UTILITY REPORT

AUGUST 2024

Town Bowling Green, VA

Authored by:

Inboden Environmental Services, Inc.

WATER

Water Quality

The treatment facilities and distribution system maintained compliance with all required sampling.

Bacteriological Analysis:

Location	Date	Result
135 South Main	8/13/24	Absent
152 East Broaddus	8/13/24	Absent

Water Treatment

The water treatment plant met the Town's water demand with an average daily production rate of 0.148 MGD for a total monthly finished water volume of 4.616 MG.

Operational Notes:

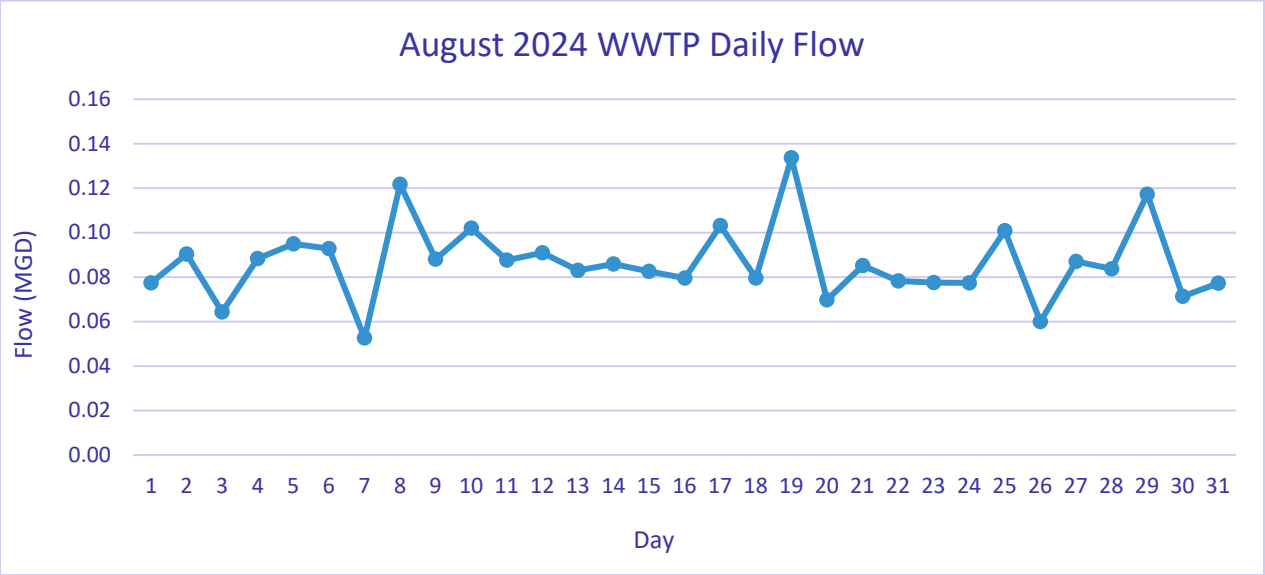
Treatment plants were visited, and an analysis of water quality was performed every day. Testing Instruments were calibrated at least twice a week.

- Monthly report was sent to VDH.
- All P/A samples were collected and passed.
- Investigating the use of auto-de-gassing pump heads for Chlorine dosing and better chemical storage accommodations.

WASTEWATER

Wastewater Treatment

The wastewater treatment plant had an average daily flow of 0.087 MGD for a total monthly effluent discharge of 2.683 MG.

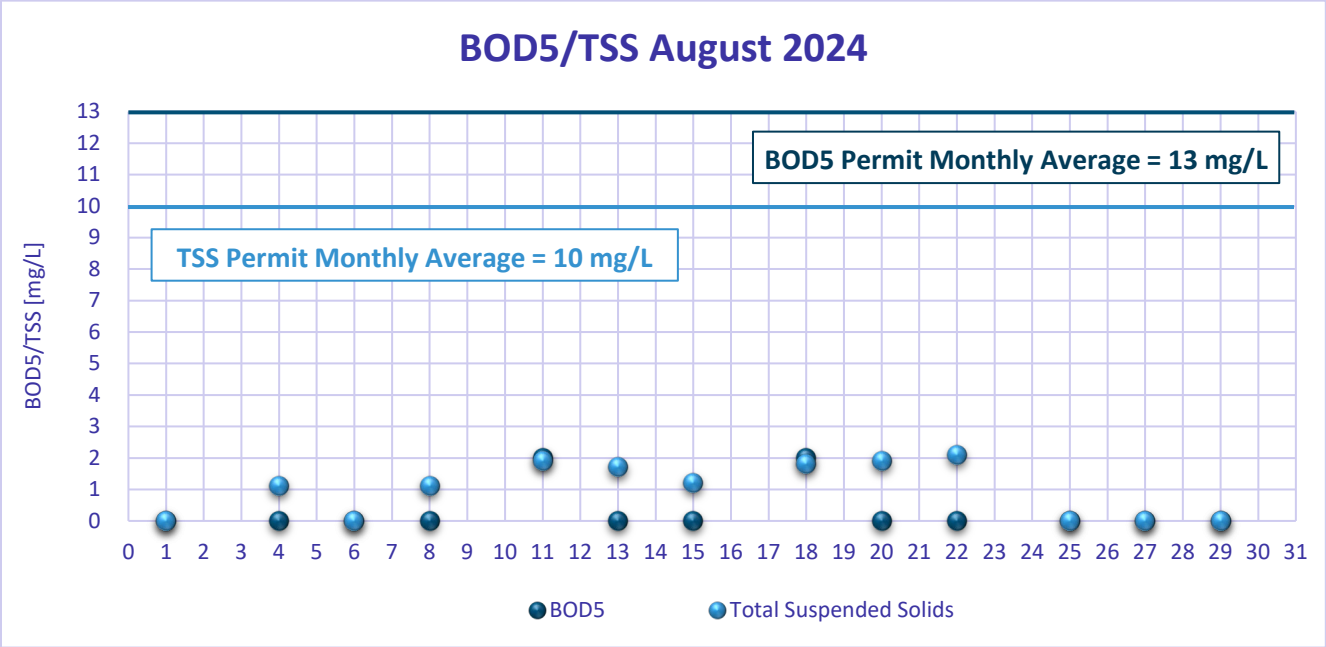


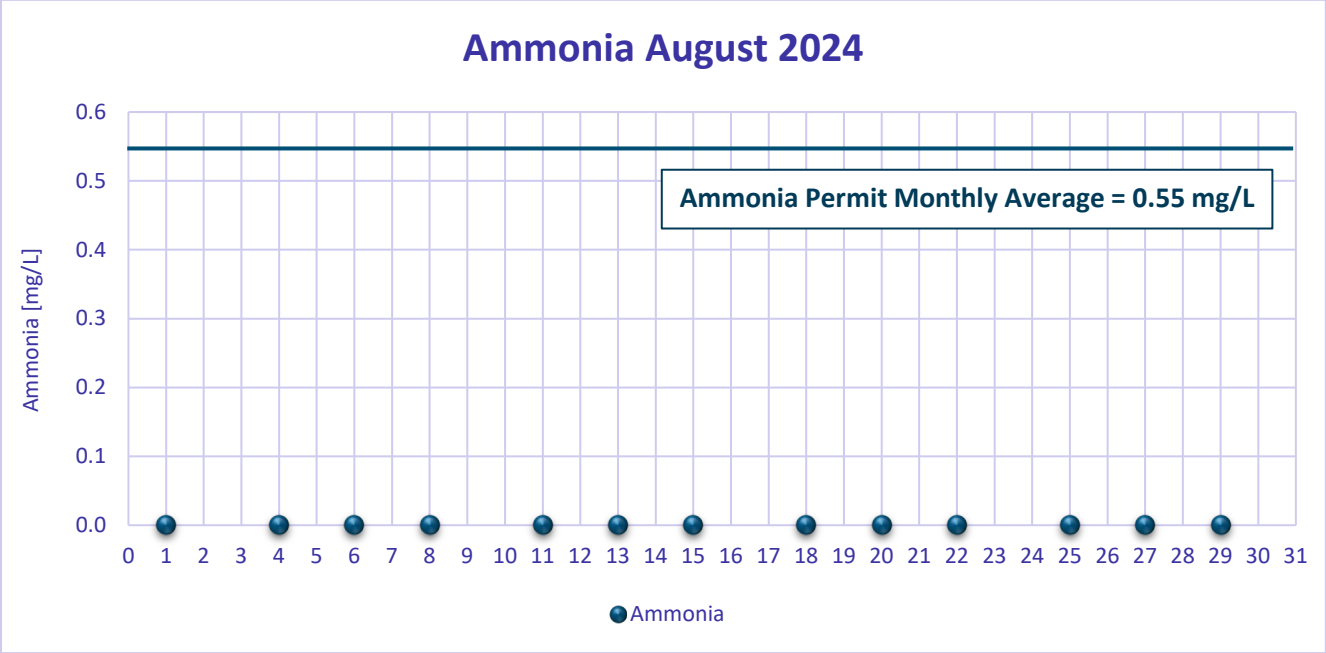
Operational Notes:

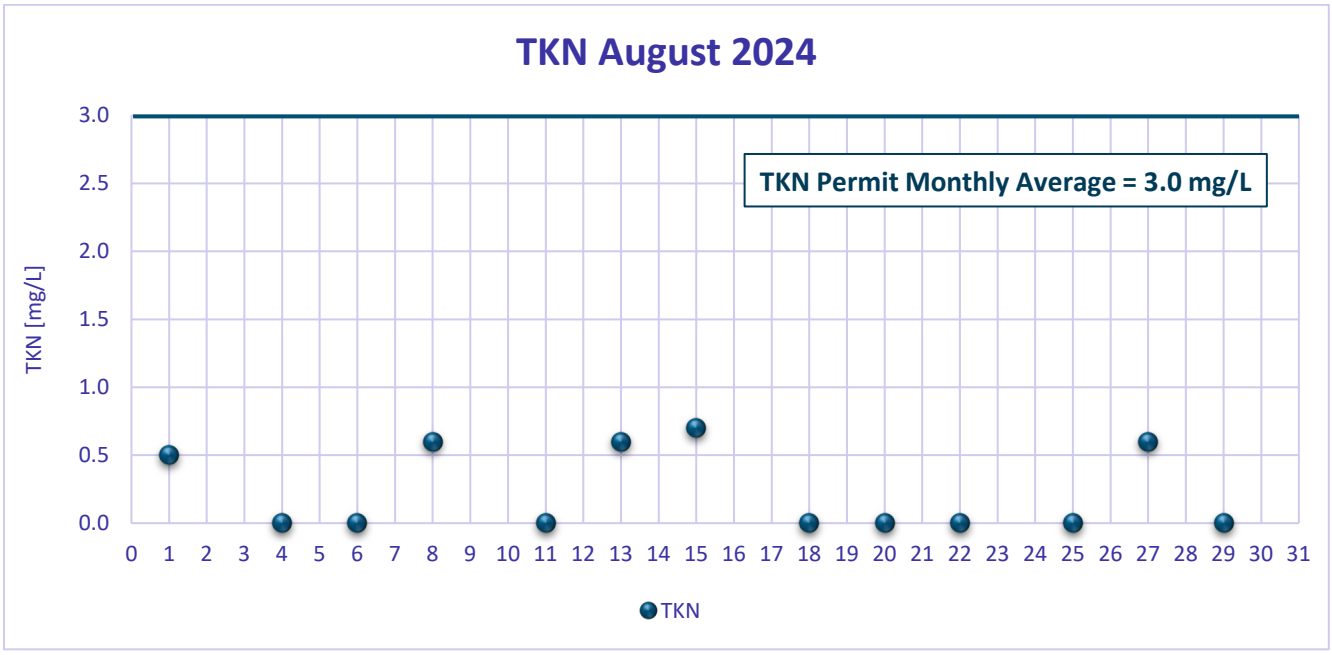
Testing instruments were calibrated every day. BOD, TSS, Ammonia, TKN, and E. Coli samples were collected in compliance with the WWTP permit.

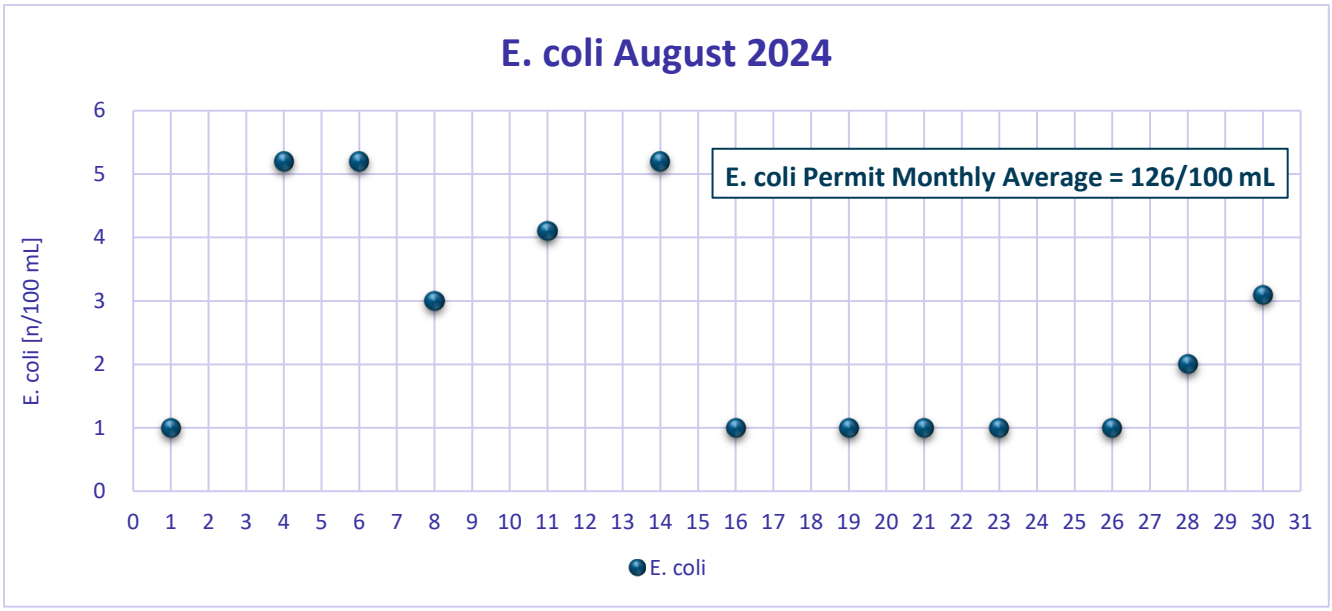
- All parameters being sampled in the final effluent are now at or below the QLs indicating a much healthier biomass community.
- IES is quoting a small blower and diffuser set up for Heritage Pines and Meadows lift stations.
- The comminutor had broken down and Bowling Green maintenance ordered a new one. It is scheduled to be installed on August 28th by the Bowling Green electrical contractor.
- To assure successful operations during high flows, solids must be retained in the plant. To help facilitate this, Missions offers a tank and well system that controls the rotors based on flow (some additional hardware may be necessary). This system could also integrate DO monitoring equipment to allow real-time data to be remotely accessible (assuming power and internet are available) at a fraction of the cost compared to a full-blown SCADA system.
- Bowling Green maintenance cleaned grease out of lift stations.

Sample Results:






TKN August 2024
TKN [mg/L]
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
TKN Permit Monthly Average = 3.0 mg/L
TKN


E. coli August 2024
E. coli [n/100 mL]
6
5
4
3
2
1
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
E. coli Permit Monthly Average = 126/100 mL
E. coli

Term	Definition
Bacteria	E.coli and/or Total Coliform
BOD5	5-day Biochemical Oxygen Demand
CBOD	Carbonaceous Biochemical Oxygen Demand
cfu	colony forming unit
CIP	Capital Improvement Plan or Cast/Cleaned-in-Place
Cl	Chloride Ion
Cl2	Chlorine
CMF	Continuous Membrane Filtration
D.O.	Dissolved Oxygen
FR	Final Read
F/M ratio	Food to Micro-organism ratio
FOG	Fats, Oil, and Grease
GST	Ground Storage Tank
HWTP	Harmony Water Treatment Plant
I&I	Infiltration and Inflow
Inorganic Nitrogen	Nitrate + nitrite
LS	Lift Station
mg/L	milligrams per liter
MGD	million gallons per day
mL	Milliliters
MLSS	Mixed Liquor Suspended Solids
MLVSS	Mixed Liquor Volatile Suspended Solids
MPN	Most Probable Number - bacteriological well sample
MW	Monitoring Well
N/N	Nitrate/ Nitrite
Organic Nitrogen	TKN
P/A	Presence/ Absence - bacteriological samples for drinking water
PFAS	polyfluoroalkyl substances
PLC	Programmable Logic Controller
POE	Point of Entry
RAS	Return Activated Sludge
SCADA	Supervisory Control And Data Acquisition
STEP	Septic Tank Effluent Pump
TKN	Total Kjeldahl Nitrogen
TN	Total Nitrogen
TP	Total Phosphorous
TR-6	Copper sequestering chemical
TSS	Total Suspended Solids
UV	Ultraviolet Light
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant