



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

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

Drafted Date: 09/29/2022

Finalized Date: *Dated as shown on electronic signature*

Subj: Medfield MA WWTP Inspection Report, as it relates to the Clean Water Act

From: Douglas Koopman DOUGLAS KOOPMAN

Digitally signed by DOUGLAS
KOOPMAN
Date: 2022.10.13 13:13:51 -04'00'

Thru: Damian Bednarz

DAMIAN BEDNARZ

Digitally signed by DAMIAN
BEDNARZ

Date: 2022.10.13 10:05:20 -04'00'

To: File

I. Facility Information

A. *Facility Name:* Medfield Wastewater Treatment Plant

B. *Facility Location:* 101 West Street,
Medfield MA, 02052

C. *Facility Contacts:* Skip Malonsong – Chief Operator/Project Manager
Weston and Sampson (c) 978 854 3990
malonsong@wseinc.com

Bill Donovan – Assistant Chief Operator
Town of Medfield (508) 906-3010

Maurice Goulet – Department of Public Works Director
(508) 906-3002 mgoulet@medfield.net

D. *ID No(s).* NPDES Permit No. MA0100978, Effective 3/1/2012. Administratively continued.

II. Background Information

A. *Date(s) of inspection:* 7/18/2022

B. *Weather Conditions:* 72 °F High overcast clouds

C. *US EPA Representative(s):* Douglas Koopman, Damian Bednarz (Trainee)

D. State/Local Representative(s):

James Laughlin MADEP CERO
Clair Meehan Medfield Board of Waters and Sewerage
Jason Jancaitis -Woodard and Curran
Scott Salvucci- Woodard and Curran
Peter Lyons – Woodard and Curran
Scott Kraihanzel – Weston and Sampson

E. Federally Enforceable Requirements Covered During the Inspection:

Requirements covered in NPDES Permit MA0100978

F. Previous Enforcement Actions:

MADEP issued an Administrative Consent Order with Penalty in 2018. for phosphorus violations.
EPA issued Administrative Order in 2017 to repair Ultraviolet Disinfection system

III. Type and Purpose of Inspection

Facility has had many violations in recent history, leading to the site being listed on EPA's SNC (significant non-compliance list). Inspection conducted to ascertain compliance with the Facility's NPDES permit.

IV. Facility Description

Town of Medfield operates a 1.52 MGD advanced wastewater treatment Facility located in Medfield, MA that serves approximately 14,500 people. Treated effluent is discharged to segment (MA72-05) of the Charles River Watershed.

Sewage enters the plant through a gravity interceptor sewer, through a bar screen. Wastewater then travels to one of two aerated grit chambers and then to one of two primary sedimentation tanks where sludge settles and is processed through a sludge thickening press prior to being hauled off for incineration. Primary effluent flows to one of two aeration tanks with fine air bubble diffusers. The wastewater then flows into one of two 40 foot diameter clarifiers where the activated sludge settles out. The solids flow into the return activated sludge (RAS) tank. Secondary effluent passes through tertiary sand filters before flowing into UV disinfection units and down a cascade into the river. Waste secondary sludge is pumped back to the sludge thickening press where it is treated with polymer and thickened before being hauled off site for incineration.

V. Inspection

The inspection was announced to the Facility on 7/14 by Damian Bednarz over a phone call.

The Inspector(s) arrived at approximately 9:15 AM.

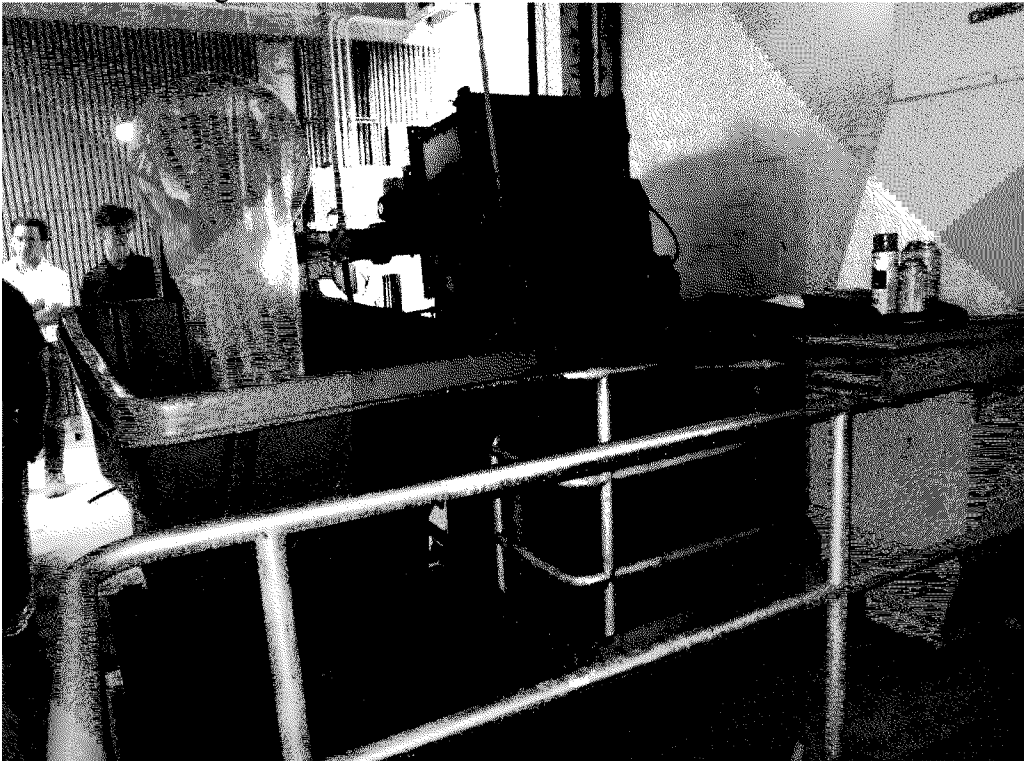
A. Opening Conference

Upon entering the Facility, Douglas Koopman presented his credentials and a business card to Medfield's direct staff and operations team. Introductions and contact information was exchanged between the group. Mr. Koopman explained that he was there to do a full inspection of the Facility following up with a closing conference.

Mr. Koopman began by asking some general questions regarding the plant and collection system operation. The Facility receives only domestic sewage, and the town is 70% sewered. The Facility does receive septage but only from the town of Medfield. They receive roughly 5000 gallons per month. The last upgrade at the Facility occurred in 2004 as the Facility had changed their disinfections system from Chlorine to Ultraviolet Technology and added the sand filters

B. Facility Tour

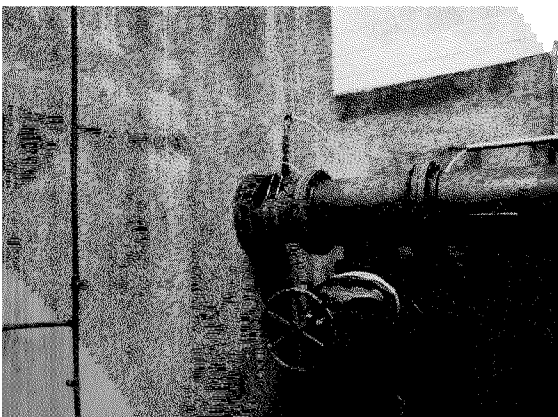
Tour began with the headworks building, which featured bar rack where solids were collected in a large trash cart.



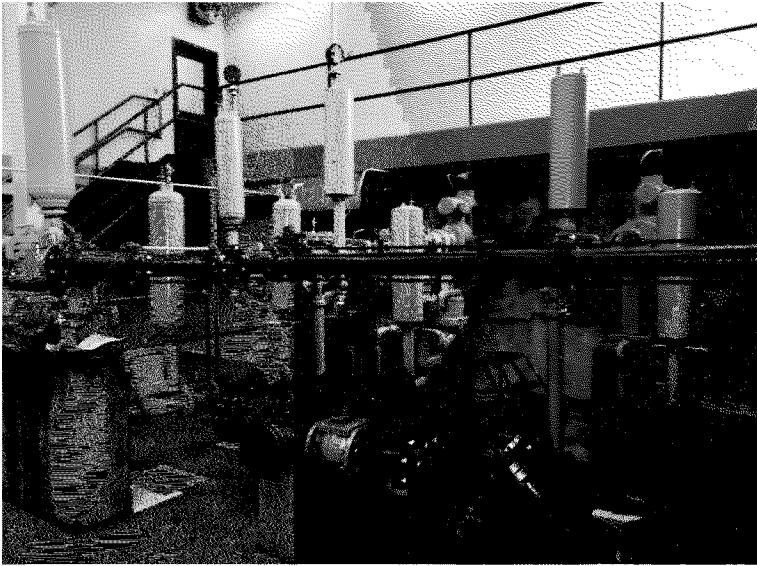
Mr. Donovan explained that the teeth to clean the bars are made of plastic and continually break. They have spare parts, but they will be looking to replace the unit with one that is more durable. Next stop was the pump room. It housed the three pumps that convey influent into the grit chamber (one of the 3 pumps pictured below)



One pump was online at the time of the inspection. Mr. Donovan explained that at this time of year the plant usually was handling roughly 300,000 gallons/day and that they can operate with one pump on-line and the other two in standby mode. Prior to the influent leaving the pump room Polyaluminum Chloride (PAC) solution is added to the influent to increase coagulation within the grit chamber. PAC is added to influent just prior to leaving the pump room as shown below.

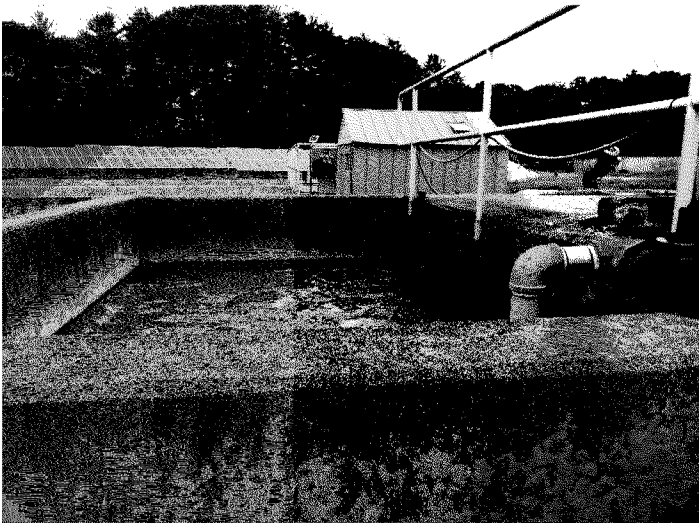


Also located in the pump room are the primary sludge pumps

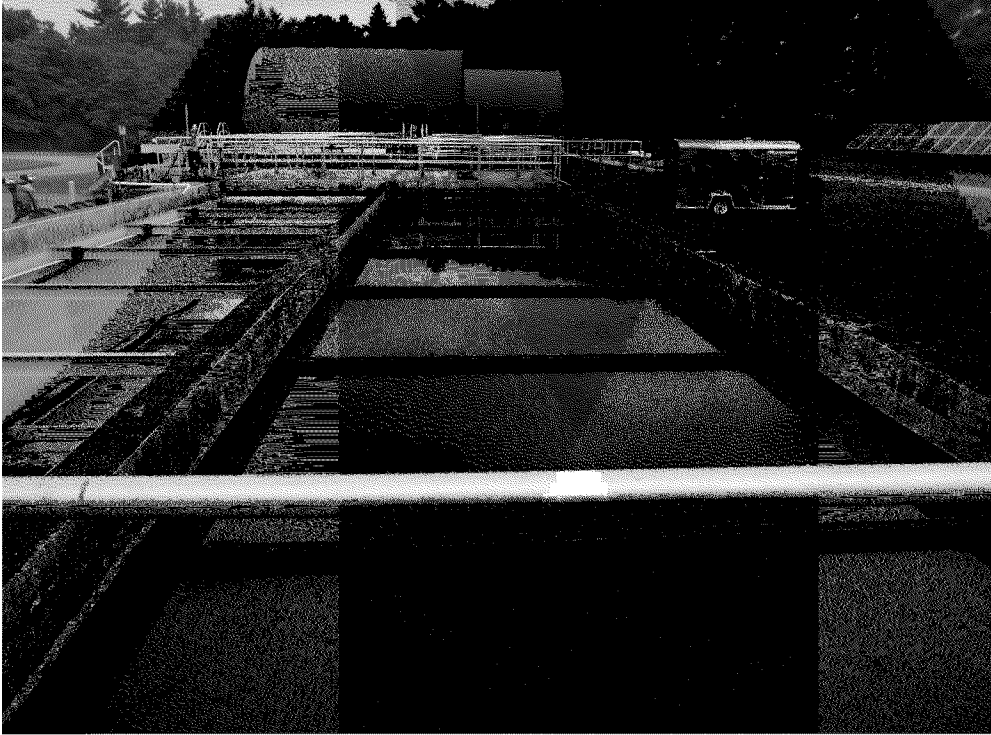


Mr. Koopman asked how much sludge the plant produces and where does it go. Mr. Donovan stated that currently the plant produces roughly 9 truckloads per week (each truck roughly 9000 gallons) and that the sludge is hauled to Cranston RI to be incinerated.

The next stop was the aerated grit chambers. (One of two grit chambers pictured below)

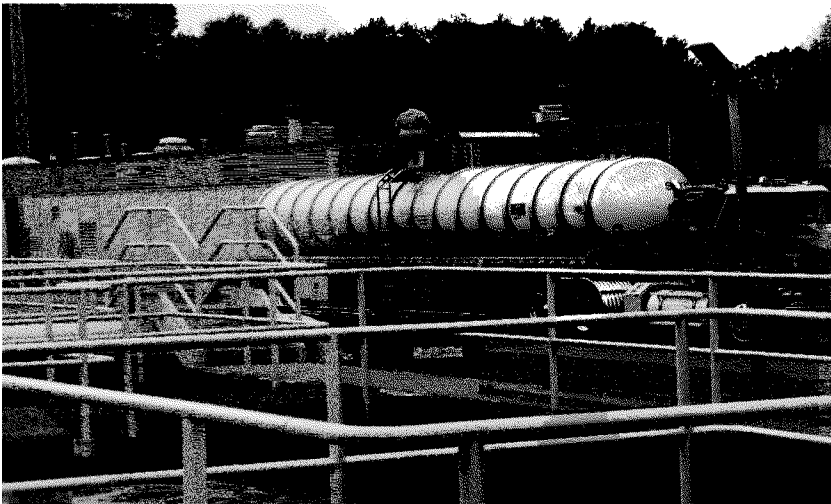


Following the grit chambers the influent goes to one of two primary settling tanks



(Both primary settling tanks. Tank on left is out of service for repair)

At the time of inspection, only one settling tank was online. At this time a tanker had pulled up to the Facility to collect dewatered sludge for off-site removal.



From the aerated grit chamber effluent flows to the secondary clarifiers.



(one of the secondary clarifiers under cover)

The clarifiers are covered by an awning to prevent the growth of algae. Both clarifiers were online and operating at the time of the inspection. From the secondary clarifiers the effluent goes to the sand filter.

At the time of the inspection, the Facility's Dynasand filter was not in use and were in need of maintenance/upgrades. As explained to the inspector the sand in the filter had become packed down tight and needed to be broken up and loosened or replaced.

The final step of the wastewater treatment process is the UV system. Four banks of UV light bulbs are attached to arms and submerged into treated wastewater channel.



(picture showing UV Bulbs removed from effluent channel)

Many of these bulbs were offline during the inspection, and biologic material was visible on some bulbs. The appearance of the final effluent before UV treatment (below)



Effluent after UV treatment flowing down cascading steps to the outfall.



C. Records Review

Prior to the inspection, Mr. Koopman reviewed Facility records. These records included:

- NPDES Permit Number MA0100978 2011 Final Permit, effective December 27, 2011 (Administratively Continued)
- NetDMR reporting in the year of 2020 - 2022

D. Closing Conference

After the walkaround, Mr. Koopman held a closing conference and explained the criteria which placed the Facility in Significant Non-Compliance. Mr. Koopman explained that the Facility would receive an inspection report and an administrative order which would require them to take the necessary actions to get the Facility operating properly and complying with their NPDES permit.

The inspectors left the Facility around 12:00 pm.

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.