

The Nine Criteria for Choosing a Cleanup

EPA uses nine criteria to evaluate the pros and cons and to compare cleanup alternatives. The Additional Feasibility Study (AFS) evaluated how well each of the cleanup alternatives developed for the Pine Street Canal site meets the first seven criteria (See table on page 8). In addition, the proposal reflects significant community input received through the Pine Street Canal Coordinating Council. Once final comments from the state and the community are received, EPA will select the cleanup plan.

1. **Overall protection of human health and the environment:** Will it protect you and the plant and animal life on and near the site? EPA will not choose a plan that does not meet this basic criterion.
2. **Compliance with Applicable or Relevant and Appropriate Requirements (ARARs):** Does the alternative meet all federal and state environmental statutes, regulations and requirements?
3. **Long-term effectiveness and permanence:** Will the effects of the cleanup plan last or could contamination cause future risk?
4. **Reduction of toxicity, mobility or volume through treatment:** Does the alternative reduce the harmful effects of the contaminants, the spread of contaminants, and the amount of contaminated material?
5. **Short-term effectiveness:** How soon will site risks be adequately reduced? Could the cleanup cause short-term hazards to workers, residents or the environment?
6. **Implementability:** Is the alternative technically and administratively feasible? Are the right goods and services (e.g., treatment machinery, space at an approved disposal facility) available for the plan?
7. **Cost:** What is the total cost of an alternative over time? EPA must find a plan that gives necessary protection for a reasonable cost.
8. **State acceptance:** Do state environmental agencies agree with EPA's proposal?
9. **Community acceptance:** What objections, suggestions or modifications does the public offer during the comment period?

Four Kinds of Cleanup

The EPA and the Coordinating Council looked at numerous technical approaches to determine the best way to reduce the risks present at the Superfund site. The possibilities were then narrowed down to approaches that would protect human health and the environment. Although reducing risks often involves combinations of highly technical processes, there are really only four basic alternatives.

Categories of Alternatives



Take limited or no action:

Leave the site as is, or just restrict access and monitor it.



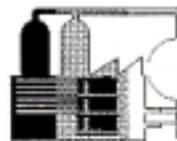
Contain contamination:

Leave contamination where it is and cover or contain it in some way to prevent exposure to and migration of contaminants. This method reduces risks from exposure to contamination, but does not destroy or reduce it.



Move contamination

off site: Remove contaminated material (soil, groundwater etc.) and dispose of it or treat it elsewhere.



Treat contamination

on site: Use a chemical or physical process at the site to destroy or remove the contaminants. Treated material can be left on site. Contaminants captured by the treatment process are disposed in an off-site hazardous waste facility.

Cleanup Alternatives for the Pine Street Barge Canal Site

The Pine Street Barge Canal Additional Feasibility Study (AFS) report reviewed all of the options the Coordinating Council considered for cleanup. The options, referred to as "cleanup alternatives," are different combinations of plans to restrict access to the site, or contain, move, or treat contamination to protect public health and the environment.

Limited or no action

Alternative 1: *No action*

Leave the site as it is. Contaminants would remain at the site and be monitored.

Alternative 2a: *Limited action/Institutional controls*

- Place legal controls on site land use to prevent use of groundwater for drinking, limit exposure to soils greater than 5 feet deep, prevent activities that may result in migration of subsurface contamination, prevent residential use and prevent future use as a children's day care center.
- Monitor for at least 30 years to detect any change that would require intervention.

Contain contaminants

Alternatives 2b, 2c, 3a, and 3c: *Partial Capping/Institutional Controls*

- These alternatives are identical except for areas to be capped. (See Figure 1 for a map of the different areas.)
Alternative 2b: Capping subarea 3 only
Alternative 2c: Capping subareas 1,2, and 8
Alternative 3a: Capping subareas 1,2,3,7 and 8. This is EPA's and the Council's preferred alternative.
Alternative 3c: Capping subareas 1,2,3, and 8.
- Cover the bottom of the canal and some wetland areas with a suitable material (e.g. sand, silt and/or clay) to prevent aquatic life from being harmed by contaminated sediments.
- Place a soil cap over several wetland areas near the canal.
- Redirect and monitor storm water inflow by installing a spreader to evenly distribute water over the wetlands and raising North Road to prevent flooding.
- Monitor the canal cap and the site groundwater, surface water, sediment and storm water inflow for as long into the future as needed.
- Place legal controls on land use to prevent use of groundwater for drinking, prevent exposure to soil greater than 5 feet deep, prevent activities that may result in migration of subsurface contamination, prevent residential use and prevent future use as a children's day care center.

The AFS developed separate sets of options to deal with sediment, soil and groundwater contamination. These options were then combined into site-wide cleanup alternatives summarized below. Please consult the AFS for more detailed information.

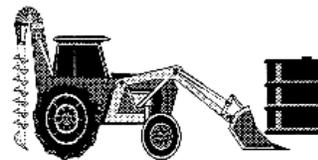
Move contaminants off site

Alternatives 2d and 3b: *Off-site Disposal/Institutional Controls/Partial Capping*

- These alternatives are similar, except for the areas to be excavated or capped.
Alternative 2d: Excavation in Subareas 1,2, and 8 with off-site disposal; no action in Subareas 3 and 7.
Alternative 3b: Excavation in Subareas 1,2, and 8 with off-site disposal; capping in Subareas 3 and 7.
- Excavate contaminated sediments from the bottom of the canal and wetlands and transport them off-site for treatment or disposal.
- Redirect and monitor storm water inflow by installing a spreader to evenly distribute water over the wetlands and raising North Road to prevent flooding.
- Monitor the site groundwater, surface water, sediment and storm water inflow for as long in the future as needed.
- Place legal controls on land use to prevent use of groundwater for drinking, prevent exposure to soil greater than 5 feet deep, prevent activities that may result in migration of subsurface contamination, prevent residential use and prevent future use as a children's day care center.

Treatment on site

None evaluated in detail. These alternatives were eliminated from further detailed consideration during the initial screening phase of the AFS.



7.

Comparison of Cleanup Alternatives

Nine Criteria	No Action		Containment				Move Contamination Off Site	
	Limited or No Action	Limited Action/ Institutional Controls	Partial Capping/ Institutional Controls				Off-site Disposal/ Institutional Controls/ Partial Capping	
	1	2a	2b	2c	3a*	3c	2d	3b
Protects human health and environment	✗	✗	✗	✗	✓	✗	✗	✓
Meets federal and State requirements	✗	✗	✗	✗	✓	✗	✓	✓
Provides long-term protection	✗	✗	✓	✓	✓	✓	✓	✓
Reduces mobility, toxicity and volume through treatment	✗	✗	✗	✗	✗	✗	✓	✓
Provides short-term protection	✗	✗	✓	✓	✓	✓	✓	✓
Implementability (Can it be done?)	✓	✓	✓	✓	✓	✓	✓	✓
Cost ¹	\$1.39 million	\$1.73 million	\$2.17-\$4.38 million				\$40.6-\$40.96 million	
State agency acceptance	VT DEC supports alternative 3a. Additional public input is being sought during comment period and will be considered in making final decision.							
Community acceptance	Coordinating Council supports alternative 3a. Additional public input is being sought during comment period and will be considered in making final decision.							
Time to reach cleanup goal	unknown	unknown	2-3 years				2-3 years	
Would include some reuse restrictions	no	yes	yes				yes	

* EPA's preferred alternative
 ✓ Partially meets criterion

✓ Meets or exceeds criterion
 ✗ Does NOT meet criterion

8.

¹Costs are for comparative purposes only and may not reflect the final cost of implementing the remedy.



How you can comment on the plan ...

EPA will use public comments received during the 30-day public comment period, beginning June 5, 1998 and ending July 8, 1998, to improve the proposed cleanup plan. Written comments should be mailed, faxed or e-mailed to:

Karen Lumino
US EPA Region 1 (HBT)
JFK Federal Building
Boston, MA 02203 - 0001
Fax: 617/573-9662
lumino.karen@epamail.epa.gov

Additionally, EPA will accept verbal comments on the proposed plan only during the public hearing to be held on Wednesday, June 24, from 7:00pm to 9:00pm, at Contois Auditorium at Burlington City Hall.

Federal regulations require EPA to make a distinction between "formal" and "informal" comments. Only those written comments received during the public comment period, and

verbal comments received during the public hearing will be regarded by EPA as formal, and will become part of the official public record. EPA will review all formal written comments and formal verbal comments before making a decision on the final cleanup plan for the Pine Street Barge Canal site. EPA will then prepare a written response to all formal comments that will be issued in a document called a Responsiveness Summary when the Record of Decision, which is the final cleanup plan, is released.

Please note that EPA will not be able to respond during the public hearing to verbal comments received during the formal portion of the hearing. Once the hearing officer announces that the formal portion of the hearing is closed, EPA staff will be available to answer informal questions. Informal questions and responses will not be part of the official public record, and will not be included in the Responsiveness Summary.

Where you can go for more information...

This publication summarizes a number of reports and studies. All of these technical reports as well as other public information publications are available at the following Pine Street Barge Canal Site information repositories:

Fletcher Free Public Library
235 College St.
Burlington, VT 05401
(802)863-3403
Hours:
M-F: 8:30am-5:30pm
Sat: 9:00am-5:30pm
Sun: 12:00am-5:45pm (Sept.-May)

Bailey/Howe Library
University of Vermont
Burlington, VT 05405
(802) 656-2023
Hours:
M-F: 8:00 am-12:00am
Sat: 9:00am-12:00am

EPA Records Center
90 Canal Street
Boston, MA 02203
(617)573-5729
Hours:
M-F: 10:00am-1:00pm
2:00pm-5:00pm

Note: The EPA Record Center is closed the first Friday of every month.

For general Superfund information, Internet users may visit the EPA web page at:
<http://www.epa.gov/region01/superfund>



