



October 28, 2019

Lloyd's Cleaners  
Attn: Mr. Thomas Anderson  
12340 NE Shoreland Drive  
Mequon, WI 53092

Subject: Final Case Closure with Continuing Obligations  
Lloyd's Cleaners, 4837 North Teutonia Avenue, Milwaukee, WI  
FID: 241417330 BRRTS: 02-41-556811

**KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS**

Dear Mr. Anderson:

The Wisconsin Department of Natural Resources (DNR) considers Lloyd's Cleaners closed, with continuing obligations. No further investigation or remediation is required at this time. However, you, future property owners, and occupants of the property must comply with the continuing obligations as explained in the conditions of closure in this letter. Please read over this letter closely to ensure that you comply with all conditions and other on-going requirements. Provide this letter and any attachments listed at the end of this letter to anyone who purchases, rents or leases this property from you. Certain continuing obligations also apply to affected property owners or rights-of-way holders. These are identified within each continuing obligation.

This final closure decision is based on the correspondence and data provided and is issued under chs. NR 726 and 727, Wis. Adm. Code. The DNR reviewed the request for closure on February 7, 2019. The DNR reviewed this environmental remediation case for compliance with state laws and standards to maintain consistency in the closure of these cases. A request for additional information was issued by the DNR on February 21, 2019, and documentation that the conditions described in that email were met was received on September 23, 2019.

The Lloyd's Cleaners site was investigated for discharges of hazardous substances from a dry-cleaning solvent storage tank in the basement of the building and sewer laterals beneath the basement floor. Case closure is granted for the chlorinated volatile organic compound (VOC) contaminants analyzed during the site investigation, as documented in the case file. Environmental investigations conducted at this drycleaner site addressed soil, groundwater, and sub-slab vapor contaminated with chlorinated VOC compounds. Response actions taken to address this contamination included soil excavation and installation of a vapor mitigation system. The conditions of closure and continuing obligations required were based on the property being used for commercial purposes.

### Continuing Obligations

The continuing obligations for this site are summarized below. Further details on actions required are found in the section Closure Conditions.

- Residual soil contamination exists that must be properly managed should it be excavated or removed.
- Pavement and the building foundation must be maintained over contaminated soil and the DNR must be notified and approve any changes to this barrier.
- If a structural impediment that obstructed a complete site investigation and/or cleanup is removed or modified, additional environmental work must be completed.
- A vapor mitigation system must be operated and maintained, and inspections must be documented.
- A dewatering system must be operated and maintained due to the specific hydrogeologic conditions at the site, for the vapor mitigation system to work, and inspections must be documented.
- Site specific vapor exposure assumptions were used, based on commercial or industrial use. Current land or property use must be maintained to be protective. If changes to the current property use or land use are planned, an assessment must be made of whether the closure will be protective of the proposed use.
- Remaining contamination could result in vapor intrusion if future construction activities occur. Future construction includes expansion or partial removal of current buildings as well as construction of new buildings. Vapor control technologies will be required for occupied buildings, unless the property owner assesses the potential for vapor intrusion, and the DNR agrees that vapor control technologies are not needed.

The DNR fact sheet “Continuing Obligations for Environmental Protection,” RR-819, helps to explain a property owner’s responsibility for continuing obligations on their property. The fact sheet may be obtained online at [dnr.wi.gov](http://dnr.wi.gov) and search “RR-819.”

### DNR Database

This site will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web (BOTW) online at [dnr.wi.gov](http://dnr.wi.gov) and search “BOTW,” to provide public notice of residual contamination and of any continuing obligations. The site can also be viewed on the Remediation and Redevelopment Sites Map (RRSM), a map view, at [dnr.wi.gov](http://dnr.wi.gov) and search “RRSM.”

The DNR’s approval prior to well construction or reconstruction is required in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. To obtain approval, complete and submit Form 3300-254 to the DNR Drinking and Groundwater program’s regional water supply specialist. This form can be obtained on-line at [dnr.wi.gov](http://dnr.wi.gov) and search “3300-254.”

All site information is also on file at the Southeast Regional DNR office, at 2300 N. Dr. M. L. King Drive, Milwaukee, Wisconsin. This letter and information that was submitted with your closure request application, including any maintenance plan and maps, can be found as a Portable Document Format (PDF) in BOTW.

### Prohibited Activities

Certain activities are prohibited at closed sites because maintenance of a barrier is intended to prevent contact with any remaining contamination. When a barrier is required, the condition of closure requires notification of the DNR before making a change, to determine if further action is needed to maintain the protectiveness of the remedy employed. The following activities are prohibited on any portion of the property where pavement or the building foundation is required, as shown on the **attached map, Location and Extent of Asphalt/Concrete Cap, Figure D.2.a.3, dated April 19, 2017, unless prior written approval has been obtained from the DNR:**

- removal of the existing barrier or cover;
- replacement with another barrier or cover;
- excavating or grading of the land surface;
- filling on covered or paved areas;
- plowing for agricultural cultivation;
- construction or placement of a building or other structure;
- changing the use or occupancy of the property to a residential exposure setting, which may include certain uses, such as single or multiple family residences, a school, day care, senior center, hospital, or similar residential exposure settings;
- changing the construction of a building that has a vapor mitigation system in place.

### Closure Conditions

Compliance with the requirements of this letter is a responsibility to which you, and any subsequent property owners must adhere. DNR staff will conduct periodic prearranged inspections to ensure that the conditions included in this letter and the attached maintenance plan are met. If these requirements are not followed, the DNR may take enforcement action under s. 292.11, Wis. Stats. to ensure compliance with the specified requirements, limitations or other conditions related to the property.

Please send written notifications in accordance with the following requirements to:

Wisconsin Department of Natural Resources  
Attn: Remediation and Redevelopment Program, Environmental Program Assistant  
2300 N. Dr. M. L. King Dr.  
Milwaukee, WI 53212

Residual Soil Contamination (ch. NR 718, chs. 500 to 536, Wis. Adm. Code or ch. 289, Wis. Stats.)

Soil contamination remains at locations indicated on the **attached map, Residual Soil Contamination, Figure B.2.b, dated January 18, 2018**. If soil in the specific locations described above is excavated in the future, the property owner or right-of-way holder at the time of excavation must sample and analyze the excavated soil to determine if contamination remains. If sampling confirms that contamination is present, the property owner or right-of-way holder at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules. Contaminated soil may be managed in accordance with ch. NR 718, Wis. Adm. Code, with prior DNR approval. This continuing obligation also applies to the right-of-way (ROW) owner for North Teutonia Avenue and the owner of 4811 N. Teutonia Avenue

In addition, all current and future owners and occupants of the property and right-of-way holders need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.

Cover or Barrier (s. 292.12 (2) (a), Wis. Stats., s. NR 726.15, s. NR 727.07 Wis. Adm. Code)

The asphalt parking/walkway areas and building concrete floor slab and foundation that exist in the locations shown on the **attached map, Location and Extent of Asphalt/Concrete Cap, Figure 3, dated April 19, 2017** shall be maintained in compliance with the **attached maintenance plan** in order to minimize the infiltration of water and prevent additional groundwater contamination that would violate the groundwater quality standards in ch. NR 140, Wis. Adm. Code. In this case, the building is also considered a structural impediment, and additional investigation and response requirements apply as described in the section titled Structural Impediments.

The entire building floor located in the basement and slab on-grade portions of the building, as shown on the **attached map, Vapor Intrusion Map, Figure B.4.a, dated June 26, 2017** shall be maintained in compliance with the **attached Sub-Slab Depressurization System Operation, Maintenance & Monitoring Plan** in order to prevent or limit vapor intrusion into the building.

The cover approved for this closure was designed to be protective for a commercial or industrial use setting. Before using the property for residential purposes, you must notify the DNR at least 45 days before taking an action, to determine if additional response actions are warranted.

A request may be made to modify or replace a cover or barrier. Before removing or replacing the cover, you must notify the DNR at least 45 days before taking an action. The replacement or modified cover or barrier must be protective of the revised use of the property and must be approved in writing by the DNR prior to implementation. A cover or barrier for industrial land uses, or certain types of commercial land uses may not be protective if the use of the property were to change such that a residential exposure would apply. This may include, but is not limited to, single or multiple family residences, a school, day care, senior center, hospital or similar settings. In addition, a cover or barrier for multi-family residential housing use may not be appropriate for use at a single-family residence.

The **attached maintenance plan and inspection log (DNR form 4400-305)** are to be kept up-to-date and on-site. Inspections shall be conducted annually in accordance with the attached maintenance plan. Submit the inspection log to the DNR only upon request.

Structural Impediments (s. 292.12 (2) (b), Wis. Stats., s. NR 726.15, s. NR 727.07, Wis. Adm. Code)

The onsite building and the location of utilities as shown on the **attached map Residual Soil Contamination, Figure B.2.b, dated January 8, 2018**, made complete investigation and/or remediation of the soil contamination on this property impracticable. If the structural impediment is to be removed, the property owner shall notify the DNR at least 45 days before removal and conduct an investigation of the degree and extent of chlorinated solvent contamination below the structural impediment. If contamination is found at that time, the contamination shall be properly remediated in accordance with applicable statutes and rules.

Vapor Mitigation or Evaluation (s. 292.12 (2), Wis. Stats., s. NR 726.15, s. NR 727.07, Wis. Adm. Code)

Vapor intrusion is the movement of vapors coming from volatile chemicals in the soil or groundwater, into buildings where people may breathe air contaminated by the vapors. Vapor mitigation systems are used to interrupt the pathway, thereby reducing or preventing vapors from moving into the building.

Vapor Mitigation System: Soil vapor beneath the building contains chlorinated volatile organic compounds at levels that would pose a long-term risk to human health, if allowed to migrate into an occupied building on the property. The vapor mitigation system installed in April 2017, must be operated, maintained and inspected in accordance with the **attached** maintenance plan. System components must be repaired or replaced immediately upon discovery of a malfunction. Annual inspections and any system repairs must be documented in the inspection log (DNR form 4400-305). The inspection log shall be kept up-to-date and on-site. Inspections shall be conducted annually in accordance with the attached maintenance plan. Submit the inspection log to the DNR only upon request.

If a decision is made to no longer use the vapor mitigation system, or to make a change to the vapor mitigation system, the property owner must notify the DNR at least 45 days before shutting the vapor mitigation system and the dewatering system off, or before making any other change to the system, and evaluate whether conditions are protective of public health and safety. Additional response actions may be necessary.

The integrity of the building and basement floors that exist on the property, shown on the **attached map, Location and Extent of Asphalt/Concrete Cap, Figure D.2.a.3, dated April 19, 2017**, must be maintained in compliance with the **attached maintenance plan**. This will help ensure proper functioning of the vapor mitigation system and limiting vapor intrusion to indoor air spaces.

Dewatering system: As of August 2014, a sealed sump pump connected to a corrugated and perforated drainage tile is required to be operated and maintained to control groundwater and/or vapor from entering the building. The sealed sump pump is needed to lower the water table to provide for air space between the foundation and groundwater.

Commercial/Industrial Use: Soil vapor beneath the drycleaner building contains vapors at levels that would pose a long-term risk to human health, if allowed to migrate into an occupied building. Concentrations of sub-slab vapors below the southern portion of the slab on-grade portion of the building exceeded vapor risk screening levels based on residential use but were below vapor risk screening levels based on small/commercial property use. Case closure is based on restricting the use of the property for non-residential purposes. If changes in property or land use are planned, the property owner must notify the DNR at least 45 days before changing the use and evaluate whether the closure is protective for the proposed use.

Future Concern: Chlorinated volatile organic compounds remain in soil at locations as indicated on the **attached map, Residual Soil Contamination, Figure B.2.b, dated January 8, 2018** at levels that may be of concern for vapor intrusion in the future, depending on construction and occupancy of a building. The current building is split with a partial concrete basement and slab on-grade concrete foundation occupied by a drop-off drycleaner and attached coin operated laundry. Therefore, before a building is constructed and/or an existing building is modified, the property owner must notify the DNR at least 45 days before the change. Vapor control technologies are required for construction of occupied buildings unless the property owner assesses the vapor pathway and the DNR agrees that vapor control technologies are not needed. This continuing obligation also applies to the owner of 4811 N. Teutonia Avenue.

### Chapter NR 140, Wis. Adm. Code Exemption

Recent groundwater monitoring data at this site indicates that for tetrachloroethene (PCE) at monitoring points MW-1, MW-2, New Sump, and PZ-1, trichloroethene (TCE) at monitoring points MW-1 and PZ-1, and cis-1,2-dichloroethene (cis-1,2-DCE) at monitoring point MW-1, contaminant levels exceed the NR 140 preventive action limit (PAL) but are below the enforcement standard (ES). The DNR may grant an exemption to a PAL for a substance of public health concern, other than nitrate, pursuant to s. NR 140.28 (2) (b), Wis. Adm. Code, if all of the following criteria are met:

1. The measured or anticipated increase in the concentration of the substance will be minimized to the extent technically and economically feasible.
2. Compliance with the PAL is either not technically or economically feasible.
3. The enforcement standard for the substance will not be attained or exceeded at the point of standards application. [Note: at this site the point of standards application is all points where groundwater is monitored.]
4. Any existing or projected increase in the concentration of the substance above the background concentration does not present a threat to public health or welfare.

Based on the information you provided, the DNR believes that these criteria have been or will be met. The response actions that have been taken include soil excavation and installation of a dewatering and sub-slab depressurization system. Therefore, pursuant to s. NR 140.28, Wis. Adm. Code, an exemption to the PAL is granted for PCE at monitoring points MW-1, MW-2, New Sump, and PZ-1, TCE at monitoring points MW-1 and PZ-1, and cis-1,2-DCE at monitoring point MW-1. Please keep this letter, because it serves as your exemption.

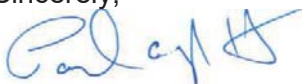
### In Closing

Please be aware that the case may be reopened pursuant to s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment,
- if the property owner does not comply with the conditions of closure, with any deed restrictions applied to the property, or with a certificate of completion issued under s. 292.15, Wis. Stats., or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter).

The DNR appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact John J. Hnat at 414-263-8644, or at [john.hnat@wisconsin.gov](mailto:john.hnat@wisconsin.gov).

Sincerely,



Pamela A. Mylotta  
Southeast Region Team Supervisor  
Remediation & Redevelopment Program

Attachments:

- Location and Extent of Asphalt/Concrete Cap Lloyd's Cleaners, Figure D.2.a.3, Enviroforensics, dated April 17, 2017
- Residual Soil Contamination Lloyd's Cleaners, Figure B.2.b, EnviroForensics, dated January 8, 2018
- Vapor Intrusion Map, Figure B.4.a, Enviroforensics, dated June 26, 2017
- Cap Maintenance Plan 4837 North Teutonia Avenue Milwaukee, WI, dated September 18, 2017
- Sub-Slab Depressurization System Operation, Maintenance, & Monitoring Plan, Lloyd's Cleaners, 4837 North Teutonia Avenue Milwaukee, WI, dated August 1, 2019
- Continuing Obligations Inspection and Maintenance Log, Form 4400-305
- Vapor Mitigation System Inspection and Maintenance Log

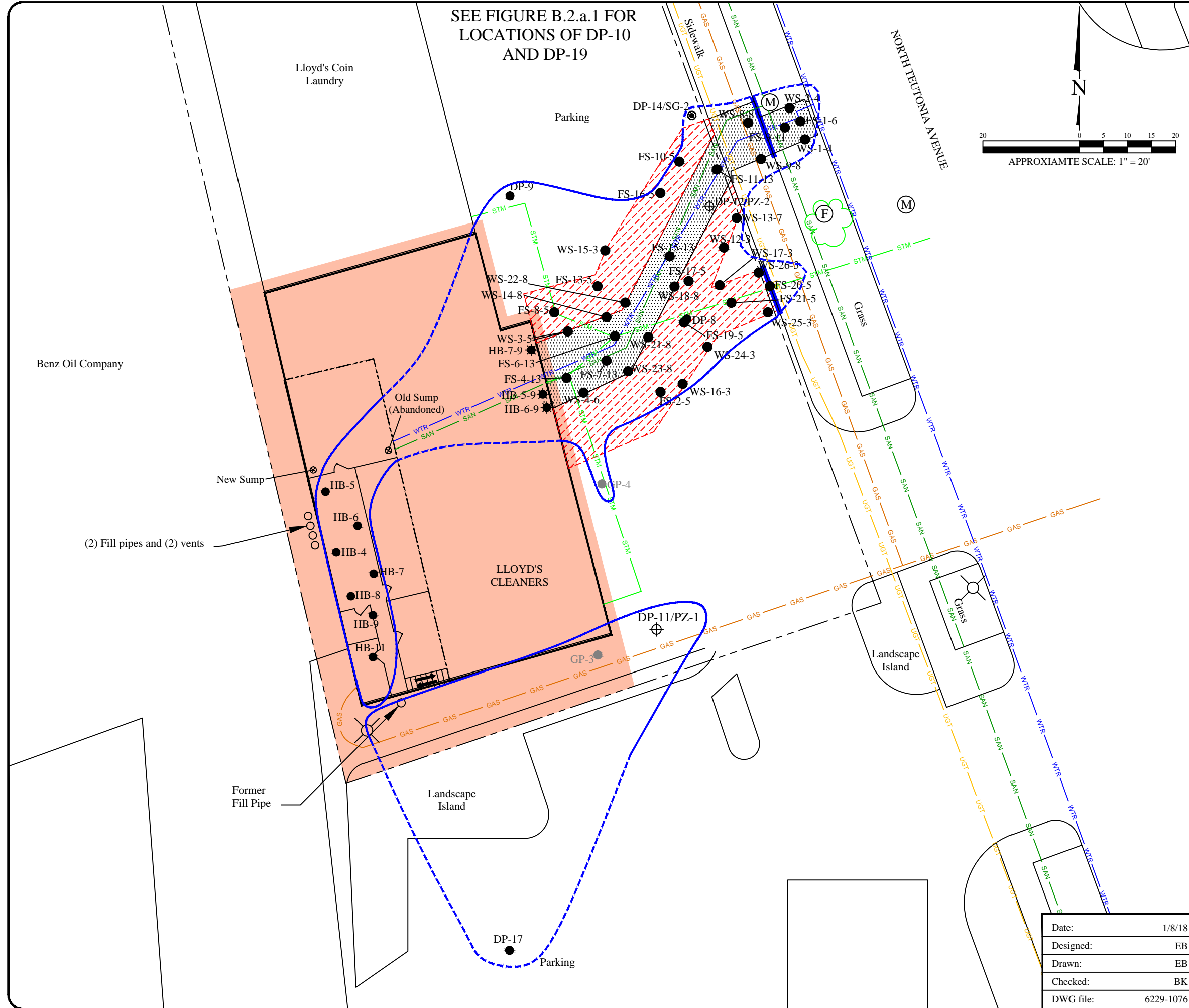
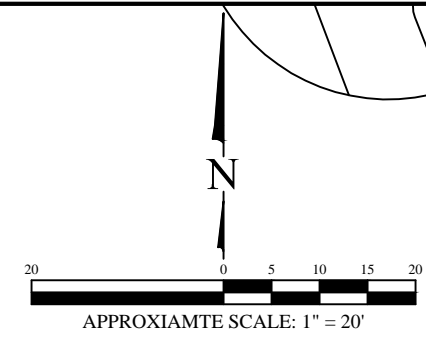
cc: Wayne Fassbender – Enviroforensics  
Bill Phelps, DG/5, DNR Madison

SEE FIGURE B.2.a.1 FOR  
LOCATIONS OF DP-10  
AND DP-19

### Legend

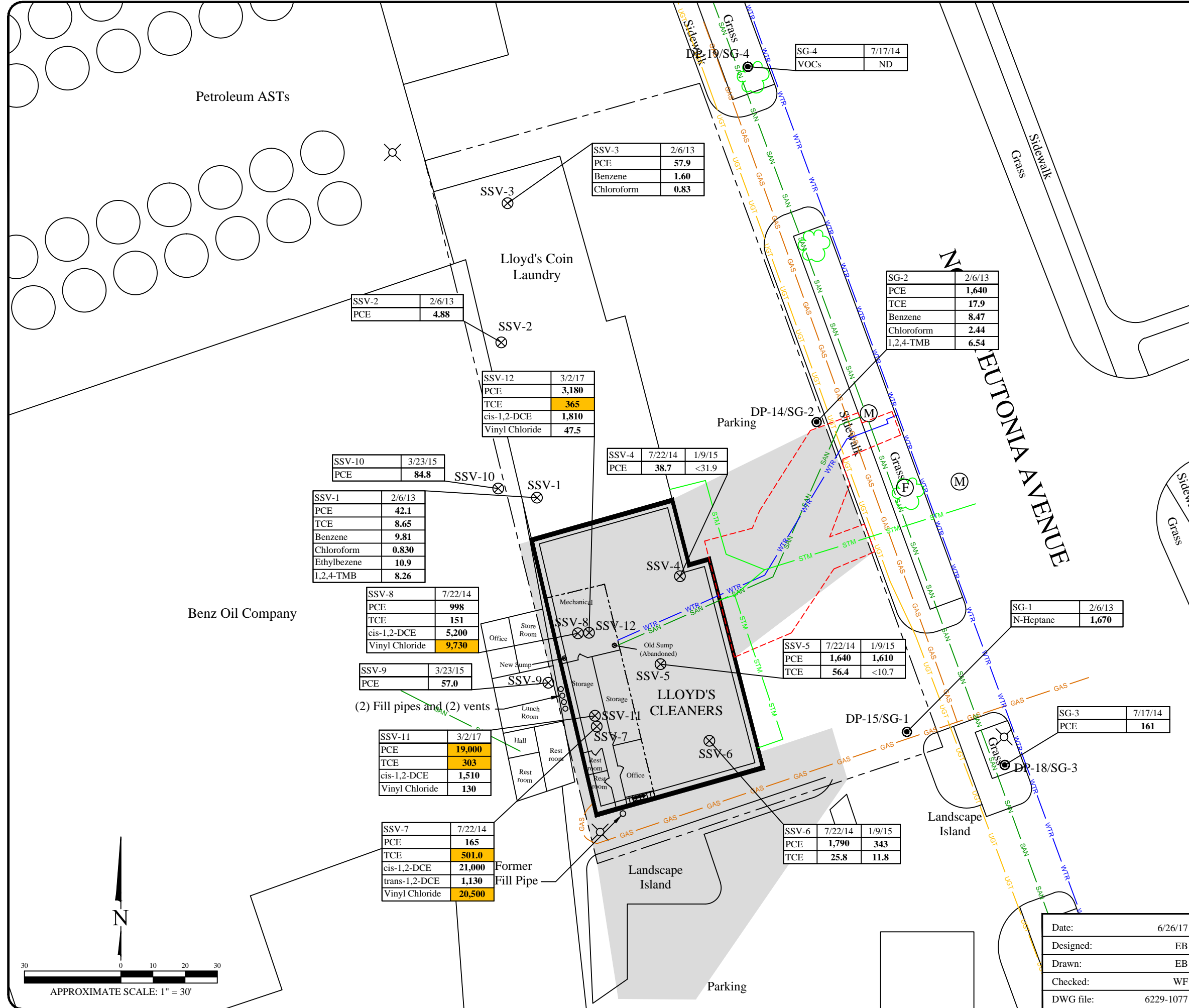
- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- DP-6 Direct-push boring location
- DP-15/SG-1 Direct-push/Soil Gas boring location
- DP-11/PZ-1 Direct Push boring/Piezometer location
- FS-1-1 Floor excavation soil sample location (Floor Sample-Sample ID-Depth)
- WS-1-1 Side wall excavation soil sample location (Wall Sample-Sample ID-Depth)
- Excavation Limits (0-5 ft)
- Excavation Limits (5-13 ft)
- Impervious Barrier location
- Extent of residual soil contamination exceeding soil to groundwater pathway RCLs
- Structural impediment to further investigation

Note:  
There are no Direct-Contact RCL exceedances in the unsaturated zone



<b>RESIDUAL SOIL CONTAMINATION</b>											
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI											
	Figure <b>B.2.b</b>										
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Date:</td><td>1/8/18</td></tr> <tr><td>Designed:</td><td>EB</td></tr> <tr><td>Drawn:</td><td>EB</td></tr> <tr><td>Checked:</td><td>BK</td></tr> <tr><td>DWG file:</td><td>6229-1076</td></tr> </table>	Date:	1/8/18	Designed:	EB	Drawn:	EB	Checked:	BK	DWG file:	6229-1076	Project 6229
Date:	1/8/18										
Designed:	EB										
Drawn:	EB										
Checked:	BK										
DWG file:	6229-1076										





- Legend**
- Property boundary
  - GAS — Underground gas utility line
  - WTR — Underground water utility line
  - UGT — Fiber optic utility line
  - SAN — Sanitary sewer utility line
  - STM — Storm sewer utility line
  - - - Previous excavation area
  - (M) Sanitary sewer manhole
  - (F) Fire Hydrant
  - DP-15/SG-1 (C) Direct-push / Soil Gas boring location
  - SSV-1 (X) Sub-slab vapor location

Analytes	Soil Gas Vapor Risk Screening Level
PCE	<b>18,000</b>
TCE	<b>880</b>
Benzene	<b>1,600</b>
Chloroform	<b>530</b>
1,2,4-TMB	<b>NE</b>
N-Heptane	<b>NE</b>

- Notes:
- Bold, shaded orange values exceed Vapor Risk Screening Levels
  - Bolded values are above detection limits
  - Results reported in micrograms per cubic meter = ug/m3
  - PCE = Tetrachloroethene
  - TCE = Trichloroethene
  - 1,2,4-TMB = 1,2,4-Trimethylbenzene
  - VOCs = Volatile Organic Compounds
  - ND = Not detected
  - NE = Not Established

Sub-slab vapor	
Analyte	Small Commercial Vapor Risk Screening Level
PCE	<b>6,000</b>
TCE	<b>290</b>
cis-1,2-DCE	<b>NE</b>
trans-1,2-DCE	<b>NE</b>
Vinyl Chloride	<b>930</b>
Benzene	<b>530</b>
Chloroform	<b>180</b>
Ethylbenzene	<b>1,600</b>
1,2,4-TMB	<b>1,000</b>

- Note:
- Bolded and shaded values exceed Small Commercial Vapor Risk Screening Levels
  - All results reported in micrograms per cubic meter (ug/m3)
  - 1 = Vapor Risk Screening Levels are based on U.S. E.P.A.'s Regional Screening Levels (RSL's) for industrial indoor air with an attenuation factor of 0.1 for sub-slab samples a 0.1 adjustment for 1 x 10<sup>-5</sup> lifetime cancer risk for carcinogens
  - cis-1,2-DCE = cis-1,2-Dichloroethene
  - trans-1,2-DCE = trans-1,2-Dichloroethene
  - 1,2,4-TMB = 1,2,4-Trimethylbenzene

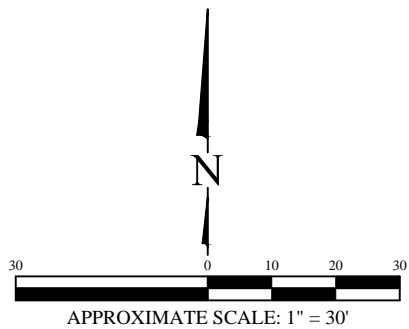
Area where residual contamination poses a future risk of vapor intrusion

**VAPOR INTRUSION MAP**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	6/26/17		Figure
Designed:	EB		B.4.a
Drawn:	EB		Project
Checked:	WF		6229
DWG file:	6229-1077		

825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com





## CAP MAINTENANCE PLAN

September 18, 2019

Property located at:

**4837 NORTH TEUTONIA AVENUE  
MILWAUKEE, WISCONSIN 53209  
BRRTS# 02-41-556811**

**LEGAL DESCRIPTION: CERTIFIED SURVEY MAP NO 2994 IN SE 1/4 SEC 36,  
TOWNSHIP 8 NORTH, RANGE 21 EAST, IN PARCEL 3**

**TAX ID#: 2070833000**

### INTRODUCTION

This document is the Maintenance Plan for the asphalt and concrete surface materials (the “Cap”) covering soil contaminated with chlorinated volatile organic compounds at the above-referenced property in accordance with the requirements of s. NR 724.13(2), Wis. Adm. Code. The maintenance activities relate to the existing asphalt parking lot areas and concrete building foundation, which occupy the area over the residual soil contamination.

More site-specific information about this property/site may be obtained from:

- The case file in the Wisconsin Department of Natural Resources (WDNR) Regional office;
- [BRRTS on the Web](#) (WDNR’s internet based data base of contaminated sites)for the link to a PDF for site-specific information at the time of closure and on continuing obligations;
- [RR Sites Map/GIS Registry layer](#) for a map view of the site, and
- The WDNR project manager.



## DESCRIPTION OF CONTAMINATION

Soil contaminated by chlorinated volatile organic compounds (CVOCs) is located at a depth of approximately 1 to 14 feet below ground surface (bgs) in the area under the southern half of the site building and asphalt parking/walkway areas on the south and east sides of the building. Groundwater contaminated by CVOCs is encountered at a depth of approximately 10-20 feet bgs beneath the same areas. The extent of residual CVOC contamination in soil and groundwater is shown on the attached **Figure D.2.a.1** and **Figure D.2.a.2**, respectively.

## DESCRIPTION OF CAP

The cap consists of the site building, including its concrete floor slab and foundation, and the asphalt parking/walkway areas that extend from the building to the property boundary to the south and east; and north to the defined extent of soil and groundwater impacts. The location and extent of the cap is depicted on **Figure D.2.a.3**. The existing cap is an infiltration barrier to minimize soil-to-groundwater contamination migration. There are no soil concentrations that pose a risk of direct contact exposure to humans. The asphalt/concrete cap is 4 to 6 inches thick across the property.

## ANNUAL INSPECTION

The asphalt/concrete cap will be inspected once per year, normally in the spring after all snow and ice is gone, for deterioration, cracks and other potential problems that would allow a direct conduit for infiltration of rain water. The inspections will be performed by the property owner or their designated representative. The inspections will be performed to evaluate damage due to settling, exposure to the weather, wear from traffic, increasing age, and other factors. Any area where large cracks or other openings have occurred or are likely to occur will be documented.

A log of the inspections and any repairs will be maintained by the property owner on WDNR Form 4400-305 (Continuing Obligations Inspection and Maintenance Log), included as **Attachment D.4.a**. The log will include recommendations for necessary repair of any areas where underlying soils are exposed. Once repairs are completed, they will be documented in the Inspection Log. A copy of this Cap Maintenance Plan and the Inspection Log will be kept at the property and available for submittal or review by WDNR representatives upon their request.

## MAINTENANCE ACTIVITIES

If problems are noted during the annual inspections or at any other time during the year, repairs will be scheduled as soon as practical. Repairs can include patching and filling or larger



resurfacing or construction operations. In the event that maintenance activities that involve soil removal and disposal are necessary, the property owner must sample any soil excavated from the site prior to disposal to ascertain if contamination is present. The soil must be treated, stored, or disposed of by the owner in accordance with applicable local, state and federal law.

In the event the asphalt and or concrete building foundation cover overlying the contaminated soil are removed or replaced, the replacement barrier must be equally impermeable. Any replacement barrier will be subject to the same maintenance and inspection guidelines as outlined in this Cap Maintenance Plan unless indicated otherwise by the WDNR or its successor. The property owner, in order to maintain the integrity of the asphalt/concrete cap, will maintain a copy of this Maintenance Plan on-site and make it available to all interested parties (i.e. on-site employees, contractors, future property owners, etc.) for viewing.

### **PROHIBITION OF ACTIVITIES AND NOTIFICATION**

The following activities are prohibited on any portion of the property where an asphalt/concrete cap is required as depicted on the attached **Figure D.2.a.3**, unless prior written approval has been obtained from the WDNR: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; 6) construction or placement of a building or other structure; 7) changing the use or occupancy of the property to a residential exposure setting, which may include certain uses such as single or multi-family residences, a school, a daycare, or senior center; or 8) changing the construction of the building if the changes affect the operation of the vapor mitigation system.

If removal, replacement or other changes to the asphalt/concrete are considered, the property owner will contact WDNR at least 45 days before taking such an action, to determine whether further action may be necessary to protect human health, safety, or welfare or the environment, in accordance with s. NR 727.07, Wis. Adm. Code.

### **AMENDMENT OR WITHDRAWAL OF MAINTENANCE PLAN**

This Maintenance Plan can be amended or withdrawn by the property owner and its successors with the written approval of the WDNR.



## CONTACT INFORMATION

Site Owner and Operator: Lloyd's Cleaners  
Thomas Anderson  
4837 N. Teutonia Ave  
Milwaukee, WI 53209

Consultant: EnviroForensics, LLC  
Wayne Fassbender, PG, PMP  
N16 W23390 Stone Ridge Dr., Suite G  
Waukesha, WI 53188  
(262) 290-4001

WDNR Project Manager: John Hnat  
Wisconsin Dept. of Natural Resources  
2300 Dr. Martin Luther King Jr. Dr.  
Milwaukee, WI 53212  
(414) 263-8644



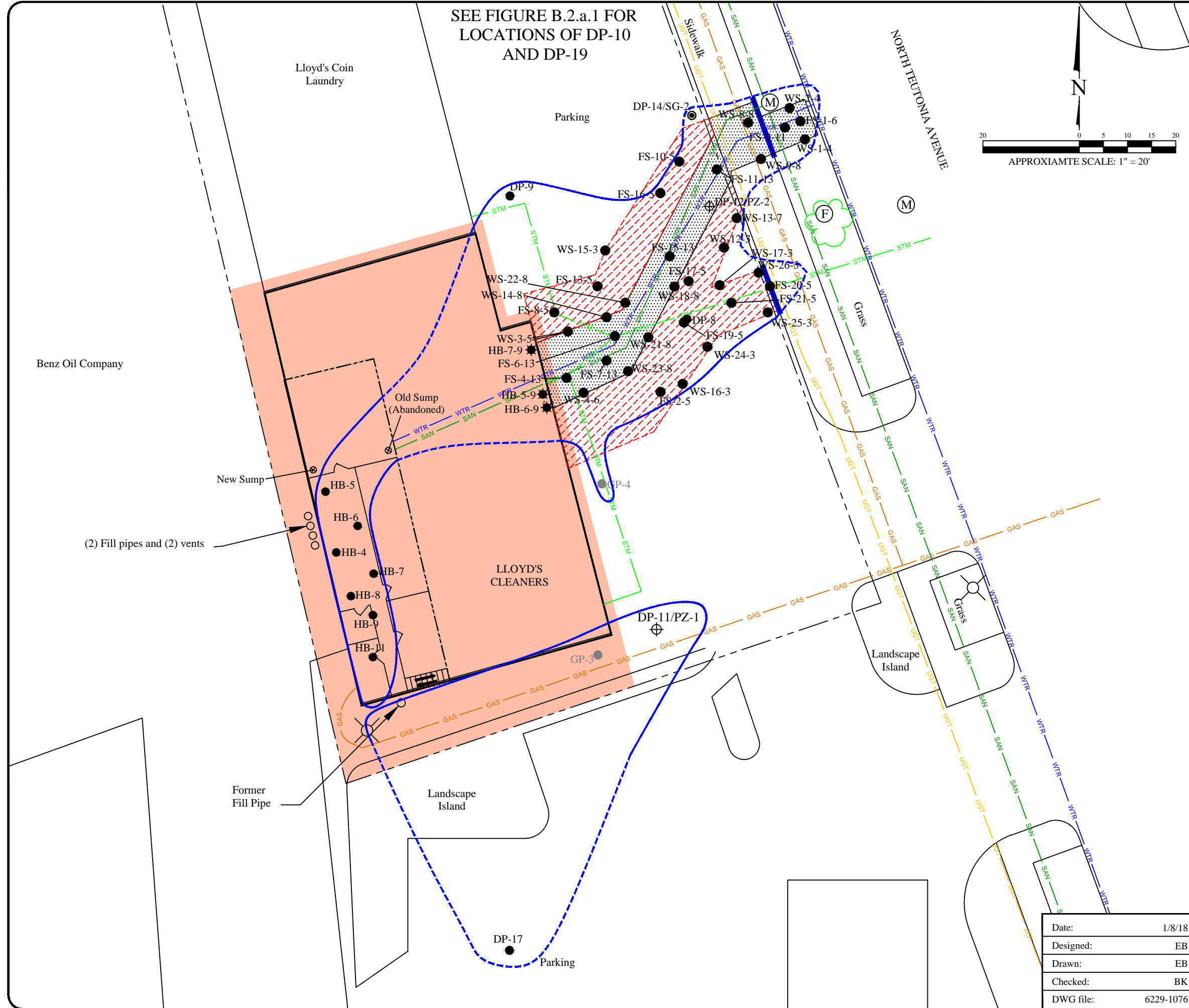
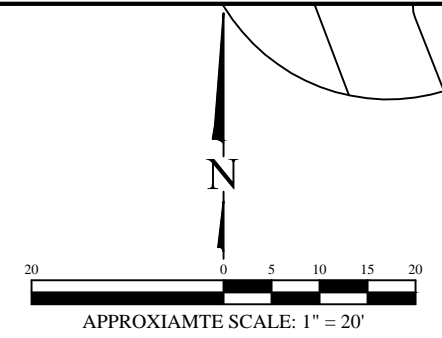
## FIGURES

SEE FIGURE B.2.a.1 FOR  
LOCATIONS OF DP-10  
AND DP-19

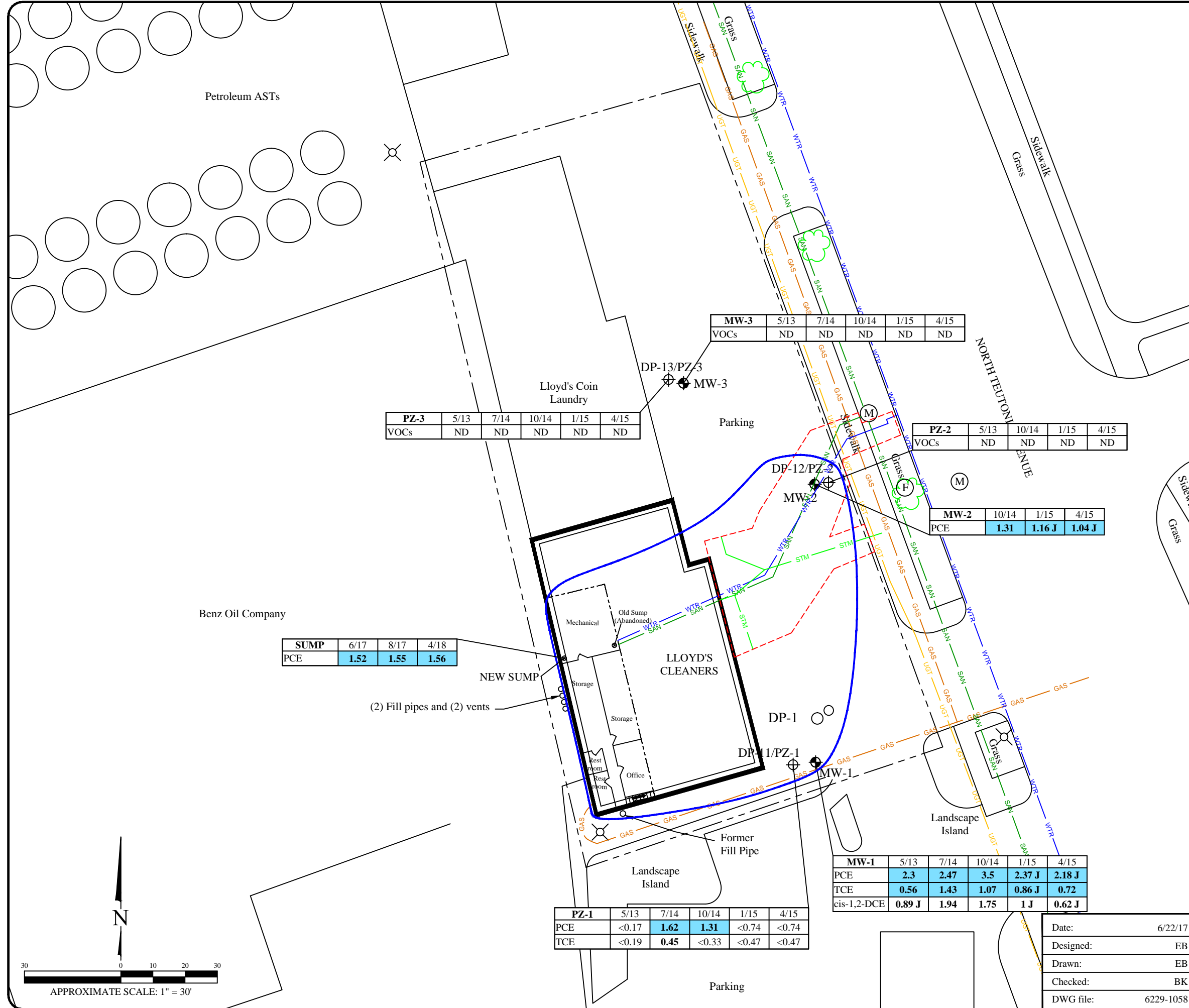
### Legend

- Property boundary
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- WTR Underground water utility line
- UGT Fiber optic utility line
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- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- DP-6 Direct-push boring location
- DP-15/SG-1 Direct-push/Soil Gas boring location
- DP-11/PZ-1 Direct Push boring/Piezometer location
- FS-1-1 Floor excavation soil sample location (Floor Sample-Sample ID-Depth)
- WS-1-1 Side wall excavation soil sample location (Wall Sample-Sample ID-Depth)
- Excavation Limits (0-5 ft)
- Excavation Limits (5-13 ft)
- Impervious Barrier location
- Extent of residual soil contamination exceeding soil to groundwater pathway RCLs
- Structural impediment to further investigation

Note:  
There are no Direct-Contact RCL exceedances in the unsaturated zone



<b>RESIDUAL SOIL CONTAMINATION</b>											
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI											
	Figure D.2.a.1										
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Date:</td><td>1/8/18</td></tr> <tr><td>Designed:</td><td>EB</td></tr> <tr><td>Drawn:</td><td>EB</td></tr> <tr><td>Checked:</td><td>BK</td></tr> <tr><td>DWG file:</td><td>6229-1076</td></tr> </table>	Date:	1/8/18	Designed:	EB	Drawn:	EB	Checked:	BK	DWG file:	6229-1076	Project 6229
Date:	1/8/18										
Designed:	EB										
Drawn:	EB										
Checked:	BK										
DWG file:	6229-1076										



- ### Legend
- Property boundary
  - GAS Underground gas utility line
  - WTR Underground water utility line
  - UGT Fiber optic utility line
  - SAN Sanitary sewer utility line
  - STM Storm sewer utility line
  - Previous excavation area
  - Sanitary sewer manhole
  - Fire Hydrant
  - DP-11/PZ-1 Direct Push boring / Piezometer location
  - MW-1 Monitoring well location
  - HA1/HB-1 Grab groundwater location

Analyte	Public Health Preventive Action Limit	Public Health Enforcement Standard
PCE	<b>0.5</b>	<b>5</b>
TCE	<b>0.5</b>	<b>5</b>
cis-1,2-DCE	<b>7</b>	<b>70</b>

- Note:
- Bolded and blue shaded values exceed the Public Health Preventive Action Limit
  - Bolded and orange shaded values exceed the Public Health Enforcement Standard
  - Bolded values are above detection limits
  - J = Estimated concentration above the method detection limit and below the reporting limit
  - Samples analyzed using EPA SW-846 Method 8260
  - All results reported in units of micrograms per liter (ug/L)
  - PCE = Tetrachloroethene
  - TCE = Trichloroethene
  - cis-1,2-DCE = cis-1,2-Dichloroethene
  - VOCs = Volatile Organic Compounds
  - ND = Not detected

Extent of residual groundwater impacts exceeding PALs

SUMP	6/17	8/17	4/18
PCE	<b>1.52</b>	<b>1.55</b>	<b>1.56</b>

PZ-3	5/13	7/14	10/14	1/15	4/15
VOCs	ND	ND	ND	ND	ND

MW-3	5/13	7/14	10/14	1/15	4/15
VOCs	ND	ND	ND	ND	ND

PZ-2	5/13	10/14	1/15	4/15
VOCs	ND	ND	ND	ND

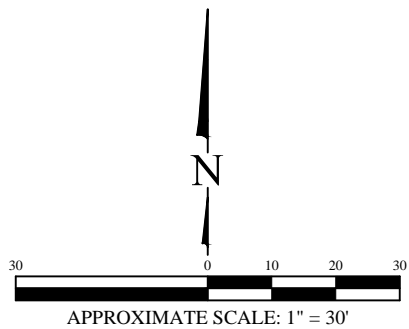
MW-2	10/14	1/15	4/15
PCE	<b>1.31</b>	<b>1.16 J</b>	<b>1.04 J</b>

MW-1	5/13	7/14	10/14	1/15	4/15
PCE	<b>2.3</b>	<b>2.47</b>	<b>3.5</b>	<b>2.37 J</b>	<b>2.18 J</b>
TCE	<b>0.56</b>	<b>1.43</b>	<b>1.07</b>	<b>0.86 J</b>	<b>0.72</b>
cis-1,2-DCE	<b>0.89 J</b>	<b>1.94</b>	<b>1.75</b>	<b>1 J</b>	<b>0.62 J</b>

PZ-1	5/13	7/14	10/14	1/15	4/15
PCE	<0.17	<b>1.62</b>	<b>1.31</b>	<0.74	<0.74
TCE	<0.19	<b>0.45</b>	<0.33	<0.47	<0.47

### EXTENT OF GROUNDWATER IMPACTS EXCEEDING REGULATORY STANDARDS

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

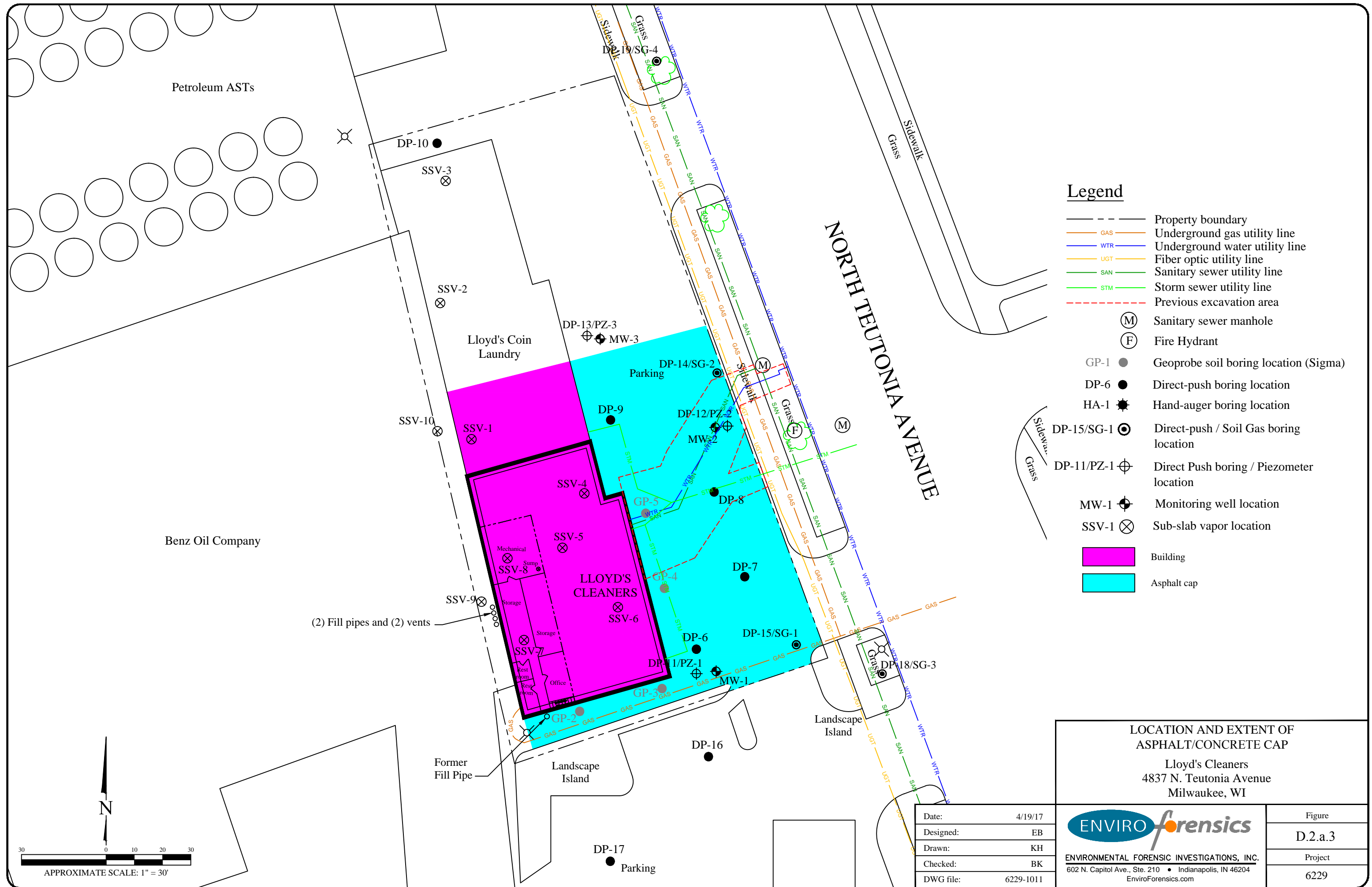


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Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1058

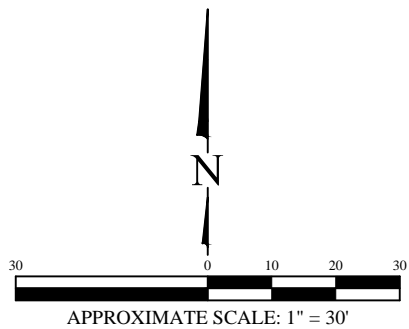
825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	D.2.a.2
Project	6229





- ### Legend
- Property boundary
  - GAS Underground gas utility line
  - WTR Underground water utility line
  - UGT Fiber optic utility line
  - SAN Sanitary sewer utility line
  - STM Storm sewer utility line
  - Previous excavation area
  - Sanitary sewer manhole
  - Fire Hydrant
  - Geoprobe soil boring location (Sigma)
  - Direct-push boring location
  - Hand-auger boring location
  - Direct-push / Soil Gas boring location
  - Direct Push boring / Piezometer location
  - Monitoring well location
  - Sub-slab vapor location
  - Building
  - Asphalt cap



**LOCATION AND EXTENT OF ASPHALT/CONCRETE CAP**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	4/19/17
Designed:	EB
Drawn:	KH
Checked:	BK
DWG file:	6229-1011

Figure
D.2.a.3
Project
6229

ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.  
602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204  
EnviroForensics.com



**ATTACHMENT D.3.a**

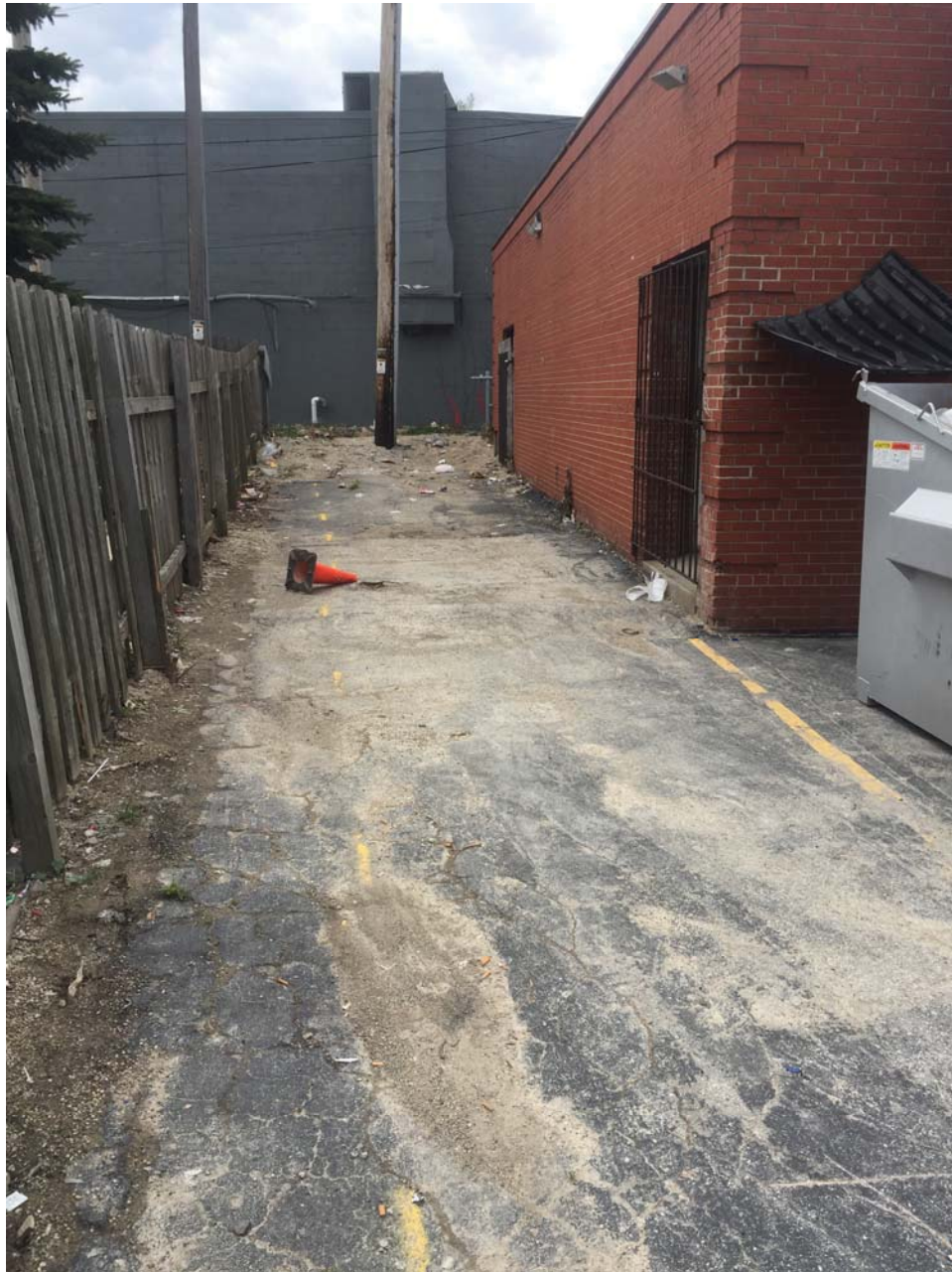
**PHOTOGRAPHS**



Overview of asphalt cap – facing north



Overview of asphalt cap – facing south



Asphalt on south side of building – facing west



Basement concrete floor slab



Basement mechanical room concrete floor slab



**ATTACHMENT D.4.a**

**Continuing Obligations Inspection and Maintenance Log**



**Directions:** In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at <http://dnr.wi.gov/botw/SetUpBasicSearchForm.do>, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name	BRRTS No.
----------------------	-----------

Inspections are required to be conducted (see closure approval letter):

annually  
 semi-annually  
 other – specify \_\_\_\_\_

When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N

**Continuing Obligations Inspection and Maintenance Log**

Form 4400-305 (2/14)

Page 2 of 2

BRRTS No. \_\_\_\_\_

Activity (Site) Name \_\_\_\_\_

{Click to Add/Edit Image}

Date added:



Title:

{Click to Add/Edit Image}

Date added:

Title:



**SUB-SLAB DEPRESSURIZATION SYSTEM  
OPERATION, MAINTENANCE & MONITORING PLAN**

**Lloyd's Cleaners  
4837 North Teutonia Avenue  
Milwaukee, WI 53209  
WDNR BRRTS# 02-41-556811  
FID# 241417330**

August 1, 2019

*Prepared For:*

Lloyd's Cleaners  
4837 North Teutonia Avenue  
Milwaukee, WI 53209

*Prepared By:*

EnviroForensics, LLC  
N16 W23390 Stone Ridge Drive, Suite G  
Waukesha, WI 53188  
Phone: (262) 290-4001  
[www.enviroforensics.com](http://www.enviroforensics.com)

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## FIGURES

Figure D.2.b.1 Site Layout Map

Figure D.2.b.2 Sub-Slab Depressurization System Layout

## ATTACHMENTS

Attachment D.4.b Inspection and Maintenance Log



## 1.0 BACKGROUND

Lloyd's Cleaners is located at 4837 North Teutonia Avenue, Milwaukee, Wisconsin (Site). The layout of the Site is shown on **Figure D.2.b.1**. The Site is located in an area of mixed land use consisting of residential, commercial, and industrial properties. The dry cleaning building is a single story structure with a partial basement having concrete block walls. The attached coin-operated laundry is a single story structure with a slab on grade. Sub-slab vapor sampling conducted in the basement in 2017 indicated that VOCs were present in vapor at concentrations above the vapor risk screening level (VRSL) for small commercial structures. Therefore, a sub-slab depressurization (SSD) system was installed to mitigate the vapor intrusion risk.

The SSD system is designed to depressurize the sub-slab space and prevent vapors from migrating into the building and affecting indoor air quality. The Wisconsin Department of Natural Resources (WDNR) requires that SSD systems be monitored and maintained to ensure ongoing effectiveness. Proper operation of the SSD system is necessary to prevent exposure to the chemicals of concern via vapor intrusion.

### 1.1 Site History

The Site was operated by others as an active dry cleaning facility from the early 1960's until 1981, when current owner Tom Anderson bought the property now known as Lloyd's Cleaners. Tetrachloroethene (PCE) was historically used as a dry cleaning solvent at this property until 2011, when Mr. Anderson discontinued active dry cleaning. PCE migrated vertically through soil in the vicinity of the former PCE holding tank, and along the sanitary sewer lateral beneath the Site building causing soil, groundwater, and sub-slab vapor impacts that exceed WDNR health-based standards and screening levels.

## 2.0 CONTACTS

Property Owner: Tom Anderson

Address: 4837 North Teutonia Avenue, Milwaukee, Wisconsin 53209

Telephone #: 414-442-1010

System Design and Installation: EnviroForensics, LLC

Address: 825 N. Capital Ave., Indianapolis, IN 46204

Contact: Vapor Mitigation Technician

Contact/Telephone #: 317-972-7870



Consultant: EnviroForensics, LLC

Address: N16 W23390 Stone Ridge Dr., Suite G, Waukesha, WI 53188

Contacts: Brian Kappen, Project Manager; Wayne Fassbender, Senior Project Manager

Telephone #: 262-290-4001

Email: [bkappen@enviroforensics.com](mailto:bkappen@enviroforensics.com) or [wfassbender@enviroforensics.com](mailto:wfassbender@enviroforensics.com)

WDNR Project Manager: John Hnat

Address: 2300 N. Dr. Martin Luther King, Jr. Dr. Milwaukee, Wisconsin

Telephone #: 414-263-8644

Email: [John.Hnat@wisconsin.gov](mailto:John.Hnat@wisconsin.gov)

### 3.0 SYSTEM DESIGN AND CONSTRUCTION

EnviroForensics designed and installed the SSD system in the basement of the Site building. The system was installed during April 6-7 and April 13-14, 2017. The layout of the SSD system is depicted on **Figure D.2.b.2**. Sub-slab vacuum is induced by a Radon-Away model GP-501 fan mounted on the roof and hardwired to a dedicated circuit breaker in the electrical panel in the southeast room of the Site building. There is also a dedicated on/off switch located next to the fan. The fan is connected to the following sub-slab extraction points:

- Combined horizontal extraction piping (EP-1) installed within the backfill of an excavation beneath the basement floor slab;
- The sealed sump crock (EP-2) for the purpose of venting the drainage tile and block wall along the west side of the building. In addition to venting, the west block wall was repaired by sealing holes and cracks in the block, followed by sealing with a vapor protection coating; and
- One (1) vertical extraction point (EP-3) along the north wall of the mechanical room.

Each extraction point is equipped with a u-tube manometer located a few feet above floor level. The manometers are u-shaped tubes filled with red liquid and a fixed gauge that measures vacuum in inches of water. Individual ball valves are also installed just above the manometers on each extraction point for system balancing. The ball valves have red plastic handles that are open when positioned parallel to the pipe and closed when positioned perpendicular to the pipe. Directions for opening and closing the valves are imprinted on the handles.

The extraction point pipes connect to a common 4-inch diameter PVC vent pipe in the mechanical room. The vent pipe is routed to the fan on the roof through an unused pipe chase in the mechanical room.

An audible low-pressure alarm was also installed on one of the horizontal extraction points in the main storage room. If there is a loss of vacuum caused by fan failure, vent pipe obstruction, high water level, or other issue, a loud beeping sound will occur. Additional description and photos of system components are provided in **Attachment D.4.b**.

### 3.1 System Commissioning

Commissioning of the SSD system was performed to demonstrate vapor intrusion mitigation in all conditions. System measurements were collected on three (3) occasions during the first year of operation. System commissioning events included the following activities:

1. Measurement of sub-slab pressure field extension (PFE). The PFE were measured by connecting a hand-held digital manometer to sub-slab test ports installed in the basement floor. Two (2) permanent test ports designated TP-1 and TP-2 are installed at the locations shown on **Figure D.2.b.2**.
2. Measurement of flow rate in the vent pipe leading to the fan using a thermo-anemometer inserted into a port in the piping.
3. Checking u-tube manometers at each extraction point for confirmation of induced vacuum.
4. Visual inspection of the concrete floor penetration seals and all system components including fans, manometers, pressure switches, and piping connections.

The pressure field extension (PFE) testing indicated that the system applied negative pressure across the entire main storage room and mechanical room of the basement where elevated vapor concentrations were previously detected. Vacuum readings at the extraction points (observed in u-tube manometers) and permanent test ports TP-1 and TP-2 are summarized in the table below and shown on **Figure D.2.b.2** for reference.

Date	Flow Rate (FPM)	Vacuum (inches of water)				
		EP-1	EP-2 (Sump)	EP-3	TP-1	TP-2
6/14/2017	NM	-0.8	-0.3	-0.8	-0.131	-0.415
4/6/2018	1,078	-1.5	-1.1	-1.5	-0.250	-0.197
7/3/2018	1,312	-1.7	-0.6	-1.7	-0.320	-0.237

Notes: NM = not measured. Fpm = feet per minute

## 4.0 SYSTEM OPERATION, MAINTENANCE, AND MONITORING

Lloyd's Cleaners will be responsible for operation, maintenance, and monitoring (OM&M) of the SSD system installed in the building until the WDNR grants case closure for the Site. After closure, any current or future owner of the Site will be responsible for OM&M of the SSD system if there is a continued vapor intrusion risk that must be mitigated. Future sub-slab vapor sampling may be performed to confirm that the vapor intrusion risk is no longer present (see Section 5.0 below).

System monitoring and maintenance procedures described below and in **Attachment D.4.b** follow the recommendations presented in WDNR Publication RR-800: *Addressing Vapor Intrusion at Remediation Redevelopment Sites in Wisconsin*. The conditions that must be maintained for continued long-term protection from vapor intrusion are listed on the Inspection and Maintenance Log in **Attachment D.4.b**.

### 4.1 System Operation

The system is designed and intended to operate continuously. Operation of the SSD system can be confirmed as follows:

- Inspect the fan mounted on the roof, which can be accessed using a ladder from outside. Noise caused by the movement of air and slight vibration are indications that the fan is running; and
- Check the u-tube manometers located on the extraction point piping. The liquid level inside the u-shaped tube will be uneven if vacuum is present.

If the fan stops operating the audible alarm will sound. In that event, a vapor mitigation professional should be contacted as soon as possible to troubleshoot the problem and make the necessary repairs.

### 4.2 System Inspection, Monitoring, and Maintenance

System inspection and monitoring is required to be conducted at least once during the heating season. A second inspection and monitoring event is recommended in spring when the water level beneath the floor slab is expected to be highest. Inspection and maintenance logs (**Attachment D.4.b**) shall be completed by the person or group responsible for OM&M of the SSD system. The property owner will maintain a copy of this SSDS OM&M Plan on-site and make it available to all interested parties (i.e., on-site employees, contractors, future property owner, etc.) for viewing and made available to WDNR upon request.



Inspection and monitoring requirements are summarized in **Attachment D.4.b**. The fan and outdoor vent pipe, suction points, and alarm unit must be inspected for integrity and normal function as described in **Attachment D.4.b**. Under normal operating conditions, the manometers affixed to each suction point should read between 0.3 and 1.7 inches of vacuum. The concrete floor of the basement must be inspected for penetrating cracks, holes, or open joints that would cause “short-circuiting” of indoor air and limit sub-slab vacuum influence. Keeping the concrete floor in good condition is essential for SSD system effectiveness.

Proper function of the basement sump is also required for the SSD system to operate effectively. The sump should be inspected to confirm air-tight seals around the cover and pipe penetrations. If there are leak(s), the vacuum indicated by the EP-2 manometer will drop. The lowest vacuum observed at EP-2 during system commissioning was -0.3 inches of water. The sump pump should also be tested as part of the routine inspection. If the sump pump fails, water around the foundation may rise to the bottom of the floor slab, which restricts vacuum created by the fan. The pump can be tested by adding water through the capped opening in the sump lid. The pump should start automatically once the water reaches a certain level. If it does not, make sure the pump is plugged in to an energized outlet and the float moves freely. Replace the sump pump if troubleshooting does not resolve the problem.

The mitigation fan is factory sealed and requires no maintenance. In the event that a fan stops operating due to mechanical failure, the fan shall be replaced with an identical model or a fan with the same performance specifications. Replacement of fans should be handled by a mitigation contractor and/or an electrician. Maintenance and repair activities on other components, including piping, suction point seals, or openings in the concrete floor, can be performed by the environmental consultant or building maintenance personnel. Leaks around suction point seals can be fixed by adding caulk around the openings and/or tightening the bolts securing the sump lid and pipe penetrations. Minor cracks or holes in the concrete floor can typically be fixed with hydraulic cement patch or self-leveling sealant. More significant deterioration will require repair by a concrete professional.

## **5.0 DECOMMISSIONING AND CONTINUING OBLIGATIONS**

The SSD system will be operated until it is no longer needed to prevent vapor intrusion. The WDNR shall be notified at least 45 days before any actions are taken which would terminate or interrupt operation of the SSD system for more than one week.

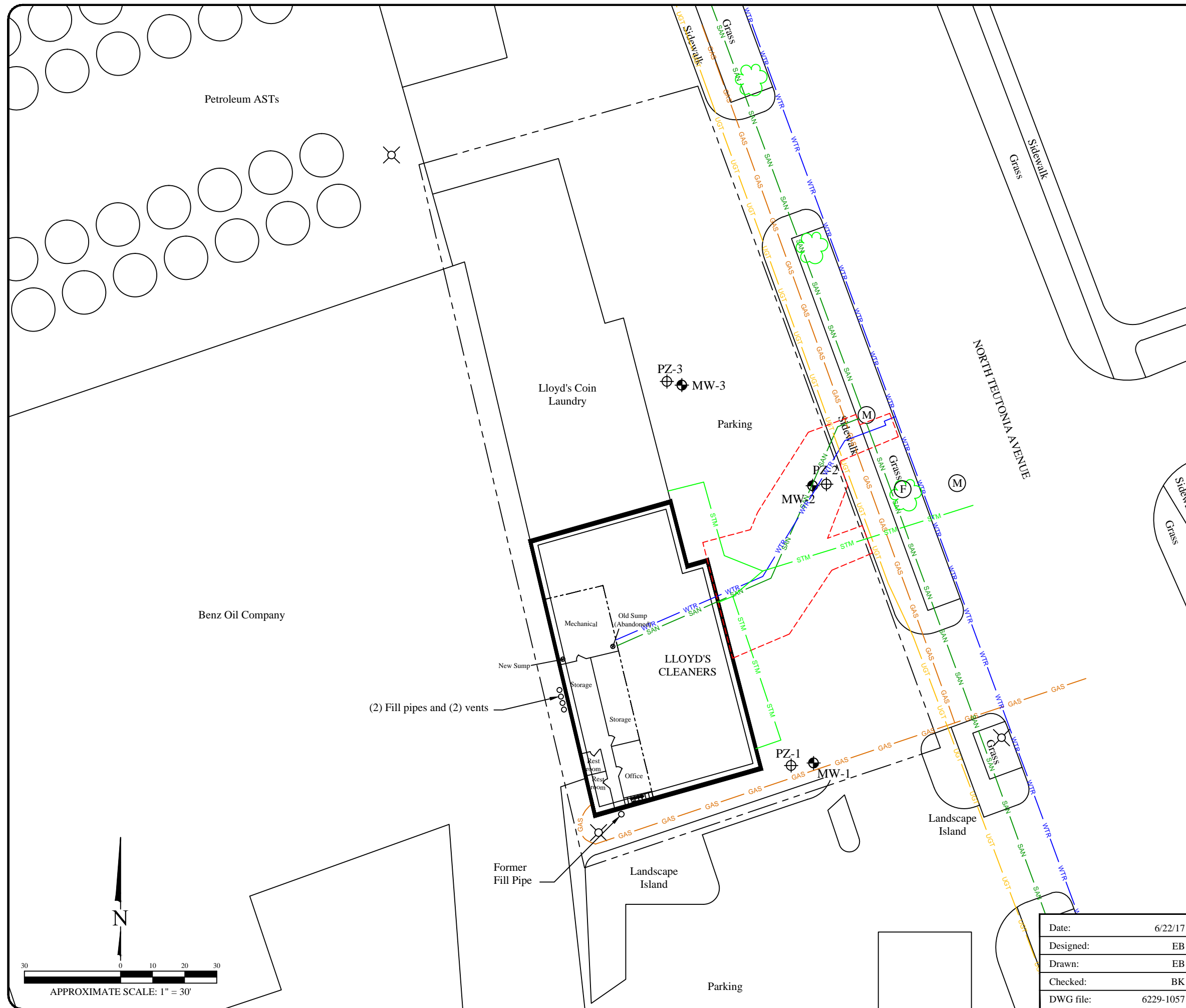


Decommissioning of the system will require re-assessment of vapor intrusion according to the following procedure:

- Notify WDNR of the decommission plan;
- Turn the fan off at the switch or circuit breaker;
- Collect sub-slab vapor samples for analysis of volatile organic compounds (VOCs) according to the following schedule, ensuring that two (2) of the sampling events occur during the heating season:
  - First event 2 to 4 weeks after shutting off the fan;
  - Second event 2 to 6 months after shutting off the fan;
  - Third event within 1 year of shutting off the fan.
- If the concentration of a VOC in any sample exceeds the applicable VRSL, return to long-term SSD system operation and monitoring.
- Request WDNR approval to remove the vapor mitigation requirement from the Site.

Because the SSD system was needed to mitigate vapor intrusion at the time of case closure, there was a continuing obligation for any owner of 4837 N. Teutonia Ave to operate and maintain the SSD system post-closure. The continuing obligation can be removed by going through the post-closure modification process. Contact WDNR for current guidance on this process.

## FIGURES



### Legend

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- PZ-1 Piezometer location (Proposed to be abandoned)
- MW-1 Monitoring well location (Proposed to be abandoned)

### SITE LAYOUT MAP

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI




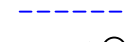



Date:	6/22/17
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1057



825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	D.2.b.1
Project	6229

### Legend

-  Floor drain
-  EP-1 Extraction point with u-tube manometer and ball valve
-  Conveyance piping
-  Horizontal extraction pipe
-  TP-1 Sub-slab vacuum test port
-  (-0.131) Vacuum reading in inches of water during system commissioning
-  GP501 fan

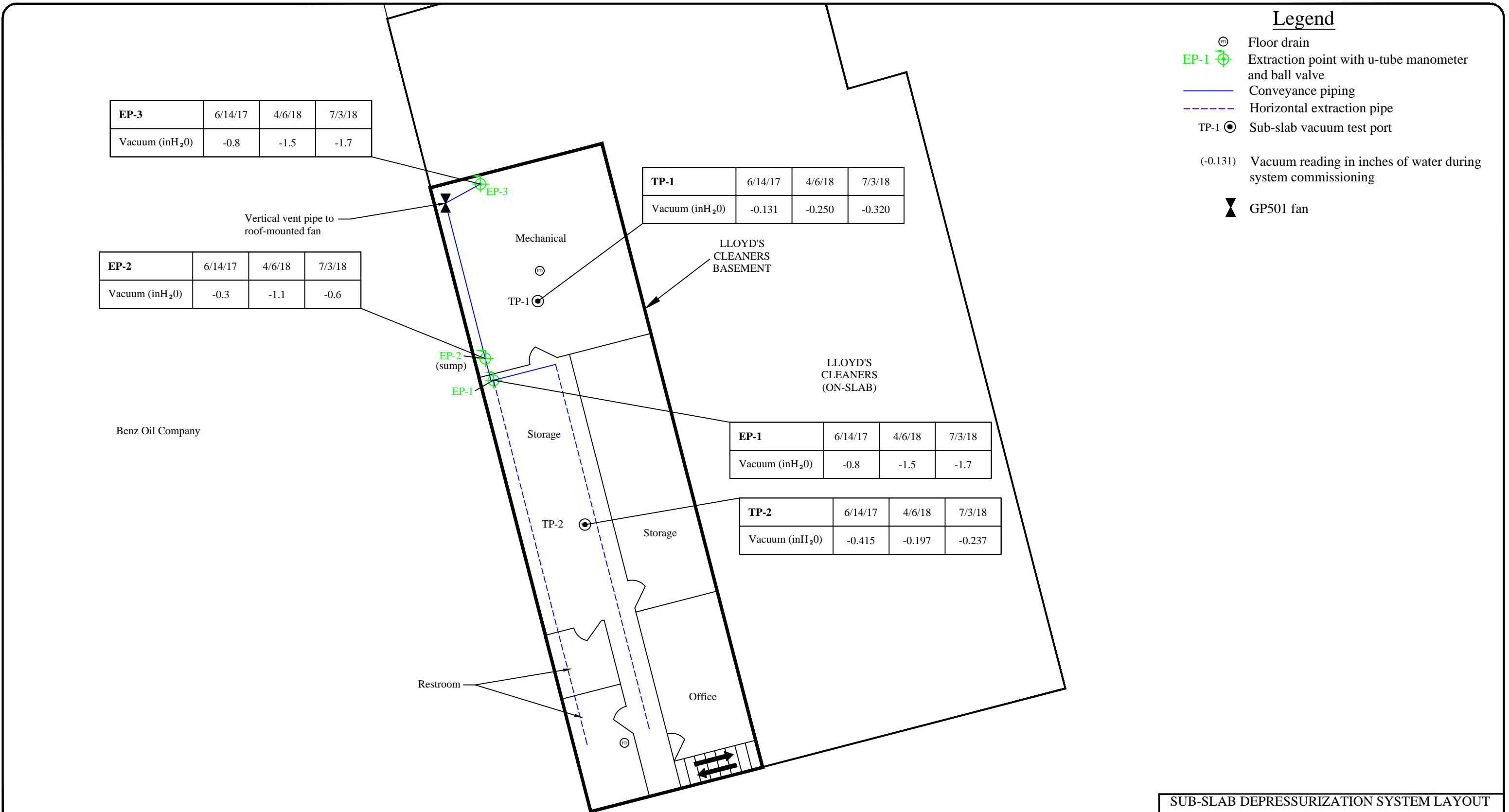
<b>EP-3</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.8	-1.5	-1.7

<b>TP-1</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.131	-0.250	-0.320

<b>EP-2</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.3	-1.1	-0.6

<b>EP-1</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.8	-1.5	-1.7

<b>TP-2</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.415	-0.197	-0.237



Benz Oil Company

Mechanical

LLOYD'S CLEANERS BASEMENT

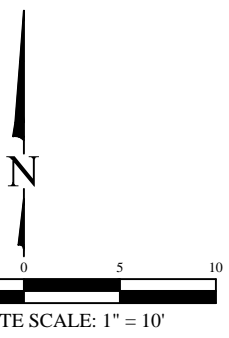
LLOYD'S CLEANERS (ON-SLAB)

Storage

Storage

Restroom

Office



### SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	5/1/17
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6229-1019








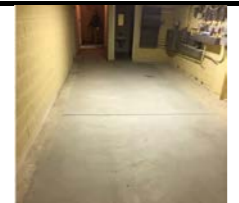


825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	D.2.b.2
Project	6229



**ATTACHMENT D.4.b**  
**Inspection and Maintenance Log**

**VAPOR MITIGATION SYSTEM INSPECTION AND MAINTENANCE LOG**  
**LLOYD'S DRY CLEANERS, MILWAUKEE, WISCONSIN**

SYSTEM COMPONENT						ANNUAL INSEPECTION	
NAME	PHOTO	FUNCTION	CHECK	NORMAL OBSERVATION	POSSIBLE REPAIR	DATE	NOTES / REPAIR COMPLETED
Fan		Fan creates a vacuum and lowers pressure below foundation.	Fan Operation	Fan is on Fan mounted outside and secure	Fan may need to be replaced every 15 to 20 years.		
		The fan also removes soil gasses from below foundation for discharge to atmosphere.	Fan Location	Fan motor is quiet (loud motor may indicate a problem)	Replacement fan to have similar specifications as original with respect to flow and vacuum.		
			Motor Noise		<b>Fan Type = RadonAway GP501</b>		
Suction Point with Vent Pipe		Suction Point : Soil gases are collected in a pit below the foundation, and tight seal prevents soil gas from entering the building.	Suction Point Seal	Seals are air tight around pipe penetrations.	Suction point seals or vent pipe may need to be replaced if cracks or leaks appear.		
		Vent Pipe: Pipe conveys the vacuum from the fan, and collects soil gases for discharge to the atmosphere.	Vent Pipe Condition	Vent pipe is connected to fan and has not cracked.	Have professional test pressures if pipes are modified or cracks appear.		
Manometer		Measures differential pressure between vacuum side of vent pipe and indoor space.	Liquid Level in Manometer	Liquid level on each side of the u-tube is uneven. Normal range is 0.3 to 1.7 inches of water.	A change in liquid level indicates a change in the vacuum below the foundation. This could be caused by fan failure, vent pipe blockage, shallow water below foundation, or other conditions.		
		This measurement confirms the fan is creating a vacuum.			Troubleshoot or hire professional to identify the cause and repair if needed.		
Audible Alarm		Signals a loss of vacuum in the system piping	Power to alarm unit	Alarm unit is plugged in and green indicator light is on The alarm is silent	Contact a professional if the alarm sounds to troubleshoot the cause.		
			Tubing from the alarm to extraction point pipe	Tubing from the alarm unit connects to the extraction point pipe	Push tubing back through the small hole in the pipe		
Outdoor Vent Pipe		Pipe carries soil gas outside and vents it to the atmosphere.	Vent Pipe Condition	Vent pipe remains connected to fan. End of pipe free from obstructions.	Vent pipe may require replacement, or cleaning to remove ice or debris.		
			Vent Pipe Location	The exhaust is more than 15 feet from windows and air intakes.	Have professional test pressures if pipes are modified or cracks appear.		
Foundation Floor		Foundation is a barrier that minimizes soil gas entry into building.	Foundation Condition	No penetrating cracks or holes in foundation.	Seal cracks or other penetrations as you would to prevent water from entering.		
			Foundation Footprint	No alterations or additions to building foundation.	If building floor plan has changed, contact a professional contractor or WDNR to evaluate if modifications to the mitigation system are necessary.		
Sump and Sump Pump		Collects water from the foundation to ensure unsaturated sub-slab conditions and application of vacuum.	Sealed sump cover and pipe penetrations	Cover and pipe openings are air-tight	Tighten seals and clamps; replace the cover if damaged.		
			Proper function of sump pump	Sump pump operates automatically as water accumulates in the sump. Pump operation can be tested by adding water through the capped opening.	Make sure the pump is plugged in and the float is free to move. Replace the pump in the event of failure.		
Sub-Slab Test Port		This is a sample port to measure vacuum or collect soil gas sample(s) if needed.	Pin Seal/Cap	Pin is sealed and capped when not in use.	Repair or replace the seal and cover as needed.		
			Pin Condition	A manometer can be connected to the vapor pin to check sub-slab vacuum (not required). Vacuum should be less than -0.004 in H <sub>2</sub> O.	Permanently seal hole if vapor pin is ever removed.		

**SUBMIT AS UNBOUND PACKAGE IN THE ORDER SHOWN**

**Notice:** Pursuant to ch. 292, Wis. Stats., and chs. NR 726 and 746, Wis. Adm. Code, this form is required to be completed for case closure requests. The closure of a case means that the Department of Natural Resources (DNR) has determined that no further response is required at that time based on the information that has been submitted to the DNR. All sections of this form must be completed unless otherwise directed by the Department. DNR will consider your request administratively complete when the form and all sections are completed, all attachments are included, and the applicable fees required under ch. NR 749, Wis. Adm. Code, are included, and sent to the proper destinations. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.). Incomplete forms will be considered "administratively incomplete" and processing of the request will stop until required information is provided.

**Site Information**

BRRTS No. 02-41-556811	VPLE No.		
Parcel ID No. 20-70-833000			
FID No. 241417330	WTM Coordinates		
	X 687027	Y 294558	
BRRTS Activity (Site) Name Lloyd's Cleaners	WTM Coordinates Represent: <input type="checkbox"/> Source Area <input checked="" type="checkbox"/> Parcel Center		
Site Address 4837 North Teutonia Avenue Acres Ready For Use	City Milwaukee	State WI	ZIP Code 53209
	0.5		

Responsible Party (RP) Name Thomas Anderson			
Company Name Lloyds Cleaners			
Mailing Address 12340 NE Shoreland Drive	City Mequon	State WI	ZIP Code 53092
Phone Number (414) 405-4399	Email		

Check here if the RP is the owner of the source property.

Environmental Consultant Name Wayne Fassbender			
Consulting Firm EnviroForensics, LLC			
Mailing Address N16 W23390 Stone Ridge Drive	City Waukesha	State WI	ZIP Code 53188
Phone Number (414) 982-3988	Email wfassbender@enviroforensics.com		

**Fees and Mailing of Closure Request**

- Send a copy of page one** of this form and the applicable ch. NR 749, Wis. Adm. Code, fee(s) to the DNR Regional EPA (Environmental Program Associate) at <http://dnr.wi.gov/topic/Brownfields/Contact.html#tabx3>. Check all fees that apply:

<input type="checkbox"/> \$1,050 Closure Fee	<input type="checkbox"/> \$300 Database Fee for Soil
<input type="checkbox"/> \$350 Database Fee for Groundwater or Monitoring Wells (Not Abandoned)	Total Amount of Payment \$ _____
	<input checked="" type="checkbox"/> Resubmittal, Fees Previously Paid
- Send one paper copy and one e-copy on compact disk of the entire closure package** to the Regional Project Manager assigned to your site. Submit as *unbound, separate documents* in the order and with the titles prescribed by this form. For electronic document submittal requirements, see <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>.



**Site Summary**

*If any portion of the Site Summary Section is not relevant to the case closure request, you must fully explain the reasons why in the relevant section of the form. All information submitted shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected.*

**1. General Site Information and Site History**

- A. **Site Location:** Describe the physical location of the site, both generally and specific to its immediate surroundings.  
The Site encompasses 0.43 acres and is improved with a one story, 7,662 square foot commercial building with a partial basement and asphalt/concrete parking and driveway areas. The Site is occupied by a drop-off facility for clothes dry cleaned elsewhere and has an attached coin-operated laundromat. There are no surface water features or private wells on the Site. The Site is bound by commercial property to the north; N. Teutonia Avenue to the east; a commercial property (gasoline service station) to the south; and an industrial property (Benz Oil) to the west. The surrounding area consists of a mix of residential and commercial properties.
- B. **Prior and current site usage:** Specifically describe the current and historic occupancy and types of use.  
The Site was operated by others as an active dry cleaning facility from the early 1960's until 1981, when current owner Tom Anderson bought the property now known as Lloyd's Cleaners. Tetrachloroethene (PCE) was historically used as a dry cleaning solvent at this property until 2011, when Mr. Anderson discontinued active dry cleaning. According to Mr. Anderson, during active operations there was a 55-gallon drum of PCE in the basement area that was accessed periodically to top off product within the dry cleaning machine. The dry cleaning machine was located on the first floor in the southwest part of the building (see Figure B.1.b.2). The Site is currently used as a drop-off location for clothes dry cleaned elsewhere.
- C. **Current zoning** (e.g., industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G).  
Site is zoned commercial based on the Milwaukee zoning map and the property record.
- D. **Describe how and when site contamination was discovered.**  
A release of PCE to the subsurface was identified during due diligence activities performed by Sigma on December 10, 2010.
- E. **Describe the type(s) and source(s) or suspected source(s) of contamination.**  
The contaminants of concern at the Site are the dry cleaning solvent PCE and its degradation products. PCE was the main dry cleaning solvent used in the cleaning process until its use was discontinued in 2011. PCE was detected in subsurface soil, indicating a release of PCE at the Site. The suspected sources of contamination are leaks from the sanitary and storm sewer laterals (which were replaced during remediation), releases to the basement floor from the PCE above-ground storage tank formerly located in the basement, and minor surface spills related to historic dumpster use.
- F. **Other relevant site description information** (or enter Not Applicable).  
Not applicable.
- G. **List BRRTS activity/site name and number for BRRTS activities at this source property, including closed cases.**  
02-41-556811 LLOYDS CLEANERS
- H. **List BRRTS activity/site name(s) and number(s) for all properties immediately adjacent to (abutting) this source property.**  
03-41-003731 AKAL QUIK MART  
03-41-001065 BENZ OIL  
02-41-206849 BENZ OIL  
03-41-247265 BENZ OIL  
03-41-004481 LAKESIDE OIL CO INC

**2. General Site Conditions**

- A. **Soil/Geology**
- i. **Describe soil type(s) and relevant physical properties, thickness of soil column across the site, vertical and lateral variations in soil types.**  
Site is underlain by relatively uniform, stiff, moist clay. The clay is brown in color to a depth of approximately 13 feet below ground surface (bgs) where the color changes to gray. The clay continues to at least 28 feet bgs, which represents the maximum boring depth completed. Three (3) very thin (i.e., approximately one-inch) sand and gravel seams were logged at depths of 6.5, 17.5 and 19.0 feet deep; however, the coarser grained layers are discontinuous across the site.
  - ii. **Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site.**  
No unlicensed fill or waste deposits were identified. Source area soil within the basement and to the east of the site along the water, sanitary, and storm laterals have been removed. The exterior excavation extended to depth of 5 to 13 feet deep and was backfilled with compactable fill. A portion of the basement was excavated to a depth of about one foot below grade and was backfilled with pea gravel to support sub-slab venting.
  - iii. **Describe the depth to bedrock, bedrock type, competency and whether or not it was encountered during the investigation.**  
According to the Preliminary bedrock geologic map of Milwaukee County, Wisconsin (Evans, 2004), bedrock beneath

the site is the Silurian Racine Formation, a medium to coarse-grained dolomite. The estimated depth to bedrock is 50 to 100 feet. Bedrock was not encountered in the investigation borings.

- iv. Describe the nature and locations of current surface cover(s) across the site (e.g., natural vegetation, landscaped areas, gravel, hard surfaces, and buildings).

The site is entirely covered by the building and asphalt, with the exception of a narrow strip of grass between the east edge of the parking lot and North Teutonia Ave.

#### B. Groundwater

- i. Discuss depth to groundwater and piezometric elevations. Describe and explain depth variations, including high and low water table elevation and whether free product affects measurement of water table elevation. Describe the stratigraphic unit(s) where water table was found or which were measured for piezometric levels.

Saturated conditions were not observed during installation of the groundwater monitoring well nests. However, all wells/piezometers eventually produced water between one (1) week and one (1) year following installation. A consistent water table elevation was not identified at the Site. The water table varied between 5 and 13 feet below ground surface as measured in monitoring wells. The piezometric surface was encountered at 12 to 23 feet below ground surface depending on location. Free product was not observed in any of the monitoring wells.

Groundwater elevations appeared higher near the southern (original) portion of the building. This may be due to roof drainage entering leaky underground storm sewer laterals along the eastern side of the building. These laterals were not inspected for leakage during camera inspections of the main storm lateral and sanitary sewer lateral. It is likely that storm water drainage may be leaking through these laterals and contributing to the higher water levels nearer to the building. Site soil is clay of low permeability and groundwater recharge is from seepage. Leakage from these laterals would likely cause temporary groundwater mounding that would seep downward over time at various seepage rates depending on location. This may explain why water levels vary widely across the site and it has been impossible to identify a consistent hydraulic gradient or groundwater flow direction. Clay soil was observed to be oxidized (brown in color) within the top 10-13 feet, with reduced clays (gray in color) below that. The point of color change is the anticipated horizon of the stable water table. Based on our review of site data from the adjacent Quik Mart to the south, the direction of groundwater flow is to the northeast.

- ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.  
Groundwater flow directions were not established due to inconsistent groundwater elevations.
- iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.  
Due to the fine grained soils present at the site and slow recharged of monitoring wells during groundwater sampling, hydraulic conductivity was not obtained.
- iv. Identify and describe locations/distance of potable and/or municipal wells within 1200 feet of the site. Include general summary of well construction (geology, depth of casing, depth of screened or open interval).  
No potable or municipal wells are within 1200 feet of the site.

### 3. Site Investigation Summary

#### A. General

- i. Provide a brief summary of the site investigation history. Reference previous submittals by name and date. Describe site investigation activities undertaken since the last submittal for this project and attach the appropriate documentation in Attachment C, if not previously provided.

A release of PCE to the subsurface was identified during a Phase II Environmental Site Assessment (ESA) performed by Sigma on December 10, 2010. Sigma collected one (1) soil sample (GP-1) within the basement, and one sample from each of four (4) borings (GP-2 through GP-5) outside the building. One (1) grab-groundwater sample was collected from each of three (3) borings (GP-2 through GP-4). The results of the Phase II ESA were reported to WDNR by EnviroForensics on the Notification For Hazardous Substance Discharge (Form 4400-255) as required by Section 292.11 of Wisconsin Statutes.

Investigations to determine the extent and magnitude of subsurface impacts were performed by EnviroForensics starting July 2011 through present. The results of investigations activities performed during 2011 through 2013 were reported in the Further Site Investigation Report dated July 22, 2013. A summary of the activities is listed below.

#### July 2011

- One (1) soil sample was collected from each of five (5) exterior soil borings (DP-6 through DP-10).
- Grab-groundwater samples were collected from two (2) exterior borings (DP-9 and DP-10)
- One (1) soil sample and one (1) groundwater sample were collected from one (1) basement hand auger boring (HA-1).

#### February/March 2013

- A total of 11 soil samples were collected from five (5) exterior soil borings (DP-11 through DP-15).

- A total of 12 soil samples were collected from four (4) basement hand auger borings (HB-1 through HB-4).
- One (1) grab-groundwater sample was collected from each of two (2) basement hand auger borings (HB-1 and HB-3), and two (2) water samples were collected from boring HB-4.
- Three (3) water table monitoring wells (MW-1 through MW-3) and three piezometers (PZ-1 through PZ-3) were installed.
- Soil gas samples were collected from SG-1 and SG-2.
- Three (3) sub-slab vapor samples were collected from the slab-on-grade laundromat part of the building.

May 2013

- Groundwater monitoring

A letter proposing interim remedial actions was submitted to WDNR and approved on September 11, 2013. The interim remedial action, which consisted of soil excavation and replacement of sanitary sewer, storm sewer, and water service laterals, was performed during April and May, 2014. A new perimeter drain system was installed along the south and west walls of the basement, the sump was abandoned, and a new sump was installed and connected to the perimeter drain system. An Interim Remedial Action Report was submitted on August 28, 2014.

The site investigation continued after the interim action. The results of site investigation activities performed during 2014 and 2015 were reported in the Site Investigation Report dated August 7, 2015. A summary of the activities is listed below.

July 2014

- Groundwater monitoring
- Six (6) soil samples were collected from five (5) exterior soil borings (DP-16 through DP-19).
- Two (2) soil gas samples were collected at SG-3 and SG-4.
- Five (5) sub-slab vapor samples were collected from the beneath the slab-on-grade and basement in the dry cleaning part of the building.

October 2014

- Groundwater monitoring

January 2015

- Groundwater monitoring

March 2015

- Sub-slab vapor samples SSV-9 and SSV-10 were collected at the adjacent Benz Oil property.

April 2015

- Groundwater monitoring

During November 2016, soil samples were collected from beneath the basement floor for pre-remedial characterization purposes. Seven (7) soil samples were collected from seven (7) basement hand auger borings (HB-5 through HB-11).

Additional basement excavation activities were performed in February 2017. During that time, one foot of soil was excavated from underneath part of the basement slab, a new concrete floor was replaced, two floor drains were cleaned, and two (2) four inch PVC piping were installed for use in a sub-slab depressurization system (SSDS). These additional remedial actions are provided in report format and included in Attachment C.

- ii. Identify whether contamination extends beyond the source property boundary, and if so describe the media affected (e.g., soil, groundwater, vapors and/or sediment, etc.), and the vertical and horizontal extent of impacts.

As shown on Figure B.2.b, soil impacts in the unsaturated zone (i.e. above 6 feet bgs) are limited to the Site with the exception of location DP-17 (3 feet bgs) located on the adjacent property to the south (Akal Quik Mart - 4811 N. Teutonia Ave) and along the sidewalls of the excavation in city of Milwaukee right-of-way (i.e., beneath the sidewalk and terrace along N. Teutonia Ave). The shallow DP-17 soil sample collected at 4811 N. Teutonia Ave contained 650 µg/kg PCE, which is well below the direct-contact residual contaminant level (RCL) for a commercial property. A deeper sample at the same location did not exhibit impacts.

Several post-remediation soil samples collected from the right-of-way contained volatile organic compounds (VOCs) at concentrations below industrial direct-contact RCLs but above the soil to groundwater RCL, including FS-1-6, FS-9-11, WS-1-4, WS-2-4, WS-8-8, and WS-9-8 as shown on Figure 2.b.a. The impacts are associated with leaky sewer laterals that were replaced, and meet the main lines in the terrace. Contamination likely does not extend beyond the N. Teutonia Ave curb. Residual contamination is present below the new pipes; however, the native clay limits vertical migration. Soil-gas samples collected north and south along the sanitary main did not contain VOC vapors above risk levels.

- iii. Identify any structural impediments to the completion of site investigation and/or remediation and whether these impediments are on the source property or off the source property. Identify the type and location of any structural impediment (e.g., structure) that also serves as the performance standard barrier for protection of the direct contact or the groundwater pathway.

The outside area of excavation could not extend beneath the site building footing on the east side, which could compromise the structure. The extent of impacts outside the partial basement to the west could not be investigated because there are multiple buried natural gas and electrical utilities in this area, which is also a narrow and constricted space. Conventional drilling is impossible in this area and the use of hand-augers creates an unacceptable risk of contacting electrical supply lines. The slab-on-grade portion of the dry cleaner building, and the asphalt parking lot are considered performance standard barriers for protection of the groundwater pathway.

#### B. Soil

- i. Describe degree and extent of soil contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways.

Soil samples were collected from the basement of the site building and exterior locations to document soil contamination, to characterize waste in advance of remediation, or document residual contaminant concentrations at the boundaries of excavation areas. Sample locations are depicted on Figures B.2.a, B.2.a.1, B.2.a.2, and B.2.a.3.

Soil contamination was detected below the basement slab and outside the building, primarily along the sanitary and storm sewer laterals. It is likely that PCE contamination beneath the basement slab is due to the occasional spillage of PCE during product transfers from aboveground vessels located in the basement. The spilled PCE may have entered the foundation through the joint between the concrete floor slab and the concrete block wall, or possibly through leaky floor drains. The locations of the laterals outside of the building foundation were traced and found to be coincident with the highest concentrations of soil impacts detected. Based on site data collected to date, the leaky sewer laterals were determined to be the likely sources of exterior subsurface solvent impacts. PCE concentrations as high as 217 milligrams per kilogram (mg/kg) were detected along the sanitary sewer lateral in sample GP-5 (8-10 feet bgs). In the basement near the location of the former solvent AST, the PCE concentration in soil was 18 mg/kg (sample GP-1).

The lateral extent of soil impacts is mainly limited to fill beneath the building foundation and the sanitary and storm lateral utility trenches due to the surrounding native clay soil. Vertical migration in soil is limited to approximately 14-15 feet in outside areas and to just below the fill (10 feet) in basement areas due to the low permeability of native clay soil.

The vast majority of the impacted soil on the exterior of the building was excavated during interim remedial actions and transported to permitted disposal facilities. Likewise, impacted soil from beneath the basement slab was excavated and transported off-site for disposal during installation of the vapor mitigation system.

- ii. Describe the concentration(s) and types of soil contaminants found in the upper four feet of the soil column.

The highest concentrations of contaminants in soil are greater than four feet below ground surface. Field screening performed with a PID at the investigative boring locations generally did not indicate shallow impacts. Therefore, most of the exterior soil samples were collected from depths greater than five feet.

The laboratory detection limit for PCE is greater than the soil to groundwater RCL; therefore any detection results in an exceedence. The following soil to groundwater RCL exceedences were identified:

- One (1) soil sample collected at DP-14 from a depth of between 2-4 feet contained PCE at a concentration of 3,700  $\mu\text{g}/\text{kg}$ ;
- One (1) sample at DP-17 from a depth of 3 feet contained PCE at a concentration of 650  $\mu\text{g}/\text{kg}$ ; and
- Several samples collected from 3 feet bgs at pre-excavation boring locations PEB-1 through PEB-17 contained PCE at elevated concentrations up to 47,000  $\mu\text{g}/\text{L}$ . The locations and sample results are depicted on Figure B.2.a.3. However, all soil from the upper four feet of the soil column at the PEB locations was subsequently excavated and transported off-site for disposal.

- iii. Identify the ch. NR 720, Wis. Adm. Code, method used to establish the soil cleanup standards for this site. This includes a soil performance standard established in accordance with s. NR 720.08, a Residual Contaminant Level (RCL) established in accordance with s. NR 720.10 that is protective of groundwater quality, or an RCL established in accordance with s. NR 720.12 that is protective of human health from direct contact with contaminated soil. Identify the land use classification that was used to establish cleanup standards. Provide a copy of the supporting calculations/information in Attachment C.

The RCLs used at this site were calculated according to the procedures described in publication RR-890 using default input parameters.

#### C. Groundwater

- i. Describe degree and extent of groundwater contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways. Specifically address any potential or existing impacts to water supply wells or interception with building foundation drain systems.

The extent of groundwater contamination as defined by samples collected from the monitoring wells/piezometers and basement borings/collection trench is depicted on Figure B.3.b.

Of the five (5) grab groundwater samples collected, only GP-3, located near the southeast corner of the Site building, contained VOCs at concentrations above enforcement standards (ESs). GP-3 contained PCE [58 micrograms per liter ( $\mu\text{g/L}$ )], TCE (trichloroethene -  $22 \mu\text{g/L}$ ), and vinyl chloride ( $11.1 \mu\text{g/L}$ ). Monitoring well nest MW-1/PZ-1 was installed near the GP-3 location to confirm and monitor groundwater impacts. PCE, TCE and cis-1,2-DCE were detected in groundwater samples collected from permanent monitoring wells and piezometers at the Site. However, the concentrations of these compounds were below ESs in all samples collected from the monitoring wells and piezometers. Because the results of the grab groundwater sample at GP-3 was not duplicated in MW-1, the grab sample result is not used for delineating impacts.

Water samples collected from basement borings HB-1, HB-3, and HB-4 contained PCE, TCE, cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride at concentrations exceeding their respective ESs. The highest PCE concentrations of  $1,000 \mu\text{g/L}$  and  $970 \mu\text{g/L}$  were detected in samples collected from boring HB-4, located along the west wall of the basement. The basement water samples are representative only of precipitation that accumulates in fill beneath the slab.

The initial basement water sample result at HA-1-V (PCE =  $5,780,000 \mu\text{g/L}$ ) could not be duplicated in subsequent samples. The PCE concentration in a sample collected from the same location two years later was only  $38 \mu\text{g/L}$ . The depth of the basement is nine (9) feet. This is just above the water table. PCE entering the subsurface through wall joints and leaky floor drains in the southwest corner of the basement would migrate within the building foundation. During periods of heavy rain, damaged foundation drain tiles caused water to well up below the basement slab and it would contact the contaminated clay soil and flood the foundation fill. The backfill and one foot of native clay soil in that area was removed during installation of the perimeter drain system.

- ii. Describe the presence of free product at the site, including the thickness, depth, and locations. Identify the depth and location of the smear zone.

Free product was not observed.

#### D. Vapor

- i. Describe how the vapor migration pathway was assessed, including locations where vapor, soil gas, or indoor air samples were collected. If the vapor pathway was not assessed, explain reasons why.

Sub-slab vapor and soil gas samples were collected to assess the vapor intrusion pathway. Indoor air samples were not collected from inside of the dry cleaner building because even though the building is a drop-off and pick up center, the clothes are still cleaned at an off-site facility that uses PCE, and off-gassing of residual PCE from the cleaned clothes could have skewed the results of indoor air samples.

The sub-slab vapor and soil gas samples were collected using 1-liter sample vacuum canisters according to the procedures presented in WDNR guidance document PUB-RR-800. All appropriate quality control procedures, including leak detection and vacuum testing, were performed prior to sample collection.

Soil gas samples SG-1 and SG-2 were collected near the natural gas and sanitary sewer laterals, respectively. Sample SG-1 did not contain the contaminants of concern. Sample SG-2, which was collected along the eastern Site boundary as shown on Figure B.4.a, contained several compounds at concentrations above detection limits, including PCE ( $1,640 \mu\text{g/m}^3$ ) and TCE ( $17.9 \mu\text{g/m}^3$ ). The concentrations of all compounds detected in soil gas samples were below the VRSLs for small commercial properties. The PCE concentration in SG-2 exceeded the residential VRSL of  $1,400 \mu\text{g/m}^3$ ; however, residential screening levels do not apply to the site unless land use changes to residential.

Two samples (SG-3 and SG-4) were collected along the sanitary sewer main in the terrace of N. Teutonia Avenue at a depth of 10-foot bgs. A relatively low concentration of PCE ( $161 \mu\text{g/m}^3$ ) was detected in the SG-3 sample, and VOCs were not detected in the SG-4 sample.

Sub-slab vapor samples were collected from the basement and slab-on-grade portions of the site building as shown in Figure B.4.a. The samples collected from the slab-on-grade portion of the Site building (SSV-1 through SSV-6) each contained PCE at concentrations ranging from  $4.88$  to  $1,790 \mu\text{g/m}^3$ . These concentrations are less than the small commercial VRSL of  $6,000 \mu\text{g/m}^3$ . The residential VRSL for PCE was exceeded in samples collected from SSV-5 and SSV-6; however, residential screening levels do not apply to the site unless land use changes to residential. Lesser concentrations of TCE were also detected in some of the slab-on-grade samples. Benzene was detected at a concentration just above the reporting limit in sample SSV-6, which was collected at the north end of the building. The source of benzene in the sample is unknown.

Sub-slab vapor samples SSV-7, SSV-8, SSV-11, and SSV-12 were collected from the basement. As listed on Table A.4 and illustrated on Figure B.4.a, each sample contained PCE, TCE, and/or vinyl chloride at concentrations exceeding the

VRSLs for a small commercial building. Some concentrations also exceeded VRSLs for residential buildings; however, residential screening levels do not apply to the site unless land use changes to residential.

The sub-slab vapor samples collected from the neighboring Benz Oil building (SSV-9 and SSV-10) contained only PCE. The concentrations were 57.0 and 84.8  $\mu\text{g}/\text{m}^3$ , respectively, which are well below the VRSL.

The Quik Mart building was not evaluated for vapor intrusion because of site geology, relative concentrations in soil, and the distance from the Lloyds source areas to the Quik Mart building. The Site geology consists of low permeability clay which does not readily transmit vapors. This is evidenced by concentrations of vapor detected beneath the slab-on-grade portion of the Lloyds building that are below vapor risk screening levels, yet are overlying or in close proximity to residual soil impacts that contain PCE concentrations of up to 138,000 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ). The concentration discovered at the Quik Mart is low at 650  $\mu\text{g}/\text{kg}$ , is located between 25-30 feet from the Quik Mart building, and not anticipated to produce vapors that would pose a vapor risk to that building based on our vapor intrusion screening results at the Lloyds property. The area of potential future risk of vapor intrusion on the Quik Mart property, which is outlined in Figure B.4.a., is based on the 650  $\mu\text{g}/\text{kg}$  PCE result in soil detected at boring DP-17. The risk would apply only if a new building is constructed over that area. Quik Mart property soil borings DP-16 and DP-17 are shown on Figure B.4.a. for reference.

- ii. Identify the applicable DNR action levels and the land use classification used to establish them. Describe where the DNR action levels were reached or exceeded (e.g., sub slab, indoor air or both).

The soil gas and sub-slab vapor analytical results were compared to residential and small commercial vapor risk screening levels (VRSLs), as appropriate for the use of the structure. The levels are based on US EPA's regional screening levels with an attenuation factor of 0.03 for sub-slab vapor samples. A 0.1 adjustment for a 1 x 10<sup>-5</sup> lifetime cancer risk for carcinogens is also applied based on WDNR guidance. The applicable screening levels for the site are small commercial based on current land use. A comparison to residential screening levels is included in Table A.4 for reference only. Sample locations and concentrations are depicted on Figure B.4.a.

Residential VRSL exceedences were identified at the following locations:

- soil gas sample SG-2,
- sub-slab vapor samples SSV-5 and SSV-6 in the slab on grade portion of the building, and
- sub-slab vapor samples SSV-8, SSV-11, and SSV-12 in from the basement.

Small commercial VRSL exceedences were identified at the following locations:

- sub-slab vapor samples SSV-7, SSV-8, SSV-11, and SSV-12 in the basement.

#### E. Surface Water and Sediment

- i. Identify whether surface water and/or sediment was assessed and describe the impacts found. If this pathway was not assessed, explain why.

Surface water features are not present on the site or adjacent properties.

- ii. Identify any surface water and/or sediment action levels used to assess the impacts for this pathway and how these were derived. Describe where the DNR action levels were reached or exceeded.

Neither surface water nor riparian/ lacustrine sediment are present at the site. Therefore, this pathway was not assessed.

#### 4. Remedial Actions Implemented and Residual Levels at Closure

- A. General: Provide a brief summary of the remedial action history. List previous remedial action report submittals by name and date. Identify remedial actions undertaken since the last submittal for this project and provide the appropriate documentation in Attachment C.

An interim remedial action was conducted in 2014 and consisted of soil excavation and off-site disposal, as well as installation of a perimeter drain and sump in the basement. Soil sampling was performed in advance to define the horizontal and vertical extent of the excavation area, and to characterize waste. Soil was excavated along the sanitary and storm sewer laterals from the east building wall to N. Teutonia Ave. Previous visual inspection with a sewer camera indicated several breaches along both the sanitary and storm sewer laterals; therefore, the sewer and water laterals were also replaced. Hazardous and non-hazardous waste was segregated in roll-off containers and transported to permitted disposal facilities. 62.57 tons of hazardous waste was sent to the U.S. Ecology treatment facility in Belleville, MI. 605.86 tons of non-hazardous waste was transported to Orchard Ridge landfill in Menomonee Falls, WI.

The excavation was backfilled and the asphalt was replaced. In the basement of the site building, soil was excavated along the south and west building walls, and perforated drain pipe was installed, leading to a new sump. The sump discharges water to the sanitary sewer under permit issued by the Milwaukee Metropolitan Sewerage District (MMSD). An Interim Remedial Report dated August 28, 2014 was submitted to WDNR.

Additional remedial actions were performed in the basement of the building during 2017. A summary of the actions is present in Section 4.C. The Remedial Action Report, dated July 13, 2017, is presented in Attachment C.4.

B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.

Initial excavating was performed outside the building at the location where the water, storm, and sanitary sewer laterals exited from beneath the building and in City of Milwaukee right-of-way where they connected to mains adjacent to N. Teutonia Avenue. During this initial excavation, the area of hazardous soil was removed and placed in covered roll-offs for transport and disposal at the EQ landfill located in Michigan. A 60-mil rubber liner was installed near the Site property boundary in close proximity to the sanitary sewer man-way and also at the storm sewer lateral connection to inhibit potential future migration of residual contaminants to utility mains along N. Teutonia Avenue. The storm, sanitary, and water laterals were replaced with code-compliant materials under permit and inspection by the City of Milwaukee and MMSD. Backfill consisted of medium-grained sand with some silt, clay, and trace gravel. The fines in this material allowed the backfill to be compacted tightly. 668 tons of contaminated soil was transported off-site for disposal, comprising approximately 12 pounds of VOCs. 62.57 tons of hazardous waste was sent to the U.S. Ecology treatment facility in Belleville, MI. 605.86 tons of non-hazardous waste was transported to Orchard Ridge landfill in Menomonee Falls, WI.

The basement foundation drainage was improved by installing a new drain pipe along the west wall and re-plumbing this foundation drainage to the sanitary sewer system to avoid continued discharge of contaminated foundation water to the storm sewer system. Portions of the concrete slab within the basement were saw-cut and removed and staged for disposal as special solid waste. Hazardous foundation fill material was excavated using hydrovac equipment. The contaminated basement fill was also placed in covered roll-offs for transport and disposal at the EQ landfill as hazardous waste. Sub-slab fill and a small amount of native clay was removed to a depth of 0.75 feet using hydrovac equipment. A flexible 4" perforated drainage pipe was installed within this trench. The drainage pipe was bedded in ¾" crushed dolomite, which was washed to remove fines. Weep holes were drilled in the block wall all along the base of the footing to facilitate drainage of foundation water built up within the wall. A plastic drain plate was then affixed to the wall to channel this water into the collection trench. The drainage plate was then covered with fill and new concrete was laid. The old, damaged, basement sump crock was abandoned by filling with crushed stone, and the slab repaired with concrete. A new, sealed, sump crock with pump was installed closer to the west wall.

C. Describe the *active* remedial actions taken at the source property, including: type of remedial system(s) used for each media affected; the size and location of any excavation or in-situ treatment; the effectiveness of the systems to address the contaminated media and substances; operational history of the systems; and summarize the performance of the active remedial actions. Provide any system performance documentation in Attachment A.7.

Remedial actions consisted of excavation only. No systems were installed other than an SSDS in the basement of the site building.

In addition to the interim action described in Section 4B, excavation was also conducted in the basement of the site building to facilitate installation of an SSDS. Excavating was performed in an area comprising a main storage room, two (2) bathrooms, and a hallway in the basement. The other areas of the basement, including an office, secondary storage room, and mechanical room were not targeted for remediation based on past investigation results.

The concrete slab was saw-cut around the perimeter of the excavation area, and the slab itself was broken into pieces by jackhammer. The concrete pieces were loaded onto a conveyor system that moved material up the stairs and outside to a staging area on the south side of the building. The limited fill material beneath the floor slab and native clay soil was removed by hand to a depth of approximately 12 inches below the bottom of the slab. Soil was also transported by the conveyor system to the staging area. All soil excavated from the basement was loaded into dump trucks and sent to the Waste Management Orchard Ridge Landfill in Menomonee Falls, Wisconsin. A total of 15.27 tons of excavated material was managed and disposed of as special solid waste.

The excavation area was backfilled with pea gravel. Two lengths of 4-inch diameter perforated PVC vent pipes were bedded within the pea gravel to facilitate sub-slab venting. The pipe was wrapped in filter fabric to prevent entry of soil particles. A vapor barrier (6-mil sheet plastic) was placed on top of the pea gravel. The concrete slab was replaced to an equivalent thickness as the existing slab, having an approximate thickness of 4-5-inches. In addition, a concrete barrier was poured immediately adjacent to the previously installed drain tile along the west basement wall. In that area, the concrete is now 14-inches thick and is intended to prevent groundwater in the foundation drain tile from entering into the excavation backfill.

An SSDS was installed in the basement, utilizing the two (2) horizontal vent pipes installed within the excavation backfill, one (1) vertical extraction point along the north wall of the mechanical room, and the sealed sump crock for the purpose of venting the drainage tile and block wall. The pipes are manifolded, and a single 4-inch diameter PVC pipe is routed to the roof through an unused pipe chase in the mechanical room. The pipe is connected to a RadonAway Model GP-501 fan mounted on the roof. The post-installation pressure field extension testing indicated that the system applies negative pressure across the main room and mechanical room of the basement where elevated vapor concentrations were previously detected. The SSDS layout is shown on Figure B.4.c.1, and a cross-section of the basement excavation and SSDS piping is shown on Figure B.4.c.2.

Remedial activities also included cleaning floor drains and sealing the west basement block wall. Two (2) floor drains were cleaned by plumbers using a drain auger followed by flushing with water. The post-cleaning photo-ionization detector readings collected from the floor drains demonstrated that the cleaning procedure removed the source of vapors. The west block wall of the basement was sealed to mitigate potential vapor movement from the wall to indoor air. Sealing included using mortar or expanding foam to patch holes and cracks; caulking the joint between the base of the wall and the floor slab;

and applying two (2) layers of elastomeric rubberized coating.

- D. Describe the alternatives considered during the Green and Sustainable Remediation evaluation in accordance with NR 722.09 and any practices implemented as a result of the evaluation.

The interim action excavation was done under NR 708. Sustainability of the action was not specifically considered. However, characterizing soil in advance allowed for minimizing shipment of hazardous waste.

- E. Describe the nature, degree and extent of residual contamination that will remain at the source property or on other affected properties after case closure.

Residual soil contamination above soil to groundwater RCLs is present within and adjacent to the exterior remedial excavation area as shown on Figure B.2.b. There is also an area of shallow soil impact on the south side of the building at DP-11 containing PCE and petroleum compounds. This area of residual soil impacts extends along the south wall of the site building and south to DP-17 (3-feet deep) on the Quik Mart property. The area is bound by clean soil samples collected at GP-2 to the west, DP-6 to the north, DP-15 to the east, and DP-16 to the south. There are no direct-contact exceedences remaining.

The only area of residual groundwater contamination exceeding ESs is along the basement foundation. Water that collects around the foundation is directed to a basement sump. Preventive action limits (PALs) are exceeded under the building and parking lot west of the building as shown on Figure B.3.b.

Impacted vapor exists under the basement floor slab. An SSDS was installed to mitigate vapor intrusion risk, along with wall repair and sealing.

- F. Describe the residual soil contamination within four feet of ground surface (direct contact zone) that attains or exceeds RCLs established under s. NR 720.12, Wis. Adm. Code, for protection of human health from direct contact.

The residual soil contaminant concentrations within four feet of the ground surface are below direct contact RCLs.

- G. Describe the residual soil contamination that is above the observed low water table that attains or exceeds the soil standard(s) for the groundwater pathway.

The water table elevations measured in site monitoring wells were highly variable. Residual soil impacts above the soil to groundwater RCL exist along the sidewalls and floor of the exterior excavation area as shown on Figure B.2.b. There is a second area on the south side of the building defined by DP-11 (PCE = 16,000 µg/kg at 4-6 feet bgs) and DP-17 (PCE = 650 µg/kg at 3 feet bgs) on the adjacent Quik Mart property. This area is remote from the primary contaminant source areas. It is likely that the contaminants detected at this location are from a small amount of surface spillage.

The highest residual PCE concentrations are present at sample locations DP-11 and certain locations along the floor and sidewalls of the exterior excavation as listed on Table A.3 and shown on Figure B.2.b.

- H. Describe how the residual contamination will be addressed, including but not limited to details concerning: covers, engineering controls or other barrier features; use of natural attenuation of groundwater; and vapor mitigation systems or measures.

Soil impacts appear limited in depth to the lean clay horizon at approximately 13 feet bgs indicating that the clay is acting as a barrier to vertical migration. Foundation water is being collected and discharged to the MMSD sanitary sewer system. Groundwater in outside areas has not had impacts above the ES. Concentrations of CVOC's in sump discharge water are monitored at least twice per year per MMSD requirements. Sump concentrations have decreased dramatically since implementing basement remedial measures, and it is hopeful that concentrations will remain at levels below the ES at which point discharge to the storm sewer system may be possible. In addition, future vapor intrusion assessments will be performed to determine the continued need for mitigation.

An engineered cover, consisting of the asphalt parking lot and the portion of the building used as a drop-off for dry cleaned goods, will be maintained as a performance standard barrier to protect against infiltration of storm water and subsequent "flushing" of soil impacts to the water table. The area of contamination near DP-11 is capped with asphalt that will prevent infiltration of precipitation and associated further spread of impacts. Maintenance of the cover will be required. The Quik Mart property also has an existing continuing obligation to maintain their asphalt as an engineered cover.

The sub-slab depressurization system will be operated and maintained to mitigate vapor intrusion risk.

- I. If using natural attenuation as a groundwater remedy, describe how the data collected supports the conclusion that natural attenuation is effective in reducing contaminant mass and concentration (e.g., stable or receding groundwater plume).

Natural attenuation is not being used to remedy groundwater impacts along the west basement foundation. Remaining groundwater impacts are below enforcement standards.

- J. Identify how all exposure pathways (soil, groundwater, vapor) were removed and/or adequately addressed by immediate, interim and/or remedial action(s).

The contaminant soil sources were excavated, and there is no remaining direct-contact risk. Groundwater is not used as a resource at the site or surrounding area, and the drainage collection system includes a sealed sump crock. The vapor intrusion pathway was addressed by repairing and sealing the west basement block wall and installing an SSDS. The



pressure field extension measurements demonstrate that the SSDS induces a negative pressure under the entire affected area. Sub-slab vapor beneath the slab-on-grade portion of the building contained PCE at concentrations above residential VRSLs. This would present an exposure risk only if the site land use changes to residential. Therefore, vapor mitigation was not required in this portion of the site building.

- K. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain. Active remediation system hardware is not present at the site, and no hardware will be left in place after closure. The SSDS installed in the basement of the site building will remain and continue to operate after case closure.
- L. Identify the need for a ch. NR 140, Wis. Adm. Code, groundwater Preventive Action Limit (PAL) or Enforcement Standard (ES) exemption, and identify the affected monitoring points and applicable substances. PCE, TCE and cis-1,2-DCE were detected in groundwater samples collected from monitoring wells and piezometers at the Site. None of these compounds were detected at concentrations above ESs at any time during the investigation. Concentrations of CVOCs in groundwater along the basement foundation currently exceed ESs; however, the results of recent sump discharge samples indicate rapidly decreasing concentrations.

Monitoring well MW-1, located near the southeast corner of the building, consistently exhibited PCE and TCE at concentrations above the PALs but below the ESs of 5 µg/L. Likewise, nested piezometer PZ-1 exhibited intermittent detections of PCE and TCE. Samples collected from monitoring well MW-2 yielded PCE only, with concentrations ranging from 1 to 1.2 µg/L. There were no CVOCs detected in samples collected from monitoring wells PZ-1, MW-3, or PZ-3. We request a PAL exemption for monitoring wells MW-1 and MW-2, which contained PCE at concentrations of 2.18 µg/L and 1.04 µg/L, respectively, as of the final sampling event.

- M. If a DNR action level for vapor intrusion was exceeded (for indoor air, sub slab, or both) describe where it was exceeded and how the pathway was addressed. Sub-slab vapor samples collected from the basement (SSV-7, -8, -11, and -12) contained PCE, TCE, and/or vinyl chloride at concentrations above screening levels for a small commercial building. A sub-slab depressurization system was installed, and will be operated and maintained to mitigate the vapor intrusion risk. Sub-slab vapor beneath the slab-on-grade portion of the building (SSV-5 and SSV-6) contained PCE at concentrations above residential VRSLs. This would present an exposure risk only if the site land use changes to residential. Therefore, vapor mitigation was not required in this portion of the site building.
- N. Describe the surface water and/or sediment contaminant concentrations and areas after remediation. If a DNR action level was exceeded, describe where it was exceeded and how the pathway was addressed. Neither surface water nor riparian/ lacustrine sediment are present at the site.

**5. Continuing Obligations: Situations where sites, including all affected properties and rights-of-way (ROWs), are included on the DNR's GIS Registry. In certain situations, maintenance plans are also required, and must be included in Attachment D.**

Directions: For each of the 3 property types below, check all situations that apply to this closure request.

(NOTE: Monitoring wells to be transferred to another site are addressed in Attachment E.)

This situation applies to the following property or Right of Way (ROW):			Case Closure Situation - Continuing Obligation Inclusion on the GIS Registry is Required (ii. - xiv.)	Maintenance Plan Required	
Property Type:					
Source Property	Affected Property (Off-Source)	ROW			
i.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None of the following situations apply to this case closure request.	NA
ii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual groundwater contamination exceeds ch. NR 140 ESs.	NA
iii.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Residual soil contamination exceeds ch. NR 720 RCLs.	NA
iv.				Monitoring Wells Remain:	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Not Abandoned (filled and sealed)	NA
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Continued Monitoring (requested or required)	Yes
v.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) direct contact pathways (includes vapor barriers)	Yes
vi.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) groundwater infiltration pathway	Yes
vii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural Impediment: impedes completion of investigation or remedial action (not as a performance standard cover)	NA
viii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination meets NR 720 industrial soil RCLs, land use is classified as industrial	NA
ix.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NA	Vapor Mitigation System (VMS) required due to exceedances of vapor risk screening levels or other health based concern	Yes
x.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Dewatering System needed for VMS to work effectively	Yes
xi.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Compounds of Concern in use: full vapor assessment could not be completed	NA
xii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Commercial/industrial exposure assumptions used.	NA
xiii.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vapor: Residual volatile contamination poses future risk of vapor intrusion	NA
xiv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Site-specific situation: (e. g., fencing, methane monitoring, other) (discuss with project manager before submitting the closure request)	Site specific

**6. Underground Storage Tanks**

A. Were any tanks, piping or other associated tank system components removed as part of the investigation or remedial action?  Yes  No

B. Do any upgraded tanks meeting the requirements of ch. ATCP 93, Wis. Adm. Code, exist on the property?  Yes  No

C. If the answer to question 6.B. is yes, is the leak detection system currently being monitored?  Yes  No

## General Instructions

All information shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected. For each attachment (A-G), provide a Table of Contents page, listing all 'applicable' and 'not applicable' items by Closure Form titles (e.g., A.1. Groundwater Analytical Table, A.2. Soil Analytical Results Table, etc.). If any item is 'not applicable' to the case closure request, you must fully explain the reasons why.

## Data Tables (Attachment A)

### Directions for Data Tables:

- Use **bold** and italics font for information of importance on tables and figures. Use **bold** font for ch. NR 140, Wis. Adm. Code ES attainments or exceedances, and *italicized font* for ch. NR 140, Wis. Adm. Code, PAL attainments or exceedances.
- Use **bold** font to identify individual ch. NR 720 Wis. Adm. Code RCL exceedances. Tables should also include the corresponding groundwater pathway and direct contact pathway RCLs for comparison purposes. Cumulative hazard index and cumulative cancer risk exceedances should also be tabulated and identified on Tables A.2 and A.3.
- Do not use shading or highlighting on the analytical tables.
- Include on Data Tables the level of detection for results which are below the detection level (i.e., do not just list as no detect (ND)).
- Include the units on data tables.
- Summaries of all data must include information collected by previous consultants.
- Do not submit lab data sheets unless these have not been submitted in a previous report. Tabulate all data required in s. NR 716.15 (3)(c), Wis. Adm. Code, in the format required in s. NR 716.15(4)(e), Wis. Adm. Code.
- Include in Attachment A all of the following tables, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: A.1. Groundwater Analytical Table; A.2. Soil Analytical Results Table, etc.).
- For required documents, each table (e.g., A.1., A.2., etc.) should be a separate Portable Document Format (PDF).

### A. Data Tables

- Groundwater Analytical Table(s):** Table(s) showing the analytical results and collection dates for all groundwater sampling points (e.g., monitoring wells, temporary wells, sumps, extraction wells, potable wells) for which samples have been collected.
- Soil Analytical Results Table(s):** Table(s) showing **all** soil analytical results and collection dates. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated).
- Residual Soil Contamination Table(s):** Table(s) showing the analytical results of only the residual soil contamination at the time of closure. This table shall be a subset of table A.2 and should include only the soil sample locations that exceed an RCL. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated). Table A.3 is optional only if a total of fewer than 15 soil samples have been collected at the site.
- Vapor Analytical Table(s):** Table(s) showing type(s) of samples, sample collection methods, analytical method, sample results, date of sample collection, time period for sample collection, method and results of leak detection, and date, method and results of communication testing.
- Other Media of Concern (e.g., sediment or surface water):** Table(s) showing type(s) of sample, sample collection method, analytical method, sample results, date of sample collection, and time period for sample collection.
- Water Level Elevations:** Table(s) showing all water level elevation measurements and dates from all monitoring wells. If present, free product should be noted on the table.
- Other:** This attachment should include: 1) any available tabulated natural attenuation data; 2) data tables pertaining to engineered remedial systems that document operational history, demonstrate system performance and effectiveness, and display emissions data; and (3) any other data tables relevant to case closure not otherwise noted above. If this section is not applicable, please explain the reasons why.

## Maps, Figures and Photos (Attachment B)

### Directions for Maps, Figures and Photos:

- Provide on paper no larger than 11 x 17 inches, unless otherwise directed by the Department. Maps and figures may be submitted in a larger electronic size than 11 x 17 inches, in a PDF readable by the Adobe Acrobat Reader. However, those larger-size documents must be legible when printed.
- Prepare visual aids, including maps, plans, drawings, fence diagrams, tables and photographs according to the applicable portions of ss. NR 716.15(4), 726.09(2) and 726.11(3), (5) and (6), Wis. Adm. Code.
- Include all sample locations.
- Contour lines should be clearly labeled and defined.
- Include in Attachment B all of the following maps and figures, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: B.1. Location Map; B.2. Detailed Site Map, etc).
- For the electronic copies that are required, each map (e.g., B.1.a., B.2.a, etc.,) should be a separate PDF.
- Maps, figures and photos should be dated to reflect the most recent revision.

#### B.1. Location Maps

- Location Map:** A map outlining all properties within the contaminated site boundaries on a United States Geological Survey (U.S.G.S.) topographic map or plat map in sufficient detail to permit easy location of all affected and/or adjacent parcels. If groundwater standards are exceeded, include the location of all potable wells, including municipal wells, within 1200 feet of the area of contamination.
- Detailed Site Map:** A map that shows all relevant features (buildings, roads, current ground surface cover, individual property boundaries for all affected properties, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination attaining or exceeding a ch. NR 140 ES, and/or in relation to the boundaries of soil contamination attaining or exceeding a RCL. Provide parcel identification numbers for all affected properties.
- RR Sites Map:** From RR Sites Map ([http://dnrmaps.wi.gov/si/?Viewer=RR Sites](http://dnrmaps.wi.gov/si/?Viewer=RR%20Sites)) attach a map depicting the source property, and all open and closed BRRTS sites within a half-mile radius or less of the property.

**B.2. Soil Figures**

- B.2.a. **Soil Contamination:** Figure(s) showing the location of **all** identified unsaturated soil contamination. Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720.Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedances (0-4 foot depth).
- B.2.b. **Residual Soil Contamination:** Figure(s) showing only the locations of soil samples where unsaturated soil contamination remains at the time of closure (locations represented in Table A.3). Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720 Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedance (0-4 foot depth).

**B.3. Groundwater Figures**

- B.3.a. **Geologic Cross-Section Figure(s):** One or more cross-section diagrams showing soil types and correlations across the site, water table and piezometric elevations, and locations and elevations of geologic rock units, if encountered. Display on one or more figures all of the following:
- Source location(s) and vertical extent of residual soil contamination exceeding an RCL. Distinguish between direct contact and the groundwater pathway RCLs.
  - Source location(s) and lateral and vertical extent if groundwater contamination exceeds ch. NR 140 ES.
  - Surface features, including buildings and basements, and show surface elevation changes.
  - Any areas of active remediation within the cross section path, such as excavations or treatment zones.
  - Include a map displaying the cross-section location(s), if they are not displayed on the Detailed Site Map (Map B.1.b.)
- B.3.b. **Groundwater Isoconcentration:** Figure(s) showing the horizontal extent of the post-remedial groundwater contamination exceeding a ch. NR 140, Wis. Adm. Code, PAL and/or an ES. Indicate the date and direction of groundwater flow based on the most recent sampling data.
- B.3.c. **Groundwater Flow Direction:** Figure(s) representing groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, submit two groundwater flow maps showing the maximum variation in flow direction.
- B.3.d. **Monitoring Wells:** Figure(s) showing all monitoring wells, with well identification number. Clearly designate any wells that: (1) are proposed to be abandoned; (2) cannot be located; (3) are being transferred; (4) will be retained for further sampling, or (5) have been abandoned.

**B.4. Vapor Maps and Other Media**

- B.4.a. **Vapor Intrusion Map:** Map(s) showing all locations and results for samples taken to investigate the vapor intrusion pathway in relation to residual soil and groundwater contamination, including sub-slab, indoor air, soil vapor, soil gas, ambient air, and communication testing. Show locations and footprints of affected structures and utility corridors, and/or where residual contamination poses a future risk of vapor intrusion.
- B.4.b. **Other media of concern (e.g., sediment or surface water):** Map(s) showing all sampling locations and results for other media investigation. Include the date of sample collection and identify where any standards are exceeded.
- B.4.c. **Other:** Include any other relevant maps and figures not otherwise noted above. (This section may remain blank).

- B.5. **Structural Impediment Photos:** One or more photographs documenting the structural impediment feature(s) which precluded a complete site investigation or remediation at the time of the closure request. The photographs should document the area that could not be investigated or remediated due to a structural impediment. The structural impediment should be indicated on Figures B.2.a and B.2.b.

**Documentation of Remedial Action (Attachment C)****Directions for Documentation of Remedial Action:**

- Include in Attachment C all of the following documentation, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: C.1. Site Investigation Documentation; C.2. Investigative Waste, etc.).
- If the documentation requested below has already been submitted to the DNR, please note the title and date of the report for that particular document requested.
  - C.1. **Site investigation documentation**, that has not otherwise been submitted with the Site Investigation Report.
  - C.2. **Investigative waste** disposal documentation.
  - C.3. Provide a **description of the methodology** used along with all supporting documentation if the RCLs are different than those contained in the Department's RCL Spreadsheet available at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html>.
  - C.4. **Construction documentation** or as-built report for any constructed remedial action or portion of, or interim action specified in s. NR 724.02(1), Wis. Adm. Code.
  - C.5. **Decommissioning of Remedial Systems.** Include plans to properly abandon any systems or equipment.
  - C.6. **Other.** Include any other relevant documentation not otherwise noted above (This section may remain blank).

**Maintenance Plan(s) and Photographs (Attachment D)****Directions for Maintenance Plans and Photographs:**

Attach a maintenance plan for each affected property (source property, each off-source affected property) with continuing obligations requiring future maintenance (e.g., direct contact, groundwater protection, vapor intrusion). See Site Summary section 5 for all affected property(s) requiring a maintenance plan. Maintenance plan guidance and/or templates for: 1) Cover/barrier systems; 2) Vapor intrusion; and 3) Monitoring wells, can be found at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html#tabx3>

- D.1. **Descriptions of maintenance action(s) required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required:**
- Provide brief descriptions of the type, depth and location of residual contamination.

- Provide a description of the system/cover/barrier/monitoring well(s) to be maintained.
  - Provide a description of the maintenance actions required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required.
  - Provide contact information, including the name, address and phone number of the individual or facility who will be conducting the maintenance.
- D.2. **Location map(s) which show(s):** (1) the feature that requires maintenance; (2) the location of the feature(s) that require(s) maintenance - on and off the source property; (3) the extent of the structure or feature(s) to be maintained, in relation to other structures or features on the site; (4) the extent and type of residual contamination; and (5) all property boundaries.
- D.3. **Photographs** for site or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system, include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features shall be visible and discernible. Photographs shall be submitted with a title related to the site name and location, and the date on which it was taken.
- D.4. **Inspection log**, to be maintained on site, or at a location specified in the maintenance plan or approval letter. The inspection and maintenance log is found at: <http://dnr.wi.gov/files/PDF/forms/4400/4400-305.pdf>.

#### Monitoring Well Information (Attachment E)

##### Directions for Monitoring Well Information:

For all wells that will remain in use, be transferred to another party, or that could not be located; attach monitoring well construction and development forms (DNR Form 4400-113 A and B: [http://dnr.wi.gov/topic/groundwater/documents/forms/4400\\_113\\_1\\_2.pdf](http://dnr.wi.gov/topic/groundwater/documents/forms/4400_113_1_2.pdf))

##### Select One:

- No monitoring wells were installed as part of this response action.
- All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site
- Select One or More:**
- Not all monitoring wells can be located, despite good faith efforts. Attachment E must include a description of efforts made to locate the wells.
- One or more wells will remain in use at the site after this closure. Attachment E must include documentation as to the reason (s) the well(s) will remain in use. When one or more monitoring wells will remain in use this is considered a continuing obligation and a maintenance plan will be required and must be included in Attachment D.
- One or more monitoring wells will be transferred to another owner upon case closure being granted. Attachment E should include documentation identifying the name, address and email for the new owner(s). Provide documentation from the party accepting future responsibility for monitoring well(s).

#### Source Legal Documents (Attachment F)

##### Directions for Source Legal Documents:

Label documents with the specific closure form titles (e.g., F.1. Deed, F.2. Certified Survey Map, etc.). Include all of the following documents, in the order listed:

- F.1. **Deed:** The most recent deed with legal description clearly listed.
- Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*
- F.2. **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- F.3. **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- F.4. **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description(s) accurately describe(s) the correct contaminated property or properties. This section applies to the source property only. Signed statements for Other Affected Properties should be included in Attachment G.

**Notifications to Owners of Affected Properties (Attachment G)****Directions for Notifications to Owners of Affected Properties:**

Complete the table on the following page for sites which require notification to owners of affected properties pursuant to ch. 292, Wis. Stats. and ch. NR 725 and 726, Wis. Adm. Code. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31- 19.39, Wis. Stats.]. The DNR's "Guidance on Case Closure and the Requirements for Managing Continuing Obligations" (PUB-RR-606) lists specific notification requirements <http://dnr.wi.gov/files/PDF/pubs/rr/RR606.pdf>.

State law requires that the responsible party provide a 30-day, written advance notification to certain persons prior to applying for case closure. This requirement applies if: (1) the person conducting the response action does not own the source property; (2) the contamination has migrated onto another property; and/or (3) one or more monitoring wells will not be abandoned. Use form 4400-286, Notification of Continuing Obligations and Residual Contamination, at <http://dnr.wi.gov/files/PDF/forms/4400/4400-286.pdf>

Include a copy of each notification sent and accompanying proof of delivery, i.e., return receipt or signature confirmation. (These items will not be placed on the GIS Registry.)

Include the following documents for each property, keeping each property's documents grouped together and labeled with the letter G and the corresponding ID number from the table on the following page. (Source Property documents should only be included in Attachment F):

- **Deed:** The most recent deed with legal descriptions clearly listed for all affected properties.  
*Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*
- **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes the attached legal description(s) accurately describe(s) the correct contaminated property or properties.



Signatures and Findings for Closure Determination

Check the correct box for this case closure request, and have either a professional engineer or a hydrogeologist, as defined in ch. NR 712, Wis. Adm. Code, sign this document.

[X] A response action(s) for this site addresses groundwater contamination (including natural attenuation remedies).

[X] The response action(s) for this site addresses media other than groundwater.

Engineering Certification

I, Andrew Horwath hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this case closure request has been prepared by me or prepared under my supervision in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this case closure request is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Andrew Horwath

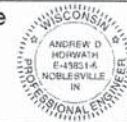
Senior Engineer

Printed Name

Title

Andrew D. Horwath

8/8/2019



PE No. E-43831-6

Signature

Date

P.E. Stamp and Number

Hydrogeologist Certification

I, Brian Kappen hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this case closure request is correct and the document was prepared by me or prepared under my supervision and, in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Brian Kappen

Senior Geologist

Printed Name

Title

B. J. Kappen

8/7/2019

Signature

Date



## **ATTACHMENT A – DATA TABLES**

**Table A.1. Groundwater Analytical Results**

**Table A.2. Soil Analytical Results**

**Table A.3. Residual Soil Analytical Results**

**Table A.4. Vapor Analytical Results**

**Table A.5. Sump Discharge Analytical Results**

**Table A.6. Water Level Elevations**

**Table A.7. Pressure Field Extension Measurements**

**TABLE A.1.**  
**GROUNDWATER ANALYTICAL RESULTS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Identification	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	n-Propylbenzene	Toluene	Xylenes (total)	Chloromethane	1,1-Dichloroethene	Methylene Chloride	
<b>Enforcement Standard</b>		<b>5</b>	<b>5</b>	<b>70</b>	<b>100</b>	<b>0.2</b>	<b>5</b>	<b>700</b>	<b>NE</b>	<b>1,000</b>	<b>10,000</b>	<b>30</b>	<b>7</b>	<b>5</b>	
<i>Preventive Action Limit</i>		<i>0.5</i>	<i>0.5</i>	<i>7</i>	<i>20</i>	<i>0.02</i>	<i>0.5</i>	<i>140</i>	<i>NE</i>	<i>200</i>	<i>1,000</i>	<i>3</i>	<i>0.7</i>	<i>0.5</i>	
<b>Grab Groundwater Samples</b>															
GP-2	12/13/2010	< 0.43	< 0.39	< 0.78	< 1.3	< 0.19	< 0.38	< 0.55	< 0.67	< 0.7	< 1.1	< 1.2	< 0.7	< 0.47	
GP-3	12/13/2010	<b>58</b>	<b>22</b>	<b>43</b>	<b>9.4</b>	<b>11.1</b>	<b>0.40 J</b>	<b>&lt; 0.55</b>	<b>0.82 J</b>	<b>0.91 J</b>	<b>&lt; 1.1</b>	<b>&lt; 1.2</b>	<b>&lt; 0.7</b>	<b>&lt; 0.47</b>	
GP-4	12/13/2010	< 0.43	< 0.39	< 0.78	< 1.3	< 0.19	< 0.38	0.90 J	< 0.67	19.5	3.11	< 1.2	< 0.7	< 0.47	
6229-DP-10-16W	7/26/2011	< 0.45	< 0.48	< 0.83	< 0.89	< 0.18	< 0.41	< 0.54	< 0.81	< 0.67	< 1.8	< 0.24	< 0.57	< 0.43	
6229-DP-9-18W	7/27/2011	< 0.45	< 0.48	< 0.83	< 0.89	< 0.18	< 0.41	< 0.54	< 0.81	< 0.67	< 1.8	< 0.24	< 0.57	< 0.43	
<b>Monitoring Well/Piezometer Samples</b>															
6229-MW-1	5/7/2013	2.3	0.56	0.89 J	< 0.25	< 0.10	< 0.074	< 0.13	< 0.13	< 0.11	< 0.068	< 0.18	< 0.31	< 0.68	
	7/17/2014	2.74	1.43	1.94	< 0.35	< 0.18	< 0.24	< 0.55	< 0.25	< 0.69	< 0.63	< 0.81	< 0.4	< 0.5	
	10/15/2014	3.5	1.07	1.75	< 0.35	< 0.18	NA	NA	NA	NA	NA	NA	NA	NA	
	1/7/2015	2.37 J	0.86 J	1 J	< 0.54	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/11/2015	2.18 J	0.72	0.62 J	< 0.54	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA
6229-PZ-1	5/7/2013	< 0.17	< 0.19	< 0.12	< 0.25	< 0.10	< 0.074	< 0.13	< 0.13	< 0.11	< 0.068	< 0.18	< 0.31	< 0.68	
	7/17/2014	1.62	0.45 J	< 0.38	< 0.35	< 0.18	< 0.24	< 0.55	< 0.25	< 0.69	< 0.63	< 0.81	< 0.4	< 0.5	
	10/15/2014	1.31	< 0.33	< 0.38	< 0.35	< 0.18	NA	NA	NA	NA	NA	NA	NA	NA	
	1/7/2015	< 0.74	< 0.47	< 0.45	< 0.54	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	
	4/11/2015	< 0.74	< 0.47	< 0.45	< 0.54	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	
6229-MW-2	10/15/2014	1.2	< 0.33	0.43 J	< 0.35	< 0.18	NA	NA	NA	NA	NA	NA	NA	NA	
	1/7/2015	1.16 J	< 0.47	0.47 J	< 0.54	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	
	4/11/2015	1.04 J	< 0.47	< 0.45	< 0.54	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	
6229-PZ-2	7/18/2014	< 0.33	< 0.33	< 0.38	< 0.35	< 0.18	< 0.24	< 0.55	< 0.25	< 0.69	< 0.63	< 0.81	< 0.4	< 0.5	
	10/15/2014	< 0.33	< 0.33	< 0.38	< 0.35	< 0.18	NA	NA	NA	NA	NA	NA	NA	NA	
	1/7/2015	< 0.74	< 0.47	< 0.45	< 0.54	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	
	4/11/2015	< 0.74	< 0.47	< 0.45	< 0.54	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	

**TABLE A.1.**  
**GROUNDWATER ANALYTICAL RESULTS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Identification	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	n-Propylbenzene	Toluene	Xylenes (total)	Chloromethane	1,1-Dichloroethene	Methylene Chloride
<b>Enforcement Standard</b>		<b>5</b>	<b>5</b>	<b>70</b>	<b>100</b>	<b>0.2</b>	<b>5</b>	<b>700</b>	<b>NE</b>	<b>1,000</b>	<b>10,000</b>	<b>30</b>	<b>7</b>	<b>5</b>
<i>Preventive Action Limit</i>		<i>0.5</i>	<i>0.5</i>	<i>7</i>	<i>20</i>	<i>0.02</i>	<i>0.5</i>	<i>140</i>	<i>NE</i>	<i>200</i>	<i>1,000</i>	<i>3</i>	<i>0.7</i>	<i>0.5</i>
6229-MW-3	5/7/2013	<0.17	<0.19	<0.12	<0.25	<0.10	<0.074	<0.13	<0.13	<0.11	<0.068	<0.18	<0.31	<0.68
	7/17/2014	<0.33	<0.33	<0.38	<0.35	<0.18	<0.24	<0.55	<0.25	<0.69	<0.63	<0.81	<0.4	<0.5
	10/15/2014	<0.33	<0.33	<0.38	<0.35	<0.18	NA	NA	NA	NA	NA	NA	NA	NA
	1/7/2015	<0.74	<0.47	<0.45	<0.54	<0.17	NA	NA	NA	NA	NA	NA	NA	NA
	4/11/2015	<0.74	<0.47	<0.45	<0.54	<0.17	NA	NA	NA	NA	NA	NA	NA	NA
6229-PZ-3	5/7/2013	<0.17	<0.19	<0.12	<0.25	<0.10	<0.074	<0.13	<0.13	<0.11	<0.068	<0.18	<0.31	<0.68
	7/17/2014	<0.33	<0.33	<0.38	<0.35	<0.18	<0.24	<0.55	<0.25	<0.69	<0.63	<0.81	<0.4	<0.5
	10/15/2014	<0.33	<0.33	<0.38	<0.35	<0.18	NA	NA	NA	NA	NA	NA	NA	NA
	1/7/2015	<0.74	<0.47	<0.45	<0.54	<0.17	NA	NA	NA	NA	NA	NA	NA	NA
	4/11/2015	<0.74	<0.47	<0.45	<0.54	<0.17	NA	NA	NA	NA	NA	NA	NA	NA
<b>Basement Foundation Water Samples</b>														
6229-HA-1-V	7/26/2011	<b>5,780,000</b>	< 24,000	< 41,500	< 44,500	< 9,000	<20,500	<27,000	<40,500	<33,500	<41,500	<12,000	<28,500	<b>34,500 J</b>
6229-HB-1 (GW-1)	3/5/2013	<b>28</b>	<b>5.9</b>	<b>77</b>	0.89 J	<b>2.5</b>	<0.074	<0.13	<0.13	<0.11	<0.068	2.9	<0.31	<0.68
6229-HB-3 (GW-1)	3/6/2013	<b>38</b>	<b>15</b>	<b>1,400</b>	22	<b>22</b>	<0.074	<0.13	<0.13	<0.11	<0.068	3.3	2.2	<0.68
6229-HB-4 (SW)	3/5/2013	<b>1,000</b>	<b>31</b>	<b>100</b>	1.0	<b>6.4</b>	<0.074	<0.13	<0.13	<0.11	<0.068	<0.18	<0.31	<0.68
6229-HB-4 (GW-1)	3/6/2013	<b>970</b>	<b>45</b>	<b>280</b>	2.5	<b>18</b>	<0.15	<0.26	<0.26	<0.22	<0.14	3.1	<0.62	<1.4

**Notes:**

All concentrations reported in units of micrograms per liter (µg/L)

Samples analyzed using EPA SW-846 Method 8260

**Bolded** values exceed the WDNR Enforcement Standard

*Italicized* values exceed the WDNR Preventive Action Limit

J = Analyte concentration is above the method detection limit and below the reporting limit

MW/PZ denotes monitoring well sample

DP/GP denotes grab groundwater sample from soil boring

HA/HB denotes grab water sample collected immediately beneath the basement floor slab

**TABLE A.2.**  
**SOIL ANALYTICAL RESULTS**  
 Lloyd's Dry Cleaners  
 Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<b>Residual Contaminant Level - Non-Industrial</b>			<b>33,000</b>	<b>1,300</b>	<b>156,000</b>	<b>1,560,000</b>	<b>67</b>	<b>61,800</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>5,520</b>
<b>Residual Contaminant Level - Soil to Groundwater</b>			<b>4.5</b>	<b>3.6</b>	<b>41.2</b>	<b>58.8</b>	<b>0.1</b>	<b>2.6</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>658</b>
<b>Exterior Investigation Samples</b>													
GP-1	12/10/2010	2-2.5	18,400	2,500	1,330	61 J	<33	<119	<35	<46	<39	<44	<100
GP-2	12/10/2010	8-10	<53	<50	<44	<43	<33	<119	<35	<46	<39	<44	<100
GP-3	12/10/2010	6-8	116 J	<50	<44	<43	<33	<119	280	810 <sup>1</sup>	223	1,100	<100
GP-4	12/10/2010	10-12	430	<50	<44	<43	<33	<119	<35	<46	<39	<44	<100
GP-5	12/10/2010	8-10	217,000	276	274	<43	<33	<119	<35	<46	<39	<44	<12,500
6229-DP-6	7/26/2011	4-6	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<40.4	<25.0	<25.0	<25
6229-DP-7	7/26/2011	26-28	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<40.4	<25.0	<25.0	<25
6229-DUP (6229-DP-7)	7/26/2011	26-28	731	<25.0	<25.0	<25.0	<25.0	128	<25.0	<40.4	<25.0	<25.0	<25
6229-DP-8	7/26/2011	18-20	<25.0	<25.0	<25.0	<25.0	<25.0	172	<25.0	<40.4	<25.0	<25.0	<25
6229-DP-9	7/26/2011	4-6	65.8 J	<25.0	<25.0	<25.0	<25.0	139	<25.0	<40.4	<25.0	<25.0	<25
6229-DP-10	7/26/2011	16-18	<25.0	<25.0	<25.0	<25.0	<25.0	182	<25.0	<40.4	<25.0	<25.0	<25
6229-DP-11	2/4/2013	4-6	16,000	610	170	<20	<8.3	<54	<12	<10	<20	<14	<39
		14-16	<14	<15	<10	<20	<8.4	<55	<12	<10	<20	<14	<40
		20-22	610	33 J	<12	<25	<10	<67	<15	<13	<25	<17	<49
6229-DP-12	2/4/2013	4-6	120	32 J	<12	<25	<10	<68	<15	<13	<25	<17	<49
		16-18	240	<17	<11	<22	<9.3	<61	<14	<11	<22	<16	<44
		24-26	<13	<14	<9.2	<19	<7.8	<51	<12	<9.7	<19	<13	<37
6229-DP-13	2/5/2013	6-8	<16	<18	<12	<24	<10	<66	<15	<13	<24	<17	<48
		10-12	<15	<16	<11	<22	<9.0	<59	<13	<11	<22	<15	<43
		18-20	<14	<15	<10	<21	<8.6	<56	<13	<11	<21	<14	<41
6229-DP-14	2/5/2013	2-4	3,700	<11	<7.5	<15	<6.3	<42	<9.4	<7.8	<15	<11	<30
6229-DP-15	2/5/2013	2-4	<16	<18	<12	<24	<9.9	<65	<15	<12	<24	<17	<47
6229-DP-16	7/17/2014	6	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-DP-16	7/17/2014	13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-DP-17	7/17/2014	3	650	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-DP-17	7/17/2014	9	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-DP-18	7/17/2014	8	<49	<28	<24	<29	<21	<221	<41	<26	<25	<24	<114
6229-DP-19	7/17/2014	9	<49	<28	<24	<29	<21	<221	<41	<26	<25	<24	<114

**TABLE A.2.**  
**SOIL ANALYTICAL RESULTS**  
 Lloyd's Dry Cleaners  
 Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<i>Residual Contaminant Level - Non-Industrial</i>			<i>33,000</i>	<i>1,300</i>	<i>156,000</i>	<i>1,560,000</i>	<i>67</i>	<i>61,800</i>	<i>145,000</i>	<i>108,000</i>	<i>268,000</i>	<i>264,000</i>	<i>5,520</i>
<i>Residual Contaminant Level - Soil to Groundwater</i>			<i>4.5</i>	<i>3.6</i>	<i>41.2</i>	<i>58.8</i>	<i>0.1</i>	<i>2.6</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>658</i>
<b>Basement Investigation Samples</b>													
6229-HA-1	7/26/2011	0-2	<b>5,430,000</b>	< 12,500	< 12,500	< 12,500	<12,500	<12,500	<12,500	<20,200	<12,500	<12,500	<12,500
6229-HB-1	3/6/2013	2	<14	<16	<10	<21	<8.8	<58	<13	<11	<21	<15	<42
	3/6/2013	3	<13	<14	<9.5	<18	<8.0	<53	<12	<10	<19	<14	<38
	3/6/2013	5.5	<15	<16	<11	<22	<9.0	<59	<13	<11	<22	<15	<43
6229-HB-2	3/5/2013	1.5	<15	<16	<11	<22	<9.1	<60	<13	<11	<22	<15	<43
	3/5/2013	3.5	<14	<15	<10	<21	<8.6	<57	<13	<11	<21	<15	<41
	3/5/2013	8	<14	<16	<11	<22	<9.0	<59	<13	<11	<22	<15	<43
6229-HB-3	3/6/2013	1.5	<16	<18	<12	<24	<9.9	<65	<15	<12	<24	<17	<47
	3/6/2013	3	<14	<16	<10	<21	<8.7	<57	<13	<11	<21	<15	<41
	3/6/2013	7.5	<13	<14	<9.5	<19	<8.0	<53	<12	<9.9	<19	<13	<38
6229-HB-4	3/8/2013	2	<15	<17	<11	<23	20 J	<62	<14	<12	<23	<16	<45
	3/8/2013	4	<14	<16	<10	<21	<8.7	<57	<13	<11	<21	<15	<41
	3/8/2013	7.5	<14	<15	<10	<20	<8.5	<56	<13	<11	<21	<14	<40
6229-HB-5	11/2/2016	0.5-1.5	<54	<42	79	<24	<10	<220	<36	<86	<86	<35	278 J
6229-HB-6	11/2/2016	0.5-1.5	<54	<42	21.7 J	<24	17.9 J	<220	<36	<86	<86	<35	<87
6229-HB-7	11/2/2016	0.5-1.5	<54	<42	340	34 J	49	<220	<36	<86	<86	<35	<87
6229-HB-8	11/2/2016	0.5-1.5	<54	<42	112	<24	32	<220	<36	<86	91 J	<35	234 J
6229-HB-9	11/2/2016	1-2	<54	<42	76	<24	58	<220	<36	<86	<86	<35	<87
6229-HB-10	11/2/2016	0.8-1.8	<54	<42	<21	<24	<10	<220	<36	<86	<86	<35	<87
6229-HB-11	11/2/2016	0.7-1.7	69 J	<42	4,100	107	203	<220	<36	<86	<86	<35	<87

**TABLE A.2.**  
**SOIL ANALYTICAL RESULTS**  
 Lloyd's Dry Cleaners  
 Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<i>Residual Contaminant Level - Non-Industrial</i>			<i>33,000</i>	<i>1,300</i>	<i>156,000</i>	<i>1,560,000</i>	<i>67</i>	<i>61,800</i>	<i>145,000</i>	<i>108,000</i>	<i>268,000</i>	<i>264,000</i>	<i>5,520</i>
<i>Residual Contaminant Level - Soil to Groundwater</i>			<i>4.5</i>	<i>3.6</i>	<i>41.2</i>	<i>58.8</i>	<i>0.1</i>	<i>2.6</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>658</i>
<b>Waste Characterization Samples</b>													
6229-PEB-1	10/2/2014	3	6,800	67 J	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-2	10/2/2014	3	20,600	102	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-3	10/2/2014	3	1,870	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-4	10/2/2014	3	21,200	47 J	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-5	10/2/2014	3	440	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-6	10/2/2014	3	6,600	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-7	10/2/2014	3	47,000	520	97	<29	<21	NA	NA	NA	NA	NA	NA
		10	89,000	41 J	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	235,000	<1400	<1200	<1450	<1050	NA	NA	NA	NA	NA	NA
6229-PEB-8	10/2/2014	3	62 J	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		6	1,420	138	67 J	<29	<21	NA	NA	NA	NA	NA	NA
		9	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA

**TABLE A.2.**  
**SOIL ANALYTICAL RESULTS**  
 Lloyd's Dry Cleaners  
 Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<i>Residual Contaminant Level - Non-Industrial</i>			<i>33,000</i>	<i>1,300</i>	<i>156,000</i>	<i>1,560,000</i>	<i>67</i>	<i>61,800</i>	<i>145,000</i>	<i>108,000</i>	<i>268,000</i>	<i>264,000</i>	<i>5,520</i>
<i>Residual Contaminant Level - Soil to Groundwater</i>			<i>4.5</i>	<i>3.6</i>	<i>41.2</i>	<i>58.8</i>	<i>0.1</i>	<i>2.6</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>658</i>
6229-PEB-9	10/2/2014	3	330	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		6	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		9	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-10	10/2/2014	3	960	34 J	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-11	10/2/2014	3	18,300	80 J	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	65 J	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-12	10/2/2014	3	6,300	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	94 J	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-13	10/2/2014	3	3,200	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	4,700	102	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-14	10/2/2014	3	83 J	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-15	10/2/2014	10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-16	10/2/2014	3	6,300	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		13	<49	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-PEB-17	10/2/2014	3	2,350	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
		10	640	141	238	<29	<21	NA	NA	NA	NA	NA	NA
		13	2,840	480	870	77 J	59 J	NA	NA	NA	NA	NA	NA

**TABLE A.2.**  
**SOIL ANALYTICAL RESULTS**  
 Lloyd's Dry Cleaners  
 Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<b>Residual Contaminant Level - Non-Industrial</b>			<b>33,000</b>	<b>1,300</b>	<b>156,000</b>	<b>1,560,000</b>	<b>67</b>	<b>61,800</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>5,520</b>
<b>Residual Contaminant Level - Soil to Groundwater</b>			<b>4.5</b>	<b>3.6</b>	<b>41.2</b>	<b>58.8</b>	<b>0.1</b>	<b>2.6</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>658</b>
<b>Excavation Sidewall Samples</b>													
WS-1	4/22/2014	4	134	83 J	40 J	35 J	<21	<57	<41	<26	<25	<24	<114
WS-2	4/22/2014	4	216	35 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-3	4/22/2014	5*	35,000	43 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
		8	1,930	199	610	50 J	<21	<57	<41	<26	<25	<24	<114
WS-4	4/22/2014	6	13,700	91	<24	<29	<21	<57	<41	<26	<25	<24	<114
		8	88 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-5	4/22/2014	4	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	NA
WS-6	4/22/2014	4	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-7	4/22/2014	4	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-8	4/23/2014	8	900	29.2 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-9	4/23/2014	8	630	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-10	4/23/2014	3	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-11	4/23/2014	3	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-12	4/23/2014	3	58 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-13	4/23/2014	7	270	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-14	4/23/2014	8	8,100	420	87	<29	<21	<57	<41	<26	<25	<24	<114
WS-15	4/23/2014	3	610	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-16	4/24/2014	3	109 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-17	4/25/2014	3	1,440	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-18	4/25/2014	8	1,150	33 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-19	4/25/2014	8	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-20	4/25/2014	8	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-21	4/25/2014	8	730	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-22	4/25/2014	8	940	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-23	4/25/2014	8	2,280	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-24	4/25/2014	3	97 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-25	4/26/2014	3	59 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-26	4/26/2014	3	1,480	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
HB-5 (Excavation)	4/23/2014	9	138,000	340	151	<29	<21	<57	<41	<26	<25	<24	<114
HB-6 (Excavation)	4/23/2014	9	1,610	28.2 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
HB-7 (Excavation)	4/23/2014	9	2,540	59 J	126	<29	<21	<57	<41	<26	<25	<24	<114



**TABLE A.2.**  
**SOIL ANALYTICAL RESULTS**  
 Lloyd's Dry Cleaners  
 Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<i>Residual Contaminant Level - Non-Industrial</i>			<i>33,000</i>	<i>1,300</i>	<i>156,000</i>	<i>1,560,000</i>	<i>67</i>	<i>61,800</i>	<i>145,000</i>	<i>108,000</i>	<i>268,000</i>	<i>264,000</i>	<i>5,520</i>
<i>Residual Contaminant Level - Soil to Groundwater</i>			<i>4.5</i>	<i>3.6</i>	<i>41.2</i>	<i>58.8</i>	<i>0.1</i>	<i>2.6</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>658</i>
<b>Excavation floor Samples</b>													
FS-1	4/22/2014	6	<i>3,300</i>	235	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-2	4/22/2014	5	312	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-3	4/22/2014	4	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-4	4/22/2014	13	<i>71 J</i>	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-5	4/22/2014	13	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-6	4/22/2014	13	<i>96 J</i>	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-7	4/22/2014	13	<b>88,000</b>	221	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-8	4/22/2014	5	<i>5,100</i>	148	79	<29	<21	<57	<41	<26	<25	<24	<114
FS-9	4/23/2014	11*	<b>97,000</b>	<b>1,320</b>	<i>1,520</i>	<29	<21	<57	<41	<26	27.1 J	26.5 J	<114
FS-10	4/23/2014	5	<i>1,380</i>	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-11	4/23/2014	13	<i>1,870</i>	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-12	4/23/2014	13	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-13	4/23/2014	5	<i>4,100</i>	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-14	4/25/2014	13	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-15	4/25/2014	13	240	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-16	4/25/2014	5	<i>1,570</i>	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-17	4/25/2014	5	<b>51,000</b>	<b>1,360</b>	77	<29	<21	<57	<41	<26	<25	<24	<114
FS-18	4/25/2014	13	<49	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-19	4/25/2014	5	<i>1,870</i>	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-20	4/26/2014	5	<i>29,100</i>	116	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-21	4/26/2014	5	<i>3,600</i>	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114

**Notes:**

Samples analyzed using EPA SW-846 Method 8260 with Prep Method 5030

All concentrations reported in micrograms per kilogram (µg/kg)

<sup>1</sup> Concentration reported as tert-Butylbenzene in Sigma Environmental Services' Report

**Bolded** values are above method detection limits

*Italicized* values exceed the Soil to Groundwater Residual Contaminant Level

**Bolded** and *Italicized* values exceed the Non-Industrial Residual Contaminant Level

**Bolded** values exceed the Industrial Residual Contaminant Level

J = Analyte concentration is above the method detection limit and below the reporting limit

NA = Not Analyzed

\*= Trimethylbenzenes were detected at a concentration below reporting limit

†= 1,2-Dichlorobenzene was detected at a concentration below reporting limit

GP denotes samples collected by Sigma Environmental Services

DP denotes samples collected by EnviroForensics via Geoprobe

HA/HB denotes samples collected by EnviroForensics via hand auger

PEB denotes waste characterization boring collected via geoprobe

WS denotes excavation wall grab sample

FS denotes excavation floor grab sample

**TABLE A.3.**  
**RESIDUAL SOIL ANALYTICAL RESULTS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<i>Residual Contaminant Level - Non-Industrial</i>			<i>33,000</i>	<i>1,300</i>	<i>156,000</i>	<i>1,560,000</i>	<i>67</i>	<i>61,800</i>	<i>145,000</i>	<i>108,000</i>	<i>268,000</i>	<i>264,000</i>	<i>5,520</i>
<i>Residual Contaminant Level - Soil to Groundwater</i>			<i>4.5</i>	<i>3.6</i>	<i>41.2</i>	<i>58.8</i>	<i>0.1</i>	<i>2.6</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>658</i>
GP-3	12/10/2010	6-8	<i>116 J</i>	<50	<44	< 43	<33	<119	280	810 <sup>1</sup>	223	1,100	<100
GP-4	12/10/2010	10-12	<i>430</i>	<50	<44	< 43	<33	<119	<35	<46	<39	<44	<100
6229-DP-8	7/26/2011	18-20	<25.0	<25.0	<25.0	<25.0	<25.0	<i>172</i>	<25.0	<40.4	<25.0	<25.0	<25
6229-DP-9	7/26/2011	4-6	<i>65.8 J</i>	<25.0	<25.0	<25.0	<25.0	<i>139</i>	<25.0	<40.4	<25.0	<25.0	<25
6229-DP-10	7/26/2011	16-18	<25.0	<25.0	<25.0	<25.0	<25.0	<i>182</i>	<25.0	<40.4	<25.0	<25.0	<25
6229-DP-11	2/4/2013	4-6	<i>16,000</i>	<i>610</i>	<i>170</i>	<20	<8.3	<54	<12	<10	<20	<14	<39
		20-22	<i>610</i>	<i>33 J</i>	<12	<25	<10	<67	<15	<13	<25	<17	<49
6229-DP-12	2/4/2013	16-18	<i>240</i>	<17	<11	<22	<9.3	<61	<14	<11	<22	<16	<49
6229-DP-14	2/5/2013	2-4	<i>3,700</i>	<11	<7.5	<15	<6.3	<42	<9.4	<7.8	<15	<11	<41
6229-DP-17	7/17/2014	3	<i>650</i>	<28	<24	<29	<21	NA	NA	NA	NA	NA	NA
6229-HB-4	3/8/2013	2	<15	<17	<11	<23	<i>20 J</i>	<62	<14	<12	<23	<16	<45
6229-HB-5	11/2/2016	0.5-1.5	<54	<42	79	<24	<10	<220	<36	<86	<86	<35	278 J
6229-HB-6	11/2/2016	0.5-1.5	<54	<42	21.7 J	<24	<i>17.9 J</i>	<220	<36	<86	<86	<35	<87
6229-HB-7	11/2/2016	0.5-1.5	<54	<42	340	34 J	49	<220	<36	<86	<86	<35	<87
6229-HB-8	11/2/2016	0.5-1.5	<54	<42	<i>112</i>	<24	32	<220	<36	<86	91 J	<35	234 J
6229-HB-9	11/2/2016	1-2	<54	<42	76	<24	58	<220	<36	<86	<86	<35	<87
6229-HB-11	11/2/2016	0.7-1.7	<i>69 J</i>	<42	<i>4,100</i>	<i>107</i>	<b>203</b>	<220	<36	<86	<86	<35	<87

**TABLE A.3.**  
**RESIDUAL SOIL ANALYTICAL RESULTS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<b>Residual Contaminant Level - Non-Industrial</b>			<b>33,000</b>	<b>1,300</b>	<b>156,000</b>	<b>1,560,000</b>	<b>67</b>	<b>61,800</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>5,520</b>
<b>Residual Contaminant Level - Soil to Groundwater</b>			<b>4.5</b>	<b>3.6</b>	<b>41.2</b>	<b>58.8</b>	<b>0.1</b>	<b>2.6</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>658</b>
WS-1	4/22/2014	4	134	83 J	40 J	35 J	<21	<57	<41	<26	<25	<24	<114
WS-2	4/22/2014	4	216	35 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-3	4/22/2014	5*	<b>35,000</b>	43 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
		8	1,930	199	610	50 J	<21	<57	<41	<26	<25	<24	<114
WS-4	4/22/2014	6	13,700	91	<24	<29	<21	<57	<41	<26	<25	<24	<114
		8	88 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-8	4/23/2014	8	900	29.2 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-9	4/23/2014	8	630	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-12	4/23/2014	3	58 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-13	4/23/2014	7	270	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-14	4/23/2014	8	8,100	420	87	<29	<21	<57	<41	<26	<25	<24	<114
WS-15	4/23/2014	3	610	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-16	4/24/2014	3	109 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-17	4/25/2014	3	1,440	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-18	4/25/2014	8	1,150	33 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-21	4/25/2014	8	730	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-22	4/25/2014	8	940	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-23	4/25/2014	8	2,280	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-24	4/25/2014	3	97 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-25	4/26/2014	3	59 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
WS-26	4/26/2014	3	1,480	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
HB-5 (Excavation)	4/23/2014	9	<b>138,000</b>	340	151	<29	<21	<57	<41	<26	<25	<24	<114
HB-6 (Excavation)	4/23/2014	9	1,610	28.2 J	<24	<29	<21	<57	<41	<26	<25	<24	<114
HB-7 (Excavation)	4/23/2014	9	2,540	59 J	126	<29	<21	<57	<41	<26	<25	<24	<114

**TABLE A.3.**  
**RESIDUAL SOIL ANALYTICAL RESULTS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Methylene Chloride	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Naphthalene
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>1,150,000</b>	<b>145,000</b>	<b>108,000</b>	<b>268,000</b>	<b>264,000</b>	<b>24,100</b>
<i>Residual Contaminant Level - Non-Industrial</i>			<i>33,000</i>	<i>1,300</i>	<i>156,000</i>	<i>1,560,000</i>	<i>67</i>	<i>61,800</i>	<i>145,000</i>	<i>108,000</i>	<i>268,000</i>	<i>264,000</i>	<i>5,520</i>
<i>Residual Contaminant Level - Soil to Groundwater</i>			<i>4.5</i>	<i>3.6</i>	<i>41.2</i>	<i>58.8</i>	<i>0.1</i>	<i>2.6</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>NE</i>	<i>658</i>
FS-1	4/22/2014	6	3,300	235	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-2	4/22/2014	5	312	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-4	4/22/2014	13	71 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-6	4/22/2014	13	96 J	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-7	4/22/2014	13	<b>88,000</b>	221	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-8	4/22/2014	5	5,100	148	79	<29	<21	<57	<41	<26	<25	<24	<114
FS-9	4/23/2014	11*	<b>97,000</b>	<b>1,320</b>	1,520	<29	<21	<57	<41	<26	27.1 J	26.5 J	<114
FS-10	4/23/2014	5	1,380	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-11	4/23/2014	13	1,870	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-13	4/23/2014	5	4,100	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-15	4/25/2014	13	240	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-16	4/25/2014	5	1,570	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-17	4/25/2014	5	<b>51,000</b>	<b>1,360</b>	77	<29	<21	<57	<41	<26	<25	<24	<114
FS-19	4/25/2014	5	1,870	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-20	4/26/2014	5	29,100	116	<24	<29	<21	<57	<41	<26	<25	<24	<114
FS-21	4/26/2014	5	3,600	<28	<24	<29	<21	<57	<41	<26	<25	<24	<114

**Notes:**

Samples analyzed using EPA SW-846 Method 8260 with Prep Method 5030

All concentrations reported in micrograms per kilogram (µg/kg)

<sup>1</sup> Concentration reported as tert-Butylbenzene in Sigma Environmental Services' Report

**Bolded** values are above method detection limits

*Italicized* values exceed the Soil to Groundwater Residual Contaminant Level

**Bolded** and *Italicized* values exceed the Non-Industrial Residual Contaminant Level

**Bolded** values exceed the Industrial Residual Contaminant Level

J = Analyte concentration is above the method detection limit and below the reporting limit

NA = Not Analyzed

\*= Trimethylbenzenes were detected at a concentration below reporting limit

†= 1,2-Dichlorobenzene was detected at a concentration below reporting limit

GP denotes samples collected by Sigma Environmental Services

DP denotes samples collected by EnviroForensics via Geoprobe

HB denotes samples collected by EnviroForensics via hand auger

WS denotes excavation wall grab sample

FS denotes excavation floor grab sample

**TABLE A.4.**  
**VAPOR ANALYTICAL RESULTS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Address	Sample Location	Sample Identification	Applicable Screening Criteria	Leak Detection Test Passed	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	Chloroform	Ethylbenzene	1,2,4-Trimethylbenzene	n-Heptane
Small Commercial Sub-Slab Vapor Risk Screening Level <sup>2</sup>						<b>6,000</b>	<b>290</b>	<b>NE</b>	<b>NE</b>	<b>930</b>	<b>530</b>	<b>180</b>	<b>1,600</b>	<b>1,000</b>	<b>NE</b>
Small Commercial Utility Soil Gas Risk Screening Level <sup>1</sup>						<b>18,000</b>	<b>880</b>	<b>NE</b>	<b>NE</b>	<b>2,800</b>	<b>1,600</b>	<b>530</b>	<b>4,900</b>	<b>3,100</b>	<b>NE</b>
4837 N. Teutonia Ave (Lloyd's Cleaners)	Exterior	6229-SG-1	Utility Soil Gas	Helium Shroud	2/6/2013	<31.9	<10.7	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2	1,670
		6229-SG-2	Utility Soil Gas	Helium Shroud	2/6/2013	1,640	17.9	<19.8	<39.6	<1.28	8.47	2.44	<8.68	6.54	<410
		6229-SG-3	Utility Soil Gas	Helium Shroud	7/17/2014	161	<10.7	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2	<4,100
		6229-SG-4	Utility Soil Gas	Helium Shroud	7/17/2014	<31.9	<10.7	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2	<4,100
	Slab on Grade Coin Laundry	6229-SSV-1	Sub-Slab Vapor	Water Dam	2/6/2013	42.1	8.65	<19.8	<39.6	<1.28	9.81	0.83	10.9	8.26	<410
		6229-SSV-2	Sub-Slab Vapor	Water Dam	2/6/2013	4.88	<1.07	<19.8	<39.6	<1.28	<1.60	<0.83	<8.68	<4.92	<410
		6229-SSV-3	Sub-Slab Vapor	Water Dam	2/6/2013	57.9	<1.07	<19.8	<39.6	<1.28	1.60	0.83	<8.68	<4.92	<410
	Slab on Grade Dry Cleaning Drop Off	6229-SSV-4	Sub-Slab Vapor	Water Dam	7/22/2014	38.7	<10.7	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2	<4,100
				Water Dam	1/9/2015	<31.9	<10.7	<198	<396	<12.8	NA	NA	NA	NA	NA
		6229-SSV-5	Sub-Slab Vapor	Water Dam	7/22/2014	1,640	56.4	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2	<4,100
				Water Dam	1/9/2015	1,610	<10.7	<198	<396	<12.8	NA	NA	NA	NA	NA
		6229-SSV-6	Sub-Slab Vapor	Water Dam	7/22/2014	1,790	25.8	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2	<4,100
				Water Dam	1/9/2015	343	11.8	<198	<396	<12.8	NA	NA	NA	NA	NA
	Basement	6229-SSV-7	Sub-Slab Vapor	Water Dam	7/22/2014	165	<b>501</b>	21,000	1,130	<b>20,500</b>	<16.0	<8.30	<86.8	<49.2	<4,100
6229-SSV-8		Sub-Slab Vapor	Water Dam	7/22/2014	998	151	5,200	<396	<b>9,730</b>	<16.0	<8.30	<86.8	<49.2	<4,100	
6229-SSV-11		Sub-Slab Vapor	Water Dam	3/2/2017	<b>19,000</b>	<b>303</b>	1,510	<39.6	130	NA	NA	NA	NA	NA	
6229-SSV-12		Sub-Slab Vapor	Water Dam	3/2/2017	2,180	<b>365</b>	1,810	<39.6	47.5	NA	NA	NA	NA	NA	
2724 W. Hampton Ave (Benz Oil)	Slab on Grade Along East Wall	6229-SSV-9	Sub-Slab Vapor	Water Dam	3/23/2015	57.0	<10.7	<198	<396	<12.8	NA	NA	NA	NA	NA
		6229-SSV-10	Sub-Slab Vapor	Water Dam	3/23/2015	84.8	<10.7	<198	<396	<12.8	NA	NA	NA	NA	NA

**Notes:**

<sup>1</sup> The Vapor Risk Screening Levels were calculated according to the procedures described in WDNR Publication RR-800 with an attenuation factor of 0.03 for sub-slab samples and 0.1 adjustment for 1 x 10<sup>-5</sup> lifetime cancer risk for carcinogens

<sup>2</sup> The Vapor Risk Screening Levels were calculated according to the procedures described in WDNR Publication RR-800 with an attenuation factor of 0.01 for utility soil gas samples and 0.1 adjustment for 1 x 10<sup>-5</sup> lifetime cancer risk for carcinogens

All concentrations reported in units of micrograms per cubic meter (µg/m<sup>3</sup>)

**Bolded** values exceed the applicable Vapor Risk Screening Level

VRSL = Vapor Risk Screening Level

SG = Soil Gas

SSV = Sub-Slab Vapor

NE = Not Established

NA = Not Analyzed

**TABLE A.5.**  
**SUMP DISCHARGE ANALYTICAL RESULTS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Identification	Remediation Status	Sump *	Sample Date	VOCs (ug/L)							(mg/L)	
				Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Toluene	Chloromethane	Oil and Grease	Total Suspended Solids
6229-SUMP-W	Pre-Interim Action	Old	7/26/2011	<b>309</b>	<b>10.5</b>	<i>12.1</i>	<0.89	<0.18	<0.67	<0.24	NS	NS
6229-SUMP-1	Pre-Interim Action	Old	3/5/2013	<b>340</b>	<b>9.3</b>	<i>18</i>	<0.25	<0.10	<0.54	<b>4.5</b>	NS	NS
6229-SUMP-4/14	Post-Interim Action	New	4/28/2014	<b>98</b>	<b>2.37</b>	<i>7.8</i>	<0.35	<b>0.78</b>	<0.69	<0.81	NS	NS
6229-SUMP	Post-Interim Action	New	5/15/2014	<b>86</b>	<b>3.5</b>	<i>14.6</i>	<0.35	<b>1.47</b>	<0.69	<0.81	<0.99	<4
6229-SUMP 6/2	Post-Interim Action	New	6/2/2014	<b>92</b>	<b>4.9</b>	<i>18.4</i>	<0.35	<b>0.33 J</b>	<0.69	<0.81	<1.98	26
6229-SUMP 6/18	Post-Interim Action	New	6/18/2014	<b>155</b>	<b>4.4</b>	<i>8.3</i>	<0.35	<b>0.34 J</b>	<0.69	<0.81	<0.99	<i>120</i>
6229-SUMP	Post-Interim Action	New	7/22/2014	<b>64</b>	<b>4.5</b>	<i>45</i>	0.53 J	<0.18	<0.69	<0.81	<0.99	<4
6229-SUMP	Post-Interim Action	New	10/15/2014	<b>120</b>	<b>6.2</b>	<i>17.5</i>	<0.35	<0.18	--	--	--	--
6229-SUMP	Post-Interim Action	New	1/7/2015	<b>19.6</b>	<b>1.94</b>	<i>17.6</i>	<0.54	<0.17	--	--	--	--
6229-SUMP	Post-Interim Action	New	4/11/2015	<b>104</b>	<b>3.2</b>	<i>9.4</i>	<0.54	<0.17	<0.44	<1.9	--	--
6229-SUMP	Post-Interim Action	New	10/1/2015	<b>38</b>	<b>1.89</b>	<i>9.5</i>	<0.54	<0.17	<0.44	<1.9	--	--
6229-SUMP	Post-Interim Action	New	4/1/2016	<b>64</b>	<b>2.15</b>	<i>5.3</i>	<0.54	<0.17	--	--	--	--
6229-SUMP	Post-Interim Action	New	10/4/2016	<b>49</b>	<b>7.8</b>	<i>18.4</i>	<0.54	<0.17	0.76 J	<1.9	--	--
6229-SUMP	Post-Remediation	New	4/7/2017	<b>14</b>	<0.45	<i>0.68 J</i>	<0.35	<0.19	<0.67	<1.3	--	--
6229-SUMP	Post-Remediation	New	6/14/2017	<b>1.52</b>	<0.45	<0.41	<0.35	<0.19	<0.67	<1.3	--	--
6229-SUMP	Post-Remediation	New	8/21/2017	<b>1.55</b>	<0.45	<0.41	<0.35	<0.19	--	--	--	--
6229-SUMP	Post-Remediation	New	4/6/2018	<b>1.56</b>	<0.45	<0.41	<0.35	<0.19	<0.19	<0.54	--	--
<b>Public Health Enforcement Standard (ug/L)</b>				<b>5</b>	<b>5</b>	<b>70</b>	<b>100</b>	<b>0.2</b>	<b>800</b>	<b>30</b>	<b>NA</b>	<b>NA</b>
<b>Public Health Preventive Action Limit (ug/L)</b>				<b>0.5</b>	<b>0.5</b>	<b>7</b>	<b>20</b>	<b>0.02</b>	<b>160</b>	<b>3</b>	<b>NA</b>	<b>NA</b>
<b>MMSD Do not exceed limit (mg/L)</b>				<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>300</b>	<b>100</b>

**Notes:**

µg/L = micrograms per liter

mg/L = milligrams per liter

-- = Not Analyzed

J = Analyte concentration is above the method detection limit and below the reporting limit

\* A new sump and perimeter drain system were installed as part of the interim action. The old sump was abandoned.

MMSD = Milwaukee Metropolitan Sewerage District

NA = Not Applicable

**Bolded** values exceed the Enforcement Standard

**Bolded** and *italicized* values exceed the Preventive Action Limit

*Italicized* values exceed the MMSD "Do Not Exceed" limit

**TABLE A.6.**  
**WATER LEVEL ELEVATIONS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Location ID	Date	TOC Elevation	Depth to Water	Groundwater Elevation (AMSL)
MW-1	2/11/2013	644.89	NM	NM
	3/6/2013	644.89	NM	NM
	Early Spring 2013	644.89	NM	NM
	5/7/2013	644.89	8.32	636.57
	Summer 2013	644.89	13.83	631.06
	Fall 2013	644.89	13.87	631.02
	Winter 2013	644.89	12.06	632.83
	Spring 2014	644.89	11.22	633.67
	7/17/2014	644.89	9.01	635.88
	10/15/2014	644.89	8.40	636.49
	1/7/2015	644.89	10.78	634.11
4/11/2015	644.89	5.71	639.18	
MW-2	2/11/2013	643.64	NM	NM
	3/6/2013	643.64	NM	NM
	Early Spring 2013	643.64	DRY	DRY
	5/7/2013	643.64	DRY	DRY
	Summer 2013	643.64	DRY	DRY
	Fall 2013	643.64	DRY	DRY
	Winter 2013	643.64	DRY	DRY
	Spring 2014	643.64	DRY	DRY
	7/17/2014	643.64	DRY	DRY
	10/15/2014	643.64	13.42	630.22
	1/7/2015	643.64	3.83	639.81
4/11/2015	643.64	5.74	637.90	
MW-3	2/11/2013	644.31	NM	NM
	3/6/2013	644.31	NM	NM
	Early Spring 2013	644.31	NM	NM
	5/7/2013	644.31	11.48	632.83
	Summer 2013	644.31	7.36	636.95
	Fall 2013	644.31	7.26	637.05
	Winter 2013	644.31	6.02	638.29
	Spring 2014	644.31	5.46	638.85
	7/17/2014	644.31	4.74	639.57
	10/15/2014	644.31	5.00	639.31
	1/7/2015	644.31	5.16	639.15
4/11/2015	644.31	7.24	637.07	

**TABLE A.6.**  
**WATER LEVEL ELEVATIONS**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Location ID	Date	TOC Elevation	Depth to Water	Groundwater Elevation (AMSL)
PZ-1	2/11/2013	644.72	20.00	624.72
	3/6/2013	644.72	20.00	624.72
	Early Spring 2013	644.72	20.00	624.72
	5/7/2013	644.72	20.15	624.57
	Summer 2013	644.72	22.74	621.98
	Fall 2013	644.72	22.64	622.08
	Winter 2013	644.72	21.75	622.97
	Spring 2014	644.72	20.57	624.15
	7/17/2014	644.72	19.11	625.61
	10/15/2014	644.72	18.10	626.62
	1/7/2015	644.72	10.15	634.57
4/11/2015	644.72	13.66	631.06	
PZ-2	2/11/2013	643.75	25.90	617.85
	3/6/2013	643.75	NM	NM
	Early Spring 2013	643.75	25.80	617.95
	5/7/2013	643.75	25.80	617.95
	Summer 2013	643.75	25.90	617.85
	Fall 2013	643.75	DRY	DRY
	Winter 2013	643.75	DRY	DRY
	Spring 2014	643.75	23.95	619.80
	7/17/2014	643.75	23.90	619.85
	10/15/2014	643.75	22.59	621.16
	1/7/2015	643.75	22.53	621.22
4/11/2015	643.75	22.91	620.84	
PZ-3	2/11/2013	644.66	NM	NM
	3/6/2013	644.66	NM	NM
	Early Spring 2013	644.66	22.51	622.15
	5/7/2013	644.66	15.25	629.41
	Summer 2013	644.66	15.30	629.36
	Fall 2013	644.66	15.30	629.36
	Winter 2013	644.66	13.95	630.71
	Spring 2014	644.66	13.00	631.66
	7/17/2014	644.66	12.67	631.99
	10/15/2014	644.66	12.68	631.98
	1/7/2015	644.66	17.92	626.74
4/11/2015	644.66	20.39	624.27	

**Notes:**

All values are in feet  
 AMSL = above mean sea level  
 DTW = Depth to water  
 NM = Not Measured  
 TOC = Top of Casing



**TABLE A.7.**  
**SSDS COMMISSIONING DATA**  
 Lloyd's Dry Cleaners  
 Milwaukee, Wisconsin

Date	Flow Rate (FPM)	Vacuum (inches of water)					System Inspection
		EP-1	EP-2	EP-3	SSV-11	SSV-12	
4/19/2017	NM	NM	NM	NM	-0.131	-0.126	All components in good condition; no repairs needed.
6/14/2017	NM	-0.8	-0.3	-0.8	-0.131	-0.415	All components in good condition; no repairs needed.
7/17/2017	NM	-1.0	NM	-1.3	-0.145	-0.43	All components in good condition; no repairs needed.
8/21/2017	NM	NM	NM	NM	-0.371	-0.425	All components in good condition; no repairs needed.
4/6/2018	1078	-1.5	-1.1	-1.5	-0.25	-0.197	All components in good condition; no repairs needed.
7/3/2018	1312	-1.7	-0.6	-1.7	-0.32	-0.237	All components in good condition; no repairs needed.

**Notes:**

See Figure B.4.c.1 for measurement locations

FPM = feet per minute

NM = Not Measured

## **ATTACHMENT B – MAPS, FIGURES, AND PHOTOS**

**Figure B.1.a. Site Location Map**

**Figure B.1.b. Site Layout Map**

**Figure B.1.b.2. Site Building Detail**

**Figure B.1.c. RR Sites Map**

**Figure B.2.a. Soil Contamination**

**Figure B.2.a.1. Soil Analytical Results of Exterior Borings**

**Figure B.2.a.2. Soil Analytical Results of Basement Borings**

**Figure B.2.a.3. Pre-Excavation Soil Samples and PCE Concentrations at 3 Feet BGS**

**Figure B.2.a.4. Pre-Excavation Soil Samples and PCE Concentrations at 9-10 Feet BGS**

**Figure B.2.a.5. Pre-Excavation Soil Samples and PCE Concentrations at 13 Feet BGS**

**Figure B.2.b. Residual Soil Contamination**

**Figure B.3.a. Geologic Cross-Section Transect Map**

**Figure B.3.a.1 Geologic Cross-Section A-A'**

**Figure B.3.a.2 Geologic Cross-Section B-B'**

**Figure B.3.a.3 Geologic Cross-Section C-C'**

**Figure B.3.b. Extent of Groundwater Impacts Exceeding Regulatory Standards**

**Figure B.3.c. Groundwater Flow Direction**

**Figure B.3.d. Monitoring Wells**

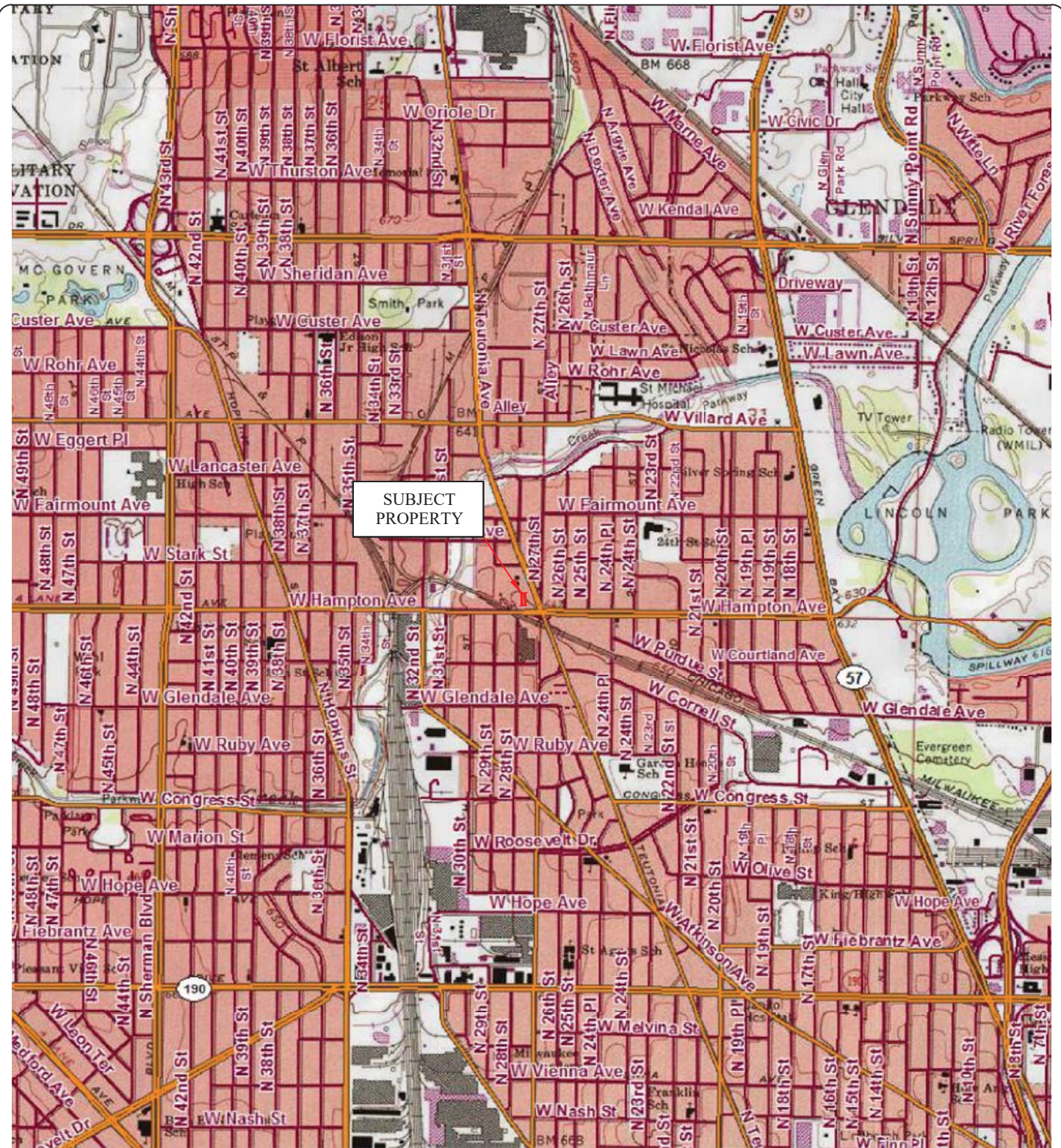
**Figure B.4.a. Vapor Intrusion Map**

**Figure B.4.b. Not Applicable – No other media of concern exists**

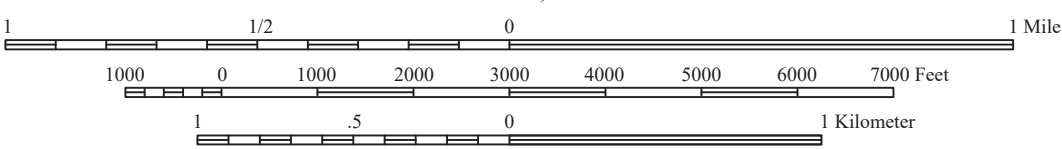
**Figure B.4.c.1. Sub-Slab Depressurization System Layout**

**Figure B.4.c.2. Basement Collection Trench and SSDS Layout Detail**

**B.5. Structural Impediment Photos**



Scale 1:24,000



Source: US Geological Survey, Milwaukee, WI Quadrangle, 7.5 Minute Series, 1984

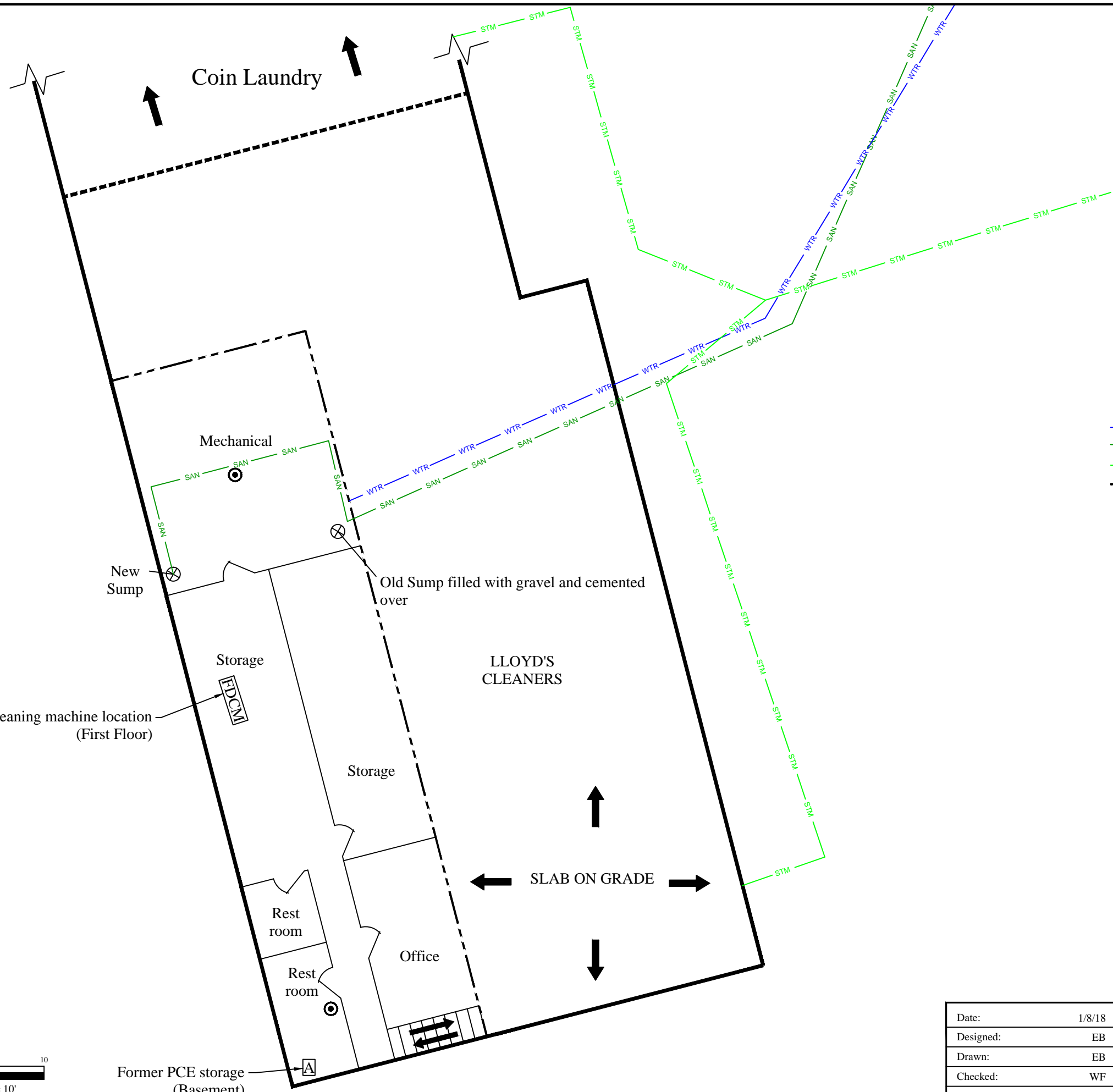
No.	Date	Revision	Approved	 825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com	Date:	3/1/13	SITE LOCATION MAP Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee WI	Figure
					Designed:	MMM		B.1.a
					Drawn:	MMM		Project
					Checked:	JJ		6229
					DWG file:	62720-11		



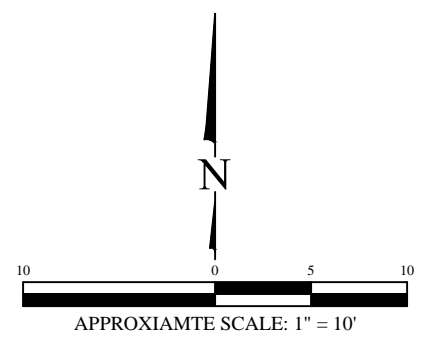
**Legend**


- Property boundary
  - GAS Underground gas utility line
  - WTR Underground water utility line
  - UGT Fiber optic utility line
  - SAN Sanitary sewer utility line
  - STM Storm sewer utility line
  - Previous excavation area
  - Sanitary sewer manhole
  - Fire Hydrant
  - PZ-1 Piezometer location (Proposed to be abandoned)
  - MW-1 Monitoring well location (Proposed to be abandoned)
- PCE = Tetrachloroethene  
 AST = Aboveground Storage Tank

<b>SITE LAYOUT MAP</b>											
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI											
	Figure <b>B.1.b</b>										
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">Date:</td><td>7/23/18</td></tr> <tr><td>Designed:</td><td>EB</td></tr> <tr><td>Drawn:</td><td>EB</td></tr> <tr><td>Checked:</td><td>BK</td></tr> <tr><td>DWG file:</td><td>6229-1495</td></tr> </table>	Date:	7/23/18	Designed:	EB	Drawn:	EB	Checked:	BK	DWG file:	6229-1495	Project <b>6229</b>
Date:	7/23/18										
Designed:	EB										
Drawn:	EB										
Checked:	BK										
DWG file:	6229-1495										



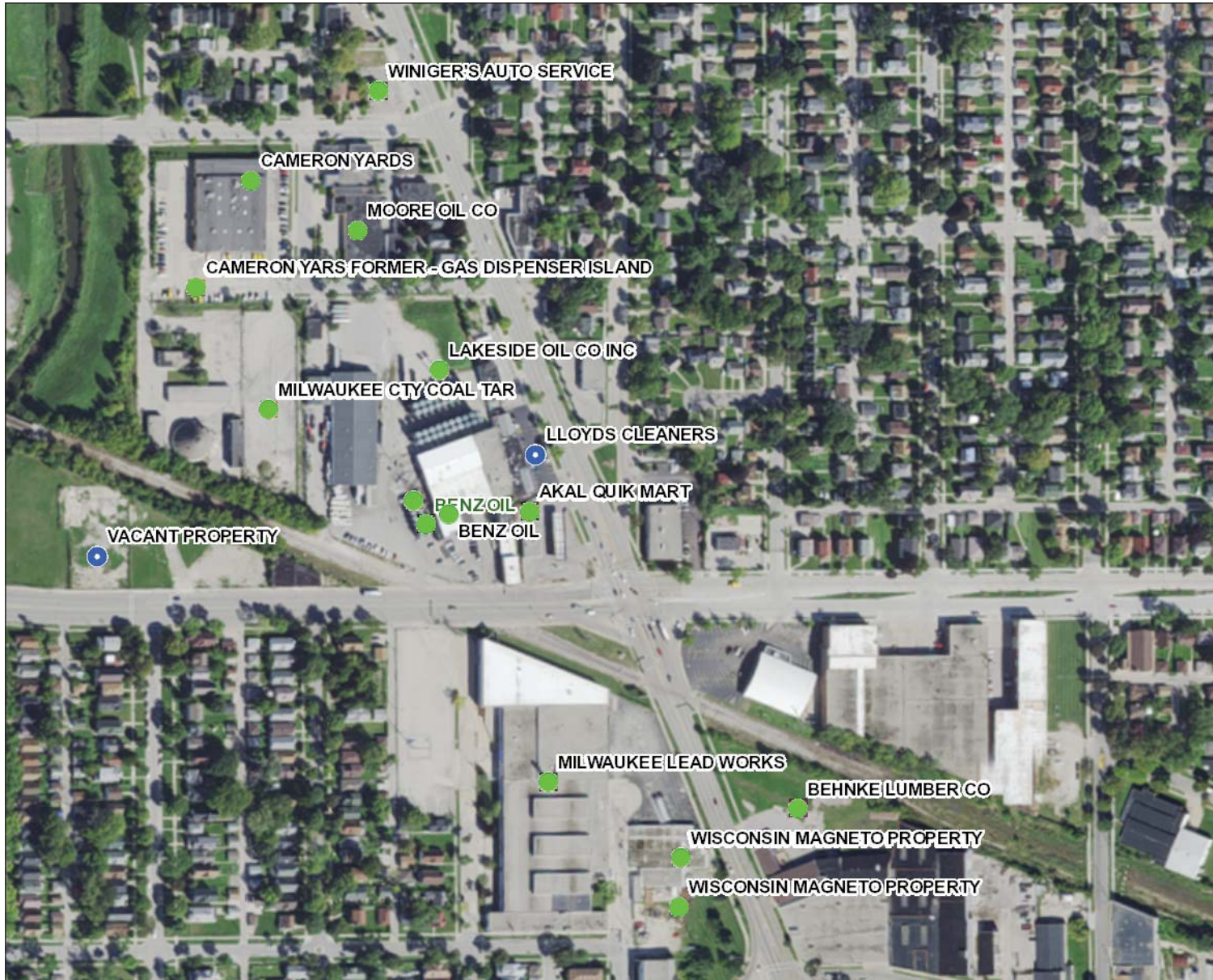
- Legend**
- Floor drain
  - WTR — Underground water utility line
  - SAN — Underground sanitary utility line
  - STM — Underground storm utility line
  - Perimeter of basement
  - FDCM — Former dry cleaning machine location
  - A — Former PCE storage



<b>SITE BUILDING DETAIL</b>	
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI	
Date: 1/8/18	Figure
Designed: EB	B.1.b.2
Drawn: EB	Project
Checked: WF	6229
DWG file: 6229-1389	 <small>825 North Capital Avenue • Indianapolis, IN 46204 EnviroForensics.com</small>



# Figure B.1.c. RR Sites Map - Lloyd's Cleaners



### Legend

- Open Site (ongoing cleanup)
- Closed Site (completed cleanup)
- Groundwater Contamination
- Soil Contamination
- Groundwater and Soil Contamination



NAD\_1983\_HARN\_Wisconsin\_TM

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1:3,960



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**Note: Not all sites are mapped.**

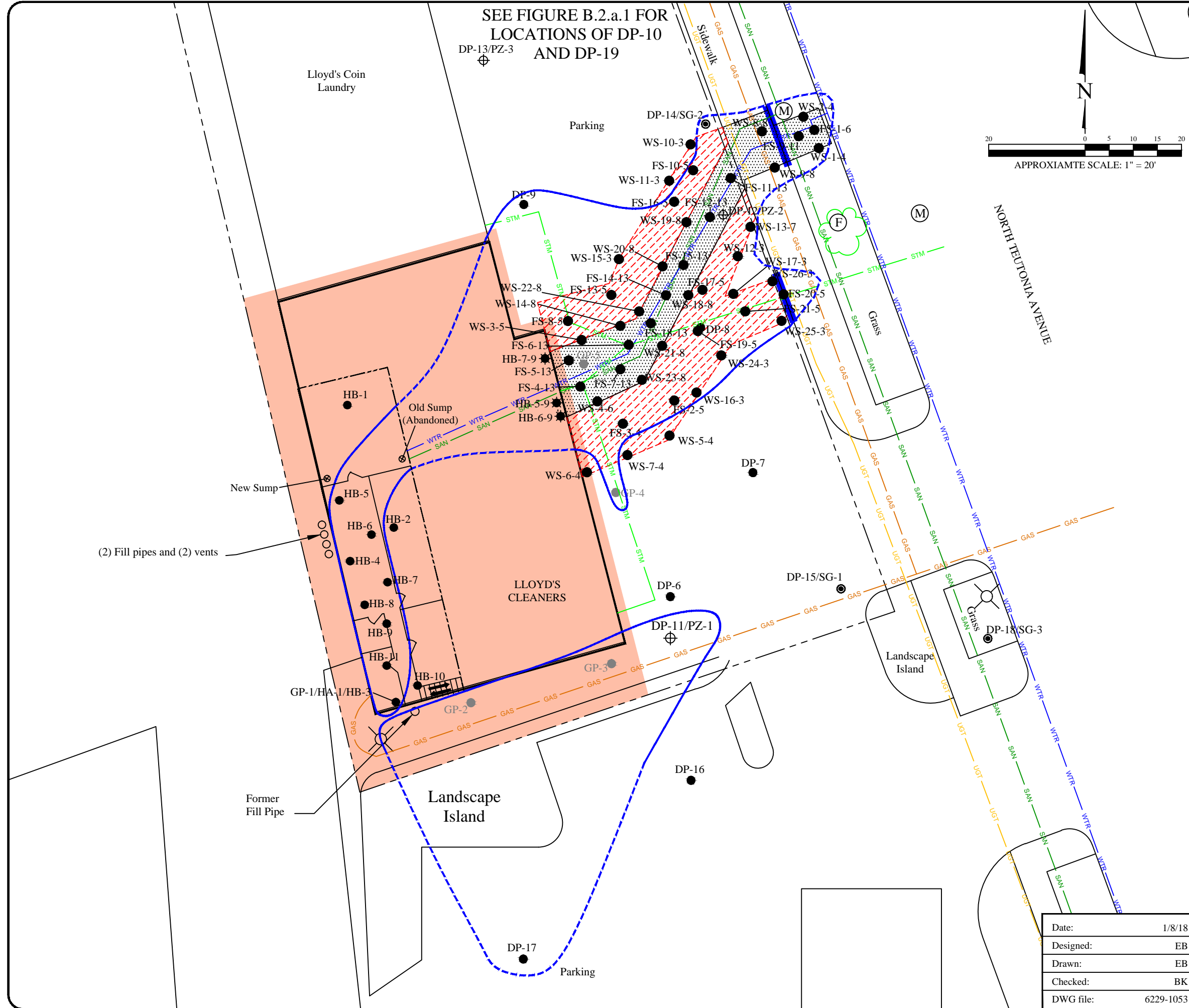
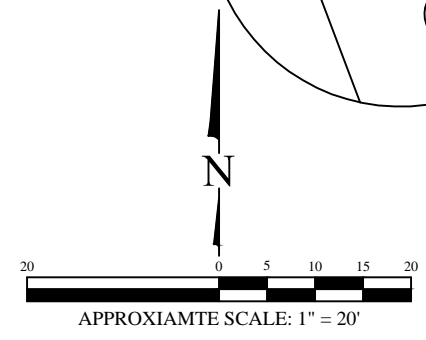
### Notes

SEE FIGURE B.2.a.1 FOR  
LOCATIONS OF DP-10  
AND DP-19

### Legend

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- GP-1 Geoprobe soil boring location (Sigma)
- DP-6 Direct-push boring location
- DP-15/SG-1 Direct-push/Soil Gas boring location
- DP-11/PZ-1 Direct Push boring/Piezometer location
- HB-1 Hand Auger
- FS-1-1 Floor excavation soil sample location (Floor Sample-Sample ID-Depth)
- WS-1-1 Side wall excavation soil sample location (Wall Sample-Sample ID-Depth)
- Excavation Limits (0-5 ft)
- Excavation Limits (5-13 ft)
- Impervious Barrier location
- Extent of soil contamination exceeding soil to groundwater pathway RCLs (Dashed where inferred)
- Structural impediment to further investigation

Note:  
There are no Direct-Contact RCL exceedances in the 0-4 feet depth interval



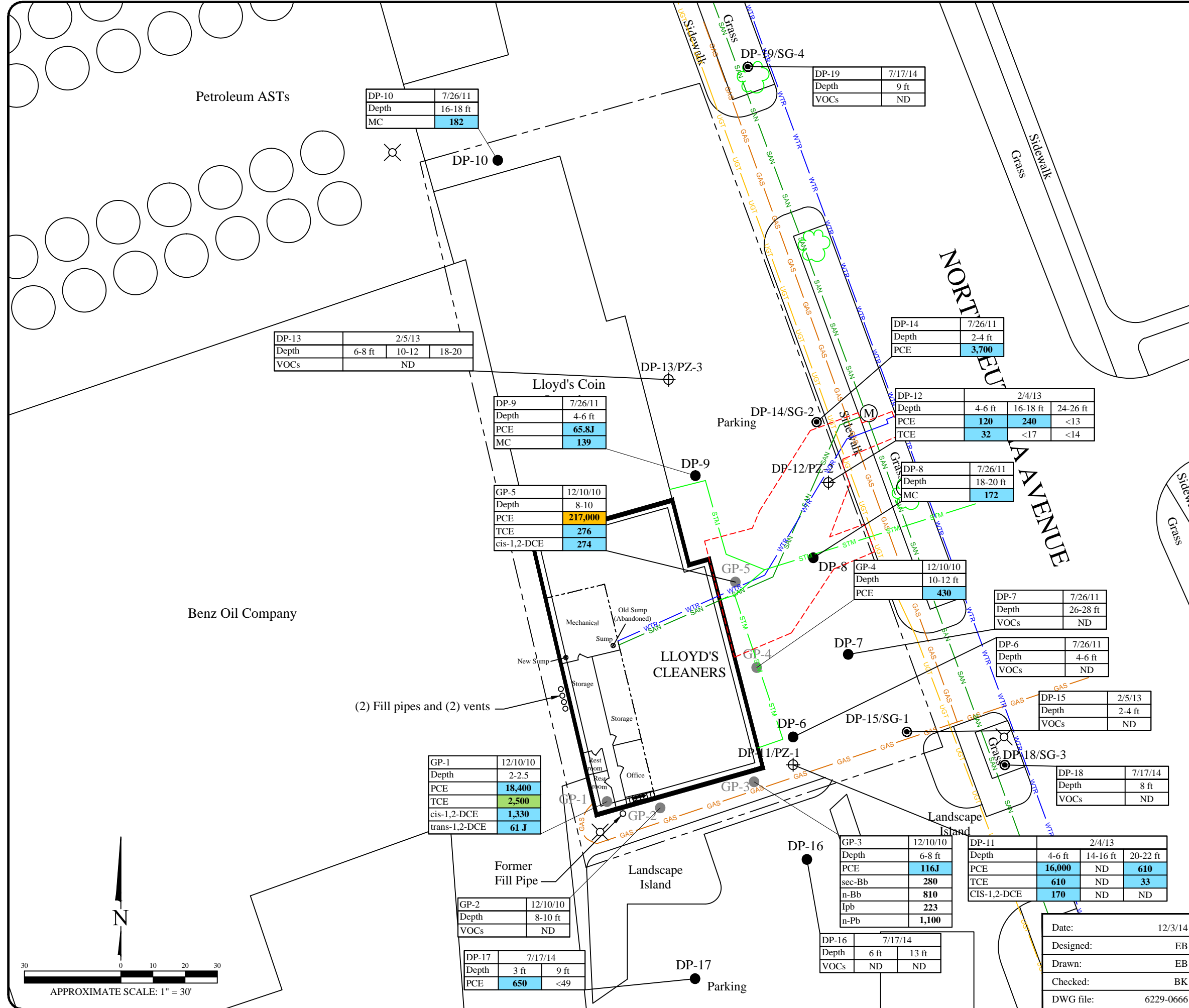
**SOIL CONTAMINATION**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	1/8/18
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1053

825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	B.2.a
Project	6229



### Legend

- Property boundary
- GAS - Underground gas utility line
- WTR - Underground water utility line
- UGT - Fiber optic utility line
- SAN - Sanitary sewer utility line
- STM - Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- Geoprobe soil boring location (Sigma)
- Direct-push boring location
- Direct-push / Soil Gas boring location
- Direct Push boring / Piezometer location

Analytes	Soil Residual Containment Level		
	Ingestion Industrial	Residential	Soil to Groundwater
PCE	153,000	30,700	4.5
TCE	8,810	644	3.6
cis-1,2-TCE	2,400,000	156,000	41.2
trans-1,2-DCE	976,000	211,000	58.8
MC	1,070,000	60,700	2.6
sec-Bb	NE	NE	NE
n-Bb	NE	NE	NE
Ipb	NE	NE	NE
n-Pb	NE	NE	NE

- Soil Notes:
1. Bold, shaded blue values are above SRCL Soil to Groundwater Closure Levels
  2. Bold, shaded orange values are above SRCL Ingestion Industrial Levels
  3. Results reported in micrograms per kilogram = ug/kg
  4. J = Estimated concentration above the method detection limit and below the reporting limit
  5. PCE = Tetrachloroethene
  6. TCE = Trichloroethene
  7. cis-1,2-DCE = cis-1,2-Dichloroethene
  8. trans-1,2-DCE = trans-1,2-Dichloroethene
  9. MC = Methylene Chloride
  10. sec-Bb = sec-Butylbenzene
  11. n-Bb = n-Butylbenzene
  12. Ipb = Isopropylbenzene
  13. n-Pb = n-Propylbenzene
  14. ND = Compounds not detected
  15. NE = Not Established
  16. VOCs = Volatile Organic Compounds

### SOIL ANALYTICAL RESULTS OF EXTERIOR BORINGS

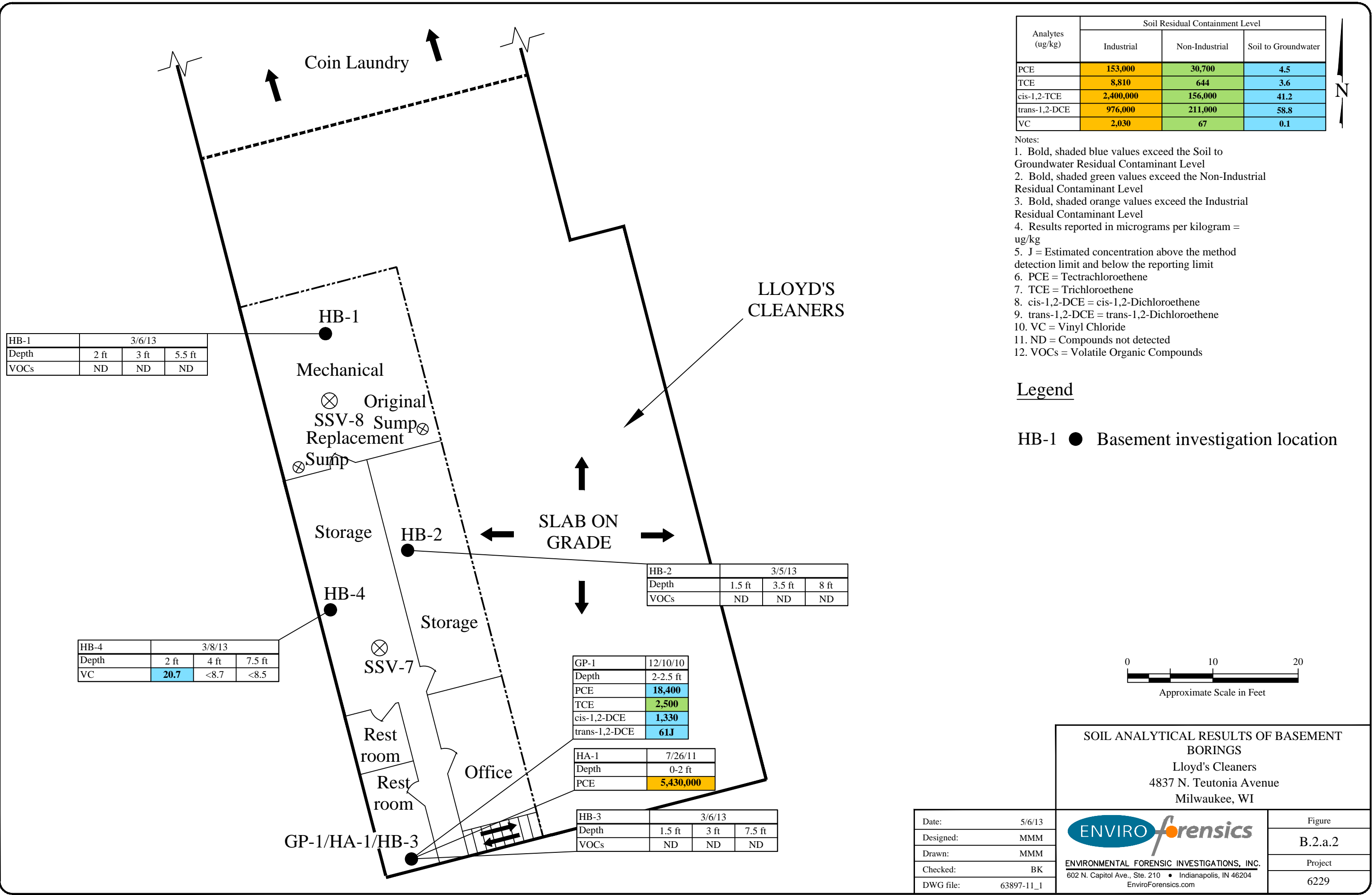
Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	12/3/14
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-0666

Figure	B.2.a.1
Project	6229

**ENVIROforensics**  
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.  
602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204  
EnviroForensics.com



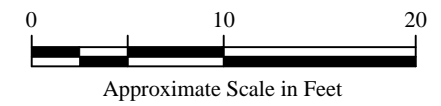


Analytes (ug/kg)	Soil Residual Containment Level		
	Industrial	Non-Industrial	Soil to Groundwater
PCE	<b>153,000</b>	<b>30,700</b>	<b>4.5</b>
TCE	<b>8,810</b>	<b>644</b>	<b>3.6</b>
cis-1,2-TCE	<b>2,400,000</b>	<b>156,000</b>	<b>41.2</b>
trans-1,2-DCE	<b>976,000</b>	<b>211,000</b>	<b>58.8</b>
VC	<b>2,030</b>	<b>67</b>	<b>0.1</b>

- Notes:
1. Bold, shaded blue values exceed the Soil to Groundwater Residual Contaminant Level
  2. Bold, shaded green values exceed the Non-Industrial Residual Contaminant Level
  3. Bold, shaded orange values exceed the Industrial Residual Contaminant Level
  4. Results reported in micrograms per kilogram = ug/kg
  5. J = Estimated concentration above the method detection limit and below the reporting limit
  6. PCE = Tetrachloroethene
  7. TCE = Trichloroethene
  8. cis-1,2-DCE = cis-1,2-Dichloroethene
  9. trans-1,2-DCE = trans-1,2-Dichloroethene
  10. VC = Vinyl Chloride
  11. ND = Compounds not detected
  12. VOCs = Volatile Organic Compounds

**Legend**

HB-1 ● Basement investigation location



**SOIL ANALYTICAL RESULTS OF BASEMENT BORINGS**  
 Lloyd's Cleaners  
 4837 N. Teutonia Avenue  
 Milwaukee, WI

	Figure
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC. 602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204 EnviroForensics.com	B.2.a.2
	Project
	6229

Date:	5/6/13
Designed:	MMM
Drawn:	MMM
Checked:	BK
DWG file:	63897-11_1

HB-1	3/6/13		
Depth	2 ft	3 ft	5.5 ft
VOCs	ND	ND	ND

HB-2	3/5/13		
Depth	1.5 ft	3.5 ft	8 ft
VOCs	ND	ND	ND

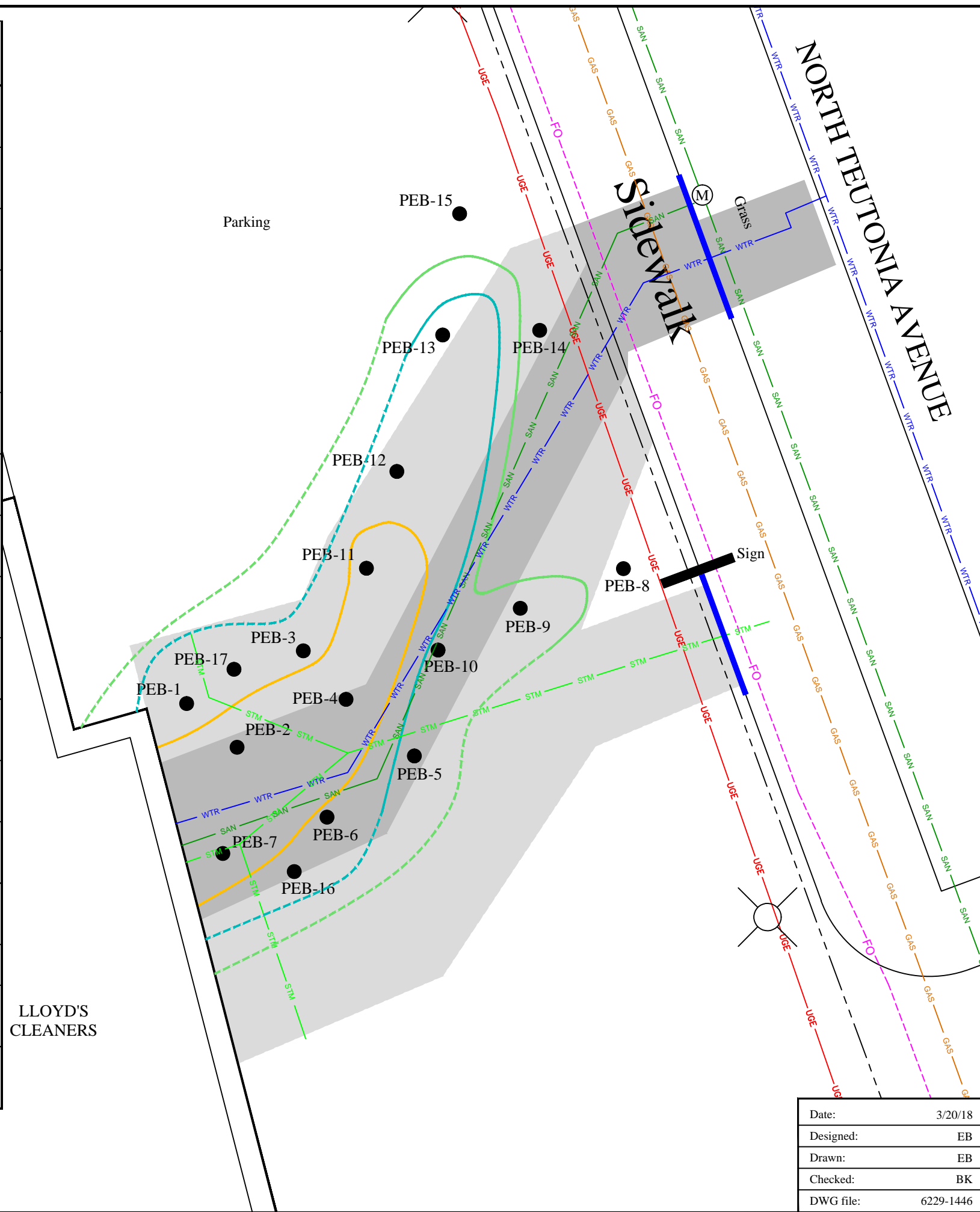
HB-4	3/8/13		
Depth	2 ft	4 ft	7.5 ft
VC	<b>20.7</b>	<8.7	<8.5

GP-1	12/10/10
Depth	2-2.5 ft
PCE	<b>18,400</b>
TCE	<b>2,500</b>
cis-1,2-DCE	<b>1,330</b>
trans-1,2-DCE	<b>61J</b>

HA-1	7/26/11
Depth	0-2 ft
PCE	<b>5,430,000</b>

HB-3	3/6/13		
Depth	1.5 ft	3 ft	7.5 ft
VOCs	ND	ND	ND

Sample ID	Depth (feet)	Total PCE Concentration (ug/kg)	TCLP PCE Concentration (ug/L)
6229-PEB-1 3'	3	6,800	--
6229-PEB-1 10'	10	< 49	--
6229-PEB-1 13'	13	< 49	--
6229-PEB-2 3'	3	20,600	110
6229-PEB-2 10'	10	< 49	--
6229-PEB-2 13'	13	< 49	--
6229-PEB-3 3'	3	1,870	--
6229-PEB-3 10'	10	< 49	--
6229-PEB-3 13'	13	< 49	--
6229-PEB-4 3'	3	21,200	52
6229-PEB-4 10'	10	< 49	--
6229-PEB-4 13'	13	< 49	--
6229-PEB-5 3'	3	440	--
6229-PEB-5 10'	10	< 49	--
6229-PEB-5 13'	13	< 49	--
6229-PEB-6 3'	3	6,600	--
6229-PEB-6 10'	10	< 49	--
6229-PEB-6 13'	13	< 49	--
6229-PEB-7 3'	3	47,000	150
6229-PEB-7 10'	10	89,000	2,000
6229-PEB-7 13'	13	235,000	4,300
6229-PEB-8 3'	3	62 "J"	--
6229-PEB-8 6'	6	1,420	--
6229-PEB-8 9'	9	< 49	--
6229-PEB-9 3'	3	330	--
6229-PEB-9 6'	6	< 49	--
6229-PEB-9 9'	9	< 49	--
6229-PEB-10 3'	3	960	--
6229-PEB-10 10'	10	< 49	--
6229-PEB-10 13'	13	< 49	--
6229-PEB-11 3'	3	18,300	150
6229-PEB-11 10'	10	65 "J"	--
6229-PEB-11 13'	13	< 49	--
6229-PEB-12 3'	3	6,300	--
6229-PEB-12 10'	10	94 "J"	--
6229-PEB-12 13'	13	< 49	--
6229-PEB-13 3'	3	3,200	--
6229-PEB-13 10'	10	4,700	--
6229-PEB-13 13'	13	< 49	--
6229-PEB-14 3'	3	83 "J"	--
6229-PEB-14 10'	10	< 49	--
6229-PEB-14 13'	13	< 49	--
6229-PEB-15 10'	10	< 49	--
6229-PEB-15 13'	13	< 49	--
6229-PEB-16 3'	3	6,300	--
6229-PEB-16 10'	10	< 49	--
6229-PEB-16 13'	13	< 49	--
6229-PEB-17 3'	3	2,350	--
6229-PEB-17 10'	10	640	--
6229-PEB-17 13'	13	2,840	--

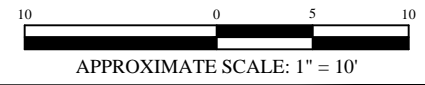


**Legend**

- Property boundary
- GAS - Underground gas utility line
- WTR - Underground water utility line
- FO - Underground fiber optic utility line
- UGE - Underground electric utility line
- SAN - Underground sanitary sewer utility line
- STM - Underground storm sewer line
- PEB-1 ● - Pre-excitation soil sample location
- Ⓜ - Sanitary sewer manhole

PCE = Tetrachloroethene  
TCLP = Toxicity Characteristic Leaching Procedure  
μg/kg = micrograms per kilogram  
μg/L = micrograms per liter

- PCE in soil ≥ 100 μg/kg
- PCE in soil ≥ 1,000 μg/kg
- PCE in soil ≥ 10,000 μg/kg
- Dashed boundaries are inferred
- Excavation Limits (5 ft)
- Excavation Limits (13 ft)
- Impervious Barrier location



PRE-EXCAVATION SOIL SAMPLES AND PCE CONCENTRATIONS AT 3 FEET BGS

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	3/20/18
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1446

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Figure	B.2.a.3
Project	6229

Storage

LLOYD'S CLEANERS

Parking

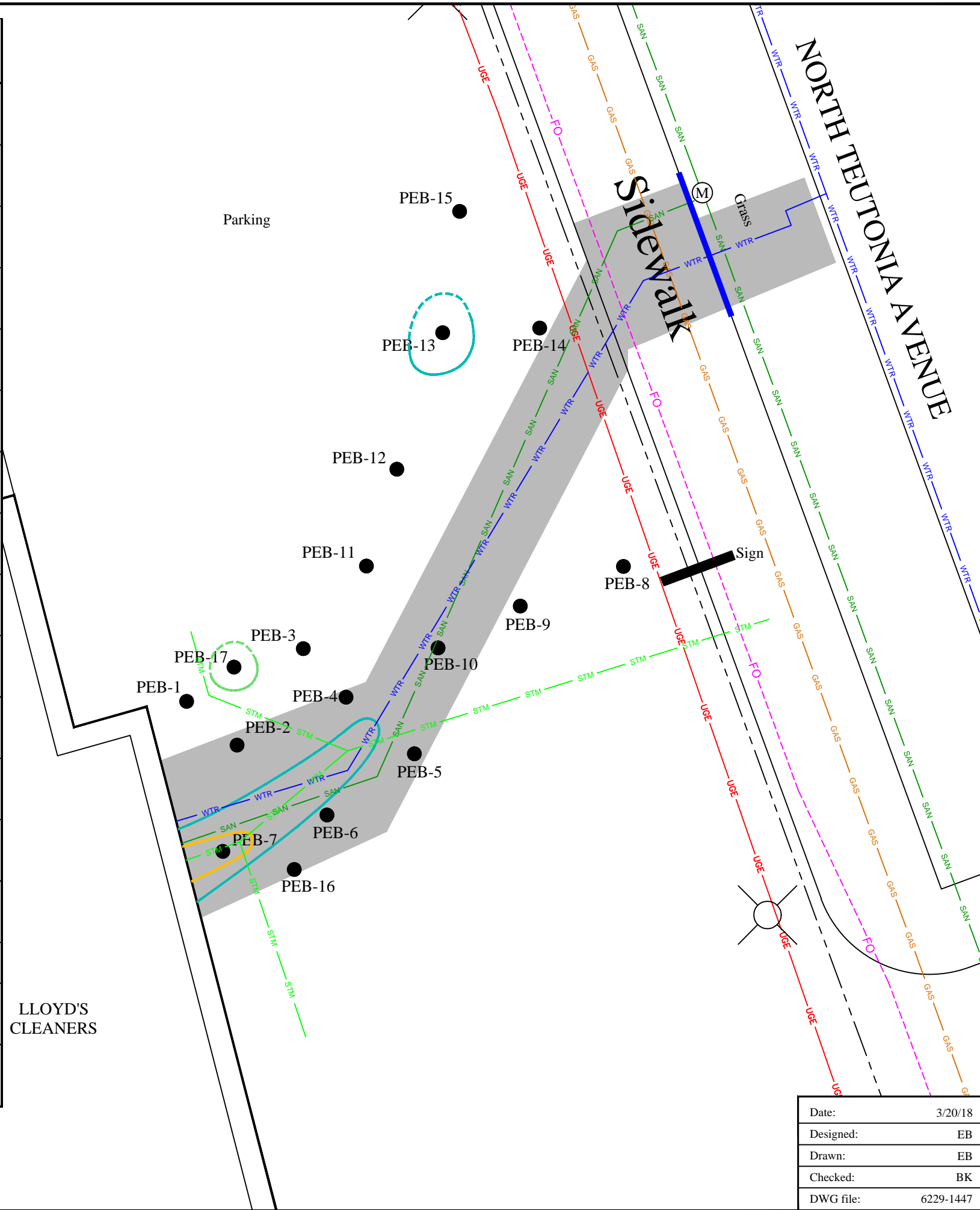
Sewer Walk

NORTH TEUTONIA AVENUE

Sign



Sample ID	Depth (feet)	Total PCE Concentration (ug/kg)	TCLP PCE Concentration (ug/L)
6229-PEB-1 3'	3	6,800	--
6229-PEB-1 10'	10	< 49	--
6229-PEB-1 13'	13	< 49	--
6229-PEB-2 3'	3	20,600	110
6229-PEB-2 10'	10	< 49	--
6229-PEB-2 13'	13	< 49	--
6229-PEB-3 3'	3	1,870	--
6229-PEB-3 10'	10	< 49	--
6229-PEB-3 13'	13	< 49	--
6229-PEB-4 3'	3	21,200	52
6229-PEB-4 10'	10	< 49	--
6229-PEB-4 13'	13	< 49	--
6229-PEB-5 3'	3	440	--
6229-PEB-5 10'	10	< 49	--
6229-PEB-5 13'	13	< 49	--
6229-PEB-6 3'	3	6,600	--
6229-PEB-6 10'	10	< 49	--
6229-PEB-6 13'	13	< 49	--
6229-PEB-7 3'	3	47,000	150
6229-PEB-7 10'	10	89,000	2,000
6229-PEB-7 13'	13	235,000	4,300
6229-PEB-8 3'	3	62 "J"	--
6229-PEB-8 6'	6	1,420	--
6229-PEB-8 9'	9	< 49	--
6229-PEB-9 3'	3	330	--
6229-PEB-9 6'	6	< 49	--
6229-PEB-9 9'	9	< 49	--
6229-PEB-10 3'	3	960	--
6229-PEB-10 10'	10	< 49	--
6229-PEB-10 13'	13	< 49	--
6229-PEB-11 3'	3	18,300	150
6229-PEB-11 10'	10	65 "J"	--
6229-PEB-11 13'	13	< 49	--
6229-PEB-12 3'	3	6,300	--
6229-PEB-12 10'	10	94 "J"	--
6229-PEB-12 13'	13	< 49	--
6229-PEB-13 3'	3	3,200	--
6229-PEB-13 10'	10	4,700	--
6229-PEB-13 13'	13	< 49	--
6229-PEB-14 3'	3	83 "J"	--
6229-PEB-14 10'	10	< 49	--
6229-PEB-14 13'	13	< 49	--
6229-PEB-15 10'	10	< 49	--
6229-PEB-15 13'	13	< 49	--
6229-PEB-16 3'	3	6,300	--
6229-PEB-16 10'	10	< 49	--
6229-PEB-16 13'	13	< 49	--
6229-PEB-17 3'	3	2,350	--
6229-PEB-17 10'	10	640	--
6229-PEB-17 13'	13	2,840	--

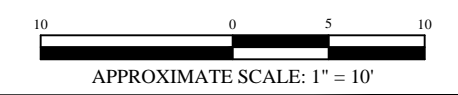


**Legend**

- Property boundary
- GAS — Underground gas utility line
- WTR — Underground water utility line
- - - FO - - - Underground fiber optic utility line
- UGE — Underground electric utility line
- SAN — Underground sanitary sewer utility line
- STM — Underground storm sewer line
- PEB-1 Pre-excitation soil sample location
- Ⓜ Sanitary sewer manhole

PCE = Tetrachloroethene  
TCLP = Toxicity Characteristic Leaching Procedure  
μg/kg = micrograms per kilogram  
μg/L = micrograms per liter

- PCE in soil ≥ 100 μg/kg
- PCE in soil ≥ 1,000 μg/kg
- PCE in soil ≥ 10,000 μg/kg
- - - Dashed boundaries are inferred
- █ Excavation Limits (13 ft)
- █ Impervious Barrier location



**PRE-EXCAVATION SOIL SAMPLES  
AND PCE CONCENTRATIONS AT 9-10 FEET BGS**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	3/20/18
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1447

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EnviroForensics.com

Figure	B.2.a.4
Project	6229

Storage

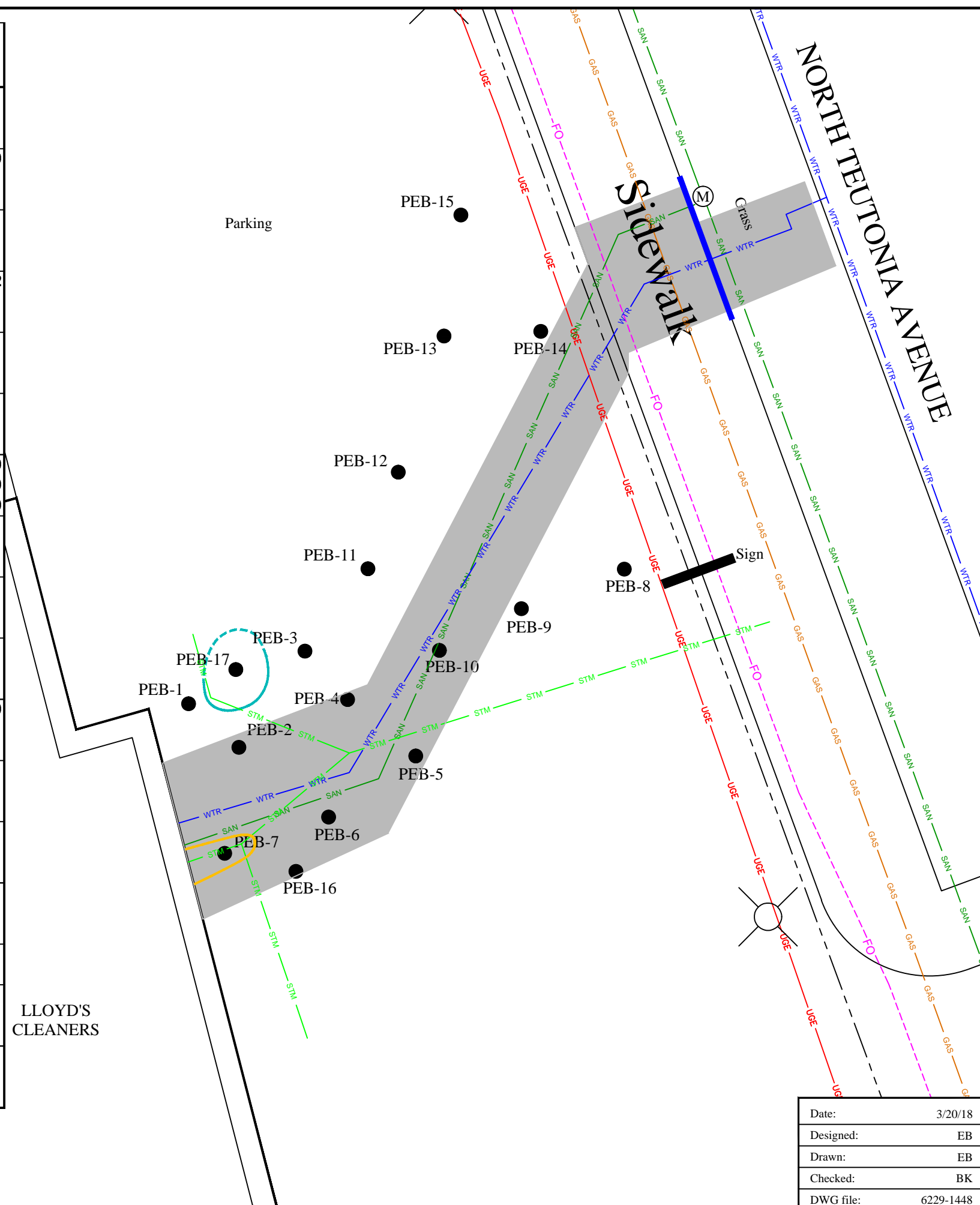
LLOYD'S  
CLEANERS

Parking

Sign



Sample ID	Depth (feet)	Total PCE Concentration (ug/kg)	TCLP PCE Concentration (ug/L)
6229-PEB-1 3'	3	6,800	--
6229-PEB-1 10'	10	< 49	--
6229-PEB-1 13'	13	< 49	--
6229-PEB-2 3'	3	20,600	110
6229-PEB-2 10'	10	< 49	--
6229-PEB-2 13'	13	< 49	--
6229-PEB-3 3'	3	1,870	--
6229-PEB-3 10'	10	< 49	--
6229-PEB-3 13'	13	< 49	--
6229-PEB-4 3'	3	21,200	52
6229-PEB-4 10'	10	< 49	--
6229-PEB-4 13'	13	< 49	--
6229-PEB-5 3'	3	440	--
6229-PEB-5 10'	10	< 49	--
6229-PEB-5 13'	13	< 49	--
6229-PEB-6 3'	3	6,600	--
6229-PEB-6 10'	10	< 49	--
6229-PEB-6 13'	13	< 49	--
6229-PEB-7 3'	3	47,000	150
6229-PEB-7 10'	10	89,000	2,000
6229-PEB-7 13'	13	235,000	4,300
6229-PEB-8 3'	3	62 "J"	--
6229-PEB-8 6'	6	1,420	--
6229-PEB-8 9'	9	< 49	--
6229-PEB-9 3'	3	330	--
6229-PEB-9 6'	6	< 49	--
6229-PEB-9 9'	9	< 49	--
6229-PEB-10 3'	3	960	--
6229-PEB-10 10'	10	< 49	--
6229-PEB-10 13'	13	< 49	--
6229-PEB-11 3'	3	18,300	150
6229-PEB-11 10'	10	65 "J"	--
6229-PEB-11 13'	13	< 49	--
6229-PEB-12 3'	3	6,300	--
6229-PEB-12 10'	10	94 "J"	--
6229-PEB-12 13'	13	< 49	--
6229-PEB-13 3'	3	3,200	--
6229-PEB-13 10'	10	4,700	--
6229-PEB-13 13'	13	< 49	--
6229-PEB-14 3'	3	83 "J"	--
6229-PEB-14 10'	10	< 49	--
6229-PEB-14 13'	13	< 49	--
6229-PEB-15 10'	10	< 49	--
6229-PEB-15 13'	13	< 49	--
6229-PEB-16 3'	3	6,300	--
6229-PEB-16 10'	10	< 49	--
6229-PEB-16 13'	13	< 49	--
6229-PEB-17 3'	3	2,350	--
6229-PEB-17 10'	10	640	--
6229-PEB-17 13'	13	2,840	--

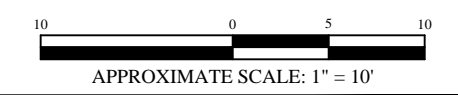


### Legend

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- FO Underground fiber optic utility line
- UGE Underground electric utility line
- SAN Underground sanitary sewer utility line
- STM Underground storm sewer line
- PEB-1 Pre-excitation soil sample location
- Sanitary sewer manhole

PCE = Tetrachloroethene  
TCLP = Toxicity Characteristic Leaching Procedure  
μg/kg = micrograms per kilogram  
μg/L = micrograms per liter

- PCE in soil ≥ 100 μg/kg
- PCE in soil ≥ 1,000 μg/kg
- PCE in soil ≥ 10,000 μg/kg
- Dashed boundaries are inferred
- Excavation Limits (13 ft)
- Impervious Barrier location



**PRE-EXCAVATION SOIL SAMPLES  
AND PCE CONCENTRATIONS AT 13 FEET BGS**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	3/20/18
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1448

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EnviroForensics.com

Figure	B.2.a.5
Project	6229

Storage

LLOYD'S  
CLEANERS

Parking

Shewalk

NORTH TEUTONIA AVENUE

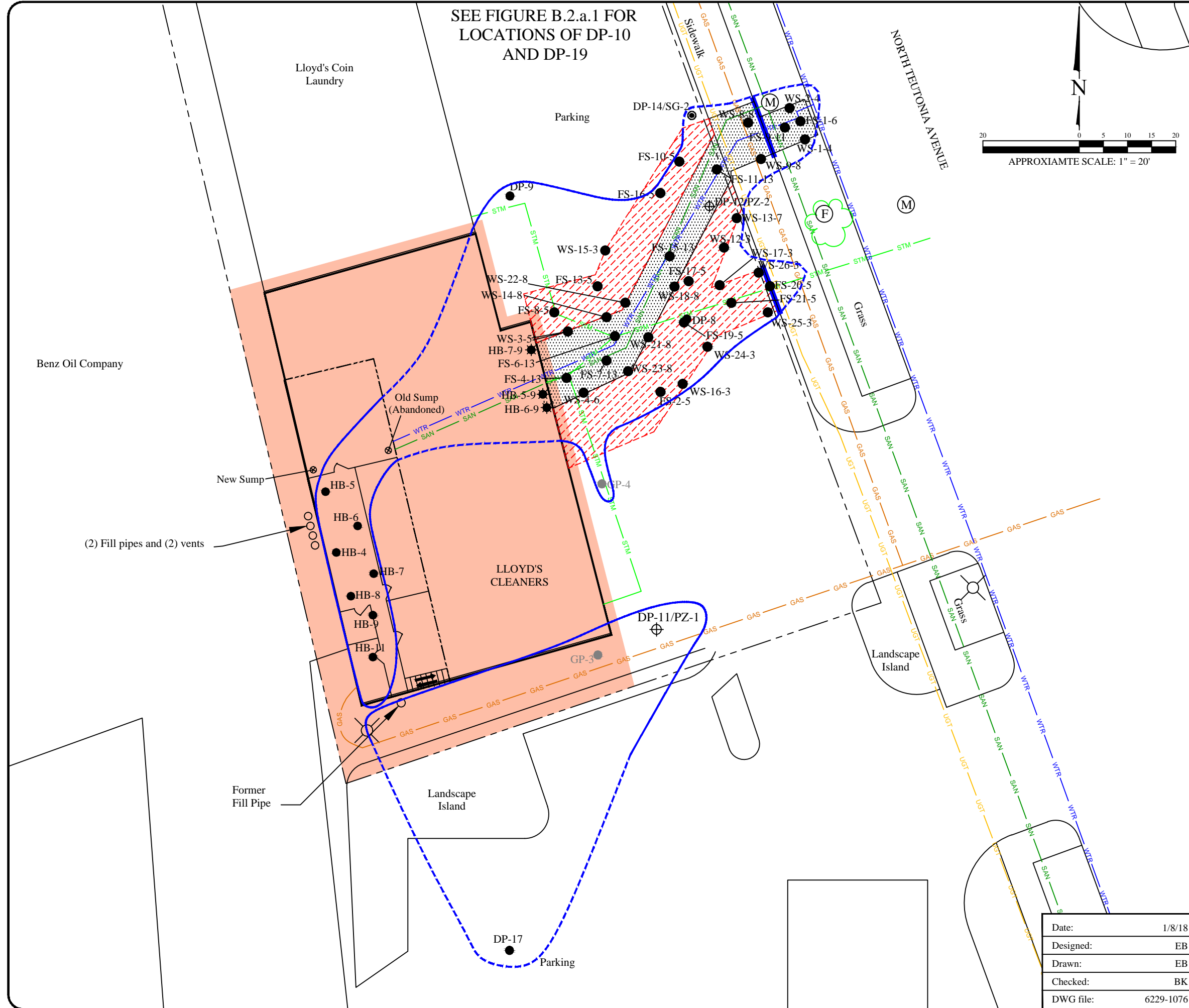
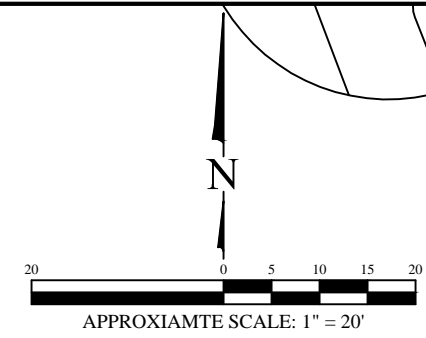
Sign

SEE FIGURE B.2.a.1 FOR  
LOCATIONS OF DP-10  
AND DP-19

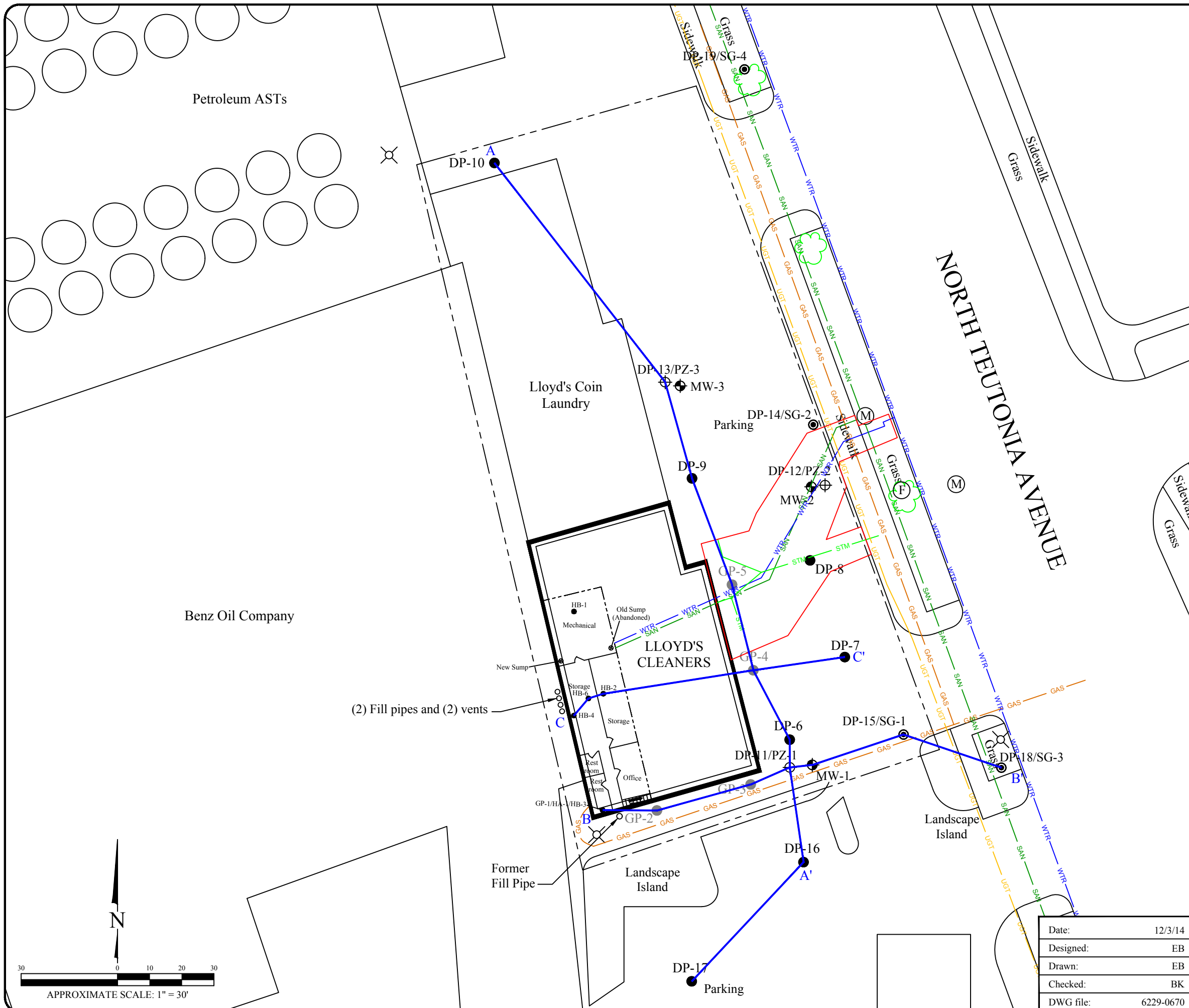
### Legend

- Property boundary
- GAS — Underground gas utility line
- WTR — Underground water utility line
- UGT — Fiber optic utility line
- SAN — Sanitary sewer utility line
- STM — Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- DP-6 — Direct-push boring location
- DP-15/SG-1 — Direct-push/Soil Gas boring location
- DP-11/PZ-1 — Direct Push boring/Piezometer location
- FS-1-1 — Floor excavation soil sample location (Floor Sample-Sample ID-Depth)
- WS-1-1 — Side wall excavation soil sample location (Wall Sample-Sample ID-Depth)
- Excavation Limits (0-5 ft)
- Excavation Limits (5-13 ft)
- Impervious Barrier location
- Extent of residual soil contamination exceeding soil to groundwater pathway RCLs
- Structural impediment to further investigation

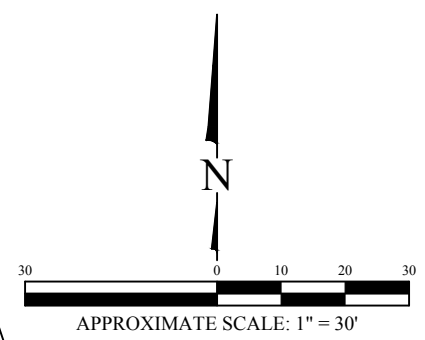
Note:  
There are no Direct-Contact RCL exceedances in the unsaturated zone



<b>RESIDUAL SOIL CONTAMINATION</b>											
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI											
	Figure <b>B.2.b</b>										
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Date:</td><td>1/8/18</td></tr> <tr><td>Designed:</td><td>EB</td></tr> <tr><td>Drawn:</td><td>EB</td></tr> <tr><td>Checked:</td><td>BK</td></tr> <tr><td>DWG file:</td><td>6229-1076</td></tr> </table>	Date:	1/8/18	Designed:	EB	Drawn:	EB	Checked:	BK	DWG file:	6229-1076	Project 6229
Date:	1/8/18										
Designed:	EB										
Drawn:	EB										
Checked:	BK										
DWG file:	6229-1076										



- ### Legend
- Property boundary
  - GAS Underground gas utility line
  - WTR Underground water utility line
  - UGT Fiber optic utility line
  - SAN Sanitary sewer utility line
  - STM Storm sewer utility line
  - Previous excavation area
  - Sanitary sewer manhole
  - Fire Hydrant
  - Geoprobe soil boring location (Sigma)
  - Direct-push boring location
  - Hand-auger boring location
  - Direct-push / Soil Gas boring location
  - Direct Push boring / Piezometer location
  - Monitoring well location
  - Cross section transect
  - Cross section transect
  - Cross section transect



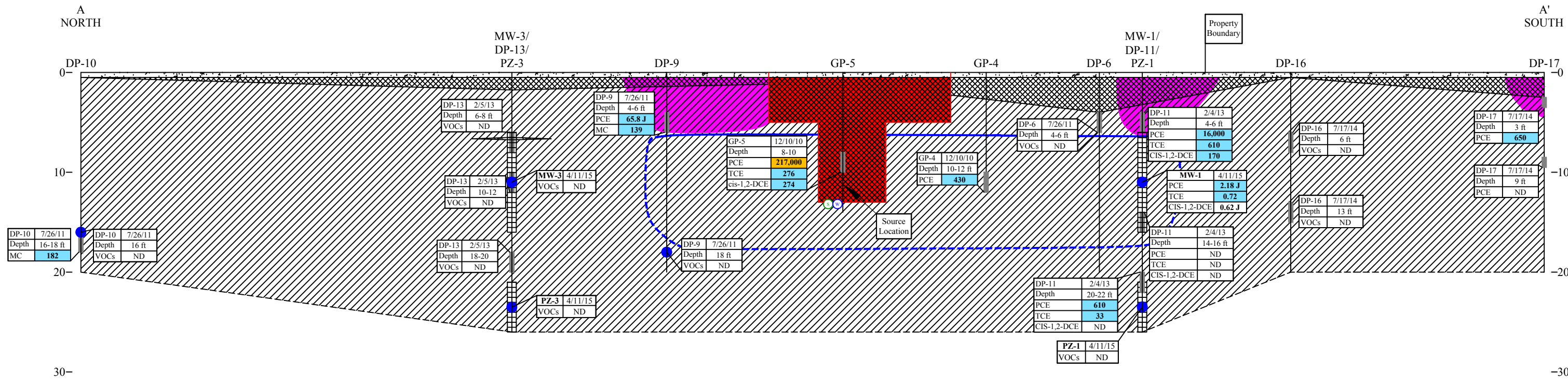
**GEOLOGIC CROSS SECTION TRANSECT MAP**  
A-A', B-B', AND C-C'

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	12/3/14
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-0670

Figure
B.3.a
Project
6229

825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com



Analytes	Public Health Enforcement Standards	Public Health Preventive Action Limit
PCE	5	0.5
TCE	5	0.5
cis-1,2-TCE	70	7.0
trans-1,2-DCE	100	20
VC	0.2	0.02
MC	5.0	0.5
Benzene	5.0	0.5
Ethylbenzene	700	140
n-Pb	NE	NE
Toluene	1,000	200
Xylenes (Total)	10,000	1,000

Analytes	Soil Residual Containment Level		
	Ingestion Industrial	Residential	Soil to Groundwater
PCE	145,000	33,000	4.5
TCE	8,410	1,300	3.6
cis-1,2-TCE	2,340,000	156,000	41.2
trans-1,2-DCE	1,850,000	1,560,000	62.6
MC	1,150,000	61,800	2.6
sec-Bb	145,000	145,000	NE
n-Bb	108,000	108,000	NE
Ipb	268,000	268,000	NE
n-Pb	264,000	264,000	NE

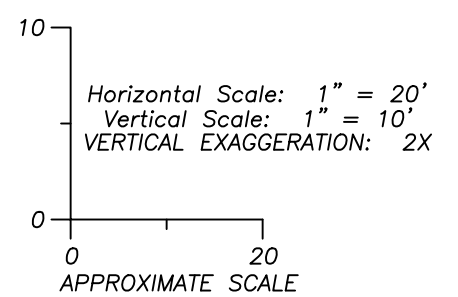
- Soil Notes:
1. Bold, shaded blue values are above SRCL Soil to Groundwater Closure Levels
  2. Bold, shaded orange values are above SRCL Ingestion Industrial Levels
  3. Results reported in micrograms per kilogram = ug/kg
  4. J = Estimated concentration above the method detection limit and below the reporting limit
  5. PCE = Tetrachloroethene
  6. TCE = Trichloroethene
  7. cis-1,2-DCE = cis-1,2-Dichloroethene
  8. trans-1,2-DCE = trans-1,2-Dichloroethene
  9. MC = Methylene Chloride
  10. sec-Bb = sec-Butylbenzene
  11. n-Bb = n-Butylbenzene
  12. Ipb = Isopropylbenzene
  13. n-Pb = n-Propylbenzene
  14. ND = Compounds not detected
  15. NE = Not Established
  16. VOCs = Volatile Organic Compounds

- Groundwater Notes:
1. Bold, shaded blue values are above SRCL Soil to Groundwater Closure Levels
  2. Results reported in micrograms per liter = ug/L
  3. J = Estimated concentration above the method detection limit and below the reporting limit
  4. PCE = Tetrachloroethene
  5. TCE = Trichloroethene
  6. cis-1,2-DCE = cis-1,2-Dichloroethene
  7. trans-1,2-DCE = trans-1,2-Dichloroethene
  8. MC = Methylene Chloride
  9. n-Pb = n-Propylbenzene
  10. VOCs = Volatile Organic Compounds
  11. ND = Non-Detect
  12. NE = Not Established
  13. NR = Not Recorded

**Legend**

- Concrete/Asphalt
- Fill
- Clay
- Top Soil
- Gravel
- Soil sample depth interval
- Groundwater sample depth interval
- Monitoring well screen
- Dashed boundaries are inferred
- Area of excavation
- Sewer lateral
- Water line

- Area of Excavation
- Extent of residual groundwater impacts exceeding the preventive action limit (Dashed where inferred)
- Extent of residual soil contamination in unsaturated zone exceeding soil to groundwater pathway RCLs



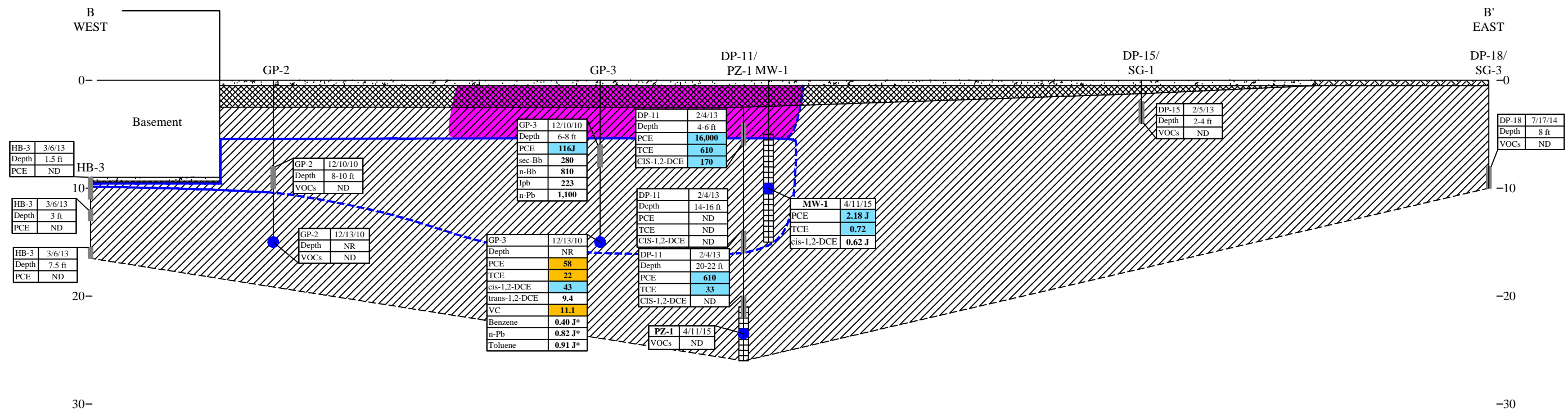
**GEOLOGIC CROSS SECTION A-A'**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	12/3/14
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-0670

**ENVIROforensics**  
825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	
B.3.a.1	
Project	
6229	



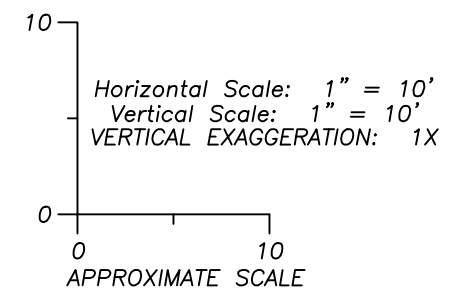
Analytes	Public Health Enforcement Standards	Public Health Preventive Action Limit
PCE	5	0.5
TCE	5	0.5
cis-1,2-TCE	70	7.0
trans-1,2-DCE	100	20
VC	0.2	0.02
MC	5.0	0.5
Benzene	5.0	0.5
Ethylbenzene	700	140
n-Pb	NE	NE
Toluene	1,000	200
Xylenes (Total)	10,000	1,000

- Groundwater Notes:
1. Bold, shaded blue values are above SRCL Soil to Groundwater Closure Levels
  2. Results reported in micrograms per liter = ug/L
  3. J = Estimated concentration above the method detection limit and below the reporting limit
  4. PCE = Tetrachloroethene
  5. TCE = Trichloroethene
  6. cis-1,2-DCE = cis-1,2-Dichloroethene
  7. trans-1,2-DCE = trans-1,2-Dichloroethene
  8. MC = Methylene Chloride
  9. n-Pb = n-Propylbenzene
  10. VOCs = Volatile Organic Compounds
  11. ND = Non-Detect
  12. NE = Not Established
  13. NR = Not Recorded

Analytes	Soil Residual Containment Level		
	Ingestion Industrial	Residential	Soil to Groundwater
PCE	145,000	33,000	4.5
TCE	8,410	1,300	3.6
cis-1,2-TCE	2,340,000	156,000	41.2
trans-1,2-DCE	1,850,000	1,560,000	62.6
MC	1,150,000	61,800	2.6
sec-Bb	145,000	145,000	NE
n-Bb	108,000	108,000	NE
Ipb	268,000	268,000	NE
n-Pb	264,000	264,000	NE

- Soil Notes:
1. Bold, shaded blue values are above SRCL Soil to Groundwater Closure Levels
  2. Bold, shaded orange values are above SRCL Ingestion Industrial Levels
  3. Results reported in micrograms per kilogram = ug/kg
  4. J = Estimated concentration above the method detection limit and below the reporting limit
  5. PCE = Tetrachloroethene
  6. TCE = Trichloroethene
  7. cis-1,2-DCE = cis-1,2-Dichloroethene
  8. trans-1,2-DCE = trans-1,2-Dichloroethene
  9. MC = Methylene Chloride
  10. sec-Bb = sec-Butylbenzene
  11. n-Bb = n-Butylbenzene
  12. Ipb = Isopropylbenzene
  13. n-Pb = n-Propylbenzene
  14. ND = Compounds not detected
  15. NE = Not Established
  16. VOCs = Volatile Organic Compounds

- Extent of residual groundwater impacts exceeding the preventive action limit (Dashed where inferred)
- Extent of residual soil contamination in unsaturated zone exceeding soil to groundwater pathway RCLs



### Legend

- Concrete/Asphalt
- Fill
- Clay
- Top Soil
- Gravel
- Soil sample depth interval
- Groundwater sample depth interval
- Monitoring well screen
- Dashed boundaries are inferred

### GEOLOGIC CROSS SECTION B-B'

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

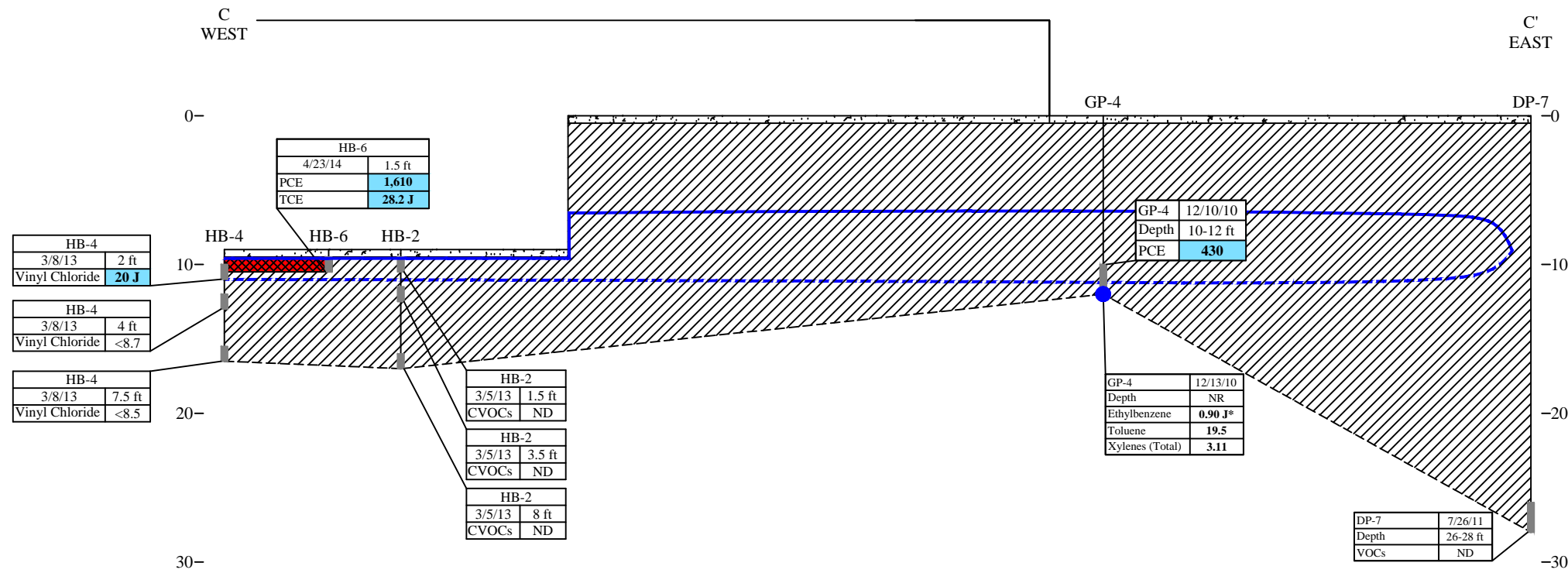
Date:	12/3/14
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-0670



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EnviroForensics.com

Figure	
B.3.a.2	
Project	
6229	





Analytes	Public Health Enforcement Standards	Public Health Preventive Action Limit
PCE	5	0.5
TCE	5	0.5
cis-1,2-TCE	70	7.0
trans-1,2-DCE	100	20
VC	0.2	0.02
MC	5.0	0.5
Benzene	5.0	0.5
Ethylbenzene	700	140
n-Pb	NE	NE
Toluene	1,000	200
Xylenes (Total)	10,000	1,000

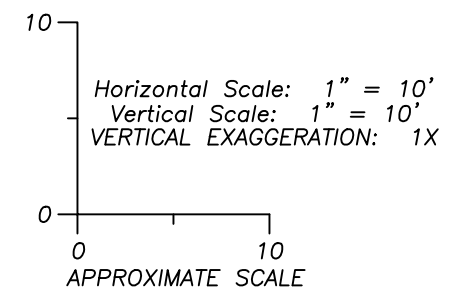
Analytes	Soil Residual Containment Level		
	Ingestion Industrial	Residential	Soil to Groundwater
PCE	145,000	33,000	4.5
TCE	8,410	1,300	3.6
cis-1,2-TCE	2,340,000	156,000	41.2
trans-1,2-DCE	1,850,000	1,560,000	62.6
MC	1,150,000	61,800	2.6
sec-Bb	145,000	145,000	NE
n-Bb	108,000	108,000	NE
Ipb	268,000	268,000	NE
n-Pb	264,000	264,000	NE

- Groundwater Notes:
1. Bold, shaded blue values are above SRCL Soil to Groundwater Closure Levels
  2. Results reported in micrograms per liter = ug/L
  3. J = Estimated concentration above the method detection limit and below the reporting limit
  4. PCE = Tetrachloroethene
  5. TCE = Trichloroethene
  6. cis-1,2-DCE = cis-1,2-Dichloroethene
  7. trans-1,2-DCE = trans-1,2-Dichloroethene
  8. MC = Methylene Chloride
  9. n-Pb = n-Propylbenzene
  10. VOCs = Volatile Organic Compounds
  11. ND = Non-Detect
  12. NE = Not Established
  13. NR = Not Recorded

- Soil Notes:
1. Bold, shaded blue values are above SRCL Soil to Groundwater Closure Levels
  2. Bold, shaded orange values are above SRCL Ingestion Industrial Levels
  3. Results reported in micrograms per kilogram = ug/kg
  4. J = Estimated concentration above the method detection limit and below the reporting limit
  5. PCE = Tetrachloroethene
  6. TCE = Trichloroethene
  7. cis-1,2-DCE = cis-1,2-Dichloroethene
  8. trans-1,2-DCE = trans-1,2-Dichloroethene
  9. MC = Methylene Chloride
  10. sec-Bb = sec-Butylbenzene
  11. n-Bb = n-Butylbenzene
  12. Ipb = Isopropylbenzene
  13. n-Pb = n-Propylbenzene
  14. ND = Compounds not detected
  15. NE = Not Established
  16. VOCs = Volatile Organic Compounds

Area of Excavation

Extent of residual groundwater impacts exceeding the preventive action limit (Dashed where inferred)



**Legend**

- Concrete/Asphalt
- Fill
- Clay
- Top Soil
- Gravel
- Soil sample depth interval
- Groundwater sample depth interval
- Monitoring well screen
- Dashed boundaries are inferred
- Area of excavation

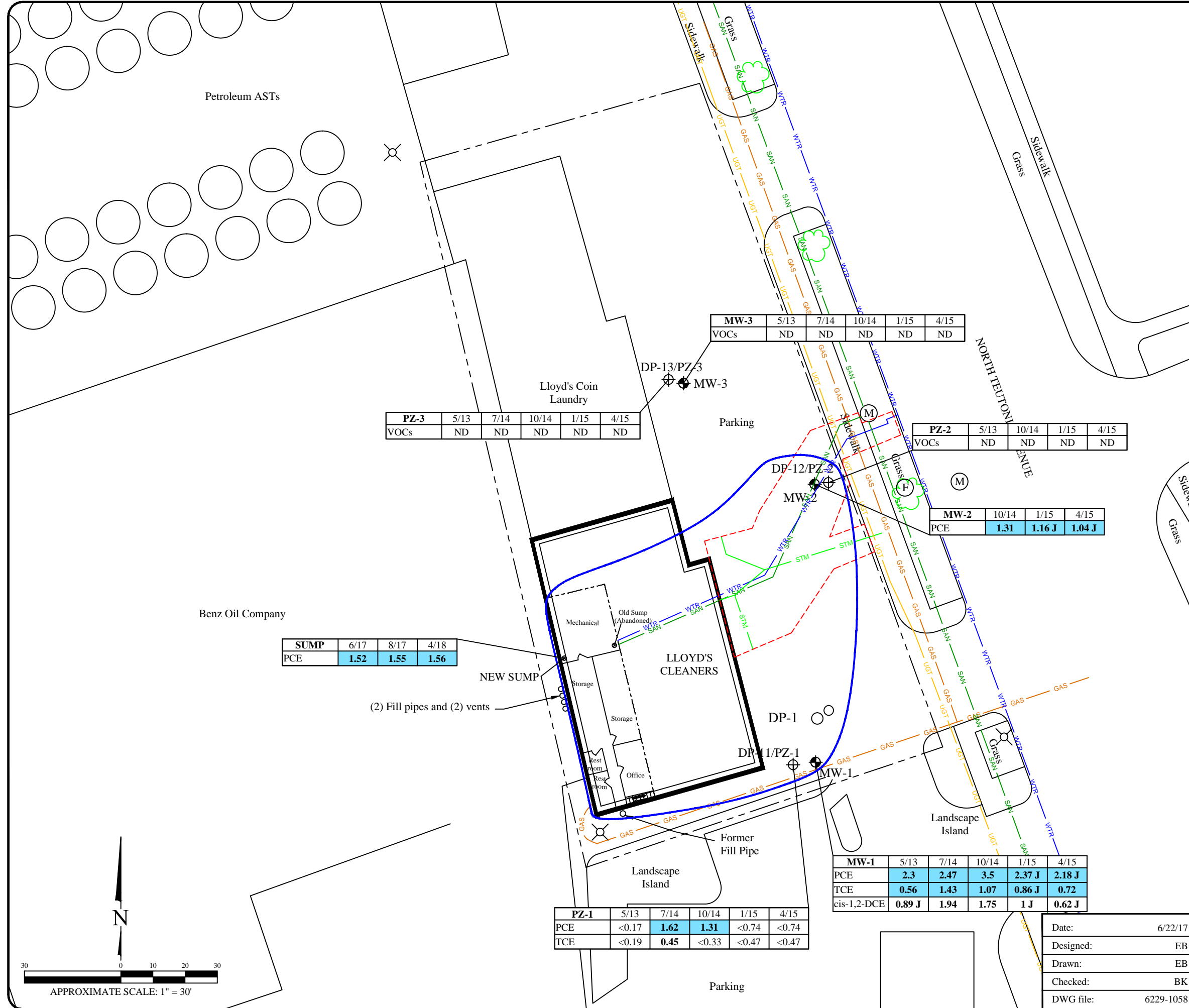
**GEOLOGIC CROSS SECTION C-C'**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date: 4/10/17	Figure
Designed: EB	B.3.a.3
Drawn: EB	Project
Checked: BK	6229
DWG file: 6229-0670	

ENVIROforensics

825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com



**Legend**

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- DP-11/PZ-1 Direct Push boring / Piezometer location
- MW-1 Monitoring well location
- HA1/HB-1 Grab groundwater location

Analyte	Public Health Preventive Action Limit	Public Health Enforcement Standard
PCE	<b>0.5</b>	<b>5</b>
TCE	<b>0.5</b>	<b>5</b>
cis-1,2-DCE	<b>7</b>	<b>70</b>

- Note:
- Bolded and blue shaded values exceed the Public Health Preventive Action Limit
  - Bolded and orange shaded values exceed the Public Health Enforcement Standard
  - Bolded values are above detection limits
  - J = Estimated concentration above the method detection limit and below the reporting limit
  - Samples analyzed using EPA SW-846 Method 8260
  - All results reported in units of micrograms per liter (ug/L)
  - PCE = Tetrachloroethene
  - TCE = Trichloroethene
  - cis-1,2-DCE = cis-1,2-Dichloroethene
  - VOCs = Volatile Organic Compounds
  - ND = Not detected

Extent of residual groundwater impacts exceeding PALs

SUMP	6/17	8/17	4/18
PCE	<b>1.52</b>	<b>1.55</b>	<b>1.56</b>

PZ-3	5/13	7/14	10/14	1/15	4/15
VOCs	ND	ND	ND	ND	ND

MW-3	5/13	7/14	10/14	1/15	4/15
VOCs	ND	ND	ND	ND	ND

PZ-2	5/13	10/14	1/15	4/15
VOCs	ND	ND	ND	ND

MW-2	10/14	1/15	4/15
PCE	<b>1.31</b>	<b>1.16 J</b>	<b>1.04 J</b>

MW-1	5/13	7/14	10/14	1/15	4/15
PCE	<b>2.3</b>	<b>2.47</b>	<b>3.5</b>	<b>2.37 J</b>	<b>2.18 J</b>
TCE	<b>0.56</b>	<b>1.43</b>	<b>1.07</b>	<b>0.86 J</b>	<b>0.72</b>
cis-1,2-DCE	<b>0.89 J</b>	<b>1.94</b>	<b>1.75</b>	<b>1 J</b>	<b>0.62 J</b>

PZ-1	5/13	7/14	10/14	1/15	4/15
PCE	<0.17	<b>1.62</b>	<b>1.31</b>	<0.74	<0.74
TCE	<0.19	<b>0.45</b>	<0.33	<0.47	<0.47

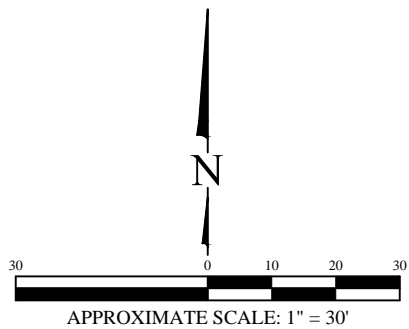
**EXTENT OF GROUNDWATER IMPACTS EXCEEDING REGULATORY STANDARDS**  
 Lloyd's Cleaners  
 4837 N. Teutonia Avenue  
 Milwaukee, WI

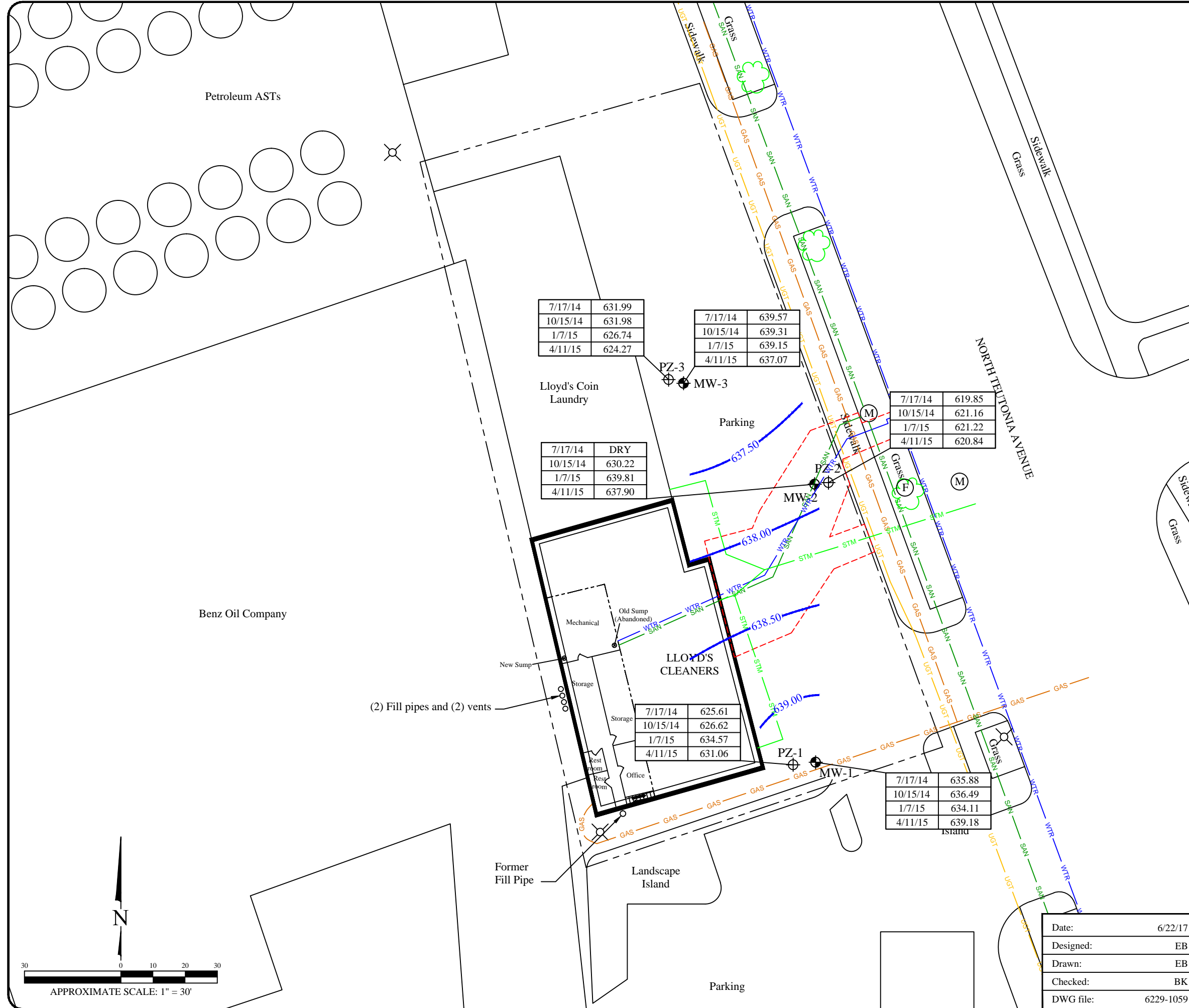


825 North Capitol Avenue • Indianapolis, IN 46204  
 EnviroForensics.com

Date:	6/22/17
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1058

Figure	B.3.b
Project	6229





**Legend**

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- PZ-1 Piezometer location (Proposed to be abandoned)
- MW-1 Monitoring well location (Proposed to be abandoned)

Date	Groundwater Elevation (Feet)
1/7/15	634.11

Note:  
 1. Water table contours based on April 2015 groundwater elevation data

638.00 Groundwater elevation contour

7/17/14	631.99
10/15/14	631.98
1/7/15	626.74
4/11/15	624.27

7/17/14	639.57
10/15/14	639.31
1/7/15	639.15
4/11/15	637.07

7/17/14	619.85
10/15/14	621.16
1/7/15	621.22
4/11/15	620.84

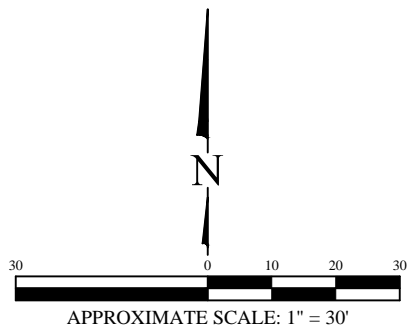
7/17/14	DRY
10/15/14	630.22
1/7/15	639.81
4/11/15	637.90

7/17/14	625.61
10/15/14	626.62
1/7/15	634.57
4/11/15	631.06

7/17/14	635.88
10/15/14	636.49
1/7/15	634.11
4/11/15	639.18

**GROUNDWATER FLOW DIRECTION**

Lloyd's Cleaners  
 4837 N. Teutonia Avenue  
 Milwaukee, WI

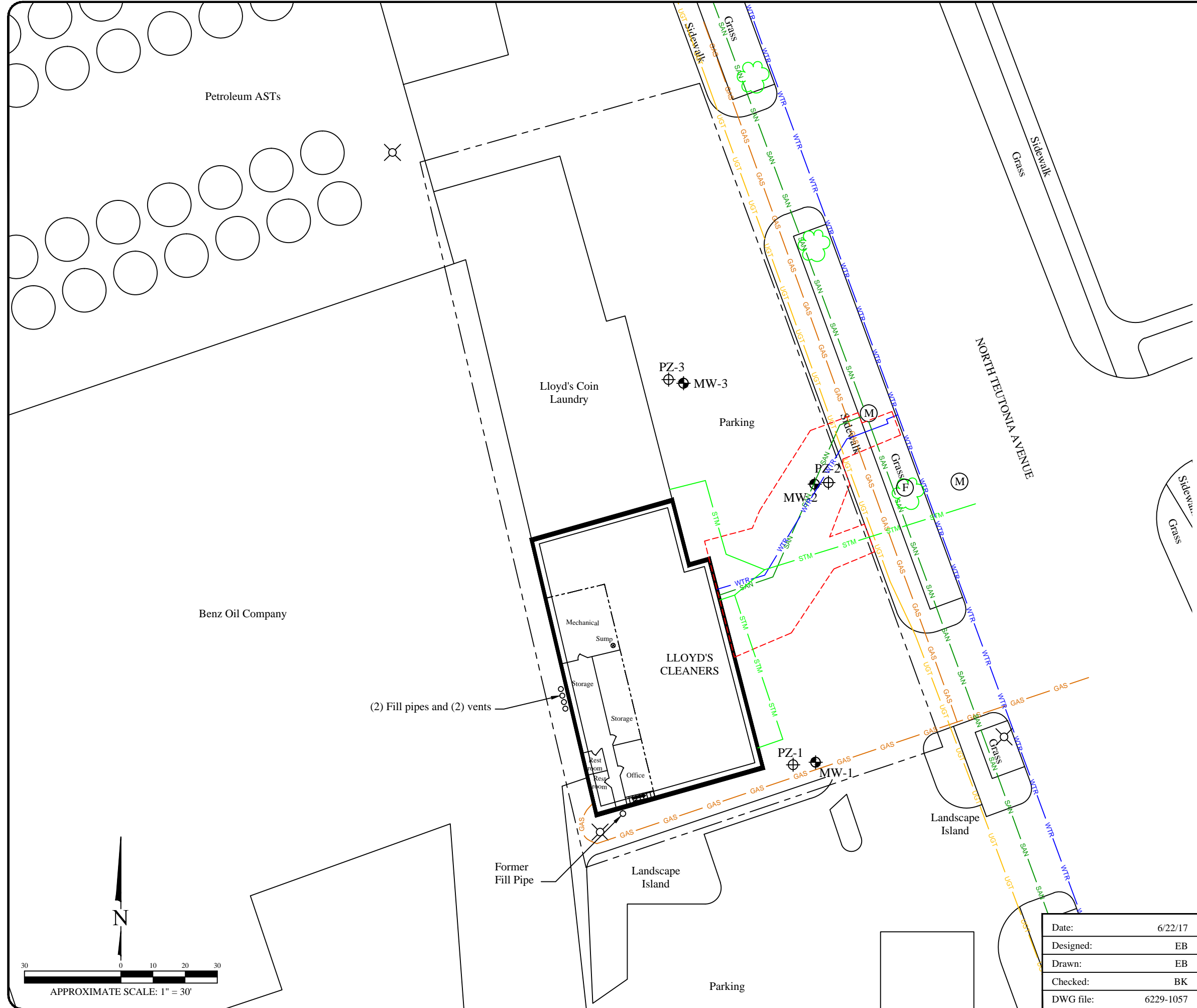


Date:	6/22/17
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1059

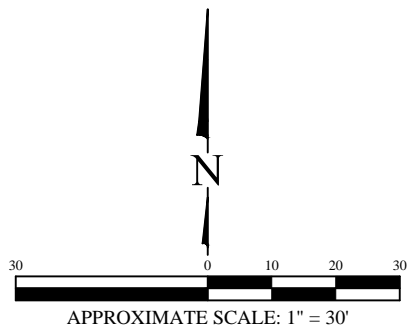


825 North Capitol Avenue • Indianapolis, IN 46204  
 EnviroForensics.com

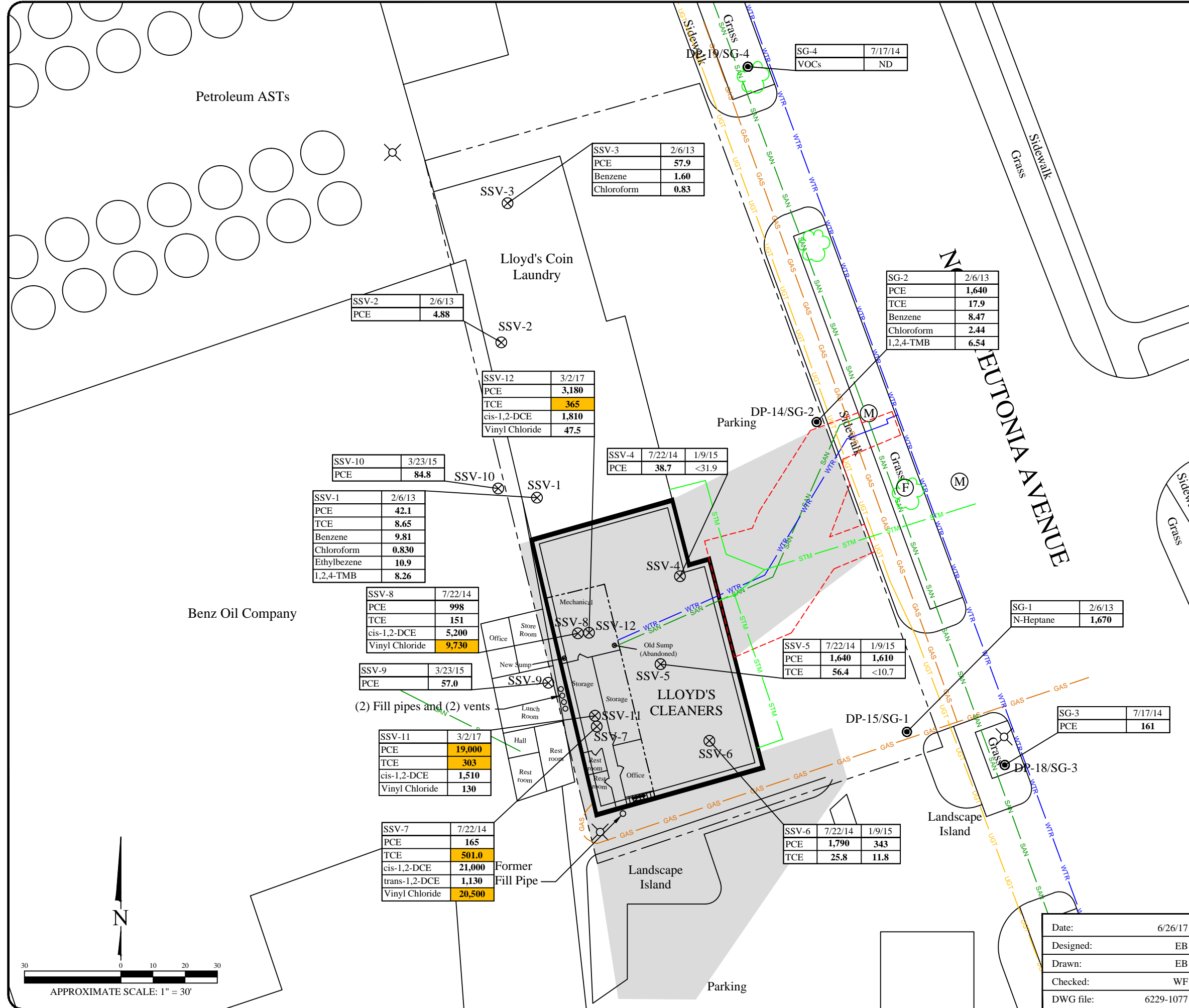
Figure	B.3.c
Project	6229



- ### Legend
- Property boundary
  - GAS Underground gas utility line
  - WTR Underground water utility line
  - UGT Fiber optic utility line
  - SAN Sanitary sewer utility line
  - STM Storm sewer utility line
  - Previous excavation area
  - Sanitary sewer manhole
  - Fire Hydrant
  - PZ-1 Piezometer location (Proposed to be abandoned)
  - MW-1 Monitoring well location (Proposed to be abandoned)



<b>MONITORING WELLS</b>											
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI											
	Figure										
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC. 825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com	B.3.d										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Date:</td><td style="text-align: right;">6/22/17</td></tr> <tr><td>Designed:</td><td style="text-align: right;">EB</td></tr> <tr><td>Drawn:</td><td style="text-align: right;">EB</td></tr> <tr><td>Checked:</td><td style="text-align: right;">BK</td></tr> <tr><td>DWG file:</td><td style="text-align: right;">6229-1057</td></tr> </table>	Date:	6/22/17	Designed:	EB	Drawn:	EB	Checked:	BK	DWG file:	6229-1057	Project
Date:	6/22/17										
Designed:	EB										
Drawn:	EB										
Checked:	BK										
DWG file:	6229-1057										
	6229										



- Legend**
- Property boundary
  - GAS — Underground gas utility line
  - WTR — Underground water utility line
  - UGT — Fiber optic utility line
  - SAN — Sanitary sewer utility line
  - STM — Storm sewer utility line
  - - - Previous excavation area
  - (M) Sanitary sewer manhole
  - (F) Fire Hydrant
  - DP-15/SG-1 (C) Direct-push / Soil Gas boring location
  - SSV-1 (X) Sub-slab vapor location

Analytes	Soil Gas Vapor Risk Screening Level
PCE	<b>18,000</b>
TCE	<b>880</b>
Benzene	<b>1,600</b>
Chloroform	<b>530</b>
1,2,4-TMB	<b>NE</b>
N-Heptane	<b>NE</b>

- Notes:
- Bold, shaded orange values exceed Vapor Risk Screening Levels
  - Bolded values are above detection limits
  - Results reported in micrograms per cubic meter = ug/m3
  - PCE = Tetrachloroethene
  - TCE = Trichloroethene
  - 1,2,4-TMB = 1,2,4-Trimethylbenzene
  - VOCs = Volatile Organic Compounds
  - ND = Not detected
  - NE = Not Established

Sub-slab vapor	
Analyte	Small Commercial Vapor Risk Screening Level
PCE	<b>6,000</b>
TCE	<b>290</b>
cis-1,2-DCE	<b>NE</b>
trans-1,2-DCE	<b>NE</b>
Vinyl Chloride	<b>930</b>
Benzene	<b>530</b>
Chloroform	<b>180</b>
Ethylbenzene	<b>1,600</b>
1,2,4-TMB	<b>1,000</b>

- Note:
- Bolded and shaded values exceed Small Commercial Vapor Risk Screening Levels
  - All results reported in micrograms per cubic meter (ug/m3)
  - 1 = Vapor Risk Screening Levels are based on U.S. E.P.A.'s Regional Screening Levels (RSL's) for industrial indoor air with an attenuation factor of 0.1 for sub-slab samples a 0.1 adjustment for 1 x 10<sup>-5</sup> lifetime cancer risk for carcinogens
  - cis-1,2-DCE = cis-1,2-Dichloroethene
  - trans-1,2-DCE = trans-1,2-Dichloroethene
  - 1,2,4-TMB = 1,2,4-Trimethylbenzene

Area where residual contamination poses a future risk of vapor intrusion

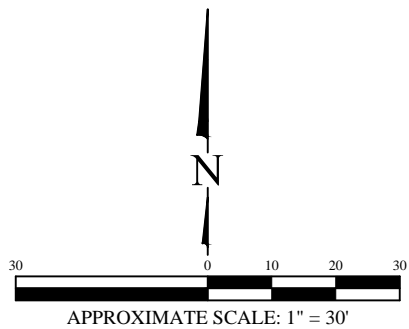
**VAPOR INTRUSION MAP**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	6/26/17
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6229-1077

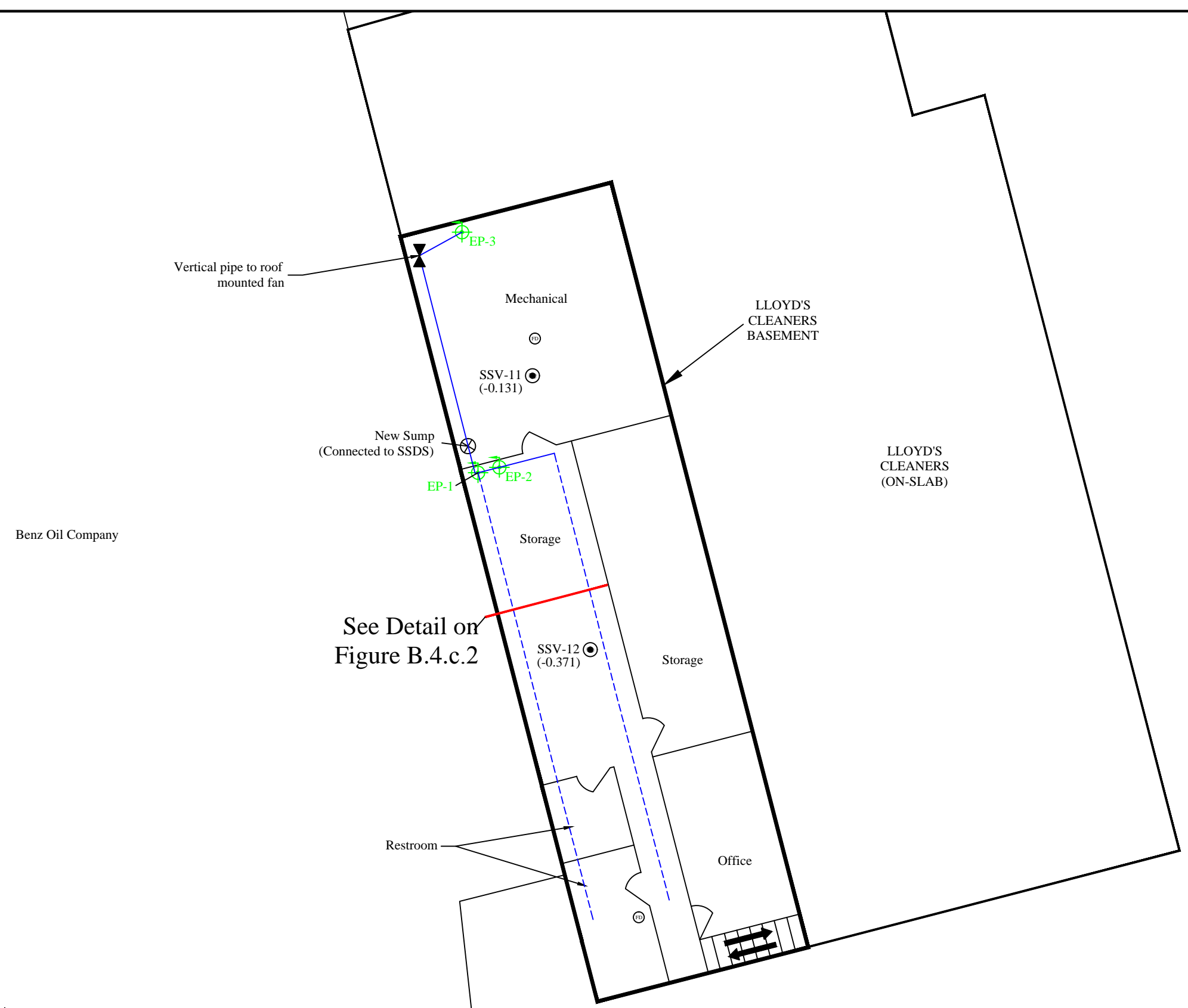
Figure	B.4.a
Project	6229

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### Legend

- ⊕ Floor drain
- EP-1 ⊕ Extraction point
- Conveyance piping
- - - Horizontal extraction pipe
- SSV-11 ⊕ Sub-Slab Vapor Sample and Vacuum Test Point
- (-0.131) Vacuum in inches of water



Benz Oil Company

Vertical pipe to roof mounted fan

LLOYD'S CLEANERS BASEMENT

LLOYD'S CLEANERS (ON-SLAB)

See Detail on Figure B.4.c.2

Restroom

Office

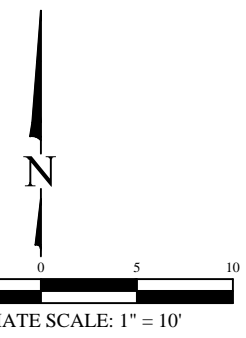
Mechanical

SSV-11 (-0.131)

Storage

SSV-12 (-0.371)

Storage



### SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI





Date:	5/1/17
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6229-1019



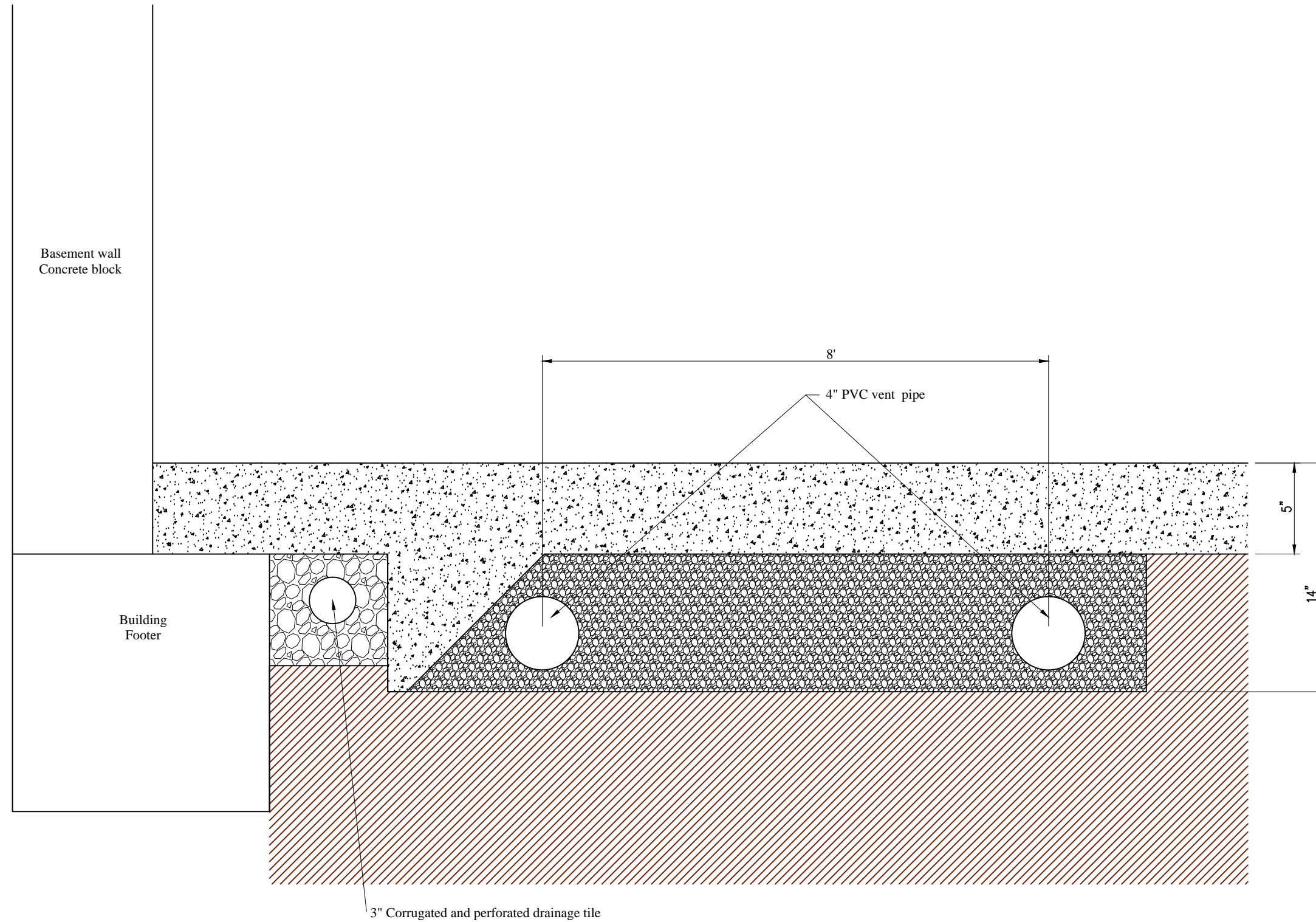
825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	B.4.c.1
Project	6229

**Legend**

	Concrete
	Stone Fill
	Pea Gravel
	Clay - Brown

*Not To Scale*



**BASEMENT COLLECTION TRENCH AND SSDS  
LAYOUT DETAIL**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	4/4/17
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-0433



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EnviroForensics.com

Figure	B.4.c.2
Project	6229



The western boundary of the exterior excavation was the footing for the slab on grade portion of the building. The building was a structural impediment for remediation under the floor slab.

*B.5. Structural Impediment Photos*





Natural gas and electrical utility infrastructure creating a structural impediment for remediation between the west wall of the Site building and the beighboring Benz Oil building.

## **ATTACHMENT C – DOCUMENTATION OF REMEDIAL ACTION**

C.1. Site Investigation Documentation – Not Applicable. All investigation data was previously reported.

### **C.2. Waste Disposal Documentation**

C.3. Not Applicable – Default RCLs were used

### **C.4. Remedial Action Report**

C.5. Decommissioning of Remedial Systems – Not Applicable. There are no remediation systems at the site.

C.6. Other - Not Applicable

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>W I D 9 8 8 5 9 8 8 6 8</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>414-236-1080</b>	4. Waste Tracking Number <b>100703</b>					
5. Generator's Name and Mailing Address <b>Lloyds Cleaners 4837 N Teutonia Avenue Milwaukee WI 53209</b> Generator's Phone: <b>414-588-0847</b> <b>Att: Tom Anderson</b>										
6. Transporter 1 Company Name <b>Badger Disposal of WI, Inc.</b>				U.S. EPA ID Number <b>W I D 9 8 8 5 8 0 0 5 6</b>						
7. Transporter 2 Company Name										
8. Designated Facility Name and Site Address <b>Badger Disposal of WI, Inc. 5611 West Hemlock Street Milwaukee WI 53223</b> Facility's Phone: <b>414-769-9175</b>										
U.S. EPA ID Number <b>W I D 9 8 8 5 8 0 0 5 6</b>										
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.				
			No.	Type						
	1.	Non-regulated material	11	DM	605	G	NONE			
	2.	Non-regulated material	2	DM	110	G	NONE			
	3.									
4.										
13. Special Handling Instructions and Additional Information: <b>1(X) WS033963 investigation derived media-soil 2(L) WS033964 Purge Water Emergency Contact: 414-236-1080</b>										
14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.										
Generator's/Officer's Printed/Typed Name <b>Brian Kappen - Agent for Lloyds Cleaners</b>						Signature <i>[Signature]</i>		Month <b>10</b>	Day <b>7</b>	Year <b>13</b>
15. International Shipments: <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of exit: _____ Date leaving U.S.: _____										
16. Transporter Acknowledgment of Receipt of Materials										
Transporter 1 Printed/Typed Name <b>MICHAEL PANCOSKI</b>						Signature <i>[Signature]</i>		Month <b>10</b>	Day <b>7</b>	Year <b>13</b>
Transporter 2 Printed/Typed Name						Signature		Month	Day	Year
17. Discrepancy										
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection										
Manifest Reference Number: _____ U.S. EPA ID Number: _____										
17b. Alternate Facility (or Generator)										
Facility's Phone: _____										
17c. Signature of Alternate Facility (or Generator)										
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a										
Printed/Typed Name <b>Sarah Webster</b>						Signature <i>[Signature]</i>		Month <b>10</b>	Day <b>8</b>	Year <b>13</b>

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number WID-988 588 888		2. Page 1 of 1		3. Emergency Response Phone 1-800-424-3019		4. Manifest Tracking Number <b>013141925 JJK</b>		
		5. Generator's Name and Mailing Address TOM ANDERSON/FORMER LOYD 4837 N TEUTONIA AVENUE MILWAUKEE, WI 53209 Generator's Phone: (414) 982-3988						Generator's Site Address (if different than mailing address)		
6. Transporter 1 Company Name TRIAD TRANSPORT INC.						U.S. EPA ID Number OKL-981 588 791				
7. Transporter 2 Company Name						U.S. EPA ID Number				
8. Designated Facility Name and Site Address MICHIGAN INDUSTRIAL WASTE TREATMENT PL 40350 N L-94 SERVICE DRIVE BELLEVILLE, MI 48111 Facility's Phone: (800) 592-5489						U.S. EPA ID Number MICH-000 734 841				
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		1. RD HAZARDOUS WASTE SOLID NON FLUORIDE (TETRACHLOROETHYLENE) 9. PGIII. Q139				No.	Type			16391
		2.								
		3.								
		4.								
14. Special Handling Instructions and Additional Information 1. D146061MD1 / D039 Soil --- CONTACT: GRAHAM BILLS ---										
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.										
Generator's/Offeror's Printed/Typed Name Tom Anderson for Lloyd's Closure						Signature [Signature]		Month	Day	Year
								04	25	14
TRANSPORTER	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____									
	17. Transporter Acknowledgment of Receipt of Materials									
	Transporter 1 Printed/Typed Name						Signature		Month	Day
Transporter 2 Printed/Typed Name						Signature		Month	Day	Year
DESIGNATED FACILITY	18. Discrepancy									
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
	18b. Alternate Facility (or Generator)						Manifest Reference Number:		U.S. EPA ID Number	
	Facility's Phone:									
	18c. Signature of Alternate Facility (or Generator)						Signature		Month	Day
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)										
1.		2.		3.		4.				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a										
Printed/Typed Name						Signature		Month	Day	Year

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number WIL 988 538 458		2. Page 1 of 1		3. Emergency Response Phone (200) 234-3214		4. Manifest Tracking Number <b>013141926 JJK</b>		
		5. Generator's Name and Mailing Address TOM ANDERSON ENTERPRISES LLC 4837 N TEUTONIA AVENUE MILWAUKEE, WI 53208 Generator's Phone: (414) 987-3088						Generator's Site Address (if different than mailing address)		
6. Transporter 1 Company Name TRIAD TRANSFER INC.						U.S. EPA ID Number MI000001 585 781				
7. Transporter 2 Company Name						U.S. EPA ID Number				
8. Designated Facility Name and Site Address MICHIGAN WASTE TREATMENT 49750 N 184 SERVICE DRIVE BELLEVILLE, MI 48111 Facility's Phone: (800) 592-5432						U.S. EPA ID Number MI0000 724 831				
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		1. RQ NA3077 HAZARDOUS WASTE, SOLID N.O.S. (TETRACHLOROETHYLENE) 9 PGIII 0039				No.	Type			
		2.								
		3.								
		4.								
14. Special Handling Instructions and Additional Information D145091M01 / 0039 Sol FR CONTACT: GRANHAM HILLS										
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.										
Generator's/Offero's Printed/Typed Name						Signature		Month	Day	Year
								10	25	14
TRANSPORTER	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____									
	17. Transporter Acknowledgment of Receipt of Materials									
	Transporter 1 Printed/Typed Name						Signature		Month	Day
								4	25	14
Transporter 2 Printed/Typed Name						Signature		Month	Day	Year
DESIGNATED FACILITY	18. Discrepancy									
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
	18b. Alternate Facility (or Generator)						Manifest Reference Number:			
							U.S. EPA ID Number			
Facility's Phone:										
18c. Signature of Alternate Facility (or Generator)						Signature		Month	Day	Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)										
1.		2.		3.		4.				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a										
Printed/Typed Name						Signature		Month	Day	Year

# 140007-475A

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number WID 008 598 868	2. Page 1 of 1	3. Emergency Response Phone 609 224-8219	4. Manifest Tracking Number <b>013141924 JJK</b>		
5. Generator's Name and Mailing Address TOM ANDERSON FORMER ELLIOTT 4837 N. TELTONIA AVENUE MILWAUKEE WISCONSIN Generator's Phone: (414) 987-0988			Generator's Site Address (if different than mailing address)				
6. Transporter 1 Company Name TRIAD TRANSPORT, INC.			U.S. EPA ID Number MID 000 704 831				
7. Transporter 2 Company Name			U.S. EPA ID Number				
8. Designated Facility Name and Site Address MICHIGAN DISPOSABLE WASTE TREATMENT PLANT 49350 N. M SERVICE DRIVE BELLEVILLE MI 48111 Facility's Phone: (800) 592-5489			U.S. EPA ID Number MID 000 704 831				
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit WL/Vol.	13. Waste Codes	
		No.	Type				
1.	KW HAZARDOUS WASTE SOLID LIQUID (TETRACHLOROETHYLENE) 9, PGIII, 6029	901	UM			0039	
2.							
3.							
4.							
14. Special Handling Instructions and Additional Information 1. D146981MD1 / D059 548 ** ER CONTACT - GRAHAM BILLS **							
15. <b>GENERATOR'S/OFFEROR'S CERTIFICATION:</b> I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offeror's Printed/Typed Name <i>Tom Anderson</i>			Signature <i>Tom Anderson</i>		Month 1	Day 23	Year 01
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____ Transporter signature (for exports only): _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name			Signature		Month	Day	Year
Transporter 2 Printed/Typed Name			Signature		Month	Day	Year
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: _____							
18b. Alternate Facility (or Generator)			U.S. EPA ID Number				
Facility's Phone: _____							
18c. Signature of Alternate Facility (or Generator)					Month	Day	Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1.	2.	3.	4.				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name			Signature		Month	Day	Year

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

# 140007-475A

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number WID 988 588 588	2. Page 1 of 1	3. Emergency Response Phone (200) 224-3219	4. Manifest Tracking Number <b>013141923 JJK</b>		
5. Generator's Name and Mailing Address TOM ANDERSON/FORMER LLOYD 4837 N TEUTONIA AVENUE MILWAUKEE WISCONSIN Generator's Phone: (414) 982-9888			Generator's Site Address (if different than mailing address)				
6. Transporter 1 Company Name TRIAD TRANSPORT INC			U.S. EPA ID Number OKD 981 588 791				
7. Transporter 2 Company Name			U.S. EPA ID Number				
8. Designated Facility Name and Site Address MILWAUKEE DISPOSAL WASTE TREATMENT PLANT 48350 N L94 SERVICE DRIVE BELLEVILLE, MI 48111 Facility's Phone: (800) 597-5484			U.S. EPA ID Number MID 000 724 831				
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
1.	HAZARDOUS WASTE SOLID LIQ (TETRACHLOROETHYLENE) 9 PGII D039	001	25A	3/20 281		D039	
2.							
3.							
4.							
14. Special Handling Instructions and Additional Information 1. D14007 MDI / D039 Sol SEE CONTACT - GRILLAM 800 224-3219							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offoror's Printed/Typed Name Joseph J. ...			Signature [Signature]		Month 11	Day 11	Year 19
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name ALEX ...			Signature [Signature]		Month 4	Day 21	Year 19
Transporter 2 Printed/Typed Name			Signature		Month	Day	Year
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
18b. Alternate Facility (or Generator)			Manifest Reference Number: _____ U.S. EPA ID Number _____				
Facility's Phone: _____							
18c. Signature of Alternate Facility (or Generator)					Month	Day	Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1.	2.	3.	4.				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name			Signature		Month	Day	Year

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

Lloyds Dry Cleaners

Special Waste

4/21/2014	4/22/2014	4/23/2014	4/24/2014	4/25/2014	4/26/2014
1045467 19.68	1045470 21.6	1045473 21.49	1045480 23.15	1045484 17.51	1045490 24.31
1045468 23.63	1045471 23.15	1045474 23.48	1045481 23.1	1045485 6.12	
1045469 23.8	1045472 22.3	1045475 17.72	1045482 18.9		
	1045497 24.48	1045496 24.08	1045483 10.63		
	1045498 22.88		1045476 25.8		
	1045499 23.12		1045477 23.94		
	1045500 24.18		1045478 23.43		
	1045501 24.67		1045479 21.97		
			1045494 24.21		
			1045495 22.53		
<hr/>					
Subtotal 67.11	186.38	86.77	217.66	23.63	24.31
<b>Total Tons</b>	<b>605.86</b>				



Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045467

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: \_\_\_\_\_ Date \_\_\_\_\_

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: JD 4/21/14

DRIVERS SIGNATURE: R. Eiler 4/21/14

TRUCK NO. 09

19.68

TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard-Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045468

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan - As Agent for Labeys Cleaners Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: JD 4/21/14

DRIVERS SIGNATURE: R. Eiler 4/21/14

TRUCK NO. 9

TONS/YARDS

UB  
3/21/2014  
23.63

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Richard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045469

#140007-465-A

CALL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Kings Cleaners Date: 4/21/2014

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] Date: 4/21/14

DRIVERS SIGNATURE: R. Eiler Date: 4/21/14

TRUCK NO. 9 TONS/YARDS

8  
3  
8

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045470

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan John As Agent For Lloyds Cleaners 4/22/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] 4/22/14  
Date

DRIVERS SIGNATURE: R. Edlin 4/22/14  
Date

TRUCK NO. 9  
TONS/YARDS 21.60

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045471

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan John As Agent For Lloyds Cleaners 4/22/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] 4/22/14  
Date

DRIVERS SIGNATURE: R. Edlin 4/22/14  
Date

TRUCK NO. 9  
TONS/YARDS 51.30

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045472

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Lloyds Cleaners 4/22/14

Contaminated Soil

WASTE DESCRIPTION:

VI19982WI

PROFILE #

ACCEPTED BY: [Signature] 4/22/14

Date

DRIVERS SIGNATURE: [Signature] 4/22/14

Date

TRUCK NO. 9

0300  
[Signature]

TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-B/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045497

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Lloyds Cleaners 4/22/14

Contaminated Soil

WASTE DESCRIPTION:

VI19982WI

PROFILE #

ACCEPTED BY: [Signature] 4/22/14

Date

DRIVERS SIGNATURE: [Signature] 4/22/14

Date

TRUCK NO. 9

8.14

TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-B/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045498

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Loyds Cleaners 4/22/2014

Contaminated Soil

WASTE DESCRIPTION:

V119982WI

PROFILE #

ACCEPTED BY: [Signature] 4/22/14

Date

DRIVERS SIGNATURE: [Signature] 4/22/14

Date

TRUCK NO. 9

TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

dge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045499

# 140007-465A

TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Loyds Cleaners 4/22/2014

Contaminated Soil

WASTE DESCRIPTION:

V119982WI

PROFILE #

ACCEPTED BY: [Signature] 4/22/14

Date

DRIVERS SIGNATURE: [Signature] 4/22/14

Date

TRUCK NO. 9

TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045500

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Lloyds Cleaners 4/22/14  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: JD 4/22/14  
Date

DRIVERS SIGNATURE: R Elder 4/22/14  
Date

TRUCK NO. 2418 TONS/YARDS 9

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045501

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Lloyds Cleaners 4/22/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: JD 4/22/14  
Date

DRIVERS SIGNATURE: R Elder 4/22/14  
Date

TRUCK NO. 9 TONS/YARDS 9

9/10

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045473

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Lloyds Cleaners 4/23/2014  
Date

WASTE DESCRIPTION: Contaminated Soil  
VI19982WI

PROFILE #

ACCEPTED BY: [Signature] 4/23/14  
Date

DRIVERS SIGNATURE: [Signature] 4/23/14 TRUCK NO. 9 TONS/YARDS  
Date

5/1/14

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045474

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Lloyds Cleaners  
Date

WASTE DESCRIPTION: Contaminated Soil  
VI19982WI

PROFILE #

ACCEPTED BY: [Signature] 4/23/14  
Date

DRIVERS SIGNATURE: [Signature] 4/23/14 TRUCK NO. 9 TONS/YARDS  
Date

8/5/14

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045475

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: *[Signature]* Agent for Lloyds Cleaners, 4/23/14  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: *[Signature]* 4/23/14  
Date

DRIVERS SIGNATURE: *[Signature]* 4/23/14 TRUCK NO. 9 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

*[Handwritten: 17.78]*

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045496

# 140007 - 465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: *[Signature]* As Agent for Lloyds Cleaners 4/23/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: *[Signature]* 4/23/14  
Date

DRIVERS SIGNATURE: *[Signature]* 4/23/14 TRUCK NO. 9 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

*[Handwritten: 20.12]*



Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045484

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: *[Signature]* Agent for Lloyd's Cleaners, 4/25/14  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: *[Signature]*, 4/25/14  
Date

DRIVERS SIGNATURE: *[Signature]* 4/25/14 TRUCK NO. 9 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

150

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045485

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: *[Signature]* Agent for Lloyd's Cleaners, 4/25/14  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: *[Signature]*, 4/25/14  
Date

DRIVERS SIGNATURE: *[Signature]* 4/25/14 TRUCK NO. 9 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

150

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045490

# 140007 - 465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: *[Signature]* Agent for Lloyd's Cleaners Date 4/26/14

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: *[Signature]* Date 4/26/14

DRIVERS SIGNATURE: *[Signature]* Date 4/26/14

TRUCK NO. 9 TONS/YARDS

2431

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045480

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Lloyds Cleaners 4/24/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] 4/25/14  
Date

DRIVERS SIGNATURE: R Elder 4/25/14  
Date

TRUCK NO. 9 TONS/YARDS 2315

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045481

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Lloyds Cleaners 4/24/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] 4/25/14  
Date

DRIVERS SIGNATURE: [Signature] 4/25/14  
Date

TRUCK NO. 192310 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045482

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Lloyd's Cleaners 4/24/14  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] 4/25/14  
Date

DRIVERS SIGNATURE: [Signature] 4/25/14  
Date

TRUCK NO. 9 TONS/YARDS 1890

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045483

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Lloyd's Cleaners 4/24/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] 4/25/14  
Date

DRIVERS SIGNATURE: [Signature] 4/25/14  
Date

TRUCK NO. 19 TONS/YARDS 1890

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045476

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Lloyd's Cleaners 4/24/2014

Contaminated Soil

WASTE DESCRIPTION:

V119982WI

PROFILE #

ACCEPTED BY: [Signature] 4/24/14

DRIVERS SIGNATURE: R. Eller 4/24/14 TRUCK NO. 9

23.94 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045477

# 140007-465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent For Lloyd's Cleaners 4/24/2014

Contaminated Soil

WASTE DESCRIPTION:

V119982WI

PROFILE #

ACCEPTED BY: [Signature] 4/24/14

DRIVERS SIGNATURE: R. Eller 4/24/14 TRUCK NO. 9

23.94 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045478

# 1400007-1465EA

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Lloyds Cleaners 4/24/2014

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: JD 4/24/14

DRIVERS SIGNATURE: R. Ellen 4/24/14

TRUCK NO. 9 TONS/YARDS

3/23/14

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045479

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Lloyds Cleaners 4/24/2014

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: JD 4/24/14

DRIVERS SIGNATURE: R. Ellen 4/24/14

TRUCK NO. 9 TONS/YARDS

3/23/14

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045494

# 140009100465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Lloyds Cleaners 4/24/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] 4/24/14  
Date

DRIVERS SIGNATURE: R. Edler 4/24/14  
Date

TRUCK NO. 9 2421 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Orchard Ridge

SPECIAL WASTE MANIFEST DISPOSAL TICKET

1045495

# 140009100465A

BILL TO: HIS Contractors



A Waste Management Company

TRANSPORTER:

GENERATOR: HIS Contractors

GENERATORS SIGNATURE: Jonathan Jordan As Agent for Lloyds Cleaners 4/24/2014  
Date

WASTE DESCRIPTION: Contaminated Soil

PROFILE #: V119982WI

ACCEPTED BY: [Signature] 4/24/14  
Date

DRIVERS SIGNATURE: R. Edler 4/24/14  
Date

TRUCK NO. 9 2421 TONS/YARDS

WHITE & YELLOW - GENERATOR COPY / PINK - DISPOSAL SITE COPY / GOLD - TRANSPORTER COPY

DCE-009-8/95

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>W I D 9 8 8 5 9 8 8 6 8</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>800-424-9300</b>	4. Waste Tracking Number <b>0 4 2 3 1 8</b>	
5. Generator's Name and Mailing Address <b>Lloyds Cleaners 4837 N Teutonia Avenue Milwaukee WI 53209</b>						
Generator's Site Address (if different than mailing address) <b>Att: Tom Anderson</b>						
Generator's Phone: <b>414 588-9847</b>						
6. Transporter 1 Company Name <b>Badger Disposal of WI, Inc.</b>				U.S. EPA ID Number <b>W I D 9 8 8 5 8 0 0 5 6</b>		
7. Transporter 2 Company Name				U.S. EPA ID Number		
8. Designated Facility Name and Site Address <b>Badger Disposal of WI, Inc. 5611 West Hemlock Street Milwaukee WI 53223</b>				U.S. EPA ID Number <b>W I D 9 8 8 5 8 0 0 5 6</b>		
Facility's Phone: <b>414 760-8175</b>						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
		No.	Type			
1.	<b>Non-regulated material</b>	<b>2</b>	<b>DM</b>	<b>r/10</b>	<b>G</b>	<b>NONE</b>
2.						
3.						
4.						
13. Special Handling Instructions and Additional Information <b>1)(L) WS033954 Purge Water</b>						
14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
Generator's/Officer's Printed/Typed Name <b>Brian Kappen / Agent for Lloyd's Cleaners</b>				Signature <i>Brian Kappen</i>		Month Day Year <b>4   23   15</b>
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
16. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name <b>Mico Anderson</b>				Signature <i>Mico Anderson</i>		Month Day Year <b>4   23   15</b>
Transporter 2 Printed/Typed Name				Signature		Month Day Year
17. Discrepancy						
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
Manifest Reference Number:						
17b. Alternate Facility (or Generator)				U.S. EPA ID Number		
Facility's Phone:						
17c. Signature of Alternate Facility (or Generator)						Month Day Year
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a						
Printed/Typed Name <b>Sarah Webster</b>				Signature <i>Sarah Webster</i>		Month Day Year <b>4   23   15</b>

GENERATOR

TRANSPORTER INTL

DESIGNATED FACILITY





Dry

# NON-HAZARDOUS MANIFEST

<b>NON-HAZARDOUS MANIFEST</b>		1. Generator's US EPA ID No.	Manifest Doc No.	2. Page 1 of <b>1</b>	
3. Generator's Mailing Address: <b>Lloyd's Cleaners 4837 North Tutonia Avenue Milwaukee WI 53209</b>		Generator's Site Address (if different than mailing): <b>Lloyd's Cleaners 4837 North Tutonia Avenue Milwaukee WI 53209</b>		A. Manifest Number <b>WMNA</b>	
4. Generator's Phone <b>(209) 390-9814</b>				B. State Generator's ID <b>723</b>	
5. Transporter 1 Company Name		6. US EPA ID Number		C. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone	
9. Designated Facility Name and Site Address <b>Orchard Ridge RDF W124 N9355 Boundary Road Menomonee Falls, WI 53051</b>		10. US EPA ID Number		E. State Transporter's ID	
				F. Transporter's Phone	
				G. State Facility ID	
				H. State Facility Phone	<b>262-253-8620</b>
11. Description of Waste Materials		12. Containers		13. Total Quantity	14. Unit Wt./Vol.
		No.	Type		
GENERATOR	a. Dry Cleaning Solvent Impacted Soil				
	WM Profile # <b>V126479WI</b>				
	b.				
	WM Profile #				
	c.				
WM Profile #					
d.					
WM Profile #					
J. Additional Descriptions for Materials Listed Above		K. Disposal Location			
BILL TO:		Cell		Level	
		Grid			
15. Special Handling Instructions and Additional Information					
Purchase Order #		EMERGENCY CONTACT / PHONE NO.:		<b>Kyle Heimstead (209) 390-9814</b>	
16. GENERATOR'S CERTIFICATE: I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.					
Printed Name <b>Agent of Client, Garnet Schacht</b>		Signature "On behalf of" <i>Garnet Schacht</i>		Month <b>02</b>	Day <b>15</b>
				Year <b>2017</b>	
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials				
	Printed Name <b>Adam Smith</b>		Signature <i>Adam Smith</i>		Month <b>02</b>
					Day <b>15</b>
				Year <b>17</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed Name		Signature		Month	Day
				Year	
19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.					
20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.					
Printed Name <i>[Signature]</i>		Signature <i>[Signature]</i>		Month <b>2</b>	Day <b>15</b>
				Year <b>17</b>	

GENERATOR

TRANSPORTER

FACILITY



13466049

Orchard Ridge RDF  
W124 N7355 Boundary Road  
Menomonee Falls, WI, 53051  
Ph: (262) 253-8620

Original  
Ticket# 1524567

Customer Name	ENVIROFORENICS ENVIRO FORENSI	Carrier	MORAINENEVIRONMENTAL MORaine ENVIRON
Ticket Date	02/15/2017	Vehicle#	1
Payment Type	Credit Account	Container	Volume
Manual Ticket#		Driver	
Hauling Ticket#		Check#	
Route		Billing #	0004957
State Waste Code	A-24--06	Gen EPA ID	
Manifest	na		
Destination		Grid	
PO			
Profile	V126479WI (DRY CLEANING SOLVENT IMPACTED SOIL)		
Generator	136-LLOYDSCLEANERS LLOYDS CLEANERS		

	Time	Scale	Operator	Inbound	Gross	
In	02/15/2017 13:26:07	InBound	jgindt			29840 lb
Out	02/15/2017 13:40:14	OutBound	jgindt		Tare	15380 lb
					Net	14460 lb
					Tons	7.23

Comments

Product	LDX	Qty	UOM	Rate	Tax	Amount	Origin
1 Spwaste VOC-Tons-S	100	7.23	Tons				WI
2 FUEL-Fuel Surcharg	100		%				WI
3 EVF-L-Standard Env	100	1	Load				WI

Total Tax  
Total Ticket





Dry

# NON-HAZARDOUS MANIFEST

NON-HAZARDOUS MANIFEST		1. Generator's US EPA ID No.		Manifest Doc No.		2. Page 1 of <u>1</u>		<i>Misra</i>			
3. Generator's Mailing Address: <b>Lloyd's Cleaners</b> 4837 North Tutonia Avenue Milwaukee WI 53209			Generator's Site Address (if different than mailing): <b>Lloyd's Cleaners</b> 4837 North Tutonia Avenue Milwaukee WI 53209			A. Manifest Number <b>WMNA</b>		B. State Generator's ID			
4. Generator's Phone <b>(209) 390-9814</b>			5. Transporter 1 Company Name			6. US EPA ID Number		C. State Transporter's ID			
7. Transporter 2 Company Name			8. US EPA ID Number			D. Transporter's Phone		E. State Transporter's ID			
9. Designated Facility Name and Site Address Orchard Ridge RDF W124 N9355 Boundary Road Menomonee Falls, WI 53051			10. US EPA ID Number			F. Transporter's Phone		G. State Facility ID			
						H. State Facility Phone <b>262-253-8620</b>					
11. Description of Waste Materials					12. Containers		13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments		
					No.	Type					
GENERATOR	a. Dry Cleaning Solvent Impacted Soil										
	WM Profile # <b>V126479WI</b>										
	b.										
	WM Profile #										
c.											
WM Profile #											
d.											
WM Profile #											
J. Additional Descriptions for Materials Listed Above					K. Disposal Location						
BILL TO:					Cell		Level				
					Grid						
15. Special Handling Instructions and Additional Information											
Purchase Order #											
EMERGENCY CONTACT / PHONE NO.: <b>Kyle Heimstead (209) 390-9814</b>											
16. GENERATOR'S CERTIFICATE: I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.											
Printed Name <i>Agent of Client, Garrett Schacht</i>					Signature "On behalf of" <i>[Signature]</i>			Month <b>02</b>	Day <b>16</b>	Year <b>17</b>	
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials					Signature			Month	Day	Year
	Printed Name										
TRANSPORTER	18. Transporter 2 Acknowledgement of Receipt of Materials					Signature			Month	Day	Year
	Printed Name <i>Adam Sweet</i>					<i>[Signature]</i>			<b>02</b>	<b>16</b>	<b>17</b>
FACILITY	19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.										
	20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.										
Printed Name <i>[Signature]</i>					Signature <i>[Signature]</i>			Month <b>2</b>	Day <b>16</b>	Year <b>17</b>	



13466295

Orchard Ridge RDF  
W124 N7355 Boundary Road  
Menomonae Falls, WI, 53051  
Ph: (262) 253-8620

Original  
Ticket# 1524923

Customer Name ENVIROFORENSICS ENVIRO FORENSI Carrier MORAINENEVIRONMENTAL MORAIN ENVIRON  
 Ticket Date 02/16/2017 Vehicle# 1 Volume  
 Payment Type Credit Account Container  
 Manual Ticket# Driver  
 Hauling Ticket# Check#  
 Route Billing # 0004957  
 State Waste Code A-24-06 Gen EPA ID  
 Manifest na  
 Destination Grid  
 PD  
 Profile V126479WI (DRY CLEANING SOLVENT IMPACTED SOIL)  
 Generator 136-LLOYDSCLEANERS LLOYDS CLEANERS

	Time	Scale	Operator	Inbound	Gross	
In	02/16/2017 13:38:09	InBound	igindt		Tare	31340 lb
Out	02/16/2017 13:52:49	OutBound	igindt		Net	15260 lb
					Tons	16080 lb
						8.04

Comments

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Sowaste VDC-Tons-S 100	8.04	Tons				WI
2	FUEL-Fuel Surcharg 100		%				WI
3	EVF-L-Standard Env 100	1	Load				WI

Total Tax  
Total Ticket





## REMEDIAL ACTION REPORT

**Lloyd's Cleaners  
4837 North Teutonia Avenue  
Milwaukee, WI 53209  
WDNR BRRTS# 02-41-556811**

July 13, 2017

*Prepared For:*

Lloyd's Cleaners  
4837 North Teutonia Avenue  
Milwaukee, WI 53209

*Prepared By:*

Environmental Forensic Investigations, Inc.  
N16 W23390 Stone Ridge Drive, Suite G  
Waukesha, WI 53188  
Phone: (262) 290-4001  
[www.enviroforensics.com](http://www.enviroforensics.com)

A handwritten signature in blue ink, appearing to read "Brian Kappen".

---

Brian Kappen, PG  
Project Manager

A handwritten signature in blue ink, appearing to read "Wayne P. Fassbender".

---

Wayne Fassbender, PG, PMP  
Senior Project Manager

---

Andrew Horwath, PE  
Senior Engineer

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## APPENDICES

Appendix A	Soil Laboratory Analytical Report
Appendix B	Waste Disposal Manifests
Appendix C	Sub-Slab Vapor Laboratory Analytical Report
Appendix D	Photographs
Appendix E	Blue Max Material Safety Data Sheet

## CERTIFICATIONS

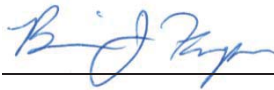
I, Andrew Horwath, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

\_\_\_\_\_  
Manager, Technical Group, PE #E-43831-6

Signature, title and P.E. number

\_\_\_\_\_  
P.E. stamp

I, Brian Kappen, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

  
\_\_\_\_\_  
Project Manager  
Signature and title

6/29/2017  
Date



## 1.0 INTRODUCTION

This report provides a summary of remedial actions implemented at the Lloyd's Cleaners dry cleaning and laundry facility located at 4837 North Teutonia Avenue in Milwaukee, Wisconsin (Site). The remedial actions were conducted in accordance with the *Remedial Action Plan* dated March 14, 2016.

The remedial actions consisted of excavating soil beneath a portion of the basement floor slab, applying a vapor barrier to the basement wall, and installation of a sub-slab depressurization system (SSDS). The primary objective of the remedial actions was to eliminate the risk of vapor intrusion from elevated concentrations of chlorinated volatile organic compounds (CVOCs) detected in sub-slab vapor samples.

These remedial actions were designed to augment the interim actions implemented in 2014, and complete the remediation of accessible chlorinated solvent impacts at the Site. The interim remedial actions, documented in the *Interim Remedial Action Report*, dated August 28, 2014, included the exterior excavation of soils along leaking sanitary and storm laterals, utility lateral replacement, and installation of the basement foundation groundwater collection system.

This report summarizes the information supporting the decision to implement the selected remedial actions, provides detailed documentation of the remedial process and results, and provides recommendations for further Site actions to reach closure.

## 2.0 BACKGROUND

The Lloyd's Cleaners property (Site) is located at 4837 North Teutonia Avenue, Milwaukee, Wisconsin (**Figure 1**). The Site is located in an area of mixed land use consisting of residential, commercial, and industrial properties. The adjacent properties are occupied by Benz Oil Company (west), a gasoline service station (south), a vacant commercial building (north), and Teutonia Avenue to the east. The nearest residential property is located more than 200 feet east of the Site. The nearest sensitive environmental receptor is Lincoln Creek, which passes approximately 1,000 feet west of the Site and joins the Milwaukee River approximately 1.5 miles downstream.

The Site is currently occupied by a drop-off facility for clothes dry cleaned elsewhere and has an attached coin-operated laundry. The building is a single story structure with a partial basement having concrete block walls. The attached coin-operated laundry is a single story structure with a slab on grade. The general layout of the Site including relevant features and utility locations is depicted on **Figure 2**.

Previous Site investigations revealed that subsurface impacts were associated with incidental spills of tetrachloroethene (PCE) from an aboveground tank located in the southwest corner of the partial basement. It is likely that the spilled PCE entered the subsurface at the joint between the floor slab and concrete block wall, through a potential leaky floor drain, or both. Releases to the nearby floor drain entered the sanitary sewer system, which was shown to be leaky in areas outside of the building. Spillage occurring to the floor/wall joint would have entered the drain tile system in the basement foundation, along with releases from leaky floor drains. This contaminated foundation groundwater was conveyed to the storm water system, which was shown to be leaky in areas outside of the building. As mentioned, during past interim remedial actions, the sanitary and storm laterals were excavated and replaced, along with much of the contaminated soil surrounding them.

### 2.1 Basement Groundwater Discharge

As part of the interim remedial actions conducted in 2014, a limited amount of contaminated backfill was removed along the inside of the west wall of the basement to facilitate installation of a new groundwater collection system. The system consists of a drain tile lateral and a new sump crock and pump. The lateral was tied to the existing sanitary system. Contaminated foundation water now discharges directly to the sanitary sewer system under permit from the Milwaukee Metropolitan Sewerage District (MMSD). The results of recent discharge samples, collected



during April and June 2017, respectively, indicate rapidly decreasing CVOC concentrations following the remediation work described in the this report. The most recent PCE concentration of 1.52  $\mu\text{g/L}$  is two orders-of-magnitude less than the pre-remedial PCE concentration in the sump discharge.

## 2.2 Vapor Intrusion Mitigation Testing

Sub-slab vapor sampling conducted in the basement in 2014 indicated that VOCs were present in vapor at concentrations above the vapor risk screening level (VRSL) for small commercial structures. The continued vapor impacts are likely associated with contaminated foundation water and shallow sub-slab soil impacts. Testing was performed to evaluate mitigation options as detailed in the *Remedial Action Plan*. Initially, diagnostic testing was performed to determine the radius of vacuum influence that could be achieved under the basement slab using a typical sub-slab depressurization system (SSDS) fan. A second phase of testing was also implemented using more powerful equipment typically used in soil vapor extraction (SVE) remedial applications. The data collected during testing resulted in the following observations and conclusions:

1. Clay soil is present beneath the limited and discontinuous layer of basement fill material below the concrete floor. In addition, clay particles have been deposited in the pore space of the fill via the buildup of water which accumulated below the slab in the past. This has resulted in reduced permeability in the fill and uneven flow paths for sub-slab vapors as indicated by uneven negative pressure field extension across the slab during vacuum testing.
2. Testing of an SSDS fan indicated that this technology would be ineffectual for inducing an adequate negative pressure beneath the building slab.
3. Operation of the SVE blower could mitigate vapor risk below the slab but would require a much higher operation and maintenance cost compared to an SSDS system and would not be practical for long term operation.
4. Elevated concentrations of VOCs were detected along the joint between the floor slab and west concrete block wall, and from floor drains using a PID instrument. The vapors detected along the block wall are likely due to contaminated groundwater along the basement foundation, or possibly from residual impacts within the block itself. The floor drains may be conveying vapors from soil or groundwater impacts, or the floor drains may contain impacts within the piping structure itself.
5. The SVE blower produced significantly more chlorinated solvent vapors when hooked up to the drain tile system as opposed to when it was hooked up to a vent in the center of the

floor slab indicating that vapors are more concentrated along or within the west concrete block wall.

### **2.3 Proposed Remedy**

An evaluation of the testing data indicated that a standard vapor mitigation approach using an SSDS would not be effective to mitigate vapor intrusion due to lack of permeable soil beneath the slab to support low cost venting, and use of SVE would be impractical. Therefore, it was determined that accessible sub-slab soil impacts should be excavated and granular fill material emplaced to support venting using a cost effective SSDS. The selected remedy included the following actions:

1. Sample and test soil under the concrete basement floor slab for toxicity to determine the appropriate receptor for disposal;
2. Remove a portion of the floor slab, excavate the native clay soil to a depth of approximately 12 inches, and transport soil to an appropriate disposal facility;
3. Install a vertical sheet pile keyed 2-3 inches into the clay substrate along the east edge of the existing groundwater collection system trench to prevent foundation groundwater from entering into the excavation backfill;
4. Install two horizontal vent pipes along the entire length of the excavated area, manifold the pipes together, and extend a riser above the roof line for active sub-slab venting;
5. Backfill the excavation with gravel to promote vapor flow under the concrete floor;
6. Clean or replace the two (2) floor drain laterals to remove residual contaminants;
7. Place a vapor barrier on top of the gravel backfill and replace the concrete floor slab; and
8. Repair holes, cracks, and joints in west concrete block wall and seal the wall with a chemical resistant coating to establish a vapor barrier.

### 3.0 PRE-REMEDIAL PREPARATIONS

Soil sampling was conducted within the anticipated area of excavation as part of the planning process. The objective of the soil sampling activities was to characterize the soil in the planned excavation area for disposal purposes.

#### 3.1 Soil Characterization Sampling

On November 2, 2016, EnviroForensics personnel mobilized to the Site and advanced seven (7) hand auger borings (HB-5 through HB-11) in the basement of the Site building to facilitate soil sample collection. The soil boring locations are depicted on **Figure 3**. EnviroForensics personnel performed all field activities. The concrete floor slab was cored at each location and a hand auger was advanced to approximately 1.5 feet below the floor. No field screening was performed because the sampling intervals were predetermined.

One (1) soil sample was collected at each boring location from a depth of approximately 0.5-1.5 feet below the basement floor surface. A total of seven (7) soil samples were collected and submitted to a laboratory for analysis of VOCs according to SW-846 Test Method 8260.

The results of the source area characterization samples are summarized on **Table 1** and **Figure 4**. The laboratory report associated with the soil samples is included in **Appendix A**. The VOC concentrations detected in the soil samples indicated that all soil could be transported to a landfill for disposal as non-hazardous special waste.

## 4.0 REMEDIAL ACTION FIELD WORK

### 4.1 Health & Safety

On the first day of work, plastic sheeting was set up to isolate the work area from areas of active business operations and to prevent unauthorized access to the work zone. A Site Health & Safety Plan was reviewed by all site workers prior to beginning remedial activities and specific contaminant exposure concerns and safety precautions explained to all site workers during a pre-work tailgate meeting.

The work zone was periodically monitored for VOC vapors using a photo-ionization detector (PID) equipped with an 11.7 electron-volt lamp, and vinyl chloride concentrations measured using a Sensodyne™ pump equipped with vinyl chloride gas detector tubes. Field readings using these instruments were collected periodically during the excavation work within the basement to ensure worker safety.

### 4.2 Excavation Activities

EnviroForensics contracted Horizon Construction and Exploration of Fredonia, Wisconsin to conduct the excavation, waste disposal, and Site restoration activities. These activities were completed from February 13-20, 2017. Excavating was performed in the area depicted on **Figure 3**, comprising a main storage room, two (2) bathrooms, and a hallway in the basement. The other areas of the basement, including an office, secondary storage room, and mechanical room were not targeted for remediation based on past investigation results.

The concrete slab was saw-cut around the perimeter of the excavation area, and the slab itself was broken into pieces by jackhammer. The concrete pieces were loaded onto a conveyor system that moved material up the stairs and outside to a staging area on the south side of the building. The limited fill material beneath the floor slab and native clay soil was removed by hand to a depth of approximately 12 inches below the bottom of the slab. Soil was also transported by the conveyor system to the staging area.

All soil excavated from the basement was loaded into dump trucks and sent to the Waste Management Orchard Ridge Landfill in Menomonee Falls, Wisconsin. A total of 15.27 tons of excavated material was managed and disposed of as special solid waste (refer to waste manifests and load tickets in **Appendix B**).

The excavation area was backfilled with pea gravel. Two lengths of 4-inch diameter perforated PVC vent piping were bedded within the pea gravel to facilitate sub-slab venting. The drain pipe was wrapped in filter fabric to prevent entry of soil particles. A vapor barrier (6-mil sheet plastic) was placed on top of the pea gravel. The concrete slab was replaced to an equivalent thickness as the existing slab, having an approximate thickness of 4-5-inches. Installation of the proposed vertical sheet pile between the foundation drain tile and excavation proved impractical in the field. Instead, a concrete barrier was poured immediately adjacent to the drain tile along the west basement wall. In that area, the concrete is now 14-inches thick and is intended to prevent groundwater in the foundation drain tile from entering into the excavation backfill. A cross-section of the excavation area is shown on **Figure 5**.

### **4.3 Vapor Mitigation**

#### **4.3.1 Sub-Slab Vapor Sampling**

On March 2, 2017, sub-slab vapor samples SSV-11 and SSV-12 were collected from beneath the basement slab to determine if vapor mitigation would still be needed following excavation activities. The samples were submitted to a laboratory for analysis of PCE and associated compounds according to EPA Air Method Toxic Organics -15 (TO-15). The results are summarized and compared to small commercial vapor risk screening levels (VRSLs) for small commercial buildings on **Table 2** and **Figure 6**. PCE was detected in sample SSV-11 at a concentration of 19,000 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), which exceeds the VRSL of 6,000  $\mu\text{g}/\text{m}^3$ . Trichloroethene (TCE) was detected in both vapor samples at concentrations above the VRSL of 290  $\mu\text{g}/\text{m}^3$ . These results confirmed that an SSDS would need to be installed to mitigate vapor intrusion risk. The laboratory report associated with the sub-slab vapor samples is provided in **Appendix C**.

#### **4.3.2 Sub-Slab Depressurization System Installation**

An SSDS was installed in the basement of the site building on April 6-7 and April 13-14, 2017. The SSDS utilizes the two (2) horizontal vent pipes installed within the excavation backfill, one (1) vertical extraction point along the north wall of the mechanical room, and the sealed sump crock for the purpose of venting the drainage tile and block wall. Each of the piping connections is equipped with a u-tube manometer and an individual ball valve for system balancing. An audible low-vacuum alarm was also installed to alert building managers that the SSDS needed inspection and possible maintenance.



The pipes are manifolded, and a single 4-inch diameter PVC pipe is routed to the roof through an unused pipe chase in the mechanical room. The pipe is connected to a RadonAway Model GP-501 fan mounted on the roof. The fan is hardwired to a dedicated circuit breaker in an existing electrical panel with a dedicated on/off switch located next to the fan. The layout of the SSDS is depicted on **Figure 7** and photographs are included in **Appendix D**.

The post-installation pressure field extension (PFE) testing indicated that the system applies negative pressure across the entire main room and mechanical room of the basement where elevated vapor concentrations were previously detected. Permanent test points SSV-11 and SSV-12 had readings of -0.131 and -0.371 inches of water, respectively. Post-installation PFE readings are also presented on **Figure 7**.

#### **4.3.3 Floor Drain Cleaning**

There are two (2) floor drains in the basement of the Site building: one (1) in the south bathroom and one (1) in the mechanical room as shown on **Figure 3**. PID readings collected during the Site investigation were as high as 10,000 parts per million (ppm), indicating that the drains were emanating solvent vapors. Both floor drains were cleaned by a plumber using a drain auger followed by flushing with water. The post-cleaning PID readings collected from the floor drains were less than 10 ppm, demonstrating that the cleaning procedure significantly reduced the source of vapors.

#### **4.3.4 Wall Sealing**

The west block wall of the basement was sealed to mitigate potential vapor movement from the wall to indoor air. Sealing included the following activities:

- Holes and cracks in the wall were patched with mortar or expanding foam;
- The joint between the base of the wall and the floor slab was caulked; and
- Two (2) layers of Blue Max elastomeric rubberized coating manufactured by Ames Research Laboratories, Inc. ([www.amesresearch.com](http://www.amesresearch.com)) were applied to create a vapor barrier. Product specifications and a Material Safety Data Sheet are included in **Appendix E**.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Additional remedial actions taken at the Site have resulted in the following:

- All accessible contaminated soil beneath the basement slab has been removed;
- The permeability of the subsurface was enhanced by removing contaminated soil beneath part of the basement and replacing it with pea gravel. This allowed for cost effective venting;
- The SSDS has induced negative pressure across the targeted portion of the basement floor slab, effectively mitigating vapor intrusion risk;
- Other potential sources of vapor intrusion, including the west concrete block wall and two (2) floor drains, have been addressed by cleaning and sealing; and
- Concentrations of CVOCs in the foundation water appear to be diminishing (see **Table 3**).

Residual CVOC impacts exist in foundation soil and groundwater that are not accessible. Therefore, according to WDNR regulations, continuing obligations will be necessary for case closure, including:

1. Maintenance of the engineered cover (i.e., the building and asphalt parking lot);
2. Operation and maintenance (O&M) of the SSDS;
3. Continued sampling and discharge of foundation water to the sanitary system under permit of the MMSD; and
4. GIS registry to indicate groundwater use restrictions and other institutional controls related to future site construction activities.

O&M Plans should be prepared to document inspections and maintenance activities related to the engineered cover and SSDS systems.

In addition, continued sampling of the sump water is required under the existing MMSD discharge permit. If CVOC concentrations in sump water continue to decrease, possible discharge to the storm sewer system under Wisconsin Pollution Discharge Elimination System (WPDES) permit should be evaluated.

Remediation of the Site has been completed to the extent practicable. There are no sensitive environmental receptors near the Site, and human health is adequately protected against risk of exposure to the remaining residual impacts. Therefore, case closure should be pursued.

## TABLES

**TABLE 1**  
**BASEMENT SOIL SAMPLE ANALYTICAL RESULTS SUMMARY**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Identification	Sample Date	Sample Depth (feet)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Naphthalene	n-Butylbenzene
6229-HB-1	3/6/2013	2	<14	<16	<10	<21	<8.8	<42	<11
	3/6/2013	3	<13	<14	<9.5	<18	<8.0	<38	<10
	3/6/2013	5.5	<15	<16	<11	<22	<9.0	<43	<11
6229-HB-2	3/5/2013	1.5	<15	<16	<11	<22	<9.1	<43	<11
	3/5/2013	3.5	<14	<15	<10	<21	<8.6	<41	<11
	3/5/2013	8	<14	<16	<11	<22	<9.0	<43	<11
6229-HB-3	3/6/2013	1.5	<16	<18	<12	<24	<9.9	<47	<12
	3/6/2013	3	<14	<16	<10	<21	<8.7	<41	<11
	3/6/2013	7.5	<13	<14	<9.5	<19	<8.0	<38	<9.9
6229-HB-4	3/8/2013	2	<15	<17	<11	<23	<b>20 J</b>	<45	<12
	3/8/2013	4	<14	<16	<10	<21	<8.7	<41	<11
	3/8/2013	7.5	<14	<15	<10	<20	<8.5	<40	<11
6229-HB-5	11/2/2016	0.5-1.5	<54	<42	<b>79</b>	<24	<10	<b>278 J</b>	<86
6229-HB-6	11/2/2016	0.5-1.5	<54	<42	<b>21.7 J</b>	<24	<b>17.9 J</b>	<87	<86
6229-HB-7	11/2/2016	0.5-1.5	<54	<42	<b>340</b>	<b>34 J</b>	<b>49</b>	<87	<86
6229-HB-8	11/2/2016	0.5-1.5	<54	<42	<b>112</b>	<24	<b>32</b>	<b>234 J</b>	<b>91 J</b>
6229-HB-9	11/2/2016	1-2	<54	<42	<b>76</b>	<24	<b>58</b>	<87	<86
6229-HB-10	11/2/2016	0.8-1.8	<54	<42	<21	<24	<10	<87	<86
6229-HB-11	11/2/2016	0.7-1.7	<b>69 J</b>	<42	<b>4,100</b>	<b>107</b>	<b>203</b>	<87	<86
<b>Residual Contaminant Level - Industrial</b>			<b>145,000</b>	<b>8,410</b>	<b>2,340,000</b>	<b>1,850,000</b>	<b>2,080</b>	<b>24,100</b>	<b>108,000</b>
<b>Residual Contaminant Level - Non-Industrial</b>			<b>33,000</b>	<b>1,300</b>	<b>156,000</b>	<b>1,560,000</b>	<b>67</b>	<b>5,520</b>	<b>108,000</b>
<b>Residual Contaminant Level - Soil to Groundwater</b>			<b>4.5</b>	<b>3.6</b>	<b>41.2</b>	<b>62.6</b>	<b>0.1</b>	<b>658.2</b>	<b>NE</b>

**Notes:**

Samples analyzed using EPA SW-846 Method 8260 with Prep Method 5030

All concentrations reported in micrograms per kilogram (µg/kg)

**Bolded** values are above method detection limits

**Bolded** and blue shaded values exceed the Soil to Groundwater Residual Contaminant Level

**Bolded** and green shaded green values exceed the Non-Industrial Residual Contaminant Level

**Bolded** and orange shaded orange values exceed the Industrial Residual Contaminant Level

J = Analyte concentration is above the method detection limit and below the reporting limit

**TABLE 2**  
**SUB-SLAB VAPOR SAMPLE ANALYTICAL RESULTS SUMMARY**

Lloyd's Cleaners  
Milwaukee, Wisconsin

Sample Location	Sample Identification	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	Chloroform	Ethylbenzene	1,2,4-Trimethylbenzene
Slab on Grade Coin Laundry	6229-SSV-1	2/6/2013	<b>42.1</b>	<b>8.65</b>	<19.8	<39.6	<1.28	<b>9.81</b>	<b>0.83</b>	<b>10.9</b>	<b>8.26</b>
	6229-SSV-2	2/6/2013	<b>4.88</b>	<1.07	<19.8	<39.6	<1.28	<1.60	<0.83	<8.68	<4.92
	6229-SSV-3	2/6/2013	<b>57.9</b>	<1.07	<19.8	<39.6	<1.28	<b>1.60</b>	<b>0.83</b>	<8.68	<4.92
Slab on Grade Dry Cleaning Drop Off	6229-SSV-4	7/22/2014	<b>38.7</b>	<10.7	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2
		1/9/2015	<31.9	<10.7	<198	<396	<12.8	NA	NA	NA	NA
	6229-SSV-5	7/22/2014	<b>1,640</b>	<b>56.4</b>	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2
		1/9/2015	<b>1,610</b>	<10.7	<198	<396	<12.8	NA	NA	NA	NA
	6229-SSV-6	7/22/2014	<b>1,790</b>	<b>25.8</b>	<198	<396	<12.8	<16.0	<8.30	<86.8	<49.2
		1/9/2015	<b>343</b>	<b>11.8</b>	<198	<396	<12.8	NA	NA	NA	NA
Basement	6229-SSV-7	7/22/2014	<b>165</b>	<b>501</b>	<b>21,000</b>	<b>1,130</b>	<b>20,500</b>	<16.0	<8.30	<86.8	<49.2
	6229-SSV-8	7/22/2014	<b>998</b>	<b>151</b>	<b>5,200</b>	<396	<b>9,730</b>	<16.0	<8.30	<86.8	<49.2
	6229-SSV-11	3/2/2017	<b>19,000</b>	<b>303</b>	<b>1,510</b>	<39.6	<b>130</b>	NA	NA	NA	NA
	6229-SSV-12	3/2/2017	<b>2,180</b>	<b>365</b>	<b>1,810</b>	<39.6	<b>47.5</b>	NA	NA	NA	NA
<b>Small Commercial Vapor Risk Screening Level<sup>1</sup></b>			<b>6,000</b>	<b>290</b>	<b>NE</b>	<b>NE</b>	<b>930</b>	<b>530</b>	<b>180</b>	<b>1,600</b>	<b>1,000</b>

**Notes:**

<sup>1</sup> The Vapor Risk Screening Level was calculated according to the procedures described in WDNR Publication RR-800 including an attenuation factor of 0.03 for sub-slab vapor samples and a 0.1 adjustment for  $1 \times 10^{-5}$  lifetime cancer risk for carcinogens

All concentrations reported in units of micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

**Bolded** values are above method detection limits

**Bolded and orange shaded** values exceed the Vapor Risk Screening Level

NA = Not Analyzed

NE = Not Established

**TABLE 3**  
**SUMP SAMPLE ANALYTICAL RESULTS SUMMARY**

Lloyd's Dry Cleaners  
Milwaukee, Wisconsin

Sample Identification	Remediation Status	Sample Date	VOCs (ug/L)							(mg/L)	
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Toluene	Chloromethane	Oil and Grease	Total Suspended Solids
6229-SUMP-W	Pre-Interim Action	7/26/2011	<b>309</b>	<b>10.5</b>	<b>12.1</b>	< 0.89	< 0.18	<0.67	<0.24	NS	NS
6229-SUMP-1	Pre-Interim Action	3/5/2013	<b>340</b>	<b>9.3</b>	<b>18</b>	<0.25	<0.10	<0.54	<b>4.5</b>	NS	NS
6229-SUMP-4/14	Post-Interim Action	4/28/2014	<b>98</b>	<b>2.37</b>	<b>7.8</b>	<0.35	<b>0.78</b>	<0.69	<0.81	NS	NS
6229-SUMP	Post-Interim Action	5/15/2014	<b>86</b>	<b>3.5</b>	<b>14.6</b>	<0.35	<b>1.47</b>	<0.69	<0.81	<0.99	<4
6229-SUMP 6/2	Post-Interim Action	6/2/2014	<b>92</b>	<b>4.9</b>	<b>18.4</b>	<0.35	<b>0.33 J</b>	<0.69	<0.81	<1.98	<b>26</b>
6229-SUMP 6/18	Post-Interim Action	6/18/2014	<b>155</b>	<b>4.4</b>	<b>8.3</b>	<0.35	<b>0.34 J</b>	<0.69	<0.81	<0.99	<b>120</b>
6229-SUMP	Post-Interim Action	7/22/2014	<b>64</b>	<b>4.5</b>	<b>45</b>	<b>0.53 J</b>	<0.18	<0.69	<0.81	<0.99	<4
6229-SUMP	Post-Interim Action	10/15/2014	<b>120</b>	<b>6.2</b>	<b>17.5</b>	<0.35	<0.18	--	--	--	--
6229-SUMP	Post-Interim Action	1/7/2015	<b>19.6</b>	<b>1.94</b>	<b>17.6</b>	<0.54	<0.17	--	--	--	--
6229-SUMP	Post-Interim Action	4/11/2015	<b>104</b>	<b>3.2</b>	<b>9.4</b>	<0.54	<0.17	<0.44	<1.9	--	--
6229-SUMP	Post-Interim Action	10/1/2015	<b>38</b>	<b>1.89</b>	<b>9.5</b>	<0.54	<0.17	<0.44	<1.9	--	--
6229-SUMP	Post-Interim Action	4/1/2016	<b>64</b>	<b>2.15</b>	<b>5.3</b>	<0.54	<0.17	--	--	--	--
6229-SUMP	Post-Interim Action	10/4/2016	<b>49</b>	<b>7.8</b>	<b>18.4</b>	<0.54	<0.17	<b>0.76 J</b>	<1.9	--	--
6229-SUMP	Post-Remediation	4/7/2017	<b>14</b>	<0.45	<b>0.68 J</b>	<0.35	<0.19	<0.67	<1.3	--	--
6229-SUMP	Post-Remediation	6/14/2017	<b>1.52</b>	<0.45	<0.41	<0.35	<0.19	<0.67	<1.3	--	--
<b>Public Health Enforcement Standard (ug/L)</b>			<b>5</b>	<b>5</b>	<b>70</b>	<b>100</b>	<b>0.2</b>	<b>800</b>	<b>30</b>	<b>NA</b>	<b>NA</b>
<b>Public Health Preventive Action Limit (ug/L)</b>			<b>0.5</b>	<b>0.5</b>	<b>7</b>	<b>20</b>	<b>0.02</b>	<b>160</b>	<b>3</b>	<b>NA</b>	<b>NA</b>
<b>MMSD Do not exceed limit (mg/L)</b>			<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>300</b>	<b>100</b>

**Notes:**

µg/L = micrograms per liter

mg/L = milligrams per liter

-- = Not Analyzed

J = Analyte concentration is above the method detection limit and below the reporting limit

MMSD = Milwaukee Metropolitan Sewerage District

NA = Not Applicable

**Bolded** values are above method detection limits

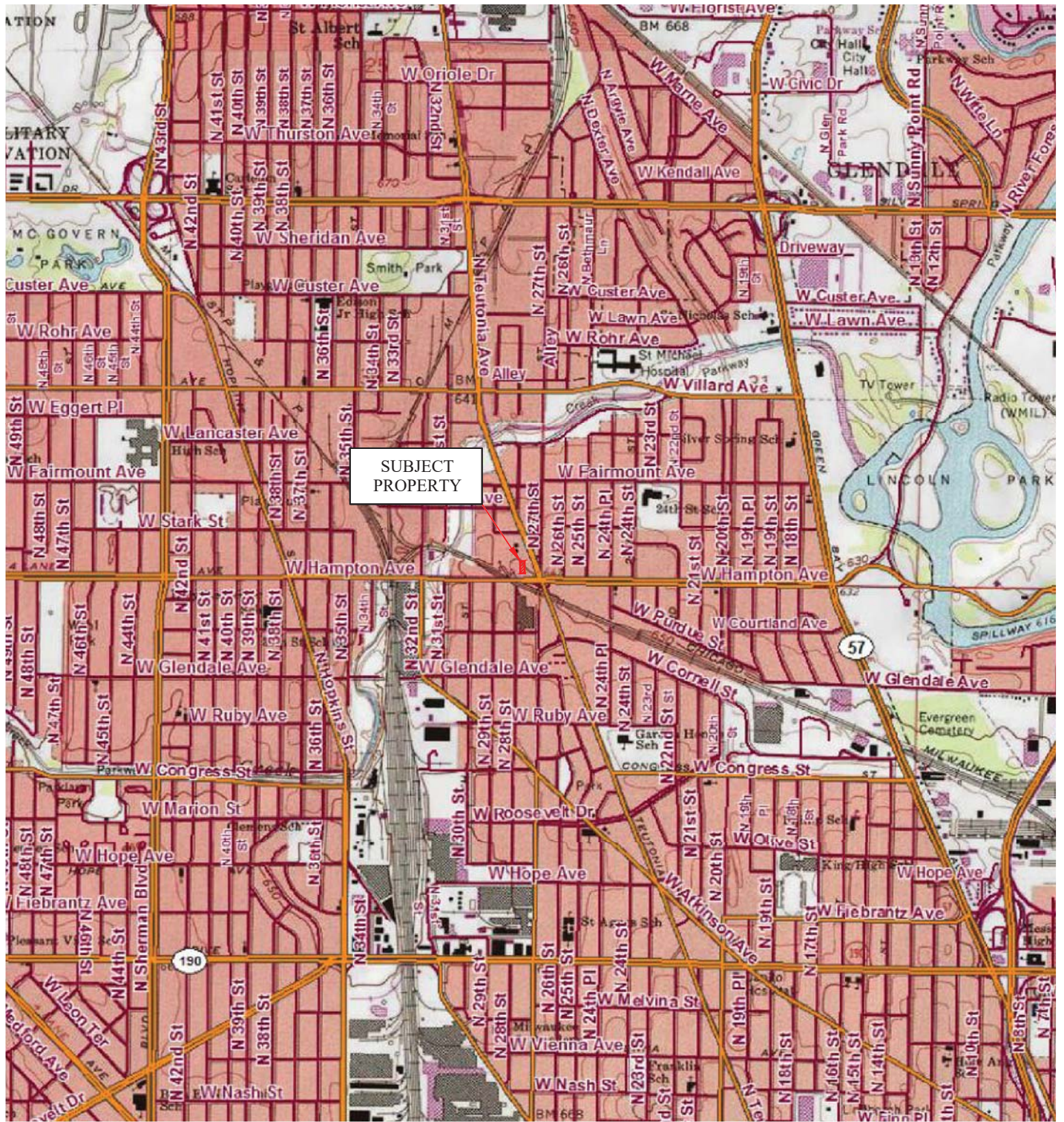
**Bolded and orange shaded** values exceed the Enforcement Standard

**Bolded and blue shaded** values exceed the Preventive Action Limit

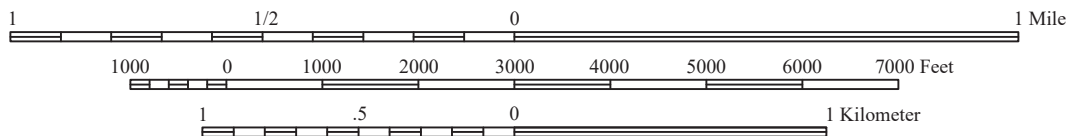
**Bolded and green shaded** values exceed the MMSD Do not exceed limit

## FIGURES





Scale 1:24,000



Source: US Geological Survey, Milwaukee, WI Quadrangle, 7.5 Minute Series, 1984

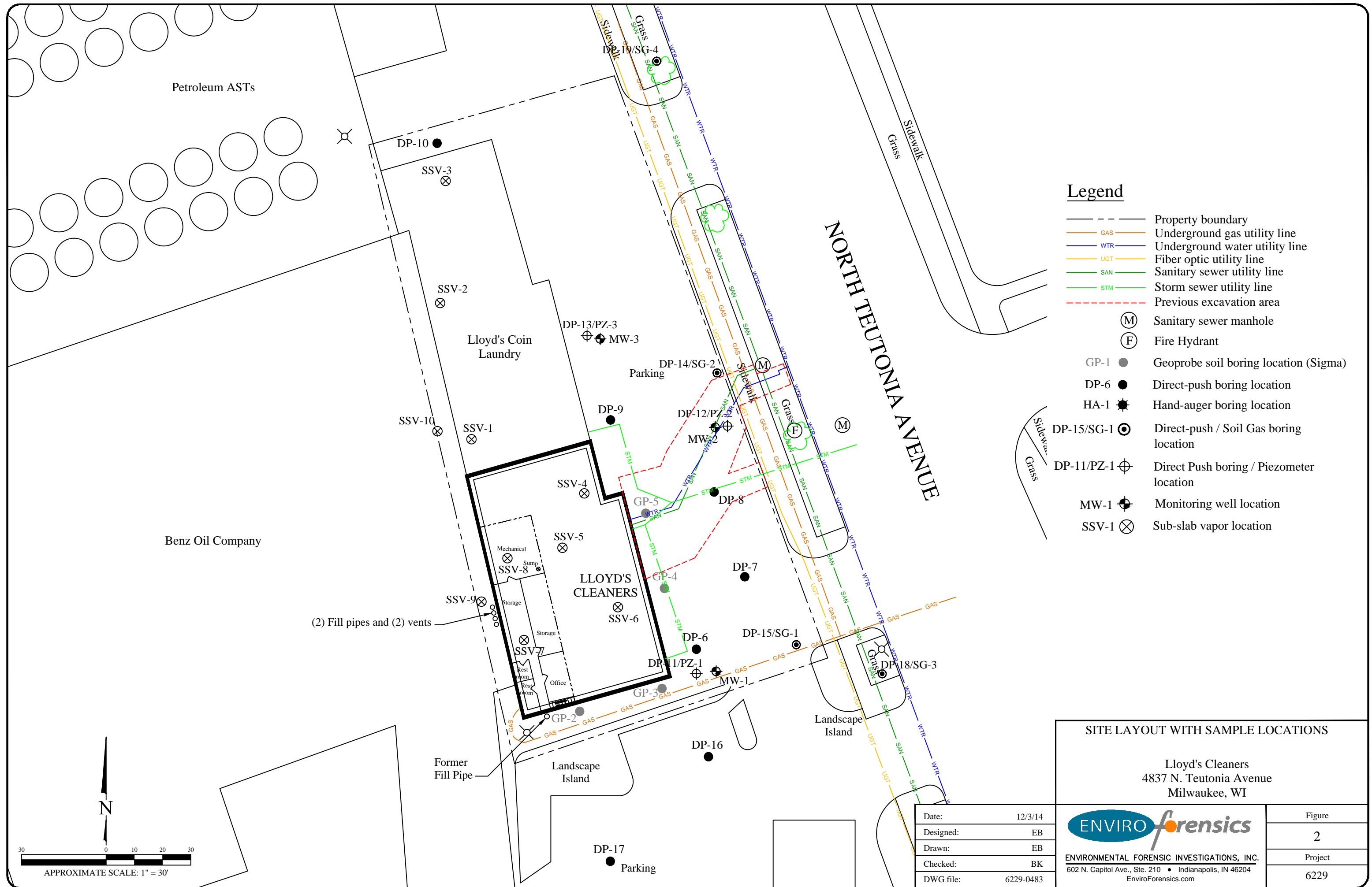
No.	Date	Revision	Approved

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Date:	3/1/13
Designed:	MMM
Drawn:	MMM
Checked:	JJ
DWG file:	62720-11

SITE LOCATION MAP  
 Lloyd's Cleaners  
 4837 N. Teutonia Avenue  
 Milwaukee WI

Figure	1
Project	6229



**Legend**

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- Geoprobe soil boring location (Sigma)
- Direct-push boring location
- Hand-auger boring location
- Direct-push / Soil Gas boring location
- Direct Push boring / Piezometer location
- Monitoring well location
- Sub-slab vapor location

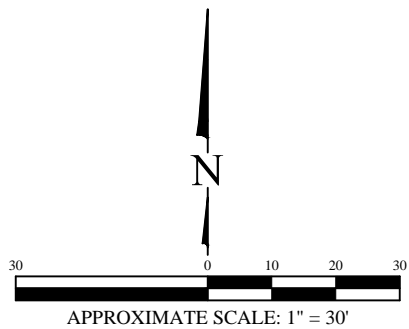
**SITE LAYOUT WITH SAMPLE LOCATIONS**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	12/3/14
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-0483

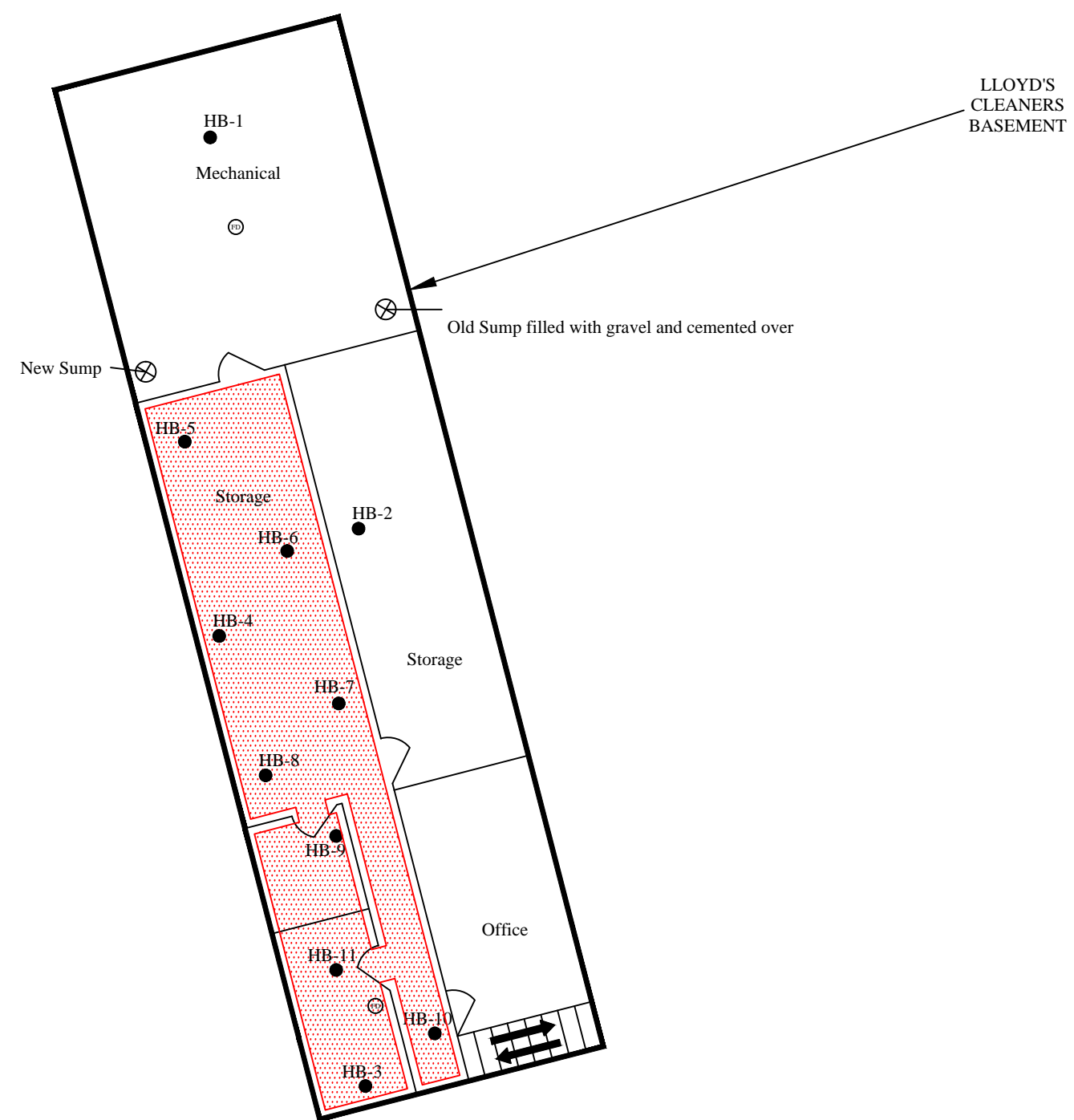
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Figure	2
Project	6229



### Legend

- ⊕ Floor drain
- ▭ Excavation limits
- HB-1 Sub-slab investigation location



### BASEMENT LAYOUT AND SOIL SAMPLE LOCATIONS

Lloyd's Cleaners  
 4837 N. Teutonia Avenue  
 Milwaukee, WI

Date:	4/5/17
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6229-0991

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Figure	3
Project	6229

# Legend

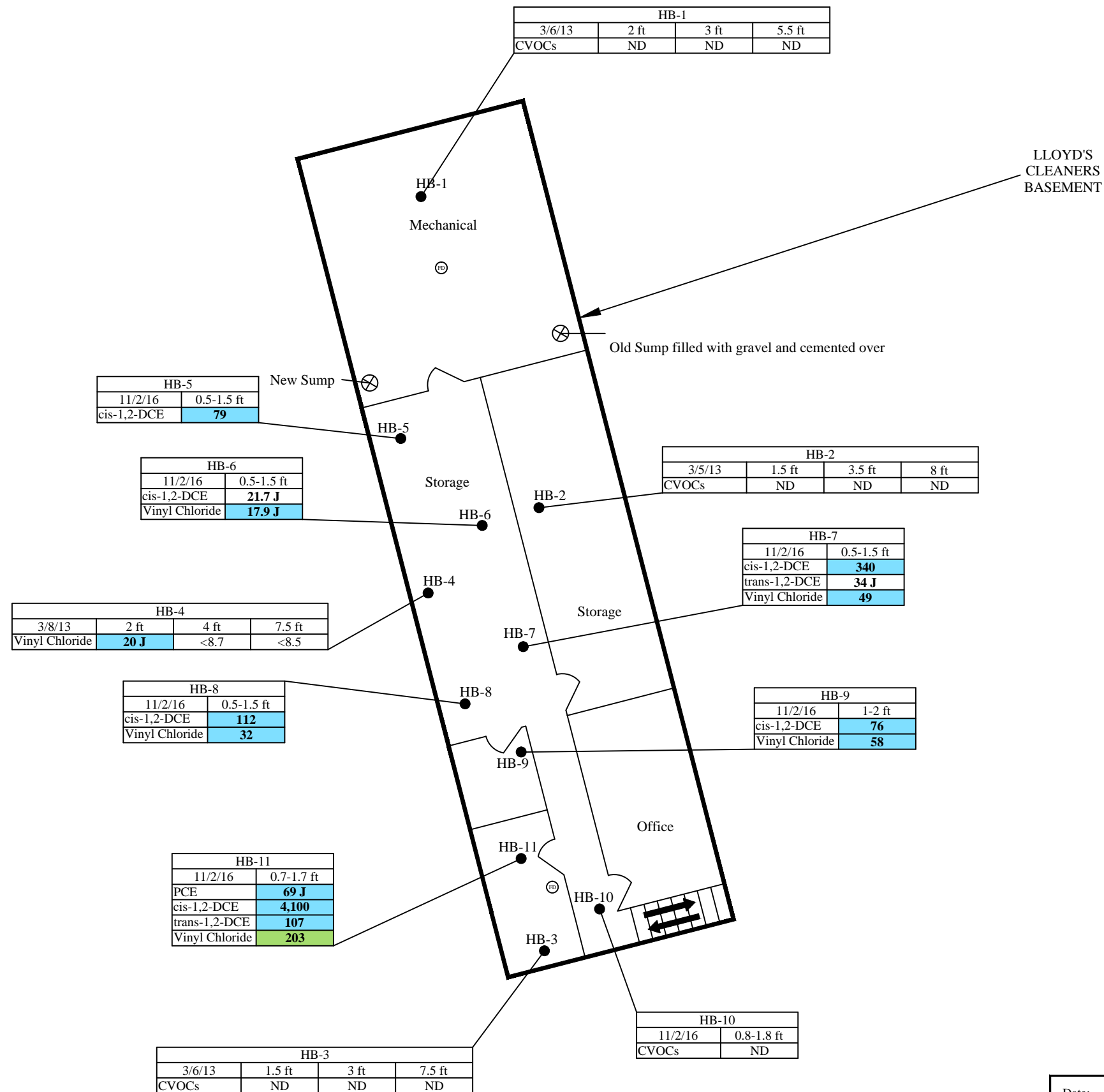
⊕	Floor drain
—	Partial basement
●	Sub-slab investigation location

Analyte	Soil to Groundwater Residual Contaminant Level	Residential Residual Contaminant Level	Industrial Residual Contaminant Level
PCE	<b>4.5</b>	<b>30,700</b>	<b>153,000</b>
TCE	<b>3.6</b>	<b>644</b>	<b>8,810</b>
cis-1,2-DCE	<b>41.2</b>	<b>156,000</b>	<b>2,400,000</b>
trans-1,2-DCE	<b>58.8</b>	<b>211,000</b>	<b>976,000</b>
Vinyl Chloride	<b>0.1</b>	<b>67</b>	<b>2,030</b>

Note:

- Bolded and blue shaded values exceed the Soil to Groundwater Residual Contaminant Level
- Bolded values are above detection limits
- J = Analyte concentration less than laboratory detection limits
- Samples analyzed using EPA SW-846 Method 8260
- All results reported in units of micrograms per kilogram (µg/kg)
- PCE = Tetrachloroethene
- TCE = Trichloroethene
- cis-1,2-DCE = cis-1,2-Dichloroethene
- trans-1,2-DCE = trans-1,2-Dichloroethene
- CVOCs = Chlorinated Volatile Organic Compounds
- ND = Not detected



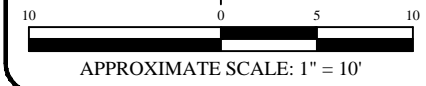
## BASEMENT SOIL SAMPLE ANALYTICAL RESULTS

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI





Date:	4/5/17
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6229-0996

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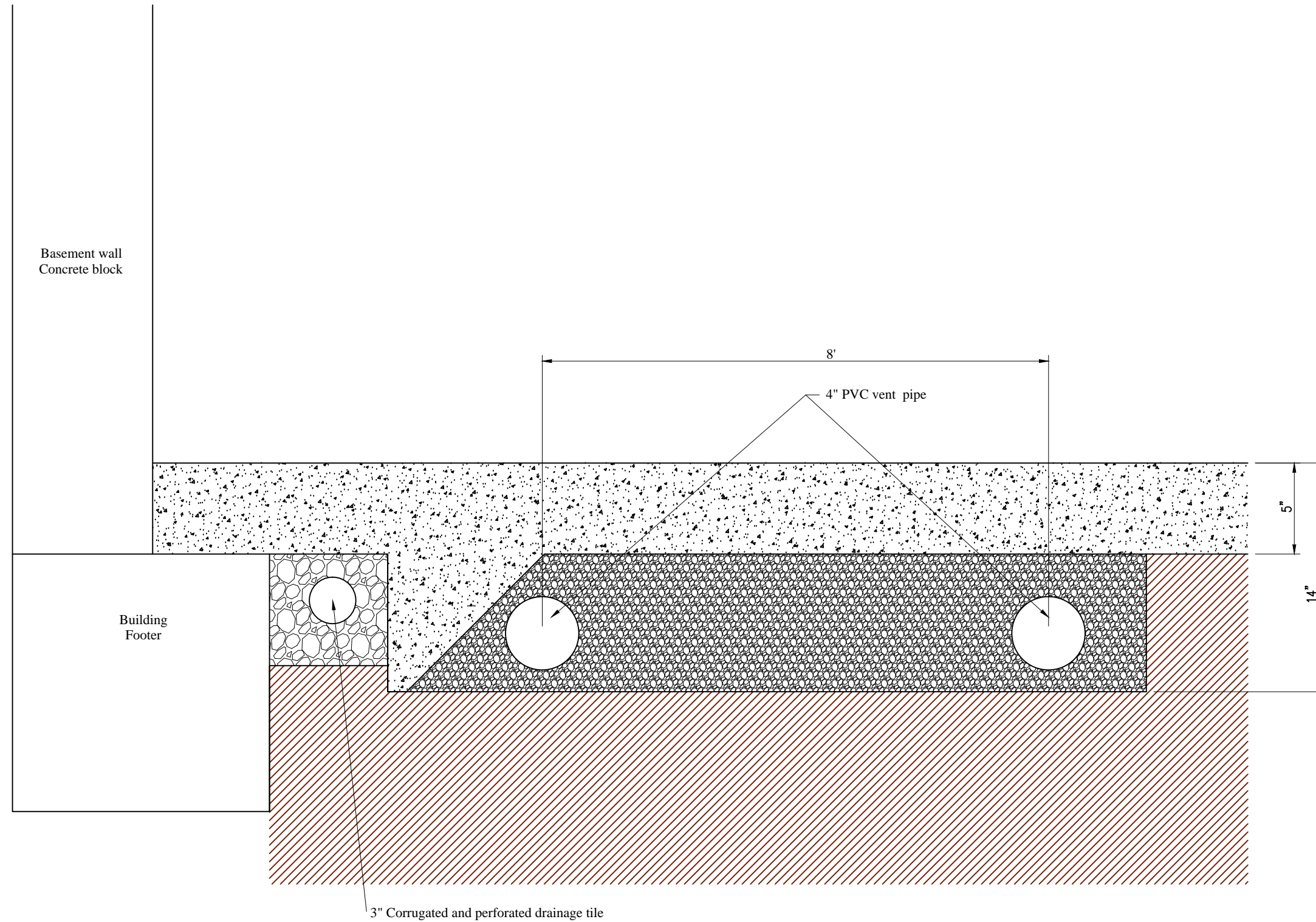
Figure	4
Project	6229



**Legend**

	Concrete
	Stone Fill
	Pea Gravel
	Clay - Brown

*Not To Scale*



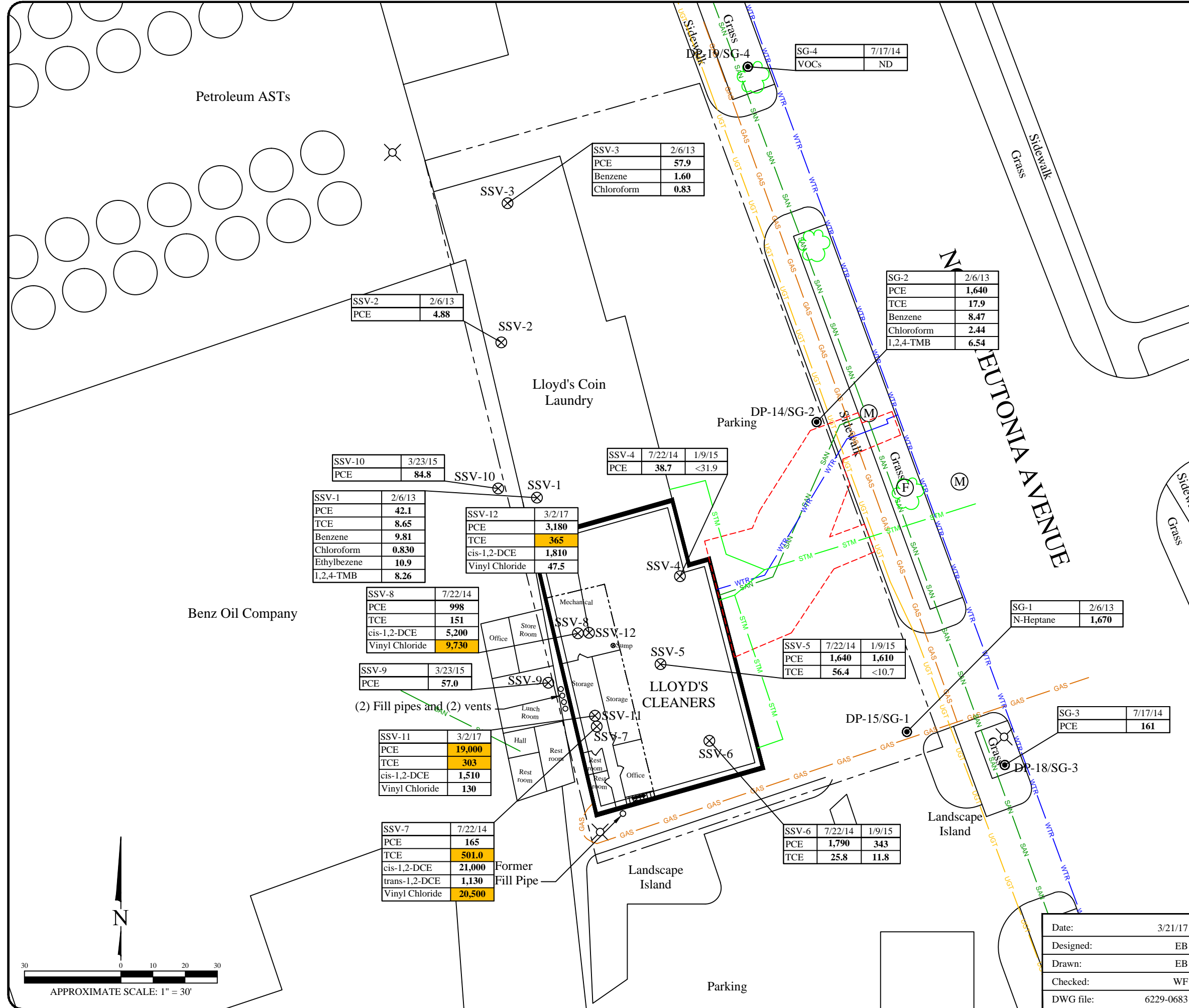
**BASEMENT COLLECTION TRENCH AND SSDS  
LAYOUT DETAIL**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	4/4/17
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-0433

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Figure	5
Project	6229



### Legend

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- Direct-push / Soil Gas boring location
- Sub-slab vapor location

Analytes	Soil Gas Vapor Risk Screening Level
PCE	<b>18,000</b>
TCE	<b>880</b>
Benzene	<b>1,600</b>
Chloroform	<b>530</b>
1,2,4-TMB	<b>NE</b>
N-Heptane	<b>NE</b>

- Notes:
1. Bold, shaded orange values exceed Vapor Risk Screening Levels
  2. Bolded values are above detection limits
  3. Results reported in micrograms per cubic meter = ug/m3
  4. PCE = Tetrachloroethene
  5. TCE = Trichloroethene
  6. 1,2,4-TMB = 1,2,4-Trimethylbenzene
  9. VOCs = Volatile Organic Compounds
  10. ND = Not detected
  11. NE = Not Established

Sub-slab vapor	
Analyte	Small Commercial Vapor Risk Screening Level
PCE	<b>6,000</b>
TCE	<b>290</b>
cis-1,2-DCE	<b>NE</b>
trans-1,2-DCE	<b>NE</b>
Vinyl Chloride	<b>930</b>
Benzene	<b>530</b>
Chloroform	<b>180</b>
Ethylbenzene	<b>1,600</b>
1,2,4-TMB	<b>1,000</b>

- Note:
1. Bolded and shaded values exceed Small Commercial Vapor Risk Screening Levels
  2. All results reported in micrograms per cubic meter (ug/m3)
  3. 1 = Vapor Risk Screening Levels are based on U.S. E.P.A.'s Regional Screening Levels (RSL's) for industrial indoor air with an attenuation factor of 0.1 for sub-slab samples a 0.1 adjustment for 1 x 10<sup>-5</sup> lifetime cancer risk for carcinogens
  4. cis-1,2-DCE = cis-1,2-Dichloroethene
  5. trans-1,2-DCE = trans-1,2-Dichloroethene
  6. 1,2,4-TMB = 1,2,4-Trimethylbenzene

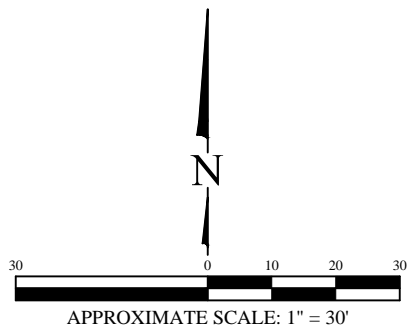
### SOIL GAS AND SUB-SLAB VAPOR ANALYTICAL RESULTS

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	3/21/17
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6229-0683

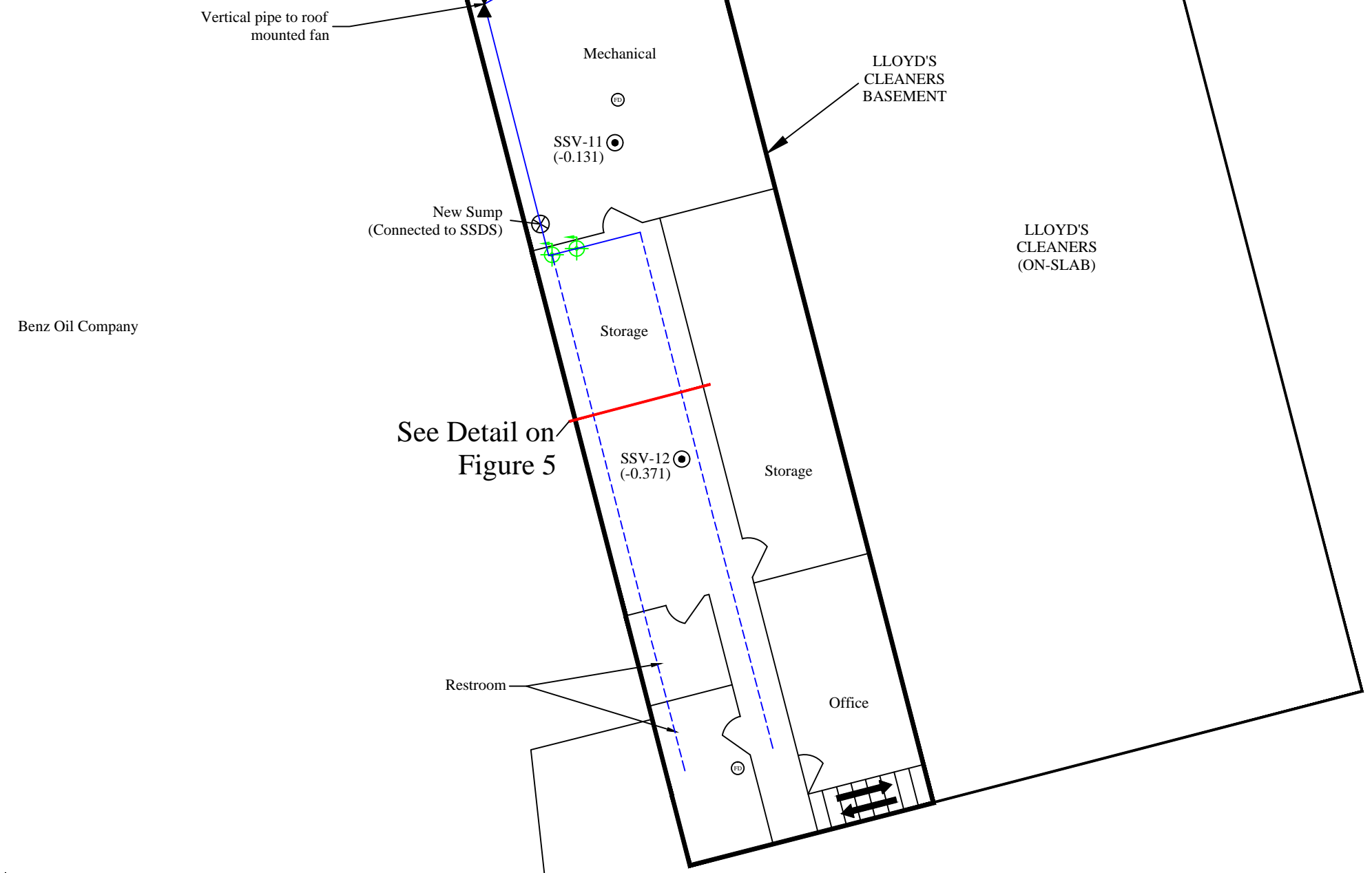
Figure	6
Project	6229

**ENVIROforensics**  
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.  
825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com



### Legend

- ⊕ Floor drain
- EP ⊕ Extraction point
- Conveyance piping
- - - Horizontal extraction pipe
- SSV-11 ⊕ Sub-Slab Vapor Sample and Vacuum Test Point
- (-0.131) Vacuum in inches of water



See Detail on Figure 5

Benz Oil Company

LLOYD'S CLEANERS BASEMENT

LLOYD'S CLEANERS (ON-SLAB)

Mechanical

SSV-11 (-0.131)

New Sump (Connected to SSDS)

Storage

SSV-12 (-0.371)

Storage

Restroom

Office

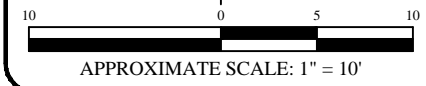
### SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	5/1/17
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6229-1019

**ENVIROforensics**  
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.  
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EnviroForensics.com

Figure	7
Project	6229





## **APPENDIX A**

### **Soil Laboratory Analytical Report**



# Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 \*P 920-830-2455 \* F 920-733-0631

WAYNE FASSBENDER  
 ENVIROFORENSICS  
 825 N. CAPITOL AVENUE  
 INDIANAPOLIS, IN 46204

Report Date 09-Nov-16

Project Name LLOYD'S CLEANERS  
 Project # 6229 PO#2016234

Invoice # E32020

Lab Code 5032020A  
 Sample ID 6229 HB-5 0.5-1.5  
 Sample Matrix Soil  
 Sample Date 11/2/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	71.0	%			1	5021		11/4/2016	TCC	1
Organic										
VOC's										
Benzene	< 0.016	mg/kg	0.016	0.049	1	8260B		11/8/2016	CJR	1
Bromobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Bromodichloromethane	< 0.015	mg/kg	0.015	0.048	1	8260B		11/8/2016	CJR	1
Bromoform	< 0.023	mg/kg	0.023	0.073	1	8260B		11/8/2016	CJR	1
tert-Butylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
sec-Butylbenzene	< 0.036	mg/kg	0.036	0.11	1	8260B		11/8/2016	CJR	1
n-Butylbenzene	< 0.086	mg/kg	0.086	0.27	1	8260B		11/8/2016	CJR	1
Carbon Tetrachloride	< 0.021	mg/kg	0.021	0.067	1	8260B		11/8/2016	CJR	1
Chlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Chloroethane	< 0.045	mg/kg	0.045	0.14	1	8260B		11/8/2016	CJR	1
Chloroform	< 0.026	mg/kg	0.026	0.081	1	8260B		11/8/2016	CJR	1
Chloromethane	< 0.25	mg/kg	0.25	0.78	1	8260B		11/8/2016	CJR	1
2-Chlorotoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
4-Chlorotoluene	< 0.032	mg/kg	0.032	0.1	1	8260B		11/8/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 0.078	mg/kg	0.078	0.25	1	8260B		11/8/2016	CJR	1
Dibromochloromethane	< 0.031	mg/kg	0.031	0.098	1	8260B		11/8/2016	CJR	1
1,4-Dichlorobenzene	< 0.03	mg/kg	0.03	0.096	1	8260B		11/8/2016	CJR	1
1,3-Dichlorobenzene	< 0.03	mg/kg	0.03	0.097	1	8260B		11/8/2016	CJR	1
1,2-Dichlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Dichlorodifluoromethane	< 0.043	mg/kg	0.043	0.14	1	8260B		11/8/2016	CJR	1
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		11/8/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		11/8/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
cis-1,2-Dichloroethene	0.079	mg/kg	0.021	0.068	1	8260B		11/8/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		11/8/2016	CJR	1
1,2-Dichloropropane	< 0.025	mg/kg	0.025	0.078	1	8260B		11/8/2016	CJR	1
2,2-Dichloropropane	< 0.1	mg/kg	0.1	0.33	1	8260B		11/8/2016	CJR	1
1,3-Dichloropropane	< 0.031	mg/kg	0.031	0.097	1	8260B		11/8/2016	CJR	1
Di-isopropyl ether	< 0.012	mg/kg	0.012	0.04	1	8260B		11/8/2016	CJR	1

Project Name LLOYD'S CLEANERS  
 Project # 6229 PO#2016234

Invoice # E32020

Lab Code 5032020A  
 Sample ID 6229 HB-5 0.5-1.5  
 Sample Matrix Soil  
 Sample Date 11/2/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
EDB (1,2-Dibromoethane)	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
Ethylbenzene	< 0.027	mg/kg	0.027	0.086	1	8260B		11/8/2016	CJR	1
Hexachlorobutadiene	< 0.11	mg/kg	0.11	0.36	1	8260B		11/8/2016	CJR	1
Isopropylbenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		11/8/2016	CJR	1
p-Isopropyltoluene	< 0.056	mg/kg	0.056	0.18	1	8260B		11/8/2016	CJR	1
Methylene chloride	< 0.22	mg/kg	0.22	0.7	1	8260B		11/8/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.025	0.078	1	8260B		11/8/2016	CJR	1
Naphthalene	0.278 "J"	mg/kg	0.087	0.28	1	8260B		11/8/2016	CJR	1
n-Propylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.013	mg/kg	0.013	0.04	1	8260B		11/8/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		11/8/2016	CJR	1
Toluene	< 0.031	mg/kg	0.031	0.099	1	8260B		11/8/2016	CJR	1
1,2,4-Trichlorobenzene	< 0.085	mg/kg	0.085	0.27	1	8260B		11/8/2016	CJR	1
1,2,3-Trichlorobenzene	< 0.12	mg/kg	0.12	0.38	1	8260B		11/8/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		11/8/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		11/8/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		11/8/2016	CJR	1
Trichlorofluoromethane	< 0.06	mg/kg	0.06	0.19	1	8260B		11/8/2016	CJR	1
1,2,4-Trimethylbenzene	< 0.078	mg/kg	0.078	0.25	1	8260B		11/8/2016	CJR	1
1,3,5-Trimethylbenzene	< 0.089	mg/kg	0.089	0.28	1	8260B		11/8/2016	CJR	1
Vinyl Chloride	< 0.01	mg/kg	0.01	0.031	1	8260B		11/8/2016	CJR	1
m&p-Xylene	< 0.07	mg/kg	0.07	0.22	1	8260B		11/8/2016	CJR	1
o-Xylene	< 0.029	mg/kg	0.029	0.092	1	8260B		11/8/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	110	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	88	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Dibromofluoromethane	108	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Toluene-d8	95	Rec %			1	8260B		11/8/2016	CJR	1

Project Name LLOYD'S CLEANERS  
 Project # 6229 PO#2016234

Invoice # E32020

Lab Code 5032020B  
 Sample ID 6229 HB-6 0.5-1.5  
 Sample Matrix Soil  
 Sample Date 11/2/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	71.2	%			1	5021		11/4/2016	TCC	1
Organic										
VOC's										
Benzene	< 0.016	mg/kg	0.016	0.049	1	8260B		11/8/2016	CJR	1
Bromobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Bromodichloromethane	< 0.015	mg/kg	0.015	0.048	1	8260B		11/8/2016	CJR	1
Bromoform	< 0.023	mg/kg	0.023	0.073	1	8260B		11/8/2016	CJR	1
tert-Butylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
sec-Butylbenzene	< 0.036	mg/kg	0.036	0.11	1	8260B		11/8/2016	CJR	1
n-Butylbenzene	< 0.086	mg/kg	0.086	0.27	1	8260B		11/8/2016	CJR	1
Carbon Tetrachloride	< 0.021	mg/kg	0.021	0.067	1	8260B		11/8/2016	CJR	1
Chlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Chloroethane	< 0.045	mg/kg	0.045	0.14	1	8260B		11/8/2016	CJR	1
Chloroform	< 0.026	mg/kg	0.026	0.081	1	8260B		11/8/2016	CJR	1
Chloromethane	< 0.25	mg/kg	0.25	0.78	1	8260B		11/8/2016	CJR	1
2-Chlorotoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
4-Chlorotoluene	< 0.032	mg/kg	0.032	0.1	1	8260B		11/8/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 0.078	mg/kg	0.078	0.25	1	8260B		11/8/2016	CJR	1
Dibromochloromethane	< 0.031	mg/kg	0.031	0.098	1	8260B		11/8/2016	CJR	1
1,4-Dichlorobenzene	< 0.03	mg/kg	0.03	0.096	1	8260B		11/8/2016	CJR	1
1,3-Dichlorobenzene	< 0.03	mg/kg	0.03	0.097	1	8260B		11/8/2016	CJR	1
1,2-Dichlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Dichlorodifluoromethane	< 0.043	mg/kg	0.043	0.14	1	8260B		11/8/2016	CJR	1
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		11/8/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		11/8/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
cis-1,2-Dichloroethene	0.0217 "J"	mg/kg	0.021	0.068	1	8260B		11/8/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		11/8/2016	CJR	1
1,2-Dichloropropane	< 0.025	mg/kg	0.025	0.078	1	8260B		11/8/2016	CJR	1
2,2-Dichloropropane	< 0.1	mg/kg	0.1	0.33	1	8260B		11/8/2016	CJR	1
1,3-Dichloropropane	< 0.031	mg/kg	0.031	0.097	1	8260B		11/8/2016	CJR	1
Di-isopropyl ether	< 0.012	mg/kg	0.012	0.04	1	8260B		11/8/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
Ethylbenzene	< 0.027	mg/kg	0.027	0.086	1	8260B		11/8/2016	CJR	1
Hexachlorobutadiene	< 0.11	mg/kg	0.11	0.36	1	8260B		11/8/2016	CJR	1
Isopropylbenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		11/8/2016	CJR	1
p-Isopropyltoluene	< 0.056	mg/kg	0.056	0.18	1	8260B		11/8/2016	CJR	1
Methylene chloride	< 0.22	mg/kg	0.22	0.7	1	8260B		11/8/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.025	0.078	1	8260B		11/8/2016	CJR	1
Naphthalene	< 0.087	mg/kg	0.087	0.28	1	8260B		11/8/2016	CJR	1
n-Propylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.013	mg/kg	0.013	0.04	1	8260B		11/8/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		11/8/2016	CJR	1
Toluene	< 0.031	mg/kg	0.031	0.099	1	8260B		11/8/2016	CJR	1
1,2,4-Trichlorobenzene	< 0.085	mg/kg	0.085	0.27	1	8260B		11/8/2016	CJR	1
1,2,3-Trichlorobenzene	< 0.12	mg/kg	0.12	0.38	1	8260B		11/8/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		11/8/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		11/8/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		11/8/2016	CJR	1
Trichlorofluoromethane	< 0.06	mg/kg	0.06	0.19	1	8260B		11/8/2016	CJR	1
1,2,4-Trimethylbenzene	< 0.078	mg/kg	0.078	0.25	1	8260B		11/8/2016	CJR	1
1,3,5-Trimethylbenzene	< 0.089	mg/kg	0.089	0.28	1	8260B		11/8/2016	CJR	1
Vinyl Chloride	0.0179 "J"	mg/kg	0.01	0.031	1	8260B		11/8/2016	CJR	1
m&p-Xylene	< 0.07	mg/kg	0.07	0.22	1	8260B		11/8/2016	CJR	1
o-Xylene	< 0.029	mg/kg	0.029	0.092	1	8260B		11/8/2016	CJR	1

**Project Name** LLOYD'S CLEANERS  
**Project #** 6229 PO#2016234

**Invoice #** E32020

**Lab Code** 5032020B  
**Sample ID** 6229 HB-6 0.5-1.5  
**Sample Matrix** Soil  
**Sample Date** 11/2/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
SUR - 1,2-Dichloroethane-d4	112	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Toluene-d8	93	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	94	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Dibromofluoromethane	120	Rec %			1	8260B		11/8/2016	CJR	1

Project Name LLOYD'S CLEANERS  
 Project # 6229 PO#2016234

Invoice # E32020

Lab Code 5032020C  
 Sample ID 6229 HB-7 0.5-1.5  
 Sample Matrix Soil  
 Sample Date 11/2/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	73.5	%			1	5021		11/4/2016	TCC	1
Organic										
VOC's										
Benzene	< 0.016	mg/kg	0.016	0.049	1	8260B		11/8/2016	CJR	1
Bromobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Bromodichloromethane	< 0.015	mg/kg	0.015	0.048	1	8260B		11/8/2016	CJR	1
Bromoform	< 0.023	mg/kg	0.023	0.073	1	8260B		11/8/2016	CJR	1
tert-Butylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
sec-Butylbenzene	< 0.036	mg/kg	0.036	0.11	1	8260B		11/8/2016	CJR	1
n-Butylbenzene	< 0.086	mg/kg	0.086	0.27	1	8260B		11/8/2016	CJR	1
Carbon Tetrachloride	< 0.021	mg/kg	0.021	0.067	1	8260B		11/8/2016	CJR	1
Chlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Chloroethane	< 0.045	mg/kg	0.045	0.14	1	8260B		11/8/2016	CJR	1
Chloroform	< 0.026	mg/kg	0.026	0.081	1	8260B		11/8/2016	CJR	1
Chloromethane	< 0.25	mg/kg	0.25	0.78	1	8260B		11/8/2016	CJR	1
2-Chlorotoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
4-Chlorotoluene	< 0.032	mg/kg	0.032	0.1	1	8260B		11/8/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 0.078	mg/kg	0.078	0.25	1	8260B		11/8/2016	CJR	1
Dibromochloromethane	< 0.031	mg/kg	0.031	0.098	1	8260B		11/8/2016	CJR	1
1,4-Dichlorobenzene	< 0.03	mg/kg	0.03	0.096	1	8260B		11/8/2016	CJR	1
1,3-Dichlorobenzene	< 0.03	mg/kg	0.03	0.097	1	8260B		11/8/2016	CJR	1
1,2-Dichlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Dichlorodifluoromethane	< 0.043	mg/kg	0.043	0.14	1	8260B		11/8/2016	CJR	1
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		11/8/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		11/8/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
cis-1,2-Dichloroethene	0.34	mg/kg	0.021	0.068	1	8260B		11/8/2016	CJR	1
trans-1,2-Dichloroethene	0.034 "J"	mg/kg	0.024	0.076	1	8260B		11/8/2016	CJR	1
1,2-Dichloropropane	< 0.025	mg/kg	0.025	0.078	1	8260B		11/8/2016	CJR	1
2,2-Dichloropropane	< 0.1	mg/kg	0.1	0.33	1	8260B		11/8/2016	CJR	1
1,3-Dichloropropane	< 0.031	mg/kg	0.031	0.097	1	8260B		11/8/2016	CJR	1
Di-isopropyl ether	< 0.012	mg/kg	0.012	0.04	1	8260B		11/8/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
Ethylbenzene	< 0.027	mg/kg	0.027	0.086	1	8260B		11/8/2016	CJR	1
Hexachlorobutadiene	< 0.11	mg/kg	0.11	0.36	1	8260B		11/8/2016	CJR	1
Isopropylbenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		11/8/2016	CJR	1
p-Isopropyltoluene	< 0.056	mg/kg	0.056	0.18	1	8260B		11/8/2016	CJR	1
Methylene chloride	< 0.22	mg/kg	0.22	0.7	1	8260B		11/8/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.025	0.078	1	8260B		11/8/2016	CJR	1
Naphthalene	< 0.087	mg/kg	0.087	0.28	1	8260B		11/8/2016	CJR	1
n-Propylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.013	mg/kg	0.013	0.04	1	8260B		11/8/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		11/8/2016	CJR	1
Toluene	< 0.031	mg/kg	0.031	0.099	1	8260B		11/8/2016	CJR	1
1,2,4-Trichlorobenzene	< 0.085	mg/kg	0.085	0.27	1	8260B		11/8/2016	CJR	1
1,2,3-Trichlorobenzene	< 0.12	mg/kg	0.12	0.38	1	8260B		11/8/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		11/8/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		11/8/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		11/8/2016	CJR	1
Trichlorofluoromethane	< 0.06	mg/kg	0.06	0.19	1	8260B		11/8/2016	CJR	1
1,2,4-Trimethylbenzene	< 0.078	mg/kg	0.078	0.25	1	8260B		11/8/2016	CJR	1
1,3,5-Trimethylbenzene	< 0.089	mg/kg	0.089	0.28	1	8260B		11/8/2016	CJR	1
Vinyl Chloride	0.049	mg/kg	0.01	0.031	1	8260B		11/8/2016	CJR	1
m&p-Xylene	< 0.07	mg/kg	0.07	0.22	1	8260B		11/8/2016	CJR	1
o-Xylene	< 0.029	mg/kg	0.029	0.092	1	8260B		11/8/2016	CJR	1

**Project Name** LLOYD'S CLEANERS  
**Project #** 6229 PO#2016234

**Invoice #** E32020

**Lab Code** 5032020C  
**Sample ID** 6229 HB-7 0.5-1.5  
**Sample Matrix** Soil  
**Sample Date** 11/2/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
SUR - 1,2-Dichloroethane-d4	120	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	88	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Dibromofluoromethane	119	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Toluene-d8	92	Rec %			1	8260B		11/8/2016	CJR	1

Project Name LLOYD'S CLEANERS  
 Project # 6229 PO#2016234

Invoice # E32020

Lab Code 5032020D  
 Sample ID 6229 HB-8 0.5-1.5  
 Sample Matrix Soil  
 Sample Date 11/2/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	73.5	%			1	5021		11/4/2016	TCC	1
Organic										
VOC's										
Benzene	< 0.016	mg/kg	0.016	0.049	1	8260B		11/8/2016	CJR	1
Bromobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Bromodichloromethane	< 0.015	mg/kg	0.015	0.048	1	8260B		11/8/2016	CJR	1
Bromoform	< 0.023	mg/kg	0.023	0.073	1	8260B		11/8/2016	CJR	1
tert-Butylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
sec-Butylbenzene	< 0.036	mg/kg	0.036	0.11	1	8260B		11/8/2016	CJR	1
n-Butylbenzene	0.091 "J"	mg/kg	0.086	0.27	1	8260B		11/8/2016	CJR	1
Carbon Tetrachloride	< 0.021	mg/kg	0.021	0.067	1	8260B		11/8/2016	CJR	1
Chlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Chloroethane	< 0.045	mg/kg	0.045	0.14	1	8260B		11/8/2016	CJR	1
Chloroform	< 0.026	mg/kg	0.026	0.081	1	8260B		11/8/2016	CJR	1
Chloromethane	< 0.25	mg/kg	0.25	0.78	1	8260B		11/8/2016	CJR	1
2-Chlorotoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
4-Chlorotoluene	< 0.032	mg/kg	0.032	0.1	1	8260B		11/8/2016	CJR	1
1,2-Dibromo-3-chloropropane	< 0.078	mg/kg	0.078	0.25	1	8260B		11/8/2016	CJR	1
Dibromochloromethane	< 0.031	mg/kg	0.031	0.098	1	8260B		11/8/2016	CJR	1
1,4-Dichlorobenzene	< 0.03	mg/kg	0.03	0.096	1	8260B		11/8/2016	CJR	1
1,3-Dichlorobenzene	< 0.03	mg/kg	0.03	0.097	1	8260B		11/8/2016	CJR	1
1,2-Dichlorobenzene	< 0.039	mg/kg	0.039	0.12	1	8260B		11/8/2016	CJR	1
Dichlorodifluoromethane	< 0.043	mg/kg	0.043	0.14	1	8260B		11/8/2016	CJR	1
1,2-Dichloroethane	< 0.03	mg/kg	0.03	0.096	1	8260B		11/8/2016	CJR	1
1,1-Dichloroethane	< 0.025	mg/kg	0.025	0.079	1	8260B		11/8/2016	CJR	1
1,1-Dichloroethene	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
cis-1,2-Dichloroethene	0.112	mg/kg	0.021	0.068	1	8260B		11/8/2016	CJR	1
trans-1,2-Dichloroethene	< 0.024	mg/kg	0.024	0.076	1	8260B		11/8/2016	CJR	1
1,2-Dichloropropane	< 0.025	mg/kg	0.025	0.078	1	8260B		11/8/2016	CJR	1
2,2-Dichloropropane	< 0.1	mg/kg	0.1	0.33	1	8260B		11/8/2016	CJR	1
1,3-Dichloropropane	< 0.031	mg/kg	0.031	0.097	1	8260B		11/8/2016	CJR	1
Di-isopropyl ether	< 0.012	mg/kg	0.012	0.04	1	8260B		11/8/2016	CJR	1
EDB (1,2-Dibromoethane)	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
Ethylbenzene	< 0.027	mg/kg	0.027	0.086	1	8260B		11/8/2016	CJR	1
Hexachlorobutadiene	< 0.11	mg/kg	0.11	0.36	1	8260B		11/8/2016	CJR	1
Isopropylbenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		11/8/2016	CJR	1
p-Isopropyltoluene	< 0.056	mg/kg	0.056	0.18	1	8260B		11/8/2016	CJR	1
Methylene chloride	< 0.22	mg/kg	0.22	0.7	1	8260B		11/8/2016	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.025	0.078	1	8260B		11/8/2016	CJR	1
Naphthalene	0.234 "J"	mg/kg	0.087	0.28	1	8260B		11/8/2016	CJR	1
n-Propylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		11/8/2016	CJR	1
1,1,2,2-Tetrachloroethane	< 0.013	mg/kg	0.013	0.04	1	8260B		11/8/2016	CJR	1
1,1,1,2-Tetrachloroethane	< 0.029	mg/kg	0.029	0.093	1	8260B		11/8/2016	CJR	1
Tetrachloroethene	< 0.054	mg/kg	0.054	0.17	1	8260B		11/8/2016	CJR	1
Toluene	< 0.031	mg/kg	0.031	0.099	1	8260B		11/8/2016	CJR	1
1,2,4-Trichlorobenzene	< 0.085	mg/kg	0.085	0.27	1	8260B		11/8/2016	CJR	1
1,2,3-Trichlorobenzene	< 0.12	mg/kg	0.12	0.38	1	8260B		11/8/2016	CJR	1
1,1,1-Trichloroethane	< 0.04	mg/kg	0.04	0.13	1	8260B		11/8/2016	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		11/8/2016	CJR	1
Trichloroethene (TCE)	< 0.042	mg/kg	0.042	0.13	1	8260B		11/8/2016	CJR	1
Trichlorofluoromethane	< 0.06	mg/kg	0.06	0.19	1	8260B		11/8/2016	CJR	1
1,2,4-Trimethylbenzene	< 0.078	mg/kg	0.078	0.25	1	8260B		11/8/2016	CJR	1
1,3,5-Trimethylbenzene	< 0.089	mg/kg	0.089	0.28	1	8260B		11/8/2016	CJR	1
Vinyl Chloride	0.032	mg/kg	0.01	0.031	1	8260B		11/8/2016	CJR	1
m&p-Xylene	< 0.07	mg/kg	0.07	0.22	1	8260B		11/8/2016	CJR	1
o-Xylene	< 0.029	mg/kg	0.029	0.092	1	8260B		11/8/2016	CJR	1

**Project Name** LLOYD'S CLEANERS  
**Project #** 6229 PO#2016234

**Invoice #** E32020

**Lab Code** 5032020D  
**Sample ID** 6229 HB-8 0.5-1.5  
**Sample Matrix** Soil  
**Sample Date** 11/2/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
SUR - Toluene-d8	96	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Dibromofluoromethane	115	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	96	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	110	Rec %			1	8260B		11/8/2016	CJR	1





**Project Name** LLOYD'S CLEANERS  
**Project #** 6229 PO#2016234

**Invoice #** E32020

**Lab Code** 5032020E  
**Sample ID** 6229 HB-9 1-2  
**Sample Matrix** Soil  
**Sample Date** 11/2/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
SUR - 1,2-Dichloroethane-d4	105	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	90	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Dibromofluoromethane	107	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Toluene-d8	95	Rec %			1	8260B		11/8/2016	CJR	1



**Project Name** LLOYD'S CLEANERS  
**Project #** 6229 PO#2016234

**Invoice #** E32020

**Lab Code** 5032020F  
**Sample ID** 6229 HB-10 0.8-1.8  
**Sample Matrix** Soil  
**Sample Date** 11/2/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
SUR - 1,2-Dichloroethane-d4	108	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	97	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Dibromofluoromethane	113	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Toluene-d8	96	Rec %			1	8260B		11/8/2016	CJR	1



**Project Name** LLOYD'S CLEANERS  
**Project #** 6229 PO#2016234

**Invoice #** E32020

**Lab Code** 5032020G  
**Sample ID** 6229 HB-11 0.7-1.7  
**Sample Matrix** Soil  
**Sample Date** 11/2/2016

	<b>Result</b>	<b>Unit</b>	<b>LOD</b>	<b>LOQ</b>	<b>Dil</b>	<b>Method</b>	<b>Ext Date</b>	<b>Run Date</b>	<b>Analyst</b>	<b>Code</b>
SUR - Toluene-d8	99	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	106	Rec %			1	8260B		11/8/2016	CJR	1
SUR - 4-Bromofluorobenzene	88	Rec %			1	8260B		11/8/2016	CJR	1
SUR - Dibromofluoromethane	106	Rec %			1	8260B		11/8/2016	CJR	1

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

<i>Code</i>	<i>Comment</i>
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

**Authorized Signature**



Michael J. Steel

CHAIN OF CUSTODY RECORD

# Synergy

*WAF*  
Environmental Lab, Inc.

Chain # No. 292

Page 1 of 1

Lab I.D. #  
Account No. : Quote No.:  
Project #: 6229  
Sampler: (signature) *[Signature]*

1990 Prospect Ct. • Appleton, WI 54914  
920-830-2455 • FAX 920-733-0631

**Sample Handling Request**  
Rush Analysis Date Required \_\_\_\_\_  
(Rushes accepted only with prior authorization)  
 Normal Turn Around

Project (Name / Location): *Lloyd's Cleaners / Milwaukee WI*  
Reports To: *W. Fassbender / K. Heinsteed* Invoice To:  
Company: *EnviroForensics* Company:  
Address: *W6W23390 Stone Ridge Dr., Ste G* Address:  
City State Zip: *Waukesha WI 53188* City State Zip:  
Phone: *317-972-7870* Phone:  
FAX: FAX:

Analysis Requested												Other Analysis		
DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	PID/ FID

Lab I.D.	Sample I.D.	Collection Date	Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation
5032020A	6229-HB-5-(0.5-1.5)	1/2	915		X	N	3	S	MeOH
B	6229-HB-6-(0.5-1.5)	1/2	935		X	N	3	S	MeOH
C	6229-HB-7-(0.5-1.5)	1/2	955		X	N	3	S	MeOH
D	6229-HB-8-(0.5-1.5)	1/2	1015		X	N	3	S	MeOH
E	6229-HB-9-(1-2)	1/2	1050		X	N	3	S	MeOH
F	6229-HB-10-(0.5-1.8)	1/2	1140		X	N	3	S	MeOH
G	6229-HB-11-(0.7-1.7)	1/2	1205		X	N	3	S	MeOH


Comments/Special Instructions (\*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

PO# 2016234

Hold ALL TCLP samples for potential analysis if any totals exceed 20x rule.

Sample Integrity - To be completed by receiving lab.  
Method of Shipment: *SM*  
Temp. of Temp. Blank \_\_\_\_\_ °C On Ice:   
Cooler seal intact upon receipt:  Yes \_\_\_\_\_ No

Relinquished By: (sign) *[Signature]* Time: *10:25* Date: *11-3-16*  
Received By: (sign) *[Signature]* Time: *10:25* Date: *11/3/16*  
Received in Laboratory By: *[Signature]* Time: *8:00* Date: *11/4/16*

## **APPENDIX B**

### **Waste Disposal Manifests**





Dry

# NON-HAZARDOUS MANIFEST

<b>NON-HAZARDOUS MANIFEST</b>		1. Generator's US EPA ID No.	Manifest Doc No.	2. Page 1 of <b>1</b>	
3. Generator's Mailing Address: <b>Lloyd's Cleaners 4837 North Tutonia Avenue Milwaukee WI 53209</b>		Generator's Site Address (if different than mailing): <b>Lloyd's Cleaners 4837 North Tutonia Avenue Milwaukee WI 53209</b>		A. Manifest Number <b>WMNA</b>	
4. Generator's Phone <b>(209) 390-9814</b>				B. State Generator's ID <b>723</b>	
5. Transporter 1 Company Name		6. US EPA ID Number		C. State Transporter's ID	
				D. Transporter's Phone	
7. Transporter 2 Company Name		8. US EPA ID Number		E. State Transporter's ID	
				F. Transporter's Phone	
9. Designated Facility Name and Site Address <b>Orchard Ridge RDF W124 N9355 Boundary Road Menomonee Falls, WI 53051</b>		10. US EPA ID Number		G. State Facility ID	
				H. State Facility Phone <b>262-253-8620</b>	
11. Description of Waste Materials		12. Containers		13. Total Quantity	14. Unit Wt./Vol.
		No.	Type		
GENERATOR	a. Dry Cleaning Solvent Impacted Soil				
	WM Profile # <b>V126479WI</b>				
	b.				
	WM Profile #				
	c.				
WM Profile #					
d.					
WM Profile #					
J. Additional Descriptions for Materials Listed Above		K. Disposal Location			
BILL TO:		Cell		Level	
		Grid			
15. Special Handling Instructions and Additional Information					
Purchase Order #		EMERGENCY CONTACT / PHONE NO.:		<b>Kyle Heimstead (209) 390-9814</b>	
16. GENERATOR'S CERTIFICATE: I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.					
Printed Name <b>Agent of Client, Garnet Schacht</b>		Signature "On behalf of" <i>Garnet Schacht</i>		Month <b>02</b>	Day <b>15</b>
				Year <b>2017</b>	
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials				
	Printed Name <b>Adam Smith</b>		Signature <i>Adam Smith</i>		Month <b>02</b>
					Day <b>15</b>
				Year <b>17</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed Name		Signature		Month	Day
				Year	
19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.					
20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.					
Printed Name <i>[Signature]</i>		Signature <i>[Signature]</i>		Month <b>2</b>	Day <b>15</b>
				Year <b>17</b>	

GENERATOR

TRANSPORTER

FACILITY



13466049

Orchard Ridge RDF  
W124 N7355 Boundary Road  
Menomonee Falls, WI, 53051  
Ph: (262) 253-8620

Original  
Ticket# 1524567

Customer Name	ENVIROFORENICS ENVIRO FORENSI	Carrier	MORAINENEVIRONMENTAL MORAINE ENVIRON
Ticket Date	02/15/2017	Vehicle#	1
Payment Type	Credit Account	Container	Volume
Manual Ticket#		Driver	
Hauling Ticket#		Check#	
Route		Billing #	0004957
State Waste Code	A-24--06	Gen EPA ID	
Manifest	na		
Destination		Grid	
PO			
Profile	V126479WI (DRY CLEANING SOLVENT IMPACTED SOIL)		
Generator	136-LLOYDSCLEANERS LLOYDS CLEANERS		

	Time	Scale	Operator	Inbound	Gross	
In	02/15/2017 13:26:07	InBound	jgindt			29840 lb
Out	02/15/2017 13:40:14	OutBound	jgindt		Tare	15380 lb
					Net	14460 lb
					Tons	7.23

Comments

Product	LDX	Qty	UOM	Rate	Tax	Amount	Origin
1 Spwaste VOC-Tons-S	100	7.23	Tons				WI
2 FUEL-Fuel Surcharg	100		%				WI
3 EVF-L-Standard Env	100	1	Load				WI

Total Tax  
Total Ticket





Dry

# NON-HAZARDOUS MANIFEST

NON-HAZARDOUS MANIFEST		1. Generator's US EPA ID No.		Manifest Doc No.		2. Page 1 of <u>1</u>		<i>Misra</i>					
3. Generator's Mailing Address: <b>Lloyd's Cleaners</b> 4837 North Tutonia Avenue Milwaukee WI 53209				Generator's Site Address (if different than mailing): <b>Lloyd's Cleaners</b> 4837 North Tutonia Avenue Milwaukee WI 53209				A. Manifest Number <b>WMNA</b>		B. State Generator's ID			
4. Generator's Phone <b>(209) 390-9814</b>				5. Transporter 1 Company Name				6. US EPA ID Number					
7. Transporter 2 Company Name				8. US EPA ID Number				C. State Transporter's ID					
9. Designated Facility Name and Site Address Orchard Ridge RDF W124 N9355 Boundary Road Menomonee Falls, WI 53051				10. US EPA ID Number				D. Transporter's Phone					
								E. State Transporter's ID					
								F. Transporter's Phone					
								G. State Facility ID					
								H. State Facility Phone <b>262-253-8620</b>					
11. Description of Waste Materials						12. Containers		13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments			
						No.	Type						
GENERATOR	a. Dry Cleaning Solvent Impacted Soil												
	WM Profile # <b>V126479WI</b>												
	b.												
	WM Profile #												
c.													
WM Profile #													
d.													
WM Profile #													
J. Additional Descriptions for Materials Listed Above						K. Disposal Location							
BILL TO:						Cell		Level					
15. Special Handling Instructions and Additional Information						Grid							
Purchase Order #						EMERGENCY CONTACT / PHONE NO.: <b>Kyle Heimstead (209) 390-9814</b>							
16. GENERATOR'S CERTIFICATE: I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.													
Printed Name <i>Agent of Client, Garrett Schacht</i>						Signature "On behalf of" <i>[Signature]</i>				Month <b>02</b>	Day <b>16</b>	Year <b>17</b>	
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials												
	Printed Name						Signature						
							Month		Day		Year		
FACILITY	18. Transporter 2 Acknowledgement of Receipt of Materials												
	Printed Name <i>Adam Sweet</i>						Signature <i>[Signature]</i>				Month <b>02</b>	Day <b>16</b>	Year <b>17</b>
							Month		Day		Year		
19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.													
20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.													
Printed Name <i>[Signature]</i>						Signature <i>[Signature]</i>				Month <b>02</b>	Day <b>16</b>	Year <b>17</b>	



13466295

Orchard Ridge RDF  
W124 N7355 Boundary Road  
Menomonae Falls, WI, 53051  
Ph: (262) 253-8620

Original  
Ticket# 1524923

Customer Name ENVIROFORENSICS ENVIRO FORENSI Carrier MORAINENEVIRONMENTAL MORAIN ENVIRON  
 Ticket Date 02/16/2017 Vehicle# 1 Volume  
 Payment Type Credit Account Container  
 Manual Ticket# Driver  
 Hauling Ticket# Check#  
 Route Billing # 0004957  
 State Waste Code A-24-06 Gen EPA ID  
 Manifest na  
 Destination Grid  
 PD  
 Profile V126479WI (DRY CLEANING SOLVENT IMPACTED SOIL)  
 Generator 136-LLOYDSCLEANERS LLOYDS CLEANERS

	Time	Scale	Operator	Inbound	Gross	
In	02/16/2017 13:38:09	InBound	igindt		Tare	31340 lb
Out	02/16/2017 13:52:49	OutBound	igindt		Net	15260 lb
					Tons	16080 lb
						8.04

Comments

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Sowaste VDC-Tons-S 100	8.04	Tons				WI
2	FUEL-Fuel Surcharg 100		%				WI
3	EVF-L-Standard Env 100	1	Load				WI

Total Tax  
Total Ticket





## **APPENDIX C**

### **Sub-Slab Vapor Laboratory Analytical Report**



**EnvisionAir**  
1441 Sadler Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
Fax: 317-351-0882  
[www.envision-air.com](http://www.envision-air.com)

Mr. W. Fassbender  
Enviroforensics  
N16 W. 23390 Stone Ridge Dr  
Suite G  
Waukesha, WI 53188

March 14, 2017

EnvisionAir Project Number: 2017-137  
Client Project Name: 6229 / Lloyd's

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received March 3, 2017. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

A handwritten signature in black ink that reads "Stanley A. Hunnicutt".

Stanley A Hunnicutt

Project Manager  
EnvisionAir, LLC



**EnvisionAir**  
 1441 Sadlier Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS  
**Project ID:** 6229 / LLOYD'S  
**Client Project Manager:** W FASSBENDER  
**EnvisionAir Project Number:** 2017-137

**Sample Summary**

*Canister Pressure / Vacuum*

<u>Laboratory Sample Number:</u>	<u>Sample Description:</u>	<u>Matrix:</u>	<u>START</u>	<u>START</u>	<u>End Date</u>	<u>End Time</u>	<u>Date</u>	<u>Time</u>	<u>Initial Field</u>	<u>Final Field</u>	<u>Lab</u>
			<u>Date</u>	<u>Time</u>							
17-598	6229-SSV-11	A	3/2/17	14:15	3/2/17	14:19	3/3/17	10:10	-30	-4	-4
17-599	6229-SSV-12	A	3/2/17	14:46	3/2/17	14:50	3/3/17	10:10	-29	-4	-4



**EnvisionAir**  
1441 Sadlier Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
Fax: 317-351-0882  
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6229 / LLOYD'S

**Client Project Manager:** W FASSBENDER

**EnvisionAir Project Number:** 2017-137

**Analytical Method:** TO-15  
**Analytical Batch:** 030817AIR

**Client Sample ID:** 6229-SSV-11

**Sample Collection START Date/Time:** 3/2/17 14:15

**Sample Collection END Date/Time:** 3/2/17 14:19

**Envision Sample Number:** 17-598

**Sample Received Date/Time:** 3/3/17 10:10

**Sample Matrix:** AIR

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
cis-1,2-Dichloroethene	<b>1,510</b>	793	2
Tetrachloroethene	<b>19,000</b>	638	2
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	<b>303</b>	10.7	
Vinyl Chloride	<b>130</b>	6.4	
4-bromofluorobenzene (surrogate)	111%		
Analysis Date/Time:	3-8-17/22:43		
Analyst Initials	tjg		





**EnvisionAir**  
 1441 Sadlier Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6229 / LLOYD'S

**Client Project Manager:** W FASSBENDER

**EnvisionAir Project Number:** 2017-137

**Analytical Method:** TO-15  
**Analytical Batch:** 030817AIR

**Client Sample ID:** 6229-SSV-12

**Sample Collection START Date/Time:** 3/2/17 14:46

**Sample Collection END Date/Time:** 3/2/17 14:50

**Envision Sample Number:** 17-599

**Sample Received Date/Time:** 3/3/17 10:10

**Sample Matrix:** AIR

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
cis-1,2-Dichloroethene	<b>1,810</b>	317	1
Tetrachloroethene	<b>2,180</b>	255	1
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	<b>365</b>	10.7	
Vinyl Chloride	<b>47.5</b>	6.4	
4-bromofluorobenzene (surrogate)	109%		
Analysis Date/Time:	3-8-17/22:10		
Analyst Initials	tjg		

**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 030817AIR

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	<u>Reporting Limit (ppbv)</u>	<u>Flags</u>
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichloroethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	113%		
Analysis Date/Time:	3-8-17/12:03		
Analyst Initials	tjg		

<u>LCS/LCSD</u>	<u>LCS Results (ppbv)</u>	<u>LCSD Results (ppbv)</u>	<u>LCS/D Conc(ppbv)</u>	<u>LCS Rec.</u>	<u>LCSD Rec.</u>	<u>RPD</u>	<u>Flag</u>
Vinyl Chloride	9.82	10	10	98%	100%	1.8%	
trans-1,2-Dichloroethene	10.6	10.9	10	106%	109%	2.8%	
cis-1,2-Dichloroethene	11	11.2	10	110%	112%	1.8%	
Trichloroethene	9.29	9.53	10	93%	95%	2.6%	
Tetrachloroethene	9.53	9.46	10	95%	95%	0.7%	
4-bromofluorobenzene (surrogate)	115%	111%					
Analysis Date/Time:	3-8-17/10:53	3-8-17/11:29					
Analyst Initials	tjg	tjg					



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Indianapolis, IN 46239  
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[www.envision-air.com](http://www.envision-air.com)

**Flag Number**

**Comments**

- |   |   |
|---|---|
| 1 | Reported value is from an 80x dilution. TJG 3-14-17 |
| 2 | Reported value is from a 200x dilution. TJG 3-14-17 |

# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadler Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: <b>NFO</b>	P.O. Number: <b>2017-0334</b>
Report Address: <b>116 W23390 Stone Ridge Dr. Waukesha, WI</b>	Project Name or Number: <b>6229 - Lloyd's</b>
Report To: <b>W. Fassbender</b>	Sampled by: <b>G. Schacht</b>
Phone: <b>414-982-3988</b>	QA/QC Required: (circle if applicable) <b>Level III</b> Level IV
Invoice Address: <b>SAME</b>	Reporting Units needed: (circle) <b>ug/m<sup>3</sup></b> mg/m <sup>3</sup> PPBV PPMV
Desired TAT: (Please Circle One) <b>1 day 2 days 3 days Std (5 bus. days)</b>	Media type: 1LC = 1 Liter Canister 6LC = 6 Liter Canister TB = Tedlar Bag TD = Thermal Desorption Tube

**REQUESTED PARAMETERS**

TO-15 Full List

TO-15 Short List



**Sampling Type:**

- Soil-Gas:
- Sub-Slab:
- Indoor-Air:

www.envision-air.com

*Canister Pressure / Vacuum*

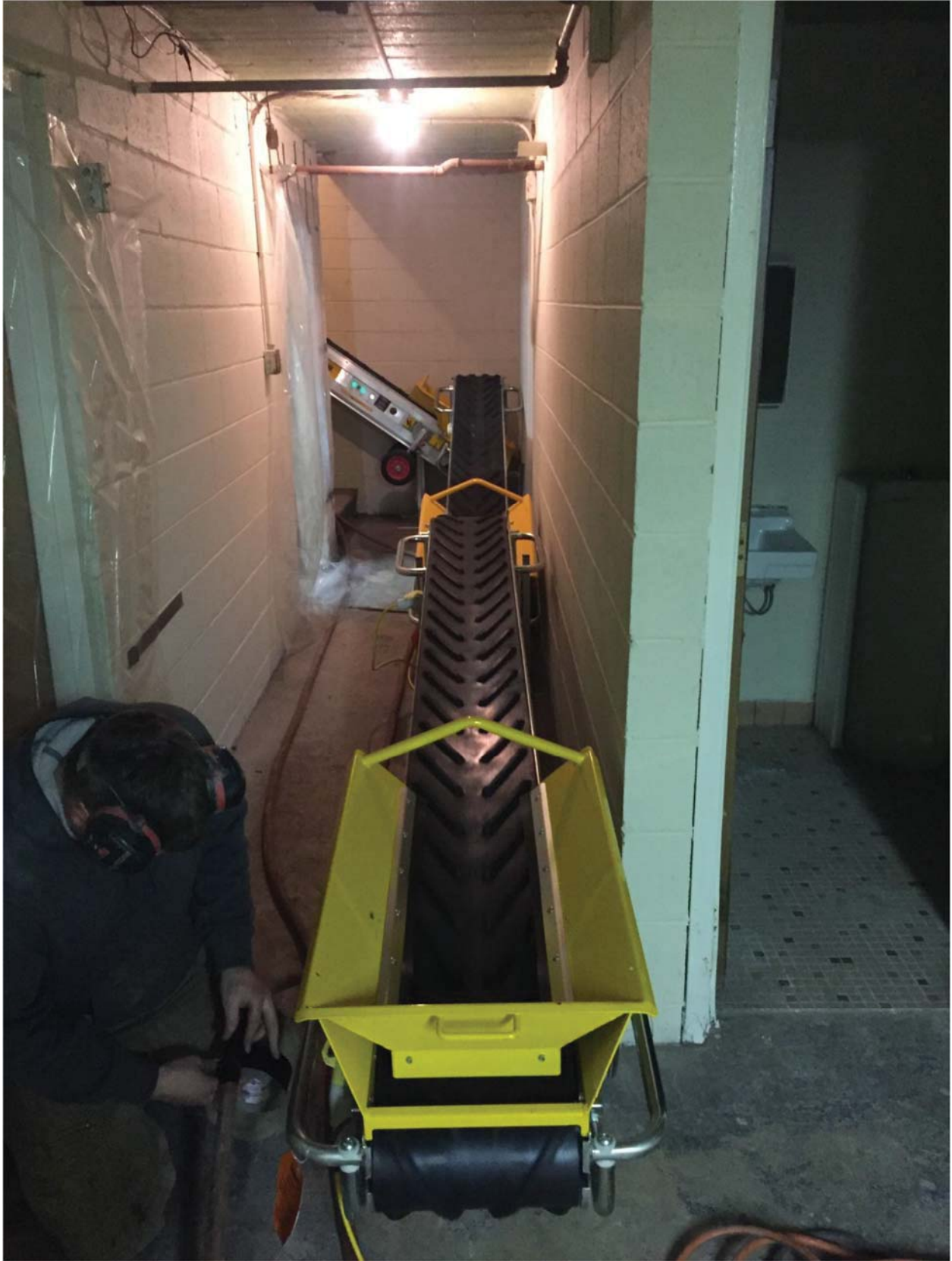
Air Sample ID	Media Type <small>(see code above)</small>	Coll. Date <small>(Grab/Comp Start)</small>	Coll. Time <small>(Grab/Comp Start)</small>	Coll. Date <small>(Comp. End)</small>	Coll. Time <small>(Comp. End)</small>				Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6229-SSU-11	1LC	3-2-17	1415	3-2-17	1419	X			2229	—	-30	-4	-4	17-598
6229-SSU-12	1LC	3-2-17	1446	3-2-17	1450	X			83730	—	-29	-4	-4	17-599

Comments: **CC. Lab results to G. Schacht**

Relinquished by:	Date	Time	Received by:	Date	Time
<b>Garret Schacht / Paul [Signature]</b>	3-2-17	15:30	<b>FedEx Sean [Signature]</b>	3/3/17	10:10

## **APPENDIX D**

### **Photographs**



Pre-Excavation conveyor setup. Facing south.



Conveyor moving material out the southeast building entrance. Facing west.



Main storage room with concrete slab removed. Facing south.





Soil excavation along west wall of storage room.



Excavation in south restroom.



North restroom backfill and horizontal vent pipe.



Horizontal vent pipes and pea gravel backfill in main storage room. Facing south.



Vent pipe risers. Facing north.



Vapor barrier and preparation for concrete slab replacement

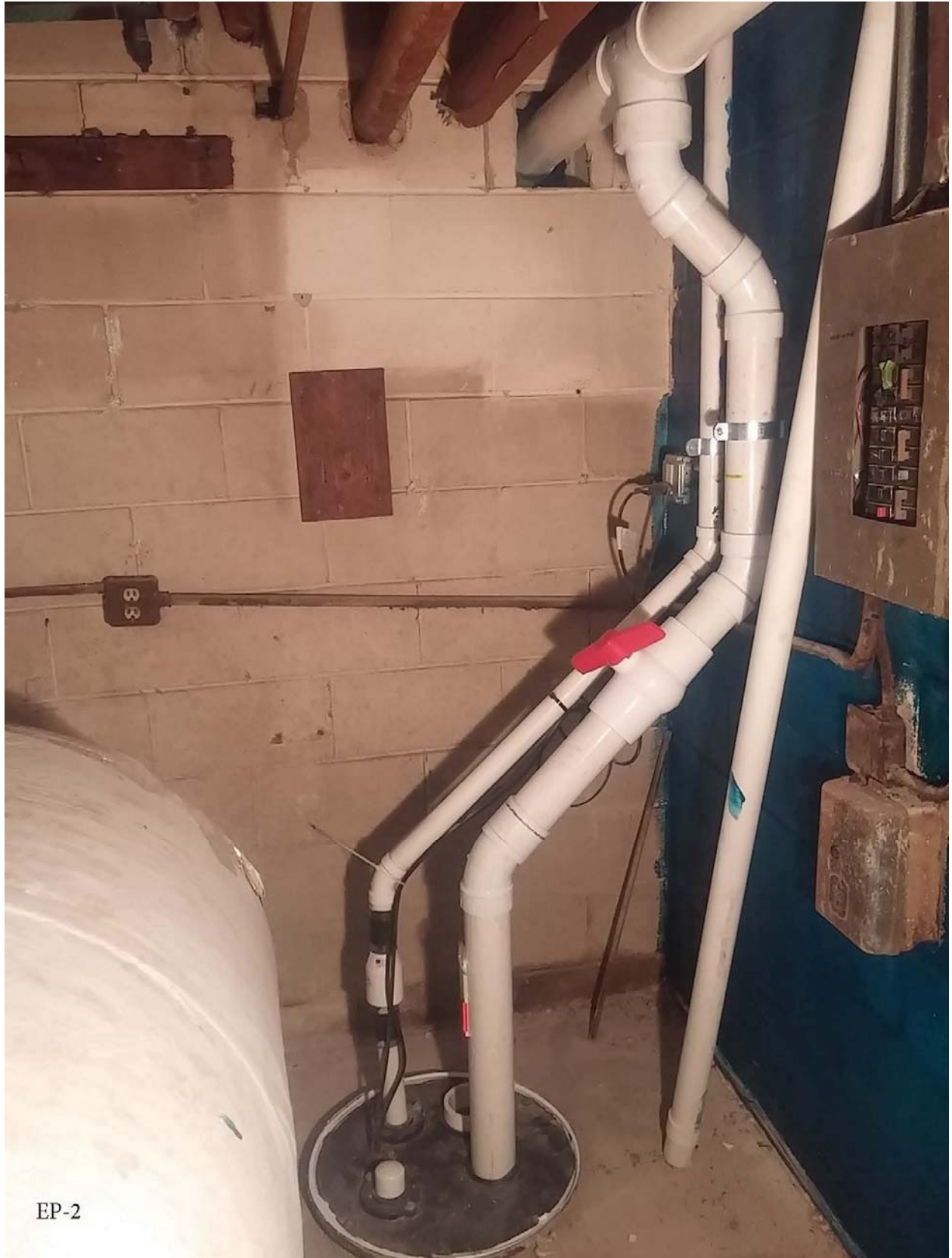


Excavation work completed.



SSS extraction points at north end of main storage room.





EP-2

SSDS extraction point in sump crock



EP-3

SSDS extraction point at north end of mechanical room.



## **APPENDIX E**

### **Blue Max Material Safety Data Sheet**



**Material Safety Data Sheets (MSDS)**

HMIS-NPCA-MFPA	Health	1
	Flammability	1
	Reactivity	0
	Personal Protection	

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
PRODUCT NAME	Ames' Blue Max™ Regular-grade
IDENTIFICATION	
DATE PRINTED	
PRODUCT USE/CLASS	Latex Paints & Coatings, water born dispersion
MANUFACTURER	Ames Research Laboratories, Inc. Salem, Oregon 97302 <b>Corporate Office:</b> 1891 16th St SE Salem, Oregon 97302-1436
EMERGENCY TELEPHONE	1-888-345-0809
PREPARER (optional)	
PHONE	(503) 588-3330
PREPARE DATE	09-02-15

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS			
ITEM	CHEMICAL NAME	CAS NUMBER	% BY WT
01	A specialty formulated waterbase man-made rubber technology. Further information provided upon qualified request to our customers. Fax your request to 503-364-2380. Include: address, phone number, and company name for further information.	Proprietary	45-55
02	Water	7732-18-5	45-55
03			

Material is not known to contain Toxic Chemicals under section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372. Product alkaline to PH-10. May cause stomach distress if ingested. Do not ingest.

SECTION 3 – HAZARDOUS IDENTIFICATION	
EMERGENCY OVERVIEW: No significant immediate hazards for emergency response are known. Milky white liquid emulsion. Slight odor. Dike and contain spill. Avoid dilution of spills.	
EYE CONTACT	May cause slight transient (temporary) eye irritation. Corneal injury unlikely.
SKIN CONTACT	Short single exposure not likely to cause significant skin irritation. Prolonged and repeated exposure may cause slight skin irritation. Material may stick to skin causing irritation upon removal. A single, prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.
INHALATION	With good ventilation, a single exposure to vapors is not expected to cause adverse effects.
INGESTION	Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts incidental to normal handling operations.
SYSTEMIC EFFECTS (Other target organs)	No relevant information found.

SECTION 4 – FIRST AID MEASURES	
FIRST AID	
EYE CONTACT	Immediately flush eyes with large quantities of clean water for at least 15 minutes. Consult a physician.
SKIN CONTACT	Wash skin with soap and water. Remove contaminated clothing. Seek medical attention if irritation develops. Wash contaminated clothing before reuse.
INHALATION	Remove affected individual(s) to fresh air. Seek medical attention if breathing difficulty develops.
INGESTION	If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
NOTES TO PHYSICIAN	No specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient.



Material Safety Data Sheets (MSDS)

SECTION 5 - FIRE FIGHTING MEASURES	
FLASH POINT	Not applicable
METHOD USED	Not applicable
AUTOIGNITION TEMPERATURE	Not applicable
FLAMMABLE LIMITS IN AIR (LOWER)	Not applicable
FLAMMABLE LIMITS IN AIR (UPPER)	Not applicable
FIRE FIGHTING EXTINGUISHING MEDIA	To extinguish combustible residues of this product, use water fog, carbon dioxide, dry chemical or foam.
FIRE FIGHTING EQUIPMENT	Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. If protective equipment is not available or not used, fight fire from a protected location or safe distance.
FIRE FIGHTING INSTRUCTIONS	Keep people away. Isolate fire area and deny unnecessary entry. Containers of this material may build up pressure if exposed to heat (fire). Use a water spray to cool fire-exposed containers.
FIRE/EXPLOSION HAZARDS	This material will not burn unless it is evaporated to dryness.
HAZARDOUS COMBUSTION PRODUCTS	Under fire conditions, some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to hydrocarbons, carbon monoxide and dense smoke.

SECTION 6 – ACCIDENTAL RELEASE MEASURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:	
PERSONAL PRECAUTIONS	Avoid unnecessary exposure and contact. Barricade the area to restrict access. Persons not wearing protective equipment (see section 8) should be excluded from the area of the spill until clean-up has been completed.
ENVIRONMENTAL PRECAUTIONS	Stop leak at source when it is safe to do so. Dike and contain spill. Prevent spilled material from contaminating soil or entering drains, sewers, streams or other bodies of water.
CLEANUP PROCEDURES	Avoid dilution with water to minimize the extent of the spill. Recover and recycle spilled latex if possible, otherwise, collect with absorbent material and transfer to appropriate containers for disposal. Water may be used for final cleaning of affected area.

SECTION 7 – HANDLING AND STORAGE	
HANDLING:	Practice reasonable care to avoid repeated, prolonged skin contact. An eye wash station and a safety shower should be readily accessible to workers wherever this material is stored or used.
STORAGE:	Keep from freezing. Store at temperatures between 40° F and 110° F. Material may develop bacteria odor on long-term storage. No safety problems known.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION	
EXPOSURE LIMITS GUIDELINES	There are no exposure limits assigned to the polymer in this product by the Occupational Safety and Health Administration (OSHA) or American Conference of Governmental Industrial Hygienists (ACGIH).
ENGINEERING CONTROLS	Good general ventilation should be sufficient for most conditions.
PERSONAL PROTECTIVE EQUIPMENT	EYES: Wear safety glasses with side shields or goggles.  SKIN: Wear clean, long-sleeved, body-covering, clothing. Nitrile, neoprene®, or rubber gloves should provide protection against skin contact.  INHALATION: For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, or areas are poorly ventilated, use an approved air-purifying respirator.



Material Safety Data Sheets (MSDS)

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES			
BOILING RANGE:	212°F (100° C)	VAPOR DENSITY:	0.624 @ 80° F (26.7° C)
ODOR:	Slight odor	PHYSICAL STATE	Liquid
APPEARANCE:	Thick, blue liquid.	SPECIFIC GRAVITY:	0.98 - 1.04
pH	9.0 – 10.0	VAPOR PRESSURE	17.5 mm Hg @ 68° F (20° C)
FREEZING POINT	32° F (0° C)		
SOLUBILITY	Product is sold as dilutable. Polymer component is insoluble		
ADDITIONAL INFORMATION	The physical data listed are for a series of latexes. For specific properties on any given latex, see the product bulletin.		

(See Section 16 for abbreviation legend)

SECTION 10 – STABILITY AND REACTIVITY	
STABILITY	This material is stable during storage and during its extended use.
INCOMPATIBLE MATERIALS/SUBSTANCES	Addition of chemicals, such as acids or multivalent metal salts, may cause coagulation.
CONDITIONS TO AVOID	Avoid freezing temperatures (less than 32° F or 0° C). Products decompose at elevated temperatures.
HAZARDOUS DECOMPOSITION PRODUCTS	Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Thermal decomposition may produce various hydrocarbons and irritating, acrid vapors.
HAZARDOUS POLYMERIZATION	Hazardous polymerization will not occur.

SECTION 11 – TOXICOLOGICAL PROPERTIES	
ACUTE TOXICITY (HUMANS)	Refer to section 3 for available information on potential health effects. For detailed toxicological data, write or call the address or non-emergency number shown in section 1.
SKIN:	Based on properties of similar polymers, the polymer is not hazardous.
INGESTION:	Based on properties of similar polymers, the polymer is not hazardous.
INHALATION:	Based on properties of similar polymers, the polymer is not hazardous.

SECTION 12 – ECOLOGICAL INFORMATION	
MOVEMENT & PARTITIONING	Latex dispersions will color water a milky white. No bioconcentration of the polymeric component is expected because of its high molecular weight.
DEGRADATION & PERSISTENCE	The polymeric component is not expected to biodegrade.
ECOTOXICITY	Based largely or completely on information for similar material(s): Material is practically non-toxic to aquatic organisms on an acute basis (LC50 or EC50 > 100 mg/L in the most sensitive species tested).

SECTION 13 – DISPOSAL CONSIDERATIONS	
DISPOSAL METHOD:	Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

SECTION 14 – TRANSPORTATION INFORMATION	
DEPT. OF TRANSPORTATION (DOT) – US	This product is not regulated by D. O. T. when shipped domestically by land.
TRANSPORTATION OF DANGEROUS GOODS (TDG) - CANADA	This product is not regulated by TDG when shipped domestically by land.



Material Safety Data Sheets (MSDS)

**SECTION 15 – REGULATORY INFORMATION**

**U.S. FEDERAL REGULATIONS:** Occupational Safety and Health Act (OSHA): This material is not classified as hazardous under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 8(b) – Inventory Status: All components of this material are listed on or are exempt from the US toxic Substances Control Act (TSCA) inventory.

TSCA Section 12(b)-Export Notification: 4-Vinylcyclohexene (CAS# 100-40-3) is subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Reporting requirements.

SARA Title III Section 304 – CERCLA: Components of this product are not subject to reporting under the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act. (CERCLA)

SARA Title III Section 313 Toxic Chemical List (TCL): To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA Hazard Category: This product has been reviewed according to the EPA “Hazard Categories” promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: - Not to have met any hazard category.

**WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) – CANADA:** Workplace Hazardous Materials Information System (WHMIS) – Canada: This material is not classified as a controlled product under the Canadian workplace Hazardous Material Information System.

Canadian Inventory Status: All components of this material are listed on the Canadian Domestic Substances List (DSL).

Additional Canadian Regulatory Information: This product does not contain a substance present on the WHMIS Ingredient Disclosure List. (IDL) which is at or above the specified concentration limit.

**ADDITIONAL INFORMATION:** California Proposition 65: This material contains a chemical known to the State of California to cause cancer. The California Safe Drinking Water and Toxic Enforcement Act of 1986 requires that clear and reasonable warning be given prior to exposing any person to this chemical.  
- 4-Vinylcyclohexene

**SECTION 16 – OTHER INFORMATION**

HMIS RATINGS:	HEALTH 1	FLAMMABILITY 1	REACTIVITY 0	PERSONAL PROTECTION
PREVIOUS REVISION DATE	12-11-08			
REASON FOR REVISION	Added information for Canada			
LEGEND:	N.A. not applicable, N.E. Not established, N.D. Not determined			
VOLATILE ORGANIC COMPOUNDS	VOC compliant			
ABBREVIATIONS USED:	N/A (information or data not available); NTP (National Toxicology Program); IARC (International Agency for Research on Cancer); NIOSH (National Institute of occupational Safety and Health administration); PEL (Permissible Exposure Limit) [8 hr. TWA][OSHA]; TLV (Threshold Limit Value)[8 hr. TWA][ACGIH]; STEL (Short term exposure limit)[15 min. TWA][OSHA]; C (ceiling value).			
DISCLAIMER:	Ames Research Laboratories, Inc. believes that the information provided is accurate and reliable as of the date of this material safety data sheet and is given in good faith. No warranty expressed or implied is made as to the accuracy, reliability or completeness of the information. Any use of this data and information must be determined by the user to be in accordance with applicable Federal, State and Local laws and regulations. Ames Research Laboratories, Inc. urges persons receiving this information to make their own determination as to the information's suitability and applicability for an intended use.  Note: This information must be included in all MSDS that are copied and distributed for this material.			

## **ATTACHMENT D – MAINTENANCE PLANS AND PHOTOGRAPHS**

### **D.1.a Cap Maintenance Plan**

#### **D.2.a Figures**

#### **D.3.a Photographs**

#### **D.4.a Inspection and Maintenance Log**

### **D.1.b Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Plan**

#### **D.2.b Figures**

#### **D.3.b Photographs (incorporated into Attachment D.4.b)**

#### **D.4.b Inspection and Maintenance Log**





## CAP MAINTENANCE PLAN

September 18, 2019

Property located at:

**4837 NORTH TEUTONIA AVENUE  
MILWAUKEE, WISCONSIN 53209  
BRRTS# 02-41-556811**

**LEGAL DESCRIPTION: CERTIFIED SURVEY MAP NO 2994 IN SE 1/4 SEC 36,  
TOWNSHIP 8 NORTH, RANGE 21 EAST, IN PARCEL 3**

**TAX ID#: 2070833000**

### INTRODUCTION

This document is the Maintenance Plan for the asphalt and concrete surface materials (the “Cap”) covering soil contaminated with chlorinated volatile organic compounds at the above-referenced property in accordance with the requirements of s. NR 724.13(2), Wis. Adm. Code. The maintenance activities relate to the existing asphalt parking lot areas and concrete building foundation, which occupy the area over the residual soil contamination.

More site-specific information about this property/site may be obtained from:

- The case file in the Wisconsin Department of Natural Resources (WDNR) Regional office;
- [BRRTS on the Web](#) (WDNR’s internet based data base of contaminated sites)for the link to a PDF for site-specific information at the time of closure and on continuing obligations;
- [RR Sites Map/GIS Registry layer](#) for a map view of the site, and
- The WDNR project manager.



## DESCRIPTION OF CONTAMINATION

Soil contaminated by chlorinated volatile organic compounds (CVOCs) is located at a depth of approximately 1 to 14 feet below ground surface (bgs) in the area under the southern half of the site building and asphalt parking/walkway areas on the south and east sides of the building. Groundwater contaminated by CVOCs is encountered at a depth of approximately 10-20 feet bgs beneath the same areas. The extent of residual CVOC contamination in soil and groundwater is shown on the attached **Figure D.2.a.1** and **Figure D.2.a.2**, respectively.

## DESCRIPTION OF CAP

The cap consists of the site building, including its concrete floor slab and foundation, and the asphalt parking/walkway areas that extend from the building to the property boundary to the south and east; and north to the defined extent of soil and groundwater impacts. The location and extent of the cap is depicted on **Figure D.2.a.3**. The existing cap is an infiltration barrier to minimize soil-to-groundwater contamination migration. There are no soil concentrations that pose a risk of direct contact exposure to humans. The asphalt/concrete cap is 4 to 6 inches thick across the property.

## ANNUAL INSPECTION

The asphalt/concrete cap will be inspected once per year, normally in the spring after all snow and ice is gone, for deterioration, cracks and other potential problems that would allow a direct conduit for infiltration of rain water. The inspections will be performed by the property owner or their designated representative. The inspections will be performed to evaluate damage due to settling, exposure to the weather, wear from traffic, increasing age, and other factors. Any area where large cracks or other openings have occurred or are likely to occur will be documented.

A log of the inspections and any repairs will be maintained by the property owner on WDNR Form 4400-305 (Continuing Obligations Inspection and Maintenance Log), included as **Attachment D.4.a**. The log will include recommendations for necessary repair of any areas where underlying soils are exposed. Once repairs are completed, they will be documented in the Inspection Log. A copy of this Cap Maintenance Plan and the Inspection Log will be kept at the property and available for submittal or review by WDNR representatives upon their request.

## MAINTENANCE ACTIVITIES

If problems are noted during the annual inspections or at any other time during the year, repairs will be scheduled as soon as practical. Repairs can include patching and filling or larger



resurfacing or construction operations. In the event that maintenance activities that involve soil removal and disposal are necessary, the property owner must sample any soil excavated from the site prior to disposal to ascertain if contamination is present. The soil must be treated, stored, or disposed of by the owner in accordance with applicable local, state and federal law.

In the event the asphalt and or concrete building foundation cover overlying the contaminated soil are removed or replaced, the replacement barrier must be equally impermeable. Any replacement barrier will be subject to the same maintenance and inspection guidelines as outlined in this Cap Maintenance Plan unless indicated otherwise by the WDNR or its successor. The property owner, in order to maintain the integrity of the asphalt/concrete cap, will maintain a copy of this Maintenance Plan on-site and make it available to all interested parties (i.e. on-site employees, contractors, future property owners, etc.) for viewing.

## **PROHIBITION OF ACTIVITIES AND NOTIFICATION**

The following activities are prohibited on any portion of the property where an asphalt/concrete cap is required as depicted on the attached **Figure D.2.a.3**, unless prior written approval has been obtained from the WDNR: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; 6) construction or placement of a building or other structure; 7) changing the use or occupancy of the property to a residential exposure setting, which may include certain uses such as single or multi-family residences, a school, a daycare, or senior center; or 8) changing the construction of the building if the changes affect the operation of the vapor mitigation system.

If removal, replacement or other changes to the asphalt/concrete are considered, the property owner will contact WDNR at least 45 days before taking such an action, to determine whether further action may be necessary to protect human health, safety, or welfare or the environment, in accordance with s. NR 727.07, Wis. Adm. Code.

## **AMENDMENT OR WITHDRAWAL OF MAINTENANCE PLAN**

This Maintenance Plan can be amended or withdrawn by the property owner and its successors with the written approval of the WDNR.



## CONTACT INFORMATION

Site Owner and Operator: Lloyd's Cleaners  
Thomas Anderson  
4837 N. Teutonia Ave  
Milwaukee, WI 53209

Consultant: EnviroForensics, LLC  
Wayne Fassbender, PG, PMP  
N16 W23390 Stone Ridge Dr., Suite G  
Waukesha, WI 53188  
(262) 290-4001

WDNR Project Manager: John Hnat  
Wisconsin Dept. of Natural Resources  
2300 Dr. Martin Luther King Jr. Dr.  
Milwaukee, WI 53212  
(414) 263-8644



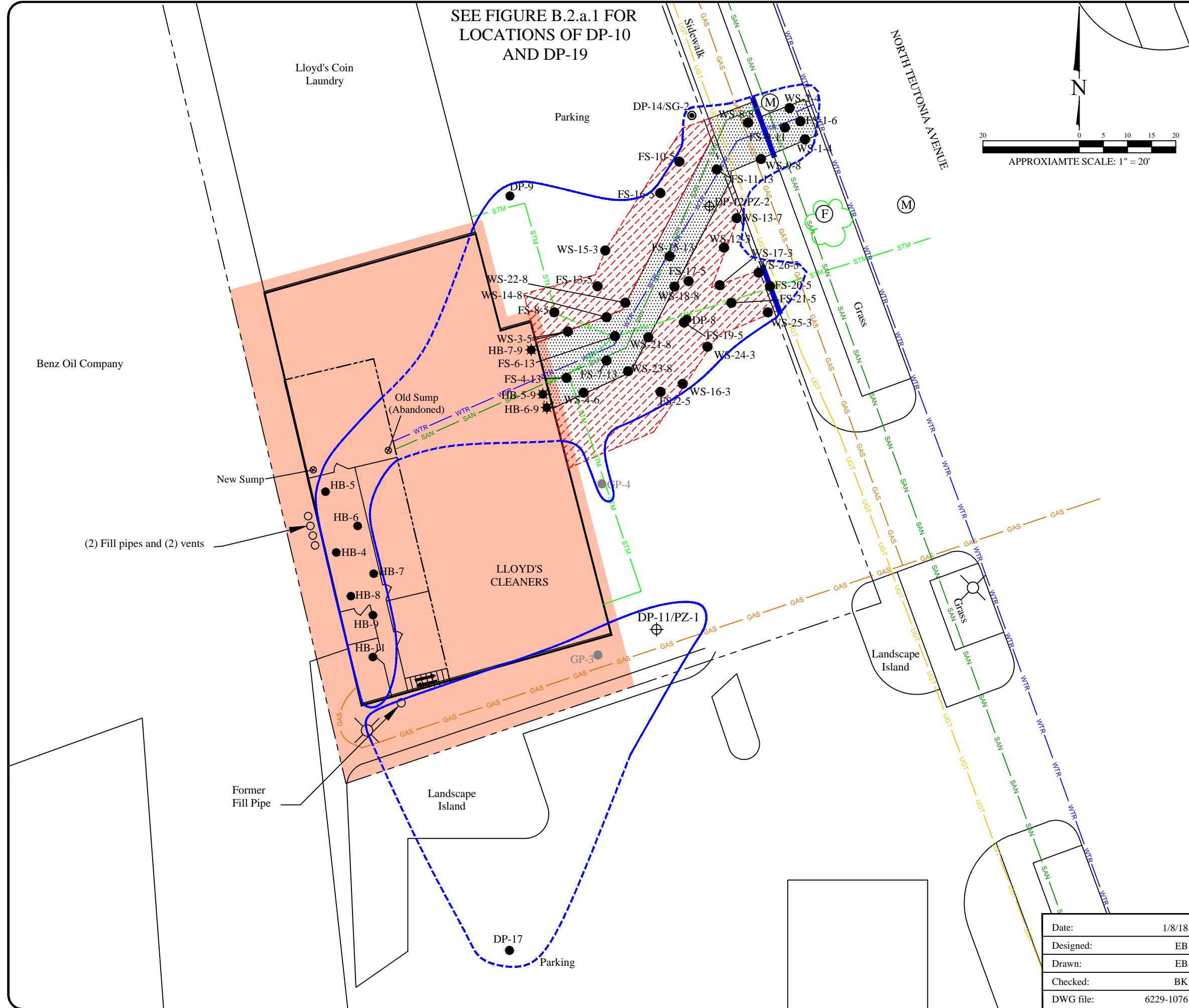
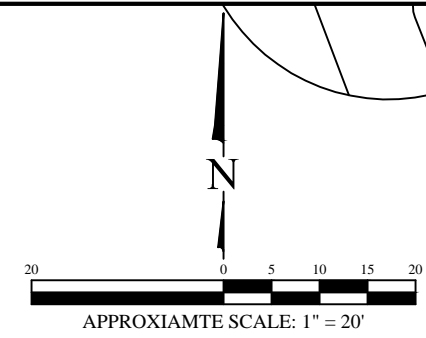
## FIGURES

SEE FIGURE B.2.a.1 FOR  
LOCATIONS OF DP-10  
AND DP-19

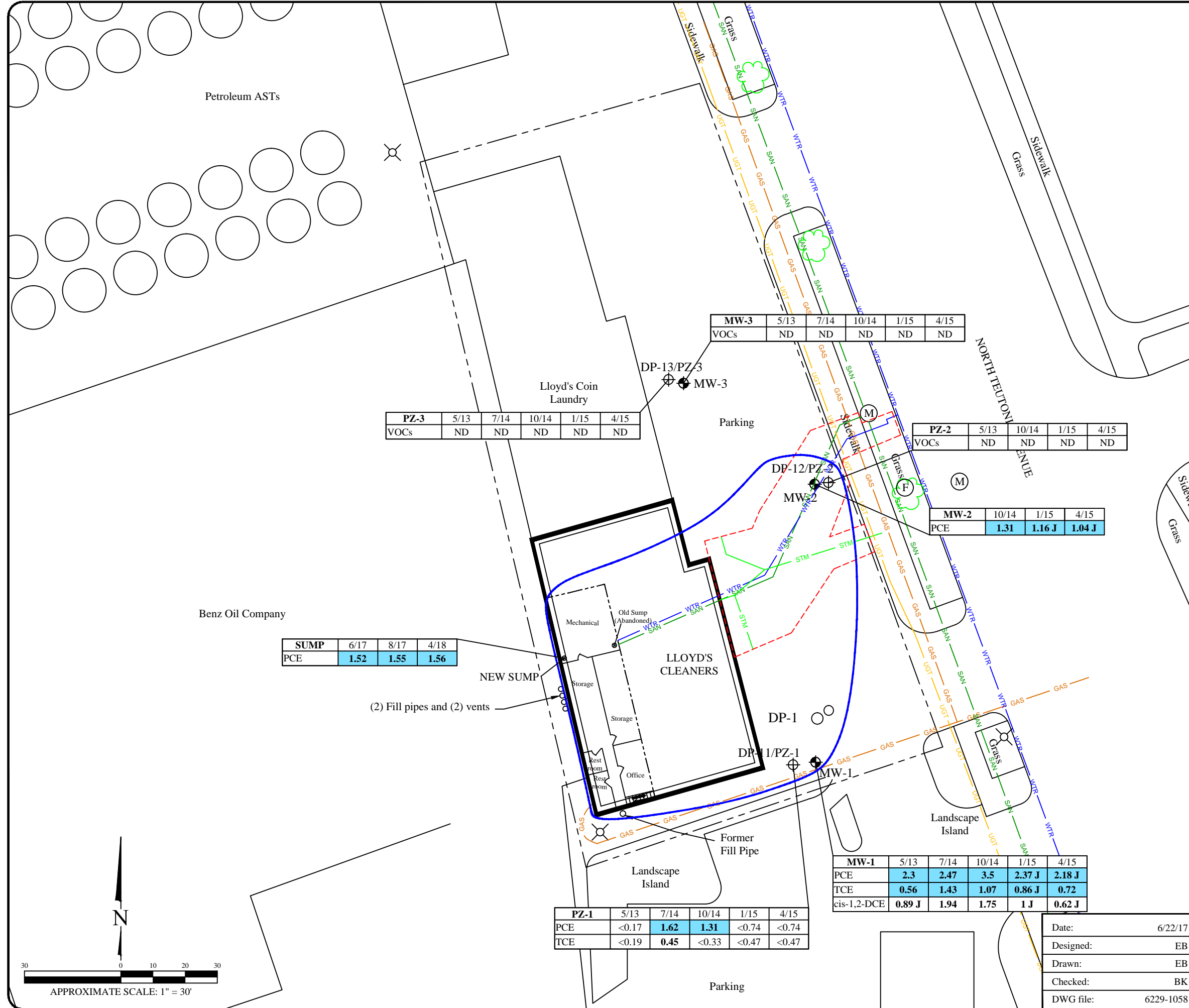
### Legend

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- DP-6 Direct-push boring location
- DP-15/SG-1 Direct-push/Soil Gas boring location
- DP-11/PZ-1 Direct Push boring/Piezometer location
- FS-1-1 Floor excavation soil sample location (Floor Sample-Sample ID-Depth)
- WS-1-1 Side wall excavation soil sample location (Wall Sample-Sample ID-Depth)
- Excavation Limits (0-5 ft)
- Excavation Limits (5-13 ft)
- Impervious Barrier location
- Extent of residual soil contamination exceeding soil to groundwater pathway RCLs
- Structural impediment to further investigation

Note:  
There are no Direct-Contact RCL exceedances in the unsaturated zone



<b>RESIDUAL SOIL CONTAMINATION</b>	
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI	
Date:	1/8/18
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1076
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com	
Figure	D.2.a.1
Project	6229



- ### Legend
- Property boundary
  - GAS Underground gas utility line
  - WTR Underground water utility line
  - UGT Fiber optic utility line
  - SAN Sanitary sewer utility line
  - STM Storm sewer utility line
  - Previous excavation area
  - Sanitary sewer manhole
  - Fire Hydrant
  - DP-11/PZ-1 Direct Push boring / Piezometer location
  - MW-1 Monitoring well location
  - HA1/HB-1 Grab groundwater location

Analyte	Public Health Preventive Action Limit	Public Health Enforcement Standard
PCE	<b>0.5</b>	<b>5</b>
TCE	<b>0.5</b>	<b>5</b>
cis-1,2-DCE	<b>7</b>	<b>70</b>

- Note:
- Bolded and blue shaded values exceed the Public Health Preventive Action Limit
  - Bolded and orange shaded values exceed the Public Health Enforcement Standard
  - Bolded values are above detection limits
  - J = Estimated concentration above the method detection limit and below the reporting limit
  - Samples analyzed using EPA SW-846 Method 8260
  - All results reported in units of micrograms per liter (ug/L)
  - PCE = Tetrachloroethene
  - TCE = Trichloroethene
  - cis-1,2-DCE = cis-1,2-Dichloroethene
  - VOCs = Volatile Organic Compounds
  - ND = Not detected

Extent of residual groundwater impacts exceeding PALs

SUMP	6/17	8/17	4/18
PCE	<b>1.52</b>	<b>1.55</b>	<b>1.56</b>

PZ-3	5/13	7/14	10/14	1/15	4/15
VOCs	ND	ND	ND	ND	ND

MW-3	5/13	7/14	10/14	1/15	4/15
VOCs	ND	ND	ND	ND	ND

PZ-2	5/13	10/14	1/15	4/15
VOCs	ND	ND	ND	ND

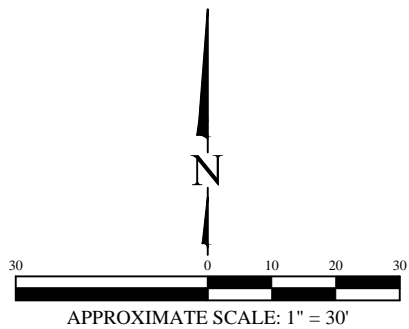
MW-2	10/14	1/15	4/15
PCE	<b>1.31</b>	<b>1.16 J</b>	<b>1.04 J</b>

MW-1	5/13	7/14	10/14	1/15	4/15
PCE	<b>2.3</b>	<b>2.47</b>	<b>3.5</b>	<b>2.37 J</b>	<b>2.18 J</b>
TCE	<b>0.56</b>	<b>1.43</b>	<b>1.07</b>	<b>0.86 J</b>	<b>0.72</b>
cis-1,2-DCE	<b>0.89 J</b>	<b>1.94</b>	<b>1.75</b>	<b>1 J</b>	<b>0.62 J</b>

PZ-1	5/13	7/14	10/14	1/15	4/15
PCE	<0.17	<b>1.62</b>	<b>1.31</b>	<0.74	<0.74
TCE	<0.19	<b>0.45</b>	<0.33	<0.47	<0.47

### EXTENT OF GROUNDWATER IMPACTS EXCEEDING REGULATORY STANDARDS

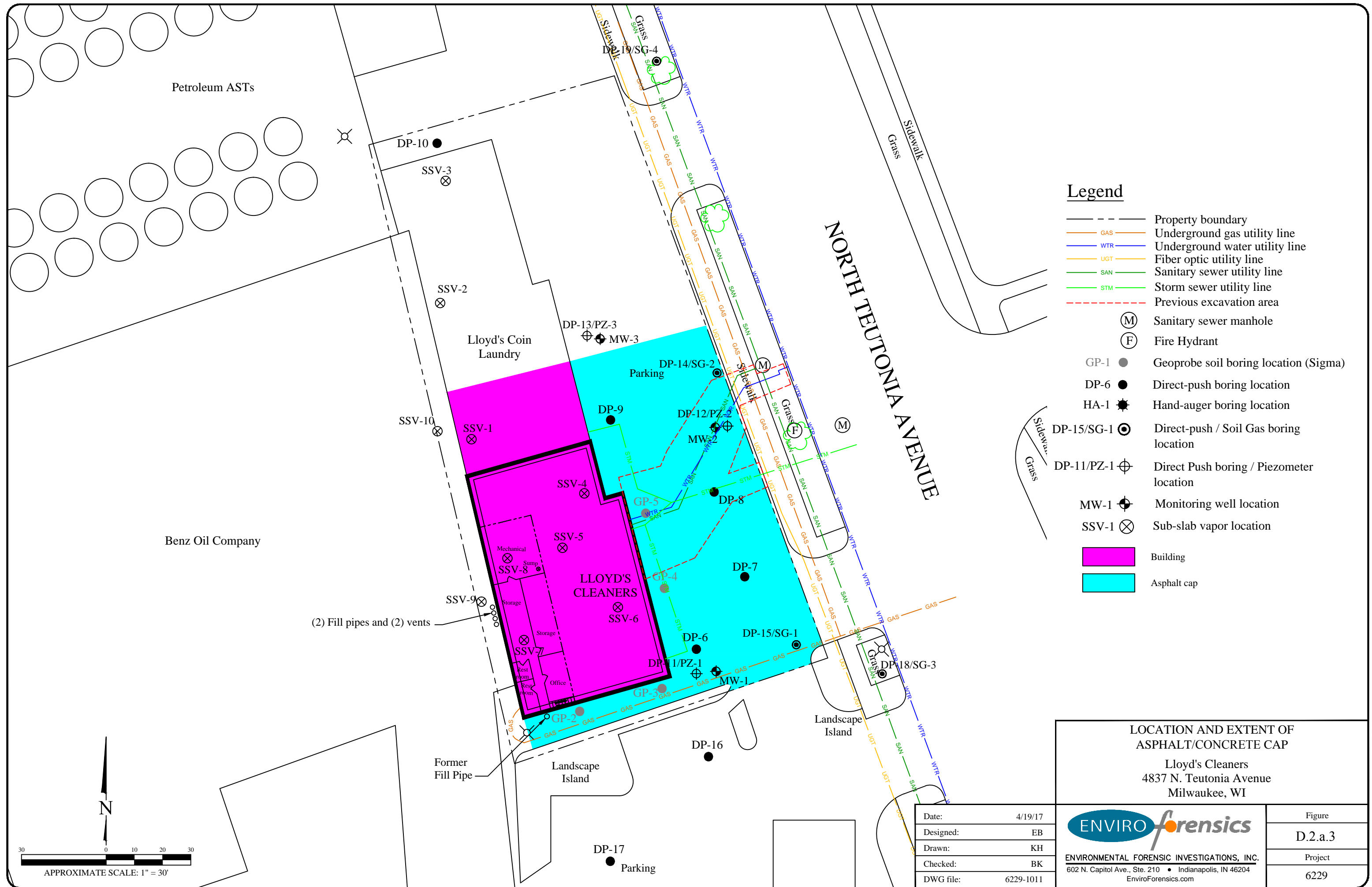
Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI



Date:	6/22/17
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1058

825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	D.2.a.2
Project	6229



- ### Legend
- Property boundary
  - GAS Underground gas utility line
  - WTR Underground water utility line
  - UGT Fiber optic utility line
  - SAN Sanitary sewer utility line
  - STM Storm sewer utility line
  - Previous excavation area
  - Sanitary sewer manhole
  - Fire Hydrant
  - Geoprobe soil boring location (Sigma)
  - Direct-push boring location
  - Hand-auger boring location
  - Direct-push / Soil Gas boring location
  - Direct Push boring / Piezometer location
  - Monitoring well location
  - Sub-slab vapor location
  - Building
  - Asphalt cap

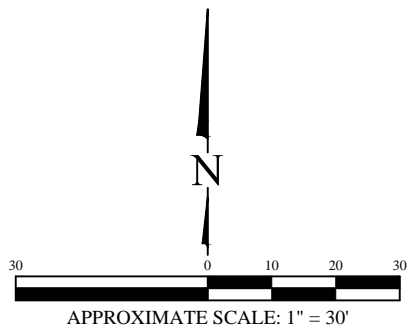
**LOCATION AND EXTENT OF ASPHALT/CONCRETE CAP**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	4/19/17
Designed:	EB
Drawn:	KH
Checked:	BK
DWG file:	6229-1011

**ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.**  
602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204  
EnviroForensics.com

Figure	D.2.a.3
Project	6229



Date:	4/19/17
Designed:	EB
Drawn:	KH
Checked:	BK
DWG file:	6229-1011





**ATTACHMENT D.3.a**

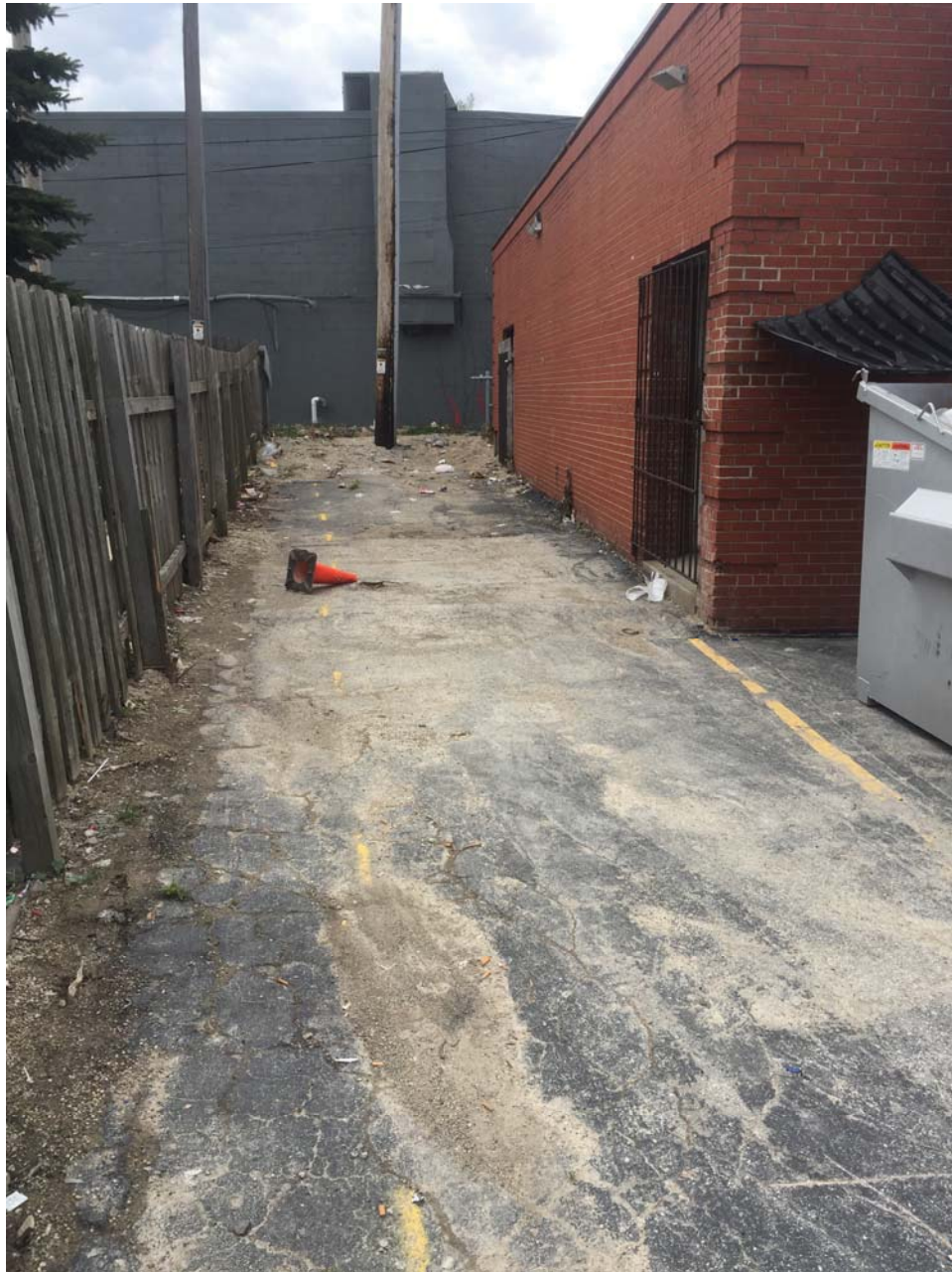
**PHOTOGRAPHS**



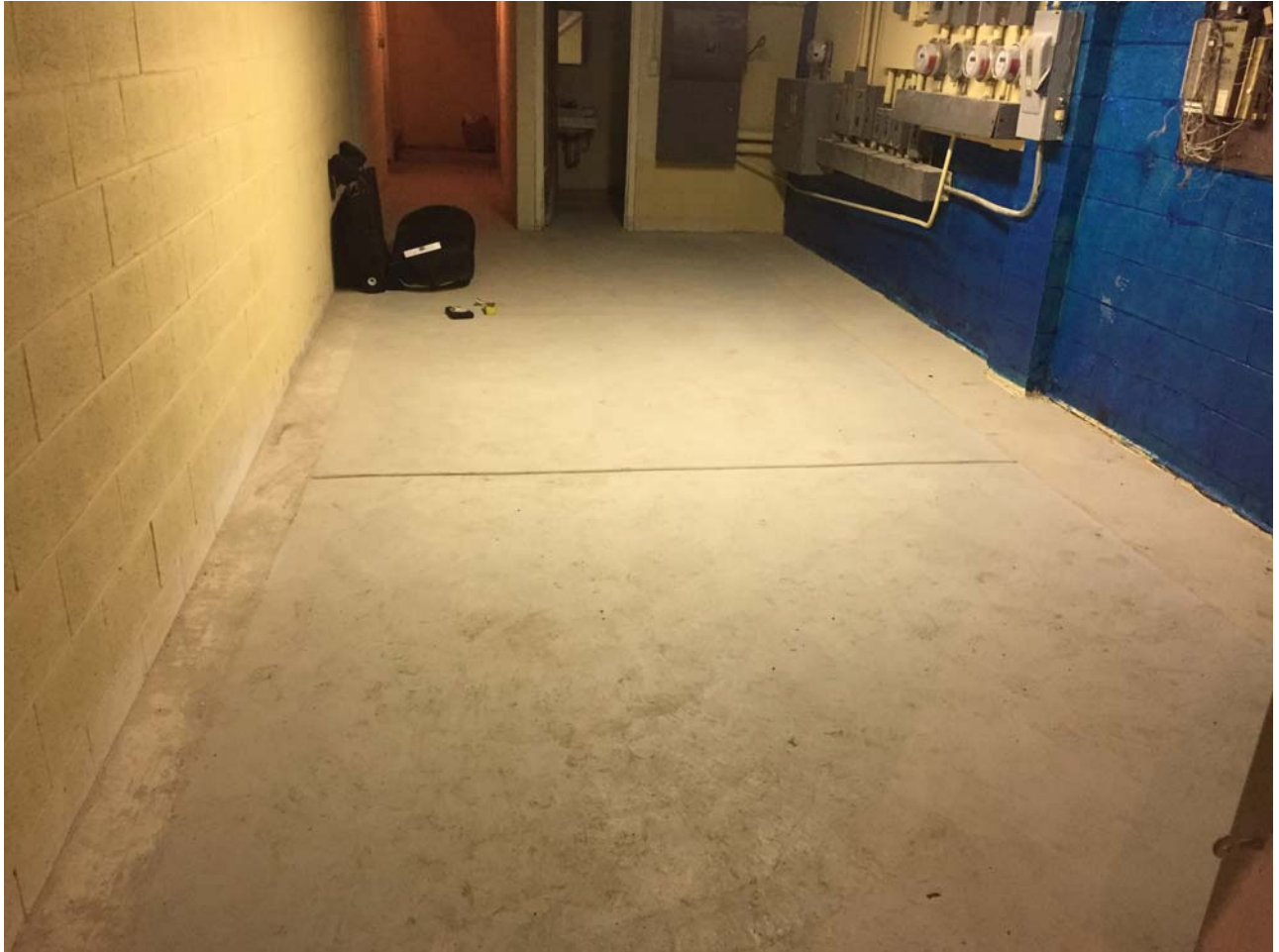
Overview of asphalt cap – facing north



Overview of asphalt cap – facing south



Asphalt on south side of building – facing west



Basement concrete floor slab



Basement mechanical room concrete floor slab



**ATTACHMENT D.4.a**

**Continuing Obligations Inspection and Maintenance Log**

**Directions:** In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at <http://dnr.wi.gov/botw/SetUpBasicSearchForm.do>, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name	BRRTS No.
----------------------	-----------

Inspections are required to be conducted (see closure approval letter):

annually  
 semi-annually  
 other – specify \_\_\_\_\_

When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N



**Continuing Obligations Inspection and Maintenance Log**

Form 4400-305 (2/14)

Page 2 of 2

BRRTS No. \_\_\_\_\_

Activity (Site) Name \_\_\_\_\_

{Click to Add/Edit Image}

Date added:



Title:

{Click to Add/Edit Image}

Date added:

Title:



**SUB-SLAB DEPRESSURIZATION SYSTEM  
OPERATION, MAINTENANCE & MONITORING PLAN**

**Lloyd's Cleaners  
4837 North Teutonia Avenue  
Milwaukee, WI 53209  
WDNR BRRTS# 02-41-556811  
FID# 241417330**

August 1, 2019

*Prepared For:*

Lloyd's Cleaners  
4837 North Teutonia Avenue  
Milwaukee, WI 53209

*Prepared By:*

EnviroForensics, LLC  
N16 W23390 Stone Ridge Drive, Suite G  
Waukesha, WI 53188  
Phone: (262) 290-4001  
[www.enviroforensics.com](http://www.enviroforensics.com)

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## FIGURES

Figure D.2.b.1 Site Layout Map

Figure D.2.b.2 Sub-Slab Depressurization System Layout

## ATTACHMENTS

Attachment D.4.b Inspection and Maintenance Log



## 1.0 BACKGROUND

Lloyd's Cleaners is located at 4837 North Teutonia Avenue, Milwaukee, Wisconsin (Site). The layout of the Site is shown on **Figure D.2.b.1**. The Site is located in an area of mixed land use consisting of residential, commercial, and industrial properties. The dry cleaning building is a single story structure with a partial basement having concrete block walls. The attached coin-operated laundry is a single story structure with a slab on grade. Sub-slab vapor sampling conducted in the basement in 2017 indicated that VOCs were present in vapor at concentrations above the vapor risk screening level (VRSL) for small commercial structures. Therefore, a sub-slab depressurization (SSD) system was installed to mitigate the vapor intrusion risk.

The SSD system is designed to depressurize the sub-slab space and prevent vapors from migrating into the building and affecting indoor air quality. The Wisconsin Department of Natural Resources (WDNR) requires that SSD systems be monitored and maintained to ensure ongoing effectiveness. Proper operation of the SSD system is necessary to prevent exposure to the chemicals of concern via vapor intrusion.

### 1.1 Site History

The Site was operated by others as an active dry cleaning facility from the early 1960's until 1981, when current owner Tom Anderson bought the property now known as Lloyd's Cleaners. Tetrachloroethene (PCE) was historically used as a dry cleaning solvent at this property until 2011, when Mr. Anderson discontinued active dry cleaning. PCE migrated vertically through soil in the vicinity of the former PCE holding tank, and along the sanitary sewer lateral beneath the Site building causing soil, groundwater, and sub-slab vapor impacts that exceed WDNR health-based standards and screening levels.

## 2.0 CONTACTS

Property Owner: Tom Anderson

Address: 4837 North Teutonia Avenue, Milwaukee, Wisconsin 53209

Telephone #: 414-442-1010

System Design and Installation: EnviroForensics, LLC

Address: 825 N. Capital Ave., Indianapolis, IN 46204

Contact: Vapor Mitigation Technician

Contact/Telephone #: 317-972-7870



Consultant: EnviroForensics, LLC

Address: N16 W23390 Stone Ridge Dr., Suite G, Waukesha, WI 53188

Contacts: Brian Kappen, Project Manager; Wayne Fassbender, Senior Project Manager

Telephone #: 262-290-4001

Email: [bkappen@enviroforensics.com](mailto:bkappen@enviroforensics.com) or [wfassbender@enviroforensics.com](mailto:wfassbender@enviroforensics.com)

WDNR Project Manager: John Hnat

Address: 2300 N. Dr. Martin Luther King, Jr. Dr. Milwaukee, Wisconsin

Telephone #: 414-263-8644

Email: [John.Hnat@wisconsin.gov](mailto:John.Hnat@wisconsin.gov)

### 3.0 SYSTEM DESIGN AND CONSTRUCTION

EnviroForensics designed and installed the SSD system in the basement of the Site building. The system was installed during April 6-7 and April 13-14, 2017. The layout of the SSD system is depicted on **Figure D.2.b.2**. Sub-slab vacuum is induced by a Radon-Away model GP-501 fan mounted on the roof and hardwired to a dedicated circuit breaker in the electrical panel in the southeast room of the Site building. There is also a dedicated on/off switch located next to the fan. The fan is connected to the following sub-slab extraction points:

- Combined horizontal extraction piping (EP-1) installed within the backfill of an excavation beneath the basement floor slab;
- The sealed sump crock (EP-2) for the purpose of venting the drainage tile and block wall along the west side of the building. In addition to venting, the west block wall was repaired by sealing holes and cracks in the block, followed by sealing with a vapor protection coating; and
- One (1) vertical extraction point (EP-3) along the north wall of the mechanical room.

Each extraction point is equipped with a u-tube manometer located a few feet above floor level. The manometers are u-shaped tubes filled with red liquid and a fixed gauge that measures vacuum in inches of water. Individual ball valves are also installed just above the manometers on each extraction point for system balancing. The ball valves have red plastic handles that are open when positioned parallel to the pipe and closed when positioned perpendicular to the pipe. Directions for opening and closing the valves are imprinted on the handles.

The extraction point pipes connect to a common 4-inch diameter PVC vent pipe in the mechanical room. The vent pipe is routed to the fan on the roof through an unused pipe chase in the mechanical room.

An audible low-pressure alarm was also installed on one of the horizontal extraction points in the main storage room. If there is a loss of vacuum caused by fan failure, vent pipe obstruction, high water level, or other issue, a loud beeping sound will occur. Additional description and photos of system components are provided in **Attachment D.4.b**.

### 3.1 System Commissioning

Commissioning of the SSD system was performed to demonstrate vapor intrusion mitigation in all conditions. System measurements were collected on three (3) occasions during the first year of operation. System commissioning events included the following activities:

1. Measurement of sub-slab pressure field extension (PFE). The PFE were measured by connecting a hand-held digital manometer to sub-slab test ports installed in the basement floor. Two (2) permanent test ports designated TP-1 and TP-2 are installed at the locations shown on **Figure D.2.b.2**.
2. Measurement of flow rate in the vent pipe leading to the fan using a thermo-anemometer inserted into a port in the piping.
3. Checking u-tube manometers at each extraction point for confirmation of induced vacuum.
4. Visual inspection of the concrete floor penetration seals and all system components including fans, manometers, pressure switches, and piping connections.

The pressure field extension (PFE) testing indicated that the system applied negative pressure across the entire main storage room and mechanical room of the basement where elevated vapor concentrations were previously detected. Vacuum readings at the extraction points (observed in u-tube manometers) and permanent test ports TP-1 and TP-2 are summarized in the table below and shown on **Figure D.2.b.2** for reference.

Date	Flow Rate (FPM)	Vacuum (inches of water)				
		EP-1	EP-2 (Sump)	EP-3	TP-1	TP-2
6/14/2017	NM	-0.8	-0.3	-0.8	-0.131	-0.415
4/6/2018	1,078	-1.5	-1.1	-1.5	-0.250	-0.197
7/3/2018	1,312	-1.7	-0.6	-1.7	-0.320	-0.237

Notes: NM = not measured. Fpm = feet per minute

## 4.0 SYSTEM OPERATION, MAINTENANCE, AND MONITORING

Lloyd's Cleaners will be responsible for operation, maintenance, and monitoring (OM&M) of the SSD system installed in the building until the WDNR grants case closure for the Site. After closure, any current or future owner of the Site will be responsible for OM&M of the SSD system if there is a continued vapor intrusion risk that must be mitigated. Future sub-slab vapor sampling may be performed to confirm that the vapor intrusion risk is no longer present (see Section 5.0 below).

System monitoring and maintenance procedures described below and in **Attachment D.4.b** follow the recommendations presented in WDNR Publication RR-800: *Addressing Vapor Intrusion at Remediation Redevelopment Sites in Wisconsin*. The conditions that must be maintained for continued long-term protection from vapor intrusion are listed on the Inspection and Maintenance Log in **Attachment D.4.b**.

### 4.1 System Operation

The system is designed and intended to operate continuously. Operation of the SSD system can be confirmed as follows:

- Inspect the fan mounted on the roof, which can be accessed using a ladder from outside. Noise caused by the movement of air and slight vibration are indications that the fan is running; and
- Check the u-tube manometers located on the extraction point piping. The liquid level inside the u-shaped tube will be uneven if vacuum is present.

If the fan stops operating the audible alarm will sound. In that event, a vapor mitigation professional should be contacted as soon as possible to troubleshoot the problem and make the necessary repairs.

### 4.2 System Inspection, Monitoring, and Maintenance

System inspection and monitoring is required to be conducted at least once during the heating season. A second inspection and monitoring event is recommended in spring when the water level beneath the floor slab is expected to be highest. Inspection and maintenance logs (**Attachment D.4.b**) shall be completed by the person or group responsible for OM&M of the SSD system. The property owner will maintain a copy of this SSDS OM&M Plan on-site and make it available to all interested parties (i.e., on-site employees, contractors, future property owner, etc.) for viewing and made available to WDNR upon request.

Inspection and monitoring requirements are summarized in **Attachment D.4.b**. The fan and outdoor vent pipe, suction points, and alarm unit must be inspected for integrity and normal function as described in **Attachment D.4.b**. Under normal operating conditions, the manometers affixed to each suction point should read between 0.3 and 1.7 inches of vacuum. The concrete floor of the basement must be inspected for penetrating cracks, holes, or open joints that would cause “short-circuiting” of indoor air and limit sub-slab vacuum influence. Keeping the concrete floor in good condition is essential for SSD system effectiveness.

Proper function of the basement sump is also required for the SSD system to operate effectively. The sump should be inspected to confirm air-tight seals around the cover and pipe penetrations. If there are leak(s), the vacuum indicated by the EP-2 manometer will drop. The lowest vacuum observed at EP-2 during system commissioning was -0.3 inches of water. The sump pump should also be tested as part of the routine inspection. If the sump pump fails, water around the foundation may rise to the bottom of the floor slab, which restricts vacuum created by the fan. The pump can be tested by adding water through the capped opening in the sump lid. The pump should start automatically once the water reaches a certain level. If it does not, make sure the pump is plugged in to an energized outlet and the float moves freely. Replace the sump pump if troubleshooting does not resolve the problem.

The mitigation fan is factory sealed and requires no maintenance. In the event that a fan stops operating due to mechanical failure, the fan shall be replaced with an identical model or a fan with the same performance specifications. Replacement of fans should be handled by a mitigation contractor and/or an electrician. Maintenance and repair activities on other components, including piping, suction point seals, or openings in the concrete floor, can be performed by the environmental consultant or building maintenance personnel. Leaks around suction point seals can be fixed by adding caulk around the openings and/or tightening the bolts securing the sump lid and pipe penetrations. Minor cracks or holes in the concrete floor can typically be fixed with hydraulic cement patch or self-leveling sealant. More significant deterioration will require repair by a concrete professional.

## **5.0 DECOMMISSIONING AND CONTINUING OBLIGATIONS**

The SSD system will be operated until it is no longer needed to prevent vapor intrusion. The WDNR shall be notified at least 45 days before any actions are taken which would terminate or interrupt operation of the SSD system for more than one week.



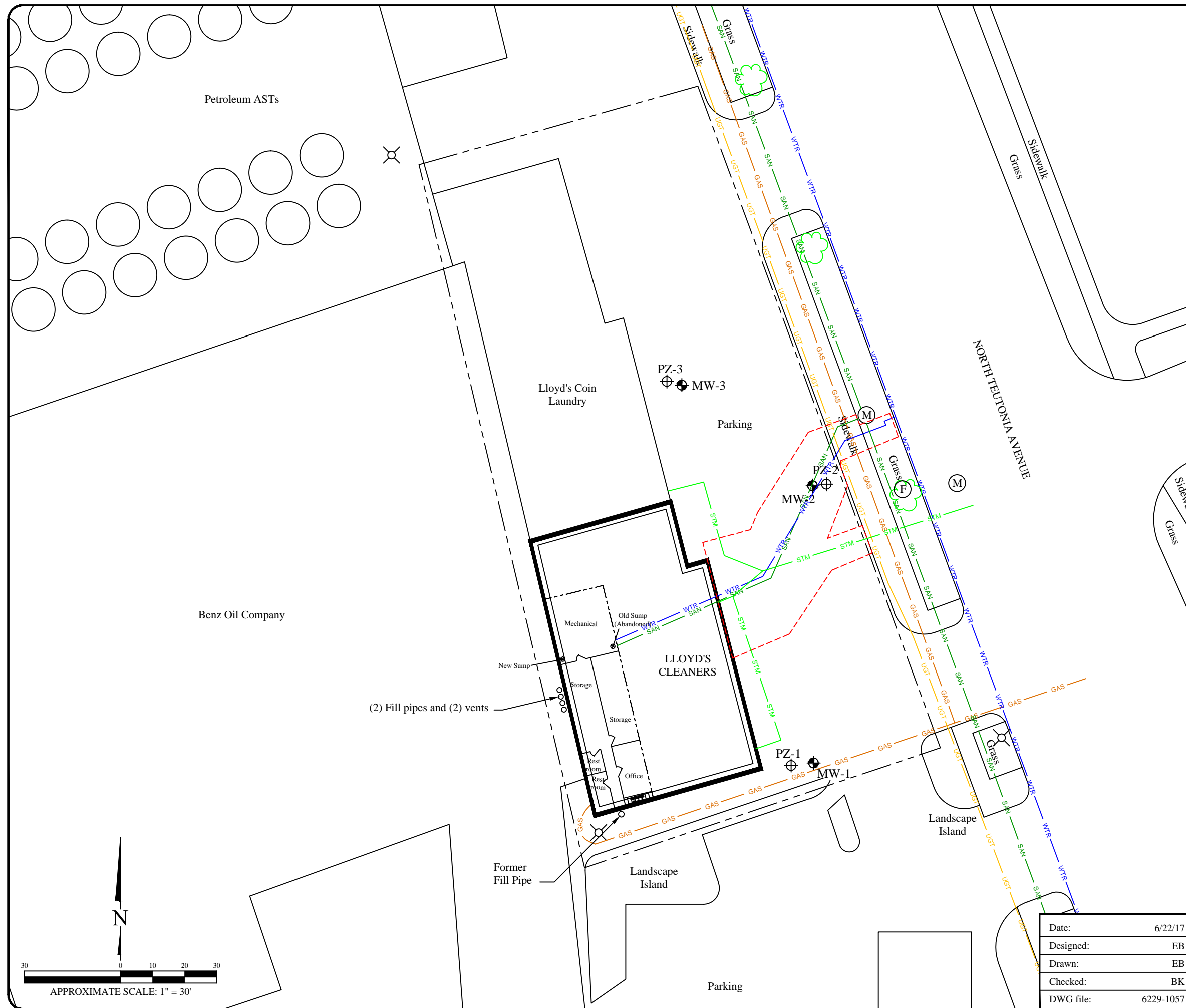


Decommissioning of the system will require re-assessment of vapor intrusion according to the following procedure:

- Notify WDNR of the decommission plan;
- Turn the fan off at the switch or circuit breaker;
- Collect sub-slab vapor samples for analysis of volatile organic compounds (VOCs) according to the following schedule, ensuring that two (2) of the sampling events occur during the heating season:
  - First event 2 to 4 weeks after shutting off the fan;
  - Second event 2 to 6 months after shutting off the fan;
  - Third event within 1 year of shutting off the fan.
- If the concentration of a VOC in any sample exceeds the applicable VRSL, return to long-term SSD system operation and monitoring.
- Request WDNR approval to remove the vapor mitigation requirement from the Site.

Because the SSD system was needed to mitigate vapor intrusion at the time of case closure, there was a continuing obligation for any owner of 4837 N. Teutonia Ave to operate and maintain the SSD system post-closure. The continuing obligation can be removed by going through the post-closure modification process. Contact WDNR for current guidance on this process.

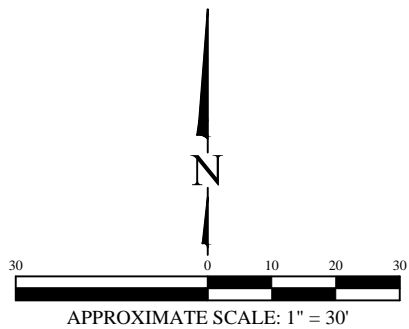
## FIGURES






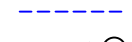



**Legend**

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- PZ-1 Piezometer location (Proposed to be abandoned)
- MW-1 Monitoring well location (Proposed to be abandoned)

<b>SITE LAYOUT MAP</b>											
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI											
	Figure D.2.b.1										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Date:</td><td>6/22/17</td></tr> <tr><td>Designed:</td><td>EB</td></tr> <tr><td>Drawn:</td><td>EB</td></tr> <tr><td>Checked:</td><td>BK</td></tr> <tr><td>DWG file:</td><td>6229-1057</td></tr> </table>	Date:	6/22/17	Designed:	EB	Drawn:	EB	Checked:	BK	DWG file:	6229-1057	Project 6229
Date:	6/22/17										
Designed:	EB										
Drawn:	EB										
Checked:	BK										
DWG file:	6229-1057										
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com											



### Legend

-  Floor drain
-  EP-1 Extraction point with u-tube manometer and ball valve
-  Conveyance piping
-  Horizontal extraction pipe
-  TP-1 Sub-slab vacuum test port
-  (-0.131) Vacuum reading in inches of water during system commissioning
-  GP501 fan

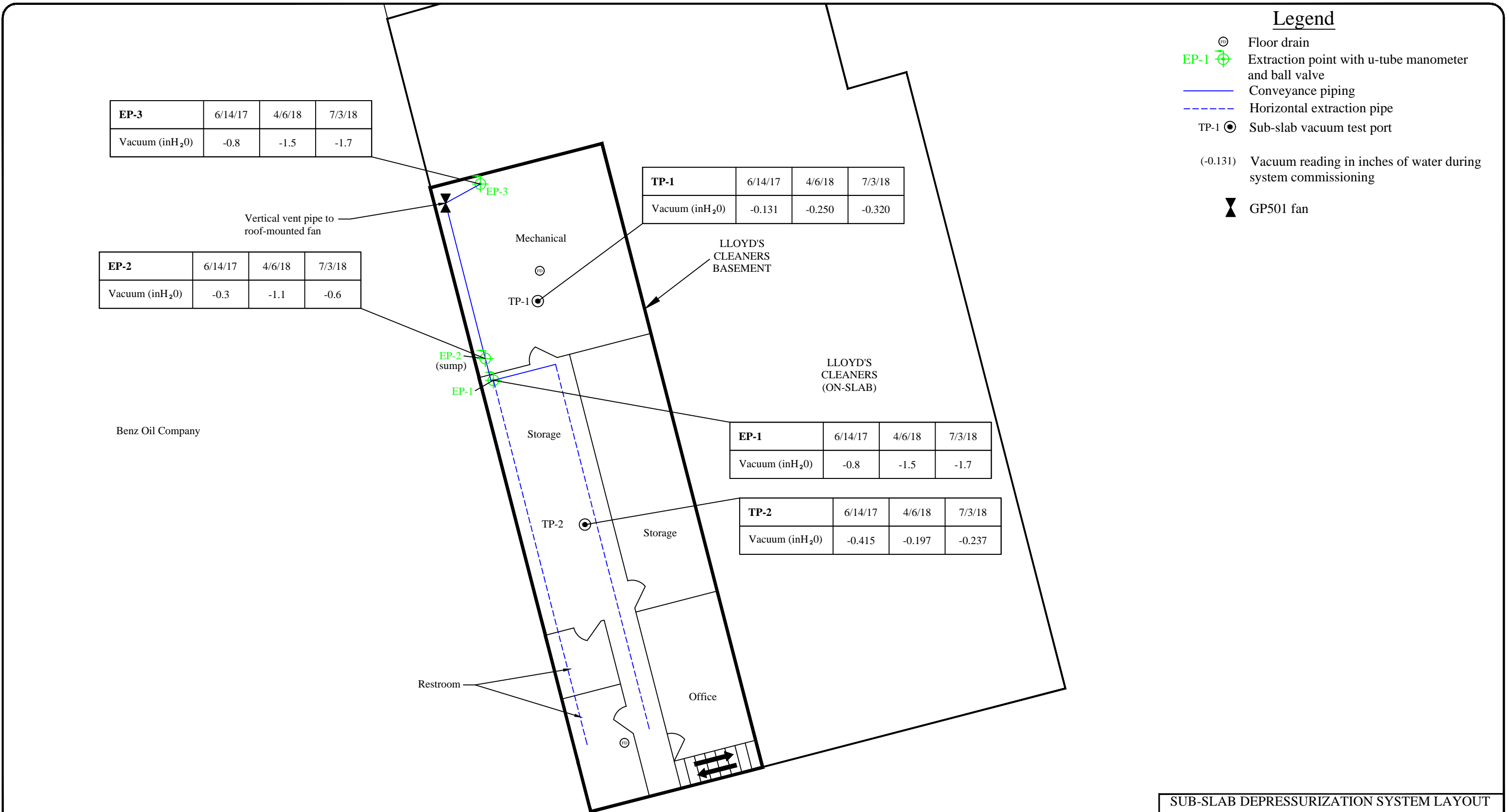
<b>EP-3</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.8	-1.5	-1.7

<b>TP-1</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.131	-0.250	-0.320

<b>EP-2</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.3	-1.1	-0.6

<b>EP-1</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.8	-1.5	-1.7

<b>TP-2</b>	6/14/17	4/6/18	7/3/18
Vacuum (inH <sub>2</sub> O)	-0.415	-0.197	-0.237



Benz Oil Company

Mechanical

LLOYD'S CLEANERS BASEMENT

LLOYD'S CLEANERS (ON-SLAB)

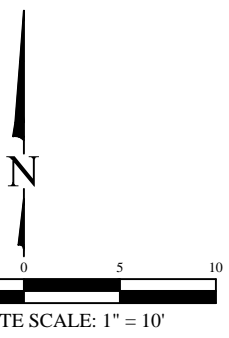
Storage

Storage

Restroom

Office

Vertical vent pipe to roof-mounted fan



### SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	5/1/17
Designed:	EB
Drawn:	EB
Checked:	WF
DWG file:	6229-1019








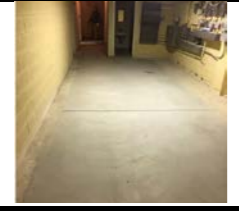


825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	D.2.b.2
Project	6229



**ATTACHMENT D.4.b**  
**Inspection and Maintenance Log**

**VAPOR MITIGATION SYSTEM INSPECTION AND MAINTENANCE LOG**  
**LLOYD'S DRY CLEANERS, MILWAUKEE, WISCONSIN**

SYSTEM COMPONENT						ANNUAL INSEPECTION	
NAME	PHOTO	FUNCTION	CHECK	NORMAL OBSERVATION	POSSIBLE REPAIR	DATE	NOTES / REPAIR COMPLETED
Fan		Fan creates a vacuum and lowers pressure below foundation.	Fan Operation	Fan is on Fan mounted outside and secure	Fan may need to be replaced every 15 to 20 years.		
		The fan also removes soil gasses from below foundation for discharge to atmosphere.	Fan Location	Fan motor is quiet (loud motor may indicate a problem)	Replacement fan to have similar specifications as original with respect to flow and vacuum.		
			Motor Noise		<b>Fan Type = RadonAway GP501</b>		
Suction Point with Vent Pipe		Suction Point : Soil gases are collected in a pit below the foundation, and tight seal prevents soil gas from entering the building.	Suction Point Seal	Seals are air tight around pipe penetrations.	Suction point seals or vent pipe may need to be replaced if cracks or leaks appear.		
		Vent Pipe: Pipe conveys the vacuum from the fan, and collects soil gases for discharge to the atmosphere.	Vent Pipe Condition	Vent pipe is connected to fan and has not cracked.	Have professional test pressures if pipes are modified or cracks appear.		
Manometer		Measures differential pressure between vacuum side of vent pipe and indoor space.	Liquid Level in Manometer	Liquid level on each side of the u-tube is uneven. Normal range is 0.3 to 1.7 inches of water.	A change in liquid level indicates a change in the vacuum below the foundation. This could be caused by fan failure, vent pipe blockage, shallow water below foundation, or other conditions.		
		This measurement confirms the fan is creating a vacuum.			Troubleshoot or hire professional to identify the cause and repair if needed.		
Audible Alarm		Signals a loss of vacuum in the system piping	Power to alarm unit	Alarm unit is plugged in and green indicator light is on The alarm is silent	Contact a professional if the alarm sounds to troubleshoot the cause.		
			Tubing from the alarm to extraction point pipe	Tubing from the alarm unit connects to the extraction point pipe	Push tubing back through the small hole in the pipe		
Outdoor Vent Pipe		Pipe carries soil gas outside and vents it to the atmosphere.	Vent Pipe Condition	Vent pipe remains connected to fan. End of pipe free from obstructions.	Vent pipe may require replacement, or cleaning to remove ice or debris.		
			Vent Pipe Location	The exhaust is more than 15 feet from windows and air intakes.	Have professional test pressures if pipes are modified or cracks appear.		
Foundation Floor		Foundation is a barrier that minimizes soil gas entry into building.	Foundation Condition	No penetrating cracks or holes in foundation.	Seal cracks or other penetrations as you would to prevent water from entering.		
			Foundation Footprint	No alterations or additions to building foundation.	If building floor plan has changed, contact a professional contractor or WDNR to evaluate if modifications to the mitigation system are necessary.		
Sump and Sump Pump		Collects water from the foundation to ensure unsaturated sub-slab conditions and application of vacuum.	Sealed sump cover and pipe penetrations	Cover and pipe openings are air-tight	Tighten seals and clamps; replace the cover if damaged.		
			Proper function of sump pump	Sump pump operates automatically as water accumulates in the sump. Pump operation can be tested by adding water through the capped opening.	Make sure the pump is plugged in and the float is free to move. Replace the pump in the event of failure.		
Sub-Slab Test Port		This is a sample port to measure vacuum or collect soil gas sample(s) if needed.	Pin Seal/Cap	Pin is sealed and capped when not in use.	Repair or replace the seal and cover as needed.		
			Pin Condition	A manometer can be connected to the vapor pin to check sub-slab vacuum (not required). Vacuum should be less than -0.004 in H <sub>2</sub> O.	Permanently seal hole if vapor pin is ever removed.		

## **ATTACHMENT E – MONITORING WELL INFORMATION**

All groundwater monitoring wells were abandoned on April 30, 2019.

## **ATTACHMENT F – SOURCE LEGAL DOCUMENTS**

**F.1. Deed.**

**F.2. Certified Survey Map**

**F.3. Verification of Zoning**

**F.4. Signed Statement**



OFF-SOURCE  
A  
PROPERTY

REEL 2887 IMAGE 756

DOCUMENT NO. STATE BAR OF WISCONSIN FORM 3-1982  
QUIT CLAIM DEED

THIS SPACE RESERVED FOR RECORDING DATA  
6676290  
REGISTER'S OFFICE }  
Milwaukee County, WI } ss  
RECORDED AT }  
OCT 16 1992 }  
REEL 2887 IMAGE 756 }  
Milwaukee REGISTER OF DEEDS

ROBERTA F. ANDERSON,  
quit-claims to THOMAS M. ANDERSON  
the following described real estate in Milwaukee County,  
State of Wisconsin:

RETURN TO  
JOHN J. GERMANOTTA  
1706 N. FARWELL  
MILWAUKEE, WI 53202

Tax Parcel No: 207-0833

CSM2994 in Southeast 1/4, Section 36, Township 8 North, Range 21 East,  
in Parcel 3.

FEE  
# 77.25 (8)  
EXEMPT

6676290 #  
RECORD 10.00

This is not homestead property.  
(is) (is not)  
Dated this 13<sup>TH</sup> day of October, 19 92  
Roberta F. Anderson (SEAL)  
Roberta F. Anderson (SEAL)

AUTHENTICATION  
Signature(s) Roberta F. Anderson  
authenticated this 13<sup>th</sup> day of October, 19 92  
John J. Germanotta  
TITLE: MEMBER STATE BAR OF WISCONSIN  
(If not authorized by § 706.06, Wis. Stats.)

ACKNOWLEDGMENT  
STATE OF WISCONSIN }  
County. } ss.  
Personally came before me this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_ the above named \_\_\_\_\_  
to me known to be the person \_\_\_\_\_ who executed the foregoing instrument and acknowledge the same.  
Notary Public \_\_\_\_\_ County, Wis.  
My Commission is permanent. (if not, state expiration date: \_\_\_\_\_, 19\_\_\_\_)

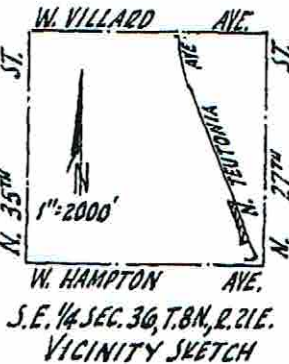
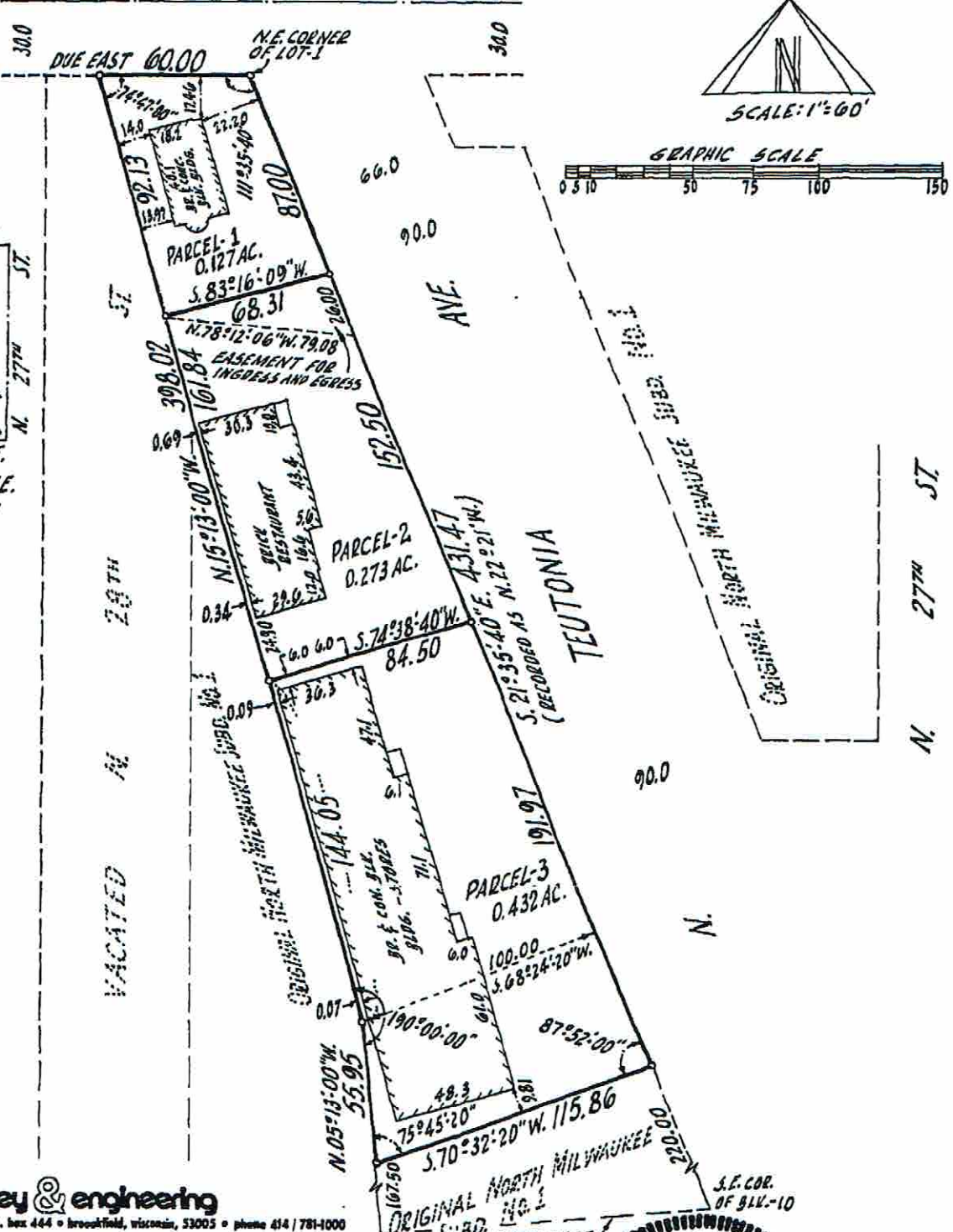
THIS INSTRUMENT WAS DRAFTED BY  
Attorney John J. Germanotta  
(Signatures may be authenticated or acknowledged. Both are not necessary.)

CERTIFIED SURVEY MAP NO. 2994

TAX KEY NO. 207-0743-100

BEING LOTS 1 AND 2 AND PART OF LOTS 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24 25 and 26 IN BLOCK 10 IN ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1 AND A PART OF VACATED NORTH 28TH STREET ADJOINING SAID LOTS 1, 2 AND 3 IN THE SE 1/4 OF SECTION 36, T 8 N, R 21 E, IN THE CITY OF MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN.

30.0 W. STARK ST. 30.0 ZONING: I, A, 85



o - INDICATES 1" DIA. IRON PIPE 24" IN LENGTH  
WEIGHT 13 LBS. PER LINEAL FOOT.  
ALL DIMENSIONS AS SHOWN ARE MEASURED TO THE  
NEAREST HUNDREDTH OF A FOOT.

**national survey & engineering**  
3470 north 127th street • p.o. box 444 • brookfield, wisconsin, 53005 • phone 414/781-1000

RECEIVED

NOV 22 1976

DEPT. OF CITY DEVELOPMENT  
CITY FEE DEPOSITED  
# 20-11-23-76 GH

DEPT. OF CITY DEVELOPMENT  
OF MILWAUKEE

NOV 22 1976

STAFF APPROVED

*Carl H. Quast*



CERTIFIED SURVEY MAP NO. \_\_\_\_\_

TAX KEY NO. \_\_\_\_\_

BEING LOTS 1 AND 2 AND PART OF LOTS 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24 25 and 26 IN BLOCK 10 IN ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1 AND A PART OF VACATED NORTH 28TH STREET ADJOINING SAID LOTS 1, 2 AND 3 IN THE SE 1/4 OF SECTION 36, T 8 N, R 21 E, IN THE CITY OF MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN.

SURVEYOR'S AFFIDAVIT  
STATE OF WISCONSIN)

:SS

MILWAUKEE COUNTY (

I, KENNETH E BERKE, a registered surveyor, being first duly sworn on oath do hereby depose and say:

THAT I have surveyed, divided and mapped Lots 1 and 2 and part of Lots 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24, 25 and 26 in Block 10 in Original North Milwaukee Subdivision No. 1 and a part of vacated North 28th Street adjoining said Lots 1, 2 and 3 in the SE 1/4 of Section 36, T 8 N, R 21 E, in the City of Milwaukee, Milwaukee County, Wisconsin, which is bounded and described as follows:

Beginning at the Northeast corner of said Lot 1; thence South 21° 35' 40" East along the Southwesterly line of North Teutonia Avenue 431.47 ft. to a point, said point being 220.00 ft. North 21° 35' 40" West of the Southeast corner of said Block 10; thence South 70° 32' 20" West 115.86 ft. to a point, said point being 167.50 ft. North 05° 13' 00" West of the South line of said Block 10; thence North 05° 13' 00" West 55.95 ft. to a point, said point being 100.00 ft. South 68° 24' 20" West of the Southwesterly line of North Teutonia Avenue; thence North 15° 13' 00" West 398.02 ft. to a point in the South line of West Stark Street; thence due East along the South line of West Stark Street 60.00 ft. to the point of beginning.

THAT I have made such survey, land division and map by the direction of SOPHIA WEISFELDT, individually and SOPHIA WEISFELDT and HARRY J WEISFELDT, TRUSTEES FOR THE ESTATE OF SIMON C WEISFELDT, land contract vendors, and LEON LEOPOLD and HUGO BAUTZ, land contract vendees of said land.

THAT such map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

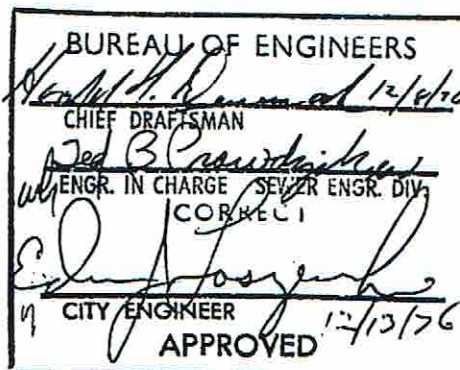
THAT I have fully complied with the provisions of Chapter 236 of the Wisconsin Statutes and Chapter 9 of the Milwaukee Code of Ordinances in surveying, dividing and mapping the same.

Kenneth E Berke  
Kenneth E Berke, Registered Wisconsin  
Land Surveyor S 107

Date OCT 29, 1976

LAND CONTRACT VENDOR'S CERTIFICATE

AS LAND CONTRACT VENDOR'S we hereby certify that we caused the land described on this map to be surveyed, divided, mapped and dedicated as represented on this map in accordance with the requirements of Section 9-5.5 of the City of Milwaukee Code of Ordinances.



CERTIFIED SURVEY MAP NO. \_\_\_\_\_

TAX KEY NO. \_\_\_\_\_

BEING LOTS 1 AND 2 AND PART OF LOTS 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24 25 and 26 IN BLOCK 10 IN ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1 AND A PART OF VACATED NORTH 28TH STREET ADJOINING SAID LOTS 1, 2 AND 3 IN THE SE 1/4 OF SECTION 36, T 8 N, R 21 E, IN THE CITY OF MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN.

In consideration of the approval of the map by the Common Council, the undersigned covenants and agrees to and with the City of Milwaukee that no lot or parcel as hereon set forth shall at any time subsequent to the recording of this map be in any manner divided, described or conveyed so as to result in lots parcels or building sites having dimensions, areas, or courses other than as herein set forth, unless said divisions, descriptions or conveyances are first approved by the Common Council of the City of Milwaukee, and that such restrictions are binding on the undersigned, his, her, or their heirs and assigns. Such approval, however, shall not be required for the taking of land for public purposes.

THAT all utility lines to provide electric power and telephone service to all lots in the Certified Survey Map shall be installed underground in easements provided therefore.

WITNESS the hand and seal of said land contract vendors this 18th day of November, 1976.

In The Presence of:

Winona A. Thompson  
Winona A. Thompson

Sophia Weisfeldt  
Sophia Weisfeldt, Individually

Maurice B. Weisfeldt  
Maurice B. Weisfeldt

Sophia Weisfeldt  
Sophia Weisfeldt

Phillip Green  
Phillip Green

Harry J. Weisfeldt  
Harry J. Weisfeldt, Trustees for Estate of Simon C Weisfeldt

STATE OF WISCONSIN)  
:SS  
MILWAUKEE COUNTY (

PERSONALLY came before me this 18th day of November, 1976, the above named SOPHIA WEISFELDT, INDIVIDUALLY and SOPHIA WEISFELDT, and HARRY J. WEISFELDT, Trustees for the Estate of Simon C Weisfeldt, to me known to be the persons who executed the foregoing instrument and acknowledged the same.

Maurice B. Weisfeldt  
Maurice B. Weisfeldt  
Notary Public, State of Wisconsin  
My Commission Expires (is Permanent)

LAND CONTRACT VENDEE'S CERTIFICATE

AS LAND CONTRACT VENDEE'S, we hereby certify that we caused the land described on this map to be surveyed, divided, mapped and dedicated as represented on this map in accordance with the requirements of Section 9-5.5 of the City of Milwaukee Code of Ordinances.



5071186

REGISTER'S OFFICE } SS  
Milwaukee County, Wis. }  
RECORDED AT 11 10 AM M  
on \_\_\_\_\_ in \_\_\_\_\_

JAN 24 1977

Reel 989 Image 630 to 634

Richard C. Cuyler  
REGISTER OF DEEDS

incl.

CERTIFIED SURVEY MAP NO. \_\_\_\_\_

TAX KEY NO. \_\_\_\_\_

BEING LOTS 1 AND 2 AND PART OF LOTS 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24 25 and 26 IN BLOCK 10 IN ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1 AND A PART OF VACATED NORTH 28TH STREET ADJOINING SAID LOTS 1, 2 AND 3 IN THE SE 1/4 OF SECTION 36, T 8 N, R 21 E, IN THE CITY OF MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN.

In consideration of the approval of the map by the Common Council, the undersigned covenants and agrees to and with the City of Milwaukee that no lot or parcel as hereon set forth shall at any time subsequent to the recording of this map be in any manner divided, described or conveyed so as to result in lots, parcels or building sites having dimensions, areas, or courses other than as herein set forth, unless said divisions, descriptions or conveyances are first approved by the Common Council of the City of Milwaukee, and that such restrictions are binding on the undersigned, his, her, or their heirs and assigns. Such approval, however shall not be required for the taking of land for public purposes.

THAT all utility lines to provide electric power and telephone service to all lots in the Certified Survey Map shall be installed underground in easements provided therefore.

WITNESS the hands and seals of said land contract vendee's this 18th day of November, 1976.

In The Presence of:

Winona A. Thompson  
Winona A. Thompson

Leon Lepold  
Leon Lepold

Maurice B. Weisfeldt  
Maurice B. Weisfeldt

Hugo Bautz  
Hugo Bautz

STATE OF WISCONSIN)  
:SS  
MILWAUKEE COUNTY (

PERSONALLY came before me this 18th day of November, 1976 the above named LEON LEOPOLD and HUGO BAUTZ, to me known to be the land contract vendee's and the persons who executed the foregoing instrument and acknowledged the same.

Maurice B. Weisfeldt  
Maurice B. Weisfeldt  
Notary Public, State of Wisconsin  
My Commission (expires) is permanent



10/29/76

5 OF 5

CERTIFIED SURVEY MAP NO. \_\_\_\_\_

TAX KEY NO. \_\_\_\_\_

BEING LOTS 1 AND 2 AND PART OF LOTS 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24, 25 AND 26 IN BLOCK 10 IN ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1 AND A PART OF VACATED NORTH 28TH STREET ADJOINING SAID LOTS 1, 2 AND 3 IN THE SE 1/4 OF SECTION 36, T 8 N, R 21 E, IN THE CITY OF MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN.

CERTIFICATE OF CITY TREASURER  
STATE OF WISCONSIN)

:SS  
MILWAUKEE COUNTY (

I, WAYNE WHITTOW, being the duly elected, qualified and acting City Treasurer of the City of Milwaukee, do hereby certify that in accordance with the records in the office of the City Treasurer of the City of Milwaukee there are no unpaid taxes or unpaid special assessments on any of the lands included in the above description of this certified survey map.

January 4, 1977  
Date

Wayne Whittow  
Wayne Whittow, City Treasurer

COMMON COUNCIL RESOLUTION

Be it noted that this Certified Survey Map, submitted under File No 76-1552 being Lots 1 and 2 and part of Lots 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24, 25 and 26 in Block 10 in Original North Milwaukee Subdivision No. 1 and a part of vacated North 28th Street adjoining said Lots 1, 2 and 3 in the SE 1/4 of Section 36, T 8 N R 21 E, in the City of Milwaukee, Milwaukee County, Wisconsin, having been approved by the Department of City Development, has been approved by the Milwaukee Common Council.

I hereby certify that the foregoing Certified Survey Map was approved by Common Council Resolution on JAN 18 1977

Allen R. Albright  
City Clerk, City of Milwaukee

Henry W. Maier  
Henry W. Maier, Mayor

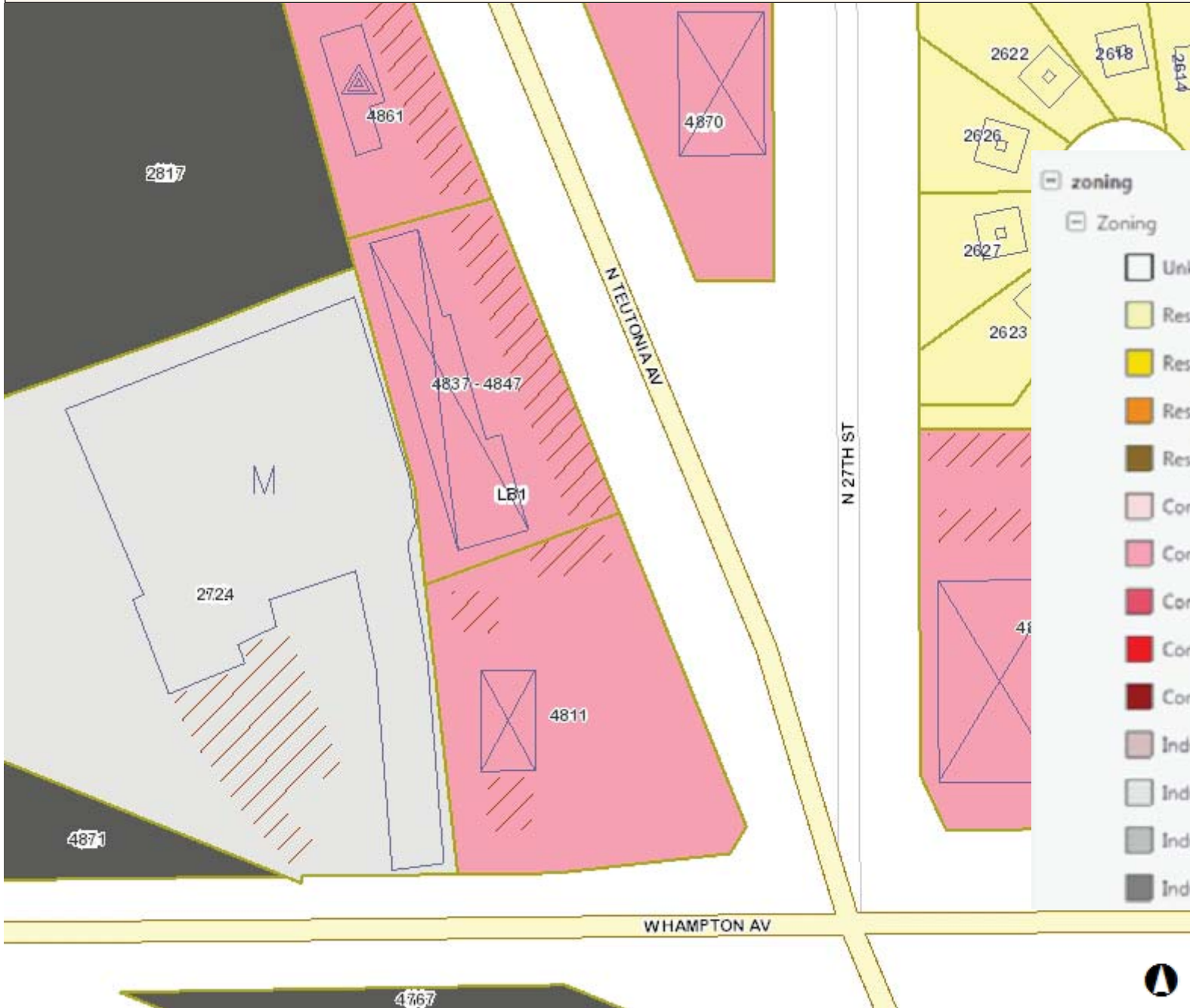


10/29/76

THIS INSTRUMENT WAS DRAFTED BY  
KENNETH E BERKE  
SURVEYOR

# Map Milwaukee: Zoning

City of Milwaukee, Wisconsin



**zoning**

Zoning

- Unknown or pending zoning
- Residential - single family
- Residential - two family
- Residential - multi-family
- Residential - residence and office
- Commercial - neighborhood shopping
- Commercial - local business
- Commercial - commercial service
- Commercial - regional business
- Commercial - central business
- Industrial - commercial
- Industrial - office
- Industrial - light
- Industrial - mixed



**Responsible Party Statement**

**Parcel Identification No. 2070833000**

**4837-4847 N. Teutonia Avenue**

**Milwaukee, WI 53209**

---

**Legal Description:**

CERTIFIED SURVEY MAP NO 2994 IN SE 1/4 SEC 36, TOWNSHIP 8 NORTH, RANGE 21 EAST, IN PARCEL 3

I, Thomas Anderson, believe that the legal description provided above and on Milwaukee County Register of Deeds Doc No. 6676290 accurately describes the contaminated property.

Signature: Thomas Anderson

Title: Owner

Date: 7/11/17



**ATTACHMENT G – SOURCE LEGAL DOCUMENTS**

**G.A. City of Milwaukee Right-of-Way**

**Notification Letter**

**Proof of Delivery**

**G.B. 4811 N. Teutonia Avenue**

**Notification Letter**

**Proof of Delivery**

**Deed**

**Certified Survey Map**

**Verification of Zoning**

**Signed Statement**

AFFECTED  
A  
PROPERTY

RIGHT-OF-WAY

**G.A. City of Milwaukee Right-of-Way Documents**

AFFECTED  
A  
PROPERTY

RIGHT-OF-WAY

U.S. Postal Service™  
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Domestic Mail Only

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7016 3560 0001 1207 5529

OFFICIAL USE	
Certified Mail Fee	\$3.35
\$	\$2.75
Extra Services & Fees (check box, add fee as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$1.19
\$	\$
Total Postage and Fees	\$7.29
\$	\$



Sent To: Jeff Polenske - City of Milwaukee  
 Street and Apt. No., or PO Box No. 841 N Broadway, Rm 701  
 City, State, ZIP+4® Milwaukee, WI 53202

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Jeff Polenske  
City of Milwaukee - Infrastructure  
841 N. Broadway, Rm 701  
Milwaukee, WI 53202



**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type
- |  |   |
|--|---|
| <input type="checkbox"/> Adult Signature                               | <input type="checkbox"/> Priority Mail Express®                     |
| <input type="checkbox"/> Adult Signature Restricted Delivery           | <input type="checkbox"/> Registered Mail™                           |
| <input type="checkbox"/> Certified Mail®                               | <input type="checkbox"/> Registered Mail Restricted Delivery        |
| <input checked="" type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Return Receipt for Merchandise             |
| <input type="checkbox"/> Collect on Delivery                           | <input type="checkbox"/> Signature Confirmation™                    |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery       | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail                                  |   |
| <input type="checkbox"/> Insured Mail Restricted Delivery              |   |

2. / *(Transfer from service label)*  
 7016 3560 0001 1207 5529

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A  
PROPERTY

RIGHT-OF-WAY

**Notification of Continuing Obligations  
and Residual Contamination**

Form 4400-286 (9/15)

**Section B: ROW Notification: Residual Contamination and/or Continuing Obligations - Non-DOT ROWs**

**KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS**

841 N. Broadway, Room 701  
Milwaukee, WI, 53202

Dear Mr. Polenske:

I am providing this notification to inform you of the location and extent of contamination remaining in a right-of-way for which you are responsible, and of certain long-term responsibilities (continuing obligations) for which city of Milwaukee may become responsible. I investigated a release of:

Tetrachloroethene (PCE) dry cleaning solvent on 4837 N. Teutonia Avenue, Milwaukee, WI, 53209 that has shown that contamination remains in the right-of-way for which city of Milwaukee is responsible.

I have responded to the release, and will be requesting that the Department of Natural Resources (DNR) grant case closure. Closure means that the DNR will not be requiring any further investigation or cleanup action to be taken. However, continuing obligations may be imposed as a condition of closure approval.

**You have 30 days to comment on the proposed closure request:**

The DNR will not review my closure request for at least 30 days after the date of this letter. As an affected right-of-way holder, you have a right to contact the DNR to provide any technical information that you may have that indicates that closure should not be granted for this site. If you would like to submit any information to the DNR that is relevant to this closure request, you should mail that information to the DNR contact: 2300 North Martin Luther King Drive, Milwaukee, WI, 53212, or at [john.hnat@wisconsin.gov](mailto:john.hnat@wisconsin.gov).

**Residual Contamination:**

***Soil Contamination:***

Soil contamination remains at:

Under the sidewalk and terrace along and adjacent to the sanitary and storm sewer laterals. Residual contaminant concentrations and depths are shown on the attached Figures 1 and 2.

The remaining contaminants include:

Tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene at levels which exceed the soil standards found in ch. NR 720, Wis. Adm. Code. The following steps have been taken to address any exposure to the remaining soil contamination.

The most heavily impacted soil around the sewer lines was excavated and replaced with clean fill. The sewer lines were also replaced with modern pipe. Impermeable rubber membranes were placed on the east walls of the excavation areas to prevent further migration of residual contamination into the right-of-way.

If residual soil or groundwater contamination is likely to affect water collected in a pit/trench that requires dewatering, a general permit for Discharge of Contaminated Groundwater from Remedial Action Operations may be needed. If you or any other person plan to conduct utility or building construction for which dewatering will be necessary, you or that person must contact the DNR's Water Quality Program, and if necessary, apply for the necessary discharge permit. Additional information regarding discharge permits is available at <http://dnr.wi.gov/topic/wastewater/GeneralPermits.html>.

**Continuing Obligations on the Right-of-Way (ROW):** As part of the response actions, I am proposing that the following continuing obligations be used at the affected ROW. If my closure request is approved, you will be responsible for the following continuing obligations:

**Residual Soil Contamination:**

If soil is excavated from the areas with residual contamination, the right-of-way holder at the time of excavation will be responsible for the following:

- determine if contamination is present,
  - determine whether the material would be considered solid or hazardous waste,
  - ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules.
- Contaminated soil may be managed in-place, in accordance with s. NR 718, Wis. Adm. Code, with prior Department approval.

The right-of-way holder needs to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans from ingestion, inhalation or dermal contact.

Depending on site-specific conditions, construction over contaminated soils or groundwater may result in vapor migration of contaminants into enclosed structures or migration along newly placed underground utility lines. The potential for vapor inhalation and means of mitigation should be evaluated when planning any future redevelopment, and measures should be taken to ensure the continued protection of public health, safety, welfare and the environment at the site.

**GIS Registry and Well Construction Requirements:**

If this site is closed, all properties within the site boundaries where contamination remains, or where a continuing obligation is applied, will be listed on the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web, at <http://dnr.wi.gov/topic/Brownfields/clean.html>. Inclusion on this database provides public notice of remaining contamination and of any continuing obligations. Documents can be viewed on this database, and include final closure letters, site maps and any applicable maintenance plans. The location of the site may also be viewed on the Remediation and Redevelopment Sites Map (RR Sites Map), on the "GIS Registry" layer, at the same internet address listed above.

DNR approval prior to well construction or reconstruction is required for all sites included in the GIS Registry, in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. Special well construction standards may be necessary to protect the well from the remaining contamination. Well drillers need to first obtain approval from a regional water supply specialist in DNR's Drinking Water and Groundwater Program. The well construction application, form 3300-254, is on the internet at <http://dnr.wi.gov/topic/wells/documents/3300254.pdf>.

If you have any questions regarding this notification, I can be reached at: (262) 290-4001  
wfassbender@enviroforensics.com

*Wayne D. Fassbender - Agent for Owner*  
 Signature of responsible party/environmental consultant for the responsible party

Date Signed  
 6/21/17

**Attachments**  
**Contact Information**

Figures 1 and 2 - Residual Soil Contamination

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**Notification of Continuing Obligations  
and Residual Contamination**

Form 4400-286 (9/15)

C. I. Page

**The affected property is:**

- the source property (the source of the hazardous substance discharge), but the property is not owned by the person who conducted the cleanup (a deeded property)
- a deeded property affected by contamination from the source property
- a right-of-way (ROW)
- a Department of Transportation (DOT) ROW

**Include this completed page as an attachment with all notifications provided under sections A and B.**

**Contact Information**

**Responsible Party:** The person responsible for sending this form, and for conducting the environmental investigation and cleanup is:

Responsible Party Name Lloyd's Dry Cleaners

Contact Person Last Name Anderson	First Tom	MI	Phone Number (include area code) (414) 422-1010
Address 4837 N. Teutonia Avenue	City Milwaukee	State WI	ZIP Code 53209
E-mail			

**Name of Party Receiving Notification:**

Business Name, if applicable: City of Milwaukee

Title Mr.	Last Name Polenske	First Jeff	MI	Phone Number (include area code) (414) 286-2489
Address 841 N. Broadway, Room 701	City Milwaukee	State WI	ZIP Code 53202	

**Site Name and Source Property Information:**

Site (Activity) Name Lloyd's Dry Cleaners

Address 4837 N. Teutonia Avenue	City Milwaukee	State WI	ZIP Code 53209
DNR ID # (BRRTS#) 02-41-556811	(DATCP) ID #		

**Contacts for Questions:**

If you have any questions regarding the cleanup or about this notification, please contact the Responsible Party identified above, or contact:

**Environmental Consultant:** EnviroForensics

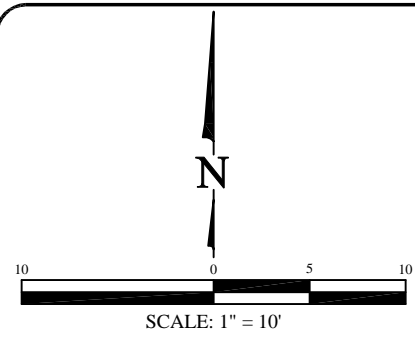
Contact Person Last Name Fassbender	First Wayne	MI P	Phone Number (include area code) (262) 290-4001
Address N16W23390 Stone Ridge Drive, Suite G	City Waukesha	State WI	ZIP Code 53188
E-mail <u>wfassbender@enviroforensics.com</u>			

**Department Contact:**

To review the Department's case file, or for questions on cleanups or closure requirements, contact:

Department of: Natural Resources (DNR)

Address 2300 North Martin Luther King Drive	City Milwaukee	State WI	ZIP Code 53212
Contact Person Last Name Hnat	First John	MI J	Phone Number (include area code) (414) 263-8644
E-mail (Firstname.Lastname@wisconsin.gov) <u>john.hnat@wisconsin.gov</u>			



### Legend

- Property boundary
- WS-1-1 ● Side wall excavation soil sample location
- HB-1 ● Hand Boring
- Excavation Limits (5 ft)
- Excavation Limits (13 ft)

Analytes	RCL Soil to Groundwater	RCL Industrial
PCE	4.5	145,000
TCE	3.6	8,410
cis-1,2-DCE	41.2	2,340,000
trans-1,2-DCE	62.6	1,850,000

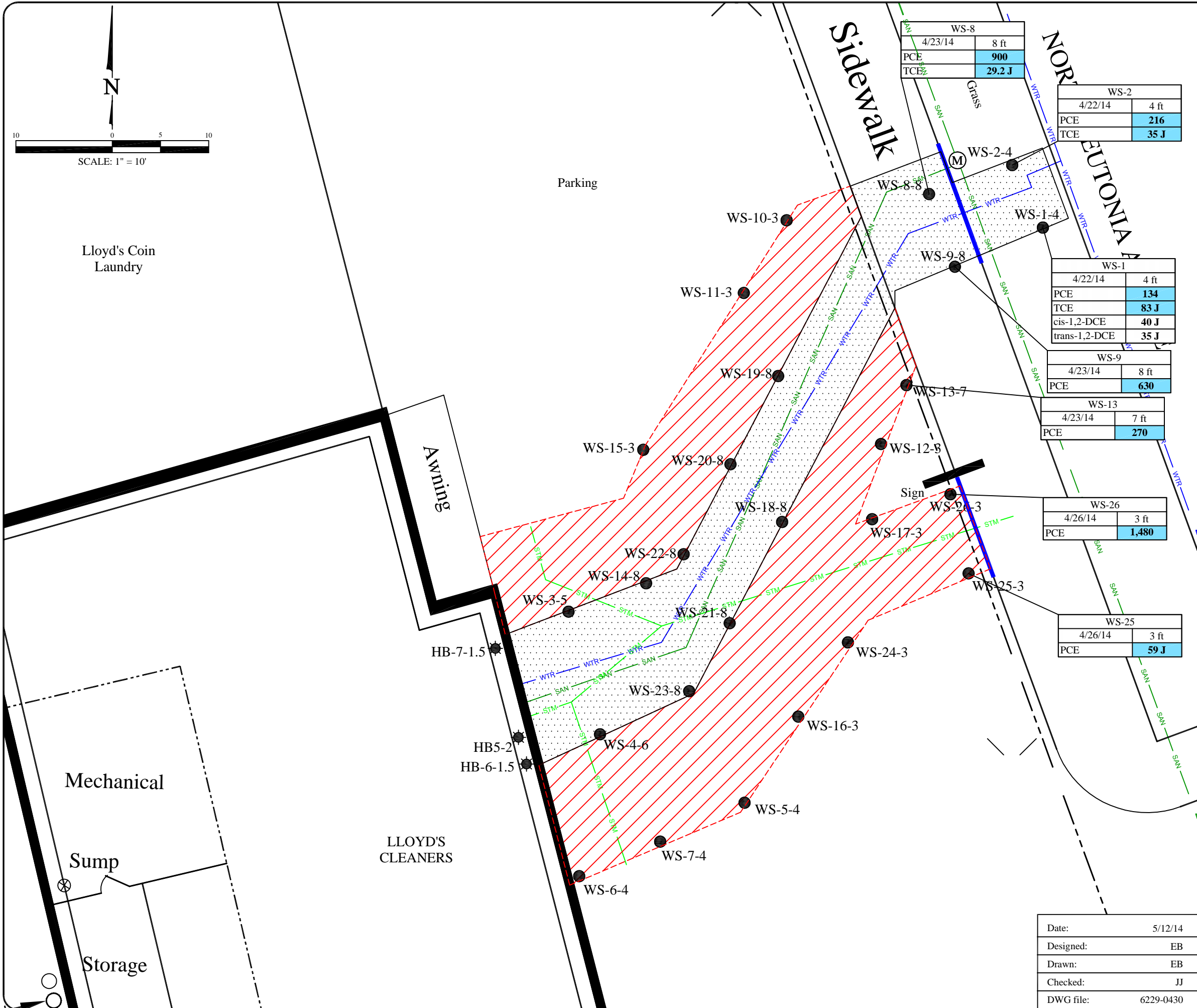
Note:

1. Shaded blue values exceed the Residual Contaminant Level Soil to Groundwater
2. Bolded values exceed laboratory detection levels
3. ug/kg = micrograms per kilogram
4. PCE = Tetrachloroethene
5. TCE = Trichloroethene
6. cis-1,2-DCE = cis-1,2-Dichloroethene
7. trans-1,2-DCE = trans-1,2-Dichloroethene
8. Samples analyzed using for VOCs using US EPA SW-846 Method 8260
9. CVOCs = Chlorinated Volatile Organic Compounds
10. ND = Not detected
11. J = Analyte concentration is above the method detection limit and below the reporting limit

- (M) Sanitary sewer manhole
- Impervious Barrier location
- WTR — Underground water utility line
- SAN — Underground sanitary sewer utility line
- STM — Underground storm sewer line

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WS-8	
4/23/14	8 ft
PCE	<b>900</b>
TCE	<b>29.2 J</b>

WS-2	
4/22/14	4 ft
PCE	<b>216</b>
TCE	<b>35 J</b>

WS-1	
4/22/14	4 ft
PCE	<b>134</b>
TCE	<b>83 J</b>
cis-1,2-DCE	<b>40 J</b>
trans-1,2-DCE	<b>35 J</b>

WS-9	
4/23/14	8 ft
PCE	<b>630</b>

WS-13	
4/23/14	7 ft
PCE	<b>270</b>

WS-26	
4/26/14	3 ft
PCE	<b>1,480</b>

WS-25	
4/26/14	3 ft
PCE	<b>59 J</b>

### FINAL EXCAVATION LIMITS WITH WALL SAMPLE ANALYTICAL RESULTS

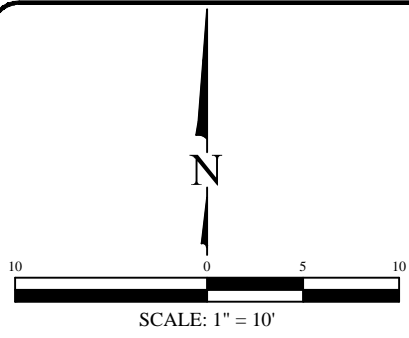
Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	5/12/14
Designed:	EB
Drawn:	EB
Checked:	JJ
DWG file:	6229-0430

**ENVIRO**forensics

ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.  
602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204  
EnviroForensics.com

Figure	1
Project	6229



Lloyd's Coin Laundry

Parking

Sidewalk

FS-9	
4/23/14	11 ft
PCE	<b>97,000</b>
TCE	<b>1,320</b>
cis-1,2-DCE	<b>1,520</b>

FS-1	
4/22/14	6 ft
PCE	<b>3,300</b>
TCE	<b>235</b>

FS-20	
4/26/14	5 ft
PCE	<b>29,100</b>
TCE	<b>116</b>

**Legend**

- Property boundary
  - FS-1-1 Floor excavation soil sample location
  - [Red dashed line] Excavation Limits (5 ft)
  - [Dotted pattern] Excavation Limits (13 ft)
- | Analytes      | RCL Soil to Groundwater | RCL Industrial   |
|---------------|-------------------------|------------------|
| PCE           | <b>4.5</b>              | <b>145,000</b>   |
| TCE           | <b>3.6</b>              | <b>8,410</b>     |
| cis-1,2-DCE   | <b>41.2</b>             | <b>2,340,000</b> |
| trans-1,2-DCE | <b>62.6</b>             | <b>1,850,000</b> |
- Note:
1. Shaded blue values exceed the Residual Contaminant Level Soil to Groundwater
  2. Bolded values exceed laboratory detection levels
  3. ug/kg = micrograms per kilogram
  4. PCE = Tetrachloroethene
  5. TCE = Trichloroethene
  6. cis-1,2-DCE = cis-1,2-Dichloroethene
  7. trans-1,2-DCE = trans-1,2-Dichloroethene
  8. Samples analyzed using for VOCs using US EPA SW-846 Method 8260
  9. CVOCs = Chlorinated Volatile Organic Compounds
  10. ND = Not detected
  11. J = Analyte concentration is above the method detection limit and below the reporting limit
- (M) Sanitary sewer manhole
  - [Thick blue line] Impervious Barrier location
  - [Blue line] WTR - Underground water utility line
  - [Green line] SAN - Underground sanitary sewer utility line
  - [Light green line] STM - Underground storm sewer line

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Mechanical

LLOYD'S CLEANERS

Storage

Awning

Sign

TONIA AVENUE

**FINAL EXCAVATION LIMITS WITH FLOOR SAMPLE ANALYTICAL RESULTS**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	5/12/14
Designed:	EB
Drawn:	EB
Checked:	JJ
DWG file:	6229-0431

ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.  
602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204  
EnviroForensics.com

Figure	2
Project	6229



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**G.B. 4811 N. Teutonia Avenue Documents**

7018 3090 0000 2874 9310

U.S. Postal Service™  
CERTIFIED MAIL® RECEIPT  
Domestic Mail Only

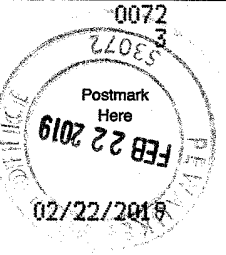
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For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

MEQUON, WI 53092

OFFICIAL USE

Certified Mail Fee	\$3.50
Extra Services & Fees (check box, add fee as appropriate)	\$2.80
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$1.30
Total Postage and Fees	\$7.60



Sent To Diljeet Khahra  
 Street and Apt. No., or PO Box No. 10631 Turnberry Dr  
 City, State, ZIP+4® Mequon, WI 53092

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Diljeet Khahra  
10631 Turnberry Dr  
Mequon, WI 53092



9590 9402 4522 8278 4802 82

2. Article Number (Transfer from carrier label)  
 7018 3090 0000 2874 9310

COMPLETE THIS SECTION ON DELIVERY

A. Signature [Signature]  Agent  
 Addressee

B. Received by (Printed Name) \_\_\_\_\_ C. Date of Delivery \_\_\_\_\_

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type
- |  |   |
|--|---|
| <input type="checkbox"/> Adult Signature                         | <input type="checkbox"/> Priority Mail Express®                     |
| <input type="checkbox"/> Adult Signature Restricted Delivery     | <input type="checkbox"/> Registered Mail™                           |
| <input type="checkbox"/> Certified Mail®                         | <input type="checkbox"/> Registered Mail Restricted Delivery        |
| <input type="checkbox"/> Certified Mail Restricted Delivery      | <input type="checkbox"/> Return Receipt for Merchandise             |
| <input type="checkbox"/> Collect on Delivery                     | <input type="checkbox"/> Signature Confirmation™                    |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Mail Restricted Delivery (over \$500)   |   |

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt



February 22, 2019

Diljeet S. Khahra  
10631 Turnberry Drive  
Mequon, Wisconsin 53092

**Subject: Notification of Continuing Obligations**  
**BRRTS#: 02-41-556811**

Dear Mr. Khahra:

A Notification of Continuing Obligations and Residual Contamination associated with regulatory closure of the Lloyd's Dry Cleaners site is enclosed. We previously sent this notification on June 22, 2017; however, the Wisconsin Department of Natural Resources requested that the notification also include a statement indicating that vapor intrusion could be an issue if a building is constructed in the vicinity of soil boring DP-17 (see Figure 1). That statement appears on Page 2 of the form under "Continuing Obligation on Your Property" and represents the only change compared to the previous notification.

If you have any questions or concerns, please contact me at 414-982-3988 or by email at [wfassbender@enviroforensics.com](mailto:wfassbender@enviroforensics.com). The WDNR project manager is Mr. John Hnat, and he can be contacted at 414-263-8644. We greatly appreciate your help and patience with this matter.

Sincerely,  
**EnviroForensics, LLC**

A handwritten signature in cursive script that reads "Wayne P. Fassbender".

Wayne Fassbender, PMP, PG  
*Senior Project Manager*

enclosures

**Section A: Deeded Property Notification: Residual Contamination and/or Continuing Obligations**

**KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS**

10631 Turnberry Drive  
Mequon, WI, 53092

Dear Mr. Khahra:

I am providing this letter to inform you of the location and extent of contamination remaining on your property, and of certain long-term responsibilities (continuing obligations) for which you may become responsible.

I have investigated a release of:

Tetrachloroethene (PCE) dry cleaning solvent

on 4837 N. Teutonia Avenue, Milwaukee, WI, 53209 that has shown that contamination has migrated onto your property.

I have responded to the release and will be requesting that the Department of Natural Resources (DNR) grant case closure. Closure means that the DNR will not be requiring any further investigation or cleanup action to be taken. However, continuing obligations may be imposed as a condition of closure approval.

**You have 30 days to comment on the attached legal description of your property and on the proposed closure request:**

Please review the enclosed legal description of your property, and notify Wayne Fassbender at N16W23390 Stone Ridge Drive, Suite G, Waukesha, WI, 53188 within the next 30 days if the legal description is incorrect.

The DNR will not review my closure request for at least 30 days after the date of receipt of this letter. As an affected property owner, you have a right to contact the DNR to provide any technical information that you may have that indicates that closure should not be granted for this site. If you would like to submit any information that is relevant to this closure request, or if you want to waive the 30 day comment period, you should mail that information to the DNR contact: 2300 North Martin Luther King Drive, Milwaukee, WI, 53212, or at [john.hnat@wisconsin.gov](mailto:john.hnat@wisconsin.gov).

**Your Long-Term Responsibilities as a Property Owner and Occupant:**

The responses included

Soil excavation

The continuing obligations I am proposing that affect your property are listed below, under the heading **Continuing Obligations**. Under s. 292.12 (5), Wis. Stats., current and future owners and occupants of this property are responsible for complying with continuing obligations imposed as part of an approved closure.

The fact sheet "Continuing Obligations for Environmental Protection" (DNR publication RR 819) has been included with this letter, to help explain the responsibilities you may have for maintenance of a certain continuing obligation, the limits of any liability for investigation and cleanup of contamination, and how these differ. If the fact sheet is lost, you may obtain copies at <http://dnr.wi.gov/files/PDF/pubs/rr/RR819.pdf>.

**Contract for responsibility for continuing obligation:**

Before I request closure, I will need to inform the DNR as to whom will be responsible for the continuing obligation/s on your property.

The current and any future owner of 4811 N. Teutonia Ave will be responsible for the continuing obligations.

Under s. 292.12, Wis. Stats., the responsibility for maintaining all necessary continuing obligations for your property will fall on you or any subsequent property owner, unless another person has a legally enforceable responsibility to comply with the requirements of the final closure letter. If you need more time to finalize an agreement on the responsibility for the continuing obligations on your Property, you may request additional time from the DNR contact identified in **Contact Information**.

*(Note: Future property owners would need to negotiate a new agreement.)*

**Remaining Contamination:*****Soil Contamination:***

Soil contamination remains at :

Northwest part of the property, in the vicinity of boring DP-17 (see attached map).

The remaining contaminants include:

Tetrachloroethene (PCE)

at levels which exceed the soil standards found in ch. NR 720, Wis. Adm. Code. The following steps have been taken to address any exposure to the remaining soil contamination.

Contaminated soil at Lloyd's Cleaners was excavated and removed from the site. The residual contamination in soil on your property is below direct-contact standards.

**Continuing Obligations on Your Property:** As part of the cleanup, I am proposing that the following continuing obligations be used at your property, to address future exposure to residual contamination. If my closure request is approved, you will be responsible for the following continuing obligations.

To construct a new well or to reconstruct an existing well, the property owner at the time of construction or reconstruction will need to obtain prior approval from the DNR. See the paragraph **GIS Registry and Well Construction Requirements**. Typically, this results in casing off a portion of the aquifer during drilling, when needed, to protect the water supply.

***Residual Soil Contamination:***

If soil is excavated from the areas with residual contamination, the property owner at the time of excavation will be responsible for the following:

- determine if contamination is present
- determine whether the material would be considered solid or hazardous waste
- ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules.

Contaminated soil may be managed in-place, in accordance with ch. NR 718, Wis. Adm. Code, with prior DNR approval. In addition, all current and future property owners and occupants of the property and right-of-way holders need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

Depending on site-specific conditions, construction over contaminated soils or groundwater may result in vapor migration of contaminants into enclosed structures or migration along underground utility lines. The potential for vapor inhalation and means of mitigation should be evaluated when planning any future redevelopment, and measures should be taken to ensure the continued protection of public health, safety, welfare and the environment at the site.

***Vapor: Future Actions to Address Vapor Intrusion:***

While vapor intrusion does not currently exist, if a building is constructed on this property, or reconstructed, or if use of a building is changed to a residential-type use, vapor intrusion may become an issue. If closure is approved, notification of the DNR will be required before construction of a building or changing the use of an existing building to residential occupancy. The use of vapor control technologies or an assessment of the potential for vapor intrusion will be required at that time.

**Maintenance and Audits of Continuing Obligations:**

If compliance with a maintenance plan is required as part of a continuing obligation, an inspection log will need to be filled out periodically, and kept available for inspection by the DNR. Submittal of the inspection log may also be required. You will also need to notify any future owners or occupants of this property of the need to maintain the continuing obligation and to document that maintenance in the inspection log. Periodic audits of these continuing obligations may be conducted by the DNR, to ensure that potential exposure to residual contamination is being addressed. The DNR provides notification before conducting site visits as part of the audit.

**GIS Registry and Well Construction Requirements:**

If this site is closed, all properties within the site boundaries where contamination remains, or where a continuing obligation is applied, will be listed on the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web, at <http://dnr.wi.gov/topic/Brownfields/clean.html>. Inclusion on this database provides public notice of remaining contamination and of any continuing obligations. Documents can be viewed on this database, and include final closure letters, site maps and any applicable maintenance plans. The location of the site may also be viewed on the Remediation and Redevelopment Sites Map (RR Sites Map), on the "GIS Registry" layer, at the same internet address listed above.

DNR approval prior to well construction or reconstruction is required for all sites included in the GIS Registry, in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. Special well construction standards may be necessary to protect the well from the remaining contamination. Well drillers need to first obtain approval from a regional water supply specialist in DNR's Drinking Water and Groundwater Program. The well construction application, form 3300-254, is on the internet at <http://dnr.wi.gov/topic/wells/documents/3300254.pdf>.

**Site Closure:**

If the DNR grants closure, you will receive a letter which defines the specific continuing obligations on your property. The status of the site (open or closed) may also be checked by searching BRRTS on the Web. You may view or download a copy of the closure letter (sent to the responsible party) from BRRTS on the Web. You may also request a copy of the closure letter from the **responsible party** or by writing to the DNR contact, at John Hnat, john.hnat@wisconsin.gov, (414) 263-8644 . The final closure letter will contain a description of the continuing obligation, any prohibitions on activities and will include any applicable maintenance plan.

If you have any questions regarding this notification, I can be reached at: (262) 290-4001  
[wfassbender@enviroforensics.com](mailto:wfassbender@enviroforensics.com)

---



Date Signed 2/22/2019

*Signature of responsible party/environmental consultant for the responsible party*

**Attachments**

**Contact Information**

**Legal Description for each Parcel:**

**Factsheets:**

RR 819, Continuing Obligations for Environmental Protection

**The affected property is:**

- the source property (the source of the hazardous substance discharge), but the property is not owned by the person who conducted the cleanup (a deeded property)
- a deeded property affected by contamination from the source property
- a right-of-way (ROW)
- a Department of Transportation (DOT) ROW

**Include this completed page as an attachment with all notifications provided under sections A and B.**

**Contact Information**

**Responsible Party:** The person responsible for sending this form, and for conducting the environmental investigation and cleanup is:

Responsible Party Name Lloyd's Dry Cleaners

Contact Person Last Name Anderson	First Tom	MI	Phone Number (include area code) (414) 422-1010	
Address 4837 N. Teutonia Avenue		City Milwaukee	State WI	ZIP Code 53209
E-mail				

**Name of Party Receiving Notification:**

Business Name, if applicable: AKAL Quik Mart Property LLC

Title Mr.	Last Name Khahra	First Diljeet	MI S	Phone Number (include area code)	
Address 10631 Turnberry Drive		City Mequon	State WI	ZIP Code 53092	

**Site Name and Source Property Information:**

Site (Activity) Name Lloyd's Dry Cleaners

Address 4837 N. Teutonia Avenue		City Milwaukee	State WI	ZIP Code 53209
DNR ID # (BRRTS#) 02-41-556811		(DATCP) ID #		

**Contacts for Questions:**

If you have any questions regarding the cleanup or about this notification, please contact the Responsible Party identified above, or contact:

**Environmental Consultant:** EnviroForensics

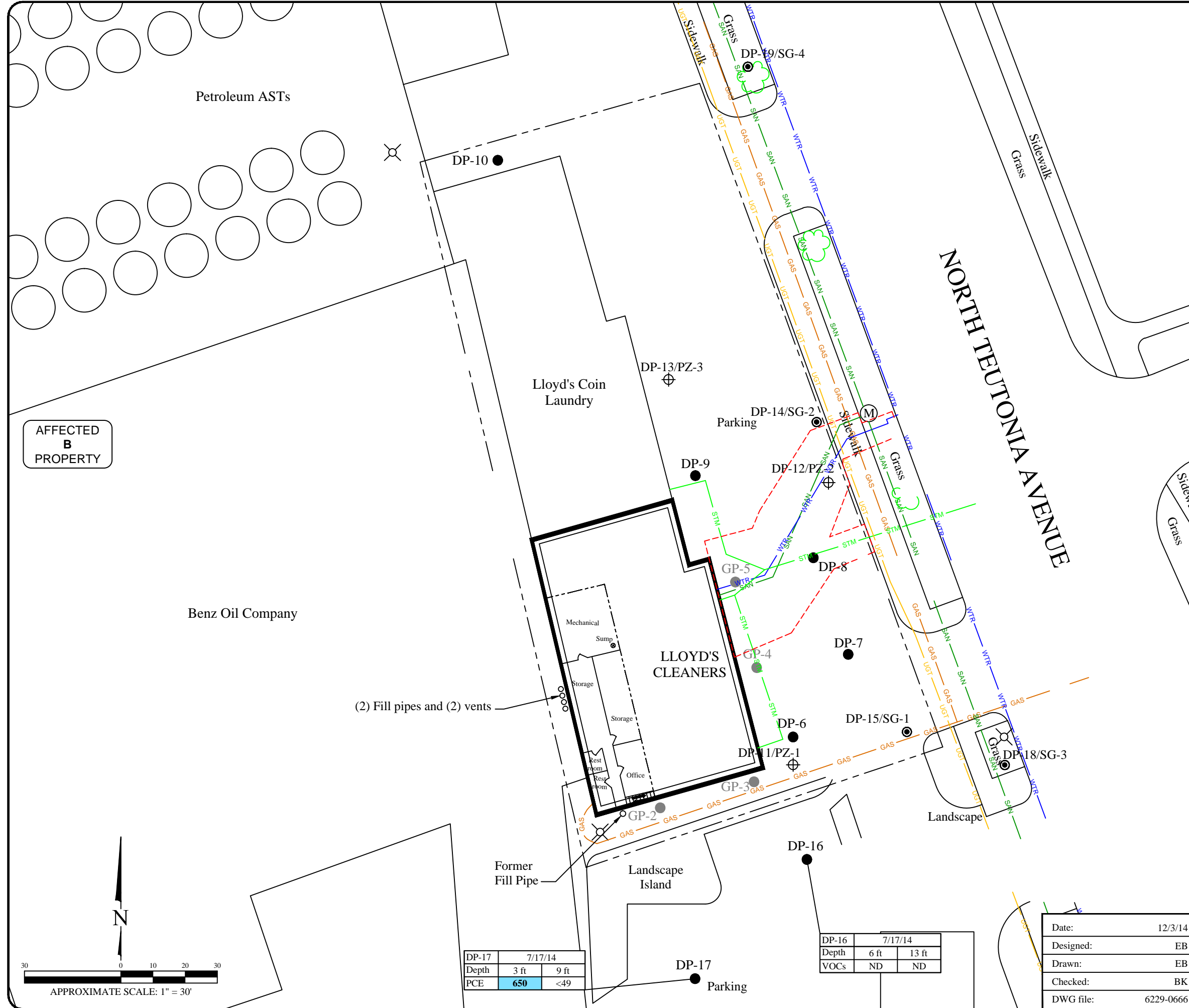
Contact Person Last Name Fassbender	First Wayne	MI P	Phone Number (include area code) (262) 290-4001	
Address N16W23390 Stone Ridge Drive, Suite G		City Waukesha	State WI	ZIP Code 53188
E-mail wfassbender@enviroforensics.com				

**Department Contact:**

To review the Department's case file, or for questions on cleanups or closure requirements, contact:

Department of: Natural Resources (DNR)

Address 2300 North Martin Luther King Drive		City Milwaukee	State WI	ZIP Code 53212
Contact Person Last Name Hnat	First John	MI J	Phone Number (include area code) (414) 263-8644	
E-mail (Firstname.Lastname@wisconsin.gov) john.hnat@wisconsin.gov				



### Legend

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- Geoprobe soil boring location (Sigma)
- Direct-push boring location
- Direct-push / Soil Gas boring location
- Direct Push boring / Piezometer location

Analytes	Soil Residual Containment Level		
	Ingestion Industrial	Residential	Soil to Groundwater
PCE	<b>145,000</b>	33,00	4.5
TCE	<b>8,410</b>	1,300	3.6
cis-1,2-TCE	<b>2,340,000</b>	156,000	41.2
trans-1,2-DCE	<b>1,850,000</b>	1,560,000	62.6
MC	<b>1,150,000</b>	61,800	2.6
sec-Bb	NE	NE	NE
n-Bb	NE	NE	NE
Ipb	NE	NE	NE
n-Pb	NE	NE	NE

- Soil Notes:
1. Bold, shaded blue values are above SRCL Soil to Groundwater Closure Levels
  2. Bold, shaded orange values are above SRCL Ingestion Industrial Levels
  3. Results reported in micrograms per kilogram = ug/kg
  4. J = Estimated concentration above the method detection limit and below the reporting limit
  5. PCE = Tetrachloroethene
  6. TCE = Trichloroethene
  7. cis-1,2-DCE = cis-1,2-Dichloroethene
  8. trans-1,2-DCE = trans-1,2-Dichloroethene
  9. MC = Methylene Chloride
  10. sec-Bb = sec-Butylbenzene
  11. n-Bb = n-Butylbenzene
  12. Ipb = Isopropylbenzene
  13. n-Pb = n-Propylbenzene
  14. ND = Compounds not detected
  15. NE = Not Established
  16. VOCs = Volatile Organic Compounds

### SOIL ANALYTICAL RESULTS OF EXTERIOR BORINGS

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	12/3/14
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-0666

**ENVIROforensics**  
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.  
602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204  
EnviroForensics.com

Figure	1
Project	6229

DP-17	7/17/14
Depth	3 ft 9 ft
PCE	650 <49

DP-16	7/17/14
Depth	6 ft 13 ft
VOCs	ND ND

AFFECTED  
B  
PROPERTY



AFFECTED  
B  
PROPERTY

2

State Bar of Wisconsin Form 3-2003  
QUIT CLAIM DEED



DOC.# 09238440

Document Number

Document Name

REGISTER'S OFFICE | SS  
Milwaukee County, WI

RECORDED 05/19/2006 11:40AM

JOHN LA FAVE  
REGISTER OF DEEDS

AMOUNT: 13.00

THIS DEED, made between Diljeet S. Khahra

(“Grantor,” whether one or more),

and Akal Quick Mart Property, LLC

(“Grantee,” whether one or more).

Grantor quit claims to Grantee the following described real estate, together with the rents, profits, fixtures and other appurtenant interests, in Milwaukee County, State of Wisconsin (“Property”) (if more space is needed, please attach addendum):

That part of Block 10 in Original North Milwaukee Subdivision No. 1 in the Southeast ¼ of Section 34, Town 8 North, Range 21 East, and that portion of vacated alley adjacent in the City of Milwaukee, County of Milwaukee, State of Wisconsin, bounded and described as follows:

Beginning at the Southeast corner of said Block 10; thence West on the South line thereof 175 feet to a point; thence Northwesterly on a line forming an interior angle with said South boundary line of 95 degrees 03', a distance of 167.5 feet, more or less; thence Northeasterly in a straight line approximately 115 feet to a point of beginning measured along North Teutonia Avenue; thence Southeasterly along North Teutonia Avenue 220 feet to the point of beginning except, that part of Lots 15, 16, 17 and 18, Block 10, in the Original North Milwaukee Subdivision No. 1, in the Southeast ¼ of Section 36, Town 8 North, Range 21 East, in the City of Milwaukee, County of Milwaukee, State of Wisconsin, more particularly described as follows: Commencing at the Southeast corner of Lot 15, in Block 10, (please see addendum)

Dated May 17, 2006

[Signature] (SEAL)  
\* Diljeet S. Khahra \*

\_\_\_\_ (SEAL)  
\_\_\_\_ (SEAL)

\_\_\_\_ (SEAL)  
\_\_\_\_ (SEAL)

**AUTHENTICATION**  
Signature(s) Diljeet S. Khahra  
authenticated on May 17, 2006  
[Signature]  
\* John D. Foley  
TITLE: MEMBER STATE BAR OF WISCONSIN  
(If not, \_\_\_\_\_  
authorized by Wis. Stat. § 706.06)

**ACKNOWLEDGMENT**  
STATE OF WISCONSIN )  
 ) ss.  
\_\_\_\_\_ COUNTY )  
Personally came before me on \_\_\_\_\_,  
the above-named \_\_\_\_\_  
to me known to be the person(s) who executed the foregoing  
instrument and acknowledged the same.  
\_\_\_\_\_  
Notary Public, State of Wisconsin  
My Commission (is permanent) (expires: \_\_\_\_\_)

THIS INSTRUMENT DRAFTED BY:  
John D. Foley

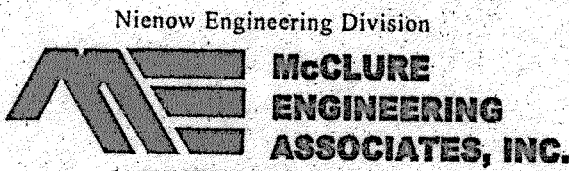
(Signatures may be authenticated or acknowledged. Both are not necessary.)  
NOTE: THIS IS A STANDARD FORM. ANY MODIFICATIONS TO THIS FORM SHOULD BE CLEARLY IDENTIFIED.  
QUIT CLAIM DEED © 2003 STATE BAR OF WISCONSIN FORM NO. 3-2003  
\* Type name below signatures.

8-21-36-4-0032

AFFECTED  
B  
PROPERTY

**Services Offered**

- Commercial Site Development
- Subdivision Design and Platting
- Planning and Plan Review
- Streets and Highway Design
- Drainage Studies
- Water Distribution Systems
- Sewer Collection Systems
- Construction Surveying and Stake-out Services
- Structures



Nienow Engineering Division  
 5417 NORTH 118TH COURT  
 MILWAUKEE, WI 53225-0536  
 (414) 616-4880 FAX (414) 616-4885  
 mccluremwy@worldnet.att.net

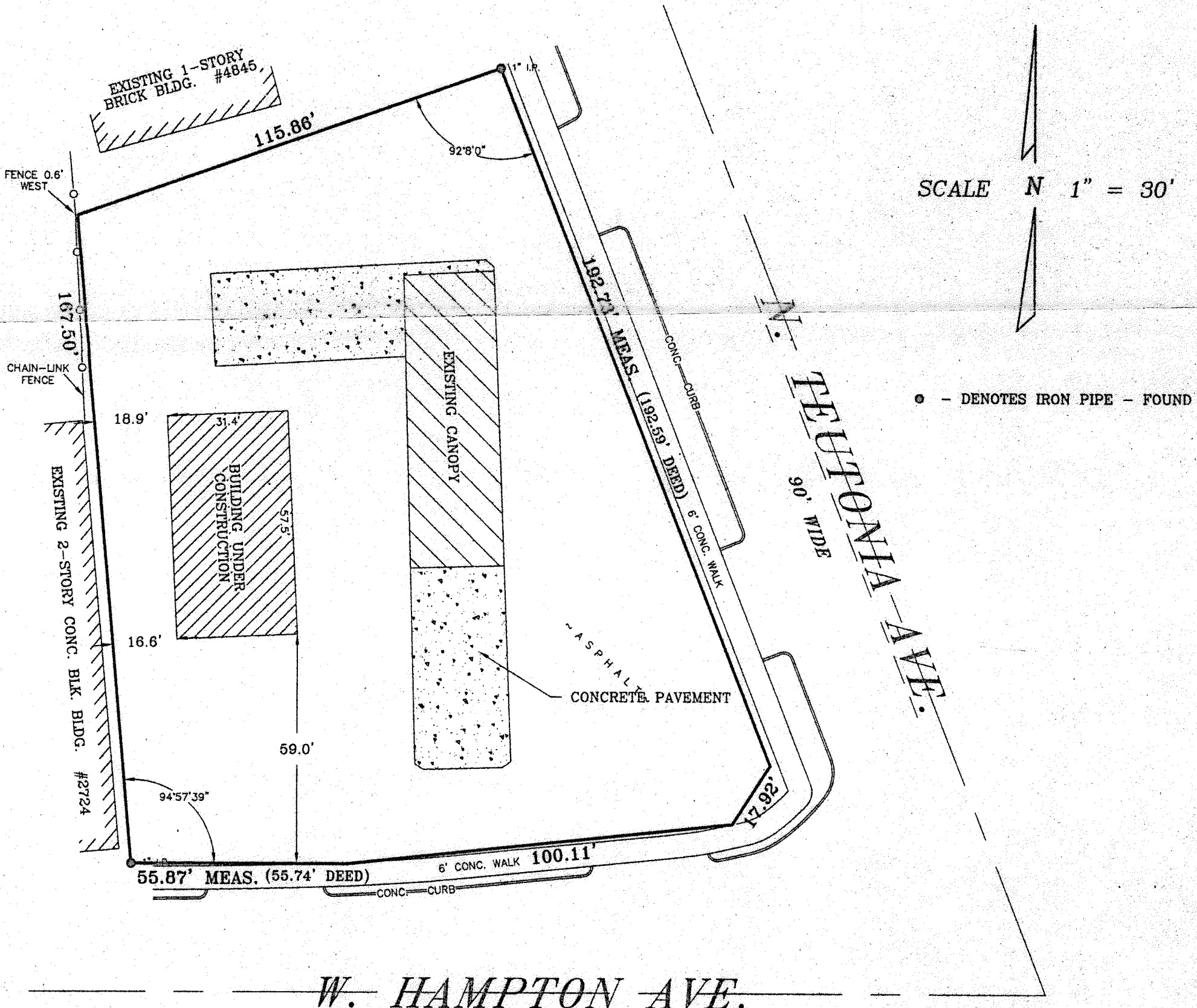
**PLAT OF SURVEY**

PROJ. NO. 08-13-99-262  
 DRAWING 99262R1.DWG

PREPARED FOR: VOSS JORGENSEN SCHUELER COMPANY, INC.

**LEGAL DESCRIPTION:**

THAT PART OF BLOCK 10 IN ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1 IN THE SOUTHEAST 1/4 OF SECTION 36, IN TOWN 8 NORTH, RANGE 21 EAST, AND THAT PORTION OF VACATED ALLEY ADJACENT IN THE CITY OF MILWAUKEE, BOUNDED AND DESCRIBED AS FOLLOWS, TO-WIT: BEGINNING AT THE SOUTHEAST THE SOUTHEAST CORNER OF SAID BLOCK 10, THENCE WEST ON THE SOUTH LINE THEREOF 175 FEET TO A POINT; THENCE NORTHWESTERLY ON A LINE FORMING AN INTERIOR ANGLE WITH SAID SOUTH BOUNDARY LINE OF 95°03' A DISTANCE OF 167.5 FEET MORE OR LESS; THENCE NORTHEASTERLY IN A STRAIGHT LINE APPROXIMATELY 115 FEET TO A POINT OF BEGINNING ALONG NORTH TEUTONIA AVENUE; THENCE SOUTHEASTERLY ALONG NORTH TEUTONIA AVENUE 220 FEET TO THE POINT OF BEGINNING, EXCEPT THAT PART OF LOTS 15, 16, 17 AND 18 IN BLOCK 10, THE ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1, IN THE SOUTHEAST 1/4 OF SECTION 36, TOWN 8 NORTH, RANGE 21 EAST, IN THE CITY OF MILWAUKEE, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF LOT 15, IN BLOCK 10, THE ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1, IN THE SOUTH EAST 1/4 OF SECTION 36, TOWN 8 NORTH, RANGE 21 EAST, SAID POINT ALSO LYING IN THE PRESENT NORTH LINE OF WEST HAMPTON AVE.; RUNNING THENCE WEST ALONG SAID NORTH LINE OF WEST HAMPTON AVE. 119.26 FEET TO A POINT; SAID POINT LYING 5.16 FEET WEST OF THE SOUTHEAST CORNER OF LOT 18 IN SAID BLOCK 10; THENCE NORTH 84 DEGREES 16 MINUTES 34 SECONDS EAST ALONG A LINE 100.11 FEET TO A POINT; THENCE NORTHEASTERLY ALONG A LINE 17.92 FEET TO A POINT IN THE SOUTHWESTERLY LINE OF NORTH TEUTONIA AVENUE, SAID POINT LYING 27.41 FEET NORTHWESTERLY OF THE SOUTHEAST CORNER OF SAID LOT 15; THENCE SOUTHEASTERLY ALONG THE SOUTHWESTERLY LINE OF NORTH TEUTONIA AVENUE 27.41 FEET TO THE POINT OF COMMENCEMENT.



STATE OF WISCONSIN }  
 MILWAUKEE COUNTY }

I hereby certify that I have surveyed the above described property and the above map is a true representation thereof and shows the size and location of the property, its exterior boundaries, the location of all visible structures and dimensions of all principal buildings thereon, boundary fences, apparent easements, roadway and visible encroachments, if any.

This survey is made for the present owners of the property, and also those who purchase, mortgage, or guarantee, the title thereto within (1) year from date hereof.

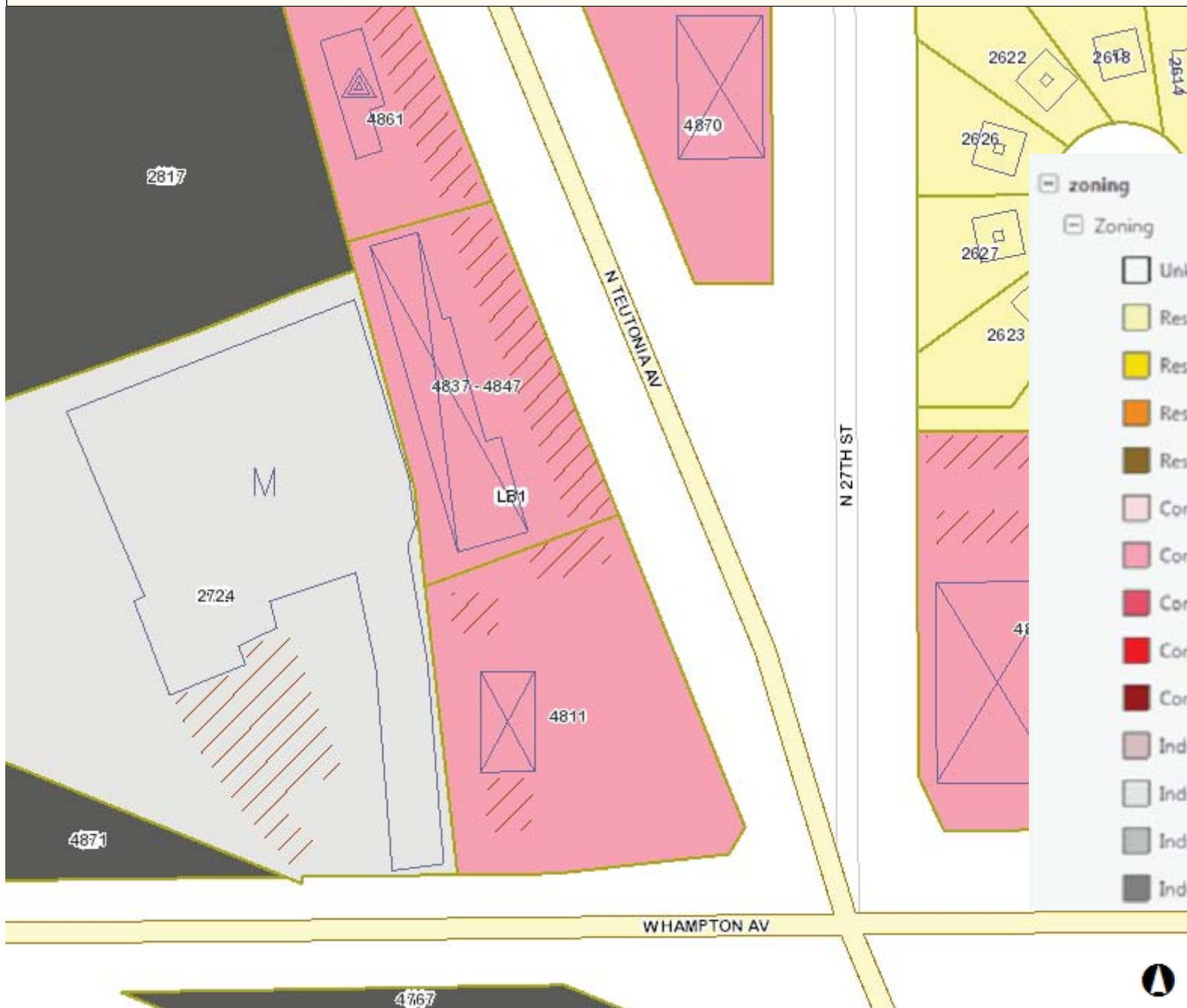
Dated at MILWAUKEE, WI this 29th day of SEPTEMBER 19 95  
 Recertified NOVEMBER 15, 1999  
 Surveyor [Signature]



AFFECTED  
B  
PROPERTY

# Map Milwaukee: Zoning

City of Milwaukee, Wisconsin



### zoning

#### Zoning

- Unknown or pending zoning
- Residential - single family
- Residential - two family
- Residential - multi-family
- Residential - residence and office
- Commercial - neighborhood shopping
- Commercial - local business
- Commercial - commercial service
- Commercial - regional business
- Commercial - central business
- Industrial - commercial
- Industrial - office
- Industrial - light
- Industrial - mixed



AFFECTED  
B  
PROPERTY

**Responsible Party Statement**

**Parcel Identification No. 2070743210**

**4811 N. Teutonia Avenue**

**Milwaukee, WI 53209**

**Legal Description:**

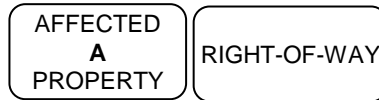
THAT PART OF BLOCK 10 IN ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1 IN THE SOUTHEAST 1/4 OF SECTION 36, IN TOWN 8 NORTH, RANGE 21 EAST, AND THAT PORTION OF VACATED ALLEY ADJACENT IN THE CITY OF MILWAUKEE, BOUNDED AND DESCRIBED AS FOLLOWS, TO-WIT: BEGINNING AT THE SOUTHEAST THE SOUTHEAST CORNER OF SAID BLOCK 10, THENCE WEST ON THE SOUTH LINE THEREOF 175 FEET TO A POINT; THENCE NORTHWESTERLY ON A LINE FORMING AN INTERIOR ANGLE WITH SAID SOUTH BOUNDARY LINE OF 95°03' A DISTANCE OF 167.5 FEET MORE OR LESS; THENCE NORTHEASTERLY IN A STRAIGHT LINE APPROXIMATELY 115 FEET TO A POINT OF BEGINNING ALONG NORTH TEUTONIA AVENUE; THENCE SOUTHEASTERLY ALONG NORTH TEUTONIA AVENUE 220 FEET TO THE POINT OF BEGINNING, EXCEPT THAT PART OF LOTS 15, 16, 17 AND 18 IN BLOCK 10, THE ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1, IN THE SOUTHEAST 1/4 OF SECTION 36, TOWN 8 NORTH, RANGE 21 EAST, IN THE CITY OF MILWAUKEE, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF LOT 15, IN BLOCK 10, THE ORIGINAL NORTH MILWAUKEE SUBDIVISION NO. 1, IN THE SOUTH EAST 1/4 OF SECTION 36, TOWN 8 NORTH, RANGE 21 EAST, SAID POINT ALSO LYING IN THE PRESENT NORTH LINE OF WEST HAMPTON AVE.; RUNNING THENCE WEST ALONG SAID NORTH LINE OF WEST HAMPTON AVE. 119.26 FEET TO A POINT; SAID POINT LYING 5.16 FEET WEST OF THE SOUTHEAST CORNER OF LOT 18 IN SAID BLOCK 10; THENCE NORTH 84 DEGREES 16 MINUTES 34 SECONDS EAST ALONG A LINE 100.11 FEET TO A POINT; THENCE NORTHEASTERLY ALONG A LINE 17.92 FEET TO A POINT IN THE SOUTHWESTERLY LINE OF NORTH TEUTONIA AVENUE, SAID POINT LYING 27.41 FEET NORTHWESTERLY OF THE SOUTHEAST CORNER OF SAID LOT 15; THENCE SOUTHEASTERLY ALONG THE SOUTHWESTERLY LINE OF NORTH TEUTONIA AVENUE 27.41 FEET TO THE POINT OF COMMENCEMENT.

I, Thomas Anderson, believe that the legal description provided above and on Milwaukee County Register of Deeds Doc No. 09238440 accurately describes the contaminated property.

Signature: Thomas Anderson

Title: Owner

Date: 7/11/17



October 28, 2019

City of Milwaukee  
Attn: Jeff Polenske  
841 North Broadway, Room 701  
Milwaukee, WI 53202

Subject: Notice of Closure Approval with Continuing Obligations for Rights-of-Way Holders for 4837 North Teutonia Avenue Milwaukee, WI  
Final Case Closure for Lloyd's Cleaners, 4837 North Teutonia Avenue Milwaukee, WI  
FID: 241417330, BRRTS: 02-41-556811

Dear Mr. Polenske:

The Department of Natural Resources (DNR) recently approved the completion of environmental work done at the Lloyd's Cleaners site. This letter describes how that approval applies to the right-of-way (ROW) adjacent to 4837 North Teutonia Avenue. As the right-of-way holder, you are responsible for complying with these continuing obligations for any work you conduct in the right-of-way.

State law directs parties responsible for environmental contamination to take actions to restore the environment and minimize harmful effects. The law allows some contamination to remain in soil and groundwater if it does not pose a threat to public health, safety, welfare or to the environment.

On June 22, 2017, you received information from Enviroforensics about the volatile organic compound contamination from Lloyd's Cleaners in the ROW located at 4837 North Teutonia Avenue Milwaukee, WI, and about the continuing obligations. Continuing obligations are meant to limit exposure to any remaining contamination.

#### Applicable Continuing Obligations

The continuing obligations that apply to this right-of-way are described below, and are consistent with Wis. Stat. § 292.12, and Wis. Admin. § NR 700 series.

#### Residual Soil Contamination (ch. NR 718, chs. 500 to 536, Wis. Adm. Code or ch. 289, Wis. Stats.)

Soil contamination remains at locations indicated on the **attached map, Residual Soil Contamination, Figure B.2.b, dated January 8, 2018**. If soil in the specific locations described above is excavated in the future, the property owner or right-of-way holder at the time of excavation must sample and analyze the excavated soil to determine if contamination remains. If sampling confirms that contamination is present, the right-of-way holder at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules. Contaminated soil may be managed in accordance with ch. NR 718, Wis. Adm. Code, with prior DNR approval.



In addition, all current and future owners the right-of-way need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.

Send all written notifications in accordance with these requirements to:

Wisconsin Department of Natural Resources  
Southeast Regional Office  
Attn: Environmental Program Associate  
2300 Dr. M. L. King drive  
Milwaukee, WI 53212

Additional Information

Additional information about this case is available at the DNR's Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web (BOTW) at [dnr.wi.gov](http://dnr.wi.gov) and search "BOTW". Enter BRRTS #02-41-556811 in the **Activity Number** field in the initial screen, then click on **Search**. Scroll down and click on the **CO Packet** link for information about the completion of the environmental work. The site may also be seen on the map view, RR Sites Map. RR Sites Map can be found online at [dnr.wi.gov](http://dnr.wi.gov) and search "WRRD".

Please contact John J. Hnat, the DNR Project Manager at 414-263-8644, or email [john.hnat@wisconsin.gov](mailto:john.hnat@wisconsin.gov) with any questions or concerns.

Sincerely,

Pamela A. Mylotta  
Southeast Region Team Supervisor  
Remediation & Redevelopment Program

Attachments:

- Residual Soil Contamination Lloyd's cleaners, Figure B.2.b, Enviroforensics, dated January 8, 2018

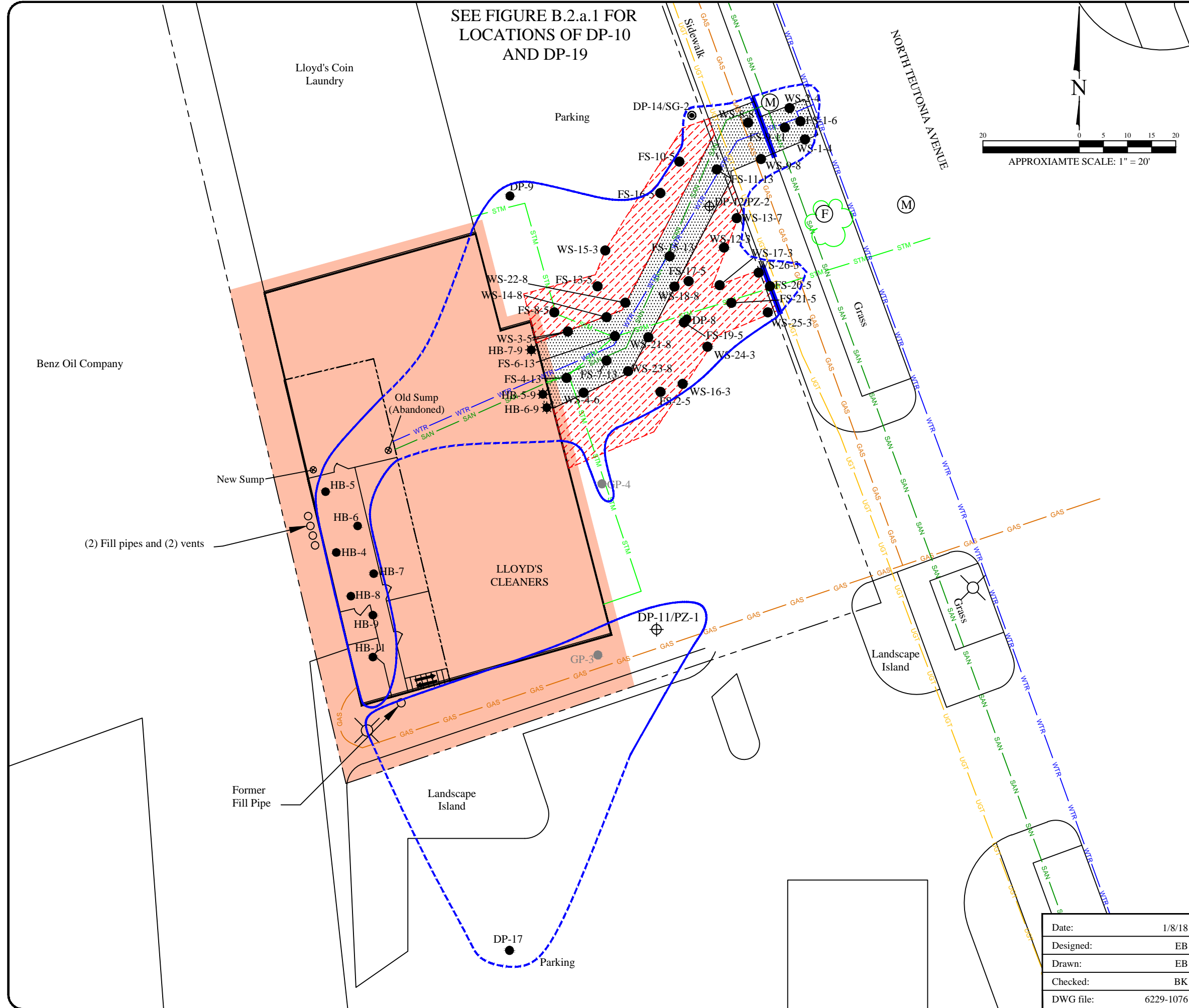
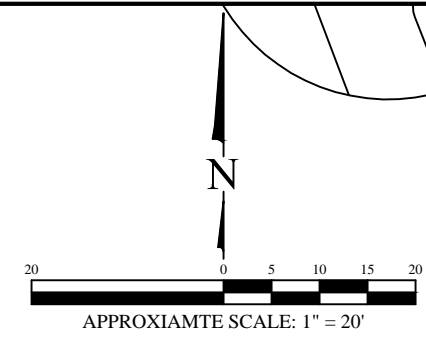
cc: Thomas Anderson – Mequon, WI  
Wayne Fassbender – Enviroforensics, n16 W23390 Stone Ridge Drive, Suite G Waukesha, WI 53212

SEE FIGURE B.2.a.1 FOR  
LOCATIONS OF DP-10  
AND DP-19

### Legend

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- DP-6 Direct-push boring location
- DP-15/SG-1 Direct-push/Soil Gas boring location
- DP-11/PZ-1 Direct Push boring/Piezometer location
- FS-1-1 Floor excavation soil sample location (Floor Sample-Sample ID-Depth)
- WS-1-1 Side wall excavation soil sample location (Wall Sample-Sample ID-Depth)
- Excavation Limits (0-5 ft)
- Excavation Limits (5-13 ft)
- Impervious Barrier location
- Extent of residual soil contamination exceeding soil to groundwater pathway RCLs
- Structural impediment to further investigation

Note:  
There are no Direct-Contact RCL exceedances in the unsaturated zone



AFFECTED  
PROPERTY

RIGHT-OF-WAY

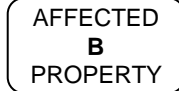
**RESIDUAL SOIL CONTAMINATION**

Lloyd's Cleaners  
4837 N. Teutonia Avenue  
Milwaukee, WI

Date:	1/8/18
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6229-1076

825 North Capitol Avenue • Indianapolis, IN 46204  
EnviroForensics.com

Figure	B.2.b
Project	6229



October 28, 2019

Mr. Diljeet S. Khahra  
10631 Turnberry Drive  
Mequon, WI 53092

Subject: Continuing Obligations and Property Owner Requirements for 4811 North Teutonia Avenue  
Milwaukee, WI  
Parcel Identification Number: 2070743210  
Final Case Closure for Lloyd's Cleaners, 4837 North Teutonia Avenue Milwaukee, WI  
FID: 241417330, BRRTS: 02-41-556811

Dear Mr. Khahra:

The purpose of this letter is to notify you that certain continuing obligations apply to the property at 4811 North Teutonia Avenue, (referred to in this letter as the "Property") due to contamination remaining on the Property. The continuing obligations are part of the cleanup and case closure approved for the above referenced case, located at 4837 North Teutonia Avenue. (The case is referenced by the location of the source property, i.e. the property where the original discharge occurred, prior to contamination migrating to the Property.) The continuing obligations that apply to the Property are stated as conditions in the attached closure approval letter, and are consistent with s. 292.12, Wis. Stats., and ch. NR 700, Wis. Adm. Code, rule series. They are meant to limit exposure to any remaining environmental contamination at the Property. These continuing obligations will also apply to future owners of the Property, until the conditions no longer exist at the Property.

It is common for properties with approved cleanups to have continuing obligations as part of cleanup/closure approvals. Information on continuing obligations on properties can be found by using the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web (BOTW). This database is found at [dnr.wi.gov](http://dnr.wi.gov) and search "WRRD". This page also provides information on how to find further information about the closure and residual contamination, and how to use the map application, RR Sites Map, which shows environmental cleanup sites, including those closed with residual contamination and continuing obligations.

The DNR reviewed and approved the case closure request regarding the chlorinated volatile organic compound contamination in soil at this site based on information submitted by Enviroforensics. As required by state law, you received notification about the requested closure from the person conducting the cleanup. No further investigation or cleanup is required at this time. However, the closure decision is conditioned on the long-term compliance with certain continuing obligations, as described below.

#### Continuing Obligations Applicable to Your Property

A number of continuing obligations are described in the attached case closure letter to Mr. Thomas Anderson, dated October 28, 2019. However, only the following continuing obligations apply to your Property.

#### Residual Soil Contamination (ch. NR 718, chs. 500 to 536, Wis. Adm. Code or ch. 289, Wis. Stats.)

Soil contamination remains at locations DP-16 and DP-17 indicated on the **attached map, Residual Soil Contamination, Figure B.2.b, dated January 8, 2018**. If soil in the specific locations described above is excavated in the future, the Property owner at the time of excavation must sample and analyze the excavated soil to determine if contamination remains. If sampling confirms that contamination is present, the Property owner at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules. Contaminated soil may be managed in accordance with ch. NR 718, Wis. Adm. Code, with prior DNR approval.



In addition, all current and future owners and occupants of the Property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.

Vapor Mitigation or Evaluation (s. 292.12 (2), Wis. Stats., s. NR 726.15, s. NR 727.07, Wis. Adm. Code)

Future Actions to Address Vapor Intrusion: Vapor intrusion is the movement of vapors coming from volatile chemicals in the soil or groundwater, into buildings where people may breathe air contaminated by the vapors. While vapor intrusion does not currently exist at locations DP-16 and DP-17, if a building is constructed on this Property at or near these locations, or reconstructed, vapor intrusion may become an issue. Notification to the DNR will be required before construction of a building. The use of vapor control technologies or an assessment of the potential for vapor intrusion will be required at that time.

DNR Database – Well Construction Approval Needed

Because of the residual soil contamination and the continuing obligations, this site, which includes your Property, will be listed on the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web (BOTW), at [dnr.wi.gov](http://dnr.wi.gov) and search "WRRD". If you intend to construct or reconstruct a well on the Property, you will need to get department approval in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. A well driller can help with this form. This form can be obtained online at [dnr.wi.gov](http://dnr.wi.gov) and search "3300-254". If at some time, all these continuing obligations are fulfilled, and the remaining contamination is either removed or meets applicable standards, you may request an update to the database regarding the Property.

Property Owner Responsibilities

The owner (you and any subsequent Property owner) of this Property is responsible for compliance with these continuing obligations, pursuant to s. 292.12, Wis. Stats. You are required to pass on the information about these continuing obligations to anyone who purchases this Property from you (i.e. pass on this letter), in accordance with s. NR 727.05. For residential property transactions, you are required to make disclosures under Wis. Stats. s. 709.02. You may have additional obligations to notify buyers of the condition of the Property and the continuing obligations set out in this letter and the closure letter.

If you lease or rent the Property to an occupant who will be responsible for maintaining a continuing obligation, you will need to include that responsibility in a lease agreement, in accordance with s. NR 727.05, Wis. Adm. Code.

Please be aware that failure to comply with the continuing obligations may result in enforcement action by the DNR. The DNR intends to conduct inspections in the future to ensure that the conditions included in this letter, including compliance with referenced maintenance plans, are met.

These responsibilities are the Property owners. A Property owner may enter into a legally binding agreement (such as a contract) with someone else (the person responsible for the cleanup) to take responsibility for compliance with the continuing obligations. If the person with whom any Property owner has an agreement fails to adequately comply with the appropriate continuing obligations, the DNR has the authority to require the Property owner to complete the necessary work.

A legal agreement between you and another party to carry out any of the continuing obligations listed in this letter does not automatically transfer to a new owner of the Property. If a subsequent Property owner cannot negotiate a new agreement, the responsibility for compliance with the applicable continuing obligations resides with that Property owner.

When maintenance of a continuing obligation is required, the Property owner is responsible for inspections, repairs, or replacements as needed. Such actions should be documented by the Property owner and the records kept accessible for the DNR to review for as long as the department directs.

You and any subsequent Property owners are responsible for notifying the department at least 45 days before making a change to a continuing obligation, and obtaining approval, before making any changes to the Property that would affect the obligations applied to the Property. Send all written notifications in accordance with the above requirements to:

Wisconsin Department of Natural Resources  
Remediation and Redevelopment Program  
Attn: Environmental Program Associate  
2300 Dr. M. L. King Drive  
Milwaukee, WI 53212

The DNR fact sheet, RR-819, "Continuing Obligations for Environmental Protection" helps explain a property owner's responsibility for continuing obligations on their property. This fact sheet should have been sent to you when you received a notification letter before the closure request was submitted to the DNR. You may obtain a copy at [dnr.wi.gov](http://dnr.wi.gov) and search "RR-819".

The DNR appreciates your efforts. If you have any questions regarding this closure decision or anything outlined in this letter, please contact John J. Hnat at 414-263-8644, or email [john.hnat@wisconsin.gov](mailto:john.hnat@wisconsin.gov). If you have any questions or concerns.

Sincerely,



Pamela A. Mylotta  
Southeast Regional Team Supervisor  
Remediation & Redevelopment Program  
Attachments:

- Residual Soil Contamination, Lloyd's Cleaners, Figure B.2.b, Enviroforensics, dated January 8, 2018
- RR-819: Continuing Obligations Fact Sheet

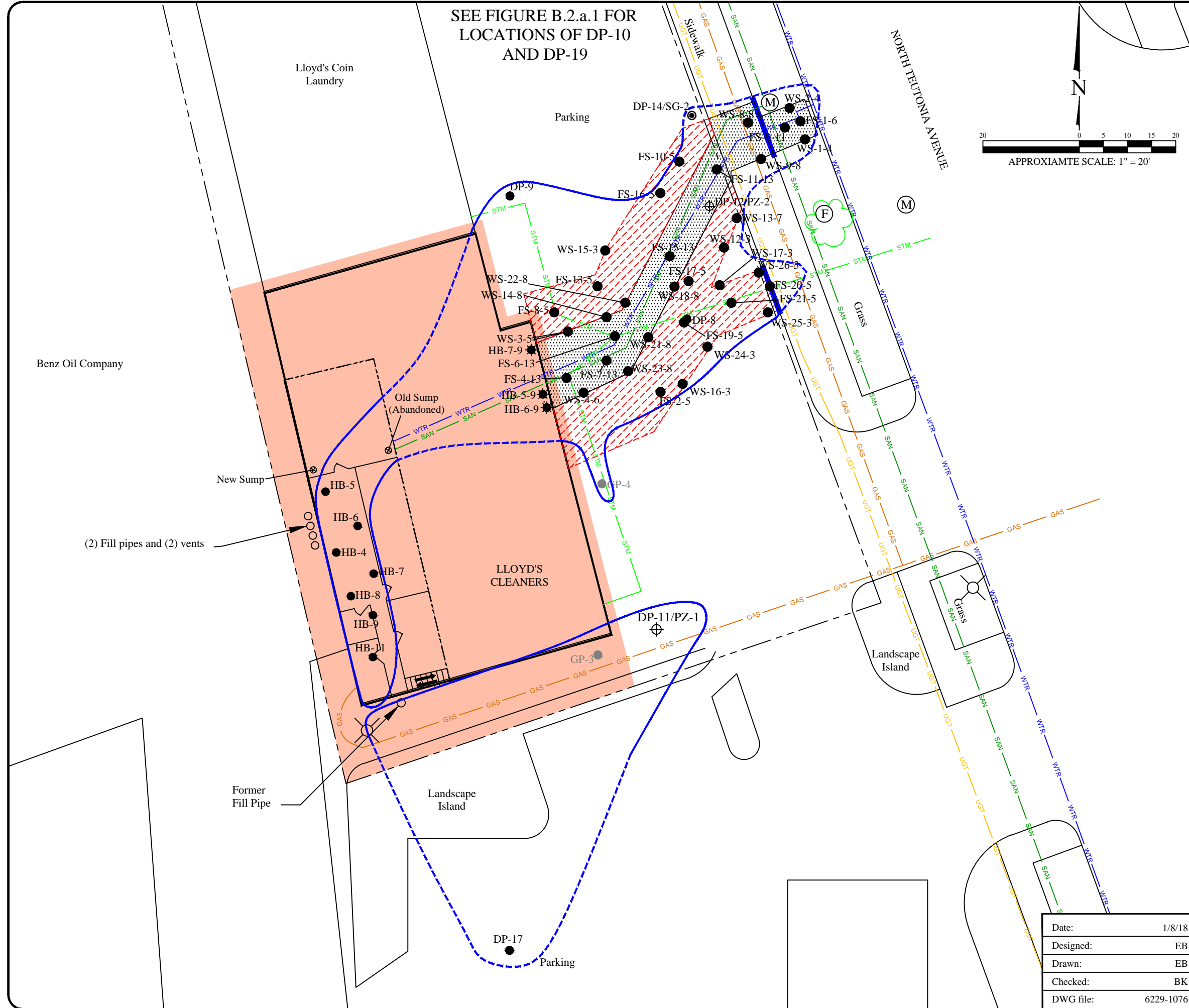
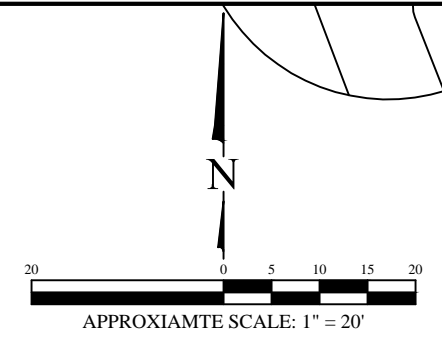
cc: Thomas Anderson – Mequon, WI  
Wayne Fassbender – Enviroforensics, N16 W23390 Stone Ridge Drive, Suite G, Waukesha, WI 53188

SEE FIGURE B.2.a.1 FOR  
LOCATIONS OF DP-10  
AND DP-19

### Legend

- Property boundary
- GAS Underground gas utility line
- WTR Underground water utility line
- UGT Fiber optic utility line
- SAN Sanitary sewer utility line
- STM Storm sewer utility line
- Previous excavation area
- Sanitary sewer manhole
- Fire Hydrant
- DP-6 Direct-push boring location
- DP-15/SG-1 Direct-push/Soil Gas boring location
- DP-11/PZ-1 Direct Push boring/Piezometer location
- FS-1-1 Floor excavation soil sample location (Floor Sample-Sample ID-Depth)
- WS-1-1 Side wall excavation soil sample location (Wall Sample-Sample ID-Depth)
- Excavation Limits (0-5 ft)
- Excavation Limits (5-13 ft)
- Impervious Barrier location
- Extent of residual soil contamination exceeding soil to groundwater pathway RCLs
- Structural impediment to further investigation

Note:  
There are no Direct-Contact RCL exceedances in the unsaturated zone



AFFECTED  
B  
PROPERTY

<b>RESIDUAL SOIL CONTAMINATION</b>	
Lloyd's Cleaners 4837 N. Teutonia Avenue Milwaukee, WI	
	Figure <b>B.2.b</b>
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com	
Date: 1/8/18	Project
Designed: EB	6229
Drawn: EB	
Checked: BK	
DWG file: 6229-1076	