STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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February 10, 2016

Mr. Mike Couch
Couch Investments
560 Oxford Avenue, Suite 3
Palo Alto, CA 94306

Re: No Further Action at the Following Site:

- **Site Name:** Broadview Service
- **Site Address:** 12250 Greenwood Avenue N., Seattle, WA
- **Facility/Site No.:** 91618538
- **VCP Project No.:** NW2795
- **CSID No.:** 11039

Dear Mr. Couch:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Broadview Service facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

NO. Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Total Petroleum Hydrocarbons (TPH) in the gasoline, diesel, and oil ranges (TPHG, TPHD, TPHO), and benzene, toluene, ethylbenzene, and xylenes (BTEX) into the Soil.

Enclosure A includes a detailed description and diagrams of the Site, as known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel associated with this Site is affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. The Riley Group, Inc., Focused Subsurface Investigation, January 12, 2015.
2. The Riley Group, Inc., Work Plan for Limited Subsurface Investigation, August 19, 2014.
3. Ecology, Site Hazard Assessment Broadview Service, August 8, 2013.
4. The Riley Group, Inc., Phase I Environmental Site Assessment, December 21, 2011.
5. EMCON Northwest, Inc., Results of Phase I Environmental Assessment, March 31, 1995.
6. EMCON Northwest, Inc., Final Report Soil Sampling and Remediation Services Former Broadview Service Site, February 11, 1992.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7235 or by e-mail to nwro_public_request@ecy.wa.gov.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **no further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. **Characterization of the Site.**

   Ecology has determined the characterization of the Site was sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

   Nine underground storage tanks (USTs) were removed from the Property during 1990. Characterization of the Site was accomplished coincident with excavating the associated contaminated soil. The extent of contamination in the soil was determined by ongoing sampling and field screening during the excavation; and laboratory analyses of final confirmation samples. Field screening included observation of soil discoloration and odor; and soil-vapor head space monitoring with a PID. The confirmation soil samples were

analyzed for TPHG, TPHD, TPHO, and BTEX based on products stored in the USTs (gasoline in seven USTs, and waste oil and heating oil in two USTs). One sample taken beneath the waste oil UST was also analyzed for pesticides, PCBs, halogenated VOCs and metals. A sample taken beneath an automobile service pit also included analyses for halogenated VOCs. There were no detections of the additional contaminants analyzed for in either of these two samples.

A total of 52 confirmation soil samples were acquired and analyzed. The samples demonstrated that the horizontal and vertical extents of the soil contamination were determined except at a single sample location on the west sidewall of the excavation where additional excavation to the west was not possible. This sample (#8) had 1,830 ppm TPHG and also elevated BTEX concentrations; and was acquired at a five inch thick sand lens within the native till material. There were no detections in samples taken directly above and below the sand lens.

There was temporary seepage of water into the excavation when digging began from the base of surficial fill material and utility trenches at one location; and later on from the sand lens described above. A permanent continuous saturated zone was not encountered during the excavation to a maximum depth of 26 feet bgs and so a characterization of ground water was not undertaken. The contaminants of concern (COC's), media of concern (soil), and extent of the contamination were established during the excavation of the contaminated soil.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance established for the Site meet the substantive requirements of MTCA.

Method A soil cleanup levels for the COC's (TPHG, TPHD, TPHO, and BTEX) specified in MTCA during the 1990s were selected. The point of compliance was throughout the extent of the contaminated soil (standard point of compliance). The cleanup standard established at the time for this Site was acceptable and appropriate for the Site. More stringent soil cleanup levels for TPHG and BTEX were established in 2001, and at the same time less stringent cleanup levels for TPHD and TPHO. Ecology's policy towards cleanup actions completed utilizing older cleanup levels is to evaluate each situation individually.

Given the circumstances at this Site as related below, Ecology considers that utilizing the older cleanup levels (and associated points of compliance) applicable prior to 2001 did not affect the outcome of the cleanup at this Site.

3. Selection of cleanup action.

Ecology has determined the cleanup action selected for the Site meets the substantive requirements of MTCA.

The cleanup action selected was to excavate all contaminated soil until the applicable Method A cleanup levels were achieved. The excavated contaminated soil was to be stockpiled and

remediated within the Property. Land farming (bioremediation) and soil vapor extraction (SVE) were to be utilized as methods to achieve cleanup levels in the excavated soil. The cleanup action as intended would protect human health and the environment, would provide a short restoration time, and would be a permanent solution.

4. Cleanup.

Ecology has determined the cleanup performed meets the cleanup standards established for the Site.

Nine USTs were located on the Property. Gasoline was reportedly stored in six 4,000- gallon USTs and historically in one 550-gallon UST. Waste oil and heating oil were stored in two 550-gallon USTs. The USTs were all removed during 1990. Water infiltrated temporarily into the initial cavity left by the USTs when first removed. The water seeped from a shallow depth (five feet bgs) at the base of fill material near buried utilities and was pumped from the cavity (16,000 gallons). A sample of this water had elevated levels of BTEX, and the water was treated before discharge to the sewer system. The water encountered in the UST cavity was likely stored in the UST backfill and in contact with contaminated soil since excavation was just beginning.

Following removal of the USTs and demolition of the service building, the contaminated soil was over excavated. As described above, cleanup levels were achieved at the limits of the excavation except for a single sample from a small sand lens contained in glacial till at 13 feet bgs on the west sidewall. The final excavation (completed in July 1991) reached an areal extent of approximately 12,700 square feet and a maximum depth of 26 feet bgs in an area beneath the former building. A total of 2,450 cubic yards (cyds) of contaminated soil were removed from the excavation and stockpiled on the Property. Based on field screening and the results of 10 soil samples, the excavated soil was segregated into soil impacted mostly with gasoline, or soil impacted mostly with fuel and waste oil.

Given limited space within the Property, the empty excavation was utilized to treat the gasoline-impacted soil. An SVE system was constructed inside the excavation and it included a one-foot basal layer of drain rock and 19 vapor extraction vents. About 2,000 cyds of contaminated soil impacted mostly with gasoline were placed back into the excavation for treatment by SVE. Treatment of excavated soil impacted with fuel and waste oil (450 cyds) by land farming also began on the surface of the Property.

Operation of the SVE system was hampered by water from rainfall and seepage accumulating within the soils in the excavation. Water accumulated because of the low- permeability of surrounding glacial till, and periodic pumping was required to maintain the system. The SVE system operated for three months until 10 feet of water accumulated in the excavation during November 1990 and the system was shut down. After pumping water from the excavation (40,800 gallons discharged to the sewer system), nine test pits were dug to the bottom of the excavation to sample the treated soil inside the excavation and evaluate remaining levels of contamination. Sample results indicated that diesel and oil range hydrocarbons remained in the treated soil above the cleanup level of 200 ppm applicable during the 1990s (current

cleanup level is 2,000 ppm). Treatment of the gasoline range hydrocarbons had apparently been successful.

All the soil (2,000 cyds) that had been placed in the excavation for treatment was re-excavated and placed in 20 stockpiles of 100 cyds each. Soil needing further treatment was segregated from the re-excavated soil by compositing three samples from each pile and analyzing for total TPH. A particular soil pile needed no further treatment if the result was below 200 ppm. Thirteen piles (1,300 cyds) of re-excavated soil were "clean" based on that criteria and placed back into the excavation. Seven piles (700 cyds) needed further treatment and were added to the original 450 cyds of soil being land farmed on the Property. Because of space limitations, land farm treatment of the soil was completed in two separate batches. The land farming consisted of spreading the soil about one foot thick, adding fertilizer, and periodically adding water and tilling the soil to promote biodegradation and achieve cleanup levels. Ongoing confirmation samples were acquired (one sample per 100 cyds of soil) and analyzed for total TPH until the 200 ppm cleanup level was achieved. The land farming action was completed by November 1991, and the treated soil (1,150 cyds) was then added to the soil already placed back in the excavation.

Additional remedial actions took place on the Property. Available documentation of these actions was not thorough, but the following information was related: Prior to September 1994, 2,500 cyds of soil were removed from the Property and transferred to a location in Everett. It is not clear why or where this soil was removed, but it may have preceded construction of underground parking for a new building. Samples from stockpiles of the soil in Everett did show elevated levels of TPH-O. Two samples acquired on the Property in September 1994 (locations and depths unknown) had high levels of TPH-D and TPH-O. Soil in the area of these samples was excavated.

During October 1994, 27 test pits eight feet deep were excavated throughout the northern half of the Property. Three composited samples were acquired from each pit and analyzed for TPH-G, TPH-D, and TPH-O. There were three detections of TPH-O above 200 ppm, but below the current cleanup level of 2,000 ppm. Excavated soil from the test pits was removed from the Property. The test pits were apparently dug as final evaluation of contaminant levels on the Property prior to development. As observed on January 19, 1995, an open excavation eight feet deep extended throughout the Property.

A single push probe boring was advanced immediately west of the soil sample (#8) taken in 1990 on the west wall of the excavation at 13 feet bgs that had elevated levels of TPHG and BTEX. The boring was completed in December 2014 for the purpose of determining if soil contamination extended to the west out under Greenwood Avenue and to test current contaminant levels in the soil and ground water (if encountered) at that location. The boring was advanced to 14 feet bgs and soil samples were acquired at depths of five, 10, 11.5, and 13 feet bgs. Ground water was encountered at 12.5 feet bgs coincident with a sand lens within the till encountered earlier in the excavation, and a sample was acquired. All samples were analyzed for TPHG and BTEX, and all results were non-detectable.

The cleanup actions described above conducted during the 1990s along with the removal of large amounts of soil from the Property prior to and/or in conjunction with constructing underground parking for the new building were reasonably sufficient to remediate contamination at the Site. The current cleanup level for TPHD and TPHO is 2,000 ppm, but treatment of the contaminated soil on the Property in 1990 was done to achieve the older more stringent cleanup level of 200 ppm applicable at the time. Natural attenuation processes since the early 1990s would have most likely reduced levels of any remaining contamination (as evidenced by the sampling in December 2014). The low permeability glacial till most likely limited the original migration of hydrocarbons in the soil and reasonably precluded the presence of and contamination of ground water in a continuous water-bearing zone. Given these circumstances, Ecology considers that an NFA determination for the Site is reasonable.

Listing of the Site

Based on this opinion, Ecology will initiate the process of removing the Site from our lists of hazardous waste sites, including:

- Hazardous Sites List.
- Confirmed and Suspected Contaminated Sites List.
- Leaking Underground Storage Tank List.

That process includes public notice and opportunity to comment. That process was completed and no public comments were received that changed this opinion. Ecology will remove the Site from the applicable lists.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology supervised

action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. **State is immune from liability.**

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#NW2795).

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at (425) 649-7251or by e-mail at roger.nye@ecy.wa.gov.

Sincerely,

Roger K. Nye

Roger K. Nye
Toxics Cleanup Program

Enclosure: A – Description and Diagrams of the Site

By Certified Mail [7012 3460 0000 2587 3217]

cc: Paul Riley, The Riley Group, Inc.
Sonia Fernandez, Ecology
Dolores Mitchell, Ecology

Enclosure A

Description and Diagrams of the Site

This section provides Ecology's understanding and interpretation of Site conditions and is the basis for the opinion expressed in the body of the letter.

Site: The Site is defined as soil contaminated with petroleum hydrocarbons (TPHG, TPHD, TPHO and BTEX). The Site is situated within King County parcel number 6141100005 located at 12250 Greenwood Avenue North in Seattle, WA (Property).

Property and Area Description: The Property is 0.64 acres in size and occupies the southeast corner of the intersection of Greenwood Avenue North and North 125th Street in the Bitter Lake neighborhood of North Seattle. The Property is adjacent to the Broadview Community Church to the east and a private residence to the south. There are some small commercial businesses including a furniture store, consignment shop, convenience store (7-11) and two restaurants along Greenwood Avenue to the east and north, and a large senior-care apartment complex (Ida Culver House Broadview) is directly northwest of the Property. The general area surrounding the Property consists of densely-developed (0.15 - 0.18 acre lots) residential neighborhoods.

Property History and Current Use: History: The Property was utilized for an automobile fueling and service station from 1923 until 1990. The facility was renovated during 1951 and its final configuration consisted of a 4,000- square foot building containing three service bays, two hydraulic hoists, a service pit, a workshop, and a cashier's office. Six USTs each approximately 4.000 gallons in capacity stored gasoline, and three smaller USTs (550 gallons) stored gasoline, waste oil, and heating oil. There were fuel lines and dispenser islands associated with the USTs. The USTs were removed and cleanup actions took place during 1990 to 1995. Current Use: A three story apartment building (44 units) that covers approximately 80% of the Property was constructed in 1995 (Daniel Apartments). A business office and covered parking area occupies the north half the building at street level. There is a single-level underground parking garage beneath the building.

Sources of Contamination: Spills and leakage from the former UST systems during the 67-year history of an automobile fueling and service station facility operating on the Property were sources of the contamination. Holes were found in some of the USTs when removed.

Physiographic Setting: The Property is situated at an elevation of approximately 470 feet above mean sea level. The land surface in the immediate area of the Property is generally flat. The land to the west slopes moderately down to the west southwest to the upper reaches of the Molendorph Creek drainage area approximately 2,000 feet southwest of the Property. A small urban lake (Bitter Lake) lies approximately 2,300 feet to the northeast.

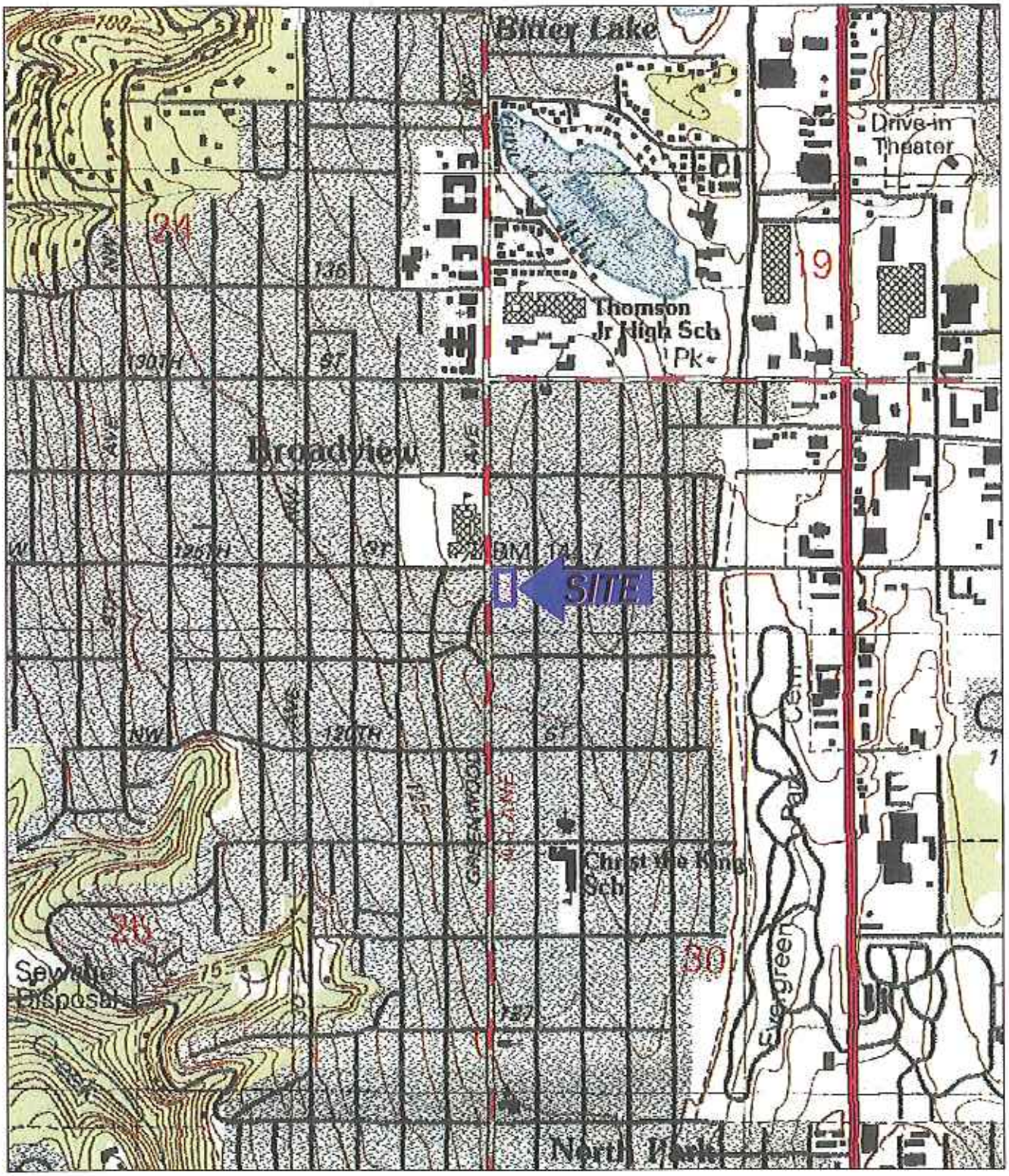
Ecological Setting: The Site is situated in a mixed residential and commercial area. The land nearest the Site is mostly commercial and covered with buildings, streets and parking areas. Dense residential areas with small individual yards are located within 500 feet of the Site to the southwest, south, and southeast.

Geology: Imported fill material 3 to 10 feet in thickness overlies dense glacial till throughout the Property. The fill consisted of sand and gravel and was thickest in the locations of the former USTs. The fill material contained demolition debris (brick, concrete, and wood fragments) elsewhere on the

The fill material contained demolition debris (brick, concrete, and wood fragments) elsewhere on the Property. The glacial till consists of dense, blue-gray silty sand and sandy silt to the maximum depth of exploration of 26 feet below ground surface (bgs).

Ground Water: The excavation to remove contaminated soil reached 26 feet in depth. Except for minor temporary seepage from a small sand lens (~5 inches thick and a total length of 50 feet) at 13 feet bgs on the west side of the excavation, no ground water was encountered in the excavation. Boring log information from a water well 1,800 feet east of the Site at similar elevation indicated a depth to a substantial saturated zone of approximately 80 feet bgs. Water likely accumulates temporarily at times in areas on the surface of the till but not as a continuous water bearing zone.

Extent of Soil and Ground Water Contamination: The excavation to remove contaminated soil included the locations of the former USTs and service station building. The extent of the soil contamination covered an area of approximately 12,700 square feet (~40% of the Property area) to an average depth of 15 feet bgs. A substantial zone of ground water was not encountered during the cleanup actions.



USGS, 1983, Seattle North, Washington
7.5-Minute Quadrangle

Approximate Scale: 1"=1000'

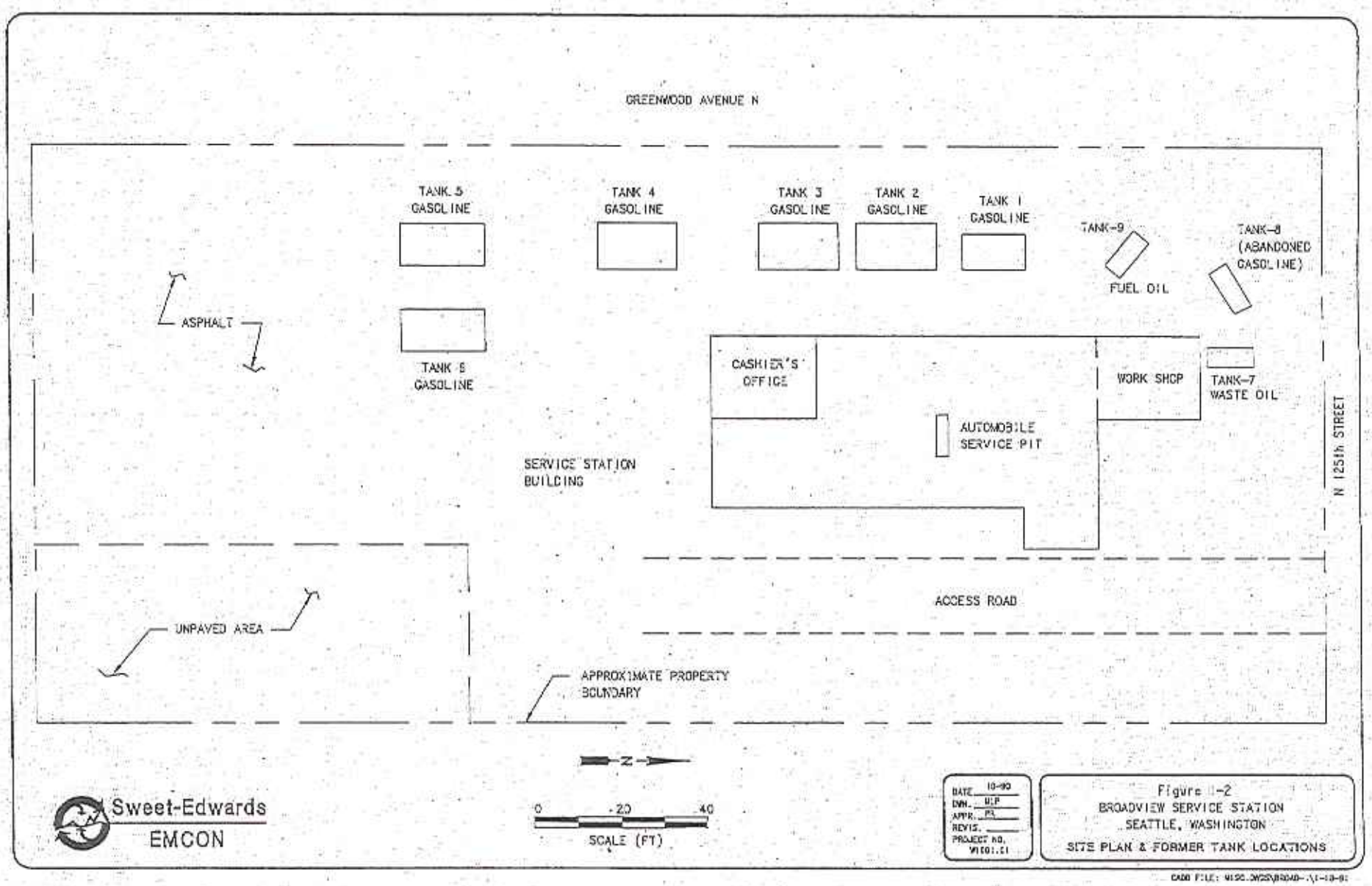
0 500 1000 2000

N

RILEYGROUP
Corporate Office
17522 Bothell Way Northeast
Bothell, Washington 98011
Phone: 425.415.0551
Fax: 425.415.0311

The Daniel Apartments/Broadview Service		Figure 1
RGI Project Number 2011-708C	Site Vicinity Map	Date Drawn: 01/2015
Address: 12250 Greenwood Avenue North, Seattle, Washington 98133		

Former Broadview Service Property



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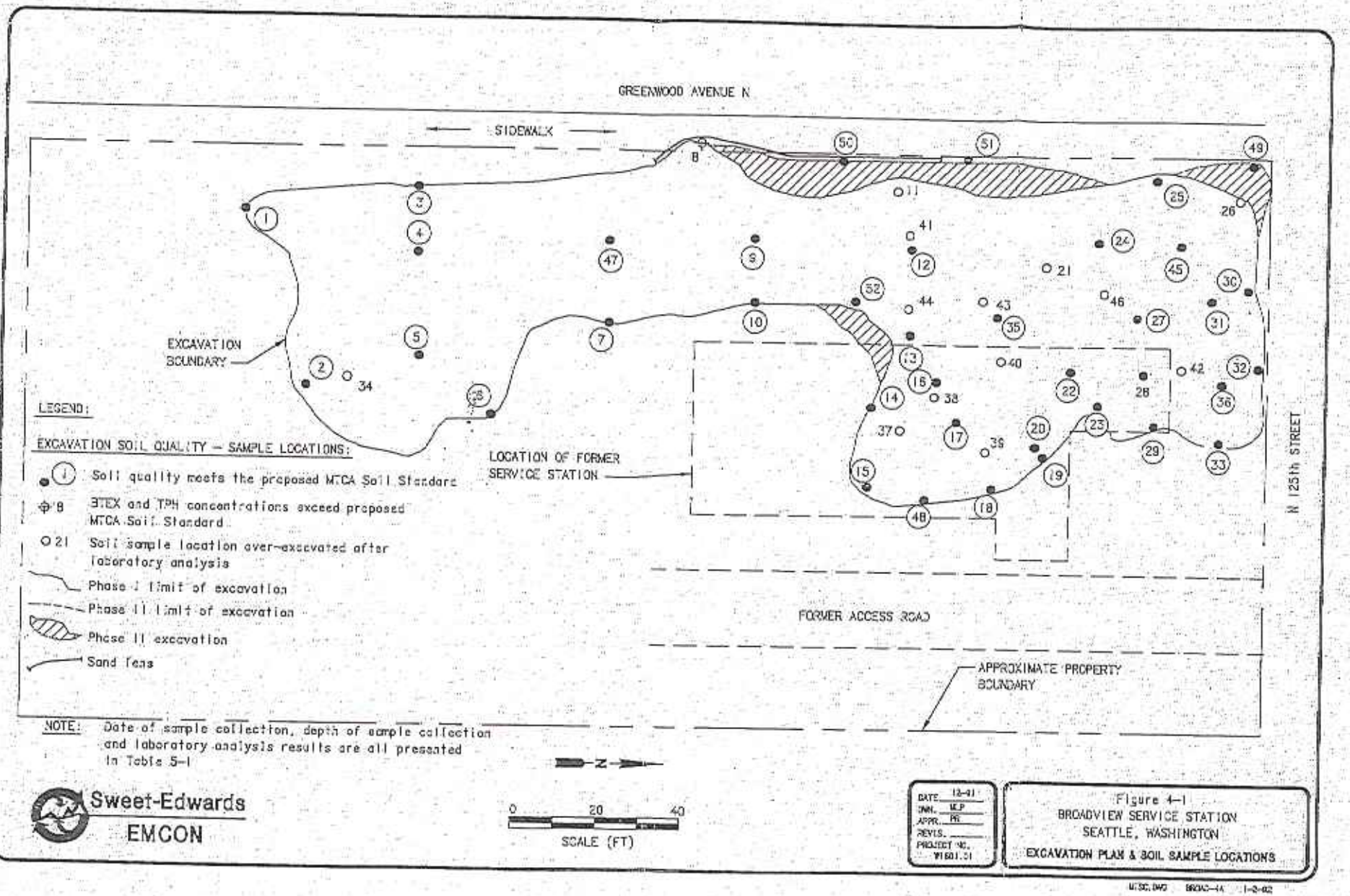
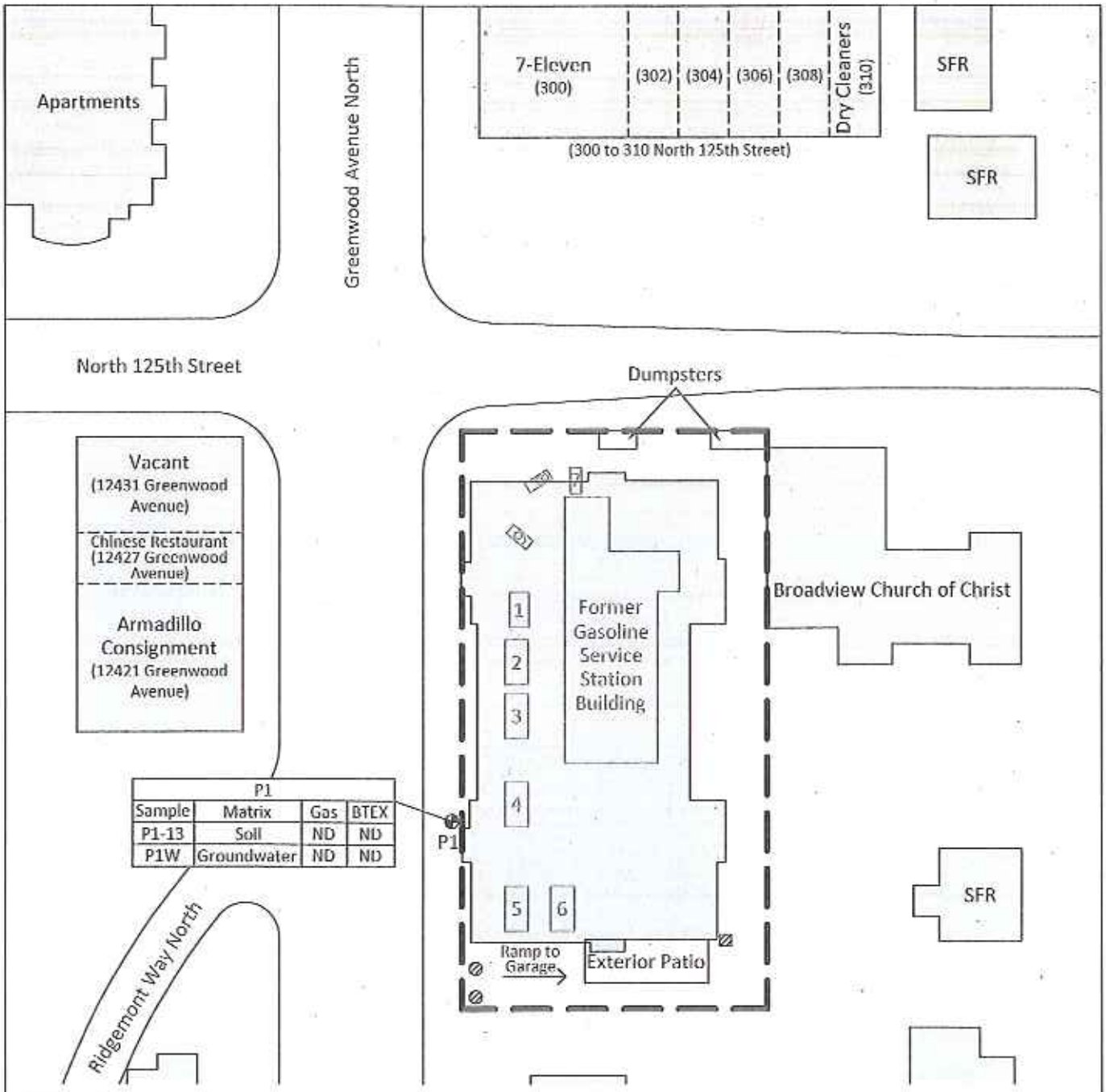

GREENWOOD AVENUE N
SIDEWALK
N 125th STREET
EXCAVATION BOUNDARY
LOCATION OF FORMER SERVICE STATION
FORMER ACCESS ROAD
APPROXIMATE PROPERTY BOUNDARY
LEGEND:
EXCAVATION SOIL QUALITY – SAMPLE LOCATIONS:
Soil quality meets the proposed MTCA Soil Standard
BTEX and TPH concentrations exceed proposed MTCA Soil Standard
Soil sample location over-excavated after laboratory analysis
Phase I limit of excavation
Phase II limit of excavation
Phase II excavation
Sand Teas
NOTE: Date of sample collection, depth of sample collection and laboratory analysis results are all presented in Table 5-1
N
0 20 40
SCALE (FT)
Sweet-Edwards
EMCON
DATE 12-91
DWN. MLP
APPR. RE
REVIS.
PROJECT NO. 91601.01
Figure 4-1
BROADVIEW SERVICE STATION
SEATTLE, WASHINGTON
EXCAVATION PLAN & SOIL SAMPLE LOCATIONS



P1			
Sample	Matrix	Gas	BTEX
P1-13	Soil	ND	ND
P1W	Groundwater	ND	ND

= Analytical laboratory results
Soil in mg/kg, groundwater in ug/L
Gas = Gasoline total petroleum hydrocarbons
BTEX = Benzene, toluene, ethylbenzene, xylenes
ND = Not detected above laboratory detection limits

= Test probe location by RGI on 12-16-14

= Former UST (1- to 6- and 8-gasoline, 7-waste oil, 9-fuel oil)

= Stormwater catch basin

SFR = Single-family residence

= Site boundary

Approximate Scale: 1"=60'

0 30 60 120

N

Corporate Office
17522 Bothell Way Northeast
Bothell, Washington 98011
Phone: 425.415.0551
Fax: 425.415.0311
RILEYGROUP

The Daniel Apartments/Broadview Service | Figure 2

RGI Project Number 2011-708C | Site Plan with Test Probe Location and Analytical Results | Date Drawn: 01/2015

Address: 12250 Greenwood Avenue North, Seattle, Washington 98133