



Pig's Eye Dump Task Force final report

Task force recommendations to remediate and restore Pig's Eye Dump

REPORT TO THE
LEGISLATURE

FEBRUARY 2026



Legislative charge

Legal citation: MN Laws 2022, ch. 94, Sec. 2, subd. 10j

Appropriation language: \$800,000 the second year is from the trust fund to the commissioner of the Pollution Control Agency to establish a Pig's Eye Landfill Task Force to coordinate efforts to remediate and restore the Pig's Eye Landfill Superfund site and address perfluoroalkyl and polyfluoroalkyl substances (PFAS) contamination of Battle Creek, Pig's Eye Lake, and nearby groundwater. The task force must be made up of at least the commissioner of the Pollution Control Agency, the commissioner of natural resources, the commissioner of health, a representative from the Metropolitan Council, a representative from the city of St. Paul, a representative from the city of South St. Paul, a representative from the city of Newport, a representative from Ramsey County, a representative from Dakota County, a representative from Washington County, and representatives from relevant federal agencies. The task force is subject to Minnesota Statutes, section 15.059, subdivision 6. The task force must submit an annual report to the chairs and ranking minority members of the legislative committees and divisions with jurisdiction over the environment and natural resources on the status of the task force's work. The final report is due February 15, 2026. The task force expires June 30, 2026. This appropriation is available until June 30, 2026.

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Executive summary

Background

Pig's Eye Dump, located in Saint Paul, Minnesota, is the state's largest unpermitted dump. From 1956 to 1972, the 200-acre site received household and industrial waste before modern disposal regulations existed. Positioned within the Mississippi River floodplain near Battle Creek and Pig's Eye Lake, the site is surrounded by sensitive natural areas and critical infrastructure.

The large, unlined waste deposit at the Pig's Eye Dump is an ongoing source of contamination, with contamination migrating beyond the waste footprint into groundwater, surface water and the bottom sediments in Pig's Eye Lake. Additionally, landfill gas consisting primarily of methane is being released into the atmosphere. Although there were clean-up efforts between 2000 and 2005, significant environmental concerns remain. The waste continues to be an uncontrolled source of contamination in the environment. The most significant contaminants of concern are per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane.

In 2022, the Minnesota Legislature established the Pig's Eye Dump Task Force, a Minnesota Pollution Control Agency (MPCA)-led multi-agency task force charged with developing a plan to remediate and restore Pig's Eye Dump. The Task Force was funded by an appropriation from the Environment and Natural Resources Trust Fund (ENRTF).

Pig's Eye Dump Task Force

From 2022 to 2026, the Pig's Eye Dump Task Force, comprised of state, federal, and local partners provided input for the development of this plan to guide remediation and restoration of the site. Throughout this time, task force members built their understanding about the site history and neighborhood, contaminants of concern, and potential risk to human health and ecosystems. The task force also reviewed similar case studies nationwide. While none of the other sites faces Pig's Eye Dump's unique challenges, the case study examples demonstrated that comprehensive clean-up could reduce risks and restore land for ecological and public use. The task force explored remediation and restoration strategies, potential funding options, and incorporated public input into their analysis of the potential options for the site.

Community engagement

To assist task force members in developing the plan, the Pig's Eye Dump project team conducted public engagement to educate people about the dump and gather input on the public's vision for the future of the site. Throughout 2024 and 2025, the team connected with community members and stakeholders through meetings, surveys, tours, and attending public events. This input helped shape task force priorities, emphasizing health and safety of nearby communities, environmental restoration, and public access.

Remediation and restoration options

Several strategies were evaluated to reduce environmental and health risks. Future land uses considered included keeping the site as a natural area, adding recreation opportunities, or limited commercial/industrial reuse.

Two remediation options emerged as most protective of the environment:

- **Dig-and-haul-no-backfill:** Remove all waste and transport it off site for proper disposal with no backfilling of the excavated area.
- **Dig-and-line:** Excavate and rebuild a new modern, engineered landfill with a liner on the property to contain the waste.

Other options, such as covering waste in place or partial relocation on the property may reduce some risk but not as effectively.

Task force recommendations

Remediation and restoration recommendations

- Pig's Eye Dump holds a large volume of uncontained waste directly adjacent to Battle Creek, Pig's Eye Lake, and is located in the Mississippi River floodplain. Based on past investigation activities, the volume of waste is estimated to be at least 4.5 million cubic yards. The preferred remediation options are the dig-and-haul-no-backfill and dig-and-line options because they are the options most protective of the environment and public health.
- Remediation and restoration efforts should protect local and downstream communities and ecosystems, protect wildlife and natural habitats, and improve water quality.
- Remediation and restoration actions should be as consistent as possible with existing planning work including City of Saint Paul plans, Great River Passage plan, and other relevant plans without excluding any remediation options the task force has recommended.
- The remediation and restoration options pursued need to be implemented in a way that addresses aviation regulations and concerns related to the St. Paul Downtown Airport.
- If the dig-and-haul-no-backfill option is implemented, decisions about where the excavated waste is ultimately disposed of could impact 1) the existing capacity of metro area landfills, and 2) local community revenues. Both issues should be studied further.
- If the dig-and-haul-no-backfill or dig-and-line remediation options are implemented, safety protocols should be strictly followed during excavation and transportation to protect nearby communities and construction workers from potential risks. It is not expected that waste will be able to be treated on the property; however, recoverable hazardous materials should be segregated to the degree possible and sent to appropriate facilities for safe containment.
- Future use of the site should provide for a safe and accessible natural area for passive recreation, such as walking trails and wildlife observation. This recommendation is consistent with Ramsey County's Pig's Eye Unit of the Battle Creek Regional Park Long Range Plan Amendment, approved by the Metropolitan Council in April 2021.
- The remediation and restoration plan should ensure continued operation and allow for potential future expansion of the Metropolitan Water Resource Recovery Facility, a critical regional public utility infrastructure that protects water quality, public health, and the environment across the metropolitan area. It operates under and is regulated by state and federal permits.
- The remediation and restoration plan should allow for future expansion and ongoing operation of the Environmental Wood Supply facility which serves a public purpose and has an environmental benefit. Any future expansion will need to comply with applicable ordinances and regulations.
- The MPCA should complete a feasibility study of the remediation and restoration options presented to the task force, including possible impacts to existing nearby facilities. The

feasibility study analysis should prioritize the dig-and-haul-no-backfill and dig-and-line remediation options.

Funding recommendations

Remediation funding recommendation

- There is no one funding source that is able to provide the needed funding for remediation and restoration of Pig's Eye Dump. To be able to fund a remediation approach that is fully protective of the environment and public health, a combination of existing and new funding sources should be pursued.
- Federal funding should be pursued where remediation and restoration efforts for Pig's Eye Dump are an eligible use.
- Federal funding should be pursued by creating a new funding structure. For example, a funding source that is similar to the Great Lakes Restoration Initiative or adjustments to the Mississippi River Restoration and Resilience Initiative proposal.
- State funding should be pursued. Both the creation of new state funding mechanisms as well as existing state funding such as the Metropolitan Landfill Contingency Action Trust (MLCAT) account and state bond funding.
- The Superfund responsible party identification process should not be utilized. Instead, a fee should be assessed on all waste disposal to cover/contribute to remediation expenses since haulers, industries, and residents in the surrounding area all contributed waste while the dump was open.
- Voluntary public-private partnerships could be explored to fund remediation efforts. Private parties include haulers, industries and residents in the surrounding area who contributed waste to the facility would contribute funding.

Restoration funding recommendation

- For restoration efforts, pursue other federal or state sources of funding such as the Legislative-Citizen Commission on Minnesota Resources (LCCMR), Lessard-Sams Outdoor Heritage Fund, the Clean Water Fund or other new or existing potential sources.

Background of Pig's Eye Dump

Site history

Pig's Eye Dump is a closed, unlined waste disposal site in Saint Paul, Minnesota. From 1956 to 1972, the site operated as a dump without a permit and accepted municipal, commercial, and industrial waste. During this time, Pig's Eye Dump became the largest unpermitted dump in Minnesota with a fill area spanning more than 200 acres. From 1977 to 1985, the Metropolitan Council Environmental Services (MCES) disposed of wastewater treatment sludge incinerator ash on 31 acres of the site under a Minnesota Pollution Control Agency (MPCA) solid waste permit (Permit SW-189). The MCES placed the ash on top of existing waste and covered the ash and waste with approximately two to three feet of soil.

Since the 1970s, multiple phases of environmental investigation have been carried out at the dump site, Battle Creek, and Pig's Eye Lake. In 1989, the MPCA placed Pig's Eye Dump on the State Superfund List. Groundwater, surface water, and sediment samples have shown the presence of contaminants including

per- and polyfluoroalkyl substances (PFAS), 1,4-dioxane, metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and polychlorinated biphenyls (PCBs).

From approximately 2000 to 2005, initial clean-up actions were carried out at the site, including:

- Removal and disposal of over 200 drums of hazardous waste.
- Clean-up of contaminated surface soil in a battery disposal area next to Pig's Eye Lake via in-situ solidification and stabilization.
- Filling of areas where water was pooling on the landfill surface.
- Reshaping the side of the landfill near the eastern railroad drainage to reduce erosion and reduce the discharge of landfill leachate.
- Installing a two-foot soil cover over the dump's waste footprint.
- Removing and relocating waste to help stabilize the bank and shoreline along a portion of Battle Creek and Pig's Eye Lake.
- Installing an engineered "select fill" material in key areas between the waste and surface water to reduce metals and VOC contamination in landfill leachate from entering Battle Creek and Pig's Eye Lake.

These initial clean-up actions were an important first step that led to modest environmental improvements. However, additional work is still needed to address contamination from the Pig's Eye Dump. The previous clean-up work completed between 2000 and 2005 took place before PFAS and 1,4-dioxane were identified through sampling. In addition, recent evaluations have identified the need to better understand the volume of waste, groundwater flow patterns, and the contribution of contaminants from upstream contamination sources.

Pig's Eye Neighborhood

Figure 1. Pig's Eye Dump with city and county boundaries.



Pig's Eye Dump and the surrounding area have several important shared uses, including diverse communities, businesses, and ongoing projects. The area is within the East Side River District, which is an area of the Mississippi River that has many shared uses, including Dakota homeland and sacred sites, industrial areas, parks and recreation, and natural habitats that serve as key bird migration routes. Current uses and projects directly on or adjacent to Pig's Eye Dump include the following:

City of Saint Paul – Pig's Eye Regional Park

Pig's Eye Regional Park is located on the waste footprint of the Pig's Eye Dump and also includes areas to the south around Pig's Eye Lake and adjacent to Pig's Eye section of Ramsey County's Battle Creek Regional Park. The area is a large, ecologically significant natural area managed by the City of Saint Paul. Located adjacent to Pig's Eye Lake on the northern shore with Battle Creek running through the park, the park features trails, bird watching areas, and opportunities for nature observation. It provides important habitats for migratory birds and other wildlife, and is a popular destination for birders, especially during spring and fall migration seasons.

Ramsey County – Pig's Eye Section of Battle Creek Regional Park

The Pig's Eye Section of Battle Creek Regional Park is located immediately adjacent to the south of Saint Paul's Pig's Eye Regional Park. The Pig's Eye Section surrounds nearly the entirety of Pig's Eye Lake. The U.S. Army Corp of Engineers undertook an island-building project in Pig's Eye Lake, which was the

subject of the Battle Creek Regional Park Plan amendment approved by the Metropolitan Council in 2021.

Saint Paul Downtown Airport

The Saint Paul Downtown Airport (Holman Field) is located just west of Pig’s Eye Dump, across the Mississippi River. The airport is operated by the Metropolitan Airports Commission (MAC) and serves general aviation, corporate, and military aircraft. Its proximity to the site means close coordination with the airport regulatory authorities will be necessary in both the design and implementation stages of future clean-up or restoration activities, especially activities that would result in topography changes or changes in bird populations and bird habitat that could be a concern for aviation safety. Also, compliance with airport zoning restrictions during construction activities need to be followed. The airport is a long-standing feature of the East Side River District and plays a role in regional transportation and economic activity.

Metropolitan Council Environmental Services Water Resource Recovery Facility

The Metropolitan Council Environmental Services Water (MCES) Resource Recovery Facility is located directly southwest of the Pig’s Eye Dump. It is the largest wastewater treatment facility in Minnesota and serves 1.8 million residents in the Twin Cities metropolitan area, treating over 180 million gallons of wastewater per day. The plant plays a critical role in protecting public health and the environment by treating residential, commercial, and industrial wastewater from across the region and returning clean water to the Mississippi River.

The U.S. Army Corps of Engineers and Ramsey County Habitat Restoration project

The U.S. Army Corps of Engineers, in partnership with Ramsey County, has completed a habitat restoration project on Pig’s Eye Lake. The project consisted of reusing dredged material to build islands within the lake with the goal of restoring backwater habitat and improving water quality:

[\(\[ramseycounty.us/residents/parks-recreation/planning-construction-restoration/pigs-eye-lake-island-building-project\]\(https://ramseycounty.us/residents/parks-recreation/planning-construction-restoration/pigs-eye-lake-island-building-project\)\)](https://ramseycounty.us/residents/parks-recreation/planning-construction-restoration/pigs-eye-lake-island-building-project).

Canadian Pacific and Kansas City Southern Railway

A large railroad switching yard, owned and operated by Canadian Pacific and Kansas City Southern Railway, is located adjacent to the Pig’s Eye Dump to the north and northeast. This facility is a critical part of the regional freight transportation network, serving as a hub for rail traffic moving through the Twin Cities and beyond. The yard supports significant industrial activity in the area and contributes to the region’s economic infrastructure. Part of the previous remedial actions from 2000-2005 included waste removal from railroad property and grading along the waste interface with the railroad drainage ditch.

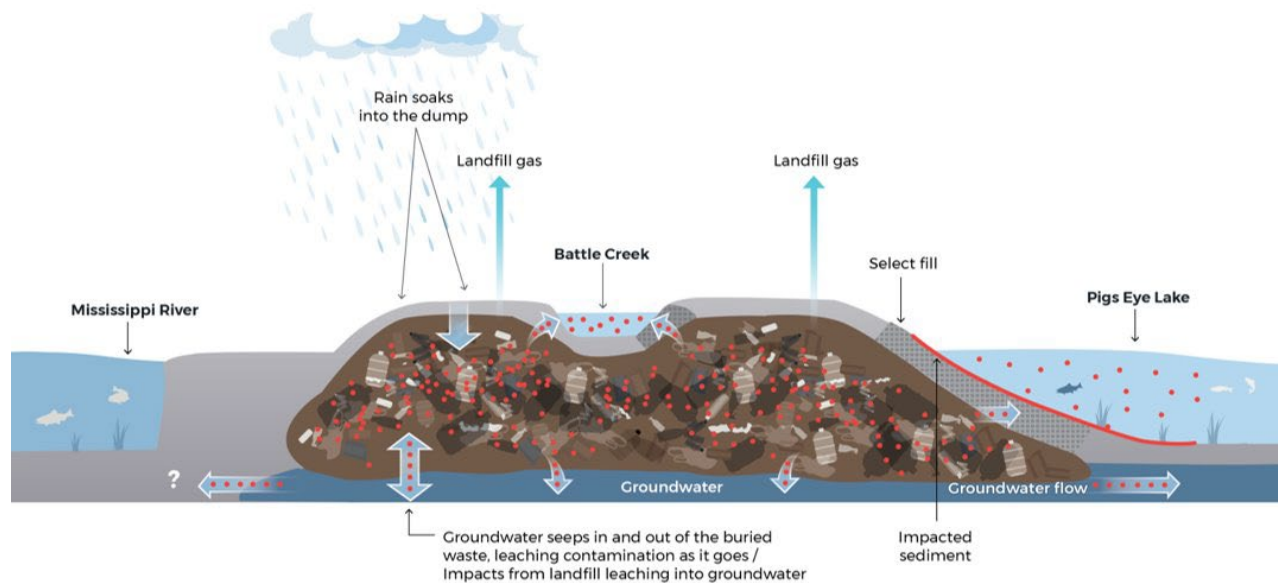
Environmental Wood Supply

Environmental Wood Supply is located directly adjacent to the Pig’s Eye Dump to the west. Environmental Wood Supply processes and recycles wood waste collected from city operations and public drop-offs. The facility supports urban forestry and sustainability efforts by diverting wood debris from landfills and producing mulch and other reusable materials. Currently there is no data that shows the Pig’s Eye Dump waste footprint extends beneath the Environmental Wood Supply facility.

Department of Natural Resources – Pig’s Eye Island Heron Rookery Scientific and Natural Area

Located in the southern portion of Pig’s Eye Lake, the Pig’s Eye Island Heron Rookery is managed as a Scientific and Natural Area (SNA) by the Minnesota Department of Natural Resources (DNR). SNAs are set aside to protect rare and sensitive natural features; this site is particularly notable for its ecological significance within an urban environment. The area contains the largest and longest-occupied site for colonial nesting birds in the metro area, and among the largest in the state.

Figure 2. Contamination process at Pig's Eye Dump. Note: This image is a simplified conceptual drawing.



The contamination story

Pig’s Eye Dump is a large, unlined waste site unfortunately situated near water. Battle Creek enters the site from the north, flows through the center of the dump, and continues into Pig’s Eye Lake south of the landfill before eventually entering the Mississippi River. Additionally, the Mississippi River is located about 800 feet west of the dump, which often causes the waste area to become saturated with floodwater and groundwater during flood events. The large unlined waste deposit is an ongoing source of contamination, with pollutants migrating beyond the original waste footprint in both groundwater and surface water. Additionally, landfill gas consisting primarily of methane is being released into the atmosphere.

As rain and flood water seeps through the waste and groundwater infiltrates into the waste from below, contaminants are transferred into the water, creating landfill leachate. As the leachate moves out the bottom and sides of the unlined waste area, contaminants are released into groundwater. Some of the contaminated groundwater then flows into Battle Creek and Pig’s Eye Lake. This allows the contaminants to spread into surface waters and the bottom sediments of Pig’s Eye Lake.

Contamination in Battle Creek comes not only from the Pig’s Eye Dump but also from upstream sources that contribute contamination. Additionally, the Fish Hatchery Dump is a smaller dump site in the area to the north of Pig’s Eye Dump that is being investigated by MPCA due to contamination.

As is typical with unlined dumps of this era, the Pig’s Eye Dump has a wide variety of contaminants. However, the primary contaminants of concern are PFAS and 1,4-dioxane. Other contaminants detected include VOCs, SVOCs, cyanide, metals, and PCBs.

The initial clean-up efforts in the early 2000s attempted to reduce the spread of contaminants by installing an engineered “select fill” material in some areas between the waste and surface water. The select fill is permeable to allow leachate to flow through the fill material and contains organic matter that can absorb some contaminants. Monitoring data suggests the select fill material may be reducing some of the VOCs and metals contamination, but it is less effective in absorbing the primary contaminants of concern, PFAS and 1,4-dioxane.

Contaminants of concern and scope of contamination

Since the initial clean-up actions were implemented, monitoring has shown that some contaminants, specifically VOCs, SVOCs, and PCBs, are trending downward, in some cases falling below groundwater and surface water quality standards. Despite this decrease, there is still contamination at concerning levels.

Groundwater

Environmental monitoring shows that contaminated groundwater is moving from the dump toward Battle Creek, Pig’s Eye Lake, and the Mississippi River. In some areas, the waste is perpetually in contact with groundwater while at other depths and locations waste is sitting in groundwater only during flood events. Monitoring has not yet fully identified how far PFAS and 1,4-dioxane contamination has spread.

Groundwater Contaminant	Explanation	Maximum Concentration (2025)	Health or Environmental Guidance
PFAS	<i>PFAS are present tens of thousands to millions of times above guidance values</i>	<i>565,000 ng/L (PFOA) 23,500 ng/L (PFOS)</i>	<i>0.0079 ng/L 2.3 ng/L</i>
1,4-Dioxane	Detected concentrations exceed the applicable guidance level by approximately 40 times .	<i>40 µg/L</i>	<i>1 µg/L</i>
VOCs	Benzene concentrations exceed the applicable guidance level by approximately 25 times .	<i>50 µg/L (Benzene)</i>	<i>2 µg/L</i>
SVOCs	Detected concentrations exceed the applicable guidance level by approximately 10 times .	<i>3.28 µg/L Bis(2-chloroethyl) ether</i>	<i>0.3 µg/L</i>

Note – Metals have been detected below health guidance values and PCBs are present below the laboratory method detection limits.

Surface water

The MPCA has developed site-specific water quality criteria (WQC) for application in a portion of Pool 2 of the Mississippi River, as the basis for remediation and other efforts to reduce PFAS contamination. The WQC address PFAS with Minnesota Department of Health (MDH) toxicological values and health-based guidance. The Pool 2 criteria is specific to Pool 2 water bodies and although not applicable to

Battle Creek, the Pool 2 criteria was utilized as a reference to provide context to detected PFAS concentrations.

Surface water monitoring in Battle Creek upstream of and within the dump has detected PFAS compounds (PFHxS, PFOA and PFOS) at concentrations that exceed applicable MPCA water quality criteria. As water flows through the dump and eventually reaches Pig’s Eye Lake, it picks up additional contaminants from the dump, resulting in additional PFAS contamination in both Battle Creek and Pig’s Eye Lake. Pig’s Eye Dump is a source of contamination in Battle Creek and Pig’s Eye Lake, and there are upstream sources that also contribute contamination to Battle Creek and Pig’s Eye Lake.

Surface water Contaminant	Explanation	Maximum Concentration (2025)	Health or Environmental Guidance
PFAS	Detected values are approximately 15 times above Mississippi River Pool 2 criteria for PFOA and more than 5,000 times for PFOS	1,300 ng/L (PFOA) 274 ng/L (PFOS)	88 ng/L 0.05 ng/L

Note –

1. For PFOA and PFOS Pool 2/Class 2B WQC were used for reference.
2. VOCs, SVOCs, and PCBs are present below the laboratory detection limits.
3. Although 1,4-dioxane and select metals were detected, there are no WQC.

Sediment

While there are no published Sediment Quality Targets (SQTs) for PFAS, several PFAS compounds were detected above laboratory reporting limits in both Pig’s Eye Lake and Battle Creek bottom sediments. Similarly, although VOCs were detected, no SQTs exist for VOCs. Metals such as cadmium, copper, lead, and zinc were detected above the applicable Level I SQTs in Pig’s Eye Lake. Additionally, copper was found exceeding the Level I SQT in one sediment sample collected from Battle Creek, and in 2025, select Polycyclic Aromatic Hydrocarbons (PAHs) were identified above Level I SQTs. Notably, 1,4-dioxane and PCBs, were not detected in any of the sediment samples collected from Battle Creek.

Sediment Contaminant	Explanation	Maximum Concentration (2025)	Health or Environmental Guidance
PFAS	Several PFAS were detected in sediment samples collected from Battle Creek	120 µg/kg (PFOA) 11 µg/kg (PFOS)	No published criteria
SVOCs	Several SVOCs were detected multiple times above the Level 2 Sediment Quality Targets	141 µg/kg (Acenaphthene) 1,580 µg/kg (Benzo[a]anthracene) 143 µg/kg (Dibenz[a,h]anthracene) 1,410 µg/kg (Phenanthrene) 1,990 µg/kg (Pyrene)	89 µg/kg 1,100 µg/kg 140 µg/kg 1,200 µg/kg 1,500 µg/kg
Metals	Several metals detected above Level 1 Sediment Quality Targets	45.5 µg/kg (Lead) 39.7 µg/kg (Copper)	36 µg/kg 32 µg/kg

Note –

- 1,4-dioxane, and PCBs were detected below the laboratory detection limits.
- VOCs were detected but there are no established criteria.

Soil

Soil samples were collected at the dump from both surface soil cover (0 to 2 feet) and beneath the soil cover.

PFAS compounds, specifically PFOA and PFOS, were consistently detected at levels exceeding both residential and industrial Soil Reference Values (SRVs) in both the surface soil cover and in the waste material underneath the cover.

Metals in shallow cover soil were mostly found on the eastern side of Battle Creek above residential SRVs, though all remained below the threshold for industrial SRVs. Also, metals were detected in deeper intervals below the cover soil above the SRVs in both sides of the landfill.

VOCs and SVOCs in both cover soil and deeper samples and were present but did not surpass residential SRVs.

PCBs were not identified in the cover soil but were identified in select samples on the western side of Battle Creek landfill at concentrations above both residential and industrial SRVs.

Soil Contaminant	Explanation	Maximum Concentration	Health or Environmental Guidance
PFAS	Detected values are multiple times above the Industrial SRV	23.6 µg/kg (PFOA) 305 µg/kg (PFOS)	0.86 µg/kg 18 µg/kg
SVOCs	Detected values are multiple times above the Industrial SRV	11,100 µg/kg (1-methylnaphthalene) 392,000 µg/kg (Benzo[a]pyrene)	260 µg/kg 23,000 µg/kg
Metals	Detected values are multiple times above the Industrial SRV	28.4 µg/kg (Arsenic) 45.6 µg/kg (Cadmium) 1,290 µg/kg (Lead)	9 µg/kg 23 µg/kg 460 µg/kg
PCBs	Detected values are above the Industrial SRV	10,600 µg/kg (PCB-1248) 10,700 µg/kg (PCB-1254)	10,000 µg/kg 10,000 µg/kg

Note –

- 1,4-dioxane is present below the laboratory detection limits.
- VOCs were detected below the residential SRVs.

Landfill gas

The waste material generates landfill gas, which consists of methane and other gases produced by decomposing waste. In some areas of the dump, methane was detected at high levels. Methane fractions ranged from 0 to 69.7% during March 2025 sampling, and from 0 to 73.0% during June 2025 sampling. Methane concentrations exceeded the lower explosive limit (LEL) for methane of 5% by volume at seven gas probes in March 2025 and ten gas probes in June 2025. In addition, all seven of the March 2025 exceedances and eight of ten exceedances in June 2025 exceeded the upper explosive limit (UEL) for methane of 15% by volume. Although the highest methane levels were observed in the waste area, elevated methane levels were also found along the landfill's western perimeter, indicating

potential gas migration. No significant methane levels were detected along the landfill's eastern perimeter.

Wildlife and health impacts

PFAS and 1,4-dioxane are chemicals that once in the environment do not break down and can build up over time in plants and animals. This accumulation can result in greater negative impacts on the ecosystem.

Contaminants from the Pig's Eye Dump are a significant source of PFAS contamination in groundwater. As discussed previously, contaminated groundwater is migrating towards Battle Creek and Pig's Eye Lake, impacting these surface water bodies. Pig's Eye Lake also drains to the Mississippi River. Additionally, decades of contaminated surface water flowing from Battle Creek has led to sediment contamination in Battle Creek and Pig's Eye Lake.

Fish consumption advisory

MDH has issued fish consumption guidance for Mississippi River Pool 2. This advisory was issued by MDH due to the presence of PFAS in fish tissue from Pool 2. Pig's Eye Lake is connected to the Mississippi River and is considered part of Mississippi River Pool 2 for fish management purposes. MDH has also issued fish consumption guidance for Mississippi River Pools 3 through 6, which are the consecutive pools downstream, due to the presence of PFAS in fish tissue. Additional information on the guidance can be found here: health.state.mn.us/communities/environment/fish/index.html

Pig's Eye Island Heron Rookery impacts

The DNR has designated Pig's Eye Island Heron Rookery as an SNA. Based on the most recently available data, the heron rookery in the SNA is the largest and longest-occupied site for colonial nesting birds in the metro area, and among the largest in the state. While most waterbird nesting colonies naturally change over time, this site has a long history of consistently high occupancy suggesting it may be an important site for the bird species who use it.

PFAS contamination has also been found in the wildlife at this site, including birds and fish. Particularly, the concentrations of perfluorooctane sulfonate (PFOS, a type of PFAS) found in most of the Great Blue Heron eggs tested at Pig's Eye Heron Rookery in 1993 were high, and consistent with levels associated with physiological and neurological effects in other bird species. Additionally, a few of the Great Blue Heron eggs tested had PFOS concentrations high enough to also be associated with immunological effects in other birds. Repeat sampling of the site has shown a 60% overall reduction in PFAS in its biota over time, however, a small number of samples continue to have the highest levels of some PFAS reported in bird eggs.

Pig's Eye Dump Task Force

In 2022, the Minnesota Legislature directed the MPCA to establish a task force to coordinate efforts to remediate and restore the Pig's Eye Dump and address PFAS contamination in Battle Creek, Pig's Eye Lake, and groundwater. To support this effort, the Legislature appropriated \$800,000 to the MPCA from the Environment and Natural Resources Trust Fund (ENRTF).

The authorizing legislation specified that the task force was to be made up of at least the commissioner of the Pollution Control Agency, the commissioner of the Department of Natural Resources, the commissioner of the Minnesota Department of Health, a representative from the Metropolitan Council,

a representative from the City of Saint Paul, a representative from the City of South St. Paul, a representative from the City of Newport, a representative from Ramsey County, a representative from Dakota County, a representative from Washington County, and representatives from relevant federal agencies.

The task force was also directed to submit an annual report on the status of the task force work to the chairs and ranking minority members of the legislative committees and divisions with jurisdiction over the environment and natural resources. The final report is due February 15, 2026; the task force expires on June 30, 2026.

Additionally, remediation and restoration activities at the Pig's Eye Dump are governed by existing local, state, and federal requirements. The task force work has taken this into account when forming its recommendations. Building upon task force recommendations, more detailed plans will be needed to comply with local, state, and federal regulatory oversight and permitting processes.

Figure 3. Southern part of Pig's Eye Dump near Battle Creek and Pig's Eye Lake.



Pig's Eye Dump Task Force work summary

Work plan development and approval

For the ENRTF funds to be appropriated, the MPCA developed a project work plan for the Legislative-Citizen Commission on Minnesota Resources (LCCMR). LCCMR is the commission that makes funding recommendations to the Minnesota State Legislature for special environment and natural resource projects from the ENRTF. Details of how ENRTF funds for this project were spent are documented in LCCMR project status reports available from LCCMR.

The MPCA submitted its Pig's Eye Task Force work plan on August 12, 2022, and presented it to the LCCMR on August 16, 2022. The LCCMR approved the work plan the same day.

Task Force representatives

The Task Force included the following representatives:

State Agency, Local Unit of Government, or Federal Agency	Representative
Minnesota Pollution Control Agency	Kirk Koudelka (Assistant Commissioner)
Minnesota Department of Natural Resources	Dan Scollan (Hydrologist)
Minnesota Department of Health	Dave Bell (Research Scientist)
Metropolitan Council	Sam Paske (Assistant General Manager)
City of Saint Paul	Melanie McMahon (Department of Planning and Economic Development)
City of South St. Paul	Jimmy Francis (Mayor)
City of Newport	Bill Sumner (Councilmember)
Ramsey County	Victoria Reinhardt (Commissioner/Ramsey County Board of Commissioners Representative)
Dakota County	Dave Magnuson (Supervisor)
Washington County	Caleb Johnson (Senior Manager)
United States Army Corps of Engineers	Nathan Wallerstedt (Chief)

Timeline of Task Force work

The table below summarizes the timeline of task force events.

Milestones	Actual completion date
Contact federal, state, and local entities	February 15, 2023
Federal, state, and local entities select task force representatives	March 13, 2023
Submit 2023 annual report to the legislature	March 31, 2023
East Side River District Convening-stakeholder meeting	December 14, 2023
Task Force Meeting #1- introductions, review charter, goals, timelines.	September 25, 2023
Task Force Meeting #2- site history, contaminants of concern, remedial investigation update.	January 12, 2024
Task Force Meeting #3- Superfund process timeline, remediation options, feasibility of remedial strategies.	March 8, 2024
Art in The Hollow Event- share information, progress and how to get/stay involved with the task force.	June 1, 2024
Task Force Meeting #4- review remedial options, public engagement updates, Task Force input on public engagement.	June 7, 2024
Task Force Meeting #5- engagement update, case studies presented.	July 18, 2024
Pollinator Festival- share information, progress and how to get/stay involved with the task force.	August 11, 2024
On the Road Again, South St. Paul- share information, progress and how to get/stay involved with the task force.	October 5, 2024
Pig's Eye Dump Walking Tour- Partnered with Pig's Eye Park Friends to host the public tour to discuss the site's future.	September 10, 2024
Virtual Community Meeting- Presentation and discussion about the site's future and community involvement.	September 12, 2024
In Person Community Meeting- a facilitated discussion on the future of the site.	September 16, 2024
Task Force Meeting #6- guest speakers from Doyne Park and Big Marsh, MPCA state funding overview.	September 23, 2024

Milestones	Actual completion date
Task Force Meeting #7- public engagement update/next steps, remediation vs. restoration goals, bring remediation and reuse strategies together.	December 6, 2024
Task Force Meeting #8- guest presentations: Cuyahoga National Park, Met Council, City of SaintPaul, Ramsey County.	February 13, 2025
Community Survey	March 7, 2025
Submit 2024 annual report to the legislature	April 2025
Task Force Meeting #9- review community survey results, discuss remedial options.	April 17, 2025
Stakeholder Meeting: CPKC Rail	May 2, 2023
Stakeholder Meeting: Prairie Island Indian Community	June 16, 2025
Task Force Meeting #10	June 24, 2025
Stakeholder Meeting: US Fish and Wildlife	July 23, 2025
Stakeholder Meeting: FAA and MAC	August 7, 2025
Task Force Meeting #11	August 21, 2025
Stakeholder Meeting: FAA, MnDOT, MAC	September 17, 2025
Task Force Meeting #12	October 10, 2025
Pop Up: University of Minnesota Research Afternoon at Pig's Eye Park	October 25, 2025
Task Force Meeting #13	December 2, 2025
Task Force Meeting #14	January 13, 2026
Legislative Report Submittal	February 15, 2026

Figure 4. Task Force Meeting Phases.

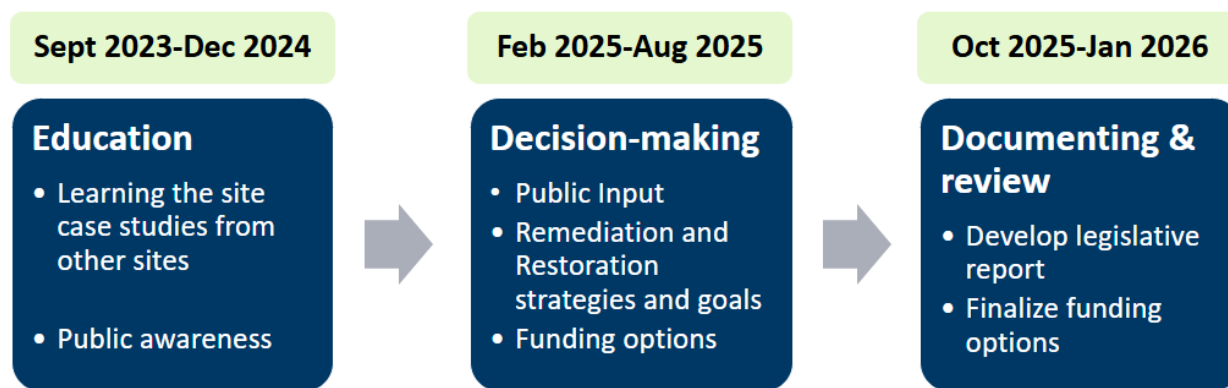


Figure 4 shows the three main phases of the Pig's Eye Task Force's work: Education, Decision-making, and Documenting & Review. The first phase of task force meetings was focused on building task force members' understanding of the site, reviewing case studies from projects with similar elements to the Pig's Eye Dump, and building public awareness of the project through various public engagement efforts. The second phase focused on exploring potential remediation and restoration strategies and goals, gathering and analyzing public input on the strategies, and exploring potential funding options. Finally, the last phase focused on finalizing recommendations and developing the final report.

Detailed recaps of task force meetings held in 2024, 2025 and 2026:

Task Force meeting date	Topics covered	Outcomes/Discussion topics
January 12, 2024	<ul style="list-style-type: none"> Site History/Background Contaminants of Concern 	<ul style="list-style-type: none"> What contaminants are sampled

Task Force meeting date	Topics covered	Outcomes/Discussion topics
	<ul style="list-style-type: none"> Regulatory Framework Remedial Investigation Update Superfund Process/Timeline 	<ul style="list-style-type: none"> Considerations for nearby properties (fish hatchery, wastewater treatment plant, etc.) Public access to task force meetings
March 8, 2024	<ul style="list-style-type: none"> Superfund process timeline Remediation options to address contamination Feasibility of remediation strategies 	<ul style="list-style-type: none"> Leading with remediation vs. restoration How to get the public involved (add a virtual option) Infrastructure feasibility due to floodplain Interest in possible future uses
June 7, 2024	<ul style="list-style-type: none"> Re-cap of remedial options Public engagement update Task Force input on public engagement efforts 	<ul style="list-style-type: none"> Task force priorities for engagement (remediation options and restoration future uses) Interest in types of engagement activities (public meetings, individual small group meetings) Stakeholders/community groups to reach out to
July 18, 2024	<ul style="list-style-type: none"> Public engagement update Case studies (Washington County Landfill, WDE Landfill Andover, Doyme Park Milwaukee, Cuyahoga Valley National Park, Puente Hills Landfill Park, Big Marsh Park Chicago) 	<ul style="list-style-type: none"> Interest in hearing funding opportunities and sources available Considerations for neighboring properties Uniqueness of Pig's Eye Dump site Waste disposal and impact to Metro landfills
September 23, 2024	<ul style="list-style-type: none"> Doyme Park guest speakers Big Marsh guest speakers MPCA state funding overview 	<ul style="list-style-type: none"> Discussion on other funding options that may be available for remediation or restoration (federal sources, lottery dollars, settlement funds, etc.) How Pig's Eye Dump compares to case studies and specific challenges (floodplain, amount of waste, cost, etc.)
December 6, 2024	<ul style="list-style-type: none"> Public engagement update and next steps Remediation vs. restoration goals Bringing remediation and reuse strategies together 	<ul style="list-style-type: none"> Task force interest in getting public input on both remediation and restoration, not just future use. Potential for federal dollars if backfill is needed Concern for available space in permitted landfills and the cost Utilizing legislative process to gather funding Report development and including multiple options Interest in hearing more input from the public on remediation and restoration options
February 13, 2025	<ul style="list-style-type: none"> Presentations from Cuyahoga National Park, Met Council, City of Saint Paul, Ramsey County 	<ul style="list-style-type: none"> Task force discussion on community survey, discussion on remedial options and potential costs.
April 17, 2025	<ul style="list-style-type: none"> Remediation options and cost estimates Public engagement update and survey results 	<ul style="list-style-type: none"> Task force discussion on remediation options and costs associated with each option Discussion on survey results and public engagement
June 24, 2025	<ul style="list-style-type: none"> Updated map of Pig's Eye Dump area Information on sorting waste Information on moving waste 	<ul style="list-style-type: none"> Task force discussion on sorting and moving waste and on the final remediation options

Task Force meeting date	Topics covered	Outcomes/Discussion topics
	<ul style="list-style-type: none"> Discussion on new landfill cover and dig and line remediation options 	
August 21, 2025	<ul style="list-style-type: none"> Update on stakeholder conversations Initial funding information provided 	<ul style="list-style-type: none"> Task force members ranked their top remediation and restoration options based on how the options aligned with established desired outcomes Task force discussion on funding
October 10, 2025	<ul style="list-style-type: none"> Reviewing and discussing draft recommendations for restoration and remediation and funding 	<ul style="list-style-type: none"> Task force members reviewed draft recommendations, edited language, and brainstormed new potential recommendations.
December 2, 2025	<ul style="list-style-type: none"> Finalizing recommendations and report review 	<ul style="list-style-type: none"> Task force members reviewed and discussed changes to the report and draft recommendations.
January 13, 2026	<ul style="list-style-type: none"> Discussion on final edits to the final report Review feasibility study process 	<ul style="list-style-type: none"> Task force members reviewed final edits and approved the final report

Case studies

During the education phase of the task force work, case studies of landfills and dumps that have been remediated or restored in Minnesota and across the United States were reviewed. The task force considered how each site was addressed, noting similarities and differences to Pig’s Eye Dump, as well as associated costs and funding sources. A key takeaway from these examples is that no single case closely matches Pig’s Eye Dump, given its size, the nature of the waste materials, and its proximity to water.

Washington County Landfill

The Washington County Landfill is a solid waste landfill located in Lake Elmo, Minnesota and is an example of reconstructing a new modern landfill with a bottom liner at the site of an old unlined dump. This unlined dump was operated by Washington and Ramsey County from 1969 to 1975. It was added to the US EPA Superfund list in 1984 and was delisted in 1996 when it entered the MPCA’s Closed Landfill Program. Similar to Pig’s Eye Dump, this site’s groundwater is impacted with VOCs, 1,4-dioxane, and PFAS. From 2009 to 2012, significant reconstruction activities occurred, including consolidating waste, installing a liner system beneath the waste, installing a new cover system on top of the waste, installing an active landfill gas extraction with landfill gas condensate management system, improving the leachate collection system, and improving surface water management.

- **Waste Volume addressed:** 1,900,000 CY
- **Owner:** City of Lake Elmo/ State of Minnesota
- **Landfill reconstruction cost:** \$24M over 3 years
- **Funding Source:** State bond funding/3M Company

Waste Disposal Engineering Landfill

The Waste Disposal Engineering (WDE) Landfill in Andover, Minnesota is an example of a hot spot removal of hazardous waste. This municipal solid waste landfill was operated between 1963 and 1983 and contained a permitted asphalt-lined hazardous waste pit. It was added to the US EPA Superfund list in 1983 and was delisted in 1995 when it entered the MPCA Closed Landfill Program. The site's groundwater is impacted with 1,4-dioxane, vinyl chloride, and PFAS. Following earlier attempts at clean-up, the hazardous waste disposal pit was excavated in 2019. The excavation of the 1.4-acre hazardous waste pit was performed inside a temporary structure to maintain control of hazardous vapors. Waste was transported by truck and by rail to multiple disposal facilities, some out of state.

- **Waste Volume addressed:** 30,000 CY
- **Owner:** MPCA
- **Cost:** \$22.3 M
- **Funding Source:** State bond funding

Doyne Park

Doyne Park is an approximately 40-acre waste disposal site located in Milwaukee, Wisconsin. Remediation activities did not involve excavating the waste. The waste was left in place, and the focus was toward repurposing the space for public use. The site was purchased by City of Milwaukee in the 1930s for disposal of demolition waste. The site operated until 1973 and was redeveloped as a golf course in 1976. Environmental monitoring has identified minimal groundwater impacts. Remediation efforts included installing groundwater monitoring wells, a new clay landfill cap, and a landfill gas control system. The former dump site has been redeveloped into a multi-use recreation area including basketball courts, a soccer field, walking trails, and a playground.

- **Waste Volume addressed:** 0
- **Owner:** City of Milwaukee
- **Funding Source:** City of Milwaukee

Cuyahoga Valley National Park

Cuyahoga Valley National Park in Ohio was a former dump site remediated through excavating waste and transporting it to a permitted disposal facility. The site was previously the location of the Krejci dump, which operated as a salvage yard and dump from mid-1940s to late 1970s. It was closed and designated a Superfund site in 1986 after initial EPA investigation identified around 5,000 leaking drums of waste. Groundwater impacts included PCBs, dioxin, PAHs, pesticides, benzene, and metals. A settlement with companies responsible for the contamination under Superfund law was reached in 2002. The clean-up activities began in 2005 with excavation of waste material and contaminated soil. The clean-up was funded and led by companies identified as the Superfund responsible parties. The site has since been restored and includes thriving meadows, and wetland habitat.

- **Waste Volume addressed:** 375,000 tons
- **Owner:** National Park Service
- **Cost:** \$50-\$60 M
- **Funding Source:** Superfund responsible parties

Puente Hills Landfill Park

The Puente Hills Landfill, once the largest landfill in the United States, operated from 1957 to 2013 in southeastern Los Angeles County. At its peak, it spanned 700 acres and rose over 500 feet high, accepting millions of tons of waste from the greater Los Angeles area. Since its closure, efforts have focused on reuse rather than remediation. The area has been redeveloped into Puente Hills Landfill Park. Reuse plans include habitat restoration, recreational trails, and environmental education. A gas-to-energy plant still operates on-site, converting landfill gas into electricity for thousands of homes. The first phase of the park, which will reclaim roughly 140 acres of the overall landfill for public use, is expected to open in 2027. The long-range planning for phased development has been designed to account for future settlement of waste and landfill gas production.

- **Waste Volume addressed:** 0
- **Owner:** Los Angeles County

Big Marsh Park

Big Marsh Park site in Chicago is a good example of community involvement in remediation and restoration activities. The Marsh Park site is located in an area that has been heavily industrialized since the 1800s. The site was used for disposal of industrial waste from nearby steel mills. Chicago Park District acquired property in 2011, installed a soil cap and did limited contamination hot spot removal as restoration activities progressed. Many partners were involved in the restoration of the park including Friends of Big Marsh and REI Co-op. The site was restored with marsh wetlands, a mountain bike skills park, and biking and walking trails. The Ford Calumet Environmental Center was completed in 2021 as an educational center for the history and ecology of the area.

- **Waste Volume addressed:** 30,000 CY over 14 acres
- **Owner:** Chicago Park District
- **Funding Source:** Chicago Park District

Summary of local and regional land use planning

Metropolitan Council area plans

The Metropolitan Council Environmental Services shared information with the task force on the wastewater system in the Twin Cities and the role of the water recovery facility located next to the Pig's Eye Dump. The Metropolitan Council requires the ability to expand the water resources recovery plant in the future to accommodate growth and to enhance services to meet future regulatory requirements, which may involve expansion of the current facility. The timeline for any future expansion will be determined in part by changes to permit requirements. Impacts to the Metro Water Resources Recovery Facility, state and federal air permits and nearby local communities were also discussed.

City of Saint Paul area plans

The City of Saint Paul presented to the task force on the Great River Passage Long Range Plan, which was adopted by the Saint Paul City Council in 2013. The plan outlines broad goals for the floodplain region where Pig's Eye Park is located, including expanding park access, creating buffers around natural areas, and strengthening connections to nearby lakes and rivers. For Pig's Eye Park specifically, the plan highlights potential improvements such as enhancing recreational access through trails, protecting natural resources, and offering nature-based recreation opportunities. Current efforts at the site focus on improving park access and signage, which were installed in 2024.

Ramsey County area plans

Ramsey County shared with the task force two area plans that are relevant to Pig's Eye Dump: The Battle Creek Regional Park Plan and the Pig's Eye Lake Plan Amendment. The Battle Creek Regional Park Plan was created to guide long-term development and vision for the park including opportunities for expansion and preservation. A primary goal of this plan is to improve connectivity and access to the park system, including connection to Pig's Eye Lake Park. This plan was developed by understanding issues and hearing concerns from the local community and stakeholders to guide future park improvements.

The Pig's Eye Lake Plan Amendment is an update to the Battle Creek Regional Park Plan that focuses on restoring natural resources rather than expanding recreation. The central project involves building islands in the lake using dredged material to improve habitat for wildlife, stabilize shorelines, reduce erosion, and enhance water quality. The Pig's Eye Lake Island project is a collaboration among Ramsey County, the U.S. Army Corps of Engineers and the Lessard-Sams Outdoor Heritage Council (LSOHC). The LSOHC funded the construction of the islands. Because it is located within the Regional Park, the Metropolitan Council reviewed and approved the project and its potential for impacts as part of an amendment to the plan for the Regional Park. This plan includes the construction of seven islands to improve aquatic and terrestrial ecosystems. The island project, completed in 2024, involved the beneficial reuse of approximately 400,000 cubic yards of dredged river sand to create seven islands that will provide critical habitats for migratory birds and aquatic species. The total project footprint is about 40 acres. The dredge material used in the project met MPCA soil reference value criteria at the time of placement.

Mississippi River Corridor Critical Area (MRCCA) and Mississippi River and Recreation Area (MNRRA)

Pig's Eye Dump and Pig's Eye Regional Park are located within the Mississippi River Corridor Critical Area (MRCCA) and the Mississippi River Recreation Area (MNRRA). The MRCCA was designated as a state critical area to protect its natural, cultural, and scenic resources. The MRCCA program is a state, regional, and local program that guides land use planning and zoning regulations for the 72-mile stretch of the Mississippi River. The MNRRA is a unit of the National Park System that was established to protect and enhance the Mississippi River corridor. The boundary of the MNRRA is identical to the Mississippi River critical area. Through the MNRRA, the National Park Service awards competitive grants to local governments and public partners for projects that protect the river and improve public access, recreation and education. The MRCCA does not provide funding but establishes the land use and resource protection standards that projects must meet to be eligible for MNRRA funding. Future uses of the site should be consistent the City of St Paul's 2040 Comprehensive Plan, and subsequent plans.

Stakeholder and community engagement

The MPCA hosted a project website for the task force (pca.state.mn.us/local-sites-and-projects/st-paul-pigs-eye-dump-task-force), which included the site history, background of the task force, and information on the task force meetings. Task force meetings were open to the public and recorded, meeting materials (agenda, recording, and notes) were posted to the project website. A project-specific email address (Pig's.Eye.Dump.Task.Force.Mailbox.MPCA@state.mn.us) was also created to ensure a consistent repository for public questions was available.

In 2024, the Pig's Eye Dump project team focused on raising public awareness of Pig's Eye Dump Task Force through attending community events and hosting stakeholder events to facilitate deeper stakeholder conversations. The team held pop-ups at three community events to share information about the site, the task force, and opportunities to attend meetings and get involved. In September

2024, Zan Associates (MPCA's contracted engagement/outreach contractor) and MPCA staff set up three stakeholder events to engage the public and targeted stakeholder groups. The three events included a walking tour of Pig's Eye Park/Dump coordinated with Pig's Eye Park Friends, an evening virtual presentation and discussion to allow for people to join after their workday was over, and an in-person coffee meeting at Swede Hollow Café in East Side Saint Paul. Overall, the project team interacted with over 300 people at these events. A summary of each event is below:

1. Pop-ups (3) – Project staff attended three community events throughout the year to share information on the site history, task force efforts, how to attend meetings, and other opportunities to stay involved. Pop-ups were hosted at the following events:
 - a. Art in the Hollow in Saint Paul's Swede Hollow neighborhood on June 1, 2024
 - b. Wakan Tipi Pollinator Festival at Lake Phalen Park and Pavilion on August 11, 2024
 - c. On the Road Again in South Saint Paul on October 5, 2024
2. Pig's Eye Dump Walking Tour – Community tour of Pig's Eye Park and Dump site that was open to the public. The event partnered with Pig's Eye Park Friends to host the tour during their usually scheduled weekly walking time, with Pig's Eye Park Friends as tour guides.
3. Virtual Community Meeting – A virtual meeting was held at night for community members to join. The project team shared an overview and background information on Pig's Eye Dump, the task force, engagement plan, and discussed the future of the site and attendees' visions. Attendees shared that they would like to see increased accessibility and awareness of the park, a focus on biodiversity, and restoring the site as a wetland.
3. In-person Community Coffee Discussion – Provided background information on Pig's Eye Dump and facilitated a discussion on the future of the site. Attendees shared their visions for the dump at a neutral location away from the MPCA offices. Attendees shared that they would like to see the sites history preserved, opportunities for youth involvement, and full remediation and restoration of the site.

Community survey

To assist task force members in incorporating public input into the development of remediation and restoration plans, the Pig's Eye Dump project team developed a public outreach survey that launched in March 2025. The survey included a 10-minute video that outlined potential remediation and restoration options along with the steps needed to achieve them. The survey was open from March 4 through March 31, and 359 total responses with 134 open-ended responses were received. Below are key takeaways from community input the team received through the survey. The full public engagement report can be found in the Appendix.

- People who took the survey are most comfortable with the future use of the site being restored as a natural area with the waste being fully removed and the excavated area not being backfilled. Examples include future uses such as lake/wetlands, wildlife sanctuary conservation area, wildlife viewing, pollinator habitat, and walking trails.
- People who took the survey are least comfortable with industrial or commercial future use and having most of the waste remain as it currently is.
- Of the 134 people who participated in the survey by providing specific comments:
 - 46% mentioned a strong preference for restoring the site with a focus on restoring wildlife, habitat, and wetlands to a natural state.
 - 17% wanted to see a complete removal of the waste.

- 10% were interested in passive recreation opportunities like walking trails, birdwatching, and kayaking.
- Some comments also mentioned clean water being a top priority, wanting to see Native communities' input being considered, and the site being difficult to access.
- A few comments shared a preference for keeping overall costs low, preference towards a more limited clean-up due to feasibility, or preference to leave the dump as is.
- The demographics of survey participants were not representative of the nearby neighborhood demographics.
 - 89% of survey respondents identified as White, which is much higher than the 29.5% White population in the surrounding neighborhood.
 - Over half of survey respondents (54%) reported being over 55 years old, whereas only 20.4% of the neighborhood's residents are in that age group.
- When comparing responses by age group:
 - The future uses that received the highest comfortability rating among all age groups were passive use park and natural areas.
 - All age groups were least comfortable with industrial/commercial future use paired with targeted waste relocation and filter.

Tribal input on remediation and restoration options

The Pig's Eye Dump site is located on Dakota homeland and is a site of significance for the Dakota people. The project team reached out to Prairie Island Indian Community and Mille Lacs Band to share information about Pig's Eye Dump and receive feedback from their communities.

Adjacent property outreach

The Pig's Eye Dump project team had multiple meetings with various stakeholders to discuss their involvement, concerns, and potential to collaborate on development of the Pig's Eye Dump site. Summaries of the meetings are included below.

Canadian Pacific Kansas City Southern Railway (CPKC)

The Pig's Eye Dump project team met with Canadian Pacific Kansas City Southern Railway (CPKC) to discuss the St. Paul Yard and proximity to Pig's Eye Dump. The team shared remediation options that were being considered by the task force and discussed the logistics of transporting waste by rail.

Metropolitan Council Environmental Services (MCES)

The MPCA met with Metropolitan Council Environmental Services (MCES) to discuss the Metropolitan Water Resource Recovery Facility and proximity to Pig's Eye Dump. Meeting attendees discussed facility needs and the potential to coordinate on remediation and reuse efforts at the Pig's Eye Dump.

U.S. Fish and Wildlife Service (USFWS)

The team met with U.S. Fish and Wildlife Service to share information on the Pig's Eye Dump project. They discussed the agency's priorities and how they have historically managed similar projects with various stakeholders.

Aviation stakeholder group

The Pig's Eye Dump is directly in the flight path of the St. Paul Downtown Airport. Remediation of the Pig's Eye Dump could involve a significant construction project extending over many years. Some remediation options would result in significant changes to the landscape and could have an impact on bird populations, all of which present aviation concerns.

The Pig's Eye Dump project team reached out to the FAA in April 2025 to begin conversations with aviation stakeholders. That outreach resulted in follow up meetings with aviation stakeholders including the Federal Aviation Administration (FAA), U.S. Fish & Wildlife Service (USFWS), Metropolitan Airports Commission (MAC) and the Minnesota Department of Transportation (MnDOT).

The issues communicated by aviation stakeholders are issues related to aviation safety including:

- Airport zoning including height restrictions – There are height limitations in the Pig's Eye Dump area that will need to be addressed during the remediation design and project permitting process.
- Bird populations – There are concerns about an increase in bird populations, specifically large waterfowl that would create hazards for aircraft. New bird populations can be attracted during the construction process and could also increase in response to changes in habitat from restoration projects.

Continued conversations with aviation stakeholders will be critical, especially during the design and permitting stages of any future remediation and restoration effort.

Remediation and restoration options evaluated

Contamination sources and contamination impacts requiring remediation and restoration

Environmental impacts that need remediation include:

- Over 200 acres of waste in Pig's Eye Dump (estimated to be at least 4.5 million cubic yards)
- Groundwater.
- Surface water in Pig's Eye Lake and Battle Creek.
- Sediments in Pig's Eye Lake and Battle Creek.
- Upstream sources contributing contamination to the area.

A phased approach to the multiple remediation and restoration needs is the most beneficial approach. Addressing the source of contamination (waste material) first would allow for more effective remediation of groundwater, surface water, and sediments. Removing the source of contamination could also reduce the amount of groundwater remediation needed long-term. Additionally, remediation of the sediments in Pig's Eye Lake before addressing the sources of contamination that caused the sediments to be contaminated could result in future contamination of the remediated area. As a result, the task force focused on developing a remediation plan for the waste as the best first step.

Restoration options

Several restoration options were considered in conjunction with the remediation options. Restoration options considered by the task force included both active and passive recreational uses, future use as a natural area, and industrial/commercial uses.

Active recreational use

This option could include the development of active recreational facilities to expand public use of the area. Active recreation typically involves the construction of built amenities such as hiking and biking trails, sports fields, playgrounds, or other infrastructure for organized activities. These enhancements would provide structured opportunities for physical activity and community engagement.

The primary benefit of expanding active use is increased public access and enjoyment of the space through more dynamic and accessible facilities. However, some active recreational options may be limited due to the site's location in a floodplain.

Passive recreation use

Future use for passive recreation would build on the area's current function, which primarily consists of walking trails. This option could focus on enhancing these passive recreational opportunities while maintaining a natural area focus.

Passive recreation would include minimally built infrastructure and would aim to preserve ecological features. Future improvements might include expanding trail networks, adding picnic areas, and birdwatching spots, that integrate with the existing landscape.

This approach supports an environmentally sensitive use of the area, balancing recreational access with conservation goals. The success of expanding passive recreation would depend on the effectiveness of remediation efforts and the future environmental condition.

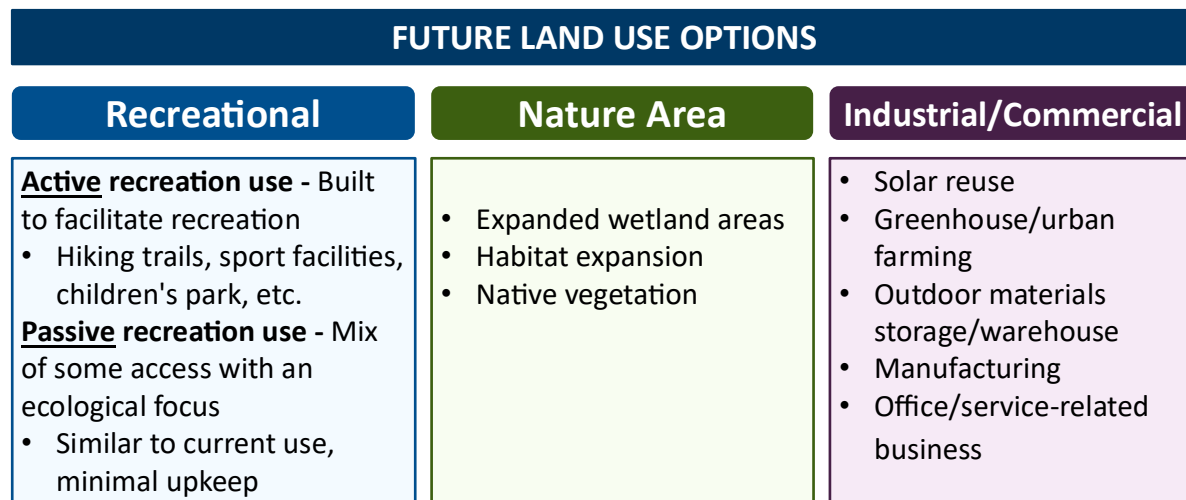
Natural area

Future use as a natural area would expand lake and wetland areas and would develop additional wildlife habitat. Focusing on development of a natural area could offer limited opportunities for passive recreation, examples include paddling activities and wildlife observation. The effectiveness of reuse as a natural area would depend on the success of the remediation efforts and the level of contamination that remains following remediation. Attracting additional wildlife where some level of contamination remains may be counterproductive. The community engagement survey identified that restoring the site as a natural area was the preferred option for those who completed the survey.

Industrial/Commercial use

Future use of the area for industrial or commercial purposes is also an option. This includes solar reuse, greenhouse farming, outdoor material storage, warehouse uses, remanufacturing, and office/service-related businesses. Some industrial/commercial use would be limited by the location in the floodplain. Some future industrial uses may conflict with existing land use plans. The community engagement survey identified that expansion of industrial/commercial uses was the least preferred option for those that completed the survey.

Figure 5. Future land use options.



Remediation options

The primary contamination issue that needs to be addressed at the Pig's Eye Dump is the generation of landfill leachate and release of landfill leachate into the environment. Landfill leachate is generated when precipitation, flood water, and groundwater come in contact with the waste allowing contaminants in the waste, primarily PFAS and 1,4 dioxane, to transfer into the water. The landfill leachate then moves beyond the waste footprint into the environment.

A secondary issue is the release of landfill gas into the environment. Landfill gas is generated as organic materials in the waste decompose over time. This decomposition process generates a gas containing methane (a potent greenhouse gas), carbon dioxide, and volatile contaminants released from the waste.

Additionally, there is concern with contamination identified in surface soils in some areas.

Remediation options evaluated by the task force focused on addressing the waste, which is the source of contamination. Addressing the waste will cut off the source of contamination into groundwater as well as Battle Creek and Pig's Eye Lake.

A range of remediation concepts were evaluated by the task force, including:

- **Targeted waste relocation and filter:** Moving a limited amount of waste that is directly adjacent to Pig's Eye Lake and Battle Creek to create a space that would be backfilled with a filtering material designed to capture contaminants.
- **New cover:** Regrading and installing a new impermeable cover to prevent precipitation from percolating through the waste which is one of several ways landfill leachate is generated.
- **Dig-and-haul:** Excavating all the waste and transporting it to a permitted facility for disposal.
- **Dig-and-line:** On the property, constructing a new modern landfill with modern landfill systems, including a bottom liner and impermeable cover to contain the waste at the current dump site.

Targeted waste relocation and filter

This option involves creating a separation between the waste and the water. This would be done by excavating and relocating some of the waste material in areas where the waste is closest to surface water and installing filtering material designed to filter contaminants in the leachate coming out of the waste. This method would attempt to reduce contaminant concentrations in landfill leachate that is discharged into Battle Creek and Pig's Eye

Lake but would not address the waste itself.

Cost and timeframe

The estimated cost is approximately \$30 million (-50% to +100%) with a construction timeframe of approximately 5 years and a 30-year operation and maintenance (O&M) cost of approximately \$6 Million (-50% to +100%). The O&M cost includes regular landfill maintenance such as mowing, maintenance of the filtering material, and routine environmental monitoring. This approach is generally lower in cost and allows for phased implementation.

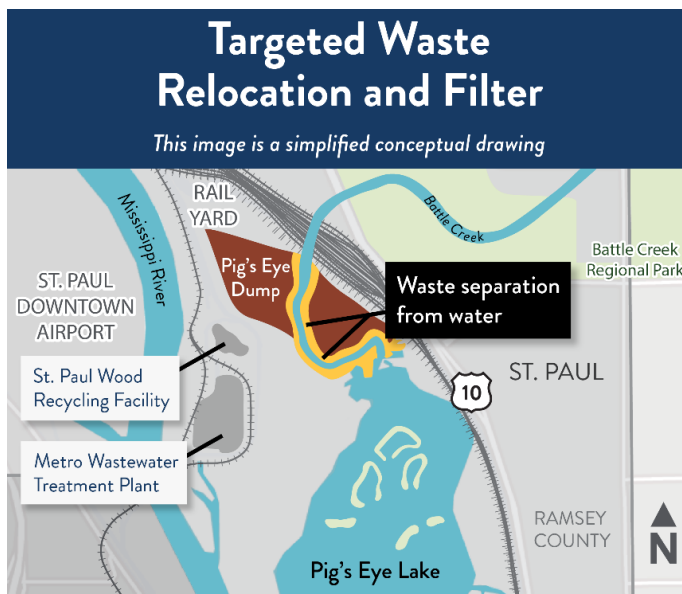
Effectiveness

Overall effectiveness of this approach depends on the filtering material used and the ability to get leachate to flow through the material. Depending on the type of filter used, it may need to be replaced once it can no longer effectively absorb contaminants. This approach does not clean up the groundwater itself; instead, it focuses on filtering contaminants from the leachate before it reaches Battle Creek and Pig's Eye Lake.

Future uses

This strategy would result in minor changes to the topography; overall the site would look similar to the current conditions. With this approach, future site use could remain similar to its current use, supporting passive recreation activities such as trails and bird-watching areas. Active recreation could include more developed facilities, such as sports fields or playgrounds, but these would be limited to account for environmental conditions at the site. Use as a natural area would be limited by the effectiveness of the remediation in reducing contaminant concentrations in Battle Creek and Pig's Eye Lake. This strategy is less suited for future industrial/commercial use due to potential need for future remedial activities. Limited industrial/commercial future use could be considered but would need to be designed to be flood tolerant and account for the possible need for additional future remediation.

Figure 6. Targeted Waste Relocation and Filter concept drawing.



New cover

This option involves regrading the cover and installing an impermeable cap to prevent precipitation from percolating through the waste, which is one way landfill leachate is generated. This option would involve regrading the landfill to a 5% grade to ensure proper surface drainage. The new cap would include several layers: topsoil, a soil drainage layer, a clay cap, and a geomembrane. Also, this option would include a landfill gas collection system. This option would require reconsolidation of the existing waste and require obtaining additional clean fill to obtain necessary sloping grade.

Cost and timeframe

The cost of implementing this new cap is estimated to be around \$100 million (-50% to +100%) with a construction timeframe of 5 years, and a 30-year operation and maintenance cost of \$7 million (-50% to +100%). The O&M cost includes regular landfill maintenance such as mowing and cap maintenance, pollinator habitat maintenance, and routine environmental monitoring.

Effectiveness

The new landfill cover would prevent future infiltration of precipitation on the land surface. However, this option does not include waste excavation nor installation of a bottom liner, landfill leachate would still be generated from groundwater intrusion into the waste, especially during flood events. Although there would be less leachate generated there would continue to be leaching of contaminants out the bottom of the waste.

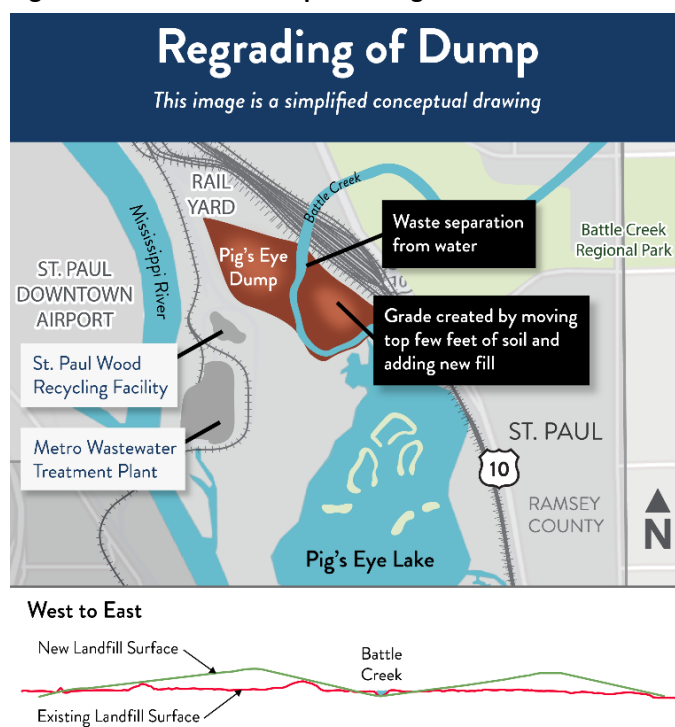
Future uses

Restoration options for this strategy would be limited to activities that can be conducted on or around a landfill cap. This might include trails, picnic areas, and possibly some sports facilities. The presence of the landfill would limit the extent of recreational development. Future use as a natural area would focus on creating habitats on and around the landfill cap. This could include pollinator habitats and other types of vegetation that are compatible with landfill conditions. This strategy supports limited industrial and commercial uses, primarily those that are flood-tolerant and compatible with the presence of a landfill. Solar energy installations are a potential use for closed landfills.

Dig-and-haul options

These options involve excavating all the waste and transporting it to a permitted landfill facility for disposal. These options move the waste from the current unlined facility in an environmentally sensitive area to an existing permitted landfill facility. One of the options includes backfilling the excavated area with clean fill material (dig-and-haul-and-backfill), with the second option the excavated area would not be backfilled (dig-and-haul-no-backfill).

Figure 7. New Cover concept drawing.



Waste disposal considerations

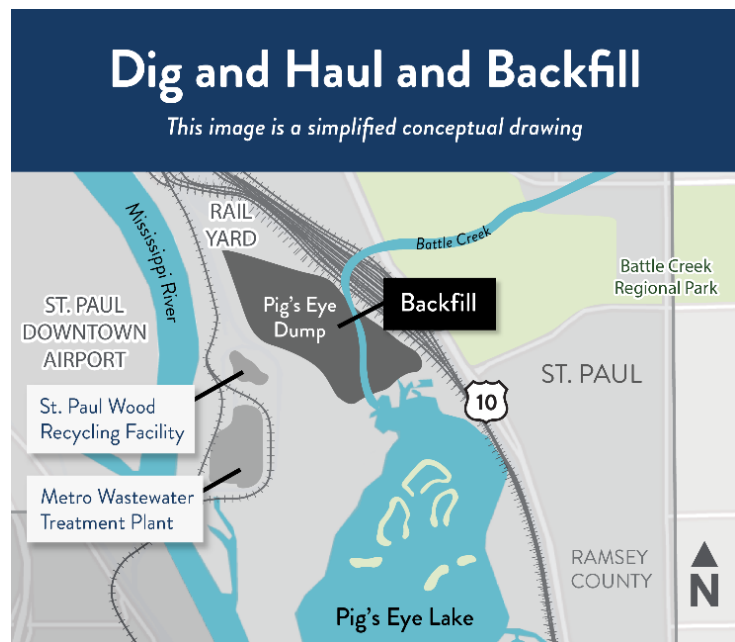
The 200-acre waste footprint at the Pig's Eye Dump represents a significant volume of waste (the current estimate is at least 4.5 million cubic yards). If the waste was moved to existing metro landfills, it would consume a portion of remaining metro area waste disposal capacity. The scope of the impact would need to be determined by collection of additional data to refine the estimated volume of waste in Pig's Eye Dump, as well as an analysis of remaining metro area landfill capacity. If the final disposal locations were existing metro area landfills, implementing one of the dig-and-haul options would have an impact on the larger waste disposal system in the metro area.

Environmental monitoring has demonstrated that waste material at Pig's Eye contains elevated levels of PFAS. Although municipal and industrial landfills currently accept waste materials containing PFAS, as more is learned about how PFAS in landfill leachate impact the environment, future regulations and policy decisions may constrain options for disposal of waste containing elevated levels of PFAS. This could impact both the cost and feasibility of the dig-and-haul options.

Dig-and-haul and-backfill

This option involves digging up all the waste and hauling it to a landfill that would accept PFAS impacted waste, followed by backfilling the excavated area. With the waste excavated and transported offsite, this option would address the source of contamination from the site and would resolve future landfill leachate issues at the site. Excavated waste would best be moved using a combination of truck and rail transport. The task force evaluated transport by barge and determined it was not a viable alternative to truck and rail transport. Additionally, suitable clean fill sources would need to be identified for backfilling the excavated area making this option significantly more expensive due to the backfilling operation.

Figure 8. Dig and Haul and Backfill concept drawing.



Cost and timeframe

The cost is estimated to be \$830 million (-50% to +100%), with a construction timeframe of 10+ years, and a 30-year operation and maintenance cost of \$6.0 million (-50% to +100%). The O&M cost includes regular maintenance of the backfilled area including activities such as mowing, pollinator habitat maintenance, and routine environmental monitoring. This approach is significantly higher in cost due to transportation and backfill cost.

Effectiveness

This option would remediate the source, eliminate landfill gas issues, and eliminate future leaching of contaminants from the waste into the groundwater. This would also reduce the concentration of contaminants discharging into Battle Creek and Pig's Eye Lake and ultimately the Mississippi River. The construction activities would need to consider neighboring properties, permitting requirements, and the location of the site in a flood zone close to Pig's Eye Lake and St. Paul Downtown Airport.

Future uses

The size of current wetland and Pig’s Eye Lake would change depending on the amount of backfilling. This remediation option offers the widest range of potential future uses. Viable options for future use are determined by the amount of backfill. With sufficient backfill, the area could support many different industrial, recreational, or natural area future uses. Both active and passive recreational facilities would be possible including sports fields, playgrounds, and trails. The extent of natural area restoration would depend on the amount of backfill. More backfill would create upland habitats, while less backfill would allow for more wetland habitats. This strategy could include a diverse range of natural area restoration options. With adequate backfill, the area could support various industrial and commercial uses. This might include limited light industrial facilities, solar energy generation, warehouses, or commercial developments, and would need to be designed to be flood tolerant and account for environmental impacts.

Dig-and-haul no-backfill

This option involves digging up all the waste and hauling it to a permitted landfill but without backfilling the site. With the waste excavated and transported offsite, this option would address the contamination source material and any future landfill leachate issues. The waste would best be moved using a combination of truck and rail transport. The remediation concept would enlarge the existing Pig’s Eye Lake.

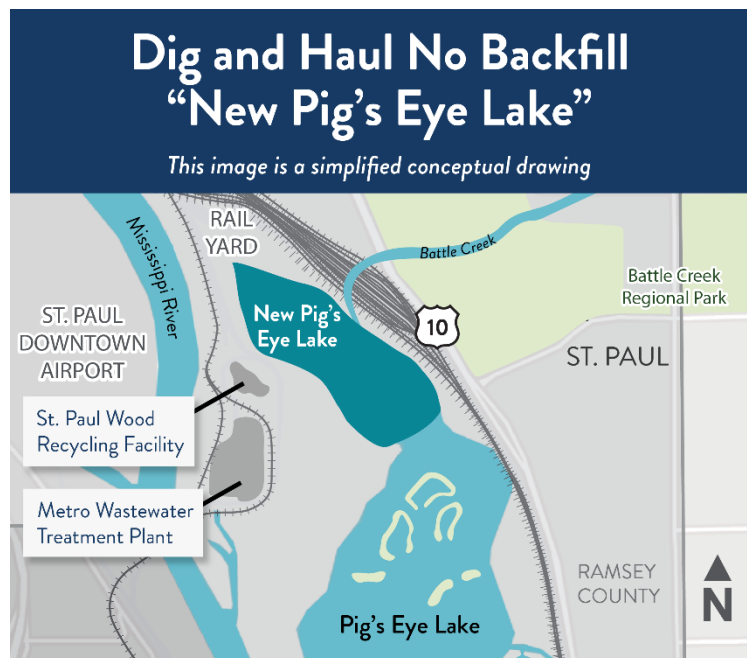
Cost and timeframe

The cost is estimated to be \$720 million (-50% to +100%), with a construction timeframe of 8 to 10 years, and a 30-year operation and maintenance cost of \$1.5 million (-50% to +100%). This approach would cost less and take less time than the dig and backfill option due to not having to backfill the excavated area. The O&M cost includes environmental monitoring and limited maintenance of the new expanded wetland area which results in lower O&M costs than the dig-and-haul-and-backfill option.

Effectiveness

This option would remediate the source, eliminate landfill gas issues, and eliminate future leaching of contaminants from the waste into the groundwater. This would reduce the concentration of contaminants in groundwater migrating into Battle Creek and Pig’s Eye Lake and ultimately the Mississippi River. Similar to the dig and haul and backfill option, the construction activities would need to take into consideration neighboring properties and permitting requirements given that the site is in a flood zone and close to Pig’s Eye Lake and St. Paul Downtown airport. Additionally, expanding Pig’s Eye Lake and wetland area could attract new wildlife and bird populations to the area which could be a concern for aviation safety.

Figure 9. Dig and Haul No Backfill.



Future uses

The landscape would change significantly by expanding Pig's Eye Lake. This strategy offers limited recreational uses such as paddling activities and wildlife observation. This strategy would mainly focus on natural area restoration by expanding the current Pig's Eye Lake. With no backfill and the site expanding into a larger Pig's Eye Lake, the capacity for expanded future industrial/commercial use on the property would be limited.

Dig-and-line

This option involves building a new, state-of-the-art landfill on the property, featuring an impermeable engineered cap, bottom liner, and leachate collection system and a storm water management system. The waste would be excavated and stacked to form a steep, cone-shaped mound, resulting in the waste footprint being smaller and the top of the landfill being much higher. This remediation option keeps the waste on the property conserving the available space at existing landfills and does not incur the financial and environmental cost of transporting and disposing of large volumes of waste.

Cost and timeframe

The estimated cost is around \$570 million (-50% to +100%), with a construction timeframe of about 10 years, and a 30-year operation and maintenance cost of \$45 million (-50% to +100%). The O&M cost includes operation of the leachate collection and treatment system, landfill gas management, landfill cap maintenance, and routine environmental sampling

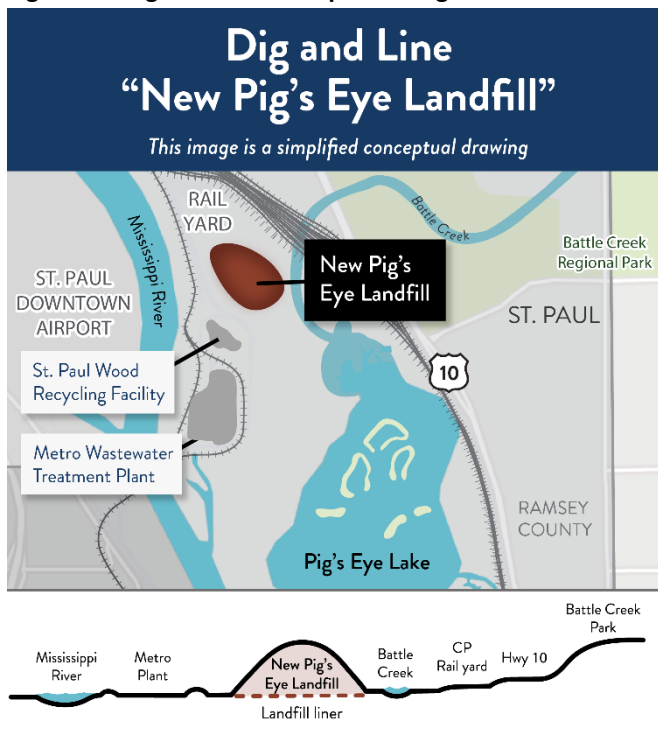
Effectiveness

This strategy relies on the impermeable cap and bottom liner and a leachate collection system to contain and control leachate and a landfill gas system to address landfill gas. While the footprint of the waste area is reduced, the overall height of the waste mound would increase noticeably (100 to 150 feet). This remediation option preserves existing landfill capacity. However, this approach also poses significant challenges, such as the difficulty of building a landfill in a floodplain, its location within the flight path of the St. Paul Downtown airport, and the need for long-term operation and maintenance.

Future uses

Restoration options for this strategy would be limited to activities that can be conducted on or around a landfill. This might include recreation facilities including trails, picnic areas, and possibly some sports facilities. The presence of the landfill would limit the extent of recreational possibilities. Natural area restoration would focus on creating habitats on and around the landfill cap. This could include pollinator habitats and other types of vegetation that are compatible with landfill conditions. The adjacent areas could be restored to wetlands or uplands, depending on the amount of backfill. This strategy supports limited industrial and commercial uses, primarily those that are flood-tolerant and compatible with the presence of a landfill. Solar energy installations are a common use for closed landfills.

Figure 10. Dig and Line concept drawing.



Additional technologies

The task force also considered other technologies to address the waste material. These included in-situ stabilization, gasification, pyrolysis, incineration, and aerobic digestion. The options were discussed but eliminated because of limited effectiveness in treating the contaminants, cost, and ability to implement the technology with the Pig's Eye waste. Waste disposal at the Pig's Eye Dump occurred between 1956 and 1972. Since the time of waste disposal, the organic portion of the waste has degraded. Additionally, the waste has been subjected to multiple flooding events and ongoing groundwater intrusion. These factors limit the ability to effectively implement these technologies.

In-situ stabilization

In-situ stabilization (ISS) for treating waste involves mixing the contaminated waste directly in place with stabilizing agents. This process does not destroy contaminants in the waste but immobilizes them, significantly reducing their potential to leach into groundwater and surface water. The contaminants remain onsite, requiring long-term monitoring to ensure stabilization is permanent and effective. Also, achieving uniform distribution of stabilizing agents throughout a large, heterogeneous volume of a landfill would be difficult and expensive. ISS is highly effective for inorganic contaminants like heavy metals, transforming them into insoluble, low-leachable forms within a durable cementitious matrix. For organic contaminants, effectiveness varies, being best for non-volatile types that are physically encapsulated, while volatile compounds may off-gas. For emerging contaminants like PFAS, traditional binders are insufficient; effectiveness relies on specialized amendments like powdered activated carbon or organoclays that adsorb and immobilize the PFAS compounds, significantly reducing their migration.

Pyrolysis

Pyrolysis is a treatment technology that involves heating contaminated material, typically between 300°C and 700°C inside a sealed reactor, in an oxygen-free environment to break down and destroy the contamination. This technology presents significant technical and financial hurdles. There is a possibility that contaminants may not be fully destroyed requiring air permitting review to ensure minimizing hazardous air emissions and consuming substantial amounts of energy. Additionally, the wide range of waste types and elevated moisture levels present considerable difficulties, making it necessary to sort and dry the waste beforehand. Excessive moisture significantly lowers efficiency, raises energy requirements, and reduces the overall treatment efficiency.

Gasification

Gasification is similar to pyrolysis, heating contaminated material to break down and destroy contaminants. Unlike pyrolysis, it is done at higher temperatures typically between 700°C and 1400°C in the presence of a controlled amount of an oxidant, such as oxygen or steam. Similar to pyrolysis, this technology is still in development and there is risk of incomplete destruction, potential for hazardous air emissions requiring air permitting review to ensure minimizing hazardous air emissions and consuming substantial amounts of energy. Likewise, as with pyrolysis, the wide variety of waste types and the presence of high moisture levels present significant obstacles, necessitating both sorting and drying of the material. Excess moisture greatly reduces process efficiency, increases energy requirements, and diminishes the treatment efficiency.

Incineration

Incineration is a high-temperature chemical decomposition process used to break down and destroy contaminants. This process relies on combustion, which requires both heat and oxygen. Heat is applied directly to contaminated solids (such as soil, sediment, spent adsorbents, and solid waste) or liquids (including water, wastewater, leachate, and chemical solutions). The resulting vaporized combustion products can be captured using techniques like precipitation or wet scrubbing and may undergo further

oxidation at elevated temperatures. Incineration is more viable on waste that contains organic matter and combustible material. Most of the organic matter and combustible material in the Pig's Eye waste has since decomposed after decades in the dump.

PFAS compounds are notoriously resistant to breakdown due to the strong electronegativity of fluorine and the inherent chemical stability of fluorinated molecules. Incomplete combustion can lead to the formation of smaller PFAS derivatives or products of incomplete combustion (PICs), some of which may not be well studied. Per USEPA (2024), despite its challenges, incineration remains one of the few technologies with the potential to destroy PFAS, although the specific conditions required for complete destruction are still being researched.

Anaerobic digestion

Anaerobic digestion (AD) is a biological process in which microorganisms break down organic materials in the absence of oxygen. While a valuable technology for processing organic waste, AD is unsuitable for treating waste within old, closed landfills because the most readily digestible organic matter has already decomposed naturally over many years. The remaining aged waste offers minimal potential for biogas production. Furthermore, implementing the precise environmental controls (optimal temperature, pH, and nutrient balance) necessary for an effective AD process within a large, unmanaged landfill mass is logistically tough, making it hard to implement. Additionally, AD is not an effective method for the destruction of PFAS in waste material.

Specifically for remediating PFAS impacts, the extremely strong carbon-fluorine bond in PFAS is highly resistant to microbial breakdown. Anaerobic microbes, even with long residence times, are not capable of breaking the strong carbon-fluorine bonds in PFAS compounds like PFOA and PFOS. The fate of all PFAS and their precursors in AD is not fully understood.

Waste sorting

Excavating and attempting to sort waste from a closed landfill is a complex and often problematic process known as landfill mining. While there may be a desire to recover resources or better prepare waste for advanced treatment like incineration or gasification, the reality of working with decades-old, degraded waste presents significant and costly challenges. The Pig's Eye Dump waste is significantly degraded and is not a uniform material but a complex, compacted mixture of household garbage, construction debris, soil, and potentially hazardous materials. The potential to encounter hazardous materials, including asbestos, further complicates the logistics and cost of a waste sorting process. Additionally, many potentially recyclable materials are too degraded and contaminated with other waste and landfill leachate to be economically viable for recycling.

The markets for low-grade, contaminated, and co-mingled materials recovered from landfills are often limited and uncertain. This makes it difficult to find reliable buyers and secure funding for such projects. Landfill mining is almost always economically unfeasible if the only goal is resource recovery. The high costs of excavation, sorting, and processing far exceed the potential revenue from selling low-quality recovered materials. Projects are typically only justified if they also provide benefits like reclaiming valuable land space.

Funding options

It would be difficult to utilize a single funding source that would meet the funding need for remediation options that fully address the source of contamination into the environment. A diversified funding strategy will be needed to fully fund the preferred remediation and restoration options. A diverse funding strategy could include funding from existing federal, state, and local sources and/or funding from a new source that would address the Pig's Eye Dump and perhaps other historic dump sites.

State funding

Metropolitan Landfill Contingency Action Trust (MLCAT)

There is existing state funding available from the Metropolitan Landfill Contingency Action Trust (MLCAT), but it is insufficient to cover remediation costs for remediation options that are fully protective of the environment.

The MLCAT Fund was established by the Minnesota Legislature in 1999 to address environmental issues at mixed municipal solid waste (MMSW) landfills in the metropolitan area. It was created to manage costs associated with the long-term care of landfills. MLCAT is funded by a 25% share of the Metropolitan Solid Waste Landfill Fee on waste disposed of at metro landfills. As of January 2026, the balance in the MLCAT account was \$64 million. Annual revenue and interest into the fund is approximately \$2 million.

The purpose of the MLCAT Account is to ensure that long-term care of eligible closed landfills is adequately funded. The following are the seven landfills that are MLCAT-eligible:

- Pig's Eye Dump.
- Four closed demolition landfills that accepted small quantities of MMSW prior to being permitted as demolition landfills: Vadnais Heights Demolition Landfill (Ramsey County), Rosemount Demolition Landfill (Dakota County), Herbst and Sons Demolition Landfill (Hennepin County), and Begin Demolition Landfill (Hennepin County).
- Two open sanitary landfills will be eligible for the MLCAT Account after 30 years of post-closure: Burnsville Sanitary Landfill (Dakota County) and Pine Bend Sanitary Landfill (Dakota County).

State Superfund

The Pig's Eye Dump is a site in the state Superfund program. In 1983, the State enacted the Minnesota Environmental Response and Liability Act (MERLA), Minn. Stat. 115B, establishing the State Superfund Program. This law provides broad state authority to respond to releases or threatened releases of hazardous substances, pollutants, or contaminants that endanger public health, welfare, or the environment.

Superfund law uses a "polluter pays" model to manage and clean up contaminated sites. This principle is expressed as Superfund joint and several liability which allows the government to hold any one responsible party liable for the entire cost of cleaning up a contaminated site, regardless of how much pollution they contributed. This legal framework can be powerful for advancing environmental clean-ups. However, when applied to former dump sites where there is a lengthy list of potentially responsible parties, it can result in a cascade of litigation involving the many parties who contributed waste to the dump site. Additionally, responsible parties who are pursued by regulatory authorities and pay for clean-up actions can file lawsuits against other smaller parties who contributed to the dump to force them to

share in covering the expenses. Overall, while joint and several liability ensures that someone is held accountable for environmental harm, it can be a blunt tool in the context of dump sites and is often less effective for dump sites like Pig's Eye where there may be hundreds or thousands of responsible parties.

Minn. Stat. § 116.155 establishes a state Remediation Fund, which provides funding to investigate and remediate releases or threatened releases of hazardous substances, pollutants or contaminants, and agricultural chemicals. The state can access money appropriated from the Remediation Fund to accomplish investigation and clean-up of hazardous substance releases at sites when pursuing responsible parties for the environmental clean-up is not a viable option (e.g. responsible party no longer exists or cannot be found). The Remediation Fund is needed to fund ongoing remediation work at a number of sites across Minnesota and does not have the capacity to fully fund a large-scale project.

State bond funding

State bonding is the process by which the state sells bonds to fund capital projects that serve a public purpose, such as environmental clean-up projects. Most of the state's bonding activity is financed through General Obligation (GO) bonds.

The state constitution and state statutes require bond funded projects to be publicly owned and used for the governmental program identified by the Legislature. This means there must continue to be a public ownership interest (fee ownership or a qualifying long-term lease or easement) in the site, and the sites must be operated in compliance with the government program. These conditions apply for a time period equal to 125% of the useful life of the improved project, which typically is 37.5 years. The requirements would attach to parcels when bonds are first spent on the property and remain in place for 37.5 years from the last date when GO bond funds were used.

State brownfield funding

Brownfield funding programs exist to encourage clean-up and redevelopment of contaminated properties so they can safely return to productive use. The Metropolitan Council, Hennepin County, Ramsey County, Dakota County, Minnesota Department of Employment and Economic Development, and U.S. EPA all have brownfield grant programs. These programs aim to protect public health and the environment, revitalize communities, and stimulate private investment by offsetting some of the cost of environmental clean-up. Unlike Superfund programs, brownfield funds are meant for redevelopment projects, not long-term remediation of major dump sites. Entities who are responsible parties under Superfund law are not eligible for brownfield funding.

Minnesota's brownfield grant programs are competitive, funds are awarded to projects that clearly advance redevelopment, housing, and economic goals while ensuring environmental protection. Priority is typically given to projects that:

- Create or retain jobs, increase the local tax base, or provide affordable housing.
- Leverage significant private investment or local matching funds.
- Are shovel-ready, with a clear redevelopment plan and timeline.
- Are located in distressed or high-need areas where clean-up would have strong community impact.

Brownfield programs typically exclude:

- Sites already being addressed under state or federal Superfund programs.
- Projects without a redevelopment component.
- Properties where a responsible party is already obligated to perform the clean-up.

Creation of a new state funding source for dump clean-ups

The creation of a new, dedicated funding source for legacy dumps could provide funding.

One example is creation of the MPCA Closed Landfill Program. As an alternative to attempting to utilize federal and state Superfund authorities for landfills, where there may be hundreds or thousands of responsible parties, the Legislature created the Closed Landfill Program and a revenue source to fund long term care of 114 permitted closed landfills in Minnesota. One model to generate revenue to address historic dumps would be to assess a similar tax or fee on solid waste management or disposal activities.

Federal funding

Federal funding opportunities for the remediation and restoration of the Pig's Eye Dump site are limited. Pig's Eye is not a federally designated Superfund site.

Federal Congressional community project funding

The Congressional "community project" funding process allows members of Congress to request funding for specific local initiatives. Projects must have a connection to an existing federal program and align with the federal program guidelines. Congress determines which federal programs are eligible for the community project process, such as clean water or drinking water infrastructure. Superfund and brownfields programs have not been designated as eligible programs in the past. Additionally, the process is subject to the broader appropriations cycle in Congress. No community project funds were awarded in the previous fiscal year due to a lack of a formal appropriations bill. When funds are available, awards generally are in the \$1 million to \$20 million range.

The U.S. Army Corps of Engineers (USACE) Civil Works Program projects

The U.S. Army Corps of Engineers (USACE) Civil Works Program is responsible for planning, building, operating, and maintaining the nation's water-related infrastructure. Its mission areas include ports and waterways, flood risk management, and aquatic ecosystem restoration. USACE also has authorities that support water supply, hydropower, recreation, and environmental stewardship. Civil works projects typically require cost-sharing agreements with local sponsors, who contribute financially and provide necessary land access and long-term operation and maintenance commitments.

Examples of possible USACE Civil Works Projects at the Pig's Eye Dump could include:

1. **Beneficial use of dredge material** – Some of the remediation options will require fill material. Fill material could be provided through a beneficial use of dredge material project that utilizes material dredged in Pool 2. Fill material could also be used for some restoration projects. One example of this is the completed Pig's Eye Lake Island Building Project.

- 2. Aquatic ecosystem restoration projects** – Aquatic Habitat Ecosystem Restoration projects under Section 206 of the Water Resources Development Act supports the restoration of degraded aquatic habitats such as wetlands, rivers, and lakes. The program provides an efficient path for smaller-scale aquatic ecosystem restoration projects that provide meaningful environmental benefits. The maximum federal limit is \$15 million per project and there is no need for any specific authorization from Congress to pursue this program. Examples of possible projects include stream and wetland restoration and channel modifications. Funding under this program may be available to support wetland restoration and realignment of Battle Creek.

Additionally, funding may be available through the Specifically Authorized Project process. These projects require Congressional approval for both conducting feasibility studies and construction. There is no funding limit for these projects. These can be large projects that span multiple mission areas such as flood risk management, ecosystem restoration, and navigation. This program allows the Corps of Engineers to address large-scale projects such as basin-wide flooding issues or ecosystem restoration on a significant portion of river system. Although this funding process takes longer than other programs, it may be an option for funding multiple initiatives such as Pig’s Eye Lake ecological restoration and shoreline stabilization, wetland restoration, flooding mitigation, and realignment of Battle Creek.

The use of any of any USACE ecosystem restoration authorities may be dependent on the level to which the site is ultimately remediated prior to restoration.

Mississippi River Restoration and Resilience Initiative (MRRRI)

Mississippi River Resilience and Restoration Initiative (MRRRI) is a federal proposal to coordinate efforts on conservation and environmental restoration along the entire Mississippi river corridor and open up grant opportunities for state and local governments, tribes, and nonprofit organizations.

MRRRI follows the successful model of the Great Lakes Restoration Initiative (GLRI) to ensure coordinated and sustained federal investments to restore the Mississippi River and protect it as a healthy working river.

The current proposal excludes projects focused on the clean up of legacy contaminants that are defined as “hazardous substances” under federal Superfund. The MRRRI’s design is intended to avoid duplication with point source clean-up programs like Superfund, focusing instead on nonpoint source pollution, habitat restoration, and water quality enhancements. While Pig’s Eye Dump’s proximity to the Mississippi River may make it geographically relevant, it does not currently meet the MRRRI program eligibility requirements. Although currently not eligible, one possible next step would be to work with the MRRRI author to determine if it makes sense to include the Pig’s Eye Dump. A case for expanding the scope to include dumps is that although they are geographically a point source of contamination in practice, they are the result of past collective societal actions more characteristic of non-point sources.

Other funding

Public private partnerships

A public-private partnership model can offer an alternative to the traditional Superfund responsible party process. One public private partnership success story is the St. Louis River Area of Concern (AOC) project under the Great Lakes Legacy Act (GLLA) and Great Lakes Restoration Initiative (GLRI). The St. Louis River AOC projects are voluntary, cooperative partnerships between the U.S. EPA, states, local governments, and other non-federal partners (industries or port authorities). The partners share clean-up costs through negotiated agreements. This approach avoids the sometimes adversarial and time-

consuming nature of Superfund enforcement, allowing projects to proceed faster and focus on achieving environmental restoration goals rather than liability resolution. The AOC projects could serve as a model for future clean-up at Pig's Eye Dump.

Local parks and recreational funding programs

Cities, counties, and Metropolitan Council operate programs to fund park and recreation projects and programs. These programs could be used to fund portions of the project that advances their entities' parks and recreational goals.

Restoration only funding

While full-scale remediation of contaminated sites like Pig's Eye Dump may fall outside the scope of certain funding programs, there are funding options that focus exclusively on restoration.

Environment and Natural Resources Trust Fund

The Legislative-Citizen Commission on Minnesota Resources (LCCMR) administers the Environment and Natural Resources Trust Fund (ENRTF). Approximately \$100 million per funding cycle is available for projects that aim to preserve and enhance Minnesota's unique natural resources. Although LCCMR explicitly calls out remediation of contaminated sites as ineligible for funding, restoration projects that protect or restore wildlife habitat, air and water quality, and ecologically sensitive lands may be eligible.

Lessard-Sams Outdoor Heritage Council (LSOHC)

Similarly, the Lessard-Sams Outdoor Heritage Council (LSOHC) oversees funding for projects under the Outdoor Heritage Fund, which supports efforts to protect, restore, and enhance wetlands, prairies, forests, and habitat for fish, game, and wildlife. While each funding round includes a specific vision and focus that may limit eligibility in a given year, approximately \$150 million is available per cycle. Restoration-focused initiatives that improve habitat connectivity, native vegetation, or water quality in the Pig's Eye area could be candidates, especially if aligned with broader conservation goals.

Task force recommendations

Remediation and restoration recommendations

- Pig's Eye Dump holds a large volume of uncontained waste directly adjacent to Battle Creek, Pig's Eye Lake, and is located in the Mississippi River floodplain. Based on past investigation activities, the volume of waste is estimated to be at least 4.5 million cubic yards. The preferred remediation options are the dig-and-haul-no-backfill and dig-and-line options because they are the options most protective of the environment and public health.
- Remediation and restoration efforts should protect local and downstream communities and ecosystems, protect wildlife and natural habitats, and improve water quality.
- Remediation and restoration actions should be as consistent as possible with existing planning work including City of Saint Paul plans, Great River Passage plan, and other relevant plans without excluding any remediation options the task force has recommended.
- The remediation and restoration options pursued need to be implemented in a way that addresses aviation regulations and concerns related to the St. Paul Downtown Airport.
- If the dig-and-haul-no-backfill option is implemented, decisions about where the excavated waste is ultimately disposed of could impact 1) the existing capacity of metro area landfills, and 2) local community revenues. Both issues should be studied further.
- If the dig-and-haul-no-backfill or dig-and-line remediation options are implemented, safety protocols should be strictly followed during excavation and transportation to protect nearby communities and construction workers from potential risks. It is not expected that waste will be able to be treated on the property; however, recoverable hazardous materials should be segregated to the degree possible and sent to appropriate facilities for safe containment.
- Future use of the site should provide for a safe and accessible natural area for passive recreation, such as walking trails and wildlife observation. This recommendation is consistent with Ramsey County's Pig's Eye Unit of the Battle Creek Regional Park Long Range Plan Amendment, approved by the Metropolitan Council in April 2021.
- The remediation and restoration plan should ensure continued operation and allow for potential future expansion of the Metropolitan Water Resource Recovery Facility, a critical regional public utility infrastructure that protects water quality, public health, and the environment across the metropolitan area. It operates under and is regulated by state and federal permits.
- The remediation and restoration plan should allow for future expansion and ongoing operation of the Environmental Wood Supply facility which serves a public purpose and has an environmental benefit. Any future expansion will need to comply with applicable ordinances and regulations.
- The MPCA should complete a feasibility study of the remediation and restoration options presented to the task force, including possible impacts to existing nearby facilities. The feasibility study analysis should prioritize the dig-and-haul-no-backfill and dig-and-line remediation options.

Funding recommendations

Remediation funding recommendation

- There is no one funding source that is able to provide the needed funding for remediation and restoration of Pig's Eye Dump. To be able to fund a remediation approach that is fully protective of the environment and public health, a combination of existing and new funding sources should be pursued.
- Federal funding should be pursued where remediation and restoration efforts for Pig's Eye Dump are an eligible use.
- Federal funding should be pursued by creating a new funding structure. For example, a funding source that is similar to the Great Lakes Restoration Initiative or adjustments to the Mississippi River Restoration and Resilience Initiative proposal.
- State funding should be pursued. Both the creation of new state funding mechanisms as well as existing state funding such as the Metropolitan Landfill Contingency Action Trust (MLCAT) account and state bond funding.
- The Superfund responsible party identification process should not be utilized. Instead, a fee should be assessed on all waste disposal to cover/contribute to remediation expenses since haulers, industries, and residents in the surrounding area all contributed waste while the dump was open.
- Voluntary public-private partnerships could be explored to fund remediation efforts. Private parties include haulers, industries and residents in the surrounding area who contributed waste to the facility would contribute funding.

Restoration funding recommendation

- For restoration efforts, pursue other federal or state sources of funding such as the Legislative-Citizen Commission on Minnesota Resources (LCCMR), Lessard-Sams Outdoor Heritage Fund, the Clean Water Fund or other new or existing potential sources.

Appendices (submitted as a separate document)

Public engagement

Trivia Board
Survey Flyer
Project Overview Handout
Public Engagement Final Summary

Communications

GovDelivery Examples
Social Media Examples

Task force meeting materials

9/25/23 Meeting #1 Agenda, Summary, Presentation
1/12/24 Meeting #2 Agenda, Summary, Presentation
3/08/24 Meeting #3 Agenda, Summary, Presentation
6/07/24 Meeting #4 Agenda, Summary, Presentation
7/18/24 Meeting #5 Agenda, Summary, Presentation
9/23/24 Meeting #6 Agenda, Summary, Presentation
12/6/24 Meeting #7 Agenda, Summary, Presentation
2/13/25 Meeting #8 Agenda, Summary, Presentation
4/17/25 Meeting #9 Agenda, Summary, Presentation
6/24/25 Meeting #10 Agenda, Summary, Presentation
8/21/25 Meeting #11 Agenda, Summary, Presentation
10/10/25 Meeting #12 Agenda, Summary, Presentation
12/02/25 Meeting #13 Agenda, Summary, Presentation
01/13/26 Meeting #14 Agenda, Summary, Presentation

Annual reports

Three annual legislative reports were completed in March of 2023, 2024, and 2025. These reports are available through the Minnesota Legislative Reference Library: [Mandated Reports - Minnesota Legislative Reference Library](#)