

Large On-Site Wastewater Treatment and Disposal
Systems
Treatment System Operation Permit
Application

Applicant: Allen Harim Foods, LLC

Facility: Allen Harim Harbeson Poultry Processing Facility

Public Hearing
August 21, 2019 - 6:00PM

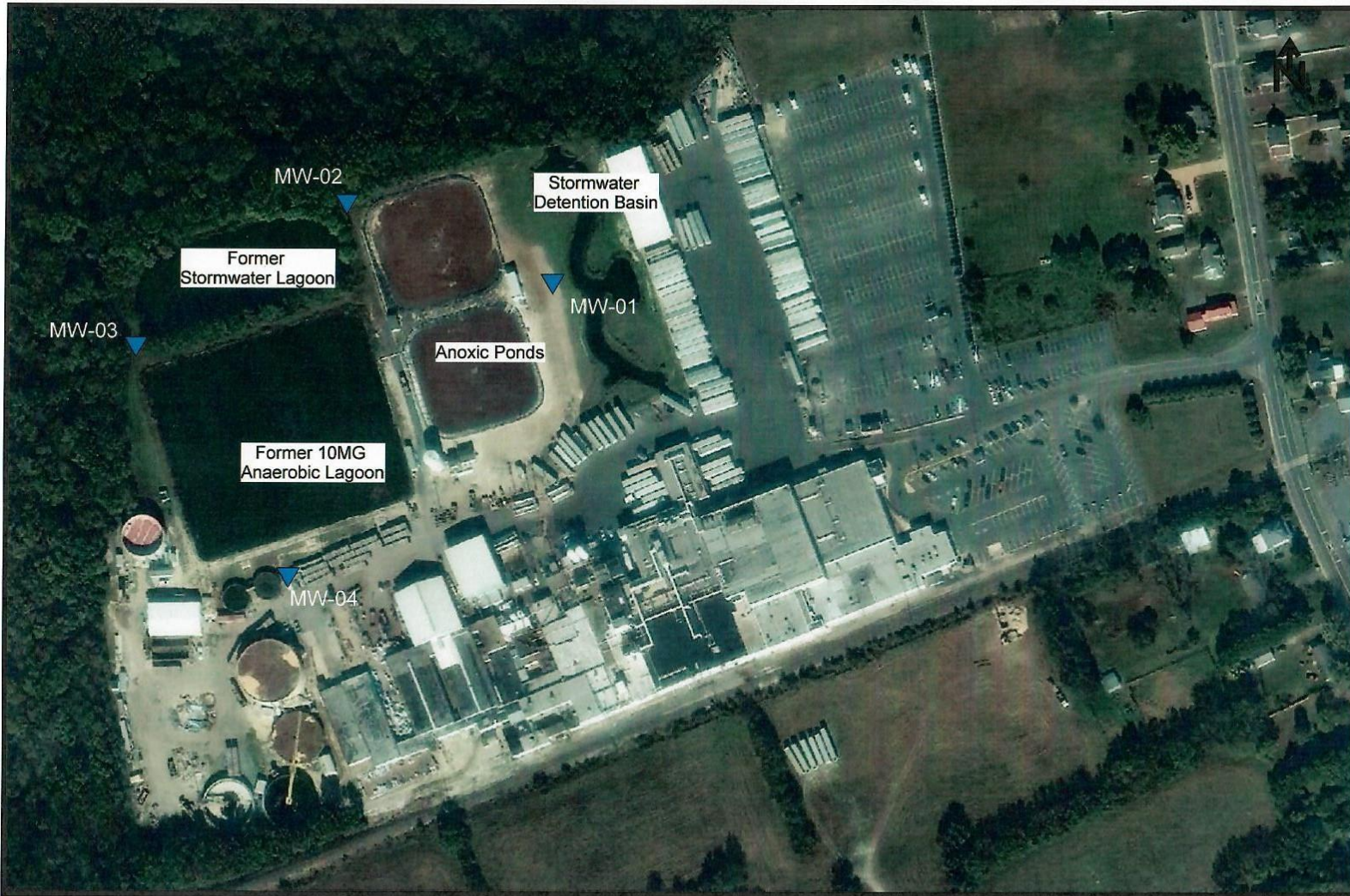
Groundwater Discharges Section, Division of Water
Delaware Department of Natural Resources and Environmental Control





Overview

- The facility is a poultry processing facility which operates an on-site wastewater treatment system
- Wastewater treatment system consists of screening, grit removal, dissolved air flotation device, anoxic biological nutrient removal (BNR) basins, aeration cells, flocculation tank, clarifiers, and a chlorination/dechlorination contact tank
- Diversion of off-spec wastewater to on-site lagoons is incorporated into the treatment train for storage and re-treatment
- Treated effluent pumped to Artesian Northern Sussex Regional Water Recharge Facility (ANSRWRF)





Legend

-  Monitoring Well
-  -26- Equipotential Line (ft)

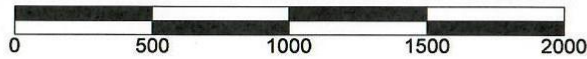


Figure 2 - Site Map

Allen Harim Foods, LLC
18752 Harbeson Road
Harbeson, DE 19951



Influent Limitations

- Daily average influent flow from Allen Harim Harbeson Facility shall not exceed 2.0 MGD
- Maximum influent flow from the Pinnacle Processing facility shall not exceed 40,000 GPD
- Maximum influent flow from the Dagsboro Hatchery facility shall not exceed 40,000 GPD



Effluent Limitations

- Average effluent flow from Allen Harim Harbeson Facility treatment system transferred to ANSRWRF shall not exceed **1.5 MGD** averaged over a 7-day period and shall not exceed a peak daily flow of **2.0 MGD**
- Total Nitrogen (as N) concentration shall not exceed **30 mg/l** daily average
- Total Nitrogen (as N) concentration shall not exceed **45 mg/l** daily maximum
- The total residual chlorine concentration shall not be less than **1.0 mg/L** nor more than **4.0 mg/L** at any time
- Fecal coliform concentration shall not exceed **20 col/100 ml** at any time



Effluent Limitations

- The pH shall not be less than **5.5** standard units nor greater than **9.0** standard units at any time
- Turbidity concentration shall not exceed **5** NTU at any time
- BOD daily average concentration shall not exceed **10** mg/l
- TSS daily average concentration shall not exceed **10** mg/l
- Chloride concentration of the effluent shall not exceed **250** mg/L on an average annual basis
- Sodium concentration of the effluent shall not exceed **210** mg/L on an average annual basis



Influent and Effluent Monitoring Requirements

Parameter	Unit Measurement	Monitoring Frequency	Sample Type	
			Influent	Effluent
Flow	Gallons Per Day	Continuous	Recorded	Recorded
BOD ₅	mg/L	2 x Month	Grab	Composite
TSS	mg/L	2 x Month	Grab	Composite
Total Dissolved Solids	mg/L	Quarterly	NA	Grab
Fecal Coliform	Col/100 ml	Quarterly	NA	Grab
Total Nitrogen	mg/L	1 x Week	Grab	Composite
Ammonia Nitrogen	mg/L	Monthly	Grab	Composite
Nitrate/Nitrite as Nitrogen	mg/L	Monthly	Grab	Composite
pH	S.U.	3 x per week	Grab	Composite
Total Phosphorus	mg/L	Monthly	Grab	Composite
Chloride	mg/L	Quarterly	Grab	Composite
Turbidity	NTU	Continuous	N/A	Recorded
Total Residual Chlorine	mg/L	Continuous	N/A	Recorded
Potassium	mg/L	Quarterly	N/A	Composite
Sodium	mg/L	Quarterly	N/A	Composite



Monitoring: Process Control Testing and Diversion Indicators

Parameter	Unit Measurement	Monitoring Frequency	Sample Type
			Effluent
*BOD ₅	mg/L	1 x Week	Grab
COD	mg/L	5 x Week	Grab
Nitrate	mg/L	Daily	Composite & Grab
Total Nitrogen	mg/L	Daily	Composite & Grab
Dissolved Oxygen	mg/L	5 x Week	Grab

* After 1 year the BOD₅ testing monitoring frequency shall be 2 times per month

Wastewater that fails to meet the operating criteria established in the Operation & Maintenance Manual shall be automatically diverted into designated areas established for diversion storage



Monitoring: Four Monitoring Wells

Parameter	Unit Measurement	Monitoring Frequency	Sample Type
pH	S.U.	Quarterly	Field Test
Temperature	°F	Quarterly	Field Test
Specific Conductance	µS/cm	Quarterly	Field Test
Dissolved Oxygen	mg/L	Quarterly	Field Test
Depth to Water Table	Hundredth of a foot	Quarterly	Field Test
Ammonia Nitrogen	mg/L	Quarterly	Grab
Nitrate + Nitrite Nitrogen	mg/L	Quarterly	Grab
Total Nitrogen	g/L	Quarterly	Grab
Total Coliforms	Col/100 ml	Quarterly	Grab
Fecal Coliform	Col/100 ml	Quarterly	Grab
Total Phosphorus	mg/L	Quarterly	Grab
Sodium	mg/L	Quarterly	Grab
Chloride	mg/L	Quarterly	Grab
Total Dissolved Solids	mg/L	Quarterly	Grab



Key Permit Requirements

- Compliance with effluent limits
- Diversion of off-spec wastewater for temporary storage and additional treatment
- Monitoring and Reporting – Used to evaluate wastewater treatment efficiency and determine compliance with permit conditions
- Facility regularly inspected by the Department



Key Permit Requirements

- Requirement to retain the services of a Delaware certified wastewater treatment plant operator
- Old Lagoon Cleanout Requirements
- Proper Sludge disposal
- Implementation and maintenance of a storm water plan to control runoff
- Application for a permit renewal

