|  |  |
| --- | --- |
| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | Application for petroleum-contaminated soil land treatment sitePetroleum Remediation ProgramGuidance document 3-04Doc Type: Environmental Development/Guidance |

This application is to request approval to land treat petroleum-contaminated soil (PCS) on an area of land that meets the requirements contained herein. A land treatment site can treat up to 1,500 cubic yards of PCS, depending on the acreage approved. A land treatment site becomes active once the first batch of PCS has been applied. Individual soil batches require Minnesota Pollution Control Agency (MPCA) approval via submittal of an [Request to land treat petroleum-contaminated soil](https://www.pca.state.mn.us/sites/default/files/c-prp3-05.doc). The land treatment site approval will expire November 1st of the year following the spreading date of the first PCS batch. Once expired, a new application is needed to renew the land treatment site.

Information required for this application may be obtained via the [Natural Resources Conservation Service (NRCS) soil survey map](https://websoilsurvey.nrcs.usda.gov/app/). If the property containing the proposed land treatment site has not been mapped by the NRCS, refer to the process defined in [Section XI: Appendix F](#XI).

1. Background

|  |
| --- |
| **Land treatment site owner** |
| Individual or corporate name: |       |
| Mailing address: |       |
| City: |       | State: |    | Zip code: |       |
| Email address: |       | Phone number: |       |

|  |
| --- |
| **Land treatment site operator** |
| Individual or corporate name: |       |
| Mailing address: |       |
| City: |       | State: |    | Zip code: |       |
| Email address: |       | Phone number: |       |

|  |
| --- |
| **Person completing application** |
| Individual or corporate name: |       |
| Mailing address: |       |
| City: |       | State: |    | Zip code: |       |
| Email address: |       | Phone number: |       |

|  |
| --- |
| **Other involved party** *(Lessee, renter, tenant, contract for deed vendor, licensee, or occupant.)* |
| Individual or corporate name: |       |
| Mailing address: |       |
| City: |       | State: |    | Zip code: |       |
| Email address: |       | Phone number: |       |

|  |
| --- |
| **Location****Double click checkboxes to select Checked and then select OK.** |
| Legal description: |       | ¼ of |       | ¼ of Section: |       | Township: |       | N | Range: |       | W |
| Township name: |       | County: |       |
| Parcel number: |       | *Include directions to site on* [*Section X: Figure 1*](#X) *and attach the county parcel report as* [*Section XI: Appendix D*](#XI)*.* |
| Is this proposed land treatment site within the boundary of a recognized tribal area? [ ]  Yes [ ]  No |
| **General information** |
| **Double click checkboxes to select *Checked* and then select *OK*.** |
| This is an: | [ ]  Initial application | **or** | [ ]  Renewal application for site PRE: |       |
| Total area for proposed land treatment, or if renewing, remaining treatment area available (square feet or acres): |       |
| The land treatment site will be used for: [ ]  a one-time application [ ]  multiple applications |
| Provide a description of any previous use of the land treatment site for treatment or disposal of waste: |
|       |

1. Location criteria

|  |
| --- |
| Confirm the proposed land treatment area meets the following criteria. If any of these setbacks are not met, the land treatment site will not be approved. Include any applicable features with setback distances in [Section X: Figure 2](#X):**Double click checkboxes to select *Checked* and then select *OK*.** |
| [ ]  | Land treatment of PCS has not occurred within one-quarter mile of the proposed site in the last five years. |
| [ ]  | Not located within a ten-year floodplain. |
| [ ]  | At least 200 feet from an intermittent stream, drainage ditch, tile drain inlet, and the ordinary high-water level of a stream, river, lake, pond, wetland or flowage. |
| [ ]  | At least 200 feet from a sinkhole, exposed bedrock, or known underground cave. |
| [ ]  | At least 200 feet from any private water supply well. |
| [ ]  | At least 1,000 feet from any public water supply well. |
| [ ]  | At least 200 feet from the nearest place of habitation, unless written permission is obtained and provided in Appendix E. |
| [ ]  | At least 200 feet from the nearest property line, unless written permission is obtained and provided in Appendix E. |
| [ ]  | At least 500 feet from a residential development or recreational area. |
| [ ]  | At least 500 feet from the ordinary high-water levels of a trout stream, trout lake, or outstanding resource value water (or an intermittent stream, drainage ditch, or tile drainage inlet that directly outlets to these features); **or** if within 500 feet, a filter strip with a minimum width of 50 feet must be located between the site and the above features. The filter strip must be designed according to, or equivalent to, [NRCS Conservation Practice Standard Code 393](https://www.nrcs.usda.gov/resources/guides-and-instructions/filter-strip-ac-393-conservation-practice-standard). |

1. Run-on prevention

|  |
| --- |
| A land treatment site must have adequate controls to minimize run-on. If necessary, measures need to be in place to minimize run-on, including construction of a diversion upgradient of the land treatment site that is designed according to, or equivalent to, [NRCS Conversation Practice Standard Code 362](https://www.nrcs.usda.gov/resources/guides-and-instructions/diversion-ft-362-conservation-practice-standard) or cropping of the land upgradient of the treatment site prior to spreading and incorporation of PCS. |
| Determine slope for each soil type within the proposed land treatment using the [NRCS soil survey](https://websoilsurvey.nrcs.usda.gov/app/). Any soil type with greater than 6% slope cannot be approved for land treatment application. For slope between 2-6%, include a description of run-on prevention controls and include location in [Section X: Figure 2](#X). For slope less than 2%, no run-on controls are needed. |

|  |  |  |  |
| --- | --- | --- | --- |
| Soil type | Percent of land treatment area | Slope (%) | Run-on control |
|       |       |       |       |
|       |       |       |       |

**Example**

|  |  |  |  |
| --- | --- | --- | --- |
| **Soil Type** | **Percent of land treatment area** | **Slope** | **Run-on Controls** |
| 155B | 32% | 2-8% | Slope >6% will not be used, cropping upgradient will occur, as indicated on site map |
| 928B | 68% | 0-2% | Run-on controls not required |

1. Depth to a limiting feature

Depth to a limiting feature is the depth of soil available before encountering the water table, bedrock, or drainage tile system, whichever is shallowest. A minimum of two feet of soil is required for approval. Determine depths using the [NRCS soil survey](https://websoilsurvey.nrcs.usda.gov/app/). Where the depth to the seasonal high-water table or bedrock is given as a range; use the average of the range. For depth to bedrock, use the [NRCS soil survey](https://websoilsurvey.nrcs.usda.gov/app/) ‘depth to restrictive feature’ listing.

If the [NRCS soil survey](https://websoilsurvey.nrcs.usda.gov/app/) indicates the soil type does not meet criteria, or if there is not a soil survey available for the area, a site-specific investigation can be conducted by a soil scientist or equivalent, consisting of at least one soil boring to a depth of five feet for each soil type within a three-acre area, and attached as [Section XI: Appendix G](#XI).

**Example**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Soil type** | **Depth to seasonal high-Water Table** | **Depth to bedrock** | **Depth to drain tile** | **Depth to limiting feature** |
| 155B | >80 inches | >80 inches | Not applicable | >80 inches |
| 928B | >80 inches | >80 inches | Not applicable | >80 inches |
| 261 | 6 inches | >80 inches | Not applicable | 6 inches |
| 119B | 24-36 inches (30” or 2.5 ft) | 42 to 60 inches (51” or 4.4 ft) | Not applicable | 2.5 ft |

In the example, three soil types 155B, 928B, and 119B have adequate depths to limiting features, as there is at least two feet of depth available. The 261-soil type has a depth of less than two feet, does not meet criteria, and would not be approved. The applicant then has the option to eliminate that area for land application or conduct an on-site investigation to confirm limiting feature depth.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Soil type** | **Depth to seasonalhigh-water table** | **Depth to bedrock** | **Depth to drain tile** | **Depth to limiting feature** |
|       |       |       |       |       |
|       |       |       |       |       |
|       |       |       |       |       |

1. Organic matter

A minimum of one composite sample is necessary for each soil type for a three-acre area. To take a composite sample, all surface litter must be scraped off and cores of the surface soil must be taken to a depth of eight inches at 15 randomly selected locations within the proposed land treatment site area. The cores must be placed in a clean container, mixed thoroughly, and a single subsample removed of sufficient quantity for analysis of the required parameters. If more than one organic matter sample is analyzed, average the results. Attach the lab results to this application in Appendix C.

If the average organic matter sample result is less than two percent, the land treatment site does not meet criteria and will not be approved.

|  |  |
| --- | --- |
| **Soil type** | **Organic matter percentage** |
|       |      % |
|       |      % |
|       |      % |

Average organic matter percentage:       %

1. Permeability

Minimum total thickness of soil refers to the depth of soil that meets the permeability requirements between the ground surface and the limiting feature based on site-specific organic matter content. To determine the minimum total thickness, identify the permeability of each soil horizon. If the minimum thickness is not available above the limiting feature, the proposed land treatment site will not be approved (see example right).

**Example**

If four feet is the minimum total thickness of soil permeability that is required, and the depth to limiting feature is three feet due to shallow water table, there will not be enough feet of permeable soils above the water table; and therefore, is not acceptable.

The following tables will assist in determining the minimum total thickness. The [NRCS soil survey map](https://websoilsurvey.nrcs.usda.gov/app/) will provide the soil horizon(s) for each soil profile. Permeability that falls into the more than 6 inches per hour category does not meet permeability requirements.

If the [NRCS soil survey map](https://websoilsurvey.nrcs.usda.gov/app/) indicates the soil type does not meet criteria, or if there is not a soil survey available for the area, a site-specific investigation can be conducted by a soil scientist, or equivalent. Refer to [Section XI: Appendix G](#XI).

Use the following tables to determine minimum total thickness:

**Table 1.**

|  |  |
| --- | --- |
| Soil texture classification | Permeability (inches per hour) |
| Gravel, sand, fine sand, loamy sand, loamy fine sand | More than 6 |
| Sandy loam, fine sandy loam | 2.0 to 6 (<6) |
| Loam, silt loam, sandy clay loam | 0.6 to 2.0 (<6) |
| Clay loam, silty clay loam, sandy clay, silty clay, clay | Less than 0.6 |

**Table 2.**

|  |  |  |
| --- | --- | --- |
| Minimum organic matter (%) | Minimum total thickness of soil with permeability less than 6 inches per hour | Minimum total thickness of soil with permeability less than 0.6 inches per hour |
| 2% to 4% | 4 feet | 3 feet |
| 4% | 3 feet | 2 feet |

**Example**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Soil type** | **Soil horizons** | **Organic Matter (avg)** | **Permeability (use Table 1)** | **Minimum Total Thickness (use Table 2)** | **Depth to limiting feature (**[**Section IV**](#IV)**)** |
| 155B | 0-20”Sandy loam | 4% | 2-6 (<6) | 3 ft | >80 inches |
|  | 20-60”Gravelly sand | >6 | NS (not suitable) |  |
| 928B | 0-5” fine sandy loam | * 1. (<6)
 | 3 ft | >80 inches |
|  | 5-19”Sandy loam | 2-6 (<6) | 3 ft |  |
|  | 19-42”Sandy clay loam | 2-6 (<6) | 3 ft |  |
|  | 42-60”Sandy loam | 2-6 (<6) | 3 ft |  |
| 119B | 0-26” loamy fine sand | >6 | NS |  |
|  | 26-60” sandy loam | 2-6 (<6) | 3 ft | 24 to 36” (avg 2.5 ft) |

For soil type 115B, the minimum total thickness of soil required is three feet, the depth to limiting feature is >80 inches; there is enough soil available. However, there is only 20” of suitable soil which meets permeability requirement. Therefore, this soil type does not meet the soil permeability requirements base on soil profile and organic matter percent. This area cannot be accepted unless site-specific investigation is conducted.

For soil type 928B, the minimum total thickness of soil required is three feet and the depth to limiting feature is >80 inches; there is enough soil available. There is more than three feet of suitable soil meeting the permeability requirements within the soil profile.

For soil type 119B, the minimum total thickness of soil required is three feet and the depth to limiting feature is 2.5 feet; there is not adequate soil depth for this soil type and cannot be accepted unless site specific investigation is conducted.

In this event where there are three types of soil and two are not acceptable, the land treatment site area perimeter may be adjusted or reduced in size to omit areas where the soil types do not meet criteria, or a site-specific investigation can be conducted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Soil type** | **Soil horizons** | **Organic matter (%)** | **Permeability (Table 1)** | **Minimum total thickness (Table 2)** | **Depth to limiting feature** [**(Section IV)**](#IV) |
|       |       |       |       |       |       |
|       |       |       |       |       |
|       |       |       |       |       |
|       |       |       |       |       |

1. Treatment zone depth

The treatment zone depth is the amount of suitable soil that meets permeability requirements within the soil profile above the limiting feature. This may or may not be equivalent to the minimum total thickness or to the depth to limiting feature. Once you have confirmed the minimum total thickness requirement is met, look at the soil horizons within the soil type and determine the actual treatment zone depth. Use the information provided in [Section VI](#VI) to determine treatment zone depth for use in the next section.

**Example**

For the soil type 928B in the previous section, the minimum total thickness is three feet. The soil horizons show suitable soil that meets permeability requirements from 0-60” or to depth of 5 feet. Thus, the treatment zone depth is considered 5 feet not 3 feet. In land treatment calculations, the number for treatment zone depth does not extend past four feet, so the treatment zone depth for soil type 928B is four feet.

1. Calculated site characteristics

The organic matter percent average (from [Section V](#V)), soil permeability (from [Section VI](#VI)) and treatment zone depth (from [Section VII](#VII)) are site characteristics that will continue to be utilized in soil batch applications once a land treatment site is approved. List the characteristics here:

|  |  |  |  |
| --- | --- | --- | --- |
| **Soil type** | **Organic matter (%)** | **Soil permeability** | **Treatment zone depth** |
|       |       |       |       |
|       |       |       |       |
|       |       |       |       |

**Example**

|  |  |  |  |
| --- | --- | --- | --- |
| **Soil type** | **Organic matter %** | **Soil permeability**  | **Treatment zone depth** |
| 928B | 4% | <6 inches per hour | 4 ft |

If there are multiple eligible soil types, use the soil type the comprises the majority of the proposed land treatment area. See [Section III](#III).

1. Local government notification and approval

**Notification**

Local government unit (LGU) notification is intended to provide local officials with the opportunity to apprise the applicant of any local ordinances which may apply to their operation. Notification may be conducted either by obtaining the signature of an official representing the local government which has jurisdiction, or by attaching a copy of a certified mail receipt, as [Section XI: Appendix G](#XI), indicating that the local government has received a copy of the land treatment application.

If the proposed land treatment site is within a tribal boundary, notify the tribal government contact as well.

Official Signature(s) of Notification:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature: |       |  | Signature: |       |
|  | *(This document has been electronically signed.)* |  |  | *(This document has been electronically signed.)* |
| LGU: |       |  | LGU: |       |
| Title: |       |  | Title: |       |
| Date (mm/dd/yyyy): |       |  | Date (mm/dd/yyyy): |       |

**Approval**

A land treatment site cannot accept soil batches generated from sites outside of the organized or unorganized township in which it is located unless the township or county (for unorganized townships) which has jurisdiction grants approval. Approval can be demonstrated by submittal of a completed Certification of notice and approval for a land treatment site form ([Appendix A](#A)) which includes a copy of signed board minutes in which approval was granted. Further conditions to this approval may be added. The local board has the right to request, by resolution, that MPCA not issue a permit for soil batches which are generated outside of the organized or unorganized township in which the land treatment site is located.

Local government approval will be assumed to cover this application and all [Request to land treat petroleum-contaminated soil](https://www.pca.state.mn.us/sites/default/files/c-prp3-05.doc) forms for this site unless the MPCA is informed in writing that the township/county wishes to review and approve each soil batch generated outside of the township individually.

|  |  |  |
| --- | --- | --- |
| **Site location** | **Notifications** | **Approvals** |
| City | Township | County | Tribal gov’t | Township | County |
| Within a city’s limits | **X** |  | **X** |  |  |  |
| Within the township in which the contaminated soil was generated | Organized township |  | **X** | **X** |  |  |  |
| Unorganized township | **X** |  |
| Within an unorganized township |  |  |  |  |  | **X** |
| Within an organized township |  |  | **X** |  | **X** |  |
| Within a tribal boundary |  |  | **X** | **X** |  |  |

1. Figures

|  |
| --- |
| All figures must include a north arrow, scale, and legend. Approximate scales are not acceptable. Attach all required figures in the following order. Indicate figures included in this report by marking the check box. **Double click checkboxes to select *Checked* and then select *OK*.** |
| [ ]  | Figure 1: County plat map or comparable map with clear road directions to the site. |
| [ ]  | Figure 2: Site map (scale: 1 inch = 200 feet) including, if applicable: |
|  | a. All setbacks as identified in [Section II](#II)b. Any land treatment sites within ¼ milec. Locations of any tile linesd. Location of filter stripse. Run-on prevention controls |

1. Appendices

|  |
| --- |
| Attach all required or applicable appendices in the following order. Indicate appendices included in this report by marking the check box. All reproduced data must be legible. **Double click checkboxes to select *Checked* and then select *OK*.** |
| [ ]  | Appendix A: Certification of notice and approval for a land treatment site, including a copy of meeting minutes (if applicable) |
| [ ]  | Appendix B: Certified mail receipts. |
| [ ]  | Appendix C: Lab report for organic matter analysis. |
| [ ]  | Appendix D: County parcel report for the land treatment site. |
| [ ]  | Appendix E: Written permission, if applicable. |
| [ ]  | Appendix F: [NRCS soil survey map](https://websoilsurvey.nrcs.usda.gov/app/) with site boundaries identified and all soil survey interpretation records for each soil type within the boundaries. If the county has not been mapped, a map comparable to an [NRCS soil survey map](https://websoilsurvey.nrcs.usda.gov/app/) must be submitted for the area containing the site and storage areas. |
| [ ]  | Appendix G: Results of a site-specific investigation: Each soil horizon within the treatment zone must be characterized for soil permeability. Determine the permeability of the native soil at a minimum of one representative location within the land treatment site for each soil type within a three-acre area. Include the [NRCS soil survey map](https://websoilsurvey.nrcs.usda.gov/app/) showing soil borings locations (if applicable). |

1. Applicant signature

Under [Minn. R. 7000.0300](https://www.revisor.mn.gov/rules/7000.0300/), I certify under penalty of law that I am familiar with this document and all attachments submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information I believe the submitted information is true, accurate and complete, or I may be subject to civil penalties.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature: |       |  | Signature: |       |
|  | *(This document has been electronically signed.)* |  |  | *(This document has been electronically signed.)* |
| Title: | Land treatment site owner |  | Title: | Land treatment site operator |
| Date (mm/dd/yyyy): |       |  | Date (mm/dd/yyyy): |       |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature: |       |  | Signature: |       |
|  | *(This document has been electronically signed.)* |  |  | *(This document has been electronically signed.)* |
| Title: | Land treatment site lessee/equivalent |  | Title: | Individual completing application |
| Date (mm/dd/yyyy): |       |  | Date (mm/dd/yyyy): |       |

1. Local officials mailing addresses

**County official**

|  |  |
| --- | --- |
| Individual name: |       |
| Title: |       |
| Mailing address: |       |
| City: |       | State: |       | Zip code: |       |
| Email: |       | Phone: |       |

**City, Township or Tribal government official**

|  |  |
| --- | --- |
| Individual name: |       |
| Title: |       |
| Mailing address: |       |
| City: |       | State: |       | Zip code: |       |
| Email: |       | Phone: |       |

1. Submission of application

Submit the completed application and all attachments to the Petroleum Remediation Program via MN.SoilTreatment.MPCA@state.mn.us.

**Certification of notice and approval for a land treatment site**

Appendix A

This form is to request local township or county (if in an unorganized township) approval to operate a land treatment site within the township. The land treatment owner and operator are responsible for the overall management of the land treatment site. All land treatment will be carried out according to Minnesota Rules Chapter 7037 as overseen by the Minnesota Pollution Control Agency (MPCA).

|  |
| --- |
| **Location** |
| Legal description: |       | ¼ of |       | ¼ of Section: |       | Township: |       | N | Range: |       | W |
| Township name: |       | County: |       |
| **Land treatment site owner** |
| Individual or corporate name: |       |
| **Land treatment site operator** |
| Individual or corporate name: |       |

**Double click checkboxes to select *Checked* and then select *OK*.**

The applicant is seeking approval for an:

[ ]  Initial application for a petroleum-contaminated soil land treatment site or

[ ]  Renewal application for site PRE:

Please review the application for petroleum-contaminated land treatment site and complete the below section.

**Local unit of government resolution**

The       [ ]  Township Board of Directors [ ]  County Board of Directors:

[ ]  Denies approval of this request to land treat petroleum contaminated soil that originates from outside the

township’s jurisdiction at the above-mentioned site. Therefore, pursuant to Minn. Stat. § 116.07, subd. 11(b), we request the MPCA not issue approval that purpose.

[ ]  Approves the applicant to land treat petroleum contaminated soil that originates from outside the township’s jurisdiction at the above-mentioned site. **This approval applies to all soil batches spread at the land treatment site.**

[ ]  Approves the applicant to land treat petroleum contaminated soil that originates from outside the township’s jurisdiction at the above-mentioned site. **This approval applies to only the first batch of soil to be spread**, and we request to be notified of and to approve of all subsequent batches of soil individually.

**Township or county board officials**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature: |       |  | Signature |       |
|  | *(This document has been electronically signed.)* |  |  | *(This document has been electronically signed.)* |
| Title: |       |  | Title: |       |
| Date (mm/dd/yyyy): |       |  | Date (mm/dd/yyyy): |       |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature: |       |  | Signature: |       |
|  | *(This document has been electronically signed.)* |  |  | *(This document has been electronically signed.)* |
| Title: |       |  | Title: |       |
| Date (mm/dd/yyyy): |       |  | Date (mm/dd/yyyy): |       |

|  |  |  |
| --- | --- | --- |
| Signature: |       |  |
|  | *(This document has been electronically signed.)* |  |
| Title: |       |  |
| Date (mm/dd/yyyy): |       |  |