Frequently asked questions

Allied Paper Landfill

EPA United States Environmental Protection Agency

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Summary of community questions

The Allied Paper Landfill is part of the Allied Paper/Portage Creek/Kalamazoo River Superfund site. The U.S. Environmental Protection Agency has been working with members of the community over the last several months to understand their questions and concerns. Here are some of the questions – and the answers – asked at those meetings. This FAQ will be updated as needed.

EPA's Recommended Cleanup Option

1. **Would EPA's recommended cleanup option protect people and the environment?**
   Yes. EPA can only choose an option that protects.

2. **The consolidation and capping alternatives do not include a bottom liner. Is a landfill safe without a bottom liner?**
   At Allied, adding a liner would not provide more protection. Liners prevent waste from moving off-site through groundwater. In this case, the PCBs are bound to the remaining waste materials, and water does not easily flow through them. So a liner is not necessary.

3. **Would stacking the waste higher cause contaminated water to be squeezed out, sending contamination into the groundwater?**
   Piling excavated material onto existing material, causing compression, would actually make movement of the contamination more difficult in the long term. If we implement this plan, we will take samples during the design phase to better understand how to engineer the cleanup so the site remains stable. We will also monitor the groundwater to see if we need to do any treatment.

4. **What are the cleanup standards?**
   EPA's cleanup standards at Allied Landfill protect humans and animals. The cleanup levels vary by area and by potential reuse. In wetland areas, the standards are designed to protect fishermen and animals that eat fish or worms. In places that may be redeveloped for commercial use, the standards are designed to protect people working at commercial properties. These standards are discussed in more detail in the technical version of the proposed plan.

5. **What is the timeline for cleanup?**
   Alternative 2D would take about one year to design and three years to complete.

Protectiveness and Groundwater

6. **Has EPA cleaned up places like the Allied Landfill using capping, consolidation and monitoring?**
   EPA has used this technology locally at the King Highway Landfill, 12th Street Landfill and the Willow Boulevard/A-Site Landfill. In these cases, PCBs have been properly managed without posing a risk to people or the environment. We have used the consolidation, capping and monitoring cleanup method successfully at dozens of landfills in the Midwest.

7. **Does the contamination at Allied Landfill affect Kalamazoo drinking water wells?**
   No. EPA studied the groundwater and flow patterns and found that the groundwater is not flowing toward the city well fields. Also, we have not detected PCBs in the groundwater outside the site at levels that pose a risk to human health. Once the cleanup is done, we will continue to monitor the groundwater to make sure there is no contamination moving off-site.

What are PCBs? • • •

Polychlorinated biphenyls, or PCBs, belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until their manufacture was banned in 1979. Although no longer commercially produced in the United States, PCBs may be present in products and materials produced before the 1979 PCB ban. Once in the environment, PCBs do not readily break down and may remain for long periods of time in air, water and soil.

PCBs have been demonstrated to cause cancer, as well as other adverse health effects on the immune system, reproductive system, nervous system, and endocrine system.

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8. What were the results from your last testing of the wells?

Groundwater monitoring was done in 2003 and in 2014. Results show that PCBs are not leaving the site through groundwater. Because monitoring has shown that the PCBs have not moved, it's likely they will not move in the future.

9. How do you know the contamination won't move off-site?

In addition to the groundwater data, studies done on soil also shows PCB contamination is not mobile. The current risk of PCBs moving off-site is from erosion into Portage Creek. EPA's recommended alternative will eliminate this risk by combining contaminated materials farther away from the creek and covering them with an engineered cap. We will also monitor the site to make sure the cleanup remains protective.

10. How will you make sure the site is safe for public use?

Excavated areas will be safe to use since there will be no more contamination. At the capped areas, an engineered cap will protect people and animals from coming into contact with contamination. The areas will be safe for recreation, for example. We will monitor the cap to be sure the area remains safe.

11. How will you prevent groundwater from carrying PCBs off-site?

There is little evidence to support PCBs moving off-site through groundwater because the landfill material is very dense and clay-like, making it difficult for water to flow through it. Also, PCBs are hydrophobic – they don't like to dissolve in water. Given the nature of the material, we rarely find PCBs in groundwater at Allied Landfill. When we do, they are at low levels that do not pose a risk to people.

EPA Decision-making

12. Are there any alternative technologies that could be used?

We looked closely at a number of alternative technologies and concluded that none are viable options at Allied Landfill. To learn more, see Section 3 of the Allied Landfill Feasibility Study and a supplemental memorandum, both of which are at www.epa.gov/region5/cleanup/alliedpaper/index.html.

13. Why was removal and off-site disposal not chosen? Was it because of cost?

This option was not chosen for a number of reasons. When EPA weighed all the cleanup options, removal provided little or no additional protection compared to

Tradeoffs to Consider When Weighing Cleanup Options

TRADEOFFS	CLEANUP OPTIONS: Alternatives 2A and 2B: Consolidation and Capping	Alternative 2C: Consolidation, Capping, and Treatment	Alternative 2D: Consolidation, Capping with reduced footprint	Alternative 3: Removal and off-site disposal	Alternative 4: Encapsulation containment system
Area available for reuse	17-23 Acres	23 Acres	38 Acres	65 Acres	17 Acres
Short-term impacts from construction	Fewer than 32,500 truckloads on the road	32,600 truckloads on the road	37,800 truckloads on the road	150,000 truckloads on the road	68,400 truckloads on the road
Trucks: = clean fill hauled onto site	2A = 22,500 truckloads; 2B = 21,600 truckloads	21,600 truckloads	27,800 truckloads	39,100 truckloads	58,400 truckloads
Trucks: = contaminated material hauled on public roadways	2A and 2B = 10,000 truckloads	11,000 truckloads	10,000 truckloads	110,900 truckloads	10,000 truckloads
Impacts from truck traffic	▪ 62 trucks per day for 2 years ▪ Up to 710,000 miles driven on/off site	▪ 63 trucks per day for 2 years ▪ 750,000 miles driven on/off site	▪ 49 trucks per day for 3 years ▪ 920,000 miles driven on/off site	▪ 115 trucks per day for 5 years ▪ 10,000,000 miles driven on/off site	▪ 26 trucks per day for 5 years ▪ 10,000,000 miles driven on/off site
Amount of PCB material to manage (= 100,000 cubic yards)	350,000 cubic yards (2A) 479,000 cubic yards (2B)	479,000 cubic yards	920,000 cubic yards	1,600,000 cubic yards	1,600,000 cubic yards
Long-term effectiveness	Effective; monitoring and maintenance needed	Effective; monitoring and maintenance needed	Effective; monitoring and maintenance needed	Effective; no monitoring and maintenance needed	Effective; monitoring and maintenance needed but material fully encapsulated
Time to complete	2 years	2 years	3 years	5 years	10 years
Cost	$43-44 million	$70 million	$63 million	$238 million	$159 million

capping and consolidation. There were several short-term impacts, including truck traffic, movement and management of a large amount of contaminated material, and time to reach protectiveness that EPA considered in addition to high cost (*see table, previous page*). Ultimately, our recommended option offered the best balance while protecting human health and the environment.

14. What are the costs associated with a plan that keeps the waste in place?

Leaving waste in place requires long-term maintenance to ensure the cleanup continues to protect people and the environment over time. For Allied Landfill, EPA estimates ongoing maintenance of consolidation, capping and long-term monitoring would be $5 million.

Cost of Cleanup

15. If there was more money available, would you chose a more expensive remedy?

No. EPA cannot chose a remedy unless it is protective, and we do not select remedies based on how much money is available. Cost must be considered when selecting a cleanup plan, but so must:

- Long-term effectiveness and permanence.
- Reduction of toxicity, mobility or volume through treatment.
- Short-term effectiveness.
- Implementability.

In this case, we found the best balance of these factors with the recommended option.

16. Who will make sure that the landfill cleanup protects us long-term?

It is EPA's responsibility to make sure the cleanup protects people and the environment. Since the cleanup includes waste managed on-site, we would monitor the landfill cap and groundwater regularly, and share the results with the community. If we find any issues, EPA will fix them.

Future Use and Public Involvement

17. Who will own the site in the future?

That's uncertain right now. But whoever owns it in the future, EPA will ensure the cleanup protects people and the environment.

18. How will the public be involved in decision-making in the future?

EPA is committed to building communication and relationships with the community. Public discourse and feedback from stakeholder groups has helped EPA improve both our public communication and our cleanup plans. As we begin to build a cleanup work plan, we will continue to work with local partners and community members so their input and feedback is reflected in our planning.

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