

By:  Date: \_\_\_\_\_

Effective Date: June 2, 2021  
Expiration Date: June 2, 2026

6/2/2021

**OHIO ENVIRONMENTAL PROTECTION AGENCY**

**GENERAL PERMIT AUTHORIZATION TO BENEFICIALLY USE DRINKING WATER TREATMENT MATERIAL FROM GROUND WATER SYSTEMS BY PLACEMENT ON LAND AS A REPLACEMENT FOR MINED LIME USED FOR AGRONOMIC BENEFIT**

Upon receipt of written notification from the Director of the Ohio Environmental Protection Agency (Director) that coverage is authorized, the Permittee, as defined in Section B, is authorized by the Director to beneficially use drinking water treatment material (DWTM) from ground water systems in accordance with the Applicant's Notice of Intent (NOI), the terms and conditions specified in this Permit, and applicable provisions of Ohio Administrative Code (OAC) Chapter 3745-599. Only DWTM as defined in Section B and as identified in the Applicant's NOI is authorized for beneficial use by placement on land as a replacement for mined lime used for agronomic benefit under this Permit. All other beneficial uses of DWTM must be separately approved by the Director.

DWTM authorized for beneficial use under this Permit consists of lime and may contain aluminum or iron salt coagulants. Coagulants are often used by Public Water Systems (PWS) to help remove particulate and dissolved constituents from raw intake water. Lime is used to soften and coagulate raw intake water. Due to its neutralizing potential, DWTM may be placed on the land as a replacement for mined lime used for agronomic benefit.

Ohio EPA's jurisdiction is limited to determining whether land applying DWTM is unlikely to adversely affect public health or safety or the environment.

Coverage under this Permit may be authorized only upon payment of applicable fees and submittal of a complete and accurate NOI, a sampling and analysis plan, and an analysis demonstrating the DWTM is eligible for beneficial use under this Permit. Permit coverage does not become effective until the Permittee receives written notification from the Director that coverage is authorized.

Coverage under this Permit shall expire at midnight on this Permit's expiration date. A Permittee may continue activities authorized by this Permit beyond the date of expiration only as provided in paragraph (G) of OAC Rule 3745-599-220.

Pursuant to the authority of the Director under Ohio Revised Code (ORC) Chapters 6111 and 3734 and OAC Chapter 3745-599, any coverage authorized under this Permit is subject to compliance with the Applicant's NOI, the terms and conditions specified in this Permit, and applicable provisions of OAC Chapter 3745-599. The Permittee's beneficial use of DWTM in accordance with the NOI and this Permit and in compliance with OAC Chapter 3745-599 and other applicable laws is unlikely to adversely impact public health or safety or the environment.

Coverage under this Permit does not relieve the Permittee of the duty to comply with all applicable federal, state, and local laws, ordinances, and regulations. Nothing herein shall be construed to release any person, including but not limited to the owner(s) of the land upon which the DWTM is placed, from the obligation to comply with all applicable laws governing the placement or use of the DWTM on the property.



Laurie A. Stevenson  
Director

## Terms & Conditions

### A. Description and Eligibility Criteria for Coverage

1. This Permit authorizes the beneficial use of DWTM by placement on the land as a replacement for mined lime used for agronomic benefit only as described in this Permit.
2. Only DWTM that is generated from a ground water system and that meets all of the following criteria is a beneficial use byproduct and is eligible for beneficial use under this Permit:
  - a. The DWTM conforms to the definition of “DWTM” in Section B;
  - b. The 95% Upper Confidence Limit (UCL) of the mean for each constituent in the DWTM does not exceed its constituent concentration limit specified in Table 1;
  - c. The DWTM is not a hazardous waste as defined by ORC Section 3734.01, OAC Rule 3745-50-10(H), or OAC Rule 3745-51-03.
3. An Applicant may apply for another general permit in accordance with OAC Rule 3745-599-200 or an individual beneficial use permit in accordance with OAC Rule 3745-599-310 for beneficial use of DWTM not eligible for coverage under this General Permit.

### B. Definitions

Unless otherwise stated in this Permit, the terms used in this Permit shall have the same meaning as used in OAC Chapter 3745-599. The following definitions are specific to this Permit:

“Agronomic benefit” means the promotion or enhancement of plant growth and includes but is not limited to increases in soil fertility and moisture retention.

“Applicant” means the person applying for coverage under this Permit.

“Containment area” means the areas and structures where DWTM is stored or treated, including any lagoon, pit, or tank.

“Dewatered” means the material has no free liquids as determined by *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)*<sup>1</sup> Test Method 9095B- Paint Filter Liquids Test.

“Drinking water treatment material” (DWTM) means a byproduct resulting from the treatment of a ground water system’s water supply for drinking water by the addition of lime. DWTM may contain aluminum and iron salt.

“Fill” means material placed on the ground in order to fill an existing depression or hole in the ground, create mounds, or otherwise artificially change the grade or elevation of the property.

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<sup>1</sup> EPA publication SW-846, “Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846),” as amended through May 2020.

“Frozen ground” means ground that has a temperature at or below thirty-two degrees Fahrenheit and that meets either of the following criteria: 1) is not easily penetrated by a metal object or 2) does not deform to show visible imprint under downward pressure.

“Ground water” means any water below the surface of the earth in a zone of saturation which is not directly influenced by surface water, which is obtained through a well constructed in accordance with plans approved by the director under ORC Section 6109.07 and OAC Chapter 3745-9.

“Ground water system” means any public water system that uses ground water except for those that combine any of their ground water with surface water prior to treatment under OAC Rule 3745-81-71.

“Notice of Intent” (NOI) means the form prescribed by the Director for use when requesting coverage under a beneficial use general permit.

“Occupied building” means a structure, permanent in nature, where one or more human beings may be present.

“Permittee” means an Applicant for whom the Director has approved coverage under this Permit.

“Public Water System” means a system that provides water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days out of the year. Such term includes any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system, and any water supply system serving an agriculture labor camp, as defined in Section 3733.41 of the Revised Code. Such term does not include any “special irrigation district,” as defined in 40 CFR 141.2.

“Saturated soil” means all of the pore spaces in the soil are filled with water. A soil that has an available water capacity above field capacity is considered saturated.

“Snow covered ground” means soil or residue lying on the soil cannot be seen because of snow cover, or soil covered by one-half inch or more of ice.

“Structural fill” means material used to create a stable base that both meets the applicable engineering specifications for and is used as engineered fill, mechanically stabilized earthen walls, or granular fill.

“Waters of the state” has the same meaning as in ORC Section 6111.01(H).

### **C. Application Requirements**

1. For each Public Water System (PWS) from which the Applicant intends to obtain DWTM for beneficial use under this Permit, the Applicant shall do all of the following before submitting an NOI:
  - a. Develop and implement a sampling and analysis plan (SAP) that complies with Condition C.4;

- b. Determine the concentration of the constituents listed in Table 1 (sampling analysis) in accordance with the SAP;
  - c. Perform a statistical evaluation of the results of the sampling analysis for each of the constituents listed in Table 1 in accordance with the SAP;
  - d. Determine the pH of the DWTM in accordance with the SAP;
2. To obtain coverage under this Permit, an Applicant shall, in accordance with OAC Rule 3745-599-210, submit an application to the Director containing all of the following:
- a. One copy of a complete and accurate NOI, including a demonstration that the DWTM satisfies all of the Eligibility Criteria for Coverage in Section A. The NOI form shall be signed by the Applicant in accordance with OAC Rule 3745-599-25;
  - b. The SAP, containing all the provisions set forth in Condition C.4 and implemented in accordance with Condition C.1;
  - c. The results of each analysis, evaluation, and determination conducted in accordance with Condition C.1;
  - d. A copy of any liming license required by ORC Section 905.52; and
  - e. The application fee of \$200.
3. The application shall be submitted via the Division of Materials and Waste Management's virtual dropbox unless otherwise directed by Ohio EPA in writing:
- [https://fileshare.epa.ohio.gov/filedrop/co\\_dmwm\\_submittals](https://fileshare.epa.ohio.gov/filedrop/co_dmwm_submittals)
4. The SAP for each PWS shall, at a minimum, contain provisions requiring metals and pH sampling and analysis in accordance with all of the following:
- a. Collection of samples of DWTM from each PWS using a strategy to obtain representative samples as described in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (SW-846)<sup>2</sup>;
  - b. Analysis of each sample for pH and for total metals as described in SW-846 for the constituents listed in Table 1; and
  - c. Statistical evaluation of the analytical results, including the determination of the 95% UCL of the mean for each constituent specified in Table 1 utilizing ProUCL<sup>3</sup> or another method acceptable to Ohio EPA.

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<sup>2</sup> EPA publication SW-846, "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846)," as amended through May 2020.

<sup>3</sup> United States environmental protection agency, technical support center for monitoring and site characterization, "Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations" October 2015. The full text is available in electronic format at: [https://www.epa.gov/sites/production/files/2016-05/documents/proucl\\_5.1\\_user-guide.pdf](https://www.epa.gov/sites/production/files/2016-05/documents/proucl_5.1_user-guide.pdf).

**Table 1: Constituent Concentration Limits**

Constituent <sup>4,5</sup>	Totals Analysis <sup>6</sup> (mg/kg)*
Aluminum <sup>7</sup>	50,000
Arsenic (As)	41
Barium (Ba)	15,000
Cadmium (Cd)	39
Copper (Cu)	1,500
Lead (Pb)	300
Nickel (Ni)	420
Selenium (Se)	100
Zinc (Zn)	2,800

\* - dry weight basis

#### D. Operating Conditions

Coverage under this Permit becomes effective when the Applicant receives written notification from the Director that coverage is authorized. With this granting of coverage, the Applicant becomes the Permittee.

1. The Permittee shall not use DWTM as fill or structural fill under this Permit.
2. The Permittee shall not place DWTM in any area described in ORC Section 3734.02(M), including within the boundaries of a state park, a state park purchase area, any unit of the national park system, any property that lies within the boundaries of a national park or recreation area that is located in this state, or any candidate area located in this state and identified for potential inclusion in the national park system.

<sup>4</sup> Ba: US EPA Regional Screening Levels, Residential Soil.

<sup>5</sup> As, Cd, Cu, Pb, Ni, Se, Zn: US EPA 40 CFR Part 503 Pollutant Concentrations (Table 3 of 503.13).

<sup>6</sup> EPA publication SW-846, "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846)," Section 1.2 of the TCLP Method 1311 *does* allow for a total constituent analysis in lieu of the TCLP extraction. "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run."

<sup>7</sup> With aluminum concentrations exceeding 50,000 mg/kg, special care may be needed to prevent plant phosphorus deficiency. "High aluminum" materials should be considered for phosphorus sorption. Elizabeth Dayton et al, *Beneficial Use of Aluminum-Based Drinking Water Treatment Residuals (WTR): Urban and Agricultural Applications Final Report* (The Ohio State University School of Environment and Natural Resources, 2016).

3. The Permittee shall not beneficially use, make available, or distribute for beneficial use any DWTM under this Permit for which the 95% UCL of the mean exceeds any constituent concentration limit specified in Table 1.
4. When there is a substantial change in the water treatment processes, as defined in OAC Rule 3745-91-01, prior to beneficially using the DWTM under this Permit, the Permittee shall determine constituent concentrations for each constituent listed in Table 1 through additional sampling and analysis, performed in accordance with the SAP developed pursuant to Conditions C.1 and C.4. The Permittee may beneficially use DWTM generated after the substantial change under this Permit only if a statistical evaluation of the results of the additional sampling analysis demonstrates that the 95% UCL of the mean for each constituent concentration does not exceed the limits specified in Table 1.
5. The Permittee shall immediately cease beneficial use of the DWTM from any PWS pursuant to this Permit if it is determined by the Permittee or by Ohio EPA that the DWTM no longer satisfies the Eligibility Criteria for Coverage in Section A.
6. If the Permittee identifies a PWS from which the Permittee intends to obtain DWTM for beneficial use under this Permit after coverage under this Permit is authorized, the Permittee shall submit to the Director a new application that complies with Section C for the additional PWS from which DWTM is to be obtained for beneficial use.

#### **DWTM STORAGE**

7. The Permittee may store dewatered DWTM at the site of beneficial use for up to 180 days. The Permittee shall use Best Management Practices when storing DWTM pursuant to this Permit including, at a minimum, all of the following:
  - a. Minimizing the exposure of DWTM to precipitation, snowmelt, and runoff throughout the storage, processing, and staging of the material (including loading and unloading, disposal, cleaning, and maintenance operations);
  - b. The use of grading, berming, or curbing to prevent DWTM runoff and divert run-on away from storage areas;
  - c. Providing and maintaining a 50-foot undisturbed natural buffer around surface waters of the state, directing storm water to vegetated areas to increase sediment removal and maximize storm water infiltration;
  - d. Locating all DWTM storage areas at least 300 feet from an occupied building, unless a reduction in this distance for storage is approved, in writing, by the landowner, and if applicable, the resident of the occupied building;
  - e. Locating all DWTM storage areas at least 300 feet from public water system and private wells and surface waters used for drinking water or watering livestock and at least 100 feet from other surface waters of the state;
  - f. Unless otherwise provided in a permit issued under ORC Chapter 6111, creating surface diversions to catch any solids in runoff or to divert runoff away from waters of the state or adjacent properties at each site where DWTM is stored on land;

- g. Not storing DWTM in areas that are either over or within a sensitive groundwater area, including any of the following:
    - i. Karst terrain;
    - ii. A sand and gravel pit;
    - iii. A limestone or sandstone quarry;
    - iv. A drinking water source protection area with less than ten feet of low permeability clay rich glacial till between the bottom of the storage pile and the aquifer used by the applicable public water supply well as a source of ground water;
    - v. An aquifer designated on an Ohio Department of Natural Resources Ground Water Resources map for the county in which the beneficial use activity will take place as capable of yielding one hundred gallons-per-minute or more, which has less than ten feet of separation between the bottom of the storage pile and the aquifer.
  - h. Taking measures to control fugitive dust and other air emissions that may result from activities authorized through this Permit.
8. Except for storage as authorized by Condition D.7, the Permittee shall obtain a permit to install and any other applicable authorization from Ohio EPA Division of Surface Water prior to dewatering or storing DWTM.

#### **DWTM LAND APPLICATION CONDITIONS**

9. After the most recent liming application, but not more than thirty-six (36) months prior to beneficial use, the pH of the soil at the beneficial use site in accordance with Ohio State University Extension "Soil Sampling to Develop Nutrient Recommendations (AGF 513-12)" shall be determined by or on behalf of the Permittee. DWTM shall not be beneficially used pursuant to this Permit at any site where the soil has a pH equal to or greater than 7.5.
10. The per acre application rate for each beneficial use site upon which the Permittee intends DWTM to be beneficially used pursuant to this permit shall be calculated by or on behalf of the Permittee. The Permittee shall ensure that the application rate will not result in a total liming rate that exceeds the equivalent of twelve dry tons of DWTM being applied per acre over a three-year period. When calculating the appropriate application rate, the following shall be performed by or on behalf of the Permittee:
- a. Consult Ohio State University Extension Nutrient Management Fertility Factsheets, Bulletins and Tools website <https://agcrops.osu.edu/FertilityResources>;
  - b. Base the application rate on the ideal soil pH range for the crop to be grown, the existing soil pH, and the effective neutralizing power of the DWTM (as determined by the most recent sampling results of the DWTM);
  - c. Consider the potential for runoff of the DWTM, either by itself or carried in storm water; and

- d. Determine the available water capacity of the soil in accordance with Appendix B of OAC Rule 901:10-2-14 and, for non-dewatered DWTM, ensure that the application rate does not exceed the available water capacity of the soil, or 10,000 gallons per acre per week, whichever is less.
11. The Permittee shall not apply DWTM at a rate greater than the application rate calculated in accordance with Condition D.10.
  12. The Permittee shall use Best Management Practices when applying DWTM on the land as a replacement for mined lime used for agronomic benefit pursuant to this Permit including, at a minimum, all of the following:
    - a. DWTM shall not be land applied within 300 feet from a public water system wells and surface waters used for drinking water or watering livestock or within 100 feet of public water system wells and surface waters used for drinking water or watering livestock if there is a 100-foot grass buffer between the land application area and public water system wells and surface waters used for drinking water or watering livestock;
    - b. DWTM shall not be land applied within 33 feet of surface waters of the state that are not referenced in Condition D.12.a.;
    - c. DWTM shall not be land applied during precipitation;
    - d. DWTM shall not be land applied to saturated soil;
    - e. DWTM shall not be applied onto frozen or snow-covered ground; and
    - f. Measures shall be taken to control fugitive dust and other air emissions that may result from activities authorized through this Permit.
  13. When land applying DWTM pursuant to this Permit, the Permittee shall use application methods that ensure even distribution of the DWTM. The Permittee shall not apply DWTM by means of injection of DWTM.

#### **RECORD KEEPING AND REPORTING**

14. The Permittee shall retain the following information for a minimum of five years after beneficial use of the DWTM under this Permit has occurred and the Permittee shall make all of the following information available to Ohio EPA upon request:
  - a. Records of the name, address, and telephone number of each PWS from which DWTM was obtained;
  - b. Records of the annual volume of DWTM accepted for beneficial use from each PWS, and the volume of DWTM from each PWS actually beneficially used annually;
  - c. Documentation demonstrating that the DWTM is not a hazardous waste as defined by ORC Section 3734.01, OAC Rule 3745-50-10(H), and OAC Rule 3745-51-03;
  - d. Records of the date and each location where the DWTM is stored or placed on land by the Permittee;



- e. For each location where the DWTM was placed on the land, records of the volume of DWTM placed on the land and the amount of acreage to which the DWTM was applied;
  - f. Approval from the landowner and the resident for DWTM storage areas within 300 feet of an occupied building;
  - g. The sampling and analysis plan detailing where and how samples of DWTM from each PWS were collected, dates that the samples were collected, and the list of constituents from Table 1 for which samples were analyzed;
  - h. All laboratory data and analyses of the pH and constituent concentrations listed in Table 1 in the DWTM;
  - i. Copies of liming licenses required by ORC Section 905.52.
15. Not later than April first of each year the Permittee shall submit to Ohio EPA an annual report. The Permittee shall submit the annual report via the Division of Materials and Waste Management's virtual dropbox specified in Condition C.3, and shall include the following information for the previous calendar year:
- a. Volume of DWTM beneficially used under this Permit;
  - b. Volume of DWTM stored for beneficial use under this Permit as of the date of the annual report; and
  - c. Results of sampling analyses of DWTM beneficially used under this Permit.

#### **GENERAL OPERATING CONDITIONS**

- 16. The Permittee shall conduct all activities authorized by this Permit in strict accordance with this Permit, the NOI, and OAC Chapter 3745-599.
- 17. Approval of coverage under this Permit does not constitute assurance that the beneficial use of DWTM by placement on the land as a replacement for mined lime used for agronomic benefit, as described in this Permit, will comply with all Ohio laws and regulations.
- 18. The Permittee shall store and beneficially use DWTM under this Permit in such a manner that the activities will neither cause a nuisance nor adversely affect public health, safety, or the environment.
- 19. The Permittee shall conduct all activities in compliance with all applicable local, state, and federal laws and regulations pertaining to environmental protection, including but not limited to the control of air pollution, leachate, and storm water run-on and run-off, and the protection of ground water and surface water.
- 20. The Permittee shall conduct all activities in compliance with all other applicable local, state, and federal laws and regulations not explicitly identified in this Permit.
- 21. DWTM is considered a solid waste and its permanent placement on the ground would require the Permittee to obtain a permit and license under ORC Chapter 3734 and the rules promulgated thereunder. The Director has determined that granting an exemption from the

applicable solid waste permitting, licensing, and state disposal fee provisions of ORC Chapter 3734 to use DWTM in the quantities and under the circumstances specifically authorized in this Permit is unlikely to adversely affect public health or safety or the environment. Therefore, pursuant to ORC Section 3734.02(G), the Permittee is hereby exempted from the applicable solid waste provisions of ORC Chapter 3734 and the rules adopted thereunder when the DWTM is stored or placed on the land for beneficial use as authorized in this Permit subject to compliance with all conditions in this Permit.

22. Nothing in this Permit shall be construed as a waiver from the requirements of ORC Chapter 3734 or the regulations promulgated thereunder, except as expressly provided herein. This Permit shall not be interpreted to release the Permittee from responsibility under ORC Chapters 3704, 3734, or 6111; under the Federal Clean Water Act, the Resource Conservation and Recovery Act, or the Comprehensive Environmental Response, Compensation, and Liability Act; or from other applicable requirements for remedying conditions resulting from any release of contaminants to the environment.
23. The Permittee shall not cause pollution or cause any DWTM to be placed in a location where it causes pollution to waters of the state except in accordance with an effective National Pollutant Discharge Elimination System (NPDES) permit. The Permittee shall report any unauthorized discharge to waters of the state to Ohio EPA (call 1-800-282-9378) within twenty-four (24) hours of discovery.
24. The Permittee shall furnish to the Director or an authorized representative of Ohio EPA, within 30 days of receiving a written request, any information that the Director or an authorized representative of Ohio EPA requests to determine whether cause exists for revoking coverage under or determining compliance with this Permit.
25. When the Permittee becomes aware of new relevant information, that relevant facts were omitted from the NOI, or that incorrect information was included in the NOI to the Director, the Permittee shall promptly submit such facts or correct such information.
26. To the extent that any provision in an application for coverage or NOI conflicts with a term or condition in this Permit, this Permit shall control.
27. The Permittee shall comply with OAC Rules 3745-599-05 (general exclusions), 3745-599-20 (prohibitions), 3745-599-25 (signatures), 3745-599-35 (legitimacy criteria), 3745-599-60 (approved sampling and characterization procedures), 3745-599-210 (notice of intent to obtain coverage under a general beneficial use permit), and 3745-599-220 (coverage under a general beneficial use permit). If there is a conflict between a requirement in a rule and a condition of this Permit that cannot be reconciled, the Permittee shall notify the Director in writing of the conflict and shall comply with the Permit condition unless directed otherwise by the Director.

#### **E. Site Access**

The Permittee shall allow the Director or an authorized representative of Ohio EPA to:

1. Enter upon any site owned or controlled by the Permittee where an activity is located or conducted under this Permit or where records are retained by the Permittee under OAC Chapter 3745-599 or the terms and conditions of this Permit.

2. Have access to and copy any records that must be kept under OAC Chapter 3745-599 or the terms and conditions of this Permit.
3. Collect samples; take photographs; perform measurements, surveys, and other tests; and inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under OAC Chapter 3745-599 or this Permit.

**F. Revocation of Coverage**

The Director may revoke coverage under this Permit upon making a determination that any of the Eligibility Criteria for Coverage are no longer satisfied, that the Permittee has failed to comply with this Permit or OAC Chapter 3745-599, or as otherwise provided in accordance with OAC Rule 3745-599-220.

The Director may revoke coverage under this Permit if the Director determines that a nuisance condition or an adverse impact to public health, safety, or the environment exists. Immediately upon the effective date of any written notification from the Director of revocation of coverage under this Permit, the Permittee shall cease beneficial use under this Permit. The Director may require the Permittee to remove the DWTM stored at the site, remediate the site where the DWTM was stored, or to take other action as appropriate to eliminate the nuisance or impact.