Federal Way Link Extension (F200)

Contract No. RTA/CN 0009-17

Cleanup Action Plan

Parcels FL-358, FL-361

March 11,2020

Prepared by:

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March 11, 2020

Kiewit Infrastructure West Co.
2200 Columbia House Blvd.
Vancouver, WA 98661

Attention: Mr. Robert Brenner

Subject: Transmittal Letter
Cleanup Action Plan
Parcels FL-358, FL-361
Federal Way Link Extension Project
2200 South 320th Street
Federal Way, Washington

Dear Mr. Brenner,

This Cleanup Action Plan (CAP) has been prepared for remedial actions associated with Parcels FL-358 and FL-361 located at 2200 South 320th Street in Federal Way, Washington as a part of the Sound Transit Federal Way Link Extension Contract within the cities of SeaTac, Des Moines, Kent, and Federal Way Washington. This CAP outlines the procedures for remediating and handling contaminated soils at the subject parcel.

We appreciate the opportunity to provide environmental consulting services to Kiewit. Should you have any questions or require additional information, please do contact the undersigned.

Respectfully submitted,
O'Neill Service Group

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Revision History

Revision Number	Revision Date	Description of Changes
00	3/11/2020	Initial Submittal

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Executive Summary

This document presents the Cleanup Action Plan Federal Way Link Extension Parcel Numbers FL-358 and FL-361 in Federal Way, Washington (Figure 1). This Cleanup Action Plan was prepared by O'Neill Service Group (OSG) in collaboration with Kiewit Infrastructure West, Inc. (Kiewit) and Sound Transit. This plan has been prepared to meet the requirements of the Model Toxics Control Cleanup Act administered by Ecology under Chapter 173-340 of the Washington Administrative Code. This plan describes OSG's proposed cleanup action for this site and sets forth the requirements that the cleanup must meet.

Background

Parcels FL-358 and FL-361 (portions of former King County Tax Parcel Nos. 2423200050 and 2423200010) are located at 2200 South 320th Street in Federal Way, Washington. The Site formerly contained a dry cleaner (Y Pay Mor Cleaners), which operated between 1979 and 1994. The dry cleaner is identified on the Washington Department of Ecology's (Ecology's) listing of remedial sites. The current status of the cleanup is recorded as "No Further Action" with an environmental covenant in place as of 1998. According to Ecology file reviews, a release of tetrachloroethylene (PCE) was reported at the site in 1991. Subsequent subsurface investigations at the tenant space identified PCE impacts to soils and groundwater. A soil vapor extraction (SVE) remediation system was installed under the tenant space in 1993 and operated for approximately 1.5 years. Seven post-remedial borings were advanced to collect soil samples under the tenant space in 1994. The soil sampling found one PCE and one cis-1,2-dichloroethyene (cis-1,2-DCE) concentration exceeding MTCA cleanup levels in the seven borings completed as part of the confirmation sampling. Groundwater samples collected at the time of the original subsurface investigation detected PCE and trichloroethylene (TCE, a breakdown product of PCE) in exceedance of MTCA cleanup levels. After remedial actions, PCE was not detected in the installed groundwater wells. Ecology issued a No Further Action (NFA) determination for the site in 1998, conditioned with a Restrictive Covenant, prohibiting actions that may disturb contaminants remaining on site without prior written approval by Ecology.

Additionally, an off-site adjacent service station (Arco) was identified adjacent to Parcel FL-363 of the Site (Figure 2). The service station is identified on the Washington Department of Ecology's (Ecology's)

listing of remedial sites. The current status of the cleanup is recorded as "Cleanup Started." The station was originally built in 1975, and a release from gasoline underground storage tanks (USTs) was discovered in in 1991 during system upgrades. Soil and groundwater sampling in 1991 determined that contamination had migrated off-property to the west and southwest, extending past South 320th Street. Investigations and monitoring in the 1990's and 2000's. Various in-situ remediation technologies were implemented at the Site between 2001 and 2012. The ARCO site is not included in this CAP and soil management and plume remediation will be addressed in a separate plan.

Sound Transit is in the process of acquiring the property parcels (FL-358 and FL-361) for construction of the Federal Way Link Extension (FWLE) of Sound Transit's regional light rail service. Sound Transit does have a possession and use agreement. The former dry cleaner is located on parcel FL-358. The Arco station is adjacent to and surrounded by the irregularly shaped parcel FL-363 (Figure 2).

Chemicals of concern (COCs) at the Site are:

- Soil: chlorinated VOCs (PCE, TCE, cis-1,2-DCE), arsenic
- Groundwater: chlorinated VOCs (PCE, TCE, cis-1,2-DCE)

Cleanup Action Overview

The selected remedy for the Site is excavation of contaminated soils. Engineering controls (capping under roadway), institutional controls (environmental covenants restricting access to soil and groundwater) are not anticipated. Remedial actions are described below:

a. Parcel FL-358

1.0 **Excavation:** Chlorinated VOC contaminated soil: Excavate remnant VOC-contaminated soil documented underlying and adjacent to the former Y Pay Mor Cleaners tenant space**.**

2.0 **Groundwater**: If dewatering is required for soil remedial excavation, any temporary dewatering system will be designed to prevent the spread of contamination in soil and groundwater during remedial and construction excavation activities. Groundwater that

comes in contact with contaminated soil will be contained and disposed of in accordance with local, state and federal regulations.

3.0 **Engineering/institutional controls:** If contaminated soils are required to be left in place, Sound Transit will be notified for approval on a case by case basis to institute environmental covenants restricting access to soil and providing guidance for ongoing monitoring and maintenance, as necessary.

b. Parcel FL-361

1.0 **Excavation:** Metals contaminated soil: Excavate arsenic-contaminated soil documented in the northwest corner of the parcel.

2.0 **Engineering/institutional controls:** If contaminated soils are required to be left in place, Sound Transit will be notified for approval on a case by case basis to institute environmental covenants restricting access to soil and providing guidance for ongoing monitoring and maintenance, as necessary.

A post remediation groundwater monitoring plan will be developed following completion of final design for submittal to Ecology in late 2020. The plan will include the installation of new groundwater monitoring wells and one year of quarterly monitoring. Post-remedial excavation groundwater monitoring results will be used to evaluate whether additional groundwater remediation is needed, and if so, will be outlined in a CAP addendum.

CLEANUP ACTION PLAN
SOUND TRANSIT PARCELS FL-358 and FL-361
2200 SOUTH 320TH STREET
FEDERAL WAY, WASHINGTON

1.0 INTRODUCTION

This document is the Cleanup Action Plan (CAP) for the Parcels FL-358 and FL-361 Site (Site) (portions of former King County Tax Parcel Nos. 2423200050 and 2423200010) located at 2200 South 320th Street in Federal Way, Washington (Figure 1). The Site is recorded under Restrictive Covenants (King County recording numbers 9510121424 (1995) and 9808101434 (1998)). Per the Model Toxics Control Act (MTCA), a MTCA site is "any site or area where a hazardous substance … has been deposited, stored, disposed of, or placed, or otherwise come to be located." The general location of the Site is shown on Figure 1. Site boundaries are shown on Figures 2 and 4. A CAP is required as part of the site cleanup process under Chapter 173-340 of the Washington Administrative Code (WAC), MTCA Cleanup Regulations. The purpose of the CAP is to identify the proposed cleanup action for the Site and to provide an explanatory document for public review. More specifically, this plan:

- Describes the Site;
- Summarizes current site conditions;
- Describes the selected cleanup action(s) for the Site and the rationale for selecting this alternative;
- Identifies site-specific cleanup levels and points of compliance for each hazardous substance and medium of concern for the proposed cleanup action;
- Identifies applicable state and federal laws for the proposed cleanup action;
- Identifies residual contamination remaining on the Site after cleanup and environmental covenant restrictions on future uses and activities at the Site to ensure continued protection of human health and the environment;
- Discusses compliance monitoring requirements; and

- Presents the schedule for implementing the CAP.

1.1 Previous Studies

Previous studies and resources associated with Parcels FL-358, FL-361, and FL-363 include the following:

GeoEngineers, Inc., 2017a, *Federal Way Link Extension, AE 0044-12 WP 3.S Phase I Environmental Site Assessment, FL-358, FL-361 and FL-363, Tax Parcels 2423200050, 2423200010 and 2423200060*. Prepared for Sound Transit, March, 2017.

GeoEngineers, Inc., 2017b, *Phase II Environmental Site Assessment, Parcels FL-358, FL-361 and FL-363. Sea-Tac Plaza Shopping Center, 2200 South 320th Street, Federal Way, Washington*. Prepared for Sound Transit, December 19, 2017.

GeoEngineers, Inc., 2019, AE 0044-12 3.7.N, *Phase II Environmental Site Assessment Addendum, Parcel FL-358, Tax Parcel 2423200050*. Prepared for Sound Transit, February 18, 2019.

1.2 Regulatory Framework

A CAP is required as part of the site cleanup process under Chapter 173-340 of the Washington Administrative Code (WAC), MTCA Cleanup Regulations. Soils handled as part of the site cleanup process will be managed in accordance with state Dangerous Waste regulations (Chapter 173-303 WAC). There are no other local, state or federal regulatory actions at the site.

2.0 SITE DESCRIPTION

2.1 Site History

Details of historic property use, and the site interim remedial actions and assessments performed to date at the Site can be found in GeoEngineers, 2017a,b, 2019. The following is a summary of those assessments.

The Site formerly contained a dry cleaner (Y Pay Mor Cleaners), which operated between 1979 and 1994. The dry cleaner is identified on the Washington Department of Ecology's (Ecology's) listing of remedial sites. The current status of the cleanup is recorded as "No Further Action" with an

environmental covenant in place as of 1998. According to Ecology file reviews, a release of tetrachloroethylene (PCE) was reported at the site in 1991. Approximately six to ten gallons of waste PCE sludge was spilled and recovered by a hazardous waste vendor. Subsequent subsurface investigations at the tenant space identified PCE impacts to soils and groundwater. A soil vapor extraction (SVE) remediation system was installed under the tenant space in 1993 and operated for approximately 1.5 years. Seven post-remedial borings were advanced to collect soil samples under the tenant space in 1994. The soil sampling found one PCE and one cis-1,2-DCE concentration exceeding MTCA cleanup levels in the seven borings completed as part of the confirmation sampling. Groundwater samples collected at the time of the original subsurface investigation detected PCE and trichloroethylene (TCE), a breakdown product of PCE, in exceedance of MTCA cleanup levels. Other breakdown products were detected but at concentrations below MTCA cleanup levels. After remedial actions, PCE was not detected in the installed groundwater wells. Ecology issued a No Further Action (NFA) determination for the site in 1998, conditioned with a Restrictive Covenant, prohibiting actions that may disturb contaminants remaining on site without prior written approval by Ecology. GeoEngineers conducted a Phase II ESA at the location in 2017 (GeoEngineers, 2017b). TCE in soil exceeding MTCA cleanup levels was detected in one boring north of the tenant building and was detected in one other boring below cleanup levels (Figures 2 and 4). PCE and cis-1,2_DCE were detected below MTCA cleanup levels in two borings completed north and east of the former tenant space. PCE was either not detected or detected below cleanup levels in groundwater samples. Groundwater results are summarized on Figures 3 and 5. GeoEngineers performed a supplemental Phase II ESA at the dry cleaner space and adjacent commercial spaces in 2019, consisting of a sub-floor soil gas survey to assess residual VOC impacts under the existing building slab and building exterior. Eighteen passive soil gas sampling probes were installed through the floor of the former dry cleaner tenant space, the adjacent tenant space west and north of the former cleaners, and north of the building. The highest residual soil gas concentrations of PCE, TCE and cis-1,2-DCE were identified in the west-central portion of the former drycleaner space and adjacent west. The concentrations were attributed to residual contamination consistent with prior PCE exceedances in soils underlying the building.

Arsenic was also detected above MTCA cleanup levels in one soil sample collected from a boring on Parcel FL-361 (Figures 2 and 4). The exceedance may be associated with the Tacoma Smelter Plume,

although the parcel is outside of areas defined by Ecology as being at risk of having elevated (greater than 20 mg/kg) arsenic in soils.

Additionally, an off-site adjacent service station (Arco) was identified adjacent to Parcel FL-363 of the Site. The service station is identified on the Washington Department of Ecology's (Ecology's) listing of remedial sites. The current status of the cleanup is recorded as "Cleanup Started." The station was originally built in 1975, and a release from gasoline underground storage tanks (USTs) was discovered in in 1991 during system upgrades. Approximately 1,000 cubic yards of petroleum contaminated soils were excavated for treatment and disposal. Soil and groundwater sampling in 1991 determined that contamination had migrated off-property to the west and southwest, extending past South 320th Street. Investigations and monitoring in the 1990's and 2000's. Various in-situ remediation technologies were implemented at the Site between 2001 and 2012. The last available report for the Site was dated 2015. GeoEngineers conducted a Phase II ESA on the adjacent parcels FL-358 and FL-361 in 2017 to assess off-property impacts from the Arco Site (GeoEngineers, 2017b). Gasoline-range petroleum in soils exceeding MTCA cleanup levels were detected in two borings north and northwest of the Arco parcel on Parcels FL-361 and FL-358, respectively (Figure 2). Ethylbenzene and xylenes exceeding MTCA cleanup levels were also detected in these borings. Diesel and lube oil range hydrocarbons were also detected in selected soil samples but at concentrations below cleanup levels. Petroleum was either not detected or detected below cleanup levels in other borings advanced in the vicinity as part of this Phase II ESA. Gasoline-, diesel-, and lube oil-range petroleum exceeding groundwater cleanup levels was also detected in the borings with soil exceedances (Figure 3). Benzene, xylenes, and/or naphthalene concentrations exceeding MTCA cleanup levels were also detected in these samples. Lead exceeding MTCA cleanup levels was detected in groundwater samples collected to the east, north, and northwest of the Arco property parcel. These exceedances are likely associated with petroleum releases, and not the Tacoma Smelter Plume. Petroleum was either not detected or detected below cleanup levels in other groundwater samples. Diesel and lube oil range hydrocarbons were also detected in selected groundwater samples but at concentrations below cleanup levels. Groundwater results are summarized on Figure 3. The ARCO site is not included in this CAP and soil management and plume remediation will be addressed in a separate plan.

2.2 Human Health and Environmental Concerns

2.2.1 Primary Sources of Contamination and Primary Release Mechanisms

The primary contaminant sources are releases from the former dry cleaner. These VOC releases contaminated site soils, which have been documented between depths of one and fourteen feet below grade. Metals (arsenic) have also been identified in shallow Site soils (Parcel FL-361).

2.2.2 Secondary Sources and Release Mechanisms

Secondary sources and release mechanisms, based on the Phase II ESA data and prior information are limited to leaching from soil to groundwater of VOCs, as no air or surface water impacts were identified.

2.2.3 Conceptual Site Model Pathways and Potential Receptors

Potential exposure routes for human and ecological receptors include the following:

Dermal/Direct Contact – Exposure to chemicals in soil may occur through direct contact with soil. Direct contact is a potential exposure route for current and future on-site workers or visitors. Burrowing or ground-dwelling mammals and invertebrates may be exposed directly to the soil contaminants.

Inhalation – Particulates from soil can be transported by air and inhaled by potential on-site and off-site receptors. Emissions of volatile chemicals from soil and groundwater may also be transported as vapors by air. Terrestrial biota could also be exposed to chemicals volatilizing to outdoor air. Burrowing animals may be exposed to volatile air contaminants in underground stagnant air while spending time within the burrow.

Ingestion – Ingestion of chemicals in Site soil is a primary exposure route for human and ecological receptors. Uptake by plants is also a potential exposure route.

If groundwater impacts remain, potentially complete exposure pathways after completion of the Interim Actions are:

Soil –VOCs, metals:

- Current/future construction/utility worker
- Incidental soil ingestion and dermal contact

Soil Vapor – VOCs:

- Current/future construction/utility worker

The future proposed redevelopment of the Site includes an elevated light rail guideway, paved surface parking and a stormwater detention vault. No long-term occupancy is expected for any Site structure.

The intent of a cleanup action under MTCA is that no potentially complete exposure pathways remain after completion of remedial actions. In the event of capping or other engineering controls, residual contamination will be managed under environmental covenants per WAC 173-340-440.

2.3 Cleanup Standards

2.3.1 Contaminants of Concern (COCs)

2.3.1.1 Soil COCs

Based on the prior site investigations, contaminants of concern (COCs) in Site soil were:

- Chlorinated VOCs (PCE, TCE and cis 1,2-DCE))
- Metals: arsenic

2.3.1.2 Groundwater COCs

Based on the prior site investigations, contaminants of concern (COCs) in Site groundwater were:

- Chlorinated VOCs (PCE, TCE and cis 1,2-DCE)

2.3.2 Cleanup Levels

Cleanup levels for COCs that need to be addressed by the cleanup in affected media at the site (soil) are presented in Section 3.3.

3.0 DESCRIPTION OF SELECTED REMEDY

3.1 Site Description

The Site was defined as consisting of the extent of contamination caused by the release of hazardous substances from a former 8.84-acre property generally located at 2200 South 320th Street (portions of former King County Tax Parcel Nos. 2423200050 and 2423200010). Sound Transit is in the process of acquiring these parcels, which includes public right-of-way for construction of the FWLE Light Rail. The Site boundaries are shown on Figure 4.

3.2 Description of the Cleanup Action

Based on the results of the Phase II investigation and the application of the selection of remedy criteria, the proposed cleanup alternatives for contaminated soil at the Site (developed in accordance with WAC 173-340-350 through 173-340-390) is:

(i) VOC, and metals contaminated soils on site – Excavation and removal of contaminated soil is the proposed cleanup action for the Site. Remedial actions requiring soil disturbance on parcel FL-358 will commence after Ecology has been notified in accordance with the parcel's Restrictive Covenant. Chlorinated VOC-contaminated soils associated with the former dry cleaner will require de-listing via a Contained-In determination from Ecology in accordance with Dangerous Waste regulations (Chapter 173-303 WAC) prior to excavation and disposal.

Site-specific soil remedial actions will include:

3.2.1 Supplemental Characterization

Prior to remedial actions, supplemental subsurface investigations will be conducted to further delineate soils containing contaminants in exceedance of MTCA cleanup levels. A CAP amendment will be

submitted to Ecology if the supplemental characterization results indicate a need to modify the Cleanup Action Plan.

The GeoEngineers 2017 Phase II investigation identified soils exceeding MTCA cleanup levels for VOCs and metals on Parcels FL-358 and FL-361 (Figure 4). Areas of concern include:

- FL-358: Delineation of chlorinated VOC-contaminated soils for confirmation of soil volume and extent for securing Contained-In determination and remedial excavation,
- FL-361: Extent of shallow arsenic detected in boring FL358-B3

OSG will conduct subsurface investigations (borings or test pits) in these areas as determined necessary to further characterize the site and reduce unknown subsurface features and refine soil remedial volume estimates. Proposed sampling locations are depicted on Figure 4. The supplemental characterization will include the following tasks:

- Utility Locate: OSG will contact the public 'One-call' utility notification service prior to conducting any subsurface exploration. State law requires that the area being drilled needs to be marked in white paint prior the public utility locate.
- Subsurface investigation: Soil borings or test pits (up to fifteen feet in depth) as determined necessary will be completed at the locations discussed above. Proposed locations are depicted on Figure 3, and the exact locations of the sampling locations will be determined in the field. All borings or test pits will be backfilled and restored following sampling.
- Soil Sampling: Up to two soil samples will be collected at each sampling location at depths where field screening shows potential contamination, if present and/or at the soil-groundwater interface. Depending on soil collection method, samples will be collected directly either from the backhoe/excavator bucket or drilling rig split spoon sampler. Test pit samples will be collected from soils that have not been in contact with the excavator bucket or teeth. If drilling equipment is employed, any downhole sampling equipment will be decontaminated prior to use with detergent solution, potable water, and deionized water.

- For volatile organic analysis, transfer the sample directly into an appropriate, labeled sample containers in accordance with the analytical laboratory's 5035A protocol. Place the remainder of the sample into appropriate, labeled containers and secure the caps tightly.

- Document soil observations and conditions: USCS soil classification, color, moisture content, density, soil provenance (fill, native), debris or foreign material, field screening results (odors, staining, sheen, PID readings). Log changes in soil stratigraphy by depth below existing ground surface on a test pit log or in field notebook. Photograph test pit sidewall if safe to do so.

- After completion of sampling, abandon the test pit or excavation by backfilling and compacting with the removed soil material. If drilling equipment is used, the borings will be backfilled and decommissioned in accordance with 173-160 WAC.

- Analytical: The selected soil samples be placed in a chilled cooler and transported under chain of custody protocol for analysis by a Washington Department of Ecology-accredited analytical laboratory for:

    - Chlorinated VOCs by EPA Method 8260/5035A

    - Total Metals by EPA Method 6040

3.2.2 Soil Remedial Action

Sound Transit and the RE will be notified within seven (7) days of the start of project remedial activities. Soil remedial excavation associated with the former dry cleaner will not commence before the Contained-In determination is secured from Ecology. Remedial excavation will not commence without written Ecology concurrence.

3.2.2.1 Soil Excavation

Soils containing contaminants in exceedance of the MTCA cleanup levels will be excavated and disposed of at a licensed disposal facility in accordance with the requirements provided in the expected Contained-In Determination. Soils associated with the former dry cleaner will be handled and disposed of in accordance with the requirements of the Contained-In determination and associated regulations.

Based on bid documents, an estimated 7,500 tons of contaminated soil may be present on the site. This volume assumes contaminated soils between depths of approximately one and fifteen feet below grade. Approximate areas of excavation are depicted on Figure 3. On-site monitoring wells (Figure 4) will be decommissioned in accordance with Chapter 173-160 WAC.

Soil excavation will be conducted laterally until confirmation sample results determine that soils exceeding MTCA cleanup levels have been removed, the excavation reaches the parcel boundary, and/or the excavation is limited by utilities or structures. Soil excavation will be conducted vertically until laboratory analytical results determine that soils exceeding MTCA cleanup levels have been removed or until excavations reach feasible extents. Temporary excavation dewatering may be required for soil remedial excavation (discussed below).

A representative number of soil samples will be collected from areas where remedial excavation has occurred. A minimum number of four sidewall and one base of excavation samples will be collected to document the conditions at each remedial excavation. Soil sampling collection methodology and analysis will be consistent with known contaminants and prior supplemental characterization sampling (Section 3.2.1). If suspected contamination extends beneath inaccessible areas, representative samples will be collected at the furthest extent of excavation to document remnant contamination at that point.

If during remedial actions it appears that this estimated tonnage will be exceeded, Sound Transit will be notified when approximately 80 percent of the estimated tonnage has been removed. At that time, Sound Transit may issue direction for additional assessments and/or remedial volume, as necessary.

3.2.2.2 Contaminated Groundwater:

Construction Dewatering:

If required to complete the remedial excavation, a temporary construction dewatering system will be designed to prevent the spread of contamination to soil or groundwater. The dewatering system may be operated to allow deeper soil remedial excavation (depths of greater than seven feet), in addition to needs for site construction and development. Groundwater that comes in contact with contaminated soil will be contained and disposed of in accordance with local, state and federal regulations. Future groundwater remedial activities will be evaluated following groundwater monitoring planned to be

performed after completion of remedial excavation activities and are not part of this soil remedial action..

3.2.3 Institutional Controls

For portions of the site where capping in-place or other non-permanent solutions are anticipated, or where contaminated soils were left on-site due to other restrictions, the Kiewit Team will notify Sound Transit if institutional controls may be needed and to provide information for implementing an environmental covenant. Sound Transit will approve the use of institutional controls on a case by case basis. The covenant will document remnant contamination in soil and prohibit disturbance and use for any purpose other than monitoring, site investigation, or construction-related activities without prior notification and approval by Ecology.

3.3 Cleanup Standards and Point of Compliance

Cleanup standards consist of appropriate cleanup levels applied at a defined point of compliance that meet applicable state and federal laws (WAC 173-340-700). Cleanup levels are described below.

3.3.1 Soil

Appropriate levels of cleanup for soil remediation are determined by the conservative cleanup levels for current and future potential site uses. The appropriate soil cleanup levels for the Site are MTCA Method A Soil Cleanup Levels for Unrestricted Land Use (WAC 173-340, Table 740-1).

Soil cleanup levels for COCs are summarized below:

Compound	Cleanup Level (mg/kg)
PCE	0.05
TCE	0.03
Cis 1,2-DCE	160 (Method B)
Arsenic	20

3.3.2 Groundwater

Appropriate levels of cleanup for groundwater are determined by the highest beneficial use of that groundwater. Shallow groundwater present at the Site is not currently used for drinking water, and no water wells are located downgradient of the Site.

Groundwater cleanup levels for COCs are summarized below:

Compound	Cleanup Level (ug/l)
PCE	5
TCE	5
Cis 1,2-DCE	16 (Method B)

3.3.3 Point of Compliance

The point of compliance is the specific location(s) at which a particular cleanup level must be met in order to demonstrate compliance of a cleanup action. MTCA defines standard and conditional points of compliance.

3.3.3.1 Soil

The standard soil point of compliance under MTCA (WAC 173-340-740 (6)(b-(d))) is:

- For soil cleanup levels based on protection of groundwater, the point of compliance shall be established throughout the Site
- For soil cleanup levels based on protection from vapors, the point of compliance shall be established throughout the Site from the ground surface to the uppermost groundwater saturated zone

- 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 15 feet below ground surface

MTCA recognizes that, for cleanup actions that involve containment or capping, cleanup levels may not be met at the standard point of compliance, but the cleanup action would be determined to comply with cleanup standards provided:

- The selected remedy is permanent to the maximum extent practicable
- The cleanup action is protective of human health and terrestrial ecological receptors
- Institutional controls are implemented to limit activities that could interfere with the long- term integrity of the containment system
- Compliance monitoring and periodic reviews are conducted
- The capped or contained COCs and measures to prevent migration and contact with them are specified in a CAP

The cleanup alternatives are evaluated based on standard soil point of compliance for removal and treatment alternatives (WAC 173-340-740(6)(a)-(e), and for containment remedies (WAC 173-340-740(6)(f)).

3.3.3.2 Groundwater

The standard groundwater point of compliance under MTCA (WAC 173-340-720(8)(b)) is in ground water throughout the Site from the uppermost level of the saturated zone to the lowest depth which could potentially be affected.

For this Site, the standard ground water point of compliance is proposed for HVOC impacts, i.e., ground water throughout the Site.

3.3.3.3 Air Quality

The standard air quality point of compliance under MTCA (WAC 173-340-750(6) is in ambient and/or indoor air throughout the Site.

The future proposed redevelopment of the Site includes an elevated light rail guideway, paved surface parking and a stormwater detention vault. No long-term occupancy is expected for any Site structure.

3.4 Applicable, Relevant, and Appropriate Requirements

Cleanup actions under MTCA (WAC 173-340-710) require the identification of all applicable or relevant and appropriate requirements (ARARs). These requirements are defined as:

"Applicable" requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a site.

"Relevant and appropriate" requirements means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a site, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site.

The potential ARARs for the Site include three types:

- Chemical-specific, Location-specific and Action-specific.

Chemical-specific ARARs are typically health- or risk-based values that when applied to site- specific conditions represent cleanup standards. Location-specific ARARs are related to the geographical position and/or physical condition of the site and may affect the type of remedial action selected. Action-specific ARARs are usually technology-based or activity-based requirements or limitations on actions or conditions taken with respect to specific hazardous substances. The action-specific requirements do not

determine the selected remedial alternative but indicate how or to what level a selected alternative must perform.

Potential ARARs were identified for each medium of potential concern. These potential ARARs are shown in Table 1.

3.5 Restoration Timeframe

3.5.1 VOCs and Metals in soil

The soil remedial actions will begin in the Spring of 2020 with remedial activities complete by 2021. If necessary, engineering controls (i.e., capping) will be implemented before the completion of the project. Institutional controls (environmental covenant) and conformational monitoring are anticipated to be implemented once construction is complete.

3.6 Compliance Monitoring

While excluded from the contract documents, groundwater monitoring may be required based on the prior documented groundwater impacts and Restrictive Covenant conditions. Sound Transit will evaluate the need for post remedial groundwater monitoring.

Compliance monitoring requirements (specified in WAC 173-340-410) include the following elements:

- Protection monitoring to confirm that human health and the environment are adequately protected during implementation of an alternative
- Performance monitoring to confirm that cleanup standards or other performance standards are met
- Confirmation monitoring to monitor the long-term effectiveness of the remedy after completion of the alternative

3.7 Institutional and Engineering Controls

If necessary, institutional and engineering controls will be applied to residual contaminants in soil impacts. See Section 3.2 above.

4.0 REPORTING AND RECORDKEEPING

Supplemental characterization and cleanup activities will be summarized in a Cleanup Report. The Cleanup Report will include a discussion of where contamination was remediated, a summary of the cleanup methods and activities, location of remedial excavations, discussion of confirmation samples and other analytical results in support of disposal, and bill of ladings and certificates of disposal for soil and groundwater. The Cleanup Report is due to Sound Transit no later than eight weeks after completing remediation. Sound Transit will manage the public participation process with information obtained from the CAPs and subsequent cleanup reports.

Table 1. Potential Applicable or Relevant and Appropriate Requirements

ARAR	Description	Applicability
Soil		
Model Toxics Control Act (WAC 173-340-740, -747)	MTCA regulates the investigation and cleanup of releases to the environment that may pose a threat to human health or the environment. Establishes cleanup levels for soil, including derivation of soil concentrations protective of groundwater.	MTCA cleanup levels are applicable to Site soil.
Washington Hazardous Waste Management Act (WAC 173-303)	Establishes standards for the generation, transport, treatment, storage, or disposal of designated dangerous waste in the state.	This regulation is potentially applicable to alternatives that would involve handling of contaminated media at the Site. The area of contamination policy allows contaminated media to be consolidated within the same area of a site without triggering Resource Conservation and Recovery Act or Washington dangerous waste regulations.
Washington Hazardous Waste Management Act (WAC 173-303)	Establishes specific U.S. Department of Transportation rules and technical guidelines for the off-site transport of hazardous materials.	Applicable to remedial activities that involve the off-site transportation of hazardous waste.
Groundwater		
Model Toxics Control Act (WAC 173-340-720)	MTCA regulates the investigation and cleanup of releases to the environment that may pose a threat to human health or the environment. Establishes cleanup levels for groundwater.	MTCA cleanup levels are applicable to Site groundwater.
Surface Water		
Model Toxics Control Act (WAC 173-340-730)	MTCA regulates the investigation and cleanup of releases to the environment that may pose a threat to human health or the environment. Establishes cleanup levels for surface water.	MTCA cleanup levels may be applicable to the Site if remedial activities cause a release to surface water.
Air		
Washington Clean Air Act and Implementing Regulations (WAC 173-400; WAC 173-460; WAC 173-490)	WAC 173-400 requires air emissions at the Site boundary to fall below the acceptable source impact limit (ASIL). WAC 173-400 also requires control of fugitive dust emissions during construction and defines general emission discharge treatment requirements. WAC 173-460 requires systemic control of new sources emitting air pollutants. WAC 173-490 sets emission standards and source control for volatile organic compounds.	Applicable for air stripping/sparging remedial technology (not applicable).
Model Toxics Control Act (WAC 173-340-750)	MTCA regulates the investigation and cleanup of releases to the environment that may pose a threat to human health or the environment. Establishes cleanup levels for air.	MTCA cleanup levels may be applicable to the Site if remedial activities cause a release to air.
Miscellaneous		
Protection of Wetlands, Executive Order 11990 (40 CFR Part 6, Appendix A)	This executive order mandates that response actions taken by federal agencies must be designed to avoid long- and short-term impacts to wetlands. If remediation activities are located near/in wetlands, the activities must be designed to avoid adverse impact to the wetlands wherever possible, including minimizing wetlands destruction and preserving wetland values.	This Act would be potentially applicable to remedial activities at the Site.

ARAR	Description	Applicability
Endangered Species Act (50 CFR Parts 17, 402)	Section 7 of the Endangered Species Act (ESA) and 40 CFR Part 402 require that federal agencies consider the effects of their proposed actions on federal listed species. It requires consultation between the agency proposing the action and the U.S. Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration (NOAA) Fisheries, as appropriate. Preparation of a biological assessment is conducted, addressing the potential effects to listed species in the area and methods to minimize those effects.	The ESA is potentially applicable to remedial actions at the Site because the USFWS has determined that federal threatened species (bald eagle and bull trout) may use the project area. Therefore, they could potentially be affected by these actions.
Native American Graves Protection and Repatriation Act (43 CFR Part 10)	Native American Graves Protection and Repatriation Act regulations protect Native American burials from desecration through the removal and trafficking of human remains and "cultural items," including funerary and sacred objects.	This Act is potentially applicable to remedial actions at the Site because it is possible that the disturbance of Native American materials could occur as a result of work in the stream bed or subsurface excavations elsewhere at the Site. Such materials are not known to be present at the Site but could be inadvertently uncovered during soil or sediment removal.
National Historic Preservation Act (36 CFR Parts 60, 63, and 800)	National Historic Preservation Act (NHPA) regulations require federal agencies to consider the possible effects on historic sites or structures of actions proposed for federal funding or approval. Historic sites or structures as defined in the regulations are those on or eligible for the National Register of Historic Places, generally at least 50 years old.	This Act is potentially applicable to stream bed or other subsurface work at the Site. No such sites are known to be present in the area.
Washington Solid Waste Handling Standards (WAC 173-350)	Establishes standards for handling and disposal of solid non-hazardous waste in Washington.	These regulations are potentially applicable to solid nonhazardous wastes and are potentially relevant and appropriate to on-site remedial actions governing contaminated media management.
Washington Water Well Construction Act Regulations (WAC 173-160)	Provides requirements for water well construction.	These regulations are potentially applicable to the installation, operation, or closure of monitoring and treatment wells.

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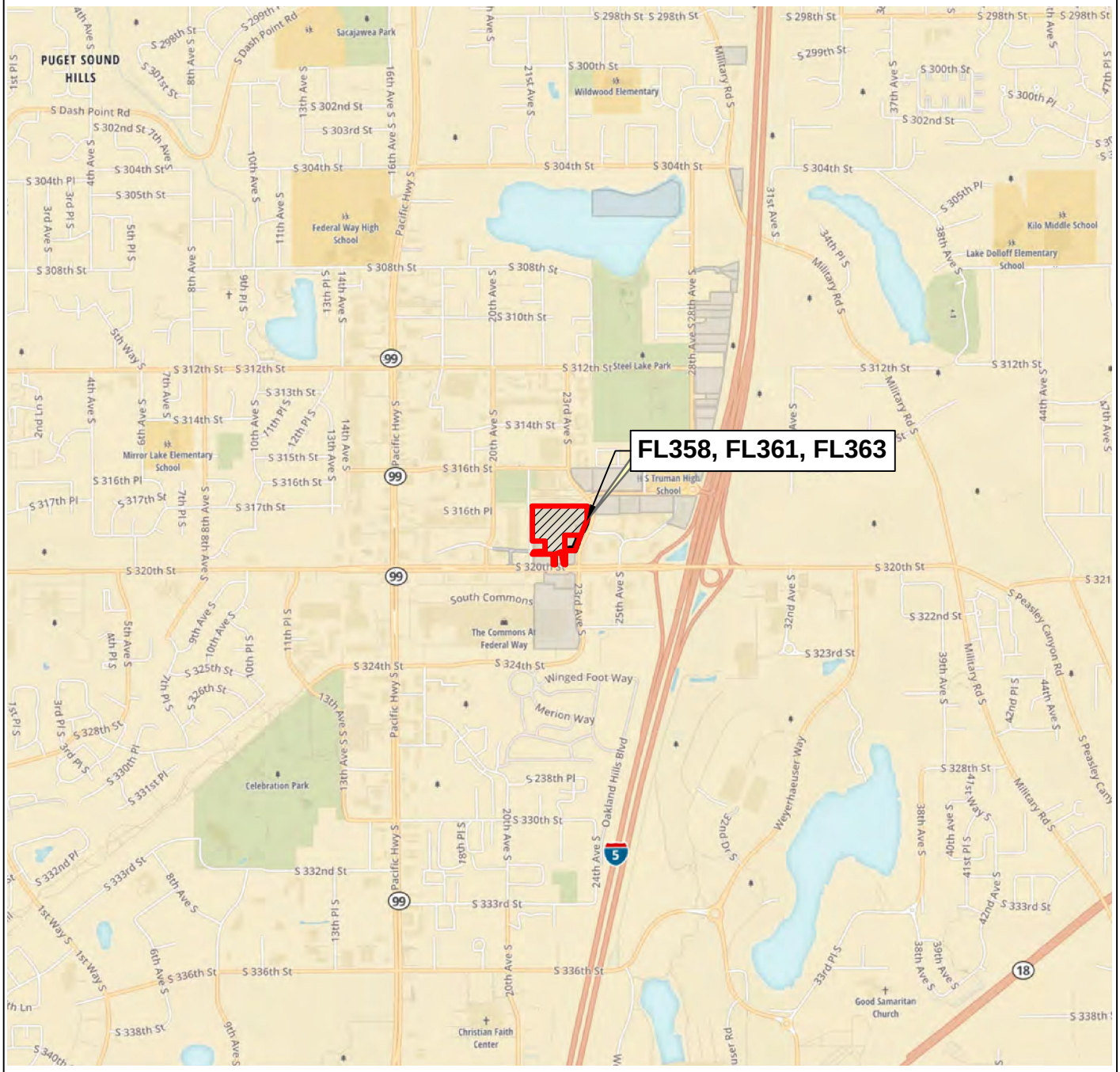

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Not to Scale

Reference: Base file Vicinity Map FL358, FL361, FL363 by GeoEngineers, dated 11-28-17.

O'Neill Service Group

FEDERAL WAY LINK EXTENSION
SEATAC AND FEDERAL WAY
KING COUNTY, WASHINGTON

VICINITY MAP

Drawn By:	J. Stewart
Reviewed By:	V. Atkins
Approved By:	V. Atkins
Date:	February 2020
Project No.:	2021

FIGURE

1

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Legend

- GeoEngineers Phase II ESA Monitoring Well
- GeoEngineers Phase II ESA Soil Boring
- GeoEngineers Phase II ESA Boring with Grab Water Sample
- Monitoring Well by Others Not Sampled or Located
- Monitoring Well by Others Sampled for Phase II ESA
- LPH: Liquid Phase Hydrocarbons in Past
- Dual Completion Well Location
- Extraction Well Location
- Abandoned or Destroyed Well Location
- Estimate of gas plume >MTCA based on 2015 data
- Estimate of gas plume >MTCA based on 2017 data
- Boundary Mapped Historic Drainage Area (c. 1949)
- Subject Property
- Parcel
- Access Easement
- Fee Take
- Guideway Easement
- Permanent and Slope Easement
- Temporary Construction Easement
- Approximate Groundwater Flow Direction

Reference: Base file Chemical Analytical Results Soil by GeoEngineers, dated 11-29-2017.

N

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SCALE IN FEET

O'Neill Service Group

FEDERAL WAY LINK EXTENSION
SEATAC AND FEDERAL WAY
KING COUNTY, WASHINGTON

SOIL SAMPLE RESULTS AND ADJACENT PARCELS

Drawn By:	J. Stewart
Reviewed By:	V. Atkins
Approved By:	V. Atkins
Date:	February 2020
Project No.:	2021

FIGURE 2

Legend

- GeoEngineers Phase II ESA Monitoring Well
- GeoEngineers Phase II ESA Soil Boring
- GeoEngineers Phase II ESA Boring with Grab Water Sample
- Monitoring Well by Others Not Sampled or Located
- Monitoring Well by Others Sampled for Phase II ESA
- LPH — Liquid Phase Hydrocarbons in Past
- Dual Completion Well Location
- Extraction Well Location
- Abandoned or Destroyed Well Location
- Estimate of gas plume >MTCA based on 2015 data
- Estimate of gas plume >MTCA based on 2017 data
- Boundary Mapped Historic Drainage Area (c. 1949)
- Subject Property
- Parcel
- Access Easement
- Fee Take
- Guideway Easement
- Permanent and Slope Easement
- Temporary Construction Easement
- Approximate Groundwater Flow Direction

Reference: Base file Chemical Analytical Results Groundwater by GeoEngineers, dated 11-29-2017.

N

50 0 50 100
SCALE IN FEET

O'Neill Service Group

FEDERAL WAY LINK EXTENSION
SEATAC AND FEDERAL WAY
KING COUNTY, WASHINGTON

GROUNDWATER SAMPLE RESULTS AND ADJACENT PARCELS

Drawn By:	J. Stewart
Reviewed By:	V. Atkins
Approved By:	V. Atkins
Date:	February 2020
Project No.:	2021

FIGURE 3

TC AcRd

FL358-B1	cis-1,2-DCE	PCE	TCE
5-6	0.0053	ND	ND
10-11	0.0140	0.016	0.0076
13-14	0.0043	**0.066**	0.0022

FL358-B1

FL358-MW1	cis-1,2-DCE	PCE	TCE
19-20	0.0016	0.0049	0.0033

APPROXIMATE AREA OF SOIL REMEDIATION BASED ON PRIOR INVESTIGATIONS

Former Y Pay Mor Dry Cleaners

Y Pay Mor-MW2 (Not Located)

FL358-MW1

B-4 (1994)	cis-1,2-DCE	PCE	TCE
5-6.5	0.33	**1.3**	ND

B-4 (1994)

FL358-MW2	HVOCs ND

FL358-MW2

FL358-MW3

FL358-MW3	HVOCs ND

Y Pay Mor-MW3

FL-363

FL358-MW4

FL358-MW3	HVOCs ND

FL358-B3

APPROXIMATE AREA OF SOIL REMEDIATION BASED ON PRIOR INVESTIGATIONS

FL-361

FL358-B3	Arsenic
0.5-1	**40**

FL360-B2

FL360-B1

Legend

- GeoEngineers Phase II ESA Monitoring Well
- GeoEngineers Phase II ESA Soil Boring
- GeoEngineers Phase II ESA Boring with Grab Water Sample
- Monitoring Well by Others Not Sampled or Located
- Monitoring Well by Others Sampled for Phase II ESA
- LPH Liquid Phase Hydrocarbons in Past
- Dual Completion Well Location
- Extraction Well Location
- Abandoned or Destroyed Well Location
- Estimate of gas plume >MTCA based on 2015 data
- Estimate of gas plume >MTCA based on 2017 data
- Proposed Supplemental Sample Locations
- Boundary Mapped Historic Drainage Area (c. 1949)
- Subject Property
- Parcel
- Access Easement
- Fee Take
- Guideway Easement
- Permanent and Slope Easement
- Temporary Construction Easement
- Approximate Groundwater Flow Direction

Boring ID	Analyte
Sample Depth, ft bgs	Concentration, mg/kg
	Exceeds MTCA Cleanup Level

Reference: Base file Chemical Analytical Results Soil by GeoEngineers, dated 11-29-2017.

N

20 0 20 40
SCALE IN FEET

O'Neill Service Group

FEDERAL WAY LINK EXTENSION
SEATAC AND FEDERAL WAY
KING COUNTY, WASHINGTON

SITE SPECIFIC SOIL SAMPLE RESULTS

Drawn By: J. Stewart
Reviewed By: V. Atkins
Approved By: V. Atkins
Date: February 2020
Project No.: 2021

FIGURE 4

TC AcRd

FL358-B1

FL358-MW1	cis-1,2-DCE	PCE	TCE
10/17	0.61	0.21	1

Former Y Pay Mor Dry Cleaners

Y Pay Mor-MW2 (Not Located)

FL358-MW1

B12	cis-1,2-DCE	PCE	TCE
1992	ND	**1700**	ND

B12 (1992)

FL358-MW2	cis-1,2-DCE	PCE	TCE
10/17	ND	ND	ND

FL358-MW2

Y Pay Mor-MW3	cis-1,2-DCE	PCE	TCE
10/92	7.0	ND	ND
11/92	6.6	ND	2.3
6/94	5.4	ND	ND
11/94	2.2	ND	ND
2/97	1.8	ND	ND
7/97	3.6	ND	ND
10/17	0.2	ND	ND

FL358-MW3

FL358-MW3	cis-1,2-DCE	PCE	TCE
10/17	ND	ND	ND

FL-363

FL358-MW4

FL358-MW4	cis-1,2-DCE	PCE	TCE
10/17	0.34	ND	ND

Y Pay Mor-MW3

FL358-B3

FL-361

FL360-B2

FL360-B1

Legend

- GeoEngineers Phase II ESA Monitoring Well
- GeoEngineers Phase II ESA Soil Boring
- GeoEngineers Phase II ESA Boring with Grab Water Sample
- Monitoring Well by Others Not Sampled or Located
- Monitoring Well by Others Sampled for Phase II ESA
- LPH Liquid Phase Hydrocarbons in Past
- Dual Completion Well Location
- Extraction Well Location
- Abandoned or Destroyed Well Location
- Estimate of gas plume >MTCA based on 2015 data
- Estimate of gas plume >MTCA based on 2017 data
- Boundary Mapped Historic Drainage Area (c. 1949)
- Subject Property
- Parcel
- Access Easement
- Fee Take
- Guideway Easement
- Permanent and Slope Easement
- Temporary Construction Easement
- Approximate Groundwater Flow Direction

Well ID	Analyte
Date	Concentration, ug/l
	Exceeds MTCA Cleanup Level

Reference: Base file Chemical Analytical Results Groundwater by GeoEngineers, dated 11-29-2017.

N

20 0 20 40
SCALE IN FEET

O'Neill Service Group

FEDERAL WAY LINK EXTENSION
SEATAC AND FEDERAL WAY
KING COUNTY, WASHINGTON

SITE SPECIFIC GROUNDWATER SAMPLE RESULTS

Drawn By: J. Stewart
Reviewed By: V. Atkins
Approved By: V. Atkins
Date: February 2020
Project No.: 2021

FIGURE 5