



ATLAS GEOSCIENCES NW

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Subject: Remediation Progress Summary

Bay Street Apartments Property
429 Bay Street
Port Orchard, Washington

Dear Mr. Mehdizadehkashi:

On behalf of Mr. Ali Mehdizadehkashi (Client), Atlas Geosciences NW (Atlas), has developed this summary of environmental conditions for the Bay Street Apartments property at 429 Bay Street in Port Orchard, Washington (subject property). The subject property is currently undergoing redevelopment as a multifamily residential facility.

Remediation of petroleum-related contamination in soil and groundwater is currently underway at the subject property. This contamination is attributed to operations at a historical commercial automotive service station that operated on the subject property from approximately 1968 to 1984. This letter summarizes the current status and planned remediation efforts related to the following contamination issues at the subject property:

- Petroleum-related contamination in soil above the water table;
- Petroleum-related contamination in groundwater and in soil below the water table;
- Arsenic in groundwater; and
- Petroleum-related vapor intrusion mitigation for the planned residential structure.

The contaminated media and conditions addressed in this list encompass the environmental compliance concerns related to the Model Toxics Control Act Regulation (MTCA) that governs the investigation and cleanup of contaminated properties in Washington State. Remediation effort is ongoing at the subject property to address each of these concerns.

SOIL ABOVE THE WATER TABLE

The nature and extent of petroleum-contaminated soil above the water table have been evaluated during investigations completed in 2019 and 2020 and during excavation activities completed in August 2023 and September 2024. The excavation

activities were completed with an objective to remove accessible soil above the water table that contained petroleum-related contaminants at concentrations greater than applicable MTCA cleanup levels. Soil samples were collected from the excavation limits (excavation walls and floor) in a manner that complies with the spatial requirements defined in Washington State Department of Ecology (Ecology) guidance related to excavation of petroleum-contaminated soil.

Laboratory analytical results for the soil samples collected from the excavation limits do not indicate the presence of soil with petroleum concentrations greater than the MTCA cleanup levels above the water table. Petroleum-contaminated soil excavated from the subject property was disposed at a landfill permitted to accept that material.

SOIL BELOW THE WATER TABLE AND GROUNDWATER

The excavation described above was advanced to a depth below which no evidence of petroleum contamination at concentrations greater than the applicable MTCA cleanup levels was identified, or to below the water table, whichever was shallower. At several locations within the excavation area where soil samples were collected below the water table, petroleum-related contaminant concentrations were found to be greater than applicable MTCA cleanup levels. Additionally, Groundwater samples collected prior to the initiation of excavation activities indicate that petroleum-related contaminants and dissolved arsenic are present at concentrations greater than applicable MTCA cleanup levels in groundwater at the subject property.

The arsenic in groundwater at the subject property is attributed to mobilization of naturally occurring arsenic from soil within the aquifer because of a common geochemical response to the presence of petroleum-related contamination in groundwater. Atlas expects that remediation of the petroleum-related contamination in groundwater should result in reduction of dissolved arsenic concentrations in groundwater at the subject property to less than MTCA cleanup level as aquifer geochemical conditions re-equilibrate to near pre-contamination conditions.

Evidence of free-phase petroleum product affecting groundwater quality at the subject property has not been identified. The petroleum contamination in groundwater is limited to dissolved-phase petroleum hydrocarbons, and concentrations of these contaminants in groundwater are greater than the applicable MTCA cleanup levels in an area similar to the area of petroleum-contaminated soil removed from the property during the excavation efforts.

The remediation method currently established for addressing the residual petroleum remaining in soil and groundwater below the water table at the subject property is enhanced monitored natural attenuation. With the removal of the contaminated soil above the water table as well as much of the contaminated soil in the upper few feet of the groundwater zone, Atlas expects that the remaining petroleum mass will decrease through biologic degradation over time. Conditions allowing the aerobic

bacteria that consume petroleum hydrocarbons to thrive were enhanced by the addition of an oxygen-releasing compound (ORC) to backfill placed below the water table in the excavation. Additionally, infiltration piping was installed within the excavation backfill to allow future injection of ORC if warranted to enhance biological degradation of the residual petroleum mass.

Nine groundwater monitoring wells within the excavation footprint were decommissioned and removed during the excavation process. Atlas currently has approved scope and budget to install a new monitoring well network once subject property redevelopment progresses to a stage where the wells can be installed in a manner that will preserve well integrity during the remaining development process. Atlas expects that the monitoring well network will be re-established by the end of the second quarter of 2025. The planned monitoring well network will be augmented by the two monitoring wells remaining on the subject property after the excavation was completed.

Once the monitoring well network is re-established, a comprehensive round of groundwater monitoring is planned that includes evaluating petroleum hydrocarbon concentrations in groundwater. Atlas expects that these monitoring results will allow evaluation of the short-term effects of the removal of the contaminated soil and application of ORC that have been completed, and provide the data needed to plan additional ORC injection as needed to advance groundwater remediation as well as to project likely timeframe within which groundwater quality will resolve to within applicable MTCA cleanup levels. Atlas plans on demonstrating compliance for petroleum concentrations in soil below the water table when petroleum concentrations in the associated groundwater are reduced to less than the applicable MTCA cleanup levels. As such, additional direct soil investigation is not anticipated to be necessary to demonstrate subject property compliance.

Based on experience at sites with similar conditions, Atlas estimates a reasonable timeframe to reduction of the concentrations of petroleum-related contaminants in groundwater to less than applicable MTCA cleanup levels to be 3 to 8 years. Effective groundwater cleanup will be demonstrated once four consecutive quarterly groundwater monitoring event results indicate consistent compliance with MTCA cleanup levels, in accordance with typical Ecology policy. Atlas expects that once sampling results confirm compliant conditions in groundwater samples conditions across the subject property will be appropriate for a request for an opinion of no further remedial action from Ecology.

VAPOR INTRUSION

The residential building currently being constructed at the subject property will include a ground-level, open air parking structure and a vapor barrier below the ground-level floor concrete slab. The vapor barrier material is nearly impervious to petroleum vapors and will be installed in a manner that will establish an unbroken barrier to the upward

infiltration of petroleum vapors from soil gas into indoor air. This approach is a common and well-confirmed mitigation measure that is effective at preventing petroleum vapors from accumulating in buildings to concentrations greater than MTCA indoor air cleanup levels.

REGULATORY REVIEW AND OPINION

Upon confirmation of four consecutive quarters of groundwater quality compliant with applicable MTCA cleanup levels as discussed in the "Soil Below the Water Table and Groundwater" section above, the current plan is to enroll the property in the Ecology Voluntary Cleanup Program (VCP) and request an opinion of no further remedial action. Recent experience with the VCP indicates that an opinion will be rendered by Ecology within one year from the date the opinion is requested.

CLOSURE

Atlas appreciates the opportunity to support the remediation effort at the Bay Street Apartments property. Nothing in this summary is intended to be a guarantee of the outcome of this remediation effort. This summary is intended solely to discuss our understanding of the project based on the available data and experience with similar sites. No warranty, either express or implied, is made. If you have questions or comments on this summary, please contact Mike Arnold at mikea@g-logics.com or at 425.996.2866.

Sincerely,
ATLAS GEOSCIENCES NW



Mike Arnold, LG, LHG
Director of Technical Services

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Lannie Smith, CHMM
Principal Environmental Scientist

cc: Andy Zabel, Houlihan Law