



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
Drinking Water and Environmental Health Division

Permit Application for Secondary Treatment

(INSTALLATION – ALTERATION – ADDITION OR IMPROVEMENT) AS DESCRIBED HEREIN
(Required under the Authority of the Safe Drinking Water Act 399)

This application becomes a Safe Drinking Water Act 399 Permit only when signed and issued by authorized Michigan Department of Environment, Great Lakes, and Energy (EGLE) staff. Follow instructions on page 2 for the completion of this application.

CONTACT INFORMATION

1. Organization or Facility and Address:

Write the name and address of the facility that will own and control the secondary treatment. This permit is to be issued to:

Facility Name: _____

Facility Street Address: _____

City: _____ State: _____ ZIP Code: _____

2. Owner's Contact Person:

Write the name of the owner who is responsible for compliance regarding this water supply and its proposed treatment below:

Name: _____

Title: _____

Phone: _____

Email: _____

3. Certified Operator:

An operator holding D-5+ certification level is required for operation of monochloramine and chlorine dioxide treatment. For treatment with sodium hypochlorite (chlorine), a D-5 certification level is required. For information on operator certification requirements see the Secondary Treatment webpage Michigan.gov/EGLE/About/Organization/Drinking-Water-and-Environmental-Health/Drinking-Water/Secondary-Treatment.

Name: _____

License Number: _____

Permit Number: ST _____

**ISSUED UNDER THE AUTHORITY OF THE DIRECTOR OF
THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY**
(EGLE use only)

cc: _____

Issued by: _____

Reviewed by: _____

INSTRUCTIONS

Complete items 1 through 3 on page 1 and 4 through 19 on the following pages of this application. EGLE staff complete gray boxes after the review. Print or type all information except for signatures. Send by regular or electronic mail the completed application, plans and specifications, and any attachments to EGLE at the following address:

Email:

EGLE-ST@Michigan.gov

Mailing Address:

Michigan Department of Environment, Great Lakes, and Energy
Drinking Water and Environmental Health Division
P.O. Box 30817
Lansing, Michigan 48909-8311

Please Note:

- a. This PERMIT only authorizes the installation, alteration, addition or improvement of the water treatment system described herein and is issued solely under the authority of Michigan Safe Drinking Water Act 399, as amended, further referred here as Act 399.
- b. The issuance of this PERMIT does not authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other EGLE permits, or approvals from other units of government as may be required by law.
- c. This PERMIT expires two (2) years after the date of issuance in accordance with R 325.11306, 1976 PA 399, administrative rules, unless construction has been initiated prior to expiration.
- d. Noncompliance with the conditions of this permit and the requirements of Act 399 constitutes a violation.
- e. Intentionally providing false information in this application constitutes fraud which is punishable by fine and/or imprisonment.

4. Treatment Description – In the space below, provide a detailed description of the proposed treatment. Reference the Basis of Design on page 8 as needed. Please note that applications without adequate descriptions will be returned. SEE EXAMPLES ON PAGE 4. Use additional sheets if needed.

Type of treatment: Corrosion Control Disinfection Other Chemical Feed: _____

Number of treatment systems/units: _____

Location of chemical injection: Hot Water Cold Water Other: _____

Treatment description (use the space provided below):

EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES

Chemical Feed

This application is for the installation of two positive displacement chemical feed pumps, rated at 24 gpd at 110 psi to inject both chlorine and ammonia to produce a residual of monochloramines. Two ANSI/NSF Standard 60 approved solutions, sodium hypochlorite (12.5%) solution and buffered ammonium salt solution, will be applied through a flow-paced control strategy by using an analog signal from a flow meter. This chemical feed system also has instrumentation to measure pH, temperature, Oxidation Reduction Potential, and total chlorine. The objective of this treatment is to reduce the risk of a Legionella contamination or other opportunistic pathogens. The system will have a monochloramine target concentration of 2.0 mg/L. Chemical feed pumps have been sized to operate in the range of 30-70% of their total capacity based on peak water demand as shown in the Basis of Design. The chemical used will be measured by a platform scale for chemical containers.

Corrosion Control

This application is for the installation of a chemical feed pump to inject phosphate at a rate of 15 gpd at 100 psi. The phosphate proposed here is ANSI/NSF Standard 60 approved. An ANSI/NSF Standard 60 sodium hypochlorite will be also injected by using a chemical feed pump rated at 15 gpd at 100 psi to target a concentration of 1.0 ppm. The objective of this treatment is to reduce the risk of metals leaching from internal plumbing especially lead and copper. Chlorine will be injected to reduce biological contamination. The chemical used will be measured by a platform scale for chemical containers.

WATER MANAGEMENT – Complete all boxes below.

5. Facilities treating for bacteriological control should have a water management program (WMP) as defined in the current version of ASHRAE 188. Issuance of the permit will be based in part on whether the WMP follows this standard. Has a WMP meeting the ASHRAE 188 requirements been attached?

YES NO, explain: _____

6. The facility should contact their public water provider to indicate their intention to become a consecutive public water supply of the provider. A copy of that correspondence should be attached to this application. Has that correspondence been attached?

YES NO, explain: _____

GENERAL PROJECT INFORMATION – Complete all boxes below.

7. Design engineer's name, license number, phone number, and email address:

Name: _____ Phone number: _____

License number: _____ Email address: _____

8. Is a basis of design attached?

YES NO

If no, briefly explain below why a basis of design is not needed or fill out the standard basis of design sheet on page 8.

The basis of design must include population served, water consumption, and any other element necessary for the calculation of targeted concentrations for the chemicals being injected. Refer to page 8 of this application for a standard basis of design sheet.

9. Construction plans which are prepared, sealed, and signed by a licensed professional engineer (PE) are required for the application review. Plans should include line diagrams showing the placement and connections of treatment within the plumbing network, plan views of the room(s) where treatment is proposed, and detailed depictions of the treatment system and supporting components. Are PE sealed and signed construction plans attached?

YES NO

If no, briefly explain below why sealed and signed construction plans have not been included.

10. Construction specifications which are prepared, sealed, and signed by a licensed professional engineer (PE) are required for the application review. Are PE sealed and signed construction specifications attached?

YES NO

If no, briefly explain below why sealed and signed construction specifications have not been included.

11. Are specification sheets for all components and chemicals attached?

YES NO, explain: _____

12. Were Recommended Standards for Water Works (10 States Standards), Suggested Practice for Water Works, AWWA Guidelines, and the requirements of Act 399 and its administrative rules followed?

YES NO

If no, explain below which deviations were made and why:

13. Attach current documentation of NSF certification from an ANAB accredited third-party certification body (NSF, WQA, UL, IAPMO, ALS, etc.) for all components, coatings, chemical additives and construction materials in contact with potable water. Are all components, coatings, chemical additives and construction materials ANSI/NSF, or other adequate third-party, certified with a copy of certificate attached?

YES NO

If no, explain below which components do not hold certification and why:

14. Prior to the installation of treatment, information on the distribution system's water quality must be obtained. Sample results for the parameters listed below must be provided. These samples include water quality parameters (WQP) and lead and copper (L&C) sampling. Conductivity, pH and temperature should be analyzed onsite, all other parameters listed below must be analyzed by a certified laboratory. Sampling locations should be chosen which accurately represent the facility's water quality. Are laboratory reports and sample results for the parameters listed below attached?

YES NO, explain: _____

- | | |
|---|---|
| - Conductivity (taken onsite) | - Orthophosphate (when the source supply uses an inhibitor containing a phosphate compound) |
| - pH (taken onsite) | - Silicate (when the source supply uses an inhibitor containing a silicate compound) |
| - Temperature (taken onsite) | - Sulfate |
| - Alkalinity | - Lead |
| - Calcium | - Copper |
| - Chloride | |
| - Disinfection byproducts (TTHM & HAA5) | |

PROJECT BASIS OF DESIGN

PROJECT NAME: _____

For this PROJECT the following information must be provided per Act 399 unless waived by the Department.

A. Daily number of the same (non-transient) consumers (e.g., employees, students, etc.) served by the facility:

B. Daily number of consumers residing at the facility for more than six months:

C. Daily number of transient consumers (e.g., patients, visitors, etc.) served by the facility:

D. Total daily number of consumers served by the facility (sum of A, B, and C):

E. Water flow rates for the proposed project:

- 1. Actual average daily flow: _____ gpm
- 2. Actual maximum daily flow: _____ gpm
- 3. Peak demand of the system: _____ gpm

F. Targeted chemical residual:

- 1. Target residual concentration: _____ mg/L
- 2. Target residual concentration range: _____ mg/L to _____ mg/L

G. Chemical product(s) to be utilized:

- 1. Chemical Name: _____
 - Chemical concentration or strength (mg/L or %): _____
 - Required chemical feed rate: _____ gph
 - Operating range of chemical feed pump: _____ gph to _____ gph
- 2. Chemical Name: _____
 - Chemical concentration or strength (mg/L or %): _____
 - Required chemical feed rate: _____ gph
 - Operating range of chemical feed pump: _____ gph to _____ gph

H. Actual pressures of existing system at the proposed point(s) of chemical injection:

- Location of injection 1: _____ Pressure: _____ psi
- Location of injection 2: _____ Pressure: _____ psi
- Location of injection 3: _____ Pressure: _____ psi
- Location of injection 4: _____ Pressure: _____ psi

I. Piping distance between injection location and first possible point of treated water consumption:

- Location of injection 1: _____ Distance: _____ ft
- Location of injection 2: _____ Distance: _____ ft
- Location of injection 3: _____ Distance: _____ ft
- Location of injection 4: _____ Distance: _____ ft

If you need this information in an alternate format, contact EGLE-Accessibility@Michigan.gov or call 800-662-9278.

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