



Residential Redevelopment - Before and After

## How can you protect yourself against these potential liabilities?

By hiring a well qualified environmental consultant to perform a thorough site investigation that follows ASTM E1527-2000 Standard Practices for Environmental Site Assessments: Phase I ESA and the VT DEC Site Investigation Guidance before any sales transaction takes place.

Site investigations require one or more visits to the property to collect samples, typically of soil, groundwater, and sometimes soil gas, water, and/or air. Sample locations are selected based on your consultant's evaluation of your property's use and history. Samples are sometimes screened in the field and then analyzed by a laboratory. The analytical results help determine which contaminants (if any) are present, their location, and what their characteristics are.

At the end of every investigation that finds contaminants at levels above reportable concentrations, the consultant must submit a Site Investigation (SI) report to VT DEC. The consultant's report must evaluate the data collected, compare results to accepted state regulatory standards, and assess potential risks. The final report must also propose alternatives for protecting human health and the environment. If the consultant fails to collect data from enough locations, analyze samples for enough

parameters, or adequately present and analyze the investigation results, VT DEC will be compelled to require that more work be done.

**Bottom line:** Inadequate investigation can add thousands of dollars and months of delays to a project.

It's just good business to hire a well-qualified environmental consultant who will

- thoroughly research the property's historical use;
- conduct a site investigation that is well planned and properly executed;
- perform the data collection correctly and thoroughly—the first time; and
- submit a technically sound and thorough SI report.

## What You Don't Know *Can Hurt You* – A Case Study

As part of a pending property sale, the owner of a commercial property removed a fuel oil underground storage tank (UST) from behind a building where a dry cleaner had operated. The soil removed was found to contain tetrachloroethene (also known as perchloroethylene, perc, or PCE). The first consultant the owner hired assumed the source of the PCE was eliminated when the UST soils were removed from the area and did no further evaluation specific to the PCE contamination.

But when monitoring wells were installed to verify cleanup, additional PCE was detected. The property owner then requested an aggressive short-term cleanup effort so that he could sell the property. The consultant used in situ chemical oxidation in the assumed PCE source area outside the back door – an effort that failed because they were in the wrong location.

As a result:

- Sale of the property was lost.
- The failed cleanup effort alone cost \$30,000 and the owner was still required to pay for an appropriate cleanup.
- A second consultant had to be hired to find the actual source of the contamination—a foundation drain that created a pathway for the PCE to spread into the soil.

## Online Resources

EPA has developed two handbooks to assist you in defining the scope of work for a site investigation and hiring an environmental consultant:

- Assessing Contractor Capabilities for Streamlined Site Investigations ([www.clu-in.org/download/misc/contractorcap.pdf](http://www.clu-in.org/download/misc/contractorcap.pdf))
- Brownfields Technology Primer: Requesting and Evaluating Proposals that Encourage Innovative Technologies for Investigation and Cleanup ([www.clu-in.org/download/misc/rfpfinal.pdf](http://www.clu-in.org/download/misc/rfpfinal.pdf))

## After You Hire a Consultant

Make every effort to provide the consultant access to the entire property being investigated. If some portion of the site is inaccessible for any reason, make sure the consultant is advised before submitting a proposal and that this inaccessibility is noted in the Site Investigation report submitted to VT DEC.

You should also supply all relevant historical information, such as past site operational records, building records, and construction drawings—particularly “as-builts.”

Execute a property access agreement with the consultant and all other parties that may enter the

property. This agreement should include appropriate certificates of insurance.

Finally, be sure to stipulate that no digging underground can occur without first contacting Dig-Safe and also checking with you about other utility lines on the property. Ask whether any permits might be necessary, such as from the municipality (particularly for cleanup work). Be very clear that no additional work outside the original scope of work and cost estimate/contract can be performed without your written authorization.

## Avoid Problems with Your Site Investigation Report Submittal

When information is missing or not presented and explained clearly, VT DEC is obligated to request clarification – potentially leading to project delays and additional expenses. Make sure your Site Investigation report

1. addresses each of the reporting requirements in the VT DEC Site Investigation Guidance.
2. includes a clear explanation of what potential source areas were addressed and what investigation activities were done at the site, and most importantly – why.
3. presents the technical information clearly – the effective use of maps and tables can improve communication.

Pay for a quality investigation and good report preparation upfront and avoid project delays and cost increases later.

**Remember** – before submitting the Site Investigation report to VT DEC, make sure it contains all of the elements required in the Site Investigation Guidance.

For further information, please contact

**Vermont Department of Environmental Conservation  
Waste Management Division  
(802) 241-3888  
[www.anr.state.vt.us/dec/wmd.htm](http://www.anr.state.vt.us/dec/wmd.htm)**

Developed by the Northeast Waste Management Officials' Association (NEWMOA, [www.newmoa.org](http://www.newmoa.org)) under a project sponsored by the US EPA Technology Innovation Program, ([www.epa.gov/tio](http://www.epa.gov/tio))

Printed on recycled paper with soy-based ink.

# Site Investigation Matters

## Taking the mystery out of dealing with contaminated property in Vermont

Whether you are buying, selling, or just have ownership in a piece of property, it is in your best financial interest to know what to do about possible site contamination.

Lending institutions often require environmental assessments of properties where there is a potential for contamination before they will get involved. Information about contamination at a property becomes the foundation upon which all future financial and environmental decisions are made. The contamination issues affect the lenders, the buyers, and the sellers. The Vermont Department of Environmental Conservation (VT DEC) will need to oversee the work to make sure the contamination is properly addressed.

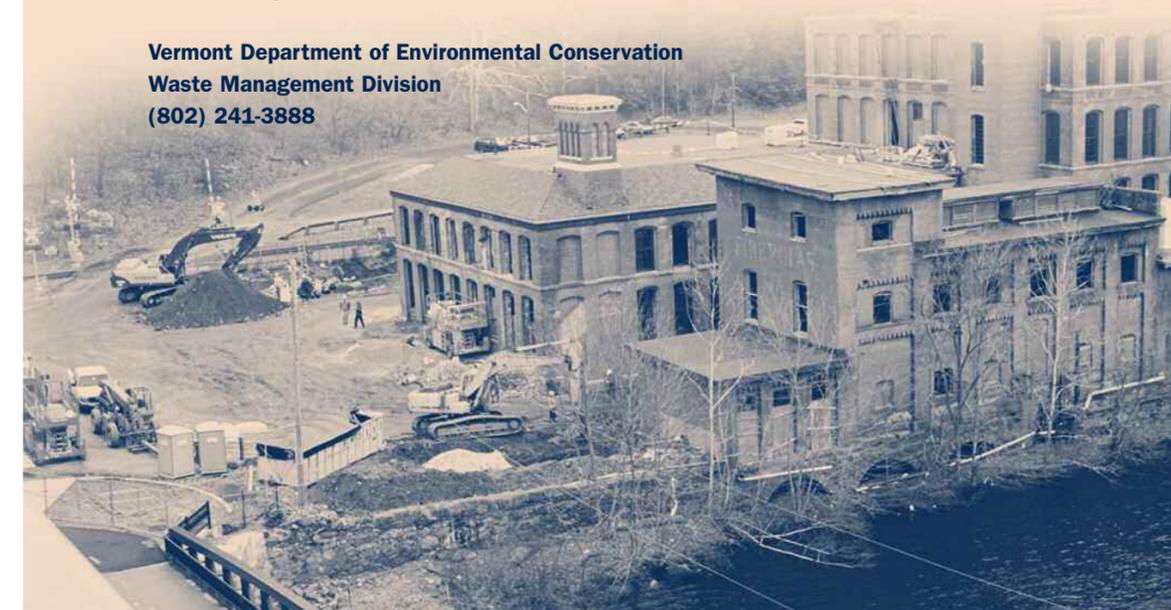
Site investigation provides the information to answer many key questions

- What is the degree and extent of contamination?
- Is cleanup required?
- How much needs to be remediated?
- What are the cleanup options?
- How much will cleanup cost?
- What are appropriate future site uses?

Not knowing the facts can cost you – not only extra work, but also months of delays.

Getting your property's contamination issues straight is the key to accelerating through VT DEC's requirements.

**Vermont Department of Environmental Conservation  
Waste Management Division  
(802) 241-3888**



## Playing It Smart

Property with a commercial or industrial past can be a great investment, as long as you know what you are getting into beforehand. Both buyers and sellers need to know that state and federal laws **hold owners responsible for cleaning up contamination**—regardless of whether you created or contributed to the problem. If you are buying a property and are conducting an environmental investigation (also known as completing due diligence), it is important to be thorough. If you miss contamination and it is found later, you may be liable for the cleanup.

*For those of you who want to sell a property – complete information about contamination can actually make potential buyers more comfortable.* The discovery of contamination problems after the sale can lead the new owners to take up a legal battle—at significant cost to everyone—to force you to pay for the cleanup. Legally, you can still be liable for cleanup even after you no longer own or operate at the site. So developing a comprehensive understanding of the environmental conditions at the property is the best way to ensure a successful property transfer!

**Ignorance at the time of sale is no excuse for either party.**

### Find the Expertise You Need

*There are five basic steps to identifying an environmental consultant who is likely to complete the site investigation in an efficient and professional manner.*

#### 1. Clarify why a site investigation is necessary and what reports the VT DEC requires.

Are you a buyer concerned with liability, or an owner preparing the property for re-sale? Maybe your firm needs to clear up uncertainties about the contamination detected during previous site investigation work? Or do you have to address specific regulatory requirements? In any case, the place to start is by understanding the reasons why you should undertake a site investigation and what your legal requirements are.

You also need to define the scope of work the consultant is to perform. Some companies specialize in investigating specific types of contamination, such as petroleum releases from underground storage tanks or from industrial operations. If you are unsure whether contamination is present, you may want to limit the scope of work to characterizing the site. After you learn more about the site, you can then obtain competitive bids for the cleanup portion, potentially lowering your overall costs.

If you already know that cleanup is required, however, you might look for a consultant who can assist you in the entire process from investigation through cleanup. This saves you the time and effort of hiring a second firm, and having a relationship with just one company may be more cost efficient overall.

#### 2. Request proposals from several companies.

Ask for referrals from your trade organization and/or professional association, other companies in your industry, or your legal counsel, insurance firm, or mortgage lender. Once you have identified several recommended consultants, request a written proposal from at least three.

No matter how small your job, every consultant who submits a proposal should provide the following information:

- Experience in performing similar projects in Vermont within the last three to five years;
- Qualifications of key personnel, including subcontractors;

- Organizational chart showing the responsibilities and lines of authority for project staff and subcontractors;
- Description of each task to be performed (including objective, methods to be used, and description of the deliverable);
- Project schedule indicating the timeframe for each task. Regulatory deadlines, including estimated VT DEC review times, should be included. Due to the uncertainty in DEC review time, the consultant should also attempt to keep VT DEC review periods off your project's critical path;
- Clear explanation of what the cost estimates cover and how additional expenses would be billed, including the firm's fee schedule and costs for subcontractors and subcontractor management;
- Information on quality assurance/quality control (QA/QC) procedures for collecting and analyzing soil, groundwater, and other samples;
- Evidence of adequate and appropriate insurance coverage; and
- References from recent clients.

*Beware of an estimate that is much lower than the others you receive. Consultants who low-ball their prices in order to get a project may end up costing more in the end.*

#### 3. Interview at least two companies.

The firms to interview should have submitted clearly written, competitively priced proposals that indicate a good understanding of your project and of your requirements. Require that the site manager that would work on your project be at the interview. During your meeting, find out:

- What the company proposes to do and why;
- What their cost estimate includes and how fees for additional work would be handled;
- The project manager's experience working on sites in Vermont, and on sites with similar issues to yours;
- How the company ensures the SI report is well organized, thorough, and technically correct;
- How the company keeps up with state and federal regulations, policy, and guidance;
- Which innovative technologies the firm has experience with, and what the pros and cons of using these technologies at your site would be;

### Innovative Technologies Can Save You Time and Money

Ask the consultants about the innovative technologies their firms have experience with. Can they explain the pros and cons of each in relation to use at your site? Innovative technologies previously accepted include:

- direct push technologies such as Geoprobe,
- microwells,
- low flow groundwater sample collection,
- x-ray fluorescence,
- field-portable gas chromatograph (GC) and/or mass spectrometer (MS),
- immunoassay and/or other portable field test kits, and
- soil gas surveys.

- If the firm can provide letters that demonstrate good working relationships with all their proposed subcontractors;
- What professional associations the company actively participates in;
- How the firm trains junior staff; and
- What services they offer that make them different or better than other consultants.

#### 4. Determine who will work on your project.

The skills and experience of the individuals assigned to your project directly affect its success. Before you hire a consultant, make sure you know which specific project manager will work on your site investigation, including the individual responsible for reviewing reports from less experienced staff. Make sure that key people are available to complete your project in a timely manner.

You should also check out the training and experience of each team member. Ask for resumes and look for professional licenses, such as Professional Engineer (PE) and Certified Professional Geologist (CPG). Make sure they have worked on similar sites and have a thorough knowledge of Vermont regulatory requirements. The Vermont Sites Management Section Site Investigation Guidance is on the VT DEC website at [www.anr.state.vt.us/dec/wastediv/sms/pubs/SI%20Guidance%2096.pdf](http://www.anr.state.vt.us/dec/wastediv/sms/pubs/SI%20Guidance%2096.pdf)

#### 5. Review past performances and ALWAYS check references.

Contact at least two former clients and ask about the scope and nature of the services provided and their satisfaction with the work performed. Keep in mind, however, that even the best consultant cannot predict all of the site circumstances and project outcomes.

Good questions to ask about the client's experience include:

- Was the consultant timely in completing all elements of the work?
- Were the final project costs in line with the original estimate?
- Did the scope of work change significantly during the project? If so, why?
- Did the consultant work effectively with the client and the VT DEC project manager?
- Did VT DEC approve the initial SI report, or did the consultant have to resubmit information? If resubmission was necessary, how much additional information was required?
- How many times did the consultant have to collect additional samples or other information to answer VT DEC questions, and did the initial work plan and cost estimate cover that work?
- Did the people who worked on the project change over time? If so, was the transition handled satisfactorily?

Also check the company's insurance coverage. You or someone whose experience you trust should review the policy in detail. This is critical because the consultant could overlook something, worsen the existing contamination, cause new contamination, or damage a third party's property. If the consultant lacks coverage for these types of incidents, you may be liable.



Geoprobe for soil and groundwater sampling