Environmental Consultants
and Contractors

2830 Dairy Drive
Madison, WI 53718-6751

608 224-2830
FAX 608 224-2839
www.scsengineers.com

SCS ENGINEERS

November 25, 2015
File No. 25264215

Mr. Mike Schmoller
Wisconsin Department of Natural Resources
South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject: Proposal for Source Remediation and NR 722 Remedial Action Alternatives Analysis
Pilgrim Cleaners Site
7475 Mineral Point Road, Madison, Wisconsin
BRRTS #02-13-551995

Dear Mr. Schmoller:

On behalf of Inland Commercial Property Management, SCS Engineers (SCS) is providing this proposal for source remediation and analysis of remedial action alternatives for soil and groundwater contaminated with chlorinated volatile organic compounds (CVOCs) at the Pilgrim Cleaners site, 7475 Mineral Point Road, Madison, Wisconsin. SCS reviewed the available information and propose a team of skilled field staff and technical specialists from our Madison office to meet the remedial goals at this site. Consistent with NR 169, the letter includes a brief project background screening and a description of the following remedial approaches:

- Soil Excavation (Option 1)
- Injection Technologies (Option 2)
- Remediation by Natural Attenuation (Alone) (Option 3)
- Soil Vapor Extraction (SVE) with Natural Attenuation (Option 4)

This letter summarizes the pros and cons for each remedial option and key assumptions associated with remediation and case closure.

Based on overall cost, soil and groundwater remediation effectiveness, technical feasibility, restoration timeframe, and site-specific concerns, SCS recommends that Pilgrim Cleaners proceed with SVE with Natural Attenuation (Option 4). The proposed SVE system location is shown in **Figure 1** and **Figure 2**.

The recommended remedy includes three tasks:

- **Task 1 – Pilot Test and SVE Design.** Installation of two pilot SVE wells, followed by a two week test of operation and monitoring using temporary equipment and

instruments to determine the potential effectiveness and gather data. A document summarizing the pilot test will include final design recommendations.

- **Task 2 – SVE Installation.** Includes construction of an additional SVE well, and installation of the blower system and associated piping and appurtenances with initial startup of the system.

- **Task 3 – Operation, Maintenance, Monitoring and Closure.** This task includes:
  - Two years of system operation, maintenance, and monitoring
  - Two annual VOC groundwater sampling events with collection and analysis of natural attenuation factors
  - Four semi-annual operation, maintenance, and monitoring reports
  - Post SVE operation activities including:
    - Soil sampling and analysis for VOCs
    - Case closure request
    - SVE system abandonment

The proposed price for these services is presented in **Table 1**, and a schedule is presented in **Table 2**. A quote from Badger State Drilling to install the SVE wells is presented in **Attachment A**. Please note our proposal assumes Wisconsin Department of Natural Resources (WDNR) review fees and Geographic Information System (GIS) registry fees, if applicable, will be paid directly by the Responsible Party. **Table 1** does not include, and SCS will not charge for travel, meals, or lodging.

Statements required under NR 169.23(3)(b) and NR 169.23(9)(a) are presented in **Attachment B**. A Certificate of Insurance from our agent is presented in **Attachment C**. Short descriptions of the main SCS project teams' qualifications are presented in **Attachment D**.

Once we have agreement from the WDNR regarding the recommended remedial approach, SCS will prepare a Work Authorization based on this scope and proposed cost. The work plan will be followed by a more detailed cost estimate and work plan for WDNR's review and approval.

BACKGROUND

Site Investigation Findings

Site investigation activities were performed at the Pilgrim Cleaners site to evaluate the degree and extent of chlorinated solvent contamination. The contamination resulted from a release of dry cleaning solvent containing tetrachloroethylene (PCE). The date and quantity of the release are not known.

Clay soils with occasional sand and silty sand layers extend from the ground surface to the top of limestone bedrock. Soil samples collected in borings show sandier soils beneath the alley on the east side of the building. The top of limestone is present at a depth of approximately 20 feet

below ground surface (bgs). A perched water table was observed in the bedrock at a depth of approximately 70 feet bgs. A deeper aquifer is present in the dolomite bedrock at approximately 110 feet bgs. Groundwater appears to flow in the perched unit to the south-southeast, and groundwater flow in the deeper unit appears to be to the east-northeast. The vertical gradient is downward between the two units.

PCE has migrated through the unsaturated soil and bedrock and into groundwater to a depth of at least 110 feet bgs. The majority of the soil contamination appears to be present under the dry cleaning building, and under the alley east of the building at levels exceeding Chapter NR 720 residual contaminant levels (RCLs).

Groundwater contamination exceeding Wisconsin Administrative Code (WAC) Chapter NR 140 enforcement standards (ES) extends about 350 feet or more off site to the south. The City of Madison supplies potable water though municipal wells. The nearest municipal water supply well (Madison well #16) is located approximately 3,000 feet to the east.

Elevated PCE and trichloroethene (TCE) soil gas concentrations (TCE is a common breakdown product of PCE) beneath the dry cleaner indicate a potential for vapor intrusion into buildings at this site. PCE was measured in sub-slab vapor samples at concentrations exceeding the Vapor Action Levels (VALs) beneath the dry cleaner (Pilgrim Cleaners) and other adjacent tenant spaces (Aveda, Weight Watchers, and Helping Hands Food Pantry). TCE was also measured in sub-slab vapor samples at concentrations exceeding VALs below Pilgrim Cleaners and Weight Watchers. A sub-slab vapor management system has already been approved by the WDNR as an interim measure to address this issue. The sub-slab vapor management system is anticipated to be installed in the first quarter of 2016.

For additional site investigation details, please see the February 2015 Site Investigation Report (SIR) on file with the WDNR.

Site-Specific Issues

The following site-specific issues affect remedial action planning at this site:

1. The High Point Shopping Center building extends north and south of the space leased by Pilgrim Cleaners, and the property east of the building is taken up almost entirely by a narrow alley, which has no room for additional structures, leaving very little room for access.

2. The greatest soil CVOC source area concentrations are located directly under a building that houses multiple operating businesses. Remediation approaches that minimize business disruption are preferable.

3. The source area is in clayey soil with sandy and silty sand layers that extends to unsaturated bedrock. The top of bedrock is present at a depth of approximately

20 feet bgs. Injection and extraction treatment methods may be limited by the properties and low permeability of the clay soil.

4. Soil samples show concentrations of CVOCs above RCLs under the driveway behind the building, and further downslope towards the retail operations to the east. The existing and anticipated future use of the property is expected to remain commercial, with the same building footprint and general processes currently in place. Therefore, regardless of the remedial approach selected, some residual CVOC-contaminated soil will remain in place when the case is closed, requiring that the site be listed on the GIS Registry.

5. Groundwater quality is not expected to be returned to target levels if soil with concentrations of CVOCs above RCLs remains in the ground.

6. A vapor control system has been approved for installation beneath the building slab because PCE and TCE vapors have been measured beneath the floor slab in excess of vapor risk screening levels. This system will be a low-pressure, sub-slab depressurization system, and will not accomplish the mass removal envisioned by the SVE system, which will be sealed to collect vapors from deeper depths (below 5 feet).

REMEDIAL ACTION OPTIONS AND EVALUATION

The proposed approach to remedial actions at the Pilgrim Cleaners site is intended to reduce the amount of CVOCs in the unsaturated zone and subsequently migrating into the groundwater. Reducing the amount of CVOCs migrating into the groundwater is expected to allow groundwater quality to improve.

Remedial actions for soil are evaluated and discussed below as they relate to soil and groundwater remediation effectiveness, technical feasibility, restoration timeframe, and site-specific concerns for the following four options:

- Soil Excavation
- Injection Technologies
- Natural Attenuation
- Soil Vapor Extraction with Natural Attenuation

Option 1 – Soil Excavation

Soil excavation would be designed to remove source material with the highest PCE concentrations from below the concrete slab of the building, and hauling excavated materials to a licensed hazardous waste facility for disposal. Removal of this mass of soil with PCE would reduce the driving force that may otherwise provide an ongoing source for the groundwater contamination. For this option to be implemented, Pilgrim Cleaners and the businesses on each side would be temporarily closed and equipment removed from the facility while the action is implemented. It appears an excavation in excess of 13 feet bgs and at least 40 feet wide at the top would be

required to remove the soil with the highest concentrations from beneath the building. An excavation of this size would require extensive structural evaluation, demolition, and temporary bracing to support the building during this process. After the excavation is complete, the building and equipment would be replaced and returned to use.

The excavation would be followed by a period of groundwater natural attenuation monitoring for two years. If results are favorable, a case closure would be submitted to the WDNR.

Pros

- Addresses source removal more definitively than in-situ treatment techniques if removal is complete
- May enhance property value after completion
- Compared to other approaches, short timeframe for remediation of soil that is removed

Cons

- Highest relative remedial option cost
- Disruptive to multiple ongoing businesses and site traffic
- Does not directly address unsaturated bedrock or groundwater impacts
- Does not address CVOC concentrations above RCLs in soil outside of the excavation

Conclusion

Excavation and disposal of soil is not recommended as a remedial option at this site. The excavation process would be too disruptive to the businesses. Three businesses would need to halt operations for the duration of the excavation process. The effort required to complete the demolition, bracing, excavation, and disposal in tight quarters, and then rebuild the structure makes this a very expensive operation. In addition, the presence of buried utilities, structures, and other obstacles would prevent removal of all soil with CVOC concentrations above RCLs, thus reducing effectiveness. Duration to achieve an improvement in soil concentrations and groundwater quality would also remain long because the mass of CVOCs remaining in the ground would likely continue to migrate to groundwater.

Option 2 – Injection Technologies

Injection technologies use chemicals or biological liquids to adjust subsurface conditions and accelerate breakdown of CVOCs. For the purpose of this evaluation, Option 2 is considered to consist of In-Situ Chemical Oxidation (ISCO) by injection of an oxidizing agent (i.e., PersulfOx from Regenesis, or similar) or enhanced anaerobic bioremediation (also known as Enhanced Natural Attenuation), by injection of a bacteria food source like cheese whey to cause the breakdown of PCE in soil under the building. In a subsurface setting such as this, the ISCO treatment process is typically assumed to include two injection events using PersulfOx spaced about four weeks apart. The longevity of the injected materials is dependent upon a variety of

factors, but chemical oxidation from PersulfOx is generally expected to be four weeks once injected. The longevity of cheese whey or other biological liquids cannot be predicted at this stage.

The first injection application would be considered a pilot test to explore the effectiveness of the selected technology in the low permeability clay soils. The second application would be applied or adjusted if the pilot test is successful.

The total pounds of material to be injected in the treatment area is designed based on several factors including, but not limited to, the concentration of CVOCs, the volume of soil to be treated, the desired final concentration, current subsurface condition (aerobic or anaerobic), and soil type. During each event, the selected material would be injected into the impacted soils through direct-push points to depths between 0 and 20 feet bgs. Injection points in clayey soils are typically spaced 6 feet on center for estimating quantities for application events. The injection points for the second application event would be offset from the first set of injection points to optimize distribution within the clay soils. The remediation of the soils are often expected be complete within six weeks after the second PersulfOx injection event. The time for reductive dechlorination, or enhanced anaerobic bioremediation, is not easily predicted, but is usually longer.

Based on our experience, this approach is likley capable of reducing the soil concentration of PCE by approximately 75 percent or more. SCS would perform post-injection soil confirmation sampling to evaluate the treatment. Four direct-push borings would be advanced to a depth of approximately 20 feet bgs. Four samples from each boring would be collected for analysis of VOCs.

The chemical injection would be followed by two years of annual groundwater and natural attenuation monitoring, with soil sampling and analysis for VOCs. If results are favorable, a case closure would be submitted to the WDNR.

Pros

- Lower cost compared to excavation option.
- Less business disruption compared to excavation activities.
- Reduces the contaminant mass and concentrations in soil.
- Can be used to expand treatment beyond area inside footprint of building and work around obstructions.

Cons

- Does not directly address unsaturated bedrock or groundwater impacts.
- A significant amount of work would be required inside the building to treat source area. That effort, while less than soil excavation, would still be significantly

disruptive to the operation of the business during each injection event and confirmation sampling.

- Injection methods can sometimes become more expensive because of reduced efficacy of chemicals when treating CVOC adsorbed to clay particles. The bond and low permeability may require more treatments. In addition, the injected materials can be difficult to control.
- Injection of oxidizing agents may cause release of vapors rendering the work spaces within the High Point Mall unusable for a period of time.

Conclusion

Injecting technologies (ISCO or enhanced natural attenuation through anaerobic bioremediation), are not recommended for the Pilgrim Cleaners site. This approach would be extremely disruptive to operation of the business during the injection and sampling processes. Vapor production during the treatment period could produce unsafe air quality conditions in adjoining businesses, resulting in even greater disruption to business. The low permeability of the clayey soil increases uncertainty that the treatment will be effective, thus potentially requiring additional treatments, or changes in the injected chemicals that would increase cost and cause more disruption to business.

Option 3 – Monitored Natural Attenuation (Alone)

Monitored natural attenuation is included to provide the lowest cost option. For the purpose of comparing this option to the others, four years of semiannual groundwater monitoring, with regular reports to the WDNR, are anticipated. The monitoring includes the following for the five site monitoring wells:

- Semiannual water level measurements.
- Semiannual VOC sampling.
- Annual natural attenuation sampling for iron, ethane, ethane, methane, and sulfate.
- Annual field measurement for dissolved oxygen, REDOX potential, and pH.

Natural attenuation is most effective as part of a remedial action plan when it is already occurring at the site, or if subsurface conditions can be adjusted to enhance the attenuation process. Data available at this time is not sufficient to show whether natural attenuation is occurring. However, the lack of PCE breakdown products in groundwater and soil are interpreted as indicators that natural attenuation may not be occurring at this time. Lacking that evidence, the duration required for the site to achieve clean up goals is expected to be long.

Pros

- Least disruptive to business operations because monitoring points already exist.
- Lowest cost, because of minimal additional remedial construction activity.

Cons

- Does not change mass of CVOCs in source area.
- Longer remediation timeframe than other options.

Conclusion

Monitored natural attenuation is not recommended as a stand-alone remedial option because it is not expected to be sufficiently effective in a timeframe that is appropriate.

Option 4 – Soil Vapor Extraction with Monitored Natural Attenuation

SVE with monitored natural attenuation of groundwater is considered a possible remedial action as an attempt to reduce the mass of CVOCs in the source area without significantly disrupting the business operations. Reducing the mass of CVOCs in the unsaturated zone is expected to have a stabilizing effect on the concentrations of CVOCs in the groundwater which will then result in NR 726 closure. For the purpose of this evaluation, SCS recommends a three phase plan:

- Phase 1 – Pilot test to gather information for designing location for a third well, and size the associated appurtenances
- Phase 2 – Final system construction of a third well and SVE system construction
- Phase 3 – Operation and maintenance with monitoring of groundwater, soil sampling and analysis, and a case closure request

SVE provides a reasonable method for removing a portion of the relatively low amount of CVOCs in the unsaturated zone at this site. The bulk of the system installation work would occur in the alley outside the building, thus causing significantly less disruption to operations at Pilgrim Cleaners and adjoining businesses. In addition, boring logs indicate sandier soil beneath the pavement, so the SVE system would be more effective here. System installation would also be accomplished in a shorter time period, as it involves two short construction periods for Phases 1 and 2. Use of vacuum to draw vapors from the ground provides the opportunity to remove CVOCs from a larger area, without limitations due to utilities and structures, and allows the treatment time to be extended if need be. The cost for constructing this option would be significantly lower than either of the excavation or injection options.

Pros

- Low level of disruption to business operations, because little to no work is anticipated inside the building. Note that while it is not planned, an SVE point can be installed within the building if needed, with a degree of impact on business operations similar to a soil sampling event.

- Lower cost than would be anticipated for Option 1 or 2.
- The system has flexibility to be expanded and treat a larger area, including the interior, by installing more SVE points.
- Will work in support of the sub-slab vapor management system rather than causing release of increased vapors.

Cons

- Some uncertainty regarding effect on source area under the building.
- Longer remediation timeframe than other options.

Conclusion

SCS recommends the SVE remedial option with monitored natural attenuation of the groundwater be used at Pilgrim Cleaners. The three phase approach described above is expected to produce results more effectively than monitored natural attenuation alone, and be significantly lower cost and less disruptive than excavation or injection remedial options. The SVE system will reduce the mass of CVOCs in the unsaturated zone and that will result in stabilization of the plume. It is a feasible approach that will provide flexibility to adjust the system design as monitoring data is gathered and effectiveness determined during operation. **Figure 1** and **Figure 2** show the site plan with existing monitoring wells, and approximate SVE well locations at two different scales. **Table 1** summarizes the estimated cost and is based on the following assumptions.

Phase 1 – Pilot test will include labor, equipment, and materials to:

- Permit and install two 2-inch diameter, 15 foot deep SVE wells sealed in the top 5 feet and screened in the lower 10 feet. Located approximately 20 feet apart, as close as possible to the back of the building to minimize disruption to traffic (**Figure 2**).
- Temporary instrumentation and blower for two weeks of testing.
- Sampling and laboratory tests on blower discharge using carbon tubes.
- Instrumentation to monitor vacuum at well not connected to blower to evaluate radius of influence of each well.
- Evaluate data and develop final system design.
- Gain approval to implement final design.

Phase 2 – Construct and operate final SVE system

- Install one additional SVE well at a location determined after the pilot test is evaluated.
- Sawcut pavement, and excavate and dispose of impacted soil for piping.
- Install final piping and appurtenances for system.
- Install the SVE blower, knockout tank, and power connections in an insulated weatherproof enclosure next to the building.

- Commission system.
- Operate and monitor the system for two years with associated discharge vapor quality sampling and analysis (five daily samples, five weekly samples, then monthly).
- Sample and test groundwater annually for VOCs and natural attenuation parameters.
- Sample soil and analyze for VOCs at the end of the two year operating period.
- Prepare and submit four semi-annual Operation, Maintenance, Monitoring, and Optimization Reports using form 4400 – 194, as required by NR 724.13.
- Prepare the final case closure request report.
- Remove the SVE system.

Assumptions

- Existing monitoring wells remain accessible for sampling.
- The groundwater CVOC plume is stable within two years and additional monitoring is not necessary.
- Soil conditions will not require installation of an SVE point inside the building
- Costs do not include monitoring well repairs or abandonment.

Based on overall cost, soil and groundwater remediation effectiveness, technical feasibility, restoration timeframe, and some site-specific concerns, SCS recommends that Pilgrim Cleaners proceed with soil vapor extraction (Option 4) to achieve NR 726 closure. As shown in **Table 1**, SCS estimates a total project cost for Option 4 of $112,960. All the costs summarized in this Remedial Options Analysis are preliminary.

As mentioned previously, SCS will begin preparing a more detailed cost estimate and work plan immediately after receiving the signed work authorization. We anticipate the preliminary project schedule as shown in **Table 2**.

Please contact me at (608) 216-7369 if you have any questions concerning this letter.

Sincerely,

Tom Karwoski
Senior Project Manager
SCS ENGINEERS

AE/jsn/TK

cc: Laura Sawicki, Inland Commercial Property Management

Attachments: Table 1 – Engineers Estimate of Cost for Selected Pilgrim Cleaners Remedial Option 4
Table 2 – Preliminary Draft Schedule for Option 4
Figure 1 – Pilgrim Cleaners Site Plan
Figure 2 – Proposed SVE Well Locations
Attachment A – Price Proposal from Badger State Drilling
Attachment B – Certification Statements from SCS
Attachment C – Insurance Certificate
Attachment D – Project Team Qualifications

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TABLE 1: Cost Estimate - SCS Engineers
Remedial Action Option 4 - SVE- At Pilgrim Cleaners
SCS Proposal No. 25264215

SCS ENGINEERS

Task Description <<Enter Staff Last Name>>	Project Director $180	Senior Project Manager $145	Senior Project Professional $115	Associate Professional $95	Associate Professional $95	Administrative Assistant $63	Total Hours	Subtotal	Exp	Subs/Lab	Total	Task Total Rounded to $10
Task 1 - Install Conduct and Evaluate Pilot Test for SVE												
Coordination/ PM/Update Safety Plan/Access Agreements		12	8	2			22	$2,850			$2,850	
Prepare Work Plan/Submit & edit for DNR & Client Approval	2	2	10		2	2	18	$2,116			$2,116	
Install 2 SVE Pilot Wells (Access, Clear Utilities, Drill, Install)		1	2	8			11	$1,135		$2,540	$3,675	
Prepare for pilot test (install temp blower, power, instruments)		1	2	8			11	$1,135	$200		$1,335	
Conduct Pilot Test (2 weeks) with analysis of 4 discharge samples and rush turn-around at $200 per test		1	8	36			45	$4,485		$800	$5,285	
Summarize data			4			2	6	$586			$586	
Evaluate pilot test, prepare summary design memo	1	2	12	2	2	2	21	$2,356			$2,356	
Submit for design approval							0	$0			$0	
Subtotal	**3**	**19**	**46**	**56**	**4**	**6**	**134**	**$14,663**	**$200**	**$3,340**	**$18,203**	**$18,200**
Task 2 - SVE System Final Construction							0	$0			$0	
Coordination / PM/ Update Safety Plan	1	4	4	2			11	$1,410			$1,410	
Install third SVE well (gain access, clear utility, drill, install well, 3-MHs)		1	2	6			9	$945	$2,000	$1,570	$4,515	
Construct SVE system (acquire materials, guide electrician, guide trench excavator, install piping, monitor pavement repair; install blower)	2	1	12	36			51	$5,305			$5,305	
Itemized Costs and Services							0	$0			$0	
Sub: Trenching (Sawcut, excavate, dispose as impacted material in 36 drums @ $150/drum to supply and dispose, steel plates over ex.)							0	$0		$9,550	$9,550	
Item: Install Blower in insulated enclosure, ground level)							0	$0	$1,500	$4,000	$5,500	
Item: Install Piping / Valves / Swiches (LS)							0	$0	$1,500	$1,500	$3,000	
Sub: Fill trench, and Patch driveway (Asphalt $18/sqft x 200 sqft)							0	$0		$3,200	$3,200	
Sub: Electrician (LS for providing power drop and meter, connecting blower)							0	$0		$1,200	$1,200	
Electricity Cost (est. $750/yr x 2)							0	$0	$1,500		$1,500	
Startup Testing		2	4	8			14	$1,510			$1,510	
Subtotal	**3**	**8**	**22**	**52**	**0**	**0**	**85**	**$9,170**	**$6,500**	**$21,020**	**$36,690**	**$36,690**
Task 3 – O&M with Monitoring and Reporting							0	$0			$0	
Daily Discharge sampling (first 5 days rush analysis) ($200x5)							0	$0		$1,000	$1,000	
5 Weekly and 20 Monthly Carbon Tube Analysis: Not Rush ($100x25)							0	$0		$2,500	$2,500	
O&M Activities (regular site visits, to do maintenance and ID repair needs, collect carbon tube samples) 1.5 hours per week for 104 weeks plus support.		8	52	166			226	$22,910			$22,910	

TABLE 1: Cost Estimate - SCS Engineers
Remedial Action Option 4 - SVE- At Pilgrim Cleaners
SCS Proposal No. 25264215

SCS ENGINEERS

Task Description <<Enter Staff Last Name>>	Project Director $180	Senior Project Manager $145	Senior Project Professional $115	Associate Professional $95	Associate Professional $95	Administrative Assistant $63	Total Hours	Subtotal	Exp	Subs/Lab	Total	Task Total Rounded to $10
O&M Monitoring and Optimzation Update Semi-Annual Report 1		2	4	8			14	$1,510			$1,510	
Annual GW Monitoring Year 1 (Wells MW1, MW2, MW2P, MW3, MW4, MW5, MW6, and MW7)												
Field Event to sample GW		1	6	12			19	$1,975	$130		$2,105	
Lab Analysis - Year 1 (8 VOC and MNA in GW)							0	$0		$2,000	$2,000	
O&M Monitoring and Optimzation Update Semi-Annual Report 2		2	6	8	2	2	20	$2,056			$2,056	
O&M Monitoring and Optimzation Update Semi-Annual Report 3		2	4	8			14	$1,510			$1,510	
Final GW and soil Sampling and Analysis, Year 2 (MW1, MW2, MW2P, MW3, MW4, MW5, MW6, and MW7, 3 soil points near SGP3, SGP4, HA-3 with a duplicate soil sample)												
Field Event (sample GW and sample soil using geoprobe at 3 points plus a duplicate)		1	8	24			33	$3,345	$200	$1,000	$4,545	
Lab analysis - Year 2 (8 VOC and MNA in GW, 4 VOC in Soil)							0	$0		$2,500	$2,500	
O&M Monitoring and Optimzation Update Semi-Annual Report 4 with recommendation for closure		2	6	8	2		18	$1,930			$1,930	
Closure Request Report (Assume RP pays review fees)	2	8	46	24	12	8	100	$10,734			$10,734	
							0	$0			$0	
Decommission SVE System/remove the equipment/abandon sve wells		2	4	16			22	$2,270	$500		$2,770	
Subtotal	**2**	**28**	**136**	**274**	**16**	**10**	**466**	**$48,240**	**$830**	**$9,000**	**$58,070**	**$58,070**
Total	**8**	**55**	**204**	**382**	**20**	**16**	**685**	**$72,073**	**$7,530**	**$33,360**	**$112,963**	**$112,960**

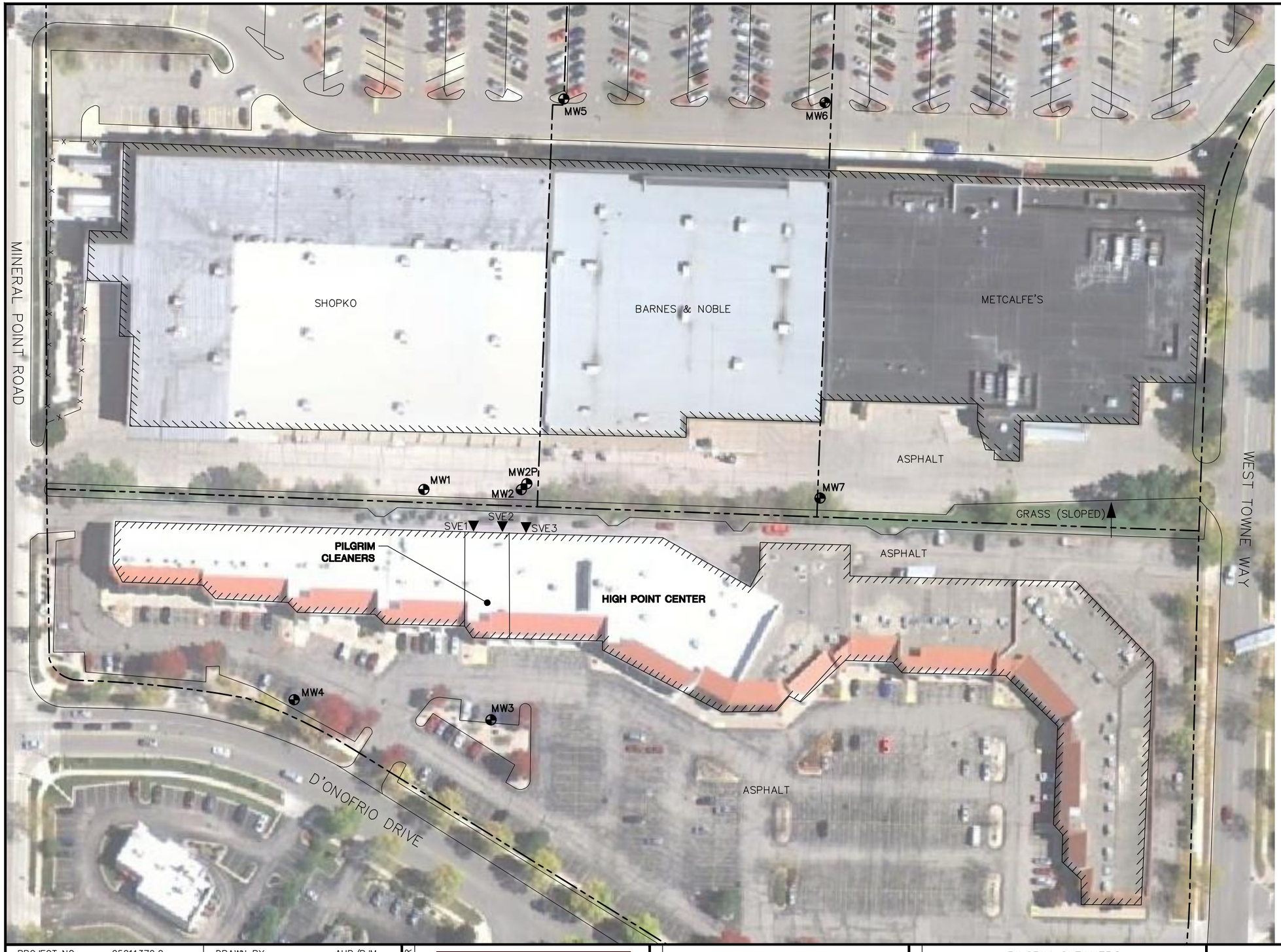
$112,963 **$112,960**

I:\3722\1_Remedial_Options_Analysis\[4_151125_4_Table 1-Cost Estimate_Piilgrim Cleaners_11_24.xlsx]Table 1 11/25/15

Select Rate Schedule
2015

Table 2: Proposed Project Schedule: SVE at Pilgrim Cleaners Site

	ACTIVITY	DURATION
1	Workplan preparation with 30 days for WDNR review and approval of Workplan	8 weeks
2	SVE pilot test and design with 30 days for WDNR review and approval of Design Report	8 weeks
3	SVE system construction	6 weeks
4	SVE system operation, maintenance, monitoring, and optimization	2 years
5	Deliver semi-annual O&M, Monitoring and Optimization Report 1	6 months after system startup
6	Round 1 annual groundwater sampling and analysis	1 year after SVE start
7	Deliver semi-annual O&M, Monitoring and Optimization Report 2	45 days after Round 1 GW results arrive
8	Deliver semi-annual O&M, Monitoring and Optimization Report 3	6 months after Report 2 is submitted
9	Round 2/Final annual groundwater sampling and analysis and soil sampling and analysis	2 years after SVE start
10	Deliver semi-annual O&M, Monitoring and Optimization Report 4	45 days after final lab results arrive
11	Deliver draft Site Closure Request Report	2 months after WDNR requests this report
12	Deliver final Site Closure Request Report	1 month after receiving WDNR comments
13	Decommission and remove SVE system equipment, abandon SVE wells	1 month after WDNR approval
	Approximate Project Duration	**3 years**



LEGEND

- PROPERTY LINE
- E — ELECTRIC
- G — GAS MAIN
- ST — STORM SEWER
- W — WATER MAIN
- MONITORING WELL
- APPROXIMATE SVE WELL LOCATIONS

N

80 0 80

SCALE: 1" = 80'

PROJECT NO.	25211372.2	DRAWN BY:	AHB/BJM
DRAWN:	10/16/13	CHECKED BY:	AE
REVISED:	11/23/15	APPROVED BY:	

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: INLAND COMMERCIAL PROPERTY MANAGEMENT, INC.
2901 BUTTERFIELD ROAD
OAK BROOK, IL 60523

SITE: PILGRIM CLEANERS
7475 MINERAL POINT ROAD
MADISON, WISCONSIN

SITE PLAN

FIGURE 1

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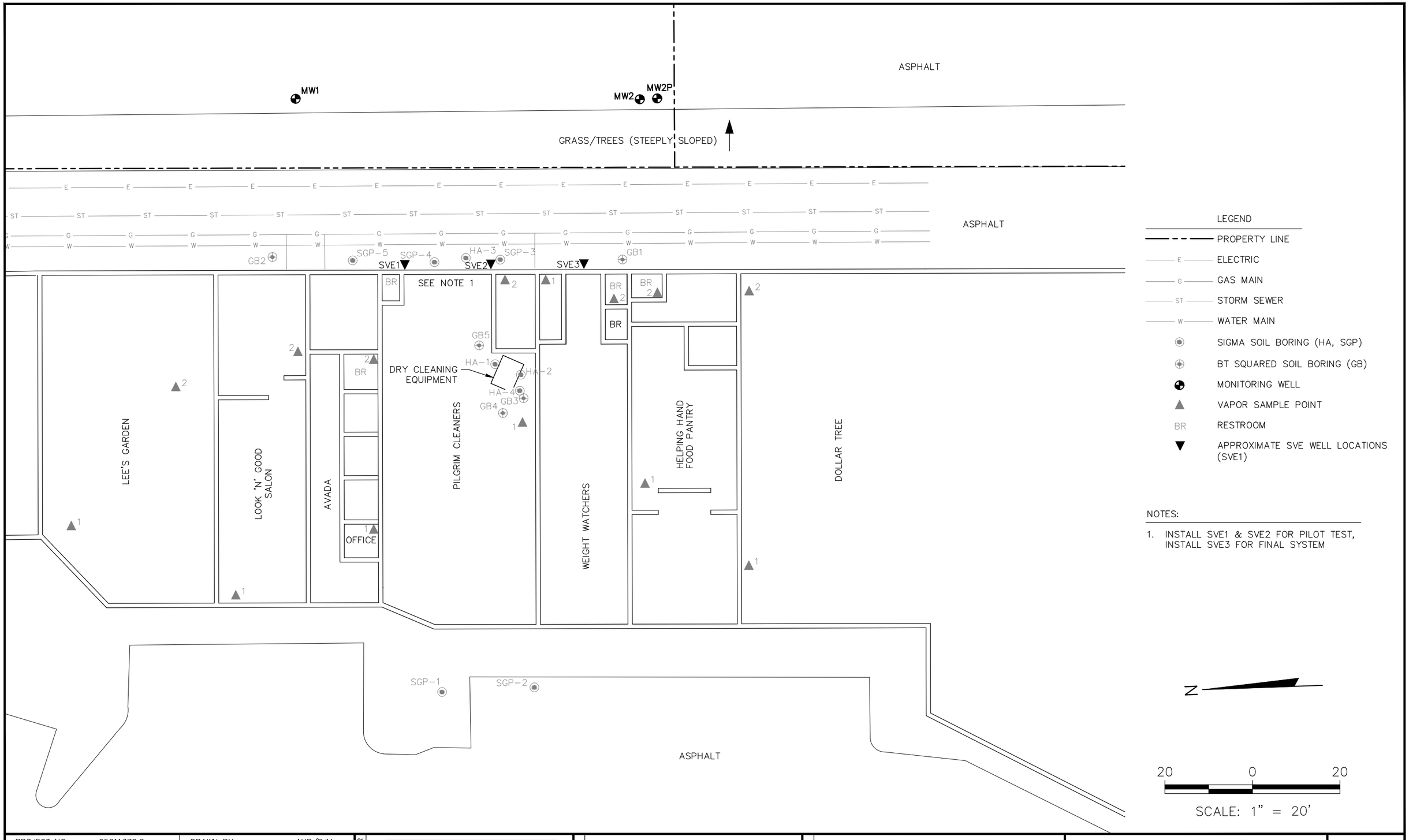

PROJECT NO.	25211372.2	DRAWN BY:	AHB/BJM	ENGINEER: SCS ENGINEERS, 2830 DAIRY DRIVE MADISON, WI 53718-6751, PHONE: (608) 224-2830	CLIENT: INLAND COMMERCIAL PROPERTY MANAGEMENT, INC. 2901 BUTTERFIELD ROAD OAK BROOK, IL 60523	SITE: PILGRIM CLEANERS 7475 MINERAL POINT ROAD MADISON, WISCONSIN	PROPOSED SVE WELL LOCATIONS
DRAWN:	10/16/13	CHECKED BY:	AE				FIGURE 2
REVISED:	11/23/15	APPROVED BY:					

ATTACHMENT A

Price Proposal from Badger State Drilling

BADGER STATE DRILLING CO., INC.
360 BUSINESS PARK CIRCLE
STOUGHTON, WI. 53589-3395

TELEPHONE - ((608) 877-9770
FAX - (608) 877-9771

DATE: NOVEMBER 16, 2015
RE: DRILLING SERVICES
PROJECT: PILGRIM CLEANERS, MADISON, WI
SCS ENGINEES, INC.
PROJECT MANAGER - TOM KARWOSKI

SCOPE OF WORK:

PHASE 1 - TWO BORINGS CONTINUOUSLY SAMPLED TO 20.0' OR BEDROCK REFUSAL WITH 4.25" HSA THEN CONVERTED TO 2.0" PVC SVE WELLS WITH 15.0' OF SCREEN SECTION. DECON, DRUM CUTTINGS.

PHASE 2 - ONE BORING CONTINUOUSLY SAMPLED TO 20.0' OR BEDROCK REFUSAL WITH 4.25" HSA THEN CONVERTED TO 2.0" PVC SVE WELL WITH 15.0' OF SCREEN SECTION. DECON, DRUM CUTTINGS.

ESTIMATED COST:

	UNITS		COST	AMOUNT
MOBILIZATION\DEMOBILIZATION	2.0 EA.	@ $	325.00	650.00
- PROJECT COORDINATION	2.0 EA.	@ $	75.00	150.00
- DRILLING & SAMPLING W/4.25" HSA	60.0 FT.	@ $	17.00	1020.00
- 2.0" WELL INSTALLATION & MATERIALS	60.0 FT.	@ $	18.50	1110.00
- FLUSH GRADE WELL COVERS	3.0 EA.	@ $	200.00	600.00
- 55-GAL. DRUMS	3.0 EA.	@ $	60.00	180.00
- DECONTAMINATION & CLEANUP	2.0 EA.	@ $	200.00	400.00
-	0.0	@ $	0.00	0.00
-	0.0	@ $	0.00	0.00
-	0.0	@ $	0.00	0.00
-	0.0	@ $	0.00	0.00
-	0.0	@ $	0.00	0.00
-	0.0	@ $	0.00	0.00
-	0.0	@ $	0.00	0.00
- STANDBY TIME FOR DELAYS CAUSED BY OWNER OR THEIR REPRESENTATIVE	0.0 HR.	@ $	200.00	0.00
TOTAL ESTMATED COST				4110.00

ACCEPTED BY: DATE:

SUBMITTED BY: DATE: 11/16/15

Mark Karwoski

BADGER STATE DRILLING, INC. 16-Nov-15

PLEASE RETURN ONE COPY FOR OUR RECORDS

ATTACHMENT B

Certification Statements from SCS

Environmental Consultants
and Contractors

2830 Dairy Drive
Madison, WI 53718-6751

608 224-2830
FAX 608 224-2839
www.scsengineers.com

SCS ENGINEERS

DERF QUALIFICATIONS

In accordance with ch. NR 169.23(3)(b), SCS will:

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

CERTIFICATIONS

In accordance with ch. NR169.23(9)(a), SCS certifies that:

- Consultant and contact services will comply with NR 700 – 728.
- Upon request, SCS will make available to the Department for inspection and copying all documents and records related to the contract services.
- SCS did not prepare the bid in collusion with any other consultant submitting a bid on the site.

I:\3722\1_Remedial_Options_Analysis\Attachment B - Qualifications and Certifications_formatted.docx

ATTACHMENT C

Insurance Certificate

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY) 03/25/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Aon Risk Insurance Services West, Inc.
Los Angeles CA Office
707 Wilshire Boulevard
Suite 2600
Los Angeles CA 90017-0460 USA

CONTACT NAME:
PHONE (A/C. No. Ext): (866) 283-7122 **FAX (A/C. No.):** 800-363-0105
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Zurich American Ins Co	16535
INSURER B:	American Guarantee & Liability Ins Co	26247
INSURER C:	Steadfast Insurance Company	26387
INSURER D:		
INSURER E:		
INSURER F:		

INSURED
SCS Engineers, SCS Energy
SCS Field Services, SCS BT Squared, SCS
Tracer Environmental, SCS ES Consultants
,SCS Globex Engineering, and SCS
Aquaterra, 3900 Kilroy Airport Way, #100
Long Beach CA 90806-6816 USA

COVERAGES **CERTIFICATE NUMBER:** 570057119275 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT 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. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC OTHER:			GL0011277800	03/31/2015	03/31/2016	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$2,000,000 $1,000,000 $10,000 $2,000,000 $4,000,000 $4,000,000
A	**AUTOMOBILE LIABILITY** X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			BAP 0112780-00	04/01/2015	04/01/2016	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$2,000,000
B	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** CLAIMS-MADE DED RETENTION			AUC011285600	03/31/2015	03/31/2016	EACH OCCURRENCE AGGREGATE	$5,000,000 $5,000,000
A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N: N **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WC011277900	04/01/2015	04/01/2016	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE-EA EMPLOYEE E.L. DISEASE-POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000
C	Env Prof (E&O)			IPR379235300 Prof/Poll Liab SIR applies per policy terms & conditions	03/31/2015	03/31/2016	Per Event Aggregate	$2,000,000 $2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Evidence of Insurance

CERTIFICATE HOLDER

SCS Engineers, SCS Energy, SCS Field Services, SCS BT Squared, SCS Tracer Environmental, SCS ES Consultants, SCS Globex Engineering, and SCS Aquaterra
3900 Kilroy Airport Way, #100
Long Beach CA 90806-6816 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Insurance Services West, Inc.

Holder Identifier :

Certificate No : 570057119275

ATTACHMENT D

Project Team Qualifications

Environmental Consultants
and Contractors

2830 Dairy Drive
Madison, WI 53718-6751

608 224-2830
FAX 608 224-2839
www.scsengineers.com

PROJECT TEAM

Tom Karwoski will remain as the project manager for the Pilgrim Cleaner site. He has more than 29 years of experience as a hydrogeologist and project manager. He has designed and managed investigations and remediation of numerous chlorinated solvent and petroleum release sites, including 10 Wisconsin dry cleaner sites that are part of the Wisconsin Dry Cleaner Environmental Response Fund (DERF). Tom directs site remediation efforts, supports the development of cost-effective remediation approaches, and serves as the point of contact for the client and regulatory agencies. His areas of expertise include soil, groundwater, and vapor investigation; and remediation. Tom is a registered professional geologist in Wisconsin.

Mark Huber will serve as a Senior Technical Advisor and quality control reviewer. Mark has been a key team member on multiple remediation projects across the state, so he knows the issues to address and solutions to use when environmentally distressed property is being remediated. Mark has 24 years of consulting experience and is registered as a professional engineer in civil and environmental engineering in Wisconsin. His experience working on a variety of complex contaminated sites allows him to quickly identify key issues and develop smart, simple solutions that save clients time and money. In addition to the important role he plays with clients, he serves as Vice President and Director of SCS's Upper Midwest region.

Tony Kollasch will use his background and experience to continue his role as lead hydrogeologist for Pilgrim Cleaners. He will link investigation and remediation solutions to meet the needs of the stakeholders. His technical expertise emphasizes site assessment and remediation for case closure under the DERF and petroleum cleanup programs. His project experience includes design, construction, and operation of active and passive remedial actions at sites where chlorinated solvents, petroleum, and other chemicals have been released. Mr. Kollasch's project experience includes investigations and remedial actions at dry cleaning sites in Madison, Platteville, Monroe, and other Wisconsin and Illinois cities. He identifies and utilizes old and new technologies to more effectively and efficiently collect information to evaluate subsurface conditions and document improvements made by the remedial actions.

Allan Erickson will use his 32 years of experience delivering environmental and civil engineering solutions to clients across the country to support the team as senior engineer and consultant. He specializes in environmental remediation, having served as project manager and lead engineer of a team that operated a groundwater pump and treat system to remediate groundwater contaminated by a wood treating site in New Brighton, Minnesota. Mr. Erickson also provided senior technical guidance and quality review for a project team that was operating a different groundwater pump and treat facility in Siren, Wisconsin. He led design, construction, and monitoring of a project that planted trees on a 0.7 acre site on the Grand Forks Air Force Base to remediate groundwater. This action used phytoremediation to control groundwater flow direction and prevent spreading of a trichloroethylene release. He has been licensed as a professional engineer in Wisconsin since 1986.

Nate Harms uses his experience in the Geoscience field to provide skilled field support. Currently Mr. Harms works on remediation projects that include soil and groundwater monitoring and remediation, and spill response. He has investigated contamination at gas stations and industrial facilities and analyzed soil borings while collecting and documenting the data by using various instruments such as photo-ionization detectors and water level indicators.