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**Chlorinated Volatile Organic Compound Release  
Proposed Additional Site Investigation  
And Remedial Action Plan  
Former Barb and Ron's Cleaners**

**May 20, 2010**

**Proposal Number M03463-10001-0**

# Table of Contents

1.0 EXECUTIVE SUMMARY .....	1
2.0 WORKSCOPE AND REMEDIAL OBJECTIVES .....	2
2.1 Requested Work Scope .....	3
2.2 Remedial Action Objectives .....	3
3.0 REMEDIAL OPTIONS REVIEW AND SELECTED REMEDIAL ALTERNATIVE .....	4
4.0 SCOPE OF SERVICES .....	5
5.0 PROBABLE SCHEDULE AND COST .....	9
6.0 SIMILAR PROJECTS AND SATISFIED CLIENTS .....	11
7.0 STAFF EXPERIENCE .....	13
8.0 DERF CONSIDERATIONS .....	14
9.0 OUR ASSURANCE .....	15
10.0 CERTIFICATIONS .....	16
11.0 INSTITUTIONAL ISSUES .....	17
11.1 Terms and Conditions .....	17
11.2 Insurance .....	17
11.3 Subsurface Work .....	17
11.4 Health and Safety .....	17

## FIGURES

Figure 1:	Option 1 Site Layout with Estimated Extent of Excavation
Figure 2:	Option 1 Estimated Extent of Soil Excavation
Figure 3:	Option 2 Site Layout with Estimated Extent of Excavation
Figure 4:	Option 2 Estimated Extent of Soil Excavation
Figure 5:	Proposed Monitoring Well Locations

## TABLE

Table 1:	Listing of Remedial Action Options
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## APPENDICES

Appendix A:	Cost Summary .....	2 pages
Appendix B:	Probable Project Schedule .....	1 Page
Appendix C:	Resumes of Key Project Personnel .....	3 pages
Appendix D:	Certificates of Insurance .....	2 pages

## 1.0 Executive Summary

This proposal outlines Bonestroo's evaluation of remedial alternatives and technical approach, schedule, cost, and anticipated personnel to complete remedial action for a chlorinated solvent release at the former Barb and Ron's Cleaners, 1700 South Lawe Street, Appleton, Wisconsin (the Site). Perchloroethylene (PCE) contamination was discovered at the Site during the completion of a Phase II Environmental Site Assessment (ESA) in January and February 2002. The chlorinated solvent release was determined to be associated with a commercial dry cleaner that was operated at the Site until August 2001.

Between July 2002 and October 2003, Northern Environmental (currently known as Bonestroo) investigated the extent of chlorinated compounds in soil and groundwater. Following the site investigation, remedial action activities were completed including minimal soil excavation followed by sodium permanganate injections to address PCE levels remaining in the source area beneath the site building. Groundwater monitoring was also implemented following the remedial action activities. Based on the available data, the WDNR is requesting additional remedial action to address remaining PCE which is contributing to the groundwater plume.

After a review of remedial alternatives, Bonestroo has selected source soil excavation and groundwater monitoring as the most cost effective remedial alternative. This proposal includes two options to access the source soil beneath the site building; Option 1 includes removing, supporting and replacing a portion of the site building to access the source soil and Option 2 which includes razing the entire building. Following the excavation, quarterly groundwater monitoring will be implemented to document the effectiveness of the source soil removal and the effectiveness of natural attenuation to reduce remaining contaminant concentrations below enforcement standards (ES) within a reasonable period of time. Two additional monitoring wells will also be installed to further evaluate the extent of the contaminant plume in Lawe Street.

A request for case closure will be submitted upon establishment of stable or decreasing contaminant concentration trends and documentation that natural attenuation will achieve the remedial goal. Inclusion of the Site in the Geographic Information Systems (GIS) registry may be necessary to address chlorinated solvents remaining in the soil and/or groundwater at concentrations in excess of Wisconsin Administrative Code standards. A soil performance standard (e.g. impermeable cap) may also be a requirement for closure.

The remedial action will be performed on a time-and-materials basis at a probable cost of \$140,559 for Option 1 or \$124,510 for Option 2. Option 2 assumes that Mr. Van Asten would be willing to raze the entire site building. Both options do not include costs for sampling, abatement and/or disposal of lead or asbestos containing building materials.

Bonestroo has extensive experience working on similar projects in the local area and is well respected by local regulatory agency personnel and staff. We have worked with the DERF program since its inception during early 2000 and have an excellent reimbursement track record.

The project team includes licensed professional engineers and geologists and certified hydrogeologists experienced in providing investigative and remedial services. We believe the complementary capabilities and areas of specialization of the project team form a group of experts uniquely qualified to provide the requested services and achieve site closure.



## 2.0 Workscope and Remedial Objectives

Bonestroo, Inc. (Bonestroo) is pleased to submit this proposal to Mr. Ronald Van Asten for consulting services associated with a perchloroethylene (PCE) release at the former Barb and Ron's Cleaners, 1700 S. Lawe Street, Appleton, Wisconsin (the Site). Barb and Ron's Cleaners, Incorporated operated a dry cleaning business at the Site between 1968 and 2001. Mr. Van Asten sold the dry cleaning business in 2001 and retained ownership of the property.

Chlorinated solvent contamination was discovered at the Site during January 2002 when a Phase II Environmental Site Assessment was completed. An investigation of the extent of contamination was completed between July 2002 and May 2003. During December 2003, approximately 1050 tons of accessible impacted soil was excavated and disposed off site at a solid waste landfill. Elevated concentrations of chlorinated compounds were detected in soil beneath the southwest portion of the Site building during the remedial excavation. In-situ chemical oxidation using sodium permanganate was recommended to reduce contaminant concentrations remaining beneath the building. During December 2004, Northern Environmental completed a pilot test to evaluate the effectiveness of the chemical injection in reducing contaminant concentration. Based on the pilot test results, full scale injection was recommended, approved and completed during April and June 2005.

Post-full scale injection soil sampling indicated the chemical injection was effective in reducing contaminant concentrations in shallow soil within 6.5 feet of the ground surface. However, strong solvent odors and tetrachloroethene (PCE) concentrations in excess of saturation limits (i.e., free product) remained in soil deeper than 6.5 feet below grade (fbg). The results indicate a lack of contact or saturation of permanganate in the deeper soil. Contaminant concentrations in groundwater were initially substantially reduced in the source area following the injection. However, concentrations of PCE increased in subsequent sampling rounds. To further address the source area, passive permanganate injection was completed between June and July 2006 to address impacted soil deeper than 6.5 fbg. Following injection, quarterly groundwater monitoring was completed to evaluate PCE concentrations over time.

Groundwater monitoring results indicate that chlorinated solvents remain at concentrations in excess of the Chapter NR140, Wisconsin Administrative Code (Wis. Adm. Code) enforcement standards (ES) in monitoring wells MW1100, MW1300, MW1600, MW1900, MW2300, and MW4100. Chlorinated solvents were also detected in excess of the preventive action limits (PAL) in monitoring wells MW800 and MW2100. Results of groundwater sampling indicate that PCE concentrations in the source well (MW4100) have fluctuated over time while PCE concentrations detected in MW1600 appear to be increasing. The remaining wells appear to exhibit a decreasing or stable trend with the exception of PCE in MW2300 during the most recent sampling event.

On January 28, 2009, an indoor ambient air sample was taken within the site building to evaluate the potential for vapor intrusion. The sample was collected over 24 hours using a 6 liter summa canister with a flow control valve. Results of the indoor ambient air sampling did not detect any of the analyzed parameters in excess of laboratory detection limits.

## 2.1 Requested Work Scope

In a March 16, 2010 letter the WDNR requested additional remedial action to address the remaining PCE beneath the Site building and contributing to the contaminant plume. The WDNR has also indicated that additional investigation is needed to delineate the contaminant plume in Lawe Street along with a more detailed investigation into the utilities (primarily the storm sewer line). Sub-slab vapor monitoring at the on-site building will likely be necessary prior to closure if the building remains or is restored after remedial action.

Mr. Van Asten subsequently requested a proposal to complete the additional work through case closure. Mr. Van Asten specified that the remedial action bid must be completed according to the "Remedial Action Bid Checklist, DNR Publication RR-756, July 2006."

## 2.2 Remedial Action Objectives

The remedial action objective is a reduction of contaminant concentrations in the source area and improvement of groundwater quality, with the ultimate objective being case closure. The general cleanup objective is to reduce CVOC concentrations in the source area to less than saturation limits and hazardous waste limits if the soil were to be excavated in the future. An additional goal is to remediate source soil to improve groundwater quality.

The remedial action objective for groundwater contamination will be to significantly reduce CVOC concentrations in groundwater to show that CVOC concentrations will decrease to below their respective ES within a reasonable period of time. The ES for contaminants of concern are listed below.

- Cis-1,2-dichloroethane (cis-1,2-DCE)      70 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ )
- Tetrachloroethene (PCE)                      5  $\mu\text{g}/\text{kg}$
- Trichloroethene (TCE)                        5  $\mu\text{g}/\text{kg}$
- Vinyl Chloride                                    0.2  $\mu\text{g}/\text{kg}$

## 3.0 Remedial Options Review and Selected Remedial Alternative

An initial screening was conducted in accordance with section NR 722.07(2), Wisconsin Administrative Code (s. NR 722.07[2]), Wis. Adm. Code) to identify feasible remedial action options. Both soil and groundwater require remediation; therefore, the evaluated remedial alternatives address both media. A list with general descriptions of the remedial action options that were screened is provided in Table 1. Justification is provided for elimination of the remedial action options that were not further evaluated.

Based on a review of feasible alternatives, Bonestroo recommends excavation and disposal of source soil followed by groundwater monitoring as the remedial alternative for the Site.

## 4.0 Scope of Services

The proposed workplan was designed to make maximum use of existing information, satisfy the regulatory requirements of NR 169 and the NR 700 Series, Wis. Adm. Code, minimize total project cost, and expedite project completion. To minimize project cost and time requirements, the project will be completed in a phased approach. Each phase uses information gathered in previous tasks to better focus subsequent portions of the investigation. A structured program facilitates efficient project completion and limits overall cost.

The proposed workplan consists of the following tasks.

- Task 1.0 Remedial Action Plan (RAP) and Environmental Health and Safety Plan (HASP) Submittal
- Task 2.0 Source Soil Excavation
- Task 3.0 Evaluate Utilities and Install Additional Wells
- Task 4.0 Quarterly Groundwater Monitoring
- Task 5.0 Case Closure Request
- Task 6.0 DERF Reimbursement Application Preparation

Project assumptions and tasks are described below.

### **TASK 1.0 RAP AND ENVIRONMENTAL HASP SUBMITTAL**

Using information provided in this RAP proposal and the results provided in Task 1.0, Bonestroo will submit a final RAP to the WDNR for review and approval. In addition, Bonestroo will prepare an environmental HASP specifically addressing health and safety issues associated with the remedial alternatives proposed.

### **TASK 2.0 SOURCE SOIL EXCAVATION (2 OPTIONS PROVIDED BELOW)**

Bonestroo is recommending excavation and off-site disposal of source soil at the Site. We have included two options to access the soil because it has not been determined at this time if Mr. Van Asten would prefer to raze the entire site building or retain the building. By razing the entire building, access would be obtained to remove additional soil which should result in a greater reduction of CVOCs in the groundwater. Please note that the costs associated with demolition of the Site building may not be eligible for DERF reimbursement. Clarification regarding eligibility would be obtained prior to proceeding with this option.

Please note that the costs included for both options assume that the demolition material will not contain lead based paint or asbestos containing material and that the demolition material could be disposed of off-site as clean demolition debris. In addition, costs to complete lead based paint and/or asbestos sampling, abatement, and/or disposal are not included with this proposal. If required, this additional work may not be eligible for DERF reimbursement.

It is assumed that MW4100 will be removed during the excavation activities as part of either option. Prior to backfilling the excavation, a six inch sump will be placed in the excavation to replace MW4100 as a sampling point. The results of the soil excavation and sampling results will be summarized in a letter report and submitted to you for review. Upon your approval, a copy of the report will be submitted to the WDNR.

### OPTION 1 – REMOVE, SUPPORT, AND REPLACEMENT OF A PORTION OF BUILDING

Our first option is to remove a portion of the south wall of the site building and support the existing structure to gain access to the source soil beneath the building and near the footing. The main goal is to remove the most highly contaminated soil below 6 fbg with PCE concentrations in excess of the saturation limits. The source soil encompasses an area beneath the former Site building, approximately 14.5 feet by 8 feet. The extent of the proposed excavation is shown on Figures 1 and 2. For the purpose of this proposal we assume the excavation will extend to 14 fbg. Due to limited access within the site building the actual vertical extent of contamination has not been determined. The upper 6 feet of soil will be disposed of as non-hazardous waste (42 tons) and the lower 8 feet of soil (60 tons) will be handled and disposed of at a facility licensed to accept hazardous waste. By removing the source soil, concentrations of PCE in the groundwater are expected to improve. The excavation will be backfilled with clay or a material similar to the excavated soil.

Bonestroo personnel will be on-site to oversee and direct the soil excavation. Soil samples will be collected along the base and sidewalls of the excavation for field screening purposes. Five soil samples will be submitted for laboratory analysis to confirm the field screening results and document the concentrations remaining at the limits of the excavation. Soil samples will be submitted for laboratory analysis for volatile organic compounds VOCs.

Under this option, the site building would remain in place. Therefore, subslab vapor samples would be collected following excavation activities from one subslab vapor probe installed within the Site building. Samples will be collected on an annual basis from the sub-slab soil vapor probe, the indoor air of the Site building, and the outside ambient air. All vapor monitoring samples will be collected using evacuated stainless steel canisters and submitted for laboratory analysis for VOCs in accordance with U. S. Environmental Protection Agency (EPA) method TO-14. The results of vapor monitoring will be summarized in the WDNR Form 4400-194.

### OPTION 2 – DEMOLITION OF ENTIRE SITE BUILDING

Our second option is to remove the entire building at the Site. As discussed above, the main goal is to remove the most highly contaminated soil below 6 fbg with PCE concentrations in excess of the saturation limits. If the building is removed, the excavation would be expanded laterally to include additional PCE impacted soil that remains below hazardous levels. The extent of the proposed excavation is shown on Figures 3 and 4. Option 2 includes the excavation of 60 tons of hazardous soil and 170 tons of non-hazardous soil. As discussed above, the excavation would extend to 14 fbg.

Bonestroo personnel will be on-site to oversee and direct the soil excavation. Soil samples will be collected along the base and sidewalls of the excavation for field screening purposes. Eight soil samples will be submitted for laboratory analysis to confirm the field screening results and document the concentrations remaining at the limits of the excavation. Soil samples will be submitted for laboratory analysis for VOCs.

### **TASK 3.0 EVALUATE UTILITIES AND INSTALL ADDITIONAL MONITORING WELLS**

As part of this task, two additional wells would be installed in Lawe Street to evaluate potential contaminant migration in association with underground utilities. The wells will be constructed to intercept the water table and completed to 14 fbg using a 10 foot screen. The wells will be completed with a flush-mount protective cover, locks, and protective gasket seals. Soil samples will be collected at 2.5-foot intervals during well installation. One soil sample collected above the water table from each boring/well will be laboratory analyzed for VOCs using the methods described in Subtask 2.1.



After installation, the horizontal and vertical location of each monitoring well will be surveyed and water level measurements will be taken to determine groundwater flow direction and horizontal gradient. Before collecting groundwater samples, Bonestroo will develop the monitoring wells according to NR 141, Wis. Adm. Code and WDNR guidance documents.

Soil cuttings and monitoring well development and purge water will be containerized in 55-gallon steel drums. The drummed soil and water will be characterized and properly disposed of upon receipt of laboratory analytical results.

#### **TASK 4.0 QUARTERLY GROUNDWATER MONITORING**

Following completion of Tasks 2.0 and 3.0, quarterly groundwater monitoring will be implemented. For the purpose of this proposal, Bonestroo has assumed that eight post remedial quarterly groundwater monitoring will be completed to document contaminant trends and natural attenuation. If at any time during the quarterly groundwater monitoring, it appears that reductive dechlorination is not occurring and contaminant concentrations begin to increase, the need for additional remedial action will be evaluated and discussed with the WDNR.

Quarterly monitoring will include sampling of select monitoring wells (MW1100, MW1300, MW1600, MW1900, MW2300, and the newly installed Sump). All of the wells and piezometers will be sampled on an annual basis. All groundwater samples will be collected using low flow sampling techniques. The monitoring wells will be sampled in accordance with WDNR groundwater sampling procedures (WDNR Publication No. WR-168). The groundwater samples will be submitted under chain-of-custody protocol to a WDNR-certified laboratory for analysis of VOCs. Duplicates, field and trip blanks will be collected pursuant to WDNR protocol and analyzed for VOCs.

On an annual basis groundwater samples will be collected from select wells and analyzed for geochemical indicators for natural attenuation. Inorganic parameters will be analyzed in the field and will include temperature, pH, specific conductance, dissolved oxygen (DO), oxidation reduction potential (ORP), manganese, ferrous iron, and carbon dioxide. Groundwater samples will also be submitted for laboratory analysis for nitrate, sulfate, chlorine, alkalinity, total organic carbon (TOC), ethane, ethene, methane, total Kjeldahl nitrogen, and total phosphorus.

Water levels will be collected from all the monitoring wells and piezometer prior to groundwater sampling. This information will be used to further evaluate groundwater flow. Groundwater monitoring results will be reported annually to the WDNR on Form 4400-194.

All water removed from the monitoring wells during purging will be temporarily stored in 55-gallon steel drums on site and disposed of as a hazardous waste. For the purpose of this proposal we assume that eight drums of purge water would need to be disposed.

#### **TASK 5.0 CASE CLOSURE REQUEST**

If after completing Task 4.0, a stable or decreasing trend of groundwater contaminants is documented, a request for case closure will be submitted using WDNR Form 4400-202. The case closure request will include text, tables, figures, field data, and laboratory reports necessary to support the findings and conclusions.

Inclusion of the Site in the GIS registry may be necessary to address chlorinated solvents remaining in the soil and/or groundwater at concentrations in excess Wis. Adm. Code standards. A soil performance standard (e.g. impermeable cap) may also be a requirement for closure.

Upon obtaining case closure, the monitoring wells will be properly abandoned. All drums of contaminated soil and water not previously removed from the Site will be appropriately sampled, handled, and disposed.

**TASK 6.0 DERF REIMBURSEMENT APPLICATION PREPARATION**

Costs incurred remediating the chlorinated solvent release at this Site are eligible for reimbursement under the DERF program. Under this task, Bonestroo will prepare the DERF applications for reimbursement on behalf of Mr. Van Asten semi-annually during the completion of remedial action.

## 5.0 Probable Schedule and Cost

Work can begin on this project immediately upon receipt of a signed Professional Service Agreement (PSA) and Agent Agreement. Project work will be completed on a time-and-materials basis and coordinated with you and the selected subcontractor(s). Bonestroo will furnish or arrange for necessary technical staff, labor, equipment, and materials to complete the proposed work. The probable cost associated with each task is presented below.

### Task 1.0 RAP and Environmental HASP Submittal

Consultant	<b>\$5,341</b>
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### Task 2.0 Source Soil Excavation

#### Option 1

Consultant (includes vapor monitoring)	\$11,530
Equipment	250
Subcontractors	<u>82,977</u>

<b>Total Task 2.0 (Option 1)</b>	<b>\$94,757</b>
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*Partial removal  
+ replacement.*

#### Option 2

Consultant	\$10,480
Equipment	250
Subcontractors	<u>67,978</u>

<b>Total Task 2.0 (Option 2)</b>	<b>\$78,708</b>
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*Full demo*

### Task 3.0 Evaluate Utilities and Install Additional Wells

Consultant	\$2,146
Equipment	325
Subcontractors	<u>2,412</u>

<b>Total Task 3.0</b>	<b>\$4,833</b>
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### Task 4.0 Quarterly Groundwater Monitoring

Consultant	\$17,060
Equipment	2,000
Subcontractors	<u>9,408</u>

<b>Total Task 4.0</b>	<b>\$28,468</b>
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### Task 5.0 Case Closure Request

Consultant	<b>\$ 7,110</b>
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<b>TOTAL PROBABLE COST (Option 1)</b>	<b><u>\$140,559</u></b>
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<b>TOTAL PROBABLE COST (Option 2)</b>	<b><u>\$124,510</u></b>
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Please note that the WDNR has indicated that the costs to support and replace the building would be eligible for reimbursement, however, the costs to raze the entire Site building would not be eligible. Costs to complete lead based paint and/or asbestos sampling, abatement, and/or disposal are not included with this proposal. The costs included for both options assume that the demolition material will not contain lead based paint or asbestos containing material and that the demolition material could be disposed of as "clean fill". If required, this additional work and/or disposal costs may not be eligible for DERF reimbursement. Clarification regarding eligibility of these costs would be obtained prior to proceeding.

In addition, costs to prepare a Dry Cleaners Emergency Response Fund (DERF) claim are not eligible for reimbursement and are not included in this proposal. The intent of this proposal is to remediate Site soil and groundwater to support a request for case closure. However, performing this remedial scope does not guarantee that a request for closure can be made or would be approved by the WDNR. If additional work is required, the additional costs will be outlined in an amendment to the PSA. Additional work will not proceed until your approval is obtained. A detailed cost summary is included in Appendix A.

## 6.0 Similar Projects and Satisfied Clients

Founded during 1988, Northern Environmental Technologies, Incorporated (Northern Environmental) quickly established itself as a leading environmental consultant in the fields of property investigation and environmental remediation. Contaminant management was the company's hallmark expertise. During May 2009, Northern Environmental merged with Bonestroo. Now a part of Bonestroo, that same staff of professional engineers, geologists, hydrologists and scientists continues to assist clients with environmental site assessments, site investigations, remediation oversight, confirmation sampling, regulatory negotiation and liaison for site closure, and redevelopment planning. We provide innovative, practical solutions to the government, private, energy, and industrial markets.

Our staff has completed over 6000 environmental site assessments and over 3800 petroleum and chemical investigation/remediation projects. Whether a property is slated for redevelopment or needs to be sold, Bonestroo has assisted property owners in managing environmental concerns and maximizing the value of that property.

Bonestroo has completed hundreds of similar contaminant investigation and remediation projects throughout Wisconsin and Illinois. Through these projects, we have developed an intimate knowledge of applicable regulations and personnel. We are proud of our reputation as a common-sense environmental consulting firm able to provide cost-effective solutions to complicated environmental problems. Specific examples of contaminant investigation-related projects completed in Wisconsin and Illinois are provided below.

### **FORMER MOBILE HOME PARK – GREEN LAKE, WISCONSIN**

After more than 10 years of investigation and remediation by various consultants, Ms Margaret Reich-Miner retained Northern Environmental to remediate groundwater contaminated with CVOCs at the site. Northern Environmental designed and coordinated a remedial action consisting of EOS injection in groundwater near the contaminant source area. Approximately 1.5 years after the injection, overall CVOC concentrations have decreased by over 95 percent in groundwater adjacent to the EOS injection area. Long-term monitoring continues as a means to document remediation success and to support case closure in the near future.

Former Mobile Home Park      Ms. Margaret Reich-Miner      262-242-2194

### **HOMETOWN CLEANERS – HUBERTUS, WISCONSIN**

Mr. Gordy Helman retained Northern Environmental to evaluate soil and groundwater quality at the Hometown Cleaners facility. Elevated concentrations of chlorinated solvents were identified in soil and groundwater beneath the site building. The investigation determined the extent of released chlorinated solvents. Northern Environmental assisted Mr. Helman from contaminant discovery during January 2007 to site closure during June 2008.

Hometown Cleaners      Mr. Gordy Helman      262-628-1177

### **MODEL CLEANERS – FOND DU LAC, WISCONSIN**

Model Cleaners retained Northern Environmental to evaluate soil and groundwater quality at its dry cleaning facility. Elevated concentrations of chlorinated solvents were identified in soil beneath the site building. In addition, released gasoline associated with a former underground storage tank was present in soil at the site. Northern Environmental conducted a site

investigation to determine the extent of released dry cleaning solvents and gasoline in soil and groundwater. Based on the investigation results, natural attenuation of the released dry cleaning solvents and gasoline was successfully decreasing contaminant concentrations. The WDNR subsequently determined that no further investigation or remediation was necessary and closed the site.

Model Cleaners Mr. Tom Lambeseder 920-922-3800

**MAGIC TOUCH CLEANERS – NORTHRIDGE, ILLINOIS**

Magic Touch Cleaners retained Northern Environmental to develop and implement a remedial action plan based on the investigation conducted during 2001 by another consulting firm. Given the extremely high concentrations of chlorinated solvents detected beneath the floor dry cleaning facility, Northern Environmental opted to remediate the vacant facility using soil mixed with a chemical oxidant. Initially, a pilot test was conducted that involved comparing the results of three different oxidants in test cells at the site. The cost-effective oxidant was selected for use. The remedial action involved removing the concrete floor from the facility and treating soils to a depth of 8 to 10 feet below grade with the selected oxidant initial sampling indicated success through the excavation with limited follow up needed around the perimeters of the area to achieve the remedial goals.

Magic Touch Cleaners Mr. Barry Kaliner 708-452-4600

**GARBER'S CLEANERS – CHAMPAIGN, ILLINOIS**

Garber's Cleaners retained Northern Environmental to evaluate soil and groundwater quality and conduct necessary remedial activities at its dry cleaning facility. Elevated concentrations of chlorinated solvents were identified in soil beneath the site building in the area of former dry cleaning operations. Northern Environmental conducted a site investigation to determine the extent of released dry cleaning solvents prior to the preparation of a remedial action plan. The remedial action selected was injection of a chemical oxidant in the apparent source area. The goal of the investigation was to reduce contaminant levels in order to obtain a No Further Remediation letter for the current use of the property and reduce future remedial costs associated with the redevelopment of the property.

Garber's Cleaners Mr. Stephen Hamburg 217-356-1355



## 7.0 Staff Experience

To ensure this project is completed in a cost-effective manner within the established timeframe, Bonestroo has assembled a team of professionals with experience working on numerous contaminant and solid waste investigation projects. Key project personnel resumes are included in Appendix C. The project team includes the following staff members.

**Ms. Lynelle P. Caine** will serve as the project manager; act as the point of contact between Bonestroo and you and interface and negotiate with the WDNR. With over 15 years experience in completing contaminant investigations and remediation in Wisconsin, Ms. Caine possesses strong technical, customer service and communication skills. Her expertise includes providing practical solutions to complicated environmental problems that has resulted in outstanding client loyalty and respect by regulatory personnel.

**Mr. Stuart J. Gross, PG** and **Ms. Hiedi Waller, PE** have over 15 years of professional geology and engineering experience, respectively. As an associate geologist (Mr. Gross) and as senior project manager (Ms. Waller) are continually involved with complex projects by providing technical advisor and QA/QC roles. Mr. Gross and Ms. Waller will be responsible for reviewing reports, plans, and bid specifications to ensure their professional quality and technical accuracy.

Project-related fieldwork will be completed using personnel from Bonestroo's Green Bay office.

**Mr. Jeffrey Brand** will supervise and document the field activities completed as part of the remedial action plan. Mr. Brand has over 8 years experience conducting subsurface investigations and remedial action for a variety of contaminants.

In addition to the project-specific staff, Ms. Caine can draw on the talent of more than sixty experienced engineers, geologists, hydrogeologists, and environmental scientists employed by Bonestroo. All project staff have been trained for entry and work on hazardous waste sites as required by the Occupational Safety and Health Administration. In order to support the professional endeavors of the company, many Bonestroo employees have gained certification and/or registration in an area of practice or profession. In some cases, such as engineering, registration is a prerequisite to practice. Bonestroo staff are licensed to practice engineering, geology, hydrogeology and soil science in the state of Wisconsin. We ensure that we have all the necessary current, applicable Wisconsin/local registrations, licensures, etc., which may be required to complete this project.

## 8.0 DERF Considerations

The DERF program became effective February 1, 2000 and is administered by the WDNR to provide reimbursement of eligible costs incurred for investigation and remediation of soil and groundwater contaminated by dry cleaning solvents. Owners or operators of dry cleaning facilities are eligible for reimbursements of costs for immediate and interim actions, site investigations, and remedial actions associated with the release of dry cleaning solvents into the environment. Reimbursement for immediate actions, site investigation, and remedial actions for releases at an active dry cleaning facility are subject to a deductible amount of \$10,000 for eligible costs between \$0 and \$200,000. Costs between \$200,000 and \$400,000 are subject to an additional deductible of 8 percent of the costs greater than \$200,000. Costs between \$400,000 and \$500,000 are subject to an additional deductible of 10 percent for costs greater than \$400,000.

The DERF rule presents several important requirements that will affect this project. These requirements are presented below for your consideration.

- Consultant services must be selected by using a qualification-based selection process that includes at least three competitive proposals for the remedial action (including development, design, and implementation). The proposals must be evaluated based on qualifications, scope of work, references, and fee schedule. The lowest-priced proposal need not be selected, but rather, the engineering services should be selected based on qualifications. If you do not select the lowest cost proposal, you must justify your selection with the WDNR before entering a contract with the consultant.
- Proposals shall include cost estimates for professional or commodity services on an hourly basis or per unit basis.
- Proposals must include a statement of professional qualifications for every person whose professional services are included in the proposal.
- Costs for services beyond the scope of a consultant's initial proposal and greater than \$3,000 may not be reimbursed unless the consultant provides the applicant with a cost estimate for the additional services being performed, services are billed at the same or lower unit price as the initial proposal, and the applicant approves the cost estimate in writing before conducting the additional services. Additional costs that exceed \$3,000 may require competitive bidding. If the cost of additional services exceeds \$3,000, the applicant must provide the department with a copy of the cost estimate before authorizing the consultant to proceed.
- The consultant must certify that the consultant and contracting services will comply with applicable requirements of NR 169, Wis. Adm. Code.
- All consultants must maintain coverage for comprehensive general liability, which includes pollution impairment liability of \$1 million per claim and a minimum of \$1 million in annual aggregate claims. If the deductible for the insurance exceeds \$25,000, the consultant shall furnish proof of financial responsibility acceptable to the WDNR for the amount of the deductible.

In summary, you must evaluate three consultants before selecting a firm for your project. **You should select the consultant you feel is best qualified to represent your interests.** You do not need to select the lowest-cost proposal. However, if you do not select the lowest-cost proposal, you must justify the selection to the WDNR and obtain its approval before entering a contract with that consultant. Qualified consultants must have the necessary insurance, including pollution liability insurance.

## 9.0 Our Assurance

Strict procedures are followed during all sampling and laboratory analysis to ensure the accuracy of our results. Inaccurate data can add significant cost to the project and may jeopardize your DERF reimbursement. Bonestroo adheres to accepted regulatory policies and procedures and industry standards. All of the Bonestroo work is protected by our professional error and omissions (E&O) insurance and accompanying engineers' pollution liability (EPL) policy.

Bonestroo will provide necessary staff and facilities for all phases of planning, investigation, design, construction and operation. We will also retain and confer with specialists on unusual matters; provide qualified technical reviewers, who will keep the owner advised on technical and regulatory matters and work toward planned remediation goals. Bonestroo will perform all services in an ethical, professional, and timely manner.

## 10.0 Certifications

Under NR 712, Wis. Adm. Code, minimum standards for experience and professional qualifications are established for persons providing environmental response actions. Specifically, all groundwater assessment submittals must be prepared by a Wisconsin-certified hydrogeologist, and all corrective action submittals must be prepared by a Wisconsin-registered professional engineer. Bonestroo meets all requirements of NR 712, Wis. Adm. Code. According to s. NR 169.23(3)(b) and 169.23(9)(a) Wis. Adm. Code, Bonestroo also certifies the following:

- Bonestroo is fully informed about the project scope and has the expertise to analyze alternatives and to design the most-suitable response action
- Bonestroo will provide necessary staff and facilities for all phases of planning, design, construction, and operation
- Bonestroo will provide qualified technical reviewers to advise the owner and work toward the remedial goals
- Bonestroo will perform all services in an ethical, professional, and timely manner
- All consultant and contract services will comply with applicable requirements under NR 700 to 728 Wis. Adm. Code.
- Bonestroo will make all consultant documents and records available to the WDNR for inspection and copying.
- Bonestroo certifies that this proposal was not prepared in collusion with any other consultant submitting a bid on this Site.

Selecting Bonestroo ensures complete regulatory compliance. Bonestroo is fully informed about the project's scope and required services, and have the experience and ability to analyze alternatives and design the most suitable response action consistent with technical and economic feasibility, environmental statutes and rules, restoration timeframes, and the latest technical advances. Using a firm without our qualifications may jeopardize your DERF reimbursement.

## 11.0 Institutional Issues

### 11.1 Terms and Conditions

The terms and conditions of the work proposed by Bonestroo will be governed by the enclosed PSA. If you find our proposal acceptable, please sign and return the enclosed PSA. A signed copy of the PSA must be returned to Bonestroo before initiation of project work. Any additional work will be handled as an amendment to the PSA.

### 11.2 Insurance

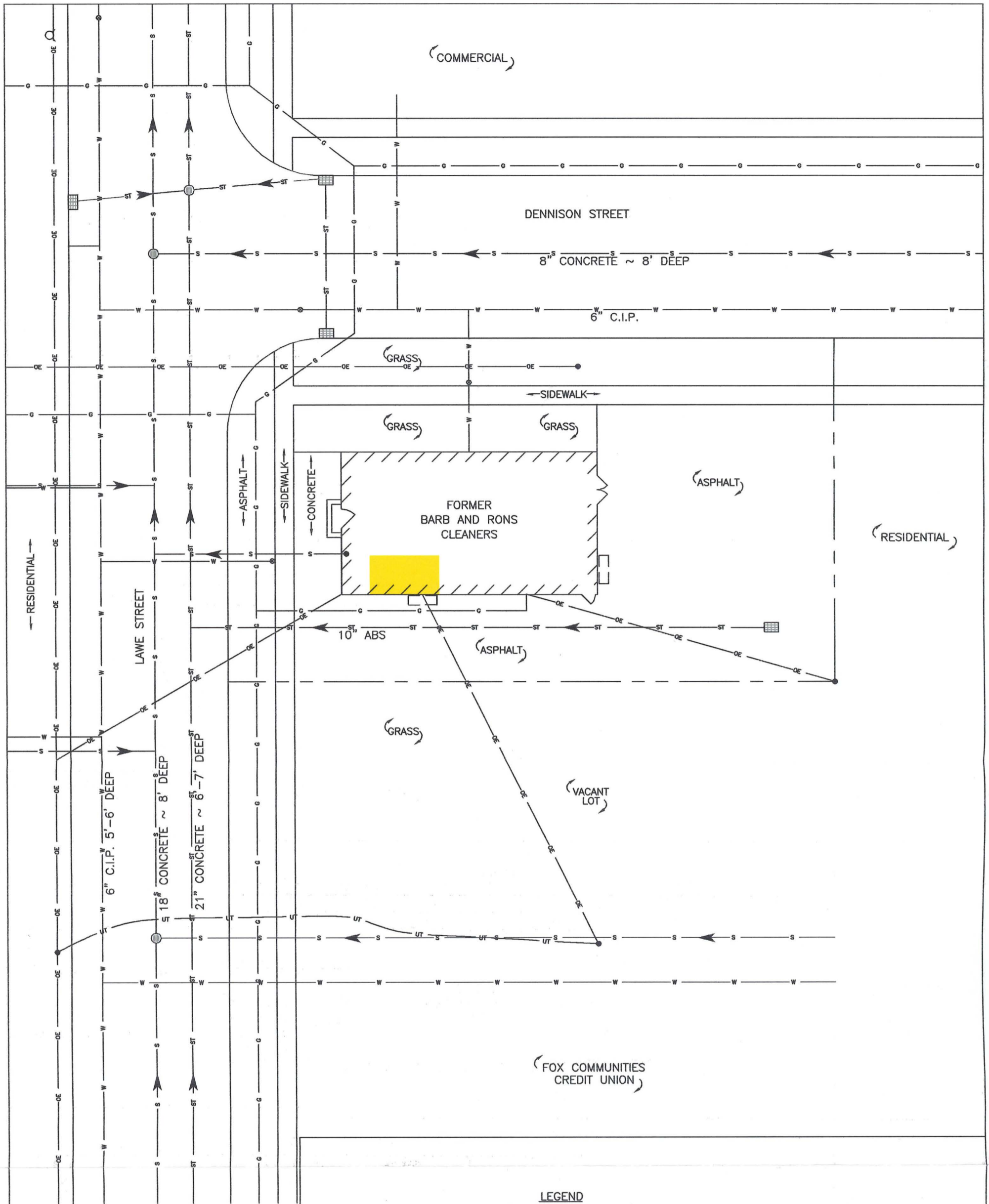
In conjunction with the necessary technical expertise, Bonestroo offers our clients a complete package of insurance, including statutory liability, comprehensive general liability, and automobile liability, E&O, and EPL policy. The EPL carried by Bonestroo is a companion policy to our regular E&O coverage containing the standard pollution exclusion. Together, our E&O and EPL policies provide our clients the best professional liability coverage available on the market today. Bonestroo believes our clients desire this type of coverage and that it is necessary for any responsible engineering firm, such as Bonestroo. Specimen copies of our insurance certificates are included in Appendix D. Copies naming the Client as additional insured can be sent following receipt of a signed PSA.

### 11.3 Subsurface Work

The proposed work includes subsurface investigative work. Bonestroo will require the drilling/excavation contractor contact public utility locating services (e.g., Diggers Hotline and local municipalities) and make a good faith effort to locate underground improvements that could be potentially damaged by the proposed work. Since the owner or operator of the Site usually has the most detailed and intimate knowledge of the type and locations of such improvements, the owner/operator will be called upon to assist in locating buried improvements. Consequently, the owner/operator may be requested to review the proposed work to ensure damage is not done to structures and sign an agreement affirming the drilling/excavation contractor has made a conscientious effort to avoid damaging buried improvements.

### 11.4 Health and Safety

All work at the Site will be performed in conformance with Chapter 20 Code of Federal Regulation, Section 1910.22 by trained personnel. Based on the current conditions, we anticipate work will proceed under EPA Safety Level D conditions. The safety level will continuously be monitored and revised, as necessary, based on the conditions encountered.



**LEGEND**

- UTILITY POLE
- ⊙ WATER SHUTOFF VALVE
- DRAIN
- ⊕ CATCH BASIN
- ⌈ ⌋ FORMER FUEL OIL AST LOCATION
- ESTIMATED EXTENT OF EXCAVATION
- OE — OVERHEAD ELECTRIC LINE
- W — WATER LINE (APPROXIMATE)
- ← S ← SANITARY SEWER (APPROXIMATE) WITH FLOW DIRECTION
- ← ST ← STORM SEWER LINE WITH FLOW DIRECTION
- G — GAS LINE
- - - - - PROPERTY LINE
- ⊠ STORM CATCH BASIN INLET
- ⊙ FIRE HYDRANT



SCALE IN FEET



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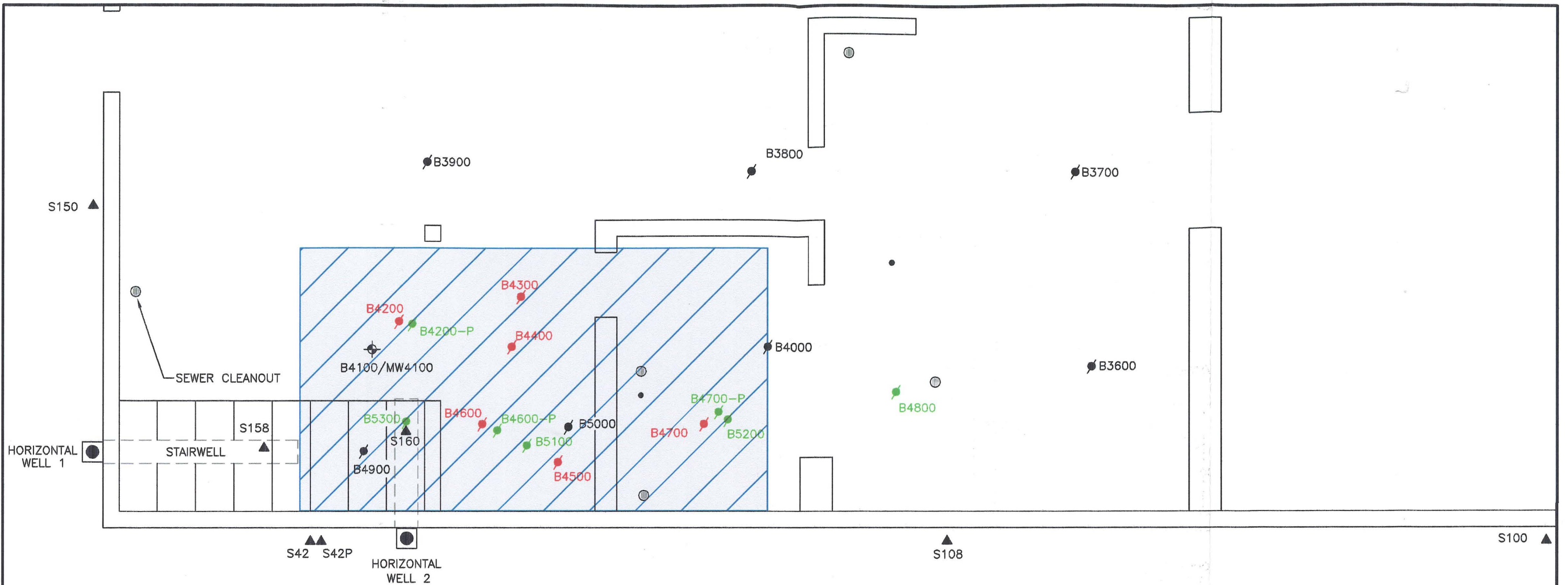
BARB AND RON'S CLEANERS  
APPLETON, WISCONSIN

**OPTION 1**  
SITE LAYOUT WITH  
ESTIMATED EXTENT OF EXCAVATION












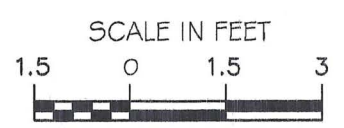
FIGURE 1




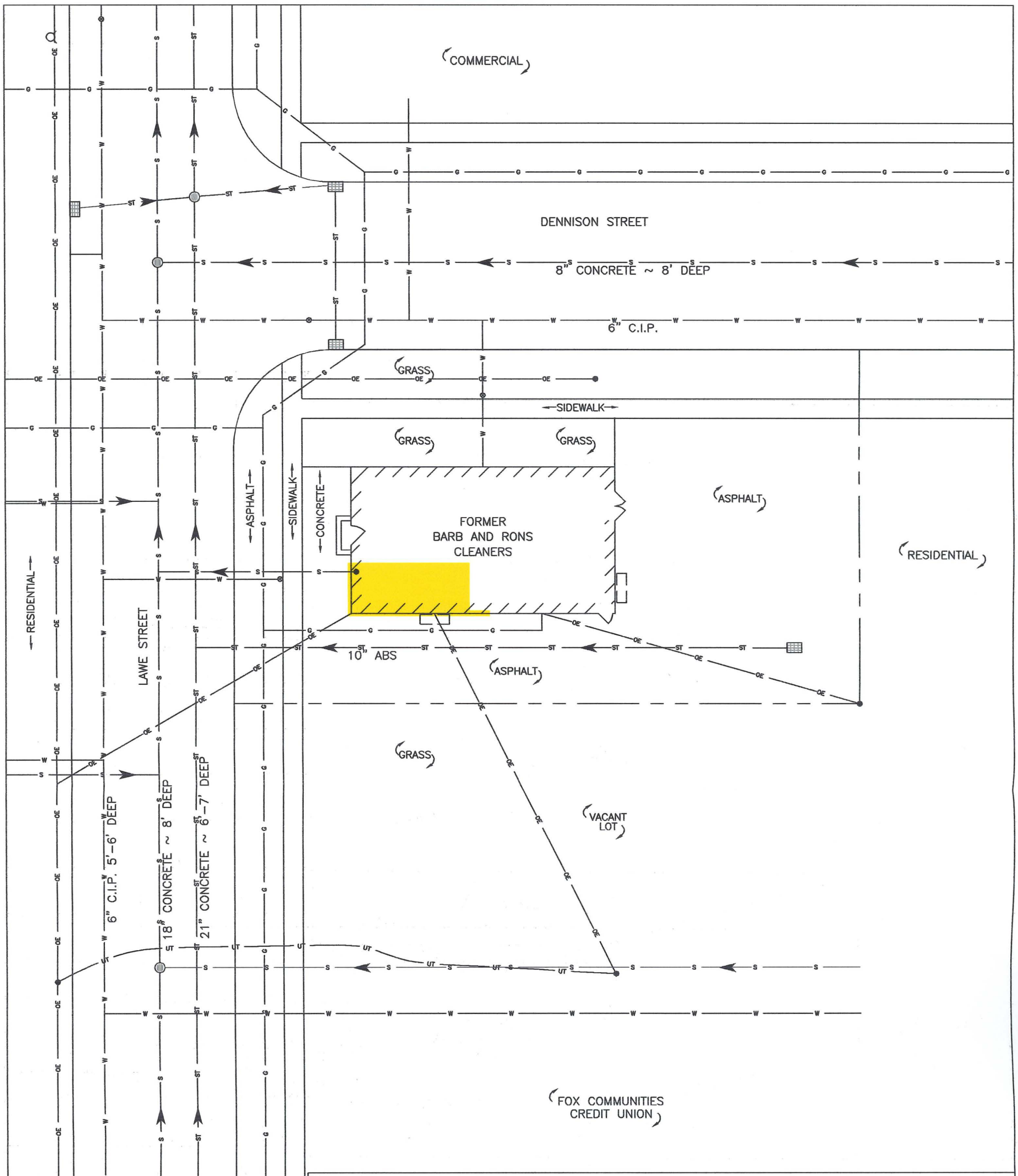


**LEGEND**

-  ESTIMATED EXTENT OF SOIL EXCAVATION
-  ESTIMATED EXTENT OF SOIL CONTAINING TETRACHLOROETHENE CONCENTRATIONS IN EXCESS OF HAZARDOUS WASTE LIMITS (DEPTH ≥ 6 FBG)
-  S42 SOIL SAMPLE LOCATION
-  B4100/MW4100 SOIL BORING AND MONITORING WELL LOCATION
-  B3600 SOIL BORING LOCATION
-  B4200 POST PILOT TEST BORING LOCATION
-  B4200-P POST FULL SCALE BORING LOCATION
-  SANITARY DRAIN
-  WATER LINE

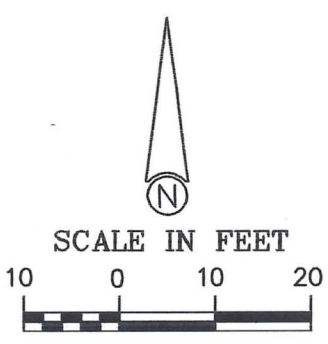


 954 Circle Drive, Green Bay, Wisconsin Phone: 800-854-0606 Fax 920-592-8444		<b>OPTION 1</b> <b>ESTIMATED EXTENT OF SOIL EXCAVATION</b>	
WISCONSIN ▲ MICHIGAN ▲ ILLINOIS ▲ IOWA		BARB AND RON'S CLEANERS APPLETON, WISCONSIN	
CREATION DATE: 4/9/10 DRAWN BY: JRB REVISION DATE:	THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF BONESTROO AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS EXPRESSLY FURNISHED.	PROJECT NUMBER: 003463-09001-0	FIGURE 2



**LEGEND**

●	UTILITY POLE	—OE—	OVERHEAD ELECTRIC LINE
⊙	WATER SHUTOFF VALVE	—W—	WATER LINE (APPROXIMATE)
●	DRAIN	←S←	SANITARY SEWER (APPROXIMATE) WITH FLOW DIRECTION
⊕	CATCH BASIN	←ST←	STORM SEWER LINE WITH FLOW DIRECTION
⊠	FORMER FUEL OIL AST LOCATION	—G—	GAS LINE
■	ESTIMATED EXTENT OF EXCAVATION	---	PROPERTY LINE
		⊠	STORM CATCH BASIN INLET
		⊕	FIRE HYDRANT



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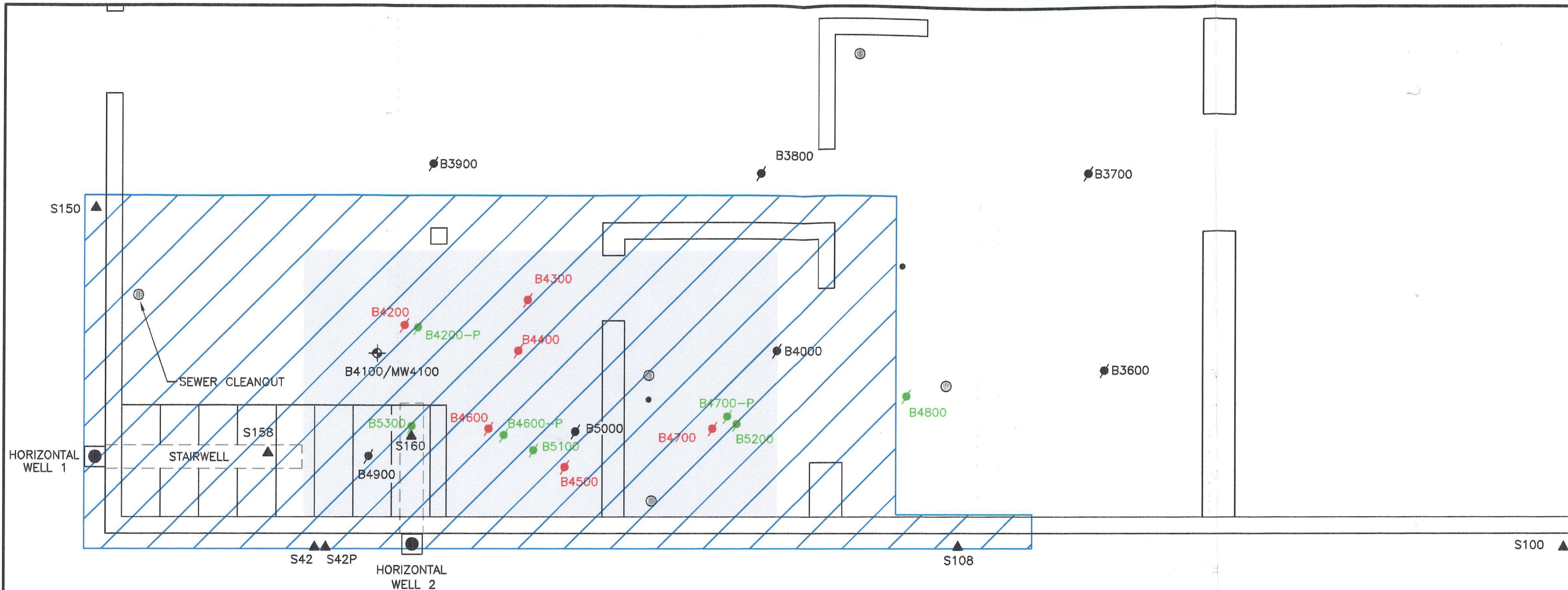
**Bonestroo**

BARB AND RON'S CLEANERS  
APPLETON, WISCONSIN

**OPTION 2**  
SITE LAYOUT WITH  
ESTIMATED EXTENT OF EXCAVATION

FIGURE 3





**LEGEND**



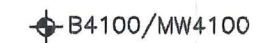
ESTIMATED EXTENT OF SOIL EXCAVATION



ESTIMATED EXTENT OF SOIL CONTAINING TETRACHLOROETHENE CONCENTRATIONS IN EXCESS OF HAZARDOUS WASTE LIMITS (DEPTH ≥ 6 FBG)



SOIL SAMPLE LOCATION



SOIL BORING AND MONITORING WELL LOCATION



SOIL BORING LOCATION



POST PILOT TEST BORING LOCATION



POST FULL SCALE BORING LOCATION



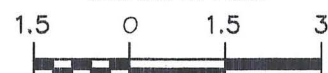
SANITARY DRAIN



WATER LINE



SCALE IN FEET



954 Circle Drive, Green Bay, Wisconsin  
Phone: 800-854-0606 Fax 920-592-8444

WISCONSIN ▲ MICHIGAN ▲ ILLINOIS ▲ IOWA

CREATION DATE: 4/9/10

DRAWN BY: JRB

REVISION DATE:

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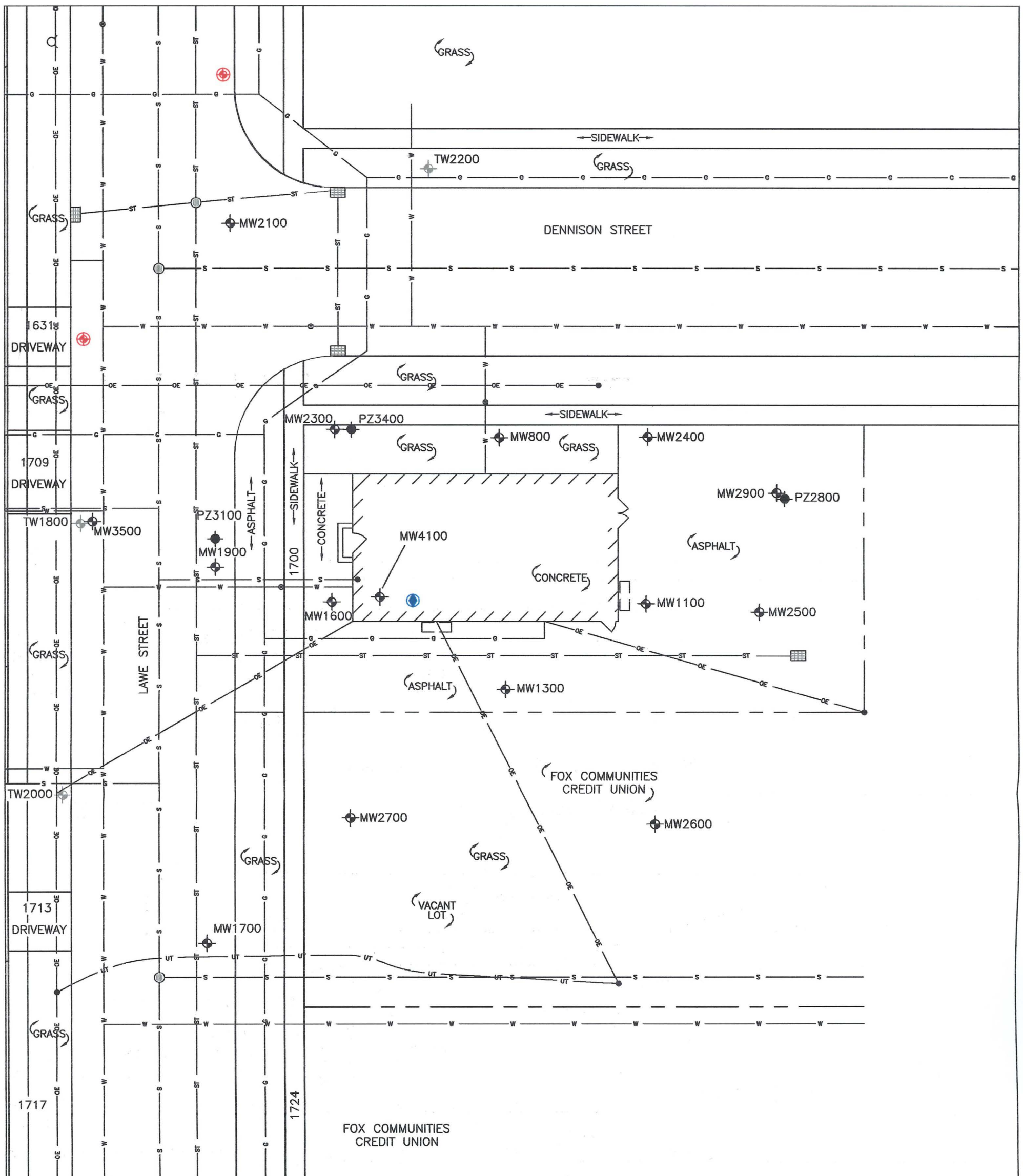
**OPTION 2  
ESTIMATED EXTENT OF SOIL EXCAVATION**

BARB AND RON'S CLEANERS  
APPLETON, WISCONSIN

PROJECT NUMBER: 003463-09001-0

FIGURE 4





LEGEND			
●	UTILITY POLE	—OE—	OVERHEAD ELECTRIC LINE
○	WATER SHUTOFF VALVE	—W—	WATER LINE (APPROXIMATE)
●	DRAIN	—S—	SANITARY SEWER (APPROXIMATE)
⊕	CATCH BASIN	—ST—	STORM SEWER LINE
[ ]	FORMER AST LOCATION	—G—	GAS LINE
●	MONITORING WELL LOCATION	—P—	PROPERTY LINE
●	PIEZOMETER LOCATION	—UT—	UNDERGROUND TELEPHONE LINE
●	PROPOSED MONITORING WELL LOCATION	▣	STORM CATCH BASIN INLET
●	PROPOSED 6" SUMP LOCATION	⊕	FIRE HYDRANT
		●	FORMER TEMPORARY MONITORING WELL LOCATION

NOTE: MW4100 TO BE REMOVED DURING PROPOSED EXCAVATION

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BARB AND RON'S CLEANERS  
APPLETON, WISCONSIN

PROPOSED MONITORING WELL  
LOCATIONS

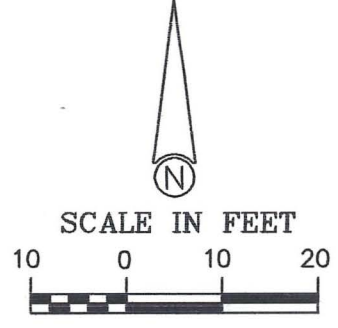


FIGURE 5

**Table 1: Listing of Remedial Action Options, Barb and Ron's Cleaners, Appleton, Wisconsin**

REMEDIAL ACTION OPTION	ZONES AND MEDIA TREATED	OPTIMAL CONTAMINANT CHARACTERISTICS	OPTIMUM MEDIA CHARACTERISTICS	LENGTH OF TREATMENT	EFFECTIVENESS	ADVANTAGES	DISADVANTAGES	COMBINED-WITH OTHER REMEDIAL ACTION OPTIONS	RATIONALE FOR ELIMINATION
<b>Chemical Oxidation</b>	<i>In-situ</i> , saturated and unsaturated soil	- Chlorinated ethenes	- Intrinsic permeability >10-10 cm <sup>2</sup> (preferably >10-8 cm <sup>2</sup> ) (e.g., gravel, clean sand, silty sand) - Applicable to lower permeable soils, however, will require closure injection spacing	Depends on how many injection events are necessary. Single injections typically completed in a few days with permanganate persisting up to 12 weeks	Average reductions of 80 % achievable during initial injection events	- Can be used under buildings and other locations that cannot be excavated	Multiple injections may be required to achieve cleanup goals.	Easily combined with other remedial methods	Implemented with limited effectiveness at deeper depths due to low permeability of soil.
<b>Excavation and Landfilling</b>	<i>Ex-situ</i> , unsaturated soil	- Heavy metals - Chlorinated compounds - All petroleum fuels and lubricants including gasoline, jet fuels, kerosene, diesel fuel, heating oils, and lubricating oils	- Fine-grained soils (e.g., silts and clays) - Maximum moisture content <85% (may require dewatering)	Excavation usually requires less than 1 week	Very effective for source area removal if extent is defined. Minimizes contaminant migration and maximizes contaminant containment	- Low capital and no O&M costs - Easily implemented - High technical feasibility if soils are fine grained and excavation is less than 17 ft deep	- Removed soils must be treated ex-situ - Difficult accessing soil under buildings - Highly disruptive to site use - High capital cost and reduced technical feasibility if soils are coarse grained and excavation is greater than 17 ft deep - Fill must be carefully re-compacted to prevent differential settlement - Transportation and disposal/ characterization costs can be high	Easily combined with natural attenuation monitoring	Evaluated and selected as remedial action option.
<b>Enhanced Groundwater Bioremediation (i.e. carbon source injection)</b>	<i>In-situ</i> saturated soil and groundwater	- Short-chain, low molecular weight, more water-soluble constituents - Constituents should be biodegradable - TPH <50,000 ppm - Total heavy metals <2500 ppm - Organic solvent concentrations <7000 ppm	- Hydraulic conductivity >10-4 cm/sec - Dissolved iron concentrations <10 mg/l - Ground-water pH between 6-8 - Ground-water temperature between 10-45°C - Total heterotrophic bacteria >1000 CFU/gram in dry soil - C:N:P ratio in the range of 100:10:1 to 100:1:0.5	May be shorter than pump-and-treat options	Difficult to achieve a constituent concentration <0.1 ppm or TPH reduction >95%	- Remediates contaminants that are adsorbed to, or trapped within, the geologic materials of which the aquifer is composed along with dissolved groundwater contaminants - In many cases, does not produce waste products that need to be disposed	- Injection wells and/or infiltration galleries may become plugged by microbial growth or mineral precipitates - Requires continuous monitoring and maintenance - Remediation may only occur in more permeable layers or channels within the aquifer - LNAPLs should be removed prior to operation	Can be combined with AS, and SVE or bioventing	Evaluated and not selected due to prior limited effectiveness of injection type remedial action option.
<b>Natural Attenuation (NA) using reductive dechlorination.</b>	<i>In-situ</i> , groundwater and unsaturated soil	- Product constituents should be at most slightly soluble in water (generally >0.1 mg/l) - Low volatility - Koc and Kd values should be high enough to adequately retard migration - Biodegradable constituents - High concentration of heavy metals and other toxic compounds could inhibit microbial activity - Shrinking or stable plume	- Intrinsic permeability >10-8 cm <sup>2</sup> - Hydraulic conductivity <10-7 cm/sec - Ground-water dissolved oxygen less than or equal to 0.5 mg/l - Temperature greater than 20 C - ORP less than -100 mV - Iron II greater than 1mg/l - Nitrate less than 1 mg/l - Sulfate less than 20 mg/l - Sulfide greater than 1mg/l - Total Organic Carbon greater than 20 mg/l - Ground-water pH between 5 - 9	Longer period of time may be required to mitigate contamination than active remedial measures	May not always achieve the desired cleanup levels within a reasonable amount of time.	- Low cost - Minimal disturbance to the site operations - Increasing regulatory support - Increasing public support - Potential use below buildings and other areas that cannot be excavated	- Some migration of constituents may occur - Not suitable if potential receptors may be exposed to contaminated soil, groundwater, or vapors - Rainfall >60 inches/year could be a problem - Climate should be moderate to warm, 5-45 °C (microbial activity typically doubles for every 10°C rise in temperature) - May not be suitable if potable water wells are in the contaminant plume	NA is usually completed alone for low level contaminant concentrations or following other remedial action options	Evaluated and not selected due to elevated concentrations with the possibility for migration and length of time necessary to achieve compliance.

**Table 1: Listing of Remedial Action Options, Barb and Ron's Cleaners, Appleton, Wisconsin**

REMEDIAL ACTION OPTION	ZONES AND MEDIA TREATED	OPTIMAL CONTAMINANT CHARACTERISTICS	OPTIMUM MEDIA CHARACTERISTICS	LENGTH OF TREATMENT	EFFECTIVENESS	ADVANTAGES	DISADVANTAGES	COMBINED WITH OTHER REMEDIAL ACTION OPTIONS	RATIONALE FOR ELIMINATION
<b>Groundwater Pumping and Treatment</b>	<i>Ex-situ</i> groundwater	<ul style="list-style-type: none"> <li>- Petroleum products, including gasoline, jet fuels, kerosene, diesel fuel, heating oils, and lubricating oils</li> <li>- Chlorinated solvents</li> </ul>	<ul style="list-style-type: none"> <li>- Hydraulic conductivity &gt;10<sup>-4</sup> cm/sec</li> <li>- Initial dissolved iron (Fe+2) concentration at the site &lt;10 mg/l</li> <li>- Free of impermeable layers or other conditions that would disrupt/reduce water flow</li> </ul>	Total remediation time usually exceeds 2 yrs	<ul style="list-style-type: none"> <li>- Ground-Water treatment can consistently achieve constituent concentration reductions approaching 100%</li> <li>- Achievable cleanup level will vary greatly depending upon soil and contaminant type</li> </ul>	<ul style="list-style-type: none"> <li>- Proven to be very effective in treating/remediating aqueous-phase VOC</li> <li>- Hydraulically controls ground-water migration</li> </ul>	<ul style="list-style-type: none"> <li>- Requires continuous monitoring and maintenance</li> <li>- Requires pump testing</li> <li>- Extracted groundwater may require additional treatment (such as oil-water separation)</li> <li>- LNAPL and DNAPL VOC should be removed prior to treatment</li> </ul>	Can be combined with SVE or bioventing and groundwater bioremediation	Evaluated and not selected due to low permeability of soil causing slow well rate of recovery. More-effective remedial options given site conditions.
<b>Soil Vapor Extraction (SVE)</b>	<i>In-situ</i> , unsaturated soil	<ul style="list-style-type: none"> <li>- VOCs and certain SVOCs (e.g., lighter products such as gasoline)</li> <li>- Vapor pressure &gt;0.5 mm Hg</li> <li>- Boiling points &lt;300°C</li> <li>- Henry's Law constant &gt;100 atm</li> <li>- Is not effective against diesel fuel, heating oils, kerosene, and lubricating oils</li> </ul>	<ul style="list-style-type: none"> <li>- Intrinsic permeability &gt;10<sup>-9</sup> cm<sup>2</sup> (e.g., gravel, clean sand, silty sand)</li> <li>- Dry soil (wet soil decreases permeability)</li> <li>- Depth to groundwater &gt;3 ft (preferably &gt;10 ft)</li> </ul>	6 months to 2 years under optimal conditions	Difficult to achieve constituent concentration reductions >90%	Can be used under buildings and other locations that cannot be excavated	Off gas often requires treatment during early phases of remediation	Easily combined with AS, groundwater bioremediation or dual-phase extraction	Evaluated selected as the groundwater remedial alternative when combined with source soil excavation.

BTEX =Benzene, Toluene, Ethylbenzene, and Xylenes (total)  
 C:N:P =Carbon:Nitrogen:Phosphorus ratio  
 K<sub>d</sub> =Soil-water partition coefficient  
 K<sub>ow</sub> =Octanal-water partition coefficient  
 SVOC =Semi-Volatile Organic Compounds  
 VOC =Volatile Organic Compounds

CFU =Colony-Forming Units  
 f<sub>oc</sub> =Fractional content of soil organic carbon  
 K<sub>oc</sub> =Organic carbon-water partition coefficient  
 ppm =parts per million  
 TPH =Total Petroleum Hydrocarbons  
 NAPLs =non-aqueous phase liquids



## APPENDIX A – Cost Summary

**PROBABLE COSTS**

Promotional Number M03463-10001-0 (Option 1 - Building Retention)

Project Name Barb and Ron's Cleaners, Appleton, Wisconsin

Project Manager Lynelle Caine

**LABOR**

Employee Title	Team Leader	Senior Geologist	Geologist/Engineer	Project Technician	Administrative						Total Dollars
Billing Rate	\$ 144.00	\$ 125.00	\$ 91.00	\$ 80.00	\$ 56.00						
Phase/Task Name	Hours										
Remedial Action Plan and Health and Safety Plan Submittal	2.00	15.00	30.00	0.00	8.00						\$5,341
Source Soil Excavation	2.00	22.00	20.00	75.00	12.00						\$11,530
Evaluate Utilities and Install Additional Monitoring Wells	0.50	4.00	2.00	16.00	2.00						\$2,146
Post-Remedial Groundwater Monitoring	8.00	20.00	32.00	120.00	16.00						\$17,060
Case Closure Request	2.00	10.00	12.00	48.00	8.00						\$6,918
<b>Total Hours by Employee</b>	14.50	71.00	96.00	259.00	46.00	0.00	0.00	0.00	0.00		
<b>Total Dollars by Employee</b>	\$2,088.00	\$8,875.00	\$8,736.00	\$20,720.00	\$2,576.00	\$0.00	\$0.00	\$0.00	\$0.00		\$42,995
<b>Total Consultant Cost</b>											\$42,995

**EQUIPMENT (UNITS)**

Equipment Item	Soil Sampling Equipment/day	Groundwater Sampling Equipment	55-Gallon Barrel	Bentonite								Total Dollars
Billing Rate	\$ 125.00	\$ 200.00	\$ 50.00	\$ 12.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Phase/Task Name	Units											
Remedial Action Plan and Health and Safety Plan Submittal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
Source Soil Excavation	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$250
Evaluate Utilities and Install Additional Monitoring Wells	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$325
Post-Remedial Groundwater Monitoring	0.00	8.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$2,000
Case Closure Request	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$192
<b>Total Units</b>	3.00	9.00	8.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$2,767
<b>Total Equipment Cost</b>											\$2,767	

**SUBCONTRACTORS**

Phase/Task Name	Driller	Lab	Excavation Contractor	Landfill	Contractor to Support and Restore Building and Access Soil	Drum Disposal						Total Dollars
Remedial Action Plan and Health and Safety Plan Submittal												\$0
Source Soil Excavation		\$1,559.00	\$15,658.00	\$24,417.00	\$41,343.00							\$82,977
Evaluate Utilities and Install Additional Monitoring Wells	\$1,818.00	\$134.00				\$460.00						\$2,412
Post-Remedial Groundwater Monitoring		\$8,468.00				\$940.00						\$9,408
Case Closure Request												\$0
<b>Total Subcontractors</b>	\$1,818.00	\$10,161.00	\$15,658.00	\$24,417.00	\$41,343.00	\$1,400.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$94,797
<b>Total Subcontractor Amount</b>											\$94,797	

**Barb and Ron's Cleaners - Remedial Action Proposal  
Appleton, Wisconsin**

**TOTALS**

Remedial Action Plan and Health and Safety Plan Submittal	\$	5,341
Source Soil Excavation	\$	94,757
Evaluate Utilities and Install Additional Monitoring Wells	\$	4,883
Post-Remedial Groundwater Monitoring	\$	28,468
Case Closure Request	\$	7,110
<b>Total Project</b>	<b>\$</b>	<b>140,559</b>

Subcontractor	Bid Item	Estimated Units	Unit	Unit Cost	Total Cost	
Driller	Diggers/utilities	1	lump sum	\$75	\$75	
Driller	Mobilization	1	lump sum	\$450	\$450	
Driller	Drill/sample	27	foot	\$12	\$324	
Driller	Well convert	27	foot	\$12	\$324	
Driller	55 gal drums	2	each	\$50	\$100	
Driller	Well covers	2	each	\$110	\$220	
Driller	Concrete	2	each	\$40	\$80	
Driller	Decontam	1	hour	\$95	\$95	
Driller	Traffic control	1	lump sum	\$150	\$150	
			Subtotal		\$1,818	
Laboratory	VOC Analysis (soil - excavation)	5	each	\$67	\$335	
Laboratory	VOC Analysis (soil - new wells)	2	each	\$67	\$134	
Laboratory (annual)	VOC Analysis (water)	46	each	\$67	\$3,082	
Laboratory (annual)	Nat Atten (water) Alk	10	each	\$10	\$100	
Laboratory (annual)	Nat Atten (water) E/E/M	10	each	\$50	\$500	
Laboratory (annual)	Nat Atten (water) N+N	10	each	\$11	\$110	
Laboratory (annual)	Nat Atten (water) kjeldahl N	10	each	\$30	\$300	
Laboratory (annual)	Nat Atten (water) Phos	10	each	\$35	\$350	
Laboratory (annual)	Nat Atten (water) Sulf.	10	each	\$10	\$100	
Laboratory (annual)	Nat Atten (water) Chlorides	10	each	\$20	\$200	
Laboratory (annual)	Nat Atten (water) TOC	10	each	\$51	\$510	
Laboratory (quart)	VOC Analysis (water)	48	each	\$67	\$3,216	
Laboratory	VOC Analysis (air - vapor monitoring)	6	each	\$204	\$1,224	
			Subtotal		\$10,161	
Drum Disposal	Mob	2	each	300	\$600	
Drum Disposal	Develop/purge water (assumes non-hazardous)	8	each	80	\$640	
Drum Disposal	Soil	2	each	.80	\$1.60	
			Subtotal		\$1,400	
Landfill (Nonhaz soil)	Approval fee	1	lump sum	50.00	\$50	
	Disposal	42	tons	29.50	\$1,239	
	fuel/envir surcharge	0.098	each	1239.00	\$121	
			Subtotal		\$1,410	
Landfill (Haz soil)	Disposal	60 tons		165.00	\$9,900	
Landfill (Haz soil)	Energy/security surcharge	0.09 each		9900.00	\$891	
Landfill (Haz soil)	Mich Surcharge	60 tons		10.00	\$600	
Landfill (Haz soil)	Roll off box	4	each	375.00	\$1,500	
Landfill (Haz soil)	Transportation	4	each	1990.00	\$7,960	
Landfill (Haz soil)	liners	4	each	\$60	\$240	
Landfill (Haz soil)	manifest	4	each	\$6	\$24	
Landfill (Haz soil)	fuel/envir surcharge	1	each	\$1,592.00	\$1,592	
Landfill (Haz soil)	fuel/envir surcharge	1	each	\$300	\$300	
			Subtotal		\$23,007	
Excavation Contr	Mobilization	1	lump sum	\$3,800.00	\$3,800	
Excavation Contractor	Hauling and disposing of Demo Debris as Clean Fill	3 per truck loads		\$120	\$360	
Excavation Contractor	Excavate, stockpile, backfill and compact clean fill	305 tons		12.12	\$3,697	
			Subtotal		\$7,857	
Non-Haz Soil	Excavation Contr	Sump Installation	1	lump sum	\$1,000.00	\$1,000
	Excavation Contr	Excavation/Load	42	ton	\$38.00	\$1,596
	Excavation Contr	Transport	42	ton	\$10.75	\$452
	Excavation Contr	backfill	27	cu yard	\$18.50	\$500
			Subtotal		\$3,547	
Haz Soil	Excavation Contr	Excavation	60	ton	\$46.75	\$2,805
	Excavation Contr	Health and Safety	1	Lump Sum	\$416.00	\$416
	Excavation Contr	Load	60	ton	\$5.50	\$330
	Excavation Contr	backfill	38	cu yard	\$18.50	\$703
			Subtotal		\$4,254	
Contractor	Support Building and Replace Building Structures*	1	lump	\$41,343.00	\$41,343	
			Subtotal		\$41,343	

Note\* \* Does not include costs to complete lead or asbestos sampling or any associated disposal costs if present.

**PROBABLE COSTS**

Promotional Number M03463-10001-0 (Option 2 - Bldg Demolition)

Project Name Barb and Ron's Cleaners, Appleton, Wisconsin

Project Manager Lynelle Caine

**LABOR**

Employee & Title	Team Leader	Senior Geologist	Geologist/Engineer	Project Technician	Administrative						Total Dollars
Billing Rate	\$ 144.00	\$ 125.00	\$ 91.00	\$ 80.00	\$ 56.00						
Phase/Task Name	Hours										
Remedial Action Plan and Health and Safety Plan Submittal	2.00	15.00	30.00	0.00	8.00						\$5,341
Source Soil Excavation	2.00	20.00	20.00	65.00	12.00						\$10,480
Evaluate Utilities and Install Additional Monitoring Wells	0.50	4.00	2.00	16.00	2.00						\$2,146
Post-Remedial Groundwater Monitoring	8.00	20.00	32.00	120.00	16.00						\$17,060
Case Closure Request	2.00	10.00	12.00	48.00	8.00						\$6,918
<b>Total Hours by Employee</b>	14.50	69.00	96.00	249.00	46.00	0.00	0.00	0.00	0.00		
<b>Total Dollars by Employee</b>	\$2,088	\$8,625	\$8,736	\$19,920	\$2,576	\$0	\$0	\$0	\$0		\$41,945
<b>Total Consultant Cost</b>											<b>\$41,945</b>

**EQUIPMENT (UNITS)**

Equipment Item	Soil Sampling Equipment/day	Groundwater Sampling Equipment	55-Gallon Barrel	Bentonite							Total Dollars
Billing Rate	\$ 125.00	\$ 200.00	\$ 50.00	\$ 12.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Phase/Task Name	Units										
Remedial Action Plan and Health and Safety Plan Submittal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
Source Soil Excavation	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$250
Evaluate Utilities and Install Additional Monitoring Wells	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$325
Post-Remedial Groundwater Monitoring	0.00	8.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$2,000
Case Closure Request	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	\$192
<b>Total Units</b>	3.00	9.00	8.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	\$2,767
<b>Total Equipment Cost</b>											<b>\$2,767</b>

**SUBCONTRACTORS**

	Driller	Lab	Excavation Contractor	Landfill	Contractor Demo Bldg	Drum Disposal					Total Dollars
Phase/Task Name	Dollar Amount										
Remedial Action Plan and Health and Safety Plan Submittal											\$0
Source Soil Excavation		\$536.00	\$6,379.00	\$28,563.00	\$32,500.00						\$67,978
Evaluate Utilities and Install Additional Monitoring Wells	\$1,818.00	\$134.00				\$460.00					\$2,412
Post-Remedial Groundwater Monitoring		\$8,468.00				\$940.00					\$9,408
Case Closure Request											
<b>Total Subcontractors</b>	<b>\$1,818.00</b>	<b>\$9,138.00</b>	<b>\$6,379.00</b>	<b>\$28,563.00</b>	<b>\$32,500.00</b>	<b>\$1,400.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$79,798</b>
<b>Total Subcontractor Amount</b>											<b>\$79,798</b>

**Barb and Ron's Cleaners - Remedial Action Proposal  
Appleton, Wisconsin**

**TOTALS**

Remedial Action Plan and Health and Safety Plan Submittal	\$	5,341
Source Soil Excavation	\$	78,708
Evaluate Utilities and Install Additional Monitoring Wells	\$	4,883
Post-Remedial Groundwater Monitoring	\$	28,468
Case Closure Request	\$	7,110
<b>Total Project</b>	<b>\$</b>	<b>124,510</b>

	Subcontractor	Bid Item	Estimated Units	Unit	Unit Cost	Total Cost
	Driller	Diggers/utilities	1	lump sum	\$75	\$75
	Driller	Mobilization	1	lump sum	\$450	\$450
	Driller	Drill/sample	27	foot	\$12	\$324
	Driller	Well convert	27	foot	\$12	\$324
	Driller	55 gal drums	2	each	\$50	\$100
	Driller	Well covers	2	each	\$110	\$220
	Driller	Concrete	2	each	\$40	\$80
	Driller	Decontam	1	hour	\$95	\$95
	Driller	Traffic control	1	lump sum	\$150	\$150
				Subtotal		\$1,818
	Laboratory	VOC Analysis (soil excavation)	8	each	\$67	\$536
	Laboratory	VOC Analysis (well installation)	2	each	\$67	\$134
	Laboratory (annual)	VOC Analysis (water)	46	each	\$67	\$3,082
	Laboratory (annual)	Nat Atten (water) Alk	10	each	\$10	\$100
	Laboratory (annual)	Nat Atten (water) E/E/M	10	each	\$50	\$500
	Laboratory (annual)	Nat Atten (water) N+N	10	each	\$11	\$110
	Laboratory (annual)	Nat Atten (water) kjeldahl N	10	each	\$30	\$300
	Laboratory (annual)	Nat Atten (water) Phos	10	each	\$35	\$350
	Laboratory (annual)	Nat Atten (water) Sulf	10	each	\$10	\$100
	Laboratory (annual)	Nat Atten (water) Chlorides	10	each	\$20	\$200
	Laboratory (annual)	Nat Atten (water) TOC	10	each	\$51	\$510
	Laboratory (quart)	VOC Analysis (water)	48	each	\$67	\$3,216
				Subtotal		\$9,138
	Drum Disposal	Mob	2	each	300	\$600
	Drum Disposal	Develop/purge water	8	each	80	\$640
	Drum Disposal	Soil	2	each	80	\$160
				Subtotal		\$1,400
	Landfill (Nonhaz soil)	Approval fee	1	each	50	\$50
		Disposal	170	tons	29.5	\$5,015
		fuel/envir surcharge	0.098	each	\$5,015.00	\$491
				Subtotal		\$5,556
	Landfill (Haz soil)	Disposal	60	each	165	\$9,900
	Landfill (Haz soil)	Energy/security surcharge	0.09	each	\$9,900.00	\$891
	Landfill (Haz soil)	Mich Surcharge	60	each	10	\$600
	Landfill (Haz soil)	Roll off box	4	each	\$375	\$1,500
	Landfill (Haz soil)	Transportation	4	each	\$1,990	\$7,960
	Landfill (Haz soil)	liners	4	each	\$60	\$240
	Landfill (Haz soil)	manifest	4	each	\$6	\$24
	Landfill (Haz soil)	fuel/envirion surcharge	1	each	\$1,592.00	\$1,592
	Landfill (Haz soil)	fuel/envirion surcharge	1	each	\$300	\$300
				Subtotal		\$23,007
Non-Haz Soil	Excavation Contr	Mobilization	1	lump sum	\$950.00	\$950
	Excavation Contr	Sump Install	1	lump sum	\$1,000.00	\$1,000
	Excavation Contr	Excavation	170	ton	\$4.75	\$808
	Excavation Contr	Transport	170	ton	\$8.92	\$1,516
	Excavation Contr	backfill	110	cu yard	\$8.75	\$963
				Subtotal		\$5,236
Haz Soil	Excavation Contr	Excavation	60	ton	\$13.50	\$810
	Excavation Contr	backfill	38	cu yard	\$8.75	\$333
				Subtotal		\$1,143
	Contractor	Demo Building	1	lump	\$32,500.00	\$32,500
				Subtotal		\$32,500

Note\* \* Does not include costs to complete asbestos sampling and disposal of masonry containing lead based paint.

## Appendix B – Probable Project Schedule



## Barb and Ron's Cleaners Proposed Remedial Action Probable Schedule

ACTION ITEMS	MONTHS																											
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
Task 1.0 RAP and and EHSP Submittal		■	■																									
Task 2.0 Source Soil Excavation			■	■																								
Task 3.0 <i>Evaluate Utilities and Install Additional Wells</i>				■	■																							
Task 4.0 Quarterly Groundwater Monitoring				■			■			■			■			■			■			■				■		
Task 5.0 Case Closure Request*																										■	■	

\* = A case closure request will be submitted sooner if the groundwater results indicate a stable or decreasing trend.

## Appendix C – Resumes of Key Project Personnel

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## Lynelle P. Caine

### Qualifications for

#### Barb and Ron's Cleaners

Lynelle's knowledge and experience in environmental consulting and project management spans over 15 years. As a senior project geologist, she is responsible for implementation, technical direction, and management of environmental and hydrogeologic investigations and assessments. Lynelle has participated in and managed investigative and remedial activities for more than 300 petroleum hydrocarbon or chlorinated solvent releases. She has participated or directed more than 150 leaking underground storage tank closure assessments and Phase I and II Environmental Site Assessments. Additionally, she has assisted several local government units with investigating and developing brownfield sites and completing brownfield grant applications.

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#### EDUCATION

St. Norbert College  
Bachelor of Science  
Geology

#### CERTIFICATIONS

Qualified Hydrogeologist—WI  
Health & Safety Training for  
Hazardous Waste Operations  
(40-hr. OSHA)

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#### Areas of Expertise

- Contaminant Investigations, Feasibility Studies, and Remedial Design
- Spill Response Coordination and Implementation
- Underground Storage Tank Closure Assessments
- Natural Attenuation of Petroleum Hydrocarbons and Chlorinated Solvents
- Securing Project Funding and Preparation of Reimbursement Program Claims
- Monitoring Well Installation, Development, and Sampling
- Aquifer Performance Testing and Analysis

#### Relevant Experience

- FREEDOM, WI – FREEDOM CAR SALES  
Lynelle assisted with investigation, remediation and public outreach activities for this project, where soil and groundwater contamination was present and affected private water wells. Lynelle provided technical support for the private well testing process, which included sampling of over 120 private wells. In addition, she coordinated delivery of clean water to the affected landowners and assisted with landowner communication.
- ALGOMA, WI – GRAF'S MOBILE  
Lynelle assisted with investigation and remediation at this former gas station. We installed a treatment system which included a groundwater pump-and-treat element with an oil/water separator, as well as a groundwater air sparging system and an SVE system. The project faced drilling challenges, as soil was inundated with granite deposits and boulders. We worked with approximately five adjacent property owners to install monitoring wells

# Stuart J. Gross, PG

## CLIENT SERVICE MANAGER

### PROFESSIONAL REGISTRATIONS AND CERTIFICATIONS

- Professional Geologist – Wisconsin
- Certified Hydrogeologist
- Certified Underground Storage Tank Professional
- Health & Safety Training for Hazardous Waste Operations (40-hr. OSHA)

### QUALIFICATIONS

Mr. Gross's knowledge and experience in environmental consulting and project management spans 15 years. His project experience includes property assessment, improvement, development and redevelopment of a wide range of commercial and municipal properties. From retail developments to industrial brownfield sites and municipal facilities, he has evaluated sites and helped facilitate real estate transactions for numerous clients. His understanding of property conditions and end-use potential allow him to make recommendations and assist clients in maximizing property values. He also specializes in identifying and minimizing environmental concerns, including petroleum and chemical contamination. Mr. Gross's well-rounded understanding of commercial properties is an asset to clients who buy, sell, or lease such properties.

Presently, Mr. Gross serves as the firm's client service manager in the Private Market Sector. His responsibilities include direct oversight of technical project managers, tracking division profit/loss and capital expenditures, marketing and business development, and enforcement of practical standards and company policies to ensure quality workmanship and employee safety. In addition, Mr. Gross handles project scoping and budget development/control, client and regulatory agency coordination, development and execution of investigative and remedial workplans, report preparation and technical review, and project team coordination.

### AREAS OF EXPERTISE

- Phase I and II Environmental Site Assessments
- Brownfield redevelopment planning and implementation
- Wellhead protection plan development
- Groundwater exploration and modeling
- Aquifer performance testing and analysis
- Natural attenuation of petroleum compounds
- Spill response coordination and implementation
- Contaminant investigation, feasibility studies, and remedial design
- Regulatory agency negotiation and liaison
- Non-metallic mine reclamation
- Contract administration

### EDUCATION

BS Geology (emphasis on Hydrology), University of Wisconsin – Madison, 1994

# Hiedi A. Waller, PE

## SENIOR REGISTERED ENGINEER

### NOTABLE PROJECTS

- Forest County Potawatomi Community – Carter Water System Evaluation
- Forest County Potawatomi Community – Carter Wastewater System Evaluation
- Forest County Potawatomi Community – Swan Creek Engineering Improvements
- Forest County Potawatomi Community – Air Monitoring Station Design
- Forest County Potawatomi Community – Arlyn Alloway Pond Improvements

### PROFESSIONAL REGISTRATIONS AND CERTIFICATIONS

- Professional Engineer – Wisconsin, Michigan
- Health & Safety Training for Hazardous Waste Operations (40-hr. OSHA)
- Certified Technical Service Provider – Natural Resources Conservation Service
- Soil Erosion Inspector – Wisconsin Department of Commerce

### QUALIFICATIONS

Ms. Waller's knowledge and experience in engineering and project management spans almost 20 years. She specializes in evaluating and optimizing the performance of utility systems. Her expertise includes water and wastewater treatment systems, engineering feasibility reports, and community development plans.

As a senior registered engineer at Bonestroo, Hiedi regularly provides contract administration, project management and Tribal coordination. Serving as a Tribal technical expert, Hiedi has completed a variety of projects with the Forest County Potawatomi Community and other Tribes. Her experience includes water and wastewater system evaluations, funding assistance, and community development plan coordination. Before joining Bonestroo, Hiedi worked for the Indian Health Service in Wisconsin and Arizona, designing water and wastewater systems.

### AREAS OF EXPERTISE

- Third-party compliance monitoring
- Water supply and wastewater treatment system surveys
- Wastewater treatment lagoon modifications
- Bid specification design, engineering, and development
- Regulatory agency negotiation and liaison
- Utility capacity studies
- Community development planning
- Brownfield redevelopment planning
- Stormwater treatment and detention system designs
- HydroCAD stormwater quantity modeling
- WinSLAMM and SMADA stormwater quality modeling
- Erosion control and stormwater management plans
- Soil and groundwater contaminant investigation and remediation

### EDUCATION

MS coursework Civil/Environmental Engineering, University of New Mexico – Albuquerque, 1992

BS Mining Engineering, University of Wisconsin – Platteville, 1987

Graduate coursework included water chemistry, water quality, hazardous waste management, radioactive waste management, well drilling, and construction contracting. Additional advanced training attained by completing a course through the University of Wisconsin – Madison on Source Loading and Management Model (SLAMM) software.

**TECHNICIAN**

**Jeffrey R. Brand**

**Qualifications for**

**Barb and Ron's Cleaners**

As a technician, Mr. Brand's responsibilities include scheduling and performing environmental monitoring programs, developing, purging, and sampling groundwater quality monitoring wells, collecting and screening soil samples, maintaining and calibrating sampling and analysis equipment, land surveying and computer-aided design.

Mr. Brand has more than nine years of experience and specializes in the investigation and remediation of sites with chlorinated solvent and petroleum hydrocarbon contamination. His work includes soil borings and monitoring well installation, sampling and reporting, and remediation coordination/oversight. His presence on job sites helps ensure that the project work is smooth and well-coordinated with all stakeholders and subcontractors.

Mr. Brand has experience in using many types of sampling equipment, including water level probes, oil/water interface probes, dissolved oxygen meters, pH/Temp/Conductivity meters, Magnetometers, KV portable power augers and samplers, transit levels, GPS units, PIDs, air sampling equipment, YSI 556 data loggers and anemometers.

**EDUCATION**

Michigan Technological  
University  
Bachelor of Science  
Environmental Engineering

**CERTIFICATIONS**

Certified Site Assessor—WI  
Health & Safety Training for  
Hazardous Waste Operations  
(40-hr. OSHA)

**Areas of Expertise**

- Monitoring Well Installation, Development and Sampling Techniques
- Low-Flow Groundwater Sampling Techniques
- Filtering and Preserving Field Samples
- Land Surveying Methods and Technologies
- Hand-Auguring, Soil Boreholes – Screening, and Sampling
- Geoprobe Soil Boring Techniques
- Site Health and Safety Plans
- Turf Grass Management
- Turf Grass Disease and Pest Management
- Remedial System Operation, Trouble-Shooting and Maintenance
- In Situ Chemical Oxidation of Chlorinated Solvents
- Stormwater and Erosion Control Inspection
- GIS / GPS Data Collection and Management
- Underground Storage Tank Closure Assessments
- Phase I and II Environmental Site Assessments
- Emergency Spill Response Coordination and Excavation
- Air Sampling

## APPENDIX D – Certificates of Insurance

# ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
12/30/2008

**PRODUCER**  
MN-A/E  
**COBB STRECKER DUNPHY & ZIMMERMANN**  
150 S FIFTH STREET STE 2800  
MINNEAPOLIS, MN 55402

**INSURED**  
**BONESTROO, INC**  
2335 W HWY 36  
ST PAUL, MN 55113

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: CINCINNATI INSURANCE COMPANY	
INSURER B: CINCINNATI CASUALTY COMPANY	
INSURER C:	
INSURER D:	
INSURER E:	

**COVERAGES**

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADD'L LTR	INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A		<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> XCU <input checked="" type="checkbox"/> BROAD FORM PD GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC	CPP3668870	01/01/09	01/01/10	EACH OCCURRENCE	\$1,000,000
			INCLUDES: OPERATIONS OF SUBS-CONTINGENT CONTRACTUAL LIAB			DAMAGE TO RENTED PREMISES (Ea occurrence)	\$500,000
						MED EXP (Any one person)	\$5,000
						PERSONAL & ADV INJURY	\$1,000,000
						GENERAL AGGREGATE	\$2,000,000
						PRODUCTS - COMP/OP AGG	\$2,000,000
A		<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	CAA5870245	01/01/09	01/01/10	COMBINED SINGLE LIMIT (Ea accident)	\$1,000,000
						BODILY INJURY (Per person)	\$
						BODILY INJURY (Per accident)	\$
						PROPERTY DAMAGE (Per accident)	\$
		<b>GARAGE LIABILITY</b> <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT	\$
						OTHER THAN AUTO ONLY: EA ACC	\$
						AGG	\$
A		<b>EXCESS/UMBRELLA LIABILITY</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input checked="" type="checkbox"/> RETENTION \$0	CPP3668870	01/01/09	01/01/10	EACH OCCURRENCE	\$5,000,000
						AGGREGATE	\$5,000,000
							\$
							\$
							\$
B		<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below	WC898071014	01/01/09	01/01/10	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER	
						E.L. EACH ACCIDENT	\$100,000
						E.L. DISEASE - EA EMPLOYEE	\$100,000
						E.L. DISEASE - POLICY LIMIT	\$500,000
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS FOR BID PURPOSES ONLY

**CERTIFICATE HOLDER**

SAMPLE

**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

**SAMPLE**



# ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
04/24/2009

**PRODUCER**  
 MN-A/E  
 COBB STRECKER DUNPHY & ZIMMERMANN  
 150 S FIFTH STREET STE.2800  
 MINNEAPOLIS, MN 55402

**INSURED**  
 BONESTROO, INC  
 2335 W HWY 36  
 ST PAUL, MN 55113

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE		NAIC #
INSURER A:	BEAZLEY INSURANCE COMPANY INC	37540
INSURER B:		
INSURER C:		
INSURER D:		
INSURER E:		

### COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADD'L LTR	INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
		GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOG				EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$
		AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
		GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY: EA ACC \$ AGG \$
		EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE  <input type="checkbox"/> DEDUCTIBLE RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				<input type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
A		OTHER ARCHITECTS & ENGR PROF LIAB (CLAIMS MADE)	V15SK309PNPA INCL'G POLLUTION	04/29/09	04/29/10	EACH CLAIM: \$5,000,000 ANNUAL AGG: \$5,000,000

SAMPLE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS  
FOR BID PURPOSES ONLY

### CERTIFICATE HOLDER

SAMPLE

### CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.  
AUTHORIZED REPRESENTATIVE