of conductivity was significantly higher than in previous sampling events. This indicates where higher total dissolved solids (TDS) in the sample which is the combined content of all inorganic and organic substances are present. Conductivity is related to TDS and increases as the TDS increases. Both conductivity and TDS increase with higher water temperatures. The well sampling logs which contain the field parameter measurements are presented in Appendix E.

The increases in total arsenic may be related to the increased temperature of the groundwater along with the lower groundwater levels observed during the July sampling event. The higher concentrations of arsenic may be a result of arsenic associated with the stormwater detention system sediment and that previous higher groundwater levels diluted the concentrations observed. It is ECI's opinion that the concentrations observed in the groundwater during the July 2023 sampling event may not be representative of the overall condition of groundwater at the site and may be outliers when compared to historical and future groundwater sampling events. Future quarterly monitoring as specified in the May 2023 Remedial Investigation/Feasibility Study Work Plan will help determine if the July results are outliers.

A summary of the laboratory analytical results for this event is provided in the table below. A summary of the analytical results for all of the monitoring well sampling events is provided in Table 9, Appendix B. The laboratory data sheets are presented in Appendix G.

Table 3: Groundwater Analytical Results

Sample Name	Date Sampled	Total Petroleum Hydrocarbons			Metals			
		Gasoline-range Organic	Diesel-range Organic	Oil-range Organic	Total Arsenic (6020B)	Dissolved Arsenic (6020B)	Total Arsenic (7010)	Dissolved Arsenic (7010)
		Sample Reported in Micrograms per Liter (µg/L)						
MW1	7/26/2023	ND	ND	ND	**505**	**3.27**	**6.7**	**5.6**
MW2	7/26/2023	ND	ND	ND	**5.31**	**3.40**	**7.3**	**5.6**
MW3	7/26/2023	ND	ND	ND	**5.81**	**5.07**	**64**	**7.9**
MW4	7/26/2023	ND	ND	**1,500**	**6.79**	**6.86**	**64**	**12**
MW5	7/26/2023	ND	ND	ND	**3.21**	**1.03**	**44**	**6.2**
Laboratory PQL[4]		200	500	500	3.0	3.0	3.0	3.0
Method A CUL[5]		800/1,000	500	500	5	5	5	5

5.4.3 Site Groundwater Characteristics

At the time of groundwater sampling the groundwater levels were found to be between 9.74 and 10.70 feet below the top of the casing of each well (Table 10, Appendix B). Based on the depths to water and the professionally surveyed elevations of the well casings, the groundwater flow appeared to be mounded in the vicinity of MW3. The groundwater flow direction appeared to be to the west in the western portion of the Site and to the east in the eastern portion of the Site (Figure 3, Appendix A). This is similar to what was observed on the adjacent Joseph Simon and Sons Site to the north. However, it should also be noted that the depths to groundwater are within the elevation of the infiltration pipes of the stormwater basin. It is likely that the groundwater levels and flow are affected by the stormwater basin.

5.5 Stormwater Detention Gallery

In the Data Gaps section of the Ecology Further Action letter, Ecology requested an as-built of the stormwater detention gallery be included within the RI/FS report in order to assess potential pathways. The stormwater detention gallery was installed and maintained by BLT Transport. The as-built is presented in Appendix D.

[4] Practical Quantitative Limits
[5] Washington Model Toxic Control Act Method A Cleanup Levels

6.0 CONCEPTUAL SITE MODEL

This section provides a summary of the conceptual site model, which includes a discussion of the contaminants of concern (COCs), the media of concern, the distribution of contamination in soil, and the potential exposure pathways for the Site.

6.1 Contaminants of Concern

Based on the analytical results from this remedial investigation, the primary contaminants of concern (COCs) at this Site in the soil and groundwater include:

- DRO,
- ORO,
- Arsenic and
- PCBs

Ecology's WAC 173-340-900 Table 830-1 lists Secondary COCs to be analyzed for if the primary COCs are detected above the laboratory reporting limits. Those Secondary COCs include:

- Carcinogenic Polycyclic aromatic hydrocarbons (cPAHs), if DRO or ORO are detected,
- Benzene toluene, Ethylbenzene, xylenes and naphthalene (BTEXN)
- Halogenated Volatile organic compounds (HVOCs), if ORO is detected from waste oil,
- Lead,

These secondary COCs have been analyzed in both soil and groundwater during the various investigations at the Site (Tables 7 and 9, Appendix B). The secondary COCs, with the exception of were not identified above the laboratory PQLs or above the MTCA Method A Cleanup Levels

6.2 Exposure Pathways

As defined in WAC 173-340-200, an exposure pathway describes the mechanism by which a hazardous substance takes or could take from a source or contaminated medium to an exposed receptor. Figure 11 in Appendix A presents a graphical representation of the Conceptual Site Model and the exposure pathways. It also shows whether a pathway is complete either presently or potentially in the future. Those pathways that are complete will need to be addressed by any cleanup action taken at the Site. The exposure pathways are summarized below.

6.2.1 Soil

Potential soil exposure pathways at the Site include direct ingestion of, or dermal contact with, hazardous substances in soil by visitors and workers as well as the leaching to groundwater pathway. This pathway is considered complete because the contamination is located at the surface and to the maximum depth of 15 feet at the Site.

6.2.2 Groundwater

Groundwater is considered an exposure pathway at this site because it is at a depth of approximately 5.74 to approximately 10.70 feet bgs. At this depth, construction workers and other workers at the Site may be exposed to the contaminated groundwater in excavations or stormwater drains. Therefor the groundwater pathway is considered complete.

6.2.3 Air

Potential air exposure pathways at the Site include inhalation of hazardous substances in soil by visitors, and workers. Soil vapor/air can become contaminated from volatilization of the COCs adsorbed to the soil or volatilized from the groundwater. However, the major COCs at the Site are DRO, ORO, arsenic and PCBs which are not considered volatile. Vapor Intrusion into buildings is not considered a potential pathway given the use of the Site for truck parking and maintenance and that the major COCs are DRO, ORO, arsenic and PCBs. In addition, the Site is primarily a paved parking lot. Therefore, the potential for exposure to contaminated vapors and air is significantly reduced. Based on the above, the air/vapor exposure pathway is considered incomplete.

6.2.4 Surface Water

The Site is currently paved with catch basins that lead to an on-site stormwater detention system. Surface water is collected in the catch basins which discharge to the stormwater detention system where it is infiltrated into the subsurface.

Potential surface water exposure pathways at the Site include direct ingestion of, or dermal contact with, hazardous substances in the surface water at the Site by visitors, residents, workers, and wildlife. Because surface water is collected in the catch basins which discharge to the stormwater detention system, there is minimal potential for contaminants to leave the Site through stormwater. Therefore, this pathway is considered incomplete.

6.2.5 Terrestrial

The MTCA regulations (WAC 173-340-7490) require that a Terrestrial Ecological Evaluation (TEE) be conducted *"In the event of a release of a hazardous substance to the soil at a site…"* To conduct a TEE:

> *"…one of the following actions shall be taken:*
>
> *(a) Document an exclusion from any further terrestrial ecological evaluation using the criteria in WAC 173-340-7491;*
>
> *(b) Conduct a simplified terrestrial ecological evaluation as set forth in WAC 173-340-7492; or*
>
> *(c) Conduct a site-specific terrestrial ecological evaluation as set forth in WAC 173-340-7493."*

ECI has reviewed the TEE process and has determined that the Site is qualified for an exclusion from any further terrestrial ecological evaluation. This exclusion is based on the fact that there is less than 1.5 acres of contiguous "undeveloped" land on or within 500 feet of any area of the Site.

Therefore, the Terrestrial exposure pathway is considered incomplete. A Terrestrial Ecological Evaluation form and Documentation Form are presented in Appendix F of this report.

6.3 Potential Receptors

Because the site is a commercial site and is paved or covered with a building, potential receptors for exposure to the contaminants at this Site are construction workers who may excavate in the areas of soil contamination or encounter contaminated groundwater. The paving acts as a cap, further reducing the potential exposure pathways. In addition, the site is fenced and only open during business hours. Therefore, humans off of the Site are not anticipated to be a significant receptor.

6.4 Media of Concern

Based on the exposure pathways discussed above, the media of concern for this site is soil and groundwater.

6.5 Distribution of Contamination

6.5.1 Distribution in Soil

Because of the nature of the historical operations and remedial activities at the Site, the distribution of the COCs in the soil at the site is not homogenous and varies in location even in adjacent borings. Arsenic and PCBs in the soil at the Site are located in the northern portions of the Site between the former stormwater detention system excavation and the northern property boundary at a depth of 2 to 4 feet bgs with arsenic in one location being slightly above the MTCA Method A Cleanup Levels at a depth of 15 feet bgs. Within the stormwater detention system there is one sample for PCBs at the MTCA Method A Cleanup Level in a sample collected at 8 feet bgs and a sample with arsenic slightly above the arsenic cleanup level at a depth of 15 feet bgs. Cross sections for the Subject Site are presented in Figures 9 and 10 in Appendix A.

6.5.2 Distribution in Groundwater

Arsenic is the primary contaminant of concern in groundwater. It has been above cleanup levels at various times in each of five monitoring wells at the site. two of the wells are within the stormwater detention basin with the remaining 3 wells located at the western, southern and northwestern perimeter of the excavation. DRO was detected only once in the well at the southern perimeter of the detention system. The complete distribution of arsenic in the ground water is not known. However, it is ECI's opinion that the arsenic in groundwater is from offsite and is a regional groundwater concern because of the former agricultural use of the Subject Property and properties in the region from at least the 1930s to the mid-1960s and contained several cherry orchards.

In an Email dated May 31, 2023, Ecology indicated that as of additional groundwater monitoring wells were not needed and that a statistical evaluation of arsenic in groundwater may be appropriate for determining compliance at the site.

7.0 PROPOSED CLEANUP STANDARDS

7.1 Applicable or Relevant and Appropriate Requirements (ARARs)

MTCA requires that all cleanup actions conducted under MTCA shall comply with applicable state and federal laws (WAC 173-340-710(1). MTCA defines applicable state and federal laws to include legally applicable requirements and those requirements that are relevant and appropriate. Collectively, these requirements are referred to as applicable, relevant, and appropriate requirements (ARARs). In addition to the cleanup actions complying with ARARs, the cleanup standards set for a cleanup action must also comply with ARARs. RCW 70A.305.090 states that:

> *"A person conducting a remedial action at a facility under a consent decree, order, or agreed order, and the department when it conducts a remedial action, are exempt from the procedural requirements of chapters 70A.15, 70A.205, 70A.300, 77.55, 90.48, and 90.58 RCW, and the procedural requirements of any laws requiring or authorizing local government permits or approvals for the remedial action."*

Since the cleanup at this site is being conducted as a voluntary cleanup action, it is not exempt from the procedural requirements of the above listed RCWs and laws requiring or authorizing local government permits or approvals. This section provides a brief overview of potential ARAR that would be applicable to both a cleanup action at the Subject Property and the cleanup standards set for the cleanup action. The primary ARAR is the MTCA cleanup regulation (WAC 173-340).

Pursuant to Chapter 70A.305 RCW, Ecology has established procedures for developing cleanup levels and requirements for cleanup actions. The MTCA regulations provide three approaches for establishing cleanup levels:

- **Method A: ARARs and Tables.** This method is to be used where the cleanup action is routine and involves relatively few hazardous substances. The soil and groundwater cleanup levels are set at concentrations at least as stringent as concentrations specified in applicable state and federal laws (ARARs) and are presented in Tables 720-1, 740-1, and 745-1 of the regulations (WAC 173-340).
- **Method B: Universal Method**. Method B is the "universal method" for determining cleanup levels for all media at all sites. Under Method B, cleanup levels for individual hazardous substances are established using applicable state and federal laws and the risk equations and other requirements specified in WAC 173-340.

  Method B has two tiers, a "Standard" tier and a "Modified" tier. The "Standard" Method B tier uses generic default assumptions to calculate cleanup levels. The "Modified" Method B tier provides for the use of chemical-specific or site-specific information to change selected default assumptions. These can be established using a quantitative risk assessment process.
- **Method C: Conditional Method**. When compliance with cleanup levels developed under Method A or B are impossible to achieve or may cause greater environmental harm, Method C cleanup levels for individual hazardous substances may be established for surface water, groundwater, and air. Method C industrial soil and air cleanup levels may also be established at industrial properties that meet specific criteria.

Like Method B, Method C is divided into two tiers, a "Standard" and a "Modified" tier. The "Standard" Method C tier uses generic default assumptions to calculate cleanup levels. The "Modified" Method C tier provides for the use of chemical-specific or site-specific information to change selected default assumptions. These can be established using a quantitative risk assessment process.

Other than MTCA, the primary ARARs that may pertain to the cleanup action include the following:

- Federal Maximum Contaminant Levels (40 CFR Part 141), developed under the Safe Drinking Water Act;
- The Federal Resource Conservation and Recovery Act (RCRA) (40 CFR 260 – 282) which includes hazardous waste generation and disposal (including the Land Disposal Restrictions) regulations and underground storage tank regulations;
- Federal Water Pollution Control Act (The Clean Water Act) (Title 33 United States Code, Section 1251 et seq.)
- Toxic Substances Control Act (TSCA) (15 USC Ch. 53) and its implementing regulations for PCBs Section 761.3 of Part 761 of Title 40 of the Code of Federal Regulations (CFR) (Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions)
- Washington Clean Air Act, Chapter 70A.15 RCW and the accompanying Puget Sound Clean Air Agency Regulations I through III;
- Washington State Hazardous Waste Management Act (Chapter 70A.300 RCW); and the accompanying Dangerous Waste regulations (WAC 173-303);
- Washington State Solid Waste Management (Chapter 70A.205 RCW; and the accompanying Solid Waste Regulations (WAC 173-350 and WAC 173-351);
- Washington State Water Well Construction Act (Chapter 18.104 RCW) and the accompanying regulations "Minimum Standards for Construction and Maintenance of Wells" (WAC 173-160);
- Washington Industrial Safety and Health Act (RCW 49.17) and the Federal Occupational Safety and Health Act (29 CFR 1910, 1926);
- Washington State Environmental Policy Act SEPA (Chapter 43.21C RCW and WAC 197-11);
- Washington State Water Pollution Control Act (Chapter 90.48 RCW) Construction Stormwater General Permit;
- Local County and City permits required for excavation and filling and other general construction related activities.

State and Federal groundwater and air quality criteria are considered in the development of CULs. State Dangerous Waste Regulations may be applicable to contaminated soil removed from the Site during cleanup activities. State Environmental Policy Act requirements, if needed, will be addressed concurrent with any permitting that may be required for cleanup actions undertaken.

7.2 Soil Cleanup Levels

Based upon the results of previous investigations and the Ecology "Further Action Required" letter dated March 13, 2023, ECI has determined that Method A cleanup levels for "Unrestricted Use" are appropriate for this Site. There are a limited number of COCs at the site, the locations where the COCs are found is limited, and where accessible the cleanup is routine. However, an Environmental Covenant may be needed where they are not accessible.

The Contaminants of Concern (COCs) and respective MTCA Method A Cleanup Levels are presented in the table below.

Table 4: Proposed Soil Cleanup Levels

Method A Soil Cleanup Levels for "Unrestricted Use" (MTCA Cleanup Regulation 173-340-900: Table 740-1)	
Contaminant of Concern (COCs)	**Soil Cleanup Levels (mg/kg)**
Diesel-Range Organics (DRO)	2,000
Oil-Range Organics (ORO)	2,000
Lead	250
Cadmium	2
Arsenic	20
Polychlorinated biphenyls (PCBs)	1

These levels are considered protective since the site is used for commercial purposes and Method A Cleanup levels being used are for unrestricted use. Although groundwater is contaminated beneath the Property, the footnote for the Method A Soil Cleanup Level in Table 740-1 indicates that the cleanup level was based on direct contact and the protection of groundwater for drinking water use.

As discussed in Section 6.5.2, the site qualifies for an exclusion from any further terrestrial ecological evaluation. As a result, the Method A Cleanup Levels do not need modification based on protection of the terrestrial pathway.

7.3 Groundwater Cleanup Levels

WAC 173-340-720(1)(a) states that:

> *"Groundwater cleanup levels shall be based on estimates of the highest beneficial use and the reasonable maximum exposure expected to occur under both current and potential future site use conditions. The department has determined that at most sites use of groundwater as a source of drinking water is the beneficial use… that exposure to hazardous substances through ingestion of drinking water and other domestic uses represents the reasonable maximum exposure."*

While the groundwater beneath the site is not currently used for drinking water and is unlikely to be so in the future since the City of Kent provides water to that area. In order to obtain a No Further Action determination for the groundwater once the cleanup levels are reached, ECI proposes to set cleanup levels for the site's COCs at the MTCA Method A Cleanup Levels. For arsenic, if it is determined that the regional background level for arsenic is higher than the MTCA Method A Cleanup Levels, then the regional background level will be set as the cleanup level for the Site.

As previously discussed in Section 3, GRO, BTEX, and cPAHs have been analyzed for in previous investigations and the analytical results have been reported either below their respective laboratory Practical Quantitation Limits (PQLs) or below their respective MTCA Method A Cleanup Levels. Therefore, ECI does not consider GRO, BTEX, or cPAHs to be a concern to the Subject Property. The Method A Cleanup Levels for groundwater are provided table below.

Table 5: Proposed Groundwater Cleanup Levels

Method A Groundwater Cleanup Levels (MTCA Cleanup Regulation 173-340-900: Table 720-1)	
Contaminant of Concern (COCs)	**Soil Cleanup Levels (µg/L)**
Diesel-Range Organics (DRO)	500
Oil-Range Organics (ORO)	500
Lead	15
Cadmium	5
Arsenic	5
Polychlorinated biphenyls (PCBs)	0.1

8.0 POINTS OF COMPLIANCE

WAC 173-340-740 indicates that the point of compliance is where the cleanup levels for each media of concern shall be attained.

8.1 Point of Compliance for Soil

The most conservative point of compliance for soil is for the protection of groundwater. WAC 173-340-740(6)(b) states:

> *"For soil cleanup levels based on the protection of groundwater, the point of compliance shall be established in the soils throughout the site."*

The point of compliance for soil protection human exposure is defined in WAC 173-340-740(6)(d). It states:

> *"For soil cleanup levels based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway, the point of compliance shall be established in the soils throughout the site from the ground surface to fifteen feet below the ground surface. This represents a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of site development activities."*

In addition to defining the point of compliance for soil the regulations in WAC 173-340-740(6)(f) states:

> *"The department recognizes that, for those cleanup actions selected under this chapter that involve containment of hazardous substances, the soil cleanup levels will typically not be met at the points of compliance specified in (b) through (e) of this subsection. In these cases, the cleanup action may be determined to comply with cleanup standards, provided:*
>
> *(i) The selected remedy is permanent to the maximum extent practicable using the procedures in WAC 173-340-360;*
>
> *(ii) The cleanup action is protective of human health. The department may require a site-specific human health risk assessment conforming to the requirements of this chapter to demonstrate that the cleanup action is protective of human health;*
>
> *(iii) The cleanup action is demonstrated to be protective of terrestrial ecological receptors under WAC 173-340-7490 through 173-340-7494;*
>
> *(iv) Institutional controls are put in place under WAC 173-340-440 that prohibit or limit activities that could interfere with the long-term integrity of the containment system;*
>
> *(v) Compliance monitoring under WAC 173-340-410 and periodic reviews under WAC 173-340-430 are designed to ensure the long-term integrity of the containment system…"*

8.2 Point of Compliance for Groundwater

For Groundwater, WAC 173-340-720(8)(b) states that:

"The standard point of compliance shall be established throughout the site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the site."

8.3 Conditional Point of Compliance for Groundwater

For Groundwater, WAC 173-340-720(8)(c) states that:

"Where it can be demonstrated under WAC 173-340-350 through 173-340-390 that it is not practicable to meet the cleanup level throughout the site within a reasonable restoration time frame, the department may approve a conditional point of compliance that shall be as close as practicable to the source of hazardous substances, and except as provided under (d) of this subsection, not to exceed the property boundary. Where a conditional point of compliance is proposed, the person responsible for undertaking the cleanup action shall demonstrate that all practicable methods of treatment are to be used in the site cleanup."

8.4 Proposed Points of Compliance Used for the Site

8.4.1 Proposed Soil Point of Compliance

As discussed in the Conceptual Site Model, because the site is a commercial site and is paved or covered with a building, potential receptors for exposure to the contaminants at this Site are construction workers who may excavate in the areas of soil contamination or encounter contaminated groundwater. The paving acts as a cap, further reducing the potential exposure pathways.

Also except for arsenic and one detection of ORO, which may be anomalous, the COCs have not been detected above the MTCA Method A Cleanup Levels in the groundwater. Therefore, the leaching to groundwater does not appear to be a concern at the site and the MTCA Method A Cleanup Levels proposed are for the protection of groundwater. In addition, it will be recommended that the shallow soil contamination north of the stormwater detention system be excavated for disposal off site.

Based on this, ECI is proposing that the overall point of compliance for soil based on the protection of human exposure is the soil throughout the "Site" as defined by the extent of contamination above the MTCA Method A Cleanup Levels down to a maximum depth of 15 feet bgs.

The standard Point of Compliance for Soil, WAC 173-340-740(6)(d), applies at this site in order to obtain a complete "No Further Action" determination from Ecology. However, because soil contamination will likely remain at the Site beneath the stormwater detention system a complete NFA is not possible. However, a "Conditional Point of Compliance" is applicable because:

- The concentrations of COCs above their respective MTCA Method A Cleanup Levels in soil has not been found to extend beyond a depth of 15 to 16 feet bgs, and
- An Environmental Covenant will be filed with the County to document that cleanup level exceedances are present on the Property.

8.4.2 Proposed Groundwater Point of Compliance

The standard Point of Compliance for Groundwater, WAC 173-340-720(8)(b), applies at this site in order to obtain a complete "No Further Action" determination from PLIA. However, because soil and potentially groundwater contamination will remain at the Site a complete NFA is not possible. As of the date of this report, the groundwater contamination has been shown not to extend beyond the Property boundary therefore, a "Conditional Point of Compliance", WAC 173-340-720(8)(c), can be established for Site.

The "Conditional Point of Compliance" is applicable because:

- All practicable remedial actions will have been taken at the Site through excavation and disposal of the contaminated soils except beneath the stormwater detention system on the Property.
- Groundwater monitoring has shown that the groundwater contamination is located in a limited area near the excavation for the current stormwater detention system or maybe at the regional background levels.
- Since contaminated soil will remain beneath the stormwater detention system long -term groundwater monitoring will be required to make sure that groundwater does not become affected by the remaining soils.

ECI is proposing that a conditional point of compliance for groundwater be set at the property boundaries.

9.0 SUMMARY, CONCLUSIONS, AND RECOMENDATIONS

9.1 Summary and Conclusions

ECI Professionals have conducted a remedial investigation at the Property located 8010 S 259th Street, Kent, Washington. The purpose of the remedial investigation was to meet the requirements of the MTCA regulations for an RI, to delineate contamination previously identified on the Property, and to fill in the data gaps remaining after the previous investigations.

This remedial Investigation consisted of:

- Advancing five additional borings (B19 through B23) to an approximately depth of 20 feet bgs. A sixth boring was attempted west of the stormwater detention system on the Property but met with refusal between two and four feet bgs throughout a total of six (6) drilling attempts at multiple areas in the vicinity before the location was determined to be abandoned.
- Collecting 38 soil samples from the borings of which 24 were analyzed for the Site's COCs. Based on field screening and the Ecology approved Scope of Work, 22 samples were analyzed for HCID, PCBs, arsenic, cadmium, and lead. Based on the analytical results for PCBs, two additional soil samples were analyzed for PCBs only.
- Conducting the first quarterly groundwater monitoring events at the Site. This event consisted of collecting and analyzing five groundwater samples from the existing monitoring wells on the Site. In a May 31, 2023, email Ecology indicated that: "The installation of additional monitoring wells is not needed at this time.

The results of this remedial investigation revealed that:

- Except for PCBs in four soil samples and cadmium in one soil sample, the contaminants of concern were reported as not being present above the respective laboratory PQLs or above their respective MTCA Method A Cleanup Levels.
- PCBs were found above MTCA Method A Cleanup Levels in the three borings along the northern Property boundary at a depth of 2 to 4 feet bgs and at the MTCA Method A Cleanup Level in one sample withing the stormwater detention system at a depth of 8 feet bgs. Samples collected above and below the samples with PCBs concentrations above the MTCA Method A Cleanup Level did not detect concentrations above the cleanup level. Therefore, ECI considers the extent of the PCB contamination to be delineated.
- Cadmium was reported above the MTCA Method A Cleanup Level of 2 mg/kg in one sample collected at a depth of 2 feet bgs in one boring along the northern Property boundary and was not detected above the laboratory PQL in the remaining soil samples. ECI considers this to be an isolated occurrence.
- The groundwater analytical results revealed that ORO was detected above the MTCA Method A Cleanup Levels for the sample collected from monitoring well MW4 located in the northeast portion of the stormwater detention system. It Is ECI's opinion that this may be an anomaly since DRO and ORO have not been detected above the laboratory PQL in any of the previous samples from the well except for

one analytical result just above the laboratory PQL and that DRO/ORO has not been detected above the laboratory PQL in any of the other Wells at the Site.

- Ecology requested that arsenic be analyzed using EPA Method 7010 (Graphite Furnace Atomic Absorption Spectrophotometry [GF-AA]). However, due to the equipment to analyze the arsenic being apparently out for repair, the samples were analyzed at another laboratory using EPA method 6020B (Inductively Coupled Plasma-Mass Spectrometry [ICP-MS]).

  As result ECI had selected soil samples and all of the water samples reanalyzed using the GF-AA method 7010. The results from the Method 7010 analyses revealed that all of the groundwater samples contained arsenic above the MTCA Method A Cleanup Levels for total and Dissolved arsenic. This was in contrast to the results from the ICP-MS method which revealed that total arsenic exceeded the MTCA Cleanup Levels in four of the five groundwater samples and that dissolved arsenic exceeded the MTCA Cleanup Level in two of the five groundwater samples.

  ECI observed that the temperature of the groundwater and the conductivity were significantly higher than previously observed as well as the elevation of groundwater (9.74 and 10.70 feet below the top of the casing of each well) was the lowest observed compared to historical levels. Based on this, it is ECI's opinion that the arsenic concentrations observed in the groundwater during the July 2023 sampling event may not be representative of the overall condition of groundwater at the site and may be outliers when compared to historical and future groundwater sampling events. Future quarterly monitoring as specified in the May 2023 Remedial Investigation/Feasibility Study Work Plan will help determine if the July results are outliers.

- The groundwater flow direction at the Site appeared to be to the west in the western portion of the Site and to the east in the eastern portion of the Site. This is similar to what was observed on the adjacent Joseph Simon and Sons Site to the north. However, it should also be noted that the depths to groundwater are within the elevation of the infiltration pipes of the stormwater basin. It is likely that the groundwater levels and flow are affected by the stormwater basin.

Based on the results of this Remedial Investigation, it is ECI's opinion that the soil contamination found on the Subject Property has been adequately characterized and that the soil exposure pathway can be mitigated with maintaining the current asphalt parking area under an environmental covenant.

The results of the groundwater analyses reveal that the groundwater contamination appears to be near and in the stormwater detention system and may be within the regional background levels and that future groundwater sampling events will provide the information required to determine if the results are within the regional background levels. Given the groundwater appears to be located near the stormwater detention system, it is ECI's opinion that a "Conditional Point of Compliance" can be established at the Property boundaries.

9.2 Recommendations

It is ECI's opinion that this report be submitted to the Washington State Department of Ecology for review and an opinion under the Voluntary Cleanup Program with the objective of receiving a "*No Further Action*" (NFA) determination with and Environmental Covenant from Ecology. It is also recommended to continue the quarterly groundwater monitoring as requested by Ecology in their May 31, 2023, email.

10.0 REFERENCES

- Aerotech Environmental Consulting Inc., 2016, *Findings Summary of the State of Washington Department of Ecology File Review for: Atomic Auto Wrecking 1037 Central Avenue South Kent, Washington*; Prepared for BLT Transport LLC, Dated May 2, 2016
- EcoCon Inc., 2016, *Focused Subsurface Investigation - 1100 S. 259th Street Kent, Washington 98302*; Prepared for Mr. Preet Chohan, BLT Transport LLC, Dated June 19, 2016
- EcoCon Inc., 2016, *Site Characterization Report - 1100 S. 259th Street Kent, Washington 98302*; Prepared for Mr. Preet Chohan, BLT Transport LLC, Dated July 12, 2016
- EcoCon Inc., 2022, *Focused Subsurface Investigation, Monitoring Well Installation & Groundwater Monitoring Report - BLT Trucking - 8010 South 259th Street Kent, Washington 98032*; Prepared for Mr. Preet Chohan, BLT Transport LLC, Dated February 18, 2022
- EcoCon Inc., 2022, *BLT Trucking: Arsenic in Groundwater at and near the BLT Trucking Site Facility/Site ID: 60800, Cleanup Site ID: 16551, VCP Site #: NW3338*; Letter to Ms. Kim Vic - Washington State Department of Ecology Northwest Regional Office; Dated November 14, 2022
- Galloways Environmental Inc., 1995, *Environmental Restoration Work Plan at the Atomic Auto Wrecking Yard Kent, Washington*; Prepared for Carr Auto Incorporated, Dated June 1995.
- King County Assessor Property Records: https://blue.kingcounty.com/Assessor/eRealProperty/Dashboard.aspx?ParcelNbr=0006600045
- National Resources Conservation Service NRCS Web Soil Survey , 2023, https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/
- Paul Siebenaler, 1995, *Preliminary Site Investigation Report without Appendices*; Prepared for Mr. Avon Carr, Carr Auto Sales, dated March 6, 1995
- Stemen Environmental Inc., 1999, *Phase II Site Assessment Report – Boyd Investment Properties, Tax Parcel #09260024000, 1037 South Central, Kent, Washington*; Prepared for Mr. Kevin Boyd -Boyd Real Estate Investments, Dated October 27, 1999.
- Washington State Department of Ecology, 2000, *No Further Action Letter for Boyd investment Properties, Tax Parcel #09260024000 (former Carr Auto Sales property and part of the former Atomic Auto Wrecking property), 1037 South Central, Kent, Washington*; Prepared for Mr. Kevin Boyd -Boyd Investment Properties, Dated March 17, 2000.
- Washington State Department of Ecology, 2023, *Further Action at the following Site: Site Name: BLT Trucking- Site Address: 8010 S 259th Street, Kent, Washington 98032; Facility/Site No.: 60800; Cleanup Site ID: 16551; VCP Project No.: NW3338*; Prepared for Preet Chohan, BLT Transport, Dated March 13, 2023
- Washington State Department of Ecology, 2023, BLT Trucking Work Plan; Email from Kim Vic to Mr. Kaden Reed at ECI, Dated May 31, 2023,

- Natural Resources Conservation Service Web Soil Survey, 2023, https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/
- Washington State Department of Ecology, 2023, *Model Toxics Control Act Statute and Regulation, Publication No. 94-06*, Dated- August 23, 2023
- Washington State Department of Natural Resources, 2023, *Geologic Information Portal:* https://www.dnr.wa.gov/geologyportal

All other references are listed within the body of this report.

11.0 LIMITATIONS

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology, and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. EcoCon Inc. includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with EcoCon if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or Site.

11.1 Use of this Report by Others

Our report was prepared for the exclusive use of BLT Transport (Client) and / or their designated parties. This report may be provided to regulatory agencies for review if requested or required. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted environmental practices in this area at the time this report was prepared.

This report has been prepared for subsurface investigation/remediation activities at the Subject Property. ECI considered a number of unique, project-specific factors when establishing the scope of services for this project and report. No one except our Client should rely on this environmental report without first conferring with ECI. This report should not be applied for any purpose or project except the one originally contemplated.

Unless ECI specifically indicates otherwise, do not rely on this report if it was:

- Not prepared for you,
- Not prepared for your project,
- Not prepared for the specific site explored, or
- Completed before important site changes were made.

If important changes are made after the date of this report, ECI should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

11.2 Uncertainty May Remain after Completion of Site Investigation and Remedial Activities

The investigation and remediation activities completed in a portion of a property cannot wholly eliminate uncertainty regarding the potential for contamination in connection with the entire property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from the locations sampled. It is always possible that contamination exists in areas that were not explored, sampled, or analyzed.

11.3 Subsurface Conditions Can Change

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the Site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact EcoCon before applying this report to determine if it is still applicable.

11.4 Soil and Groundwater End Use

The cleanup levels referenced in this report are Site- and situation-specific and could change with time due to regulatory or Site changes. The cleanup levels may not be applicable for other sites or for other on-site uses of the affected media (soil and/or groundwater).

Note that hazardous substances may be present in some of the Site soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. Because these cleanup levels can change, ECI should be contacted to evaluate the potential for associated environmental liabilities prior to the export of soil or groundwater from the Subject Site or reuse of the affected media on the Site. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the Subject Site to another location or its reuse on the Site in instances that we were not aware of or could not control.

11.5 Most Environmental Findings Are Professional Opinions

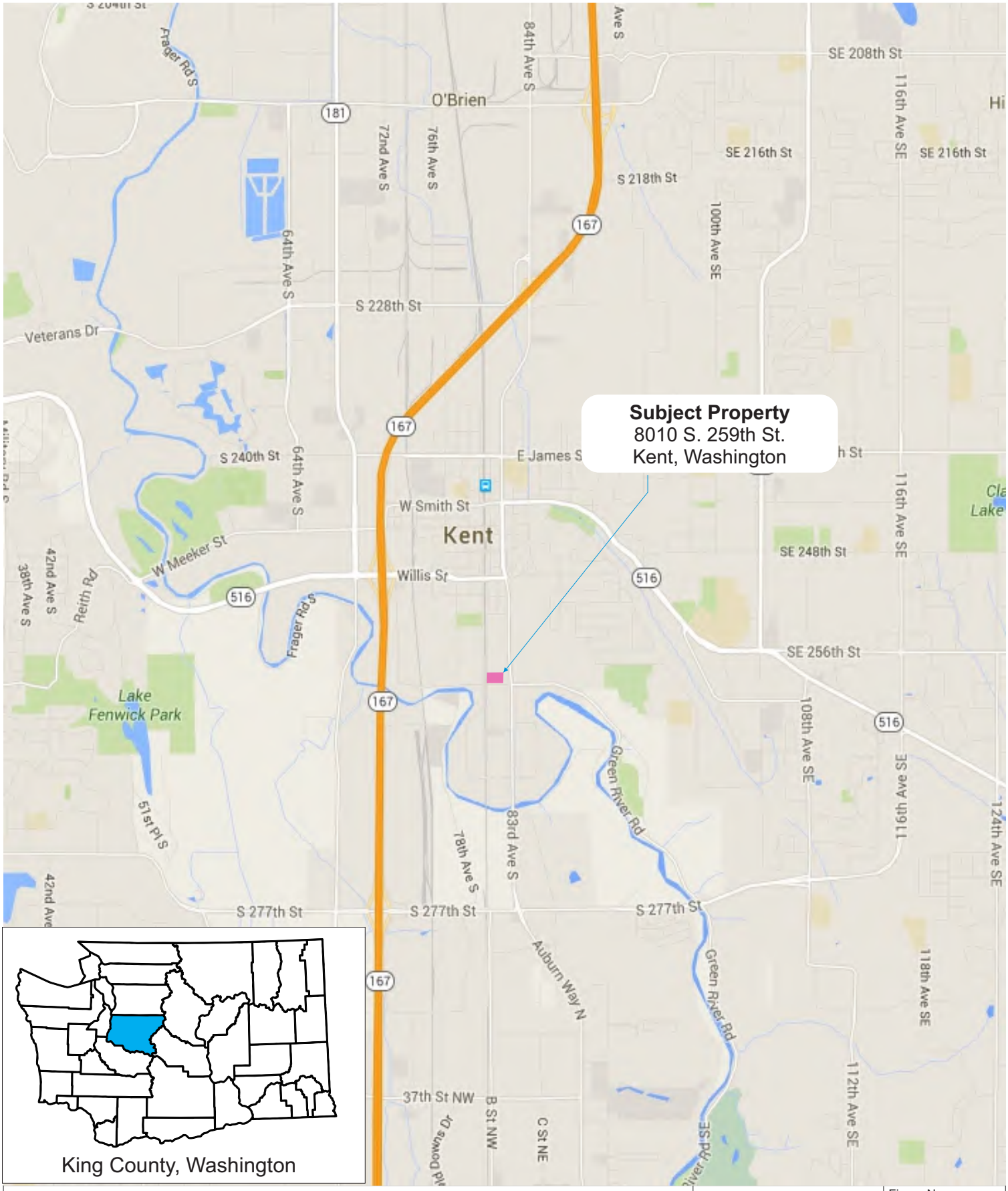
Our interpretations of subsurface conditions are based on field observations and chemical analytical data from the locations sampled at the Site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. EcoCon Inc. reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the Site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

List of Appendices

List of Appendices

Appendix A

Project Figures



N
Not To Scale

Site Vicinity Map
Remedial Investigation
8010 South 259th Street
Kent, Washington

Date:	August 25, 2023
Completed By:	C.Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0611-01-07

Figure No.: 01
Sheet 01 of 11

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B21-2 (mg/kg)
GRO:ND, DRO:ND, **ORO:450**
As:2.88, Cd:<1.1, **Pb:34 Aroclor 1254: 0.63**
B21-4 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:4.99, Cd:<1.1, **Pb:36, Aroclor 1254: 6.4**
B21-6 (mg/kg)
Aroclor 1254: 0.19
B21-10 (mg/kg)
GRO:ND, DRO:ND, ORO:ND,
As:3.22, Cd<1.4, Pb:<7.1, PCBs:ND
B21-15 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:3.69, Cd:<1.5, Pb:<7.7, PCBs:ND

B20-2 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:3.54, Cd:<1.1, **Pb:67, Aroclor 1254: 0.47**
B20-4 (mg/kg)
GRO:ND, DRO:ND, **ORO:400**
As:2.84, Cd:<1.1, **Pb:63, Aroclor 1254: 0.43**
B20-8 (mg/kg)
GRO:ND, DRO:ND, ORO:ND,
As:3.07, Cd:<1.1, **Pb:62**, **Aroclor 1254: 1.0**
B20-10 (mg/kg)
GRO:ND, DRO:ND, ORO:ND,
As:5.13, Cd<1.3, Pb:<6.6, PCBs:ND
B20-16 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:3.38, Cd:<1.4, Pb:<6.9, PCBs:ND

B22-2 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:6.82, Cd:<1.1, **Pb:43 Aroclor 1254: 0.80**
B22-4 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:3.80, Cd:<1.1, **Pb:87, Aroclor 1254: 1.4**
B22-6 (mg/kg)
Aroclor 1254: 0.36
B22-12(mg/kg)
GRO:ND, DRO:ND, ORO:ND,
As:1.97, Cd<1.5, **Pb:65**, PCBs:ND
B22-15 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:1.49, Cd:<1.4, Pb:<6.8, PCBs:ND

CB1

CB2

Attempted 6 Borings in general vicinity. All Borings met with Refusal at 2-4 feet below ground surface.

B19-4 (mg/kg)
GRO:ND, DRO:ND, **ORO:700**
As:3.45/--, Cd:<1.0, **Pb:20, Aroclor 1254: 0.22**
B19-8 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:2.84/--, Cd:<1.3, **Pb:33**, PCBs:ND
B19-10 (mg/kg)
GRO:ND, DRO:ND, ORO:ND,
As:4.89/12, Cd:<1.1, **Pb:7.8**, PCBs:ND
B19-15 (mg/kg)
GRO:ND, DRO:ND, ORO:ND,
As:3.30/--, Cd<1.4, Pb:<7.2, PCBs:ND
B19-18 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:3.39/--, Cd:<1.4, Pb:<7.2, PCBs:ND

B23-2 (mg/kg)
GRO:ND, DRO:ND, **ORO:650**
As:4.36, Cd:3.5, Pb:240, Aroclor 1254: 5.3
B23-4 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As:5.90, Cd:<1.1, **Pb:14,** PCBs:ND
B23-10 (mg/kg)
GRO:ND, DRO:ND, ORO:ND
As: 1.91, Cd:<1.4, Pb:<7.0, PCBs:ND
B23-15(mg/kg)
GRO:ND, DRO:ND, ORO:ND,
As: 1.89, Cd<1.4, Pb:<6.5, PCBs:ND

N

0 15 30 60

Approximate Scale in Feet

Explanation

- ● Soil Boring Location < CUL
- GRO: Gasoline Range Organics
- DRO: Diesel Range Organics
- ORO: Oil Range Organics
- As: Arsenic (Method 6010B/Method 7010)
- Cd: Cadmium
- Pb: Lead
- PCBs: Polychlorinated Biphenyls

Soil Sample Location Map
Remedial Investigation
8010 South 259th Street
Kent, Washington

Date:	August 25, 2023
Completed By:	C.Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0611-01-07

Figure No.: 02

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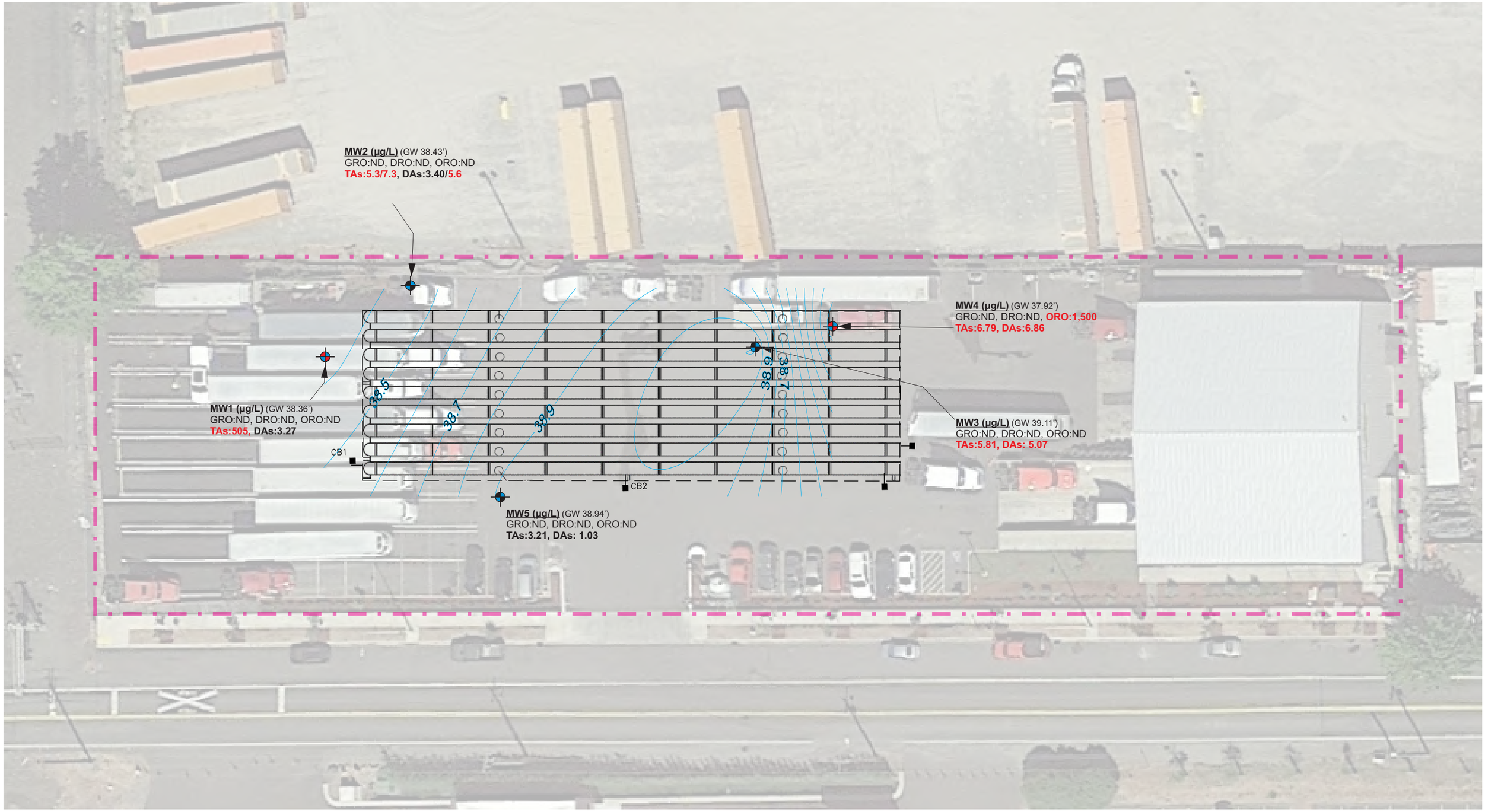
eci Environmental Services — Providing Practical Environmental Compliance Solutions
Offices in: Anchorage | Tacoma | Portland



N

0 15 30 60

Approximate Scale in Feet

Explanation

- Monitoring Well < MTCA CUL's
- Monitoring Well > MTCA CUL's

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics

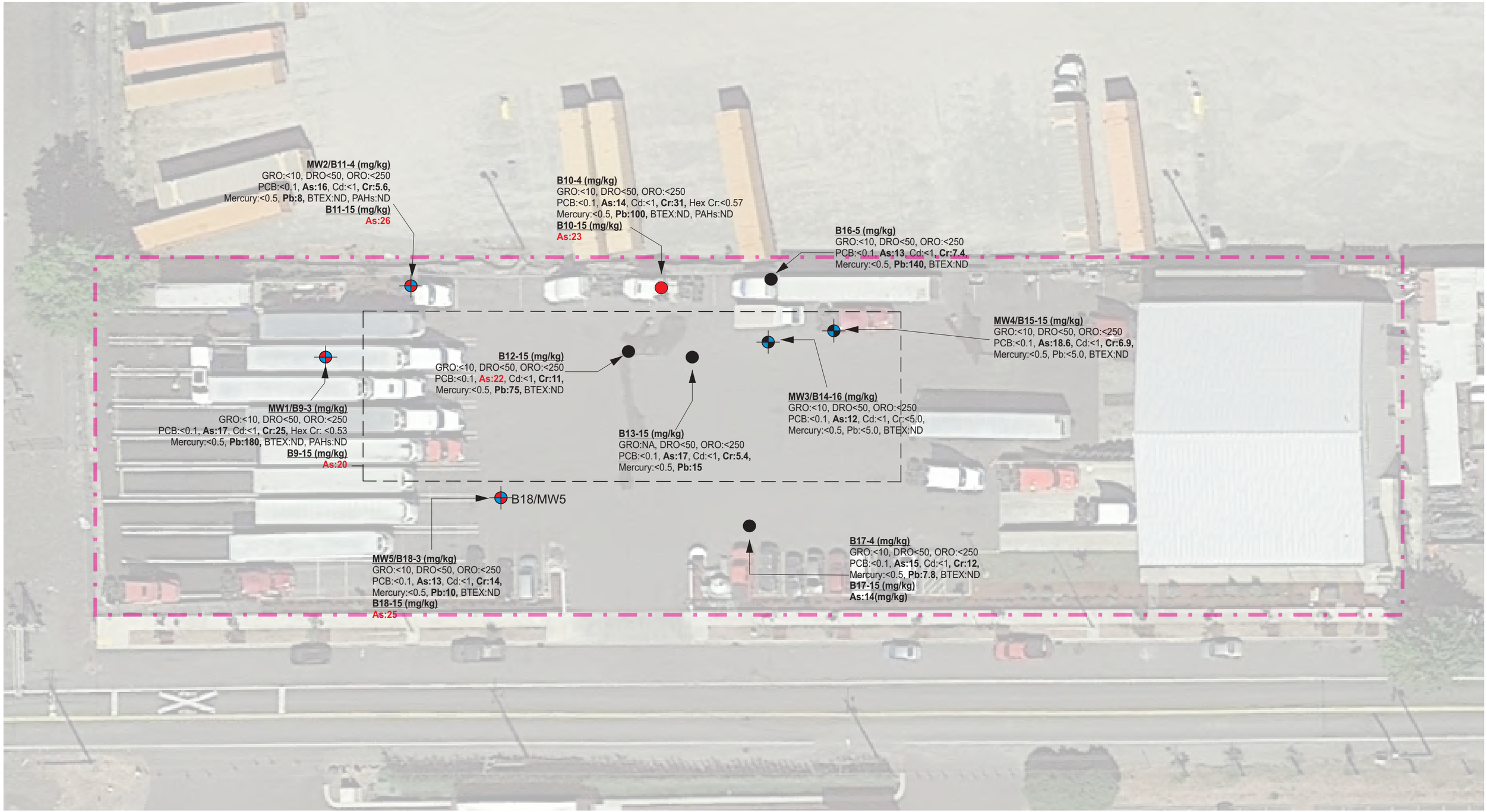
TAs: Total Arsenic (Method 6010B/Method 7010)
DAs: Dissolved Arsenic (Method 6010B/Method 7010)
Cd: Cadmium
Pb: Lead
PCBs: Polychlorinated Biphenyls

Q3 2023 Groundwater Analytical and Elevation Map
Remedial Investigation
& Groundwater Monitoring Report
8010 South 259th Street
Kent, Washington

Date:	August 25, 2023
Completed By:	C.Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0611-01-07

Figure No.: 03
Sheet 03 of 11

eci Environmental Services
Providing Practical Environmental Compliance Solutions
Offices In: Anchorage | Tacoma | Portland



N

0 15 30 60

Approximate Scale in Feet

: Soil Boring Location < CUL

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

As: Arsenic

Monitoring Well < MTCA CUL's

Monitoring Well > MTCA CUL's

Explanation

Cd: Cadmium

Cr: Chromium

Pb: lead

BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes

BOLD: Above laboratory reporting limit

: Soil Boring Location > CUL

Red: Above Cleanup Level

mg/Kg: milligram per kilogram

NA: Not run for that COC

ND: Not detected above laboratory reporting limit

—— : Storm System

2021 Boring Sample Location Map

Remedial Investigation
& Groundwater Monitoring Report
8010 South 259th Street
Kent, Washington

Date:	August 25, 2023
Completed By:	C.Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0611-01-07

Figure No.: 04

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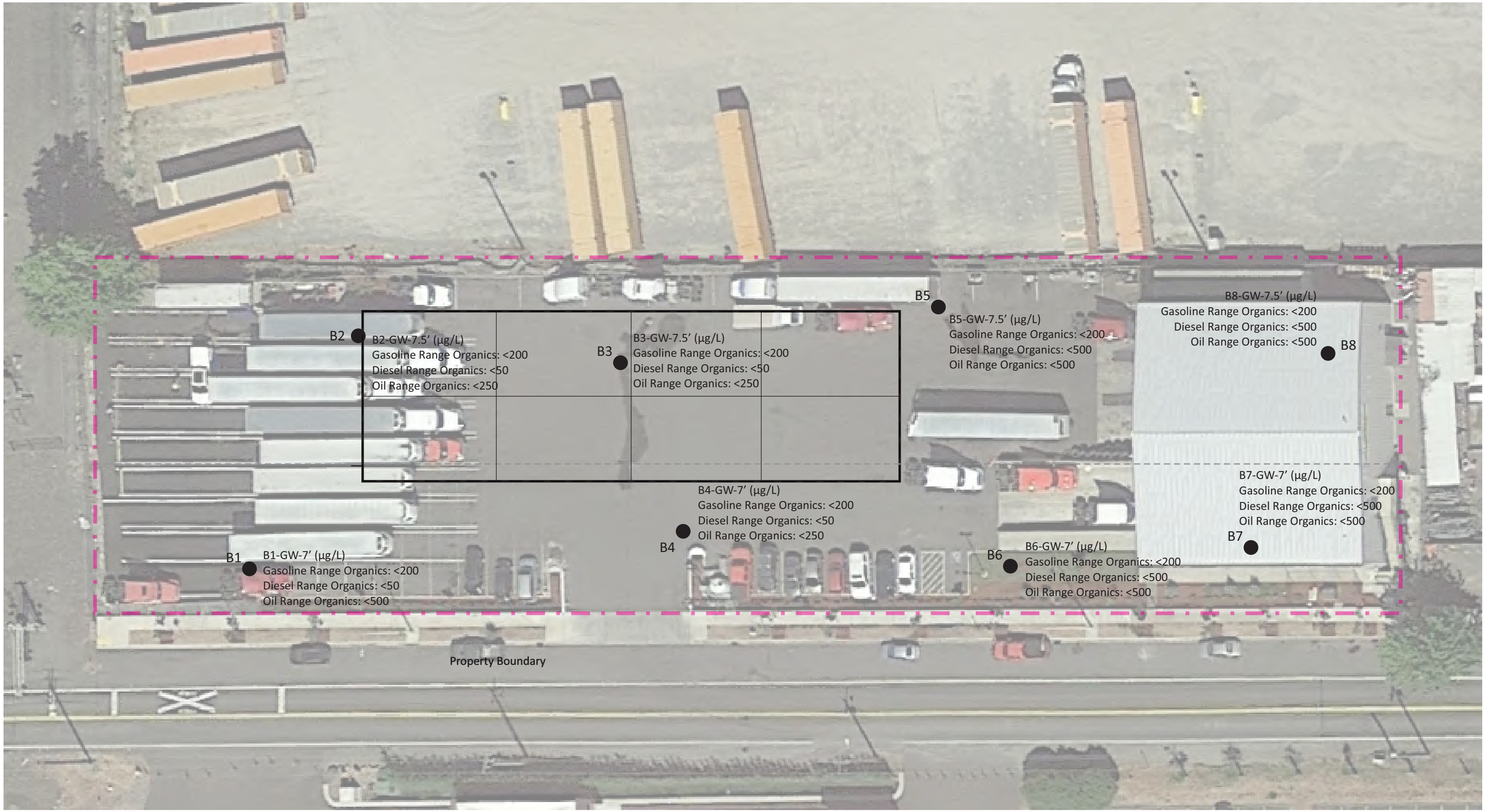
eci Environmental Services

Providing Practical Environmental Compliance Solutions

Offices in: Anchorage | Tacoma | Portland



N

0 15 30 60

Approximate Scale in Feet

Explanation

● : Soil Boring Location

—— : Storm System

ug/L: microgram per liter

Historical Groundwater Analytical Map
Remedial Investigation
& Groundwater Monitoring Report
8010 South 259th Street
Kent, Washington

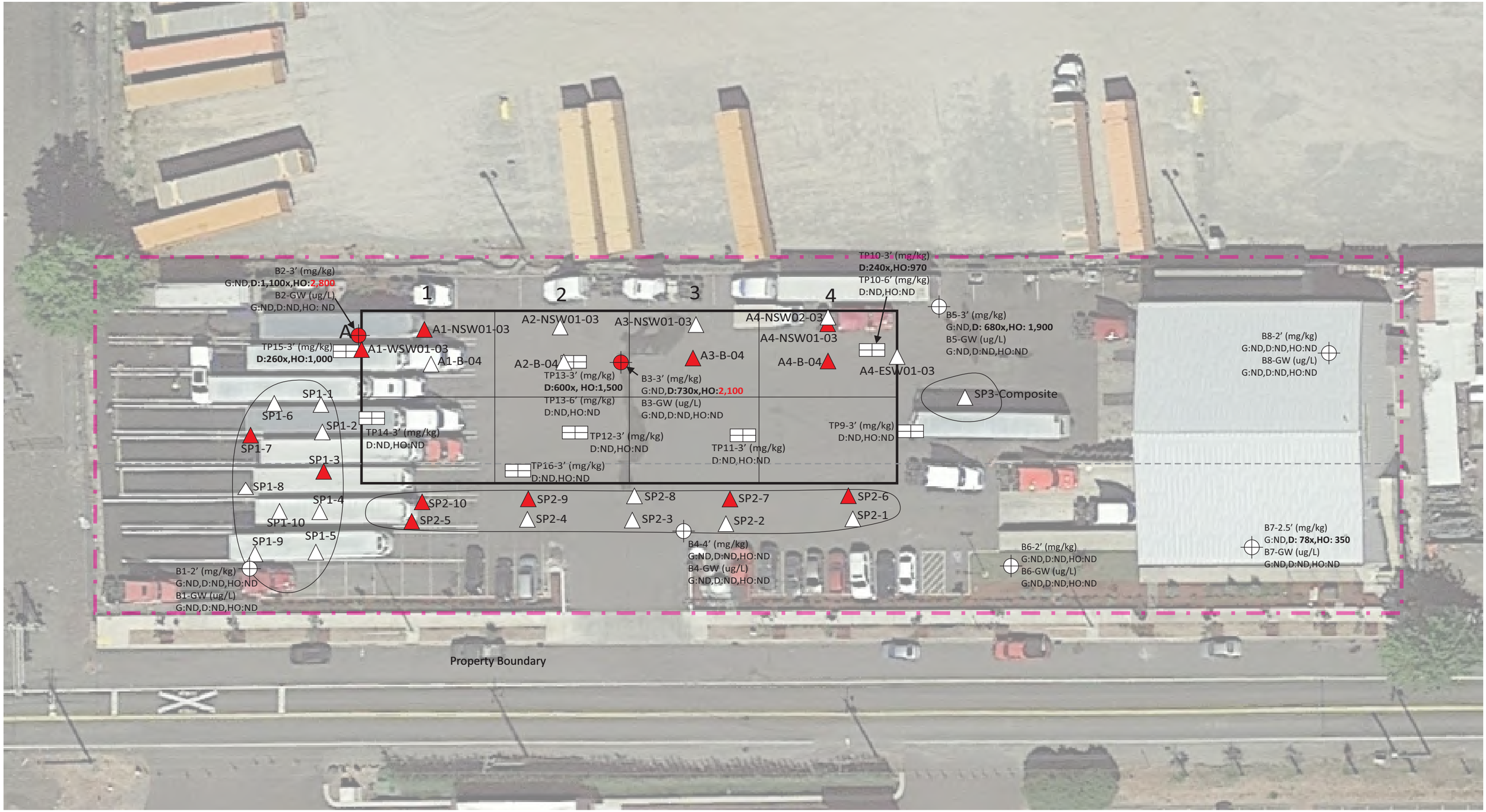
Date:	August 25, 2023
Completed By:	C.Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0611-01-07

Figure No.: 05

Sheet 05 of 11

eci Environmental Services

Providing Practical Environmental Compliance Solutions
Offices in: Anchorage | Tacoma | Portland



N

0 15 30 60

Approximate Scale in Feet

Explanation

: Soil Boring Location
G: Gasoline Range Organics
D: Diesel Range Organics
HO: Heavy Oil Range Organics
—— : Storm System

mg/Kg: milligram per kilogram
ug/L: microgram per liter
ND: Not detected above laboratory reporting limit

Historical Boring / Sample Location Map
Remedial Investigation
& Groundwater Monitoring Report
8010 South 259th Street
Kent, Washington

Date:	August 25, 2023
Completed By:	C.Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0611-01-07

Figure No.: 06

Sheet 06 of 11

eci Environmental Services
Providing Practical Environmental Compliance Solutions
Offices in: Anchorage | Tacoma | Portland

N

0 15 30 60

Approximate Scale in Feet

Explanation

: Soil Boring Location

G: Gasoline Range Organics

D: Diesel Range Organics

HO: Heavy Oil Range Organics

—— : Storm System

mg/Kg: milligram per kilogram

ug/L: microgram per liter

ND: Not detected above laboratory reporting limit

Collective Soil Sample Map
Remedial Investigation
& Groundwater Monitoring Report
8010 South 259th Street
Kent, Washington

Date:	August 25, 2023
Completed By:	C.Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0611-01-07

Figure No.: 07

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eci Environmental Services

Providing Practical Environmental Compliance Solutions
Offices in: Anchorage | Tacoma | Portland

A

A'

MW5

B19

B3

B20

B12

B22

B10

B20-2(mg/kg)
PCB:0.47, As: 3.54, Pb:67

MW5-3 (mg/kg)
As:13, Cr:14, Pb:10

B3-3 (mg/kg)
DRO:730X, ORO:2,100

B22-2(mg/kg)
PCB:0.80, As: 6.82, Pb:43

B10-4(mg/kg)
As: 14, Cr:31, Pb:100

B19-4 (mg/kg)
ORO:700, PCB:0.22
As:3.45, Pb:20

B22-4(mg/kg)
PCB:1.4, As:3.80, Pb:87

B20-4 (mg/kg)
ORO:400, PCB:0.43
As:2.84, Pb:63

B19-6
NA

B20-6
NA

B19-8 (mg/kg)
As:2.84, Pb:33

B22-6(mg/kg)
PCB:0.36

Upper Water Level
May 2016 & March 2021

MW5-8
NA

B22-8
NA

B10-8
NA

Lower Water Level
July 2023

B19-10 (mg/kg)
As:12, Pb:7.8

B20-8 (mg/kg)
PCB:1.0, As:3.07, Pb:62

B22-12(mg/kg)
As:1.97, Pb:65

B20-10 (mg/kg)
As:5.13

B19-12
NA

B12-15(mg/kg)
As: 22, Cr:5.4, Pb:15

B10-15(mg/kg)
As: 23

MW1-15 (mg/kg)
As:25

B19-15 (mg/kg)
As:3.30

B20-16 (mg/kg)
As:3.38

B22-15(mg/kg)
As:1.49

B19-18 (mg/kg)
As:3.39

B20-20
NA

B22-20
NA

B19-20
NA

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

Legend

DRO: Diesel Range Organics
ORO: Oil Range Organics
PCB: Polychlorinated Biphyenyl
As: Arsenic
Cr: Chromium
Pb: Lead

△ Soil Sample <MTCA
▲ Soil Sample > MTCA
Water At Time of Drilling
Estimated Extent of PCB Contamination
Excavation Back Fill

Unknown
Asphalt & Gravel Base
Brown Silty Sand w/ Gravel (Fill)
Brown Fine Sand w/ Trace Gravel
Medium to Coarse Sand
Brownish Gray to Gray Fine Sand w/ Gravel
Gray Fine Sand to Silty Sand
Gray Clayey Fine Sand to Clayey Silt

Southwest to Northeast Cross-Section (A-A')
Remedial Investigation Report
8010 South 259th Street,
Kent, Washington

Date:	October 12, 2023
Completed By:	C. Long
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0611

Figure No.: 08
Sheet 08 of 11

eci Environmental Services
Providing Practical Environmental Compliance Solutions
Offices in: Anchorage | Tacoma | Portland

B

B'

MW1 B2 MW2 B21 B22 B10 B16 B5 B23

MW1-3(mg/kg)
AS:17, Cr:25, Pb:180

B2-3(mg/kg)
DRO:1,100X, ORO:2,800,
PCB:5.7, As:5.7, Cd:5.17, Pb:420

MW2-4(mg/kg)
As:16, Cr:5.6, Pb:8

B21-2(mg/kg)
ORO:450, PCB:0.63
As:2.88, Pb:34

B21-4(mg/kg)
PCB:6.4,As:4.99, Pb:36

B21-6(mg/kg)
PCB:0.19

B22-2(mg/kg)
PCB:0.47, As:6.82, Pb:43

B22-4(mg/kg)
PCB:1.4, As:3.80, Pb:87

B22-6(mg/kg)
PCB:0.36

B10-4(mg/kg)
As: 14, Cr:31, Pb:100

B16-5(mg/kg)
As: 18.6, Cr:6.9, Pb:140

B5-5(mg/kg)
DRO:680X, ORO:1,900

B23-2(mg/kg)
ORO:650, PCB:5.3
As:4.36, Cd:3.5, Pb:240

B23-4(mg/kg)
As:5.9, Pb:14

B23-6
NA

Upper Water Level
May 2016 & March 2021

Lower Water Level
July 2023

MW1-8
NA

MW2-8
NA

B21-8
NA

B22-8
NA

B10-8
NA

B16-8
NA

B23-8
NA

B21-10(mg/kg)
As:3.22

B22-12(mg/kg)
As:1.97, Pb:65

B23-10(mg/kg)
As:1.91

B21-12
NA

B23-12
NA

B23-15(mg/kg)
As:1.89

MW1-15 (mg/kg)
As:20

MW2-15 (mg/kg)
As:26

B21-15(mg/kg)
As:3.69

B22-15(mg/kg)
As:1.49

B10-15(mg/kg)
As: 23

B16-15
NA

B22-20
NA

B23-20
NA

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

Legend

DRO: Diesel Range Organics
ORO: Oil Range Organics
PCB: Polychlorinated Biphyenyl
As: Arsenic
Cr: Chromium
Pb: Lead
NA: No Analytical

△ Soil Sample <MTCA
▲ Soil Sample > MTCA
Water At Time of Drilling
Estimated Extent of PCB Contamination
Excavation Back Fill

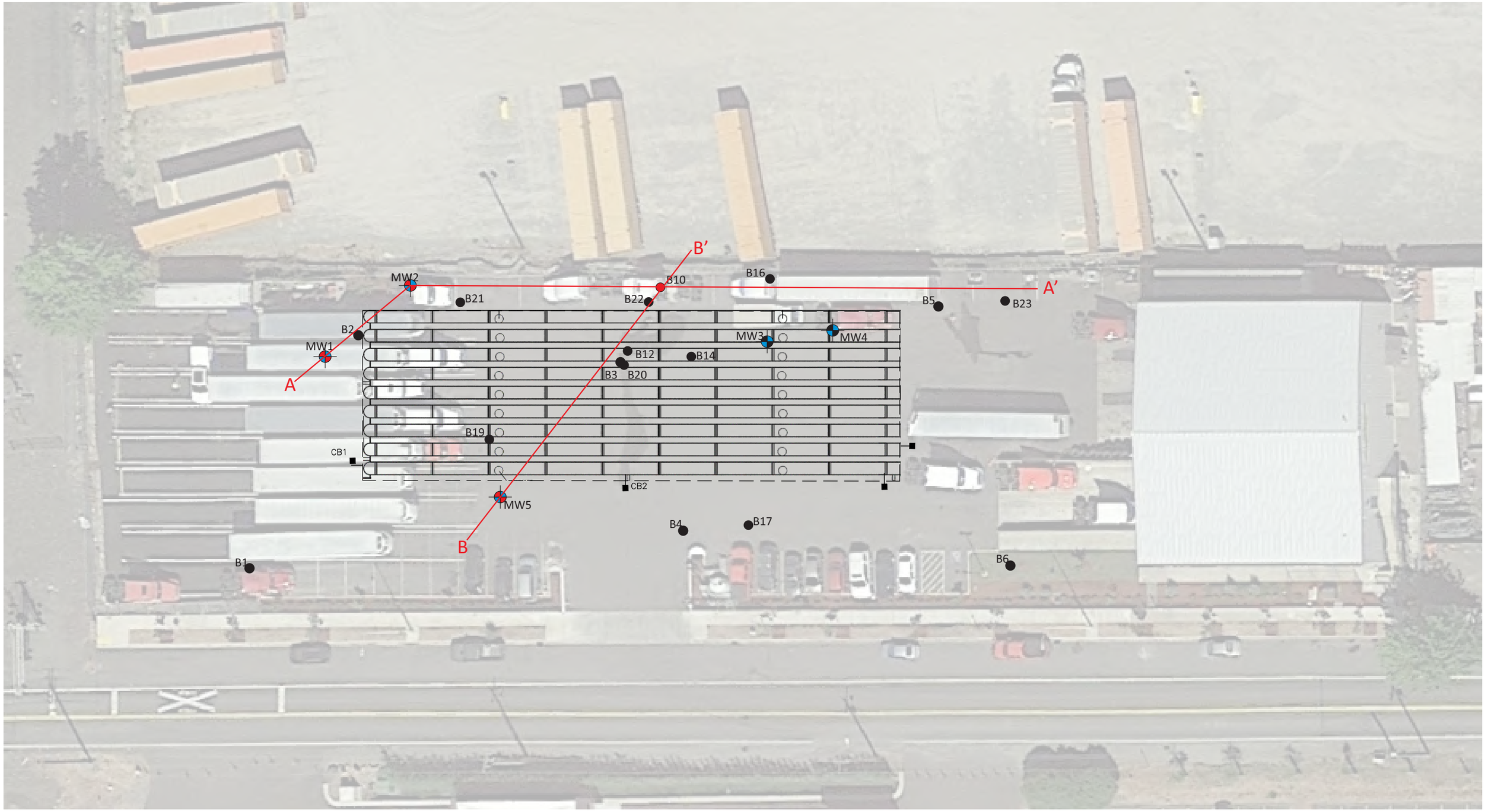
Unknown
Asphalt & Gravel Base
Brown Silty Sand w/ Gravel (Fill)
Brown Fine Sand w/ Trace Gravel
Medium to Coarse Sand
Brownish Gray to Gray Fine Sand w/ Gravel
Gray Fine Sand to Silty Sand
Gray Clayey Fine Sand to Clayey Silt

West to East Cross-Section (B-B')
Remedial Investigation Report
8010 South 259th Street,
Kent, Washington

Date:	October 12, 2023
Completed By:	C. Long
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0611

Figure No.: 09
Sheet 09 of 11

eci Environmental Services
Providing Practical Environmental Compliance Solutions
Offices In: Anchorage | Tacoma | Portland



N

0 15 30 60

Approximate Scale in Feet

Explanation

- Soil Boring Location < CUL
- Soil Boring Location > CUL
- Cross-Section Locations

Cross-Section Location Map
Remedial Investigation
8010 South 259th Street
Kent, Washington

Date:	August 25, 2023
Completed By:	C.Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0611-01-07

Figure No.: 10

Sheet 10 of 11

eci Environmental Services — Providing Practical Environmental Compliance Solutions. Offices in: Anchorage | Tacoma | Portland

Primary Source	Contaminants of Concern	Media of Concern	Transport Mechanisms
Spillage from Historical Auto Wrecking Yards on the Property	•Diesel-range Organics (DRO) •Oil-range Organics (ORO) •Lead •Cadmium •Arsenic •Polychlorinated biphenyls (PCBs) ☑ Adsorbed into Soil ☑ Dissolved in Water ☐ non-aqueous phase	☑ Surface Soil (0-2 feet bgs)	☑ Direct Release to soil ☑ Migration to subsurface soil ☐ Migration to groundwater ☐ Volatilization ☐ Runoff or erosion ☐ Uptake by plant or animal ☐ Other (List) _____
		☑ Soil (2 to 15 feet bgs)	☑ Direct Release to soil ☑ Migration to groundwater ☐ Volatilization ☐ Other (List) _____
		☐ Groundwater	☑ Release to groundwater ☐ Volatilization ☐ Future migration to surface water ☐ Future migration to sediment ☐ Uptake by plants or animal ☐ Other (List) _____
		☐ Surface Water	☐ Release to surface water ☐ Volatilization ☐ Sedimentation ☐ Uptake by plant or animal ☐ Other (List) _____
		☐ Sediment	☐ Release to Surface water ☐ Resuspension or erosion ☐ Uptake by plant or animal ☐ Other (List) _____

Exposure Media	Exposure Pathway	Current (C) and Potential Future (F) Receptors: Commercial Industrial	Construction Worker	Residential\ Recreational	TEE Receptors
☑ Soil →	☑ Ingestion	C	F		
	☑ Dermal Exposure	C	F		
☑ Groundwater →	☑ Ingestion	C	F		
	☑ Dermal Exposure	C	F		
☐ Air →	☐ Inhalation				
☐ Surface Water →	☐ Ingestion				
	☐ Dermal Exposure				
☐ Sediment →	☐ Ingestion				
	☐ Dermal Exposure				

Conceptual Site Model
Remedial Investigation Report
8010 South 259th Street,
Kent, Washington

Date:	October 16, 2023
Completed By:	C. Long
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0611-01-06

Figure No.: 11
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eci Environmental Services — Providing Practical Environmental Compliance Solutions. Offices In: Anchorage | Tacoma | Portland

Appendix B

Project Tables

Practical Environmental Compliance Solutions

Offices In: Anchorage | Tacoma | Portland

Table 6: Summary of Historical Soil Analytical Results

8010 South 259th Street, Kent, Washington

April 28, 2023

Sample ID	Sample Depth (ft)	Date Sampled	Gasoline Range Organics	Diesel Range Organics	Oil Range Organics	Diesel & Oil Range Organics	cPAHs	PCB Mixtures	cVOCs	Arsenic	Cadmium	Chromium (Total)	Chromium VI	Mercury	Lead
			Sample Results in milligrams per kilogram (mg/kg)												
SP1-1	NA	6/15/2016	--	**76**	<250	**76**	--	--	--	--	--	--	--	--	--
SP1-2	NA	6/15/2016	--	**230**	**800**	**1,030**	--	**2.1**	--	**5.71**	**1.74**	**188**	--	<1	**160**
SP1-3	NA	6/15/2016	--	**250**	**920**	**1,170**	--	**3.7**	--	**6.49**	**2.62**	**102**	--	<1	**262**
SP1-4	NA	6/15/2016	--	**280**	**970**	**1,250**	--	**0.99**	--	**4.95**	<1	**33.3**	--	<1	**85.8**
SP1-5	NA	6/15/2016	--	**210**	**660**	**870**	--	--	--	--	--	--	--	--	--
SP1-6	NA	6/15/2016	--	**89**	**840**	**929**	--	**0.71**	--	**5.63**	**1.04**	**206**	--	<1	**94.8**
SP1-7	NA	6/15/2016	--	**150**	**750**	**900**	--	**1.9**	--	**5.39**	**2.19**	**162**	--	<1	**224**
SP1-8	NA	6/15/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
SP1-9	NA	6/15/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
SP1-10	NA	6/15/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
SP2-1	NA	6/16/2016	--	**120**	**290**	**410**	--	--	--	--	--	--	--	--	--
SP2-2	NA	6/16/2016	--	**240**	**650**	**890**	--	**0.55**	--	**6.45**	**1.05**	**15.9**	--	<1	**102**
SP2-3	NA	6/16/2016	--	**82**	<250	**82**	--	--	--	--	--	--	--	--	--
SP2-4	NA	6/16/2016	--	**140**	**500**	**640**	--	--	--	--	--	--	--	--	--
SP2-5	NA	6/16/2016	--	**180**	**610**	**790**	--	**2.4**	--	**6.02**	**2.95**	**460**	--	<1	**293**
SP2-6	NA	6/16/2016	--	**440**	**1,100**	**1,540**	--	**1.9**	--	**4.6**	**2.51**	**62.2**	--	<1	**265**
SP2-7	NA	6/16/2016	--	**490**	**1,400**	**1,890**	--	**1.0**	--	**7.79**	**2.13**	**56.9**	--	**1.07**	**152**
SP2-8	NA	6/16/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
SP2-9	NA	6/16/2016	--	**1,400**	**3,200**	**4,600**	--	--	--	--	--	--	--	--	--
SP2-10	NA	6/16/2016	--	**380**	**1,100**	**1,480**	--	**5.4**	--	**5.26**	**4.23**	**198**	--	**1.99**	**443**
SP3-Composite	NA	6/16/2016	--	**96**	<250	**96**	--	**1.2**	--	**2.91**	<1	**11.8**	--	<1	**42.3**
A1-WSW01-3	3	6/16/2016	--	**280**	**1,100**	**1,380**	--	**4.9**	--	**7.2**	**4.79**	**253**	--	<1	**387**
A1-NSW01-03	3	6/16/2016	--	**640**	**1,800**	**2,440**	--	**7.8**	--	**6.92**	**4.5**	**651**	--	**1.22**	**393**
A1-B04	4	6/16/2016	--	**160**	**450**	**610**	--	--	--	--	--	--	--	--	--
A2-NSW01-03	3	6/16/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
A2-B04	4	6/16/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
A3-NSW01-03	3	6/16/2016	--	**250**	**870**	**1,120**	--	--	--	--	--	--	--	--	--
A3-B04	4	6/16/2016	--	**520**	**1,400**	**1,920**	--	**3.1**	--	**5.14**	**3.64**	**162**	--	**1.58**	**388**
A4-NSW01-03	3	6/16/2016	--	**360**	**1,200**	**1,560**	--	**14**	--	**5.5**	**4.5**	**263**	--	<1	**604**
A4-NSW02-03	3	6/16/2016	--	--	--	--	--	**1.3**	--	**3.87**	**1.78**	**27.8**	--	<1	**198**
A4-ESW01-03	3	6/16/2016	--	**230**	**830**	**1,060**	--	--	--	--	--	--	--	--	--
A4-B04	4	6/16/2016	--	**360**	**1,200**	**1,560**	--	**2.4**	--	**4.72**	**3.13**	**290**	--	**1.24**	**297**
B1-2	2	5/16/2016	<20	<50	<250	--	--	--	--	--	--	--	--	--	--
B2-3	3	5/16/2016	<20	**1,100**	**2,800**	**3,900**	**0.045**	**5.7**	ND	**5.7**	**5.17**	**228**	<0.548	<1	**470**
B3-3	3	5/16/2016	<20	**730**	**2,100**	**2,830**	--	--	--	--	--	--	--	--	--
B4-4	4	5/16/2016	<20	<50	<250	--	--	--	--	--	--	--	--	--	--
B5-3	3	5/16/2016	<20	**680**	**1,900**	**2,580**	--	--	--	--	--	--	--	--	--
B6-2	2	5/16/2016	<20	**78**	**350**	**428**	--	--	--	--	--	--	--	--	--
B7-2.5	2.5	5/16/2016	<20	<50	<250	--	--	--	--	--	--	--	--	--	--
B8-2	2	5/16/2016	<20	<50	<250	--	--	--	--	--	--	--	--	--	--
TP9-3	3	6/1/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
TP10-3	3	6/1/2016	--	**240x**	**970**	**1,210**	--	--	--	--	--	--	--	--	--
TP10-6	6	6/1/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
TP11-3	3	6/1/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
TP12-3	3	6/1/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
TP13-3	3	6/1/2016	--	**600x**	**1,500**	**2,100**	--	--	--	--	--	--	--	--	--
TP13-6	6	6/1/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
TP14-3	3	6/1/2016	--	**78**	**350**	**428**	--	--	--	--	--	--	--	--	--
TP15-3	3	6/1/2016	--	**260x**	**1,000**	**1,260**	--	--	--	--	--	--	--	--	--
TP16-2.5	2.5	6/1/2016	--	<50	<250	--	--	--	--	--	--	--	--	--	--
Laboratory Reporting Limit			20	50	250	--	0.01	0.2	Varies	1	1	5	0.548	1	1
Ecology MTCA Method A Cleanup Levels			30/100[4]	2,000	2,000	2,000	0.1	1	Varies	20	2	19/2,000	19	2	250

Notes:

[1]Gasoline range total petroleum hydrocarbons (TPH). Analyzed by Northwest Method NWTPH-Gx.

[2]Analyzed by Northwest Method NWTPH-D/Dx Extended

[3]Select Volatile Organic Compounds. Analyzed by EPA Method 8021B.

[4] Cleanup level with presence of benzene 30 mg/kg; Without benzenepresent on the Site 100 mg/kg

mg/kg = Milligrams per kilogram

MTCA = Model Toxics Control Act

-- = not analyzed for this constituent

< = not detected above laboratory detection limits

NE = Ecology has not designated a MTCA Method A cleanup level for this constituent

Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels

Bold and Shaded indicates the detected concentration exceeds Ecology MTCA Method A or B Cleanup Levels

j - Estimated result. Peak separation for structural isomers is insufficient for accurate quantification

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Table 7: Summary of Investigational Soil Analytical Results

8010 South 259th Street, Kent, Washington

October 16, 2023

Sample ID	Sample Depth (ft)	Date Sampled	Gasoline Range Organics	Diesel Range Organics	Oil Range Organics	PCB Mixtures	cVOCs	Arsenic (EPA Method 7010) (AAGF)	Arsenic (EPA Method 6020B) (ICP/MS)	Cadmium	Chromium (Total)	Chromium VI	Mercury	Lead	Benzene	Toluene	Ethylbenzene	Total Xylenes	Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270D SIM)						
																			Benz(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene
			Sample Results in milligrams per kilogram (mg/kg)																*Sample Results in µg/Kg-dry*						
B9-3	3	3/16/2021	<10	<50	<250	<0.1	--	**17**	--	<1.0	**25**	--	<0.5	**180**	<0.02	<0.10	<0.05	<0.15	<19.4	<38.8	<19.4	<19.4	<19.4	<38.8	<38.8
B9-15	15	3/16/2021	--	--	--	--	--	**20**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B10-4	4	3/16/2021	<10	<50	<250	<0.1	--	**14**	--	<1.0	**31**	--	<0.5	**100**	<0.02	<0.10	<0.05	<0.15	<20.1	<40.1	<20.1	<20.1	<20.1	<40.1	<40.1
B10-15	15	3/16/2021	--	--	--	--	--	**23**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B11-4	4	3/16/2021	<10	<50	<250	<0.1	--	**16**	--	<1.0	**5.6**	--	<0.5	**8**	<0.02	<0.10	<0.05	<0.15	<21.8	<43.6	<21.8	<21.8	<21.8	<43.6	<43.6
B11-15	15	3/16/2021	--	--	--	--	--	**26**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B12-15	15	3/16/2021	<10	<50	<250	<0.1	--	**22**	--	<1.0	**11**	--	<0.5	**75**	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--
B13-15	15	3/16/2021	--	<50	<250	<0.1	--	**17**	--	<1.0	**5.4**	--	<0.5	**15**	--	--	--	--	--	--	--	--	--	--	--
B14-16	16	3/16/2021	<10	<50	<250	<0.1	--	**12**	--	<1.0	**<5.0**	--	<0.5	<5.0	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--
B15-15	15	3/16/2021	<10	<50	<250	<0.1	--	**18.6**	--	<1.0	**6.9**	--	<0.5	<5.0	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--
B16-5	5	3/16/2021	<10	<50	<250	<0.1	--	**13**	--	<1.0	**7.4**	--	<0.5	**140**	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--
B17-4	4	3/16/2021	<10	<50	<250	<0.1	--	**15**	--	<1.0	**12**	--	<0.5	**7.8**	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--
B17-15	15	3/16/2021	--	--	--	--	--	**14**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B18-3	3	3/16/2021	<10	<50	<250	<0.1	--	**13**	--	<1.0	**14**	--	<0.5	**10**	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--
B18-15	15	3/16/2021	<10	<50	<250	<0.1	--	**25**	--	<1.0	**14**	--	<0.5	**10**	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--
B19-4	4	7/26/2023	ND	ND	**700**	**0.22**	--	--	**3.45**	<1.0	--	--	--	**20**	--	--	--	--	--	--	--	--	--	--	--
B19-8	8	7/26/2023	ND	ND	ND	<0.1	--	--	**2.84**	<1.3	--	--	--	**33**	--	--	--	--	--	--	--	--	--	--	--
B19-10	10	7/26/2023	ND	ND	ND	<0.1	--	12	**4.89**	<1.1	--	--	--	**7.8**	--	--	--	--	--	--	--	--	--	--	--
B19-15	15	7/26/2023	ND	ND	ND	<0.1	--	--	**3.30**	<1.4	--	--	--	<7.2	--	--	--	--	--	--	--	--	--	--	--
B19-18	18	7/26/2023	ND	ND	ND	<0.1	--	--	**3.39**	<1.4	--	--	--	<7.2	--	--	--	--	--	--	--	--	--	--	--
B20-2	2	7/26/2023	ND	ND	ND	**0.47**	--	**6.5**	**3.54**	<1.1	--	--	--	**67**	--	--	--	--	--	--	--	--	--	--	--
B20-4	4	7/26/2023	ND	ND	**400**	**0.43**	--	--	**2.84**	<1.1	--	--	--	**63**	--	--	--	--	--	--	--	--	--	--	--
B20-8	8	7/26/2023	ND	ND	ND	**1.0**	--	--	**3.07**	<1.1	--	--	--	**62**	--	--	--	--	--	--	--	--	--	--	--
B20-10	10	7/26/2023	ND	ND	ND	<0.1	--	<6.6	**5.13**	<1.3	--	--	--	<6.6	--	--	--	--	--	--	--	--	--	--	--
B20-16	16	7/26/2023	ND	ND	ND	<0.1	--	--	**3.38**	<1.4	--	--	--	<6.9	--	--	--	--	--	--	--	--	--	--	--
B21-2	2	7/26/2023	ND	ND	**450**	**0.63**	--	<5.6	**2.88**	<1.1	--	--	--	**34**	--	--	--	--	--	--	--	--	--	--	--
B21-4	4	7/26/2023	ND	ND	ND	**6.4**	--	**6.0**	**4.99**	<1.1	--	--	--	**36**	--	--	--	--	--	--	--	--	--	--	--
B21-6	6	7/26/2023	--	--	--	**0.19**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B21-10	10	7/26/2023	ND	ND	ND	<0.1	--	--	**3.22**	<1.4	--	--	--	<7.1	--	--	--	--	--	--	--	--	--	--	--
B21-15	15	7/26/2023	ND	ND	ND	<0.1	--	--	**3.69**	<1.5	--	--	--	<7.7	--	--	--	--	--	--	--	--	--	--	--
B22-2	2	7/26/2023	ND	ND	ND	**0.8**	--	<5.5	**6.82**	<1.1	--	--	--	**43**	--	--	--	--	--	--	--	--	--	--	--
B22-4	4	7/26/2023	ND	ND	ND	**1.4**	--	<5.6	**3.8**	<1.1	--	--	--	**87**	--	--	--	--	--	--	--	--	--	--	--
B22-6	6	7/26/2023	--	--	--	**0.36**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B22-12	12	7/26/2023	ND	ND	ND	<0.1	--	<7.5	**1.97**	<1.5	--	--	--	**65**	--	--	--	--	--	--	--	--	--	--	--
B22-15	15	7/26/2023	ND	ND	ND	<0.1	--	--	**1.49**	<1.4	--	--	--	<6.8	--	--	--	--	--	--	--	--	--	--	--
B23-2	2	7/26/2023	ND	ND	**650**	**5.3**	--	--	**4.36**	**3.5**	--	--	--	**240**	--	--	--	--	--	--	--	--	--	--	--
B23-4	4	7/26/2023	ND	ND	ND	<0.1	--	--	**5.90**	<1.1	--	--	--	**14**	--	--	--	--	--	--	--	--	--	--	--
B23-10	10	7/26/2023	ND	ND	ND	<0.1	--	--	**1.91**	<1.4	--	--	--	<7.0	--	--	--	--	--	--	--	--	--	--	--
B23-15	15	7/26/2023	ND	ND	ND	<0.1	--	--	**1.89**	<1.4	--	--	--	<6.5	--	--	--	--	--	--	--	--	--	--	--
Laboratory Reporting Limit			10	50	250	0.1	Varies	5		**1**	5	0.548	0.5	5	0.02	0.10	0.05	0.15							
Ecology MTCA Method A Cleanup Levels			30/100[4]	2,000	2,000	1	Varies	20		2	NE	19	2	250	0.03	7	6	9	5	5	5	NE	NE	NE	NE

Notes:

[1]Gasoline range total petroleum hydrocarbons (TPH). Analyzed by Northwest Method NWTPH-Gx.

[2]Analyzed by Northwest Method NWTPH-D/Dx Extended

[3]Select Volatile Organic Compounds. Analyzed by EPA Method 8021B.

[4] Cleanup level with presence of benzene 30 mg/kg; Without benzenepresent on the Site 100 mg/kg

mg/kg = Milligrams per kilogram

MTCA = Model Toxics Control Act

-- = not analyzed for this constituent

< = not detected above laboratory detection limits

NE = Ecology has not designated a MTCA Method A cleanup level for this constituent

Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels

Bold and Shaded indicates the detected concentration exceeds Ecology MTCA Method A or B Cleanup Levels

j - Estimated result. Peak separation for structural isomers is insufficient for accurate quantification

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Table 8: Summary of Historical Groundwater Analytical Results
8010 South 259th Street, Kent, Washington
April 28, 2023

Sample ID	Sample Depth (feet bgs)	Date Sampled	Gasoline Range Organics	Diesel Range Organics	Oil Range Organics
			Sample Results in micrograms per liter (µg/L)		
B1-GW-7	7	5/16/16	<200	<50	<500
B2-GW-7.5	7.5	5/16/16	<200	<50	<250
B3-GW-7.5	7.5	5/16/16	<200	<50	<250
B4-GW-7	7	5/16/16	<200	<50	<250
B5-GW-7.5	7.5	5/16/16	<200	<500	<500
B6-GW-7	7	5/16/16	<200	<500	<500
B7-GW-7	7	5/16/16	<200	<500	<500
B8-GW-7.5	7.5	5/16/16	<200	<500	<500
Laboratory Reporting Limit			200	500/50	500/250
Ecology MTCA Method A Cleanup Levels			800/1,000[4]	500	500

Notes:

(µg/l) = micrograms per liter

-- Not analyzed for constituent

< Not detected above the laboratory reporting limit

Red Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

Bold indicates the detected concentration is below Ecology MTCA Method A cleanup levels

[1] TPH-Gasoline Cleanup Level with the presence of Benzene anywhere at the Site

U1 = The practical quantitaion limit is elevated due to interferences present in the sample

T = The sample chromatogram is not similar to a typical gasoline

[4] Cleanup level with Benzene present on the site 800 (µg/L), without Benzene present cleanup level is 1,000 (µg/L)

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Table 9: Summary of Groundwater Monitoring Analytical Results
8010 South 259th Street, Kent, Washington
October 16, 2023

Sample Number	Date Sampled	Total Petroleum Hydrocarbons (µg/l)			Select Volatile Organic Constituents (µg/l)				Metals (µg/l)								PCBs
									EPA Method 7010 (AAGF)		EPA Method 6020B (ICP/MS)						
		Gasoline	Diesel	Oil	Benzene	Ethyl benzene	Toluene	Xylenes	Total Arsenic	Dissolved Arsenic	Total Arsenic	Dissolved Arsenic	Cadmium	Chromium	Copper	Lead	
Monitoring Well 1 (MW1)																	
MW1	3/30/2021	<100	<200	<400	<1	<1	<2	<2	**6.4**	<3.0	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	<1	<1	<2	<2	**5.9**	**18**	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	<400	<1	<1	<2	<2	**3.1**	--	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	<1	<1	<2	<2	**6.5**	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	<500	--	--	--	--	**6.7**	**5.6**	**505***	**3.27**	--	--	--	--	--
Monitoring Well 2 (MW2)																	
MW2	3/30/2021	<100	<200	<400	<1	<1	<2	<2	**6.9**	<3.0	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	<400	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	<1	<1	<2	<2	**3.3**	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	<500	--	--	--	--	**7.3**	**5.6**	**5.31**	**3.40**	--	--	--	--	--
Monitoring Well 3 (MW3)																	
MW3	3/30/2021	<100	<200	<400	<1	<1	<2	<2	**3.4**	--	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	<1	<1	<2	<2	**6.7**	**9.1**	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	<400	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	<500	--	--	--	--	**64**	**7.9**	**5.81**	**5.07**	--	--	--	--	--
Monitoring Well 4 (MW4)																	
MW4	3/30/2021	<100	<200	<400	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	<1	<1	<2	<2	**4.30**	--	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	**460**	<1	<1	<2	<2	**7.40**	<3.0	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	<1	<1	<2	<2	**19**	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	**1,500**	--	--	--	--	**64**	**12**	**6.79**	**6.86**	--	--	--	--	--
Monitoring Well 5 (MW5)																	
MW5	3/30/2021	<100	<200	<400	<1	<1	<2	<2	**4.3**	--	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	<1	<1	<2	<2	**17**	**23**	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	<400	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	<500	--	--	--	--	**44**	**6.2**	**3.21**	**1.03**	--	--	--	--	--
Laboratory Reporting Limit		100	200	400	1	1	2	2	3	3	1	1	0.5	5		5	0.02
Ecology MTCA Method A Cleanup Levels		800/1,000[1]	500	500	5	700	1,000	1,000	5		5		5	50	NE	15	0.1

Notes:

(µg/l) = micrograms per liter

-- Not analyzed for constituent

< Not detected above the laboratory reporting limit

Red Bold and Shaded indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

Bold indicates the detected concentration is below Ecology MTCA Method A cleanup levels

[1] Gasoline-Range Organics in groundwater: Gasoline mixtures without benzene and the total of ethylbenzene, toluene and xylene are less than 1% of the gasoline mixture has a groundwater cleanup level = 1,000 µg/L. All other gasoline mixtures have a groundwater cleanup level = 800 µg/L.

* Lab reported the sample was extremely silty

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Table 10: Summary of Grounwater Elevations

8010 South 259th Street, Kent, Washington

October 16, 2023

Well	Elevation of TOC	Elevation Ground Surface	Latitude/Longitude		Date of Measurement	Depth to Water (feet)	Groundwater Elevation (feet)	Change in Elevation (feet)
			Latitude	Longitude				
MW1	48.61	48.81	47.370435	-122.232376	03/30/21	7.08	41.53	--
					06/15/21	8.14	40.47	1.06
					09/23/21	9.61	39.00	1.47
					11/17/21	5.74	42.87	-3.87
					07/26/23	10.25	38.36	4.51
MW2	48.86	48.33	47.370499	-122.232244	03/30/21	7.43	41.43	--
					06/15/21	8.41	40.45	0.98
					09/23/21	9.65	39.21	1.24
					11/17/21	6.77	42.09	-2.88
					07/26/23	10.43	38.43	3.66
MW3	48.85	48.60	47.370440	-122.231744	03/30/21	7.35	41.50	--
					06/15/21	8.04	40.81	0.69
					09/23/21	9.03	39.82	0.99
					11/17/21	6.94	41.91	-2.09
					07/26/23	9.74	39.11	2.80
MW4	48.62	48.93	47.370461	-122.231631	03/30/21	7.50	41.12	--
					06/15/21	8.50	40.12	1.00
					09/23/21	10.30	38.32	1.80
					11/17/21	7.68	40.94	-2.62
					07/26/23	10.70	37.92	3.02
MW5	49.00	49.45	47.370296	-122.232105	03/30/21	7.41	41.59	--
					06/15/21	8.20	40.80	0.79
					09/23/21	9.40	39.60	1.20
					11/17/21	6.99	42.01	-2.41
					07/26/23	10.06	38.94	3.07

Notes:

TOC = Top of casing elevation relative to assigned benchmark.

-- = Not measured, not available, or not applicable

Appendix C

Boring Logs

Project:	Remedial Investigation	**Boring ID:**	**B19**		
Location:	800 South 259th St, Kent, WA				
Client:	BLT Trucking	**Project Number:**	0611-01		
Date Start/Finish:	7/26/2023	**Drilling Method:**	D. Push		
Logged By:	KJR	**Tooling OD/Length:**	3 inch		
Checked By:	DRP	**Borehole OD/Depth**	3 inch		
Contractor:	SEP	**Sampler:**	MC5		
Operator:	Chris	**Hammer Wt./Fall:**	--		
Boring Location:	See Map	**Ground Elevation:**	--		
Coordinates:		**Water Depth:**	10'		
Weather:	Sunny	**Boring Depth:**	20'		

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample Number	Time	PID Reading	Remarks	Soil and Rock Description	Unified Classification	Graphical Representation
0					Asphalt & gravel		
1				No odor	Grayish brown, loose, coarse, silty sand with gravel 1' - 4' Very limited recovery (Fill)	SM	
2							
3							
4	B19-4	8:55	0.0				
5					Brown, loose, fine grained sand with trace gravel (6" seam of coarse gravel & wet @ 10') (Fill)	SW	
6	B19-6	8:55	0.0				
7							
8	B19-8	8:55					
9							
10	B19-10	9:05					
11							
12	B19-12	9:05	0.6				
13					Brownish Gray silty fine sand (wet)	SM	
14							
15	B19-15	9:20					
16							
17							
18	B19-18	9:20	0.4		Brown, dense, clayey sand	SC	
19							
20	B19-20	9:20					
21					Boring terminated due to refusal		
22							
23							
24							
25							
26							
27							
28							
29							
30							

Notes: Very limited recovery from 1' - 4'

Project:	Remedial Investigation	**Boring ID:**	**B20**		
Location:	800 South 259th St, Kent, WA				
Client:	BLT Trucking	**Project Number:**	0611-01		

Date Start/Finish:	7/26/2023	**Drilling Method:**	D. Push
Logged By:	KJR	**Tooling OD/Length:**	3 inch
Checked By:	DRP	**Borehole OD/Depth**	3 inch
Contractor:	SEP	**Sampler:**	MC5
Operator:	Chris	**Hammer Wt./Fall:**	--
Boring Location:	See Map	**Ground Elevation:**	--
Coordinates:		**Water Depth:**	10'
Weather:	Sunny	**Boring Depth:**	20'

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample Number	Time	PID Reading	Remarks	Soil and Rock Description	Unified Classification	Graphical Representation
0					Asphalt & gravel		
1				No odor	Brown, loose,silty gravely fine grained sand with trace gravel (wet at 10') (Fill)	SW	
2	B20-2	9:40	0.0				
3							
4	B20-4	9:40	0.0				
5							
6	B20-6	9:45					
7							
8	B20-8	9:45					
9							
10	B20-10	9:50	0.8				
11							
12	B20-12	9:50			No recovery	--	
13							
14							
15							
16	B20-16	10:05	0.6				
17					Brown, dense, fine grained clayey sand with trace gravel	SC	
18							
19							
20	B20-20	10:05					
21					Boring terminated due to refusal		
22							
23							
24							
25							
26							
27							
28							
29							
30							

Notes: No recovery from 12' - 16'

Project:	Remedial Investigation	**Boring ID:**	**B21**		
Location:	800 South 259th St, Kent, WA				
Client:	BLT Trucking	**Project Number:**	0611-01		

Date Start/Finish:	7/26/2023	**Drilling Method:**	D. Push
Logged By:	KJR	**Tooling OD/Length:**	3 inch
Checked By:	DRP	**Borehole OD/Depth**	3 inch
Contractor:	SEP	**Sampler:**	MC5
Operator:	Chris	**Hammer Wt./Fall:**	--
Boring Location:	See Map	**Ground Elevation:**	--
Coordinates:		**Water Depth:**	10'
Weather:	Sunny	**Boring Depth:**	20'

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample Number	Time	PID Reading	Remarks	Soil and Rock Description	Unified Classification	Graphical Representation
0					Asphalt & gravel		
1				No odor	Brown, loose, silty sand with gravel	SW	
2	B21-2	10:25	0.0		Brown, loose, fine grained sand with trace gravel (6" seam of sandy gravel at 9' and wet at 10')	SP	
3							
4	B21-4	10:25					
5							
6	B21-6	10:35	0.0				
7							
8	B21-8	10:35					
9							
10	B21-10	10:45	1.2		Brown, loose, fine grained sand (wet)	SP	
11							
12	B21-12	10:45					
13							
14							
15	B21-15	10:50	0.8		Brown, dense, fine grained, clayey sand with trace gravel	SC	
16							
17					No recovery	--	
18							
19							
20							
21					Boring terminated due to refusal		
22							
23							
24							
25							
26							
27							
28							
29							
30							

Notes: No recovery from 16' - 20'

Environmental Services	Project:	Remedial Investigation	**Boring ID:**	**B22**	
	Location:	800 South 259th St, Kent, WA			
	Client:	BLT Trucking	**Project Number:**	0611-01	

Date Start/Finish:	7/26/2023	**Drilling Method:**	D. Push
Logged By:	KJR	**Tooling OD/Length:**	3 inch
Checked By:	DRP	**Borehole OD/Depth**	3 inch
Contractor:	SEP	**Sampler:**	MC5
Operator:	Chris	**Hammer Wt./Fall:**	--
Boring Location:	See Map	**Ground Elevation:**	--
Coordinates:		**Water Depth:**	10'
Weather:	Sunny	**Boring Depth:**	20'

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample Number	Time	PID Reading	Remarks	Soil and Rock Description	Unified Classification	Graphical Representation
0					Asphalt & gravel		
1				No odor	Brown, loose, coarse, silty sand with gravel	SM	
2	B22-2	11:45	0.0		Brown, loose, fine grained sand with trace gravel	SP	
3							
4	B22-4	11:45					
5							
6	B22-6	11:55	0.1				
7							
8	B22-8	11:55					
9					No recovery	--	
10							
11							
12	B22-12	12:00	0.0				
13					Brownish-gray fine grained sand with trace grading to a gray to dark gray poorly graded medium to coarse grained sand at 14 feet.	SP	
14							
15	B22-15	12:00	0.3		Gray to dark gray poorly graded medium to coarse grained sand (Wet - water level was measured at approximatley 10')	SP	
16							
17							
18							
19							
20	B22-20	12:15					
21					Boring terminated due to refusal		
22							
23							
24							
25							
26							
27							
28							
29							
30							

Notes: No recovery from 8' - 12'

Project:	Remedial Investigation	**Boring ID:**	**B23**		
Location:	800 South 259th St, Kent, WA				
Client:	BLT Trucking	**Project Number:**	0611-01		

Date Start/Finish:	7/26/2023	**Drilling Method:**	D. Push
Logged By:	KJR	**Tooling OD/Length:**	3 inch
Checked By:	DRP	**Borehole OD/Depth**	3 inch
Contractor:	SEP	**Sampler:**	MC5
Operator:	Chris	**Hammer Wt./Fall:**	--
Boring Location:	See Map	**Ground Elevation:**	--
Coordinates:		**Water Depth:**	10'
Weather:	Sunny	**Boring Depth:**	20'

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample Number	Time	PID Reading	Remarks	Soil and Rock Description	Unified Classification	Graphical Representation
0					Asphalt & gravel		
1				No odor	Brown, loose, coarse, silty sand with gravel	SM	
2	B23-2	12:35	0.0				
3					Brown, loose, fine grained sand with trace gravel (Wet at 10')	SP	
4	B23-4	12:35					
5							
6	B23-6	12:35					
7							
8	B23-8	12:35	0.4				
9							
10	B23-10	12:45					
11					Brownish-gray fine grained sand with trace grading to a gray to dark gray poorly graded medium to coarse grained sand at 14 feet.		
12	B23-12	12:45	0.8				
13							
14					Gray to dark gray poorly graded medium to coarse grained sand (wet)	SP	
15	B23-15	12:45	0.4				
16							
17							
18							
19					Dark brown, dense, fine grained clayey sand with wood debris	SC	
20	B23-20	12:55					
21					Boring terminated due to refusal		
22							
23							
24							
25							
26							
27							
28							
29							
30							

Notes:

Appendix D

Stormwater Detention Gallery As-Build Drawings

GENERAL CONSTRUCTION NOTES:

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF KENT CONSTRUCTION STANDARDS. THESE STANDARDS INCORPORATE BY REFERENCE THE LATEST EDITION AND PUBLISHED AMENDMENTS OF THE STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND MUNICIPAL CONSTRUCTION, PREPARED JOINTLY BY WSDOT & APWA. THE CITY HAS ALSO ADOPTED SPECIAL PROVISIONS, WHICH MODIFY THESE STANDARD SPECIFICATIONS, AND THE CITY OF KENT SPECIAL PROVISIONS WILL GOVERN WHERE ANY CONFLICTS OCCUR.

2. PRIOR TO ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION CONFERENCE WITH CITY OF KENT CONSTRUCTION AND INSPECTION PERSONNEL. THE CONTRACTOR SHALL SCHEDULE THE PRE-CONSTRUCTION CONFERENCE AT 253-856-5500. PRIOR TO SCHEDULING, THE CONTRACTOR MUST SUBMIT AND RECEIVE APPROVAL FOR TRAFFIC CONTROL PLANS (TCP), TEMPORARY EROSION/SEDIMENTATION CONTROL PLANS (TESCP), CONSTRUCTION AND PERFORMANCE BONDS, AND PROOF OF INSURANCE COVERAGE. SEE DEVELOPMENT ASSISTANCE BROCHURE (DAB) #11, INSURANCE REQUIREMENTS FOR CITY OF KENT PERMITS, FOR INSURANCE INFORMATION.

3. APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

4. ALL SITE WORK IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS. ANY DEVIATION FROM APPROVED PLANS WILL REQUIRE PRIOR APPROVAL FROM THE OWNER, THE CITY ENGINEER, AND OTHER APPROPRIATE PUBLIC AGENCIES.

5. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN STREET USE PERMITS AND ANY OTHER RELATED PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY.

6. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY ALL KNOWN UTILITY LOCATIONS, AND TO DISCOVER AND AVOID ANY PREVIOUSLY UNKNOWN UTILITIES THAT MAY BE AFFECTED. THE CONTRACTOR SHALL CONTACT THE UNDERGROUND UTILITIES LOCATION SERVICE (1-800-424-5555) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE OWNER, OR HIS REPRESENTATIVE, AND THE CITY ENGINEER SHALL BE CONTACTED IMMEDIATELY WHEN CONFLICTS ARE FOUND TO EXIST.

7. THE CONTRACTOR SHALL KEEP ON-SITE AND OFF-SITE STREETS CLEAN AT ALL TIMES BY CLEANING WITH A COMBINATION SWEEPING AND VACUUM TRUCK. WASHING OF STREETS WILL NOT BE ALLOWED WITHOUT PRIOR CITY OF KENT APPROVAL.

SITE ADDRESS

1100 S 259TH STREET
KENT, WA 98032

TAX PARCEL NO.

0006600045

LEGAL DESCRIPTION (BY OLYMPIC)

LOT B, CITY OF KENT LOT LINE ADJUSTMENT NO. LL 95-20 AS RECORDED UNDER KING COUNTY RECORDING NO. 9510121176.

DATUMS (BY OLYMPIC)

BASIS OF BEARING - CITY OF KENT (NAD 83/91)
ELEVATION DATUM - CITY OF KENT (NAVD 88)

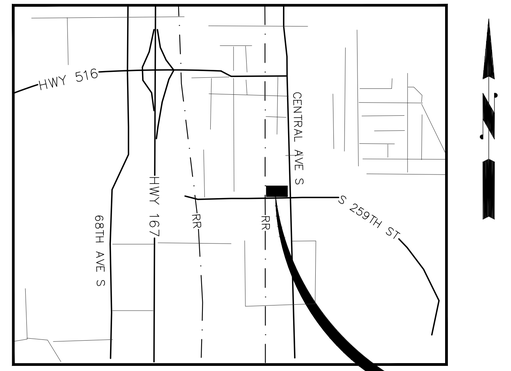
BENCHMARKS (BY OLYMPIC)

FOUND CITY OF KENT HORIZONTAL AND VERTICAL CONTROL MONUMENTS

8327 (M.I.C. AT THE C/L OF 3RD AVE SO)

8372 (M.I.C. AT THE ENTRANCE TO BUILDING COMPLEX # 25400-25530 ON THE EAST SIDE OF 74TH AVE SO)

8373 (CITY OF KENT 2" ALUMINUM DISK IN MID SIDEWALK AT THE C/L ENTRANCE TO BUILDING # 25811)



VICINITY MAP
NOT TO SCALE

PROJECT CONTACTS

OWNER/APPLICANT: PREET CHOHAN
BLT TRANSPORT, LLC
11910 SE 277TH ST
KENT, WA 98030
(253) 236-4667

CIVIL ENGINEER: KRISTEN ORNDORFF, PE
KWO ENGINEERING, PLLC
4505 91ST AVE SE
MERCER ISLAND, WA 98040
KRISTEN@KWOENG.ONMICROSOFT.COM
(206) 755-3951

TRAFFIC ENGINEER: LARRY HOBBS, PE
TRAFFEX
11410 NE 124TH ST, #590
KIRKLAND, WA 98034
(425) 522-4118

LANDSCAPE ARCHITECT: KEN LONEY
9402 TIDAL COURT
BAINBRIDGE ISLAND, WA 98110
(206) 842-7886

ARCHITECT/PM: MIKE BAILY
LDG ARCHITECTS
6525 15TH AVE NW, #220
SEATTLE, WA 98117
(206) 283-4764

SURVEYOR: JAY BABCOCK, PLS
OLYMPIC SURVEYING, LLC
19512 94TH ST E
BONNEY LAKE, WA 98391
(206) 396-2022

GEOTECHNICAL ENGINEER: KYLE CAMPBELL, PE
EARTH SOLUTIONS NW, LLC
1805 - 136TH PL NE, SUITE 201
BELLEVUE, WA 98005
(425) 449-4704

SHEET INDEX

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2 BUSINESS DAYS
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DISCLAIMER
SURVEY INFORMATION CONTAINED IN THESE PLANS HAS BEEN EXTRACTED FROM THE ACTUAL SURVEY PERFORMED BY OLYMPIC SURVEYING, LLC. KWO ENGINEERING, PLLC ASSUMES NO LIABILITY AS TO THE ACCURACY AND COMPLETENESS OF THIS DATA. ANY DISCREPANCIES FOUND BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT IS NOTED IN THE FIELD SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

ASBUILT
RECORD DRAWINGS REFLECT AS-BUILT SURVEY BY SADLER BERNARD & ASSOCIATES, INC

KIVA NO. RECC 2152719
THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KENT ENGINEERING DIVISION'S REQUIREMENTS.

DEVELOPMENT ENGINEERING MANAGER DATE

CITY ENGINEER DATE

THESE RECORD PLANS AND THE INFORMATION SHOWN ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS OF

(DATE SIGNED).

BY:

BLT TRANSPORT, LLC
1100 S 259th ST
KENT, WA

DATE	REVISION	BY
01/2016	CITY COMMENTS #1	KWO
03/2016	CITY COMMENTS #2	KWO

KWO ENGINEERING PLLC
CIVIL DESIGN + CONSULTING
4505 91ST AVE SE MERCER ISLAND, WA 98040
206.755.3951
http://kwoeng-public.sharepoint.com

KRISTEN WHITE ORNDORFF
STATE OF WASHINGTON
48213
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KWO
CHECKED	KWO
DRAWN	QCS
CHECKED	KWO
AS-BUILT	KWO

JOB NO. 15-011
DATE 03/2016
DRAWING NAME C-1

COVER SHEET

GENERAL DRAINAGE NOTES:

1. ALL STORM DRAINAGE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE APPROVED PLANS. ANY DEVIATION FROM THESE PLANS WILL REQUIRE PRIOR APPROVAL FROM THE OWNER, THE CITY ENGINEER, AND OTHER APPROPRIATE PUBLIC AGENCIES.

2. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY ALL KNOWN UTILITY LOCATIONS, AND TO DISCOVER AND AVOID ANY PREVIOUSLY UNKNOWN UTILITIES THAT MAY BE AFFECTED. THE CONTRACTOR SHALL CONTACT THE UNDERGROUND UTILITIES LOCATION SERVICE (1-800-424-5555) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE OWNER, OR HIS REPRESENTATIVE, AND THE CITY ENGINEER SHALL BE CONTACTED IMMEDIATELY WHEN A CONFLICT IS FOUND TO EXIST.

3. ALL STORM DRAINAGE STRUCTURES, AS DESIGNATED IN THE PLANS, SHALL BE ONE OF THE FOLLOWING:

   a. YARD DRAIN – ASSOCIATED SAND AND GRAVEL CB-10, OR EQUAL.

   b. INLET – WSDOT STANDARD PLAN B-4: ASSOCIATED SAND & GRAVEL CB-17, OR EQUAL.

   c. TYPE I-C CATCH BASIN – CITY OF KENT STANDARD DETAIL 5-7: ASSOCIATED SAND AND GRAVEL CB-15, OR EQUAL.

   d. TYPE I-D CATCH BASIN – ASSOCIATED SAND AND GRAVEL CB-6, OR EQUAL.

   e. TYPE II, 48 INCH DIAMETER CATCH BASIN – CITY OF KENT STANDARD DETAIL 5-8(A) (WITH MINIMUM 24 INCHES DEEP SUMP BELOW INVERT): ASSOCIATED SAND AND GRAVEL CB-19, OR EQUAL.

   f. TYPE II, 54 INCH DIAMETER CATCH BASIN – CITY OF KENT STANDARD DETAIL 5-8(A) (WITH MINIMUM 24 INCHES DEEP SUMP BELOW PIPE INVERT): ASSOCIATED SAND AND GRAVEL 54 INCHES PRE-CAST CATCH BASIN, OR EQUAL.

   g. TYPE II, 72 INCH DIAMETER CATCH BASIN – CITY OF KENT STANDARD DETAIL 5-8(B) (WITH MINIMUM 24 INCHES DEEP SUMP BELOW PIPE INVERT): AS SO CI AT ED SAND AND GRAVEL 72 INCH PRE-CAST CATCH BASIN, OR EQUAL.

   h. SPECIAL CATCH BASINS OR DRAINAGE STRUCTURES SHALL BE AS DETAILED IN THESE PLANS.

   NOTE: ALL UNIT COVERS SHALL BE PER CITY OF KENT CONSTRUCTION STANDARDS AND ALL STRUCTURES DEEPER THAN FIVE FEET (RIM TO INVERT) SHALL BE TYPE II AND EQUIPPED WITH 3/4 INCH DIAMETER SAFETY MANHOLE STEPS OR A MANHOLE LADDER, PER CITY OF KENT CONSTRUCTION STANDARDS.

4. ALL STORM SEWER MANHOLES AND TYPE II CATCH BASINS SHALL BE PER CITY OF KENT STANDARD DETAIL 5-8(A) AND/OR 5-8(B) OF THE KENT CONSTRUCTION STANDARDS, WITH ECCENTRIC CONES AND 3/4 INCH DIAMETER SAFETY STEPS OR LADDER. ALL STORM SEWER MANHOLE COVERS SHALL MEET THE REQUIREMENTS OF STANDARD DETAIL 4-5 OF THE CITY OF KENT CONSTRUCTION STANDARDS AND SHALL READ "STORM". ALL MANHOLES OUTSIDE OF PUBLIC RIGHT-OF-WAY AND NOT LOCATED IN PAVED AREAS SHALL HAVE SOLID, LOCKING COVERS MEETING THE REQUIREMENTS OF STANDARD DETAILS 4-6(A) & 4-6(B) OF THE CITY OF KENT CONSTRUCTION STANDARDS. ALL STORM SEWER MANHOLES SHALL HAVE A MINIMUM 0.10 FOOT TO A MAXIMUM 1.0 FOOT DROP BETWEEN INVERTS INTO AND INVERTS OUT OF THE MANHOLE. ALL MANHOLE COVERS SHALL BE ADJUSTED TO FINISH GRADE AFTER FINAL PAVING AND LANDSCAPING.

5. ALL FRAMES, GRATES AND/OR SOLID COVERS SHALL BE CAST IRON OR DUCTILE IRON AND SHALL MEET CITY OF KENT CONSTRUCTION STANDARDS.

   a. STANDARD FRAME AND GRATE – CITY OF KENT STANDARD DETAIL 5-1(A) AND 5-1(B): OLYMPIC FOUNDRY CO. NO. SM60 D/T OR EQUAL.

   b. SELF-LOCKING VANED GRATE – CITY OF KENT STANDARD DETAIL 5-1(D): OLYMPIC FOUNDRY CO. NO. SM50-SL OR EQUAL.

   c. SOLID, LOCKING, RECTANGULAR COVER – CITY OF KENT STANDARD 5-1(C): OLYMPIC FOUNDRY CO. NO. SM605 D/T, OR EQUAL.

   d. SOLID, LOCKING, ROUND COVER – CITY OF KENT STANDARD DETAILS 4-5, 4-6(A) & 4-6(B): OLYMPIC FOUNDRY CO. NO. MH30 D/T, OR MH36 W/T, RESPECTIVELY, OR EQUAL.

   NOTES: (1) ALL GRATES SHALL BE MARKED "OUTFALL TO STREAM – DUMP NO POLLUTANTS." (2) ALL SOLID COVERS SHALL BE MARKED "DRAIN". (3) ALL GRATES SHALL BE DEPRESSED 0.04 FEET FROM SURROUNDING CURB OR PAVEMENT TO INSURE ADEQUATE DRAINAGE. (4) THE PAVEMENT ADJACENT TO ALL GRATES AND COVERS WILL BE PAINTED USING THE STANDARD POLLUTION PREVENTION STENCIL:

   DUMP NO WASTE
   (FISH SYMBOL)
   DRAINS TO STREAM

   STENCILS ARE AVAILABLE AT THE CITY OF KENT ENGINEERING OFFICE, LOCATED AT 400 WEST GOWE, KENT, WASHINGTON.

   NOTES:

   i. OLYMPIC FOUNDRY SELF-LOCK VANED GRATE SM505SL IS AN ACCEPTABLE ALTERNA TIVE SUBJECT TO APPROVAL BY THE CITY ENGINEER.

   ii. USE WITH TWO LOCKING BOLTS 5/8 INCH DIAMETER 11 UNC-2A STAINLESS TYPE 304 STEEL SOCKET HEAD (ALLEN HEAD) CAP SCREWS 2 INCHES LONG, AS SPECIFIED.

   iii. MATERIAL IS DUCTILE IRON ASTM A536 GRADE 80 55-06.

   iv. "OUTFALL TO STREAM – DUMP NO POLLUTANTS" MAY BE LOCATED ON BORDER AREA.

6. ALL STORM DRAIN PIPE MAY BE CONSTRUCTED OF ONE OF THE FOLLOWING MATERIALS UNLESS OTHERWISE SPECIFIED IN THE PLANS. ALL PIPE JOINTS MUST HAVE GASKETS AND SHALL BE WATERTIGHT; ALL COUPLING BANDS SHALL BE MADE OF THE SAME MATERIAL AS THE PIPE. ALL PIPES SHALL HAVE THE MINIMUM COVER SPECIFIED BELOW AND SHALL BE ADEQUATELY PROTECTED DURING CONSTRUCTION. (REFER TO THE MANUFACTURER'S RECOMMENDATIONS FOR MINIMUM COVER FOR HEAVY EQUIPMENT LOADINGS.)

   a. DUCTILE IRON – 4 INCH THROUGH 14 INCH DIAMETER PIPE SHALL BE CLASS 50, AND 16 INCH THROUGH 24 INCH DIAMETER PIPE SHALL BE CLASS 52, ALL IN ACCORDANCE WITH USA STANDARD A-21.1 (AWWA C-51). ALL PIPE JOINTS SHALL BE PUSH-ON, MECHANICAL, OR FLANGED. MINIMUM COVER IS 6 INCHES.

   b. CONCRETE – 4 INCH THROUGH 12 INCH DIAMETER PIPE MAY BE NON-REINFORCED, BELL AND SPIGOT WITH RUBBER GASKET JOINTS, CONFORMING TO ASTM C-4 (CLASS II). ALL CONCRETE PIPES 18 INCH THROUGH 36 INCH DIAMETER SHALL BE CLASS IV REINFORCED, BELL AND SPIGOT WITH RUBBER GASKET JOINTS, CONFORMING TO ASTM C-76. MINIMUM COVER IS 2 FEET.

   c. PVC – SDR 21, 4 INCH THROUGH 18 INCH DIAMETER PIPE SHALL BE IN ACCORDANCE WITH ASTM D3035, AND SHALL HAVE AT LEAST 24 INCHES OF COVER. SDR PIPES 4 INCH THROUGH 18 INCH DIAMETER PIPE SHALL BE IN ACCORDANCE WITH ASTM D3034, AND SHALL HAVE AT LEAST 36 INCHES MINIMUM COVER. ALL JOINTS SHALL BE PUSH-ON WITH RUBBER GASKETS. PVC STORM PIPE REQUIRES KOR-N-SEAL CONCRETE BOOTS.

   d. HELICAL CORRUGATED ALUMINUM PIPE (HCAP) – 6 INCH THROUGH 18 INCH DIAMETER PIPE SHALL BE 16 GAUGE MINIMUM WITH 2-2/3 INCH X 1/2 INCH CORRUGATIONS. REFER TO DETAILS IN THESE PLANS FOR ANY PIPES LARGER THAN 36 INCH DIAMETER. MINIMUM COVER IS 2.0 FEET.

   e. HELICAL CORRUGATED STEEL PIPE (HCSP) – 6 INCH THROUGH 36 INCH PIPES SHALL BE AT LEAST 16 GAUGE WITH 2-2/3 INCH X 1/2 INCH CORRUGATIONS. ALL STEEL PIPES SHALL BE GALVANIZED AND PROTECTED BY ASPHALT TREATMENT 1. REFER TO DETAILS IN THESE PLANS FOR ANY PIPES LARGER THAN 36 INCHES IN DIAMETER. MINIMUM COVER IS 2 FEET.

7. ALL PIPE BEDDING SHALL CONFORM TO CLASS F DESIGN FOR FLEXIBLE PIPE (I.E. PVC, HCAP, HCSP, OR ADS). ALL RIGID PIPE (I.E. DUCTILE IRON OR CONCRETE) BEDDING SHALL CONFORM TO CLASS B FOR PIPE COVER GREATER THAN 36 INCHES OR APWA TYPE "B" FOR PIPE COVER LESS THAN 36 INCHES. BEDDING MATERIAL SHALL BE 5/8 INCHES MINUS CRUSHED ROCK FOR ALL PIPE EXCEPT FOR DUCTILE IRON. BEDDING MATERIAL FOR DUCTILE IRON PIPE SHALL MEET THE REQUIREMENTS OF THE CITY OF KENT SPECIAL PROVISIONS.

8. ALL TRENCH BACKFILL IN AREAS OF FUTURE PAVEMENT OR STRUCTURAL LOADING SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY PER ASTM D-1557 (MODIFIED PROCTOR). ALL OTHER AREAS SHALL BE COMPACTED TO AT LEAST 90 PERCENT OF MAXIMUM DRY DENSITY.

9. CONSTRUCTION OF DEWATERING (GROUNDWATER INTERCEPTION) SYSTEMS SHALL BE IN ACCORDANCE WITH APPROVED PLANS.

10. PRIOR TO ACCEPTANCE OF CONSTRUCTION AND/OR ISSUANCE OF CERTIFICATE OF OCCUPANCY PER MITS, SURVEYOR-CERTIFIED AS-BUILT DRAWINGS PREPARED ON MYLAR MUST BE PREPARED OF ALL STORMWATER MANAGEMENT FACILITIES AND APPROVED BY THE CITY. SEE CITY OF KENT DEVELOPMENT ASSISTANCE BROCHURE #E-6, AS-BUILT DRAWINGS, FOR ADDITIONAL INFORMATION REGARDING AS-BUILT DRAWINGS.

11. ALL RETENTION/DETENTION FACILITIES WILL BE INSTALLED AND IN OPERATION PRIOR TO, OR IN CONJUNCTION WITH, ALL CONSTRUCTION ACTIVITY UNLESS THAT ACTIVITY EXCEEDS THE CAPACITY AND INTENT OF THE EROSION/ SEDIMENTATION CONTROL FACILITY, OR UNLESS OTHERWISE APPROVED BY THE CITY.

12. WHEN ALUMINUM PIPE IS USED WHERE IT WILL BE IN CONTACT WITH CONCRETE, ALL ALUMINUM SURFACES IN CONTACT WITH THE CONCRETE SHALL BE PAINTED WITH TWO COATS OF ZINC CHROMATE PAINT IN ACCORDANCE WITH SECTION 7-02.3(1) B.2. OF THE WSDOT/ APWA STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND MUNICIPAL CONSTRUCTION.

13. BIO-FILTRATION SWALES AND/OR FILTER STRIPS SHALL BE CONSTRUCTED, BEDDED OR SEEDED AND IN OPERATION PRIOR TO, OR SODDED IN CONJUNCTION WITH, ASPHALT PAVING. THE VEGETATION IN THE BIO-SWALE MUST BE WELL ESTABLISHED BEFORE PAVING BEGINS.

GENERAL SEWER NOTES:

1. ALL SANITARY SEWER IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS. ANY DEVIATION FROM THESE PLANS WILL REQUIRE PRIOR APPROVAL FROM THE OWNER, THE CITY ENGINEER, AND OTHER APPROPRIATE PUBLIC AGENCIES.

2. ALL MANHOLES SHALL MEET THE REQUIREMENTS OF STANDARD DETAIL 4-1(B) OF THE CITY OF KENT CONSTRUCTION STANDARDS, WITH ECCENTRIC CONES AND 3/4 INCH DIAMETER SAFETY STEPS OR APPROVED LADDERS. ALL "SHALLOW MANHOLES" SHALL MEET THE REQUIREMENTS OF STANDARD DETAIL 4-1(A) OF THE CITY OF KENT CONSTRUCTION STANDARDS. ALL MANHOLE COVERS SHALL MEET THE REQUIREMENTS OF STANDARD DETAIL 4-5, AND SHALL READ "SEWER". ALL MANHOLES OUTSIDE OF PUBLIC RIGHT-OF-WAY, AND/OR NOT LOCATED IN PAVED AREAS, SHALL HAVE SOLID, LOCKING COVERS MEETING THE REQUIREMENTS OF STANDARD DETAILS 4-6(A) & 4-6(B). ALL SANITARY SEWER MANHOLES SHALL BE CHANNELED TO MEET THE REQUIREMENTS OF WSDOT STANDARD PLAN B-23. ALL MANHOLE COVERS SHALL BE ADJUSTED TO FINISH GRADE AFTER THE COMPLETION OF FINAL PAVING AND LANDSCAPING.

3. ALL SANITARY SEWER PIPE SHALL CONFORM TO ONE OF THE FOLLOWING SPECIFICATIONS:

   a. DUCTILE IRON – CLASS 50 (ONLY WHERE SPECIFIED ON THE PLANS).

   b. PVC – CONFORMING TO ASTM D-3034, SDR 35, OR CONFORMING TO ASTM D, SDR 21 WITH FITTINGS AND GASKETS CONFORMING TO THE CITY OF KENT CONSTRUCTION STANDARDS FOR THE DEPTH OF COVER.

4. ALL DUCTILE IRON PIPE SHALL HAVE CLASS C DESIGN PIPE BEDDING AND ALL PVC PIPE SHALL HAVE CLASS F DESIGN FLEXIBLE PIPE BEDDING MEETING THE REQUIREMENTS OF WSDOT STANDARD PLAN B-18C.

5. ALL TRENCH BACKFILL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY PER ASTM D-1557 (MODIFIED PROCTOR), FOR THE FIRST THREE FEET ABOVE THE PIPE. THE REMAINING BACKFILL MAY BE TO 90 PERCENT OF MAXIMUM DRY DENSITY IF NOT IN AN AREA OF FUTURE PAVEMENT OR STRUCTURAL FILL; OTHERWISE THE REMAINING BACKFILL SHALL ALSO BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY. TRENCH BACKFILL AND COMPACTION SHALL BE COMPLETED PRIOR TO TESTING LINES FOR LEAKAGE.

6. ALL SIDE SEWER STUBS SHALL HAVE A MINIMUM 6-INCH DIAMETER AND A MINIMUM SLOPE OF 1.0 PERCENT. PROPERTY/LOT CORNERS AND/OR BUILDING LOCATIONS AND FINISH GRADES SHALL BE ESTABLISHED IN THE FIELD PRIOR TO ANY SEWER CONSTRUCTION. SIDE SEWER TEE CONNECTIONS SHALL BE REFERENCED FROM THE NEAREST DOWNSTREAM MANHOLE. ALL SIDE SEWERS SHALL BE TESTED AT THE TIME OF MAIN LINE TESTING. THE CONTRACTOR SHALL PROVIDE THE CITY WITH ACCURATE AS-BUILT DRAWINGS OF ALL SIDE SEWER LOCATIONS. SEE CITY OF KENT DEVELOPMENT ASSISTANCE BROCHURE (HEREINAFTER DAB) #E6, AS-BUILT DRAWINGS, FOR ADDITIONAL INFORMATION REGARDING AS-BUILT DRAWINGS.

7. WHERE A WATER MAIN CROSSES ABOVE THE SANITARY SEWER, AND LESS THAN 1.5 FEET OF VERTICAL CLEARANCE EXISTS BETWEEN THE TOP OF THE SEWER MAIN AND BOTTOM OF WATER MAIN, THE SEWER MAIN SHALL BE CONSTRUCTED, OR RECONSTRUCTED, WITH DUCTILE IRON PIPE (CLASS 50) CENTERED ON THE WATER MAIN FOR A MINIMUM HORIZONTAL DISTANCE OF ONE CONTINUOUS 18-FEET NOMINAL PIPE LENGTH WITH NO JOINTS.

8. SANITARY SEWER MAIN LINES 8-INCH DIAMETER AND LARGER SHALL NOT BE CONSTRUCTED ANY CLOSER THAN 10 FEET TO ANY BUILDING OR 7.5 FEET TO ANY CARPORT.

9. NEW CONNECTIONS TO EXISTING FACILITIES SHALL BE SEALED OFF UNTIL UPSTREAM CONSTRUCTION IS FINISHED, TESTED, CLEANED AND ACCEPTED. ALL CONSTRUCTION DEBRIS AND WATER SHALL BE REMOVED PRIOR TO OPENING THE SEAL. ALL TV INSPECTION AND PRESSURE TESTING SHALL BE IN THE PRESENCE OF A CITY OF KENT INSPECTOR.

10. FOR PUBLIC SANITARY SEWERS, AN EASEMENT MUST BE PREPARED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF WASHINGTON, AND CONVEYED TO THE CITY OF KENT ON FORMS APPROVED BY AND/OR PROVIDED BY THE CITY. EASEMENTS SHOULD BE 15 FEET WIDE (OR 25 FEET, AS SHOWN), 7.5 OR 12.5 FEET ON EACH SIDE OF THE PIPE.

11. PRIOR TO ACCEPTANCE OF CONSTRUCTION AND/OR ISSUANCE OF CERTIFICATE OF OCCUPANCY PERMITS, SURVEYOR-CERTIFIED AS-BUILT DRAWINGS PREPARED ON MYLAR MUST BE PREPARED OF ALL PUBLIC SANITARY SEWER FACILITIES AND APPROVED BY THE CITY. SEE DAB #A-6, AS-BUILT DRAWINGS, FOR ADDITIONAL INFORMATION REGARDING AS-BUILT DRAWINGS.

GENERAL WATER NOTES:

1. ALL WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS. ANY DEVIATION FROM THE PLANS WILL REQUIRE PRIOR APPROVAL FROM THE OWNER, THE CITY ENGINEER, AND OTHER APPROPRIATE PUBLIC AGENCIES.

2. ALL NEW CONNECTIONS TO THE EXISTING WATER SYSTEM SHALL BE IN STRICT CONFORMANCE WITH SECTION 7-11 OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND MUNICIPAL CONSTRUCTION. NO CONNECTION SHALL BE MADE BETWEEN THE NEW WATER MAIN AND THE EXISTING WATER MAINS UNTIL THE NEW PIPES HAVE BEEN FLUSHED, DISINFECTED, AND TESTED. TEMPORARY PLUGS AND BLOCKING SHALL BE INSTALLED AT THE POINTS OF CONNECTION TO THE EXISTING SYSTEM. THE CONTRACTOR SHALL CONTACT THE CITY OF KENT WATER DEPARTMENT AT LEAST 5 WORKING DAYS PRIOR TO THE PROPOSED CONNECTION TO THE EXISTING WATER MAIN. THE CONTRACTOR SHALL EXPOSE THE EXISTING WATER MAIN AND PROVIDE ALL NECESSARY FITTINGS FOR THE CONNECTIONS. A REPRESENTATIVE OF THE CITY OF KENT ENGINEERING DEPARTMENT SHALL BE PRESENT WHEN THE ACTUAL WATER MAIN CONNECTION IS MADE.

3. PRESSURE AND PURITY TESTING SHALL BE DONE IN THE PRESENCE OF AND UNDER THE SUPERVISION OF THE CITY OF KENT DIRECTOR OF PUBLIC WORKS AND/OR HIS REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE PLUGS AND/OR TEMPORARY BLOW-OFF ASSEMBLIES FOR TESTING AND PURITY ACCEPTANCE PRIOR TO TIE-IN.

4. ALL MATERIALS USED FOR THE CONSTRUCTION OF WATER MAINS SHALL BE NEW AND UNDAMAGED AND SHALL BE INSPECTED AND APPROVED BY THE CITY OF KENT PRIOR TO INSTALLATION. THE SUPPLIERS SHALL PROVIDE THE CITY OF KENT WITH A CERTIFICATE OF MATERIALS WHEN REQUESTED. ALL PIPES, FITTINGS, VALVES, HYDRANTS, JOINTS AND RELATED APPURTENANCES SHALL CONFORM TO THE LATEST STANDARDS ISSUED BY THE WSDOT, APWA, AWWA AND THE CITY OF KENT.

5. ALL WATER MAIN PIPE SHALL BE CEMENT-LINED DUCTILE IRON PIPE CONFORMING TO ANSI-A-21-11-1977 OR LATEST REVISION, THICKNESS CLASS 52. CEMENT MORTAR LINING AND SEAL COATING SHALL CONFORM TO ANSI A-21-4-11-1974 OR LATEST REVISION. PIPE JOINTS SHALL BE PUSH-ON, MECHANICAL JOINT OR FLANGED WITH RUBBER GASKETS.

6. ALL FITTINGS SHALL BE CAST IRON, CEMENT-LINED, CLASS 250, CONFORMING TO ANSI A-21-11-1977 OR LATEST REVISION, UNLESS OTHERWISE SPECIFIED. ALL FITTING JOINTS SHALL BE DRILLED IN ACCORDANCE WITH ANSI B-16.1 AND SHALL BE THE 125-POUND CONFIGURATION UNLESS OTHERWISE SPECIFIED.

7. CEMENT CONCRETE THRUST BLOCKING SHALL BE PLACED AT ALL TEES, CROSSES, BENDS, AND VALVES UNLESS APPROVED RESTRAINED JOINT PIPES ARE INSTALLED. THRUST BLOCKING SHALL BE CEMENT CONCRETE CLASS 3000 POURED IN PLACE. THRUST BLOCKING SHALL BEAR AGAINST SOLID UNDISTURBED EARTH AT THE SIDES AND BOTTOM OF THE TRENCH EXCAVATION AND SHALL BE SECURELY WRAPPED WITH 4-MIL POLYETHYLENE SHEETING.

8. PIPE BEDDING MATERIAL SHALL BE PLACED TO A MINIMUM DEPTH OF 4 INCHES UNDER THE PIPE AND TO A DEPTH OF AT LEAST 6 INCHES OVER THE TOP OF THE PIPE. ALL TRENCH BACKFILL IN AREAS OF FUTURE PAVEMENT OR STRUCTURAL LOADING SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY PER ASTM D-1557 (MODIFIED PROCTOR). ALL OTHER AREAS SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DRY DENSITY.

9. ALL WATER MAINS 10 INCHES AND SMALLER IN DIAMETER SHALL HAVE A MINIMUM COVER OF 36 INCHES BELOW FINISH GRADE. ALL WATER MAINS 12 INCHES AND LARGER IN DIAMETER SHALL HAVE A MINIMUM COVER OF 48 INCHES BELOW FINISH GRADE. WHERE UTILITY CONFLICTS OCCUR, WATER MAINS SHALL BE LOWERED TO CLEAR. A MINIMUM OF 1 FOOT VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN ALL UTILITIES.

10. UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL VALVES SHALL BE GATE VALVES CONFORMING TO THE LATEST REVISIONS TO AWWA STANDARD SPECIFICATIONS FOR GATE VALVES FOR ORDINARY WATER WORKS SERVICE NO. C-500. THEY SHALL BE IRON-BODY, BRONZE-MOUNTED, RESILIENT SEATED VALVES WITH A BRONZE WEDGING DEVICE AND/OR AN O-RING STUFFING BOX. ALL VALVES SHALL BE FLANGED OR MECHANICAL JOINT AND SUITABLE FOR INSTALLATION WITH THE TYPE AND CLASS OF PIPE BEING USED. ALL VALVES SHALL OPEN COUNTERCLOCKWISE, AND UNLESS OTHERWISE SPECIFIED, SHALL BE NON-RISING STEM TYPE EQUIPPED TO FIT WITH THE CITY OF KENT'S EXISTING VALVE WRENCHES. ALL WATER VALVES SHALL BE FURNISHED WITH AN APPROVED VALVE BOX AND COVER. A CONCRETE VALVE MARKER POST MEETING THE REQUIREMENTS OF STANDARD DE-TAIL 3-3 SHALL BE PLACED AS DIRECTED BY THE ENGINEER AND SET TO LEAVE 18 INCHES EXPOSED ABOVE GRADE WHEN THE WATER VALVE BOX IS NOT WITHIN A PAVED SECTION.

11. ALL FIRE HYDRANTS SHALL BE COMPRESSION TYPE, BREAK-AWAY (TRAFFIC MODEL) HYDRANTS CONFORMING TO AWWA C502 AND MEETING THE REQUIREMENTS OF STANDARD DETAIL 3-1 OF THE CITY OF KENT CONSTRUCTION STANDARDS. THE HYDRANT LEADS SHALL BE A MINIMUM OF 6 INCHES IN DIAMETER. AUXILIARY VALVES SHALL BE INSTALLED IN THE HYDRANT LEADS LOCATED IN THE CONNECTION TO THE CITY MAIN. ALL HYDRANTS SHALL BE EQUIPPED WITH A DRAIN. A GRAVEL POCKET OR DRY WELL SHALL BE PROVIDED UNLESS THE NATURAL SOILS WILL PROVIDE ADEQUATE DRAINAGE. HYDRANT DRAINS SHALL NOT BE CONNECTED TO STORM DRAINS OR LOCATED WITHIN 10 FEET OF OR CONNECTED TO SANITARY SEWERS. FIRE HYDRANTS SHALL BE PAINTED WITH 2 COATS OF WHITE PAINT, SIMILAR TO WATEROUS HYDRANT ENAMEL V1814-W (SHINING WHITE) OR EQUAL. CONCRETE FIRE HYDRANT GUARD POSTS MEETING THE REQUIREMENTS OF STANDARD DETAIL 3-11 SHALL BE FURNISHED AND INSTALLED WITH FIRE HYDRANTS WHEN DIRECTED BY THE CITY ENGINEER. IOWA FIRE HYDRANTS ARE NOT ALLOWED.

12. PRIOR TO ACCEPTANCE OF CONSTRUCTION AND/OR ISSUANCE OF CERTIFICATE OF OCCUPANCY PERMITS, SURVEYOR-CERTIFIED AS-BUILT DRAWINGS PREPARED ON MYLAR MUST BE PREPARED OF ALL PUBLIC WATER MAIN FACILITIES AND APPROVED BY THE CITY. SEE CITY OF KENT DEVELOPMENT ASSISTANCE BROCHURE #E-6, AS-BUILT DRAWINGS, FOR ADDITIONAL INFORMATION REGARDING AS-BUILT DRAWINGS.

GENERAL TESC NOTES:

1. APPROVAL OF THE TEMPORARY EROSION/ SEDIMENTATION CONTROL PLAN (TESCP) DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)

2. THE IMPLEMENTATION OF THE TESCP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF TESCP FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE CITY.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THE PLAN SHALL BE CLEARLY FLAGGED OR FENCED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED OR FENCED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING AND/OR FENCING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE CONSTRUCTION PROJECT.

4. THE TESCP FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO ALL OTHER CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM, LEAVE THE SITE, OR VIOLATE APPLICABLE WATER QUALITY STANDARDS.

5. THE TESCP FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESCP FACILITIES SHALL BE UPGRADED AND ADDED TO (E.G. ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO REFLECT CHANGED CONDITIONS AS THE CITY REQUIRES.

6. THE TESCP FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING AND OPERATION.

7. ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS, WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF TWO DAYS DURING THE WET SEASON, SHALL BE IMMEDIATELY STABILIZED WITH APPROVED TESCP METHODS SUCH AS SEEDING, MULCHING, NETTING, EROSION BLANKETS, ETC. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY BETWEEN APRIL 1 AND OCTOBER 31.

8. ANY AREA NEEDING TESCP MEASURES, BUT NOT REQUIRING IMMEDIATE ATTENTION DURING THE WET SEASON, SHALL BE ADDRESSED WITHIN 15 DAYS.

9. THE TESCP FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED AT LEAST ONCE A MONTH, OR WITHIN 48 HOURS FOLLOWING A STORM EVENT, AND AS THE CITY DEEMS NECESSARY.

10. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN OR PRE-TREATMENT/SILT POND OR SILT TRAP. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

11. STABILIZED CONSTRUCTION ENTRANCES AND WASH PADS SHALL BE INSTALLED PER CITY STANDARDS AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED BY THE CITY TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

12. BETWEEN NOVEMBER 1 AND MARCH 31, DISTURBED AREAS THAT ARE TO BE LEFT UNWORKED FOR MORE THAN TWO DAYS SHALL BE COVERED BY MULCH, SOD OR PLASTIC COVERING. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY AND SHALL BE CLEANED OUT ENTIRELY WITH PROPER DISCHARGE OF WASTEWATER (I.E. SANITARY DISCHARGE). IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE FACILITY SHALL NOT BY USED AS A TEMPORARY SETTLING BASIN.

13. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (E.G. ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).

14. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 3 INCHES, OR 3,000 POUNDS PER ACRE.

15. AS CONSTRUCTION PROGRESSES AND UNEXPECTED SEASONAL CONDITIONS DICTATE, AND AS THE CITY REQUIRES, THE CONTRACTOR SHOULD ANTICIPATE THAT MORE TESCP MEASURES WILL BE NECESSARY TO PROTECT ADJACENT PROPERTIES AND ENSURE MINIMUM WATER QUALITY FOR SITE RUNOFF. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS DEFICIENT TESCP CONDITIONS AND PROVIDE ADDITIONAL FACILITIES, OVER AND ABOVE MINIMUM REQUIREMENTS OUTLINED ON THE APPROVED PLANS.

ASBUILT

RECORD DRAWINGS REFLECT AS-BUILT SURVEY BY SADLER BERNARD & ASSOCIATES, INC

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KIVA NO. RECC 2152719
THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KENT ENGINEERING DIVISION'S REQUIREMENTS.

DEVELOPMENT ENGINEERING MANAGER DATE

CITY ENGINEER DATE

THESE RECORD PLANS AND THE INFORMATION SHOWN ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS OF

(DATE SIGNED).

BY:

BLT TRANSPORT, LLC
1100 S 259th ST
KENT, WA

DATE	REVISION	BY
01/2016	CITY COMMENTS #1	KWO
03/2016	CITY COMMENTS #2	KWO

KWO ENGINEERING PLLC
CIVIL DESIGN + CONSULTING
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KRISTEN WHITE ORNDORFF
STATE OF WASHINGTON
48213
REGISTERED PROFESSIONAL ENGINEER

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DRAWN	OCS
CHECKED	KWO
AS-BUILT	KWO

JOB NO. 15-011

DATE 03/2016

DRAWING NAME C-2

2 OF 11

NOTES AND SPECIFICATIONS

SEC. 25, T.22 N., R.4 E., W.M.

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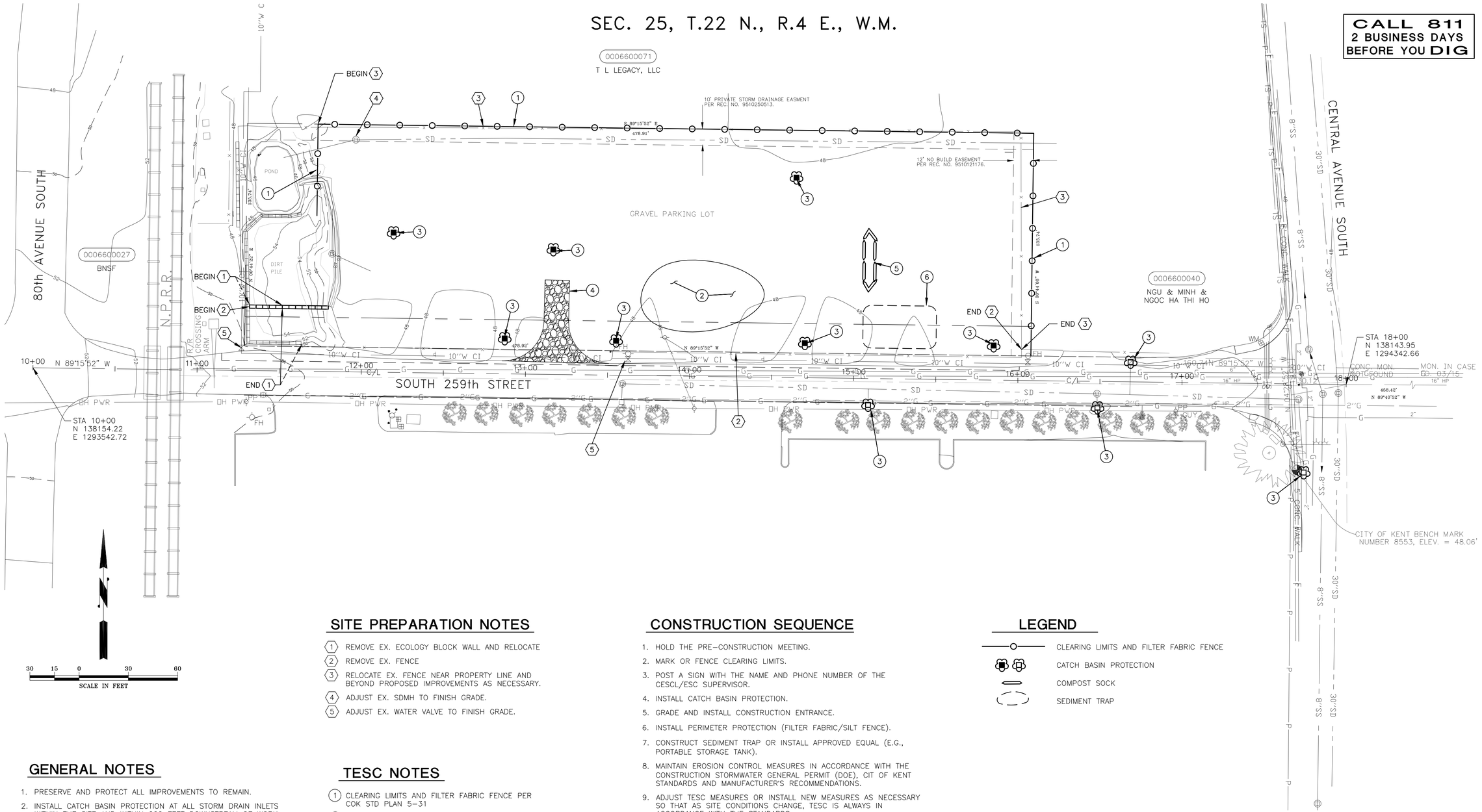

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SCALE IN FEET

SITE PREPARATION NOTES

1. REMOVE EX. ECOLOGY BLOCK WALL AND RELOCATE
2. REMOVE EX. FENCE
3. RELOCATE EX. FENCE NEAR PROPERTY LINE AND BEYOND PROPOSED IMPROVEMENTS AS NECESSARY.
4. ADJUST EX. SDMH TO FINISH GRADE.
5. ADJUST EX. WATER VALVE TO FINISH GRADE.

GENERAL NOTES

1. PRESERVE AND PROTECT ALL IMPROVEMENTS TO REMAIN.
2. INSTALL CATCH BASIN PROTECTION AT ALL STORM DRAIN INLETS WITHIN THE SITE AND WITHIN 200 FEET DOWNSTREAM OF WORK AREAS.
3. FINAL STABILIZATION OF LANDSCAPED AREAS PER LANDSCAPE PLAN.
4. CONTRACTOR TO OBTAIN COVERAGE UNDER DOE CONSTRUCTION STORMWATER GENERAL PERMIT, PROVIDE CESCL AND UPDATE THE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLANS (THIS PLAN AND SEPARATE REPORT) AS REQUIRED DURING CONSTRUCTION.
5. EXISTING UTILITIES HAVE NOT BEEN FIELD VERIFIED. CONTRACTOR SHALL FIELD VERIFY PRIOR TO CONSTRUCTION

TESC NOTES

1. CLEARING LIMITS AND FILTER FABRIC FENCE PER COK STD PLAN 5-31
2. TEMPORARY STOCKPILING AREA PER COK STD PLAN 5-35
3. CATCH BASIN PROTECTION PER WSDOT STD PLAN I-40.20-00
4. STABILIZED CONSTRUCTION ENTRANCE PER WSDOT STD PLAN I-80.10-01
5. COMPOST SOCK PER WSDOT STD PLAN I-30.40-01
6. SEDIMENT TRAP PER COK STD PLAN 5-32. SURFACE AREA SHALL BE 1,125 SF MINIMUM.

CONSTRUCTION SEQUENCE

1. HOLD THE PRE-CONSTRUCTION MEETING.
2. MARK OR FENCE CLEARING LIMITS.
3. POST A SIGN WITH THE NAME AND PHONE NUMBER OF THE CESCL/ESC SUPERVISOR.
4. INSTALL CATCH BASIN PROTECTION.
5. GRADE AND INSTALL CONSTRUCTION ENTRANCE.
6. INSTALL PERIMETER PROTECTION (FILTER FABRIC/SILT FENCE).
7. CONSTRUCT SEDIMENT TRAP OR INSTALL APPROVED EQUAL (E.G., PORTABLE STORAGE TANK).
8. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE CONSTRUCTION STORMWATER GENERAL PERMIT (DOE), CIT OF KENT STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
9. ADJUST TESC MEASURES OR INSTALL NEW MEASURES AS NECESSARY SO THAT AS SITE CONDITIONS CHANGE, TESC IS ALWAYS IN ACCORDANCE WITH THE STANDARDS.
10. COVER ALL AREAS THAT WILL BE UNWORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON OR TWO DAYS DURING THE WET SEASON WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.
11. STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
12. SEED OR SOD ANY AREAS REMAINING UNWORKED FOR MORE THAN 30 DAYS.
13. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE TEMPORARY BMPS AS APPROPRIATE.

LEGEND

- CLEARING LIMITS AND FILTER FABRIC FENCE
- CATCH BASIN PROTECTION
- COMPOST SOCK
- SEDIMENT TRAP

ASBUILT
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DRAWING NAME C-3

3 OF 11

SITE PREPARATION AND TESC PLAN

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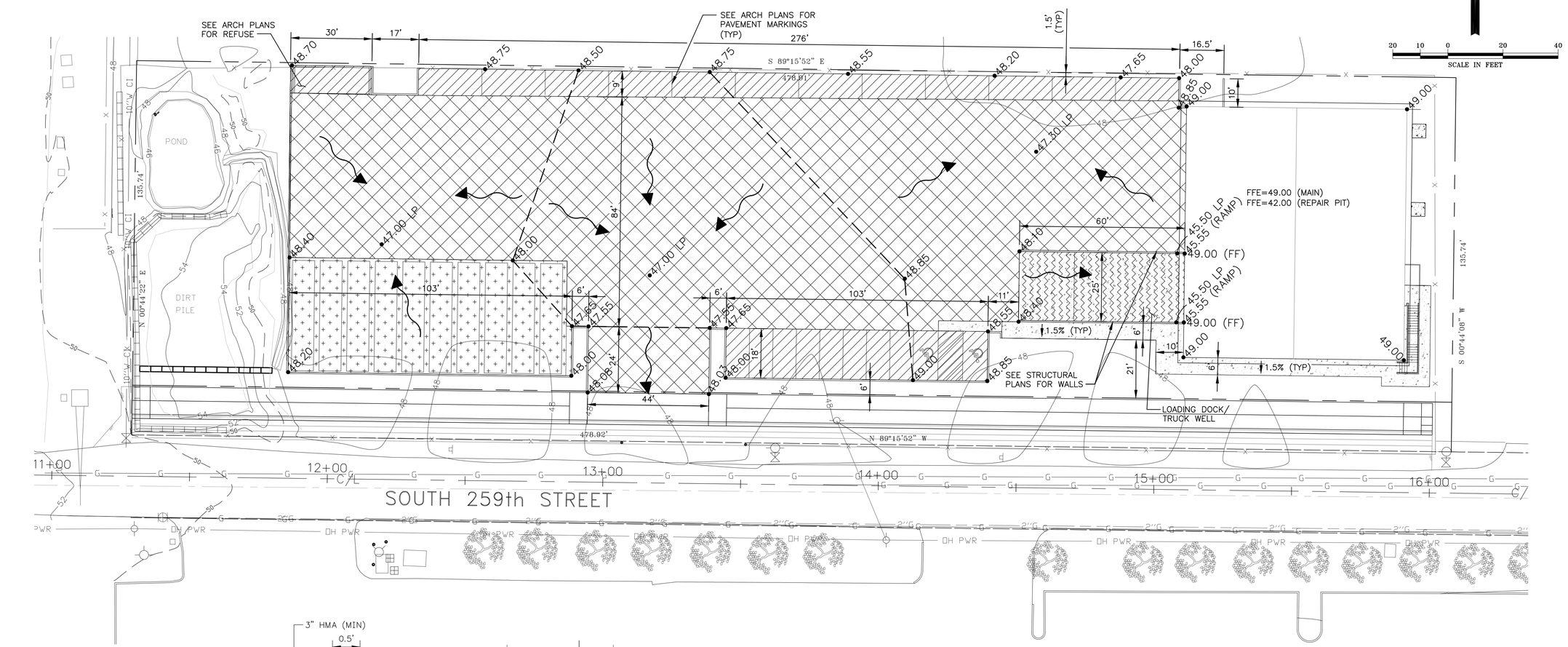
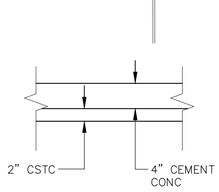
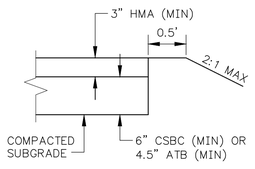
SEC. 25, T.22 N., R.4 E., W.M.

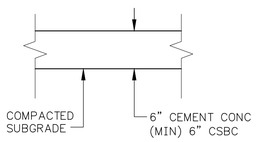




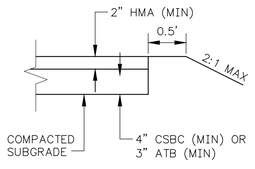
CONCRETE WALK
NTS



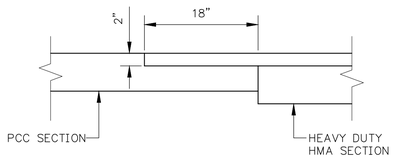
HMA PAVEMENT HEAVY DUTY
NTS



PCC PAVEMENT HEAVY DUTY
NTS



HMA PAVEMENT LIGHT DUTY
NTS



CONCRETE TO HMA PAVEMENT TRANSITION
NTS

GENERAL NOTES

1. SEE GEOTECH REPORT FOR SITE SPECIFIC RECOMMENDATIONS.
2. SEE STREET IMPROVEMENT PLAN FOR ROW IMPROVEMENTS.
3. PCC PAVEMENT JOINTS PER GUIDANCE FOUND IN WSDOT STD PLAN A-40.10-03 OR PER GEOTECH.
4. SEE STORM DRAINAGE PLAN FOR PROPOSED DRAINAGE STRUCTURES.

LEGEND

- HMA PAVEMENT – LIGHT DUTY
- HMA PAVEMENT – HEAVY DUTY
- PCC PAVEMENT – HEAVY DUTY
- GRAVEL (6" CSBC)
- CONCRETE WALK
- EXTRUDED CURB
- LP — LOW POINT – SEE STORM PLAN
- FINISH GRADE (AT BOTTOM OF CURB)
- RIDGE LINE
- FLOW ARROW

ASBUILT
RECORD DRAWINGS REFLECT AS-BUILT SURVEY BY SADLER BERNARD & ASSOCIATES, INC

KIVA NO. RECC 2152719
THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KENT ENGINEERING DIVISION'S REQUIREMENTS.

DEVELOPMENT ENGINEERING MANAGER — DATE

CITY ENGINEER — DATE

THESE RECORD PLANS AND THE INFORMATION SHOWN ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS OF

(DATE SIGNED).

BY:

BLT TRANSPORT, LLC
1100 S 259th ST
KENT, WA

DATE	REVISION	BY
01/2016	CITY COMMENTS #1	KWO
03/2016	CITY COMMENTS #2	KWO

KWO ENGINEERING PLLC
CIVIL DESIGN + CONSULTING
http://kwoeng-public.sharepoint.com
4505 91ST AVE SE
MERCER ISLAND, WA 98040
206.755.3951

KRISTEN WHITE ORNDORFF
STATE OF WASHINGTON
48213
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KWO
CHECKED	KWO
DRAWN	QCS
CHECKED	KWO
AS-BUILT	KWO

JOB NO. 15-011

DATE 03/2016

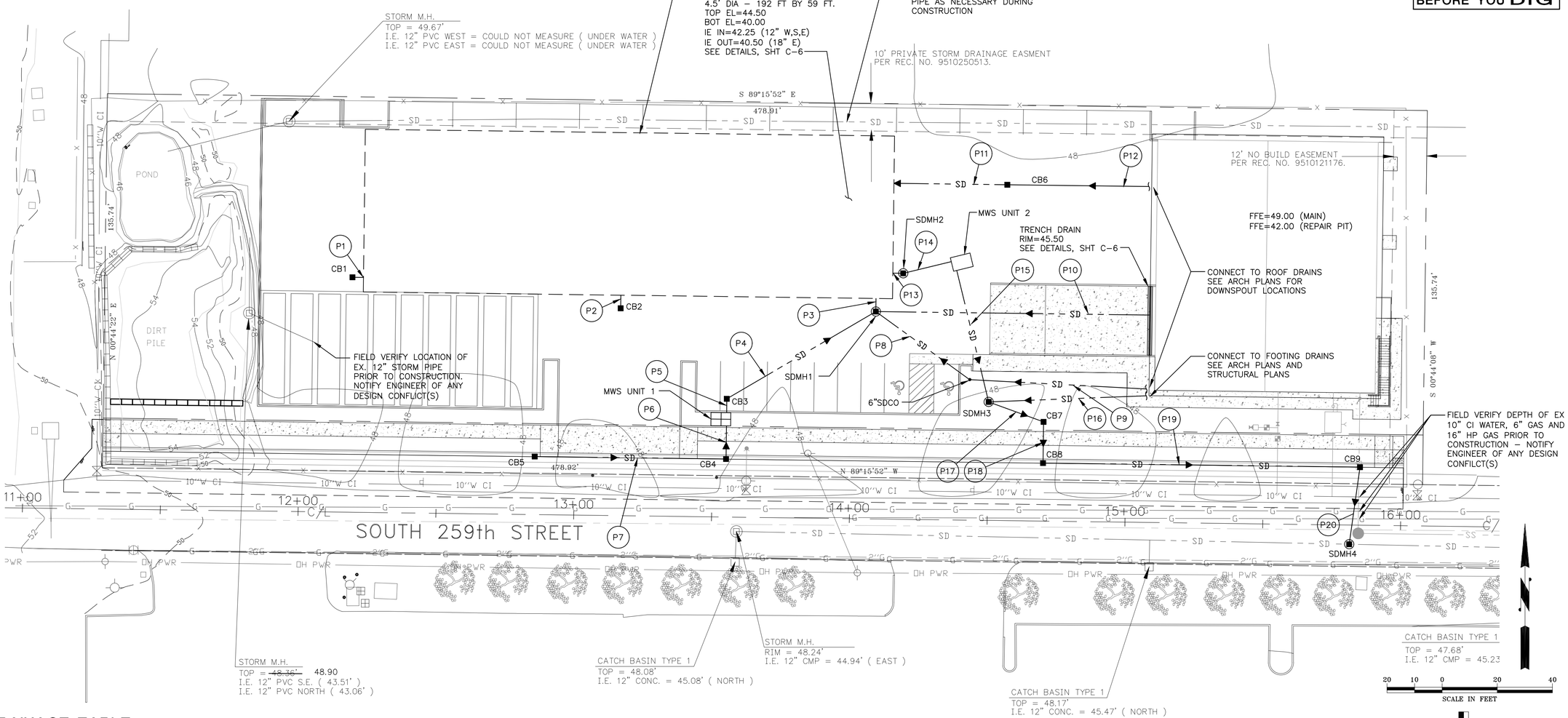
DRAWING NAME C-4

4 OF 11

GRADING AND PAVING PLAN

SEC. 25, T.22 N., R.4 E., W.M.

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG



STORM DRAINAGE TABLE

(P1) 5 LF 12" PVC SDR35 SSP @ S=5.00%

CB1 TYPE 1 W/ VANED GRATE
RIM = 48.29
IE = 41.94 (12" E)

(P2) 5 LF 12" PVC SDR35 SSP @ S=5.00%

CB2 TYPE 1 W/ VANED GRATE
RIM = 48.35
IE = 40.85 (12" N)

(P3) 5 LF 12" PVC SDR35 SSP @ S=5.00%

SDMH1 TYPE 2 (48" DIA)
W/ SOLID ROUND LID
RIM = 48.84
IE = 41.89 (12" N), IE = 41.92 (12" SW)
IE = 44.92 (6" E), IE = 45.36 (6" SE)

(P4) 63 LF 12" SDR35 SSP @ S=3.25%

CB3 TYPE 1 W/ SOLID LOCKING LID
RIM = 49.31
IE = 44.21 (12" S)
IE = 43.97 (12" NE)

(P5) 5LF 12" PVC SDR21 @ S=2.00%

MWS-L-4-6.33-V (UNIT 1)
RIM = 48.51
IE = 45.19 (12" S)
IE = 44.11 (12" NW)
SEE DETAIL, SHEET C-7
CARIX MORROWII 'AUREO-VARIEGATA'/
JAPANESE SEDGE, 1 GAL ON 2 FT CENTER

(P6) 12 LF 12" DI @ S=2.00%

CB4 TYPE 1 W/ 2-WAY VANED GRATE
RIM = 47.72
IE = 45.43 (12" NW)

(P7) 69 LF 12" DI SSP @ S=0.83%

CB5 TYPE 1 W/ VANED GRATE
RIM = 47.89
IE = 46.00 (12" E)

(P8) 42 LF 6" PVC SDR35 @ S=2.00% MIN

(P9) 64 LF 6" PVC SDR35 @ S=2.00% MIN

(P10) 99 LF 6" PVC SDR21 @ S=2.00% MIN

(P11) 50 LF 12" PVC SDR35 SSP @ S=0.60%

CB6 TYPE 1 W/ VANED GRATE
RIM = 47.78
IE = 42.53 (12" W)
IE = 43.22 (6" E)

(P12) 44 LF 6" PVC SDR35 @ S = 2.00% MIN

(P13) 5 LF 18" PVC SDR35 SSP @ S=0.00%

SDMH2 TYPE 2 (54" DIA)
CONTROL STRUCTURE
W/ SOLID ROUND LID
RIM = 48.60
IE = 40.44 (18" W)
IE = 40.00 (18" E)
SEE DETAIL, SHEET C-7

(P14) 18 LF 18" PVC SDR35 SSP @ S=7.1%

MWS-L-4-6.33-V-UG (UNIT 2)
RIM = 48.13
IE = 40.32 (12" W)
IE = 38.93 (12" S)
SEE DETAIL, SHEET C-7

(P15) 49 LF 12" PVC SDR35 SSP @ S=16.6%

SDMH3 TYPE 2 (48" DIA) – PUMP STATION
SOLID ROUND LID
RIM = 49.05
IE = 47.05 (12" NW)
IE = 36.25 (6" E)
IE = 45.38 (2" SE)
SEE DETAIL, SHEET C-7

(P16) 57 LF 6" PVC SDR35 @ S=2.00% MIN

(P17) 21 LF 2" PVC SDR21 FM @ 3.5%

CB7 TYPE 1 W/ SOLID COVER
RIM = 48.02
IE = 46.12 (2" NW)
IE = 46.02 (12" S)

(P18) 15 LF 12" DI @ S=0%

CB8 TYPE 1 W/ VANED GRATE
RIM = 48.02
IE = 46.02 (12" N, E)

(P19) 115 LF 12" DI @ S=0.59%

CB9 TYPE 1 W/ 2-WAY VANED GRATE
RIM = 48.14
IE = 45.28 (12" S), IE = 45.34 (12" W)

(P20) 28 LF 12" DI @ S=0.50%

SDMH 4 TYPE 2 (48" DIA)
W/SOLID ROUND LID
RIM = 48.61 – MATCH EX
IE = 45.14 (12" N)
IE = 42.91 (12" E) – EXIST
IE = 43.16 (12" W) – EXIST

LEGEND

- CATCH BASIN TYPE 1 PER COK STD PLAN 5-1
- CATCH BASIN TYPE 2 PER COK STD PLAN 5-2 & 5-3
- SD — STORM PIPE
- STORM DRAIN CLEANOUT (SDCO)

ASBUILT

RECORD DRAWINGS REFLECT AS-BUILT SURVEY BY SADLER BERNARD & ASSOCIATES, INC

GENERAL NOTES

1. SEE GRADING AND PAVING PLAN FOR PROPOSED ELEVATIONS.
2. DEPTH OF EXISTING UTILITIES HAVE NOT BEEN VERIFIED. CONTRACTOR SHALL FIELD VERIFY PRIOR TO TRENCHING AND NOTIFY ENGINEER OF ANY DESIGN CONFLICTS.
3. ALL STORM DRAIN COVERS AND GRATES SHALL BE LOCKING.
4. CATCH BASIN FRAMES PER COK STD PLAN 5-4. VANED GRATES PER COK STD PLAN 5-5. 2-WAY VANED GRATES PER COK STD PLAN 5-6. SOLID COVERS PER COK STD PLAN 5-9.
5. ROUND SOLID CATCH BASIN FRAME AND COVER PER COK STD PLAN 5-11.
6. STORM SEWER PIPE (SSP) SHALL BE AS NOTED IN THE PLANS. PVC SDR21 MAY BE USED AT THE CONTRACTOR'S DISCRETION IN LIEU OF PVC SDR35. MAINTAIN 1.5 FEET MIN OF COVER FOR PVC SDR21 AND 3 FEET MIN COVER FOR PVC SDR35.

KIVA NO. RECC 2152719
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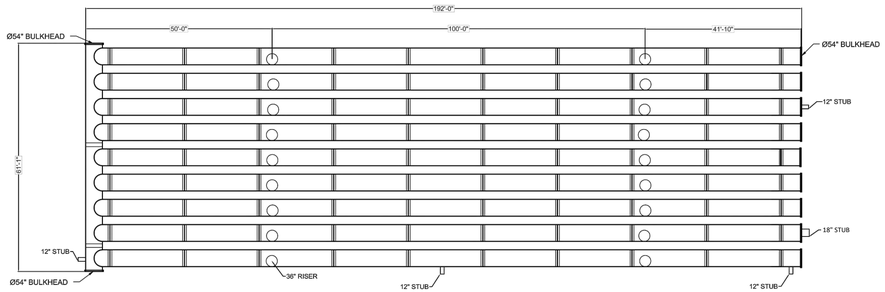
KRISTEN WHITE ORNDORFF
STATE OF WASHINGTON
48213
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KWO
CHECKED	KWO
DRAWN	CCS
CHECKED	KWO
AS-BUILT	KWO

JOB NO. 15-011
DATE 03/2016
DRAWING NAME C-5
5 OF 11

STORM DRAINAGE PLAN



THE UNDERSIGNED HEREBY APPROVES THE ATTACHED (3) PAGES INCLUDING THE FOLLOWING:

- **VOLUME = 27,722 CF**
- **MAINLINE PIPE GAUGE = 16**
- **WALL TYPE = SOLID**
- **DIAMETER = 54"**
- **FINISH = ALT2**

CUSTOMER _____ DATE _____

ASSEMBLY

VOLUME: 27,722 CF
LOADING: H20/H25
SYSTEM INV = 40.0

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE.
- ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.

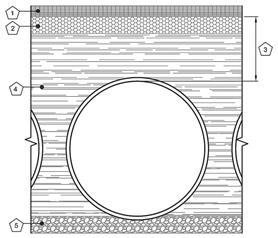
MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH PROPOSAL DRAWING

XXX - 526102-10
BLT TRANSPORT
KENT, WA
SITE DESIGNATION: XXX

PROJECT No.:	SEQ. No.:	DATE:
526102	10	7/22/2015
DESIGNED: SKJ	DRAWN: N/A	
CHECKED:	APPROVED:	
SHEET NO.: P1 OF 3		



KEY

1. RIGID OR FLEXIBLE PAVEMENT
2. GRANULAR ROAD BASE
3. 12" MIN. FOR DIAMETERS THROUGH 96" 18" MIN. FOR DIAMETERS FROM 102" AND LARGER MEASURED TO TOP OF RIGID OR BOTTOM OF FLEXIBLE PAVEMENT.
4. SELECT GRANULAR FILL PER AASHTO M145 A1, A2 OR A3, OR APPROVED EQUAL PLACED IN 8" LIFTS (COMPACTED TO MIN. 90% STANDARD DENSITY PER AASHTO T99.)
5. GRANULAR BEDDING, ROUGHLY SHAPED TO FIT THE BOTTOM OF PIPE, 4" TO 8" IN DEPTH

FOUNDATION/BEDDING PREPARATION

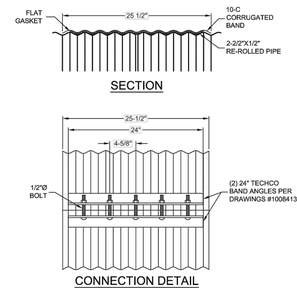
PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER. ONCE THE FOUNDATION PREPARATION IS COMPLETE, 4" - 6" OF A WELL-GRADED GRANULAR MATERIAL SHALL BE PLACED AS THE BEDDING.

BACKFILL

THE BACKFILL SHALL BE AN A1, A2 OR A3 GRANULAR FILL PER AASHTO M145, OR A WELL-GRADED GRANULAR FILL AS APPROVED BY THE SITE ENGINEER (SEE INSTALLATION GUIDELINES). THE MATERIAL SHALL BE PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 90% AASHTO T99 STANDARD PROCTOR DENSITY. WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.

1 / C3 BACKFILL DETAIL
SCALE: N.T.S.



GENERAL NOTES:

1. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   12" THRU 48", 1-PIECE
   54" THRU 96", 2-PIECE
   102" THRU 144", 3-PIECES.
2. BAND FASTENERS ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDS.
3. REROLLED ANNULAR END CORRUGATIONS ARE NORMALLY 2-2/3" X 1/2". DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.

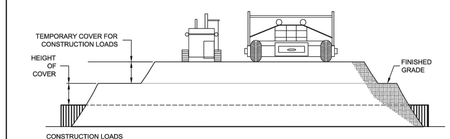
2 / C3 10-C BAND DETAIL
SCALE: N.T.S.

MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYOB DRAWING

PROJECT No.:	SEQ. No.:	DATE:
DESIGNED: SKJ	DRAWN:	
CHECKED:	APPROVED:	
SHEET NO.:		



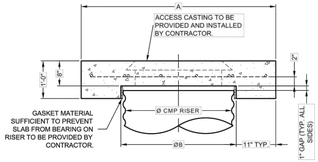
CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

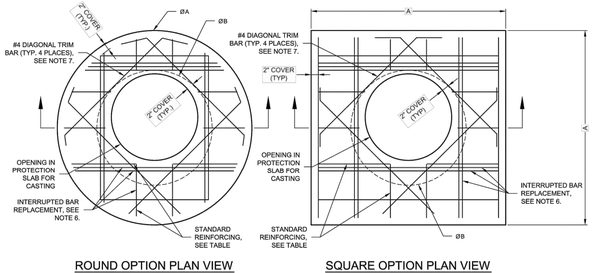
3 / P3 CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.



SECTION VIEW

REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



NOTES:

1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

4 / P3 MANHOLE CAP DETAIL
SCALE: N.T.S.

SPECIFICATION FOR CORRUGATED STEEL PIPE-ALUMINIZED TYPE 2 STEEL

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE CORRUGATED STEEL PIPE (CSP) DETAILED IN THE PROJECT PLANS.

MATERIAL

THE ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M274 OR ASTM A929.

PIPE

THE CSP SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M36 OR ASTM A760. THE PIPE SIZES, GAGES AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

ALL FABRICATION OF THE PRODUCT SHALL OCCUR WITHIN THE UNITED STATES.

HANDLING AND ASSEMBLY

SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE NATIONAL CORRUGATED STEEL PIPE ASSOCIATION (NCSPA)

INSTALLATION

SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II OR ASTM A798 AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

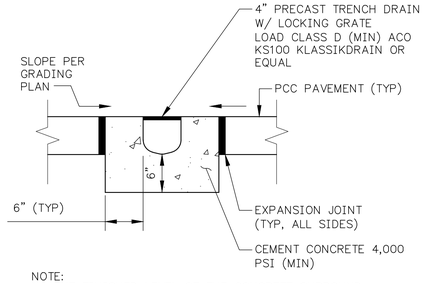
MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH PROPOSAL DRAWING

XXX - 526102-10
BLT TRANSPORT
KENT, WA
SITE DESIGNATION: XXX

PROJECT No.:	SEQ. No.:	DATE:
526102	10	7/22/2015
DESIGNED: SKJ	DRAWN: N/A	
CHECKED:	APPROVED:	
SHEET NO.: P3 OF 3		



NOTE:
1. THE FINISHED LEVEL OF THE CONCRETE SURROUND SHALL BE 18" ABOVE THE TOP OF THE CHANNEL EDGE.

1 / C5 TRENCH DRAIN
NTS

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG

ASBUILT

RECORD DRAWINGS REFLECT AS-BUILT SURVEY BY SADLER BERNARD & ASSOCIATES, INC

KIVA NO. RECC 2152719
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_____

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KRISTEN WHITE ORNDORFF
STATE OF WASHINGTON
48213
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KWO
CHECKED	KWO
DRAWN	QCS
CHECKED	KWO
AS-BUILT	KWO

JOB NO. 15-011

DATE 03/2016

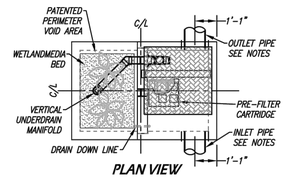
DRAWING NAME C-6

6 OF 11

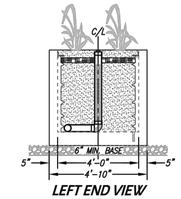
STORM DRAINAGE DETAILS

SITE SPECIFIC DATA			
PROJECT NUMBER		3334	
PROJECT NAME		BLT TRANSPORT	
PROJECT LOCATION		KENT, WA	
STRUCTURE ID		UNIT 1	
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
		0.0353	
TREATMENT HGL AVAILABLE (FT)			N/A
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			0.183
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	~~45.40~~	DI	12"
INLET PIPE 2			
OUTLET PIPE	~~44.07~~	PVC	12"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	~~48.40~~	~~48.40~~	~~48.40~~
SURFACE LOAD	PARKWAY	OPEN PLANTER	PARKWAY
FRAME & COVER	36" x 36"	N/A	N/A
WETLANDMEDIA VOLUME (CY)			1.68
WETLANDMEDIA DELIVERY METHOD			TBD
ORIFICE SIZE (DIA. INCHES)			ø0.849"
MAXIMUM PICK WEIGHT (LBS)			TBD
NOTES:			

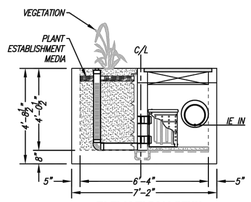
45.19
44.11
48.51



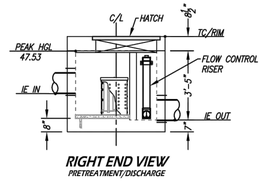
PLAN VIEW



LEFT END VIEW
BIOFILTRATION



ELEVATION VIEW



RIGHT END VIEW
PRETREATMENT/DISCHARGE

INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURERS STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT MANUFACTURER.

INTERNAL BYPASS DISCLOSURE:

THE DESIGN AND CAPACITY OF THE PEAK CONVEYANCE METHOD TO BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD. HGL(S) AT PEAK FLOW SHALL BE ASSESSED TO ENSURE NO UPSTREAM FLOODING. PEAK HGL AND BYPASS CAPACITY SHOWN ON DRAWING ARE USED FOR GUIDANCE ONLY.

TREATMENT FLOW (CFS)	0.0353
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	1.24
WETLAND MEDIA LOADING RATE (GPM/SF)	0.5

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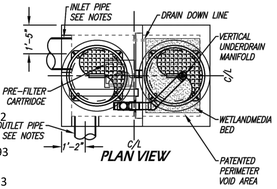
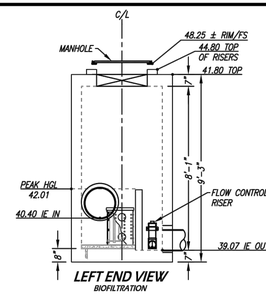
MWS-L-4-6.33-V
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

SITE SPECIFIC DATA			
PROJECT NUMBER		3334	
PROJECT NAME		BLT TRANSPORT	
PROJECT LOCATION		KENT, WA	
STRUCTURE ID		UNIT 2	
TREATMENT REQUIRED			
VOLUME BASED (CF)		2 YEAR DISCHARGE (CFS)	
		0.030	
TREATMENT HGL AVAILABLE (FT)			N/A
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			0.083
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	~~40.40~~	PVC	18"
INLET PIPE 2			
OUTLET PIPE	~~39.07~~	PVC	12"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	~~48.25±~~	~~48.25±~~	~~48.25±~~
SURFACE LOAD	PARKWAY	PARKWAY	PARKWAY
FRAME & COVER	ø30"	ø30"	N/A
WETLANDMEDIA VOLUME (CY)			TBD
WETLANDMEDIA DELIVERY METHOD			TBD
ORIFICE SIZE (DIA. INCHES)			0.814
MAXIMUM PICK WEIGHT (LBS)			TBD
NOTES:			

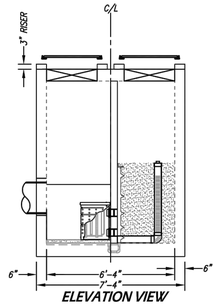
40.32
38.93
48.13



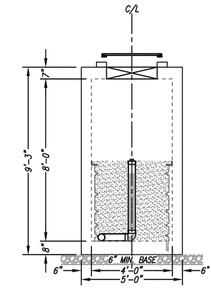
PLAN VIEW



LEFT END VIEW
BIOFILTRATION



ELEVATION VIEW



RIGHT END VIEW
PRETREATMENT/DISCHARGE

INSTALLATION NOTES

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6. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.

GENERAL NOTES

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TREATMENT FLOW (CFS)	0.030
OPERATING HEAD (FT)	2.9
PRETREATMENT LOADING RATE (GPM/SF)	1.1
WETLAND MEDIA LOADING RATE (GPM/SF)	0.5

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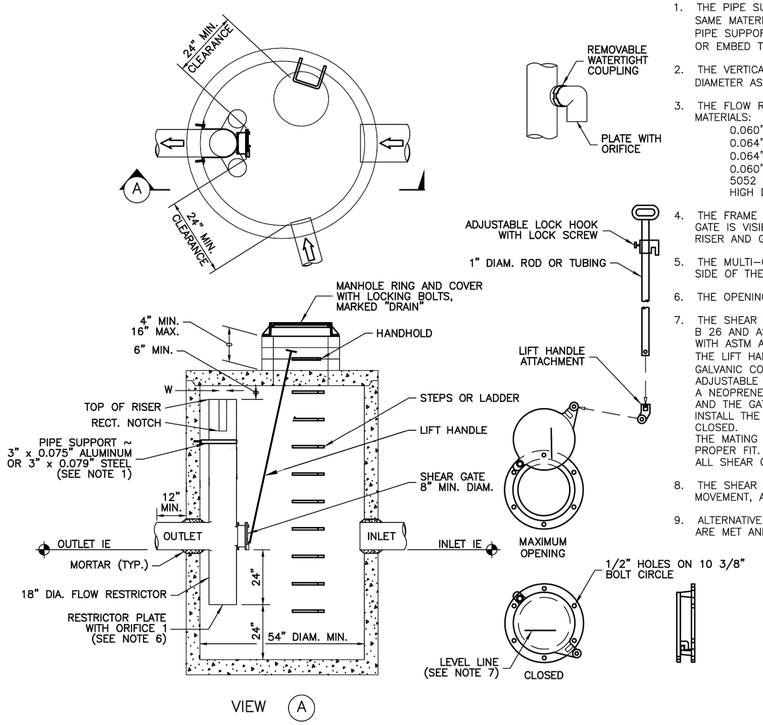
MWS-L-4-6.33-V-UG
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

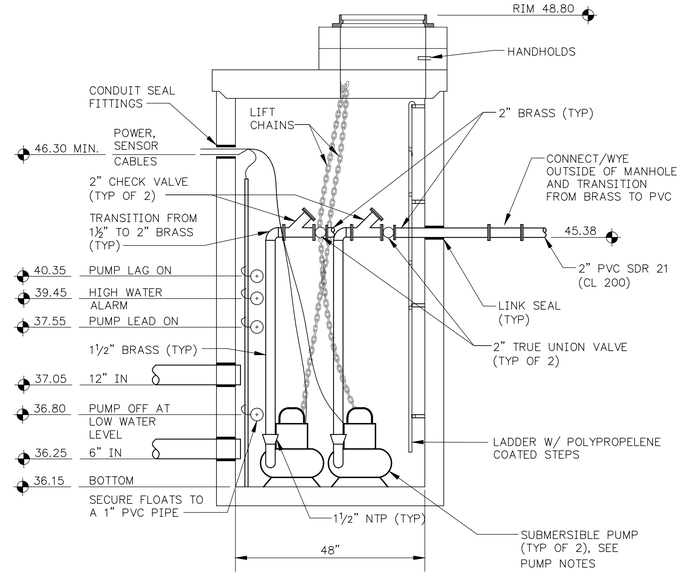
NOTES

1. THE PIPE SUPPORTS AND THE FLOW RESTRICTOR SHALL BE CONSTRUCTED OF THE SAME MATERIAL AND BE ANCHORED AT A MAXIMUM SPACING OF 36". ATTACH THE PIPE SUPPORTS TO THE MANHOLE WITH 5/8" STAINLESS STEEL EXPANSION BOLTS OR EMBED THE SUPPORTS INTO THE MANHOLE WALL 2".
2. THE VERTICAL RISER STEM OF THE FLOW RESTRICTOR SHALL BE THE SAME DIAMETER AS THE HORIZONTAL OUTLET PIPE WITH A MINIMUM DIAMETER OF 8".
3. THE FLOW RESTRICTOR SHALL BE FABRICATED FROM ONE OF THE FOLLOWING MATERIALS:
   0.060" CORRUGATED ALUMINUM ALLOY DRAIN PIPE
   0.064" CORRUGATED GALVANIZED STEEL DRAIN PIPE WITH TREATMENT 1
   0.064" CORRUGATED ALUMINIZED STEEL DRAIN PIPE
   0.060" ALUMINUM ALLOY FLAT SHEET, IN ACCORDANCE WITH ASTM B 209, 5052 H32 OR EPS
   HIGH DENSITY POLYETHYLENE STORM SEWER PIPE
4. THE FRAME AND LADDER OR STEPS ARE TO BE OFFSET SO THAT: THE SHEAR GATE IS VISIBLE FROM THE TOP; THE CLIMB-DOWN SPACE IS CLEAR OF THE RISER AND GATE; THE FRAME IS CLEAR OF THE CURB.
5. THE MULTI-ORIFICE ELBOWS MAY BE LOCATED AS SHOWN, OR ALL PLACED ON ONE SIDE OF THE RISER TO ASSURE LADDER CLEARANCE.
6. THE OPENING IS TO BE CUT ROUND AND SMOOTH.
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26 AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B.
   THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.
   A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE.
   INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED.
   THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT.
   ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE SHEAR GATE MAXIMUM OPENING SHALL BE CONTROLLED BY LIMITED HINGE MOVEMENT, A STOP TAB, OR SOME OTHER DEVICE.
9. ALTERNATIVE SHEAR GATE DESIGNS ARE ACCEPTABLE IF MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.



	ELEV	DIA/WIDTH (W)	
TOP OF RISER	~~44.00~~	18"ø	43.90
RECT. NOTCH	~~43.00~~	0.025	43.10
ORIFICE 1	~~40.50~~	0.86	38.56
OUTLET IE	~~40.50~~	18"ø	40.00
INLET IE	~~40.50~~	18"	40.44

1 C5 CONTROL STRUCTURE
NTS



2 C5 PRIVATE PUMP STATION
NTS

PUMP NOTES:

1. PUMPS SHALL BE HYDROMATIC OSP50M1, 1/2 HP, 9.5 AMPS, 115V, SINGLE PHASE, 1750 RPM OR APPROVED EQUAL. PUMPS SHALL BE CAPABLE OF HANDLING 5/8" SOLIDS. PUMP SHALL HAVE 20 FOOT POWER CABLE. PUMP DESIGN POINT: 37 GPM @ 12 FT TDH.
2. PUMP CONTROL SHALL BE VIA FLOATS CONNECTED TO PUMP CONTROLLER, LOCATED ABOVE GROUND IN THE IMMEDIATE VICINITY OF THE WET WELL. PUMPS SHALL BE DUPLEX ALTERNATING. CONTROLLER SHALL ALARM PUMP FAIL OR HIGH WATER LEVEL WITH LIGHT AND HORN. CONTROLLER SHALL BE SJE RHOMBUS MODEL 1221W194H-6A-19F OR APPROVED EQUAL. FLOATS SHALL BE SJE RHOMBUS OR APPROVED EQUAL.
3. STANDBY POWER SHALL BE PROVIDED WITH ONSITE POWER GENERATOR.
4. PUMP VAULTS ARE CONFINED SPACES. ONLY PROPERLY TRAINED AND EQUIPPED PERSONNEL SHOULD ACCESS THESE STRUCTURES.

ASBUILT
RECORD DRAWINGS REFLECT AS-BUILT SURVEY BY SADLER BERNARD & ASSOCIATES, INC

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG

KIVA NO. RECC 2152719
THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KENT ENGINEERING DIVISION'S REQUIREMENTS.

DEVELOPMENT ENGINEERING MANAGER — DATE

CITY ENGINEER — DATE

THESE RECORD PLANS AND THE INFORMATION SHOWN ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS OF

(DATE SIGNED).

BY:

BLT TRANSPORT, LLC
1100 S 259th ST
KENT, WA

DATE	REVISION	BY
01/2016	CITY COMMENTS #1	KWO
03/2016	CITY COMMENTS #2	KWO

KWO ENGINEERING PLLC
CIVIL DESIGN + CONSULTING
206.755.3951 4505 91ST AVE SE MERCER ISLAND, WA 98040
http://kwoeng-public.sharepoint.com

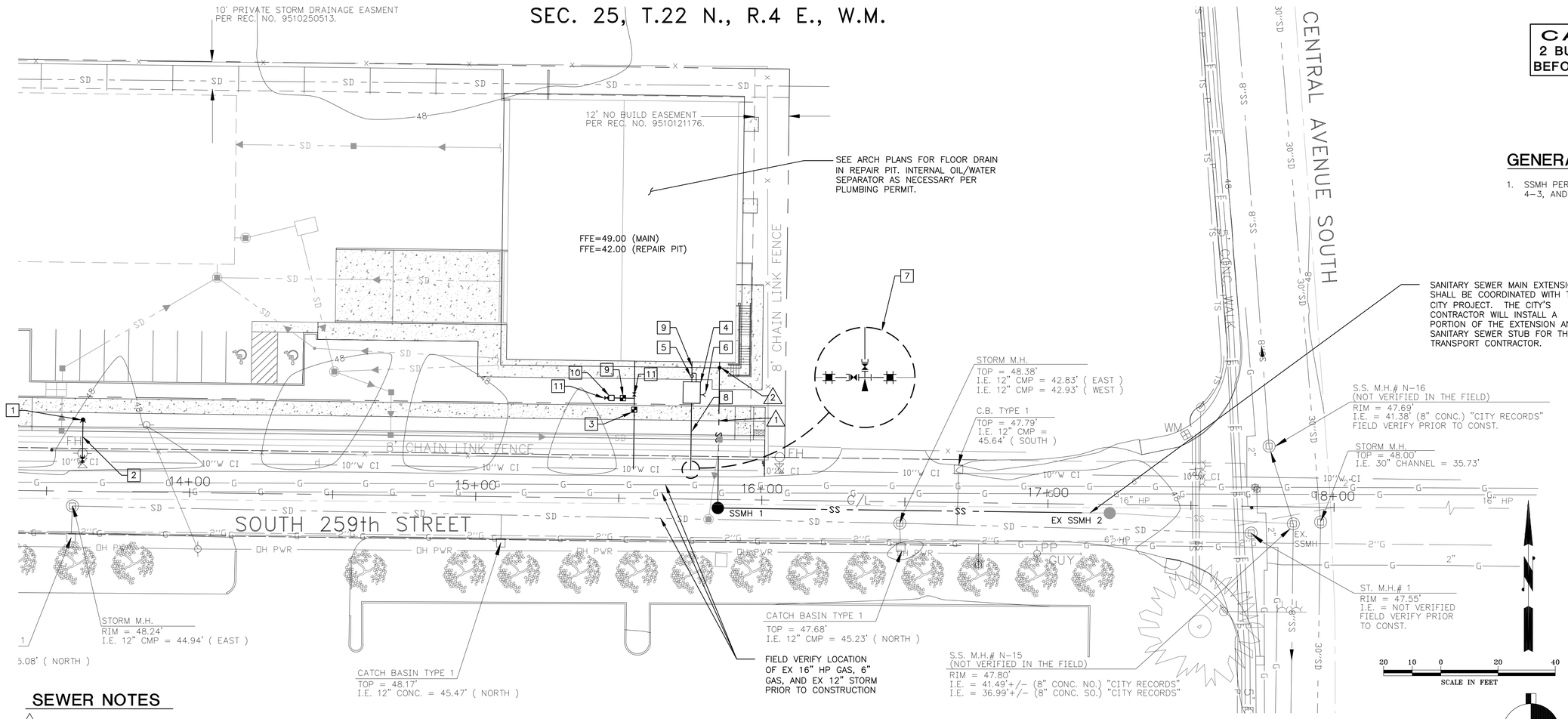
KRISTEN WHITE ORNDORFF — STATE OF WASHINGTON — 48213 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KWO
CHECKED	KWO
DRAWN	QCS
CHECKED	KWO
AS-BUILT	KWO

JOB NO. 15-011
DATE 03/2016
DRAWING NAME C-7
7 OF 11

STORM DRAINAGE DETAILS

SEC. 25, T.22 N., R.4 E., W.M.



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GENERAL NOTES

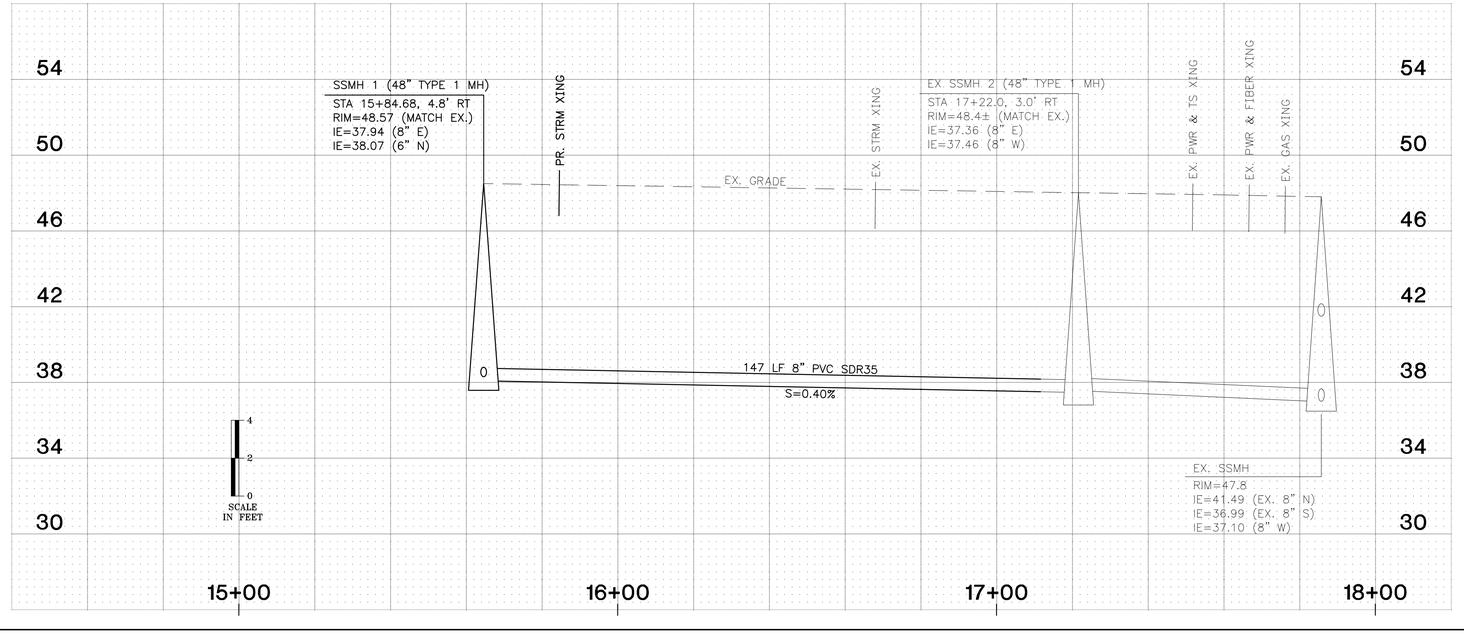
1. SSMH PER COK STD PLAN 4-1, 4-3, AND 4-5.

SEWER NOTES

1. 51 LF 6" PVC SDR 35 @ S=1.00%
2. 6" SSCO PER COK STD PLAN 4-7, IE = 38.77 (SIDE SEWER WILL REQUIRE SEPARATE PERMIT FROM CITY OF KENT)

WATER NOTES

1. STANDARD FH ASSEMBLY PER COK STD PLAN 3-1 (REMOVE EX FH ASSEMBLY)
   1-6" RESILIENT WEDGE GV (FL X MJ)
2. 15 LF 6" DI CL 52
3. 1" WATER METER AND 1" SERVICE CONNECTION PER COK STD PLAN 3-10 (WATER METER WILL REQUIRE SEPARATE PERMIT FROM CITY OF KENT.
4. 4" DCDA PER COK STD PLAN 3-18
5. PIV (REQUIRES SEPARATE PERMIT)
6. FDC (REQUIRES SEPARATE PERMIT)
7. 1-10"x6" TEE (FL) 4" SADDLE TAP
   1-10" GV (FLxMJ)
   1-6" GV (FLxMJ)
   2-10" DI SPOOLS
   2-10" TRANSITION COUPLINGS (DIxCI)
   1-THRUST BLOCKING
   COK STD PLAN 3-9
8. 23 LF 4" DI
9. ~~7 LF 6" DI~~
9. 3/4" IRRIGATION DEDUCT METER PER COK STD PLAN 3-15, SEE IRRIGATION PLAN FOR ADDITIONAL INFO
10. IRRIGATION DCVA PER COK STD PLAN 3-15, SEE IRRIGATION PLAN FOR ADDITIONAL INFO
11. PRV, IF REQUIRED



ASBUILT

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CITY ENGINEER DATE

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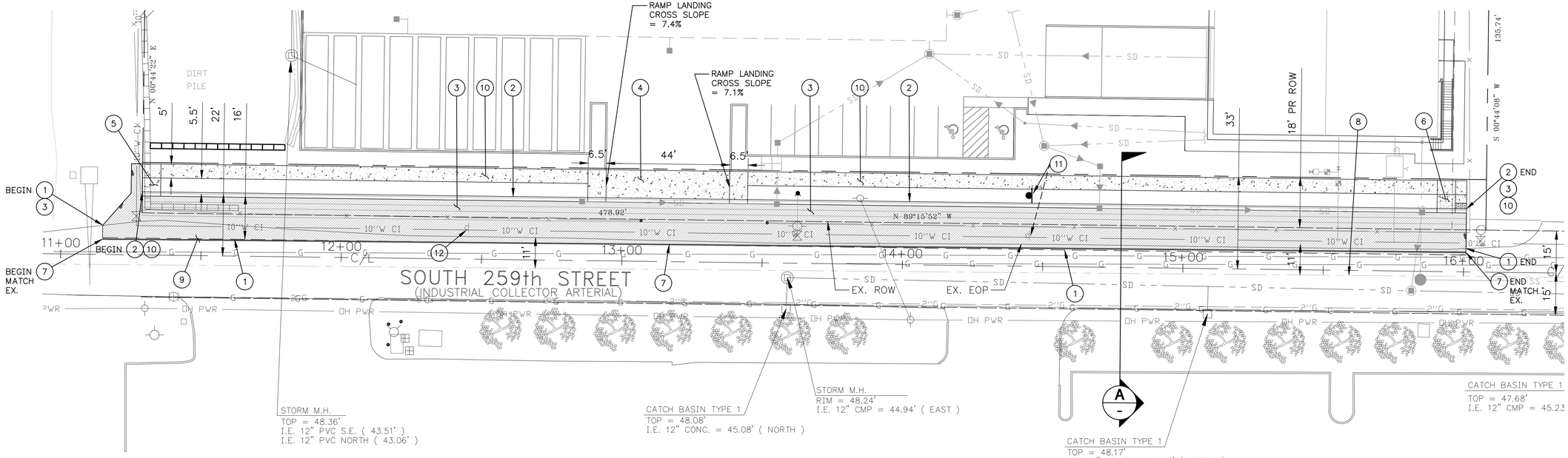
KRISTEN WHITE ORNDORFF STATE OF WASHINGTON 48213 REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KWO
CHECKED	KWO
DRAWN	QCS
CHECKED	KWO
AS-BUILT	KWO

JOB NO. 15-011
DATE 03/2016
DRAWING NAME C-8
8 OF 11

WATER AND SEWER PLAN

SEC. 25, T.22 N., R.4 E., W.M.



GENERAL NOTES

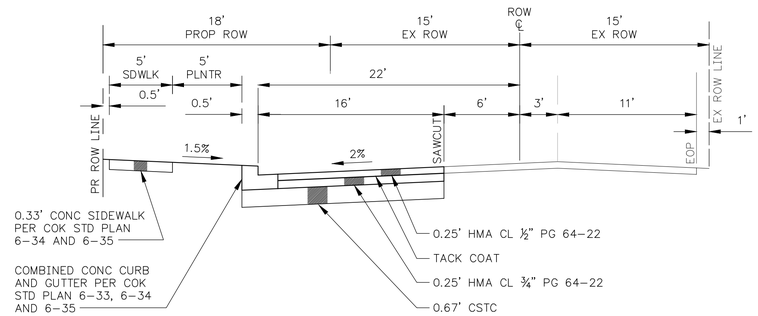
1. SEE STORM DRAINAGE PLAN AND WATER AND SEWER PLAN FOR PROPOSED UTILITIES.
2. RESTORE PAVEMENT WITHIN THE ROW AS NECESSARY PER COK STD PLAN 6-64 (FLEXIBLE PAVEMENT PATCHING TRANSVERSE CUT) AND COK STD PLAN 6-65 (FLEXIBLE PAVEMENT PATCHING LONGITUDINAL CUT).
3. LUMINAIRES PER STREET LIGHTING PLAN.
4. STREET TREES PER LANDSCAPE PLAN.

LEGEND

- HMA WIDENING
- CEMENT CONCRETE
- SIGN

CONSTRUCTION NOTES

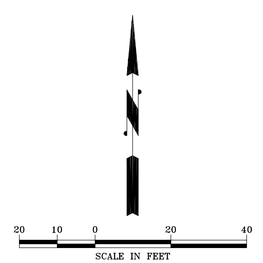
1. VERTICAL SAWCUT
2. COMBINED CONC CURB AND GUTTER
3. HMA WIDENING
4. INDUSTRIAL CEMENT CONC DRIVEWAY APPROACH PER COK STD PLAN 6-44, 6.5 FT RAMP WINGS (TYP BOTH SIDES)
5. CEMENT CONC SIDEWALK TRANSITION TO ASPHALT SHOULDER TYPE 1 PER COK STD PLAN 6-39, 6.5 FT WING RAMP
6. CEMENT CONC SIDEWALK TRANSITION TO ASPHALT SHOULDER TYPE 2 PER COK STD PLAN 6-39, 6.5 FT WING RAMP
7. 4" WHITE PLASTIC EDGE LINE PER COK STD PLAN 6-74
8. RESTORE DOUBLE YELLOW CENTER LINE PER COK STD PLAN 6-74 AS NECESSARY
9. RESTORE RAILROAD WARNING PAVEMENT MARKINGS PER COK STD PLAN 6-78 AS NECESSARY
10. SIDEWALK
11. RELOCATE EX. "RR" SIGN TO PR. PLANTER. PROVIDE 2 FEET MINIMUM CLEARANCE FROM FACE OF CURB. REMOVE EX. "NO PARKING" SIGN. SIGNS SHALL BE INSTALLED PER COK STD PLAN 6-82.
12. REMOVE EX. "NO PARKING" SIGN. ALL REMOVED SIGNS MUST BE RETURNED TO THE CITY SIGN SHOP.



(INDUSTRIAL COLLECTOR ARTERIAL)

A - TYPICAL SECTION - S. 259TH ST

SCALE: NTS



CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG

ASBUILT

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STATE OF WASHINGTON
48213
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KWO
CHECKED	KWO
DRAWN	QCS
CHECKED	KWO
AS-BUILT	KWO

JOB NO. 15-011

DATE 03/2016

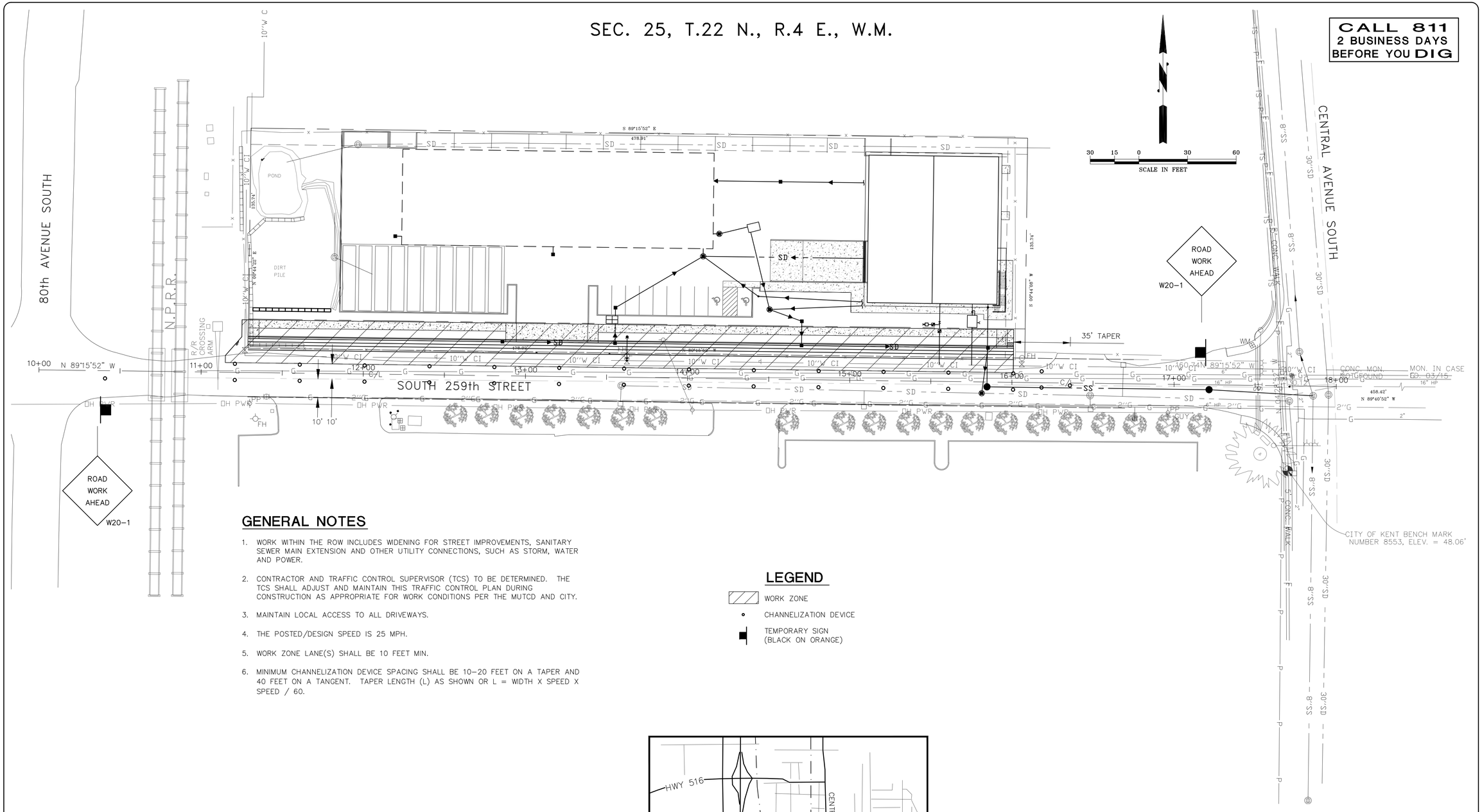
DRAWING NAME C-9

9 OF 11

STREET IMPROVEMENT PLAN

SEC. 25, T.22 N., R.4 E., W.M.

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG

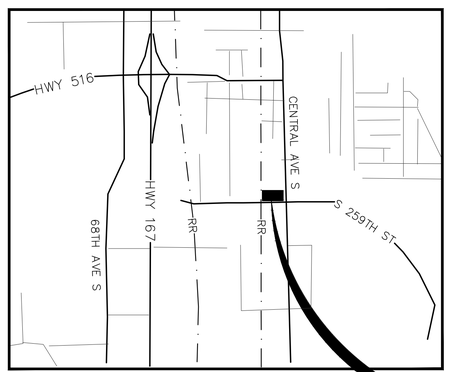


GENERAL NOTES

1. WORK WITHIN THE ROW INCLUDES WIDENING FOR STREET IMPROVEMENTS, SANITARY SEWER MAIN EXTENSION AND OTHER UTILITY CONNECTIONS, SUCH AS STORM, WATER AND POWER.
2. CONTRACTOR AND TRAFFIC CONTROL SUPERVISOR (TCS) TO BE DETERMINED. THE TCS SHALL ADJUST AND MAINTAIN THIS TRAFFIC CONTROL PLAN DURING CONSTRUCTION AS APPROPRIATE FOR WORK CONDITIONS PER THE MUTCD AND CITY.
3. MAINTAIN LOCAL ACCESS TO ALL DRIVEWAYS.
4. THE POSTED/DESIGN SPEED IS 25 MPH.
5. WORK ZONE LANE(S) SHALL BE 10 FEET MIN.
6. MINIMUM CHANNELIZATION DEVICE SPACING SHALL BE 10–20 FEET ON A TAPER AND 40 FEET ON A TANGENT. TAPER LENGTH (L) AS SHOWN OR L = WIDTH X SPEED X SPEED / 60.

LEGEND

- WORK ZONE
- CHANNELIZATION DEVICE
- TEMPORARY SIGN (BLACK ON ORANGE)



VICINITY MAP
NOT TO SCALE

ASBUILT
RECORD DRAWINGS REFLECT AS–BUILT SURVEY BY SADLER BERNARD & ASSOCIATES, INC

KIVA NO. RECC 2152719
THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KENT ENGINEERING DIVISION'S REQUIREMENTS.

DEVELOPMENT ENGINEERING MANAGER — DATE

CITY ENGINEER — DATE

THESE RECORD PLANS AND THE INFORMATION SHOWN ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS OF

(DATE SIGNED).

BY:

BLT TRANSPORT, LLC
1100 S 259th ST
KENT, WA

DATE	REVISION	BY
01/2016	CITY COMMENTS #1	KWO
03/2016	CITY COMMENTS #2	KWO

KWO ENGINEERING PLLC
CIVIL DESIGN + CONSULTING
http://kwoeng-public.sharepoint.com
4505 91ST AVE SE
MERCER ISLAND, WA 98040
206.755.3951

KRISTEN WHITE ORNDORFF
STATE OF WASHINGTON
48213
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KWO
CHECKED	KWO
DRAWN	QCS
CHECKED	KWO
AS–BUILT	KWO

JOB NO. 15–011

DATE 03/2016

DRAWING NAME C-10

10 OF 11

TRAFFIC CONTROL PLAN

Appendix E

Well Sampling Logs July 2023

Project Name: BLT Trucking	Project No.: 0611-01-03-02	Well No.: MW1	Date: 7/26/23
Field Personnel: CZL	Static Water Level:10.25		
Water Level Measurement Method: E-Tape			
Time Start Purge: 1225	Time End Purge: 1234	Time Sampled: 1240	
Measuring Point Description: TOC			
Purge Method: Low-Flow	Purge Depth: 1' from bottom		

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in) ¾''=.0229, 1"=.041, 2"=.163, 4"=.653			Casing Volume (gal)
	14.36	10.25					
	Notes:						

Time	1228	1231	1234					
Depth to Water (ft)	--	--	--					
Volume Purged (mL)	300	600	900					
pH (+/-0.1)	6.85	6.80	6.80					
Temperature C. (+/- 1.0)	17.20	17.00	17.10					
Conductivity uS/cm (3%)	720	706	726					
Turbidity (<10)	21	18	12					
DO (+/- 0.3)	3.69	3.84	3.92					
ORP (+/- 10)	15.8	28.1	29.6					
Color	Clear	Clear	Clear					
Odor/Sheen	None	None	None					

Comments: Recharge before collecting samples

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW1	1	(1) 500mL Amber, (3) 40 mL VOAs, (2) 250mL Preserved Poly	NHO3	HCID, Arsenic, Cadmium, Lead	Clear

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

Project Name: BLT Trucking	Project No.: 0611-01-03-02	Well No.: MW2	Date: 7/26/23
Field Personnel: CZL	Static Water Level: 10.43		
Water Level Measurement Method: E-Tape			
Time Start Purge: 1130	Time End Purge: 1139	Time Sampled: 1145	
Measuring Point Description: TOC			
Purge Method: Low-Flow	Purge Depth: 1' from bottom		

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in) ¾''=.0229, 1"=.041, 2"=.163, 4"=.653			Casing Volume (gal)
	14.25	10.43					
	Notes:						

Time	1133	1136	1139					
Depth to Water (ft)	--	--	--					
Volume Purged (mL)	300	600	900					
pH (+/-0.1)	7.65	6.98	6.99					
Temperature C. (+/- 1.0)	17.10	16.50	16.50					
Conductivity uS/cm (3%)	738	712	710					
Turbidity (<10)	24	18	11					
DO (+/- 0.3)	2.86	2.67	2.80					
ORP (+/- 10)	10.0	13.5	12.9					
Color	Clear	Clear	Clear					
Odor/Sheen	None	None	None					

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW2	1	(1) 500mL Amber, (3) 40 mL VOAs, (2) 250mL Preserved Poly	NHO3	HCID, Arsenic, Cadmium, Lead	Clear

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

Project Name: BLT Trucking	Project No.: 0611-01-03-02	Well No.: MW3	Date: 7/26/23
Field Personnel: CZL	Static Water Level: 9.74		
Water Level Measurement Method: E-Tape			
Time Start Purge: 1022	Time End Purge: 1031	Time Sampled: 1035	
Measuring Point Description: TOC			
Purge Method: Low-Flow	Purge Depth: 1' from bottom		

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in) ¾''=.0229, 1"=.041, 2"=.163, 4"=.653			Casing Volume (gal)
	14.45	9.74					
	Notes:						

Time	1025	1028	1031					
Depth to Water (ft)	--	--	--					
Volume Purged (mL)	300	600	900					
pH (+/-0.1)	6.99	6.95	6.89					
Temperature C. (+/- 1.0)	19.40	18.60	18.60					
Conductivity uS/cm (3%)	1325	1284	1267					
Turbidity (<10)	19	12	14					
DO (+/- 0.3)	2.60	2.41	2.43					
ORP (+/- 10)	-135.7	-139.0	-138.9					
Color	Clear	Clear	Clear					
Odor/Sheen	None	None	None					

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW3	1	(1) 500mL Amber, (3) 40 mL VOAs, (2) 250mL Preserved Poly	NHO3	HCID, Arsenic, Cadmium, Lead	Clear

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

Project Name: BLT Trucking	Project No.: 0611-01-03-02	Well No.: MW4 Date: 7/26/23
Field Personnel: CZL	Static Water Level: 10.70	
Water Level Measurement Method: E-Tape		
Time Start Purge: 0925	Time End Purge: 0934	Time Sampled: 0940
Measuring Point Description: TOC		
Purge Method: Low-Flow	Purge Depth: 1' from bottom	

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in) ¾''=.0229, 1"=.041, 2"=.163, 4"=.653			Casing Volume (gal)
	14.39	10.70					
	Notes:						

Time	0928	0931	0934					
Depth to Water (ft)	--	--	--					
Volume Purged (mL)	300	600	900					
pH (+/-0.1)	6.82	6.82	6.81					
Temperature C. (+/- 1.0)	18.20	18.10	18.10					
Conductivity uS/cm (3%)	1352	1344	1335					
Turbidity (<10)	37	22	17					
DO (+/- 0.3)	1.40	1.31	1.26					
ORP (+/- 10)	-179.7	-177.8	-155.1					
Color	Clear	Clear	Clear					
Odor/Sheen	None	None	None					

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW4	1	(1) 500mL Amber, (3) 40 mL VOAs, (2) 250mL Preserved Poly	NHO3	HCID, Arsenic, Cadmium, Lead	Clear

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

Project Name: BLT Trucking	Project No.: 0611-01-03-02	Well No.: MW5	Date: 7/26/23
Field Personnel: CZL	Static Water Level: 10.06		
Water Level Measurement Method: E-Tape			
Time Start Purge: 0853	Time End Purge: 0856	Time Sampled: 0859	
Measuring Point Description: TOC			
Purge Method: Low-Flow	Purge Depth: 1' from bottom		

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in) ¾''=.0229, 1"=.041, 2"=.163, 4"=.653			Casing Volume (gal)
	14.41	10.06					
	Notes:						

Time	1131	1134	1137					
Depth to Water (ft)	--	--	--					
Volume Purged (mL)	300	600	900					
pH (+/-0.1)	6.77	6.79	6.83					
Temperature C. (+/- 1.0)	18.10	17.70	17.70					
Conductivity uS/cm (3%)	1306	1206	1255					
Turbidity (<10)	1250	142	22					
DO (+/- 0.3)	2.76	2.52	2.72					
ORP (+/- 10)	62.4	55.4	49.4					
Color	Tan	Tan	Clear					
Odor/Sheen	None	None	None					

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW5	1	(1) 500mL Amber, (3) 40 mL VOAs, (2) 250mL Preserved Poly	NHO3	HCID, Arsenic, Cadmium, Lead	Clear

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

Appendix F

Terrestrial Ecological Evaluation Forms

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: BLT Trucking	
Facility/Site Address: 8010 S 259th Street Kent, Washington 98032	
Facility/Site No: 60800	VCP Project No.: NW3338

Step 2: IDENTIFY EVALUATOR		
Please identify below the person who conducted the evaluation and their contact information.		
Name: David Polivka		Title: Senior Hydrogeologist
Organization: EcoEon Inc.		
Mailing address: P.O Box 153		
City: Fox Island	State: WA	Zip code: 98333
Phone: 360-349-0851	Fax: 253-369-6228	E-mail: david@alleci.com

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UNKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☒ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☒ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

- ☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- ☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

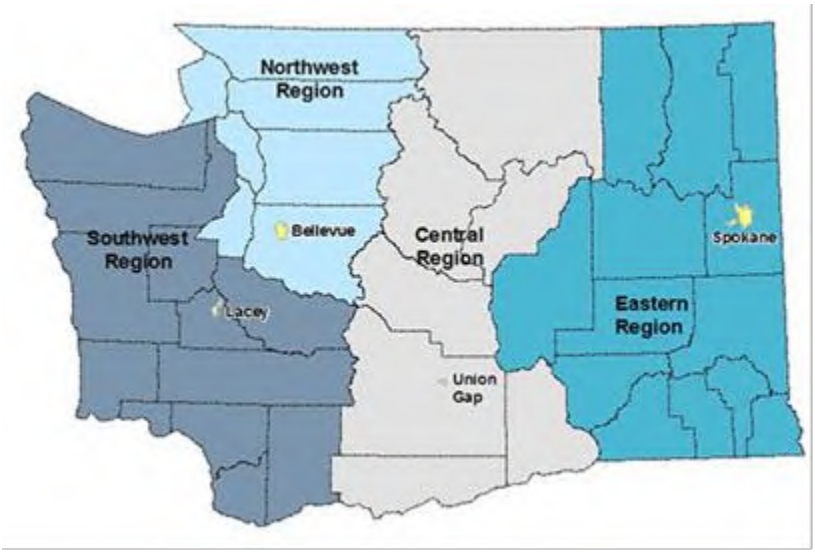
5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call 877-833-6341.

Washington State Department of Ecology
Toxics Cleanup Program

Terrestrial Ecological Evaluation Process - Primary Exclusions

Documentation Form

Exclusion #	Exclusion Detail	Yes or No?	Are Institutional Controls Required If The Exclusion Applies?
1	Will soil contamination be located at least 6 feet beneath the ground surface and less than 15 feet?	Yes / No	Yes
	Will soil contamination located at least 15 feet beneath the ground surface?	Yes / No	No
	Will soil contamination located below the conditional point of compliance?	Yes / No	Yes
2	Will soil contamination be covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed?	Yes / No	Yes
3	Is there less than 1.5 acres of contiguous undeveloped land on the site, or within 500 feet of any area of the site affected by hazardous substances **other than** those listed in the table of Hazardous Substances of Concern? And Is there less than 0.25 acres of contiguous undeveloped land on or within 500 feet of any area of the site affected by hazardous substances **listed in** the table of Hazardous Substances of Concern?	Yes / No Yes / No	Other factors determine
4	Are concentrations of hazardous substances in the soil less than or equal to natural background concentrations of those substances at the point of compliance	Yes / No	No

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493]

[TEE Home]

Appendix G

Laboratory Datasheets

Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957
Phone (360) 352-2110 • libbyenv@gmail.com

August 10, 2023

Kaden Reed
ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

RE: BLT
Work Order Number: L23G100

Enclosed are the results of analyses for samples received by our laboratory on 7/28/2023.

Applicable detection limits and QA/QC data are included. The sample(s) will be disposed of within 30 days unless we are contacted to arrange long term storage.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please feel free to contact us. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry Chilcutt
Senior Chemist

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 7/26/23 Page: 1 of 1

Client: ECI
Project Manager: Kaden Reed
Address: P.O. Box 153
Project Name: BLT
City: Fox Island State: WA Zip: 98333
Location: Kent City, State: Kent, WA
Phone: Fax:
Collector: Kaden Reed Date of Collection: 7/26/23
Client Project # 0611-01
Email: Kaden@all-eci.com

	Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	Arsenic	Cadmium	Lead	Field Notes
1	B23-2	2	1235	S	VOAs/4oz				X			(X)		X		X	X	X		8-7-23 Added DxDx
2	B23-4	4	1235						X					X		X	X	X		per Kaden, via email.
3	B23-6	6	1235																	STD
4	B23-8	8	1235																	
5	B23-10	10	1245						X					X		X	X	X		
6	B23-12	12	1245																	
7	B23-15	15	1245						X					X		X	X	X		
8	B23-20	20	1255																	
9																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				

Relinquished by:	Date / Time	Received by:	Date / Time
Kelly Mellard	7/28/23 11:13Am		7-28-23 1112

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT: 24HR 48HR (5-DAY)

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

ECI 15 South Oregon Avenue, Suite 104 Tacoma, WA 98409	**Project:** BLT **Project Number:** 0611-01 **Project Manager:** Kaden Reed	**City/State:** Kent, WA **Work Order:** L23G100 **Reported:** 08/10/2023 13:19

Notes and Definitions

Item	Definition
S	Spike recovery indicates a possible matrix effect.
RL	Reporting Limit
ND	Analyte NOT DETECTED at or above the reporting limit
DET	Analyte DETECTED at or above the reporting limit
Qual	Qualifier
	All results reported on an "as received" basis unless indicated by "Dry"
RPD	Relative Percent Difference
%REC	Percent Recovery
Parent	Sample that was matrix spiked or duplicated

Work Order Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
L23G100-01	B23-2	Soil	07/26/2023	07/28/2023
L23G100-02	B23-4	Soil	07/26/2023	07/28/2023
L23G100-03	B23-6	Soil	07/26/2023	07/28/2023
L23G100-04	B23-8	Soil	07/26/2023	07/28/2023
L23G100-05	B23-10	Soil	07/26/2023	07/28/2023
L23G100-06	B23-12	Soil	07/26/2023	07/28/2023
L23G100-07	B23-15	Soil	07/26/2023	07/28/2023
L23G100-08	B23-20	Soil	07/26/2023	07/28/2023

Libby Environmental, Inc.

ECI 15 South Oregon Avenue, Suite 104 Tacoma, WA 98409	**Project:** BLT **Project Number:** 0611-01 **Project Manager:** Kaden Reed	**City/State:** Kent, WA **Work Order:** L23G100 **Reported:** 08/10/2023 13:19

Libby Environmental Sample Detection Summary

Analyte	Result	Qual	Units	RL	Method
Sample: **B23-2**			Lab#: L23G100-01		
Oil	650		mg/kg dry	280	NWTPH-Dx/Dx
Oil	DET		mg/kg dry	280	NWTPH-HCID
Aroclor 1254	5.3		mg/kg dry	0.56	8082
Cadmium	3.5		mg/kg dry	1.1	7010
Lead	240		mg/kg dry	5.6	7010
Sample: **B23-4**			Lab#: L23G100-02		
Lead	14		mg/kg dry	5.4	7010

Note: If no entry is made, then no target compounds were detected.

Libby Environmental, Inc.

ECI 15 South Oregon Avenue, Suite 104 Tacoma, WA 98409	**Project:** BLT **Project Number:** 0611-01 **Project Manager:** Kaden Reed	**City/State:** Kent, WA **Work Order:** L23G100 **Reported:** 08/10/2023 13:19

Sample Results

Client Sample ID: B23-2

Lab ID: L23G100-01 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		22	mg/kg dry	08/01/2023	AR
Diesel	ND		56	mg/kg dry	08/01/2023	AR
Oil	DET		280	mg/kg dry	08/01/2023	AR
Surrogate: 2-FBP	*105%*		*43.6-129*		*08/01/2023*	*AR*
Diesel and Oil by NWTPH-Dx/Dx						
Diesel	ND		56	mg/kg dry	08/01/2023	KLI
Oil	650		280	mg/kg dry	08/01/2023	KLI
Surrogate: 2-FBP	*105%*		*43.6-129*		*08/01/2023*	*KLI*
Total Metals by EPA Method 7010						
Cadmium	3.5		1.1	mg/kg dry	08/04/2023	KD
Lead	240		5.6	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1254	5.3		0.56	mg/kg dry	07/29/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/29/2023	SC
Surrogate: TCMX	*93.5%*		*62-162*		*07/29/2023*	*SC*
Surrogate: DCBP	*73.3%*		*60.9-153*		*07/29/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	11		0.50	%	07/31/2023	SG

ECI 15 South Oregon Avenue, Suite 104 Tacoma, WA 98409	**Project:** BLT **Project Number:** 0611-01 **Project Manager:** Kaden Reed	**City/State:** Kent, WA **Work Order:** L23G100 **Reported:** 08/10/2023 13:19

Sample Results (Continued)

Client Sample ID: B23-4

Lab ID: L23G100-02 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		22	mg/kg dry	08/01/2023	AR
Diesel	ND		54	mg/kg dry	08/01/2023	AR
Oil	ND		270	mg/kg dry	08/01/2023	AR
Surrogate: 2-FBP	*102%*		*43.6-129*		*08/01/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	14		5.4	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1254	ND		0.11	mg/kg dry	07/29/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/29/2023	SC
Surrogate: TCMX	*89.1%*		*62-162*		*07/29/2023*	*SC*
Surrogate: DCBP	*84.6%*		*60.9-153*		*07/29/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	7.9		0.50	%	07/31/2023	SG

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
Work Order: L23G100
Reported: 08/10/2023 13:19

Sample Results (Continued)

Client Sample ID: B23-10

Lab ID: L23G100-05 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		28	mg/kg dry	08/01/2023	AR
Diesel	ND		70	mg/kg dry	08/01/2023	AR
Oil	ND		350	mg/kg dry	08/01/2023	AR
Surrogate: 2-FBP	*116%*		*43.6-129*		*08/01/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.4	mg/kg dry	08/04/2023	KD
Lead	ND		7.0	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1221	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1232	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1242	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1248	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1254	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1260	ND		0.14	mg/kg dry	07/29/2023	SC
Surrogate: TCMX	*91.7%*		*62-162*		*07/29/2023*	*SC*
Surrogate: DCBP	*89.7%*		*60.9-153*		*07/29/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	28		0.50	%	07/31/2023	SG

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
Work Order: L23G100
Reported: 08/10/2023 13:19

Sample Results (Continued)

Client Sample ID: B23-15

Lab ID: L23G100-07 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		27	mg/kg dry	08/01/2023	AR
Diesel	ND		69	mg/kg dry	08/01/2023	AR
Oil	ND		340	mg/kg dry	08/01/2023	AR
Surrogate: 2-FBP	*102%*		*43.6-129*		*08/01/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.4	mg/kg dry	08/04/2023	KD
Lead	ND		6.9	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1221	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1232	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1242	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1248	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1254	ND		0.14	mg/kg dry	07/29/2023	SC
Aroclor 1260	ND		0.14	mg/kg dry	07/29/2023	SC
Surrogate: TCMX	*90.4%*		*62-162*		*07/29/2023*	*SC*
Surrogate: DCBP	*73.1%*		*60.9-153*		*07/29/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	27		0.50	%	07/31/2023	SG

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
Work Order: L23G100
Reported: 08/10/2023 13:19

Quality Control

HCID by NWTPH-Dx/Dx

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXH0011 - Extraction										
Blank (BXH0011-BLK1)					Prepared & Analyzed: 8/1/2023					
Gasoline	ND		20	mg/kg wet						
Diesel	ND		50	mg/kg wet						
Oil	ND		250	mg/kg wet						
Surrogate: 2-FBP			*20.7*	*mg/kg*	*20.0*		*104*	*43.6-129*		
LCS (BXH0011-BS1)					Prepared & Analyzed: 8/1/2023					
Diesel	DET		50	mg/kg wet	100		79.4	72.6-130		
Surrogate: 2-FBP			*20.0*	*mg/kg*	*20.0*		*99.8*	*43.6-129*		
Duplicate (BXH0011-DUP1)		**Parent: L23G097-01**			Prepared & Analyzed: 8/1/2023					
Gasoline	ND		21	mg/kg dry		ND				35
Diesel	ND		53	mg/kg dry		ND				35
Oil	ND		260	mg/kg dry		ND				35
Surrogate: 2-FBP			*21.8*	*mg/kg*	*20.0*		*109*	*43.6-129*		

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
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Quality Control
(Continued)

Diesel and Oil by NWTPH-Dx/Dx

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXH0011 - Extraction										
Blank (BXH0011-BLK1)					Prepared & Analyzed: 8/1/2023					
Diesel	ND		50	mg/kg wet						
Oil	ND		250	mg/kg wet						
Surrogate: 2-FBP			*20.7*	*ug/mL*	*20.0*		*104*	*43.6-129*		
LCS (BXH0011-BS1)					Prepared & Analyzed: 8/1/2023					
Diesel	79.4		50	mg/kg wet	100		79.4	72.6-130		
Surrogate: 2-FBP			*20.0*	*ug/mL*	*20.0*		*99.8*	*43.6-129*		
Duplicate (BXH0011-DUP1)		**Parent: L23G097-01**			Prepared & Analyzed: 8/1/2023					
Diesel	ND		53	mg/kg dry		ND				35
Oil	195		260	mg/kg dry		ND				35
Surrogate: 2-FBP			*21.8*	*ug/mL*	*20.0*		*109*	*43.6-129*		

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
Work Order: L23G100
Reported: 08/10/2023 13:19

Quality Control
(Continued)

Total Metals by EPA Method 7010

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXH0006 - Metals Digest										
Blank (BXH0006-BLK1)					Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	ND		1.0	mg/kg wet						
Lead	ND		5.0	mg/kg wet						
LCS (BXH0006-BS1)					Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	0.805		1.0	mg/kg wet	1.00		80.5	80-120		
Lead	1.08		5.0	mg/kg wet	1.00		108	80-120		
LCS Dup (BXH0006-BSD1)					Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	0.806		1.0	mg/kg wet	1.00		80.6	80-120	0.123	20
Lead	1.13		5.0	mg/kg wet	1.00		113	80-120	4.25	20
Duplicate (BXH0006-DUP1)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	3.62		1.1	mg/kg dry		3.53			2.46	20
Lead	272		5.6	mg/kg dry		242			11.9	20
Duplicate (BXH0006-DUP2)		**Parent: L23G102-10**			Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	0.415		1.1	mg/kg dry		0.494			17.3	20
Lead	52.4		5.5	mg/kg dry		62.6			17.8	20
Matrix Spike (BXH0006-MS1)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	4.43		1.1	mg/kg dry	1.12	3.53	80.6	75-125		
Lead	45.6		5.6	mg/kg dry	1.12	242	NR	75-125		
Matrix Spike Dup (BXH0006-MSD1)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	4.48		1.1	mg/kg dry	1.12	3.53	84.8	75-125	1.04	20
Lead	43.1		5.6	mg/kg dry	1.12	242	NR	75-125	5.70	20
Post Spike (BXH0006-PS1)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/2/2023					
Lead	469		1100	mg/kg dry	224	242	102	75-125		
Post Spike (BXH0006-PS2)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/2/2023					
Lead	481		1100	mg/kg dry	224	242	107	75-125		

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
Work Order: L23G100
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Quality Control
(Continued)

PCB (Polychlorinated Biphenyls) by EPA Method 8082

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXG0136 - Extraction										
Blank (BXG0136-BLK1)					Prepared & Analyzed: 7/29/2023					
Aroclor 1016	ND		0.10	mg/kg wet						
Aroclor 1221	ND		0.10	mg/kg wet						
Aroclor 1232	ND		0.10	mg/kg wet						
Aroclor 1242	ND		0.10	mg/kg wet						
Aroclor 1248	ND		0.10	mg/kg wet						
Aroclor 1254	ND		0.10	mg/kg wet						
Aroclor 1260	ND		0.10	mg/kg wet						
Surrogate: TCMX			*0.0169*	*ug/mL*	*0.0200*		*84.5*	*62-162*		
Surrogate: DCBP			*0.0138*	*ug/mL*	*0.0200*		*69.0*	*60.9-153*		
LCS (BXG0136-BS1)					Prepared & Analyzed: 7/29/2023					
Aroclor 1016	0.0972		0.10	mg/kg wet	0.100		97.2	80-123		
Aroclor 1260	0.0924		0.10	mg/kg wet	0.100		92.4	77.7-120		
Surrogate: TCMX			*0.0167*	*ug/mL*	*0.0200*		*83.5*	*62-162*		
Surrogate: DCBP			*0.0124*	*ug/mL*	*0.0200*		*62.1*	*60.9-153*		
Duplicate (BXG0136-DUP1)		**Parent: L23G100-07**			Prepared & Analyzed: 7/29/2023					
Aroclor 1016	ND		0.14	mg/kg dry		ND				35
Aroclor 1260	ND		0.14	mg/kg dry		ND				35
Surrogate: TCMX			*0.0199*	*ug/mL*	*0.0200*		*99.3*	*62-162*		
Surrogate: DCBP			*0.0160*	*ug/mL*	*0.0200*		*79.9*	*60.9-153*		
Matrix Spike (BXG0136-MS1)		**Parent: L23G100-07**			Prepared & Analyzed: 7/29/2023					
Aroclor 1016	0.141		0.14	mg/kg dry	0.137	ND	103	86.7-119		
Aroclor 1260	0.151		0.14	mg/kg dry	0.137	ND	110	77.6-125		
Surrogate: TCMX			*0.0226*	*ug/mL*	*0.0200*		*113*	*62-162*		
Surrogate: DCBP			*0.0148*	*ug/mL*	*0.0200*		*74.1*	*60.9-153*		
Matrix Spike Dup (BXG0136-MSD1)		**Parent: L23G100-07**			Prepared & Analyzed: 7/29/2023					
Aroclor 1016	0.116	S	0.14	mg/kg dry	0.137	ND	84.5	86.7-119	19.8	35
Aroclor 1260	0.120		0.14	mg/kg dry	0.137	ND	87.8	77.6-125	22.4	35
Surrogate: TCMX			*0.0202*	*ug/mL*	*0.0200*		*101*	*62-162*		
Surrogate: DCBP			*0.0142*	*ug/mL*	*0.0200*		*71.1*	*60.9-153*		

ECI 15 South Oregon Avenue, Suite 104 Tacoma, WA 98409	**Project:** BLT **Project Number:** 0611-01 **Project Manager:** Kaden Reed	**City/State:** Kent, WA **Work Order:** L23G100 **Reported:** 08/10/2023 13:19

Quality Control
(Continued)

Moisture by ASTM D2216-19

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXG0140 - Gen Chem										
LCS (BXG0140-BS1)					Prepared & Analyzed: 7/31/2023					
Moisture	17			%	17.0		99.0	90-115		

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

BLT Project
ECI
Libby Work Order # L23G100
Date Received 7/28/2023
Time Received 11:12 AM

Received By AA

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody is complete?	☑ Yes	☐ No	
2. How was the sample delivered?	☑ Hand Delivered	☐ Picked Up	☐ Shipped

Log In

3. Cooler or Shipping Container is present.	☑ Yes	☐ No	☐ N/A
4. Cooler or Shipping Container is in good condition.	☑ Yes	☐ No	☐ N/A
5. Cooler or Shipping Container has Custody Seals present.	☐ Yes	☑ No	☐ N/A
6. Was an attempt made to cool the samples?	☑ Yes	☐ No	☐ N/A
7. Temperature of cooler (0°C to 8°C recommended)	5.6 °C		
8. Temperature of sample(s) (0°C to 8°C recommended)	6.0 °C		
9. Did all containers arrive in good condition (unbroken)?	☑ Yes	☐ No	
10. Is it clear what analyses were requested?	☑ Yes	☐ No	
11. Did container labels match Chain of Custody?	☑ Yes	☐ No	
12. Are matrices correctly identified on Chain of Custody?	☑ Yes	☐ No	
13. Are correct containers used for the analysis indicated?	☑ Yes	☐ No	
14. Is there sufficient sample volume for indicated analysis?	☑ Yes	☐ No	
15. Were all containers properly preserved per each analysis?	☑ Yes	☐ No	
16. Were VOA vials collected correctly (no headspace)?	☑ Yes	☐ No	☐ N/A
17. Were all holding times able to be met?	☑ Yes	☐ No	

Discrepancies/ Notes

18. Was client notified of all discrepancies? ☐ Yes ☐ No ☑ N/A

Person Notified: _____ Date: _____

By Whom: _____ Via: _____

Regarding: _____

19. Comments. _____

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
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www.friedmanandbruya.com

August 4, 2023

Sherry Chilcutt, Project Manager
Libby Environmental
3322 South Bay Rd NE
Olympia, WA 98506

Dear Ms Chilcutt:

Included are the results from the testing of material submitted on August 1, 2023 from the BLT, F&BI 308003 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
LBY0804R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 1, 2023 by Friedman & Bruya, Inc. from the Libby Environmental BLT, F&BI 308003 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Libby Environmental
308003 -01	B23-2
308003 -02	B23-4
308003 -03	B23-10
308003 -04	B23-15

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 6020B

Client ID:	B23-2	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308003
Date Extracted:	08/01/23	Lab ID:	308003-01
Date Analyzed:	08/02/23	Data File:	308003-01.144
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.36

Analysis For Total Metals By EPA Method 6020B

Client ID:	B23-4	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308003
Date Extracted:	08/01/23	Lab ID:	308003-02
Date Analyzed:	08/02/23	Data File:	308003-02.145
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.90

Analysis For Total Metals By EPA Method 6020B

Client ID:	B23-10	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308003
Date Extracted:	08/01/23	Lab ID:	308003-03
Date Analyzed:	08/02/23	Data File:	308003-03.168
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.91

Analysis For Total Metals By EPA Method 6020B

Client ID:	B23-15	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308003
Date Extracted:	08/01/23	Lab ID:	308003-04
Date Analyzed:	08/02/23	Data File:	308003-04.143
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.89

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Libby Environmental
Date Received:	Not Applicable	Project:	BLT, F&BI 308003
Date Extracted:	08/01/23	Lab ID:	I3-597 mb
Date Analyzed:	08/01/23	Data File:	I3-597 mb.129
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Date of Report: 08/04/23
Date Received: 08/01/23
Project: BLT, F&BI 308003

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 307371-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.06	93 b	101 b	75-125	8 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	104	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

SUBCONTRACT ORDER L23G100

308003 08/01/23 M1

Sending Laboratory:

Libby Environmental, Inc.
3322 South Bay Road NE
Olympia, WA 98506
Phone: 360-352-2110
Fax: 360-352-4154

Project Manager: Sherry Chilcutt
LibbyEnv@gmail.com

Subcontracted Laboratory:

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Phone: (206) 285-8282
Fax:

Requested Turnaround (TAT) STD

Project: BLT

Analysis	Comments	LabID	
Client Sample ID: B23-2 ***Soil Sampled: 07/26/2023 12:35***		01	Lab ID: L23G100-01
Metals SUB As			
Containers Supplied:			
Client Sample ID: B23-4 ***Soil Sampled: 07/26/2023 12:35***		02	Lab ID: L23G100-02
Metals SUB As			
Containers Supplied:			
Client Sample ID: B23-10 ***Soil Sampled: 07/26/2023 12:45***		03	Lab ID: L23G100-05
Metals SUB As			
Containers Supplied:			
Client Sample ID: B23-15 ***Soil Sampled: 07/26/2023 12:45***		04	Lab ID: L23G100-07
Metals SUB As			
Containers Supplied:			

Samples received at 3 °C

Emmanuel Hartley 7/31/23
Released By Date

ANH PHAN 08/01/23 @09:40
Received By Date

7-31-23

Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957
Phone (360) 352-2110 • libbyenv@gmail.com

August 22, 2023

Kaden Reed
ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

RE: BLT
Work Order Number: L23G102

Enclosed are the results of analyses for samples received by our laboratory on 7/28/2023.

Applicable detection limits and QA/QC data are included. The sample(s) will be disposed of within 30 days unless we are contacted to arrange long term storage.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please feel free to contact us. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry Chilcutt
Senior Chemist

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

www.LibbyEnvironmental.com

Date: 7/26/23 Page: 1 of 43

Client: ELT
Address: PO Box 153
City: Fox Island State: WA Zip: 98333
Phone: Fax:
Client Project # 061-01

Project Manager: Kaela Reed
Project Name: BLT
Location: Kent City, State: Kent, WA
Collector: Kaela Reed Date of Collection: 7/26/23
Email: KaelaC4llc.com

	Sample Number	Depth	Time	Sample Type	Container Type	VOC 8260	PCE & Daughter Prod.	NWTPH-Gx	BTEX (8260) / (8021)	NWTPH-HCID	NWTPH-Dx / Dx	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	c PAH 8270	~~PAH 8270~~ As by 2010	Semi Vol 8270	Arsenic	Cadmium	Lead	Field Notes
1	BA-4	4	0855	S	VOA/40z				X	⊗	X							X	X	X	8-8-23 Added
2	BA-6	6	0855																		per David via email.
3	B19-8	8	0855						X		X							X	X	X	STO
4	B19-10	10	0905						X		X				⊗			X	X	X	
5	B19-12	12	0905																		
6	B19-15	15	0920						X		X							X	X	X	
7	B19-18	16	0920						X		X							X	X	X	
8	B19-20	20	0920																		
9	B20-2	2	0940						X		X				⊗			X	X	X	
10	B20-4	4	0940						X	⊗	X							X	X	X	
11	B20-6	6	0945																		
12	B20-8	8	0945						X		X							X	X	X	
13	B20-10	10	0950						X		X				⊗			X	X	X	
14	B20-12	12	0950																		
15	B20-16	16	1005						X		X							X	X	X	
16	B20-20	20	1005																		
17	B21-2	2	1025						X	⊗	X				⊗			X	X	X	

Relinquished by: Kelly Mallard Date / Time: 7/26/23 11:14
Received by: Date / Time: 7-28-23 1113
Relinquished by: Date / Time
Received by: Date / Time
Relinquished by: Date / Time
Received by: Date / Time

Sample Receipt

Good Condition?	Y	N
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks:

TAT: 24HR 48HR (5-DAY)

Distribution: White - Lab, Yellow - Originator

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

www.LibbyEnvironmental.com

Date: 7/26/23 Page: 2 of ~~4~~ 3

Client: ECT
Address: P.O. Box 153
City: Fox Island State: WA Zip: 98333
Phone: Fax:
Client Project # 0611-01

Project Manager: Kaden Reed
Project Name: BLT
Location: Kent City, State: Kent WA
Collector: Kaden Reed Date of Collection: 7/26/23
Email: kaden@galleci.com

	Sample Number	Depth	Time	Sample Type	Container Type	VOC 8260	PCE & Daughter Prod.	NWTPH-Gx	BTEX (8260) / (8021)	NWTPH-HCID	NWTPH-Dx / Dx	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	c PAH 8270	~~PAH 8270~~ As by 7010	Semi Vol 8270	Arsenic	Cadmium	Lead	Field Notes
1	B21-4	4	1025	S	VOA/4oz				X		X				⊗		X	X	X		8-8-23 Added
2	B21-6	6	1035	↓	↓						⊗										per David via email.
3	B21-8	8	1035																		STD
4	B21-10	10	1045						X		X						X	X	X		
5	B21-12	12	1045																		
6	B21-15	15	1050						X		X						X	X	X		
7	B22-2	2	1145						X		X				⊗		X	X	X		
8	B22-4	4	1145						X		X				⊗		X	X	X		
9	B22-6	6	1155								⊗										
10	B22-8	8	1155																		
11	B22-12	12	1200						X		X				⊗		X	X	X		
12	B22-15	15	1200						X		X						X	X	X		
13	B22-20	20	1215	↓	↓																
14																					
15																					
16																					
17																					

Relinquished by:	Date / Time	Received by:	Date / Time
Kelly Mellard	7/28/23 11:30am	KS	7-28-23
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt

Good Condition?	Y	N
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks:

TAT: 24HR 48HR 5-DAY

Distribution: White - Lab, Yellow - ~~Originator~~

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

www.LibbyEnvironmental.com

Date: 7/26/23 Page: 1 of 1

Client: ECI
Address: PO Box 153
City: Fox Island State: WA Zip: 98333
Phone: Fax:
Client Project # 0611-01

Project Manager: Kaden Reed
Project Name: BLT
Location: Kent City, State: Kent, WA
Collector: Chance Long Date of Collection: 7/26/23
Email: Kaden@Alleci.com

	Sample Number	Depth	Time	Sample Type	Container Type	VOC 8260	PCE & Daughter Prod.	NWTPH-Gx	BTEX (8260) / (8021)	NWTPH-HCID	NWTPH-Dx / Dx	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	c PAH 8270	PAH 8270	Semi Vol 8270	T/D Arsenic	T/D As by 7010	Field Notes
1	MW1	—	1240	W	Multi				X								X	(X)		8-8-23 Added
2	MW2	—	1145						X								X	(X)		per David via email.
3	MW3	—	1035						X								X	(X)		STD
4	MW4	—	0940						X	(X)							X	(X)		
5	MW5	—	0905						X								X	(X)		
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				

Relinquished by:	Date / Time	Received by:	Date / Time
Kelly Mallard	7/28/23 11:4	[signature]	7-28-23 1114
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt

Good Condition?	Y	N
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks:

TAT: 24HR 48HR 5-DAY

Distribution: White - Lab, Yellow - Originator

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
Work Order: L23G102
Reported: 08/22/2023 14:49

Notes and Definitions

Item	Definition
R	High Relative Percent Difference observed.
S	Spike recovery indicates a possible matrix effect.
S1	Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.
RL	Reporting Limit
ND	Analyte NOT DETECTED at or above the reporting limit
DET	Analyte DETECTED at or above the reporting limit
Qual	Qualifier
	All results reported on an "as received" basis unless indicated by "Dry"
RPD	Relative Percent Difference
%REC	Percent Recovery
Parent	Sample that was matrix spiked or duplicated

Work Order Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
L23G102-01	B19-4	Soil	07/26/2023	07/28/2023
L23G102-02	B19-6	Soil	07/26/2023	07/28/2023
L23G102-03	B19-8	Soil	07/26/2023	07/28/2023
L23G102-04	B19-10	Soil	07/26/2023	07/28/2023
L23G102-05	B19-12	Soil	07/26/2023	07/28/2023
L23G102-06	B19-15	Soil	07/26/2023	07/28/2023
L23G102-07	B19-18	Soil	07/28/2023	07/28/2023
L23G102-08	B19-20	Soil	07/28/2023	07/28/2023
L23G102-09	B20-2	Soil	07/28/2023	07/28/2023
L23G102-10	B20-4	Soil	07/28/2023	07/28/2023
L23G102-11	B20-6	Soil	07/26/2023	07/28/2023
L23G102-12	B20-8	Soil	07/26/2023	07/28/2023
L23G102-13	B20-10	Soil	07/26/2023	07/28/2023
L23G102-14	B20-12	Soil	07/26/2023	07/28/2023
L23G102-15	B20-16	Soil	07/26/2023	07/28/2023
L23G102-16	B20-20	Soil	07/26/2023	07/28/2023
L23G102-17	B21-2	Soil	07/26/2023	07/28/2023
L23G102-18	B21-4	Soil	07/26/2023	07/28/2023
L23G102-19	B21-6	Soil	07/26/2023	07/28/2023
L23G102-20	B21-8	Soil	07/26/2023	07/28/2023
L23G102-21	B21-10	Soil	07/26/2023	07/28/2023
L23G102-22	B21-12	Soil	07/26/2023	07/28/2023
L23G102-23	B21-15	Soil	07/26/2023	07/28/2023
L23G102-24	B22-2	Soil	07/26/2023	07/28/2023
L23G102-25	B22-4	Soil	07/26/2023	07/28/2023
L23G102-26	B22-6	Soil	07/26/2023	07/28/2023
L23G102-27	B22-8	Soil	07/26/2023	07/28/2023
L23G102-28	B22-12	Soil	07/26/2023	07/28/2023

Libby Environmental, Inc.

ECI 15 South Oregon Avenue, Suite 104 Tacoma, WA 98409	**Project:** BLT **Project Number:** 0611-01 **Project Manager:** Kaden Reed	**City/State:** Kent, WA **Work Order:** L23G102 **Reported:** 08/22/2023 14:49

Work Order Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
L23G102-29	B22-15	Soil	07/26/2023	07/28/2023
L23G102-30	B22-20	Soil	07/26/2023	07/28/2023
L23G102-31	MW1	Water	07/26/2023	07/28/2023
L23G102-32	MW2	Water	07/26/2023	07/28/2023
L23G102-33	MW3	Water	07/26/2023	07/28/2023
L23G102-34	MW4	Water	07/26/2023	07/28/2023
L23G102-35	MW5	Water	07/26/2023	07/28/2023

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
Work Order: L23G102
Reported: 08/22/2023 14:49

Libby Environmental Sample Detection Summary

Analyte	Result	Qual	Units	RL	Method
Sample: **B19-4**			Lab#: L23G102-01		
Oil	700		mg/kg dry	260	NWTPH-Dx/Dx
Oil	DET		mg/kg dry	260	NWTPH-HCID
Aroclor 1254	0.22		mg/kg dry	0.10	8082
Lead	20		mg/kg dry	5.2	7010
Sample: **B19-8**			Lab#: L23G102-03		
Lead	33		mg/kg dry	5.8	7010
Sample: **B19-10**			Lab#: L23G102-04		
Arsenic	12		mg/kg dry	5.3	7010
Lead	7.8		mg/kg dry	5.3	7010
Sample: **B20-2**			Lab#: L23G102-09		
Aroclor 1254	0.47		mg/kg dry	0.11	8082
Arsenic	6.5		mg/kg dry	5.5	7010
Lead	67		mg/kg dry	5.5	7010
Sample: **B20-4**			Lab#: L23G102-10		
Oil	400		mg/kg dry	270	NWTPH-Dx/Dx
Oil	DET		mg/kg dry	270	NWTPH-HCID
Aroclor 1254	0.43		mg/kg dry	0.11	8082
Lead	63		mg/kg dry	5.5	7010
Sample: **B20-8**			Lab#: L23G102-12		
Aroclor 1254	1.0		mg/kg dry	0.11	8082
Lead	62		mg/kg dry	5.7	7010
Sample: **B21-2**			Lab#: L23G102-17		
Oil	450		mg/kg dry	280	NWTPH-Dx/Dx
Oil	DET		mg/kg dry	280	NWTPH-HCID
Aroclor 1254	0.63		mg/kg dry	0.11	8082
Lead	34		mg/kg dry	5.6	7010
Sample: **B21-4**			Lab#: L23G102-18		
Aroclor 1254	6.4		mg/kg dry	0.57	8082
Arsenic	6.0		mg/kg dry	5.7	7010
Lead	36		mg/kg dry	5.7	7010

ECI 15 South Oregon Avenue, Suite 104 Tacoma, WA 98409	**Project:** BLT **Project Number:** 0611-01 **Project Manager:** Kaden Reed	**City/State:** Kent, WA **Work Order:** L23G102 **Reported:** 08/22/2023 14:49

Libby Environmental Sample Detection Summary (Continued)

Analyte	Result	Qual	Units	RL	Method
Sample: **B21-6**			Lab#: L23G102-19		
Aroclor 1254	0.19		mg/kg dry	0.12	8082
Sample: **B22-2**			Lab#: L23G102-24		
Aroclor 1254	0.80		mg/kg dry	0.11	8082
Lead	43		mg/kg dry	5.5	7010
Sample: **B22-4**			Lab#: L23G102-25		
Aroclor 1254	1.4		mg/kg dry	0.11	8082
Lead	87		mg/kg dry	5.6	7010
Sample: **B22-6**			Lab#: L23G102-26		
Aroclor 1254	0.36		mg/kg dry	0.11	8082
Sample: **B22-12**			Lab#: L23G102-28		
Lead	65		mg/kg dry	7.5	7010
Sample: **MW1**			Lab#: L23G102-31		
Arsenic	5.6		ug/L	3.0	7010
Arsenic	6.7		ug/L	3.0	7010
Sample: **MW2**			Lab#: L23G102-32		
Arsenic	5.6		ug/L	3.0	7010
Arsenic	7.3		ug/L	3.0	7010
Sample: **MW3**			Lab#: L23G102-33		
Arsenic	7.9		ug/L	3.0	7010
Arsenic	64		ug/L	3.0	7010
Sample: **MW4**			Lab#: L23G102-34		
Oil	1500		ug/L	350	NWTPH-Dx/Dx
Arsenic	12		ug/L	3.0	7010
Oil	DET		ug/L	500	NWTPH-HCID
Arsenic	64		ug/L	3.0	7010
Sample: **MW5**			Lab#: L23G102-35		
Arsenic	6.2		ug/L	3.0	7010
Arsenic	44		ug/L	3.0	7010

Note: If no entry is made, then no target compounds were detected.

ECI
15 South Oregon Avenue, Suite 104
Tacoma, WA 98409

Project: BLT
Project Number: 0611-01
Project Manager: Kaden Reed

City/State: Kent, WA
Work Order: L23G102
Reported: 08/22/2023 14:49

Sample Results

Client Sample ID: B19-4

Lab ID: L23G102-01 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		21	mg/kg dry	08/01/2023	AR
Diesel	ND		52	mg/kg dry	08/01/2023	AR
Oil	DET		260	mg/kg dry	08/01/2023	AR
Surrogate: 2-FBP	*96.6%*		*43.6-129*		*08/01/2023*	*AR*
Diesel and Oil by NWTPH-Dx/Dx						
Diesel	ND		52	mg/kg dry	08/01/2023	AR
Oil	700		260	mg/kg dry	08/01/2023	AR
Surrogate: 2-FBP	*96.6%*		*43.6-129*		*08/01/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.0	mg/kg dry	08/04/2023	KD
Lead	20		5.2	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.10	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.10	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.10	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.10	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.10	mg/kg dry	07/31/2023	SC
Aroclor 1254	0.22		0.10	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.10	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*80.1%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*77.3%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	3.4		0.50	%	07/31/2023	SG

ECI 15 South Oregon Avenue, Suite 104 Tacoma, WA 98409	**Project:** BLT **Project Number:** 0611-01 **Project Manager:** Kaden Reed	**City/State:** Kent, WA **Work Order:** L23G102 **Reported:** 08/22/2023 14:49

Sample Results (Continued)

Client Sample ID: B19-8

Lab ID: L23G102-03 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		23	mg/kg dry	08/01/2023	AR
Diesel	ND		58	mg/kg dry	08/01/2023	AR
Oil	ND		290	mg/kg dry	08/01/2023	AR
Surrogate: 2-FBP	*110%*		*43.6-129*		*08/01/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.2	mg/kg dry	08/04/2023	KD
Lead	33		5.8	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.12	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.12	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.12	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.12	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.12	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.12	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.12	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*92.6%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*88.7%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	13		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B19-10

Lab ID: L23G102-04 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		21	mg/kg dry	08/01/2023	AR
Diesel	ND		53	mg/kg dry	08/01/2023	AR
Oil	ND		270	mg/kg dry	08/01/2023	AR
Surrogate: 2-FBP	*102%*		*43.6-129*		*08/01/2023*	*AR*
Total Metals by EPA Method 7010						
Arsenic	12		5.3	mg/kg dry	08/18/2023	KD
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	7.8		5.3	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*89.2%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*87.4%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	5.9		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B19-15

Lab ID: L23G102-06 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		29	mg/kg dry	08/02/2023	AR
Diesel	ND		72	mg/kg dry	08/02/2023	AR
Oil	ND		360	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*96.4%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.4	mg/kg dry	08/04/2023	KD
Lead	ND		7.2	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.14	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*81.4%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*89.8%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	31		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B19-18

Lab ID: L23G102-07 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		29	mg/kg dry	08/02/2023	AR
Diesel	ND		72	mg/kg dry	08/02/2023	AR
Oil	ND		360	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*100%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.4	mg/kg dry	08/04/2023	KD
Lead	ND		7.2	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.14	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*92.5%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*70.9%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	30		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B20-2

Lab ID: L23G102-09 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		22	mg/kg dry	08/02/2023	AR
Diesel	ND		55	mg/kg dry	08/02/2023	AR
Oil	ND		280	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*97.6%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Arsenic	6.5		5.5	mg/kg dry	08/18/2023	KD
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	67		5.5	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1254	0.47		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*88.5%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*90.6%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	9.2		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B20-4

Lab ID: L23G102-10 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		22	mg/kg dry	08/02/2023	AR
Diesel	ND		55	mg/kg dry	08/02/2023	AR
Oil	DET		270	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*94.2%*		*43.6-129*		*08/02/2023*	*AR*
Diesel and Oil by NWTPH-Dx/Dx						
Diesel	ND		55	mg/kg dry	08/02/2023	AR
Oil	400		270	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*94.2%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	63		5.5	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1254	0.43		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*86.5%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*61.1%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	8.9		0.50	%	07/31/2023	SG

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Client Sample ID: B20-8

Lab ID: L23G102-12 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		23	mg/kg dry	08/02/2023	AR
Diesel	ND		57	mg/kg dry	08/02/2023	AR
Oil	ND		280	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*99.0%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	62		5.7	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1254	1.0		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*83.0%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*100%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	12		0.50	%	07/31/2023	SG

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Client Sample ID: B20-10

Lab ID: L23G102-13 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		27	mg/kg dry	08/02/2023	AR
Diesel	ND		66	mg/kg dry	08/02/2023	AR
Oil	ND		330	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*96.1%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Arsenic	ND		6.6	mg/kg dry	08/18/2023	KD
Cadmium	ND		1.3	mg/kg dry	08/04/2023	KD
Lead	ND		6.6	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.13	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.13	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.13	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.13	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.13	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.13	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.13	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*92.5%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*76.2%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	25		0.50	%	07/31/2023	SG

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Client Sample ID: B20-16

Lab ID: L23G102-15 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		28	mg/kg dry	08/02/2023	AR
Diesel	ND		69	mg/kg dry	08/02/2023	AR
Oil	ND		350	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*94.8%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.4	mg/kg dry	08/04/2023	KD
Lead	ND		6.9	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.14	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*86.5%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*97.8%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	28		0.50	%	07/31/2023	SG

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Client Sample ID: B21-2

Lab ID: L23G102-17 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		22	mg/kg dry	08/02/2023	AR
Diesel	ND		56	mg/kg dry	08/02/2023	AR
Oil	DET		280	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*95.5%*		*43.6-129*		*08/02/2023*	*AR*
Diesel and Oil by NWTPH-Dx/Dx						
Diesel	ND		56	mg/kg dry	08/02/2023	AR
Oil	450		280	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*95.5%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Arsenic	ND		5.6	mg/kg dry	08/18/2023	KD
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	34		5.6	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1254	0.63		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*92.8%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*94.3%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	11		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B21-4

Lab ID: L23G102-18 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		23	mg/kg dry	08/02/2023	AR
Diesel	ND		57	mg/kg dry	08/02/2023	AR
Oil	ND		290	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*100%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Arsenic	6.0		5.7	mg/kg dry	08/18/2023	KD
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	36		5.7	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1254	6.4		0.57	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*90.1%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*67.8%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	13		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B21-6

Lab ID: L23G102-19 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.12	mg/kg dry	08/11/2023	SC
Aroclor 1221	ND		0.12	mg/kg dry	08/11/2023	SC
Aroclor 1232	ND		0.12	mg/kg dry	08/11/2023	SC
Aroclor 1242	ND		0.12	mg/kg dry	08/11/2023	SC
Aroclor 1248	ND		0.12	mg/kg dry	08/11/2023	SC
Aroclor 1254	0.19		0.12	mg/kg dry	08/11/2023	SC
Aroclor 1260	ND		0.12	mg/kg dry	08/11/2023	SC
Surrogate: TCMX	*97.7%*		*62-162*		*08/11/2023*	*SC*
Surrogate: DCBP	*89.9%*		*60.9-153*		*08/11/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	14		0.50	%	08/11/2023	SG

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Sample Results (Continued)

Client Sample ID: B21-10

Lab ID: L23G102-21 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		28	mg/kg dry	08/02/2023	AR
Diesel	ND		71	mg/kg dry	08/02/2023	AR
Oil	ND		350	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*100%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.4	mg/kg dry	08/04/2023	KD
Lead	ND		7.1	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.14	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*101%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*81.0%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	30		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B21-15

Lab ID: L23G102-23 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		31	mg/kg dry	08/02/2023	AR
Diesel	ND		77	mg/kg dry	08/02/2023	AR
Oil	ND		380	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*101%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.5	mg/kg dry	08/04/2023	KD
Lead	ND		7.7	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.15	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*104%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*78.4%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	35		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B22-2

Lab ID: L23G102-24 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		22	mg/kg dry	08/02/2023	AR
Diesel	ND		55	mg/kg dry	08/02/2023	AR
Oil	ND		270	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*101%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Arsenic	ND		5.5	mg/kg dry	08/18/2023	KD
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	43		5.5	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1254	0.80		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*91.8%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*87.6%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	9.0		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B22-4

Lab ID: L23G102-25 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		22	mg/kg dry	08/02/2023	AR
Diesel	ND		56	mg/kg dry	08/02/2023	AR
Oil	ND		280	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*99.9%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Arsenic	ND		5.6	mg/kg dry	08/18/2023	KD
Cadmium	ND		1.1	mg/kg dry	08/04/2023	KD
Lead	87		5.6	mg/kg dry	08/02/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1254	1.4		0.11	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*100%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*68.9%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	9.9		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B22-6

Lab ID: L23G102-26 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.11	mg/kg dry	08/11/2023	SC
Aroclor 1221	ND		0.11	mg/kg dry	08/11/2023	SC
Aroclor 1232	ND		0.11	mg/kg dry	08/11/2023	SC
Aroclor 1242	ND		0.11	mg/kg dry	08/11/2023	SC
Aroclor 1248	ND		0.11	mg/kg dry	08/11/2023	SC
Aroclor 1254	0.36		0.11	mg/kg dry	08/11/2023	SC
Aroclor 1260	ND		0.11	mg/kg dry	08/11/2023	SC
Surrogate: TCMX	*91.1%*		*62-162*		*08/11/2023*	*SC*
Surrogate: DCBP	*92.0%*		*60.9-153*		*08/11/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	11		0.50	%	08/11/2023	SG

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Sample Results (Continued)

Client Sample ID: B22-12

Lab ID: L23G102-28 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		30	mg/kg dry	08/02/2023	AR
Diesel	ND		75	mg/kg dry	08/02/2023	AR
Oil	ND		380	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*99.9%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Arsenic	ND		7.5	mg/kg dry	08/18/2023	KD
Cadmium	ND		1.5	mg/kg dry	08/04/2023	KD
Lead	65		7.5	mg/kg dry	08/07/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.15	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.15	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*86.3%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*83.7%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	33		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: B22-15

Lab ID: L23G102-29 (Soil)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		27	mg/kg dry	08/02/2023	AR
Diesel	ND		68	mg/kg dry	08/02/2023	AR
Oil	ND		340	mg/kg dry	08/02/2023	AR
Surrogate: 2-FBP	*98.7%*		*43.6-129*		*08/02/2023*	*AR*
Total Metals by EPA Method 7010						
Cadmium	ND		1.4	mg/kg dry	08/04/2023	KD
Lead	ND		6.8	mg/kg dry	08/07/2023	KD
PCB (Polychlorinated Biphenyls) by EPA Method 8082						
Aroclor 1016	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1221	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1232	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1242	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1248	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1254	ND		0.14	mg/kg dry	07/31/2023	SC
Aroclor 1260	ND		0.14	mg/kg dry	07/31/2023	SC
Surrogate: TCMX	*107%*		*62-162*		*07/31/2023*	*SC*
Surrogate: DCBP	*77.1%*		*60.9-153*		*07/31/2023*	*SC*
Moisture by ASTM D2216-19						
Moisture	26		0.50	%	07/31/2023	SG

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Sample Results (Continued)

Client Sample ID: MW1

Lab ID: L23G102-31 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		200	ug/L	08/02/2023	AA
Diesel	ND		500	ug/L	08/02/2023	AA
Oil	ND		500	ug/L	08/02/2023	AA
Surrogate: 2-FBP	*108%*		*56.7-134*		*08/02/2023*	*AA*
Total Metals by EPA Method 7010						
Arsenic	6.7		3.0	ug/L	08/18/2023	KD
Dissolved Metals by EPA Method 7010						
Arsenic	5.6		3.0	ug/L	08/17/2023	KD

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Sample Results (Continued)

Client Sample ID: MW2

Lab ID: L23G102-32 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		200	ug/L	08/02/2023	AA
Diesel	ND		500	ug/L	08/02/2023	AA
Oil	ND		500	ug/L	08/02/2023	AA
Surrogate: 2-FBP	*90.9%*		*56.7-134*		*08/02/2023*	*AA*
Total Metals by EPA Method 7010						
Arsenic	7.3		3.0	ug/L	08/18/2023	KD
Dissolved Metals by EPA Method 7010						
Arsenic	5.6		3.0	ug/L	08/17/2023	KD

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Sample Results (Continued)

Client Sample ID: MW3

Lab ID: L23G102-33 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		200	ug/L	08/02/2023	AA
Diesel	ND		500	ug/L	08/02/2023	AA
Oil	ND		500	ug/L	08/02/2023	AA
Surrogate: 2-FBP	*60.6%*		*56.7-134*		*08/02/2023*	*AA*
Total Metals by EPA Method 7010						
Arsenic	64		3.0	ug/L	08/18/2023	KD
Dissolved Metals by EPA Method 7010						
Arsenic	7.9		3.0	ug/L	08/17/2023	KD

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Sample Results (Continued)

Client Sample ID: MW4

Lab ID: L23G102-34 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		200	ug/L	08/02/2023	AA
Diesel	ND		500	ug/L	08/02/2023	AA
Oil	DET		500	ug/L	08/02/2023	AA
Surrogate: 2-FBP	*130%*		*56.7-134*		*08/02/2023*	*AA*
Diesel and Oil by NWTPH-Dx/Dx						
Diesel	ND		170	ug/L	08/02/2023	AA
Oil	1500		350	ug/L	08/02/2023	AA
Surrogate: 2-FBP	*130%*		*56.7-134*		*08/02/2023*	*AA*
Total Metals by EPA Method 7010						
Arsenic	64		3.0	ug/L	08/18/2023	KD
Dissolved Metals by EPA Method 7010						
Arsenic	12		3.0	ug/L	08/17/2023	KD

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Sample Results (Continued)

Client Sample ID: MW5

Lab ID: L23G102-35 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
HCID by NWTPH-Dx/Dx						
Gasoline	ND		200	ug/L	08/02/2023	AA
Diesel	ND		500	ug/L	08/02/2023	AA
Oil	ND		500	ug/L	08/02/2023	AA
Surrogate: 2-FBP	*44.5%*		*56.7-134*		*08/02/2023*	*AA*
Total Metals by EPA Method 7010						
Arsenic	44		3.0	ug/L	08/18/2023	KD
Dissolved Metals by EPA Method 7010						
Arsenic	6.2		3.0	ug/L	08/17/2023	KD

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Quality Control

HCID by NWTPH-Dx/Dx

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXH0010 - Extraction										
Blank (BXH0010-BLK1)					Prepared & Analyzed: 8/1/2023					
Gasoline	ND		20	mg/kg wet						
Diesel	ND		50	mg/kg wet						
Oil	ND		250	mg/kg wet						
Surrogate: 2-FBP			*20.3*	*mg/kg*	*20.0*		*102*	*43.6-129*		
LCS (BXH0010-BS1)					Prepared & Analyzed: 8/1/2023					
Diesel	DET		50	mg/kg wet	100		79.3	72.6-130		
Surrogate: 2-FBP			*19.5*	*mg/kg*	*20.0*		*97.6*	*43.6-129*		
Duplicate (BXH0010-DUP1)		**Parent: L23G102-01**			Prepared & Analyzed: 8/1/2023					
Gasoline	ND		21	mg/kg dry		ND				35
Diesel	ND		52	mg/kg dry		ND				35
Oil	DET	R	260	mg/kg dry		DET			40.1	35
Surrogate: 2-FBP			*22.0*	*mg/kg*	*20.0*		*110*	*43.6-129*		
Duplicate (BXH0010-DUP2)		**Parent: L23G102-17**			Prepared: 8/1/2023 Analyzed: 8/2/2023					
Gasoline	ND		22	mg/kg dry		ND				35
Diesel	ND		56	mg/kg dry		ND				35
Oil	ND		280	mg/kg dry		DET				35
Surrogate: 2-FBP			*20.8*	*mg/kg*	*20.0*		*104*	*43.6-129*		
Batch: BXH0009 - Extraction										
Blank (BXH0009-BLK1)					Prepared: 8/1/2023 Analyzed: 8/2/2023					
Gasoline	ND		200	ug/L						
Diesel	ND		500	ug/L						
Oil	ND		500	ug/L						
Surrogate: 2-FBP			*22.2*	*ug/mL*	*20.0*		*111*	*56.7-134*		
LCS (BXH0009-BS1)					Prepared: 8/1/2023 Analyzed: 8/2/2023					
Diesel	DET		500	ug/L	1000		61.2	50.2-155		
Surrogate: 2-FBP			*20.2*	*ug/mL*	*20.0*		*101*	*56.7-134*		

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Quality Control
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Diesel and Oil by NWTPH-Dx/Dx

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXH0010 - Extraction										
Blank (BXH0010-BLK1)					Prepared & Analyzed: 8/1/2023					
Diesel	ND		50	mg/kg wet						
Oil	ND		250	mg/kg wet						
Surrogate: 2-FBP			*20.3*	*ug/mL*	*20.0*		*102*	*43.6-129*		
LCS (BXH0010-BS1)					Prepared & Analyzed: 8/1/2023					
Diesel	79.3		50	mg/kg wet	100		79.3	72.6-130		
Surrogate: 2-FBP			*19.5*	*ug/mL*	*20.0*		*97.6*	*43.6-129*		
Duplicate (BXH0010-DUP1)		**Parent: L23G102-01**			Prepared & Analyzed: 8/1/2023					
Diesel	ND		52	mg/kg dry		ND				35
Oil	1050	R	260	mg/kg dry		701			40.1	35
Surrogate: 2-FBP			*22.0*	*ug/mL*	*20.0*		*110*	*43.6-129*		
Duplicate (BXH0010-DUP2)		**Parent: L23G102-17**			Prepared: 8/1/2023 Analyzed: 8/2/2023					
Diesel	ND		56	mg/kg dry		ND				35
Oil	ND		280	mg/kg dry		446				35
Surrogate: 2-FBP			*20.8*	*ug/mL*	*20.0*		*104*	*43.6-129*		
Batch: BXH0009 - Extraction										
Blank (BXH0009-BLK1)					Prepared: 8/1/2023 Analyzed: 8/2/2023					
Diesel	ND		200	ug/L						
Oil	ND		400	ug/L						
Surrogate: 2-FBP			*22.2*	*ug/mL*	*20.0*		*111*	*56.7-134*		
LCS (BXH0009-BS1)					Prepared: 8/1/2023 Analyzed: 8/2/2023					
Diesel	612		200	ug/L	1000		61.2	50.2-155		
Surrogate: 2-FBP			*20.2*	*ug/mL*	*20.0*		*101*	*56.7-134*		

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Quality Control
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Total Metals by EPA Method 7010

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXH0006 - Metals Digest										
Blank (BXH0006-BLK1)					Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	ND		1.0	mg/kg wet						
Lead	ND		5.0	mg/kg wet						
LCS (BXH0006-BS1)					Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	0.805		1.0	mg/kg wet	1.00		80.5	80-120		
Lead	1.08		5.0	mg/kg wet	1.00		108	80-120		
LCS Dup (BXH0006-BSD1)					Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	0.806		1.0	mg/kg wet	1.00		80.6	80-120	0.123	20
Lead	1.13		5.0	mg/kg wet	1.00		113	80-120	4.25	20
Duplicate (BXH0006-DUP1)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	3.62		1.1	mg/kg dry		3.53			2.46	20
Lead	272		5.6	mg/kg dry		242			11.9	20
Duplicate (BXH0006-DUP2)		**Parent: L23G102-10**			Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	0.415		1.1	mg/kg dry		0.494			17.3	20
Lead	52.4		5.5	mg/kg dry		62.6			17.8	20
Matrix Spike (BXH0006-MS1)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	4.43		1.1	mg/kg dry	1.12	3.53	80.6	75-125		
Lead	45.6		5.6	mg/kg dry	1.12	242	NR	75-125		
Matrix Spike Dup (BXH0006-MSD1)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	4.48		1.1	mg/kg dry	1.12	3.53	84.8	75-125	1.04	20
Lead	43.1		5.6	mg/kg dry	1.12	242	NR	75-125	5.70	20
Post Spike (BXH0006-PS1)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/2/2023					
Lead	469		1100	mg/kg dry	224	242	102	75-125		
Post Spike (BXH0006-PS2)		**Parent: L23G100-01**			Prepared: 8/1/2023 Analyzed: 8/2/2023					
Lead	481		1100	mg/kg dry	224	242	107	75-125		
Blank (BXH0007-BLK1)					Prepared: 8/1/2023 Analyzed: 8/4/2023					
Cadmium	ND		1.0	mg/kg wet						
Lead	ND		5.0	mg/kg wet						

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Quality Control
(Continued)

Total Metals by EPA Method 7010 (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (BXH0007-BS1)					Prepared: 8/1/2023	Analyzed: 8/4/2023				
Cadmium	0.810		1.0	mg/kg wet	1.00		81.0	80-120		
Lead	1.03		5.0	mg/kg wet	1.00		103	80-120		
LCS Dup (BXH0007-BSD1)					Prepared: 8/1/2023	Analyzed: 8/4/2023				
Cadmium	0.812		1.0	mg/kg wet	1.00		81.2	80-120	0.326	20
Lead	1.08		5.0	mg/kg wet	1.00		108	80-120	5.26	20
Duplicate (BXH0007-DUP1)		**Parent: L23G102-28**			Prepared: 8/1/2023	Analyzed: 8/4/2023				
Cadmium	0.992		1.5	mg/kg dry		1.03			3.82	20
Lead	61.3		7.5	mg/kg dry		64.7			5.47	20
Matrix Spike (BXH0007-MS1)		**Parent: L23G102-28**			Prepared: 8/1/2023	Analyzed: 8/4/2023				
Cadmium	2.23		1.5	mg/kg dry	1.50	1.03	80.0	75-125		
Lead	33.5		7.5	mg/kg dry	1.50	64.7	NR	75-125		
Matrix Spike Dup (BXH0007-MSD1)		**Parent: L23G102-28**			Prepared: 8/1/2023	Analyzed: 8/4/2023				
Cadmium	2.28		1.5	mg/kg dry	1.50	1.03	83.2	75-125	2.11	20
Lead	36.5		7.5	mg/kg dry	1.50	64.7	NR	75-125	8.56	20
Post Spike (BXH0007-PS1)		**Parent: L23G102-28**			Prepared: 8/1/2023	Analyzed: 8/7/2023				
Lead	382		1500	mg/kg dry	300	64.7	106	75-125		
Post Spike (BXH0007-PS2)		**Parent: L23G102-28**			Prepared: 8/1/2023	Analyzed: 8/7/2023				
Lead	397		1500	mg/kg dry	300	64.7	111	75-125		
Blank (BXH0100-BLK1)					Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	ND		5.0	mg/kg wet						
LCS (BXH0100-BS1)					Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	0.890		5.0	mg/kg wet	1.00		89.0	80-120		
LCS Dup (BXH0100-BSD1)					Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	1.03		5.0	mg/kg wet	1.00		103	80-120	14.4	20

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Quality Control
(Continued)

Total Metals by EPA Method 7010 (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Duplicate (BXH0100-DUP1)		**Parent: L23G102-04**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	12.1		5.3	mg/kg dry		12.1			0.00	20
Duplicate (BXH0100-DUP2)		**Parent: L23H062-06**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	6.32		5.6	mg/kg dry		5.47			14.4	20
Matrix Spike (BXH0100-MS1)		**Parent: L23G102-04**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	39.5	S	5.3	mg/kg dry	1.06	12.1	NR	75-125		
Matrix Spike Dup (BXH0100-MSD1)		**Parent: L23G102-04**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	35.4	S	5.3	mg/kg dry	1.06	12.1	NR	75-125	10.9	20
Post Spike (BXH0100-PS1)		**Parent: L23G102-04**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	239		1100	mg/kg dry	213	ND	113	80-120		
Post Spike (BXH0100-PS2)		**Parent: L23G102-04**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	235		1100	mg/kg dry	213	ND	111	80-120		
Batch: BXH0101 - Metals Digest										
Blank (BXH0101-BLK1)					Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	ND		3.0	ug/L						
LCS (BXH0101-BS1)					Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	42.6		3.0	ug/L	50.0		85.3	80-120		
LCS Dup (BXH0101-BSD1)					Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	46.5		3.0	ug/L	50.0		92.9	80-120	8.57	20
Duplicate (BXH0101-DUP1)		**Parent: L23G102-31**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	7.52		3.0	ug/L		6.70			11.5	20
Matrix Spike (BXH0101-MS1)		**Parent: L23G102-31**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	63.7		3.0	ug/L	50.0	6.70	114	75-125		
Matrix Spike Dup (BXH0101-MSD1)		**Parent: L23G102-31**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	63.1		3.0	ug/L	50.0	6.70	113	75-125	0.913	20

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Quality Control
(Continued)

Total Metals by EPA Method 7010 (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Post Spike (BXH0101-PS1)		**Parent: L23G102-31**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	ND		600	ug/L	4000	ND		80-120		
Post Spike (BXH0101-PS2)		**Parent: L23G102-31**			Prepared: 8/17/2023	Analyzed: 8/18/2023				
Arsenic	ND		600	ug/L	4000	ND		80-120		

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Quality Control
(Continued)

Dissolved Metals by EPA Method 7010

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXH0103 - Metals Digest										
Blank (BXH0103-BLK1)					Prepared & Analyzed: 8/17/2023					
Arsenic	ND		3.0	ug/L						
LCS (BXH0103-BS1)					Prepared & Analyzed: 8/17/2023					
Arsenic	17.6		3.0	ug/L	20.0		87.9	80-120		
LCS Dup (BXH0103-BSD1)					Prepared & Analyzed: 8/17/2023					
Arsenic	17.2		3.0	ug/L	20.0		85.8	80-120	2.47	20
Duplicate (BXH0103-DUP1)		**Parent: L23G102-31**			Prepared & Analyzed: 8/17/2023					
Arsenic	5.38		3.0	ug/L		5.61			4.26	20
Matrix Spike (BXH0103-MS1)		**Parent: L23G102-31**			Prepared & Analyzed: 8/17/2023					
Arsenic	27.5		3.0	ug/L	20.0	5.61	110	75-125		
Matrix Spike Dup (BXH0103-MSD1)		**Parent: L23G102-31**			Prepared & Analyzed: 8/17/2023					
Arsenic	27.3		3.0	ug/L	20.0	5.61	108	75-125	1.05	20

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Quality Control
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PCB (Polychlorinated Biphenyls) by EPA Method 8082

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXG0135 - Extraction										
Blank (BXG0135-BLK1)					Prepared: 7/29/2023 Analyzed: 7/31/2023					
Aroclor 1016	ND		0.10	mg/kg wet						
Aroclor 1221	ND		0.10	mg/kg wet						
Aroclor 1232	ND		0.10	mg/kg wet						
Aroclor 1242	ND		0.10	mg/kg wet						
Aroclor 1248	ND		0.10	mg/kg wet						
Aroclor 1254	ND		0.10	mg/kg wet						
Aroclor 1260	ND		0.10	mg/kg wet						
Surrogate: TCMX			*0.0193*	*ug/mL*	*0.0200*		*96.7*	*62-162*		
Surrogate: DCBP			*0.0185*	*ug/mL*	*0.0200*		*92.7*	*60.9-153*		
LCS (BXG0135-BS1)					Prepared: 7/29/2023 Analyzed: 7/31/2023					
Aroclor 1016	0.0950		0.10	mg/kg wet	0.100		95.0	80-123		
Aroclor 1260	0.0972		0.10	mg/kg wet	0.100		97.2	77.7-120		
Surrogate: TCMX			*0.0183*	*ug/mL*	*0.0200*		*91.7*	*62-162*		
Surrogate: DCBP			*0.0178*	*ug/mL*	*0.0200*		*89.2*	*60.9-153*		
Duplicate (BXG0135-DUP1)		**Parent: L23G102-29**			Prepared: 7/29/2023 Analyzed: 7/31/2023					
Aroclor 1016	ND		0.14	mg/kg dry		ND				35
Aroclor 1260	ND		0.14	mg/kg dry		ND				35
Surrogate: TCMX			*0.0168*	*ug/mL*	*0.0200*		*84.2*	*62-162*		
Surrogate: DCBP			*0.0182*	*ug/mL*	*0.0200*		*90.8*	*60.9-153*		
Matrix Spike (BXG0135-MS1)		**Parent: L23G102-29**			Prepared: 7/29/2023 Analyzed: 7/31/2023					
Aroclor 1016	0.124		0.14	mg/kg dry	0.135	ND	91.5	86.7-119		
Aroclor 1260	0.119		0.14	mg/kg dry	0.135	ND	88.3	77.6-125		
Surrogate: TCMX			*0.0166*	*ug/mL*	*0.0200*		*83.1*	*62-162*		
Surrogate: DCBP		*S*	*0.0112*	*ug/mL*	*0.0200*		*55.8*	*60.9-153*		
Matrix Spike Dup (BXG0135-MSD1)		**Parent: L23G102-29**			Prepared: 7/29/2023 Analyzed: 7/31/2023					
Aroclor 1016	0.133		0.14	mg/kg dry	0.135	ND	98.0	86.7-119	6.90	35
Aroclor 1260	0.152		0.14	mg/kg dry	0.135	ND	112	77.6-125	23.9	35
Surrogate: TCMX			*0.0186*	*ug/mL*	*0.0200*		*92.9*	*62-162*		
Surrogate: DCBP			*0.0136*	*ug/mL*	*0.0200*		*68.2*	*60.9-153*		
Blank (BXH0057-BLK1)					Prepared: 8/10/2023 Analyzed: 8/11/2023					
Aroclor 1016	ND		0.10	mg/kg wet						
Aroclor 1221	ND		0.10	mg/kg wet						
Aroclor 1232	ND		0.10	mg/kg wet						
Aroclor 1242	ND		0.10	mg/kg wet						
Aroclor 1248	ND		0.10	mg/kg wet						
Aroclor 1254	ND		0.10	mg/kg wet						
Aroclor 1260	ND		0.10	mg/kg wet						
Surrogate: TCMX			*0.0191*	*ug/mL*	*0.0200*		*95.6*	*62-162*		
Surrogate: DCBP			*0.0182*	*ug/mL*	*0.0200*		*90.9*	*60.9-153*		

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Quality Control
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PCB (Polychlorinated Biphenyls) by EPA Method 8082 (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (BXH0057-BS1)					Prepared: 8/10/2023 Analyzed: 8/11/2023					
Aroclor 1016	0.102		0.10	mg/kg wet	0.100		102	80-123		
Aroclor 1260	0.0869		0.10	mg/kg wet	0.100		86.9	77.7-120		
Surrogate: TCMX			*0.0186*	*ug/mL*	*0.0200*		*92.8*	*62-162*		
Surrogate: DCBP			*0.0226*	*ug/mL*	*0.0200*		*113*	*60.9-153*		
Duplicate (BXH0057-DUP1)		**Parent: L23G102-26**			Prepared: 8/10/2023 Analyzed: 8/11/2023					
Aroclor 1016	ND		0.11	mg/kg dry		ND				35
Aroclor 1260	ND		0.11	mg/kg dry		ND				35
Surrogate: TCMX			*0.0193*	*ug/mL*	*0.0200*		*96.6*	*62-162*		
Surrogate: DCBP			*0.0190*	*ug/mL*	*0.0200*		*95.1*	*60.9-153*		
Matrix Spike (BXH0057-MS1)		**Parent: L23G102-26**			Prepared: 8/10/2023 Analyzed: 8/11/2023					
Aroclor 1016	0.100		0.11	mg/kg dry	0.112	ND	89.5	86.7-119		
Aroclor 1260	0.292	S1	0.11	mg/kg dry	0.112	ND	261	77.6-125		
Surrogate: TCMX			*0.0184*	*ug/mL*	*0.0200*		*91.8*	*62-162*		
Surrogate: DCBP			*0.0183*	*ug/mL*	*0.0200*		*91.4*	*60.9-153*		
Matrix Spike Dup (BXH0057-MSD1)		**Parent: L23G102-26**			Prepared: 8/10/2023 Analyzed: 8/11/2023					
Aroclor 1016	0.102		0.11	mg/kg dry	0.112	ND	91.0	86.7-119	1.66	35
Aroclor 1260	0.319	S1	0.11	mg/kg dry	0.112	ND	285	77.6-125	8.79	35
Surrogate: TCMX			*0.0189*	*ug/mL*	*0.0200*		*94.7*	*62-162*		
Surrogate: DCBP			*0.0293*	*ug/mL*	*0.0200*		*147*	*60.9-153*		

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Quality Control
(Continued)

Moisture by ASTM D2216-19

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BXG0141 - Gen Chem										
LCS (BXG0141-BS1)					Prepared & Analyzed: 7/31/2023					
Moisture	17			%	17.0		99.7	90-115		
LCS (BXH0061-BS1)					Prepared & Analyzed: 8/11/2023					
Moisture	17			%	17.0		101	90-115		

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

BLT Project
ECI
Libby Work Order # L23G102
Date Received 7/28/2023
Time Received 11:13 AM

Received By AA

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody is complete?	☑ Yes	☐ No	
2. How was the sample delivered?	☑ Hand Delivered	☐ Picked Up	☐ Shipped

Log In

3. Cooler or Shipping Container is present.	☑ Yes	☐ No	☐ N/A
4. Cooler or Shipping Container is in good condition.	☑ Yes	☐ No	☐ N/A
5. Cooler or Shipping Container has Custody Seals present.	☐ Yes	☑ No	☐ N/A
6. Was an attempt made to cool the samples?	☑ Yes	☐ No	☐ N/A
7. Temperature of cooler (0°C to 8°C recommended)	5.6 °C		
8. Temperature of sample(s) (0°C to 8°C recommended)	6.0 °C		
9. Did all containers arrive in good condition (unbroken)?	☑ Yes	☐ No	
10. Is it clear what analyses were requested?	☑ Yes	☐ No	
11. Did container labels match Chain of Custody?	☑ Yes	☐ No	
12. Are matrices correctly identified on Chain of Custody?	☑ Yes	☐ No	
13. Are correct containers used for the analysis indicated?	☑ Yes	☐ No	
14. Is there sufficient sample volume for indicated analysis?	☑ Yes	☐ No	
15. Were all containers properly preserved per each analysis?	☑ Yes	☐ No	
16. Were VOA vials collected correctly (no headspace)?	☑ Yes	☐ No	☐ N/A
17. Were all holding times able to be met?	☑ Yes	☐ No	

Discrepancies/ Notes

18. Was client notified of all discrepancies?	☐ Yes	☐ No	☑ N/A

Person Notified: _____ Date: _____

By Whom: _____ Via: _____

Regarding: _____

19. Comments. _____

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
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www.friedmanandbruya.com

August 8, 2023

Sherry Chilcutt, Project Manager
Libby Environmental
3322 South Bay Rd NE
Olympia, WA 98506

Dear Ms Chilcutt:

Included are the results from the testing of material submitted on August 1, 2023 from the BLT, F&BI 308002 project. There are 36 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
LBY0808R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 1, 2023 by Friedman & Bruya, Inc. from the Libby Environmental BLT, F&BI 308002 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Libby Environmental
308002 -01	B19-4
308002 -02	B19-8
308002 -03	B19-10
308002 -04	B19-15
308002 -05	B19-18
308002 -06	B20-2
308002 -07	B20-4
308002 -08	B20-8
308002 -09	B20-10
308002 -10	B20-16
308002 -11	B21-2
308002 -12	B21-4
308002 -13	B21-10
308002 -14	B21-15
308002 -15	B22-2
308002 -16	B22-4
308002 -17	B22-12
308002 -18	B22-15
308002 -19	MW1
308002 -20	MW2
308002 -21	MW3
308002 -22	MW4
308002 -23	MW5

Arsenic in the 6020B matrix spike duplicate and the associated relative percent difference exceeded the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

All other quality control requirements were acceptable.

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW1	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/03/23	Lab ID:	308002-19
Date Analyzed:	08/05/23	Data File:	308002-19.306
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.27

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW2	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/03/23	Lab ID:	308002-20
Date Analyzed:	08/05/23	Data File:	308002-20.307
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.40

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW3	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/03/23	Lab ID:	308002-21
Date Analyzed:	08/05/23	Data File:	308002-21.308
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	5.07

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW4	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/03/23	Lab ID:	308002-22
Date Analyzed:	08/05/23	Data File:	308002-22.309
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	6.86

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW5	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/03/23	Lab ID:	308002-23
Date Analyzed:	08/05/23	Data File:	308002-23.310
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.03

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Libby Environmental
Date Received:	Not Applicable	Project:	BLT, F&BI 308002
Date Extracted:	08/03/23	Lab ID:	I3-609 mb
Date Analyzed:	08/04/23	Data File:	I3-609 mb.110
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW1	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-19
Date Analyzed:	08/03/23	Data File:	308002-19.289
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	505

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW2	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-20
Date Analyzed:	08/03/23	Data File:	308002-20.290
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	5.31

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW3	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-21
Date Analyzed:	08/03/23	Data File:	308002-21.291
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	5.81

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW4	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-22
Date Analyzed:	08/03/23	Data File:	308002-22.292
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	6.79

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW5	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-23
Date Analyzed:	08/03/23	Data File:	308002-23.293
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.21

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Libby Environmental
Date Received:	Not Applicable	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	I3-602 mb
Date Analyzed:	08/02/23	Data File:	I3-602 mb.043
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	B19-4	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-01
Date Analyzed:	08/02/23	Data File:	308002-01.116
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.45

Analysis For Total Metals By EPA Method 6020B

Client ID:	B19-8	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-02
Date Analyzed:	08/04/23	Data File:	308002-02.113
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.84

Analysis For Total Metals By EPA Method 6020B

Client ID:	B19-10	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-03
Date Analyzed:	08/04/23	Data File:	308002-03.114
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.89

Analysis For Total Metals By EPA Method 6020B

Client ID:	B19-15	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-04
Date Analyzed:	08/04/23	Data File:	308002-04.115
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.30

Analysis For Total Metals By EPA Method 6020B

Client ID:	B19-18	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-05
Date Analyzed:	08/04/23	Data File:	308002-05.116
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.39

Analysis For Total Metals By EPA Method 6020B

Client ID:	B20-2	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-06
Date Analyzed:	08/04/23	Data File:	308002-06.117
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.54

Analysis For Total Metals By EPA Method 6020B

Client ID:	B20-4	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-07
Date Analyzed:	08/04/23	Data File:	308002-07.118
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.84

Analysis For Total Metals By EPA Method 6020B

Client ID:	B20-8	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-08
Date Analyzed:	08/04/23	Data File:	308002-08.153
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.07

Analysis For Total Metals By EPA Method 6020B

Client ID:	B20-10	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-09
Date Analyzed:	08/04/23	Data File:	308002-09.154
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.13

Analysis For Total Metals By EPA Method 6020B

Client ID:	B20-16	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-10
Date Analyzed:	08/04/23	Data File:	308002-10.155
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.38

Analysis For Total Metals By EPA Method 6020B

Client ID:	B21-2	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-11
Date Analyzed:	08/04/23	Data File:	308002-11.156
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.88

Analysis For Total Metals By EPA Method 6020B

Client ID:	B21-4	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-12
Date Analyzed:	08/04/23	Data File:	308002-12.157
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.99

Analysis For Total Metals By EPA Method 6020B

Client ID:	B21-10	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-13
Date Analyzed:	08/04/23	Data File:	308002-13.158
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.22

Analysis For Total Metals By EPA Method 6020B

Client ID:	B21-15	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-14
Date Analyzed:	08/04/23	Data File:	308002-14.159
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.69

Analysis For Total Metals By EPA Method 6020B

Client ID:	B22-2	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-15
Date Analyzed:	08/04/23	Data File:	308002-15.160
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.82

Analysis For Total Metals By EPA Method 6020B

Client ID:	B22-4	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-16
Date Analyzed:	08/04/23	Data File:	308002-16.172
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.80

Analysis For Total Metals By EPA Method 6020B

Client ID:	B22-12	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-17
Date Analyzed:	08/04/23	Data File:	308002-17.183
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.97

Analysis For Total Metals By EPA Method 6020B

Client ID:	B22-15	Client:	Libby Environmental
Date Received:	08/01/23	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	308002-18
Date Analyzed:	08/04/23	Data File:	308002-18.184
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.49

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Libby Environmental
Date Received:	Not Applicable	Project:	BLT, F&BI 308002
Date Extracted:	08/02/23	Lab ID:	I3-601 mb
Date Analyzed:	08/04/23	Data File:	I3-601 mb.062
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Date of Report: 08/08/23
Date Received: 08/01/23
Project: BLT, F&BI 308002

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 308051-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	14.9	90 b	82 b	75-125	9 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	100	80-120

Date of Report: 08/08/23
Date Received: 08/01/23
Project: BLT, F&BI 308002

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 308022-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	83	82	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	90	80-120

Date of Report: 08/08/23
Date Received: 08/01/23
Project: BLT, F&BI 308002

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 308002-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	81	127 vo	75-125	44 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	92	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

3088 308002

Libby Environmental, Inc.

08/01/23

3322 South Bay Road NE • Olympia, WA 98506-2957

SUBCONTRACT ORDER L23G102

MB/KS

Sending Laboratory:

Libby Environmental, Inc.
3322 South Bay Road NE
Olympia, WA 98506
Phone: 360-352-2110
Fax: 360-352-4154

Project Manager: Sherry Chilcutt
LibbyEnv@gmail.com

Subcontracted Laboratory:

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Phone: (206) 285-8282
Fax:

Requested Turnaround (TAT) STD

Project: BLT

Analysis	Comments	Lab ID	
Client Sample ID: B19-4 ***Soil Sampled: 07/26/2023 08:55***		01	Lab ID: L23G102-01
Metals SUB As			
Containers Supplied:			
Client Sample ID: B19-8 ***Soil Sampled: 07/26/2023 08:55***		02	Lab ID: L23G102-03
Metals SUB As			
Containers Supplied:			
Client Sample ID: B19-10 ***Soil Sampled: 07/26/2023 09:05***		03	Lab ID: L23G102-04
Metals SUB As			
Containers Supplied:			
Client Sample ID: B19-15 ***Soil Sampled: 07/26/2023 09:20***		04	Lab ID: L23G102-06
Metals SUB As			
Containers Supplied:			
Client Sample ID: B19-18 ***Soil Sampled: 07/28/2023 09:20***		05	Lab ID: L23G102-07
Metals SUB As			
Containers Supplied:			
Client Sample ID: B20-2 ***Soil Sampled: 07/28/2023 09:40***		06	Lab ID: L23G102-09
Metals SUB As			
Containers Supplied:			

Samples received at 3 °C

ES — Released By — 7/31/23 — Date

ANHPHAN — Received By — 08/01/23 — Date @09:40

7-31-23

Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

SUBCONTRACT ORDER L23G102 (Continued)

309002

08/01/23

M3/K5

Project: BLT

Analysis	Comments	Lab ID	
Client Sample ID: B20-4 ***Soil Sampled: 07/28/2023 09:40***		07	Lab ID: L23G102-10
Metals SUB As			
Containers Supplied:			
Client Sample ID: B20-8 ***Soil Sampled: 07/26/2023 09:45***		08	Lab ID: L23G102-12
Metals SUB As			
Containers Supplied:			
Client Sample ID: B20-10 ***Soil Sampled: 07/26/2023 09:50***		09	Lab ID: L23G102-13
Metals SUB As			
Containers Supplied:			
Client Sample ID: B20-16 ***Soil Sampled: 07/26/2023 10:05***		10	Lab ID: L23G102-15
Metals SUB As			
Containers Supplied:			
Client Sample ID: B21-2 ***Soil Sampled: 07/26/2023 10:25***		11	Lab ID: L23G102-17
Metals SUB As			
Containers Supplied:			
Client Sample ID: B21-4 ***Soil Sampled: 07/26/2023 10:25***		12	Lab ID: L23G102-18
Metals SUB As			
Containers Supplied:			
Client Sample ID: B21-10 ***Soil Sampled: 07/26/2023 10:45***		13	Lab ID: L23G102-21
Metals SUB As			
Containers Supplied:			
Client Sample ID: B21-15 ***Soil Sampled: 07/26/2023 10:50***		14	Lab ID: L23G102-23
Metals SUB As			
Containers Supplied:			

Samples received at 3 °C

ES — Released By

7/31/23 — Date

ANH PHAN — Received By

08/01/23 @ 09:40 — Date

Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

SUBCONTRACT ORDER L23G102 (Continued)

308002

08/01/23

Project: BLT

M3/105

Analysis	Comments	LabID	
Client Sample ID: B22-2 ***Soil*** ***Sampled: 07/26/2023 11:45***		15	Lab ID: L23G102-24
Metals SUB As			
Containers Supplied:			
Client Sample ID: B22-4 ***Soil*** ***Sampled: 07/26/2023 11:45***		16	Lab ID: L23G102-25
Metals SUB As			
Containers Supplied:			
Client Sample ID: B22-12 ***Soil*** ***Sampled: 07/26/2023 12:00***		17	Lab ID: L23G102-28
Metals SUB As			
Containers Supplied:			
Client Sample ID: B22-15 ***Soil*** ***Sampled: 07/26/2023 12:00***		18	Lab ID: L23G102-29
Metals SUB As			
Containers Supplied:			
Client Sample ID: MW1 ***Water*** ***Sampled: 07/26/2023 12:40***		19 A,B	Lab ID: L23G102-31
Metals SUB As	Total and Dissolved, field filtered		
Containers Supplied:			
Client Sample ID: MW2 ***Water*** ***Sampled: 07/26/2023 11:45***		20 A,B	Lab ID: L23G102-32
Metals SUB As	Total and Dissolved, field filtered		
Containers Supplied:			
Client Sample ID: MW3 ***Water*** ***Sampled: 07/26/2023 10:35***		21 A,B	Lab ID: L23G102-33
Metals SUB As	Total and Dissolved, field filtered		
Containers Supplied:			
Client Sample ID: MW4 ***Water*** ***Sampled: 07/26/2023 09:40***		22 A,B	Lab ID: L23G102-34
Metals SUB As	Total and Dissolved, field filtered		
Containers Supplied:			

Samples received at 3 °C

ES	7/31/23	ANH PHAN	08/01/23 @ 09:40
Released By	Date	Received By	Date

Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

SUBCONTRACT ORDER L23G102 (Continued)

08/01/23

M3/K5

Project: BLT 308002 [redacted]

Analysis	Comments	LabID	
Client Sample ID: MW5 ***Water Sampled: 07/26/2023 09:05***		23A,B	Lab ID: L23G102-35
Metals SUB As	Total and Dissolved, field filtered		
Containers Supplied:			

Samples received at 3 °C

ES — Released By

7/31/23 — Date

ANH PHAN — Received By

08/01/23 @ 09:40 — Date