RSV
ENGINEERING, INC.
Engineers • Land Surveyors • Environmental Scientists

April 8, 2009

Mr. Jim Delwiche
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, Wisconsin 53188

RE: Estimated Costs
Interim Action – Soil Remediation
Klinke Cleaners
Fox Run, Waukesha

Dear Mr. Delwiche:

Pursuant to our meeting on March 18, 2009, RSV Engineering, Inc. (RSV) has prepared this cost estimate for the remediation of tetrachloroethene (PCE) impacted soil at the Klinke Cleaners facility in the Fox Run shopping center, Waukesha (site). The estimate includes costs for a two-pronged approach: Excavation with off-site disposal for the soils adjacent to the building to the north, and reagent injection for impacted soils beneath the building. For purposes of this cost estimation, it is assumed that the area in which PCE concentrations are above 1 mg/kg will require remediation (Figure 1). However, due to the presence of numerous utilities, a transformer and trees in the grassed area of soil with concentrations exceeding 1 mg/kg, that area will remain in place.

Description:

Excavation & disposal:

The area shown on Figure 1 will be excavated to a depth of approximately 10 feet. Because this area is the primary utility corridor for Fox Run, some areas may be left unexcavated, while others may require some hand-digging. Based on a discussion of the options with Wisconsin Department of Natural Resources (WDNR) and Advanced Waste Services (AWS), RSV understands that WDNR is prepared to write a "contained-out" letter so that the excavated soil may be handled as a special waste, rather than hazardous, and the estimate submitted by AWS follows that assumption.

Pursuant to WDNR guidelines, at the completion of the excavation work confirmation samples will be collected at 25-foot intervals along the sidewalls of the excavation and one base sample will be collected for every 100 square feet of excavation. This will result in an estimated 38 samples, to be analyzed for volatile organic compounds (VOCs).

After the completion of excavation and sampling, the excavation will be backfilled with clean material, compacted, and repaved with asphalt and concrete as appropriate for its use as a delivery area and arrangements will be made for appropriate disposal. Governor Doyle has approved a $5 per ton surcharge on soil disposal as of the time of this letter. However, the surcharge has not gone into effect yet and is not included in disposal costs as it is unknown whether it will take effect before site work is complete. The additional disposal costs for the surcharge would be $8,000, based on an estimated 1,600 tons of soil disposed.

Reagent injection:

The following discussion is based on the Cool-Ox technology (DeepEarth Technologies, Inc.) In this process, a chemical reagent is injected into the impacted soil. The process typically involves the advancement of a direct-push probe (e.g., Geoprobe), through which the chemical is injected, however a hand-applied method is available for indoor injection, and will likely be utilized in this application. Based on the stratigraphy at the site, we estimate that injection points would be spaced at 5-foot intervals, and the chemical would be injected to a depth of 10 feet below ground surface (bgs).

The Cool-Ox technology combines chemical oxidation with accelerated biodegradation (subsequent to the oxidation phase), using hydrogen peroxide to generate the oxidizer. Additionally, contrary to other oxidation processes, the injection of metal catalysts is not used, and the heat that is typically generated by injection is therefore eliminated.

Because this is an injection process, underground utilities are not a barrier to complete area coverage. Confirmatory soil samples will be collected subsequent to injection at the approximate locations and depths of the samples from the site investigation that yielded the highest concentrations.

Schedule:

It is estimated that the excavation could be completed in a period of 5 days, and the injection completed in an additional 2 to 3 days. The two tasks cannot likely be completed simultaneously as the injection contractor will need access to the rear of the building for a staging area. AWS has indicated that they do not recommend excavating when frost is present in the ground. The chemical injection beneath the building could be completed at any time.

Costs:

The attached Table 1 summarizes the estimated costs for excavation, disposal and injection. It is important to note that uncertainty exists in both methods. With excavation, there is a risk that confirmation sampling will indicate that all contaminants have not been removed to acceptable levels, and that additional excavation will be required. In the case of injection, it is possible that other, not defined chemical conditions in the soil will result in less than adequate oxidation of the contaminants of concern (e.g., other chemicals competing for the oxidizer).

RSV is prepared to schedule the work immediately following receipt of WDNR approval of this work scope.

Sincerely,
RSV ENGINEERING, INC.

Paula A. Richardson, P.G
Staff Hydrogeologist

Robert J. Nauta, P.G.
Vice President

Attachments:

Table 1
Figure 1

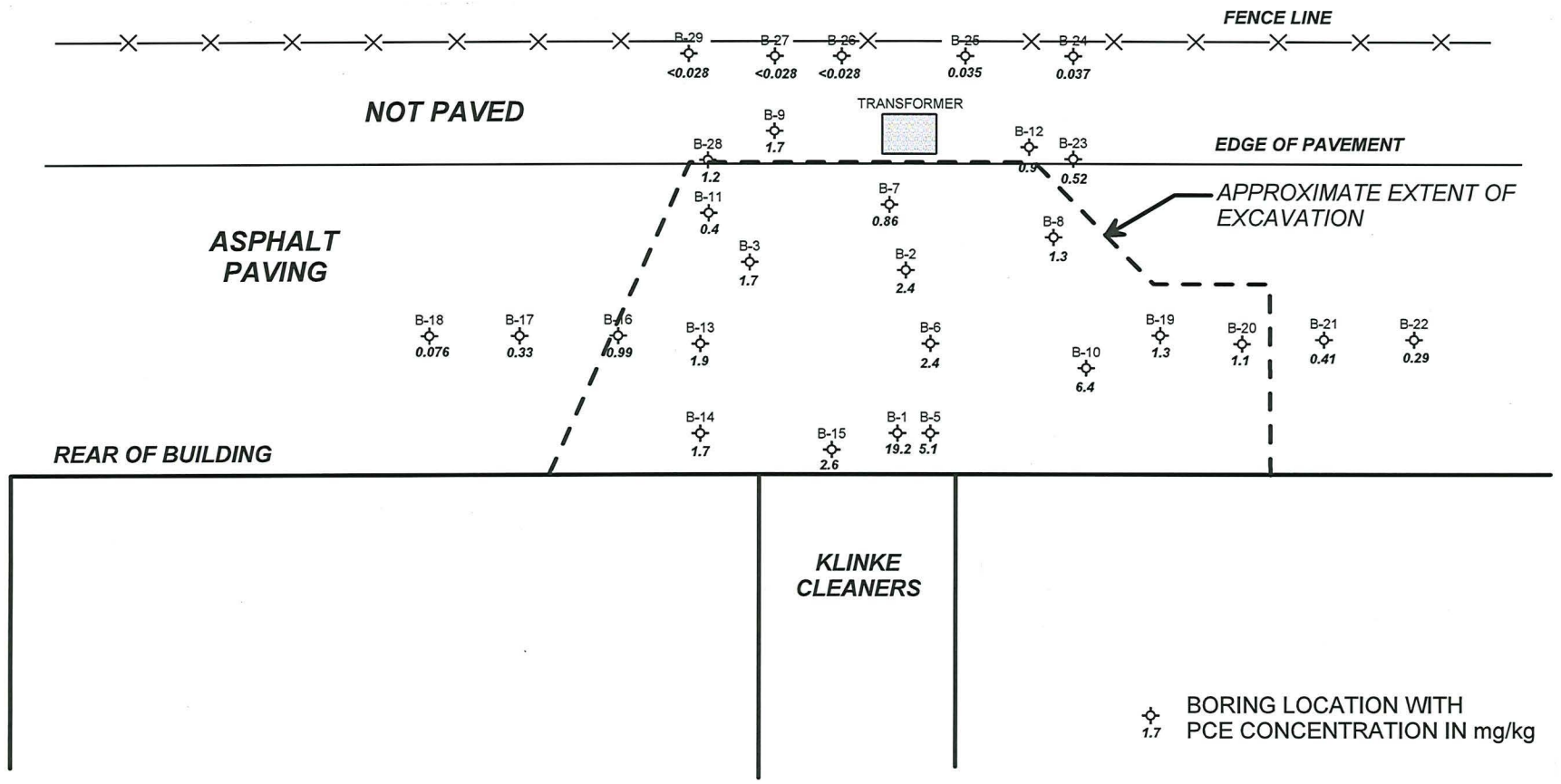
cc: Mr. Richard Klinke

TABLE 1
KLINKE CLEANERS
FOX RUN
WAUKESHA, WISCONSIN
INTERIM SOIL REMEDIATION AND WELL INSTALLATION
ESTIMATED COSTS

TASK	UNITS	QTY.	RATE	COST
Task 1: Planning, Reporting & Project Management				
Principal Hydrogeologist	Hours	18	$125	$2,250
Staff Hydrogeologist	Hours	30	$95	$2,850
CADD	Hours	8	$85	$680
Expenses	Estimate	1	$150	$150
			Subtotal:	***$5,930***
Task 2: Excavation & Disposal				
Principal Hydrogeologist	Hours	4	$125	$500
Staff Hydrogeologist	Hours	50	$95	$4,750
Excavation[1]	Estimate	1	$14,550	$14,550
Transportation and Disposal[2]	Estimate	1	$65,888	$65,888
Backfill gravel	Estimate	1	$19,940	$19,940
Concrete and Asphalt Budget	Estimate	1	$13,000	$13,000
Expenses	Estimate	1	$250	$250
Laboratory - Protocol C	Each	1	$1,100	$1,100
Laboratory - Confirmation: 32 base, 6 sidewall	Each	38	$75	$2,850
			Subtotal:	***$122,828***
Task 3: Injection				
Principal Hydrogeologist	Hours	4	$125	$500
Staff Hydrogeologist	Hours	20	$95	$1,900
Injection Contractor	Estimate	1	$35,558	$35,558
Concrete Coring Contractor	Each	32	$30	$960
Private Utility Locator	Estimate	1	$300	$300
Expenses	Estimate	1	$250	$250
			Subtotal:	***$39,468***
Task 4: Post-Injection Verification Sampling				
Staff Hydrogeologist	Hours	12	$95	$1,140
Geoprobe	Estimate	1	$1,250	$1,250
Concrete Coring Contractor	Each	32	$30	$960
Laboratory	Each	15	$75	$1,125
Expenses	Estimate	1	$250	$250
			Subtotal:	***$3,765***
			TOTAL:	**$171,991**

[1] Estimate based on 5 days of excavation and backfilling, due to presence of utilities in excavation area.
RSV excavation oversight time based on being on site for duration of excavation. If excavation is completed such that confirmation samples can be collected during a shorter time period, actual hours billed will be less.

[2] Disposal estimate does not include a $5/ton surcharge that has been approved by Governor Doyle for 2009. The surcharge has not gone into effect yet and it is unknown at this time whether it will do so before site activities.



SCALE IN FEET
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NORTH

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KLINKE CLEANERS
FOX RUN - WAUKESHA, WISCONSIN
SOIL REMEDIATION AREA

FIGURE 1

DRAWN BY	PROJ. No.	DATE	FILE NAME
RN	05-529	12 MAY 08	REM AREA