MINNESOTA POLLUTION CONTROL AGENCY

2025 Remediation Consultants Day

Pam Anderson | Director

April 28, 2025

MINNESOTA POLLUTION CONTROL AGENCY

Remediation Division

Pam Anderson, Director

Anna Hotz, Assistant Division Director (Shared with RMAD)

Brownfields Section	Closed Landfill and Technical Services Section	Petroleum Section	Superfund Remedial Section	Superfund Site Assessment Section
Jessica Ebertz, Manager	Hans Neve, Manager	Sarah Larsen, Manager	Samantha Adams, Manager	Elizabeth Kaufenberg, Supervisor


There is a lot
going on.

Welcome!

9:00 AM Guidance Update project – Brigitte Hay
9:30 AM EDS Online Service & Edge – David Moore

10:30 AM – 10:45 AM: Break
10:45 AM Section Updates – Samantha Adams
11:00 AM Vapor Intrusion Guidance - Chris Goscinak
11:30 AM PFAS guidance – Michael Ginsbach

12:00 PM – 1:00 PM: Lunch & Networking Opportunities

1:00 PM Brownfield Program Application Process – David Knight
1:20 PM Environmental Covenant Process – Shanna Schmitt and Alana Crawford
1:40 PM Tips for submitting high quality reports Brownfields: Rebecca Ryser
2:30 PM – 2:45 PM: Break

2:45 PM Field Audit changes – Sara Nelson, Stephen Frye
3:00 PM Tips for preventing cross contamination for Vapor Sampling – Rose Tusa
3:15 PM General Guidance/Forms – Stephen Frye, Wesley Knox
3:45 PM Petrofund – Scott Hawks
4:00 PM – 4:15 PM Q&A & Wrap-up

MINNESOTA POLLUTION CONTROL AGENCY

Remediation Division Guidance Project Update

Brigitte Hay | Brigitte.hay@state.mn.us

Consultants Day 2025 – April 29, 2025

Agenda

Time	Topic
9:00-9:30	Remediation Division Guidance Project update and project overview
	Guidance delivered or coming soon
	Website updates
	Guidance highlights
	Questions

Remediation Division Guidance Project Overview

The MPCA has developed technical guidance to help environmental consultants and engineers, real estate developers, and others navigate the remediation process.

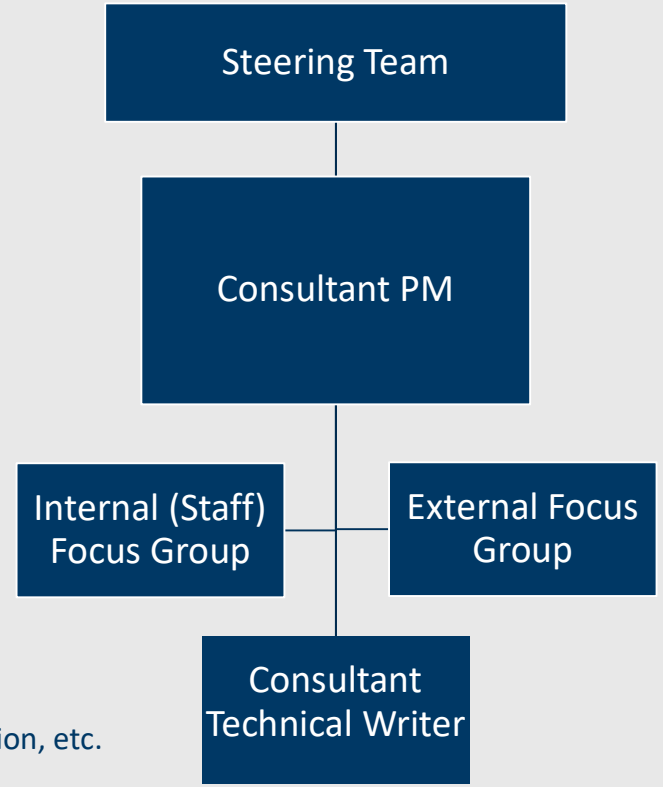
- **Phase 1** – Planning – 2022
  - Made a team, created index of all docs with recs
  - Planning for Phase 2: Crafting recs into deliverables
- **Phase 2** – Implementation – 2023-2024
  - Assembled staff and external groups, requested funding, RFWP
  - Issued work order with Bay West under Level A & D Rem Contract
  - MPCA + contractors working on deliverables
- **Phase 3** – Refining and maintaining – 2025
  - Annual guidance review started this winter
  - Working on some lingering deliverables, could start on new news, etc.

Phase 2 Objectives

- Guidance
  - Guidance that is easy to find, easy to use
  - Clear, well-written, with the right content
  - Minimal redundancy between documents
- Website
  - Web pages organized by regulatory authority and cleanup phase
  - External guidance index
  - Overall update to non-technical pages
- Remediation Intranet
  - Internal guidance index

Phase 2 Roles & Responsibilities

- Steering Team
  - Provide oversight, instruction, guidance to Consultant and Focus Groups
  - Final decision-making and approval
- Consultant PM
  - Overall project management of Phase 2
  - Communication & engagement hub for other parties working on Phase 2
- Consultant Technical Writer
  - Draft/edit content as directed by Focus Groups
- Staff Focus Group
  - Serve as technical and programmatic experts helping shape & write content
- External Focus Group
  - Act as sounding board – provide input on content, format, level of detail, organization, etc.
- Remediation Division, Publications, Web Team



Deliverable	Notes	Lead	Author	Level of Effort				Staff Focus Group Members
				PM	TW	Staff FG	Stakeholder FG	
MERLA Groundwater Investigation Guidance (#3)	Create/finalize guidance; could be more than one final products	PM	TW	High	High	High	High	Mark E, Michael, Katy
MERLA Site Decision Guidance (#6)	Create/finalize guidance; could be more than one final products	PM	TW	High	High	High	High	Mark E, Michael, Katy
MERLA Remedy Selection Guidance (#7)	Create/finalize guidance	PM	TW	High	High	High	High	Mark E, Michael, Katy
MERLA Standardized Report Forms (#13)	Determine utility and feasibility of using standardized reporting forms and checklists for MERLA Sites	PM	TW	High	High	High	High	Mark E, Michael, Katy
Surface Water Guidance Updates (#10)	Update guidance describing how to evaluate for surface water risk at a Remediation site	PM	TW	Medium	Medium	Low	Low	Sona, others as needed
Remediation Methane Guidance (#4)	Develop guidance for addressing methane at Remediation sites	PM	TW	Medium	Medium	Medium	Low	All as needed, Mark Ostby
Divisional Guidance Evaluation on Select PRP and CLP Documents (#14)	Evaluate select program documents for Divisional applicability and make recommendations	PM	TW	Medium	Medium	Low	Low	All as needed
Remediation Guidance and Web Content SOP (#15)	SOP for future/ongoing maintenance and updating of Rem Division external guidance and web content	PM	PM	High	None	Medium	None	All as needed
New Remediation Web Pages (#1)	Determine the organizational structure and content of several new Remediation web pages	Jessie	MPCA	Low	None	Low	Low	Jessie, all as needed
MERLA Soil Investigation Guidance (#2)	Finalize guidance for conducting a soil investigation at a MERLA site	Amy	MPCA	Low	Low	Low	Low	Amy, Sona, others as needed
Petroleum Soil Treatment and Disposal Guidance (#5)	Condense/streamline/ update Petroleum's 9 existing soil treatment guidance	Wesley	MPCA	Low	Low	Low	Low	Wesley, other staff outside SFG
Property Use and Institutional Control Guidance (#8)	Create/finalize a guidance doc that ties all of the applicable and necessary info regarding property/land use and ICs	Amy	MPCA	Low	Low	Low	Low	Amy, other staff outside SFG
Lorax page for Remediation (#9)	Organize a structure for a Remediation Lorax page to house all of Rem internal guidance and develop SOP	Brigitte	MPCA	Medium	None	Low	None	Brigitte, all as needed
Brownfield Guidance Updates (#11)	Update RAP guidance and Ph. I and II ESA guidance, and finish guidance on development at or near dumps	Jessie	MPCA	Low	Low	Low	Low	3 subgroups already created*
Offsite Reuse of Fill Guidance Updates (#12)	Review and update documents describing the offsite reuse of fill	Amy	MPCA	Low	Low	None	None	Separate team already created*

Delivered or coming soon

***New**

**Made divisional

Update

Highlighting today (me)

Highlighting today (later presenters)

- Divisional
  - **Remediation Division General Policy***
  - **Typical contaminants based on site use and processes***
  - Remediation Division Methane Guidance (replaced older landfill gas guidance)
  - Green and Sustainable Remediation**
  - Spatial data collection at Remediation Division sites**
  - **Surface Water and Sediment Evaluation at Remediation Sites***
  - **Remediation Division IC Guidance* (from EC guidance but overhauled)**
  - Best management practices for the offsite reuse of unregulated fill**
  - Revised Remediation Web Pages
  - **PFAS Guidance***
- Petroleum
  - **Evaluation of total Petroleum Hydrocarbons in Drinking Water***
  - **Application for Construction and Operation of Petroleum-Contaminated Soil Composting Site***
  - **Request to Compost Petroleum-Contaminated Soil***
  - **Monitoring Results for Composed Petroleum-Contaminated Soil***
  - **Investigation Requirements for Fuel Releases Containing Lead Scavengers***
  - **Treatment and Disposal of Petroleum Contaminated Soil*** (reorganized and streamlined, ate some older docs)
  - Excavation of Petroleum-Contaminated Soil
  - Application for a Petroleum-Contaminated Soil Land Treatment Site
  - Request to Land Treat Petroleum-Contaminated Soil
  - Notification of Spreading Petroleum-Contaminated Soil
  - Soil Monitoring Results for Land Treated Petroleum-Contaminated Soil
  - PRP General Policy
  - You as a RP in the PRP
  - Petroleum Tank Release Follow-Up Notification
  - Soil and Groundwater Assessments Performed During Site Investigations
  - Vapor Intrusion Assessments Performed During Site Investigations
  - Risk Evaluation and Site Management Decisions at Petroleum Release Sites
  - Soil Sample Collection and Analysis Procedures
  - Groundwater Sample Collection and Analysis Procedures
  - Assessment of Sensitive Groundwater Conditions
- Brownfields
  - **Buying and Selling Contaminated property in Minnesota***
  - **Phase I ESA Guidance***
  - RAP Guidance
  - **BMPs for Developing on or Near Former Dumps***
- MERLA
  - **MERLA Remediation Process and RBSE Guidance*** (big overhaul, combined)
  - Superfund Fact Sheet
  - **Superfund vs VIC Fact Sheet***
  - Natural attenuation of chlorinated solvents in groundwater guidance
- Internal
  - **Remediation Guidance and Web Content O&M SOP***
  - Updated intranet page for Remediation

<u>Coming soon</u>

- MERLA Soil Investigation Guidance
- MERLA Groundwater Investigation Guidance
- Property Use Guidance*
- Brownfields Phase II ESA Guidance*
- Vapor

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PRP has also updated the following guidance documents:

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- You as a responsible party in the PRP (c-prp1-04)
- 2-08 Petroleum tank release follow-up notification (c-prp2-08)
- 3-01 Excavation of petroleum-contaminated soil (c-prp3-01)
- 3-04 Application for a petroleum-contaminated soil land treatment site (c-prp3-04)
- 3-05 Request to land treat petroleum-contaminated soil (c-prp3-05)
- 3-06 Notification of spreading petroleum-contaminated soil (c-prp3-06)
- 3-07 Soil monitoring results for land treated petroleum-contaminated soil (c-prp3-07)
- 4-01 Soil and groundwater assessments performed during site investigations (c-prp4-01)
- 4-01a Vapor intrusion assessments performed during site investigations (c-prp4-01a)
- 4-02 Risk evaluation and site management decision at petroleum release sites (c-prp4-02)
- 4-04 Soil sample collection and analysis procedures (c-prp4-04)
- 4-05 Groundwater sample collection and analysis procedures (c-prp4-05)
- 4-18 Assessment of sensitive groundwater conditions (c-prp4-18)

And published brand new guidance documents:

- 3-03 Treatment and disposal of petroleum-contaminated soil (c-prp3-03)
- 3-18 Application for construction and operation of petroleum-contaminated soil composting site (c-prp3-18)
- 3-19 Request to compost petroleum-contaminated soil (c-prp3-19)
- 3-20 Monitoring results for composted petroleum-contaminated soil (c-prp3-20
- 4-23 Investigation requirements for fuel releases containing lead scavengers (

These guidance updates are in effect as of today. See below for specific details on ea

For questions please contact your site Project Manager, Wesley Knox (wesley.knox@ 651-757-2322) or Chris McLain (chris.mclain@state.mn.us, 651-757-26562).

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Link to guidance

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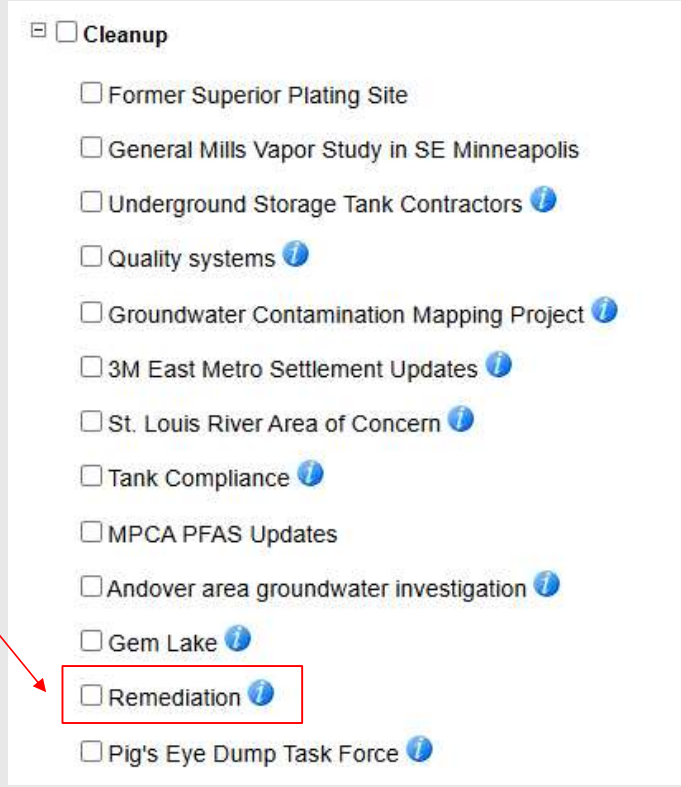
GovDelivery

- https://www.pca.state.mn.us/



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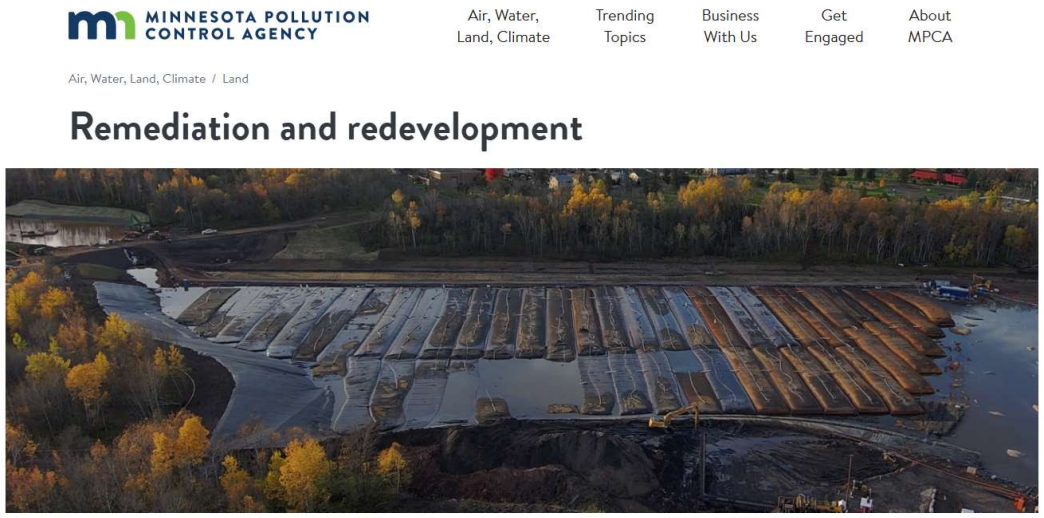
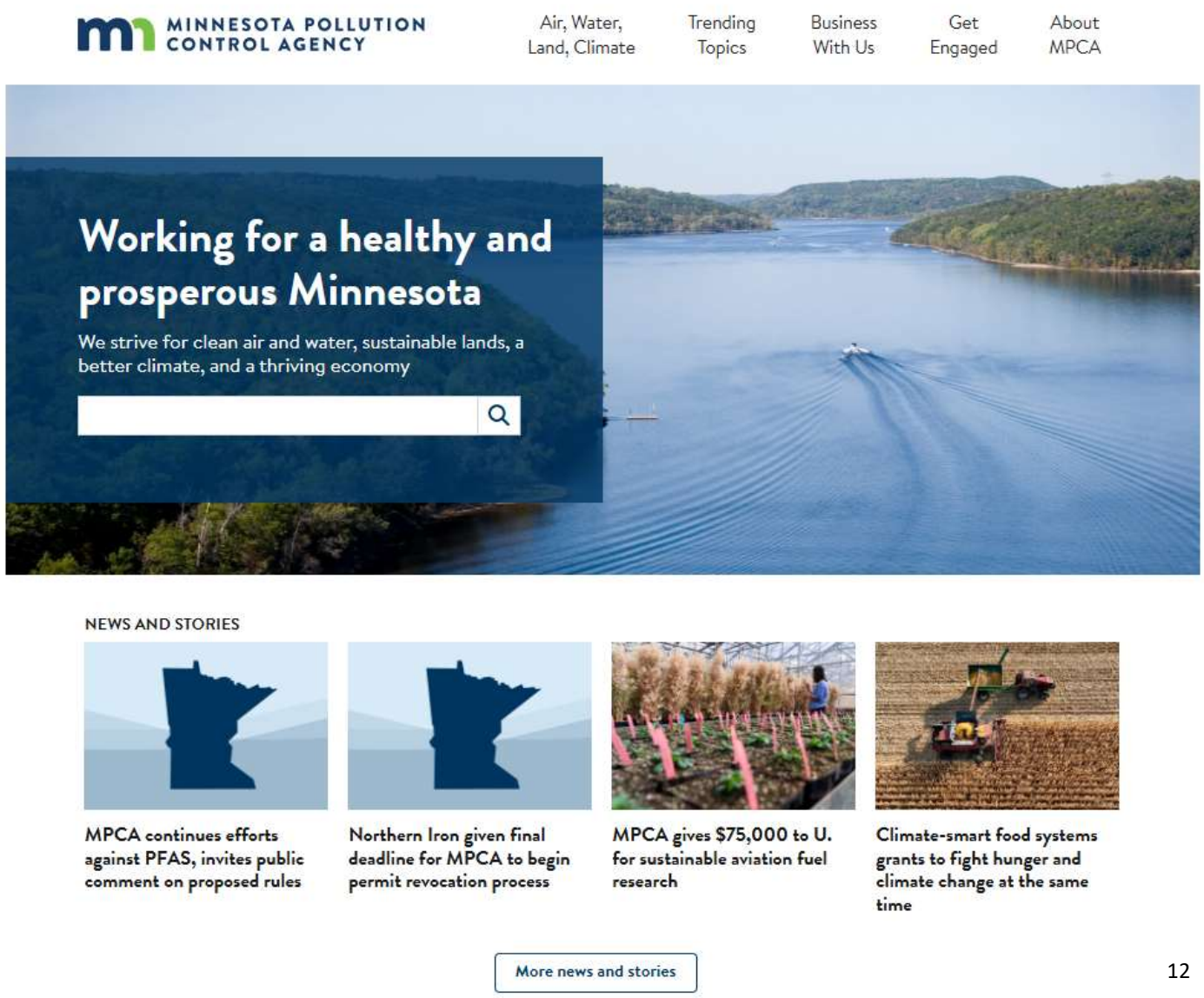
Link to guidance



Website Updates

www.pca.state.mn.us

Navigating to Remediation & Redevelopment website

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Air pollutants
Air quality initiatives
Air quality trends and data
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Water quality initiatives
Water quality trends and data
Land
Land quality
Remediation and redevelopment
Waste planning and recycling
Land contaminants
Land and waste trends and data
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Water pollutants
Water quality initiatives
Water quality trends and data
Land
Land quality
Remediation and redevelopment
Waste planning and recycling
Land contaminants
Land and waste trends and data
Climate
Climate impacts
Climate initiatives
Climate adaptation
Climate trends and data

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Remediation and redevelopment

LAND

Land quality

Remediation and redevelopment

Minnesota Superfund sites

Petroleum remediation

Brownfields in your community

Minnesota laws authorize the MPCA to oversee spilled, leaked, or otherwise released petroleum and hazardous substances, pollutants, or contaminants. These releases can contaminate soils, surface water, sediment, and groundwater. Certain types of chemical releases can also produce vapors that can migrate to nearby homes and business and potentially create a health risk to building occupants. Other types of contamination, such as agricultural chemicals and nuclear waste, are addressed by other state agencies.

Remediation Division programs and initiatives oversee the identification, investigation, cleanup, and redevelopment of sites where contamination exists or may exist with the goal of protecting human health and the environment.

- **Petroleum Contamination**
  Minn. Stat. Ch. 115C

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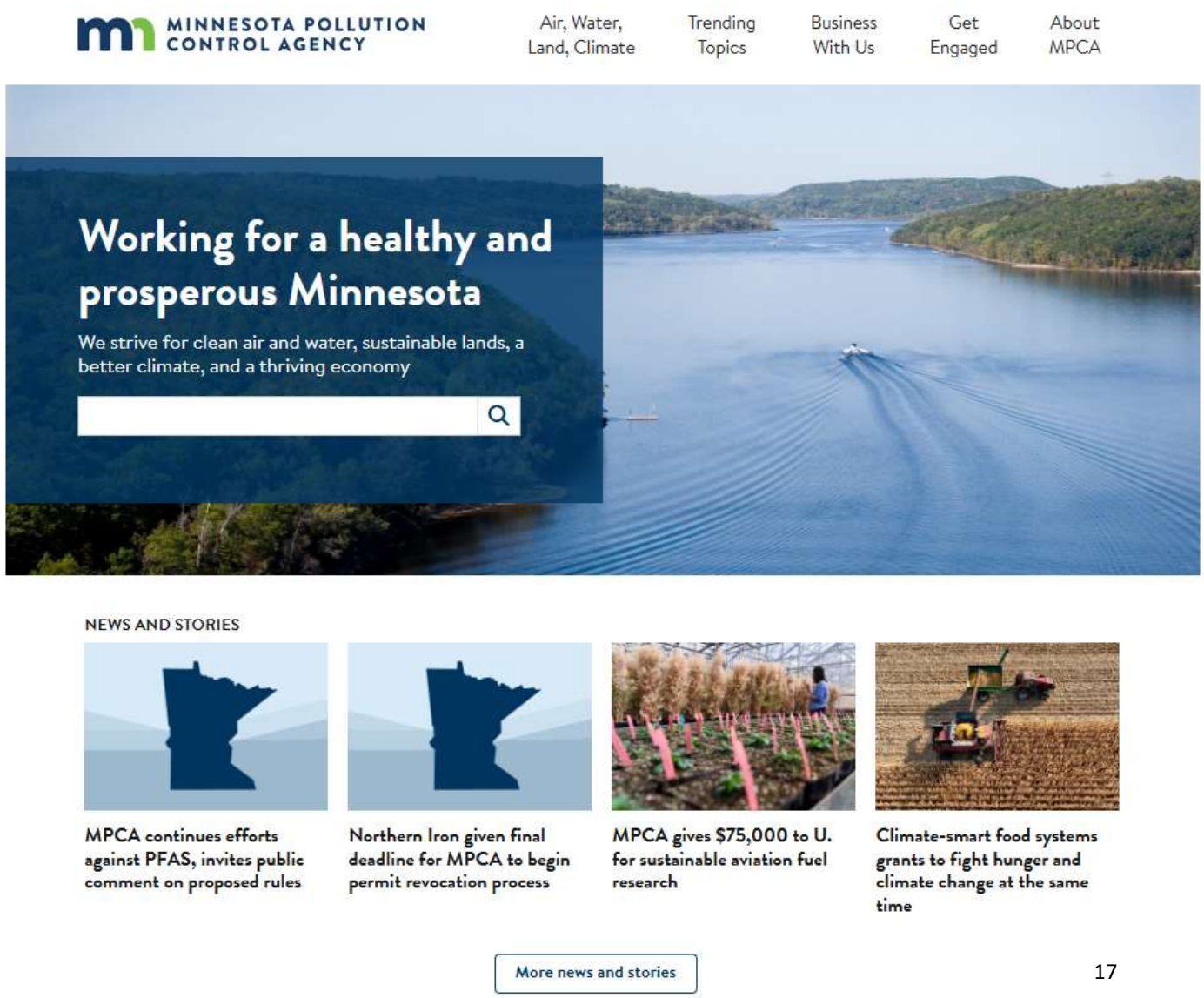
- **Petroleum Contamination**
  Minn. Stat. Ch. 115C
  Petroleum tank release cleanup act (Petrofund)
  - Petroleum Remediation Program (PRP)
  - Petroleum Brownfields
- **Hazardous Substances, Pollutants and Contaminants**
  Minn. Stat. Ch. 115B
  Minnesota Environmental Response and Liability Act (MERLA)
  - Brownfields - Voluntary Investigation and Cleanup (VIC)
  - Site Assessment
  - Superfund
  - Closed Landfill Program (CLP)
  - RCRA

The remediation process

A site enters one of the programs in the Remediation Division after contamination is discovered and any emergency conditions are addressed under the oversight of the MPCA's Emergency response program. Sites may enter remediation programs via voluntary enrollment using MPCA's e-services or may be

Navigating to Remediation Guidance Resources website

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Watershed information
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Sustainable government purchasing
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GreenStep Cities
Eco Experience at the Minnesota State Fair

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Grants, loans, and contracts

Small business environmental

Remediation programs at the MPCA protect human health and the environment by overseeing the investigation and response to releases of petroleum and hazardous substances, pollutants or contaminants. These programs follow a process outlined in the Remediation Programs General Policy.

Ideas and suggestions

We welcome your ideas and suggestions for improvements or additions

Remediation programs at the MPCA protect human health and the environment by overseeing the investigation and response to releases of petroleum and hazardous substances, pollutants or contaminants. These programs follow a process outlined in the Remediation Programs General Policy.

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Email us

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- **Petroleum contamination**
  Minn. Stat. Ch. 115C
  Petroleum tank release cleanup act (Petrofund)
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  - Petroleum Brownfields
- **Hazardous substances, pollutants and contaminants**
  Minn. Stat. Ch. 115B
  Minnesota Environmental Response and Liability Act (MERLA)
  - Brownfields - Voluntary Investigation and Cleanup (VIC)
  - Site Assessment
  - Superfund
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  - RCRA

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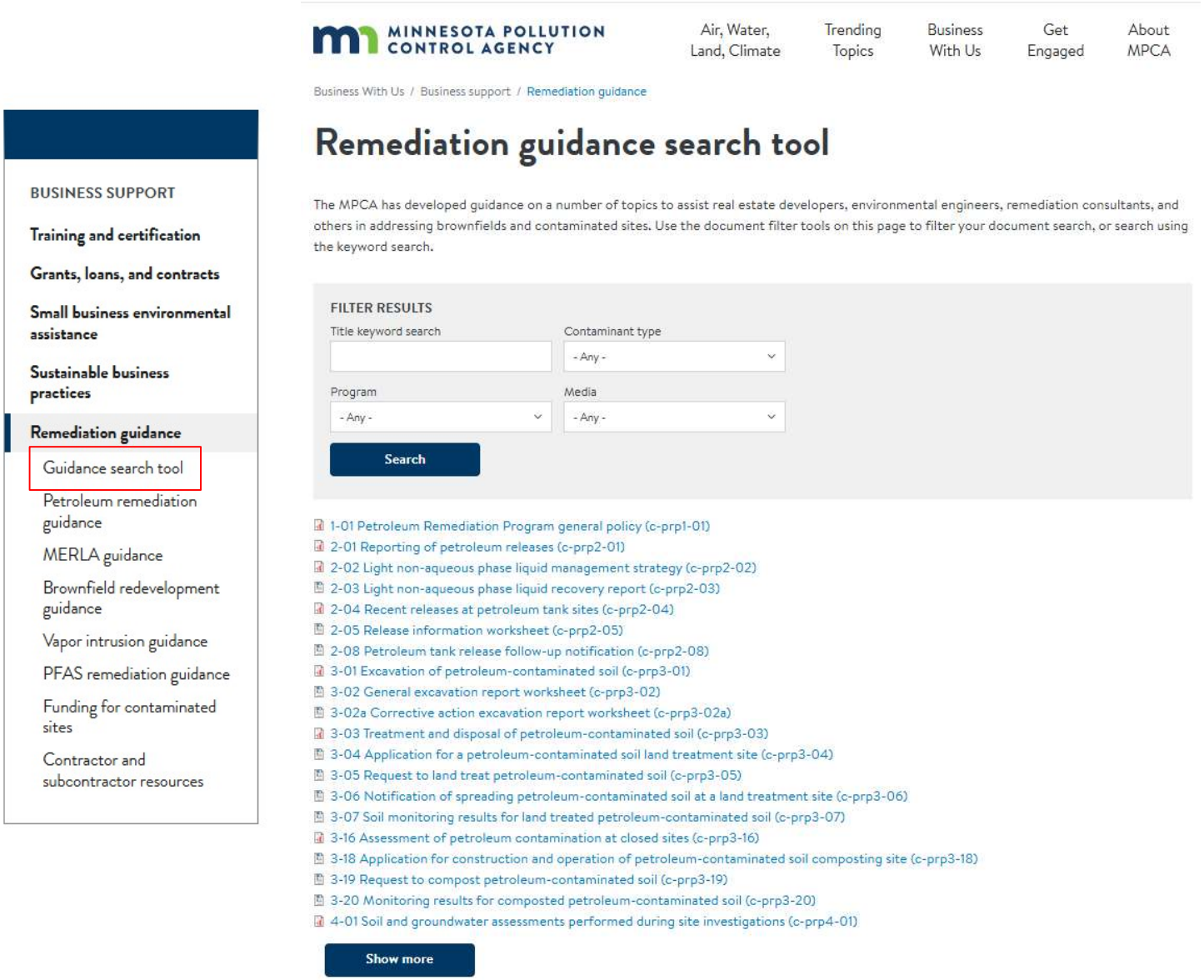
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Sustainable business practices
Remediation guidance
Guidance search tool
Petroleum remediation guidance
MERLA guidance
Brownfield redevelopment guidance
Vapor intrusion guidance
PFAS remediation guidance
Funding for contaminated sites
Contractor and subcontractor resources
Remediation guidance search tool
The MPCA has developed guidance on a number of topics to assist real estate developers, environmental engineers, remediation consultants, and others in addressing brownfields and contaminated sites. Use the document filter tools on this page to filter your document search, or search using the keyword search.
FILTER RESULTS
Title keyword search
Contaminant type
- Any -
Program
- Any -
Media
- Any -
Search
1-01 Petroleum Remediation Program general policy (c-prp1-01)
2-01 Reporting of petroleum releases (c-prp2-01)
2-02 Light non-aqueous phase liquid management strategy (c-prp2-02)
2-03 Light non-aqueous phase liquid recovery report (c-prp2-03)
2-04 Recent releases at petroleum tank sites (c-prp2-04)
2-05 Release information worksheet (c-prp2-05)
2-08 Petroleum tank release follow-up notification (c-prp2-08)
3-01 Excavation of petroleum-contaminated soil (c-prp3-01)
3-02 General excavation report worksheet (c-prp3-02)
3-02a Corrective action excavation report worksheet (c-prp3-02a)
3-03 Treatment and disposal of petroleum-contaminated soil (c-prp3-03)
3-04 Application for a petroleum-contaminated soil land treatment site (c-prp3-04)
3-05 Request to land treat petroleum-contaminated soil (c-prp3-05)
3-06 Notification of spreading petroleum-contaminated soil at a land treatment site (c-prp3-06)
3-07 Soil monitoring results for land treated petroleum-contaminated soil (c-prp3-07)
3-16 Assessment of petroleum contamination at closed sites (c-prp3-16)
3-18 Application for construction and operation of petroleum-contaminated soil composting site (c-prp3-18)
3-19 Request to compost petroleum-contaminated soil (c-prp3-19)
3-20 Monitoring results for composted petroleum-contaminated soil (c-prp3-20)
4-01 Soil and groundwater assessments performed during site investigations (c-prp4-01)
Show more

BUSINESS SUPPORT

Training and certification

Grants, loans, and contracts

Small business environmental assistance

Sustainable business practices

Remediation guidance

- Guidance search tool
- Petroleum remediation guidance
- MERLA guidance
- Brownfield redevelopment guidance
- Vapor intrusion guidance
- PFAS remediation guidance
- Funding for contaminated sites
- Contractor and subcontractor resources

Remediation programs at the MPCA protect human health and the environment by overseeing the investigation and response to releases of petroleum and hazardous substances, pollutants or contaminants. These programs follow a process outlined in the Remediation Programs General Policy.

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  - Site Assessment
  - Superfund
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MINNESOTA POLLUTION CONTROL AGENCY

Guidance Highlights

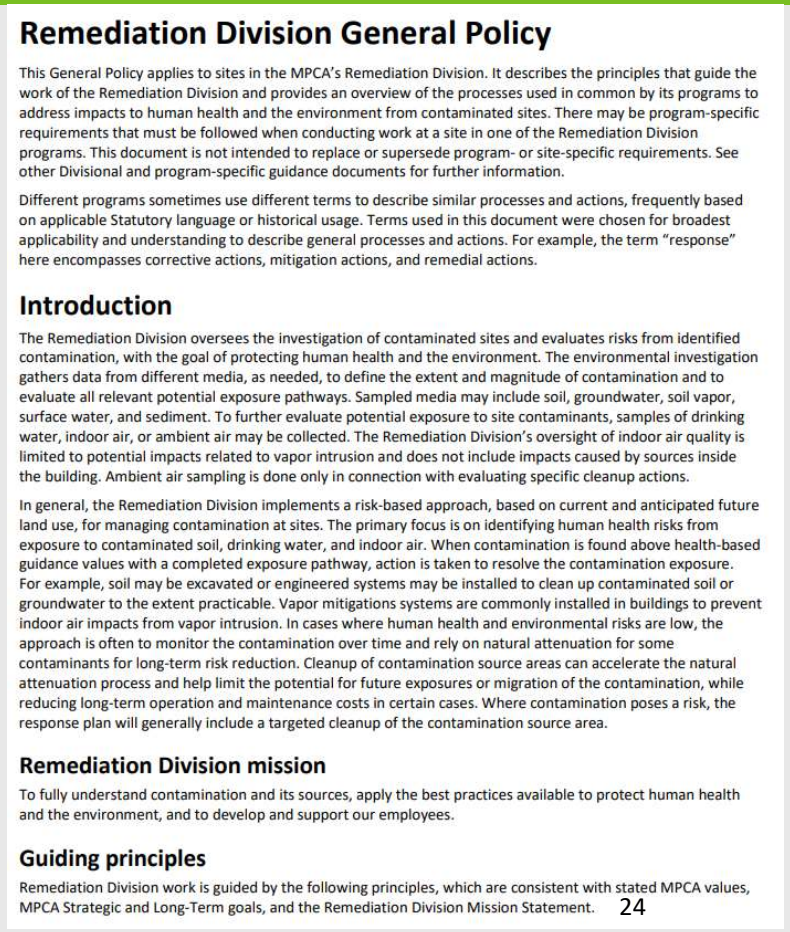
Remediation Division General Policy

c-rem2-03

Remediation Division mission: To fully understand contamination and its sources, apply the best practices available to protect human health and the environment, and to develop and support our employees.

Guiding principles:

- Risk-Based Decisions based on Data
  - Data, along with risk-based human health and ecological guidance values, inform mitigation and response decisions to address human health and environmental risks.
- Program Operation
  - Clear and predictable processes, consistency of decisions, and documentation of actions and decisions are important for effective program operation.
- Meaningful Stakeholder Involvement
  - We strive to facilitate involvement of those potentially affected by investigation and responses, to ensure people have an opportunity to participate in decisions that may affect them.
- Environmental Justice
  - We recognize the disproportionate impacts of pollution on people with low income and communities of color, and we prioritize work on sites located in these communities.
- Climate Change
  - We act on opportunities in our work to help increase the resiliency of communities and the environment to the impacts of climate change.



Remediation Division General Policy

This General Policy applies to sites in the MPCA's Remediation Division. It describes the principles that guide the work of the Remediation Division and provides an overview of the processes used in common by its programs to address impacts to human health and the environment from contaminated sites. There may be program-specific requirements that must be followed when conducting work at a site in one of the Remediation Division programs. This document is not intended to replace or supersede program- or site-specific requirements. See other Divisional and program-specific guidance documents for further information.

Different programs sometimes use different terms to describe similar processes and actions, frequently based on applicable Statutory language or historical usage. Terms used in this document were chosen for broadest applicability and understanding to describe general processes and actions. For example, the term "response" here encompasses corrective actions, mitigation actions, and remedial actions.

Introduction

The Remediation Division oversees the investigation of contaminated sites and evaluates risks from identified contamination, with the goal of protecting human health and the environment. The environmental investigation gathers data from different media, as needed, to define the extent and magnitude of contamination and to evaluate all relevant potential exposure pathways. Sampled media may include soil, groundwater, soil vapor, surface water, and sediment. To further evaluate potential exposure to site contaminants, samples of drinking water, indoor air, or ambient air may be collected. The Remediation Division's oversight of indoor air quality is limited to potential impacts related to vapor intrusion and does not include impacts caused by sources inside the building. Ambient air sampling is done only in connection with evaluating specific cleanup actions.

In general, the Remediation Division implements a risk-based approach, based on current and anticipated future land use, for managing contamination at sites. The primary focus is on identifying human health risks from exposure to contaminated soil, drinking water, and indoor air. When contamination is found above health-based guidance values with a completed exposure pathway, action is taken to resolve the contamination exposure. For example, soil may be excavated or engineered systems may be installed to clean up contaminated soil or groundwater to the extent practicable. Vapor mitigations systems are commonly installed in buildings to prevent indoor air impacts from vapor intrusion. In cases where human health and environmental risks are low, the approach is often to monitor the contamination over time and rely on natural attenuation for some contaminants for long-term risk reduction. Cleanup of contamination source areas can accelerate the natural attenuation process and help limit the potential for future exposures or migration of the contamination, while reducing long-term operation and maintenance costs in certain cases. Where contamination poses a risk, the response plan will generally include a targeted cleanup of the contamination source area.

Remediation Division mission

To fully understand contamination and its sources, apply the best practices available to protect human health and the environment, and to develop and support our employees.

Guiding principles

Remediation Division work is guided by the following principles, which are consistent with stated MPCA values, MPCA Strategic and Long-Term goals, and the Remediation Division Mission Statement.

MPCA's remediation process

Pre-investigation activities

- Could include desktop review or Phase I ESA.
- Complete or continue any necessary immediate and expedited actions.
  - Sample high risk receptors.
- Identify receptors
- Complete preliminary conceptual site model (CSM) and identify data gaps.
  - May include some preliminary sampling.

Site investigation

- Also known as: remedial investigation, Phase II ESA.
- Define extent and magnitude of contamination.
- Perform risk assessment for all media.
- Fill in data gaps and complete a CSM sufficient for making a site decision.

Site management decision

- Use CSM to determine next steps:
  - Response, OR
  - Additional investigation or monitoring, OR
  - Site closure.
- If a response is needed, set response goals and choose a response to meet them.
  - May include a feasibility study to evaluate potential responses.

Response implementation

- Design and implementation response.
- Conduct post-implementation activities, such as monitoring and/or response verification.
  - Operate and maintain long-term responses.
- Response is complete when response goals are met and no additional response is required based on current conditions.

Site closure and stewardship

- Also known as: No action, no further action.
- Site remains in closure unless changing conditions (such as a change in land use or risk information, or new site data) necessitate re-opening the site.
- Some sites may have institutional controls and/or ongoing operation and maintenance requirements even after closure.

Typical Contaminants based on Site Use and Processes

c-rem3-35

Typical contaminants based on site use and processes

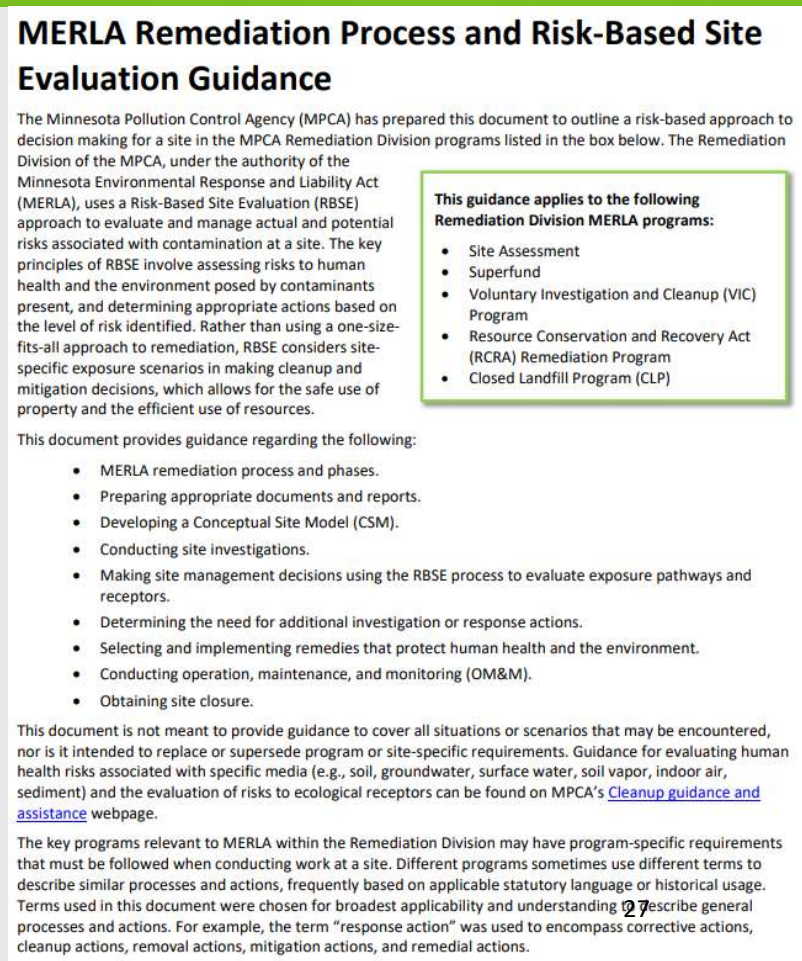
A site's current and historical use of chemicals of potential concern (COPCs) and the proximity to other off-site COPC sources should be evaluated to scope site investigation activities and aid in preparation of work plans and sampling and analysis plans. Examples of common site uses and related categories of COPCs are provided in the table below. Note that site use and processes include all activities that occurred at the site and could include everything from known industrial site classifications (e.g., site classifications under NAICS/SIC) to one-off site activities/releases. The table is not intended to be all inclusive, and it may not be relevant for every site. The U.S. Environmental Protection Agency (EPA) also maintains a list of Typical Wastes Generated by Industry Sectors which is another excellent source for identifying COPCs.

Site use and processes	VOCs	SVOCs	PAHs	GRO, DRO, Fuel Oil, TPH	Pesticides	Metals and metalloids	Cyanide	PCBs	PCP	PFAS	Selenium/Molybdenum	Explosives/Propellant	Dioxin/Furans	Asbestos/ACM	Corrosives/pH	Nitrates and Perchlorate
Agricultural	Please contact the Minnesota Department of Agriculture															
Adhesives	x	x	x			x				x						
Ash and slag disposal			x			x				x			x			
Asphalt plant, disposal			x					x								
Autobody shop	x	x	x	x		x				x						
Aviation and aerospace manufacturing	x	x		x		x				x					x	
Battery recycling and disposal						x				x					x	
Cement plants	x		x			x		x		x				x	x	
Ceramics works						x							x	x		
Chemical and dye manufacturing/recycling	x	x				x		x		x						

MERLA Remediation Process and RBSE Guidance

c-rem3-33

- This used to be risk-based site evaluation and remedy selection sections of "the old Draft 1998 superfund guidance"
- Overall content is not new
- Understand that some MERLA programs might have additional or more specific guidance – e.g., VIC Phase I Guidance
- Follows the remediation process structure that the General Policy defined, with an intro covering MERLA and statutory authority
- Tie in EPA's framework for developing and updating CSMs
- Beefy references section – EPA, ITRC, etc. resources



MERLA Remediation Process and Risk-Based Site Evaluation Guidance

The Minnesota Pollution Control Agency (MPCA) has prepared this document to outline a risk-based approach to decision making for a site in the MPCA Remediation Division programs listed in the box below. The Remediation Division of the MPCA, under the authority of the Minnesota Environmental Response and Liability Act (MERLA), uses a Risk-Based Site Evaluation (RBSE) approach to evaluate and manage actual and potential risks associated with contamination at a site. The key principles of RBSE involve assessing risks to human health and the environment posed by contaminants present, and determining appropriate actions based on the level of risk identified. Rather than using a one-size-fits-all approach to remediation, RBSE considers site-specific exposure scenarios in making cleanup and mitigation decisions, which allows for the safe use of property and the efficient use of resources.

This guidance applies to the following Remediation Division MERLA programs:

- Site Assessment
- Superfund
- Voluntary Investigation and Cleanup (VIC) Program
- Resource Conservation and Recovery Act (RCRA) Remediation Program
- Closed Landfill Program (CLP)

This document provides guidance regarding the following:

- MERLA remediation process and phases.
- Preparing appropriate documents and reports.
- Developing a Conceptual Site Model (CSM).
- Conducting site investigations.
- Making site management decisions using the RBSE process to evaluate exposure pathways and receptors.
- Determining the need for additional investigation or response actions.
- Selecting and implementing remedies that protect human health and the environment.
- Conducting operation, maintenance, and monitoring (OM&M).
- Obtaining site closure.

This document is not meant to provide guidance to cover all situations or scenarios that may be encountered, nor is it intended to replace or supersede program or site-specific requirements. Guidance for evaluating human health risks associated with specific media (e.g., soil, groundwater, surface water, soil vapor, indoor air, sediment) and the evaluation of risks to ecological receptors can be found on MPCA's Cleanup guidance and assistance webpage.

The key programs relevant to MERLA within the Remediation Division may have program-specific requirements that must be followed when conducting work at a site. Different programs sometimes use different terms to describe similar processes and actions, frequently based on applicable statutory language or historical usage. Terms used in this document were chosen for broadest applicability and understanding to describe general processes and actions. For example, the term "response action" was used to encompass corrective actions, cleanup actions, removal actions, mitigation actions, and remedial actions.

Appendix A. Typical Reporting Documents per Remediation Phase

Federal Remediation Process	Federal Superfund Program (CERCLA)	RCRA Remediation Program
Site Assessment	•Preliminary Assessment/Site Inspection •*NPL Site Listing** •*No Further Remedial Actions Planned (NFRAP)**	•RCRA Facility Assessment (RFA)
Site Characterization	•Remedial Investigation/ Feasibility Study	•RCRA Facility Investigation (RFI) •Corrective Measures Study (CMS)
Remedy Decisions	•Proposed Plan •Record of Decision	•Statement of Basis •Final Decision and Response to Comments
Remedial Design/Remedial Action	•Design documents and work plans •Remedial Action Implementation Report •Construction Completion Report •Monitoring and Verification Reports	•Corrective Measures Implementation (CMI) Report
Post-Construction Completion	•Closure Memorandum •Deletion *from NPL**	•RCRA Corrective Action Completion Determination

MERLA Remediation Phase	Site Assessment	Superfund	VIC
Pre-Investigation	•Site Summary Report •Investigation Summary Report •*Listing on PLP*** •*Enrollment in Superfund***	•Phase I Environmental Site Assessment (ESA) •*Listing on PLP*** •*Enrollment in Superfund**	•Phase I ESA
Site Investigation		•Phase II ESA •Remedial Investigation (RI)	•Phase II ESA
Site Management Decision		•Feasibility Study (FS) •Remedial/Response Action Plan (RAP) •Minnesota Decision Document (MDD) •Remedial Design •Construction Contingency Plan (CCP)	•RAP/CCP
Response Action Implementation	N/A	•RAP Implementation Report •Operation, Maintenance, & Monitoring (OM&M) Plan •OM&M Report	•RAP Implementation Report •OM&M Plan •OM&M Report
Site Closure and Stewardship	•Site Assessment Risk-Based Closure Form	•No Action (NA) / No Further Action (NFA) Letter •*Delisting from PLP**	•Various assurance letters for closure

** Item is not considered a document, but rather an event.*

***Item is an event that may occur during any remediation phase.*

Figure does not include all potential planning documents that may be required.

Discuss reporting requirements with your MPCA project manager to clarify what is required for a particular site.

MERLA Fact Sheet: Superfund vs. Voluntary Investigation and Cleanup (VIC) Programs c-rem1-29

Minnesota's Superfund Program Fact Sheet c-s1-00

Minnesota's Superfund Program

Minnesota Legislature passed the **Minnesota Environmental Response and Liability Act (MERLA)**, Minn. Stat. 115B, also known as Minnesota's Superfund Law, in 1983. This fact sheet provides a general overview of how the MPCA implements this law through the state Superfund program.

MERLA provides broad state authority to investigate, identify, evaluate, mitigate, and/or clean up (or direct the cleanup of) releases or threatened releases of hazardous substances, or pollutants or contaminants which pose a risk or potential risk to human health and the environment.

Although MERLA is a "polluter pays" law, Minn. Stat. 116.155 **establishes a state Remediation Fund** for MPCA and the Minnesota Department of Agriculture to use to investigate and cleanup releases or threatened releases of hazardous substances, pollutants or contaminants, and agricultural chemicals and for administrative costs associated with those programs when a legally defined Responsible Party (RP) is not able or willing to take appropriate action, or if a RP no longer exists or is unknown. See MPCA's Superfund sites webpage for more info.

Why was Superfund created?

The U.S. Congress enacted the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in 1980 to provide investigation and remediation authorities to address contaminated sites. Among its many features, CERCLA required states that used federal Superfund dollars to finance ten percent of investigation and cleanup costs.

MERLA was enacted in 1983 to fulfill its financial commitment and compliment CERLCA, establishing the state Superfund program and addressing contaminated sites not addressed through CERLCA.

MERLA was later amended to include sections addressing:

- Harmful Substance Compensation (1985)
- Investigation and Cleanup by Voluntary Parties – Land Recycling Act (1992)
- Landfill Cleanup Program (1994)
- Dry Cleaner Environmental Response Law (1995)

Minn. Stat. 115B.20, subd. 6, requires MPCA to submit a Superfund Program Biennial Report to the Legislature identifying activities where MPCA and MDA spent Remediation Fund dollars for Superfund, emergency response, and cooperative cleanup related activities. The report can be found on MPCA's Remediation and redevelopment webpage.

What is the Superfund process?

The Superfund process is a series of steps a site moves through and is triggered when a release or threatened release is identified at a site. Sites can be identified in many ways:

- Local officials, employees, or site neighbors report the possibility of a release on a property.
- Potential buyers, sellers, or developers of a property can discover problems during environmental audits.
- Impacts are detected and traced back to the property, especially if they adversely affected drinking water, indoor air, or surface water.
- Property owners or operators discover unexpected releases during construction or expansion.
- An emergency (spill, leak, explosion) releases hazardous substances into the environment.

MERLA defines who is legally responsible to investigate and cleanup a release or threatened release. **Under MERLA, a Responsible Party (RP) may include but is not limited to:**

- The past and present owners or operators of the facility where a release occurred.
- Persons who owned or possessed the hazardous substance and arranged for the disposal, treatment, or transport of the hazardous substance.
- Persons who knowingly transported or disposed of hazardous substances in a manner contrary to law.
- The generators of wastes that were sent for treatment or disposal at the property.
- See Minn. Stat. 115B.03 for a complete definition of who is legally responsible.

Report spills of any substance under your control immediately!

Call the Minnesota Duty Officer at
800-422-0798 or 651-649-5451 (available 24 hours)

If there is an immediate threat to life or property, call 911 first!

The Minnesota Duty Officer will alert the MPCA and other relevant state agencies.

For more info see Emergency Response webpage:
https://www.pca.state.mn.us/about-mpca/emergency-response

At most Minnesota Superfund sites, RPs conduct investigation and cleanup as a Cooperative Responsible Party (CRP). CRPs work cooperatively with MPCA under Superfund program oversight so that enforcement actions are not required. MPCA bills the CRP for the oversight services, but CRPs generally reduce legal and cleanup costs and may receive a No Action or No Further Action Letter.

To enroll as a Cooperative Responsible Party in Superfund, use MPCA's e-Services.

If RPs are not willing to work with MPCA as a CRP, the MPCA Superfund program will initiate a formal process to direct the investigation and cleanup:

- MPCA sends an **invitation letter** to an unenrolled RP inviting them to enroll as a CRP in Superfund through MPCA's e-services.
- If the RP does not respond or refuses to enroll or cooperate, MPCA sends a **Request for Information (RFI) letter** to the RP. The RFI requests additional site information and activities that occurred at the site.
- MPCA issues a **Commissioner's Notice letter** to the RP outlining why they are considered an RP, along with MPCA's intent to list the site on the Permanent List of Priorities (PLP) and to issue a Request for Response Action (RFRA). The PLP listing is required for MPCA to use state funds to investigate and cleanup the site and recover costs from the RP.
- If the RP still does not enroll, MPCA issues a **Request for Response Action (RFRA)** letter that identifies actions the MPCA requires the RP to take to protect human health and the environment.
- If the RP does not comply with the RFRA, MPCA issues a **Determination of Inadequate Response**.
- MPCA scores the site using the federal Superfund hazard ranking system to assess how much risk it poses to human health or the environment and MPCA places the site on the PLP. If appropriate, refers the site to the U.S. Environmental Protection Agency for listing on the federal National Priorities List.
- MPCA conducts the investigation and cleanup at the site using Remediation Fund dollars. **The MPCA will file cost-recovery actions against unwilling or uncooperative RPs.**

If an RP agrees to undertake the cleanup the MPCA and the RP may enter into a Consent Order, which is a legal agreement that describes actions the RP will take to clean up the site under MPCA oversight.

When can state funds be used for Superfund?

State Remediation Fund dollars are limited by MERLA. In general, funds may be used for:

- Preliminary site investigations.
- Emergency actions, such as providing drinking water or removing contaminants that pose an imminent risk to human health or the environment.
- Investigation and cleanup of sites where the RP is unknown, unable to pay for the necessary work, or unwilling to undertake the work required.
- Matching funds for federal Superfund actions.

What if I am not a Responsible Party?

The Brownfields redevelopment program provides a streamlined investigation and cleanup process for non-RPs willing to work with MPCA as voluntary parties (VPs). VPs may receive liability assurances that may protect them from future cleanup risks.

For more information…

What's in my neighborhood: Search for known contaminated sites (active and completed sites).

Groundwater Contamination Atlas: Find in-depth info for sites with groundwater contamination.

MERLA Fact Sheet: Superfund vs. Voluntary Investigation and Cleanup (VIC) Programs

Investigation and cleanup of contaminated or potentially contaminated sites are handled by the appropriate MPCA program based on the **type of contamination** and if there is a **responsible party** for the release or threatened release.

Contamination is detected, reported to MPCA, and funneled to the appropriate environmental program. The MPCA's **Site Assessment Program** may do further investigation before a site is referred to other programs. **This fact sheet covers hazardous substances, pollutants, and contaminants under Minnesota Environmental Response Liability Act (MERLA) Minn. Stat. § 115B that are funneled to VIC or Superfund programs.** It does not cover Nuclear Regulatory Council, Petroleum Remediation Programs, or Department of Agriculture. Please note that is a summary document that cannot cover all cases or site nuance. Contact MPCA project staff for site specific questions.

VIC Program

The VIC Program is in the Brownfields Section. It's a fee-for-service program for non-responsible parties that provides technical assistance and liability assurance letters under MERLA to promote investigation, cleanup, and redevelopment of property that is contaminated with hazardous substances (i.e., when there is a release).

Voluntary Party (VP)
Applicants to the VIC Program are referred to as voluntary parties because they are **not responsible for the identified contamination** per Minn. Stat. § 115B.03; rather, they voluntarily complete an investigation and cleanup, typically as part of a property transfer, refinancing, or redevelopment project.

Program applicants may include property owners, prospective purchasers, developers, development agencies, lending institutions, nonprofit organizations, and local units of government.

Superfund Program

The Superfund program oversees the investigation and cleanup of sites where contamination by hazardous substances poses an actual or potential threat to public health or the environment, (i.e., when there is a release or threatened release). Superfund requires specific investigation and cleanup processes, designates Responsible Parties as legally responsible for the cleanup, and provide funds for certain types of cleanups under MERLA. At most Minnesota Superfund sites, a responsible party does the investigation and cleanup without requiring the MPCA to take enforcement actions as a cooperative responsible party. Sites listed on the Minnesota Permanent List of Priorities are eligible for state cleanup dollars when there is no RP to pay.

Responsible Party (RP)
A RP is legally responsible for a release or threatened release of hazardous substances, or a pollutant or contaminant, per Minn. Stat. § 115B.03. Release or threatened releases are defined in Minn. Stat. § 115B.02, Subd. 15.

Examples of RPs may include:

- The past and present owners or operators of a property where a release occurs;
- Persons who owned or possessed the hazardous substance and arranged for the disposal, treatment, or transport of the hazardous substance;
- Persons who knowingly transported or disposed of hazardous substances in a manner contrary to law; and
- The generators of wastes that were sent for treatment or disposal at the property.
- See Minn. Stat. § 115B.03 for a complete definition of who is legally responsible person aka a responsible party.

Thank you!

Brigitte Hay

Brigitte.hay@state.mn.us

MINNESOTA POLLUTION CONTROL AGENCY

Questions?

Brigitte Hay

Brigitte.hay@state.mn.us

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Superfund

Samantha Adams | Superfund Remedial Section Manager

April 29, 2025

Introduction

Samantha Adams
Superfund Remedial Section Manager
Remediation Division

Remediation Division

Pam Anderson, Director
Anna Hotz, Assistant Division Director

Brownfields Section

Closed Landfill and Technical Services Section

Petroleum Section

Superfund Remedial Section

Superfund Site Assessment Section

Superfund

The Superfund Program investigates and cleans up sites where hazardous substances have been released and where contamination poses an actual or potential threat to human health or the environment.

Superfund Site Assessment Section

Remediation Division Superfund Site Assessment Section **Elizabeth Kaufenberg, Manager**						
Andri Dahlmeier Supervisor		Corrie Floyd Supervisor		Christopher Goscinak Supervisor		Kelly O'Hara Program Coordinator
East Metro Unit		Site Assessment Unit 1		Site Assessment Unit 2		
Staff: Katy Bock Raj Heck Megan Holthaus Carlee Kjeldahl Lauren Larkin Rebecca Place		Staff: Abbie Bowman (Duluth) Mary Nieting Char Read* Abebe Shumet Kevin Sikkila (Duluth) Zachary Skelly Gregory Small		Staff: Laura Geyen Ericka Jarchow Michelle Oie (Brainerd) Emma O'Leary Sara Rice		

Superfund Remedial Section

Remediation Division Superfund Remedial Section **Samantha Adams, Manager**						
Tim Grape Supervisor		Crague Biglow Supervisor		Thomas Reppe Supervisor		Program Coordinator Jeff Thuma
Superfund Unit 1		Superfund Unit 2		Superfund Unit 3		
Staff: Jennifer Adade (Mankato)* Drew Bahl Brian Davis Samuel Gutierrez Felicia Labuz Yodit Sheido Tewodros Tena		Staff: Daniel Cervin (Duluth) Mark Elliot (Duluth) Christopher Formby Michael Ginsbach Jennifer Haas Brigitte Hay LaRae Lehto (Duluth) Brad Leick (Duluth) Carly Lintner Steve Schoff		Staff: Dan Breneman (Duluth) Sondra Campbell Nick Dufficy Asher Fink (Duluth) Josie Hartung Claire Hinther Barbara Huberty (Duluth) Myah Struck (Duluth)*		

Additional Initiatives:

East Metro/3M PFAS Contamination

St. Louis River Area of Concern

Natural Resource Damage Assessment

Harmful Substance Compensation Program

Thank you again!

Samantha Adams

Samantha.adams@state.mn.us

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Vapor Intrusion Guidance: Updates & Next Steps

Christopher Goscinak | Supervisor – Site Assessment Unit 2

April 29, 2025

Outline

- Existing guidance framework
- Present a few recent developments in the technical and regulatory landscape
- Next steps for MPCA

Existing VI Framework

- MPCA's modern vapor guidance was rolled out in 2015.

- Prompt and effective notifications are needed when indoor air data shows that vapor intrusion may affect the quality of the air people breathe.

- Building mitigation decisions are based on current and future possibilities of a health risk from vapor intrusion.

- Expedited action is needed when the data indicates the potential for a short-term health risk.

- The obligation for addressing the possibility of vapor intrusion into a building and the source of the contamination are different for Superfund responsible parties compared to non-responsible voluntary parties and property owners.

Vapor intrusion guiding principles

These vapor intrusion guiding principles are the basis for the more detailed direction and guidance outlined in the vapor intrusion BMPs.

- Underground chemical vapors can migrate from the source of contamination through the soil and building foundations into indoor air creating a health concern.
- The primary goal of vapor intrusion work is to identify and address potential human health risks.
- Effective public communication is an essential aspect of vapor intrusion work. This includes public awareness of health risks from vapor intrusion, vapor intrusion areas of concern, areas where mitigation has been installed and areas where more testing is needed.
- All people should be given the opportunity to self-identify as a sensitive individual.
- A plan is needed to assure continued operation of mitigation systems until data shows continued
- The obligation for addressing the possibility of vapor intrusion into a building and the source of the contamination are different for Superfund responsible parties compared to non-responsible voluntary parties and property owners.
- A clear and predictable process is important for timely facilitation of property transactions.

ISVs

- Intrusion Screening Values (ISVs) developed in partnership with Minnesota Department of Health.
- ISVs are defined as *"chemical-specific, risk-based inhalation screening criteria for volatile compounds commonly evaluated during vapor intrusion investigations."* Calculated for residential and commercial/industrial exposures.
- Attenuation factor of 0.03 applied to ISVs = "33X ISVs" subsurface screening levels –> Eight! ISVs

	ISVs	EISVs	33X ISVs	33X EISVs
Residential	Res ISVs	Res EISVs	33X Res ISVs	33X Res EISVs
Commercial/ Industrial	Com/Ind ISVs	Com/Ind EISVs	33X Com/Ind ISVs	33X Com/Ind ISVs
General Applicability	Interpreting risk of indoor air results Also used to determine if subsurface risk is present when default AF is not valid	Interpreting need for expedited action of indoor air results	Interpreting subsurface risk of for buildings with valid default AF (e.g., good condition slab, no earthen crawl space)	Interpreting need for expedited action based on subsurface results

Existing VI Framework cont.

BMPs were initially thought of as a three-pronged approach to follow the 'lifecycle' of a vapor intrusion site

Investigation BMPs

(define extent and magnitude, arrive at building mitigation decisions)

Mitigation BMP

(outlines mitigation approaches and performance criteria to verify effectiveness)

Long-term O&M and Decommissioning BMP

(will outline long term operations, maintenance, and monitoring in addition to tackling system decommissioning)

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www.pca.state.mn.us

Vapor communications and public outreach best management practices

Purpose

This best management practices (BMPs) document describes the roles and expectations for communications and public outreach throughout the vapor intrusion evaluation lifecycle (initial investigation, building mitigation decision, mitigation, and long-term operations and maintenance). This BMP was developed with the Minnesota Department of Health (MDH) and includes tools and resources intended to complement the investigation BMPs (*Vapor investigation and mitigation decision BMP* for MERLA sites [c-rem3-06e] and the *Vapor intrusion assessments performed during site investigations* [c-prp4-01a] for PRP sites) and the *Vapor mitigation BMP* (c-rem3-06).

This BMP document applies to the following Minnesota Pollution Control Agency (MPCA) programs:

- Resource Conservation and Recovery Act (RCRA)
- Superfund
- Site Assessment
- Brownfields Program (Voluntary Investigation and Cleanup [VIC] and Petroleum Brownfields)
- Petroleum Remediation Program (PRP)

The primary goal of a vapor intrusion evaluation is to protect the health of building Occupants from indoor air contamination that enters from the vapor intrusion pathway. This document contains three overarching sections regarding communications during the vapor intrusion investigation and mitigation process to achieve this goal:

- Communication responsibilities of the Party Conducting the Investigation and communication responsibilities of the Property Owner
  - The Party Conducting the Investigation must communicate with impacted Property Owners during all stages of a vapor investigation
  - The Property Owner must communicate with Occupants when a potential vapor intrusion risk has been identified
- Communication responsibilities of the current Property Owner to future Property Owners
- MPCA/MDH Involvement in Communication Efforts

The MPCA recommends this BMP be followed even in cases where vapor intrusion evaluations are not presently being conducted under the oversight of one of the above-referenced programs. Early and effective communication among all individuals and organizations involved is an important part of meeting the BMPs, meeting the primary goal of protecting health of building Occupants, and building trust.

Guiding principles of vapor communication and public outreach

All people should be notified when they own or spend significant time in a building with a potential vapor intrusion risk.

Prompt and effective notifications are needed when indoor air data shows that vapor intrusion may affect the quality of the air people breathe.

All people should be given the opportunity to self-identify as a sensitive individual.

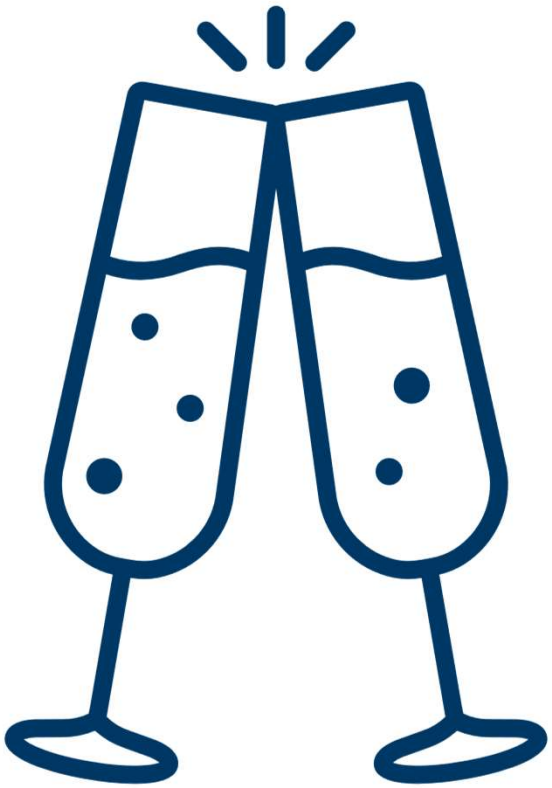
Minnesota Pollution Control Agency
651-296-6300 | 800-657-3864 or use your preferred relay service | Info.pca@state.mn.us

March 2023 | c-rem3-06j
Available in alternative formats

Communication BMP

- VI is fundamentally personal and often necessitates effective communication for project success.
- Proposed updates are in part to better enable practitioners to more effectively communicate VI considerations.

Successes of VI Framework



- Evaluating VI has become widespread in cleanup programs.
  - Building mitigation has resulted in protective measures which has led to a reduction of exposure potential.
  - RBSE has effectively captured present and future risk (e.g., conditions of NADs, affirmative obligations in ICs).
- We now have a 10+ year dataset to inform future programmatic decisions.
  - TCE, PCE, & benzene have and will continue to pose VI risk.

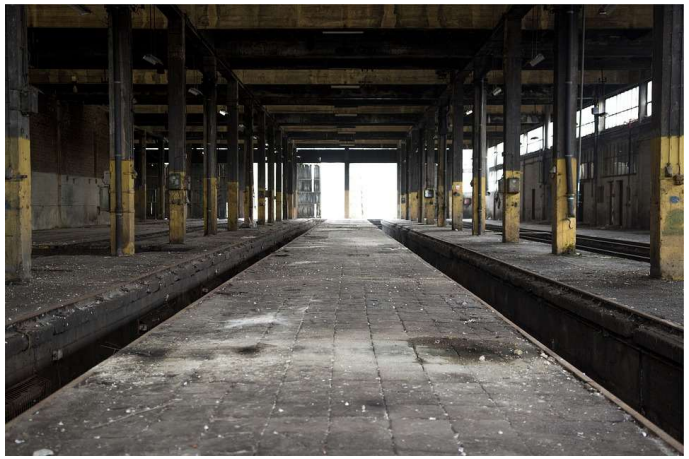
Potential Areas of Improvement

- BMPs are unfinished.
  - Three-legged stool is currently a ladder.
- Terminology/Vocabulary
  - Inconsistent use of several key terms (e.g., equating a building mitigation area to a VIAOC)
- We often do not know if VI is *'on'* or *'off'* during sampling event(s).
  - We understand the general *likelihood* of a potential exposure.
  - Occupants may not appreciate being communicated via likelihoods and often desire to know if there is an exposure condition.
- Questions arise over quality of data.
  - How reliable is the underlying data? Why are compounds present in vapor that are not in found in soil and/or groundwater?

Recent Developments in the VI Landscape

1. Use of multiple default attenuation factors.
2. VI Variability.
3. Greater focus on preferential pathways.
4. Greater need for more timely indoor air data.

Attenuation Factor



Definition of Attenuation Factor (AF)

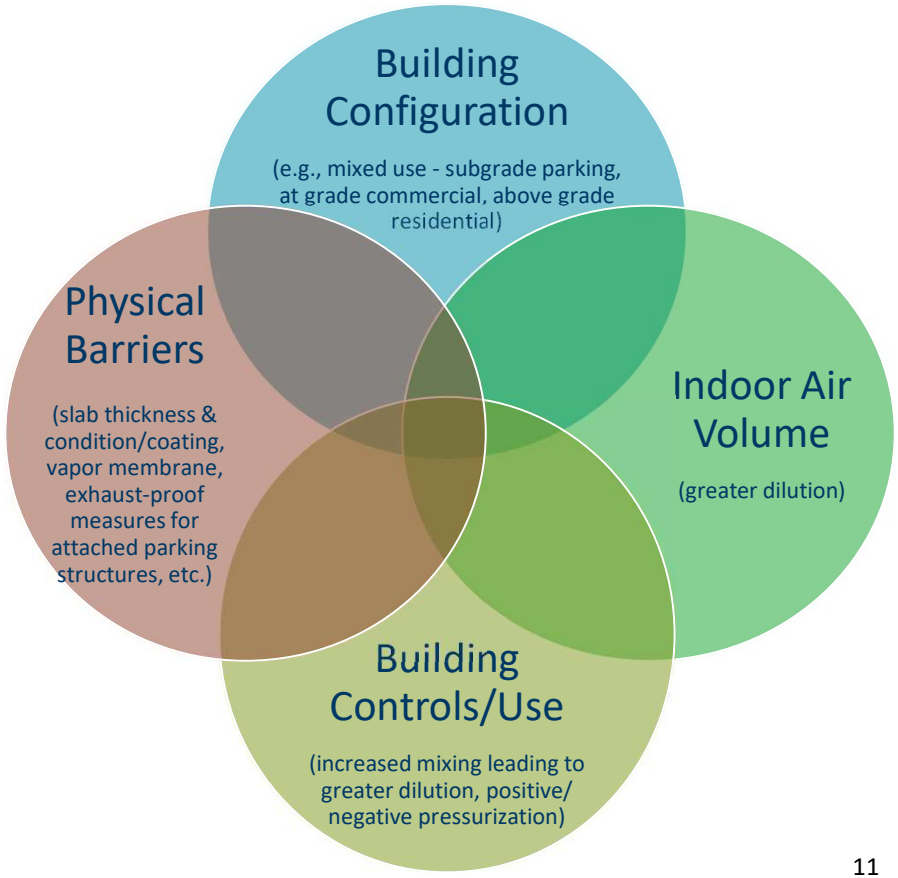
"Vapor attenuation refers to the reduction in volatile chemical concentrations that occurs during vapor migration in the subsurface, coupled with the dilution that can occur when the vapors enter a building and mix with indoor air (Johnson and Ettinger 1991).The aggregate effect of these physical and chemical attenuation mechanisms can be quantified through the use of a vapor intrusion attenuation factor..." (EPA VI Guidance, 2015)

8.6 VAPOR ATTENUATION FACTOR (AF)

The vapor AF is a unitless empirical ratio of indoor air contaminant concentration to subsurface (sub-slab) contaminant concentration. It is defined as the indoor air contaminant concentration divided by the contaminant concentration in either soil gas or sub-slab. The soil gas equation is as follows:

$$AF = C_{indoor\ air} \div C_{subsurface}$$

(EPA Region V VI Handbook, 2020)



Common AF values

Common AF values

Resulting Subsurface Action Level (µg/m3)

	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE
Res	2,100	3,400	210	340	70	110	2.1	3.4
Com/Ind	7,000	33,000	700	3,300	230	1,100	7.0	33

Least Conservative

VI results in indoor air at 0.1% of subsurface concentrations

VI results in indoor air at 1% of subsurface concentrations

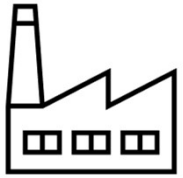
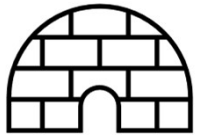
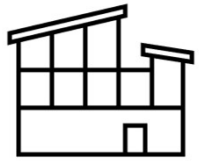
VI results in indoor air at 3% of subsurface concentrations

Most Conservative

VI results in indoor air at 100% of subsurface concentrations

Where might we modify default AFs?



	Large New Schools	Single Family Residential	Mixed Use Commercial/ Residential	Industrial	Warehouses/ Large Open Buildings (Airplane Hangers)	Buildings with Parking Garages
Considerations	Often are positively pressurized	Current approach is calculated based on residential data	Separate levels to residential receptors, often commercial at grade	Thicker slabs, increased air volume	Increased air volume – Potential candidate for site-specific AF	Thinker slab, increased ventilation, often sub-grade is not continually occupied
Modify AF?	Yes/Maybe?	No	Yes?	Yes/Maybe?	Yes?	Yes?

VI Variability

- Goal of VI is identify and address potential human health risks. Therefore, we need to understand how vapors enter buildings.

- Continuous monitoring demonstrates the amount of vapors intruding into buildings:
  - Vary in duration.
  - Vary in magnitude.

- Resulting influence on VI frameworks:
  - May be helpful to think of VI as being *on* or *off*.
  - Randomly-timed grab samples may not fully capture exposure risk.

VI Variability

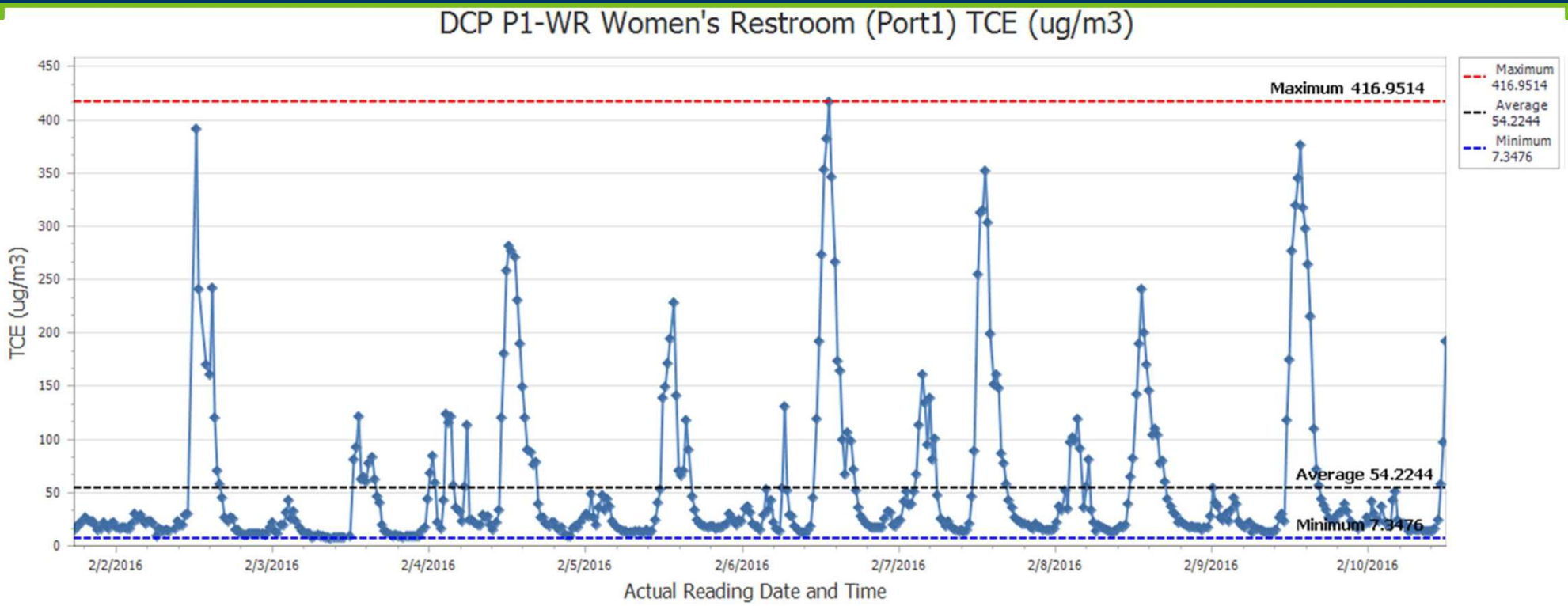


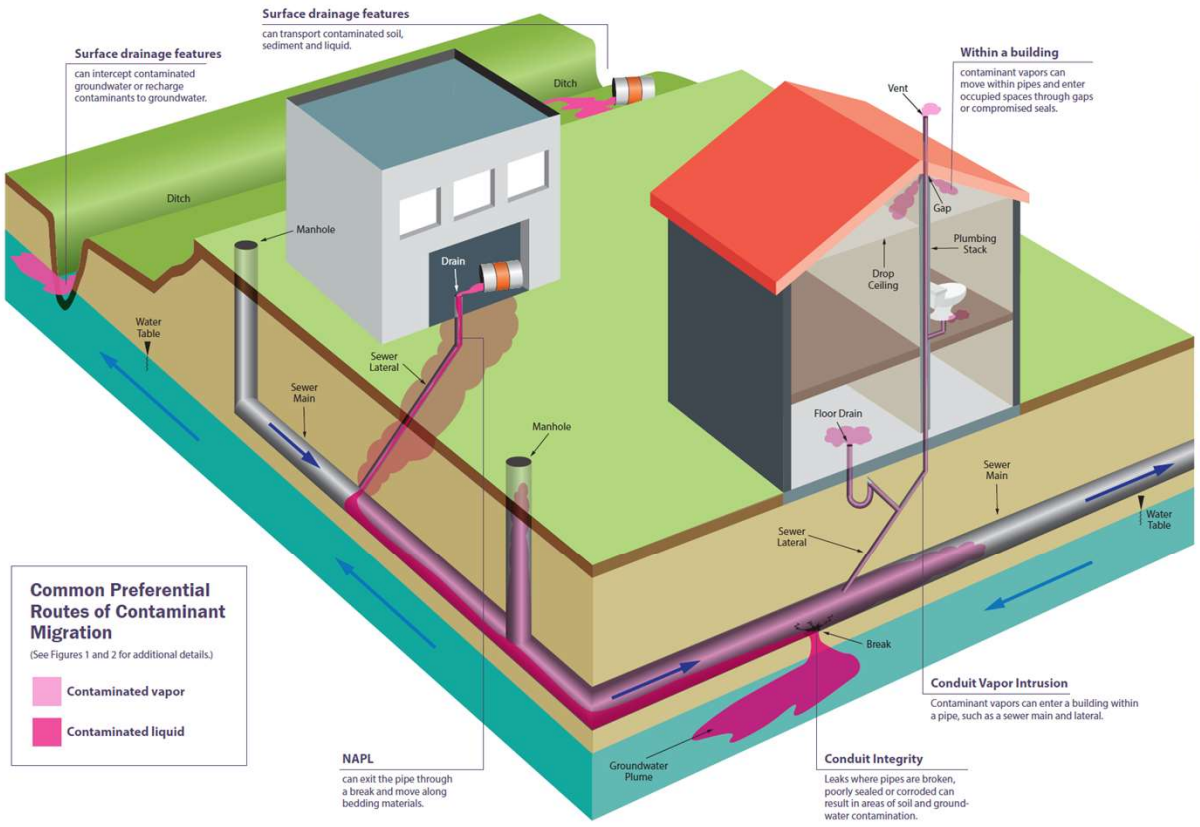
Figure 3 from Kram et al. 2020 – available at https://onlinelibrary.wiley.com/doi/10.1002/rem.21646

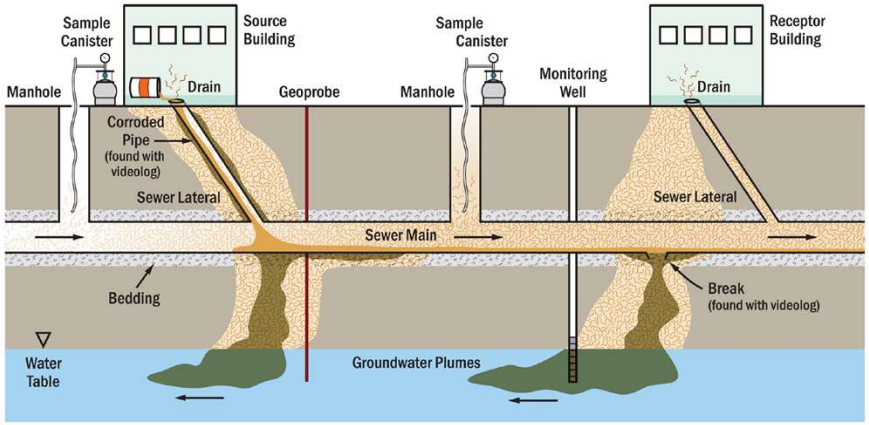
Preferential Pathways

Wisconsin DNR – Environmental Contamination

Remediation and Redevelopment Program **June 2021**

Guidance for Documenting the Investigation of Human-made Preferential Pathways Including Utility Corridors



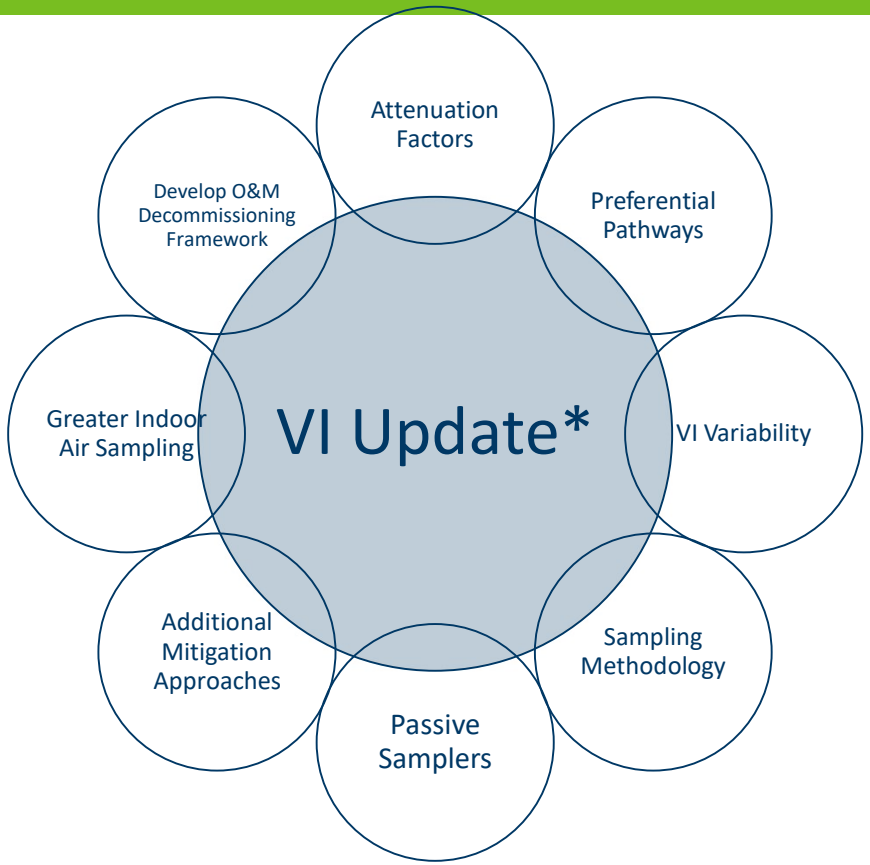


Need for more Indoor air data

- Goal of VI is identify and address potential human health risks.
- Indoor air data enables timely follow up communications when the VI risk data becomes available.
- Likely will tie into expedited framework and build off ideas presented in communication BMP (opportunity for occupants to self-identify as a sensitive individual.
- Will necessitate more data interpretation skills and greater degree of building survey/CSM development.
  - Practitioners will need to get more comfortable collecting indoor air.

Next Steps for MPCA

- We want your input. Just not right now.
- Small team has been assembled to work on initial scoping of update.
- Team members include staff from all cleanup programs.
- We will know more of the ‘ask’ over the next few months.



*We may not take on all topics or may chose to include others

Thank you!

Christopher Goscinak

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651-757-2052

MINNESOTA POLLUTION CONTROL AGENCY

PFAS guidance: Overview and implementation

MINNESOTA POLLUTION CONTROL AGENCY

Michael Ginsbach | Hydrogeologist

April 29, 2025

Per- and polyfluoroalkyl substances (PFAS)

- "Forever chemicals“
- Chains of carbon-fluorine bonds
- "Perfluoroalkyl and polyfluoroalkyl substances" or "PFAS" means a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom. (Minn. Stat. 116.943 subd. 1(p))
- Produced and used in Minnesota
- Useful traits such as
  - Repels oil and water
  - Creates low-friction surfaces
  - Fire suppressant

PFAS Guidance

https://www.pca.state.mn.us/business-with-us/pfas-remediation-guidance

MINNESOTA POLLUTION CONTROL AGENCY

Business With Us / Business support / Remediation guidance

PFAS remediation guidance

SECTION MENU

Remediation PFAS Guidance serves entities addressing PFAS releases at sites enrolled in a MPCA Remediation program. In 2021, the MPCA published the PFAS Blueprint to identify current strategies for addressing PFAS. In 2022, the PFAS monitoring plan was launched, and Appendix E identifies criteria for entering the Remediation program.

The Remediation PFAS Guidance uses an adapted life cycle approach that is consistent with the Minnesota Environmental Response and Liability Act (MERLA) and the Resource Conservation and Recovery Act (RCRA) framework. The guidance provides consistent and predictable instructions for addressing PFAS contamination from investigation to clean up. It operationalizes the strategies identified in the PFAS Blueprint and expands upon the criteria established in the PFAS Monitoring Plan.

May 2024

PFAS Blueprint topic areas


Preventing PFAS pollution


Measuring PFAS effectively and consistently


Quantifying PFAS risks to human health


Limiting PFAS exposure from drinking water


Ensuring safe consumption of fish and game

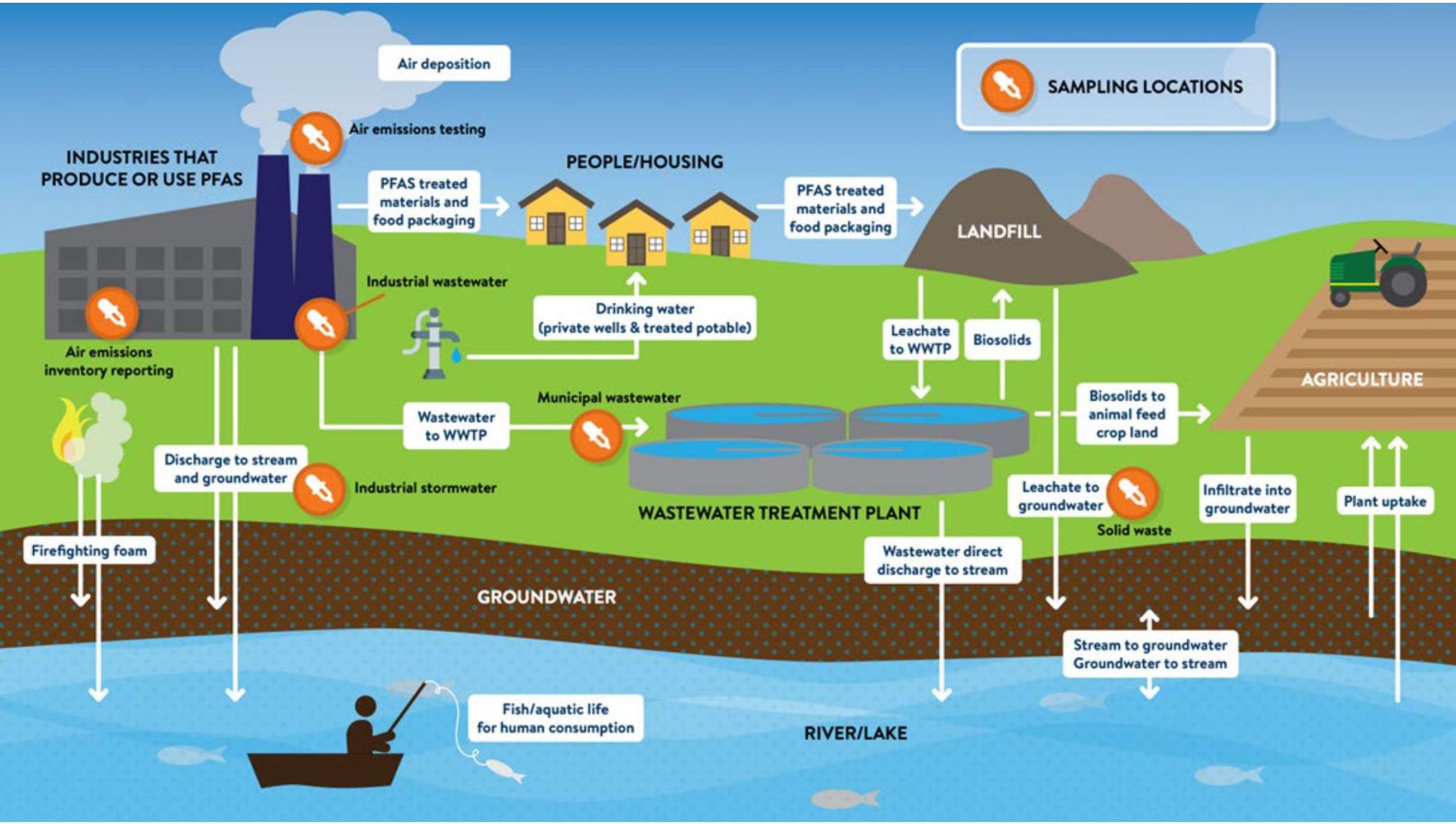

Limiting PFAS exposure from food


Understanding risks from PFAS air emissions


Protecting ecosystem health


Remediating PFAS-contaminated sites


Managing PFAS in waste


Air deposition
Air emissions testing
INDUSTRIES THAT PRODUCE OR USE PFAS
PFAS treated materials and food packaging
PEOPLE/HOUSING
PFAS treated materials and food packaging
LANDFILL
SAMPLING LOCATIONS
Industrial wastewater
Drinking water (private wells & treated potable)
Leachate to WWTP
Biosolids
Air emissions inventory reporting
Municipal wastewater
Wastewater to WWTP
Biosolids to animal feed crop land
AGRICULTURE
Discharge to stream and groundwater
Industrial stormwater
WASTEWATER TREATMENT PLANT
Leachate to groundwater
Solid waste
Infiltrate into groundwater
Plant uptake
Firefighting foam
Wastewater direct discharge to stream
GROUNDWATER
Stream to groundwater
Groundwater to stream
Fish/aquatic life for human consumption
RIVER/LAKE

PFAS management strategy

Prevent
PFAS pollution wherever possible

Manage
PFAS pollution when prevention is not feasible or pollution has already occurred

Clean up
PFAS pollution at contaminated sites

Amara's Law (Minn. Stat. 116.943)

- Law enacted in June of 2023 to reduce PFAS pollution in Minnesota
  - Protects public and environmental health
  - Reduces costly cleanup costs
- Implemented in phases between 2025 and 2032

January 1, 2025	January 1, 2026	January 1, 2032
Prohibition against intentionally added PFAS in 11 product categories	Any product that contains intentionally added PFAS for sale or distributed must be reported to the MPCA	Any product that contains intentionally added PFAS may not sold or distributed unless determined by rule to be a "currently unavoidable use"

Carpets or Rugs

Cleaning Products

Cookware

Cosmetics

Dental Floss

Fabric Treatments

Juvenile Products

Menstruation Products

Textile Furnishings

Ski Wax

Upholstered Furniture

2025 PFAS prohibition product categories

PFAS investigations by the Remediation division

- PFAS investigation and remediation is completed under the Minnesota Environmental Response and Liability Act (MERLA), Minn. Stat. 115B
- Oversees the investigation and cleanup of sites where releases of hazardous substance, or pollutants or contaminants poses a risk to human health and the environment
  - Releases or threatened releases
- Hazardous substances per Minn. Stat. 115B and Minn. Stat. 116
  - Authority for investigation and cleanup due to risk to human health and the environment
- First PFAS investigations in 2002
  - PFAS in groundwater at 3M Cottage Gove

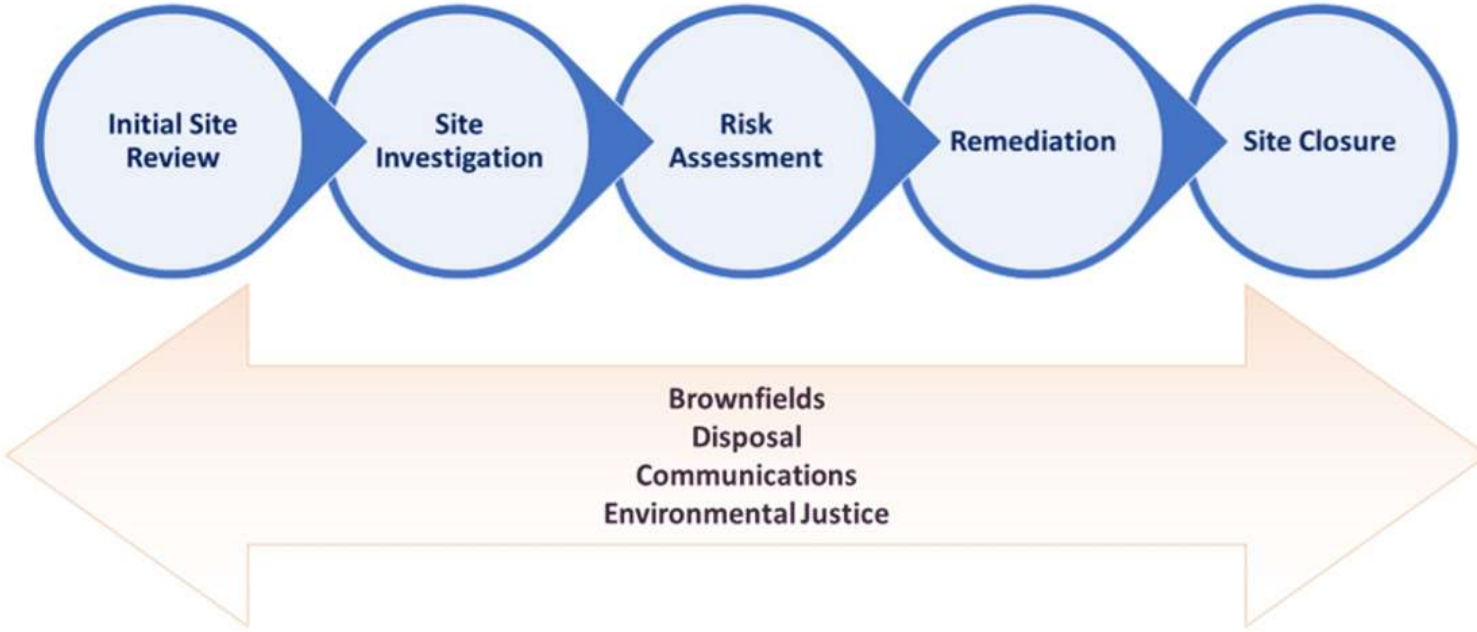
Recent federal rule proposals

- Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances
  - Proposed September 6, 2022; effective July 8, 2024
- List Nine Per- and Polyfluoroalkyl Compounds as Resource Conservation and Recovery Act Hazardous Constituents
  - Proposed February 8, 2024
- Clarify Authority to Address Releases of Hazardous Waste at Treatment, Storage, and Disposal Facilities
  - Proposed February 8, 2024

Guidance structure

Life cycle stages
Consistent with overall MERLA Remediation Process and Risk-Based Site Evaluation Guidance

Cross cutting areas
Evaluate during all life cycle stages



Plus a glossary!

Life Cycle Stage 1: Initial Site Review

Pre-investigation (MERLA RBSE)

- Determine if a site needs to be evaluated for a release or threatened release of PFAS
- Identify historic and current site uses
- Identify proximity to potential or known PFAS sources
- Includes industrial categories associated with PFAS generation, use, storage, or disposal
  - PFAS are also included on the Remediation Typical contaminants based on site use and processes guidance document

Life Cycle Stage 2: Site Investigation

Site investigation (MERLA RBSE)

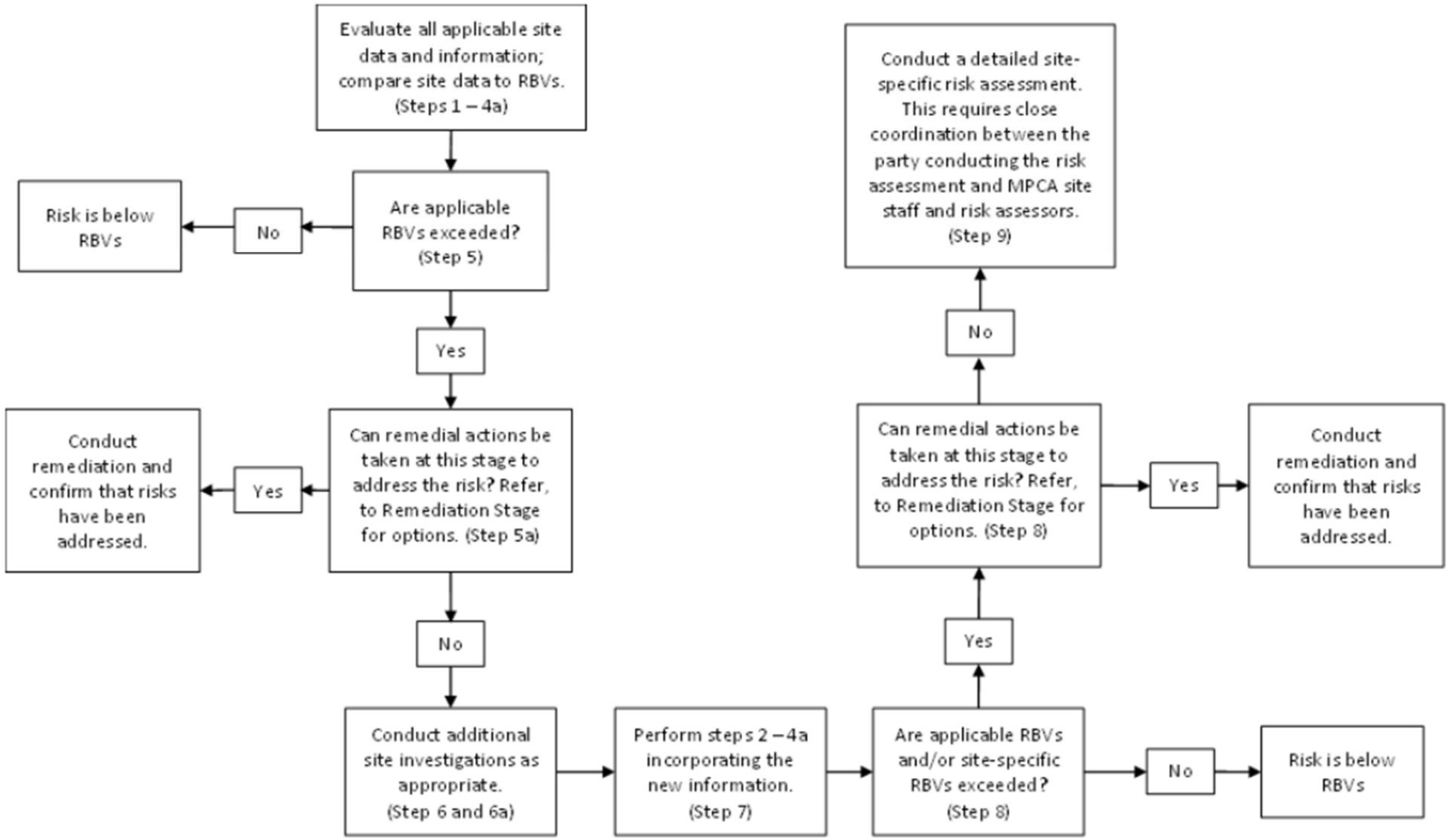
- Determine if there has been a release and delineate extent and magnitude
- Complete a receptor evaluation
  - Human receptors
  - Ecological receptors
- Identify media and locations to sample
- Prepare SAP/QAPP/work plan
- Develop a conceptual site model
  - Evaluate fate and transport
  - Source evaluations

Life Cycle Stage 3: Risk Assessment

Site Management Decision(MERLA RBSE)

- Identify the potential risks to human health and the environment
- Comparison against risk-based values
- Risk evaluation
- Compounds without risk-based values
- Ambient background concentrations

Figure 3-1: Flowchart of decision points during risk evaluation



PFAS risk-based values

- Maximum contaminant levels (MCLs) and maximum contaminant level goals (MCLs) by EPA in 2024
- Health based values (HBVs) by MDH updated in 2024
- Health risk limits (HRLs) by MDH updated in 2023
- Site-specific surface water values by MPCA (updated in 2024)
- Soil reference values (SRV) by MPCA (updated in 2025)

PFAS risk-based values

PFAS	EPA MCL ng/L	MDH HRL/HBV* ng/L	MPCA CI ISV ug/kg	MPCA R ISV ug/kg
Perfluorobutanesulfonic acid (PFBS)	-	100	14,000	1100
Perfluorobutanoic acid (PFBA)	-	7000	220,000	20,000
Perfluorooctanesulfonic acid (PFOS)	4	2.3*	18	1.3
Perfluorooctanoic acid (PFOA)	4	0.0079*	0.86	0.16
Perfluorohexanesulfonic acid (PFHxS)	10	47	0.072	0.0054
Perfluorohexanoic acid (PFHxA)	-	2000	24,000	1900
Perfluorononanoic acid (PFNA)	10	-	-	-
Perfluorodecanoic acid (PFDA)	-	-	0.36	0.027
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	10	-	970	66

Life Cycle Stage 4: PFAS Remediation

Response Action Implementation (MERLA RBSE)

- Risk management
- Interim response actions
- Define remedial objectives
- Select and assess remedy
  - REM general policy
  - MERLA
  - CERCLA
- Document remedy and actions

Life Cycle Stage 5: Site Closure

Site Closure & Stewardship (MERLA RBSE)

- Site closure varies by program
  - No Further Action for Superfund
  - No Association Determination/Retroactive No Association Determination/etc for Brownfields
- Institutional Controls
  - OM&M plans
  - Environmental covenants
  - Affirmative obligations

Cross-cutting area: Brownfields

Provides guidance for non-responsible parties regarding the following questions:

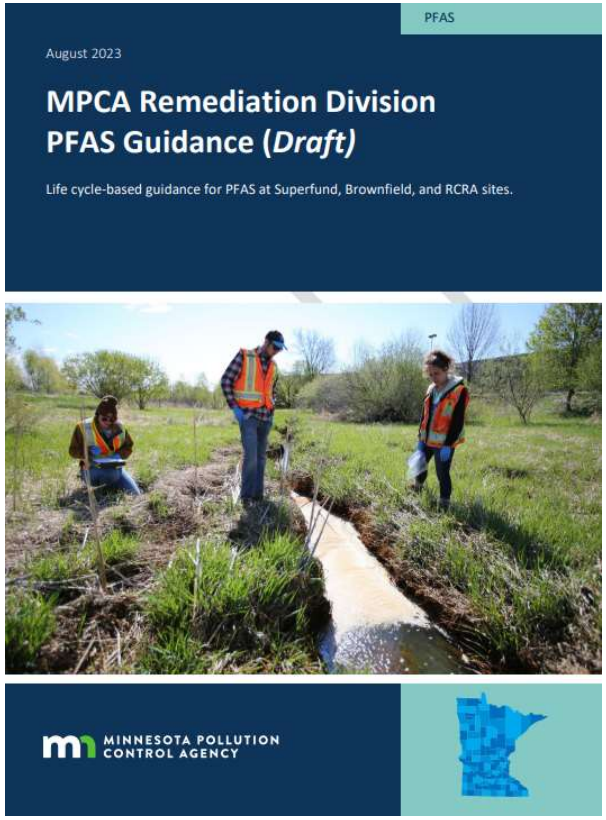
When is PFAS sampling necessary at a Brownfields site?

- It depends on the site activities
- It depends on the desired scope of liability protection
- It depends on the type of assurance letter
- It depends on the landfill

What about ambient background concentrations?

- There is no expectation that PFAS testing be conducted at a brownfield site in the absence of a potential source.

Cross-cutting area: Brownfields



Brownfields (Cross-Cutting Area)

Provides guidance for non-RPs regarding the following questions:

When is PFAS sampling necessary at a brownfield site?

- It depends on the site activities
- It depends on the desired scope of liability protection
- It depends on the type of assurance letter
- It depends on the landfill

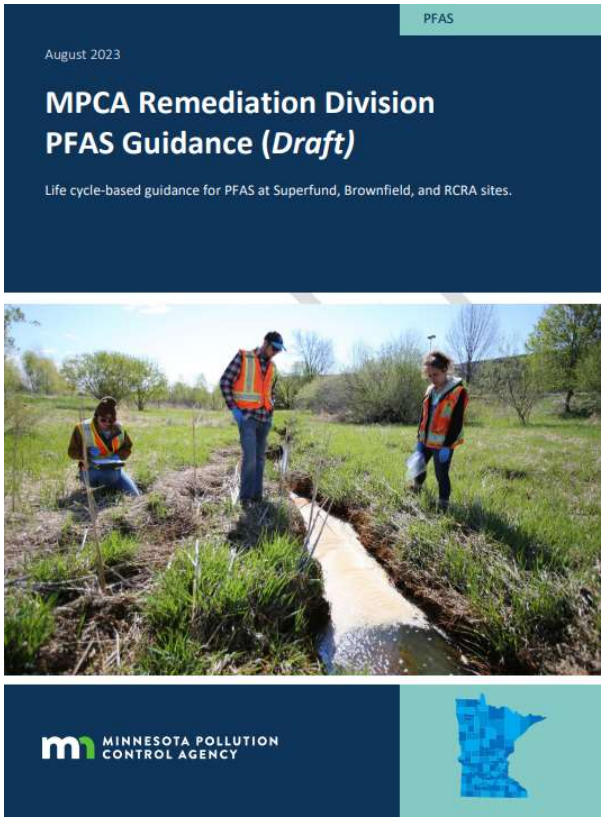
What about ambient background concentrations?

- There is no expectation that PFAS testing be conducted at a brownfield site in the absence of a potential source.

Cross-cutting area: Disposal

- Ensure PFAS-containing waste is properly characterized and managed by
  - Characterizing waste
  - Determining need for on-site treatment
  - Identify appropriate disposal options
- Disposal options for contaminated soils based on approved soil management plans
  - Presence of waste
  - Visible impacts
  - Analytical results
- Soil management plans based on EPA and MCPA contaminated environmental media policy
  - “Environmental media are not inherently waste-like”

Cross-cutting areas: Communications and Environmental Justice



Communications & Environmental Justice (Cross-Cutting Areas)

Goal: MPCA will communicate decisions and findings to relevant stakeholders in a community

- **Identify stakeholders**
- **Determine EJ status**
- **Provide information consistently, transparently and accessibly**
- **Ensure opportunities for stakeholder engagement**

Summary

- MPCA Remediation division has been investigating PFAS for over 20 years
- Agency-wide focus on PFAS, including ban on PFAS in products
- PFAS guidance mirrors overall Remediation guidance update format and phases
- Unique considerations both technically and regulatorily

MINNESOTA POLLUTION CONTROL AGENCY

Michael Ginsbach

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Resource Conservation and Recovery Act (RCRA)

- 1976, Hazardous and Solid Waste Amendments in 1984
- Title 40 of the Code of Federal Regulations parts 239 through 282
- “Cradle to grave” management of solid and hazardous wastes
- Hazardous wastes identification, classification, generation, management, and disposal in 40 CFR 260 through 273
- State rules in Minn. R. 7045
  - Incorporates by reference 40 CFR

Comprehensive Environmental Response, Liability, and Compensation Act (CERCLA)

- 1980, amended in 1986
  - Federal Superfund
- Response to release or threatened releases of hazardous substances
- Emphasizes liability for cleanup
- Primarily focuses on inactive hazardous waste sites
  - Complements RCRA at the federal level, which regulates ongoing hazardous waste handling and disposal

MERLA statutory authorities

Minn Stat. 115B.03 RESPONSIBLE PERSON. Subdivision 1. General rule.

For the purposes of sections 115B.01 to 115B.20, and except as provided in subdivisions 2 and 3, a person is responsible for a release or threatened release of a hazardous substance, or a pollutant or contaminant, from a facility if the person:

(1) owned or operated the facility:

(i) when the hazardous substance, or pollutant or contaminant, was placed or came to be located in or on the facility;

(ii) when the hazardous substance, or pollutant or contaminant, was located in or on the facility but before the release; or

(iii) during the time of the release or threatened release;

(2) owned or possessed the hazardous substance, or pollutant or contaminant, and arranged, by contract, agreement or otherwise, for the disposal, treatment or transport for disposal or treatment of the hazardous substance, or pollutant or contaminant; or

(3) knew or reasonably should have known that waste the person accepted for transport to a disposal or treatment facility contained a hazardous substance, or pollutant or contaminant, and either selected the facility to which it was transported or disposed of it in a manner contrary to law

MERLA statutory authorities

Minn. Stat. 115B.02 Subd. 15. Release. (a) "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment which occurred at a point in time or which continues to occur.

(b) Release does not include:

(1) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, watercraft, or pipeline pumping station engine;

(2) release of source, by-product, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, under United States Code, title 42, section 2014, if the release is subject to requirements with respect to financial protection established by the federal Nuclear Regulatory Commission under United States Code, title 42, section 2210;

(3) release of source, by-product or special nuclear material from any processing site designated pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, under United States Code, title 42, section 7912(a)(1) or 7942(a); or

(4) any release resulting from the application of fertilizer or agricultural or silvicultural chemicals, or disposal of emptied pesticide containers or residues from a pesticide as defined in section 18B.01, subdivision 18.

MERLA statutory authorities

Minn. Stat. 115B.02 Subd. 5. Facility.

"Facility" means:

(1) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft;

(2) any watercraft of any description, or other artificial contrivance used or capable of being used as a means of transportation on water; or

(3) any site or area where a hazardous substance, or a pollutant or contaminant, has been deposited, stored, disposed of, or placed, or otherwise come to be located.

Facility does not include any consumer product in consumer use.

MERLA statutory authorities

Minn. Stat. 115B.02 Subd. 13. Pollutant or contaminant.

(a) "Pollutant or contaminant" means any element, substance, compound, mixture, or agent, other than a hazardous substance, which after release from a facility and upon exposure of, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in the organisms or their offspring.

(b) Pollutant or contaminant does not include natural gas, natural gas liquids, liquefied natural gas, synthetic gas usable for fuel, or mixtures of such synthetic gas and natural gas.

MERLA statutory authorities

Minn. Stat. 115B.02 Subd. 8. Hazardous substance.

"Hazardous substance" means:

(1) any commercial chemical designated pursuant to the Federal Water Pollution Control Act, under United States Code, title 33, section 1321(b)(2)(A);

(2) any hazardous air pollutant listed pursuant to the Clean Air Act, under United States Code, title 42, section 7412; and

(3) any hazardous waste.

Hazardous substance does not include natural gas, natural gas liquids, liquefied natural gas, synthetic gas usable for fuel, or mixtures of such synthetic gas and natural gas, nor does it include petroleum, including crude oil or any fraction thereof which is not otherwise a hazardous waste.

MERLA statutory authorities

Minn. Stat. 115B.02 Subd. 9. Hazardous waste.

"Hazardous waste" means:

(1) any hazardous waste as defined in section 116.06, subdivision 11, and any substance identified as a hazardous waste pursuant to rules adopted by the agency under section 116.07; and

(2) any hazardous waste as defined in the Resource Conservation and Recovery Act, under United States Code, title 42, section 6903, which is listed or has the characteristics identified under United States Code, title 42, section 6921, not including any hazardous waste the regulation of which has been suspended by act of Congress.

MERLA statutory authorities

Minn. Stat. 116.06 Subd. 11. Hazardous waste.

"Hazardous waste" means any refuse, sludge, or other waste material or combinations of refuse, sludge or other waste materials in solid, semisolid, liquid, or contained gaseous form which because of its quantity, concentration, or chemical, physical, or infectious characteristics may (a) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. Categories of hazardous waste materials include, but are not limited to: explosives, flammables, oxidizers, poisons, irritants, and corrosives. Hazardous waste does not include source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended.

MINNESOTA POLLUTION CONTROL AGENCY

Environmental Covenant and Easement

Shanna Schmitt, P.G.

Alana Crawford, Institutional Control Coordinator

April 29, 2025


Goal
Fewer glitches with the environmental covenant process
Photo credit: Tony Morrow, ToMorrow's Media

Template Tips

- Always start by downloading the current environmental covenant and easement (ECE) template from the MPCA website.

- Pay attention to the red italic text on the template, which provides instructions for filling out certain sections of the template.

- If you have questions not addressed by the template instructions, refer to the Remediation Division Institutional Control Guidance.
  - Appendix C provides section-by section explanations, including answers to FAQs
  - Appendix D provides answers to FAQs about subordination agreements
  - Appendix E provides tips for the ECE exhibits

- If you still have a question after reviewing the above resources, reach out to the MPCA project manager for your site.

Common errors

Do a thorough QA/QC of the draft ECE before submitting it for MPCA review.

- Double-check **dropdown boxes** to make sure the correct choices were selected.
- Include the accurate and full **legal description**, which is typically NOT what is on the county property information website.
- Make sure **figures** will be legible in black-and-white. Don't use aerial photos as a backdrop for ECE figures; they will not be legible on the recorded copy.
- Make sure the **ECE cover sheet** remains with the ECE through every step of the process.

Routing the ECE for review and signatures

The **ECE cover sheet** provides directions for routing the ECE for review and signatures. If these directions are not followed, review of the ECE may be delayed, or the ECE may be lost.

Email the draft ECE as the **locked Word document**, and the draft exhibits as one PDF, to the MPCA project manager(s) for review.

After MPCA approves the draft, obtain grantor signatures.

Email **PDF** of grantor-signed ECE to MPCA project manager and IC Coordinator
Mail **hard copy** of grantor-signed ECE to MPCA IC Coordinator for MPCA signature.

Routing the ECE for review and signatures

Be sure to fill out the requested information on the ECE cover sheet:

4. After MPCA signs the ECE, who should we send the hard copy to for recording?

   Name:
   Mailing address:

   If you want the fully executed ECE to be sent to you via a private delivery service (e.g., Fed-Ex, DHL, etc.), you must provide the carrier's envelope and pre-paid label.

5. If you want to receive a scan of the fully executed PDF after MPCA signs, provide email(s) below:

   Email(s):

Thank you!

shanna.schmitt@state.mn.us

alana.crawford@state.mn.us

MINNESOTA POLLUTION CONTROL AGENCY

MINNESOTA POLLUTION CONTROL AGENCY

Brownfield tips for submitting high quality reports

Rebecca Ryser | Project Manager/Hydrogeologist

April 29, 2025


Goal
Increase efficiency of MPCA staff review, and provide accurate and complete documentation of site work
Photo credit: Tony Morrow, ToMorrow's Media

Why is it important?

Subprogram	Count
VIC only	99
Petroleum only	29
Combo	110
Total	238

QA/QC

- Conducting a thorough QA/QC of submittals is an important step that should be completed prior to submitting documents.
- We have been receiving a fair number of reports with discrepancies between text, tables, and figures.
- For PDFs, make sure the document is unlocked and allows you to highlight or add comments in the file.
- Submit reports to both petroleum and non-petroleum project managers if jointly enrolled.

Proposed Actions Letters

- If purchase of a site is a proposed action, provide the accurate entity name that will be on the title. This is typically an LLC or equivalent, not the parent company of the LLC.
- In the proposed actions include if they will be *leasing* the site to a tenant or *operating* a business at the site (or both).

Report Organization

1. Include your recommendations in a conclusions or opinions section.
2. Put figures and data tables before or in the first two appendices for easy access.
3. Place other relevant site information in earlier appendices. It's helpful if the EDR and staff bios are the final two appendices.

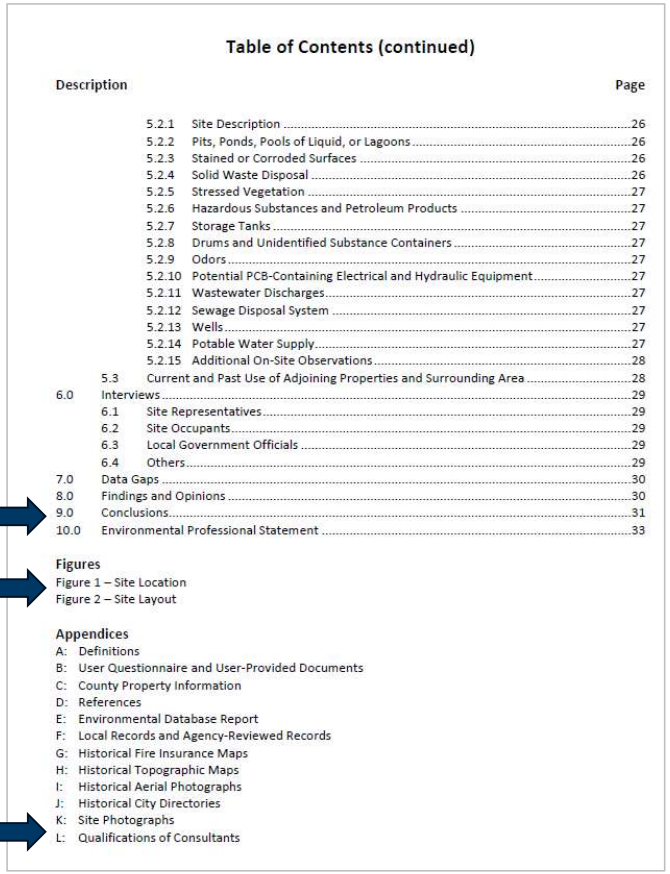

Table of Contents (continued)

Description — Page

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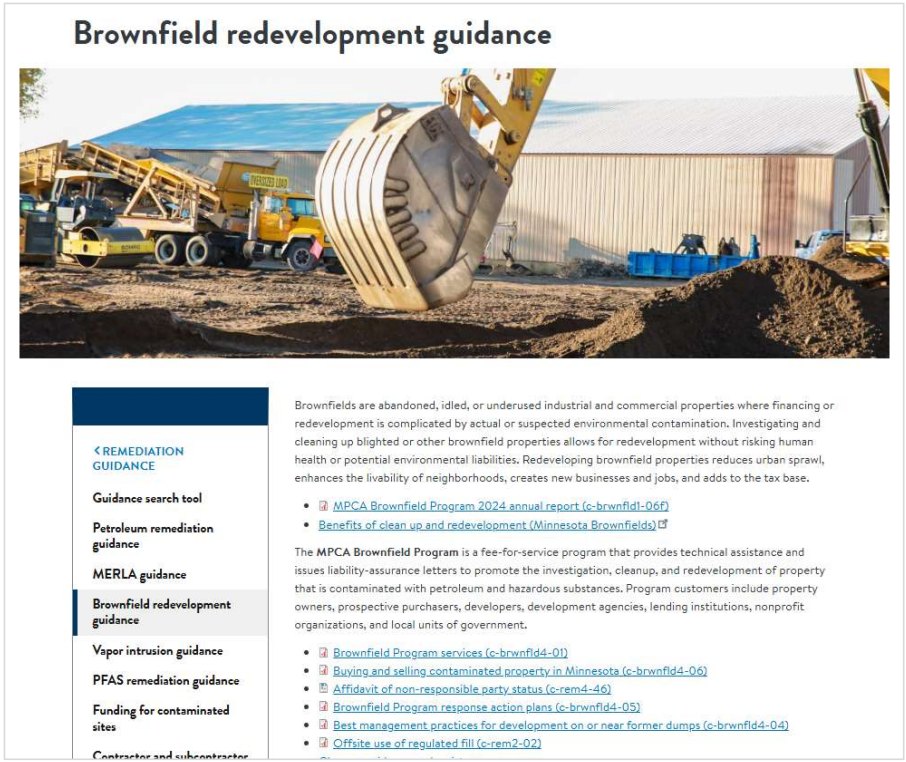
2

Appendices

3

Report content

- Review and be familiar with the requirements for different assurance letters, as presented in Brownfield Program guidance:
  - Brownfield Program Services
  - Phase I ESA guidance
  - RAP/CCP guidance
- We are often missing exterior soil vapor samples to acquire closure letters for a site. Sometimes we are also missing soil/groundwater/methane samples from source areas.
- Check out our website for more guidance.



Report content - RAPs

- Provide a detailed description of the planned redevelopment, especially the sub-grade features including foundations, stormwater structures, and utilities.
- Provide details on engineering practices to mitigate risk of waterline permeation or ways to prevent migration of vapors/contaminated groundwater along utility lines or trenches.
- Approximate locations and volumes of impacted soil to be managed.
- Details on if soil will need to be managed for geotechnical purposes and the approximate volumes.

Tables

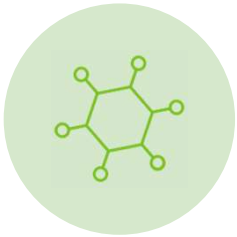
Compound/Parameter	CAS No.	Sample Identifier and Date Collected												Residential/ Recreational SRV (mg/kg)	Commercial/ Industrial SRV (mg/kg)	SLV (mg/kg)
		BS-SB-ST-01 (2-4)	BS-SB-ST-02 (4-6)	BS-SB-ST-03 (0-2)	BS-SB-ST-03 FR	RPD	BS-SB-ST-03 (6-8)	BS-SB-ST-04 (2-4)	BS-SB-ST-04 (6-8)	BS-SB-ST-05 (0-2)	BS-SB-ST-05 (4-6)	BS-SB-ST-06 (0-2)	BS-SB-ST-06 (2-4)			
		1/10/2023	1/10/2023	1/11/2023	1/11/2023	---	1/11/2023	1/11/2023	1/11/2023	1/12/2023	1/12/2023	1/10/2023	1/10/2023			
Volatile Organic Compounds (VOCs) (mg/kg)																
Ethylbenzene	100-41-4	<0.0584	<0.0579	<0.0601	<0.0634	---	<0.0554	<0.0507	<0.0547	<0.0543	<0.0512	<0.0483	<0.0526	190	480	1.0
Styrene	100-42-5	<0.0584	<0.0579	<0.0601	<0.0634	---	<0.0554	<0.0507	<0.0547	<0.0543	<0.0512	<0.0483	<0.0526	870	870	2.0
Tetrachloroethene (Perchloroethene, PCE)	127-18-4	<0.0584	<0.0579	<0.0601	<0.0634	---	<0.0554	<0.0507	<0.0547	0.123	0.0597	<0.0483	<0.0526	32	170	0.042
Xylenes, total	1330-20-7	<0.175	<0.174	<0.180	<0.190	---	<0.166	<0.152	<0.164	<0.163	<0.153	<0.145	<0.158	260[h]	260[h]	5.4[h]
All other reported VOCs	---	<RL	<RL	<RL	<RL	---	<RL	<RL	<RL	<RL	<RL	<RL	<RL	---	---	---
Polycyclic Aromatic Hydrocarbons (PAHs) (mg/kg)																
Acenaphthene	83-32-9	<0.0105	<0.0104	<0.0111	<0.0111	---	<0.0105	<0.0103	<0.0100	<0.0115	<0.0112	0.0123	<0.0114	460	6,800	81
Acenaphthylene	208-96-8	<0.0105	<0.0104	<0.0111	0.0116	---	<0.0105	<0.0103	<0.0100	0.0162	<0.0112	0.0197	0.0239	NE	NE	NE
Anthracene	120-12-7	<0.0105	<0.0104	0.0169	0.0166	1.8%	<0.0105	<0.0103	<0.0100	<0.0115	<0.0112	0.0445	0.0446	2,800	42,000	1,300
Benz(a)anthracene	56-55-3	<0.0105	<0.0104	0.0363	0.0395	8.4%	<0.0105	0.0261	<0.0100	0.0120	<0.0112	0.111	0.0947	cPAH	cPAH	cPAH
Benzo(b)fluoranthene	205-99-2	<0.0105	<0.0104	0.0592	0.0763	25.2%	<0.0105	0.0394	<0.0100	0.0217	0.0128	0.143	0.117	cPAH	cPAH	cPAH
Benzo(k)fluoranthene	207-08-9	<0.0105	<0.0104	0.0230	0.0282	20.3%	<0.0105	0.0168	<0.0100	<0.0115	<0.0112	0.0576	0.0491	cPAH	cPAH	cPAH
Benzo(a)pyrene	50-32-8	<0.0105	<0.0104	0.0362	0.0430	17.2%	<0.0105	0.0295	<0.0100	0.0141	<0.0112	0.108	0.0921	cPAH	cPAH	cPAH
Benzo(g,h,i)perylene	191-24-2	0.0758	<0.0104	0.0324	0.0373	14.1%	<0.0105	0.0262	<0.0100	0.0137	<0.0112	0.0931	0.0685	NE	NE	NE
Chrysene	218-01-9	<0.0105	<0.0104	0.0396	0.0526	28.2%	<0.0105	0.0274	<0.0100	0.0163	<0.0112	0.111	0.0972	cPAH	cPAH	cPAH
Dibenz(a,h)anthracene	53-70-3	<0.0105	<0.0104	<0.0111	<0.0111	---	<0.0105	<0.0103	<0.0100	<0.0115	<0.0112	0.0201	0.0157	cPAH	cPAH	cPAH
Fluoranthene	206-44-0	<0.0105	<0.0104	0.0658	0.0809	20.6%	<0.0105	0.0487	<0.0100	0.0243	0.0112	0.227	0.180	210	2,700	670
Fluorene	86-73-7	<0.0105	<0.0104	<0.0111	<0.0111	---	<0.0105	<0.0103	<0.0100	<0.0115	<0.0112	<0.0111	<0.0114	390	5,800	110
Indeno(1,2,3-cd)pyrene	193-39-5	<0.0105	<0.0104	0.0347	0.0396	13.2%	<0.0105	0.0237	<0.0100	0.0126	<0.0112	0.0812	0.0650	cPAH	cPAH	cPAH
Naphthalene	91-20-3	<0.0105	<0.0104	<0.0111	<0.0111	---	<0.0105	<0.0103	<0.0100	<0.0115	<0.0112	0.0304	0.0457	81	280	4.5
Phenanthrene	85-01-8	0.0105	<0.0104	0.0359	0.0387	7.5%	<0.0105	0.0193	<0.0100	0.0126	<0.0112	0.160	0.186	NE	NE	NE
Pyrene	129-00-0	<0.0105	<0.0104	0.0530	0.0598	12.1%	<0.0105	0.0390	<0.0100	0.0190	<0.0112	0.170	0.157	220	3,200	440
BaP Equivalent[k]	---	0	0	0.05192	0.0619	---	0	0.0404	0	0.0189	0.0013	0.160	0.134	2[RTV]	23	1.4
Metals (mg/kg)																
Arsenic, Total	7440-38-2	2.6	2.5	3.5	3.8	8.2%	2.7	3.5	2.3	4.3	3.3	3.7	4.0	9[RTV]	9[RTV]	5.8
Barium, Total	7440-39-3	67.9	21.0	116	129	10.6%	40.2	94.4 [M1,R1]	35.4	176	80.9	59.3	101	3,100	41,000	1,700
Cadmium, Total	7440-43-9	0.17	<0.14	0.29	0.33	12.9%	<0.15	0.26	0.17	0.36	0.23	0.75	0.66	1.6	23	8.8
Chromium, Total[e]	7440-47-3	5.0	3.3	14.9	14.9	0.0%	4.8	10.2	4.5	18.1	6.9	16.7	7.3	23,000/2.3[e]	100,000/62[e]	1,000,000,000/36[e]
Lead, Total	7439-92-1	3.3	2.0	19.9	24.6	21.1%	2.7	9.1	2.8	8.7	5.3	31.5	13.9	200	460	2,700
Mercury, Total	7439-97-6	<0.021	<0.020	0.028	0.032	13.3%	<0.019	0.024	<0.020	0.030	0.023	<0.019	<0.020	2.7	3.1	3.3
Selenium, Total	7782-49-2	<1.0	<0.96	<1.1	<1.1	---	<1.0	<1.1	<1.0	<1.1	<1.1	<1.1	<1.0	78	1,200	2.6
Silver, Total	7440-22-4	<0.52	<0.48	<0.54	<0.54	---	<0.50	<0.53	<0.51	<0.53	<0.54	<0.55	<0.52	78	1,200	7.9
Petroleum Parameters (mg/kg)														**MPCA Unreg. Fill Criterion**		
Diesel Range Organics (DRO)	---	<7.7	<7.4	<8.0	<9.7	---	<8.0	<8.4	<6.6	<9.3	<7.3	18.3 [N]	7.8 [N]	100[f]		
Gasoline Range Organics (GRO)	---	<12.0	<11.4	<13.4	<13.1	---	<10.9	<11.3	<10.9	<13.1	<12.9	<12.5 [G+]	<12.5 [G+]	100[f]		

- Include reporting limits in data tables instead of listing “ND” for “not detected.”
- In the top rows, include the sample ID, date of collection, and depth.
- Including a “detections only” data table is very helpful – but we also need a full data summary table even if there were no detections.

Tables continued

Highlight exceedances of risk-based values (see RAP guidance for more details):

Soil - compare results to MPCA soil reference values (SRVs) as appropriate for current or planned site use . For volatile organic compounds (VOCs), also compare data to MPCA soil leaching values (SLVs). For petroleum impacted soil, a threshold of 100 mg/kg for DRO or GRO, and 10 ppm PID.

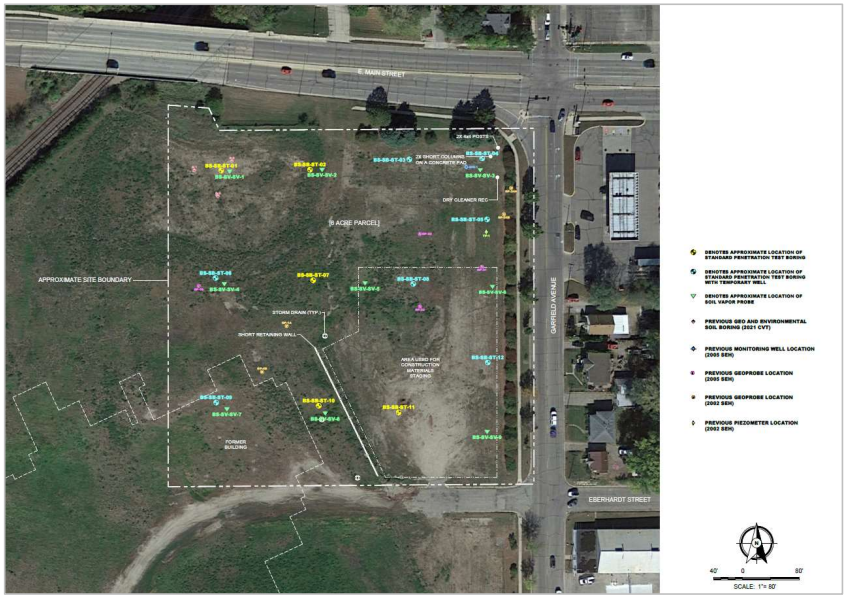


Soil vapor - compare to MPCA intrusion screening values (ISVs), 33-times (33X) ISVs, and (if applicable) 33X expedited ISVs for the current and/or planned property use.

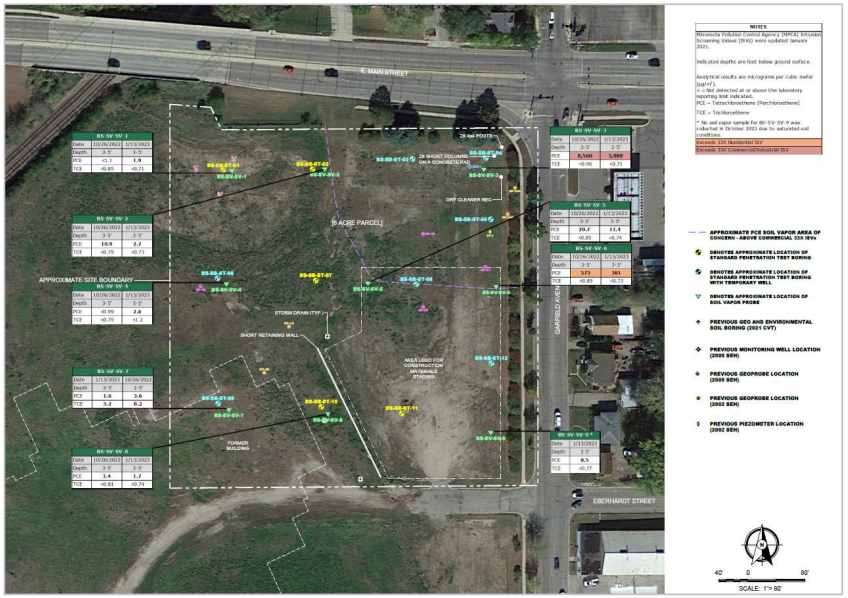
Groundwater - compare to MDH Health Risk Limits (HRLs) and other relevant drinking water criteria established by the MDH.

Indoor air - compare to MPCA ISVs for the current or planned property use.

Figures

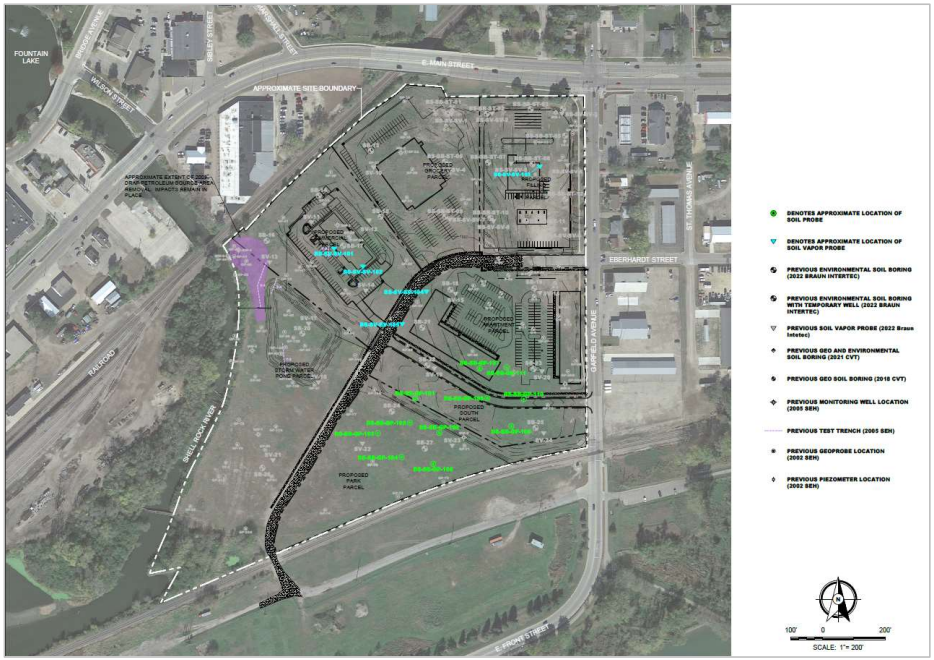


Include a detailed site map showing site/parcel boundaries, existing structures and features, and current/historical potential sources of contamination.



Detailed site maps showing location of all borings, test pits, wells, other sampling points, and a map also showing sample results for contaminants of concern (by media).

Figures continued



RAPs should include a series of maps including:

1. Redevelopment plan.
2. Redevelopment plan overlayed with sample results for contaminants of concern.
3. Remedial and construction excavation areas.
4. Grading plan and/or cut-and-fill map.

*If contaminated soil is to be reused on site, indicate the proposed location and depth for soil placement, relative to planned structures, utilities, pavement, and greenspace

Data gaps can result in extra site mobilizations and a significant delays in assurance letters and site closure.

These tips and tricks will ensure a more efficient process, reduce unnecessary delays, and improve client satisfaction in collaboration with the Brownfield Program.

Photo credit: David Knight

Thank you!

Rebecca Ryser

rebecca.ryser@state.mn.us

MINNESOTA POLLUTION CONTROL AGENCY

MINNESOTA POLLUTION CONTROL AGENCY

PRP Field Audit Program

Consultant's Day

04/29/2025

Timeline of Events

Date	Event
2021-2022	MPCA's Petroleum Remediation Program (PRP) was audited by the Office of the Legislative Auditor (OLA)
2023	MN House passed bill H.F 1421.1
January 2025	MPCA submitted response report to the Legislature
Current	PRP continues to implement changes as outlined in response report

Legislative Charge

(5) In collaboration with the commissioner of commerce, make consultants who remediate petroleum contaminated sites more accountable for the quality of their work by:

(i) Requiring a thorough evaluation of the past performance of a contractor being considered for hire;

(ii) Developing a formal system of measures and procedures by which to evaluate the work; and

(iii) Sharing evaluations with the commissioner of commerce and with responsible parties.

Petroleum Remediation Program (PRP) is required to respond to the Legislature as mandated by Laws of Minnesota 2023, Chapter 60, Article 3, Section 29.

Evaluation of Past Performance

(i) Requiring a thorough evaluation of the past performance of a contractor being considered for hire;

Data Improvement for Field Audits

(ii) Developing a formal system of measures and procedures by which to evaluate the work;

Current Data: Data gathered from the field audit program was very general and only indicated if an audit was compliant or noncompliant. This was not fully representative of the quality of work performed by consultants.

Data Improvements: We have designed a tiered system that ranks noncompliant tasks by severity, and the severity of an error is determined by how if effects the data that is used to make site decisions.

Ranking of Noncompliant Tasks

(ii) Developing a formal system of measures and procedures by which to evaluate the work;

- **Low:** Bad habit but data is still useable
  Example: **PID calibration records not available**
- **Medium:** Error could cause data to become unusable
  Example: **Samples not collected immediately**
- **High:** Error makes data unusable
  Example: **Cross-contamination**

Next Steps

(ii) Developing a formal system of measures and procedures by which to evaluate the work;

The following steps are in-process:

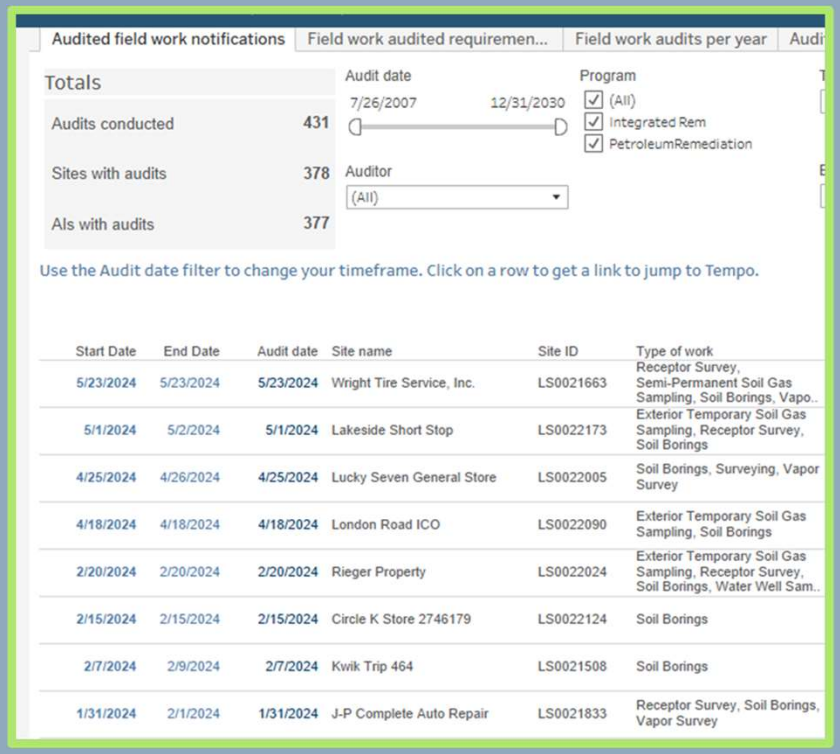
- Field audit checklists are being updated to include severity ranking of noncompliance.
- PRP's field audit results report will be modified to calculate the severity of errors that are noncompliant.

Field Audit Reporting

(iii) Sharing evaluations with the commissioner of commerce and with responsible parties.

Reporting: PRP will be sharing the Tableau report of field audit findings with the Department of Commerce during Petroboard meetings (every other month).

Requests: Consultants and responsible parties can also request the data by sending an email to the following address: petroleumreports.mpca@state.mn.us

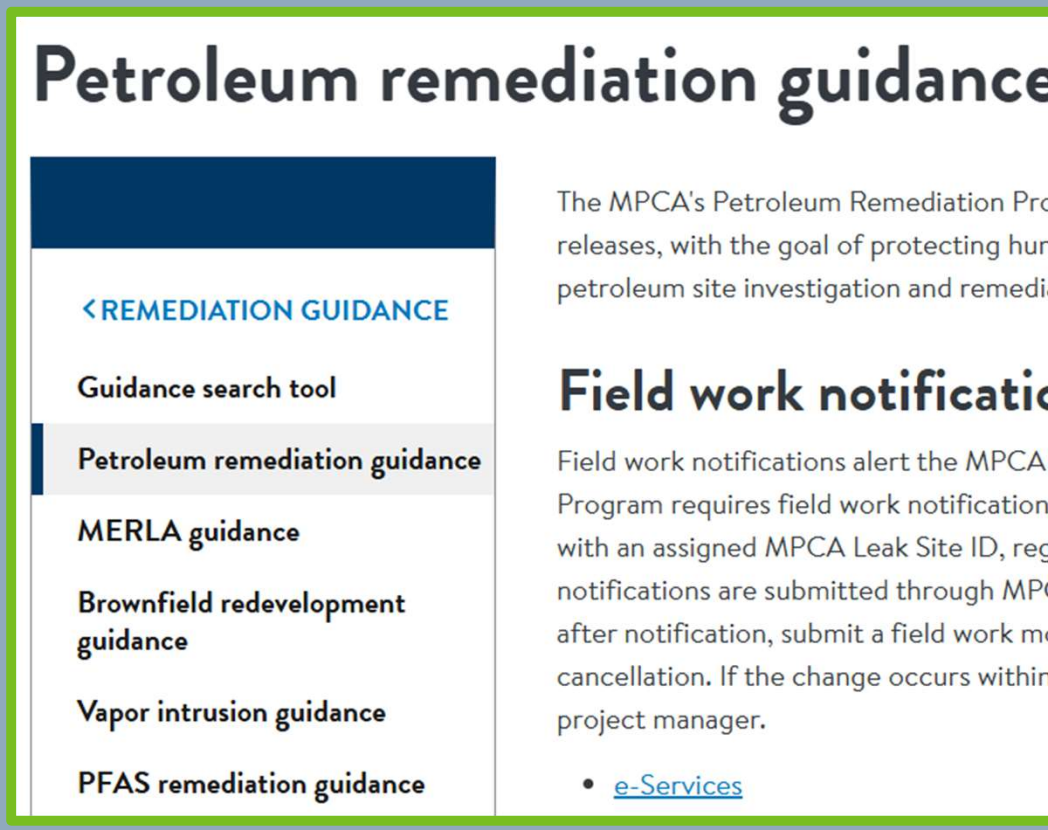


Start Date	End Date	Audit date	Site name	Site ID	Type of work
5/23/2024	5/23/2024	5/23/2024	Wright Tire Service, Inc.	LS0021663	Receptor Survey, Semi-Permanent Soil Gas Sampling, Soil Borings, Vapo..
5/1/2024	5/2/2024	5/1/2024	Lakeside Short Stop	LS0022173	Exterior Temporary Soil Gas Sampling, Receptor Survey, Soil Borings
4/25/2024	4/26/2024	4/25/2024	Lucky Seven General Store	LS0022005	Soil Borings, Surveying, Vapor Survey
4/18/2024	4/18/2024	4/18/2024	London Road ICO	LS0022090	Exterior Temporary Soil Gas Sampling, Soil Borings
2/20/2024	2/20/2024	2/20/2024	Rieger Property	LS0022024	Exterior Temporary Soil Gas Sampling, Receptor Survey, Soil Borings, Water Well Sam..
2/15/2024	2/15/2024	2/15/2024	Circle K Store 2746179	LS0022124	Soil Borings
2/7/2024	2/9/2024	2/7/2024	Kwik Trip 464	LS0021508	Soil Borings
1/31/2024	2/1/2024	1/31/2024	J-P Complete Auto Repair	LS0021833	Receptor Survey, Soil Borings, Vapor Survey

Reminder: Field Work Notifications

PRP requires field work notifications be submitted 48 hours prior to conducting field work at a site with an assigned MPCA Leak Site ID, regardless if the site investigation is open or closed.

Link to e-Services through MPCA's guidance website: https://www.pca.state.mn.us/business-with-us/petroleum-remediation-guidance



Questions?

Sara Nelson

sara.nelson@state.mn.us

651-757-2300

Stephen Frye

stephen.frye@state.mn.us

651-757-2463

MINNESOTA POLLUTION CONTROL AGENCY

Soil Vapor Sampling: Beyond Guidance

Rose Tusa Schmaedeke | Hydrologist

April 29, 2025

Beyond Guidance

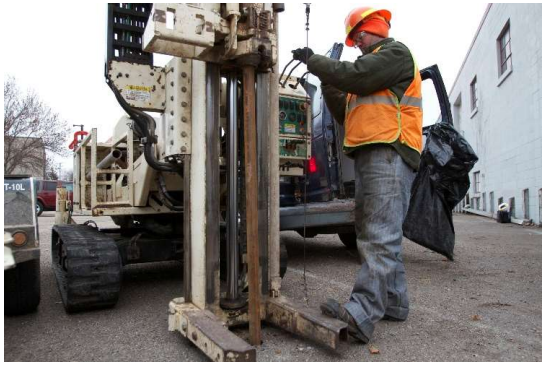
Sources of cross contamination

Maintaining sampling integrity

Additional data

Potential Contamination Sources

- Exhaust
- Air fragrance
- Smoking
- Nearby work
- Lab equipment



Cross Contamination

- Summa cannister
- Tubing

Contamination in Tubing/Equipment

Compounds in Tubing/Equipment Blanks:	Highest Level (ug/m^3)	# of detects (out of 31)
Acetone	198	28
Ethanol	31.4	26
Methylene Chloride	291	26
Toluene	95.2	26
n-Hexane	23.7	26
Benzene	90.7	20
Dichlorodifluoromethane	13.6	12
2-Butanone (MEK)	20	11
Propylene	6	10
m&p-Xylene	18.1	10
2-Propanol	176	8
Carbon disulfide	107	7
1,2,4-Trimethylbenzene	18.7	6
1,2-Dichloroethane	75	6
1,3-Dichlorobenzene	168	6
Chloroform	4.2	6
Chloromethane	2.4	6
Trichloroethene	23.2	5
n-Heptane	22.6	5
o-Xylene	4.6	5
Ethyl acetate	7.9	4
Ethylbenzene	7.6	4

Cyclohexane
Tetrahydrofuran
1,1,2-Trichlorotrifluoroethane
1,3,5-Trimethylbenzene
1,2-Dichloropropane
4-Ethyltoluene
Chlorobenzene
Chloroethane
Naphthalene
Styrene
Tetrachloroethene
cis-1,2-Dichloroethene

Sample Integrity

- 4-01a states “Sampling team members should avoid actions that can cause sample interference such as fueling/idling vehicles, using permanent marking pens, smoking, and wearing fragrances or freshly dry-cleaned clothing.”
- Leak Checks
- Tubing Source and Storage
- Groundwater Volatilization

Data Beyond Guidance

- Blanks
  - Tubing
  - Field/equipment blank
  - Sampling splits
- Aggregate Data

Guidance Reminder

- Receptor Specific Sampling Locations

Guidance Reminder

- Sample at the correct depth

Sample location	Sample collection depth
Source area(s)	8–10 feet below grade, at least 2 feet above the water table and at a minimum depth of 3 feet. If the water table or bedrock prevent sample collection below 3 feet, the sample does not need to be collected at this time, but the MPCA may request other means of assessing VI.
Receptor-specific	Buildings with basements: 8–10 feet below grade. Buildings with slab-on-grade or crawl space: 3–5 feet below grade. All samples must be at a minimum depth of 3 feet. If the water table or bedrock prevent sample collection below 3 feet, the sample does not need to be collected and the MPCA may request other means of assessing VI.

LS189		
Sample ID	SG-1A	SG-1B
Date	9/28/2018	9/29/2018
Methane	<4.0%	<4.0%
Carbon dioxide	5.4%	8.0%
Oxygen	13.5%	<2.0%
Depth	4 ft	8 ft
Compound	Result (ug/m^3)	Result (ug/m^3)
1,2,4-Trimethylbenzene	30.1	49900
1,3,5-Trimethylbenzene	8.2	16800
4-Ethyltoluene	14	33100
Benzene	26.8	<1450
m&p-Xylene	25.6	31300
n-Heptane	35.5	125000
n-Hexane	55.1	308000
o-Xylene	9.8	5640

Thank you!

Rose Tusa Schmaedeke

rose.tusa@state.mn.us

https://www.pca.state.mn.us/air-water-land-climate/cleaning-up-petroleum-tank-releases

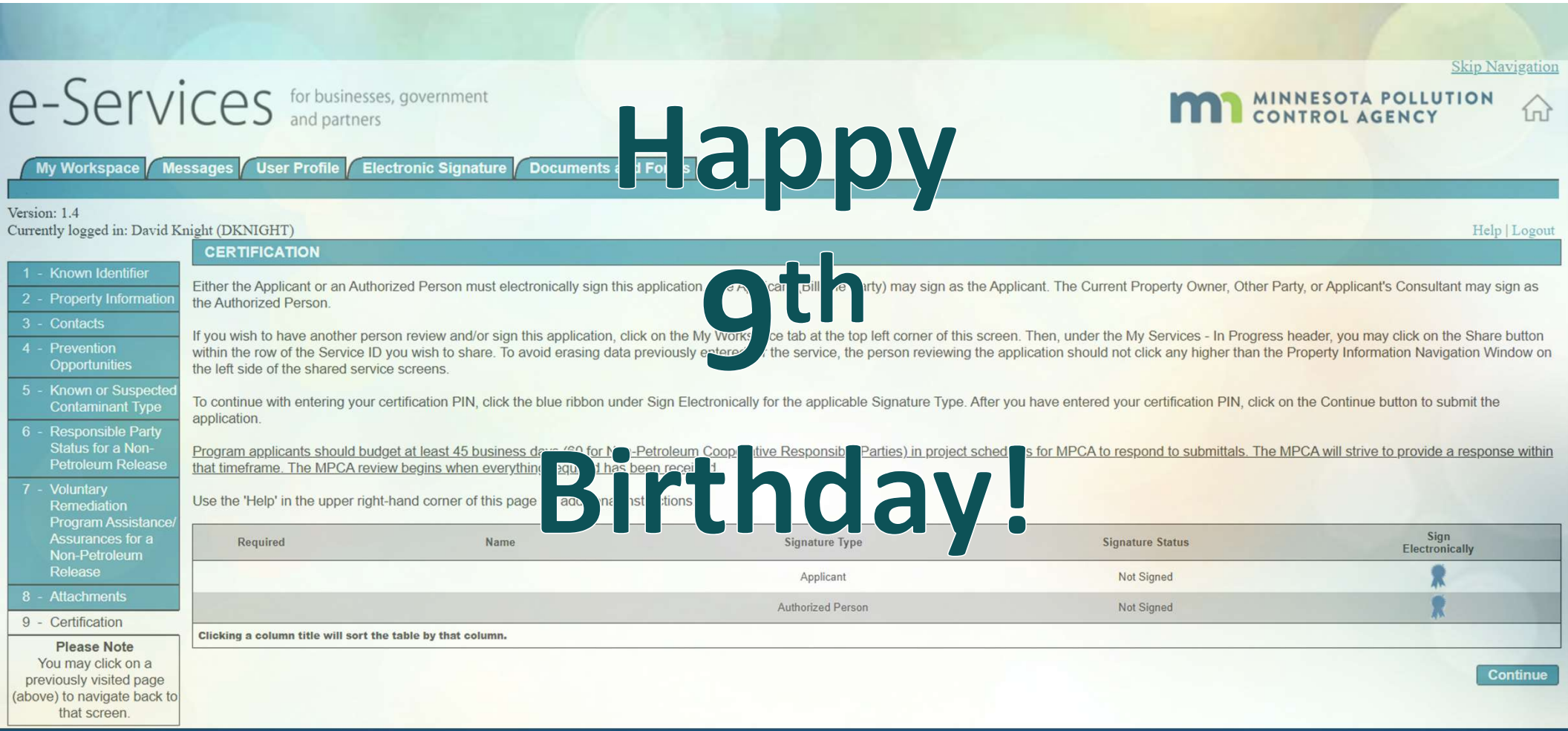
MINNESOTA POLLUTION CONTROL AGENCY

MINNESOTA POLLUTION CONTROL AGENCY

Voluntary Remediation or Brownfield Programs Enrollment Application – Update

David Knight | VIC Project Manager

April 29, 2025



Happy 9th Birthday!

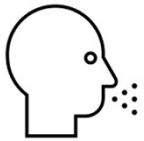
April 26, 2016

Let’s not talk about this

- How to navigate the online application
- Tips to make the process as efficient as possible

2021 Consultant’s Day Presentation

https://tinyurl.com/3ankcp2a

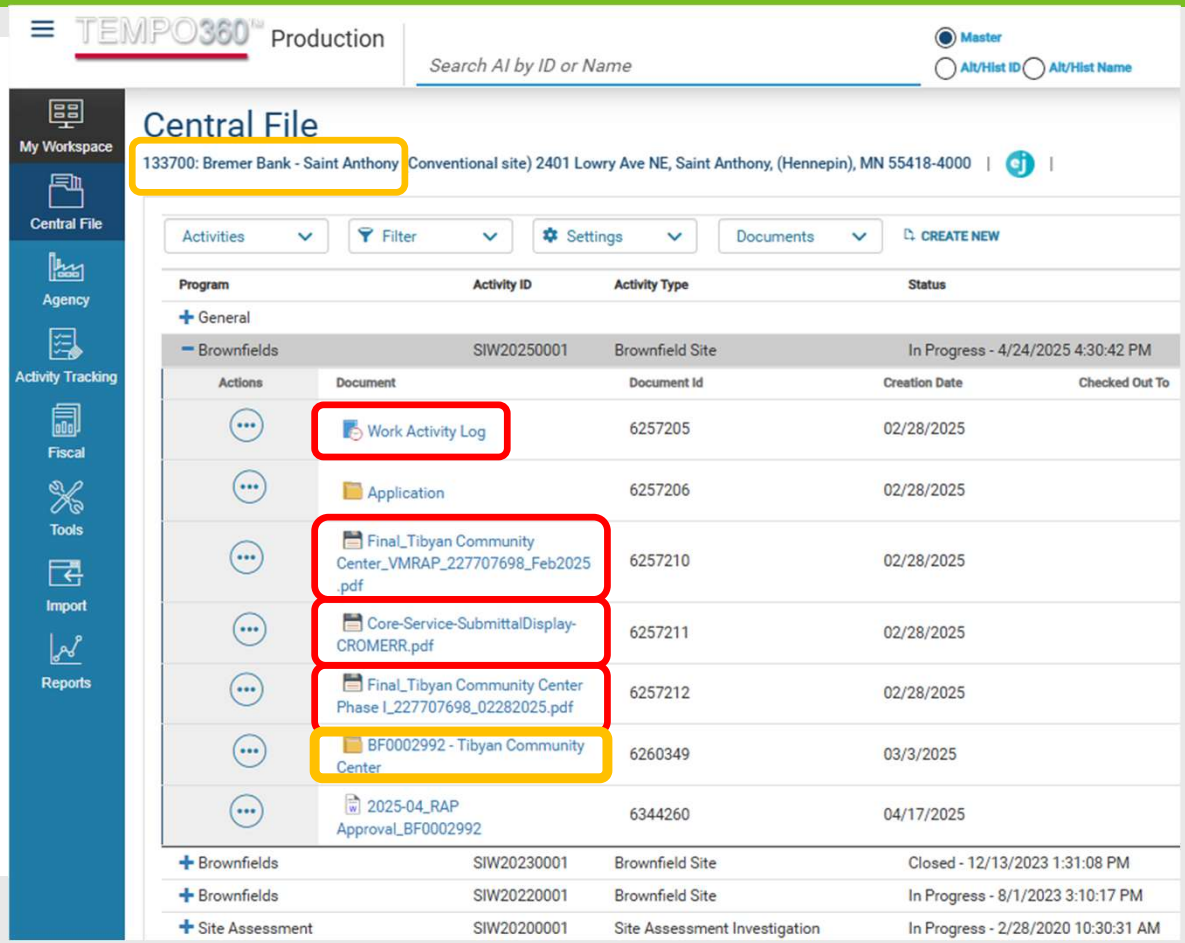


Let’s dig into it

- Accuracy
- Completeness
- Helpful links
- Future updates

All your base are belong to us

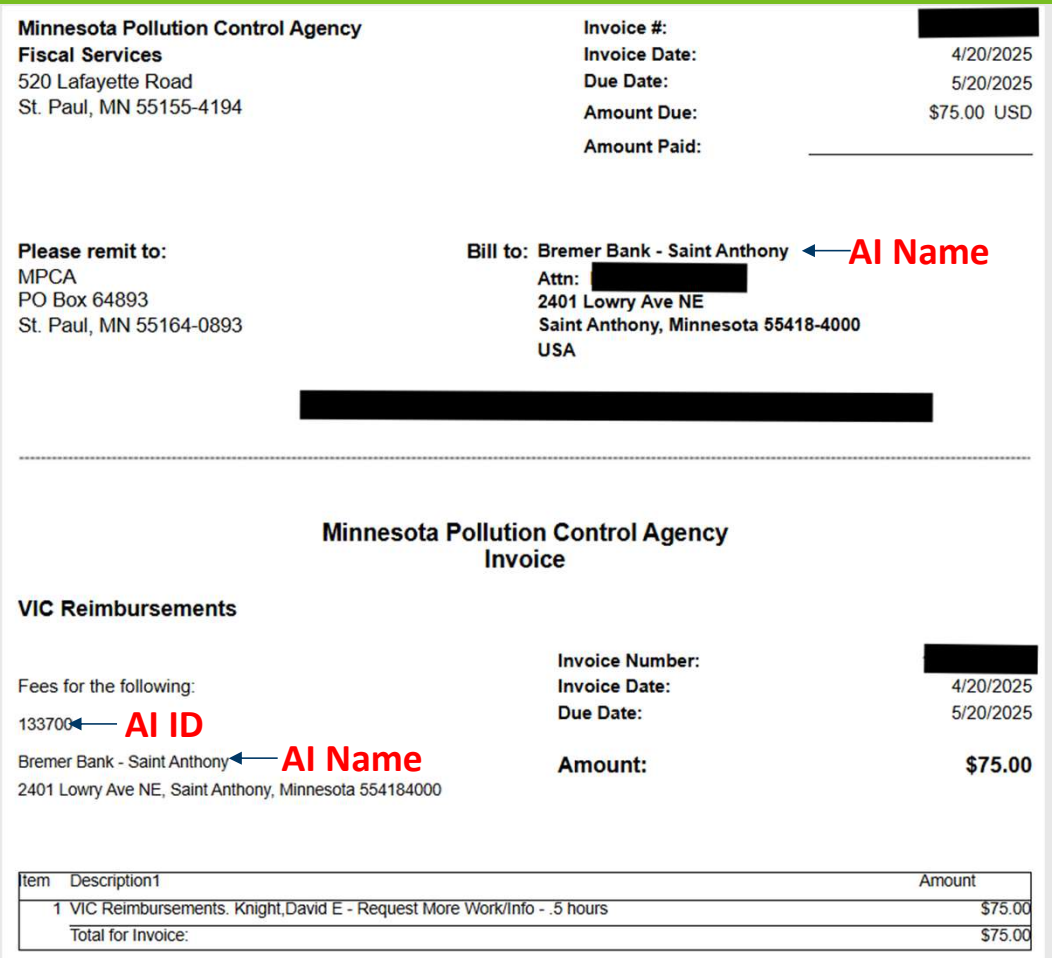
- Attachments (Reports/Letters)
- Site Details
- Work Activity Log
- Copy of Record



Intermission – Where's my Site Name / ID on my invoice?

AI Name: Bremer Bank – Saint Anthony
AI ID: 133700

Site Name: Tibyan Community Center
Site ID: BF0002992 ?



Minnesota Pollution Control Agency
Fiscal Services
520 Lafayette Road
St. Paul, MN 55155-4194

Invoice #: [redacted]
Invoice Date: 4/20/2025
Due Date: 5/20/2025
Amount Due: $75.00 USD
Amount Paid:

Please remit to:
MPCA
PO Box 64893
St. Paul, MN 55164-0893

Bill to: **Bremer Bank - Saint Anthony** ← **AI Name**
Attn: [redacted]
2401 Lowry Ave NE
Saint Anthony, Minnesota 55418-4000
USA

[redacted]

Minnesota Pollution Control Agency
Invoice

VIC Reimbursements

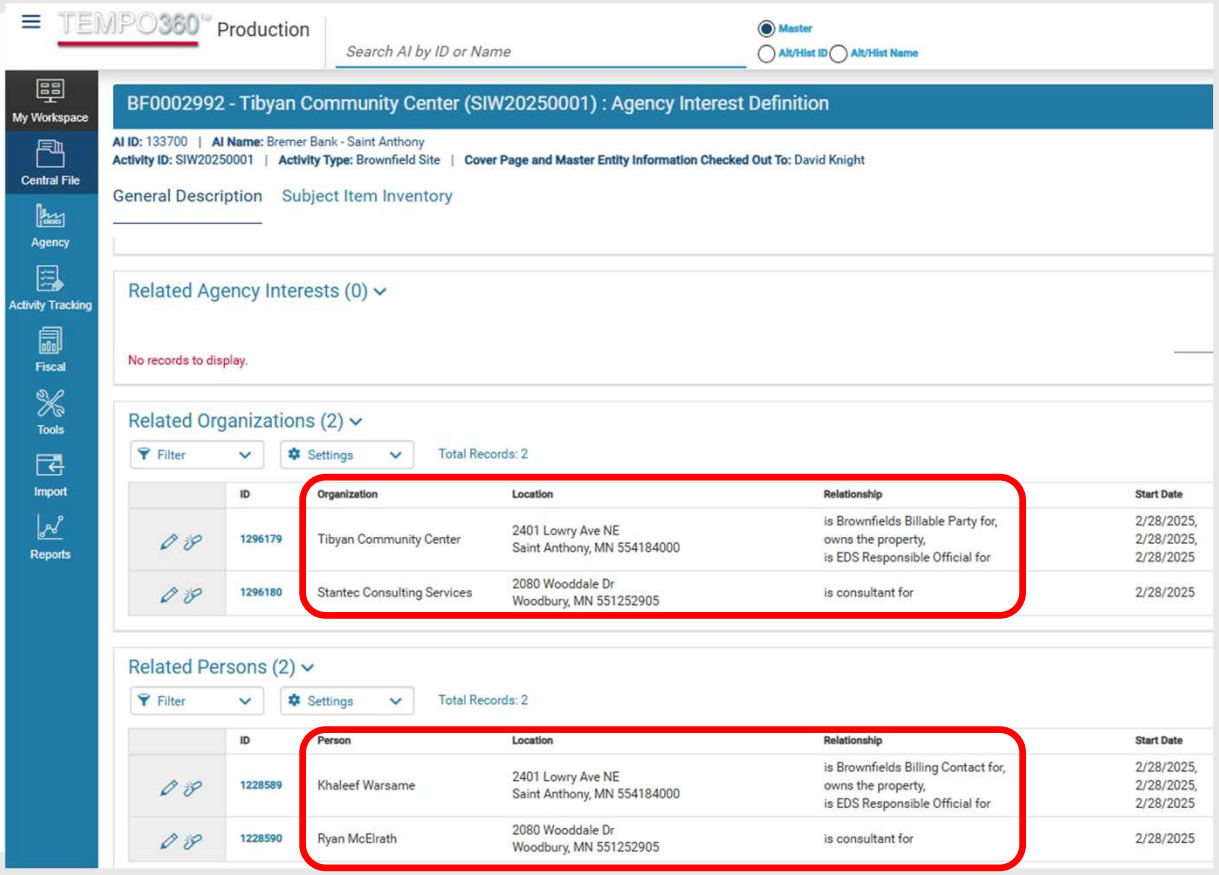
Fees for the following:
133700 ← **AI ID**
Bremer Bank - Saint Anthony ← **AI Name**
2401 Lowry Ave NE, Saint Anthony, Minnesota 554184000

Invoice Number: [redacted]
Invoice Date: 4/20/2025
Due Date: 5/20/2025
Amount: **$75.00**

Item	Description1	Amount
1	VIC Reimbursements. Knight,David E - Request More Work/Info - .5 hours	$75.00
	Total for Invoice:	$75.00

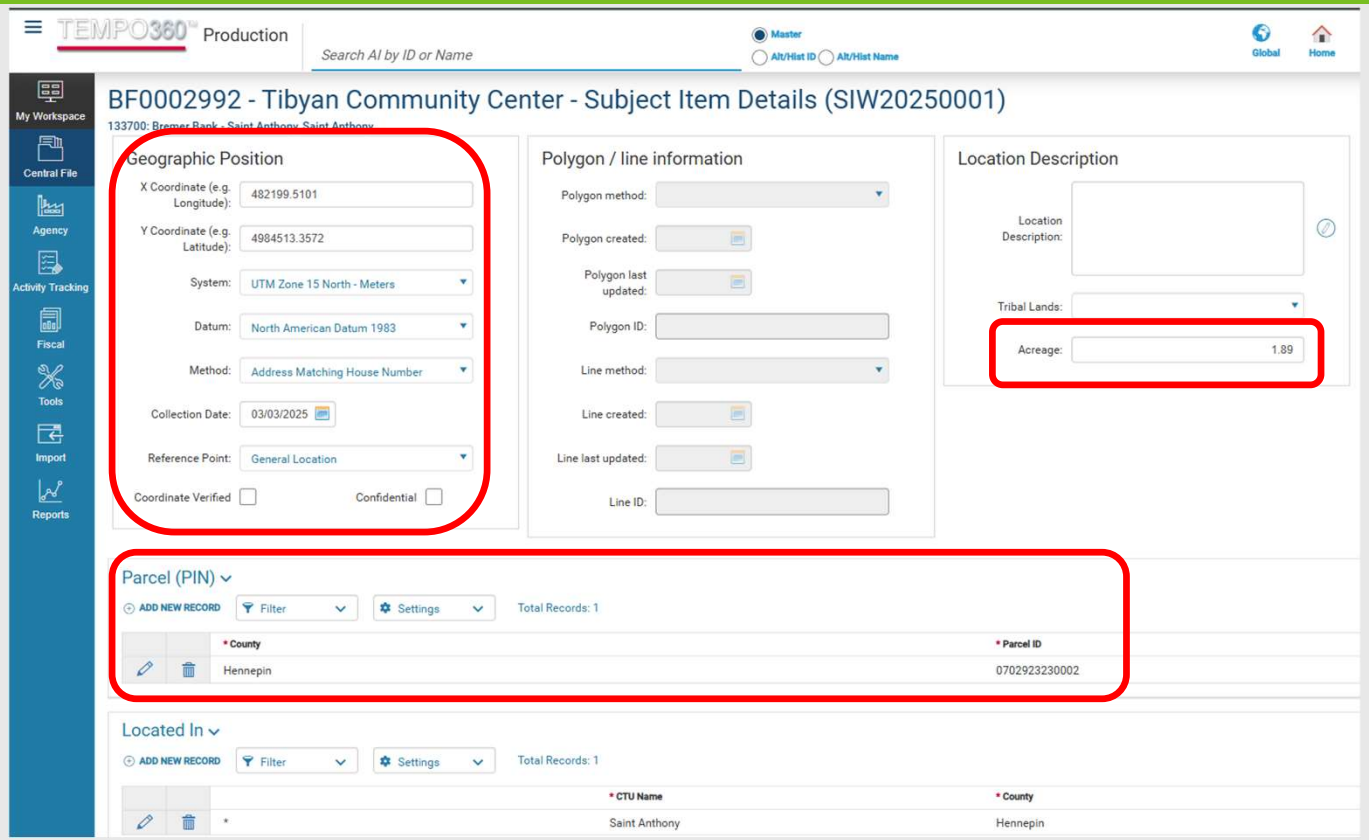
All your base are belong to us

- Person / Organization Records
- Contact Addresses
- Relationships



All your base are belong to us

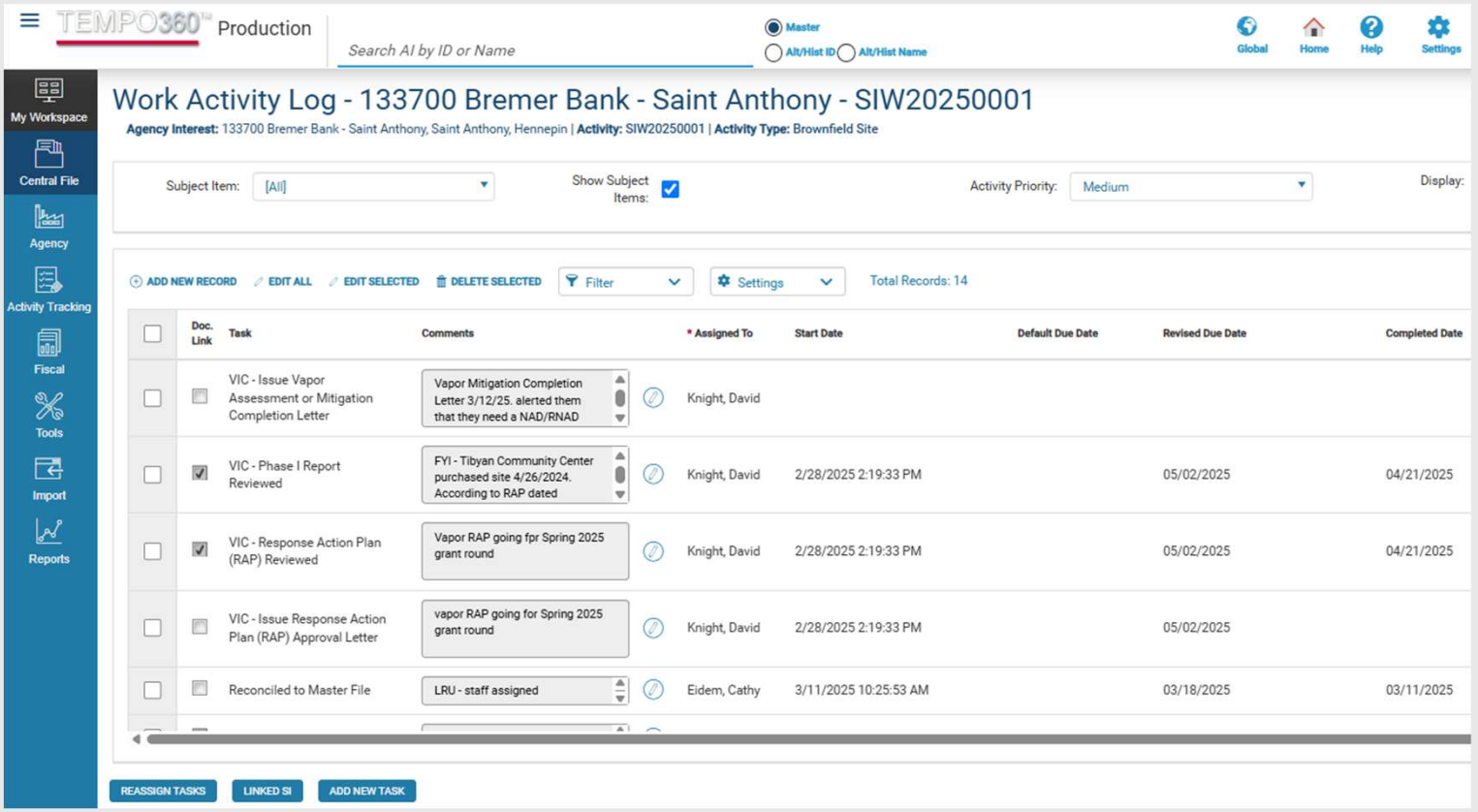
- Site Location
- PINs
- Acreage



All your base are belong to us

Tasks / To Do List

- Review Reports
- Issue Letters

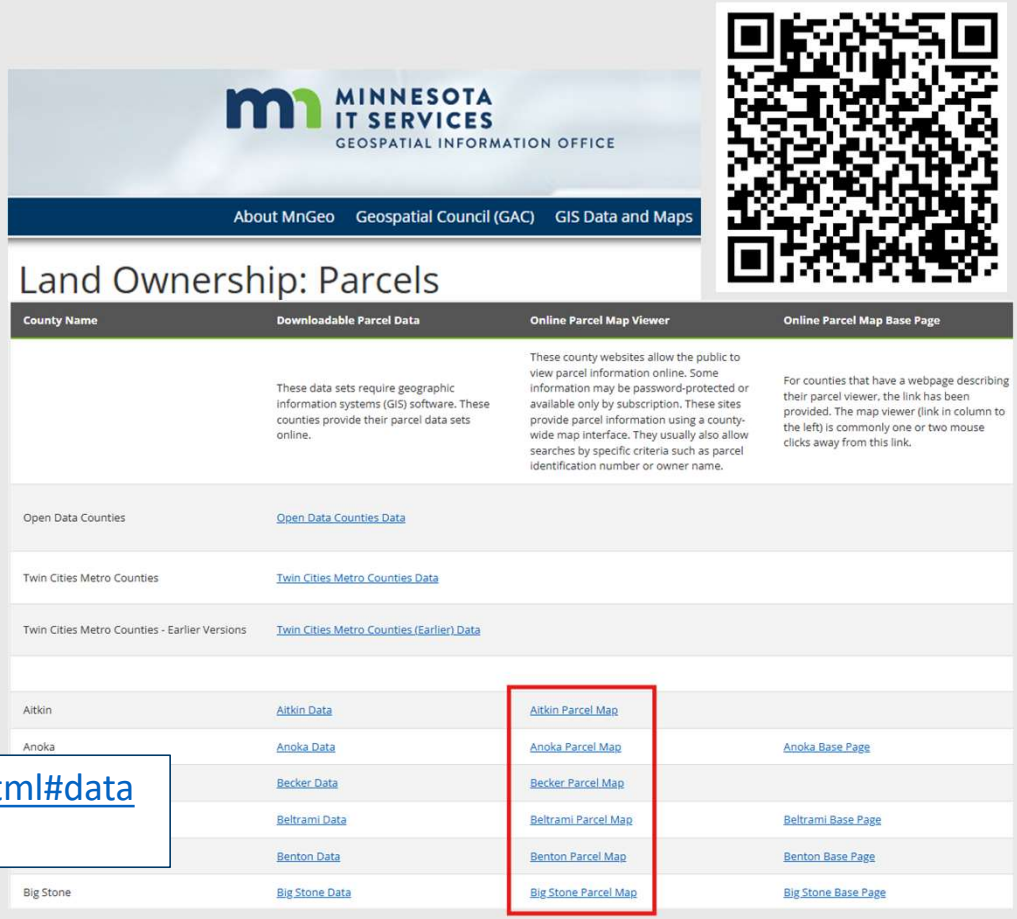


An Accurate and Complete Application

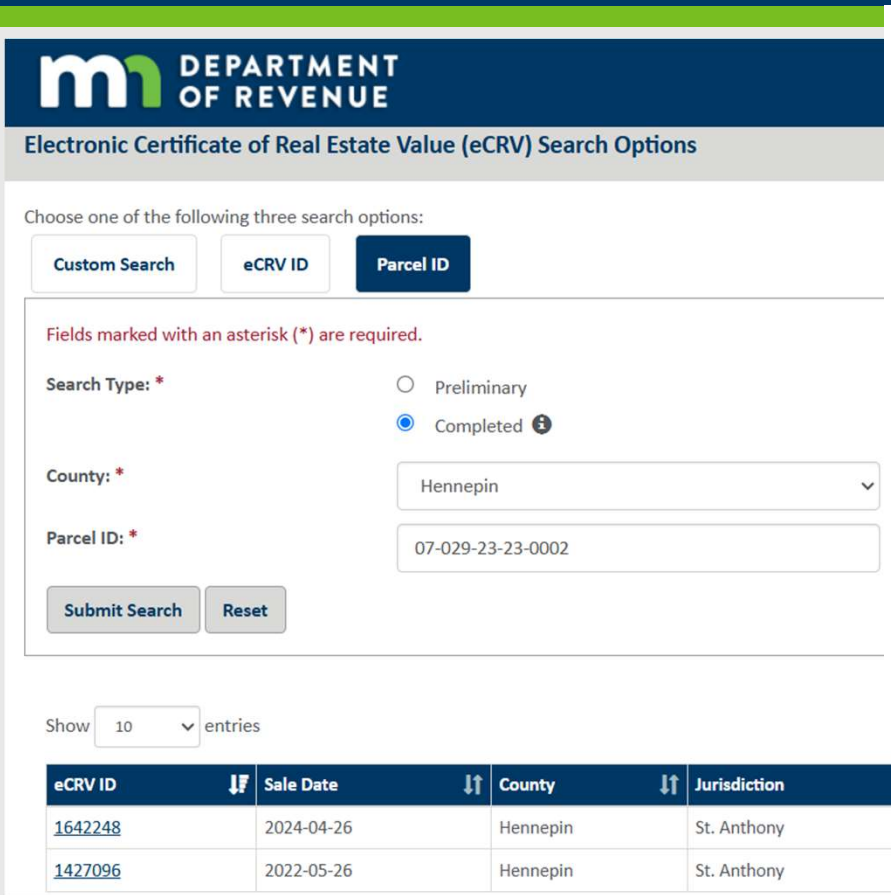
Property Identification Numbers (PINs)

- Don’t manually enter PINs
- Copy/paste from the county property information website
- Enter all relevant PINs
- Identify whether the parcels will be re-platted

https://www.mngeo.state.mn.us/chouse/land_own_property.html#data



An Accurate and Complete Application



eCRV ID	Sale Date	County	Jurisdiction	Deed Acres	Buyer	Seller	Gross Sale
1642248	2024-04-26	Hennepin	St. Anthony	2.21	Tibyan Communit	Kenzie Multifam	$1,500,000.00
1427096	2022-05-26	Hennepin	St. Anthony	2.21	Kenzie Multifam	Bremer Bank, Na	$400,000.00

Current Property Owner

- MN DOR Electronic Certificate of Real Estate Value (eCRV)
  - More up to date than county property info
  - Has a legal description of the parcel

https://www.mndor.state.mn.us/ecrv_search/app/performPublicSearch

eCRV Information

DEPARTMENT OF REVENUE

Download PDF Report

View Summary for Completed eCRV ID 1642248

County:Hennepin Auditor ID:

Submit Date: 04/26/2024 12:33 PM Accept Date: 04/29/2024 2:50 PM

Buyers Information

Organization name:	Tibyan Community Center
Address:	2500 Minnehaha Avenue South, Minneapolis, MN 55404 United States
Foreign address:	No
Phone number:	(612) 644-0394
Email:	

**** MN Revenue does not display SSN/Tax ID fields due to privacy. ****

Sellers Information

Organization name:	Kenzie Multifamily LLC
Address:	6390 Carlson Drive, Eden Prairie, MN 55346 United States
Foreign address:	No
Phone number:	(651) 406-8050
Email:	

**** MN Revenue does not display SSN/Tax ID fields due to privacy. ****

Property Information

County:	Hennepin
Legal description:	That part of the South 365 feet of the West 395 feet of the Northwest Quarter of Section 7, Township 29, Range 23, Hennepin County, Minnesota, lying Northerly of the center line of State Highway No. 63 and St. Anthony and Taylors Falls Road, except the West 100 feet taken for Stinson Boulevard, and which lies Northerly of a line drawn parallel with and distant 19 feet North of the following described line: Beginning at the Southwest corner of the Northwest quarter of Section 7, Township 29, Range 23; thence run East along the South line of said Northwest quarter a distance of 14.25 feet; thence deflect left along a tangential curve having a radius of 859.44 feet, delta angle 38 degrees 33 minutes a distance of 578.25 feet; thence tangent to said curve a distance of 125.74 feet; thence deflect left 90 degrees a distance of 21 feet; thence deflect left 90 degrees a distance of 100 feet to the actual point of beginning of the line to be described; thence deflect right on a tangential curve having a radius of 870.73 feet, delta angle 32 degrees 24 minutes 48 seconds, a distance of 500 feet to the East line of said West 100 feet and said line there terminating, except roads.
Deeded acres:	2.21
Will use as primary residence:	No
What is included in the sale:	Land and Buildings
New construction:	No

Property Location(s)

Property location:	2401 Lowry Avenue NE, St. Anthony, 55418

Preliminary Parcel IDs

Parcels to be split or combined:	No
Primary parcel ID:	07-029-23-23-0002
Additional parcel ID(s):	07-029-23-23-0015

Use(s)

Planned use:	Office / General office		
Primary use:	Yes		
Prior use:	Office / Bank		
Rental buildings:	0	Rental units:	0
Square Footage:	31518		

Sales Agreement Information

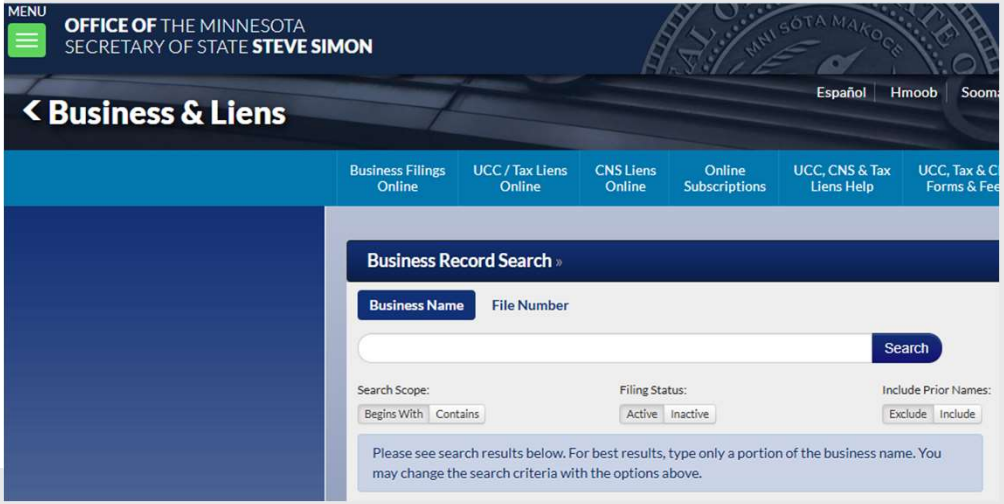
Deed Type:	Contract for Deed
Date of Deed or Contract:	04/26/2024
Purchase amount:	$1,500,000.00
Downpayment amount:	$1,500,000.00

An Accurate and Complete Application

Full legal company names of the Applicant, Property Owner, and Lender

- Don’t use abbreviated or partial company names
- Use the comma before LLC only if part of their legal name

https://mblsportal.sos.mn.gov/Business/Search



An Accurate and Complete Application

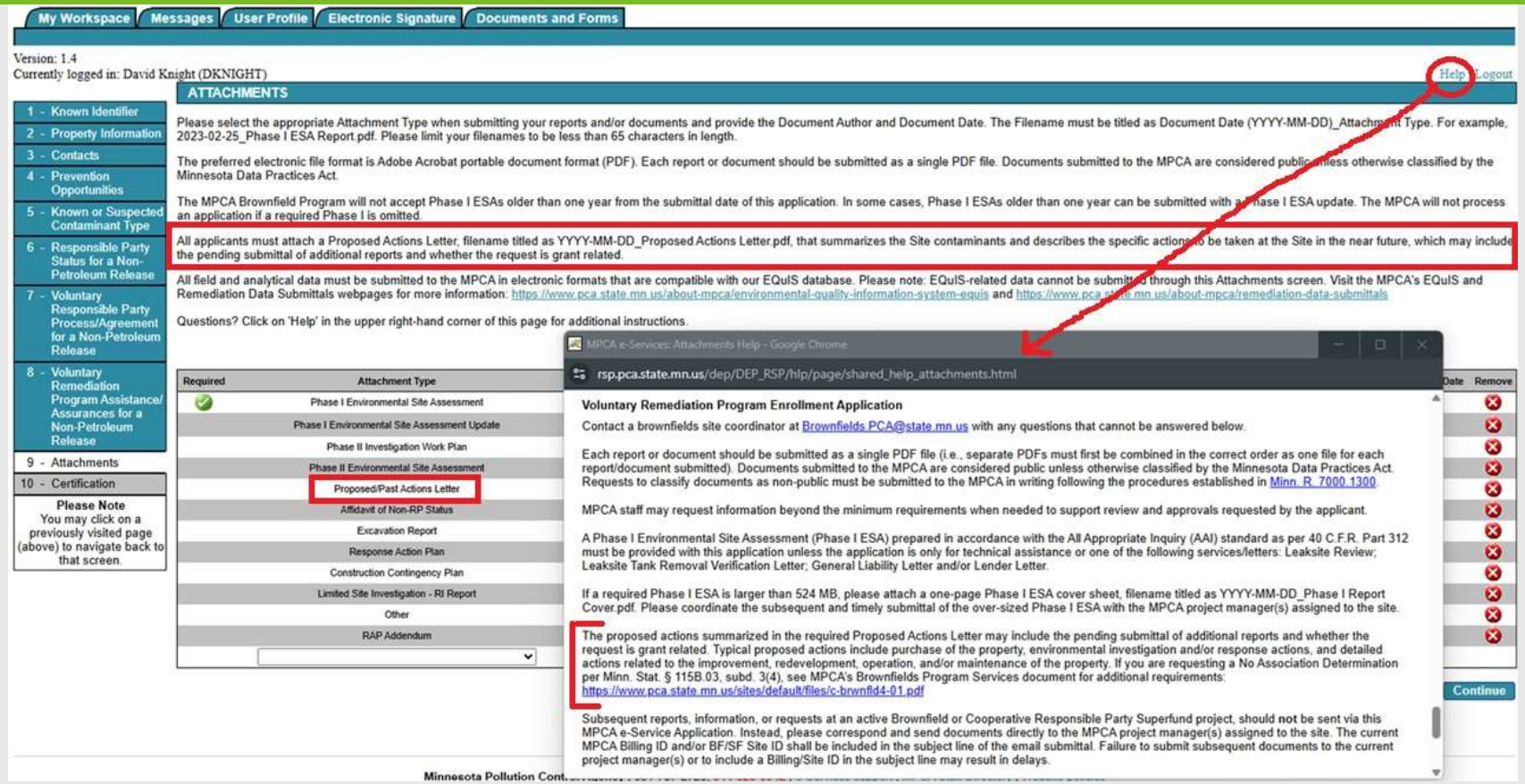
Proposed Actions Letter

- Summary of contaminants
- Specific actions* planned to be taken at the Site in the near future
- Anticipated timeline (closing date)
- Reports to be submitted (RAPs)
- Grant-related
- 2025-04-29_Proposed Actions Letter.pdf

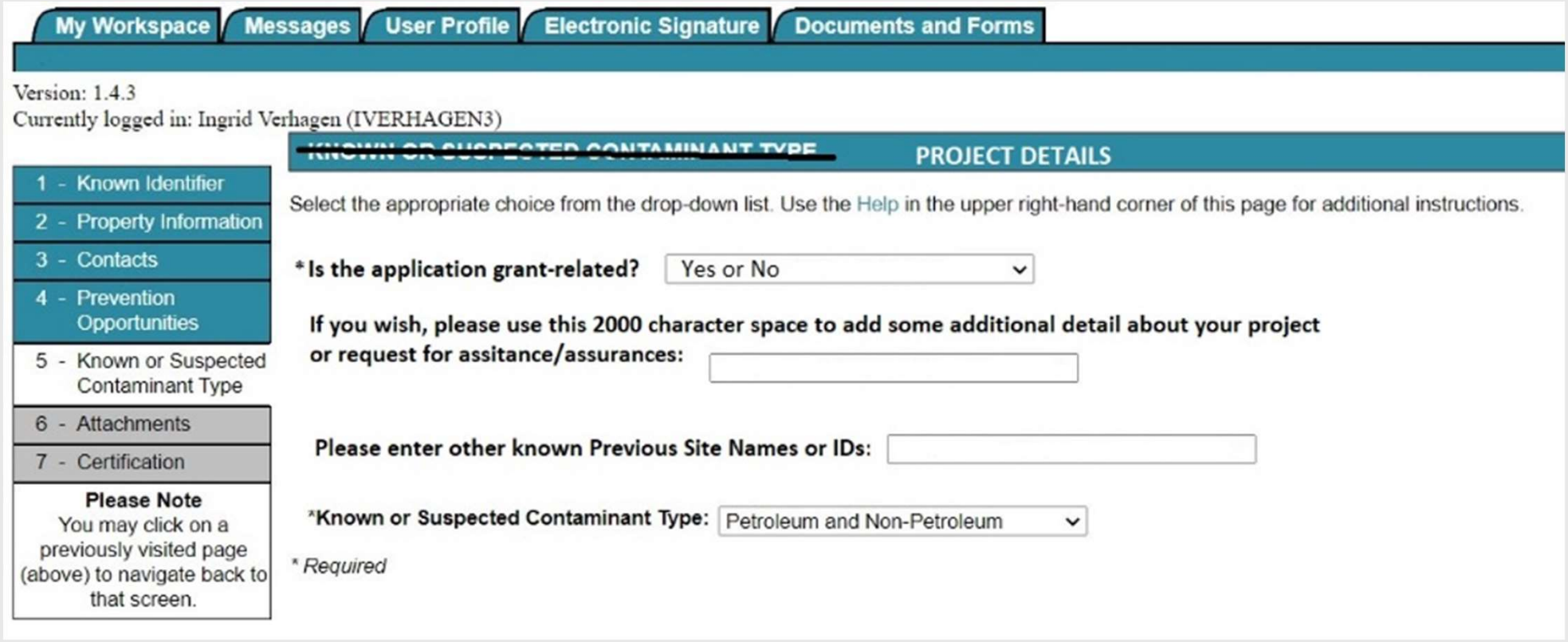
*Typical NAD Proposed Actions

- Purchase of the Site
- Implementation of environmental response actions at the Site, in accordance with an MPCA-approved RAP/CCP
- [Demolition/Renovation] of the existing Site building(s), subject to proper abatement of hazardous building materials
- Redevelopment of the Site with [an apartment building with underground parking, a slab-on-grade multi-tenant commercial building, etc.] and related infrastructure, in accordance with an MPCA-approved RAP/CCP
- Operation of a [type of business] at the Site
- Leasing the Site to [ABC Company or commercial/office/retail tenants]
- Leasing the Site to residential tenants
- Operation and maintenance of the Site building, grounds, and related infrastructure

Don’t be afraid to click Help

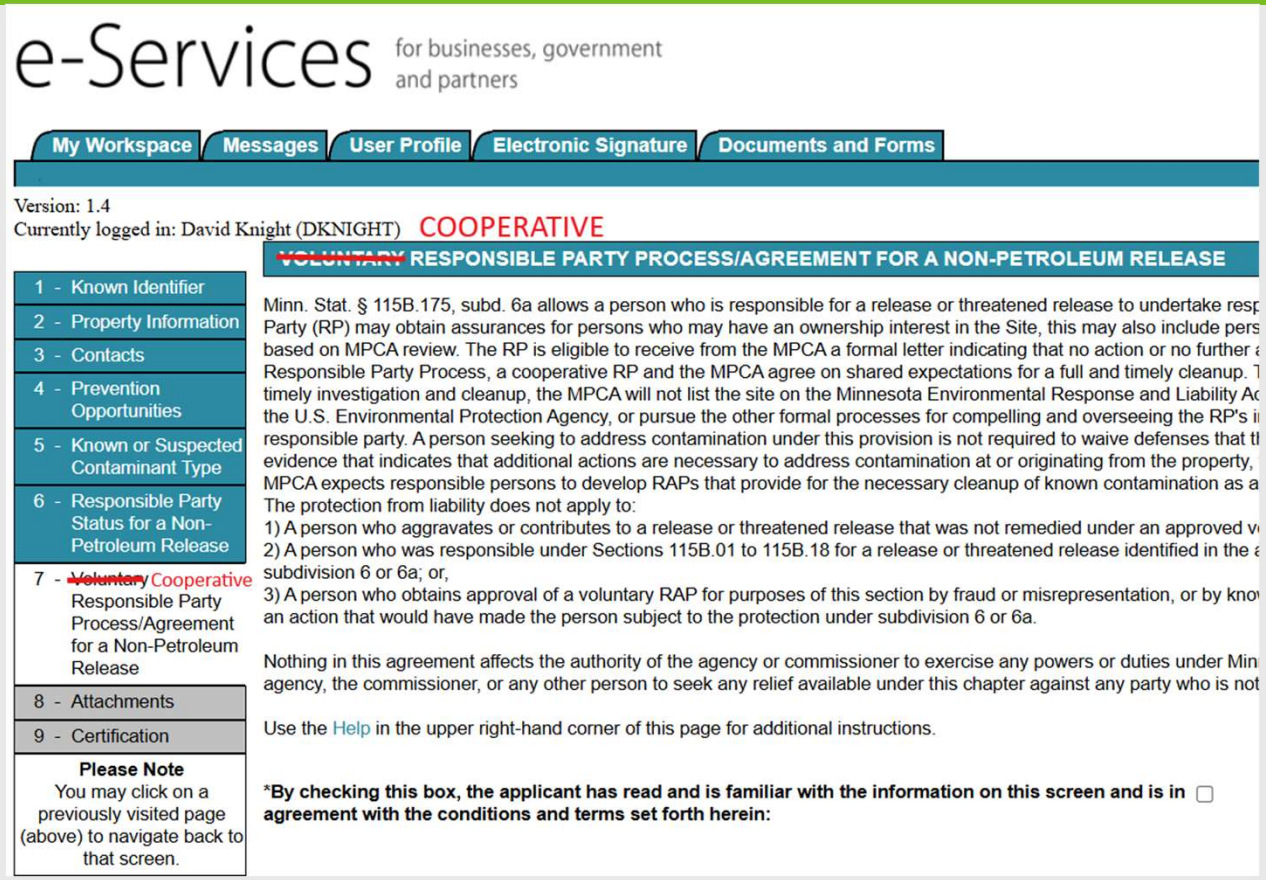


What's next?

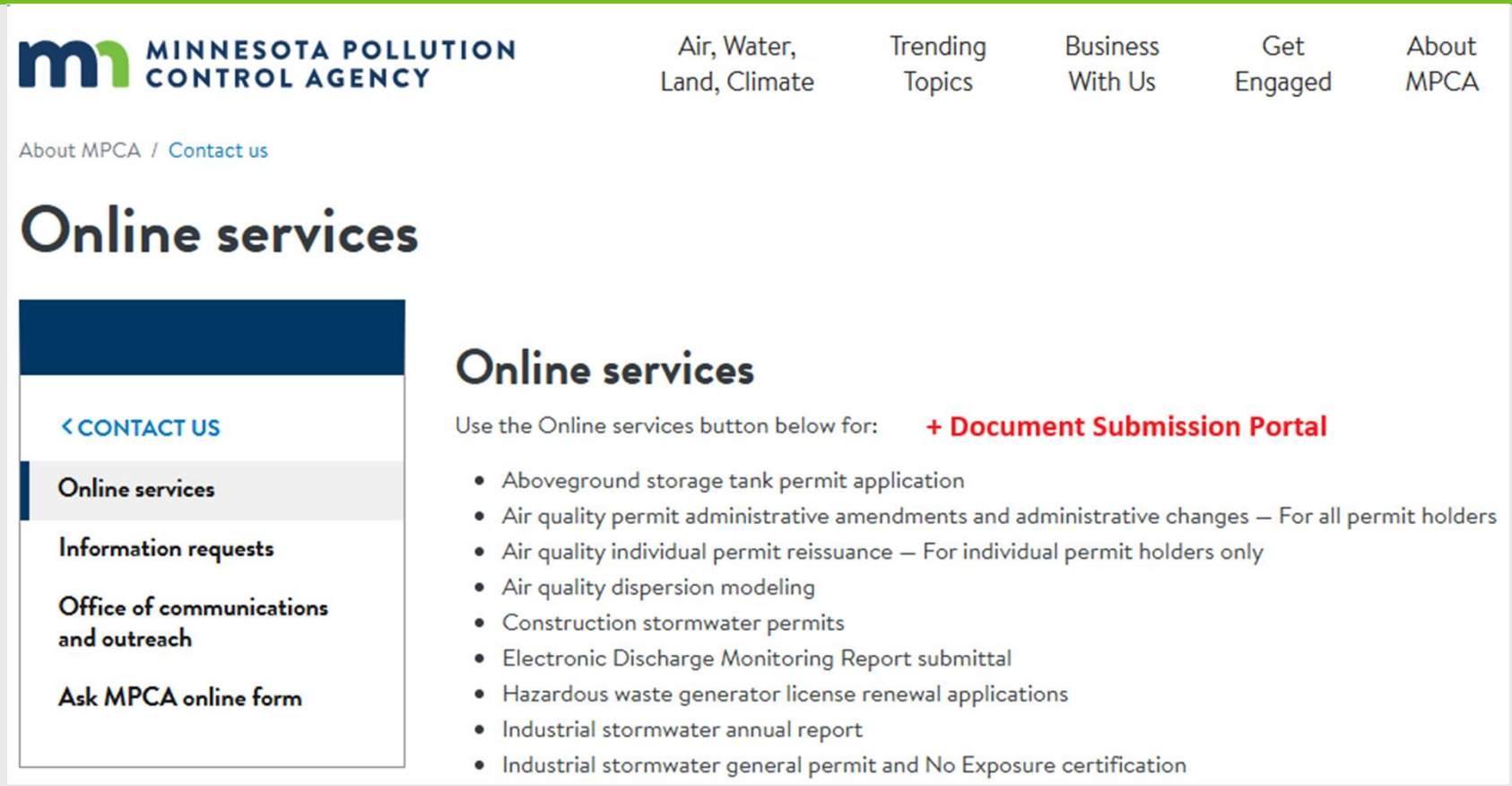

My Workspace
Messages
User Profile
Electronic Signature
Documents and Forms
Version: 1.4.3
Currently logged in: Ingrid Verhagen (IVERHAGEN3)
PROJECT DETAILS
1 - Known Identifier
2 - Property Information
3 - Contacts
4 - Prevention Opportunities
5 - Known or Suspected Contaminant Type
6 - Attachments
7 - Certification
Please Note
You may click on a previously visited page (above) to navigate back to that screen.
Select the appropriate choice from the drop-down list. Use the Help in the upper right-hand corner of this page for additional instructions.
*Is the application grant-related?
Yes or No
If you wish, please use this 2000 character space to add some additional detail about your project or request for assitance/assurances:
Please enter other known Previous Site Names or IDs:
*Known or Suspected Contaminant Type:
Petroleum and Non-Petroleum
* Required

…and another thing

Cooperative Responsible Party



…in flux; what goes in, hopefully comes out.



MINNESOTA POLLUTION CONTROL AGENCY

Air, Water, Land, Climate | Trending Topics | Business With Us | Get Engaged | About MPCA

About MPCA / Contact us

Online services

< CONTACT US

- **Online services**
- **Information requests**
- **Office of communications and outreach**
- **Ask MPCA online form**

Online services

Use the Online services button below for: **+ Document Submission Portal**

- Aboveground storage tank permit application
- Air quality permit administrative amendments and administrative changes — For all permit holders
- Air quality individual permit reissuance — For individual permit holders only
- Air quality dispersion modeling
- Construction stormwater permits
- Electronic Discharge Monitoring Report submittal
- Hazardous waste generator license renewal applications
- Industrial stormwater annual report
- Industrial stormwater general permit and No Exposure certification

…in flux; what goes in, hopefully comes out.

MINNESOTA POLLUTION CONTROL AGENCY

Data

What's in My Neighborhood

Help FAQ WIMN Glossary Feedback **New search**

Bremer Bank - Saint Anthony

Location:	2401 Lowry Ave NE Saint Anthony, MN 55418-4000 Hennepin County
Watershed:	Mississippi River - Twin Cities (07010206)
Latitude:	45.01377383
Longitude:	-93.22620318
Coordinate collection method:	Digitized - MPCA internal map
Currently active?	No
Industry classification:	Commercial Banking
Institutional controls:	No

Search with a map

Activity overview | MPCA contacts | Alternate names | Owners | Documents (8)

These files do not necessarily represent the MPCA's full set of public records for this site.

Request Information

Related documents

Document	Date	Title	Size
TEMPO_Assurance	08/02/2023	proposed actions letter_former bremer bank_trident developmen.pdf	157.2 KB
TEMPO_Site Decision	10/25/2022	20221025_request more work_bf0002310.pdf	234.1 KB
TEMPO_Assurance	08/30/2022	proposed actions letter 083022.pdf	158 KB

Thanks!

David Knight

david.knight@state.mn.us

651-757-2857

MINNESOTA POLLUTION CONTROL AGENCY

Petroleum Remediation Program

Updates & Reminders

MINNESOTA POLLUTION CONTROL AGENCY

Wesley Knox & Stephen Frye

Consultant's Day 2025

Guidance

Big changes within the last year

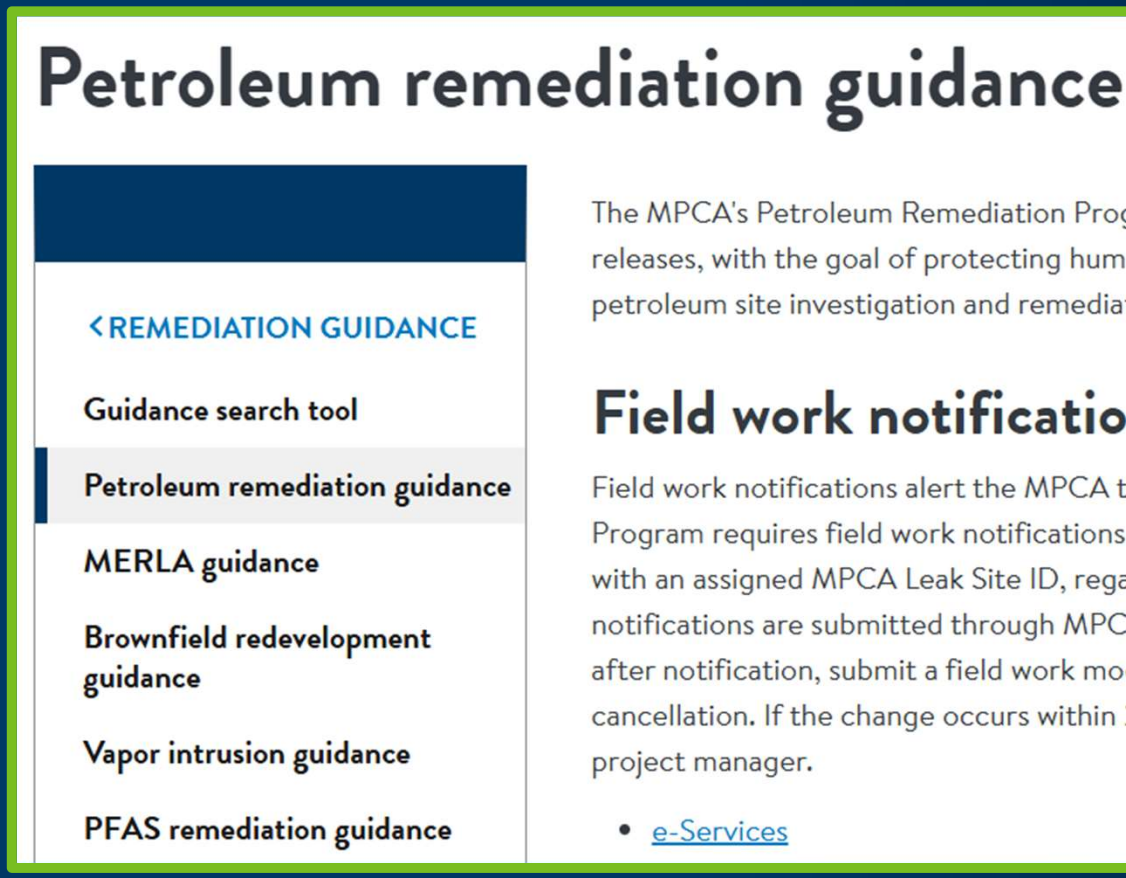
- **4-01a Vapor intrusion assessments performed during site investigations**
  - Fixed gas analyses
- **4-04 Soil sample collection and analysis procedures**
  - Silica gel cleanup
- **4-05 Groundwater sample collection and analysis procedures**
  - Sampling methods & analyses
- **4-23 Investigation requirements for fuel releases containing lead scavengers**
  - Referenced in numerous other docs
- **4-25 Evaluation of total petroleum hydrocarbons in drinking water**
  - Drinking water only

- **3-03 Treatment and disposal of petroleum-contaminated soil**

- Four land treatment forms
  - No longer called “Form A,” …B, …C, …D
- Three composting forms

Guidance best practices

- Submit field work notifications ***at least*** 48 hours in advance
- **Always** retrieve guidance and report forms from the website
  - Eliminates issues with using older versions



Common deviations

- Remove grossly contaminated & petroleum saturated soils when accessible
  - Up to 200 c/y. Contact MPCA for permission to exceed 200 c/y
- Incorrect soil sample depth intervals

	No contamination	Contamination
No groundwater	Boring terminus	Highest PID reading **and** boring terminus
Groundwater	Water table	Water table **and** highest PID reading if not at the water table[1,2]

- Temp well groundwater development time not recorded or not long enough
  - Leave borings open for up to 72 hours, record time in Table 6 of LSI
- Silica gel sampling, must have standard analysis to compare against

Common deviations con’t

- Check-valve sampling no longer permitted for groundwater
  - Pumps preferred
  - No sampling via bailers without prior MPCA approval
- Walking survey requirements

Other common errors

- An Excavation report is required even if the LSI consultant wasn't present for tank removal
  - If a tank excavation didn't occur, then 2-05 Release notification worksheet is required
  - If tank removal info is lacking, at least obtain lab report
- If a checklist item requests elaboration, do not leave it blank
- Proofread, proofread, proofread ☺

Reporting

Confirmation of report content

Confirmation of report content

Reports are insufficient if unsigned, altered, not on most recent format, or components are missing. Below are the most commonly missed components in the Investigation report. If applicable items are missing, the report will not be accepted for review unless the MPCA project manager has been notified prior to report submittal. **Double click checkboxes to select *Checked* and select *OK*.**

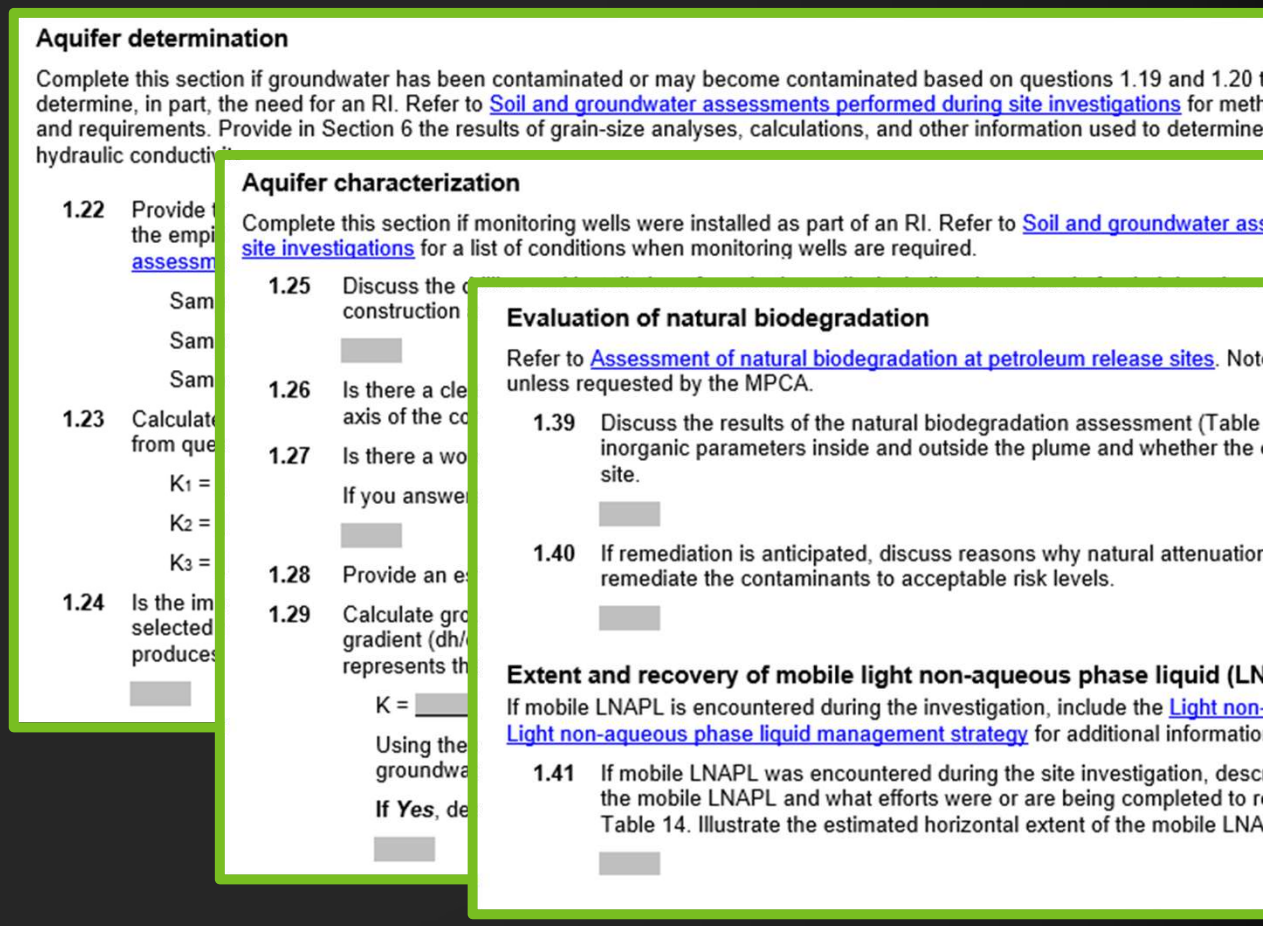
- ☐ Underground storage tank(s) (USTs), aboveground storage tank(s) (ASTs), transfer areas, piping, dispensers, and remote fill pipe locations are depicted on a site map (Section 4: Figure 3)
- ☐ Provide explanation if contact was not made in person for the well receptor survey, if applicable (Section 2.1)
- ☐ Properties located within 500 feet of the release source identified in Table 15 correspond to labeled properties on the receptor map (Section 4: Figure 11)
- ☐ Location of end points for all geologic cross sections are on site map (Section 4: Figure 3)
- ☐ Two geologic cross-sections are included (Section 4: Figure 9)
- ☐ Utilities identified in Table 18 are located on the receptor map (Section 4: Figure 11) and geologic cross-sections (Section 4: Figure 9)
- ☐ Chromatograms provided at a reasonable scale for positive analytical results of gasoline range organics (GRO) and/or diesel range organics (DRO) (Section 6: Appendix F)
- ☐ Pre and post cleanup analytical results if DRO silica gel cleanup was performed (Section 6: Appendix F)
- ☐ Documentation of field activities, collection of field data, sampling information forms, and equipment calibration sheets (Section 6: Appendix H)
- ☐ Soil disposal documentation such as landfill receipts, if not included in General excavation report worksheet (Section 6: Appendix N)
- ☐ Record the amount of time borings left open for attempting groundwater collection in both the water level measurement and depth table (Section 5: Table 6) and on boring logs (Section 6: Appendix E)
- ☐ Field work notification copy of record(s) from MPCA's e-Services (Section 6: Appendix O)
- ☐ Submission of EQuIS electronic data deliverables (EDDs), and include email confirmation (Section 6: Appendix P)

Complete the checklists on page 1 of the Investigation and Monitoring reports

*Updates coming soon

Don’t modify the report templates

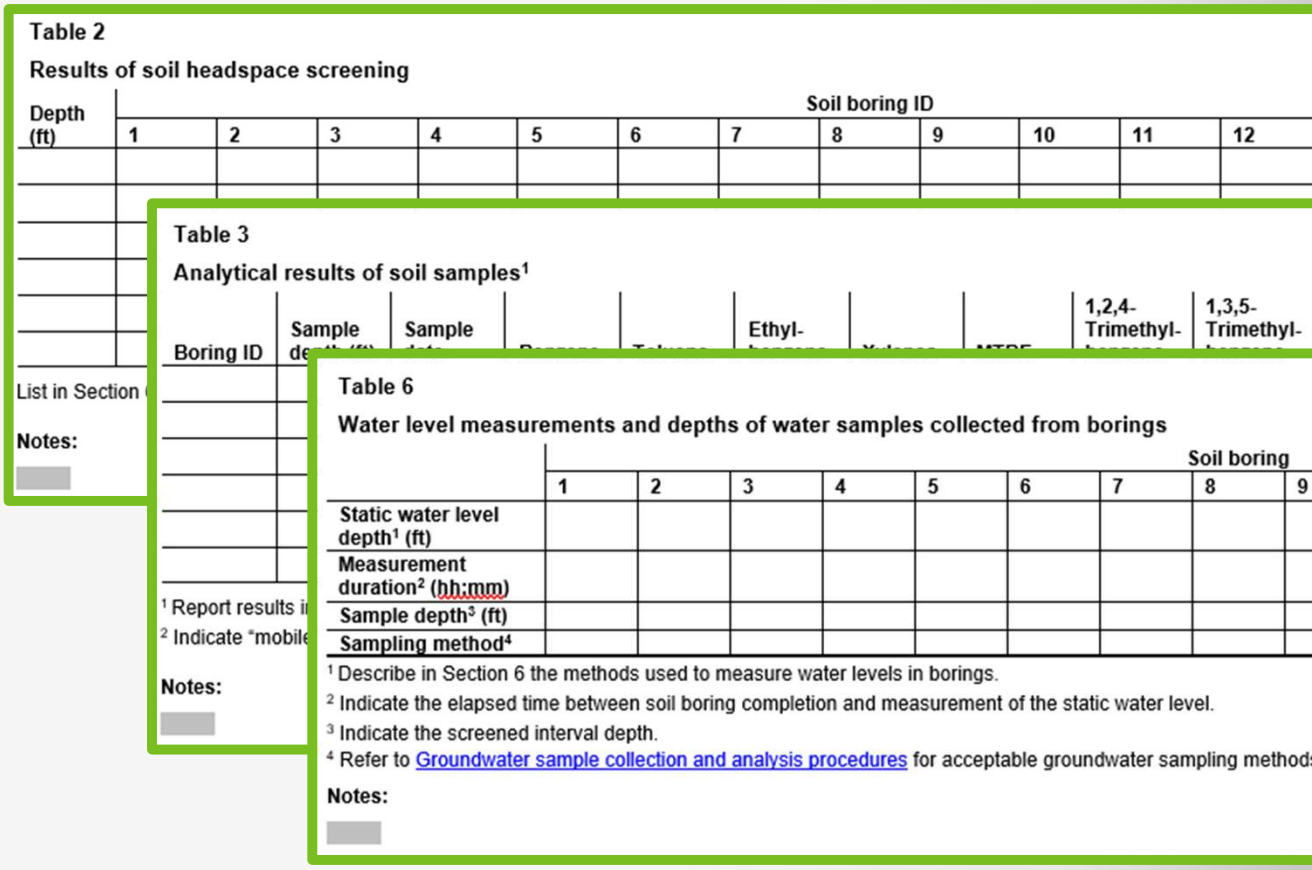
If a question or section isn’t applicable, leave it blank. Do not delete it

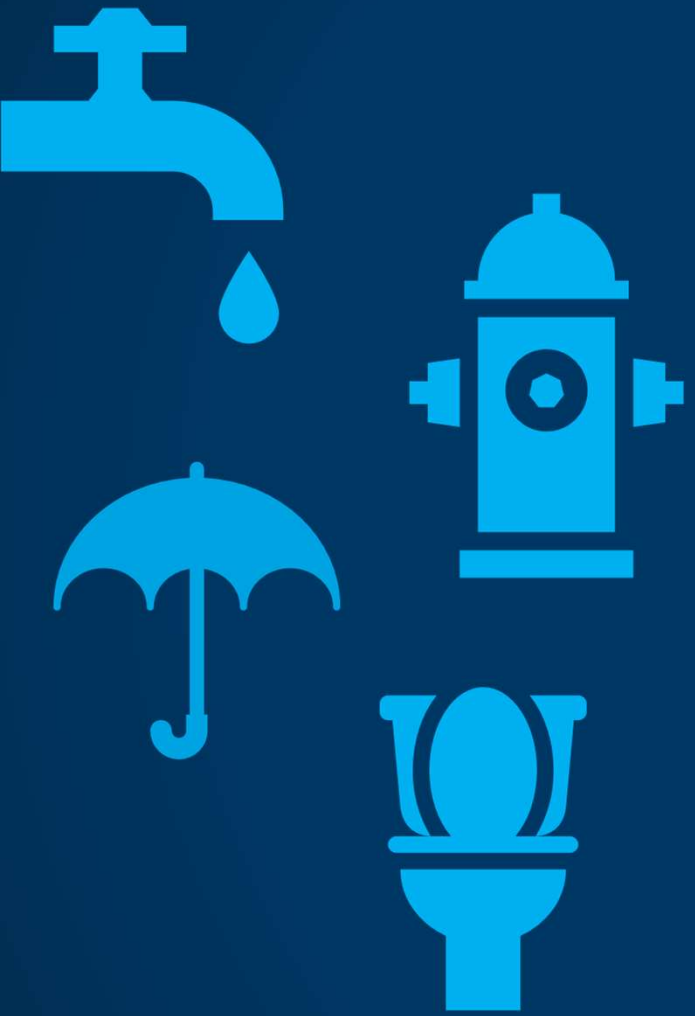


Tables

Use the template-provided tables, or tables that include **only** the info included in template-tables.

Don’t delete non-applicable tables

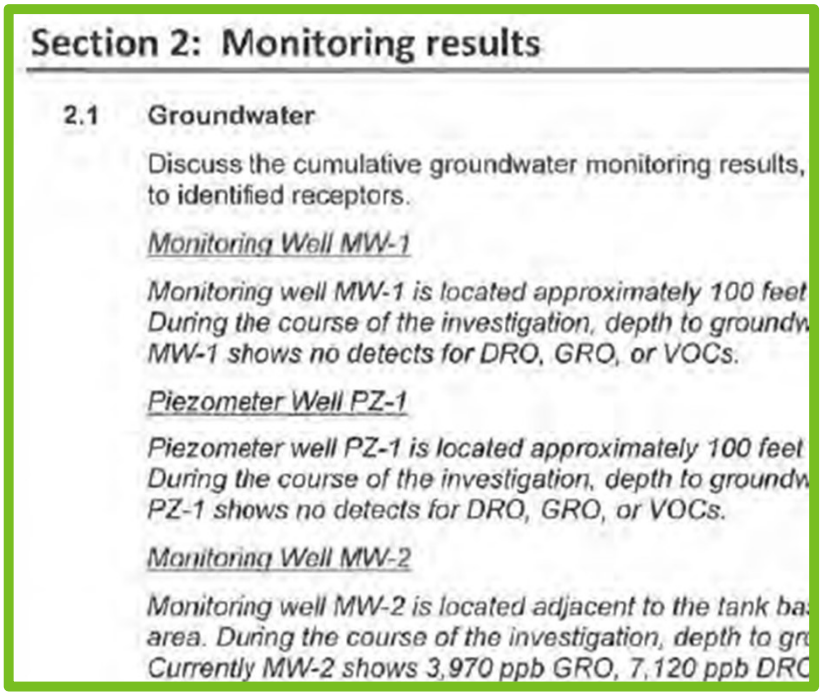




Utility reminders

- Have a complete utility description on Table 18
  - Differentiate water mains from site hook ups
- For checking groundwater development in an impacted aquifer, contact the appropriate utility authority, not a general contact (Example: Minneapolis 311)
  (Question 2.6 on Investigation report form)

Scanned report



Section 2: Monitoring results

2.1 Groundwater

Discuss the cumulative groundwater monitoring results, to identified receptors.

Monitoring Well MW-1

Monitoring well MW-1 is located approximately 100 feet
During the course of the investigation, depth to groundw
MW-1 shows no detects for DRO, GRO, or VOCs.

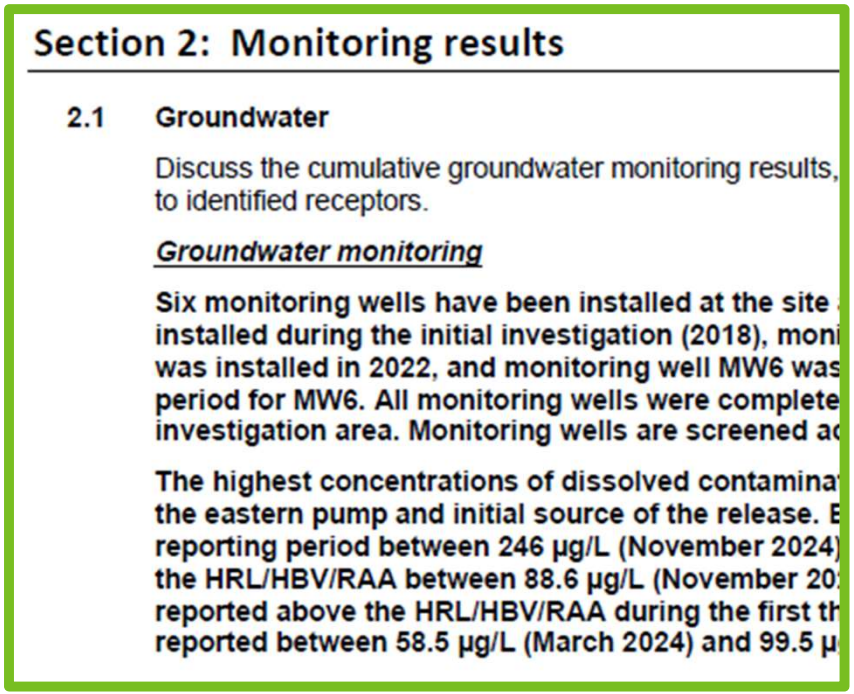
Piezometer Well PZ-1

Piezometer well PZ-1 is located approximately 100 feet
During the course of the investigation, depth to groundw
PZ-1 shows no detects for DRO, GRO, or VOCs.

Monitoring Well MW-2

Monitoring well MW-2 is located adjacent to the tank ba
area. During the course of the investigation, depth to gr
Currently MW-2 shows 3,970 ppb GRO, 7,120 ppb DRO

All-digital report



Section 2: Monitoring results

2.1 Groundwater

Discuss the cumulative groundwater monitoring results, to identified receptors.

Groundwater monitoring

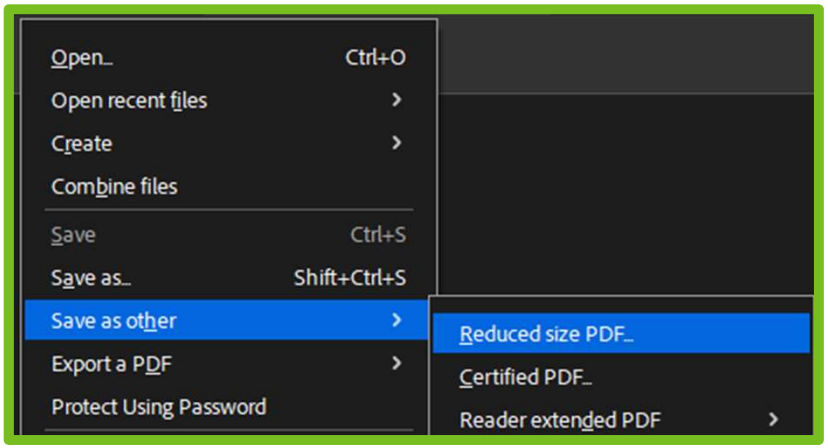
Six monitoring wells have been installed at the site
installed during the initial investigation (2018), moni
was installed in 2022, and monitoring well MW6 was
period for MW6. All monitoring wells were complete
investigation area. Monitoring wells are screened ac

The highest concentrations of dissolved contamina
the eastern pump and initial source of the release. E
reporting period between 246 µg/L (November 2024)
the HRL/HBV/RAA between 88.6 µg/L (November 20
reported above the HRL/HBV/RAA during the first th
reported between 58.5 µg/L (March 2024) and 99.5 µ

Avoid printing/scanning paper reports

Submittal best practices

- Rotate pages to correct orientation, including lab chromatograms and chain of custodies
- Always reduce the PDF
- If it's too large, use a relay service that doesn't require an account
  - ex: DropBox
- MPCA can setup a ShareBase link if needed
- Email reports to PetroleumReports.MPCA@state.mn.us & CC the project manager
- Online report submission portal in early development



EQuIS data submittal

- Site analytical data collected on or after 11/15/2023
- Submit via online data portal
- Site closure may be withheld until data submitted
- Contact remequis.mpca@state.mn.us for assistance

Join GovDelivery!

select “Remediation”

Thank you!

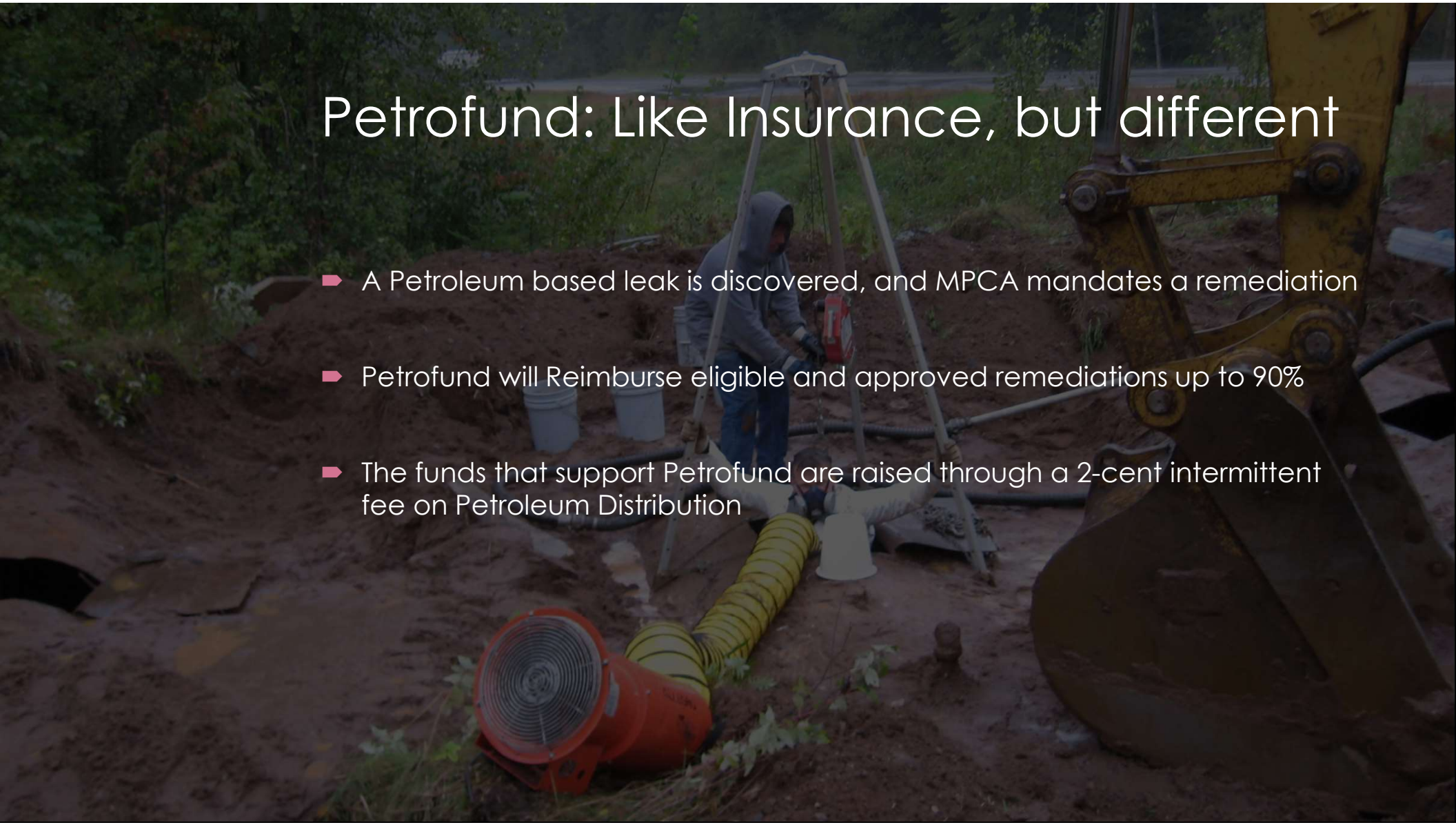
EQuIS webpage

PRP Guidance

MINNESOTA POLLUTION CONTROL AGENCY

Petrofund-

How can we work together more effectively?

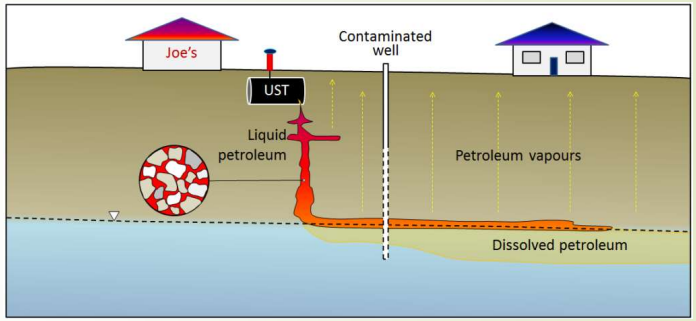


Petrofund: Like Insurance, but different

- A Petroleum based leak is discovered, and MPCA mandates a remediation
- Petrofund will Reimburse eligible and approved remediations up to 90%
- The funds that support Petrofund are raised through a 2-cent intermittent fee on Petroleum Distribution

Petrofund: Like Insurance, but different

- Applications received are reviewed within 60 days for initial applications, and 120 days for supplemental (follow-up) applications.
  - Ms Kathi Roelke does the majority of reviewing
- Emergency work is done immediately;
  - These PRP and ER Fund Financed claims can be referred to Petro Fund for 10% (plus penalties) cost recovery
    - Ms Kelly Kangas is our primary for Cost Recovery work.
  - This could include a property/environmental Lien
  - Hardship claims are a possibility and will be reviewed (delays in review should not delay work getting done)
- Non-emergency work may submit a work proposal prior to starting work on a site to glean information on what could be covered/approved



Petrofund: Like Insurance, but different

- Active Remediation work
  - Maximum costs are **NOT** designated for this kind of work
  - Mr. John Houck reviews costs for active remediation based on guidance documents
- Abandoned Tank (UST) removal program
  - USTs taken out of service prior to December 1988
  - USTs taken out of service after December 1988, but current owner could not have reasonably been expected to have know of the tanks existence at the time right, title or interest in tank first acquired
  - Tax forfeited properties qualify
- Mr John Houck is the primary for Active Remediation and Abandoned Tank removal

Petrofund: Like Insurance, but different

- We work actively with PRP and ER on Leak cases
- Our Goal is the ensure
  - 1) Environmental cleanup is conducted
  - 2) Increase the likelihood that leaks are reported by lessening the financial impact on Applicants / RPs / Volunteers
  - 3) Ensure a fair marketplace for the consumers and businesses involved with this remediation work

Biggest Areas of Application Concern

- **Incomplete Applications:** Ensure Applications are Complete
- **RP Mismatch:** Verify the RP with MPCA PRIOR to filling out and submitting Petrofund application
- Matching:
  - Responsible Person/Party
  - Applicant Name
  - Certification Page
  - Invoices
  - W9
- **Competitive Bidding**
- **Claiming Items not Bid in proposal**

MINNESOTA POLLUTION CONTROL AGENCY

Data

https://webapp.pca.state.mn.us/tank-leak/sites/LS/LS00xxxxx

Tank and leak site dashboard

Print | New search

Due Focacceria

Site ID	LS0020931
Site type	Leak Site
Location	475 Fairview Ave S Saint Paul, MN 55105 Ramsey County
Release discovered	03/28/2019
Release reported	03/28/2019
Site closure date	Active
Product released	Used Oil
Regulatory designation	Federal
Project manager	Frye, Stephen
Hydrologist	Tusa, Rose

lat/long: 44.92733098,-93.17754059

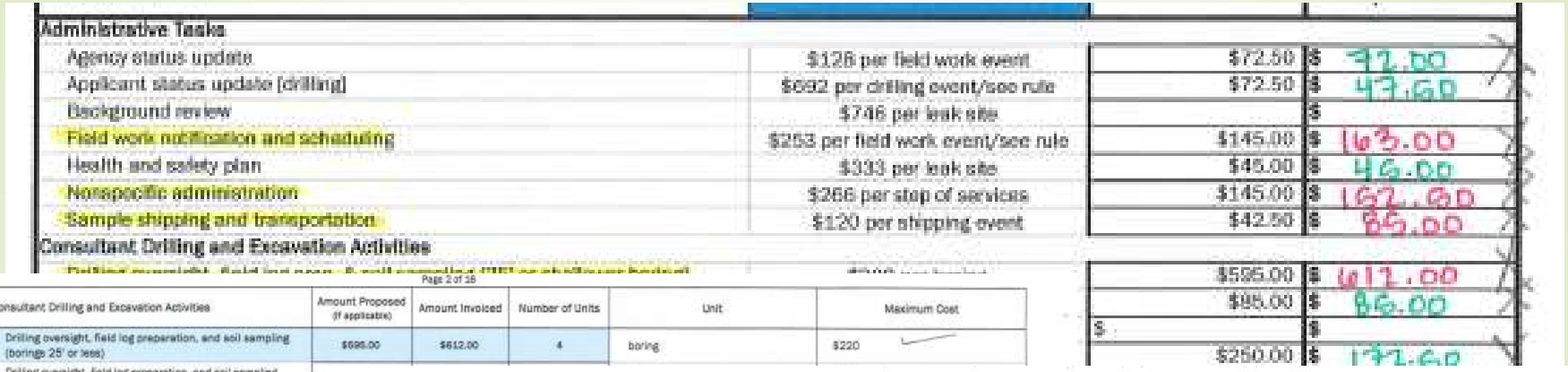
Cleanup actions

There are no cleanup actions to display for this site.

Site contacts

Type	Name	Address	Start date	End date
has Responsible Party of	Due LLC	1654 Juno Ave Saint Paul, Minnesota 551161415	03/28/2019	
has Responsible Party of	Eric Carrara	1654 Juno Ave Saint Paul, Minnesota 551161415	03/28/2019	
has consultant of	Chosen Valley Testing, Inc.	245 Roselawn Ave E Ste 29 Saint Paul, Minnesota 551171989	03/28/2019	

Best Practices



Administrative Tasks			
Agency status update	$126 per field work event	$72.50	$ 72.50
Applicant status update [drilling]	$692 per drilling event/see rule	$72.50	$ 43.60
Background review	$746 per leak site		$
Field work notification and scheduling	$253 per field work event/see rule	$145.00	$ 163.00
Health and safety plan	$333 per leak site	$46.00	$ 46.00
Nonspecific administration	$266 per stop of services	$145.00	$ 162.60
Sample shipping and transportation	$120 per shipping event	$42.50	$ 85.00
Consultant Drilling and Excavation Activities			
		$595.00	$ 612.00
		$95.00	$ 86.00
		$	$
		$250.00	$ 171.60

Page 2 of 16

A	B	C	Consultant Drilling and Excavation Activities	Amount Proposed (if applicable)	Amount Invoiced	Number of Units	Unit	Maximum Cost
☐	X	☐	Drilling oversight, field log preparation, and soil sampling (borings 25' or less)	$595.00	$612.00	4	boring	$220
☐	☐	☐	Drilling oversight, field log preparation, and soil sampling (borings deeper than 25')	$				
☐	☐	☐	Free product recovery through hand bailing or portable pump	$				
☐	☐	☐	Hydraulic conductivity field test	$				
☐	☐	☐	Monitoring well installation oversight and development (0-2 hours)	$				
☐	☐	☐	Monitoring well installation oversight and development (beyond 2 hours)	$				
☐	☐	☐	Monitoring well sealing oversight	$				
☐	☐	☐	Surveying and surveying equipment	$				
☐	☐	☐	Surveying and surveying equipment (licensed professional surveyor necessary)	$				
☐	☐	☐	Temporary well installation oversight (wells 25' deep or less)	$				
☐	☐	☐	Temporary well installation oversight (wells deeper than 25')	$				
☐	☐	☐	Utility backfill investigation	$				
☐	☐	☐	Utility clearance	$				
X	☐	☐	Utility clearance (private utility locator necessary)	N/A	~~$250.00~~	1	event	$733 (see rule)
			Field and Receptor Surveys					

Consultant Task	Explanation	Describe the documentation incl... support this explanation (attach to change order)
Private Utility Locator	What was extra: Private Utility Locate. Why was it needed: Because borings needed to be completed near the active UST systems. Why was it not foreseeable: Private utility locates are not to be included in the Standard Scope Bids.	Zoneone Locating Invoi... #37250 02
VOC (soil)	What was extra: VOC Analysis. Why was it needed: Per MPCA requirements as groundwater was not encountered. Why was it not foreseeable: Consultants do not know if groundwater will be encountered until they are doing the fieldwork.	Pace Analytical Invoic... #2440150937 02

[redacted]

Technician

[redacted]	3/5/2024	1.00	65.00	65.00	✓
Field work notification and coordination					
	3/8/2024	3.00	65.00	195.00	✓
Travel time					
	3/8/2024	3.00	65.00	195.00	✓
Manual soil vapor sampling. Had to remobilize due to equipment malfunction during original LSI activities.					
		7.00		455.00	CO
[redacted]	3/8/2024	3.00	65.00	195.00	✓
Travel Time					
	3/8/2024	3.00	65.00	195.00	✓
Manual soil vapor sampling. Had to remobilize due to equipment malfunction during original LSI activities.					
		6.00		390.00	

Total Professional Personnel ***845.00***

Consultants

	Invoice Number	*Date*	*Cost*	*Multiplier*	*Amount*	
[redacted]	BC-33370	2/29/2024	2,862.50	1.00	2,862.50	CO
Drilling, Permit, Utility Clearance						
[redacted]	1178029	4/2/2024	214.50	1.00	214.50	✓
Grain Size Analysis - Lab IDs: 24-071-4056, 4067 & 4068						
[redacted]	2000028977	3/28/2024	302.50	1.00	302.50	✓
J72210-1 [redacted]2746424 LSI, 02/17/2024						
	2000028978	3/28/2024	300.00	1.00	300.00	✓
J72529-1 [redacted]424 LSI, 03/09/2024						
			602.50		602.50	

759
214
302.50
300
1516
860
1456

Total Consultants ***3,679.50***

Total This Phase **$4,524.50**

Phase : 02 - Reporting

Professional Personnel

Class / Employee Name	*Date*	*Hours*	*Rate*	*Amount*	
Staff Scientist					
[redacted]	3/4/2024	4.00	75.00	300.00	✓
Investigation report preparation					
	3/21/2024	4.00	75.00	300.00	✓
Investigation report preparation					
		8.00		600.00	

New Database coming 2026

- External Portal
  - For status Update
  - For Application Entry
  - For tracking
- Automated Flags
  - RP Mismatch
  - Over proposed / Over Max
  - Incomplete Applications
- Streamline process

Petrofund

- Questions??