

Type of Submittal	Petroleum Reimbursement Fund Phase
<input type="checkbox"/> Workscope/Budget	<input type="checkbox"/> Initial Response Action
<input type="checkbox"/> Technical Report	<input type="checkbox"/> Free Product
<input type="checkbox"/> Reimbursement Request	<input type="checkbox"/> Site Investigation
<input type="checkbox"/> Monitoring Result	<input type="checkbox"/> Corrective Action Plan
	<input type="checkbox"/> Remedial Design Plan
	<input type="checkbox"/> Remedial Implementation/Operations/Monitoring

Site Investigation Report

Laterre residence, Wilmington, VT

(VT DEC Site # 98-2424)

Latitude 42 degrees, 52', 05"

Longitude 72 degrees, 52', 10"

USGS Jacksonville Quad

Apr 5 10 03 AM '99

Prepared For:

Brattleboro Area Community Land Trust

P.O. Box 1578

Brattleboro, VT 05301

Contact: Connie Snow

(802) 254-4604

Prepared By:

Stevens and Associates Engineering

28 Birge St.

Brattleboro, VT 05301

Contact : Steven L. Brackett

(802) 257-9329

April 1, 1999

Recommended Risk Category		
<input type="checkbox"/> 1. Immediate Human Health Risk (Impacted Water Well, etc.)	<input type="checkbox"/> 4. Surface Water Impact (Actual Impact to Class B or potential Impact to Class B)	<input type="checkbox"/> 7. Alternate Water Available/Low level Groundwater Contamination (<1000 x VGES)
<input type="checkbox"/> 2. Potential Human Health Risk (Residential well within 1000' or site within wellhead area)	<input type="checkbox"/> 5. No Alternate Water Available/No Existing Wells in Area	<input type="checkbox"/> 8. No VGES Violation/No Source Remaining
<input type="checkbox"/> 3. Free Product or Source Hazard	<input type="checkbox"/> 6. Alternate Water Available/High Level Groundwater Contamination (>1000 x VGES)	

STEVENS & ASSOCIATES

ENGINEERING

Civil, Environmental & Structural Engineering

EXECUTIVE SUMMARY

On March 29, 1998 approximately 300 gallons of #2 fuel oil leaked from a connected pair of 275 gallon, above ground #2 fuel oil storage tanks in the basement of this multi-family residential building located at 24 E. Main St. in Wilmington, VT. Subsequent investigation showed that the leaked had occurred at a break in a copper line which ran from the tanks to the site's furnace.

The release was discovered by the prior owner, Mr. Geoffrey Novy. Stevens and Associates Engineering ("SAE") was notified by the current owner, the Brattleboro Area Community Land Trust ("BACL T") on the morning of March 30, 1999. SAE immediately contacted Environmental Compliance Services, Inc. ("ECS") to supervise the emergency response activities. These activities are described in detail in ECS's April 22, 1998 report (copy attached). In summary, between March 30 and April 3, 1998 oil and water were pumped from the building's basement twice. Pumping was conducted by Aaron and Sons and the recovered fluid was trucked to United Oil Recovery in Meriden, CT for disposal. In addition, ECS collected soil and groundwater samples for field screening and laboratory analysis and conducted a potential receptor survey of the site, abutting sites and the area in general. Soil and groundwater samples collected from the basement of the site building showed evidence of petroleum contamination, but a groundwater sample collected from a monitoring well installed downgradient and outside the building did not contain detectable quantities of volatile organic compounds. All of this information was forwarded to the VT ANR-Sites Management Section in the ECS Emergency Response Report.

On September 24, 1998 the VT ANR-Sites Management Section issued a Site Investigation request (copy attached). This report contains the results of the investigation conducted in response to that letter and the agreed upon Scope of Work.

During this investigation 1) the horizontal and vertical extent of soil contamination in the site building's basement was determined by collecting soil samples from a regularly spaced grid for field screening, 2) the site's hydrogeology was characterized, 3) the level of impact that this release had on the site's groundwater, as well as on other potential receptors was assessed, and 4) a plan for containing/treating the contaminated soil was implemented.

Based on this work SAE has reached the following Conclusions:

- The release of petroleum from the former AST's has contaminated a limited and well defined volume of soil in basement of the site building.
- Air screening conducted during the collection and field screening of soil samples showed no evidence of detectable levels of VOC's in the ambient air of the site building's basement.

- None of the groundwater samples collected from the monitoring wells installed at the site contained detectable levels of VOC's.

- No other potential receptors were identified other than the site soil, groundwater and basement air, nor is there any evidence that any other receptors (excluding site soil and groundwater) have been impacted.

- The most appropriate remedial alternative for the contaminated soil identified in this study is natural attenuation.

In light of these Conclusions, SAE has the following Recommendations:

- The poly vapor barrier and peastone floor installed at the site during its renovation in the fall of 1998 is adequate containment for the contaminated soil located below it.

- A second round of groundwater monitoring should be conducted in July 1999. This should include the collection and analysis of groundwater samples from each of the monitoring wells MW-1, MW-2, and MW-3. Each sample should be analyzed for the presence of VOC's according to EPA method 8021 w/naphthalene.

If no VOC's are detected in any of the samples collected during the July 1999 monitoring round the site should be given a SMAC designation, which will include filing a notice of the presence of the contaminated soil in the land Wilmington land records.

INTRODUCTION

The LaTerre residence site is located at 24 E. Main St. in Wilmington, VT. The site building is a six unit multi-family structure which was purchased by the Brattleboro Area Community Land Trust ("BACL T") in March 1998. On March 29, 1998 approximately 300 gallons of #2 fuel oil leaked from a broken copper line between the above ground fuel oil tanks and the furnace. ECS of Brattleboro, VT was contacted to manage the emergency response action. On March 31, 1998 ECS supervised Aaron and Sons of Bennington, VT while they pumped 3020 gallons of water and oil from the basement of the site building. Overnight groundwater re-entered the basement and consequently another 3000 gallons of water and oil was pumped from the basement on April 2, 1998.

Subsequent to these two pumping events ECS 1) conducted air monitoring of four abutting properties, 2) collected and analyzed soil samples and groundwater samples from test pits in the basement of the site building, and 3) collected soil samples and groundwater samples from soil borings and monitoring wells which they had installed on the east, west and south side of the site building. The results of this work are contained in a report prepared by Sue Pittenger of ECS dated April 22, 1998.

While the investigation conducted by ECS did not discover petroleum contamination of air, soil, or groundwater outside of the site building, there was clear evidence of adverse impact to all three media in the basement of the site building.

SITE INFORMATION

The following ownership information was derived from the files of the Town of Wilimington, VT.

Table 1 - Current Site Ownership Data By Tax Map Parcel

Map-Block-Parcel #	Owner	Address	
21-21-40	William Hamilton	P.O. Box 362, Wilmington, VT 05363	
21-21-42	Florence J. Newton	P.O. Box 595, Wilmington, VT 05363	
21-22-21	Jane and Philip Norgren	4 Interlaken RD., Stamford, CT 06903	
21-22-20	Carl Ball	P.O. Box 293, Wilmington, VT 05363	
21-21-39	Thomas and Ann Herrman	Shearer Hill, Jacksonville, VT	

		05342	
21-21-41	LaTerre House Ltd. Partnership		

SITE HISTORY

Ownership History

The site is currently, and has been since April 1998, owned by the LaTerre House Ltd. Partnership: book 160, page 298 Wilmington Registry of Deeds.

Hazardous Materials Use, Storage and Disposal Practices

The site has been in multi-family usage since it was built in the 1920's. There is no evidence to indicate other than deminimus use, storage, or disposal of hazardous materials.

Known Hazardous Materials Releases

There is no formal record in town, state, or federal files which indicates prior hazardous material releases at the site.

MAPS

A tax map which shows the location of the source and the locations of any potential receptors is contained in the Appendix.

USGS Map - see Appendix

Site Plan - see Appendix

DELINEATION OF CONTAMINATED SOIL

During October and November of 1998 staff from SAE delineated the contaminated soil volume in basement of the site building. This was done by collecting soil samples from the basement floor on a 3' x3' grid. At those points where soil samples contained detectable quantities of VOC's at the floor surface a 1' deep hole was dug by hand and another soil sample was collected. This procedure continued until clean soil was encountered. The results of this investigation are shown on the Soil Contamination Plan contained in the appendices of this report.

The most important information gained from this investigation is that the base of the contaminated soil is significantly above both the current water table and above the depth

of the curtain drain which was installed along the perimeter. Obviously, if the contaminated soil does not leach, groundwater contamination cannot occur.

GEOLOGY

Soil Type - Detailed descriptions of the soil types are contained in the tables below. In general, the soil is light brown, fine grained and then clean, light brown, fine grained.

Bedrock Type - The Centennial Geologic bedrock in the area of the LaTerre site is the Holly consists of biotite gneiss. Monitoring bedrock is greater than 27'.

HYDROGEOLOGY

Direction of Groundwater Flow

Groundwater elevations presented on the map were recorded on March 15, 1999. This information indicates that the flow is to the south which is consistent with the hydraulic gradient.

Rate of Migration

A seepage rate of 2.46 ft/day has been calculated.

hydraulic conductivity = 1×10^{-4} ft/sec (for "silty sand")
 porosity = 35% (Freeze and Cherry, 1977)

hydraulic gradient = 10% (observed)

$S = 1 \times 10^{-4} \times .10 / .35$
 $S = .49 \text{ ft/day}$

Table 2 - Summary of Site Hydrogeology

Depth to GW	GW Flow Direction	Hydraulic Gradient	Estimated K
approximately 12' below grade	south	10% (observed)	1×10^{-4} feet/sec

MONITORING WELLS

Monitoring Well Installation and Construction Procedure - MW-1 was installed by ECS, Inc. using a hand auger. The ECS report indicated that MW-1 was constructed by

Approximate distance from tank to MW-1 = 30'

30' @ 2.5 ft/d = 12 days

release date = 3/29/98

sample date = 3/15/99

all wells are clean

⇒ no additional monitoring required

5/11/99 GWD

of the curtain drain which was installed along the back perimeter of the site building. Obviously, if the contaminated soil does not come in contact with the water table groundwater contamination cannot occur.

GEOLOGY

Soil Type - Detailed descriptions of the soils encountered while installing MW-2 and MW-3 are contained in the tables below. In general site soils appear to consist of top soil (0'-1') and then clean, light brown, fine grained sand to 25'.

Bedrock Type - The Centennial Geologic Map of Vermont (1961) indicates that the bedrock in the area of the LaTerre site is the pre-Cambrian Mt. Holly complex. The Mt. Holly consists of biotite gneiss. Monitoring wells on the site prove that the depth to bedrock is greater than 27'.

HYDROGEOLOGY

Direction of Groundwater Flow

Groundwater elevations presented on the enclosed groundwater potentiometric map were recorded on March 15, 1999. This information indicates that the direction of groundwater flow is to the south which is consistent with the surface topography of the site.

Rate of Migration

A seepage rate of 2.46 ft/day has been calculated as follows:

hydraulic conductivity = 1×10^{-4} ft/sec (Freeze and Cherry, 1979; page 29 - Table 2.2: "silty sand")

porosity = 35% (Freeze and Cherry, 1979; page 37 - Table 2.4: "silty sand")

hydraulic gradient = 10% (observed)

$$S = 1 \times 10^{-4} \times 10 / 0.35$$

$$S = .49 \text{ ft/day}$$

Table 2 - Summary of Site Hydrogeology

Depth to GW	GW Flow Direction	Hydraulic Gradient	Estimated K
approximately 12' below grade	south	10% (observed)	1×10^{-4} feet/sec

MONITORING WELLS

Monitoring Well Installation and Construction Procedure - MW-1 was installed by ECS, Inc. using a hand auger. The ECS report indicated that MW-1 was constructed by

inserting 2" slotted PVC into the hand augered hole. No other construction details were provided.

Monitoring wells MW-2 and MW-3 were installed by T+K Drilling of Troy, NH. They were constructed by installing 2" Sch 40 PVC machine slotted screen and solid riser, in appropriate lengths into 4.5" soil borings. The annulus was filled with sorted filter sand to a depth of between .5' and 1' above the top of the screen. A bentonite seal of at 1' thick was placed on top of the filter sand, and then the balance of the annulus was filled with native soils. A locking cap was installed in the top of the 2" PVC riser and a 8" aluminum road box was installed flush with the ground surface. Detailed well logs are included in the appendices of this report.

- Soil Sampling - Soil samples were collected at intervals of no greater than five feet. Samples were collected at changes in lithology, at the water table and from any portion of the core which seemed to be stained. Samples were collected using a 2' diameter 24' split spoon sampler.

- Field Screening- Field screening of soil samples for VOC's was conducted using a Gastech OVM Model 1314 calibrated to 400 ppm hexane. The OVM was calibrated on the day of use, both before and after field screening was conducted. Soil samples were placed in wide mouth glass jars, the mouths of which were then covered with aluminum foil. The sample jars were warmed to a consistent temperature as close to 70 degrees F as possible. The concentration of VOC's in the jar's headspace was then determined by inserting the probe of the Gastech® OVM through the aluminum foil membrane. The results of this field screening are presented in the table below.

Table 3 - Soil Field Screening Results

Sample #	Sample Description	Field Screening Result (ppm)
2-1	5'-7' 6, 8, 9, 8 light brown, fine sand, no smell or staining	0
2-2	10'-12' 6,8,12,12 light brown fine sand, no smell or staining	0
2-3	15'-17' 8,10,10,12 light brown fine sand, no smell or staining	0
2-4	20'-22' 14, 16, 17, 16 light brown fine sand, no smell or staining	0
3-1	5'-7' 6, 8, 10, 9 light brown fine sand, no smell or staining	0
3-2	10'-12' 8, 12, 13, 18 light brown fine sand, no smell or staining	0
3-3	15'-17' 14, 18, 23, 36 light brown fine	0

	sand, no smell or staining	
3-4	20'-25' 11, 16, 15, 13 light brown fine sand, no smell or staining	0

FREE PRODUCT

Most free product was removed from the basement during the two pumping events. ECS did note free product along the east wall of the basement and in a hand dug test pit on April 3, 1998 after the second pumping event. This product was removed with a sorbent boom and pads.

No evidence of free product was found during this site investigation.

PLUME DEFINITION

Extent of Plume - Two sets of water samples have been collected and analyzed from this site. The first set consisted of water collected from the basement of the building during the emergency response action. These samples did contain detectable quantities of VOC's.

Also groundwater samples have been collected from each of the three monitoring wells. None of these samples contained detectable quantities of volatile organic compounds ("VOC's").

It is the opinion of SAE that due to the quick removal of free product from the building's basement there was not time enough for it to migrate to the depth of groundwater. Consequently, surface water which had come in contact with residual oil in the near surface soil was impacted but the groundwater was not and therefore there is no plume of contaminated groundwater to define.

The delineation of contaminated soil was discussed in a previous section of this report.

COLLECTION OF GROUNDWATER SAMPLES

Groundwater samples were collected from all three monitoring wells on March 15, 1999.

- Groundwater Sampling - Prior to the collection of groundwater samples all monitoring wells were developed using a 2" bailer. On sampling dates each well to be sampled was purged of at least three well volumes of water before samples were collected. Once purging was complete water samples were collected using 2" diameter single check valve disposal bailers. All groundwater samples were bottled and preserved according to SAE protocols.

- Groundwater Gauging - Groundwater elevation was always conducted prior to the purging of wells. The water elevation probe was wiped clean between wells. Water depth was measured from the ground surface using a Roctest[®] Water Elevation Meter. The meter has a probe attached to the end of a measured cable. The probe was lowered into the well and at the point that the probe reached groundwater an electric circuit was closed and a high frequency tone was emitted from the meter at the surface. The cable was marked in .01' increments.

INTERPRETATION OF LABORATORY RESULTS

The groundwater analytical results for the March 15, 1999 round of groundwater monitoring are contained in the table below.

As shown on the enclosed Site Plan, MW-1 and MW-3 are located downgradient, and MW-2 is located upgradient from the former AST location.

Table 4 - Laboratory Results of Groundwater Analysis for March 15, 1999 Sampling Round (ppb)

	benzene	toluene	ethylbenzene	xylene	MTBE	naphthalene
MW-1	ND	ND	ND	ND	ND	ND
MW-2	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND

POTENTIAL RECEPTORS

RECEPTORS

	<u>Yes</u>	<u>No</u>	<u>Notes</u>
Wellhead Protection Areas		X	
residential wells		X	
surface waters		X	
buildings with basements	X		See notes below
section			
wetlands		X	
ecologically sensitive areas		X	
areas of direct soil contact	X		See notes below
utility corridors		X	

Areas of direct soil contact - the basement floor soil was clearly impacted by the fuel oil release. In the fourth quarter of 1998 the site building was renovated which included installing a vapor barrier in the building's basement. This is discussed in detail in the Vapor Barrier section.

Buildings with basements - On April 1 and April 3, 1998 during the emergency response phase ECS screened the ambient air of four abutting properties for VOC's. All results

were non-detect except for a 0.8 ppm reading taken in the front bedroom of the building on tax map lot 21.

These readings were repeated by SAE on March 15, 1999. No VOC's were detected in the ambient air at any of the sampling sites.

INSTALLATION OF VAPOR BARRIER IN THE SITE BUILDING BASEMENT

During the fourth quarter of 1998 the Laterre site and site building were extensively renovated by the new site owner, BACLT. Among other things this project was designed to keep water from entering the site building's basement. Generally such a project consists of installation of a curtain drain and the placement of peastone on the basement floor. In this case though a poly vapor barrier and 4" PVC vent pipes were added to keep petroleum vapors from migrating into the site building's ambient air. The system installed is shown on enclosed Vapor Containment Plan. As the plan shows the system consists of 8" of peastone on the original floor and a double layer of To-Tuff poly. A connected system of 4" perforated pipe, which is vented to the outside, has been installed within the 8" layer of peastone. Over the vapor barrier the enclosed plan called for a concrete slab which has not yet been installed. The slab was included in case the water continued to enter the basement. As of the writing of this report water has not entered the basement. Currently the vapor barrier is covered with 4" of peastone. If water does not enter the basement during the spring of 1999 then the concrete slab will not be installed.

Prior to the installation of this system it was approved by Bob Butler of the VT ANR-SMS.

CONCLUSIONS

Based on the information collected during this investigation SAE has reached the following Conclusions:

- The release of petroleum from the former AST's has contaminated some of the basement floor soil in the site building.
- The groundwater samples collected from MW-1, MW-2 and MW-3 did not contain detectable levels of VOC's. as well as the groundwater in a near surface overburden aquifer.
- The entire volume of contaminated soil is below the basement floor of the site building. The basement floor has been covered with a vapor barrier and peastone.
- There is no evidence of a threat to any receptors other than to the volume of contaminated soil delineated during this investigation.

- In the opinion of SAE, based on the information which is currently available, there is no basis for either additional delineation of soil/groundwater contamination or for active remediation of the petroleum contamination of soil identified in this study.

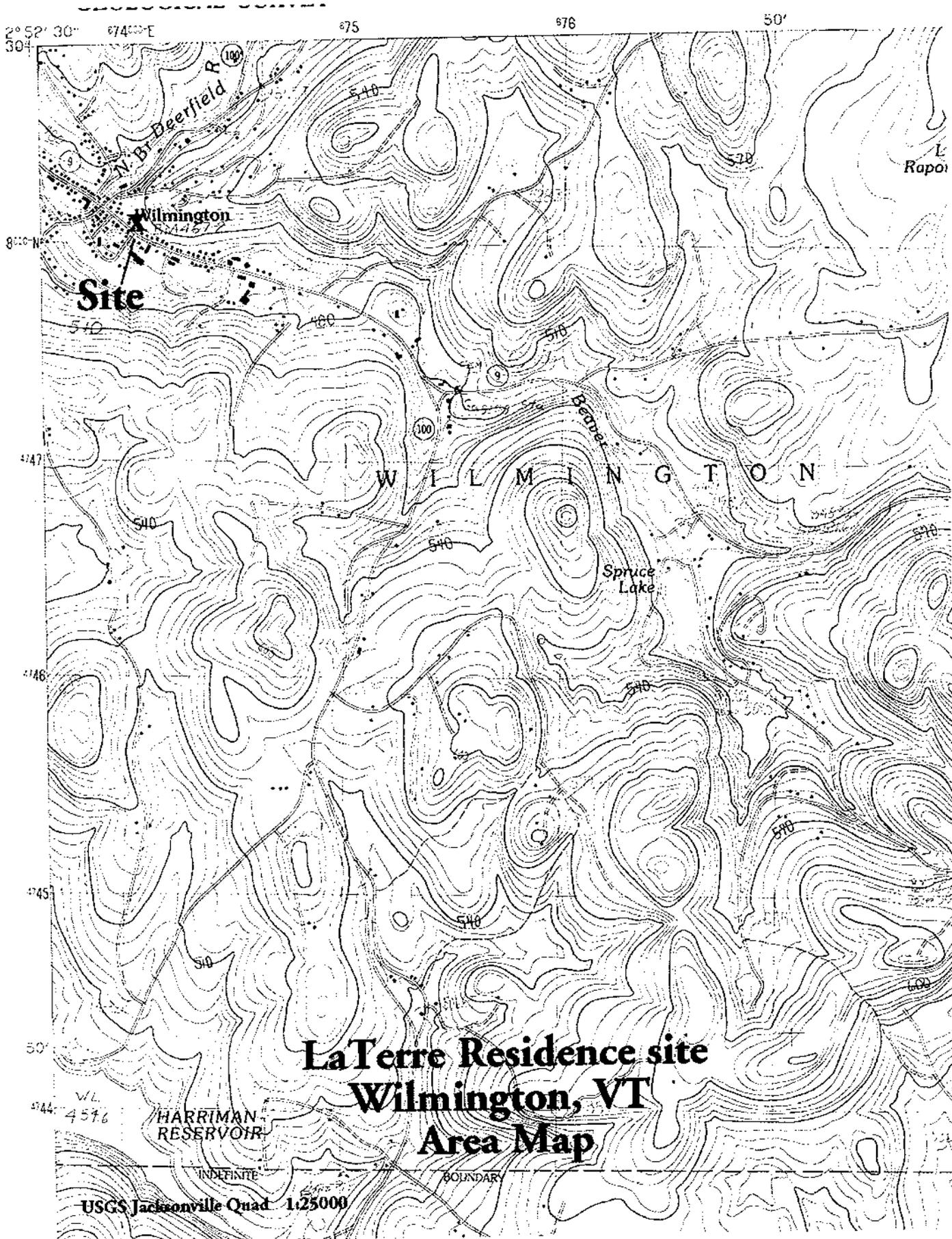
RECOMMENDATIONS

Given that

- there is no evidence of impact to groundwater,
- that the degree and extent of soil contamination has been well delineated,
- the contaminated soil has been contained by a vapor barrier and peastone system,

SAE recommends that

- one additional round of groundwater monitoring should be conducted of the three monitoring wells. Each groundwater sample should be analyzed for VOC's according to EPA Method 8021 w/naphthalene.
- if this second round of groundwater monitoring confirms that the groundwater of the site has not been impacted then the site should be designated as Site Management Activity Closed ("SMAC").



Site

**La Terre Residence site
Wilmington, VT
Area Map**

USGS Jacksonville Quad 1:25000



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 15990

Client: Stevens & Associates

Client Designation: none

Volatile Organic Compounds

Client ID:	LA7.01	LA7.02	LA7.03
Matrix:	aqueous	aqueous	aqueous
Date Received:	3/16/99	3/16/99	3/16/99
Date Analyzed:	3/18/99	3/18/99	3/18/99
Analyst:	JDS	JDS	JDS
Units:	ug/L	ug/L	ug/L
Method:	8021B	8021B	8021B
Chloromethane	< 10	< 10	< 10
Vinyl chloride	< 2	< 2	< 2
Bromomethane	< 10	< 10	< 10
Chloroethane	< 10	< 10	< 10
1,1-Dichloroethene	< 1	< 1	< 1
Methylene chloride	< 2	< 2	< 2
trans-1,2-Dichloroethene	< 2	< 2	< 2
1,1-Dichloroethane	< 2	< 2	< 2
cis-1,2-Dichloroethene	< 2	< 2	< 2
Chloroform	< 2	< 2	11
1,1,1-Trichloroethane	< 2	< 2	< 2
Carbon tetrachloride	< 2	< 2	< 2
1,2-Dichloroethane	< 2	< 2	< 2
Trichloroethene	< 2	< 2	< 2
1,2-Dichloropropane	< 2	< 2	< 2
1,1,1-Trichloroethane	< 2	< 2	< 2
cis-1,3-Dichloropropene	< 2	< 2	< 2
trans-1,3-Dichloropropene	< 2	< 2	< 2
1,1,2-Trichloroethane	< 2	< 2	< 2
Tetrachloroethene	< 2	< 2	< 2
Dibromochloromethane	< 2	< 2	< 2
Chlorobenzene	< 2	< 2	< 2
Bromoform	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	< 2	< 2	< 2
MTBE	< 10	< 10	< 10
Benzene	< 1	< 1	< 1
Toluene	< 1	< 1	< 1
o-Xylenes	< 1	< 1	< 1
m-Xylenes	< 1	< 1	< 1
p-Xylenes	< 1	< 1	< 1
Naphthalene	< 1	< 1	< 1

Approved By Clifford Chase, Volatile Organics Supervisor

Clifford Chase 3/25/99

Address of Property	Property Owner's Name	Property Owner's Mailing Address	Tax Map No.	Block No.	Parcel No.	Book - Page of Deed
E. MAIN ST.	THOMAS & ANN HERRMAN HARRIETTE R HAMILTON & G. WILLIAM HAMILTON	SHEARER HILL ROAD JACKSONVILLE, VT 05342	21	21	39	105/359
"	LATERRE HOUSE LTD. PARTNERSHIP	PO BOX 362 WILM., VT 05363	21	21	40	38/185
"	FLORENCE J. NEWTON	P.O. BOX 595 WILM., VT "	21	21	41	160/298
"	ROBERT GRINDL	PO BOX 757 WILM., VT "	21	22	19	68/526
"	CARL H. BALL	PO BOX 293 " " "	21	22	20	34/07
"	PHILIP & JANE NORGREN	4 INTERLAKEN ROAD STAMFORD, CT 06903	21	22	21	90/344
"	MARK W. RICHARDS	25 HARRIS PLACE BRATTLEBORO, VT 05301	21	22	27	44/255

RKS

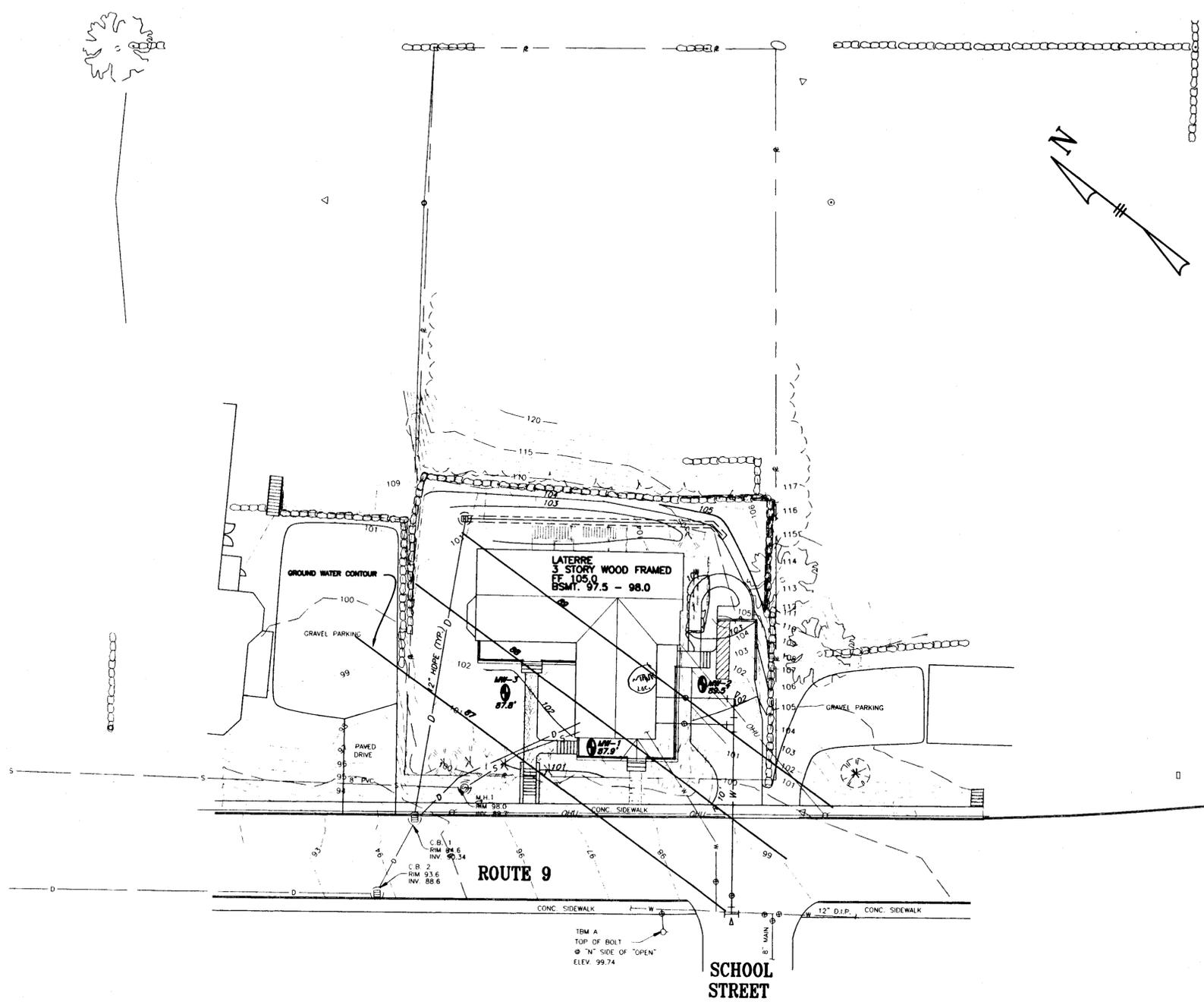
From: Todd Wells
Sent: Monday, September 28, 1998 11:52 AM
To: bstevens@stevens-assoc.com
Subject: Fw: 98-2424 / Brattleboro Community Land Trust

> From: Bob Butler <BOBB@dec.anr.state.vt.us>
> To: bstevens@sover.net; ecs@sover.net
> Cc: DANIEL WILCOX <DWILCOX@anrspring>
> Subject: 98-2424 / Brattleboro Community Land Trust
> Date: Thursday, September 24, 1998 5:37 PM
>
> Deliver to:
> Susan Pittenger
> Steven Brackett
>
> Enclosed is our letter concerning the referenced site. Please call me if
you
> have questions or concerns.
>
> =====
> Waste Management Division
> 103 South Main Street/West Office
> Waterbury, Vermont 05671-0404
> (802) 241-3888
> FAX (802) 241-3296
>
> September 23, 1998
> Ms. Connie Snow
> Brattleboro Community Land Trust
> 104 Canal Street
> Brattleboro, Vermont 05301
>
> RE: Petroleum Contamination at Brattleboro Community Land Trust
> Residence- 24 East Main Street
> Wilmington, Vermont
> SMS Site # 98-2424
>
> Dear Ms. Snow:
>
> The Sites Management Section (SMS) has received the Above Ground heating
oil
> tank (AST) spill report outlining conditions for the above referenced
site. The
> fieldwork was conducted by Environmental Compliance Services, Inc. on
March 30,
> 1998. This report, dated April 22, 1998 and summarizes the degree and
extent of
> contamination encountered. The AST(s) include:
>
> AST #1 - 275 gallon No. 2 fuel oil UST
> AST #2 - 275 gallon No. 2 fuel oil UST

>
> The spill involved a release of approximately 300 gallons of #2 fuel oil to the
> basement of the residence. At the time of the release cleanup the basement was
> flooded with groundwater. At that time groundwater and fuel oil was pumped from
> the basement, portions of the slab were excavated underlying soil were evaluated
> using a PID and some soils were remove.
>
> During the site activities, soils screened had concentrations up to 162 parts
> per million (ppm) as measured by a photoionization detector (PID).
> Approximately 2 cubic yards of excavated soil were stockpiled on-site due to the
> presence of PID elevated headspace readings. The limits of soil contamination
> were not defined.
>
> A series of five soil pits in the basement, 2 borings outside of the basement,
> and 1 monitoring well outside of the house were installed. Groundwater in the
> basement was analyzed for BTEX and contained xylenes (46-116 ppb), ethylbenzene
> (7.1-10 ppb), and toluene (15-20 ppb). The groundwater sample from the
> monitoring well outside of the building did not contain detectable
> concentrations of BTEX.
>
> The Brattleboro Community Land Trust was inspected for potentially sensitive
> receptors. The receptors potentially affected include groundwater, airspace
> impacts to the buildings, nearby surface water, and public or private drinking
> water wells which are located within the vicinity of the site.
>
> Based on the report information, the SMS has determined that additional work is
> necessary at the site in order to determine the severity of contamination
> present. Due to the possibility of contaminant impact to nearby receptors, the
> SMS is requesting that Brattleboro Community Land Trust retain the services of a
> qualified environmental consultant to perform the following:
>
> Further define the degree and extent of contamination to the soil.
>
> As appropriate, determine if the airspace beneath the site building(s)
or
> site adjacent buildings has been impacted by the release using a PID.
Wall
> and floor construction as well as susceptibility to vapor migration should be
> noted. If the ambient airspace has been impacted, SMS requests that
> confirmatory sampling and laboratory analyses be performed using EPA
Method

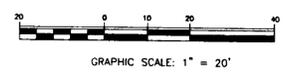
- > TO-2.
- >
- > Determine the degree and extent of contamination, if any, to groundwater. A
 - > sufficient number of monitoring sites should be installed to adequately
 - > define the severity of contamination. All groundwater samples taken should
 - > be analyzed for TPH and BTEX. At sites with nearby water supply sources,
 - > data should be collected to determine the hydrologic relationship of the
 - > contaminated area to the water supply source. Pumping influences should be
 - > considered in the evaluation.
 - >
 - > Assess the potential for sensitive receptors to be impacted by the
 - > contamination. Base this update on all available information. This
 - > assessment should include basements of adjacent buildings, nearby surface
 - > water, any public or private drinking water wells which are located within
 - > the vicinity of the site, wetlands, sensitive ecologic areas, outdoor or
 - > indoor air, sewers, or utility corridors. If any water supplies appear at
 - > risk from this contamination, they should be sampled and analyzed for TPH and
 - > BTEX compounds.
 - >
 - > Determine the need for a long term treatment and/or monitoring plan which
 - > addresses the groundwater contamination.
 - >
 - > Develop a plan to treat and/or monitor the stockpiled soils. The soils must
 - > remain located in an area such that they have a low potential to impact
 - > nearby receptors. The soils must also remain properly encapsulated in
 - > plastic. The plan should demonstrate that child access to the soils is
 - > sufficiently restricted. If the soil is located in an area subject to public
 - > activity and where public access is not restricted, the soil pile should be
 - > surrounded by fence. The fence should be not less than 3 feet in height and
 - > of durable construction.
 - >
 - > Submit to the SMS a summary report which outlines the work performed, as well
 - > as provides conclusions and recommendations. Included should be analytical
 - > data, a site map showing the location of any potential sensitive receptors,
 - > stockpiled soils and monitoring or sample locations, an area map, detailed
 - > well logs (if appropriate) and a groundwater contour map.
 - >

- > Please have your consultant submit a preliminary work plan and cost estimate or
- > a site investigation expressway notification form within fifteen days of your
- > receipt of this letter so that it may be approved prior to the initiation of
- > onsite work. Enclosed please find a list of consultants who perform this type
- > of work in the area as well as the brochure "Selecting Your UST Cleanup Contractor," which will help you in choosing an environmental consultant.
- >
- > Based on current information, the underground storage tanks at Brattleboro
- > Community Land Trust are eligible for participation in the Petroleum Cleanup
- > Fund (PCF). You must provide written proof to the SMS that you hold no other
- > applicable insurance in order to receive reimbursement from the PCF. The owner
- > or permittee must pay for the removal and/or repair of the failed tank(s), and
- > for the initial \$250 of the cleanup. The fund will reimburse the tank owner or
- > permittee for additional eligible cleanup costs of up to \$25,000 as long as
- > annual funding limits for ASTs have not been exceeded. All expenditures must be
- > pre-approved by the Agency or performed in accordance with the "Site Investigation Guidance" expressway program. Please refer to the enclosed
- > guidance document titled, "Procedures for Reimbursement from the Petroleum
- > Cleanup Fund" for additional information concerning the PCF.
- >
- > We realize that this is a lot to absorb and respond to. We are here to help
- > make this process as effective and uncomplicated as possible. Please review the
- > enclosed documents and call me with any questions you may have. I can be
- > reached at (802) 241-3876.
- >
- > Sincerely,
- >
- >
- > Chuck Schwer, Supervisor
- > Sites Management Section
- >
- > Enclosures (3)
- >
- > cc: Wilmington Selectboard w/o enclosure
- > Wilmington Health Officer w/o enclosure
- > DEC Regional Office w/o enclosure (transmitted electronically)
- >
- > Susan Pittenger, ECS w/o enclosure (transmitted electronically)
- > Steven Bracket, Stevens & Associates w/o enclosure (transmitted electronically)
- >
- > L12424.WPD
- > Bob Butler



LEGEND

	EXISTING	PROPOSED
CATCH BASIN	▣ C.B.	□ C.B.
SEWER MANHOLE	⊙ M.H.	
WATERVALVE	•	•
IRON PIN FOUND	○	
SIGN POST	†	†
UTILITY POLE	⊕	
LIGHT POLE w/ CONC. BASE	⊕	
HYDRANT	⊕	
ENTRY	➔	
INDEX CONTOURS	-95-	95
INTERMEDIATE CONTOURS	-99-	99
WELL	○	
OVERHEAD UTILITY	-OHU-	
THRUST BLOCK		△
WATER	-W-	-W-
SEWER	-S-	-S-
DRAINAGE	-D-	-D-
CONIFERS	⊗	
TREE	⊙	⊙
SHRUBS/BUSHES	⊗	
SEED AREA	■	
SILT FENCE	▬	



Date: 5/14/98
 Scale: 1" = 20'
 Drawn By: TW, PRP
 Checked By:

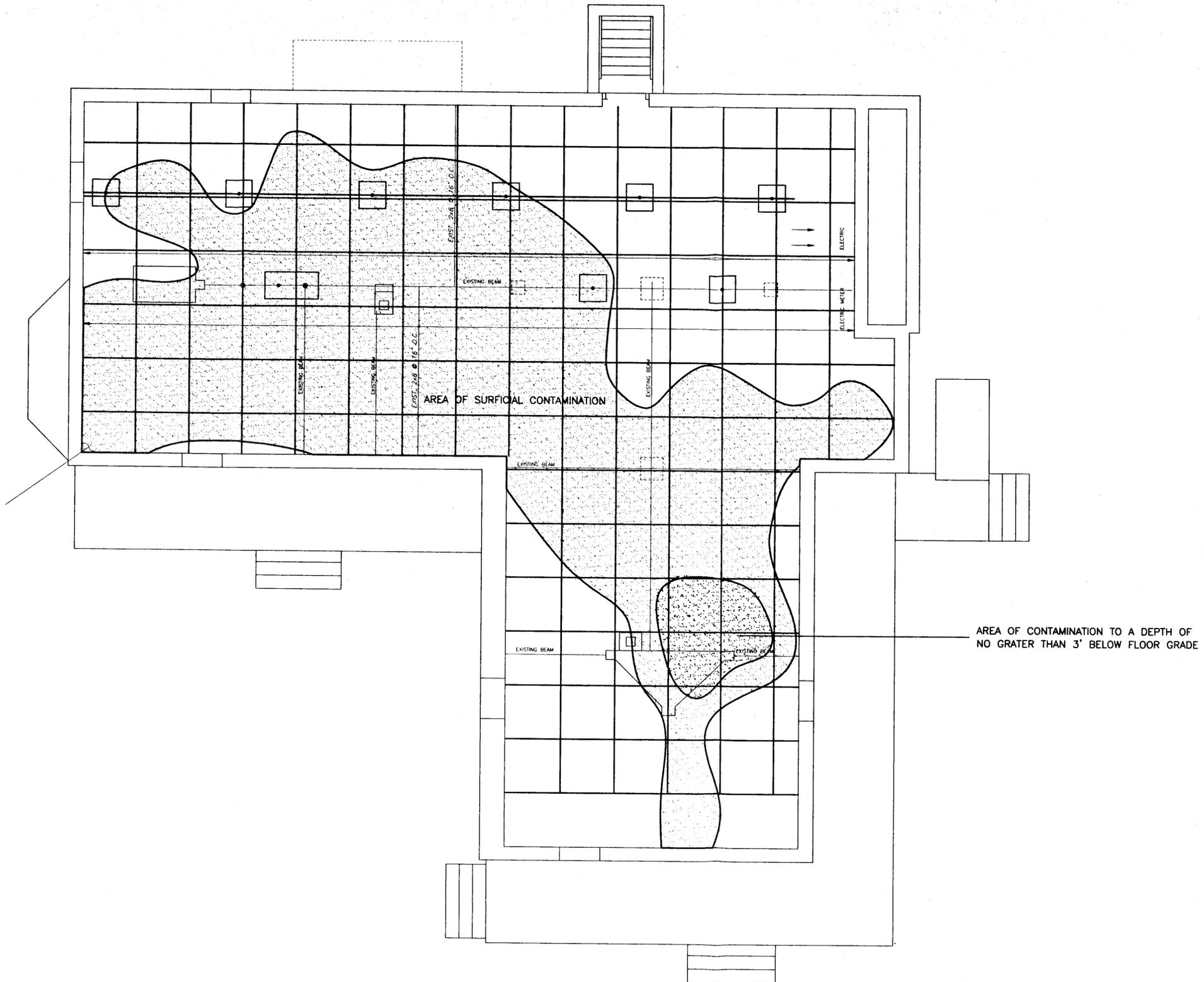
BRATTLEBORO AREA
 COMMUNITY LAND TRUST
 WILMINGTON, VT
LATERRE

MONITORING WELL &
 GROUNDWATER CONTOUR MAP
 BRATTLEBORO, VT

**STEVENS & ASSOCIATES
 ENGINEERING**

Consulting in Civil, Sanitary & Structural Engineering
 122 Birge Street, Brattleboro, VT 05301 (802) 257-9329

SB-1



Date: 3/31/99
 Scale: 1/4" = 1'
 Drawn By: TW
 Checked By:

LATERRE
 WILMINGTON, VT

BRATTLEBORO AREA
 COMMUNITY LAND TRUST
 BRATTLEBORO, VT

AREA OF SOIL
 CONTAMINATION
 PLAN

STEVENS & ASSOCIATES
 ENGINEERING

Consulting in Civil, Sanitary & Structural Engineering
 28 Birge Street, Brattleboro, VT 05301 (802) 257-9329

SB-2

1/12