EES
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January 31, 2019

Michael Warfel
Washington Department of Ecology
Toxics Cleanup Program, NW Regional Office
3190 160th Ave SE
Bellevue, WA 98008

Subject: **UST Cleanup Action Plan Outline**
Former Plaid Pantry Store #324 (Zip Market & Gas)
10645 16th Ave. SW, White City/King County, Washington
Ecology VCP File #NW2585, Facility/Site ID #18113426
EES Project #1133-02

Dear Mr. Warfel:

Thank you for taking time earlier this week to discuss next steps in this project. We look forward to continued communications and guidance from Ecology as we work to develop a practical and effective cleanup action plan.

On behalf of Plaid Pantry, Inc. (Plaid), EES Environmental Consulting, Inc. prepared this letter to outline a proposed remedial action approach that will satisfy protective cleanup requirements established under MTCA, and also maintain the site's long-established and continuing commercial land use without unnecessary disruption. The key aspects of this cleanup approach are summarized below, and the plan can be expanded and detailed subject to Ecology's review. Ecology's written Opinion Letter dated August 20, 2018, was issued in response to the Remedial Investigation Report (March 20, 2018), and these two documents establish the current technical and regulatory perspectives that will be used for future cleanup planning at this site.

We request a formal opinion from Ecology as to whether Plaid can achieve regulatory closure through a restricted No Further Action determination by pursuing the cleanup outlined in this letter. Maps illustrating key site features are attached.

CURRENT SITE CONDITIONS AND PROPOSED FUTURE ACTIONS

The following outline provides a summary of the current status of the site, and proposed future actions:

1. **The RI is substantially complete.** Ecology confirmed "the Site characterization meets MTCA requirements." The only remaining investigation work is additional vapor intrusion assessment (see Item #3 below).

    a. The extent of gasoline-related contamination is defined for media of concern, including soil and generally, for soil vapor. Plaid will verify and address vapor intrusion conditions as part of future actions (see Item #3 below). The vapor intrusion pathway will be prioritized and fully characterized as the next step in this process.

b. Site contamination is limited to shallow vadose zone soils and related subsurface vapors, and groundwater is not an affected environmental medium. No further assessment of groundwater is required.

c. The Conceptual Site Model is adequately developed. Direct exposure to site contaminants does not occur under current or anticipated future site operations, and vapor intrusion into the property's existing commercial-use building has been ruled out based on remedial investigation and vapor intrusion assessment findings. Potential future routes of contaminant exposure include non-residential direct contact with subsurface soil by excavation/maintenance workers, and vapor intrusion in the event of new building construction in northeastern portions of the property where the greatest soil contamination remains in place. Ecology noted other potential vapor intrusion concerns related to underground utility corridors and a neighboring auto repair facility.

d. MTCA Method B cleanup standards are applicable throughout the site and have been adequately developed using Ecology's published technical guidance.

   i. The site-specific "modified" Method B soil cleanup level for gasoline (2,919 mg/kg TPH) is adequately protective for the direct contact exposure pathway, including the adjacent publicly-owned right-of-way.

   ii. Subsurface soil gas concentrations within the zone of greatest soil contamination exceed MTCA Method B screening levels (soil gas cleanup levels have not been developed). Soil gas data will be used to evaluate control measures that are protective of current and future site use.

   iii. Although use of Ecology's published "Model Remedies" allows for Method B cleanup within subject property boundaries, this site would not meet Model Remedy eligibility criteria unless Method A soil cleanup levels were to be attained within the adjacent public right-of-way. Since Plaid does not own or control the right-of-way and Method A cleanup beneath the active sidewalk/roadway/utility corridor is not practicable, use of Ecology's published Model Remedies is not an option for this site.

2. **Costs to excavate the small area where soil impacts exceed the Method B direct contact cleanup level are disproportionate to the benefit.** Based on the 2,919 mg/kg Method B cleanup level for direct contact, the soil point of compliance is achieved throughout most of the site (including the adjacent right-of-way), except within a small pocket of contamination located along the property's eastern margin (Figure 1). Although site-wide protective conditions can be maintained using institutional controls as allowed under MTCA, removal actions and in-situ treatment are not feasible (see EES memo dated September 10, 2013).

   a. This pocket of contaminated soil is isolated from routine direct contact because it is covered with pavement and established landscaping.

   b. Excavation would be extremely costly and complex, since this pocket of contamination is virtually inaccessible and would require complex shoring due to its location directly adjacent to sensitive features including an embankment, multiple underground utilities, and a county sidewalk and roadway (Figures 2a-2b).

   c. The pocket of contamination is also located within a setback where zoning restrictions prohibit future building construction within 10-feet of the County right-of-way (Figure 2c).

d. Subsurface vapor conditions associated with this pocket of contaminated soil will be evaluated and controlled as necessary (see Item #3 below).

e. The same vapor intrusion investigations (and any potential vapor mitigation) will be conducted regardless of whether the pocket of contamination is capped in place, or if it is excavated such that all soils meet the point of compliance. Ecology has acknowledged uncertainty with regard to potential vapor intrusion even when soil removal achieves the most restrictive Method A cleanup standards (see Implementation Memo #18, January 2018). Thus, excavating the remaining contamination does not increase the level of protectiveness of human health or the environment. Where direct contact by present uses of the property is not a concern, the investigation and mitigation of vapor intrusion will be the same regardless of whether excavation takes place. Furthermore, due to the involvement of a publicly-owned right-of-way and multiple other structural and access impediments, soil cleanup that achieves Method A standards at this site is not practicable.

Based on these lines of evidence, current and future direct contact exposures are not anticipated for the limited soils exceeding the direct contact cleanup level, and a costly excavation is not necessary, nor feasible, to be protective of human health and the environment in light of current uses of the Property. EES proposes using an Environmental Covenant addressing the limited remaining soil exceeding Method B cleanup levels to maintain protectiveness of human health and the environment and achieve regulatory compliance under MTCA for current and future uses of the Property.

3. **Additional petroleum vapor intrusion investigation and (if necessary) mitigation will be conducted.** Soil contamination is a source of subsurface gasoline vapors at portions of the site where high gasoline concentrations persist (Figure 3a). In the most contaminated areas, soil gas concentrations exceed regulatory screening criteria for possible future petroleum vapor intrusion (PVI) into buildings and underground utilities. Vapor intrusion is not suspected at the property's existing store building based on empirical data. Ecology's August 2018 Opinion Letter requires PVI consideration for (a) the occupied adjacent automotive service facility located north of the Plaid 324 subject property, (b) underground utility corridors located immediately east of the property boundary, and (c) potential future building occupants on the subject property if such a building were to be constructed at locations where high soil contaminant concentrations persist. Responding to each of these requirements:

   a. Plaid will conduct a vapor intrusion assessment immediately adjacent to the neighboring Masters Auto & Tire Service Building (Figures 3a-3b). If soil gas concentrations attributable to the known subject property gasoline source indicate the potential for vapor intrusion into the neighboring building, then follow-up assessment and/or mitigation actions will be developed.

   b. Plaid will conduct further investigation in an effort to determine if site-related vapors are present among utility corridors located immediately east of the subject property (Figure 3a). If vapors attributable to the known subject property gasoline source are identified, then follow-up assessment and/or mitigation actions will be developed.

c. On the eastern (source area) portion of the subject property where soil gas concentrations are greatest, EES proposes using an Environmental Covenant to maintain existing, protective site conditions and establish future protective measures that would be addressed in the event of building construction affecting that portion of the property, including vapor mitigation if necessary at that time.

PROPOSED CLEANUP ACTION AND NEXT STEPS

At this site, unrestricted use Method A or Method B cleanup across the entire site cannot reasonably be achieved due to limited access and other logistical and administrative complexities. In view of the limited extent and inaccessibility of soil contamination exceeding MTCA cleanup criteria, and due to structural impediments, access limitations, and zoning setback requirements affecting this small pocket of soil contamination at the site, Plaid seeks to work with Ecology to develop an Environmental Covenant that will be protective and compliant with WAC 173-340-440. Any vapor intrusion concerns will be addressed with empirical data to be collected in the specified areas of concern, as outlined in Item #3 above, and any necessary mitigation actions will be developed and implemented to protect identified receptors to the extent necessary under MTCA.

The Environmental Covenant would be expected to include the following basic elements.

- Site conditions satisfy Method B criteria for direct contact soil exposures everywhere across the site, except for a localized and isolated pocket of contamination along the eastern property boundary. An Environmental Covenant would provide adequate protection and notice to potentially affected parties, such that no accidental or uninformed exposures would occur in this area.
- Land-use considerations must also include protective mechanisms to control vapor intrusion.
  - Subsurface soil vapor concentrations exceeding MTCA screening levels generally co-occur with the greatest gasoline concentrations in soil. Vapor intrusion conditions do not appear to be significant with regard to the current commercial property building, but future redevelopment must consider vapor controls at other locations where soil contamination is known to be present.
  - There are no current plans to redevelop the property. However, where volatiles in contaminated soil "significantly exceed" Method A unrestricted use criteria (the default VI protectiveness standard) at infrastructure and potential future building locations on the property, notice provisions and vapor mitigation actions will be incorporated into the Environmental Covenant. The vapor mitigation measures for future redevelopment (if it occurs) could include additional soil gas evaluation, soil vapor extraction and/or subsurface depressurization, physical vapor barrier construction, as well as ongoing monitoring and vapor intrusion assessment.
  - Ecology is requiring vapor intrusion assessment for the neighboring auto repair building near the property's north boundary, and underground utilities to the east. Soil gas testing in these areas would be conducted as a first step in the evaluation and prior to finalizing the Environmental Covenant. If necessary, supplemental mitigation actions could be addressed by administrative controls, continued future monitoring, and/or addition of limited vapor extraction or depressurization operations in specified areas of concern.

In summary, Plaid proposes: (1) conducting the additional vapor intrusion investigations required by Ecology; and (2) proceeding with regulatory closure through a restricted NFA using an Environmental Covenant, which will incorporate the findings of the additional vapor intrusion investigations to be protective of human health and the environment. In an effort to reach an efficient, protective site closure, EES proposes moving directly to submitting a Cleanup Action Plan that formalizes the approach outlined in this letter.

Please provide an opinion stating whether Ecology is supportive of Plaid's proposed plan and providing guidance on the appropriate next steps. If Ecology is not supportive of Plaid's plan outlined in this letter, please explain why and provide Ecology's suggestions for an alternative cleanup that will be sufficient under MTCA so that Plaid has clear guidance to proceed forward as expeditiously as possible.

We would like to schedule a time to talk with you again about this letter in the coming weeks, after you have had a chance to review so that we can address any questions you may have. We will follow-up with you sometime next week. We appreciate the opportunity to coordinate with you with this project.

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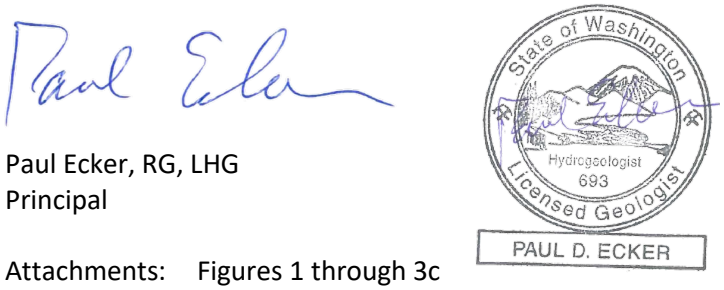
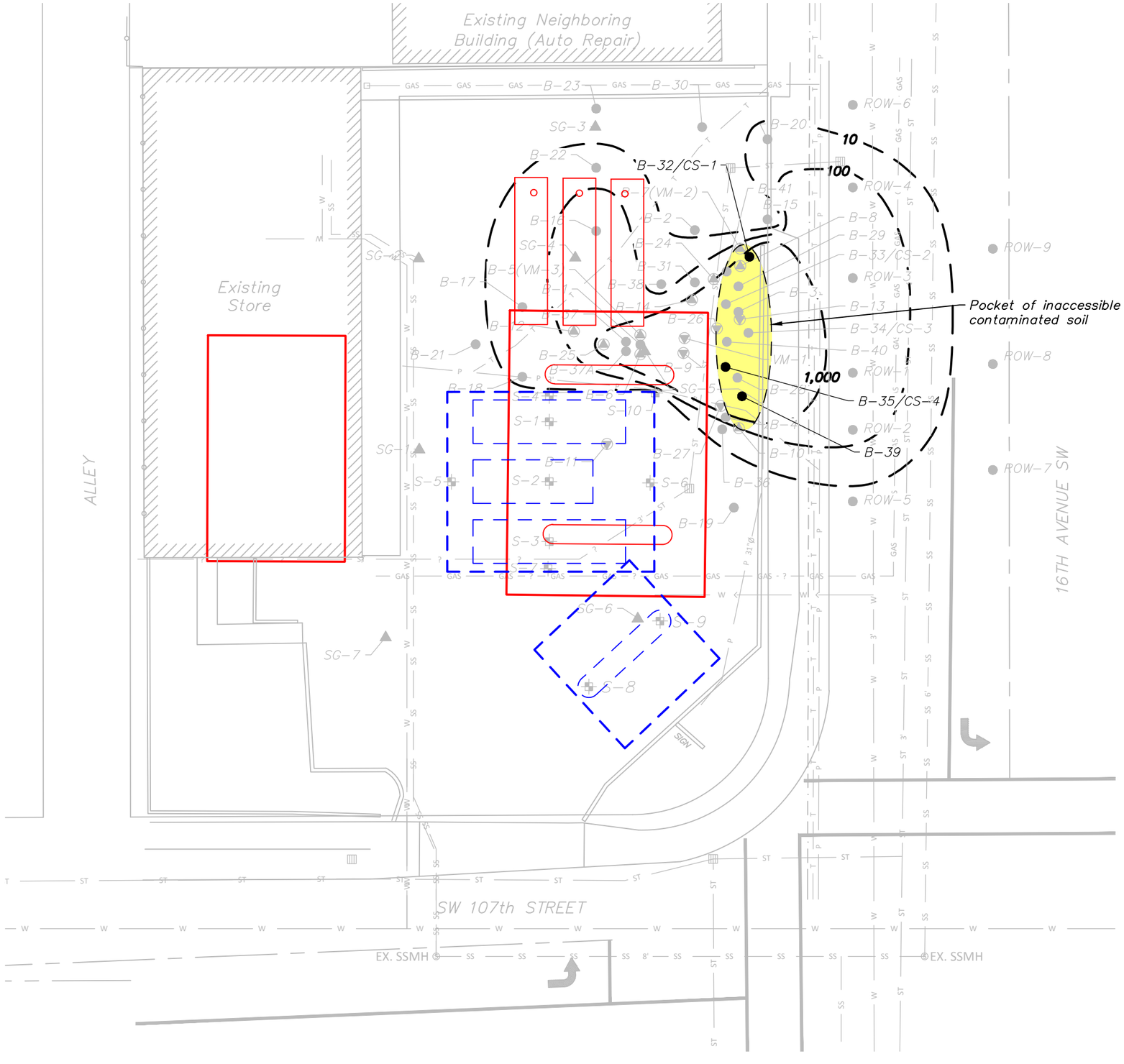


Paul Ecker, RG, LHG
Principal

Attachments: Figures 1 through 3c

Figures



LEGEND

- Existing Structures
- Pre-Plaid Fueling Infrastructure (Prior to 1986)
- Plaid/Others Fueling Infrastructure (1986-2006)
- Catch Basin
- S-6 — Soil Sample Location (KEE, 2006)
- B-8 — Boring and SVE Pilot Wells Screen <8' bgs (PNG, 2008-2009)
- B-13 — Boring and SVE Pilot Wells Screen >8' bgs (PNG, 2008-2009)
- B-1 — Boring Locations (2007-2014)
- SG-1 — Soil Gas Locations (EES, 2014)
- GAS — Gas
- P — Power
- ST — Storm
- SS — Sewer
- T — Telephone
- 10 — Gasoline Isocontour in Soil (mg/kg)
- B-39 — Sample Location Exceeding Site-Specific MTCA Method B Soil Cleanup Level for Gasoline (2,919 mg/kg)

APPROXIMATE EXTENT OF GASOLINE IMPACTS IN SOIL

PROJECT NO.	1133-01
DATE:	1-30-19
FILE:	1133-01
FIGURE NO.	1
DRAWN:	JJT
APPROVED:	PE

PLAID PANTRY #324
10645 16TH AVE SW.
WHITE CENTER, KING COUNTY, WA.

N

APPROXIMATE SCALE IN FEET

0 10 20 40

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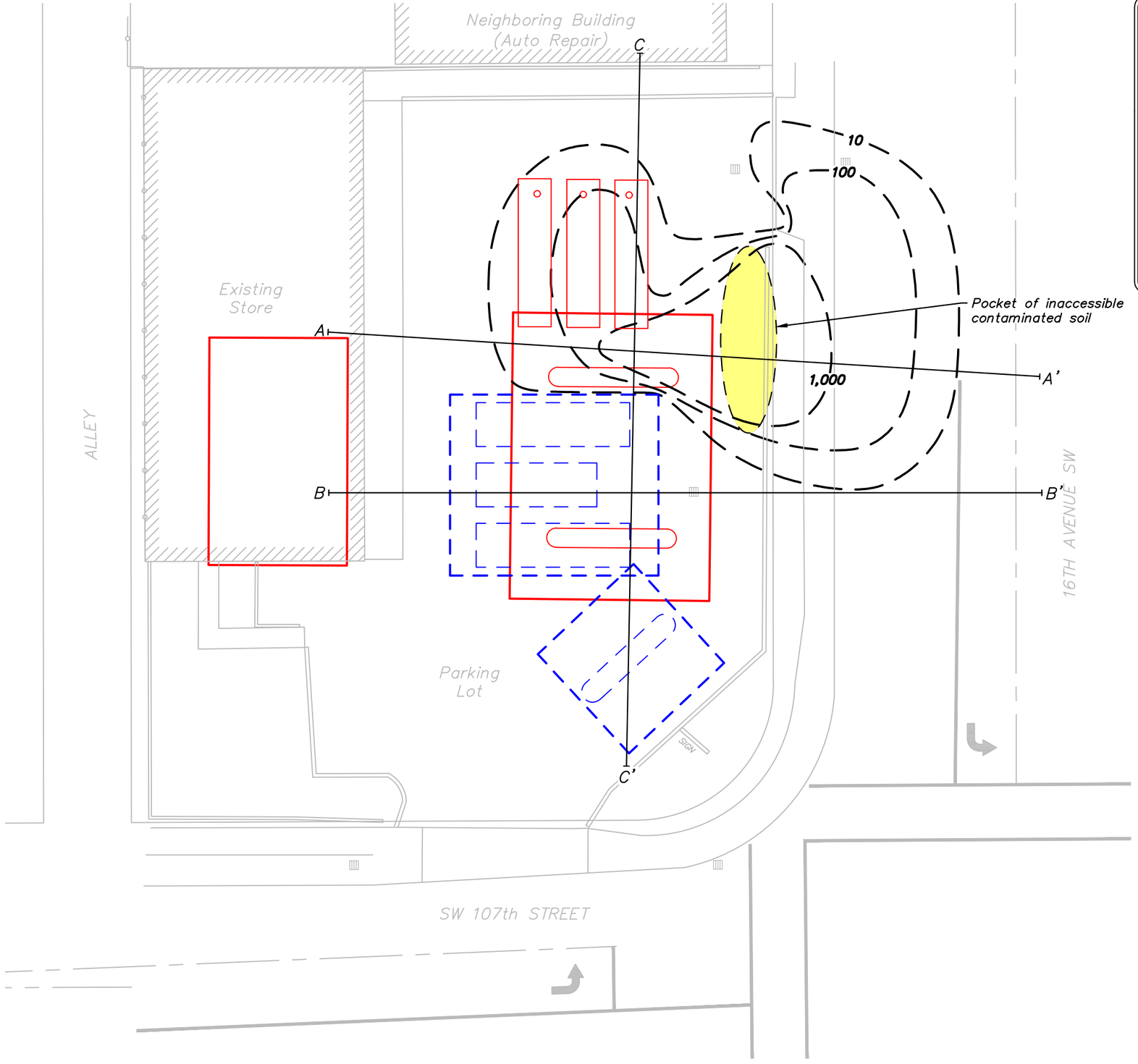

LEGEND

- Existing Structures
- Pre-Plaid Fueling Infrastructure (Prior to 1986)
- Plaid/Others Fueling Infrastructure (1986-2006)
- Catch Basin
- 10 — Gasoline Isocontour in Soil (mg/kg)
- A — A' Cross Section Locations

PROJECT NO.	1133-01
FIGURE NO.	2A
DATE:	1-30-19
FILE:	1133-01
DRAWN:	JJT
APPROVED:	PE

CROSS SECTION LOCATIONS

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APPROXIMATE SCALE IN FEET

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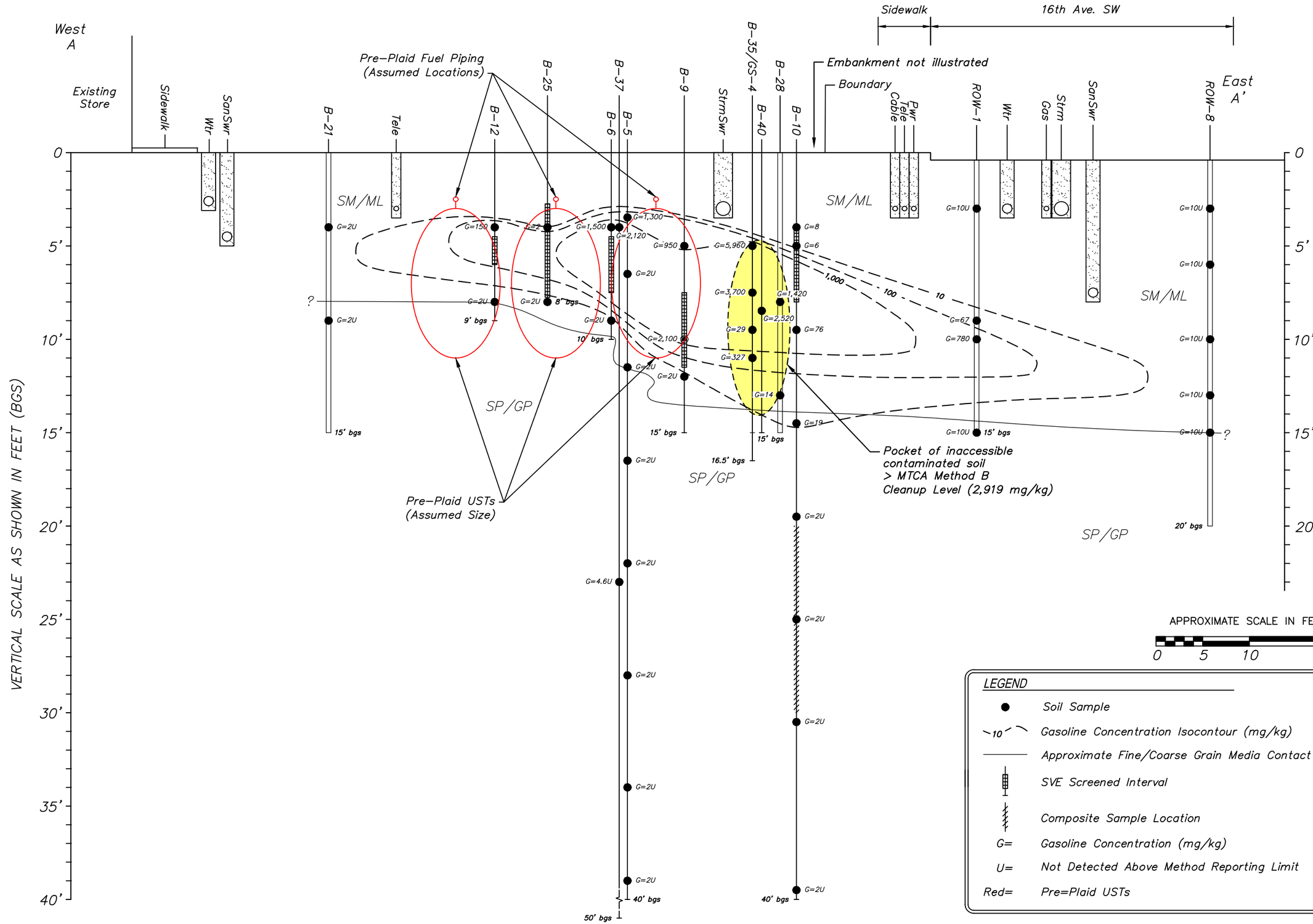

PROJECT NO.	1133-01
DATE: 1-30-19	FIGURE NO. 2B
FILE: 1133-01	
DRAWN: JJT	
APPROVED: PE	

CROSS SECTION A-A'

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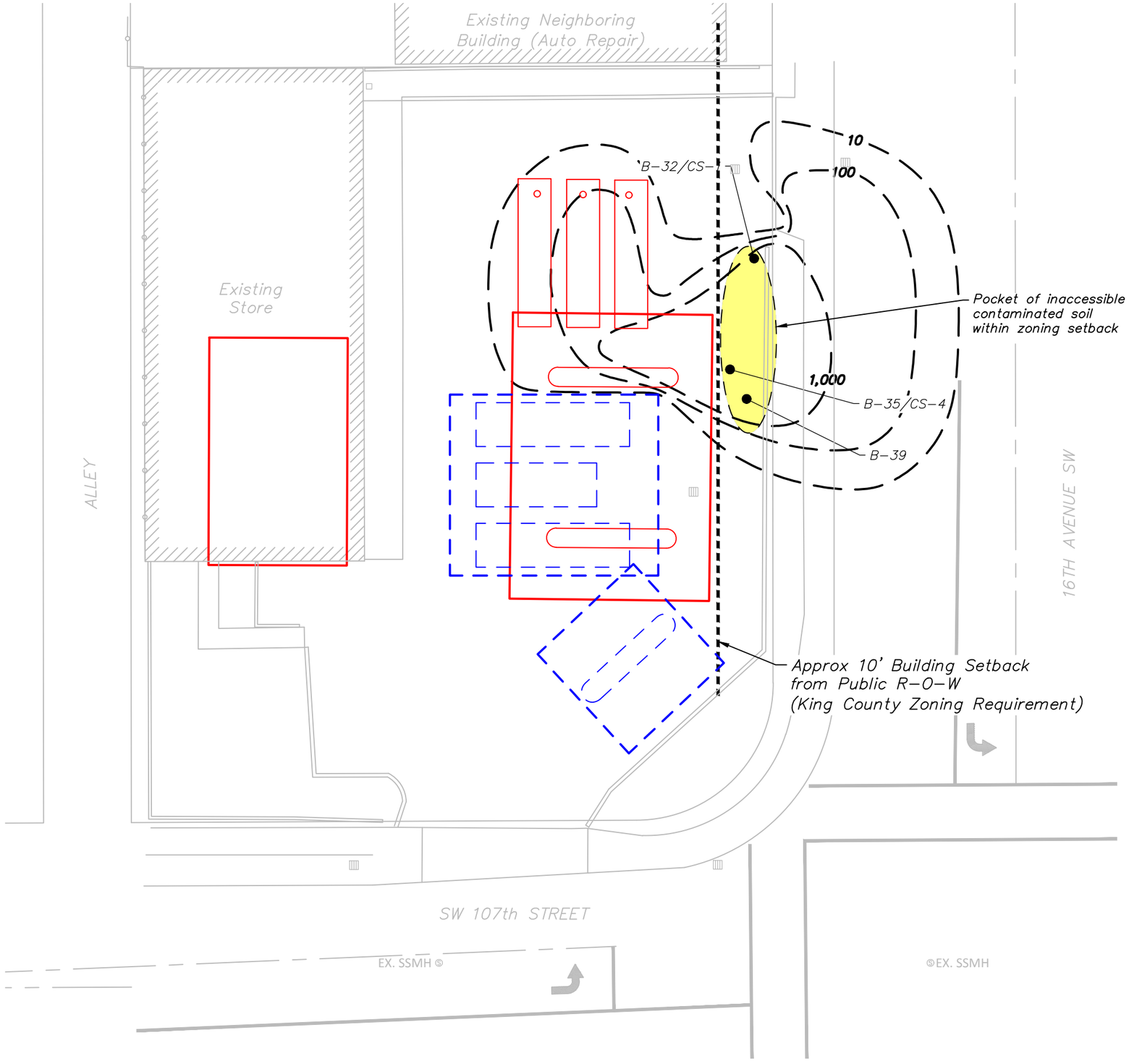

LEGEND

- Existing Structures
- Pre-Plaid Fueling Infrastructure (Prior to 1986)
- Plaid/Others Fueling Infrastructure (1986-2006)
- Catch Basin
- 10 — Gasoline Isocontour in Soil (mg/kg)
- B-39 — Sample Location Exceeding Site-Specific MTCA Method B Soil Cleanup Level for Gasoline (2,919 mg/kg)

No Soil Cleanup Required Based on Direct Contact (See R.I. Text)

PROJECT NO.	1133-01
DATE: 1-30-19	FIGURE NO. 2C
FILE: 1133-01	
DRAWN: JJT	
APPROVED: PE	

NO REQUIRED SOIL CLEANUP BASED ON DIRECT CONTACT

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APPROXIMATE SCALE IN FEET

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Ecology requires further vapor intrusion assessment in these areas

Neighboring Building (Auto Repair)

Existing Store

Parking Lot

ALLEY

16TH AVENUE SW

SW 107th STREET

SG-3	
Gx	82,000
B	260

SG-4	
Gx	700,000
B	2,400

SG-2	
Gx	940
B	6.6

SG-5	
Gx	8,600,000
B	100,000

SG-1	
Gx	1,000
B	4.8

B-11	
Gx	6,000
B	24U

SG-7	
Gx	1,500
B	8.9

SG-6	
Gx	2,000
B	12

B-14	
Gx	9,700,000
B	23,000

B-13	
Gx	4,800,000
B	28,000

B-9	
Gx	10,000,000
B	58,000

1,000 10,000 100 10

APPROXIMATE SCALE IN FEET

0 10 20 40

N

LEGEND

- Existing Structures
- Pre-Plaid Fueling Infrastructure (Prior to 1986)
- Plaid/Others Fueling Infrastructure (1986-2006)
- Catch Basin
- S-6 Soil Sample Location (KEE, 2006)
- B-8 Boring and SVE Pilot Wells Screen <8' bgs (PNG, 2008-2009)
- B-13 Boring and SVE Pilot Wells Screen >8' bgs (PNG, 2008-2009)
- B-1 Boring Locations (2007-2014)
- SG-1 Soil Gas Locations (EES, 2014)
- 10 Benzene Isocontour in Soil Gas (ug/m^3)
- Gx = Gasoline Concentration in Soil Gas (ug/m^3)
- B = Benzene Concentration in Soil Gas (ug/m^3)

PROJECT NO.	1133-01	FIGURE NO.	3A
DATE:	1-30-19	DRAWN:	JJT
FILE:	1133-01	APPROVED:	PE

GASOLINE AND BENZENE CONCENTRATIONS IN SOIL GAS (2008-2014)

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North
C

South
C'

Auto Repair Building

PL

Gas

Curb

B-23

B-22

B-16

B-38

Pre-Plaid Fuel Piping (Assumed Locations)

B-5/VM-3

B-37

B-6

Pwr

S-10

S-4

S-1

S-6

S-2

StmSwr

S-3

Gas

S-7

Pre-Plaid Fuel Dispensers

S-9

S-8

Former Plaid Fuel Dispensers

PL=23.5'

0

5'

10'

15'

20'

25'

30'

35'

40'

VERTICAL SCALE AS SHOWN IN FEET (BGS)

SM/ML

G=2U

G=93

8' bgs

12' bgs

10

100

1,000

G=22

G=120

15' bgs

G=1,300

G=2,120

G=1,500

G=310

10' bgs

G=4.6U

40' bgs

50' bgs

SP/GP

Pre-Plaid USTs (Assumed Size)

Former-Plaid Fuel Piping

Former-Plaid USTs (Assumed Dimensions)

Former Plaid Excavation Extents (Assumed)

?

Ecology requires additional vapor intrusion assessment in this area due to neighboring auto repair facility

APPROXIMATE SCALE IN FEET

0 5 10 20

LEGEND

- Soil Sample
- 10 — Gasoline Concentration Isocontour (mg/kg)
- Approximate Fine/Coarse Grain Media Contact
- SVE Screened Interval
- G= Gasoline Concentration (mg/kg)
- U= Not Detected Above Method Reporting Limit
- Red= Pre=Plaid USTs
- Blue= Former Plaid USTs

PROJECT NO.	1133-01
DATE: 1-30-19	FILE: 1133-01
DRAWN: JJT	APPROVED: PE
FIGURE NO.	3B

NORTH – SOUTH
CROSS SECTION C-C'

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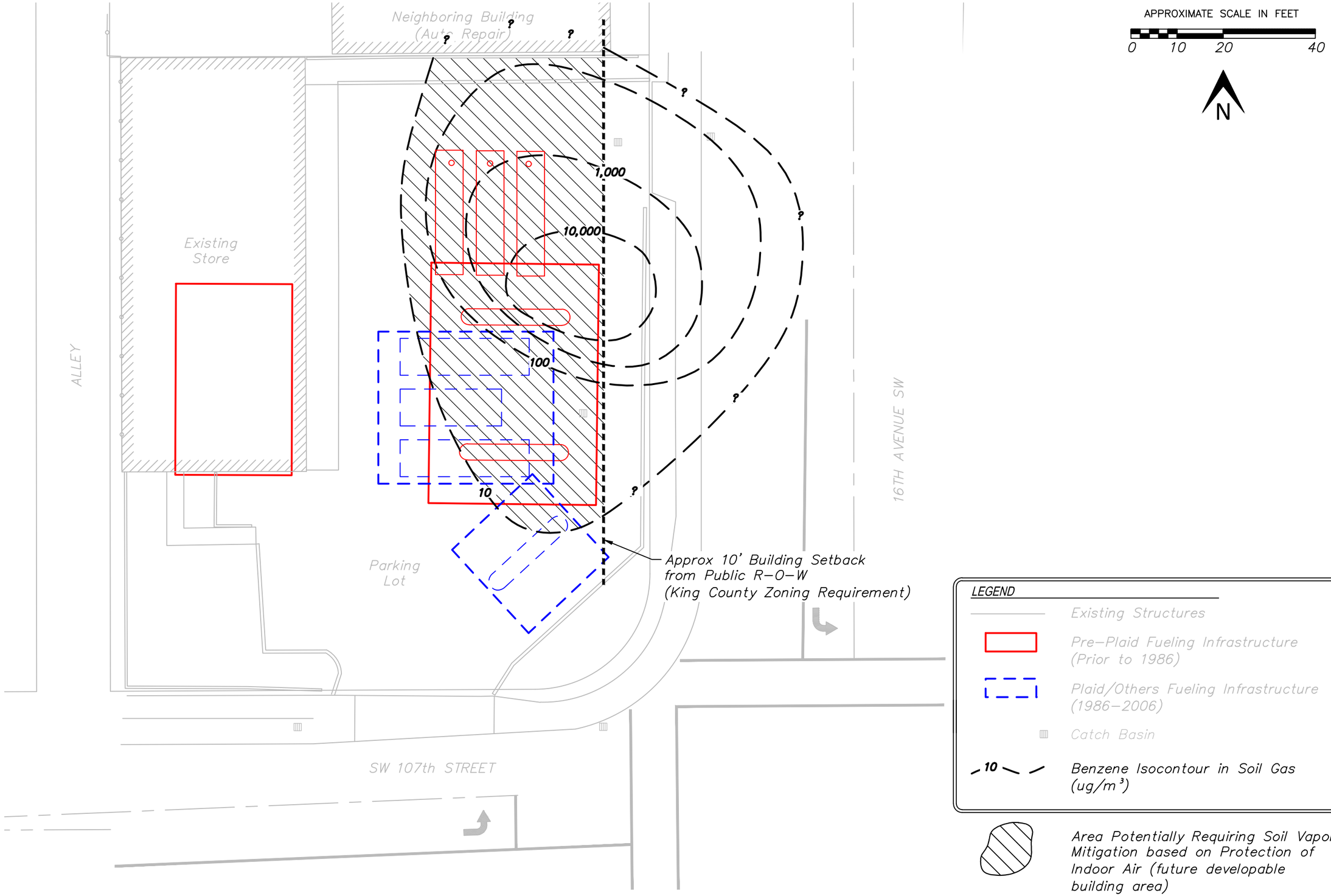

APPROXIMATE SCALE IN FEET

0 10 20 40

N

LEGEND

- Existing Structures
- Pre-Plaid Fueling Infrastructure (Prior to 1986)
- Plaid/Others Fueling Infrastructure (1986-2006)
- Catch Basin
- 10 — Benzene Isocontour in Soil Gas (ug/m³)

Area Potentially Requiring Soil Vapor Mitigation based on Protection of Indoor Air (future developable building area)

PROJECT NO.	1133-01
DATE: 1-30-19	FIGURE NO. 3C
FILE: 1133-01	
DRAWN: JJT	
APPROVED: PE	

AREA POTENTIALLY REQUIRING SOIL VAPOR MITIGATION - BASED ON PROTECTION OF INDOOR AIR

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