



# EPA Proposes Final Cleanup Plan for Residential Area

**Northwestern Barrel Site**  
South Milwaukee, Wisconsin

October 2006

## Share your opinions

EPA invites your comments on its proposed cleanup plan. Your input helps EPA determine the best course of action. You may fill out and mail or fax the enclosed form, or use an electronic form on EPA's Web site. Your comments must be postmarked by the last day in the comment period.

**Public comment period**  
**Oct. 18 – Nov. 17, 2006**

### Public hearing

A public hearing where EPA will present the proposal and give the public an opportunity to present comments orally will be held:

**Nov. 2, 2006, 6:30 p.m.**  
**South Milwaukee**  
**City Hall Council Chambers**  
**2424 15<sup>th</sup> Ave.**

**Note:** This proposal addresses only the residential portion of the former Northwestern Barrel site. EPA issued a final cleanup plan in May 2004 for the vacant portion owned by Towne Realty Inc., which lies east of the condos along the lake. EPA's decision, or "action memorandum," for this portion is posted on the Web site and is available at the library.

### Check out EPA's Web site

For more information about the Northwestern Barrel site go to:  
**[epa.gov/region5/sites/marinacliffs](http://epa.gov/region5/sites/marinacliffs)**

Subsurface soil in two areas of the residential section within the former Northwestern Barrel property near Fifth Avenue and Marina Road will be treated to clean out remaining chemicals under a final cleanup plan proposed by U.S. Environmental Protection Agency. The drain tile depressurization systems – installed along condominium buildings 1 through 4 in 2004 to vent air from the building sumps to the outside – would continue operating during the treatment. In addition, deed restrictions would be put in place requiring that construction and utility crews digging deeper than 3 feet in affected areas in the future use special health and safety measures. EPA's proposal – Alternative 4 described on Page 3 -- protects human health and the environment, and, once in place, will complete the final cleanup activities required for the residential area. This fact sheet describes the latest cleanup proposal.

Residents have 30 days to comment on EPA's proposed plan. See the box at the left to find out how. Based on public comments, EPA may modify the proposal.

A draft report completed in August gives details on what is known about contamination in the residential area, as well as a history of previous cleanup activities. This report, *Engineering Evaluation/Cost Analysis Report: Properties Immediately Adjacent to Marina Cliffs/Northwestern Barrel Site (August 2006)*<sup>1</sup>, also provides detailed information about the cleanup proposal. The report is available at the South Milwaukee Public Library and is posted on EPA's Web page.

## Health risk to people

The cleanup work that began in 1997 on the neighboring Towne Realty portion of the site and later in the residential area has successfully removed nearly all the contamination, but small amounts of remain. To evaluate if the cleanup done so far was enough to keep people safe, the 2006 report looked at the remaining possible risks to people and the environment both now and in the future. The analysis considered possible health risks to residents from touching or digging in soil (gardening, children playing), eating garden produce or breathing indoor air in basements next to the contaminated area. It also looked at potential risks to construction and utility workers from digging deep into soil and coming into contact with underground water supplies (called ground water). The contaminants of concern belong to a family of chemicals called volatile organic compounds, similar to those contained in paint, solvents and common household cleaners and air fresheners. The evaluation concluded health risks to residents in contact with soil or who eat garden produce were low even without additional soil treatment.

<sup>1</sup>Section 300.415(n)(4)(ii) and (iii) of the National Oil and Hazardous Substances Pollution Contingency Plan requires EPA to provide a brief description of the report in the newspaper and provide the public an opportunity to comment on it.

The proposed soil treatment work is needed, however, to reduce the potential risk of chemical exposure to construction and utility workers who could come into contact with deeper soil (greater than 3 feet deep) or ground water while working. Once the treatment work is complete, health risks will be lowered, but workers will still be required to use caution while in contact with soil and ground water in the affected areas (see map).

### **About the Northwestern Barrel site**

The site contained the former Northwestern Barrel Co., a barrel reconditioning business that operated from the early 1940s to the mid-1960s. Operations included the handling, washing and refurbishing of steel drums and wooden barrels. The company property covered about 18 acres – including 13 acres of now-vacant land along the Lake Michigan shoreline – as well as on ground where condominiums now sit extending west to Fifth Avenue and south to Marina Road and the city of South Milwaukee's easement to the lakefront. For the purposes of investigation and cleanup, EPA divided the site into two areas: the 13-acre eastern parcel that includes a deep ravine, lake bluff, and upland areas that is owned by Towne Realty Inc., and a smaller western parcel with several multi-family residential developments.

Leftover chemicals from barrel handling, cleaning and storage resulted in extensive soil contamination in upland areas, the bluff and ravine, and ground water beneath the site. Investigations beginning in the 1990s revealed that the heavily wooded ravine and lake bluff contained 55-gallon barrels, drums and other containers that appeared to be filled or partially filled with hazardous materials. In addition, waste piles and disposal areas of building debris, cinders and paint waste were evident along the slopes of the ravine. Containers were exposed along the lake bluff and ravine. Two buried disposal pits in the southeast corner contained a dark, oily sludge. Contaminants found include lead and other heavy metals, volatile and semi-volatile organic compounds, pesticides and PCBs.

Beginning in 1995, EPA issued a series of legal orders to a number of parties considered to be potentially responsible for cleanup under federal law. These orders required the parties to investigate and clean up the site. Beginning in 1997, under EPA and Wisconsin Department of Natural Resources supervision, contractors for a group of the potentially responsible parties dug up, stockpiled and disposed of nearly 9,000 tons of waste and soil from the disposal pits and surrounding area on the vacant portion of land. This work was followed in 1998 by additional excavation and off-site disposal of more than 170,000 tons of waste, debris and contaminated soil from the ravine, lake bluff

and upland area. Cleanup continued in spring 2004 when two small areas of soil were excavated and erosion control measures were put in place on the slope to the lake. In 2005, the upland area was regraded and reseeded to improve drainage. Eroded areas on the east slope were filled with soil. In 2006, a small area of subsurface soil in the upland area was treated to neutralize remaining chemicals. Ground water will be monitored over the next few years to confirm that any leftover chemicals remain at safe levels. EPA expects that work on the vacant portion will be complete this fall after the shoreline wetland is replanted.

Extensive cleanup work on the residential portion has already taken place. In May 2004, potentially responsible parties dug up 9,000 tons of soil contaminated with lead and a chemical compound called PCB. The contaminated soil came from two areas within the condominium properties and the city easement and it was disposed of in a licensed landfill. Drain tile depressurization systems – much like basement radon venting systems – were installed in condominium buildings 1, 2, 3 and 4 as a precautionary measure to collect and safely vent away any contaminated vapors that may have drifted near the buildings as a result of soil disturbance. These systems remain in place. Test results show that volatile organic compounds or VOCs – chemicals commonly found in solvents such as degreasers, paints, household cleaners and petroleum products – remain in pockets of soil under the parking lot and in the grass east and north of building 2 (see map). To clean up these chemicals, EPA approved a test project in late 2004 to inject a special chemical compound into the soil. The chemical/air combination injected at 3- and 4-foot intervals caused the VOCs to break down into harmless substances. The test project was successful in reducing the level of VOCs, but as a final measure to protect human health and the environment, most of the contaminated area needs an additional treatment.

### **Cleanup alternatives**

Four cleanup options were considered for the remaining soil contamination:

**Alternative 1 -- No Action:** No additional work would be done in the residential area. No action alternatives are always included in EPA studies as a comparison method.  
**Cost: \$0**

## **Alternative 2 -- Monitored Natural Attenuation, Institutional Controls and Drain Tile**

**Depressurization Systems:** This cleanup option relies on tiny living cells of bacteria called microbes and other small organisms living in the soil to break down, or biodegrade, remaining VOCs. Soil would be tested every five years to make sure VOCs were biodegrading as predicted. The existing drain tile depressurization systems installed on sumps on buildings 1, 2, 3 and 4 would continue to operate throughout this process (called natural attenuation) to draw air from the building sumps and perimeter footer drain piping to vent to the outside air. Finally, deed restrictions (a type of institutional control) would be added to the condominium property requiring that construction and utility workers employ health and safety measures while digging in affected areas and dispose of any contaminated soil properly. **Cost: \$380,000.**

## **Alternative 3 -- Excavation/Off-site Disposal, Institutional Controls and Drain Tile**

**Depressurization Systems:** VOC-contaminated soil would be dug up and taken off-site for disposal in a licensed landfill. The contaminated soil would be excavated to about 10 feet over the full length of the north side of building 4 and between buildings 1 and 2 to the property line of a neighboring condominium property. This option is discussed in more detail in the 2006 engineering report in the library. **Cost: \$1 million.**

## **Alternative 4 -- In-Situ Chemical Oxidation, Institutional Controls and Drain Tile**

**Depressurization Systems (EPA's preferred option):** This option involves injecting a chemical compound – the same used in the 2004 test project – into the soil in a grid pattern with 3 foot intervals. This method works two ways: the compound causes a chemical reaction that promotes VOC decay, and the injected air brings more oxygen into the soil to increase microbial action. The compound would be injected into the ground to a depth of about 10 feet by a geoprobe (small drill rig). The process is expected to take about six weeks and could begin as early as this winter. Since much of the affected areas are under the parking lot, residents with units near the injection area would be asked to temporarily move their cars while crews worked in their area of the lot. The asphalt would be plugged after each injection. During the injection process, workers will monitor both outdoor air and basement air in nearby residences. EPA doesn't expect vapors to reach the residences, but as an extra precaution the drain tile depressurization system would effectively vent any vapors. EPA expects it would take about three months after the injection for the reduction of VOCs to be fully realized. The soil would be sampled to confirm this. EPA expects that low levels

of VOCs would remain, requiring that workers digging below 3 feet prepare a health and safety plan and that those digging below 10 feet wear protective gear. Specific deed restrictions would be developed three months after completion of soil treatment. **Cost: \$322,000.**

## **Pros and cons of options**

Based on an evaluation of the four options against EPA's three criteria (see text box), the Agency determined that with the exception of the "no action" Alternative 1, all would protect human health and the environment. Alternative 2 – relying on natural processes to break down contaminants -- would be least disruptive to property owners, but would require periodic soil sampling for about 30 years to be certain that VOCs were breaking down naturally in the soil. Alternative 3 – soil excavation and off-site disposal -- would work better to remove contamination but would be risky to building foundations, sewers, and utility lines. It could require temporary relocation of residents and is far more expensive than the other alternatives. Alternative 4 – soil treatment using chemical oxidation – has been shown effective and would be far less disruptive to residents than Alternative 3.

### **Evaluation criteria**

EPA uses three criteria to compare cleanup options:

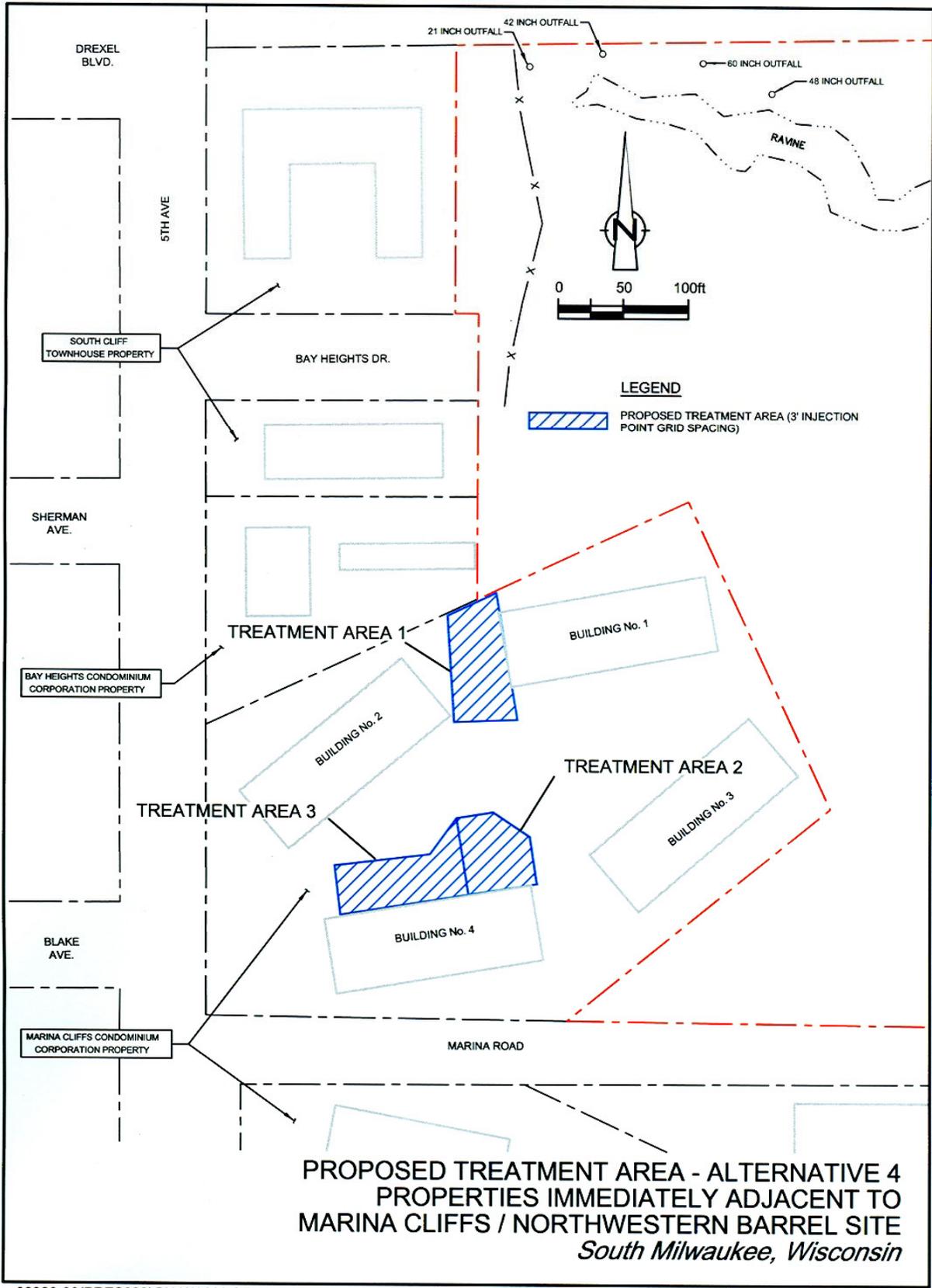
*Effectiveness* refers to how well a cleanup option will work to treat or contain the pollution to protect public health and the environment.

An option meets the *implementability* criterion if it is both technically feasible to implement and necessary goods and services are available.

*Cost*, including estimated capital, operational and maintenance costs.

## **Next steps**

EPA will consider all public comments submitted during the comment period before choosing a final cleanup plan. The Agency will provide the final cleanup decision and written response to comments in a document called an action memorandum. Field work could begin as early as this winter if this cleanup plan is approved. Once final sampling is conducted and deed restrictions are put in place, work would be complete in the residential area.



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# NORTHWESTERN BARREL SITE PUBLIC COMMENT SHEET

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Detach this page, fold on dashed lines, staple, stamp, and mail

Name \_\_\_\_\_  
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State \_\_\_\_\_ Zip \_\_\_\_\_

FIRST CLASS

Bri Bill  
Community Involvement Coordinator  
Office of Public Affairs (P-19J)  
EPA Region 5  
77 W. Jackson Blvd.  
Chicago, IL 60604-3590

## To learn more or make comments

If you would like to learn more about EPA's proposed cleanup plan for the residential portion of the Northwestern Barrel site, please look at the site files in the South Milwaukee Public Library or contact a member of the cleanup team listed below. Or, check out EPA's Web site at [epa.gov/region5/sites/marinacliffs](http://epa.gov/region5/sites/marinacliffs).

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### **South Milwaukee Public Library**

1907 10<sup>th</sup> Ave.  
South Milwaukee, Wis.



*A worker injects a chemical compound into the ground as part of a 2004 test project. Venting from the basement depressurization system can be seen behind the worker.*

## **What about the Towne-Realty portion of the site?**

This winter, contractors for the potentially responsible parties will restore the wetland on the shoreline and complete work on the slope needed to control erosion. They will then reseed the area. To ensure that remaining chemicals remain at low levels, the potentially responsible parties will continue semi-annual groundwater monitoring through 2008 at two locations. Deed restrictions will require that Towne Realty and subsequent owners preserve the wetland and the remaining monitoring wells until monitoring is complete. They will otherwise be able to reuse the property as permitted by local zoning ordinances and other laws.

## **Look inside to find out more**

Subsurface soil in two areas of the residential area within the former Northwestern Barrel property near Fifth Ave. and Marina Road will be treated to clean out remaining chemicals under a final cleanup plan proposed by U.S. Environmental Protection Agency. The drain tile depressurization systems – installed along buildings 1 through 4 in 2004 to pump air from the building sumps to the outside air – would continue to operate during the treatment. In addition, deed restrictions would be put in place requiring that construction and utility workers excavating in affected areas in the future use special health and safety measures. This plan protects human health and the environment, and, once in place, will complete the final cleanup activities required for the residential area.

Residents have 30 days to comment on EPA's proposed plan. See the box on the front page to find out how. Based on public comments, EPA may modify the proposal. Read inside to learn more.

**Public hearing -- Nov. 2 – see inside for more information**

**Public comment period -- Oct. 18 – Nov. 17, 2006**



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