



Charlevoix Site Activities & Open House Cleanup Construction Work Starting in April

Charlevoix Municipal Well Superfund Site
Charlevoix, Michigan

April 2025

Open House - April 30
Wednesday 4:30 - 7:30 p.m.

U.S. EPA, U.S. Army Corps, and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) will host an open house on **April 30** at the **Charlevoix Public Library**.

If you have questions, contact:

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Call U.S. EPA's Chicago office
toll-free at 800-621-8431,
9:30 a.m. – 5:30 p.m. weekdays.

More Information

Find site documents online:
www.epa.gov/superfund/charlevoix-muni-wells

Documents can also be viewed on
computers at the Charlevoix Public
Library, 220 W. Clinton St.

This April, EPA is preparing to clean up contaminated soil and groundwater at the Charlevoix Superfund site. U.S. Army Corps crews will use cleanup technologies to reduce the risks of human exposure to chemical vapors that could otherwise seep into nearby buildings. Since Charlevoix gets its drinking water from Lake Michigan, this cleanup will have NO EFFECT on drinking water.

Estimated 2025 cleanup work schedule

- **Mid-April:** Site preparation includes safety fencing, signage, and sampling activities.
- **Starting May:** EPA and USACE to tear down buildings located on contamination and then begin removing contaminated soil.
- **Spring through Fall:** Excavation and site/property restoration will continue into the fall. (See map of properties being cleaned up on Page 2.)

How EPA will address contamination:

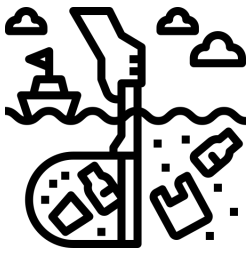
- Demolishing structures built on contaminated soil.
- Removing contaminated soil and replacing it with clean soil.
- Using natural bacteria in the groundwater to break down contamination.
- Injecting oxygen into the water (air sparging) and extracting vapors from the soil. *See Page 3 for a description of these technologies.*
- Maintaining existing systems to prevent chemical vapors from seeping into remaining structures.
- Continuing to monitor groundwater.

Construction Heads Up!



Area residents will notice construction workers and heavy equipment during construction activities. This year there will be drilling, building demolition, soil excavation, trucking activities, and operating trailer-mounted systems. Residents near worksites may notice noise and ground vibrations. All work will be conducted during normal business hours.

We understand there's going to be a certain amount of disruption caused by these activities. Please contact EPA at the numbers listed on the left banner to discuss any concerns.

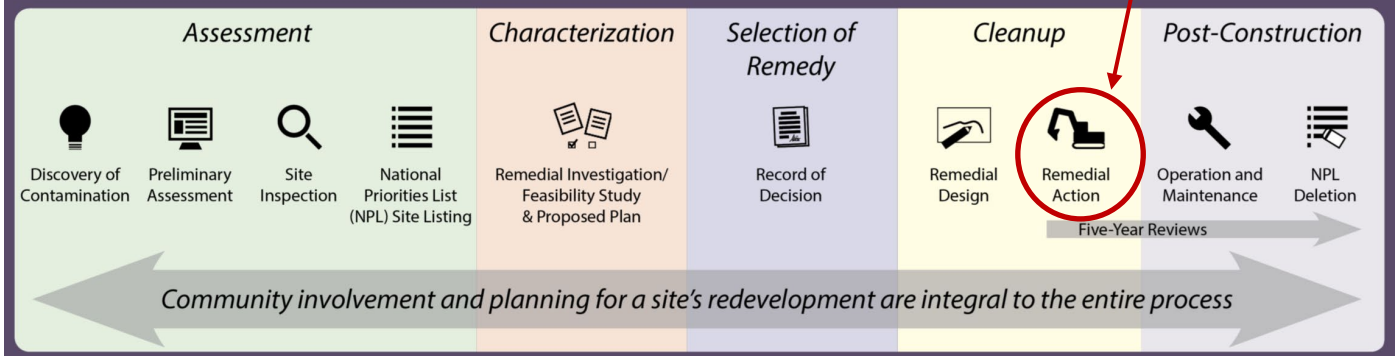


What is Superfund?

Superfund is a federal environmental program established by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). This allows EPA to clean up contaminated sites and forces parties responsible for the contamination to perform cleanups or reimburse the government for EPA-led cleanup work. Often, these sites are former manufacturing facilities, processing plants, landfills, or mining sites.

THE SUPERFUND PROCESS

EPA is at the Remedial Action stage

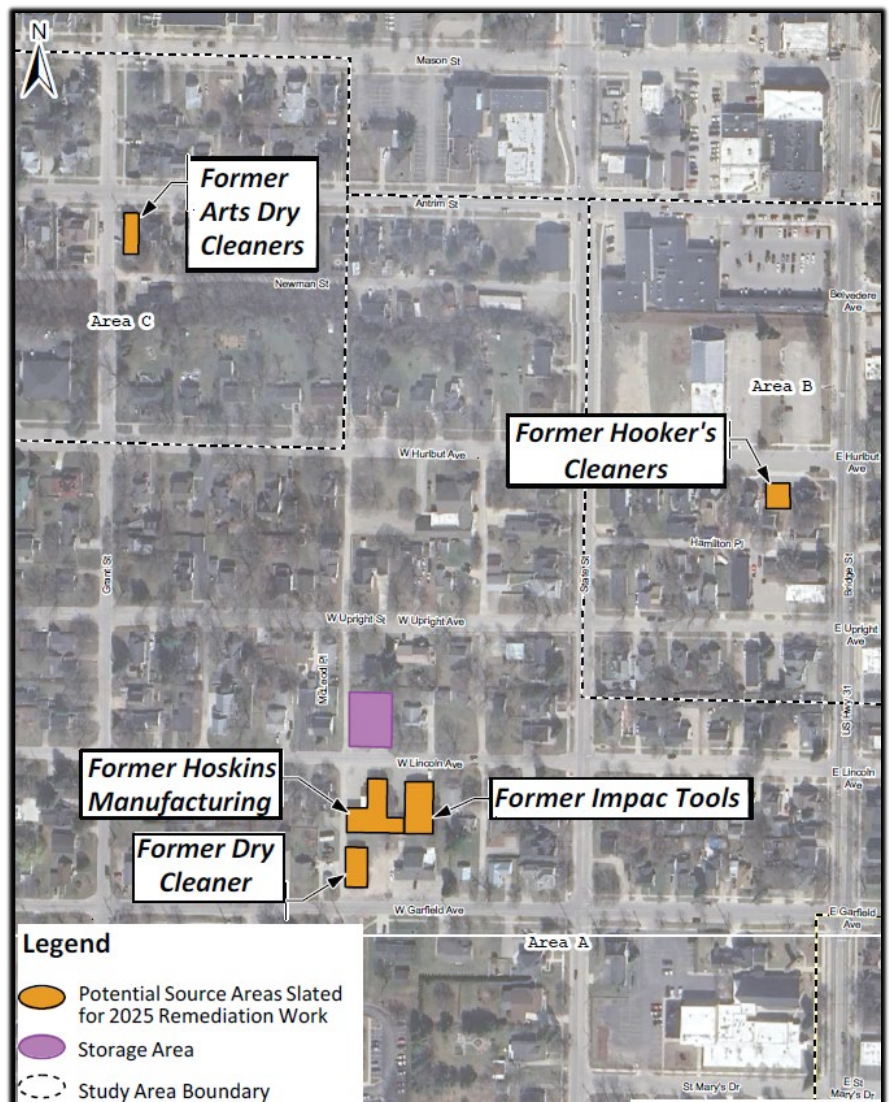


Contaminants of concern:

PCE (tetrachloroethene) is a liquid used as a drycleaning agent and metal degreasing solvent. PCE is the primary contaminant in groundwater.

TCE (trichloroethene) is a liquid used as a solvent for cleaning metal parts. TCE is the primary contaminant in soil.

Map of Charlevoix Municipal Well Superfund site showing properties where cleanup construction work will take place in 2025.



Site Background

- September 1981** - TCE was found in the city of Charlevoix's drinking water system. Investigations found a nearby underground plume of industrial solvent contamination.
- 1984** - The city changed its water source from groundwater to lake water and installed a water treatment plant to provide a clean water supply.
- 1990s and 2000s** - Michigan Department of Environmental Quality (now the Michigan Department of Environment, Great Lakes, and Energy) operated air sparging and soil vapor extraction systems to remove the PCE and TCE at source area properties.
- 2013 to 2015** - EPA discovered unacceptable levels of vapors from contaminated soil and groundwater in multiple buildings. Based on these results, EPA installed vapor mitigation systems at 16 affected buildings.
- 2016** - During the fourth five-year review of the site, EPA confirmed the safety of the water intake and treatment remedy.
- April 2020** - EPA selected a short-term plan to clean up groundwater, soil, and soil vapor.

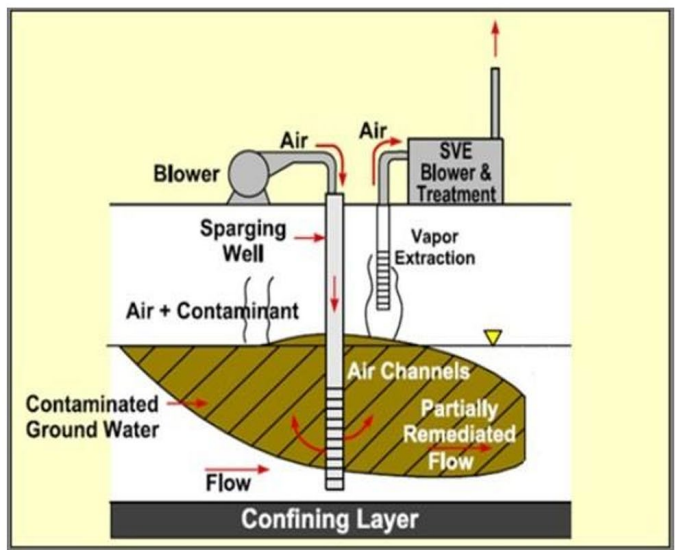


Diagram of air sparging components

Soil vapor extraction (SVE) (diagram below)

Involves removing contaminated vapors from soil and transporting the vapors to a treatment system to be destroyed.

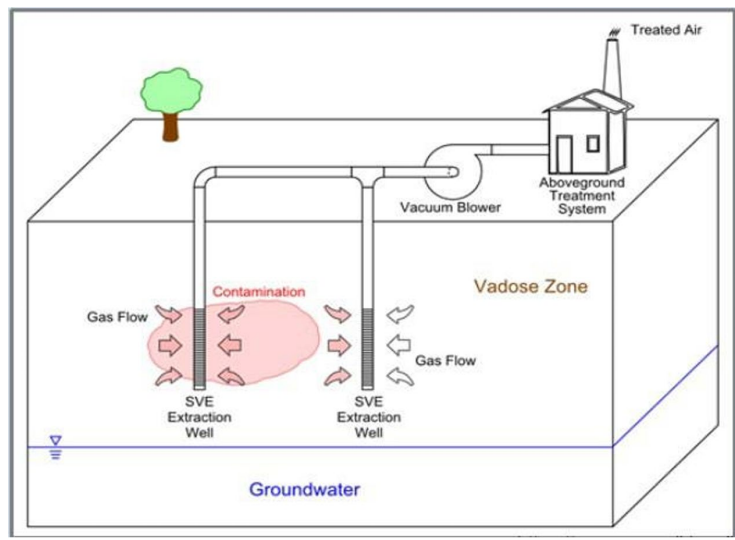


Diagram of soil vapor extraction (SVE) components

Techniques for Soil, Groundwater, and Soil Gas Cleanup at the Site

Excavation of contaminated soil

Buildings above contaminated soil are demolished. Contaminated soil is excavated and replaced with clean backfill.

Air sparging (diagram on top right)

Involves injecting air into contaminated groundwater. The contaminants in the water turn into vapor, which rise and settle into the soil above. The vapor is then pumped out and sent to a treatment system.

In-situ (in-place) treatment of groundwater

Involves treating ground water without removing it from the ground.

Land use restrictions

Restricts groundwater use at select properties and notifies any future owners about the cleanup to protect residents and utility workers.

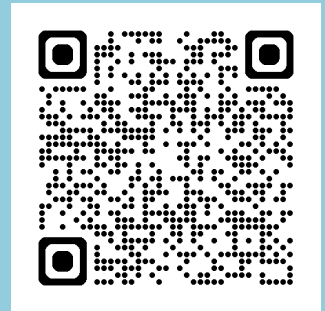
You're invited – Talk to EPA, U.S. Army Corps, and EGLE representatives about cleanup and construction work taking place near you this summer.

Join us for an Open House!


Wednesday, April 30, 2025

4:30-7:30 p.m.

Charlevoix Public Library
220 Clinton St., Charlevoix, MI



For more information, visit: www.epa.gov/superfund/charlevoix-muni-wells

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**CHARLEVOIX MUNICIPAL WELL SUPERFUND SITE:
Construction beginning for soil and groundwater cleanup**

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