



Share your opinion

If you have questions or comments, EPA invites you to participate in the cleanup process for the Little Scioto River Superfund site Operable Unit 2. Your input helps the federal agency determine the best way to clean up the contamination at the site.

You may comment on the proposed plan from July 11 to August 10:

- Send via email to EPA at palomeque.adrian@epa.gov.
- Online at www.epa.gov/superfund/little-scioto-river.
- During the virtual public meeting on July 28.
- Fill out and mail the enclosed comment form.

Public meeting

EPA will host a virtual public meeting Thursday, July 28, at 6 p.m. Information on how to access the virtual meeting online will be available at www.epa.gov/superfund/little-scioto-river

Contact information

If you have questions, contact one of these team members:

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

EPA Proposes Cleanup Plan for Contaminated Soil & Groundwater

Little Scioto River Superfund site – Operable Unit 2

Marion, Ohio

July 2022

U.S. Environmental Protection Agency, or EPA, working with Ohio Environmental Protection Agency, or Ohio EPA, is proposing a cleanup plan¹ for the former Baker Woods Creosoting, or BWC, portion of the Little Scioto River site, also known as Operable Unit 2, or OU2. Historical information suggests that poor disposal practices at the former BWC facility contaminated groundwater, sediment, and soil in the area with arsenic and polycyclic aromatic hydrocarbons, or PAH, chemicals. PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances. The contaminated groundwater is not impacting municipal water supplies, and the municipal water is monitored to ensure the drinking water supply is safe.

The proposed cleanup plan for OU2 includes:

- Installing a network of wells for the long-term monitoring of the groundwater plume.
- Applying institutional and engineering controls to protect public safety during construction and, if applicable, operation of the remedy.
- Excavating contaminated surface soil and sediment and disposing it at an appropriate landfill and placing clean fill material over excavated areas.
- Mixing in-situ stabilization, ISS, substances such as sodium persulfate and lime to treat and destroy subsurface soil contamination.
- Injecting microorganisms, nutrients, and other additives into groundwater to enhance natural processes and treat groundwater contamination.

Your comments are needed

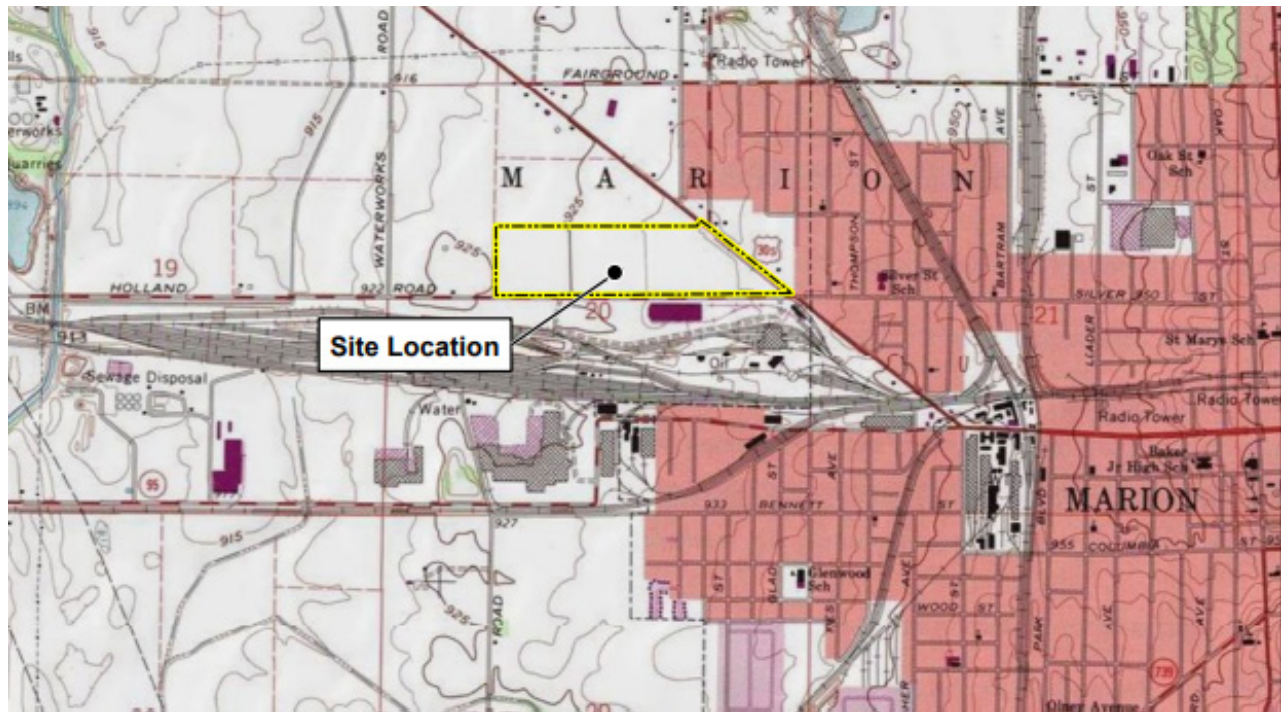
EPA will review all comments received during the public comment period before making a final decision on a cleanup plan. (*See box, left, for ways you can participate in the decision-making process.*) The federal agency may modify the proposed cleanup plan or select another option based on new information or public comments, so your opinion is important.

This fact sheet gives you background information, describes cleanup options, and explains EPA's recommendation. You can find more details in a document called the *Proposed Plan for Little Scioto River Superfund Site Operable Unit 2*, available on the web and at the local information repository (*see box, last page*). We encourage you to review and comment on the proposed cleanup plan.

EPA will respond to comments in a document called a responsiveness summary, which will be included in EPA's record of decision, or ROD, that describes the final cleanup plan. The federal agency will announce the final cleanup plan in the Marion Star, place a copy in the information repository, and post it on the web.

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 cleanup. The proposed plan must also be made available to the public for comment. This fact sheet summarizes information contained in documents that can be reviewed at the local repository at the Marion Public Library, or online at www.epa.gov/superfund/little-scioto-river.

Baker Woods Creosoting Site Location Map



Background

The Little Scioto River Superfund site OU2 encompasses the former BWC facility. The former BWC site is in the northwestern corner of the intersection of State Route 309 and Holland Road in Marion, Marion County, Ohio. A combined sanitary and storm sewer located along the southern border discharges into North Rockswale Ditch, or NRD. NRD flows south under Holland Road to the combined sewer outfall gate, then turns west and flows directly into the Little Scioto River.

The site was divided into an eastern (BWC-E) and western (BWC-W) portion during the site's remedial investigation due to the difference in historic use. BWC-E consists of 25.9 acres of mostly open land which is not heavily vegetated and contains a former bioremediation area and a former processing area (used when the facility was operating). This portion is mainly covered with overgrown weeds and grass with limited trees and some concrete footers remaining in the ground. BWC-W consists of about 34.1 acres of dense wooded area and contains the location of the former drying area used when BWC operations were active. The BWC property is within an area subject to minimal flooding, but not in a mapped flood zone. Soil and groundwater contamination at the BWC property is primarily found in the southern portion of BWC-E around the former bioremediation area.

The former BWC operated as a lumber preserver from the 1890s until the 1960s. Lumber, including railroad ties, was preserved with coal tar creosote, petroleum, and other organic preservatives in pressurized tanks. An 1892 Sanborn insurance map indicates that railroad ties

were preserved with coal tar creosote in the processing area on the eastern portion of the property. In the 1990s, the property operated as a metal salvage yard. Currently the site is vacant.

EPA previously completed two short-term cleanups, known as time-critical removal actions at the BWC property to remove over 6,000 tons of contaminated soil and waste. The Little Scioto River Superfund site was placed on the National Priorities List in September 2009. This is the list of the nation's top priority sites eligible for investigation and cleanup.

Summary of site risks

As part of the investigation, EPA evaluated the current and future risks to human health and the environment from contaminants at the site in what is called a human health assessment (for people) and an ecological risk assessment (for the environment). For the human health risk assessment, EPA assumed the contaminated groundwater would be used for drinking even though site contamination isn't impacting municipal water supplies. The risk assessment determined that the contaminated soils and groundwater at the site poses a potential health risk to current and future residents and/or workers should they incidentally ingest groundwater or soil. No significant risk was found if people do not drink the water or have direct contact with contaminated soil.

Summary of cleanup alternatives

EPA considered four different alternatives for cleaning up surface soil, four alternatives for cleaning up subsurface soil, and four alternatives for cleaning groundwater contamination at the Little Scioto River Superfund site OU2. Subsurface soil begins at two feet below ground surface and extends to bedrock. The average depth to bedrock is 14 feet below ground surface. The Agency developed these alternatives and evaluated each option in detail against the selection criteria established by federal law.

Alternative 1 – No action

The “no action” alternative is evaluated to establish a baseline for comparison. Under this alternative, EPA would take no action to clean up surface soil contamination, subsurface soil contamination, and groundwater contamination. Additionally, this alternative would not include implementing land use restrictions or any measures to control exposure to the contamination.

Estimated Cost: \$0

Common Elements for all Alternatives would include:

Verification of water connections – Connections to the municipal water supply would be confirmed for homes and buildings in the area of groundwater contamination.

Land-use controls – Current restrictions on the use of the land in the area of contamination would be reinforced to ensure people do not drink contaminated water and to prohibit people from installing anything into the ground that could move the groundwater. The specific restrictions will be decided during the design phase.

Signs and fencing – Access to the site would also be restricted by fencing, posting signs, etc. during construction and, if needed, during the cleanup.

Additional sampling – Additional samples would be taken from the groundwater, wells, and soil to gather the information needed to design the cleanup.

Long-term monitoring – The groundwater would be monitored long-term to ensure the effectiveness of the cleanup.

Surface Soil Alternative 2 – Asphalt Soil Cap and common elements described above.

This alternative involves construction of an asphalt soil cap over surface soils with unacceptable risks to eliminate exposure to the surface soils. For cost estimation purposes, 10 inches of coarse aggregate and two inches of asphaltic concrete surface material would be used for the cap. This conforms to the design requirements for blacktop alleyways and driveways in the Marion City Code Section 901. The asphalt cap could be incorporated into the site redevelopment plan and used as parking or building foundation. The final design would eliminate direct contact with soils while also meeting Marion City Code requirements.

Estimated Cost: \$1.67 million

Surface Soil Alternative 3 – Excavation and On-site Consolidation and common elements.

This alternative excavates all or part of the surface soils, consolidates the material on-site, and covers the consolidated soils with a cap consisting of two feet of clay and one foot of topsoil. All of the surface soil exceeding the human health standards, as well as the slag pile, would be excavated and relocated to the eastern end of the site. The surface soils would be formed into a trapezoidal berm approximately 1,100 feet long, 100 feet wide at the bottom, 50 feet wide at the top, and 10 feet high. The final height with the soil cap would be 13 feet high. This berm could be incorporated into the site redevelopment plan to provide a visual buffer between the commercial or industrial development on the site and the existing residential homes east of the property. The surface soil excavation area would be restored with 18 inches of clean backfill and six inches topsoil and then seeded.

Estimated Cost: \$2.64 million

Surface Soil Alternative 4 – Excavation and Off-Site Disposal and common elements.

Alternative 4 consists of excavating two feet of soil over 131,909 square feet of the site, as well as the slag pile which lies over this area and disposing of the 11,771 bank cubic yards of soil at a Subtitle D facility. This alternative would excavate all surface soil exceeding the Agency’s risk level of 10E-05 as well as the slag pile, load the soil on trucks, and transport the soil to a local landfill licensed to accept the material. The surface soil excavation area would be restored with 18 inches of clean backfill and six inches topsoil and then seeded.

Estimated Cost: \$3.32 million

*EPA’s
recommended
alternative*

Subsurface Soil Alternative 2 – Excavation and Off-site Disposal.

Subsurface Soils Alternative 2 consists of excavation of approximately 47,000 bank cubic yards of soil inside the source area. Air monitoring and other site controls would be employed during excavation. Approximately 50 percent of the soil is below the water table and would require dewatering during excavation. Wet soil would need to be stockpiled to dry prior to off-site disposal. Landfarming or other on-site treatment may also be required to reduce soil contaminant concentrations to be accepted in landfills. After soils are removed, the excavated area would be filled with coarse aggregate to two feet below grade, covered with a nonwoven geotextile, followed by 18 inches of backfill and six inches of topsoil. The area would then be seeded and restored.

Estimated Cost: \$8.82 million

Subsurface Alternative 3 – Thermal Conduction Heating

This alternative would require the installation of 405 heater borings into the subsurface soil source area. The heating elements would heat the soil, as well as the groundwater, to approximately 220 degrees Fahrenheit. The high temperature would convert contaminants in the soil to either liquid or vapor, which would then be extracted using 131 dual-phase extraction wells. Vapors would be thermally treated above ground. A gravity separator would remove liquid contaminants that do not mix with or dissolve in water, called non-aqueous phase liquid, or NAPL, from the withdrawn liquids for off-site disposal. NAPL are liquid contaminants that do not easily mix with or dissolve in water. The remaining liquids would be treated using granular activated carbon to meet the city of Marion pretreatment requirements before discharge to the local sanitary sewer and final treatment at the local publicly owned treatment works, or POTW. The treatment system area would be enclosed within a fence to prevent trespassers from interfering with the system.

Estimated Cost: \$8.7 million

Subsurface Alternative 4 – In Situ Stabilization and Chemical Oxidation with Sodium Persulfate and Lime

This alternative uses a bucket or drum mixing to place sodium persulfate and lime in contact with the subsurface contaminants. Bucket mixing is where a standard backhoe or excavator bucket is used to mix in situ stabilization, or ISS, substances, or reagents, into the soil. Drum mixing involves a rotating drum mixing head that is typically attached to an excavator or backhoe arm. These drums also come with integrated dosing systems that allow ISS reagents to be injected at the point of mixing. Bucket and drum mixers can be used for mixing to depths of 12 to 15 feet. The sodium persulfate and lime would be delivered to the site as solids. The solids would be converted to a slurry, pumped into the ground, and mixed with the soil from the surface to the interface with the bedrock. Sodium persulfate, activated by lime, would react with and destroy the contaminants in the soil. Treatment of soils below the water table would reduce the groundwater contaminant concentrations. The mixing treats subsurface soil in the radius of the mixing tool. The process would be repeated in overlapped circles until the entire subsurface source area is treated.

Estimated Cost: \$6.62 million

*EPA's
recommended
alternative*

Groundwater Alternative 2 – Monitored Natural Attenuation

This alternative would rely on land use controls to restrict the use of groundwater at the site and would institute a monitoring program to evaluate the natural attenuation of the groundwater contamination. This alternative would allow for groundwater monitoring while site subsurface soils are being addressed. Additional groundwater monitoring wells would be installed onsite to evaluate groundwater concentrations over time. Groundwater monitoring results would be used to determine if concentrations were decreasing over time or if additional remedial actions are necessary.

Estimated Cost: \$3.04 million

Groundwater Alternative 3 – Enhanced Biodegradation

This alternative would require injection of microorganisms, nutrients, and other additives into groundwater to enhance naturally occurring processes. The proposed injection area would be parallel to Holland Road along the north side of the road south of the former bioremediation area. The treatment area would be approximately 1,000 feet long and 25 feet wide. The 1,000-foot length covers the extent of the current free liquid extent. Assuming a 12-foot radius of influence for each injection point, points would be staggered within the treatment area. Approximately 200 injection points are anticipated. The screening assumes 15 pounds of degradation compound would be injected at each point in addition to water to create the slurry. After the injection, the reduction in groundwater concentrations would be monitored over time. If no remediation activities are taken to treat or remove subsurface soil contamination, additional rounds of injection may be necessary 2-5 years after the initial treatment.

Estimated Cost: \$2.65 million

Groundwater Alternative 4 – Extraction and Treatment of Groundwater

This alternative would install shallow groundwater extraction wells in the same vicinity as the two previous groundwater alternatives. Groundwater would be withdrawn using four extraction wells, pumped through an on-site treatment system using a NAPL separator and granular activated carbon, and then discharged to the sanitary sewer for ultimate treatment at the POTW.

Estimated Cost: \$5.79 million

*EPA's
recommended
alternative*

BWC Site Remedial Alternatives

Media	Alternative Number	Alternative Title
Surface Soil	1	No Action
	2	Asphalt Soil Capping
	3	Surface Soil Excavation and On-site Consolidation
	4	Excavation and Disposal Off-Site
Subsurface Soil	1	No Action
	2	Excavation and Off-site Disposal
	3	Thermal Conduction Heating
	4	In Situ Stabilization and Chemical Oxidation with Sodium Persulfate and Lime
Groundwater	1	No Action
	2	Monitored Natural Attenuation (MNA)
	3	Enhanced Biodegradation
	4	Extraction and Treatment

EPA's Recommended Alternatives for BWC & Estimated costs

Exposure Area	Alternative No.	Alternative Name	Cost
Surface Soil	4	Excavation and Off-site Disposal	\$3,320,000
Subsurface Soil	4	In-situ Stabilization and Oxidation	\$6,620,000
Groundwater	3	Enhanced Biodegradation	\$2,650,000
		Total Cost to Implement	\$12,590,000

Explanation of evaluation criteria

EPA compares each cleanup option or alternative with these nine criteria established by federal law:

1. Overall protection of human health and the environment examines whether an option protects living things. This standard can be met by reducing or removing pollution or by reducing exposure to it.

2. Compliance with applicable or relevant and appropriate requirements (ARARs) ensures options comply with federal, state and tribal laws.

3. Long-term effectiveness and permanence evaluates how well an option will work over the long-term, including how safely remaining contamination can be managed.

4. Reduction of toxicity, mobility or volume through treatment determines how well the option reduces the toxicity, movement and amount of pollution.

5. Short-term effectiveness compares how quickly an option can help the situation and how much risk exists while the option is under construction.

6. Implementability evaluates how feasible the option is and whether materials and services are available in the area.

7. Cost includes not only buildings, equipment, materials and labor but also the cost of maintaining the option for the life of the cleanup.

8. State acceptance determines whether the state environmental agency (in this case Ohio EPA) accepts an option. EPA evaluates this criterion after receiving public comments.

9. Community acceptance considers the opinions of nearby residents and other stakeholders about the proposed cleanup plan. EPA evaluates this standard after a public comment period.

Summary of the evaluation of the alternatives

The evaluation criteria are used to help compare how the alternatives will meet cleanup goals. The table on this page compares each alternative against the nine criteria explained in the box on Page 5.

Overall protection of human health and the environment

The “no action” alternative is not protective of human health or the environment. The remaining alternatives are protective of human health and the environment.

Compliance with ARARs

Alternatives 2, 3, and 4 for surface soils, subsurface soils, and groundwater all comply with federal, state, and tribal requirements known as *Applicable or Relevant and Appropriate Requirements*, or ARARs. Since nothing would be done with the “no action” alternative, ARARs would not apply.

Long-term effectiveness and permanence

For Surface Soils Alternative 4 has the best long-term effectiveness and permanence since all surface soil that must be addressed to meet the remedial action objectives, or RAOs, are removed from the site and placed in a licensed landfill with no long-term operations and maintenance, or O&M, requirements. Surface Soil Alternative 2 and Alternative 3 are also effective in the long-term for as long as the caps overlying the contaminated soil are maintained. For Subsurface Soils Alternative 2 would be effective in the long-term because subsurface soil exceeding unacceptable risk levels for construction and utility workers would be removed and replaced with clean backfill. Removing subsurface soil from the source area also reduces the potential for future contamination of groundwater. Alternative 3, thermal treatment provides a permanent solution with negligible long-term O&M requirements since the organic Contaminants of Concern, or COCs, in the source area are destroyed or removed from the soil. Alternative 4, chemical oxidation provides a permanent solution with negligible long-term O&M requirements since the organic COCs in the source area are destroyed or reduced to less hazardous compounds and metals are also somewhat stabilized and rendered less likely to migrate from the soil to groundwater. For Groundwater Alternative 3 provides long-term effectiveness by actively treating the groundwater COCs while Alternative 4 actively extracts contaminated groundwater for treatment at the POTW. Both alternatives provide permanent removal or destruction of contaminants. Alternative 3 is more permanent than Alternative 4 as Alternative 4 relies on continued operation of extraction wells. Alternative 2 relies on natural attenuation to achieve the remedial action objectives, or RAOs. Current site conditions and the presence of NAPL, or liquid

Evaluation Criteria	Alternatives									
	No Action	Surface Soil			Subsurface Soil			Groundwater		
	1	2	3	4*	2	3	4*	2	3*	4
Overall Protection of Human Health and the Environment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Compliance with ARARs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Long-Term Effectiveness and Permanence	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Reduction of Toxicity, Mobility, and Volume through Treatment	<input type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Short-Term Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Implementability	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cost (Millions)	\$0	\$1.67	\$2.64	\$3.32	\$8.82	\$8.70	\$6.62	\$3.04	\$2.65	\$5.79
State Acceptance	The State of Ohio agrees with EPA's preferred alternatives									
Community Acceptance	To be evaluated after the comment period									
<input type="checkbox"/> = Does not meet criterion <input checked="" type="checkbox"/> = Partially meets criterion <input checked="" type="checkbox"/> = Meets criterion										

* EPA Recommended Alternatives

contaminants that do not easily mix with or dissolve in water, may limit the effectiveness of Alternative 2.

Reduction of toxicity, mobility and volume through treatment

No treatment processes are proposed by any alternatives for surface soils. For Subsurface Soils Alternatives 3 and 4 proposed in situ treatment technologies (thermal and stabilization, respectively) to destroy or immobilize contaminants in subsurface soil. Subsurface Soils Alternatives 3 and 4 provide significant reduction in toxicity and volume of the organic contaminant mass. The addition of lime in Alternative 4 may also reduce the mobility of inorganic COCs, although inorganic COCs are not the primary concern in the treatment area. Alternative 2 provides no reduction in toxicity, mobility, or volume through treatment. Groundwater Alternative 3 proposes the injection of microorganisms, nutrients, and other additives into groundwater to enhance naturally occurring processes. Groundwater Alternative 4 involves treatment which would take place at the POTW that water is transported to. This is the only proposed alternative that implements treatment to reduce contaminant concentrations at the site. Groundwater Alternative 3 destroys contaminants at a faster rate than Groundwater Alternative 2, while Groundwater Alternative 4 would ultimately destroy contamination upon treatment at the POTW.

Short-term effectiveness

Because no construction would be done with Alternative 1, no risk would be posed to the community, workers, and the environment, but risk would remain from the contamination. Surface Soils Alternative 2 provides the least risk since surface soil will remain in place and be capped with asphalt. Alternatives 3 and 4 all present similar risks to the community due to the excavation and transportation of

contaminated surface soils. These risks can be mitigated using a health and safety plan to ensure safe and secure handling of removed surface soil. Subsurface Soils Alternatives 2, 3, and 4 all present similar risks to the community which can be mitigated using common approaches. However, in situ chemical oxidation, or ISCO, uses strong oxidizers, which, while safe if handled properly, provide slightly more risk to the community than the reagents used for Alternative 2 (as described) should there be an accident in chemical handling. For Groundwater Alternatives 2, 3, and 4 all present similar risks to the community which can be mitigated using common approaches. Again, ISCO uses strong oxidizers, which, while safe if handled properly, provide slightly more risk to the community than the reagents used for Alternative 3 (as described) should there be an accident in chemical handling. Alternative 4 requires long-term permanent infrastructure improvements (extraction wells, conveyance piping, treatment system, and potentially discharge piping) which creates more potential impact to the community, although much of the infrastructure is likely to be underground.

Implementability

While Alternative 1 is the easiest to implement, it does not address the contamination. Surface Soil Alternatives 2, 3, and 4 are all technically feasible and have been successfully used at other sites.

Subsurface Soil Alternatives 2, 3, and 4 are all technically feasible and have been successfully used at other sites. Subsurface Soil Alternative 2 is easily implemented by several contractors in the area. Subsurface Soil Alternative 3's use of thermal conduction heating has been used at over 75 sites, including other wood treating sites. Subsurface Soil Alternative 4 is the easiest to implement as the treatment area is already generally clear of obstructions with water to create the sodium persulfate slurry available at nearby hydrants.

Groundwater Alternatives 2, 3, and 4 are all technically feasible and have been successfully used at other sites. All the alternatives face some of the same challenges (the inadequate characterization of the discrete source area(s) for targeted treatment) which would be remedied by a robust pre-design investigation.

All the alternatives face some of the same challenges such as the inadequate characterization of the source area(s) at present, which would be remedied by a robust pre-design investigation. Alternatives also face unique challenges from geochemistry considerations, but those can be addressed in the design phase. Resources are readily available for all the alternatives.

Cost, state acceptance and community acceptance

See the table on Page 6 for a cost comparison. Ohio EPA has been supportive of the proposed remedial alternatives. The

community's acceptance will be evaluated after the public comment period.

EPA's Recommended Alternative

EPA's Recommended Alternatives are Surface Soil Alternative 4, Subsurface Soils Alternative 4, and Groundwater Alternative 3. At this time, EPA finds that these alternatives best satisfy the evaluation criteria, but EPA's selected remedy could change based on information it receives during the public comment period.

Surface Soil Alternative 4 (Excavation & Off-site disposal):

EPA finds that Surface Soil Alternatives 2, 3, and 4 would reliably achieve substantial risk reduction through containment of COCs. EPA estimates that Surface Soil Alternative 4 meets the RAOs more quickly and provides the greatest flexibility for site redevelopment. Surface Soil Alternative 2 is the least expensive, but the asphalt cap would need to be incorporated into the redevelopment plan and maintained to ensure long-term effectiveness and permanence. Surface Soil Alternative 3 is the most difficult to implement as surface soil must be excavated, relocated on site, and the capped. This alternative will take the longest to complete and is less effective in the long-term. Subsurface Soil Alternative 4 also requires that the surface soils over the subsurface soil contamination area must be excavated to implement the proposed subsurface soil remedy, therefore Surface Soil Alternatives 3 and 4 are preferable to Alternative 2. For the reasons listed above Alternative 4 is preferable to Alternative 3.

Subsurface Soil Alternative 4 (In-situ Mixing & Stabilization):

Subsurface Soil Alternative 4 uses ISCO with Sodium Persulfate and Lime and is the least expensive and easiest remedy to implement that reduces toxicity, mobility, and volume through treatment. Subsurface Soil Alternative 3 would also reduce toxicity and volume of the contaminant mass but is more expensive and more difficult to implement. Subsurface Soil Alternative 2 is the most expensive with the highest short-term disruption because of the high number of truck trips to dispose the subsurface soil and deliver backfill materials.

Groundwater Alternative 3 (Enhanced Biodegradation):

Groundwater Alternative 3 is relatively easy to implement with greater short- and long-term effectiveness at a reasonable cost. Groundwater Alternative 2 is the least expensive but may not be able to achieve the groundwater RAOs without a significant reduction in the subsurface soil COC mass. Alternative 4 is expensive and may require a long time to meet the site RAOs and relies on continued operation to be effective in the long-term.

Based on the information available at this time, EPA believes the Recommended Alternatives meet the threshold criteria and provides the best balance of tradeoffs among the alternatives evaluated with respect to balancing and modifying criteria. EPA expects the Recommended Alternative to satisfy the following statutory requirements of CERCLA §121(b): (1) be protective of human health and the environment; (2) comply with ARARs; (3) be cost-effective, (4) utilize permanent solutions. CERCLA stands for the Comprehensive Environmental Response, Compensation, and Liability Act, known also as Superfund.

Summary of EPA's recommended alternative against the evaluation criteria

EPA believes the recommended alternatives provide the best balance of tradeoffs among the alternatives evaluated with respect to evaluation criteria. EPA expects the recommended alternatives to be protective of human health and the environment; comply with *Applicable or Relevant and Appropriate Requirements*, be cost-effective, utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and satisfy the preference for treatment. The recommended alternatives also provide long-term and permanent protection against exposure to site-related contaminants by the combination of surface and subsurface soil treatment, groundwater treatment and land-use restrictions.

Next steps

Before making a final decision, EPA will review comments received during the public comment period. If new information is presented, EPA may modify its proposed plan or select another option. EPA will respond to the comments in a document called a responsiveness summary. This will be part of the record of decision that describes the final cleanup plan. The EPA will announce the selected cleanup plan in a local newspaper, place a copy in the information repository, and post it on the web at www.epa.gov/superfund/little-scioto-river.

For more information

You may review site-related documents at:

Marion Public Library
445 E. Church St.
Marion, Ohio 43302

Or on the web at:

www.epa.gov/superfund/little-scioto-river

An administrative record, which contains detailed information that will be used in the selection of the cleanup plan, is also located at the library.

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LITTLE SCIOTO RIVER SUPERFUND SITE: EPA Proposes Cleanup Plan for Contaminated Soil & Groundwater

United States
Environmental Protection
Agency
Region 5
Community Involvement and
Outreach Section (RE-19J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590



Use this space to write your comments

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

State: _____ Zip: _____

Zip:

Little Scioto River Superfund Site Operable Unit 2 – Comment Sheet

Fold on dashed lines, staple, stamp, and mail

Name _____
Address _____
City _____
State _____ Zip _____

Adrian Palomeque
Community Involvement Coordinator
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