

Environmental Site Assessment (Multi-Stage Process)



Phase I

- Historical record search
- Site inspection
- Interviews

What constitutes a Phase I assessment:

Record search: Historical data on past uses, federal and state reports of hazardous substances on the property and nearby properties, researching chain of title and zoning history, reviewing historic aerial photographs, review of city and county records such as tax assessor field sheets, building department records, library files, checking for previous assessments or environmental audits, and reviewing historic fire insurance maps.
Site inspection: Examining property and surrounding properties.
Interviews: Past owners, employees, regulatory agencies, others familiar with the property.

Phase II



- Sampling
soil, water, air, etc...
- Analytical testing

What constitutes a Phase II:

A Phase II environmental assessment is done if the results of a Phase I indicates the possibility of environmental contamination. Samples are taken of soil, groundwater and other media present at the site and either analyzed on site or sent to an analytical lab.

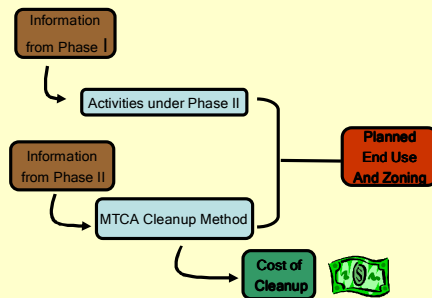
Codevelopment Cleanup Plan

- Magnitude of contamination
- Remedy/ Cleanup plan
- Risk management



The Codevelopment Cleanup Plan, also known as a Phase III environmental site assessment, is a relatively new concept arising out of the cleanup phase of dealing with a contaminated site. The Codevelopment Cleanup Plan defines the extent of contamination and presents a remedy for cleanup and future management of any contamination left at the site. This is important when dealing with brownfields as the remedies and technologies used are more open to innovation and creativity.

The risk management of redeveloping brownfields involves the implementation of institutional controls or other means to control exposure to contaminants not posing an immediate threat to human health or the environment.

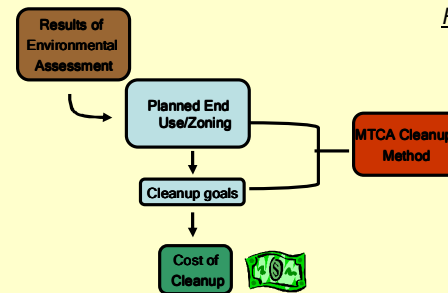


Assessment, End Use and Zoning, MTCA Cleanup Method, Cost Relationship

This diagram illustrates the relationship of site assessment, the planned end use of the site, the chosen cleanup method and the cost of cleanup.

Information from a Phase I is used to determine activities taken under a Phase II. Information on the types of chemicals used at the site, the location of their use and visual inspection helps determine where to take samples to be analyzed.

Information from Phase II and knowledge of the planned end use and zoning provides a basis for development of the appropriate Model Toxics Control Act (MTCA) cleanup method. Cleanup methods also vary depending on what types and concentrations of contaminants are found. The cleanup method determines the cost of cleanup.



Risk, End Use and Zoning, Cost of Cleanup Relationship

This diagram illustrates the relationship between a site's planned end use and zoning, MTCA cleanup method, and the cost of cleanup.

The results of an environmental assessment are used in a risk assessment to predict the risk of exposure to contaminants at the site. That exposure is highly dependent on what the planned end use and current zoning is for the property. For instance, if the planned use and zoning for the site is going to be residential, the possible exposures to humans by any contaminants left behind at low levels is greater than if the property was to be for a commercial operation in an industrially-zoned area. The MTCA cleanup criteria would then be more stringent to take into account human exposure scenarios in a residential setting. This affects the cost of cleanup as it costs more to achieve lower contamination levels.

This diagram shows why the planned end use of a property is so important in assessing the cost and financial viability of a particular brownfields redevelopment project.