



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

Drafted Date: June 17, 2022

Finalized Date: July 7, 2022

Subj: Inspection Report
Clean Water Act - National Pollutant Discharge Elimination
System ("NPDES")
Richmond Water Park

From: David Turin, Environmental Scientist
DAVID TURIN

Digitally signed by DAVID TURIN
Date: 2022.07.14 11:38:09 -04'00'

Thru: Rachel Olugbemi, Physical Scientist

To: File

I. Facility Information

A. Facility Name: Richmond Water Park

B. Facility Location: 172 Plymouth St
Halifax, MA 02338

C. Facility Contacts: Bill Lindsay, Supt
500 Plymouth St
Halifax, MA 02338

John Sullivan, Senior Treatment Plant Operator
David Hathaway, Secondary Treatment Plant Operator

D. NPDES ID No(s): MAG640008

II. Background Information

A. Date(s) of inspection: June 8, 2022

B. Weather Conditions: 70 deg F, partly sunny

C. US EPA Representative(s):
David Turin

D. State/Local Representative(s):
David Burns, MADEP

E. Federally Enforceable Requirements Covered During the Inspection:
Section 301(a) of the Clean Water Act, 33 U.S.C. §1311(a)

F. Previous Enforcement Actions:

DOCKET NO. CWA-AO-R01-FY16-18 (8/31/16)

DOCKET NO. CWA-AO-R01-FY20-46 (9/29/20)

III. Type and Purpose of Inspection

Evaluation of current conditions, compliance with previous enforcement actions to address total residual chlorine (TRC) violations, and compliance plans going forward.

IV. Facility Description

Water treatment plant for the Town of Halifax, MA. Comprised of 3 sand filters for treatment of well water for public drinking water supply and two lagoons for settling of filter backwash wastewaters prior to discharge to Turkey Swamp, which flows to Palmer Mill Brook.

V. Inspection

MADEP announced the inspection to the facility on or before June 3, 2022. I arrived at approximately 10:30 am.

A. Opening Conference

I presented my EPA identification and explained the purpose of the inspection was to better understand the actions taken to date to comply with previous EPA administrative orders (AO) and planned additional actions.

B. Facility Tour

Facility staff provided an overview of the drinking water treatment system and described its procedures for adding bisulfite to its filter backwash [pic 1] and discharging to its lagoon system. I requested clarification regarding its use of bisulfite to dechlorinate in filter backwash wastewater. Mr. Sullivan stated that besides a period when it did not conduct dechlorination at all, the facility has always used liquid bisulfite. He indicated that there was a time that they also added bisulfite tablets to the lagoons. Mr. Sullivan clarified a misconception from an earlier inspection by stating that there was no time that they only used bisulfite tablets. I reiterated EPA's concern regarding the Town's decision to stop dechlorinating its effluent, despite having a total residual chlorine (TRC) limit in its NPDES Permit that it consistently violated.

Outside, we observed two settling lagoons [pic 2]. I was told that they have both been cleaned in recent years and are used in an alternating cycle. The backwash is sprayed into the air via the inlet riser in the middle of the lagoon and the wastewater is filtered through the sand at the bottom of the lagoons and conveyed through underground collection pipes to the outlet structures in each lagoon.

The lagoon outlet structures convey the wastewater through an underground pipe to the permitted outfall located several hundred yards away. At my request, David Hathaway collected a sample of the final effluent to evaluate for residual chlorine. Back at the facility, the sample was analyzed for *free* chlorine (0.0 mg/L); when I pointed out that the permit has limitations for *total* residual chlorine, Mr. Hathaway also conducted this analysis and got a result of 0.02 mg/L. I observed and brought to the attention of the facility that the TRC reagent packet had expired in March 2022 and told them that they need to take care to perform the analysis for total residual chlorine and use up-to-date reagent packets.

Mr. Lindsay described a theory of its consultant that residual chlorine was “bound” to manganese in its wastewater discharge and the TRC test was detecting this bound chlorine and it can be subtracted from the test result. The consultant’s recommendation was to identify the concentration of manganese and “subtract” this value from the reported quantity of TRC. I expressed reservations regarding the appropriateness of subtracting bound residual chlorine, as the permit limit is for total residual chlorine. Following the inspection, Mr. Lindsay provided information that clarified that for the analytical method used, certain chemicals, including manganese, may react and show as chlorine and provided a method to identify the portion of the test result comprised of manganese.

C. Records Review

I discussed that in my review of TRC data recently submitted by the facility through NetDMR, EPA’s electronic data system, the facility reported monthly average concentrations that were greater than the daily max for the same period, which cannot occur if the values are being reported correctly. I also observed that when EPA requested that the facility provide EPA with the raw data used to calculate the values reported on the DMR, Mr. Lindsay was not able to provide this information. I reminded the facility that both State and federal regulations require specific record-keeping requirements and that the facility needs to develop a system to record and preserve this information.

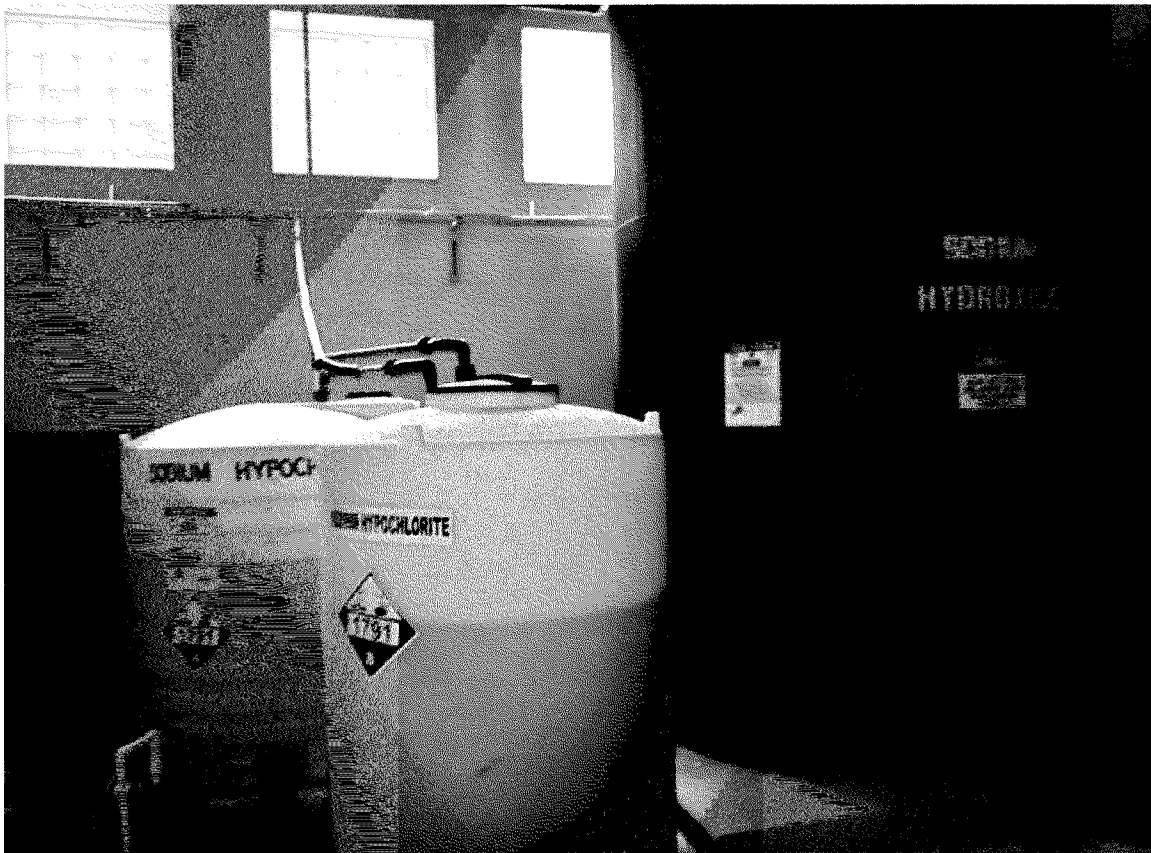
D. Closing Conference

In closing, I reiterated that the facility should not change how it calculates or reports the concentration of TRC until we have a better understanding of the appropriateness of the consultant’s recommendation regarding the potential effect of manganese. I also told the facility to replace its expired TRC reagents packets and take care to conduct the correct test for total, not free, chlorine and to go back and correct the monthly average and daily maximum data submitted to NetDMR. Finally, I offered to try to provide a list of other drinking water treatment plants for the facility to contact to see if they have similar issues that they have identified and addressed with high residual chlorine levels in their treated wastewater.

I departed at approximately 11:45 am.

Unless otherwise noted, this report describes conditions at the facility/property as observed by EPA inspector(s), and/or through records provided to and/or information reported to EPA inspector(s) by facility representatives and as understood by the inspector(s). This report may not capture all operations or activities ongoing at the time of the inspection. This report does not make final determinations on potential areas of concern. Nothing in this report affects EPA's authorities under federal statutes and regulations to pursue further investigation or action.

Pic 1 – Liquid Bisulfite Dosing System



Pic 2 – Lagoon No. 1 (Showing Influent Riser and Outfall Structure)

