

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
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December 17, 2018

ROBERT MICHAELSON
MANITOWOC PUBLIC UTILITIES
1303 S 8TH STREET
MANITOWOC WI 54220

Project Number: W-2018-0311A
PWSID#: 43603648
DNR Region: NER
County: MANITOWOC

SUBJECT: REVISED WATER SYSTEM FACILITIES PLAN AND SPECIFICATION APPROVAL

Dear Mr. Michaelson:

The Wisconsin Department of Natural Resources, Division of Environmental Management, Bureau of Drinking Water and Groundwater, is conditionally approving revised plans and specifications for the following project. An engineering report or information of sufficient detail to meet the requirements of s. NR 811.09(3), Wis. Adm. Code, was submitted along with the plans and specifications.

Water system name: Manitowoc Waterworks
Date received: 12/07/2018
Engineering firm: Manitowoc Public Utilities
Professional Engineer: Robert Michaelson
Regional DNR Contact: Wendy Anderson, 2984 Shawano Ave, Green Bay, WI 54313-6727, (920) 662-5414, wendy.anderson@wisconsin.gov

Project description: Revised plans and specifications have been submitted for the installation of Sumachlor-50 Aluminum Chlorohydrate chemical feed equipment. The City of Manitowoc (City) proposes to add Sumachlor-50 upstream of the submerged microfiltration (SMF) membranes in order to reduce fouling on the SMF membrane modules. The revised plans and specifications are hereby approved subject to the conditions below.

The original plans and specifications were conditionally approved by the Department on June 13, 2018 under project number W-2018-0311.

Sumachlor-50: The new Sumachlor-50 chemical feed equipment will be installed in an unused chemical feed area below grade. Due to space constraints within the water treatment plant, the Department is waiving the requirement that the chemical feed system be located above grade.

The Sumachlor-50 chemical feed equipment will include, two 490-gallon fiberglass bulk storage tanks, two transfer pumps, one 65-gallon polyethylene day tank, and two 48 gpd capacity, positive displacement diaphragm chemical feed pumps. Each tank will be provided with a vent pipe. All individual vent pipes will terminate downward facing in the chemical room and be covered by a 24 mesh screen. Concrete curbing around the chemical feed equipment and tanks will provide secondary containment. The Sumachlor-50 will be injected into the parallel low-lift pump discharge pipes, one into each pipe, upstream of the 500-micron strainers. The existing injection taps are installed at the 3 o'clock position on the pipe. Section NR 811.39 (7)(f), Wis. Adm. Code requires that they be installed up into the bottom half of the horizontal pipe. Reportedly, this section of pipe is

under continuous positive pressure. The next time this section of pipe is temporarily taken out of service, the chemical injection taps must be installed up into the bottom half of the piping.

Each chemical feed pump will be a ProMinent Gamma-X model No. GMAX0708NPT2Q100UDC1300EN diaphragm pump. The pump has a maximum capacity of 48 gpd. The expected chemical dose is 2.0 mg/l. At an average daily flow of 14 MGD, the approximate corresponding pump settings will be: stroke length 75% and speed 44% (116 spm). The chemical pump operation will be interlocked with the operation of the SMF plant. The chemical pumps will be flow paced by the membrane flow meters. Each chemical feed line will be fitted with a pressure relief valve, pressure gauge and adjustable backpressure valve. An ultrasonic liquid level transmitter, with an accuracy of +/- 0.5% of range, will be used to determine chemical usage.

Sampling: The Department understands that you are currently working towards corrosion control treatment optimization under the Lead and Copper Rule. Concerns for water quality associated with this submittal (i.e. aluminum and chloride) and their capacity to impact release of lead in drinking water will be captured in distribution system water quality parameter sampling associated with corrosion control treatment optimization. Please note that you will need to communicate with your Regional DNR Engineer to coordinate sampling events with the Sumachlor and the corrosion control treatment start dates.

Approval conditions related to Chapters NR 810 and NR 811, Wis. Adm. Code:

1. A preconstruction conference shall be held to ensure the understanding of, and compliance with, the approved plans and specifications, the duties of the resident project representative, the disinfection and bacteriological sampling requirements of s. NR 810.09(4), Wis. Adm. Code and any special conditions listed below.
2. Permanent signs identifying the chemical for each fill tube shall be posted at chemical offloading areas. (s. NR 811.40(1)(o), Wis. Adm. Code)
3. Permanent signs identifying the tank contents shall be posted adjacent to or on chemical storage tanks. (s. NR 811.40(1)(o), Wis. Adm. Code)
4. Chemical injection nozzles installed in a horizontal section of pipe shall be installed up into the bottom half of the pipe the next time the pipe section is temporarily taken out of service. (s. NR 811.39 (7)(f), Wis. Adm. Code)
5. Wendy Anderson shall be notified when this project is completed so she can inspect the installation and grant approval to place the chemical feed equipment in service. (s. NR 810.26(1), Wis. Adm. Code)

Approval constraints: The project was reviewed in accordance with ss. 281.34 and 281.41, Wis. Stats. for compliance with Chapters NR 108, NR 810, NR 811 and NR 820, Wis. Adm. Code and is hereby approved in accordance with ss. 281.34 and 281.41, Wis. Stats. subject to the conditions listed above. This approval is valid for two years from the date of approval. If construction or installation of the improvements has not commenced within two years the approval shall become void and a new application must be made and approval obtained prior to commencing construction or installation.

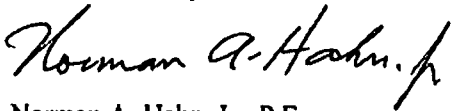
This approval is based upon the representation that the plans submitted to the Department are complete and accurately represent the project being approved. Any approval of plans that do not fairly represent the project because they are incomplete, inaccurate, or of insufficient scope and detail is voidable at the option of the Department.

Be advised that this project may require permits or approvals from other federal, state or local authorities. For example, a certificate of authority from the Public Service Commission of Wisconsin may be required per s. 196.49, Wis. Stats. and ch. PSC 184, Wis. Adm. Code.

Appeal rights: If you believe that you have a right to challenge this decision, you should know that the Wisconsin Statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. To request a contested case hearing pursuant to s. 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. Requests for contested case hearings must be made in accordance with ch. NR 2, Wis. Adm. Code. Filing a request for a contested case hearing does not extend the 30 day period for filing a petition for judicial review. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you must file your petition with the appropriate circuit court and serve the petition on the Department within 30 days after the decision is mailed. A petition for judicial review must name the Department of Natural Resources as the respondent.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

For the Secretary



Norman A. Hahn, Jr., P.E.
Public Water Engineering Section
Bureau of Drinking Water and Groundwater
(608) 267-7661

cc: Deb Neuser – Clerk, City of Manitowoc (by email)
Wendy Anderson – DNR, Green Bay (by email)
JaNelle Merry – DNR, Green Bay (by email)
PSC – Madison (by email)
Bridget Kelly – DNR, Madison (by email)
Brad Siefker – DNR, Madison (by email)
Florence Olson – DNR, Madison, Plan Reviewer (by email)
Miranda Sachtschale – DNR, Madison, Plan Reviewer (by email and copy to the file)