

Lessons Learned from Brownfield Cleanups

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Sources of Information

- Reusing Superfund Sites: Commercial Use Where Waste is Left on Site
 - USEPA OSWER 9230.0-100 February 2002
- Superfund Redevelopment Program
 - <http://www.epa.gov/superfund/programs/recycle/index.html>

Lesson 1 - Consider Future Land Uses

- Identify with property owner and community reasonable anticipated future land uses of property.
- EPA must balance preference for future land use with provisions of cleanup laws.
- Select a remedy.



At Pepe Field in Boonton, NJ, Little Leaguers shag fly balls where underground waste once polluted soil and ground water.

Lesson 1 – Consider Future Land Use

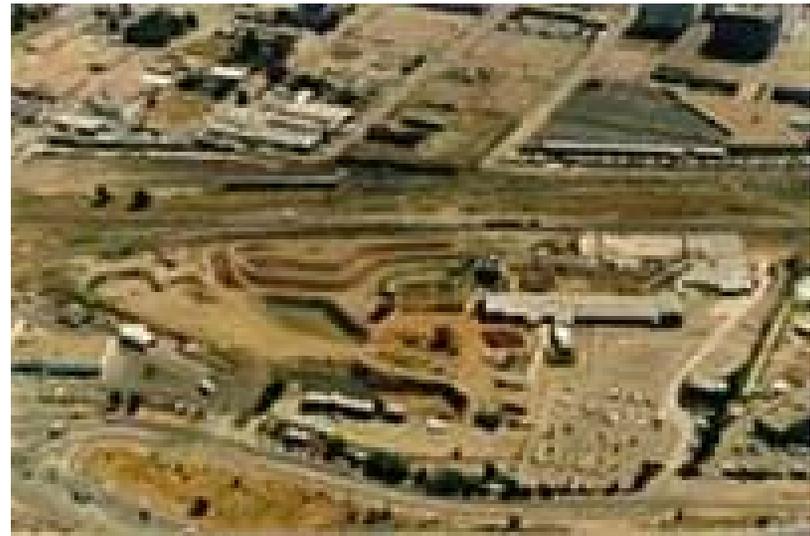
On-Site Disposal is not necessarily a deterrent to redevelopment.

- Many successfully redeveloped sites involve waste left in containment systems on the property.
- Requires planning, involvement of the community and other interested parties, and appropriate design, construction, and post-construction operation and maintenance practices to ensure remedies support reuse plans.
 - Many new developments were built directly over the waste containment systems.

These sites designed their disposal systems to be built over.
Not proposing that approach at PORTS. Existing landfills not designed for it.

Case Study – Disposal Onsite at Denver Radium

- Buildings and site contaminated with radioactive materials, heavy metals (lead and zinc), and arsenic.
- Developer identified early in remediation due to suburban proximity.



BEFORE

Radioactive site from radium processing
and other industrial activities.

Case Study - Denver Radium Site

- Four disposal cells built with clean fill in between to create “utility corridors”, covered with geotextile, clean fill.
- Final asphaltic cover limits access and serve as Home Depot parking lot. (Asphalt worked here due to nature of contaminants).
- Groundwater wells completed at grade level to prevent obstruction to redevelopment.



Application to PORTS: Potential for future disruption of waste can be minimized by strategically locating materials where least likely to be disturbed.

Lesson 2 – Develop a Reuse Plan

Reuse Assessments

Developed during RI/FS to determine type of land use desired and possible



Reuse Plan

Developed by community with EPA support



Over 130 small businesses currently operate at the former 6.5-acre General Mills Henkel Site

Lesson 2 – Develop a Reuse Plan

- Reuse planning should be started as early in the cleanup process as possible. The longer reuse planning is delayed, the greater the possibility that some reuse options will be foreclosed by decisions made.
- Often developed after RI/FS during remedy design, but can be developed sooner for evaluation with remedy selection.



South Point Plant - Lawrence County, Ohio

Former munitions, fertilizer and chemical manufacturing, coal and ethanol production

Lesson 2 – Develop a Reuse Plan

- Reuse plan need to identify assets for redevelopment.
- Also needs to address barriers to reuse including:
 - Lack of understandable information about the site.
 - Stigma of being a Superfund (or contaminated) site.
 - Liability concerns.
 - Site ownership issues.
 - Lack of clear information regarding what uses might be appropriate for the site.

Lesson 2 – Develop a Reuse Plan

- Development of reuse project can begin on parts of site before a remedy is completed if properly coordinated.
- EPA is prohibited from funding “enhancements” to the remedy for reuse, but can design remedies to facilitate reuse.



View from top of disposal vault on site.
Site closed without reuse plan created.



Fully permitted 8 billion cubic foot natural gas storage facility recruited due to site location assets.

Case Study - Disposal Onsite Raymark Industries

- Auto parts production created PCB, dioxin, semi-volatile and volatile, asbestos and metal contamination on and off plant site.
- 30 of 33 acres of site placed under engineered cover. Clean fill on top. Pump and treat runs beneath. Deep pilings placed through disposal cell to support future buildings.



A conceptual drawing of the future shopping center at the Raymark Industries, Inc. Superfund site.

Lesson for PORTS: It can help to coordinate remediation plans with potential developers if identified early.

Lesson 1 - Consider Future Land Uses Early in Process

- ✓ Industrial reuse identified for PORTS – complete.
- Balance reuse preferences with cleanup plans – in progress.
- Potential for future disruption of waste can be minimized by strategically locating materials where least likely to be disturbed - in progress.

Lesson 2 – Develop a Reuse Plan

- ✓ Reuse planning should be started as early in the cleanup process as possible and address needs of future redevelopers – FFE report
- Industrial reuse cleanup levels - in progress to incorporate into future soil decision documents.
- Community develops Reuse Plan with cleanup authority which coordinates remedy selection – SSAB recommendation made, work in progress.
- Community develops Reuse Plan which highlights assets and addresses barriers to redevelopment – not yet started, but usually done after ROD.