

Managing petroleum-contaminated soil at public works projects

Petroleum Remediation Program

This document provides guidance for managing petroleum-contaminated soil (PCS) encountered during public works projects originating from petroleum tank releases. Potential risks associated with encountering PCS at public works projects include human exposure to contaminants, impacts to the environment, and in severe situations, fire and explosions.

Definitions:

Public works project – A public works project involves installation, replacement, or maintenance of public utility infrastructure staged within a utility easement, or in right-of-way owned and/or managed by the State, an agency of the State, or a local unit of government. Examples of public works utilities are public watermain, sanitary sewer, telephone, electric, natural gas, and stormwater.

Development projects are not eligible. Common examples of development projects are trenching for building construction, site reworking, street re-paving, public facility construction, installation and/or upgrading of service connections from the main utility infrastructure to private homes or businesses, and other utility work by private entities as part of a development project. Road work independent of other public utility infrastructure is also not eligible.

Project sponsor – A project sponsor can be a public works owner, the State, an agency of the State, or a local unit of government that holds the access permit for a utility or other public works project or has a principal stake in scoping and completing the project.

It is the responsibility of the project sponsor to complete the project safely through the areas of contamination, and to properly manage PCS that is excavated during the project. In most cases, a project sponsor will not be required to remove the contamination outside planned project excavation limits, or to define the extent of the contamination.

1. Pre-project startup and planning ahead

Plan ahead to avoid project delays if petroleum contamination is encountered.

- **Identify potential sources of contamination.** Prior to construction, determine if and where petroleum contamination may exist along the planned route. For instance:
 - Take an inventory of active petroleum retail businesses located along the route. Interview people who are knowledgeable about the project area, and may have information on locations of former fueling stations or usage of petroleum storage tanks. Talk with property owners along the corridor who may have knowledge or have previously used petroleum storage tanks on their property as a part of a business or for heating.
 - Complete a visual reconnaissance of properties adjacent to the project area. Check for evidence of petroleum storage tanks such as patched concrete, former pump islands, fill pipes, or vent pipes.
 - Review Minnesota Pollution Control Agency's (MPCA) [What's in My Neighborhood](#) database, and MPCA's [Petroleum Remediation Program Maps Online](#) to identify potential petroleum tank release sites along the project route.

- **Hire an environmental consultant.** If petroleum contamination will likely be encountered during the project, hire a Petrofund-registered environmental consultant and arrange for them to be present or on-call during construction through the areas of suspected contamination. A list of Petrofund-registered consultants is available at <https://mn.gov/commerce/business/petrofund/>. Failure to have a Petro-fund registered environmental consultant on-site for project oversight may impact reimbursement.
- **Work with the MPCA.** Prior to project startup, if petroleum contamination will likely be encountered during the project, contact the MPCA's public works coordinator at 651-296-6300 or 800-657-3864. Request that the MPCA's public works coordinator issue you a *Request to Take Corrective Action* letter. **An MPCA *Request to Take Corrective Action* letter is required to be eligible for Petrofund reimbursement.**

For a *Request to Take Corrective Action* letter to be issued, the following information must be submitted to the MPCA's public works coordinator:

- Project sponsor's contact information: Name, title, mailing address, email address, phone number.
- Description of what utilities are part of the public works project scope.
 - If water main is a utility being installed or replaced during this project, provide the current and planned water main piping material type.
- Project location and plan sheets, depicting the project area, relevant utilities, anticipated excavation boundaries, and potential contamination sources. Include the MPCA site ID(s) if known.
- Estimated volume of PCS that may be excavated to complete the public works project. This may include trench dimensions, or some other estimate of excavation dimensions.
- Estimated volume of PCS that cannot be reused on site and will require offsite disposal.
- **Water main.** Certain water line materials such as high-density polyethylene (HDPE), polybutylene, polyvinyl chloride (PVC), asbestos cement, and gasket materials such as non-metallic gaskets, are susceptible to physical degradation and/or permeation when exposed to petroleum contamination. Refer to state and local governance, regarding piping material requirements near sites with petroleum contamination concerns.
 - i) If contamination is encountered in a water main trench, collect soil samples every 20 linear feet to conduct petroleum sheen tests, as described in [Soil sample collection and analysis procedures](#), Section I.B.
 - ii) If petroleum sheen tests are positive along a majority of the trench, upgrade the water main piping material to ductile iron with petroleum-resistant gaskets.

Installation and/or upgrading of water service connections from the main utility infrastructure to private homes or businesses are not covered or considered eligible for public works projects.

Some projects may encounter PCS that could not have been foreseen. In those cases, to ensure Petrofund reimbursement eligibility, the project sponsor must be prepared to temporarily stop work in the contaminated areas. Contact the MPCA's public works coordinator to discuss the project, and provide the information necessary for the MPCA to issue the *Request to Take Corrective Action* letter. Be aware that the MPCA's public works coordinator will not always be available, and that the MPCA will not issue a *Request to Take Corrective Action* letter after the contaminated soil has been excavated.

2. Excavating petroleum-contaminated soil and request to take corrective action

- a. **Report contamination and assess vapor risks.** A project sponsor must immediately report contamination to the [Minnesota duty officer](#) at 651-649-5451 or 800-422-0798. Inform the duty officer of emergency situations such as free product or high or explosive levels of petroleum vapors. The duty officer notifies the appropriate units of government. During the call, indicate to the duty officer the release discovery is near a public works project. After reporting the discovery of petroleum contamination, call the MPCA's public works coordinator at 651-296-6300 or 800-657-3864.
- b. **Have an environmental consultant oversee the work performed in the areas of contamination.** Determine if the contamination encountered presents a potentially dangerous situation, such as high or explosive levels of vapors, or free product, and complete the work requested by the MPCA in accordance with applicable MPCA guidance documents. If a potentially dangerous situation is found, the project may be delayed because the MPCA may require an emergency response. Work cannot be performed in contaminated areas without an environmental consultant present to ensure completion of the MPCA's requested work.
- c. **Separate soil during excavation.** Field screen soil during excavation using soil headspace screening with a photoionization detector (PID) and the petroleum sheen test. Field screening procedures are described in [Soil sample collection and analysis procedures](#). Separate contaminated soil with headspace screening results at or above 10 parts per million by volume (ppmv) from soil below 10 ppmv and maintain separate stockpiles. Separate and stockpile petroleum-saturated soil from all other soil regardless of PID reading. Soil is considered petroleum-saturated when the sheen test result is positive. Excavate only the minimum volume of contaminated soil necessary to safely complete the public works project through contaminated areas. Stockpile soils in accordance with [Excavation of petroleum-contaminated soil and tank removal sampling](#), section I.G. The stockpile cover must be maintained until the soil can be re-used on the project or disposed of offsite, as described below.
- d. **Re-use soil on the project.** Soil can only be reused in the following ways:
 - PID readings < 10 ppmv: can be re-used as backfill or otherwise re-used on the project with minimal vapor impact.
 - PID readings ≥ 10 ppmv and < 200 ppmv can be re-used on the project as road base or in embankments, at a maximum thickness of four inches - and must be at least 200 feet away from surface waters. Soil re-used in embankments must be covered with two feet of clean cover soil.

Soil can also be re-used as backfill if it can be effectively mixed to less than 10 ppmv. Soil with readings at or above 200 ppmv or is petroleum saturated **must** be properly managed. See [Treatment and disposal of petroleum-contaminated soil](#) for available options. Soil with readings at or above 10 ppmv and less than 200 ppmv that is not re-used on site as road base or in embankments also must be properly managed. Soil with readings at or above 10 ppmv can be used only in the specific ways stated outlined above.
- e. **Sample and dispose of soil that cannot be re-used on the project.** Collect representative soil samples from the soil stockpile(s) and analyze for the required laboratory parameters based on the recommended disposal option. See [Treatment and disposal of petroleum-contaminated soil](#) for available options.
- f. **Obtain all necessary permits and comply with permit conditions if dewatering is required.** If treatment of dewatering effluent may be required prior to discharge, immediately contact the MPCA's public works coordinator at 651-296-6300 or 800-657-3864, as significant pre-planning and approvals are required prior to approval of these actions.

g. Identify potential source(s) of petroleum contamination.

h. Submit a report to the MPCA's public works coordinator. The report must include the following:

- Plan sheets of the public works project showing the areas where contamination was encountered, all soil headspace screening locations, and sources of the contamination.
- Soil headspace screening data, including PID results, depth, and sample ID correlated to the screening locations on the plan sheets or figures.
- Total volume of soil excavated from each individual source area identified by MPCA Site ID and volume of PCS excavated for the public works project.
- Description of any soil reuse on the project, with areas depicted on plan sheets.
- Stockpile analytical data, volume of soil disposed of offsite, and/or treatment method and location.
- Documentation of water main pipe materials used in areas with petroleum contamination/permeation concerns.

3. Petrofund reimbursement

The project sponsor may apply for Petrofund reimbursement of reasonable costs incurred for the purpose of meeting the MPCA's *Request to Take Corrective Action* letter. The costs for performing work beyond the scope of the MPCA's *Request to Take Corrective Action* letter are not eligible for Petrofund reimbursement unless the MPCA provides written approval to exceed the original scope of work. Any costs for work that is performed without a written *Request to Take Corrective Action* letter are ineligible for reimbursement.

For questions about Petrofund reimbursement requirements, including getting competitive bids, contact the [Petrofund](#) at 651-539-1515 or 800-638-0418.