



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

**ARSENIC TREATMENT TYPE: POINT OF USE REVERSE OSMOSIS & CARTRIDGE FILTER**

**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:**

Total population served
Number of point-of-use treatment unit(s)
Location of point-of-use treatment unit(s)
Make and model of point-of-use treatment unit(s)
Filtration rate (gpm)

RO Only - Holding capacity of permeate water storage tank (gal)
Make and model of cartridge filter(s)
RO Only - Make and model of RO membrane
RO Only - Location and approval of backwash discharge
Method to meet flow meter and mechanical warning requirements (e.g. shut of flow meter on treated water line)

**Other Treatment**

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

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**Water Quality (Untreated)**

Conductivity _____ (mg/l)	Iron _____ (mg/l)	Silica _____ (mg/l)
Nitrates _____ (mg/l)	Manganese _____ (mg/l)	Phosphate _____ (mg/l)
Sulfates _____ (mg/l)	Total Hardness _____ (mg/l)	Sodium _____ (mg/l)
Sulfides _____ (mg/l)	Total Arsenic _____ (mg/l)	pH _____ (mg/l)
Chlorides _____ (mg/l)	Arsenic III _____ (mg/l)	Other _____ (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



**ARSENIC TREATMENT MONTHLY OPERATION REPORT –  
 REVERSE OSMOSIS & CARTRIDGE FILTER**

Facility Name \_\_\_\_\_

WSSN \_\_\_\_\_

Certified Operator \_\_\_\_\_ # \_\_\_\_\_

Month/Year: \_\_\_\_\_ / \_\_\_\_\_

Day	Flow Meter Reading (Gallons)	Arsenic Treated (mg/L)	Filter Changes (Y/N)	Visual Inspection (Y/N)	Comments	Inspected By
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
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24						
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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: Reverse Osmosis & Cartridge Filter**

**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.

**Arsenic Treated:** Sample arsenic levels at the faucet where treated water is obtained quarterly and analyze through a certified lab. After getting the arsenic sample result from the lab, write the result in this column for the day that it was obtained. The Maximum Contaminant Level (MCL) for arsenic is 0.010 mg/L which is 10 parts per billion. If the lab results are higher than 0.010 mg/L, change the filter(s) and resample or contact your local health department to determine what steps to take to maintain compliance.

**Filter Changes:** Change the cartridge filter(s) when the shut-off valve shuts off the flow of water or the performance indicating device signals it is time to change the cartridge filter(s), whichever is applicable for your treatment system or every 6 months, whichever comes first. Record a "Y" in the filter change cartridge column and sign for that day. The RO membrane should be changed every 3 – 5 years or if the treated water level of arsenic exceeds 0.010 mg/L or water production from the unit is reduced.

**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 an arsenic sample is not taken that month.

Local Health Department (LHD) Name \_\_\_\_\_

LHD Address \_\_\_\_\_

LHD Contact Person \_\_\_\_\_ Phone \_\_\_\_\_

**Arsenic Untreated:** Sampling the raw water (untreated) arsenic level is not required but is allowed if the water supply wants information about raw water arsenic levels. If you do sample the raw water for arsenic, clearly label the point description "Raw Water" on the lab slip and write the sampling date, arsenic result, and that it is raw water in the comment section below so they are not used in determining compliance with the arsenic MCL.

Additional Comments \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

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