



**NONCOMMUNITY PUBLIC WATER SUPPLY
WATER TREATMENT SYSTEM CONSTRUCTION PERMIT APPLICATION
REQUIRED UNDER AUTHORITY OF ACT 1976 PA 399, AS AMENDED**

NITRATE TREATMENT TYPE: ION EXCHANGE

Facility

Facility Name _____

Street Address _____

City _____ State _____ Zip _____

Public Water Supply System Number (WSSN) _____

Facility Owner

Name _____ Phone _____

Address _____

City _____ State _____ Zip _____

Email _____

Treatment System Designer

Name _____ Company _____

Address _____

City _____ State _____ Zip _____

Phone _____

Email _____

Please submit the following information in addition to plans, specifications, and an operation and maintenance manual:

Make and Model of Ion Exchange Unit (If applicable)
Brand and Type of Ion Exchange Media
Volume of Ion Exchange Media
Size and number of treatment vessels
Filtration rate (gpm/cubic ft)

Loading rate (gpm/sq ft)
Total population served
Well pump capacity (gpm)
Peak demand of water system (gpm)
How often will the unit be regenerated (days or gallons)
Is all the water treated at this water supply?
Backwash discharge (volume, frequency & nitrate concentration)

Other Treatment

Description and basis of design for other treatment applied such as softening, disinfection, iron removal, etc.

Water Quality (Untreated)

Nitrate _____ (mg/l)	Iron _____ (mg/l)	Sulfate _____ (mg/l)
Nitrite _____ (mg/l)	Total Hardness _____ (mg/l)	pH _____ (mg/l)
Alkalinity _____ (mg/l)	Silica _____ (mg/l)	Other _____ (mg/l)
Chlorides _____ (mg/l)	Sodium _____ (mg/l)	

Plans & Specifications

- 1) Include plans and specifications identifying:
 - a. Service line, storage tank, treatment vessels, piping, valves, pressure gauges, flow meters, sampling locations
 - b. Chemical injection location (if applicable)
 - c. Waste water receiving system
 - d. Mechanical warning alarm
 - e. Labeled "Raw Water" and "Treated Water" taps
 - f. Make and model of equipment including chemical injection pumps
 - g. Method of controlling chemical injection or regeneration process (if applicable)
 - h. Number and size of treatment vessels

Operation & Maintenance

- 1) Include an operation and maintenance manual Including:
 - a. Routine operation and maintenance activities
 - b. Troubleshooting guide

- c. Monitoring plan
- d. Permanent tags/labels for piping, valves, gauges, sample taps, key components

Certified Operator

Identify an operator certified at or above the D5 level (limited treatment)

Operator Name _____ Cert. No. _____ Level _____

Operation Report

Monthly operation report (attached) is to be submitted by the certified operator.

Other Relevant Information

Alternate Source

If another approved water source is available (by connection or drilling a new well) that source shall be used in lieu of treating a source that exceeds drinking water standards

Distance to and name of nearest community water system _____

Is connection to community water possible? Yes _____ No _____

Comments _____

Third Party Standards

Equipment, materials, and additives in contact with potable water must meet American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standards.

- 1) Provide ANSI/NSF listing if any "Drinking Water Treatment Chemicals" are involved in treatment system (Standard 60).
- 2) Provide ANSI/NSF product listing for "Drinking Water System Components". (Standard 61, 58, 51...)

Backwash Discharge

Approval is required for disposal of concentrate waste water. Requirements are dependent on the type of disposal and waste water to be discharged. Identification of the waste receiving systems, approval for discharge and characterization of the backwash water will be required for approval to install an arsenic removal system on a public water supply.

Backwash water will be discharged to: Community Sewer _____

Septic tank/drainfield _____ Other _____, if other describe location: _____

Provide a copy of the permit application and plans and specifications to the local health department and another copy to:

Drinking Water and Environmental Health Division
Environmental Health Section
Noncommunity Water Supplies Unit
525 West Allegan Street
P.O. Box 30817
Lansing, Michigan 48909-8311



NITRATE TREATMENT MONTHLY OPERATION REPORT – ION EXCHANGE

Facility Name _____

WSSN _____

Certified Operator _____ # _____

Month/Year: _____ / _____

Day	Flow Meter Reading (Gallons)	Nitrate Treated (mg/L)	Salt Added (mg/L)	Visual Inspection (Y/N)	Comments	Inspected By
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

Operator Signature _____

Date _____

See back for instructions on completing form

Completion of this form is required by Rule 325.11502, 1976 PA 399
Submit a copy of this MOR to the Local Health Department within 30 days after the end of the month.



Instructions for Completion of Monthly Operation Report: *Water Softener*

Flow Meter Reading: Record treated water meter reading at beginning and end of month. Flow data may be read from the face of a shut off valve or other metering device.

Nitrate Treated: Sample nitrate levels at the treated water sample tap quarterly and analyze through a certified lab. After getting the nitrate sample result from the lab, write the result in this column for the day that it was obtained. The Maximum Contaminant Level (MCL) for nitrate is 10 mg/L which is 10 parts per million. If the lab results are higher than 10 mg/L, add salt to the brine tank, start a regeneration cycle, and resample or contact your local health department to determine what steps to take to maintain compliance.

Salt Added: Add salt to the brine tank when salt levels become low. Record a "Y" in the salt added column and sign for that day.

Visual Inspection: Visually inspect the treatment system weekly to verify the treatment unit is operating properly. Mark a "Y" in this column every day the treatment system is inspected and sign your name in the "Inspected By" column for that day.

Comments: Record maintenance or any unusual events. See below for additional space.

Inspected By: Person obtaining arsenic sample, changing cartridge filter, or inspecting system signs for that day. Signatures are not needed on days a sample, cartridge filter change, or inspection has not occurred.

Operator Signature: Certified operator signs and dates bottom of MOR attesting to the submitted information in the report and then submits the MOR to their local health department within 30 days after the end of the month. Submittal of an MOR is required for every month the treatment system is in operation even if a nitrate sample is not taken that month.

Local Health Department (LHD) Name _____

LHD Address _____

LHD Contact Person _____ Phone _____

Nitrate Untreated: Sampling the raw water (untreated) nitrate levels once a year. Sampling the raw water (untreated) nitrite levels once every 3 years. Clearly label the point description "Raw Water" on the lab slip and write the sampling date, nitrate or nitrite result, and that it is raw water in the comment section below so they are not used in determining compliance with the nitrate MCL.

Additional Comments _____

Submit a copy of the MOR to the Local Health Department within 30 days after the end of the month