Iowa Department of Natural Resources NPDES Supplemental Reporting

124389

Facility: City of Muscatine WRRF

NPDES Number: 7048001

Month: June

Year: 2022

Additional comments for Monthly Operating Report:

Muscatine WRRF is in violation of the NPDES Permit for the E. coli Geometric Mean for the month.

Analysis Dates	E. coli (MPN/100-mL)	
	Post UV	Pre UV
6/7/22	190	660
6/17/22	2400	5200
6/21/22	660	3550
6/24/22	7.5	1800
6/28/22	140	1210
30-day Geometric Mean	200	1900

The direct cause is most likely related to industrial loading to the Muscatine WRRF. The Muscatine WRRF has had issues with two industrial users exceeding the BOD limits on the same day – June 16th. The June 17th E. coli exhibited a large amount of E. coli due to unsettling caused by the BOD loading of industrial material. The one industrial user, Linde, receives CO2 gas from Grain Processing Corp. wet ethanol manufacturing and purifies the gas. Grain Processing Corp. uses a scrubber that uses water to remove ethanol from the gas. The largest value for E. coli on 6/17 coincides with Linde and GPC both violating their pretreatment permits on 6/16 and 6/17. These violations are most likely related to the ethanol waste from both wastewater discharges to the City of Muscatine. The wastewater may only be slightly tainted with an alcohol waste, the smallest amount can disrupt the microorganisms in the wastewater treatment plant inhibiting some treatability of the E. coli and organic wastes.

The industrial loading graph below indicates the elevated load from GPC and Linde.

Graph of Industrial BOD Loading

