

EPA Proposes Cleanup Plan for Polluted Ground Water, Soil

Copley Square Plaza Superfund Site
Copley, Ohio

June 2009

Share your opinions

EPA invites you to participate in the cleanup process at the Copley Square Plaza site. Your input helps EPA determine the best course of action. Please attend a public meeting at 7 p.m., Wednesday, July 22, at the Copley Community Center, 1278 Sunset Drive.

A comment period has been set up to provide you an opportunity to share your comments on the site cleanup. Comments should be submitted from June 29 to July 30, 2009:

- Orally or in writing at the public meeting.
- Via the Internet at www.epa.gov/region5/publiccomment/copleysquare-pubcomment.htm.
- Fax to Susan Pastor at 312-385-5344.

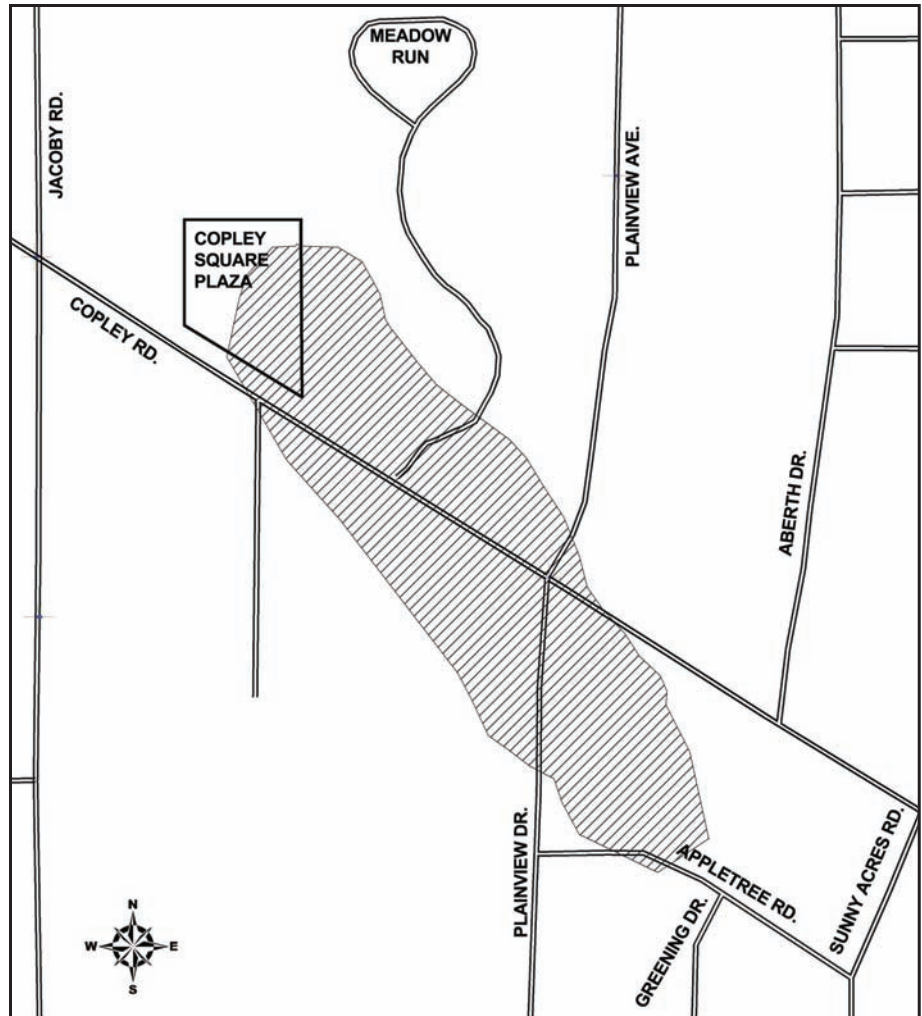
Contact EPA

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Call EPA Region 5 toll-free
800-621-8431
9:30 a.m. to 5:30 p.m., weekdays

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Site map with general outline of plume.

A cleanup plan proposed¹ by U.S. Environmental Protection Agency calls for polluted shallow ground water (between 0 and 20 feet below the surface) to be treated and several homes in the Copley Square Plaza area connected to public water supplies. In addition, access to ground water would be restricted and systems put in place under some homes to prevent harmful gases from rising up through the ground into homes in a process known as “vapor intrusion.”

¹ Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires publication of a notice and a proposed plan for the site remediation. The proposed plan must also be made available to the public for comment. This proposed plan is a summary of information contained in the remedial investigation, feasibility study, and other documents in the administrative record for the Copley Square Plaza site. Please consult those documents for more detailed information.

EPA and state partner Ohio EPA have been investigating ground water pollution south and east of the Copley Square Plaza. The proposed cleanup plan is a result of that study.

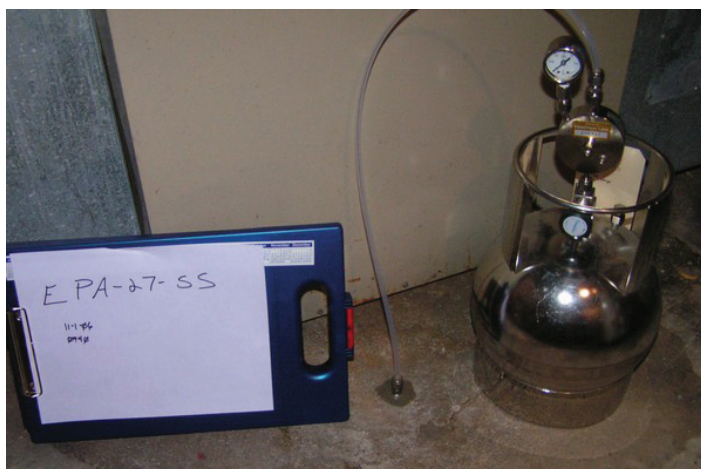
Investigators believe old wastewater pits at a former dry cleaner in the shopping plaza allowed a chemical called tetrachloroethene, commonly known as PERC, to soak into the ground where it contaminated the ground water. PERC is in a class of chemicals called volatile organic compounds or VOCs. VOCs can dissolve in water and evaporate easily, giving off dangerous fumes.

You have 30 days to file written comments on EPA's proposed plan. See the box on Page 1 to find out how. EPA could alter its proposed plan or even choose a new one based on public comments.

Site background

Ohio EPA responded to complaints in April 1990 of an odor in water from wells serving two businesses in the Copley Square Shopping Center, a dry cleaner and a grocery store. Ohio EPA found that the ground water contained VOCs at levels higher than what EPA considers safe.

After four years of extensive testing, Ohio EPA discovered the wastewater pits at the former dry cleaner and found several homes affected by the contamination. Ohio EPA then asked for assistance from EPA to protect local residents from the polluted water. EPA oversaw the installation of water treatment systems in nearby homes with contaminated wells, the closing of eight wastewater tanks at the dry cleaner and the installation of a system to collect the ground



A device such as this one could possibly be used indoors to collect air samples from underneath homes.



This residential vapor abatement system, which is about the size of a football, could be installed on the outside of a house.

water. Ohio EPA maintains these systems today. In 2000, Ohio EPA found the ground water was still contaminated. There had been no improvement since the mid-1990s. The site was placed on the federal Superfund list in April 2005. That made the site eligible for federal funding because no private parties have been identified with the financial ability to pay for the investigation and cleanup.

EPA's study of the site revealed that the PERC-contaminated ground water had formed a plume, or mass of contaminated water, affecting the homes previously identified by Ohio EPA. Not only is the plume not safe for drinking should a private well tap into it, but the pollution may pose the threat of vapor intrusion.

All units in the Meadows of Copley are on a public water supply, so drinking contaminated water is not a concern. Air samples were collected at four buildings, which contain 26 units, for soil gas and indoor air contamination. The four buildings were selected for testing because they sit nearest the underground plume. Sample holes were drilled next to the buildings as well as in an undeveloped area to the west. Low levels of PERC and other harmful VOCs were detected in the indoor air but not at levels considered dangerous in the short term.

EPA tested 23 private wells, including eight already on filtration systems, along Copley Road, North

Plainview Avenue and South Plainview Drive. EPA was looking for PERC contamination in private well water and the indoor air at some of the homes. Sampling defined the boundaries of a ground water plume extending from Copley Square Plaza southeast along Copley Road to South Plainview Drive and Appletree Road. Contamination wasn't found in any additional homes.

Some homes were also tested for vapor intrusion. Investigators drilled a 1-inch diameter hole 6-8 feet deep outside each house and sampled for harmful gas trapped between soil particles. Basements were also sampled. VOCs were found in some of the samples. Sample results were mailed to the affected homeowners.

Recommended cleanup alternatives

EPA considered three cleanup alternatives to clean up the shallow ground water and deal with the potential for vapor intrusion in homes. Each option was evaluated each against nine criteria required by law (see box on Page 7 for an explanation of the criteria). They have not yet been evaluated for state and community acceptance because these criteria are typically judged after EPA proposes a cleanup plan and holds a public comment period.

The recommended alternative provides the best balance of the nine criteria and meets the requirements of federal law. It protects public health and the environment over the long term, complies with state and local regulations, and is cost-effective.

Originally, several other alternatives were looked at but were eliminated because they were deemed ineffective.

Comparison of cleanup alternatives

Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
Overall Protection of Human Health and the Environment	○	●	●
Compliance with ARARs	○	●	●
Long-Term Effectiveness and Permanence	○	●	●
Reduction of Toxicity, Mobility, or Volume through Treatment	○	●	●
Short-Term Effectiveness	●	●	⊙
Implementability	●	⊙	⊙
Cost	\$0	\$5 million	\$5 million
State Acceptance	Will be evaluated after the public comment period.		
Community Acceptance	Will be evaluated after the public comment period.		

● Meets Criteria ⊙ Partially Meets Criteria ○ Does Not Meet Criteria

Four actions are common to Alternatives 2 and 3.

They are:

1. “Institutional controls” are measures that prevent people from using or accessing a particular area. In this case, a local ordinance would prevent new wells from being installed in contaminated areas and restrict use of the ground water until EPA determines it meets appropriate standards.
2. “Alternate water supply” means area homes that use wells for their water supply would be connected to the public water system. Some work would be needed on the public water supply infrastructure in the area.
3. “Sub-slab depressurization” is a system that prevents vapor intrusion into basements. It is not intended to treat soil beneath the slab. The system extracts air from soil beneath a building through holes in the slab, and then vents any possible vapor to the outside where it is harmless. EPA would do periodic indoor air monitoring to ensure the system is keeping potentially dangerous vapors out of the home.
4. “Ground water and indoor air samples” will be taken on a regular basis to monitor the contamination and effectiveness of the treatment.

Alternative 1 – No Action: EPA would do nothing to clean up the pollution, which means there would be no effect on potential health risks. The Superfund law requires the no-action alternative to provide a baseline for comparison with other options. **Cost: \$0.**

Alternative 2 – Institutional controls, alternative water supply, sub-slab depressurization and in-place ground water treatment by reductive dechlorination (EPA recommends this alternative):

In addition to the three common elements, this alternative relies on a process called “in situ (in-place) treatment,” which simply means treating the shallow ground water and soil while it is still underground rather than digging/pumping it out to remove contaminants. The process of “reductive dechlorination” involves injecting a chemical compound into the ground water at points directly east and west of the former dry cleaners. This compound would react with the PERC in the ground water and soil and change it chemically into a non-toxic substance that degrades easily. This process could take as little as two years to remove the contamination. Monitoring of the ground water and vapor intrusion would continue until the water meets EPA’s standards. **Cost: \$5 million.**

Alternative 3 – Institutional controls, alternative water supply, sub-slab depressurization, in-place ground water treatment by chemical oxidation and reductive dechlorination polishing: This option is almost identical to Alternative 2 except for the method of treating the shallow ground water and soil. This alternative would rely on injections of an oxidant into the ground water over a period of a few months, followed by an injection of the chemical compound described in Alternative 2. This would more rapidly decrease the amount of contamination in the ground water. **Cost: \$5 million.**

Evaluation of alternatives

EPA recommends Alternative 2 because it provides the best, most cost-effective long-term cleanup solution and best protection of people and the environment.

In its detailed evaluation, EPA compared the remaining alternatives to the nine criteria mentioned on Page 7. EPA concluded the “no-action” alternative would not protect people or the environment and it was eliminated from further consideration.

All the alternatives except 1 comply with applicable environmental laws and regulations.

Alternatives 2 and 3 provide long-term effectiveness. They treat the soil and ground water and are adaptable

because it would be easy to conduct additional treatment if ground water contamination returns or persists.

Alternatives 2 and 3 would be effective in the short term because they include connecting residents to the public water supply, restricting access to contaminated ground water and addressing the potential problem of vapor intrusion.

Alternative 2 protects workers better than Alternative 3 because the material injected into the ground is less dangerous to cleanup crews. Workers could come into contact with the soil and dust that are potentially contaminated with VOCs. Both alternatives would also present physical hazards to workers and create noise and traffic problems in the community. Alternatives 2 and 3 would have some risk to construction workers, but these risks would be minimal because substances used in Alternative 2 are non toxic. The substances used in Alternative 3 just require more care in handling by site workers.

Both alternatives protect human health and the environment because they address the source of the contamination by treating the ground water and soil.

Next steps

Before it makes its decision final, EPA will review comments received during the public comment period and at the public meeting. Based on new information presented in the comments, EPA may modify its proposed plan or select another option.

EPA encourages you to review and comment on the proposed cleanup plan. Much more detail on the cleanup options is available in the official documents on file at the information repositories or EPA’s Web site (listed on Page 7).

EPA will respond to the comments in a document called a “responsiveness summary.” This will be part of another document called the “record of decision” that describes the final cleanup plan. The Agency will announce the selected cleanup plan in a local newspaper, place a copy in the information repositories and post it on EPA’s Web site. Next year, EPA plans to continue its investigation of deep ground water to determine the best way to clean it up.

**COPLEY SQUARE SITE
PUBLIC COMMENT SHEET**

Name _____
Address _____
City _____
State _____ Zip _____

FIRST CLASS

Susan Pastor
EPA Community Involvement Coordinator
EPA Region 5 (mail code SI-7J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

Evaluation criteria

EPA uses nine criteria to compare cleanup alternatives:

1. **Overall protection of human health and the environment** addresses whether an alternative adequately protects both human health and the environment. The cleanup plan can meet this criterion by reducing or eliminating contaminants or by reducing exposures to them.
2. **Compliance with applicable or relevant and appropriate requirements** assures that each project complies with federal, state and local laws and regulations.
3. **Long-term effectiveness and permanence** evaluates how well an option will work in the long term, including how safely remaining contaminants can be managed.
4. **Reduction of toxicity, mobility or volume through treatment** addresses how well the option reduces the toxicity (the chemical makeup of a contaminant that makes it dangerous), movement and amount of contaminants.
5. **Short-term effectiveness** is how quickly the project achieves protection, as well as its potential to be harmful to human health and the environment while it's being constructed and operated.
6. **Implementability** evaluates the technical feasibility of the cleanup plan, and whether materials and services are available to carry out the project.
7. **Cost** includes estimated capital or startup costs, such as the cost of buildings, treatment systems and monitoring wells. The criterion also considers costs to implement the plan, and operate and maintain it over time. Examples include laboratory analysis and personnel to operate equipment.
8. **State acceptance** is whether the state environmental agency, in this case Ohio EPA, agrees or disagrees with EPA's recommended alternative.
9. **Community acceptance** evaluates if the community near the site accepts the option. EPA evaluates community acceptance after it receives and evaluates public comments on its recommended alternative.

For more information:

You may review site-related documents at:

Copley Township Trustees Office
1540 S. Cleveland-Massillon Road
Copley

Fairlawn-Bath Public Library
3101 Smith Road
Akron

On the Web:

www.epa.gov/region5/sites/copleysquare

An administrative record, which contains detailed information that will be used in the selection of the cleanup plan, is also located at the Fairlawn-Bath Public Library.

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**Copley Square Plaza
Superfund Site**
(details inside)

Upcoming Public Meeting about Copley Square Plaza Site Cleanup Plan

Wednesday, July 22
7 p.m.
Copley Community Center
1278 Sunset Drive

At the meeting, EPA will explain the proposed plan and provide opportunities to ask questions and make oral comments. You may also submit written comments. If you need special accommodations for the meeting contact Susan Pastor by Wednesday, July 15. Her contact information is on Page 1.

Web Site

Site information is also posted on the Internet at:
www.epa.gov/region5/copleysquare

To comment electronically:

www.epa.gov/region5/publiccomment/copleysquare-pubcomment.htm

**COPLEY SQUARE PLAZA SUPERFUND SITE:
EPA Proposes Cleanup Plan**

RETURN ADDRESS REQUESTED

United States
Environmental Protection
Agency
Region 5
Superfund Division (SI-7J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

