SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

February 8, 2022

Mr. Boris Castellanos
2200 Western Avenue LLC, c/o Allegra Properties
88 Lenora Street
Seattle, WA 98121

RE: SYSTEM OPERATION, MAINTENANCE, AND AIR MONITORING REPORT, SUB-SLAB DEPRESSURIZATION SYSTEM, 2200 WESTERN AVENUE, SEATTLE, WASHINGTON

Dear Mr. Castellanos:

This letter has been prepared to document operation, maintenance, and air monitoring activities completed in 2021 for the sub-slab depressurization system located at 2200 Western Avenue, Facility Site Number 12551, Voluntary Cleanup Program (VCP) Number NW2988 (the site). The work was conducted in accordance with our proposal dated April 12, 2021, which was authorized on April 15, 2021.

As discussed in greater detail in the following sections, the site received a no further action (NFA) determination from the Washington State Department of Ecology (Ecology) in association with gasoline, toluene, ethylbenzene, and xylenes contamination in soil. The NFA is dependent on the continued performance and effectiveness of post-cleanup controls and monitoring activities. This letter has been prepared to document the continued operation, maintenance, and air monitoring activities for the sub-slab depressurization system at the site.

BACKGROUND

The site is located at the corner of the intersection of Blanchard Street and Western Avenue. The site consists of a single, approximately 14,400-square-foot, four-story building that was constructed in 1909 (the Union Stables building). The surrounding topography slopes up to the northeast such that the alley bordering the building to the northeast is approximately at grade with the first story of the building, while the basement entrance on the southwest side of the building is at grade with Western Avenue.

In 2014, sub-slab excavations were completed to allow for seismic upgrades to be made to the existing building footings. During excavation along the northeastern wall of the building, gasoline-impacted soil was encountered. Sampling was completed (by GeoEngineers and Shannon & Wilson) to evaluate the nature and extent of the

contamination. The contaminated soil was then excavated to the extent feasible so as to not compromise the structural integrity of the building foundation. Due to the necessity to leave contaminated soil in place, vapor intrusion mitigation measures were implemented concurrent with the 2014 construction. Mitigation measures included installation of a sub-slab depressurization system (the system) to prevent vapors from accumulating beneath the slab and application of a high-quality water and vapor barrier membrane sealant to the slab overlying the area of residual contamination. The site was entered into the Ecology VCP and subsequent indoor air and system effluent sampling activities were completed between 2015 and 2017.

In order to obtain an NFA determination for the site, Shannon & Wilson developed an Operation, Maintenance, and Air Monitoring Plan (the Plan) to outline operation, maintenance, and air monitoring requirements for the system (Shannon & Wilson, 2018[1]). In 2019, an Environmental Covenant was recorded with King County to restrict activities and uses of the site to protect human health, the environment, and the integrity of the remedial actions (Ecology, 2019[2]).

Ecology issued an NFA for the subject property on May 28, 2019.[3] The NFA is dependent on (1) continued compliance with the Environmental Covenant, (2) continued operation and maintenance of the mitigation measures enacted at the subject property in accordance with the Plan, and (3) performance of confirmational monitoring in accordance with the Plan.

SYSTEM INSPECTIONS

Shannon & Wilson completed system inspections during the second, third, and fourth quarters of 2021. System inspection activities included viewing aboveground and

[1] Shannon & Wilson, 2018, Operation, maintenance, and air monitoring plan, sub-slab depressurization system, 2200 Western Avenue, Seattle, Washington: Report prepared by Shannon & Wilson, Seattle, Wash., Project No. 21-1-12468-008, for 2200 Western Avenue LLC c/o Allegra Properties, Seattle, Wash., December 11.

[2] Washington State Department of Ecology (Ecology), 2019, Environmental covenant between 2200 Western Avenue LLC (grantor) and Washington State Department of Ecology (grantee) for lots 9 and 12 in block 40 of Dennys AA 6th Add, tax parcel 197720-0605: Document no. 20190515000761, 16 p.

[3] Washington State Department of Ecology (Ecology), 2019, No further action for the following Site: Site Name: 2200 Western Avenue, Site Address: 2200 Western Avenue, Seattle, Washington, Facility/Site No.: 12551, VCP Project No.: NW 2988: Letter prepared by Ecology, Olympia, Wash. for Boris Castellanos, Seattle, Wash., May 28.

accessible/visible system components including the piping, connections, blower, and manometer.

Since the system was installed, the building has been occupied. Much of the building is used for office space and a portion of the basement level is occupied by a restaurant. The area within the basement that was excavated and sealed is now occupied by two bathrooms associated with the restaurant. A portion of the sealed slab and piping can be viewed in a small space located between the restaurant and the northeastern exterior wall (accessible from the employee bathroom). At the first level of the building, the system piping is now behind drywall and is not visible. At the roof level, the system components remain visible, though additional ducting is present within the area.

During the system inspections completed in 2021, the visible slab, piping, piping connections, and system blower appeared to be in good working condition. The system operating pressure was recorded by reading the manometer gauge located at the blower on the roof. During the visits, operating pressures between 2.3 and 2.4 inches of water column were recorded. Though slightly above the manufacturer's recommended maximum operating pressure of 2.2 inches water column, the levels are consistent with those noted during prior visits. A copy of the completed system inspection and maintenance form is enclosed.

SYSTEM EFFLUENT SAMPLING

On June 15, 2021, a system effluent sample was taken from the effluent sample port located on the roof. The sample was collected within a summa canister and submitted to Friedman and Bruya, Inc. (F&B) of Seattle, Washington, for analysis. F&B analyzed the sample for total petroleum hydrocarbons as gasoline (TPH-G) and for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by U.S. Environmental Protection Agency Method TO-15.

Results from the event are summarized in Table 1, below, along with the results from the event conducted in 2015. A copy of the laboratory analytical report is enclosed. The results have been uploaded to Ecology's Environmental Information Management database.

Table 1: Summary of System Effluent Monitoring Results

Sample ID	Sample Date	TPH-G	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Pre EX01	06/11/15	**0.48**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
RVent-06152021	06/15/21	<0.45	<0.00056	<0.028	<0.00056	**0.0019**	**0.00063**

NOTES:
Concentrations are in parts per million by volume (ppmv).
< = Analyte was not detected above the laboratory reporting limit.

As shown in the above Table 1, TPH-G was detected within the effluent sample taken in 2015 at 0.48 part per million by volume (ppmv), but was not detected above the laboratory reporting limit of 0.45 ppmv in 2021. The sample taken in 2015 did not contain BTEX at detectable concentrations; however, the sample taken in 2021 contained m,p- and o-Xylene at concentrations of 0.0019 and 0.00063 ppmv, respectively. Lower detection limits were achieved by the laboratory in 2021; m,p- and o-Xylene may have been present within the 2015 sample at concentrations below the laboratory detection limits.

In general, the 2021 analytical results appear similar to, but slightly lower, than the 2015 analytical results. The results suggest that the system is operating as intended to capture and eliminate vapors before they migrate to indoor air. The results also suggest that the system may be effective over time in remediating the remaining contamination in the subsurface.

RECOMMENDATIONS

We recommend that 2200 Western LLC continue to maintain the system and floor sealant (where it remains accessible) in good condition. Quarterly system inspections and any necessary maintenance activities should continue and be documented. The site should continue to comply with the limitations outlined within the Environmental Covenant.

Ecology will conduct periodic reviews (five-year reviews) of the site. The first five-year review is scheduled to occur on May 28, 2024. Within the Plan, two system effluent sampling events were to be completed prior to the first five-year review. Though the Plan called for the second event to occur three years following the first event, we recommend that the second event occur two years following the first event (in 2023), to allow for the second event to occur in advance of the five-year review. Later monitoring event should be completed at five-year intervals.

SHANNON & WILSON

CLOSING REMARKS

We appreciate the opportunity to be of continued service to you. If you have any questions regarding this letter, please call Shoshana Howard at (206) 695-6811 or Scott Gaulke at (206) 695-6893. Shannon & Wilson has also prepared the enclosure, "Important Information About Your Geotechnical/Environmental Report" to assist you and others in understanding the use and limitations of this deliverable.

Sincerely,

SHANNON & WILSON

Shoshana Howard, PE
Senior Engineer

Scott Gaulke
Digitally signed by Scott Gaulke
Date: 2022.02.08 12:58:13 -08'00'

Scott W. Gaulke, PE, LHG
Vice President

SKH:SWG/skh

Enc. Quarterly System Inspection and Maintenance Form, Sub-Slab Depressurization System, 2200 Western Avenue, Seattle, Washington
Laboratory Analytical Results, F&B Project 106243, June 23, 2021
Important Information About Your Geotechnical/Environmental Report

SHANNON & WILSON, INC.

QUARTERLY SYSTEM INSPECTION AND MAINTENANCE FORM
SUB-SLAB DEPRESSURIZATION SYSTEM
2200 WESTERN AVENUE
SEATTLE, WASHINGTON

Name of Personnel Performing Inspection:	Christian Canfield
Date Inspected:	6/15/2021
Conditions/Observations/Maintenance Performed	
Visible Piping/Connections: Visible piping on rooftop appeared to be in good condition. Could not locate basement piping.	
Blower (include manometer reading): 2.3 inches H_2O. Good Condition.	
Slab/Other: Remodelling of the basement restaurant made it difficult to observe system. Slab inside restaurant appeared to be in good condition. No cracks observed.	

Name of Personnel Performing Inspection:	Christian Canfield
Date Inspected:	9/15/2021
Conditions/Observations/Maintenance Performed	
Visible Piping/Connections: Visible piping in basement and rooftop appeared to be in good condition.	
Blower (include manometer reading): 2.35 inches H_2O. Good Condion	
Slab/Other: Slab in accessible area behind restaurant appeared to be in good condition. No Cracks in slab.	

Name of Personnel Performing Inspection:	Christian Canfield
Date Inspected:	12/8/2021
Conditions/Observations/Maintenance Performed	
Visible Piping/Connections: Visible piping in basement and rooftop appeared to be in good condition.	
Blower (include manometer reading): 2.4 in. H_2O. Good Condition.	
Slab/Other: Slab ~~behind~~ in accessible area behind restaurant appeared to be in good condition. No cracks.	

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 23, 2021

Shoshana Howard, Project Manager
Shannon & Wilson, Inc.
400 N. 34th Street, Suite 100
Seattle, WA 98103

Dear Ms Howard:

Included are the results from the testing of material submitted on June 15, 2021 from the 2200 Western 103821, F&BI 106243 project. There are 5 pages included in this report.

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
SWI0623R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 15, 2021 by Friedman & Bruya, Inc. from the Shannon & Wilson 2200 Western 103821, F&BI 106243 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Shannon & Wilson
106243 -01	RVent-06152021

The TO-15 gasoline range concentrations were quantified using a single point calibration at 80 ppbv.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	RVent-06152021	Client:	Shannon & Wilson
Date Received:	06/15/21	Project:	2200 Western 103821, F&BI 106243
Date Collected:	06/15/21	Lab ID:	106243-01 1/5.6
Date Analyzed:	06/17/21	Data File:	061630.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<1.8	<0.56
Toluene	<110	<28
Ethylbenzene	<2.4	<0.56
m,p-Xylene	8.1	1.9
o-Xylene	2.7	0.63
Gasoline Range Organics	<1,800	<450

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Shannon & Wilson
Date Received:	Not Applicable	Project:	2200 Western 103821, F&BI 106243
Date Collected:	Not Applicable	Lab ID:	01-1219 MB
Date Analyzed:	06/16/21	Data File:	061614.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Gasoline Range Organics	<330	<80

Date of Report: 06/23/21
Date Received: 06/15/21
Project: 2200 Western 103821, F&BI 106243

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 106243-01 1/5.6 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	<1.8	<1.8	nm
Toluene	ug/m3	<110	<110	nm
Ethylbenzene	ug/m3	<2.4	<2.4	nm
m,p-Xylene	ug/m3	8.1	8.0	1
o-Xylene	ug/m3	2.7	2.7	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	84	70-130
Toluene	ug/m3	51	86	70-130
Ethylbenzene	ug/m3	59	76	70-130
m,p-Xylene	ug/m3	120	80	70-130
o-Xylene	ug/m3	59	82	70-130

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. 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 lowest calibration standard. 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.

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.

SAMPLE CHAIN OF CUSTODY

106243

ME 06-15-21

Page # 1 of 1

Report To Shoshana Howard
Company Shannon & Wilson, Inc.
Address 400 N. 34th St., Suite 100
City, State, ZIP Seattle, WA 98103
Phone 206-632-8020 Email SKH@shanwil.com

SAMPLERS (signature)

PROJECT NAME & ADDRESS: 2200 Western

PO # 103821

NOTES:

INVOICE TO: Shannon & Wilson, Inc

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Default: Clean after 3 days
☐ Archive (Fee may apply)

SAMPLE INFORMATION / ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium	Gasoline	Notes
RVent-06152021	01	2300	229	IA / (SG)	6/15/21	29.5	1351	4.5	1400		X				X	No Naphthalene
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Samples received at 22°C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Christian Canfield	Shannon & Wilson, Inc.	6/15/21	1505
Received by:	Will Radford	F&BI	6/15/21	15:07
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Attachment to and part of Report: 103821-002
Date: February 8, 2022
To: Mr. Boris Castellanos
2200 Western Avenue LLC,
c/o Allegra Properties

Important Information About Your Geotechnical/Environmental Report

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors that were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the GBA, Silver Spring, Maryland