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Cleanup Alternatives at the Shore Road Study Area: A discussion of pros and cons

This fact sheet explains some of the pros and cons of two potential cleanup actions evaluated by EPA to address soil contamination at the Shore Road Area

Introduction

EPA recently released an Engineering Evaluation/Cost Analysis (EE/CA) for the Shore Road Study Area, as part of the Superfund cleanup program for the Raymark disposal sites in Stratford. The EE/CA identified EPA's preferred alternative for cleaning up soil contamination at this site which is Alternative #3 (Excavation to 5.5 feet, site restoration and in-town storage of wastes for later in-town disposal). In response to comments received at a public meeting, EPA developed an addendum to the EE/CA. This addendum identified another alternative for the site which is Alternative #4 (Capping, institutional controls, and monitoring).

This Fact Sheet discusses some pros and cons of Alternative #3 (excavation) and Alternative #4 (capping) and presents some discussion of public concerns. This fact sheet is not intended to answer all questions about these two alternatives, but does address some of the more commonly raised issues. Complete responses to public comments and questions on the alternatives will be available in a *Responsiveness Summary*, which will be released after the public comment period closes on September 14, 1999. Copies will be available at the public library.

Alternative #3 – Excavation to a depth of 5.5 feet and in-town storage and disposal

Components of Alternative #3

- Excavate contaminated soil at the Shore Road Study Area to a depth of 5.5 feet, approximately the depth of the groundwater table.
- Transport an estimated 35,000 cubic yards of excavated material for storage or disposal.
- Transport waste to another location in Stratford where it would be securely stored until a final in-town disposal location is identified and prepared.
- Transport approximately 40,000 cubic yards of clean fill back to the Shore Road Area to restore the site to its current elevation.

Pros and Cons of Alternative #3

To select a cleanup plan for the Shore Road Study Area, EPA is required to evaluate each alternative on the basis of **effectiveness**, **implementability**, and **cost**. Each of these criteria has several elements which are presented in detail in the EE/CA. Some of the advantages and disadvantages of this alternative for each of these criteria are briefly summarized in Table 1.

History of the Raymark Cleanup

The Raymark Facility on East Main Street in Stratford, Connecticut operated from 1919 to 1989. Raymark manufactured automotive and heavy brake friction components using asbestos, lead, copper, and a variety of adhesives and resins. As a result of manufacturing and waste-disposal practices, soils at the Raymark Facility became contaminated with many of these pollutants. Raymark routinely gave away its excess manufacturing wastes for use as fill within the Town of Stratford. The hazardous chemicals and metals in these wastes pose a threat to the health of the residents of Stratford and the environment. EPA has been working since 1993 to clean up these wastes. The Shore Road Study Area is one of the places in Stratford where Raymark wastes were dumped. The Shore Road Study Area encompasses approximately 4 acres, and includes a 1,350-foot section of Shore Road, the Housatonic Boat Club, and a small portion of the embankment along the Shakespeare Theater property. In 1993, the CTDEP took immediate steps to prevent further exposure and temporarily capped the contamination with a geotextile (a permeable plastic-like fabric designed to minimize soil erosion and dust) and a 6-inch layer of wood chips. While this eliminated the immediate hazards posed by the site, it was not designed to be a permanent solution. The EE/CA was released by EPA in July 1999, and a subsequent addendum (July, 1999), identifies permanent solutions to the contamination at Shore Road.

Table 1 – Pros and Cons of Alternative #3

Evaluation Criterion	Advantages of Alternative #3	Disadvantages of Alternative #3
Effectiveness	• Protects human health and the environment by removing the wastes from Shore Road Area. • Will comply with all laws, regulations and standards for human health and environmental protection. • Effective immediately after construction is complete. • Removing wastes from banks of Housatonic River ensures permanent solution to contamination in an environmentally sensitive area. • Would allow future use of the site with limited restrictions.	• Does not reduce the amount of wastes, simply stores it in another location. .
Implementability	• Excavation easy to perform. It has been used in Stratford on previous Raymark removals.	• Location of short-term storage and long-term disposal site not identified. • Moving wastes increase the amount of vehicle traffic throughout Stratford, especially in the Shore Road Area. • If waste is stored or disposed of at a Raymark site in Stratford, close coordination with cleanups of other Raymark disposal Areas becomes necessary. • Public opposition to this option.
Cost (for a full discussion of costs, see below)	• Future monitoring costs at Shore Road Area are minimal. • Single in-town disposal site is easier to operate and maintain then numerous smaller properties.	• Shore Road Area may need land use restrictions placed on the deed if any contamination is left in place.

Costs

The total estimated removal costs are borne by the Federal Government. All long term operation and maintenance (O&M) costs are the responsibility of the State of Connecticut taxpayers. Costs for the two Alternates are shown below.

Estimated Costs for Alternative #3 (Excavating)	
Capital Costs	$4,286,925
20% Contingency Factor on Capital Costs	$857,385
1% Engineering Contingency Factor on Capital Costs	$42,869
Total Alternative #3 Removal Costs	**$5,187,179**
Long-term O&M Costs (5 yrs.)	$24,783
Total Costs for Alternative #3	**$5,288,793**

Estimated Costs for Alternative #4 (Capping)	
Capital Costs	$3,308,119
20% Contingency Factor on Capital Costs	$661,624
6% Engineering Contingency Factor on Capital Costs	$198,487
Total Alternative #4 Removal Costs	$4,168,231
Long-term O&M Costs (30 yrs. – includes replacement of seawall at $1,458,943)	$1,496,210
Total Costs for Alternative #4	**$5,664,441**

Note: For determining Operation and Maintenance costs, EPA assumed a discount rate of 7%. The full details of EPA's cost estimates are included in Appendix E of the EE/CA. Six percent engineering costs (alternative 4) due to the difficulty of design and construction.

Discussion of Alternative #3
Some of the disadvantages of Alternative #3 could be controlled or avoided with careful planning. For example, preparation of a public/worker health and safety plan, use of dust control techniques and covered trucks, and aggressive air-quality monitoring together would protect Stratford residents from any risks due to transporting the wastes. Limiting work hours would also reduce the neighborhood impacts of excavating and transporting wastes within Stratford.

EPA, CTDEP, and the Stratford Health Department would work closely with the public to reduce the potential impacts of any cleanup plan to residents and businesses in the area.

Alternative #4 – Capping, Institutional controls, and monitoring

Components of Alternative #4
- Construct a cap over the contaminated materials to prevent direct contact.
- Design a cap to withstand both regular erosion and 100-year flooding events.
- Monitor indefinitely to ensure the continual effectiveness of the cap.

Pros and Cons of Alternative #4
Some of the advantages and disadvantages of this alternative under each of EPA's evaluation criteria are briefly summarized in Table 2.

Table 2 – Pros and Cons of Alternative #4 (Capping)

Evaluation Criterion	Advantages of Alternative #4	Disadvantages of Alternative #4
Effectiveness	• Protects human health and the environment by capping wastes in place. • Can be designed to comply with all laws, regulations and standards. • Effective immediately after construction is complete.	• Leaves waste in place along the bank of the Housatonic River, which would be subject to impacts from erosion and storm events. • Does not reduce the amount of waste. • Long-term effectiveness of cap in a coastal environment is uncertain. • More groundwater studies would be needed to evaluate the effectiveness of a cap. • Would require many restrictions related to future land use.
Implementability	• Not dependent on close coordination with cleanups of other Raymark disposal areas.	• Technically difficult to construct. • Area would have to be elevated 4 to 5 feet above the current level, making access difficult. • Public opposition to this option.
Cost (for a full discussion of costs, see Page 2)	• Lower initial capital costs than Alternative #3.	• Significantly higher operation and maintenance costs than Alternative #3. • Long-term monitoring costs because waste has been left in place.

Discussion of Alternative #4
Many of the disadvantages of Alternative #4 cannot be controlled. Construction of a cap on the bank of the Housatonic River would be difficult. The area would have to be elevated 4 to 5 feet above the current ground level which would make access to the area difficult. Other concerns include: coastal erosion from hurricanes and other storms, possible water pressure from under the cap could damage the cap and expose buried waste, and the need for long term maintenance of both the cap and the adjoining seawall. Long-term maintenance would be very expensive, the cost of which would be borne by Connecticut taxpayers.

As with Alternative #3 above, EPA, CTDEP, and the Stratford Health Department would work closely with the public to reduce the potential impacts of any cleanup plan to residents and businesses in the area.

Conclusion

This fact sheet explains some of the complexities that EPA must consider when trying to meet the goal of a safe, effective, and permanent cleanup of Raymark wastes. The selection of a cleanup alternative for the Shore Road Study Area is particularly difficult because EPA must balance the risks of moving wastes against the technical difficulties of developing an on-site cleanup alternative.

Raymark has caused enormous problems in Stratford by polluting widespread areas of the town. Its past waste disposal practices have taken a serious toll on property owners and residents. EPA's goal is to clean up Raymark wastes as quickly and efficiently as possible. To select the final cleanup remedy, EPA must use both the best science and careful judgements informed by advice from the public and other state and local agencies. EPA's *Shore Road Study Area EE/CA Responsiveness Summary*, which will be released after the conclusion of the public comment period, will present more detailed responses to the issues discussed here. The final selection of the Alternative will be made after all public comments on the plan has been received and reviewed.

Where can you find more information on Superfund, Raymark, and the Shore Road Study Area EE/CA?

Major technical documents that EPA produces (such as Remedial Investigations, Feasibility Studies, Engineering Evaluation/Cost Analyses, and Proposed Cleanup Plans), as well as fact sheets and other general information, are available in the reference section of the Stratford Public Library, 2203 Main Street during normal library operating hours.

Contact EPA and other officials directly for more information.

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