



STATE OF MINNESOTA
Minnesota Pollution Control Agency

Municipal Division

**State Disposal System (SDS) Permit MNG820000
Water Treatment Plant Subsurface Disposal General Permit**

ISSUANCE DATE: July 31, 2007

EXPIRATION DATE: June 30, 2012

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to operate a domestic water treatment facility in accordance with the requirements of this permit and the Notice of Coverage (NOC) that accompanies this permit. The NOC details the facility-specific requirements for each Permittee and is an enforceable part of this Permit.

The goal of this permit is to protect water quality in accordance with Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050, and the U.S. Clean Water Act.

This permit is effective on the issuance date identified above, and supersedes the previous permit issued for this facility. This permit expires at midnight on the expiration date identified above.

Signature: *Wendy L. Turri*

Wendy L. Turri, Manager
Municipal Wastewater Section
Municipal Division

for The Minnesota Pollution Control Agency

Submit DMRs to:

Attention: Discharge Monitoring Reports
Minnesota Pollution Control Agency
520 Lafayette Rd N
St Paul, MN 55155-4194

Submit other reports required by this permit to:

Attention: WQ Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Rd N
St Paul, MN 55155-4194

Questions on this permit?

Contact:
Emily Schnick
Municipal Wastewater Section
Municipal Division
Metro Unit
651-297-8502

520 Lafayette Rd. N, St. Paul, MN 55155-4194; 651-296-6300 (voice); 651-282-5332 (TTY)

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Appendix A: List of Permitted Facilities

Appendix B: Guidelines – Disposal Methods for Water Filter Backwash Solids

Description of Facilities and Discharges

Media Filters – Wastewater treatment plant (WTP) backwash discharges from iron filters and granular media filters. All of the facilities covered under this general permit use media filters for the treatment of water.

Filtration is used to remove suspended particles in the source water. Media filters remove suspended solids by adsorption and straining. Single media beds or multi-media beds may be used. The most common type of filter is a rapid sand filter. Water moves vertically through sand which often has a layer of activated carbon or anthracite coal above the sand. The top layer removes organic compounds, which contribute to taste and odor. The space between sand particles is larger than the smallest suspended particles, so simple filtration is not enough. Most particles pass through surface layers but are trapped in pore spaces or adhere to sand particles. Effective filtration extends into the depth of the filter. To clean the filter, water is passed quickly upward through the filter, opposite the normal direction (called backwashing) to remove embedded particles. Prior to this, compressed air may be blown up through the bottom of the filter to break up the compacted filter media to aid the backwashing process; this is known as air scouring. Some water treatment plants employ pressure filters. These work on the same principle as rapid gravity filters differing in that the filter medium is enclosed in a steel vessel and the water is forced through it under pressure.

Under this general permit, filter backwash is not discharged to surface water. Filter backwash water is discharged to settling basins including seepage basins/ponds and rapid infiltration basins (RIBs).

Water filter backwash solids (WFBS) settled out in the basins are periodically cleaned out and disposed. Disposal of WFBS is regulated under this general permit. There are four options for disposal: wastewater treatment facility, landfilling, use as non-residential construction fill, and land application. The requirements for each of these options is listed in a guidance document titled, “Guidelines – Disposal Methods for Water Filter Backwash Solids,” included in Appendix B.

Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below:

Waste Stream Station – Intermediate Sampling Point (Discharge into Subsurface Treatment System)

PARAMETER	LIMIT	UNITS	LIMIT TYPE	EFFECTIVE PERIOD	SAMPLE TYPE	FREQUENCY
Flow	Monitor Only	mgd	Calendar Quarter Average	Jan – Dec	Measurement, Continuous	Daily
Flow	Monitor Only	MG	Calendar Quarter Total	Jan – Dec	Measurement, Continuous	Daily
pH	9.00	standard units	Instantaneous Maximum	Jan – Dec	Grab	Quarterly ¹
pH	6.00	standard units	Instantaneous Minimum	Jan – Dec	Grab	Quarterly ¹

¹ Analyze immediately.

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1. Authorization

- 1.1 This permit authorizes the Permittee to treat and dispose of wastewater resulting from the treatment of potable water in accordance with the provisions in this chapter.
- 1.2 Wastewaters discharged to a sanitary sewage treatment system from water treatment plants are not regulated by this permit and the monitoring and effluent limits stated in this permit do not apply to the specific wastewaters discharged to the sanitary sewage treatment system.
- 1.3 A facility is authorized to discharge under this NPDES/SDS permit only after:
 - a. the owner/operator of the facility seeking authorization to discharge under this general permit has on file at the MPCA all necessary application forms to be covered under the general permit to the MPCA; and
 - b. the owner/operator has received a written Notice of Coverage (NOC) from the MPCA indicating that coverage has been granted.

2. General Permit Applicability Criteria

- 2.1 Persons wishing to discharge water from any water treatment facility under this General Permit shall meet all applicability criteria listed below. Facilities which do not meet all of these applicability criteria listed below will be evaluated for issuance of individual SDS permits under Minn. R. ch. 7001.
 - a. New discharges with subsurface disposal must be covered under an individual permit for one permit cycle prior to qualification under the general permit.
 - b. The discharge consists of wastewater from domestic water treatment plants.
 - c. The discharge of wastewater to groundwater indirectly through seepage will not have a significant impact on water quality.
 - e. The facility is not proposing a significant upgrade.
 - f. The discharge does not contain a contaminant not specifically limited in the permit.
 - g. No surface water discharge is allowed under this permit.
 - h. Facilities that fail or have failed to comply with a regulation, permit schedule, or compliance order issued by the MPCA may be excluded from coverage under the general permit and required to apply for coverage under an individual permit.

3. Waste Stream

Sampling Location

- 3.1 Samples shall be taken at a point representative to the flow into the subsurface treatment system.

Discharge Monitoring Reports

- 3.2 The Permittee shall submit monitoring results for discharges in accordance with the limits and monitoring requirements for this station. If no discharge occurred during the reporting period, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR).

4. Subsurface Discharges

Unauthorized Discharge

- 4.1 There shall be no unauthorized discharge to surface water from these facilities.

Bypass Structures

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4. Subsurface Discharges

4.2 All bypass structures shall be manually controlled and kept locked at all times.

General Requirements

4.3 The Permittee shall maintain daily precipitation records.

Observations

4.4 The Permittee shall inspect the subsurface treatment system weekly, and shall take measurements of water depth, estimate the coverage of aquatic plants, floating mats and ice cover on the surface of the ponds, and note odors, the condition of the dikes and the presence of muskrats. The Permittee shall maintain records of these weekly inspections for the last three (3) years, and submit the results on the Discharge Monitoring Report (DMR) supplemental form.

5. Residual Solids Management

- 5.1 The Permittee shall provide for the effective management and/or disposal of residual solids, or other substances resulting from treatment of potable water.
- 5.2 The Permittee shall dispose of residual solids in such a manner and at such locations that disposal practices shall not result in unlawful pollution of the air, surface water or ground water, or create nuisance conditions.
- 5.3 Disposal of water filter backwash solids must be in accordance with the MPCA guidance documents. Facilities that land apply lime shall follow the guidance document titled "Guidelines - Land Application of By-Product Lime." Facilities disposing of water filter backwash solids shall follow the guidance document titled "Guidelines - Disposal Methods for Water Filter Backwash Solids."

Guidance documents for proper management of residual solids are located at <http://www.pca.state.mn.us/>, or by request from the MPCA.

6. Residual Solids Management Plan Annual Report

- 6.1 The Residual Solids Management Annual Report shall include:
 - a. notification of solids removal and disposal and
 - b. quantity disposed, any analytical results, location of disposal; and land application rates if applicable.
- 6.2 Submit a Residual Solids Management Annual Report due 31 days after the end of each calendar year following permit issuance. The annual report form is located at <http://www.pca.state.mn.us/>, or by request from the MPCA.

7. Total Facilities Requirements

General Requirements

- 7.1 No Discharge. There shall be no discharge to surface water from these facilities.
- 7.2 Incorporation by Reference. The following applicable federal and state laws are incorporated by reference in this permit, are applicable to the Permittee, and are enforceable parts of this permit: 40 CFR pts. 122.41, 122.42, 136, 403 and 503; Minn. R. pts. 7001, 7041, 7045, 7050, 7060, and 7080; and Minn. Stat. Sec. 115 and 116.
- 7.3 Permittee Responsibility. The Permittee shall perform the actions or conduct the activity authorized by the permit in compliance with the conditions of the permit and, if required, in accordance with the plans and specifications approved by the Agency. (Minn. R. 7001.0150, subp. 3, item E)
- 7.4 Toxic Discharges Prohibited. Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to Code of Federal Regulations, Title 40, sections 400 to 460 and Minnesota Rules, parts 7050.0100 to 7050.0220 and 7052.0010 to 7052.0110 (applicable to toxic pollutants in the Lake Superior Basin) and any other applicable MPCA rules. (Minn. R. 7001.1090, subp.1, item A)

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7. Total Facilities Requirements

- 7.5 Nuisance Conditions Prohibited. The Permittee's discharge shall not cause any nuisance conditions including, but not limited to: floating solids, scum and visible oil film, acutely toxic conditions to aquatic life, or other adverse impact on the receiving water. (Minn. R. 7050.0210 subp. 2)
- 7.6 Property Rights. This permit does not convey a property right or an exclusive privilege. (Minn. R. 7001.0150, subp. 3, item C)
- 7.7 Liability Exemption. In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of its actions, including those activities authorized, directed, or undertaken under this permit. To the extent the state and the MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act. (Minn. R. 7001.0150, subp. 3, item O)
- 7.8 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules, or plans beyond what is authorized by Minnesota Statutes. (Minn. R. 7001.0150, subp.3, item D)
- 7.9 Liabilities. The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit. (Minn. R. 7001.0150, subp.3, item A)
- 7.10 The issuance of this permit does not prevent the future adoption by the MPCA of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or orders against the Permittee. (Minn. R. 7001.0150, subp.3, item B)
- 7.11 Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.
- 7.12 Compliance with Other Rules and Statutes. The Permittee shall comply with all applicable air quality, solid waste, and hazardous waste statutes and rules in the operation and maintenance of the facility.
- 7.13 Inspection and Entry. When authorized by Minn. Stat. Sec. 115.04; 115B.17, subd. 4; and 116.091, and upon presentation of proper credentials, the agency, or an authorized employee or agent of the agency, shall be allowed by the Permittee to enter at reasonable times upon the property of the Permittee to examine and copy books, papers, records, or memoranda pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit. (Minn. R. 7001.0150, subp.3, item I)
- 7.14 Control Users. The Permittee shall regulate the users of its wastewater treatment facility so as to prevent the introduction of pollutants or materials that may result in the inhibition or disruption of the conveyance system, treatment facility or processes, or disposal system that would contribute to the violation of the conditions of this permit or any federal, state or local law or regulation.

Sampling

- 7.15 Representative Sampling. Samples and measurements required by this permit shall be conducted as specified in this permit and representative of the discharge or monitored activity. (40 CFR 122.41 (j)(1))
- 7.16 Additional Sampling. If the Permittee monitors more frequently than required, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or another MPCA-approved form for that reporting period. (Minn. R. 7001.1090, subp. 1, item E)
- 7.17 Certified Laboratory. A laboratory certified by the Minnesota Department of Health shall conduct analyses required by this permit. Analyses of dissolved oxygen, pH, temperature and total residual oxidants (chlorine, bromine) do not need to be completed by a certified laboratory but shall comply with manufacturers specifications for equipment calibration and use. (Minn. Stat. Sec. 144.97 through 144.98 and Minn. R. 4740.2010 and 4740.2050 through 4740.2120) (Minn. R. 4740.2010 and 4740.2050 through 2120)

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- 7.18 Sample Preservation and Procedure. Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minn. R. 7041.3200.
- 7.19 Equipment Calibration: Flow meters, pumps, flumes, lift stations or other flow monitoring equipment used for purposes of determining compliance with permit shall be checked and/or calibrated for accuracy at least twice annually. (Minn. R. 7001.0150, subp. 2, items B and C)
- 7.20 Maintain Records. The Permittee shall keep the records required by this permit for at least three years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA. The Permittee shall maintain records for each sample and measurement. The records shall include the following information (Minn. R. 7001.0150, subp. 2, item C):
- a. The exact place, date, and time of the sample or measurement;
 - b. The date of analysis;
 - c. The name of the person who performed the sample collection, measurement, analysis, or calculation; and
 - d. The analytical techniques, procedures and methods used; and
 - e. The results of the analysis.
- 7.21 Completing Reports. The Permittee shall submit the results of the required sampling and monitoring activities on the forms provided, specified, or approved by the MPCA. The information shall be recorded in the specified areas on those forms and in the units specified. (Minn. R. 7001.1090, subp. 1, item D; Minn. R. 7001.0150, subp. 2, item B)

Required forms may include:

Supplemental Report Form (Supplemental)

Individual values for each sample and measurement must be recorded on the Supplemental which, if required, will be provided by the MPCA. Supplementals shall be submitted with the appropriate DMRs. You may design and use your own Supplemental; however it must be approved by the MPCA. Note: Required Summary information **MUST** also be recorded on the DMR. Summary information that is submitted **ONLY** on the Supplemental does not comply with the reporting requirements.

- 7.22 Submitting Reports. DMRs and Supplementals shall be submitted to:

MPCA

Attn: Discharge Monitoring Reports
520 Lafayette Road North
St. Paul, Minnesota 55155-4194.

DMRs and Supplementals shall be postmarked by the 21st day of the month following the sampling period or as otherwise specified in this permit. A DMR shall be submitted for each required station even if no discharge occurred during the reporting period. (Minn. R. 7001.0150, subps. 2.B and 3.H)

Other reports required by this permit shall be postmarked by the date specified in the permit to:

MPCA

Attn: WQ Submittals Center
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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- 7.23 Incomplete or Incorrect Reports. The Permittee shall immediately submit an amended report or DMR to the MPCA upon discovery by the Permittee or notification by the MPCA that it has submitted an incomplete or incorrect report or DMR. The amended report or DMR shall contain the missing or corrected data along with a cover letter explaining the circumstances of the incomplete or incorrect report. (Minn. R. 7001.0150 subp. 3, item G)
- 7.24 Required Signatures. All DMRs, forms, reports, and other documents submitted to the MPCA shall be signed by the Permittee or the duly authorized representative of the Permittee. Minn. R. 7001.0150, subp. 2, item D. The person or persons that sign the DMRs, forms, reports or other documents must certify that he or she understands and complies with the certification requirements of Minn. R. 7001.0070 and 7001.0540, including the penalties for submitting false information. Technical documents, such as design drawings and specifications and engineering studies required to be submitted as part of a permit application or by permit conditions, must be certified by a registered professional engineer. (Minn. R. 7001.0540)
- 7.25 Detection Level. The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected," "undetected," "below detection limit," and "zero" are unacceptable reporting results, and are permit reporting violations. (Minn. R. 7001.0150, subp. 2, item B)

Where sample values are less than the level of detection and the permit requires reporting of an average, the Permittee shall calculate the average as follows:

- a. If one or more values are greater than the level of detection, substitute zero for all nondetectable values to use in the average calculation.
 - b. If all values are below the level of detection, report the averages as "<" the corresponding level of detection.
 - c. Where one or more sample values are less than the level of detection, and the permit requires reporting of a mass, usually expressed as kg/day, the Permittee shall substitute zero for all nondetectable values. (Minn. R. 7001.0150, subp. 2, item B)
- 7.26 Records. The Permittee shall, when requested by the Agency, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit. (Minn. R. 7001.0150, subp. 3, item H)
- 7.27 Confidential Information. Except for data determined to be confidential according to Minn. Stat. Sec. 116.075, subd. 2, all reports required by this permit shall be available for public inspection. Effluent data shall not be considered confidential. To request the Agency maintain data as confidential, the Permittee must follow Minn. R. 7000.1300.

Noncompliance and Enforcement

- 7.28 Subject to Enforcement Action and Penalties. Noncompliance with a term or condition of this permit subjects the Permittee to penalties provided by federal and state law set forth in section 309 of the Clean Water Act; United States Code, title 33, section 1319, as amended; and in Minn. Stat. Sec. 115.071 and 116.072, including monetary penalties, imprisonment, or both. (Minn. R. 7001.1090, subp. 1, item B)
- 7.29 Criminal Activity. The Permittee may not knowingly make a false statement, representation, or certification in a record or other document submitted to the Agency. A person who falsifies a report or document submitted to the Agency, or tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to criminal and civil penalties provided by federal and state law. (Minn. R. 7001.0150, subp. 3, item G., 7001.1090, subps. 1, items G and H and Minn. Stat. Sec. 609.671)

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- 7.30 Noncompliance Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (40 CFR 122.41(c))
- 7.31 Effluent Violations. If sampling by the Permittee indicates a violation of any discharge limitation specified in this permit, the Permittee shall immediately make every effort to verify the violation by collecting additional samples, if appropriate, investigate the cause of the violation, and take action to prevent future violations. Violations that are determined to pose a threat to human health or a drinking water supply, or represent a significant risk to the environment shall be immediately reported to the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 (toll free) or (651)649-5451 (metro area). In addition, you may also contact the MPCA during business hours. Otherwise the violations and the results of any additional sampling shall be recorded on the next appropriate DMR or report.
- 7.32 Unauthorized Releases of Wastewater Prohibited. Except for conditions specifically described in Minn. R. 7001.1090, subp. 1, items J and K, all unauthorized bypasses, overflows, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, are prohibited. However, the MPCA will consider the Permittee's compliance with permit requirements, frequency of release, quantity, type, location, and other relevant factors when determining appropriate action. (40 CFR 122.41 and Minn. Stat. Sec 115.061)
- 7.33 Discovery of a release. Upon discovery of a release, the Permittee shall:
- a. Take all reasonable steps to immediately end the release.
 - b. Notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 (toll free) or (651)649-5451 (metro area) immediately upon discovery of the release. In addition, you may also contact the MPCA during business hours at 1(800) 657-3864.
 - c. Recover as rapidly and as thoroughly as possible all substances and materials released or immediately take other action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If the released materials or substances cannot be immediately or completely recovered, the Permittee shall contact the MPCA. If directed by the MPCA, the Permittee shall consult with other local, state or federal agencies (such as the Minnesota Department of Natural Resources and/or the Wetland Conservation Act authority) for implementation of additional clean-up or remediation activities in wetland or other sensitive areas.
 - d. Collect representative samples of the release. The Permittee shall sample the release for parameters of concern immediately following discovery of the release. The Permittee may contact the MPCA during business hours to discuss the sampling parameters and protocol. In addition, Fecal Coliform Bacteria samples shall be collected where it is determined by the Permittee that the release contains or may contain sewage. If the release cannot be immediately stopped, the Permittee shall consult with MPCA regarding additional sampling requirements. Samples shall be collected at least, but not limited to, two times per week for as long as the release continues.
 - e. Submit the sampling results as directed by the MPCA. At a minimum, the results shall be submitted to the MPCA with the next DMR.

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- 7.34 Upset Defense. In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the Agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence:
- a. The specific cause of the upset;
 - b. That the upset was unintentional;
 - c. That the upset resulted from factors beyond the reasonable control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities;
 - d. That at the time of the upset the facility was being properly operated;
 - e. That the Permittee properly notified the Commissioner of the upset in accordance with Minn. R. 7001.1090, subp. 1, item I; and
 - f. That the Permittee implemented the remedial measures required by Minn. R. 7001.0150, subp. 3, item J.

Operation and Maintenance

- 7.35 The Permittee shall at all times properly operate and maintain the facilities and systems of treatment and control, and the appurtenances related to them which are installed or used by the Permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The Permittee shall install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the permit and, for all permits other than hazardous waste facility permits, if these backup or auxiliary facilities are technically and economically feasible Minn. R. 7001.0150. subp. 3, item F.
- 7.36 In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail its discharges to the extent necessary to maintain compliance with the terms and conditions of this permit. The Permittee shall continue this control or curtailment until the wastewater treatment facility has been restored or until an alternative method of treatment is provided. (Minn. R. 7001.1090, subp. 1, item C)
- 7.37 Solids Management. The Permittee shall properly store, transport, and dispose of biosolids, septage, sediments, residual solids, filter backwash, screenings, oil, grease, and other substances so that pollutants do not enter surface waters or ground waters of the state. Solids should be disposed of in accordance with local, state and federal requirements. (40 CFR 503 and Minn. R. 7041 and applicable federal and state solid waste rules)
- 7.38 Scheduled Maintenance. The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality, except where emergency maintenance is required to prevent a condition that would be detrimental to water quality or human health. (Minn. R. 7001.0150. subp. 3, item F and Minn. R. 7001.0150. subp. 2, item B)
- 7.39 Control Tests. In-plant control tests shall be conducted at a frequency adequate to ensure compliance with the conditions of this permit. (Minn. R. 7001.0150. subp. 3, item F and Minn. R. 7001.0150. subp. 2, item B)

Changes to the Facility or Permit

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7. Total Facilities Requirements

- 7.40 Permit Modifications. No person required by statute or rule to obtain a permit may construct, install, modify, or operate the facility to be permitted, nor shall a person commence an activity for which a permit is required by statute or rule until the Agency has issued a written permit for the facility or activity. (Minn. R. 7001.0030)

Permittees that propose to make a change to the facility or discharge that requires a permit modification must follow Minn. R. 7001.0190. If the Permittee cannot determine whether a permit modification is needed, the Permittee must contact the MPCA prior to any action. It is recommended that the application for permit modification be submitted to the MPCA at least 180 days prior to the planned change.

- 7.41 Construction. No construction shall begin until the Permittee receives written approval of plans and specifications from the MPCA (Minn. Stat. Sec. 115.03(f)).

Plans, specifications and MPCA approval are not necessary when maintenance dictates the need for installation of new equipment, provided the equipment is the same design size and has the same design intent. For instance, a broken pipe, lift station pump, aerator, or blower can be replaced with the same design-sized equipment without MPCA approval.

If the proposed construction is not expressly authorized by this permit, it may require a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minn. R. 4410, no construction shall begin until a negative declaration is issued and all approvals are received or implemented.

- 7.42 Report Changes. The Permittee shall give advance notice as soon as possible to the MPCA of any substantial changes in operational procedures, activities that may alter the nature or frequency of the discharge, and/or material factors that may affect compliance with the conditions of this permit.
- 7.43 Chemical Additives. The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit, in quantities or concentrations that have the potential to change the characteristics, nature and/or quality of the discharge.

The Permittee shall request approval for an increased or new use of a chemical additive at least 60 days, or as soon as possible, before the proposed increased or new use.

This written request shall include at least the following information for the proposed additive:

- a. The process for which the additive will be used;
- b. Material Safety Data Sheet (MSDS) which shall include aquatic toxicity, human health, and environmental fate information for the proposed additive;
- c. A complete product use and instruction label;
- d. The commercial and chemical names and Chemical Abstract Survey (CAS) number for all ingredients in the additive (If the MSDS does not include information on chemical composition, including percentages for each ingredient totaling to 100%, the Permittee shall contact the supplier to have this information provided); and
- e. The proposed method of application, application frequency, concentration, and daily average and maximum rates of use.

Upon review of the information submitted regarding the proposed chemical additive, the MPCA may require that additional information be submitted for consideration. Also, this permit may be modified to restrict the use or discharge of a chemical additive and include additional influent and effluent monitoring requirements. (Minn. R. 7001.0170)

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- 7.44 The Permittee shall request approval for an increased or new use of a chemical additive at least 60 days, or as soon as possible, before the proposed increased or new use.
- 7.45 This written request shall include at least the following information for the proposed additive:
- a. The process for which the additive will be used;
 - b. Material Safety Data Sheet (MSDS) which shall include aquatic toxicity, human health, and environmental fate information for the proposed additive;
 - c. A complete product use and instruction label;
 - d. The commercial and chemical names and Chemical Abstract Survey (CAS) number for all ingredients in the additive (If the MSDS does not include information on chemical composition, including percentages for each ingredient totaling to 100%, the Permittee shall contact the supplier to have this information provided); and
 - e. The proposed method of application, application frequency, concentration, and daily average and maximum rates of use.
- 7.46 Upon review of the information submitted regarding the proposed chemical additive, the MPCA may require that additional information be submitted for consideration. Also, this permit may be modified to restrict the use or discharge of a chemical additive and include additional influent and effluent monitoring requirements.
- 7.47 MPCA Initiated Permit Modification, Suspension, or Revocation. The MPCA may modify or revoke and reissue this permit pursuant to Minn. R. 7001.0170. The MPCA may revoke without reissuance this permit pursuant to Minn. R. 7001.0180.
- 7.48 TMDL Impacts. Facilities that discharge to an impaired surface water, or to a watershed or drainage basin that contains impaired waters, may be required, at some future date, to comply with additional permits, or permit requirements, including additional restriction or relaxation of limits and monitoring as authorized by the CWA 303(d)(4)(A)) and 40 CFR 122.44.1.2.i, based on the conclusions of any applicable US EPA approved Total Maximum Daily Load (TMDL) studies, their associated implementation plans or additional sampling or monitoring.
- 7.49 Permit Transfer. The permit is not transferable to any person without the express written approval of the Agency after compliance with the requirements of Minn. R. 7001.0190. A person to whom the permit has been transferred shall comply with the conditions of the permit. (Minn. R., 7001.0150, subp. 3, item N)
- 7.50 Facility Closure. The Permittee is responsible for closure and postclosure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of the activities described in this permit at least 180 days before the reduction or cessation. The MPCA may require the Permittee to provide to the MPCA a facility Closure Plan for approval.

Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification or reissuance.

The MPCA may require the Permittee to establish and maintain financial assurance to ensure performance of certain obligations under this permit, including closure, postclosure care and remedial action at the facility. If financial assurance is required, the amount and type of financial assurance, and proposed modifications to previously MPCA-approved financial assurance, shall be approved by the MPCA.

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7. Total Facilities Requirements

- 7.51 Permit Reissuance. If the Permittee desires to continue permit coverage beyond the date of permit expiration, the Permittee shall submit an application for reissuance at least 180 days before permit expiration. If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA in writing at least 180 days before permit expiration.

If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines any of the following (Minn. R. 7001.0040 and 7001.0160):

- a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit;
- b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit;
- c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies.

8. Permit Specific Definitions

General Definitions

- 8.1 "Act" means the federal Clean Water Act, as amended, 33 U.S. Code 1251 et seq.
- 8.2 "Agency" means the Minnesota Pollution Control Agency (MPCA).
- 8.3 "Bypass" means an intentional diversion of a waste stream from any portion of the treatment facility.
- 8.4 "CFR" means the Code of Federal Regulations.
- 8.5 "Commissioner" shall mean the commissioner of the Minnesota Pollution Control Agency or a designated representative.
- 8.6 "Discharge" means the conveyance, channeling, runoff, or drainage of waste water, including stormwater and snow melt from a site.
- 8.7 "Disposal System" means a system for disposing of sewage, industrial waste or other wastes, and includes sewer systems and treatment works.
- 8.8 "DMR" means Discharge Monitoring Report form.
- 8.9 "Duty Officer" means the Minnesota Duty Officer, Department of Public Safety, Division of Emergency Management.
- 8.10 "Emergency Incident" means all emergency bypasses, spills, or any other environmental emergency as described in the MPCA "Emergency Notification Guidance for Wastewater Treatment Facilities."
- 8.11 "MPCA" means the Minnesota Pollution Control Agency, or Minnesota Pollution Control Agency staff as delegated by the Minnesota Pollution Control Agency.
- 8.12 "NPDES" means National Pollutant Discharge Elimination System which is the program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits and imposing and enforcing pretreatment requirements under sections, 307, 318, 402 and 405 of the Clean Water Act, United States Code, title 33, sections 1317, 1328, 1342 and 1345.

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8. Permit Specific Definitions

- 8.13 "Outstanding Resource Value Waters" are waters within the Boundary Waters Canoe Area Wilderness, Voyageur's National Park, and Department of Natural Resources designated scientific and natural areas, wild, scenic, and recreational river segments, Lake Superior, those portions of the Mississippi River from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981, and other waters of the state with high water quality, wilderness characteristics, unique scientific or ecological significance, exceptional recreational value, or other special qualities which warrant stringent protection from pollution.
- 8.14 "Permittee" means the entity identified as Permittee on the cover letter authorizing coverage under this permit.
- 8.15 "Pollutant" means any sewage, industrial waste, or other wastes, as defined in Minnesota Statutes chapter 115.01, discharged into a disposal system or to waters of the state.
- 8.16 "POTW or Publicly Owned Treatment Works" means a wastewater treatment works owned and operated by a municipality or sanitary district for public use, and the authority operating such a treatment works.
- 8.17 "Release" means any bypass, overflow, discharge, spill, or other release of wastewater or materials to the environment.
- 8.18 "SDS" means State Disposal System and generally describes a permit issued by the state of Minnesota that is non-surface water discharging or land application facilities.
- 8.19 "Upset" means an exceptional incident in which the permit discharge limits are unintentionally and temporarily exceeded due to factors beyond the reasonable control of the Permittee.
- 8.20 "Waters of the State" means all streams, lakes, ponds, marshes, wetlands, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.

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8. Permit Specific Definitions

Sampling Definitions

- 8.21 "Calendar Quarter Average" is calculated by adding all daily values measured during a calendar quarter and dividing by the number of daily values measured during that quarter. The "Calendar Quarter Average" is an upper limit.
- 8.22 "Calendar Quarter Total" is calculated by adding all daily values measured during a calendar quarter. It is usually expressed in mass or volume units. The "Calendar Quarter Total" is an upper limit.
- 8.23 "Grab" sample type is an individual sample collected from one location at one point in time.
- 8.24 "Instantaneous" sample type means a measurement, such as for flow or temperature, taken at the time of sampling for chemical characteristics.
- 8.25 "Instantaneous Maximum" is the highest value recorded when continuous monitoring is used or when the reporting frequency is not specifically defined. The "Instantaneous Maximum" limit is an upper limit. The highest value recorded is reported.
- 8.26 "Instantaneous Minimum" is the lowest value recorded when continuous monitoring is used or when the reporting frequency is not specifically defined. The "Instantaneous Minimum" is a lower limit. The lowest value recorded is reported.
- 8.27 "Maximum" sample type means the greatest sample value recorded during the designated monitoring period.
- 8.28 "Single Value" is a reported value from a single sample or measurement for which there is no limit.

Land Application Definitions

- 8.30 "Cropping Year" means a year beginning on September 1 of the year prior to the growing season and ending August 31 the year the crop is harvested. For example, the 1994 cropping year began September 1, 1993 and ended August 31, 1994.
- 8.31 "Cumulative Pollutant Loading Rate" means the maximum amount of an inorganic pollutant that can be applied to an area of land.

Chapter 2. Waste Stream Stations

1. Requirements for Specific Stations

- 1.1 WS 001: Submit a quarterly DMR quarterly by 21 days after the end of each calendar quarter following permit issuance.

Appendix A

Facilities Covered by MNG820000

Permit No.	Permittee Name	Location
MNG820008	Akeley WTP	Akeley
MNG820009	Alexandria WTP	Alexandria
MNG820010	Anoka WTP	Anoka
MNG820011	Babbitt WTP	Babbitt
MNG820012	Baxter WTP	Baxter
MNG820013	Bel Clare Estates WTP	St. Cloud
MNG820014	Brainerd WTP	Brainerd
MNG820015	Donnelly WTP	Donnelly
MNG820016	Ironton WTP	Ironton
MNG820017	Kittson-Marshall WTP	Donaldson
MNG820023	Luverne WTP #2	Luverne
MNG820018	Marshall & Polk Rural Water System	Warren
MNG820019	McKinley WTP	McKinley
MNG820020	Savage WTP	Savage
MNG820021	Wheaton WTP	Wheaton
MNG820022	White Bear Township WTP	White Bear Lake

Appendix B



Minnesota
Pollution
Control
Agency

Guidelines-Disposal Methods for Water Filter Backwash Solids

Water Quality/Wastewater Permits #2.02 • May 2007

This fact sheet is intended to provide guidance for the proper disposal of water treatment backwash by-product.

As described in Minn. R. 7035.0300 subp. 100 water filter backwash solids (WFBS) are considered a solid waste. If the material is either landfilled or land applied, it must be tested and handled in accordance with this guidance document.

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WFB:

Water Filter Backwash consists of both a liquid supernatant that contains dissolved and suspended solids, and a more solid sludge that has precipitated out of solution.

WFBS:

Water Filter Backwash Solids. These are the solids present following the backwash of water treatment media. This is considered a solid waste.

Background

Water filter backwash (WFB) is generated when potable water treatment plants treat their well water to reduce suspended and dissolved solids.

Sand filter systems pump well water into the top of a tank that is pressurized or gravity fed down through a porous (usually sand-rock) media. Periodically the filter media is backwashed to remove the entrained solids.

Water filter backwash is conveyed to wastewater treatment facilities (WWTF) or is slurried to smaller settling tanks or ponds. To reduce wastewater treatment costs some municipalities' route the supernatant to settling facilities and the sludge to a WWTF, or the other way around. WFB routed to a settling facility need to be periodically cleaned out. The frequency will depend on the size of the tank or pond; and the volume and concentration of solids in the effluent.

Options for managing WFB include slurrying the material to a WWTF, landfilling, using as non-residential construction fill, or land application. Before deciding to dispose of WFB at a WWTF, you should contact the WWTF to fully discuss this option including: (1) available capacity of the WWTF; and (2) potential need to submit a sanitary sewer extension (SSE) permit application.

Options for WFB/WFBS disposal:

1. Wastewater Treatment Facility
2. Landfill
3. Construction Fill
4. Land Application

Steps for landfilling WFBS

1. The WFBS must pass the paint filter test (i.e. is a solid) to be accepted in a landfill.
2. Test and compare the material for the analytes and standards listed in the landfill's industrial solid waste management plan.
3. For unlined landfills radium 226 (Ra) concentrations cannot exceed 5 pCi/g. For lined landfills Ra concentrations cannot exceed 30 pCi/g. If radium in the WFBS exceeds 30 pCi/g options for its disposal must be arranged with the Minnesota Department of Health's Radiation Section.
4. If the test results are in alignment with the landfill's industrial solid waste management plan, the WFBS may be taken to a MPCA permitted landfill.

wq-wwprm2-02

Steps for using WFBs as construction fill

1. Test the material for the analytes listed in Table 1.
2. Using the analytical results, and formulas provided, determine whether the cumulative land applications limits listed in Table 1 are met.

If the results are below the limits in Table 1, the material may be used as fill for non-residential projects.

Steps for land applying WFB

1. Test the material for the analytes listed in Table 1.
2. Using the analytical results, and formulas provided, determine whether the cumulative land applications limits listed in Table 1 are met.
3. Determine the suitability of your site for land application using Tables 2-4.
4. Send in written notification to the county solid waste officer, and either the township clerk or city mayor, which ever is applicable, to provide local officials an opportunity to comment on the proposed application site.
5. Land apply the WFB in accordance with these guidelines.
6. Keep adequate records for future use.

Testing water filter backwash

Each time the WFB is to be land applied, a representative sample of the WFB must be collected in a way that provides a sample of the material which is actually land applied. For WFB this requires that an adequate number of subsamples be collected and composited into a single sample. The sample is then sent to a certified laboratory for testing. In addition to the parameters listed in Table 1, any chemical additives present in the WFB must also be analyzed. The results of these tests will be used to calculate the acceptable application rates for the by-product.

Table 1
Analytic parameters and cumulative limits for WFB

Parameter (Totals in mg/kg)	Cumulative Limits for land application
Radium 226	4.5 (milliCi/acre)
Arsenic	37 lb/acre
Barium	No Limit Established
Cadmium	No Limit Established
Copper	No Limit Established
Lead	No Limit Established
Manganese	No Limit Established
Mercury	No Limit Established
Molybdenum	No Limit Established
Nickel	No Limit Established
Selenium	No Limit Established
Zinc	No Limit Established
% percent solids	No Limit Established

If you have questions about what to test for, please contact the MPCA. If you have questions about sampling procedures, please contact your lab.

Formulas used to determine cumulative limits:

Maximum Application Rates Based on Radium and Arsenic:

Max. application = 37 lb/acre + (arsenic conc. x 0.002)

Based on arsenic (mg/kg)

Max. application = 4.5 milliCi/ac + (radium 226 conc. x 0.0009)

Based on radium 226 (pCi/g)

*** The maximum allowable WTB application is the lesser of the two results above minus any amount applied to the site from previous applications.**

Actual Arsenic Arsenic Actual application
Loading rate = Concentration x rate of solids x 0.002
(lbs/acre) (mg/kg) (dry tons/acre)

Actual Ra-226 Ra-226 Actual application
Loading rate = Concentration x rate of solids x 0.0009
(milliCi/acre) (pCi/g) (dry tons/acre)

Solids Applied = gal/acre x % total solids + 240
(dry tons/acre) Applied (as a decimal fraction)

Solids Applied = Wet tons/acre x % total solids
(dry tons/acre) Applied (as a decimal fraction)

Site suitability criteria

All criteria in this section, including slope restrictions, site suitability criteria, and separation distances as provided in the following tables must be met for a site to be suitable for land application.

Table 2
Slope restrictions for application sites

Slope (percent)	Injection or Immediate Incorporation
0-12	Allowed
>12	Not Allowed

Table 3
Soil Suitability Criteria

Characteristic	Minimum Requirement ¹
Soil texture at the zone of by-product application	fine sand, loamy sand, sandy loam, loam, silt, loam, sandy clay loam, clay loam, sandy clay, silty clay loam, silty clay, or clay
Depth to bedrock	3 feet
Depth to seasonal high water table ²	3 feet

¹ This information can be determined by obtaining information from soil surveys published by the Natural Resources Conservation Service or by characterization of the site by a state of Minnesota licensed soil scientist or other qualified individual.

Site Selection and Use

It is recommended that a Type IV certified operator determine the suitability of each site for application and be responsible for properly land spreading the WFB. The site selection process should also include the following steps:

1. Determine that the soils located on the site meet all site suitability criteria;
2. If the site has received WTB in the past, determine the amount of pollutant that can be applied to the site. This is done by subtracting the cumulative amount of pollutant applied to the site from previous application from the cumulative pollutant limit in Table 1.

Provide written notification to the county solid waste officer, and either the township clerk or city mayor (depending on the location of the site). Notifications must include a description of the WFB, and how the WFB will be land applied including any staging or storage that will occur prior to land application.

Miscellaneous management practices/restrictions

1. WFB must be incorporated or injected within 48 hours;
2. Application of WFB is not allowed on areas of a site ponded with water or liquid;
3. No runoff of the WFB from the application site is allowed;
4. No significant surface ponding of liquid WFB is allowed after 6 hours of the application;
5. All WFB which are land applied must be uniformly distributed over the area of the site used during application; and
6. Wind-blown WFB is not allowed.

Record keeping requirements

1. A map which identifies the exact site location and year of application;
2. Testing results and application rates;
3. The crop of vegetation grown on the site;
4. Daily hauling records which indicate quantities transferred to storage or land applied with the storage or site location identified;
5. The cumulative quantity of pollutant applied to the site from all applications of WTB;
6. A cumulative total of the quantity of material applied on each site for the cropping year;
7. A copy of written information provided to each end user of the WFB, this includes any test results;
8. A copy of notification letters submitted to each city, county, and township.

Table 4
Minimum separation distances from land application sites

Feature	Incorporated or Injected With 48 Hours	
Private drinking water supply wells	200 ft.	
Public drinking water supply Wells	1000 ft.	
Lakes, rivers, streams, ditches, wetlands, intermittent streams, or tile inlets connected to these surface water features ¹	slope 0%-6%	50 ft.
	slope 6%-12%	100 ft
Grassed Water Ways ²	33 ft.	

¹ Intermittent stream means a drainage channel with definable banks that provides for runoff flow to any of the surface waters listed in the above table during snow melt or rainfall events.

² Grassed waterways are natural or constructed and seeded to grass as protection against erosion. Separation distances are from the centerline of grassed waterways. For a grassed waterway which is wider than the separation distances required, application is allowed to the edge of the grass strip.

Annual report

An annual report is only required for those facilities with a surface or subsurface discharge permitted by the MPCA.

A report of all water filter backwash solids disposal activities for the past cropping year must be submitted by December 31 of each year on the Annual Report Form. An electronic version of this form is available at the following address: <http://www.pca.state.mn.us>. The annual report must include the following information:

1. Method of disposal;
2. Total quantity disposed; and
3. Location of disposal; and
4. Analytical results.
5. Cumulative amount of arsenic and Radium-226 pollutant applied to the application site.

For assistance you may contact

For further assistance, contact the MPCA Customer Assistance Center at 651-297-2274, or 800-646-6247.

Terms/Definitions

Cropping Year means a year beginning on September 1 of the year prior to the growing season and ending August 31 the year the crop is harvested. For example, the 1994 cropping year began September 1, 1993 and ended August 31, 1994.

End User means the person that has accepted the IBP for their use as a soil amendment.

Immediately Incorporated means incorporated into the soil with tillage within 48 hours after surface application of an IBP.

Industrial By-product (IBP) has the same meaning as "solid waste" given in Minnesota Rules part 703 5.0300.

Type IV Certified Operator or Inspector means a person certified according to Minnesota Rules chapter 7048 for land application.

Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands must have the following attributes: (1) a predominance of hydric soils; (2) inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and (3) under normal circumstances support a prevalence of such vegetation.