TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING

A G E N D A

Thursday, November 04, 2021
7:00 PM

CALL TO ORDER AND QUORUM ESTABLISHED:

PUBLIC COMMENTS:

MEMBER COMMENTS:

STAFF REPORTS & PRESENTATIONS:

1. Public Works/Utilities Monthly Report for October 2021
2. Police Departments Monthly Report for October 2021
3. Community & Economic Dev.; Council Monthly Report for October 2021
4. Town Clerk/Treasurer Council Monthly Report for October 2021
5. Town Manager Monthly Report for October 2021

CONSENT AGENDA:

6. Town Council Work Session Minutes October 7, 2021
7. Bills - October 2021

UNFINISHED BUSINESS:

8. Town Hall Rental Rates

NEW BUSINESS:

9. ARPA Fund Projects

INFORMATIONAL ITEMS:

COMMITTEE REPORTS:

ADJOURNMENT

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
MONTHLY REPORT / PROJECT UPDATE

AGENDA ITEM: Public Works/Utilities Monthly Report for October 2021

DATE: October 28, 2021

PREPARED BY: Josh Irby

MONTHLY REPORT / PROJECT UPDATE:

Water

- Bi-Weekly Water Project Update Meetings
- Water Meter Replacement has begun and continues throughout town

Wastewater

- Plant is running well, no exceptions to report
- Draft PER for sewer upgrades has been completed

Public Works

- Harvest Festival on October 16th
- Maintenance of Town vehicles, equipment, and buildings
- Normal Grass Cutting
- Set up for meetings at Town Hall
- Weekly Staff Meetings
- Facilities, Utilities, and Sidewalks Committee Meeting

ATTACHMENTS:

- Iworq Report (Work Orders)
- DMR for September
- PER Sewer

HEADS UP ITEMS:

- Leaf Collection November 1, 2021 to December 30, 2021

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

DEPT. OF ENVIRONMENTAL QUALITY
(REGIONAL OFFICE)

Northern Regional Office
13901 Crown Court

Woodbridge, VA 22193

PERMITTEE NAME/ADDRESS (INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME: Bowling Green Wastewater Treatment Plant
ADDRESS: co Town of Bowling Green
Bowling Green, VA 22427

FACILITY LOCATION: 219 Anderson Ave
Bowling Green, VA 22427

VA0020737	001
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	2021	09	01	TO	2021	09	30

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

Parameter		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE	LAB CODE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
FLOW	REPORTD	**.082**	**.108**	MGD	*****	*****	*****		0	CONT	TIRE	
PARAM CODE: 001	REQRMNT	0.25	NL		*****	*****	*****			CONT	TIRE	
pH	REPORTD	*****	*****		**7.0**	*****	**8.3**	SU	0	1/DAY	GRAB	
PARAM CODE: 002	REQRMNT	*****	*****		6.0	*****	9.0			1/DAY	GRAB	
TSS	REPORTD	**0.74**	**0.99**	KG/D	*****	**2.42**	**3.2**	MG/L	0	3D/W	8HC	
PARAM CODE: 004	REQRMNT	9.5	14		*****	10	15			3D/W	8HC	
DO	REPORTD	*****	*****		**6.0**	*****	*****	MG/L	0	1/DAY	GRAB	
PARAM CODE: 007	REQRMNT	*****	*****		5.0	*****	*****			1/DAY	GRAB	
TKN (N-KJEL)	REPORTD	**0.21**	**0.26**	KG/D	*****	**0.69**	**0.81**	MG/L	0	3D/W	8HC	
PARAM CODE: 068	REQRMNT	2.8	4.2		*****	3.0	4.5			3D/W	8HC	
E.COLI	REPORTD	*****	*****		*****	**1**	*****	N/CML	0	3D/W	GRAB	
PARAM CODE: 120	REQRMNT	*****	*****		*****	*126*	*****			3D/W	GRAB	
CBOD5	REPORTD	**<QL**	**<QL**	KG/D	*****	**<QL**	**<QL**	MG/L	0	3D/W	8HC	
PARAM CODE: 159	REQRMNT	9.5	14		*****	10	15			3D/W	8HC	

GENERAL PERMIT REQUIREMENTS OR COMMENTS:
OUTFALL-SPECIFIC COMMENTS::
PARAMETER-SPECIFIC COMMENTS:

BYPASSES AND OVERFLOWS	TOTAL OCCURENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

OPERATOR IN RESPONSIBLE CHARGE	
Joshua Irby	1965008627
TYPED OR PRINTED NAME	CERTIFICATE NUMBER
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE 804-221-1834
TYPED OR PRINTED NAME / SIGNATURE	2021-10-07 16:46:49
	Date

Work Order Report

10/1/2021 - 10/28/2021

Work Order Date	Work Type	Work Description	Work Address/Location
10/4/2021	Sewer - Sewer Main Repair	Investigate sewer issue at residence (on customer's side)	160 South Main Street
10/4/2021	Public Works - Building Maintenance	Replace lights on outside of Public Works Office	219 Anderson Ave
10/5/2021	Public Works - Mowing	Mow Grass Town Hall	117 Butler street
10/5/2021	Public Works - Mowing	Mow Grass Well 1, Playground, and Police Dept.	Butler Street
10/5/2021	Public Works - Mowing	Mow Grass Business Sidewalks	Milford Street
10/5/2021	Public Works - Mowing	Mow Grass Park and Ride	Chase Street
10/5/2021	Public Works - Mowing	Mow Grass Bowling Green Meadows Park	Dickinson Drive
10/5/2021	Public Works - Mowing	Mow Grass Bowling Green Meadows Lift Station	Roper Drive
10/5/2021	Public Works - Mowing	Mow Grass Courthouse Lane Office	Courthouse Lane
10/5/2021	Public Works - Mowing	Mow Grass Maury Heights Lift Station	Coolidge Lane
10/5/2021	Public Works - Mowing	Mow Grass WWTP	219 Anderson Ave.

Work Order Date	Work Type	Work Description	Work Address/Location
10/5/2021	Public Works - Mowing	Mow Grass 301 Welcome Sign	301 Welcome Sign
10/5/2021	Public Works - Mowing	Mow Grass VDOT Water Tower	Fredericksburg Tpke.
10/5/2021	Public Works - Mowing	Mow Grass Heritage Pines Lift Station	Heritage Pine Circle
10/5/2021	Public Works - Mowing	Mow Grass Rt. 301 Lift Station	Rt. 301 Lift Station
10/5/2021	Public Works - Mowing	Mow Grass Rt. 301 Billboard	Rt. 301 Billboard
10/5/2021	Public Works - Mowing	Mow Grass Rt. 301 Welcome Sign	Rt. 301 Welcome Sign
10/5/2021	Public Works - Mowing	Mow Grass South Main Street Medians	South Main Street
10/5/2021	Public Works - Mowing	Mow Grass Billboard Roger Clark Blvd.	Roger Clark Blvd.
10/5/2021	Public Works - Mowing	Mow Grass North Main Intersection	Main Street
10/5/2021	Public Works - Mowing	Mow Grass Lacy Lane Lift Station	Lacy Lane
10/5/2021	Public Works - Mowing	Mow Grass Well 4 and Warehouse	Cedar Lane
10/5/2021	Public Works - Mowing	Mow Grass Fredericksburg Tpke. Welcome Sign	Fredericksburg Tpke.

Work Order Date	Work Type	Work Description	Work Address/Location
10/5/2021	Public Works - Mowing	Mow Grass Rt. 301 and Broaddus Intersection	Broaddus and Rt. 301
10/5/2021	Public Works - Mowing	Mow Grass Well 5	Broaddus Ave.
10/5/2021	Public Works - Other	Mark all meters	Harding Drive, Tyler Ct.
10/5/2021	Water - Install/Set Meter	Install meter transmitters	Grant Ct
10/5/2021	Water - Install/Set Meter	Replace old meters with new meters	16032,16040, 16041 Grant Ct.
10/6/2021	Sewer - Other	Dismantle old equipment in storage room	219 Anderson Ave
10/6/2021	Public Works - Meeting Set-Up	Move tables from stage and set the meeting up on the floor	117 Butler St.
10/7/2021	Public Works - Other	Mark all town utilities	Lafayette St.
10/7/2021	Water - Install/Set Meter	Install new meters and transmitters	Harrison Way and Coolidge
10/7/2021	Public Works - Trimming	Trim bushes at Town Hall	117 Butler St.
10/8/2021	Public Works - Other	Hang door hangers	Harding Drive, Tyler Court
10/8/2021	Public Works - Meeting Break Down	Take down Council meeting	117 Butler St.
10/8/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system

Work Order Date	Work Type	Work Description	Work Address/Location
10/12/2021	Public Works - Building Maintenance	Replace old lights and paint walls, ceiling, and floor in storage room/laundry room	219 Anderson Ave
10/12/2021	Public Works - Special Events Set-Up	Pick up straw bales on 10/15/21 and deliver to site where needed.	126 North Main St.
10/12/2021	Public Works - Special Events Set-Up	Block off car dealership and put barrels out for Car Show	100 West Broaddus
10/12/2021	Public Works - Special Events Set-Up	Put out cones and signage to block of streets	Main St., Oakridge, Sunset, Davis Ct., Courthouse Lane, Chase St. Milford St. Dorsey Lane,
10/12/2021	Public Works - Special Events Set-Up	Hang no parking signs on Main St. Thursday October 14	Main St.
10/13/2021	Public Works - Mowing	Mow Grass Town Hall	117 Butler street
10/13/2021	Public Works - Mowing	Mow Grass Well 1, Playground, and Police Dept.	Butler Street
10/13/2021	Public Works - Mowing	Mow Grass Business Sidewalks	Milford Street
10/13/2021	Public Works - Mowing	Mow Grass Park and Ride	Chase Street

Work Order Date	Work Type	Work Description	Work Address/Location
10/13/2021	Public Works - Mowing	Mow Grass Bowling Green Meadows Park	Dickinson Drive
10/13/2021	Public Works - Mowing	Mow Grass Bowling Green Meadows Lift Station	Roper Drive
10/13/2021	Public Works - Mowing	Mow Grass Courthouse Lane Office	Courthouse Lane
10/13/2021	Public Works - Mowing	Mow Grass Maury Heights Lift Station	Coolidge Lane
10/13/2021	Public Works - Mowing	Mow Grass WWTP	219 Anderson Ave.
10/13/2021	Public Works - Mowing	Mow Grass 301 Welcome Sign	301 Welcome Sign
10/13/2021	Public Works - Mowing	Mow Grass VDOT Water Tower	Fredericksburg Tpke.
10/13/2021	Public Works - Mowing	Mow Grass Heritage Pines Lift Station	Heritage Pine Circle
10/13/2021	Public Works - Mowing	Mow Grass Rt. 301 Lift Station	Rt. 301 Lift Station
10/13/2021	Public Works - Mowing	Mow Grass Rt. 301 Billboard	Rt. 301 Billboard
10/13/2021	Public Works - Mowing	Mow Grass Rt. 301 Welcome Sign	Rt. 301 Welcome Sign
10/13/2021	Public Works - Mowing	Mow Grass South Main Street Medians	South Main Street

Work Order Date	Work Type	Work Description	Work Address/Location
10/13/2021	Public Works - Mowing	Mow Grass Billboard Roger Clark Blvd.	Roger Clark Blvd.
10/13/2021	Public Works - Mowing	Mow Grass North Main Intersection	Main Street
10/13/2021	Public Works - Mowing	Mow Grass Lacy Lane Lift Station	Lacy Lane
10/13/2021	Public Works - Mowing	Mow Grass Well 4 and Warehouse	Cedar Lane
10/13/2021	Public Works - Mowing	Mow Grass Fredericksburg Tpke. Welcome Sign	Fredericksburg Tpke.
10/13/2021	Public Works - Mowing	Mow Grass Rt. 301 and Broaddus Intersection	Broaddus and Rt. 301
10/13/2021	Public Works - Mowing	Mow Grass Well 5	Broaddus Ave.
10/13/2021	Public Works - Other	Mark utilities on entire street	Maury Ave.
10/13/2021	Public Works - Other	marked utilities	140 Martin ST.
10/13/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system
10/13/2021	Public Works - Other	marked utilities	16023 Grant CT
10/13/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system

Work Order Date	Work Type	Work Description	Work Address/Location
10/13/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system
10/14/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system
10/14/2021	Public Works - Special Events Set-Up	Put up fencing for Beer Garden	124 North Main St.
10/15/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system
10/15/2021	Public Works - Other	marked utilities	210 Milford ST.
10/15/2021	Public Works - Garbage	pickup broken trashcan and take new one	131 Anderson Ave
10/15/2021	Public Works - Garbage	pickup broken trashcan and take new trashcan please	223 Meadow Lane
10/18/2021	Public Works - Other	Take trash out of Cedar Lane warehouse.	Cedar Lane
10/18/2021	Public Works - Other	Unload trailer and put everything back in Cedar Lane warehouse	Cedar Lane

Work Order Date	Work Type	Work Description	Work Address/Location
10/18/2021	Public Works - Meeting Set-Up	Set up for meeting	117 Butler St.
10/18/2021	Public Works - Other	Pick up trash from Harvest Festival in courthouse yard and Bowling Green Suites and clean up straw.	124 & 119 North Main St.
10/18/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system
10/19/2021	Water - Well Work	Repair electrical contactor for Well 1 which is sticking causing the well to remain on	101 Butler St./Well 1
10/19/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system
10/19/2021	Public Works - Mowing	Mow Grass Town Hall	117 Butler street
10/19/2021	Public Works - Mowing	Mow Grass Well 1, Playground, and Police Dept.	Butler Street
10/20/2021	Public Works - Garbage	pick up broken trash can and take new trash can	133 Lafayette Ave

Work Order Date	Work Type	Work Description	Work Address/Location
10/20/2021	Public Works - Garbage	please pick up broken trash and take a new one	103 Lacy Lane
10/20/2021	Public Works - Other	Take hang baskets off street poles and store in Cedar Lane warehouse.	Cedar Lane
10/20/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system
10/25/2021	Public Works - Other	Edge medians	South Main St.
10/25/2021	Public Works - Other	Put leaf box on dump truck	219 Anderson Ave.
10/25/2021	Public Works - Other	Collect Bac T samples	Harding Drive, Town Hall
10/25/2021	Water - Flush Hydrant	Flush Hydrants	Fredericksburg Turnpike
10/25/2021	Public Works - Other	marked utilities	17474 Coolidge LN. lot 30
10/25/2021	Public Works - Other	Daily check of all wells and lift stations and check of chlorine residuals	Water and Sewer system
10/26/2021	Public Works - Equipment Maintenance	Repair Vac Trailer fuel line	219 Anderson Ave
10/26/2021	Sewer - Lift Station Repair	Pull pump #1 at Heritage Pines Lift Station and get rags out of it	219 Anderson Ave

Work Order Date	Work Type	Work Description	Work Address/Location
10/26/2021	Public Works - Other	Mark water lines	Elm St, White Meadows Dr., Holly
10/26/2021	Public Works - Other	Start meter reading	Entire water system
10/26/2021	Public Works - Trimming	Trim back bushes at Town Hall	117 Butler St.
10/28/2021	Public Works - Garbage	pick up broken trash can and take new one please	134 Lafayette Ave
10/28/2021	Public Works - Garbage	Please pickup recycle can and take a new one please	128 Milford St
10/28/2021	Public Works - Garbage	please pick up broken trashcan and take a new one	205 Travis St

Total Records: 103 **10/28/2021**

Preliminary Engineering Report

TOWN OF BOWLING GREEN WASTEWATER TREATMENT PLANT IMPROVEMENTS

TOWN OF BOWLING GREEN

Dewberry Project No.: 50133134

SEPTEMBER 2021

DRAFT

PREPARED BY:

Dewberry
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
804.205.3342

PREPARED FOR:

Town of Bowling Green
117 Butler Street
PO Box 468
Bowling Green, VA 22427

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INTRODUCTION

The Town of Bowling Green (Town) contracted with Dewberry Engineers Inc. (Dewberry) to prepare a preliminary engineering report (PER) to evaluate options and provide recommendations for replacing aging equipment and rehabilitating the Town's existing Wastewater Treatment Plant (WWTP). Additionally, this PER will evaluate replacement or rehabilitation of portions of the gravity sewer collection system and improvements to various wastewater pump stations (WWPS) in the wastewater collection system.

The existing WWTP has a rated capacity of 0.25 MGD and discharges treated effluent to the Mattaponi River under VPDES Permit No. VA0020737. This WWTP process generally includes fine screening, an oxidation ditch, secondary clarifiers, sand filters, ultraviolet disinfection, aerobic digesters, and sludge drying beds. The WWTP capacity will not be increased as a part of this project.

SECTION 1 - PROJECT PLANNING

1.1 - Location

The Town of Bowling Green is located within Caroline County, Virginia. It is situated between Richmond and Fredericksburg. See **Figure 1.1 –Vicinity Map** for details.

1.2 - Environmental Resources Present

Based upon the FEMA flood maps no floodplains are located on the existing WWTP site or pump station sites. However, based upon the National Wetlands Inventory there are some wetlands located on the existing WWTP site, but none are anticipated to be disturbed during construction. No wetlands are anticipated for the pump station sites. See **Figure 1.2 – WWTP Floodplains and Wetlands** for details.

1.3 - Population Trends

Census data from the Weldon Cooper Center for Public Service was compiled to examine the experienced population trends from 2000 through 2020. Data from 2020 was unavailable, so it was based upon the best available estimates, see **Table 1.1 – Census Data** for details.

Table 1.1 – Census Data

Location	Population			Average Percent Growth per Decade
	2000	2010	2020*	
Bowling Green	936	1,111	1,175	12.2%
Caroline County	22,121	28,545	30,342	17.7%

*2020 data based upon best available estimates from Weldon Cooper Center for Public Service

Although Bowling Green only experienced a 12.2% average growth rate per decade, the surrounding Caroline County experienced an average growth rate of 17.7% per decade. It is anticipated that as development continues, the Town will start to experience a higher growth rate similar to that of the County.

1.4 - Community Engagement

This project will be presented at the Town Council Meetings, which are public record. Proposed work for this project that is contained within the existing WWTP site will have a negligible impact on the community. Proposed work outside of the WWTP and associated impacts will be communicated with the community during preliminary design, with updates being provided as needed to maintain effective communication regarding the project status.

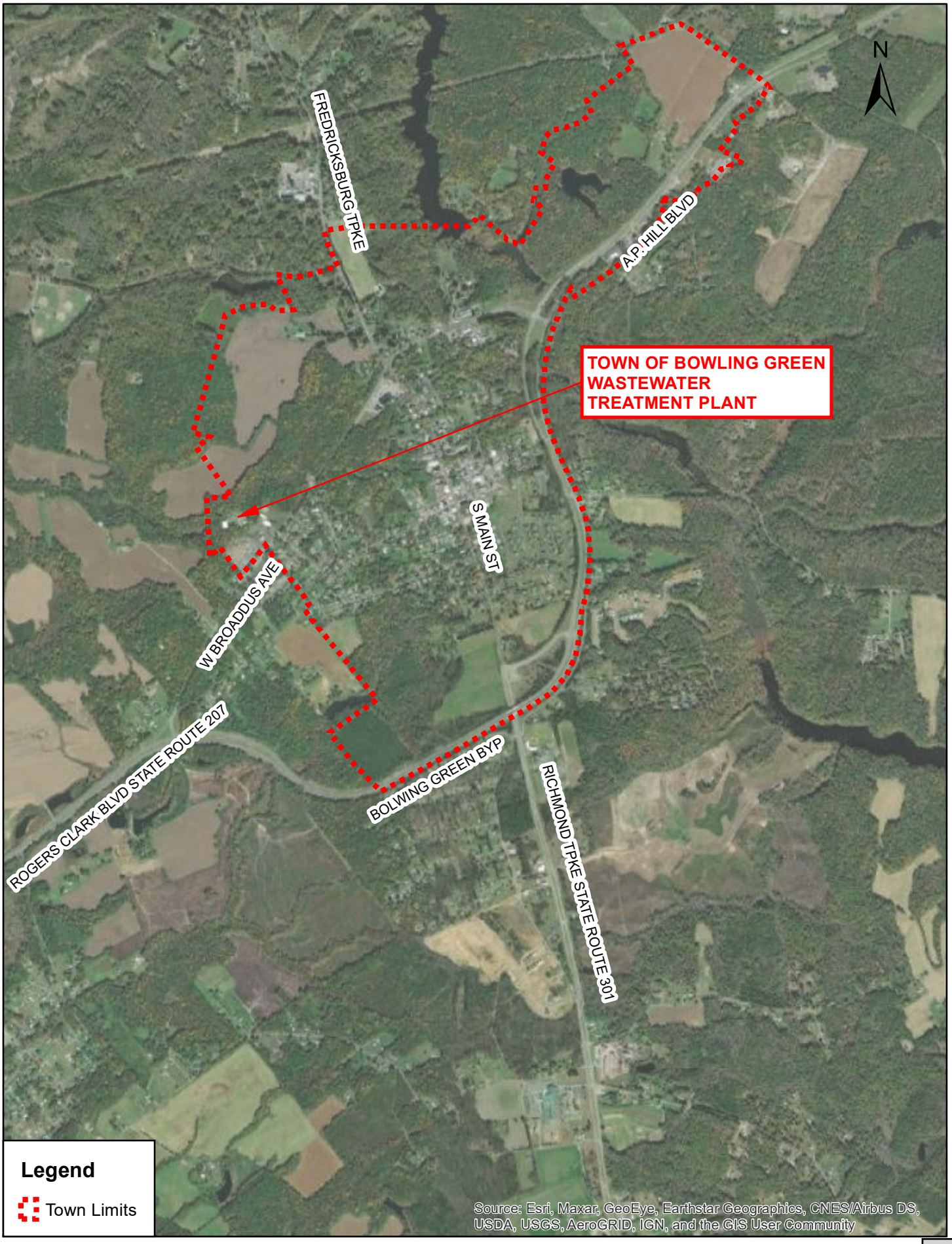


FIGURE 1.1: VICINITY MAP

1 INCH = 2,500 FEET

Dewberry

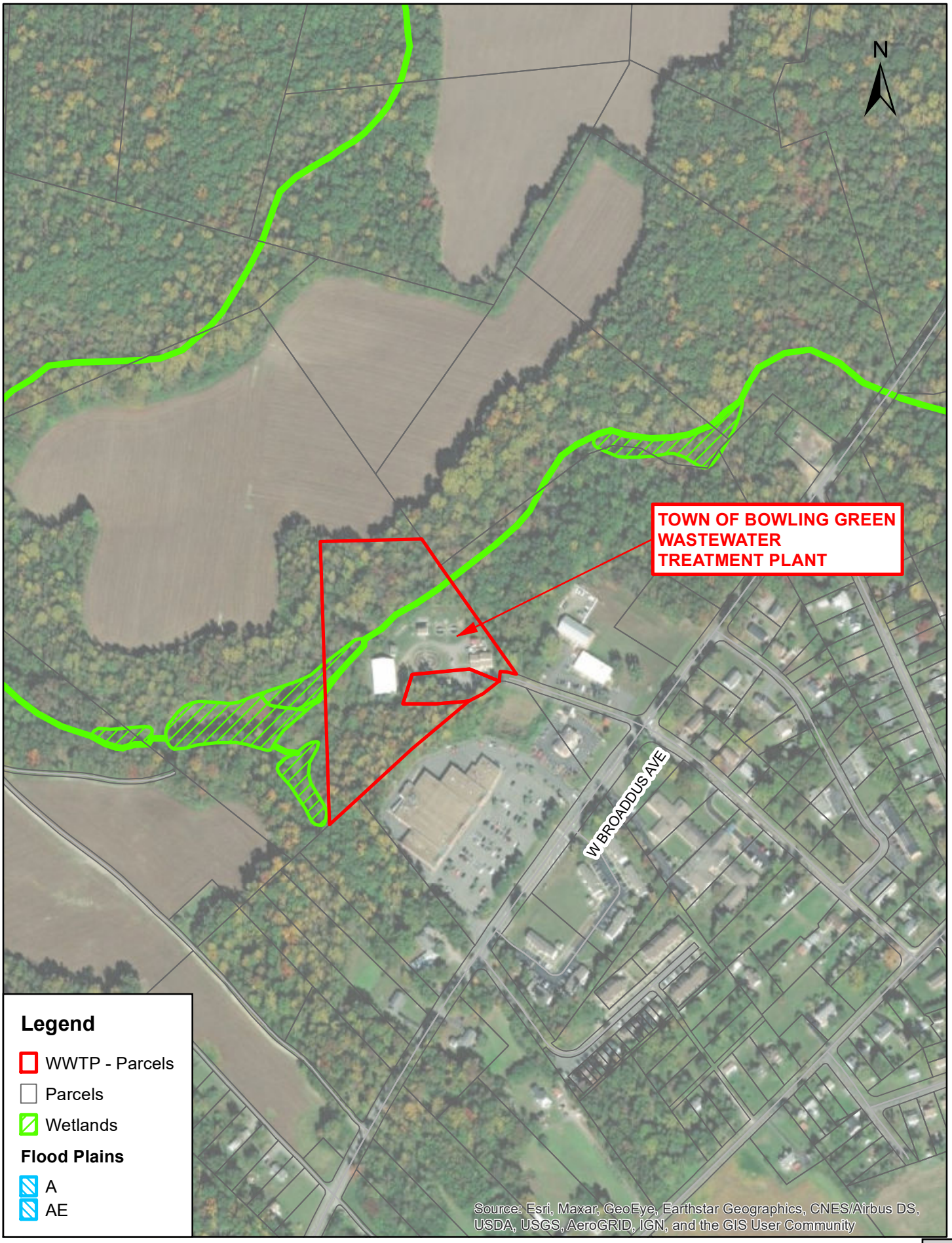


FIGURE 1.2: FLOOD PLAINS AND WETLANDS

1 INCH = 500 FEET

Dewberry

SECTION 2 - EXISTING FACILITIES

2.1 - Location Map

The Town of Bowling Green WWTP is located on Anderson Avenue, east of West Broaddus Avenue. The WWTP is situated on two parcels with a total of approximate site area of 7.9-acres. A tree buffer located on the Town property which surrounds the WWTP, shielding the facility from public view. Refer to **Figure 1.1 –Vicinity Map** and **Figure 2.1 – Existing Sanitary Sewer System Overview** for additional detail regarding site location and layout.

2.2 - History

2.2.1 - Overview

The Town of Bowling Green public sewer system currently serves approximately 548 residential and commercial users. These users are located both within the town limits and outside of the town limits.

2.2.2 - Wastewater Treatment Plant

The WWTP currently operates under the Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0020737. The last time the WWTP had a significant upgrade was in 1991, which included the demolition of the existing plant and the construction of a new WWTP on the existing site. Based upon record drawings, the plant is rated for a 0.25 MGD average day flow and 1.06 MGD peak flow rate.

Primary treatment is accomplished at the headworks, utilizing an inclined cylindrical screen with an integral washer and compactor and a bypass manually cleaned bar screen. Currently there is no grit removal system. Flow is measured via a 9-inch Parshall Flume with a 6-inch nest, prior to the primary effluent flowing by gravity to the secondary treatment process.

The secondary treatment process consists of an Orbal™ oxidation ditch with two channels. Typical operation consists of return activated sludge (RAS) and primary effluent entering the outer channel and flowing by gravity into the inner channel. Horizontal disk aerators provide aeration and mixing of the mixed liquor in both channels. From the inner channel of the oxidation ditch the mixed

liquor flows by gravity through the effluent weir to the clarifier splitter box, which splits flow to the two secondary clarifiers.

Each secondary clarifier has a side water depth (SWD) of 12 feet and a diameter of 25 feet. Mixed liquor flows by gravity from the splitter box into the feed well and the sludge settles at the bottom in a hopper, where it flows by gravity to the RAS/WAS (return activated sludge/waste activated sludge) pump station wet well. The sludge flow from each clarifier is controlled by a telescoping valve located in the RAS/WAS wet well. The RAS/WAS pumps then can either pump the RAS to the inlet of the oxidation ditch or waste sludge to the aerobic digesters. The secondary effluent flows over a v-notched weir into a launder with an outlet pipe, which is routed to the tertiary filters.

The tertiary filtration system consists of three DynaSand filters by Parkson corporation in concrete basins. The filtered effluent flows by gravity through a horizontal low-pressure, low-output ultraviolet (UV) disinfection system contained in a concrete channel. The UV channel shares a common wall with the non-potable water pump station and effluent weir. From this structure, the flow is directed by gravity to the outfall.

The solids handling process consists of two aerobic sludge holding tanks that operate in series, each with a volume of 15,600 gallons. Supernatant that is decanted from the digesters is routed back to the plant drain pump station and subsequently to the inlet of the oxidation ditches. The sludge is then routed by gravity to the sludge drying beds, where it is dried for offsite disposal at a landfill.

The electrical service consists of a single 480/277 volt (V), 3-phase, 4-wire, 800 amp (A) utility service to the sludge pump station electrical room. A 275 kW diesel generator provides emergency standby power in the event of loss of utility power. The generator service is transferred via a 400 A automatic transfer switch (ATS). Motor control centers (MCC) are located in the sludge pump station electrical room and are the primary electrical distribution containing breakers and motor starters for the entire plant.

2.2.3 - Collection System

The sewer collection system is comprised of approximately six (6) miles of gravity sewer pipe, eight (8) miles of force main, and six (6) lift stations, all of which convey wastewater to the

WWTP. Information relative to the existing sewer system's size, length, and material was based on Caroline County's Geographic Information System (GIS) and a schematic sewer map marked-up by Town personnel. Based on this information, the gravity sewer main diameters range from 8-inch to 10-inch and the sanitary force main diameters ranges from 2-inch to 8-inch. Much of the existing gravity sewer main is concrete.

Through discussions with Town personnel, it is our understanding that the majority of the existing manholes are constructed of brick.

2.3 - Condition of Existing Facilities

2.3.1 - Overview

The Town of Bowling Green is an established historic town, with parts of its wastewater infrastructure reaching the end of its useful life. In order to continue to protect the safety, health, and welfare of the public, significant improvements are required to both the WWTP and the wastewater collection system.

2.3.2 - Wastewater Treatment Plant

The last major upgrade of the WWTP occurred in 1991. Miscellaneous maintenance and upgrades have been performed on the oxidation ditch within the last 5 years. Additionally, the influent screen was replaced in 2017. Most of the equipment at the WWTP has reached the end of its useful life, being approximately 30 years old. The concrete basins within the plant appear to be in good condition.

The electrical equipment appears to be in fair condition with much of the equipment approaching or being at the end of its estimated useful life. The generator is at the end of its useful life. There is significant corrosion in many electrical enclosures.

2.3.3 - Collection System

The age and sections of concrete pipe within the gravity sewer collection system make it susceptible to Inflow and Infiltration (I/I). It is not uncommon for aged concrete sewer pipe to show poor sealing characteristics at joints and to have more joints per unit length than today's

commonly used sewer pipe materials. Over time concrete pipe can also erode and deteriorate to the point where portions of the pipe will no longer exist. It is evident through discussions with Town personnel that portions of the Town's concrete gravity sewer need to be replaced to assist with eliminating I/I in the collection system as well as restore the structural integrity of the collection system piping. It is Dewberry's understanding a large majority of the Town's manholes are still the original brick construction. Aging brick manholes have a high probability for I/I during storm events.

When collecting information for this report, Town personnel indicated that there have been two recent sewer main collapses. The first collapse was located on Butler Street and the second collapse was between Anderson Avenue and Martin Street. Dirt and debris have also been observed during CCTV inspection completed by the Town, which is likely due to collection system defects.

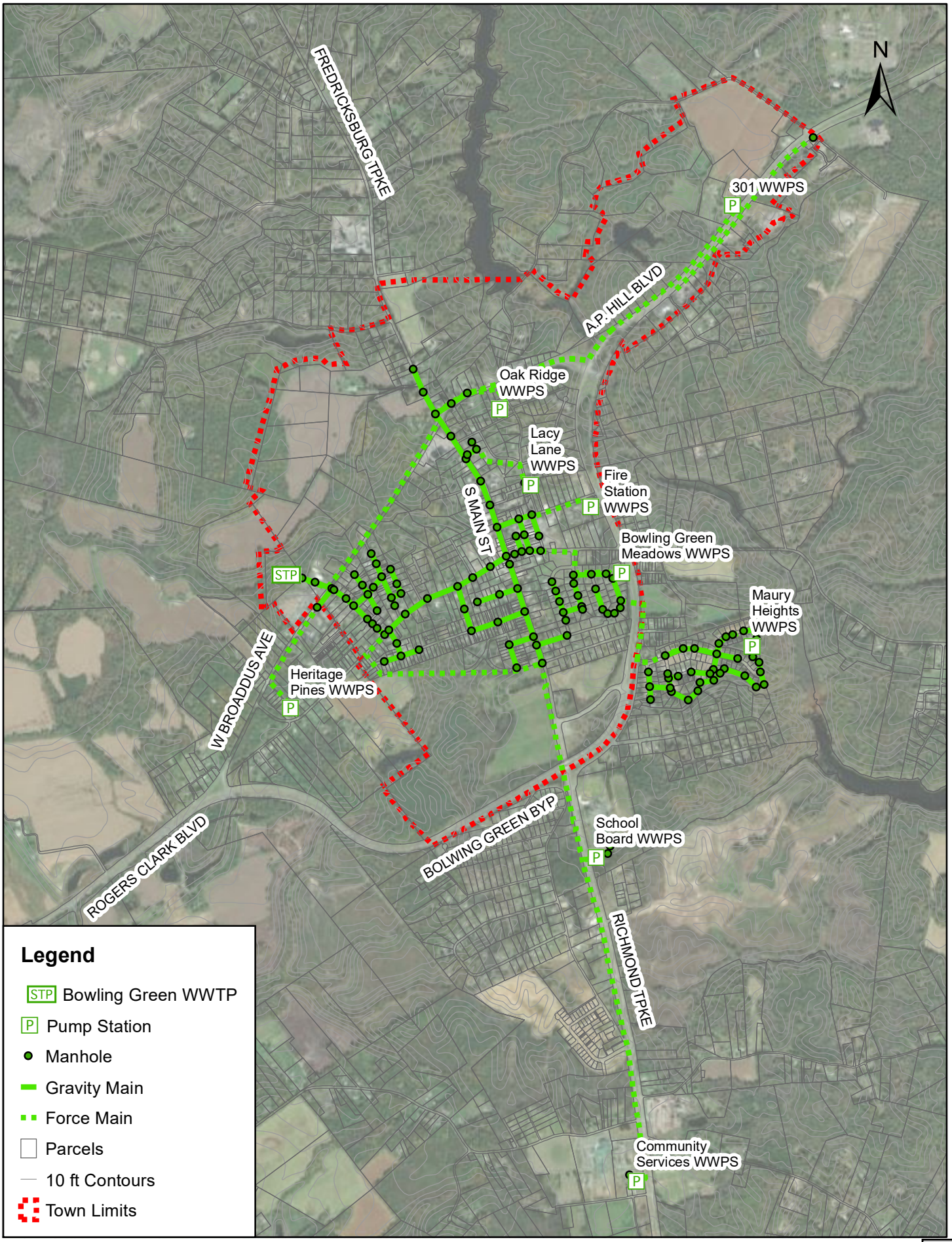


FIGURE 2.1: EXISTING SEWER SYSTEM MAP

1 INCH = 2,500 FEET

Dewberry

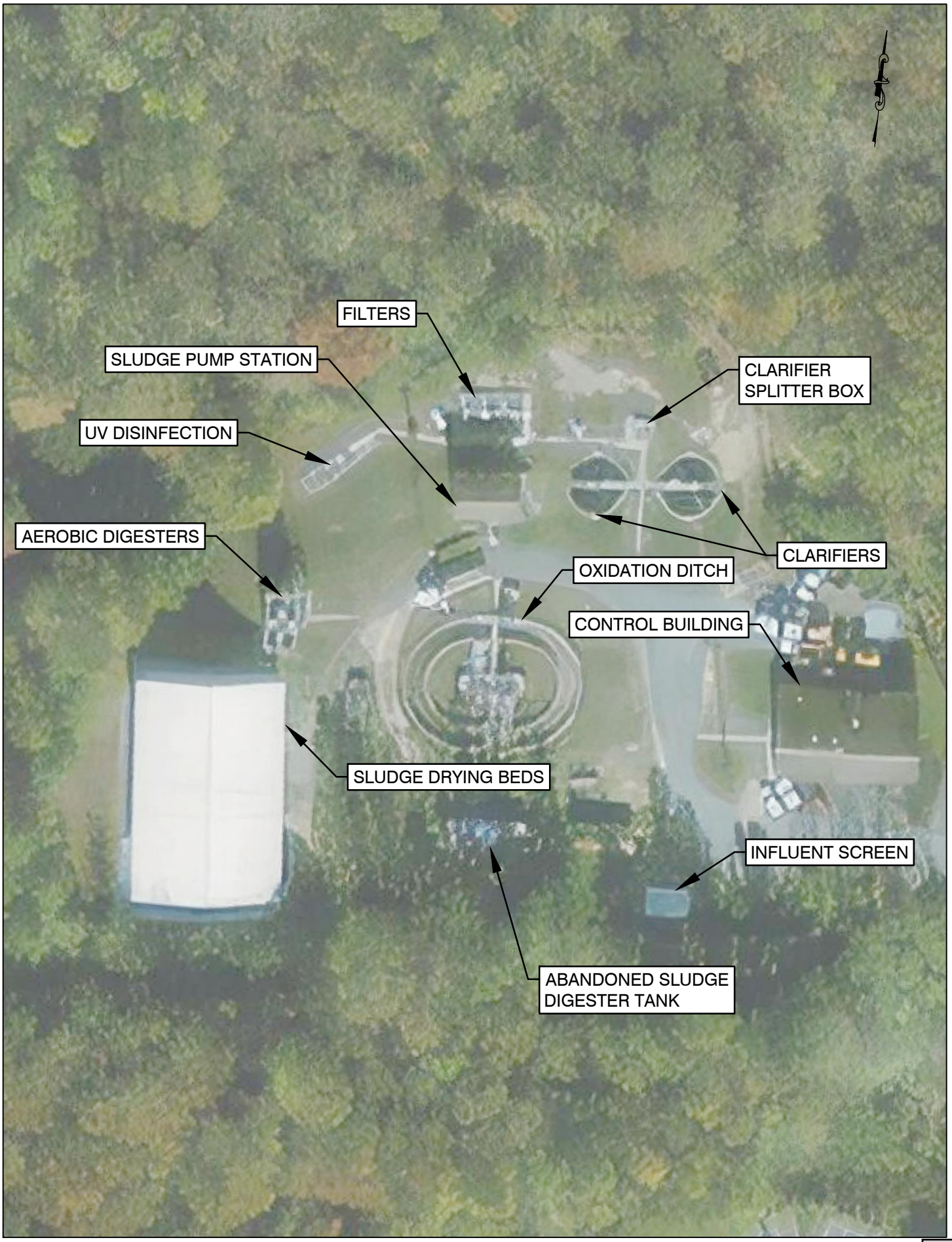


FIGURE 2.2: EXISTING SITE LAYOUT
SCALE: 1" = 60'

2.4 - Financial Status of Existing Facilities

2.4.1 - Existing Rate Schedule

Sewer billing is based upon water meter readings, which are recorded bi-monthly. Users are charged a base fee for water and sewer up to 5,000 gallons, after which additional fees apply. User charges vary whether the user is in town and out of town. See **Table 2.1 – Bi-Monthly Sewer Rates** below for breakdown of bi-monthly sewer rates.

Table 2.1 – Bi-Monthly Sewer Rates

	Residential		Commercial	
Gallons	**In-Town**	**Out-of-Town**	**In-Town**	**Out-of-Town**
0-5,000	$86.53	$97.80	$93.48	$112.38
5,001-10,000	$4.39	$4.96	$5.21	$6.26
10,001-20,000	$4.62	$5.22	$5.40	$6.49
20,001-30,000	$4.82	$5.45	$5.58	$6.71
30,001-40,000	$5.00	$5.65	$5.83	$7.01
40,001-50,000	N/A*	N/A*	$6.02	$7.23
50,0001-100,000	N/A*	N/A*	$6.24	$7.50
100,001 And Up	N/A*	N/A*	$6.39	$7.68

*Residential usage above 40,000 gallons is billed at the same rated as 30,001-40,000 gallons.

2.4.2 - Annual Operations and Maintenance Costs

Annual operations and maintenance costs are based upon expenditure summaries provided by the Town of Bowling Green; refer to **Table 2.2 - Sewer Expense Summary** for reference. The average annual operation and maintenance costs for the fiscal years ending in June 2018, 2019, and 2020 was approximately $466,000. The fiscal year ending in June of 2018 was higher than the previous two years, due to wastewater treatment plant sewer line repair expenses. The budgeted annual operations and maintenance costs for the fiscal year ending in June 2021 is $589,537.

Table 2.2 - Sewer Expense Summary

Fiscal Year Ending in June	Sewer Expenses
2018	$509,126
2019	$456,877
2020	$431,466

2.5 - Water/Energy/Waste Audits

The Town of Bowling Green has not conducted any water, energy, or waste audits.

SECTION 3 - NEED FOR PROJECT

3.1 - Health, Sanitary, and Security

In the past three years, the Town has received one warning letter from the Virginia Department of Environmental Quality (DEQ). This warning letter originated from a loss of solids reported on August 4, 2020 by a concerned citizen. This loss of solids resulted in an inspection by DEQ, which led to the observation of various equipment out of service. The warning letter specifically states that proper operation and maintenance of the facility is required. The loss of solids was caused by an extremely high flow caused by tropical storm Isaias. During their visit DEQ noticed the following:

- UV Bank 1A was not in operation
- Ashing was observed on the clarifier surface
- The sludge judge for the clarifier was broken
- One out of the three available sand filters were operational
- The final effluent flow meter was not operating properly

DEQ staff additionally discussed the influence of inflow and infiltration on this event. Continual I/I problems can result in the deterioration of pipe bedding materials and erosion of soil adjacent to the gravity main pipe. This creates the potential for unsuitable subsurface conditions that can result in a range of consequences from sags and fractures in the pipe to something as major as a sink hole. As previously mentioned, the Town has experienced two recent sewer main collapses.

In addition, I/I also increases the potential for exfiltration of wastewater from the sanitary sewer system, which presents a health concern where wastewater can potentially combine with groundwater and potentially enters a well utilized for drinking water. There is also a major convenience concern when emergency open cut repairs are completed.

Additionally, as part of this project, which will be discussed in further detail in subsequent sections, fences and generators will be installed at several pump stations. This will increase the reliability of the collection system and protect it from tampering and minimize the potential for sanitary sewer overflows (SSOs) during power outages.

This project will increase the reliability of the wastewater collection and treatment facility, which will protect the health and safety of the town population.

3.2 - Aging Infrastructure

As previously discussed, one of the main driving factors of this project is the age of the overall sanitary sewer system. A major plant upgrade has not been completed since 1991, with only small projects relating to the influent screen and oxidation ditch equipment repairs. Therefore, most of the mechanical equipment is beyond the end of its useful life and will require significant rehabilitation, repair, or replacement in the near future. Additionally, much of the gravity sewer system is reaching the end of its useful life and needs to be replaced or rehabilitated immediately.

3.3 - Reasonable Growth

The average annual daily influent flow rate is 0.13 MGD; refer to **Table 4.2 – Influent Flow Data** from DMRs in Section 4.1.1 - Basis of Design for details.

Based upon the comprehensive plan adopted by the Town of Bowling in Green in 2008, three population projections scenarios were developed. Projection 1 was based upon a 6% growth rate per decade, Projection 2 was based upon a 12% growth rate per decade, and Projection 3 was based upon future land use, which resulted in the highest population increase projection of 17.5% to 54.5% per decade. Refer to **Table 3.1 - Population Projections** for details. As previously discussed, in **Section 1.3 - Population Trends**, the Town is experienced an average growth rate of 12.2% per decade between 2000 and 2020, which is similar to Projection 2. Based upon this, it was determin

ed that the WWTP capacity did not have to be expanded beyond 0.25 MGD over the next 20 year period, therefore a WWTP capacity increase was not required.

Table 3.1 - Population Projections

Scenario	Population Increase Per Decade	Estimated Cumulative Added Population		Estimated Flows* (MGD)	
		2030	2040	2030	2040
Projection 1	6%	71	75	0.13	0.13
Projection 2	12%	141	158	0.14	0.14
Projection 3A	17.5%	206	242	0.14	0.14
Projection 3B	54.5%	640	989	0.16	0.18

*Assumes 50 gpd per capita of added population plus the existing flow rate of 0.13 MGD

SECTION 4 - ALTERNATIVES CONSIDERED

Two alternatives were evaluated for the wastewater treatment plant upgrades, as shown below:

- Rehabilitate Existing Oxidation Ditch
- Convert Existing Oxidation Ditch to Diffused Aeration

It should be noted that portions of the plant will be very similar from process to process and will be noted as such.

Collection system improvements are fairly straightforward. There's one reasonable alternative, which is to replace the severely deteriorated concrete sewer mains identified by the Town and rehabilitate or replace associated manholes. This is fully analyzed in **Section 4.2 -Collection System Improvements.**

4.1 - Wastewater Treatment Plant Upgrade Options

4.1.1 - Basis of Design

To determine a basis of design for the wastewater treatment plant options, influent wastewater characteristics and effluent requirements were evaluated.

4.1.1.a - *Influent Wastewater Characteristics*

Limited influent sampling data was available; therefore, it is recommended that a full wastewater characterization be performed during the preliminary design phase. Historical influent data from February 2021 is summarized in **Table 4.1 – Influent Data** below. Flow data is summarized for the DMR data from January 2018 through November 2020; refer to **Table 4.2 – Influent Flow Data from DMRs** for a summary of data.

As shown in the table below BOD, TKN, and Ammonia concentrations indicate a higher strength wastewater.

Table 4.1 – Influent Data

Statistic	BOD_5 (mg/L)	TKN (mg/L)	Ammonia (mg/L)
Average	276	52.3	35.5
Max	394	68.2	41.9
Min	211	38.6	24.9

Table 4.2 – Influent Flow Data from DMRs

Year	Annual Average Day Flow (MGD)	Maximum Month Average Day Flow (MGD)	Maximum Day Flow (MGD)
2018	0.13	0.17	0.59
2019	0.13	0.16	1.12
2020	0.12	0.17	1.00

4.1.1.b - *Virginia Pollutant Discharge Elimination System Permit*

The Town of Bowling Green WWTP operates under VPDES Permit Number VA0020737. Based upon the current permit, which expires on September 30, 2023, the effluent limits are as summarized in **Table 4.3 – Permit Effluent Limits**.

Table 4.3 – Permit Effluent Limits Summary

Effluent Characteristics	Monthly Average Discharge Limitation	Weekly Average Discharge Limitation	Minimum	Maximum	Frequency	Sample Type
pH	N/A	N/A	6.0 SU	9.0 SU	1/D	Grab
$cBOD_5$	10 mg/L; 9.5 kg/day	15 mg/L; 14 kg/day	N/A	N/A	3 Days Per Week	8 Hour Composite
Total Suspended Solids (TSS)	10 mg/L; 9.5 kg/day	15 mg/L; 14 kg/day	N/A	N/A	3 Days Per Week	8 Hour Composite
Total Kjeldahl Nitrogen (TKN)	3.0 mg/L; 2.8 kg/day	4.5 mg/L; 4.2 kg/day	N/A	N/A	3 Days Per Week	8 Hour Composite
Dissolved Oxygen	N/A	N/A	5.0 mg/L	N/A	3 Days Per Week	8 Hour Composite
E. Coli (Geometric Mean)	126 n/100 mL	N/A	N/A	N/A	3 Days Per Week	8 Hour Composite
Total Phosphorus	NL	N/A	N/A	N/A	Once Per Year	8 Hour Composite
Nitrate-Nitrite	NL	N/A	N/A	N/A	Once Per Year	8 Hour Composite
Total Nitrogen	NL	N/A	N/A	N/A	Once Per Year	Calculated

Based on preliminary discussions with the VDEQ, permit limits are not expected to change for the improvements, with the exception of a new ammonia limit, which is due to the VDEQ's implementation of the Environmental Protection Agency (EPA) 2013 Fresh Water Ammonia Criteria. Preliminary input from VDEQ indicated that the WWTP's effluent ammonia limit could be set at 1.4 mg/L and 1.0 mg/L for the weekly and monthly averages.

Based upon the above influent characteristic and effluent requirements, the following was selected as a conservative basis of design. This should be finalized during the preliminary design phase, after a complete wastewater characterization has been performed. The influent values are based

upon best engineering judgment, limited influent sampling, and domestic wastewater as defined in Table 3-15 of Wastewater Engineering Treatment and Reuse by Metcalf and Eddy 4th Edition. These values are conservative based upon the observed influent data but were chosen based upon the limited influent data available. The peak hour flow rate was based upon record drawings.

Table 4.4 – Flow Parameters

Wastewater Characteristics	MGD
Annual Average Day Flow	0.25
Maximum Day Flow	0.5
Peak Hour Flow	1.06

Table 4.5 – Basis of Design

Wastewater Characteristics	Influent	Effluent
$cBOD_5$	300 mg/L	10 mg/L Monthly Average
Total Suspended Solids (TSS)	300 mg/L	10 mg/L Monthly Average
Total Kjeldahl Nitrogen (TKN)	55 mg/L	3 mg/L Monthly Average
Ammonia as Nitrogen	40 mg/L	1.4 mg/L Weekly Average 1.0 mg/L Monthly Average

4.1.2 - WWTP Alternative 1 - Rehabilitate Existing Oxidation Ditch

4.1.2.a - *Description*

4.1.2.a.i - Summary

The first alternative considered is to rehabilitate the existing oxidation ditch in kind. This will consist of replacing or rehabilitating the existing equipment as necessary, redesigning key aspects of the wastewater treatment plant, and installing a centrifuge for dewatering. See **Figure 4.1 – Rehabilitate Existing Oxidation Ditch Process Flow Diagram** for details on this process

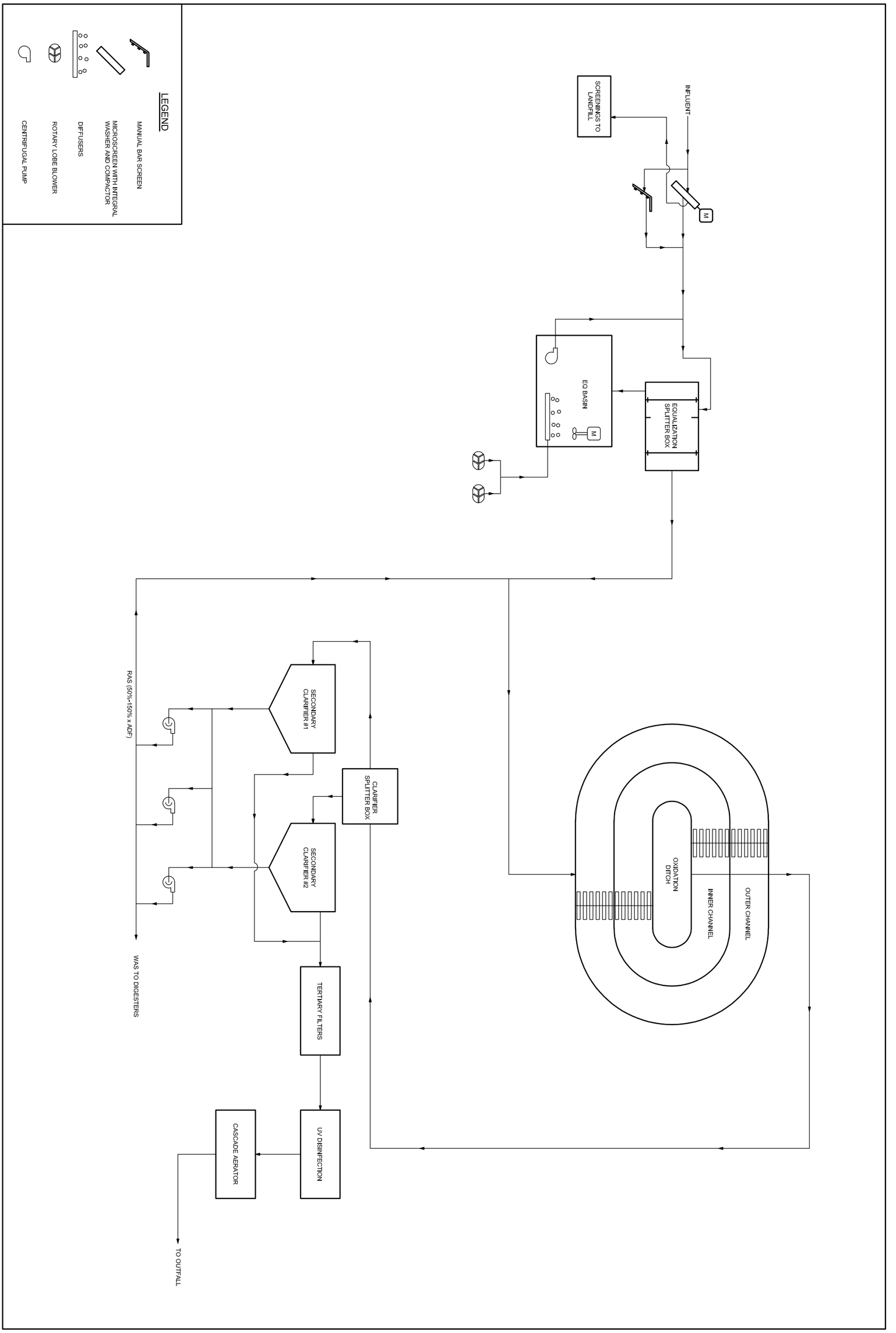
4.1.2.a.ii - Biological Process

This alternative will consist of rehabilitating the existing oxidation ditches in kind, with any upgrades required to bring the oxidation ditch closer to current design standards. This will include replacing the following:

- Drives
- Drive reducers
- Torque arms
- Aeration disks
- Shafts
- Shaft Couplings
- Weather hoods,
- Bearing lubrication units

The upgrades to bring the unit into existing best standards are as follows:

- Direct drives replacing the existing belt drive system
- Larger aeration disks
- Automatic bearing lubrication system



Dewberry
Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, VA 23060
Phone: 804.290.7957
Fax: 804.290.7928

DATE	SCALE	TITLE	FIGURE NO.
09/2021	NTS	REHABILITATE EXISTING OXIDATION DITCH PROCESS FLOW DIAGRAM	4.1
PROJ. NO. 50133134	PROJECT	TOWN OF BOWLING GREEN WASTEWATER TREATMENT PLANT IMPROVEMENTS	

4.1.2.a.iii - Headworks

The primary goal of any headworks is to remove solids from the wastewater to protect downstream equipment. Based upon initial discussions with the Town and the condition of the existing concrete channels, it was decided to reuse the existing screenings channels. An inclined cylindrical screen identical to the existing screen will be installed for this upgrade. Based upon discussions with the town, it was determined that grit removal was not necessary.

4.1.2.a.iv - Equalization

The plant expansion will include an offline equalization basin to provide for more consistent loading to the treatment process. During lower and average flow periods, the influent will be routed directly to the biological reactor to maximize the availability of the influent BOD for biological nutrient removal. During periods of higher flow, the influent would be diverted to the equalization basin, and repumped back to the biological reactor once flows subside.

4.1.2.a.v - Secondary Clarification

The WWTP has two existing 25’ diameter clarifiers, which would need to have all mechanical components replaced as part of this project. In conjunction with the secondary clarifiers the return activated sludge (RAS) and waste activated sludge (WAS) pump station, which routes the sludge from the clarifier underdrain either to the head RAS anoxic reactor or to the digesters, will be modified. The clarifier underflow piping will be routed directly to the pumps, versus to a common wet well in order to provide better RAS control for each clarifier. Additionally, a third RAS/WAS pump will be installed as a swing pump to provide redundancy.

4.1.2.a.vi - Tertiary Filtration

In order to create room for a third RAS/WAS pump, the existing sand filter will be replaced with a cloth disk filter that does not require a compressed air system. This will allow room for a third RAS/WAS pump parallel to the existing two. It was determined that reusing the existing filter structures was possible with slight modifications.

4.1.2.a.vii - Disinfection

The UV system will be replaced in kind to the current design redundancy. Additionally, a manual davit crane will be installed to assist in the removal and re-installation of the UV modules.

4.1.2.a.viii - Outfall

No modifications to the outfall will be performed as part of this project.

4.1.2.a.ix - Solids Handling

The existing sludge holding tanks will be reused as part of this project, in conjunction with a centrifuge to provide dewatering of the digested sludge. The aerobic sludge holding tanks are not designed to meet Class B biosolids reduction in accordance with EPA Part 503, however this is not required for the current landfill disposal location. The centrifuge is intended to replace the existing sludge drying beds and will be placed in a separate room in the dewatering building.

4.1.2.b - *Design Criteria*

4.1.2.b.i - Summary

The design criteria are summarized below and will be similar to the existing design criteria.

4.1.2.b.ii - Biological Process

The rehabilitation to the oxidation ditch, will also include some upgrades to bring it up to current design standards. The upgrades and rehabilitation will include:

- Two (2) 30 HP direct drive motors, drive reducers and torque arms
- Thirty-two (32) 66” aeration disks
- Four (4) shafts
- Eight (8) shaft bearings
- Two (2) shaft couplings
- Four (4) domed fiberglass weather hoods
- Six (6) automatic bearing lubrication units

The major equipment changes for the oxidation ditch for this option include replacing the belt drives with direct drives and larger aeration disks, in order to increase efficiency and bring the plant to more mo.

The major drawback to this option is the limited redundancy of the aeration system. The drives are oversized, in order to provide some redundancy in aeration capacity. However, the dissolved oxygen will only be supplied at two distinct points, one point in each channel. This is a significant limitation during periods with one aerator offline. Additionally, operations staff has had issues with the current drive shafts and bearings, which require frequent maintenance and replacement. There are several components of this upgrade that should help remediate this concern with the shaft bearings including:

- Conversion to direct drives
- Automatic bearing lubrication
- Releveling drive shafts as basins have likely settled over time

4.1.2.b.iii - Headworks

The headworks will be designed to pass the peak hour flow rate. The headworks will be designed to the existing peak flow rate of 1.06 MGD, which is slightly over a 4.0 peak factor. A micro strainer screen will be installed similar to the existing, in the existing channel.

4.1.2.b.iv - Equalization

The equalization basin was sized based upon a maximum day flow rate of 0.5 MGD and a peak hour flow rate of 1.06 MGD. The equalization basin will buffer peak flow rates down to an allowable flow rate of 0.6 MGD. The equalization basin will be a single compartment basin with coarse bubble diffusers and two blowers, one duty and one redundant.

4.1.2.b.v - Secondary Clarification

The two existing secondary clarifiers will have all mechanical components replaced. In addition to this, the piping will be modified, such that each clarifier will have a dedicated RAS/WAS pump with a third, redundant, swing pump. The RAS pumps will be sized for each pump to handle up to

50% of the RAS rate, which is a total of 125% of the average day flow rate. This equates to a flow rate of approximately 110 gpm per pump.

4.1.2.b.vi - Tertiary Filtration

Tertiary filtration will be designed for an average day flow rate of 0.25 MGD and a peak flow rate of 1.06 MGD, with 5-micron cloth media. There will be two cloth disk filters installed in the existing concrete basin, which will require modifications to be converted from sand filters to cloth disk filters. These modifications include removing the influent baffle wall and modifying the effluent weir/overflow structure. There will be two 4-disk Aqua MiniDisk filters, and the middle filter will be converted into a dry pit for the filter backwash pumps.

4.1.2.b.vii - Disinfection

The UV system will be replaced in kind to the current design redundancy. Additionally, a manual davit crane will be installed to assist in the removal and re-installation of the UV modules.

4.1.2.b.viii - Outfall

No modifications to the outfall will be performed as part of this project.

4.1.2.b.ix - Solids Handling

The waste activated sludge (WAS) will be routed from the clarifier to the sludge holding tanks. From the sludge holding tanks, the sludge will be pumped to a centrifuge for dewatering, which will be located in a new building. The centrifuge will be designed for 45 gpm hydraulic feed rate and 335 lbs/hr solids feed rate. It was assumed the centrifuge will run approximately 12 hours per week.

4.1.2.b.x - Reliability

The plant will be designed to meet class II reliability, similar to the existing plant.

4.1.2.c - *Map*

Refer to **Figure 4.2 – Rehabilitate Existing Oxidation Ditch Site Layout** for a layout of the proposed WWTP improvements.

4.1.2.d - *Environmental Impacts*

No major lasting environmental impacts are expected. All improvements are within the existing previously disturbed areas.

4.1.2.e - *Land Requirements*

No new land will be required for this expansion.

4.1.2.f - *Potential Construction Problems*

The largest construction challenge will be maintaining the WWTP in operation during construction. This will require a detailed phasing and demolition plan.

4.1.2.g - *Sustainability Considerations*

4.1.2.g.i - Water and Energy Efficiency

Water efficiency does not vary drastically from treatment process to treatment process, therefore only energy efficiency was evaluated. Energy efficiency also does not vary drastically between alternatives, see **Appendix A – Alternatives and Recommended Improvements Cost Estimates** for details. Energy efficiency will be improved during this upgrade by the following:

- Installing variable frequency drives for the mechanical aerators
- Installing newer more efficient equipment

4.1.2.g.ii - Green Infrastructure

New impervious area will be minimized to the greatest extent possible, only utilizing impervious area as required for the buildings, treatment basins, miscellaneous structures, and pavement for site access. Additionally, a stormwater management plan will be developed as required to address the water quantity and quality. This stormwater management plan is anticipated to utilize a

combination of best management practices and nutrient credits to meet the requirements at the time of design.

4.1.2.g.iii - Other

No other sustainability items were evaluated.

4.1.2.h - *Cost Estimates*

Budgetary cost estimates were prepared for this alternative, see **Appendix A – Alternatives and Recommended Improvements Cost Estimates** for details.

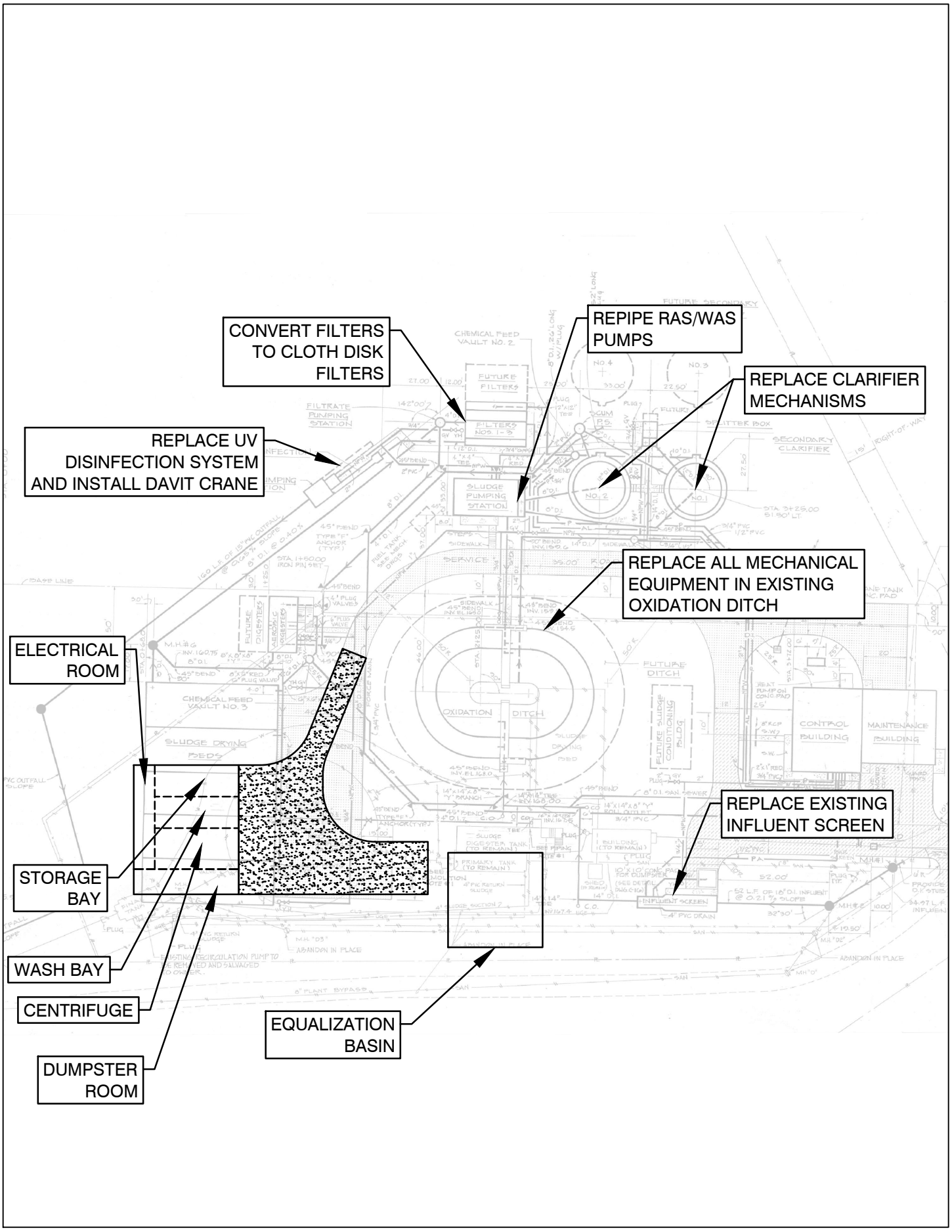


FIGURE 4.2: REHABILITATE EXISTING OXIDATION DITCH SITE LAYOUT

SCALE: 1" = 60'

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4.1.3 - WWTP Alternative 2 - Convert Existing Oxidation Ditch To Diffused Aeration

4.1.3.a - *Description*

4.1.3.a.i - Summary

The second alternative evaluated was to convert the existing oxidation ditches to diffused aeration, replacing or rehabilitating the existing equipment as necessary, redesigning key aspects of the wastewater treatment plant, and installing a centrifuge for dewatering. See **Figure 4.3 – Convert Existing Oxidation Ditch To Diffused Aeration** Process Flow Diagram for details.

4.1.3.a.ii - Biological Process

The second alternative will consist primarily of removing the existing mechanical aeration equipment and installing diffused aeration and submersible mixers. This conversion will include constructing walls to ensure the proper flow of the wastewater and to divide the basin into two trains. Additionally, an anoxic selector will be constructed within the existing basin to aide in sludge settleability.

LEGEND

- MANUAL BAR SCREEN
- MICROSCREEN WITH INTEGRAL WASHER AND COMPACTOR
- DIFFUSERS
- ROTARY LOBE BLOWER
- CENTRIFUGAL PUMP

FIGURE NO. 4.3

TITLE CONVERT EXITING OXIDATION DITCH PROCESS FLOW DIAGRAM

SCALE NTS

PROJECT TOWN OF BOWLING GREEN WASTEWATER TREATMENT PLANT IMPROVEMENTS

DATE 09/2021

PROJ. NO. 50133134

Dewberry
Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, VA 23060
Phone: 804.290.7957
Fax: 804.290.7928

4.1.3.a.iii - Headworks

The headworks will be identical to the headworks described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.a.iii -Headworks.**

4.1.3.a.iv - Equalization

Equalization will be identical to the equalization described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.a.iv -Equalization.**

4.1.3.a.v - Secondary Clarification

Clarification will be identical to the secondary clarification described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.a.v -Secondary Clarification.**

4.1.3.a.vi - Tertiary Filtration

Tertiary filtration will be identical to tertiary filtration described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.a.vi -Tertiary Filtration.**

4.1.3.a.vii - Disinfection

Disinfection will be identical to the disinfection described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.a.vii -Disinfection.**

4.1.3.a.viii - Outfall

Plant outfall will be identical to the outfall described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.a.viii -Outfall.**

4.1.3.a.ix - Solids Handling

Solids handling will be identical to the solids handling described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.a.ix -Solids Handling.**

4.1.3.b - *Design Criteria*

4.1.3.b.i - Summary

The design criteria are summarized below and will be similar to the existing design criteria.

4.1.3.b.ii - Biological Process

The oxidation ditch conversion will be accomplished by removing the existing mechanical aerators and installing diffused aeration and submersible mixers. The following design parameter assumptions were made:

- Oxygen credit for denitrification was not used in sizing the blowers and diffusers
- Blowers sized with a 1.5 peak factor with largest unit out of service
- Diffusers will be tapered, to match the oxygen requirements

New concrete walls will be required to divide the influent from the effluent side, because no rotational movement will be induced without the oxidation ditch disks rotating. Additionally, these walls will divide the ditches into two parallel trains. A key design benefit to this alternative is the ability to add an anoxic selector to the front of the treatment train. This selector will help to ensure that good sludge settleability is maintained. This anoxic selector will include two walled off subbasin each with a 2-hour hydraulic retention time. To provide flexibility, these two anoxic selectors will have submersible mixers and diffusers to allow them to swing from being either aerobic zones or anoxic zones. The second major advantage to diffused aeration is the ability to include redundancy, with two trains and blowers to distribute the redundant air equally to the basins. The primary disadvantage to the diffused aeration system is the necessity to drain each sub basin in order to perform maintenance on the diffuser assemblies.

To construct this option, one channel will be taken offline at a time, with shutdowns timed during the winter after the equalization basin is installed. First the outside channel will be taken offline, directing flow only through the inside channel. The blower, diffusers, and baffle walls for the outside channel will be constructed. Then flow will be diverted to the outside channel and bypass pumped around the inside channel. Diffusers and dividing walls will then be installed in the interior channel.

4.1.3.b.iii - Headworks

The headworks will be identical to the headworks described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.b.iii -Headworks.**

4.1.3.b.iv - Equalization

Equalization will be identical to the equalization described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.b.iv -Equalization.**

4.1.3.b.v - Secondary Clarification

Clarification will be identical to the secondary clarification described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.b.v -Secondary Clarification.**

4.1.3.b.vi - Tertiary Filtration

Tertiary filtration will be identical to the tertiary filtration described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.b.vi -Tertiary Filtration.**

4.1.3.b.vii - Disinfection

Disinfection will be identical to the disinfection described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.b.vii -Disinfection.**

4.1.3.b.viii - Outfall

Plant outfall will be identical to the outfall described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.b.viii - Outfall.**

4.1.3.b.ix - Solids Handling

Solids handling will be identical to the solids handling described previously for rehabilitating the existing oxidation ditch, see **Section 4.1.2.b.ix -Solids Handling.**

4.1.3.b.x - Reliability

Reliability will be identical as for rehabilitating the existing oxidation ditch, see **Section 4.1.2.b.x -Reliability.**

4.1.3.c - *Map*

Refer to **Figure 4.4 – Convert Existing Oxidation Ditch Site Layout** for a layout of the proposed WWTP improvements.

4.1.3.d - *Environmental Impacts*

No major lasting environmental impacts are expected. All improvements are within the existing previously disturbed areas.

4.1.3.e - *Land Requirements*

No new land will be required for this expansion.

4.1.3.f - *Potential Construction Problems*

Similar to the previous alternative, the largest construction hurdle will be maintaining the WWTP in operation during construction. This will require a detailed phasing and demolition plan.

4.1.3.g - *Sustainability Considerations*

4.1.3.g.i - Water and Energy Efficiency

Water efficiency does not vary drastically from treatment process to treatment process, therefore only energy efficiency was evaluated. Energy efficiency also does not vary drastically between alternatives, see **Appendix A – Alternatives and Recommended Improvements Cost Estimates** for details. Energy efficiency will be improved during this upgrade by the following:

- Installing VFDs for the blowers
- Installing newer more efficient equipment

4.1.3.g.ii - Green Infrastructure

New impervious area will be minimized to the greatest extent possible, only utilizing impervious area as required for the buildings, treatment basins, miscellaneous structures, and pavement for site access. Additionally, a stormwater management plan will be developed as required to address the water quantity and quality. This stormwater management plan is anticipated to utilize a combination of best management practices and nutrient credits to meet the requirements at the time of design.

4.1.3.g.iii - Other

No other sustainability items were evaluated.

4.1.3.h - *Cost Estimates*

Budgetary cost estimates were prepared for the this alternative, see **Appendix A – Alternatives and Recommended Improvements Cost Estimates** for details.

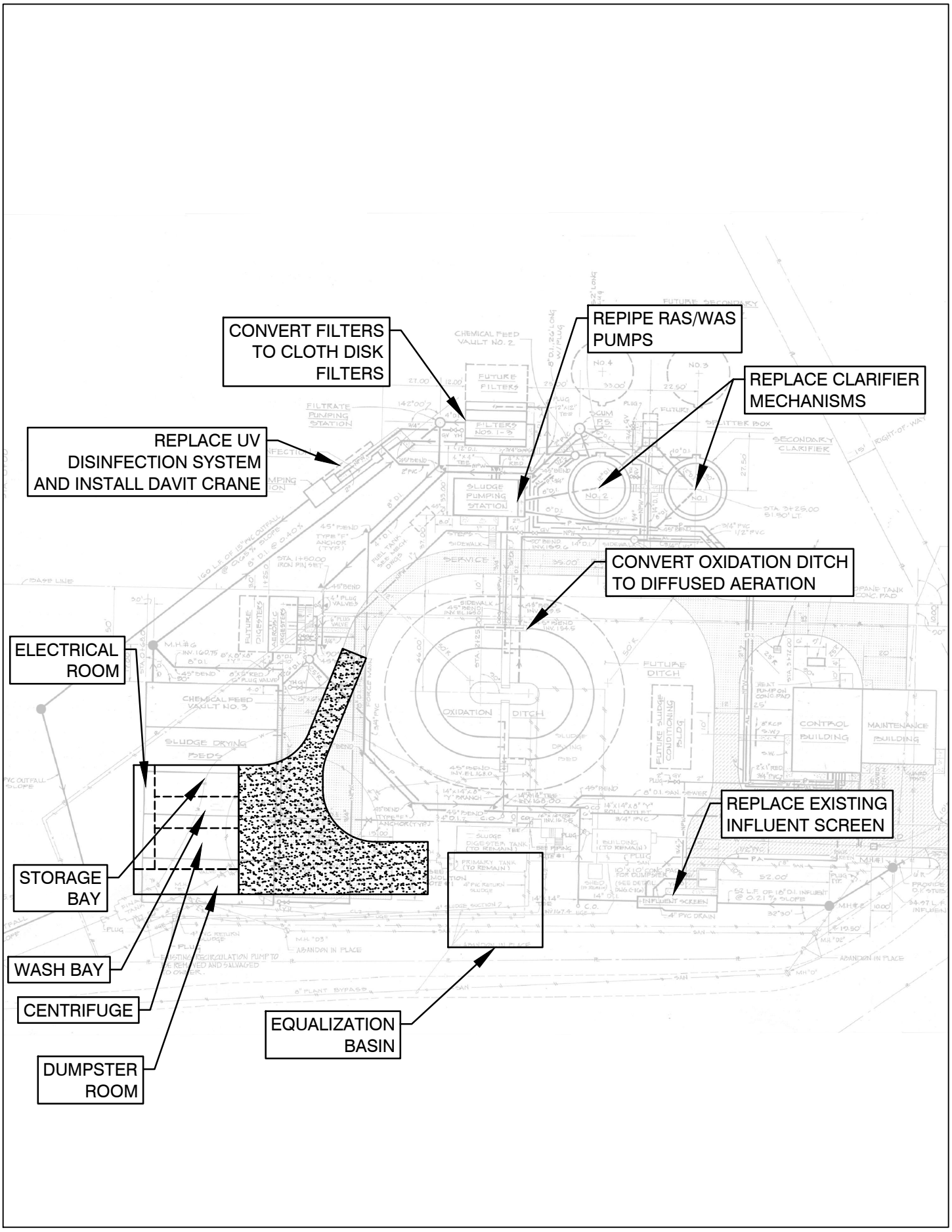


FIGURE 4.4: CONVERT EXISTING OXIDATION DITCH SITE LAYOUT

SCALE: 1" = 60'

4.2 - Collection System Improvements

4.2.1 - Description

To reduce I/I in the collection system and improve structural integrity of the gravity sewer pipe, it is recommended all concrete pipe be rehabilitated or replaced. Given input from Town personnel, rehabilitation of existing sewer main through lining is not a possibility given the severe deterioration of the concrete gravity sewer pipes. Therefore, the only option to improve the existing gravity collection system sewer mains is to replace existing concrete pipe through open cut excavation. For the purposes of this report, the Town has identified high priority sewer main to be replaced based on known issues. This equates to replacing approximately 9,770 linear feet of 8-inch diameter sewer main, approximately 750 linear feet of 10-inch diameter sewer main, and rehabilitation of the associated forty-two (42) manholes. Brick manholes possibly have the option to be rehabilitated by cementitious lining or the option to be replaced. Rehabilitation by lining is budgeted in the proposed improvement for a cost savings; however, inspection of the manholes during the design phase will verify that lining is feasible.

While not included in the budget for the proposed project improvements, additional improvements that could provide additional benefits to the system would be replacing other sections of the aging concrete sewer piping.

4.2.2 - Design Criteria

In general, the design criteria considered for preliminary design is based on the standard of practice in the Commonwealth of Virginia and the Sewage Collection and Treatment Regulations. The Town has not experienced any sanitary sewer overflows in the collection system, so current pipe slopes and capacities should be sufficient. Prior to final design, manholes will be visually inspected to determine structural integrity for rehabilitation or replacement.

4.2.3 - Map

Refer to **Figure 4.5 – Collection System Improvements** for a layout of the proposed collection system improvements.

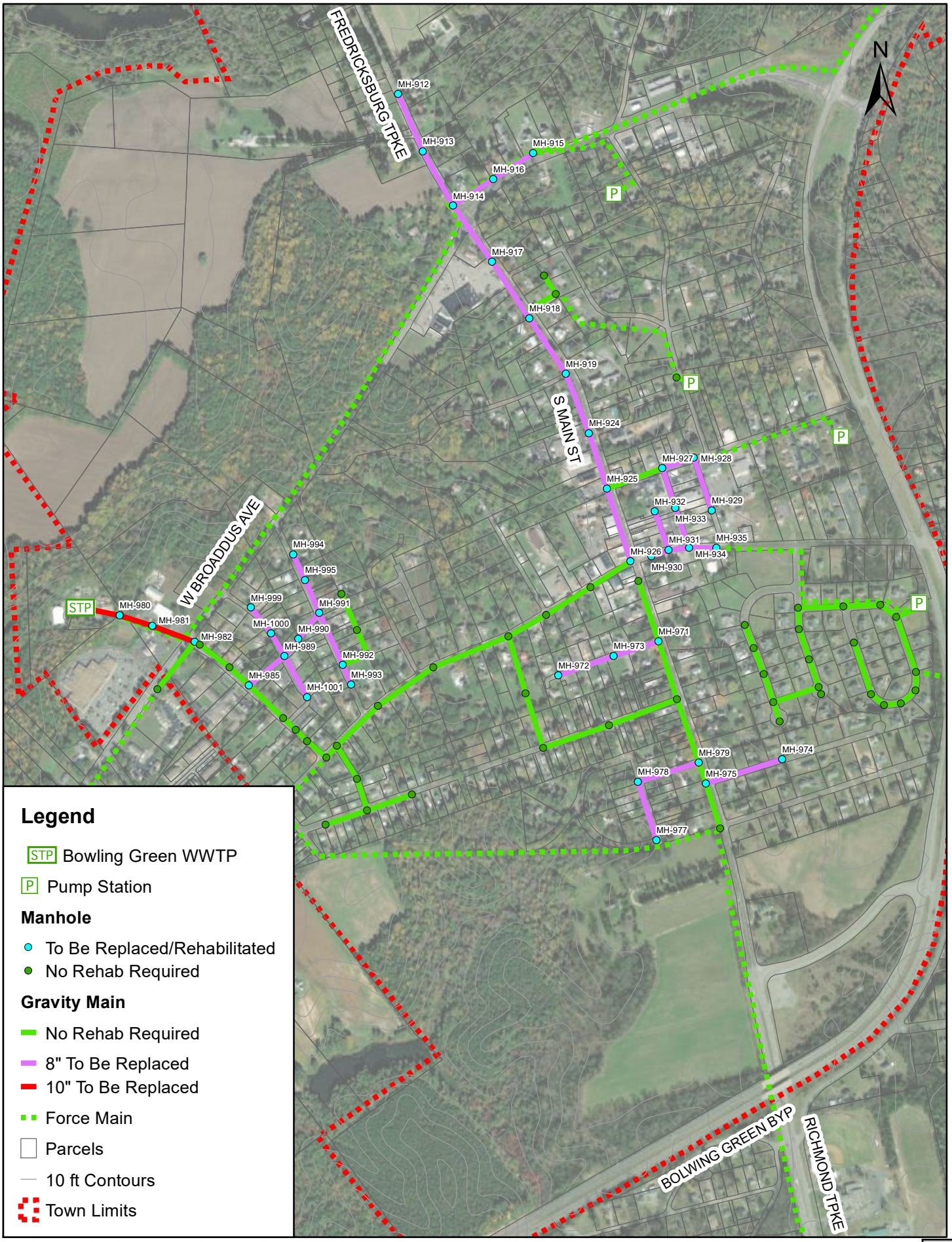


FIGURE 4.5: COLLECTION SYSTEM IMPROVEMENTS

1 INCH = 1,000 FEET

Dewberry

4.2.4 - Environmental Impacts

All improvements will occur on previously disturbed areas for the existing features of the sewer collection system, therefore there are minimal environmental impacts. The majority of the existing sewer identified to be replaced is located within the limits of road pavement or road shoulder. Open cut excavation will require pavement repair. Land disturbance will be limited to construction and a quick recovery of the environmental conditions is expected. Proper erosion and sediment control measures will be implemented per an approved erosion and sediment control plan for all construction activities.

4.2.5 - Land Requirements

All sewer mains are located within existing road rights-of-way or existing easements; therefore, no easements and no additional land requirements are associated with the replacement of the existing sewer collection system.

4.2.6 - Potential Construction Problems

While the improvements will occur in previously disturbed areas, unknown subsurface conditions are a potential issue in the form of unknown soil conditions and underground utilities installed after the gravity sewer. Geotechnical borings and a report will be completed during the design phase to determine and provide recommendations on backfill and requirements for compaction. Utility designation will be completed in conjunction with field survey of the project corridors to identify known existing underground utilities.

As with any construction project, there is also potential for adverse impacts to air quality, noise, and traffic flow during construction. To minimize these impacts, proper construction methods will be used to implement dust control measures during dry weather, construction activities will be typically limited to working hours of weekdays (often between 7 AM and 5 PM), and traffic control measures will be implemented for short periods of time during typical working hours.

4.2.7 - Sustainability Considerations

4.2.7.a - *Water and Energy Efficiency*

Water and energy efficiency do not vary for sewer replacement.

4.2.7.b - *Green Infrastructure*

As previously discussed, the gravity sewer will be replaced in the same location, and the sites will be returned to their existing conditions. Therefore, there are no significant impacts anticipated.

4.2.7.c - *Other*

Reduction of I/I provides environmental benefits by eliminating the potential for exfiltration of wastewater from the collection system into surrounding soils.

4.2.8 - Cost Estimates

The collection system improvements costs are incorporated into the total project cost for each wastewater treatment plant upgrade cost estimate, see **Appendix A – Alternatives and Recommended Improvements Cost Estimates** and **Table 4.6 – Gravity Collection System Improvements Cost** for reference. For cost estimating purposes, each manhole was assumed to be 15’ deep. The number of laterals reconnected was estimated based upon counting houses along the replaced sewer alignment.

Table 4.6 – Gravity Collection System Improvements Cost

Description	Unit	Quantity	Unit Price	Total Price
Remove existing sewer and install 8" gravity sewer	LF	9768	$115	$1,123,320
Remove existing sewer and install 10" gravity sewer	LF	750	$130	$97,500
Reconnect service laterals	EA	163	$650	$105,950
Rehabilitate manholes	VF	630	$385	$242,550
Pavement demo/repair	SY	8,180	$85	$695,300
Traffic Control	LS	1	$114,000	$114,000
Subtotal				$2,378,620

SECTION 5 - Selection of Alternative

5.1 - Non-Monetary Factors

5.1.1 - Wastewater Treatment Plant Improvements

5.1.1.a - *Rehabilitate Existing Oxidation Ditch*

The major advantage to rehabilitating the existing oxidation ditch with in-kind equipment is the similarity to the existing treatment process and simplicity of construction. However, plant operations staff has expressed some concerns with the oxidation ditch, including frequent maintenance items. The second major advantage is the ability to do most maintenance without dewatering the basins, however this advantage comes in conjunction with reduced redundancy in the aeration system. As previously discussed, although the mechanical aerator drives have some redundancy built in there is a major limitation with the aeration being confined to specific points in the basin.

5.1.1.b - *Convert Existing Oxidation Ditch to Diffused Aeration*

The primary advantages to converting the existing oxidation ditches to diffused aeration are the increased redundancy and ability to incorporate an anoxic selector. As previously discussed, the ditches will be converted into two trains with diffusers and blowers, more redundancy can be incorporated into the design and that redundant air can be more effectively distributed to the basin. Additionally, an anoxic selector can help to ensure sludge settleability. The primary disadvantage to the diffused aeration system is the necessity to drain each subbasin in order to perform maintenance on the diffuser assemblies.

5.1.1.c - *Conclusion*

In conclusion, either alternative can provide the necessary treatment for the Bowling Green WWTP. Both alternatives have distinct advantages and disadvantages. It is recommended to proceed with the diffused aeration alternative based upon operator preference.

5.1.2 - Collection System Improvements

The gravity sewer main must be replaced based on its existing condition.

Lining brick manholes is selected over manhole replacement for its fewer environmental impacts and fewer potential construction problems.

5.2 - Life Cycle Cost Analysis

5.2.1 - Wastewater Treatment Plant Improvements

See **Table 5.1 - Life Cycle Cost Analysis Summary,** for a breakdown of the life cycle cost analysis. Both options are very similar both from an initial capital cost and total life cycle cost perspective, therefore an alternative should be selected based upon the nonmonetary factors.

Table 5.1 - Life Cycle Cost Analysis Summary

Alternative	Initial Capital Cost	Total Life Cycle Cost
Rehabilitating The Existing Oxidation Ditch	$15,854,400	$19,323,800
Converting The Existing Oxidation Ditches To Diffused Aeration	$15,902,900	$19,363,800

5.2.2 - Collection System Improvements

Operating costs for the collection system are identical whether the old brick manholes are rehabilitated or replaced. A new precast manhole or a brick manhole rehabilitated with a cementitious lining will be operated and maintained the same way, therefore an overall life cycle present worth analysis for each alternative is not provided. Lining brick manholes is the selection due to its lower capital cost.

5.3 - Alternative Selection

5.3.1 - Wastewater Treatment Plant Improvements

Because the total capital cost and life cycle cost are so similar, it is recommended to choose an alternative based upon the nonmonetary factors. The primary nonmonetary factor to consider is operator preference, flexibility in operation, and additional redundancy. Based upon discussions

with the plant operation staff, the preferred treatment method is converting the oxidation ditches to diffused aeration.

5.3.2 - Collection System Improvements

Collection system improvements include the following:

- Replacement of approximately 9,770 LF of 8-inch diameter concrete gravity sewer pipe
- Replacement of approximately 750 LF of 10-inch diameter concrete gravity sewer pipe
- Reconnection of 163 laterals
- Rehabilitation of forty-two (42) existing manholes with cementitious liner

SECTION 6 - Proposed Project (Recommended Alternative)

6.1 - Summary of Proposed Project

6.1.1 - Summary of Chosen Alternatives

The chosen alternative is to convert the existing oxidation ditches to diffused aeration, which will consist of replacing or rehabbing existing equipment as necessary, redesigning key aspects of the wastewater treatment plant, and installing a centrifuge for dewatering. The existing mechanical aeration equipment will be removed, and diffusers and blowers will be installed.

6.2 - Preliminary Project Design

6.2.1 - Headworks

The headworks will be designed to pass the peak hour flow rate. The headworks will be designed to the existing peak flow rate of 1.06 MGD, which is slightly over a 4.0 peak factor. A micro strainer screen will be installed similar to the existing, in the existing channel.

6.2.2 - Equalization Basin

The equalization basin was sized based upon a maximum day flow rate of 0.5 MGD and a peak hour flow rate of 1.06 MGD. The equalization basin will be a single compartment basin with coarse bubble diffusers and two blowers, one duty and one redundant.

6.2.3 - Secondary Treatment

The oxidation ditch conversion will be accomplished by removing the existing mechanical aerators and installing diffused aeration and submersible mixers. The following design parameter assumptions were made:

- Oxygen credit for denitrification was not used in sizing the blowers and diffusers
- Blowers sized with 1.5 peak factor with largest unit out of service
- Diffusers will be tapered, to match the oxygen requirements

A new concrete wall will be required to divide the influent from the effluent side. An anoxic selector with two baffled zones, each with a 2-hour hydraulic retention time will also be constructed.

6.2.4 - Clarification

The two existing secondary clarifiers will have all mechanical components replaced. In addition to this, the piping will be modified, such that each clarifier will have a dedicated RAS/WAS pump with a third, redundant, swing pump. The RAS pumps will be sized for each pump to handle up to 50% of the RAS rate, which is 125% of the average day flow rate. This equates to a flow rate of approximately 110 gpm.

6.2.5 - Tertiary Filtration

Tertiary filtration will be designed for an average day flow rate of 0.25 MGD and a peak flow rate of 1.06 MGD, with 5-micron cloth media. There will be two cloth disk filters installed in the existing concrete basin, which will require modifications to be converted from sand filters to cloth disk filters. These modifications include removing the influent baffle wall and modifying the effluent weir/overflow structure. There will be two 4-disk Aqua MiniDisk filters, and the middle filter will be converted into a dry pit for the filter backwash pumps.

6.2.6 - Disinfection

The UV system will be replaced in kind. Additionally, a manual davit crane will be installed to assist in the removal and re-installation of the UV modules.

6.2.6.a.i - Outfall

No modifications to the outfall will be performed as part of this project.

6.2.7 - Solids Handling

The existing digesters will be reused as sludge holding tanks. A new dewatering building will be constructed to house a centrifuge and will also include a wash bay for trucks and a storage bay. Since the new dewatering building will be constructed within the existing sludge drying bed location, temporary liquid sludge hauling and offsite disposal will be required during construction.

6.2.8 - Electrical

The existing electrical room will not have space to house the new equipment required. In order to improve constructability and to allow for room for the new electrical, SCADA, and HVAC equipment, additional electrical room space will be provided as part of the project. Additionally, the existing 275 kW generator, which is at the end of its useful life, will be replaced with a 300 kW unit. A new service will be installed to an MCC with automatic transfer controls in main-tie-main construction, with the secondary main connected to the generator. The new MCC will be installed containing all motor starters and variable frequency drives for the plant. With the MCC in main-tie-main configuration, the plant will have additional reliability and safety in the electrical system, which will allow flexibility to de-energize a single bus of the MCC to safely work on the electrical gear. The electrical room space will be air conditioned for the VFDs and the new PLC.

6.2.9 - SCADA

A new plant-wide SCADA system will be installed as part of this project. This will include a new master PLC installed in the new electrical room. A server rack adjacent to the PLC will provide the front-end of the SCADA software to communicate with workstations and operators, the software will be determined during the design phase, but it will be non-proprietary. The PLC communication protocol will be Modbus TCP, and the new PLC will connect to the existing plant PLCs over Ethernet via fiber optic or copper.

6.2.10 - Site Improvements

Miscellaneous site improvements will be performed including a new asphalt access road as required to access the plant.

6.2.11 - Collection System Improvements

Replacement of the existing concrete gravity sewer identified by Town personnel is proposed to reduce I/I and restore structural integrity in the Town's collection system. Proposed improvements also include the rehabilitation of the associated manholes and reconnection of existing lateral connections.

6.2.12 - Pump Station Improvements

Various improvements to several wastewater pump stations around the town will also be performed during this project. These improvements include:

- Bowling Green Meadows Pump Station
    - New fence
    - New generator and automatic transfer switch
- Lacey Lane Pump Station
    - New fence
    - New generator and automatic transfer switch
- Oak Ridge Pump Station
    - New fence
    - New generator and automatic transfer switch
- Route 301 Pump Station
    - New fence
    - New generator and automatic transfer switch
    - New pumps
- Heritage Pines Pump Station
    - New generator and automatic transfer switch

6.2.13 - Miscellaneous

New influent and effluent composite samplers will be included as part of this design. Additionally, the town would like to invest in a new water data management software.

6.3 - Project Schedule

Refer to **Table 6.1 - Preliminary Schedule** for an estimated schedule for the proposed project.

Table 6.1 - Preliminary Schedule

Description	Duration in Month	Approximate Start Date	Approximate Completion Date
Draft Preliminary Engineering Report	--	--	09/2021
Town of Bowling Green Review	0.5	10/2021	10/2021
Final Preliminary Engineering Report	1	10/2021	11/2021
USDA-RD Review	1	11/2021	12/2021
Revisions	0.5	12/2021	01/2022
Design	12	01/2022	01/2023
Permitting	3	01/2023	04/2023
Bidding	2	04/2023	06/2023
Construction	24	06/2023	06/2025

6.4 - Permitting Requirements

A VPDES permit modification will not be needed for this project. Additionally, for the construction of this project a certificate to construct (CTC) and a certificate to operate (CTO) will be required. Building permits, a land disturbance permit, an erosion and sediment control permit, and a stormwater permit will be required.

6.5 - Sustainability Considerations

6.5.1 - Water and Energy Efficiency

Water efficiency was not evaluated as a part of this project. It is not anticipated that a large water demand is required. Additionally, a non-potable water system is installed to reduce the potable water demand. Energy efficiency will be optimized at the plant through various means. The primary way energy efficiency will be increased is by the implementation of newer, more modern technology that is inherently more efficient. Pumps and blowers will be powered by variable frequency drives (VFDs), where applicable. The use of VFDs will allow the Town to turn down the blowers and pumps during lower flows or loadings, which will save energy.

6.5.2 - Green Infrastructure

New impervious area will be minimized to the greatest extent possible, only utilizing impervious area as required for the buildings, treatment basins, miscellaneous structures, and pavement for site access. Additionally, a stormwater management plan will be developed as required to address the water quantity and quality. This stormwater management plan is anticipated to utilize a combination of best management practices and nutrient credits to meet the requirements at the time of design.

6.5.3 - Other

No other sustainability issues were considered.

6.6 - Total Project Cost (Engineers Opinion of Probable Cost)

6.6.1 - Estimated Project Capital Cost

A detailed cost estimate for the project is included in **Appendix A – Alternatives and Recommended Improvements Cost Estimates**, which was estimated at a total capital cost of $15,902,900. This includes costs for construction, contingencies, and soft costs including basic engineering services, additional engineering services, full-time resident construction inspection, and miscellaneous legal, administrative, and other costs associated with the funding process. Additional engineering services are expected to include items such as survey, geotechnical inve

stigation, subsurface utility engineering (SUE), influent sampling, process modeling, and a pilot study for the dewatering equipment. Refer to **Table 6.2 – Total Estimated Project Cost** for a breakdown of total project costs.

Table 6.2 – Total Estimated Project Cost

Description	Estimated Cost
Construction	$ 14,098,900
Bond Attorney	$ 60,000
Legal and Advertising	$ 50,000
Preliminary Engineering Report[1]	$ 30,000
Basic Engineering	$ 1,154,000
Additional Engineering	$ 200,000
Resident Inspection	$ 240,000
Interest	$ 100,000
Total Estimated Project Cost	$ 15,902,900

1 - The Preliminary Engineering Report (PER) has already been funded separately.

6.6.2 - Income

The Town's sewer fund income is summarized in **Table 6.3 - Sewer Fund Income Summary**. Based upon the preliminary analysis in **Appendix E – Project Planning Factors.** It was assumed that the Town would offset the sewer fund by $260,000, identical to fiscal year 2019. Additionally, it was assumed the town would obtain 30% grant funding and $5,000,000 of funding from another source to avoid increasing rates.

Table 6.3 - Sewer Fund Income Summary

Fiscal Year Ending June of	Sewer Fund Income
2018	$484,664
2019	$545,916
2020	$484,375

6.6.3 - Annual Operation and Maintenance Costs

See **Table 6.4 - Sewer Operation and Maintenance Costs,** for a summary of the existing operation and maintenance costs. See **Table 6.5 - Projected Sewer System O&M Costs**, for a detailed breakdown of existing and anticipated operation and maintenance costs. It should be noted that **Table 6.5 - Projected Sewer System O&M Costs**, because finalized financial statements were not available for 2020. Additionally, the O&M costs for 2020 were less than 2019, which could be due to decreased expenses related to the COVID-19 pandemic.

Table 6.4 - Sewer Operation and Maintenance Costs

Fiscal Year Ending June of	O&M Costs
2018	$509,126
2019	$456,877
2020	$431,466

Table 6.5 - Projected Sewer System O&M Costs

Description	2019 Actual*		Projected	
	Cost	Total	Cost	Total
Operating Expenses				
Personnel Services	$129,303	$438,155	$129,303	$444,363
Fringe Benefits	$71,560		$71,560	
Other Operating Expenses	$237,292		$243,500	
Nonoperating Revenue (Expenses)		$88,881		$88,881
Interest Expenses	$88,881		$88,881	
Total O&M Cost		$527,036		$564,744

*Values based upon FY2019 Financial Report

6.6.4 - Dept Repayment

The Town of Bowling Green has an existing USDA Rural Development sewer loan with an approximate outstanding balance of $4,644,565.

The anticipated loan values are included in the project planning factors shown Appendix E – Project Planning Factors.

6.6.5 - Reserves

6.6.5.a - *Debt Service Reserve*

A debt reserve of 10% are included in the project planning factors shown in the Appendix E – Project Planning Factors.

6.6.5.b - *Short Lived Asset Reserves*

The Town's projected short lived assets and asset recovery over the next fifteen (15) years are outlined in **Table 6.6 – Short Lived Assets**

Table 6.6 – Short Lived Assets

No.	Description	Replacement Value	Useful Life	Annual Reserve Deposit
1	Bowling Green Meadows Pump Station (Two Pumps)	$20,000	15	$2,000
2	Lacy Lane Pump Station (Two Pumps)	$20,000	15	$2,000
3	Oak Ridge Pump Station (Two Pumps)	$20,000	15	$2,000
4	Heritage Pines Pump Station (Two Pumps)	$20,000	15	$2,000
5	Maury Heights (Two Pumps)	$20,000	15	$2,000
	Totals	$100,000		$10,000

SECTION 7 - Conclusions and Recommendations

7.1 - Conclusions

The recommended project includes converting the existing oxidation ditches to operate with diffused aeration, the construction of an equalization basin, dewatering building, and other improvements within the wastewater treatment plant. Additionally, it is recommended to perform the collection system improvements for the gravity sewer system and pump stations. Properly operated, these facilities will provide for the public health and welfare of the existing residential and commercial customers.

7.2 - Recommendations

The chosen alternative in this report is recommended to provide the Town of Bowling Green will continue to treat the influent wastewater effectively and consistently. The following recommendations are also made to expedite implementation of the project.

1. Secure funding for the project;
2. Perform sampling to determine the full influent wastewater characterization;
3. Perform process modeling for the WWTP sizing;
4. Obtain permit modification from DEQ for the expanded flow rate;
5. Develop Construction Drawings, Technical Specifications, and Bidding Documents to receive competitive construction bids;
6. Construct the proposed improvements.

Appendix A – Alternatives and Recommended Improvements Cost Estimates

Town of Bowling Green WWTP Improvements PER

Town of Bowling Green WWTP Improvements
Project Cost Estimate: Rehabilitate Existing Oxidation Ditch
Town of Bowling Green
PER Budgetary Cost Estimate

9/29/2021

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
Mobilization/Demobilization	**1**	**LS**	**$ 510,000**	**$ 510,000**	**$ 510,000**
General Conditions	**1**	**LS**	**$ 510,000**	**$ 510,000**	**$ 510,000**
Demolition	**1**	**LS**	**$ 100,000**	**$ 100,000**	**$ 100,000**
Site Work	**1**	**LS**	**$ 30,000**	**$ 30,000**	**$ 30,000**
Erosion and Sediment Control	**1**	**LS**	**$ 100,000**	**$ 100,000**	**$ 100,000**
Asphalt Drive	**5,000**	**SQFT**	**$ 30**	**$ 150,000**	**$ 150,000**
Bypass Pumping and Phasing Costs	**1**	**LS**	**$ 200,000**	**$ 200,000**	**$ 200,000**
Liquid Sludge Hauling	**1**	**LS**	**$ 150,000**	**$ 150,000**	**$ 150,000**
Headworks					**$ 171,000**
Equipment	1	LS	$ 94,000	$ 94,000	
Piping, Valves, and Appurtenances	1	LS	$ 17,000	$ 17,000	
Labor and Equipment to Install	1	LS	$ 60,000	$ 60,000	
EQ Basin					**$ 523,000**
Equipment	1	LS	$ 107,000	$ 107,000	
Piping, Valves, and Appurtenances	1	LS	$ 60,000	$ 60,000	
Labor and Equipment to Install	1	LS	$ 91,000	$ 91,000	
Concrete	1	LS	$ 177,000	$ 177,000	
Excavation And Dewatering	1	LS	$ 88,000	$ 88,000	
Treatment Trains					**$ 510,000**
Equipment	1	LS	$ 240,000	$ 240,000	
Piping, Valves, and Appurtenances	1	LS	$ 120,000	$ 120,000	
Labor and Equipment to Install	1	LS	$ 150,000	$ 150,000	
Secondary Clarifiers					**$ 894,000**
Equipment	1	LS	$ 444,000	$ 444,000	
Piping, Valves, and Appurtenances	1	LS	$ 150,000	$ 150,000	
Labor and Equipment to Install	1	LS	$ 300,000	$ 300,000	
Tertiary Filters					**$ 480,000**
Equipment	1	LS	$ 223,000	$ 223,000	
Piping, Valves, and Appurtenances	1	LS	$ 57,000	$ 57,000	
Labor and Equipment to Install	1	LS	$ 175,000	$ 175,000	
Concrete	1	LS	$ 25,000	$ 25,000	
UV Disinfection					**$ 182,000**
Equipment	1	LS	$ 151,000	$ 151,000	
Labor and Equipment to Install	1	LS	$ 31,000	$ 31,000	
Dewatering					**$ 1,444,000**
Equipment	1	LS	$ 536,000	$ 536,000	
Piping, Valves, and Appurtenances	1	LS	$ 402,000	$ 402,000	
Labor and Equipment to Install	1	LS	$ 506,000	$ 506,000	
Buildings					**$ 630,000**
Dewatering Building	3,000	SQFT	$ 200	$ 600,000	
HVAC	1	LS	$ 30,000	$ 30,000	
SCADA System	**1**	**LS**	**$ 300,000**	**$ 300,000**	**$ 300,000**
Miscellaneous Instrumentation and Controls	**1**	**LS**	**$ 350,000**	**$ 350,000**	**$ 350,000**
Electrical Upgrades	**1**	**LS**	**$ 1,150,000**	**$ 1,150,000**	**$ 1,150,000**

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
Composite Samplers	**2**	**EA**	**$ 16,000**	**$ 32,000**	**$ 32,000**
Gravity Sewer Rehab					**$ 2,378,800**
Remove existing sewer and install 8" gravity sewer	9768	LF	$115	$ 1,123,400	
Remove existing sewer and install 10" gravity sewer	750	LF	$130	$ 97,500	
Reconnect service laterals	163	EA	$650	$ 106,000	
Rehabilitate manholes	630	VF	$385	$ 242,600	
Pavement demo/repair	8,180	SY	$85	$ 695,300	
Traffic Control	1	LS	$114,000	$ 114,000	
Bowling Green Meadows					**$ 47,500**
Fence	150	LF	$ 30	$ 4,500	
Swing Gate	1	LS	$ 3,000	$ 3,000	
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
Lacey Lane					**$ 46,000**
Fence	100	LF	$ 30	$ 3,000	
Swing Gate	1	LS	$ 3,000	$ 3,000	
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
Oak Ridge					**$ 46,000**
Fence	100	LF	$ 30	$ 3,000	
Swing Gate	1	LS	$ 3,000	$ 3,000	
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
301 Pump Station					**$ 52,000**
Pumps					
Fence	300	LF	$ 30	$ 9,000	
Swing Gate	1	LS	$ 3,000	$ 3,000	
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
Heritage Pines					**$ 40,000**
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
Subtotal					*$ 11,026,300*
Contractor Overhead & Profit		15	%		$ 1,654,000
Construction Contingency		10	%		$ 1,268,100
Construction Total					**$ 13,948,400**
Basic Engineering Services		9.0	%		$ 1,256,000
Additional Engineering Services (Geotech, Survey, SUE, Modeling, Sampling)					$ 200,000
Full Time Resident Inspection					$ 240,000
Legal, Advertising, Interest, Others		1.5	%		$ 210,000
Soft Cost Total					**$ 1,906,000**
Project Cost Total					**$ 15,854,400**

Net Present Worth Analysis

Yearly Costs	
Yearly Energy Costs	$ 53,100.00
Yearly Maintenance Costs	$ 101,000.00
Yearly Major Equipment Replacement Costs (5% of Capital Equipment)	$ 90,000.00
Yearly Total Operation And Maintenance Costs	$ 244,100.00
Net Present Worth Factor	
Duration (n) in years	20
Discount rate (i%)	3.5%
Capital Recovery Factor (P/A, i%, n)	14.2124
Net Present Worth Costs	
NPWC of Energy Costs	$ 754,700.00
NPWC of Maintenance Costs	$ 1,435,500.00
NPWC of Major Equipment Replacement Costs	$ 1,279,200.00
NPWC of Total Operation And Maintenance Costs	$ 3,469,400
Total NPWC	**$ 19,323,800**

Town of Bowling Green WWTP Improvements
Project Cost Estimate: Rehabilitate Existing Oxidation Ditch
Town of Bowling Green
PER Budgetary Cost Estimate

Power-Efficiency

Description	kW-hr/day (all units)	Number of Units Operating	kW	Total HP Per Unit	Motor Efficiency	Hydraulic Efficiency	Design Head (Ft)	Design Peak Flow (gpm)	Design Peak Flow (MGD)	Design Average Flow (MGD)	Hours Operating At Peak
Influent Screens	17.88	1	1.49	2.0				N/A			12
EQ Basin Blowers	335.52	1	18.6	25.0				N/A			18
EQ Basin Mixers	179.04	1	7.46	10.0				N/A			24
EQ Basin Pumps	24.96	1	1.3	1.7	0.9	0.7	25	174	0.25	0.2	19.2
Oxidation Ditch	608.4	1	25.4	34.0				N/A			24
Clarifiers	17.76	2	0.37	0.5				N/A			24
RAS Pumps	93.12	2	1.94	2.6	0.9	0.7	25	260	0.375	0.375	24
Tertiary Filters	44.64	2	1.86	2.5				N/A			12
UV System	235.2	1	9.8					N/A			24
Centrifuge Feed Pumps	0.98	1	0.49	0.7	0.9	0.7	25	66	N/A		2
Centrifuge Booster Pump	0.74	1	0.37	0.5				N/A			2
Centrifuge	55.92	1	28	37.5				N/A			2

Total kW-hr/day	1614.16
$ per kW-hr	$0.09
Operating Cost Per Day	$145.27
Yearly Operating Cost	$53,025.16

Equalization mixing power was estimated using 0.04 hp/1,000 gallons of storage.

Town of Bowling Green WWTP Improvements
Project Cost Estimate: Convert Existing Oxidation Ditch to Diffused Aeration
Town of Bowling Green
PER Budgetary Cost Estimate

9/29/2021

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
Mobilization/Demobilization	**1**	**LS**	**$ 510,000**	**$ 510,000**	**$ 510,000**
General Conditions	**1**	**LS**	**$ 510,000**	**$ 510,000**	**$ 510,000**
Demolition	**1**	**LS**	**$ 100,000**	**$ 100,000**	**$ 100,000**
Site Work	**1**	**LS**	**$ 30,000**	**$ 30,000**	**$ 30,000**
Erosion and Sediment Control	**1**	**LS**	**$ 100,000**	**$ 100,000**	**$ 100,000**
Asphalt Drive	**5,000**	**SQFT**	**$ 30**	**$ 150,000**	**$ 150,000**
Bypass Pumping and Phasing Costs	**1**	**LS**	**$ 200,000**	**$ 200,000**	**$ 200,000**
Liquid Sludge Hauling	**1**	**LS**	**$ 150,000**	**$ 150,000**	**$ 150,000**
Headworks					**$ 171,000**
Equipment	1	LS	$ 94,000	$ 94,000	
Piping, Valves, and Appurtenances	1	LS	$ 17,000	$ 17,000	
Labor and Equipment to Install	1	LS	$ 60,000	$ 60,000	
EQ Basin					**$ 523,000**
Equipment	1	LS	$ 107,000	$ 107,000	
Piping, Valves, and Appurtenances	1	LS	$ 60,000	$ 60,000	
Labor and Equipment to Install	1	LS	$ 91,000	$ 91,000	
Concrete	1	LS	$ 177,000	$ 177,000	
Excavation And Dewatering	1	LS	$ 88,000	$ 88,000	
Treatment Trains					**$ 661,000**
Equipment	1	LS	$ 236,000	$ 236,000	
Piping, Valves, and Appurtenances	1	LS	$ 175,000	$ 175,000	
Labor and Equipment to Install	1	LS	$ 250,000	$ 250,000	
Secondary Clarifiers					**$ 894,000**
Equipment	1	LS	$ 444,000	$ 444,000	
Piping, Valves, and Appurtenances	1	LS	$ 150,000	$ 150,000	
Labor and Equipment to Install	1	LS	$ 300,000	$ 300,000	
Tertiary Filters					**$ 480,000**
Equipment	1	LS	$ 223,000	$ 223,000	
Piping, Valves, and Appurtenances	1	LS	$ 57,000	$ 57,000	
Labor and Equipment to Install	1	LS	$ 175,000	$ 175,000	
Concrete	1	LS	$ 25,000	$ 25,000	
UV Disinfection					**$ 182,000**
Equipment	1	LS	$ 151,000	$ 151,000	
Labor and Equipment to Install	1	LS	$ 31,000	$ 31,000	
Dewatering					**$ 1,444,000**
Equipment	1	LS	$ 536,000	$ 536,000	
Piping, Valves, and Appurtenances	1	LS	$ 402,000	$ 402,000	
Labor and Equipment to Install	1	LS	$ 506,000	$ 506,000	
Buildings					**$ 630,000**
Dewatering Building	3,000	SQFT	$ 200	$ 600,000	
HVAC	1	LS	$ 30,000	$ 30,000	
SCADA System	**1**	**LS**	**$ 300,000**	**$ 300,000**	**$ 300,000**
Miscellaneous Instrumentation and Controls	**1**	**LS**	**$ 350,000**	**$ 350,000**	**$ 350,000**
Electrical Upgrades	**1**	**LS**	**$ 1,150,000**	**$ 1,150,000**	**$ 1,150,000**

Description	Quantity	Unit	Unit Cost	Extension	Subtotal
Gravity Sewer Rehab					**$ 2,378,800**
Remove existing sewer and install 8" gravity sewer	9768	LF	$115	$ 1,123,400	
Remove existing sewer and install 10" gravity sewer	750	LF	$130	$ 97,500	
Reconnect service laterals	163	EA	$650	$ 106,000	
Rehabilitate manholes	630	VF	$385	$ 242,600	
Pavement demo/repair	8,180	SY	$85	$ 695,300	
Traffic Control	1	LS	$114,000	$ 114,000	
Bowling Green Meadows					**$ 47,500**
Fence	150	LF	$ 30	$ 4,500	
Swing Gate	1	LS	$ 3,000	$ 3,000	
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
Lacey Lane					**$ 46,000**
Fence	100	LF	$ 30	$ 3,000	
Swing Gate	1	LS	$ 3,000	$ 3,000	
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
Oak Ridge					**$ 46,000**
Fence	100	LF	$ 30	$ 3,000	
Swing Gate	1	LS	$ 3,000	$ 3,000	
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
301 Pump Station					**$ 52,000**
Pumps					
Fence	300	LF	$ 30	$ 9,000	
Swing Gate	1	LS	$ 3,000	$ 3,000	
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
Heritage Pines					**$ 40,000**
Generator and Automatic Transfer Switch	1	LS	$ 40,000	$ 40,000	
Subtotal					*$ 11,145,300*
Contractor Overhead & Profit		15	%		$ 1,671,800
Construction Contingency		10	%		$ 1,281,800
Construction Total					**$ 14,098,900**
Basic Engineering Services		9.0	%		$ 1,154,000
Additional Engineering Services (Geotech, Survey, SUE, Modeling, Sampling)					$ 200,000
Full Time Resident Inspection					$ 240,000
Legal, Advertising, Interest, Others		1.5	%		$ 210,000
Soft Cost Total					**$ 1,804,000**
Project Cost Total					**$ 15,902,900**

Net Present Worth Analysis

Yearly Costs	
Yearly Energy Costs	$ 53,200.00
Yearly Maintenance Costs	$ 100,800.00
Yearly Major Equipment Replacement Costs (5% of Capital Equipment)	$ 89,500.00
Yearly Total Operation And Maintenance Costs	$ 243,500.00
Net Present Worth Factor	
Duration (n) in years	20
Discount rate (i%)	3.5%
Capital Recovery Factor (P/A, i%, n)	14.2124
Net Present Worth Costs	
NPWC of Energy Costs	$ 756,100.00
NPWC of Maintenance Costs	$ 1,432,700.00
NPWC of Major Equipment Replacement Costs	$ 1,272,100.00
NPWC of Total Operation And Maintenance Costs	$ 3,460,900
Total NPWC	**$ 19,363,800**

Town of Bowling Green WWTP Improvements
Project Cost Estimate: Convert Existing Oxidation Ditch to Diffused Aeration
Town of Bowling Green
PER Budgetary Cost Estimate

Power-Efficiency

Description	kW-hr/day (all units)	Number of Units Operating	kW	Total HP Per Unit	Motor Efficiency	Hydraulic Efficiency	Design Head (Ft)	Design Peak Flow (gpm)	Design Peak Flow (MGD)	Design Average Flow (MGD)	Hours Operating At Peak
Influent Screens	17.88	1	1.49	2.0				N/A			12
EQ Basin Blowers	335.52	1	18.6	25.0				N/A			18
EQ Basin Mixers	179.04	1	7.46	10.0				N/A			24
EQ Basin Pumps	24.96	1	1.3	1.7	0.9	0.7	25	174	0.25	0.2	19.2
Anoxic Mixers	71.52	2	1.49	2.0				N/A			24
Aeration Blowers	540.48	2	11.3	15.1				N/A			24
Clarifiers	17.76	2	0.37	0.5				N/A			24
RAS Pumps	93.12	2	1.94	2.6	0.9	0.7	25	260	0.375	0.375	24
Tertiary Filters	44.64	2	1.86	2.5				N/A			12
UV System	235.2	1	9.8					N/A			24
Centrifuge Feed Pumps	0.98	1	0.49	0.7	0.9	0.7	25	66	N/A		2
Centrifuge Booster Pump	0.74	1	0.37	0.5				N/A			2
Centrifuge	55.92	1	28	37.5				N/A			2

Total kW-hr/day	1617.76
$ per kW-hr	$0.09
Operating Cost Per Day	$145.60
Yearly Operating Cost	$53,143.42

Equalization mixing power was estimated using 0.04 hp/1,000 gallons of storage.
Anoxic Basin mixing power was estimated using 0.05 hp/1,000 gallons.
Only proposed equipment is included in power-efficiency estimations, existing equipment not replaced is not evaluated.

Appendix B – FEMA Firm Panel

Town of Bowling Green WWTP Improvements PER

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North America Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) Zone 18. **Horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov/.

BASE MAP SOURCE: Base map files were obtained in digital spatial data format from the Commonwealth of Virginia and the U. S. Census Bureau. Political boundaries were downloaded from the 2000 TIGER/Line files. 2002 digital orthophotographs were provided by the Virginia Geographic Network Division of its Department of Technology Planning (VGIN). Streamlines were digitized based on the VGIN orthophotos. Adjustments were made to specific base map features to align them to 1:4800 scale VGIN orthophotos.

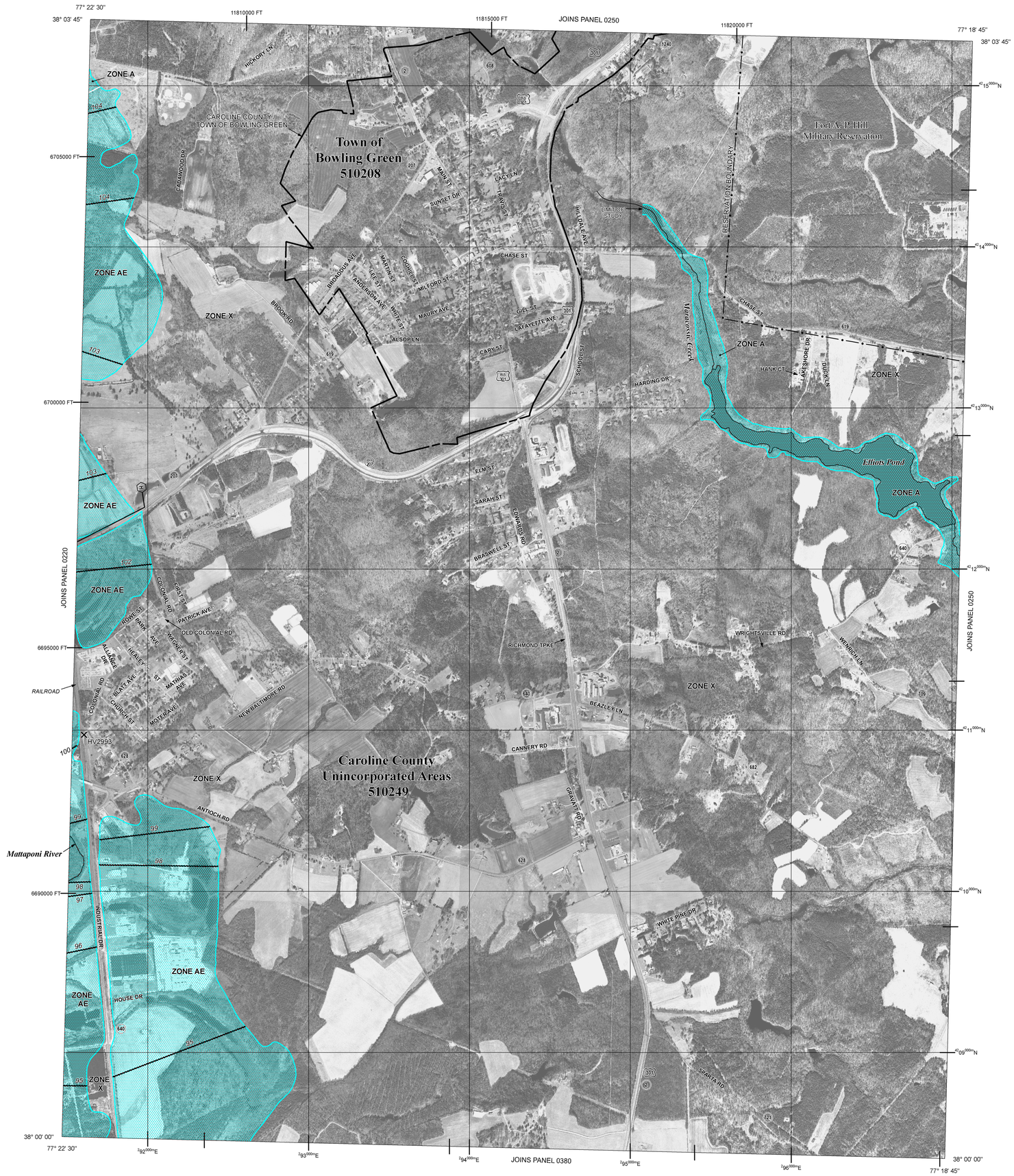
Based on the above mentioned digital orthophotographs, this map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and /or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAS)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
4276000 M	1000-meter Universal Transverse Mercator grid values, zone 18
600000 FT	5000-foot grid ticks: Virginia State Plane coordinate system (FIPSZONE 4501), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
MARCH 2, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0240C

FIRM
FLOOD INSURANCE RATE MAP

CAROLINE COUNTY, VIRGINIA
AND INCORPORATED AREAS

PANEL 240 OF 525
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOWLING GREEN, TOWN OF	510208	0240	C
CAROLINE COUNTY	510249	0240	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
51033C0240C
EFFECTIVE DATE
MARCH 2, 2009

Federal Emergency Management Agency

Appendix C – Permit and Compliance

Town of Bowling Green WWTP Improvements PER

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. **VA0020737**
Effective Date: **October 1, 2018**
Expiration Date: **September 30, 2023**

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I – Effluent Limitations and Monitoring Requirements, and Part II – Conditions Applicable To All VPDES Permits, as set forth herein.

Owner Name:	Town of Bowling Green
Facility Name:	Bowling Green WWTP
County:	Caroline
Facility Location:	219 Anderson Avenue, Bowling Green, VA 22427

The owner is authorized to discharge to the following receiving stream:

Stream Name:	Mattaponi River, UT
River Basin:	York River
River Subbasin:	None
Section:	3
Class:	III
Special Standards:	None

Thomas A. Faha

Thomas A. Faha
Director, Northern Regional Office
Department of Environmental Quality

September 28, 2018
Date

A. Effluent Limitations and Monitoring Requirements

1. Outfall 001 – 0.25 MGD Facility

a. There shall be no discharge of floating solids or visible foam in other than trace amounts.

b. During the period beginning with the effective date of the permit and lasting until the permit's expiration date, the permittee is authorized to discharge from Outfall Number 001. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	Monthly Average[1]	Weekly Average[1]	Minimum	Maximum[1]	Frequency	Sample Type
Flow[2] (MGD)	NL	NA	NA	NL	Continuous	TIRE
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
$CBOD_5$	10 mg/L 9.5 kg/day	15 mg/L 14 kg/day	NA	NA	3D/W	8H-C
Total Suspended Solids, TSS	10 mg/L 9.5 kg/day	15 mg/L 14 kg/day	NA	NA	3D/W	8H-C
Total Kjeldahl Nitrogen (TKN)	3.0 mg/L 2.8 kg/day	4.5 mg/L 4.2 kg/day	NA	NA	3D/W	8H-C
Dissolved Oxygen	NA	NA	5.0 mg/L	NA	1/D	Grab
E. coli (Geometric Mean)[3]	126 n/100 mL	NA	NA	NA	3D/W	Grab
Total Phosphorus	NL mg/L	NA	NA	NA	1/YR	8H-C
Nitrate+Nitrite	NL mg/L	NA	NA	NA	1/YR	8H-C
Total Nitrogen[4]	NL mg/L	NA	NA	NA	1/YR	Calculated

(1) See Part I.B.

(2) The design flow is 0.25 MGD.

(3) Between 10:00 a.m. and 4:00 p.m.

(4) Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO_2+NO_3 Nitrogen and shall be calculated from the results of those tests.

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

TIRE = Totalizing, indicating and recording equipment.

1/D = Once every day.

3D/W = Three days a week.

1/YR = Once every calendar year.

8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

B. Quantification Levels and Compliance Reporting

1. Quantification Levels

   a. The quantification levels (QL) shall be less than or equal to the following concentrations:

Characteristic	Quantification Level
TSS	1.0 mg/L
$CBOD_5$	2 mg/L
TKN	0.5 mg/L

   b. The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II A of this permit.

2. Compliance Reporting for parameters in Part I.A.

   a. Monthly Average – Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I.B.1.a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

   b. Weekly Average – Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in Part I.B.1.a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis, then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.

   c. Single Datum - Any single datum required shall be reported as "<QL" if it is less than the QL used in the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above). Otherwise the numerical value shall be reported.

   d. Significant Digits - The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always

B. Quantification Levels and Compliance Reporting

1. Quantification Levels

   a. The quantification levels (QL) shall be less than or equal to the following concentrations:

Characteristic	Quantification Level
TSS	1.0 mg/L
$CBOD_5$	2 mg/L
TKN	0.5 mg/L

   b. The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II A of this permit.

2. Compliance Reporting for parameters in Part I.A.

   a. Monthly Average – Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I.B.1.a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

   b. Weekly Average – Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in Part I.B.1.a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis, then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.

   c. Single Datum - Any single datum required shall be reported as "<QL" if it is less than the QL used in the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above). Otherwise the numerical value shall be reported.

   d. Significant Digits - The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always

rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

3. Nutrient Reporting Calculations for Part I. A

   a. For Total Phosphorus, all daily concentration data below the quantification level (QL) for the analytical method used shall be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.

   b. For Total Nitrogen (TN), if none of the daily concentration data for the respective species (i.e., TKN, Nitrates/Nitrites) are equal to or above the QL for the respective analytical methods used, the daily TN concentration value reported shall equal one half of the largest QL used for the respective species. If one of the data is equal to or above the QL, the daily TN concentration value shall be treated as that data point is reported. If more than one of the data is above the QL, the daily TN concentration value shall equal the sum of the data points as reported.

C. Pretreatment Requirements

1. Within 180 days of the effective date of this permit, the permittee shall submit to DEQ Northern Regional Office (DEQ-NRO) a survey of all Industrial Users (IUs) discharging to the publically owned treatment works (POTW). The information shall be submitted on the DEQ Discharger Survey Form; or an equivalent form that includes the quantity and quality of the IU wastewater. Survey results shall include the identification of significant industrial users of the POTW. In conjunction with the survey, the permittee may elect to develop, submit for DEQ-NRO approval and implement a plan to survey, on pre-established intervals during the term of this permit, the industrial community within their jurisdiction. If an alternative plan is developed, the permittee shall submit the plan to DEQ-NRO for approval within 90 days of the permit effective date.

2. If Categorical Industrial User(s) (CIUs) are identified, or if the permittee or the DEQ determines that the industrial user(s) have potential to adversely affect the operation of the POTW or cause violation(s) of federal, state or local standards or requirements, the permittee shall develop and submit to DEQ-NRO a pretreatment program for approval within one year of written notification by the DEQ. The program shall enable the permittee to control by permit the Significant Industrial Users (SIUs), as defined in 9VAC25-31-10, discharging wastewater to the treatment works.

3. If the evaluation of the IU survey conducted in accordance with (1) above indicates that the permittee is not required to implement a pretreatment program, the requirements for program development described in (4) below are suspended until such time that the development of a pretreatment program should be necessary.

4. The approvable pretreatment program submission shall at a minimum contain the following elements:

   a. Legal authority;

   b. Program procedures;

   c. Funding and resources;

   d. Local limits evaluation and local limits if needed;

   e. Enforcement response plan (ERP); and

   f. List of Significant Industrial Users.

5. All program elements shall be approved by DEQ prior to implementation. After all program elements are approved, the permittee shall:

   a. Implement the approved pretreatment program that complies with the Clean Water Act, State Water Control Law and the Virginia Pollutant Discharge Elimination System (VPDES) Regulations found at 9VAC25-31-730 through 900;

   b. Submit to DEQ-NRO an annual report that describes the permittee's program activities during the previous year. The annual report shall be submitted no later than January 31st of each year and shall include:

      1) An updated list of the SIUs showing the categorical standards and local limits applicable to each. The updated list of the SIUs shall note all of the following:

         a) Facility contact information (contact name, mailing address, email address, telephone number);

         b) Identification and explanation of any SIUs removed from the previous year's list;

         c) Identification of SIUs subject to Categorical Standards and the applicable standard(s);

         d) Applicable sections of Title 40 of the Code of Federal Regulations (CFR);

         e) IUs/SIUs subject to local limits that are more stringent than Categorical Pretreatment Standards;

         f) IUs/SIUs subject only to local limits;

         g) CIUs that are subject to reduced reporting requirements under 9VAC25-31-840.E.3.;

         h) SIUs that are nonsignificant CIUs; and

         i) The Standard Industrial Classification (SIC) and North American Industry Classification System (NAIC) codes for all SIUs and CIUs.

      2) A summary of the compliance status of each SIU/IU with pretreatment standards and permit requirements.

      3) A summary of the number and types of SIU/IU sampling and inspections performed by the POTW.

      4) All information concerning any interference, upset, VPDES permit or Water Quality Standards violations directly attributable to SIU/IUs and enforcement actions taken.

      5) A description of all enforcement actions taken against SIUs over the previous 12 months.

      6) A summary of any changes to the submitted pretreatment program previously not reported DEQ-NRO.

      7) A summary of the permits issued to SIUs/IUs since the last annual report.

      8) POTW and self-monitoring results for SIUs determined to be in significant noncompliance during the reporting period.

      9) Results of the POTW's influent, effluent and sludge sampling not previously submitted to DEQ-NRO.

10) Copies of newspaper publications of all SIUs/IUs in significant noncompliance during the reporting period.

11) Signature of an authorized representative.

c. Ensure all SIU permits are issued within 90 days of program approval. Subsequent SIU permits are reissued in a timely manner and SIU permits issued or reissued by the POTW are effective and enforceable.

d. Ensure all SIUs are inspected at least annually.

1) Sampling shall include all regulated parameters and shall be representative of the wastewater discharged.

2) Inspection of the SIUs shall cover all areas that could result in wastewater discharge to the treatment works. At a minimum, this would include: manufacturing areas; chemical storage areas; pretreatment facilities; spill prevention and control procedures; hazardous waste generation; and the SIU's self-monitoring procedure and records.

e. Implement the reporting requirements of Part VII of the VPDES Permit Regulation at 9VAC25-31-840.

f. Ensure that all public participation requirements are met. SIUs in significant noncompliance with pretreatment standards and/or requirements for the previous 12 months shall be placed in public notice annually.

6. DEQ may require the POTW to institute changes to the legal authority regarding SIU permits:

a. If the legal authority does not meet the requirements of the Clean Water Act, State Water Control Law or VPDES Regulations;

b. If problems such as interferences, pass-through, violations of Water Quality Standards or sludge contamination develop or continue; and/or

c. If federal, state or local requirements change.

D. Other Requirements and Special Conditions

1. 95% Capacity Reopener

A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the DEQ-Northern Regional Office (DEQ-NRO) when the monthly average flow influent to the sewage treatment plant reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ-NRO no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

2. Indirect Dischargers

The permittee shall provide adequate notice to the Department of the following:

a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. Operation and Maintenance (O&M) Manual Requirement

The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and (for sewage treatment plants) Sewage Collection and Treatment Regulations, 9VAC25-790.

The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ-NRO for review and approval.

The O&M Manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, storm water and sludge samples;
b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
c. Discussion of Best Management Practices, if applicable;
d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;
e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;
f. Plan for the management and/or disposal of waste solids and residues;
g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;
h. List of facility, local and state emergency contacts; and
i. Procedures for reporting and responding to any spills/overflows/ treatment works upsets.

4. Licensed Operator Requirement

The permittee shall employ or contract at least one Class II licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and Board for Waterworks and Wastewater Works Operators and Licensing Regulations at 18VAC160-30 et seq. The permittee shall notify the Department in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

5. Reliability Class

The permitted treatment works shall meet Reliability Class II.

6. CTC and CTO Requirement

In accordance with *Sewage Collection and Treatment* regulation (9VAC25-790), the permittee shall obtain a Certificate to Construct (CTC) and a Certificate to Operate (CTO) from the Department of Environmental

Quality prior to constructing wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

7. Treatment Works Closure Plan

If the permittee plans an expansion or upgrade to replace the existing treatment works, or if facilities are permanently closed, the permittee shall submit to the DEQ-NRO a closure plan for the existing treatment works. The plan shall address the following information as a minimum: Verification of elimination of sources and/or alternate treatment scheme; treatment, removal and final disposition of residual wastewater and solids; removal/demolition/disposal of structures, equipment, piping and appurtenances; site grading, and erosion and sediment control; restoration of site vegetation; access control; fill materials; and proposed land use (post-closure) of the site. The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation. Once approved, the plan shall become an enforceable part of this permit and closure shall be implemented in accordance with the approved plan. No later than 14 calendar days following closure completion, the permittee shall submit to the DEQ-NRO written notification of the closure completion date and a certification of closure in accordance with the approved plan.

8. Sludge Reopener

The Board may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

9. Sludge Use and Disposal

The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the issuance of this permit. Any proposed changes in the sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ-NRO approval 90 days prior to the effective date of the changes. Upon approval, the revised SMP becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in sewage sludge use or disposal practices.

10. Total Maximum Daily Load (TMDL) Reopener

This permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring

1. Samples and measurements required by this permit shall be taken at the permit designated or approved location and be representative of the monitored activity.
   a. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
   b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.
   c. Samples taken shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

2. Any pollutant specifically addressed by this permit that is sampled or measured at the permit designated or approved location more frequently than required by this permit shall meet the requirements in A 1 a through c above and the results of this monitoring shall be included in the calculations and reporting required by this permit.

3. Operational or process control samples or measurements shall not be taken at the designated permit sampling or measurement locations. Operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. Records

1. Records of monitoring information shall include:
   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) and time(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

   Department of Environmental Quality - Northern Regional Office (DEQ-NRO)
   13901 Crown Court
   Woodbridge, VA 22193

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department.

3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from this discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II.F.; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II.F., shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
   a. Any unanticipated bypass; and
   b. Any upset which causes a discharge to surface waters.

2. A written report shall be submitted within 5 days and shall contain:
   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
   c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II, I.1.or I.2., in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II, G., H. and I. may be made to the Department's Northern Regional Office at (703) 583-3800 (voice) or online at http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/MakingaReport.aspx . For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

      1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
      2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or

   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements

1. Applications. All permit applications shall be signed as follows:

   a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
      1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

      2) The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes:

1) The chief executive officer of the agency, or
2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

2. Reports, etc. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part II.K.1.;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

c. The written authorization is submitted to the Department.

3. Changes to authorization. If an authorization under Part II.K.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2. shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.

4. Certification. Any person signing a document under Parts II, K.1. or K.2. shall make the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these

standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U.), and "upset" (Part II.V.) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of Solids or Sludges

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II, U.2. and U.3.

2. Notice
   a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
   b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.

3. Prohibition of bypass.
   a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:
      1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
      2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
      3) The permittee submitted notices as required under Part II.U.2.

   b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II.U.3.a.

V. Upset

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2. are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;
   b. The permitted facility was at the time being properly operated;
   c. The permittee submitted notice of the upset as required in Part II.I.; and
   d. The permittee complied with any remedial measures required under Part II.S.

3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of permits

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2., a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.

2. As an alternative to transfers under Part II.Y.1., this permit may be automatically transferred to a new permittee if:
   a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
   b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
   c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

September 22, 2020

VIA E-mail: towntreasurer@townofbowlinggreen.com

Melissa Lewis
Acting Town Manager
Town of Bowling Green
P.O. Box 468
Bowling Green, VA 22427

Re: **Town of Bowling Green - WWTP Permit # VA0020737**

Dear Ms. Lewis:

Attached is a copy of the Inspection Report generated while conducting a Facility Recon Inspection at the Town of Bowling Green – Wastewater Treatment Plant (WWTP), on August 5, 2020. This letter is not intended as a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq*. (APA).

Please review the "Request for Corrective Action" and "Notes and Comments" sections and submit a progress report, to include a timeline, as appropriate, outlining how the facility plans to address these items, to the Department of Environmental Quality – Northern Regional Office (DEQ-NRO) within thirty days from the date of this inspection report. Your response must be sent electronically, via E-mail and we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. If you have any questions or comments concerning this report, please feel free to contact me at (703) 583-3854 or email at Rebecca.Johnson@deq.virginia.gov

Sincerely,

Rebecca L. Johnson

Rebecca Johnson
Environmental Specialist II

cc via electronic copy:

ECM; Compliance Manager; Compliance Auditor; and Compliance Inspector – DEQ
Mr. Josh Irby, Director of Public Works/Utilities, jirby@townofbowlinggreen.com

Virginia Department of Environmental Quality

RECON INSPECTION REPORT

FACILITY NAME: Town of Bowling Green Wastewater Treatment Plant		**INSPECTION DATE:**	August 5, 2020
		INSPECTOR:	Rebecca Johnson
PERMIT No.: VA0020737		**REPORT DATE:**	September 22, 2020
TYPE OF FACILITY: ☑Municipal ☐Major ☐Industrial ☑Minor ☐Federal		**TIME OF INSPECTION:**	Arrival 12:00 p.m. / Departure 1:30 p.m.
		TOTAL TIME SPENT (including prep & travel)	12 Hours
PHOTOGRAPHS: ☑Yes ☐No		**UNANNOUNCED INSPECTION?**	☑Yes ☐No
REVIEWED BY / Date: Edward L. Stat 9/21/2020			
PRESENT DURING INSPECTION: Melissa Lewis, Acting Town Manager			

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

August 4, 2020:

DEQ staff was notified by a concerned citizen of partially treated solids in the receiving stream at approximately 12:30 p.m. on August 4, 2020, Incident Report# 296099. DEQ staff contacted Mr. Billy Deavers, Director of Public Works/Utility later in the afternoon, via phone call, to inquire about the current state of operations at the wastewater treatment facility. Mr. Deavers said he was just about to contact DEQ to report the plant upset. Mr. Deavers said the facility received extremely high flows on the morning of August 4, 2020 due to tropical storm Isaias. In preparation for the anticipated high flow conditions, Mr. Deavers directed his operations staff, on August 3, 2020, to stay at the facility until approximately 1:00 a.m. in the morning, August 4, 2020, to make process adjustments and monitor the treatment facility. Mr. Deavers said that when the operations staff departed at 1:00 a.m. on August 4, 2020, the treatment facility was in normal operation and there were no high flow conditions.

August 5, 2020:

DEQ staff arrived onsite at 12:00 p.m. and met with Mr. Shawn Fortune, operator. DEQ staff explained the purpose of this site inspection was to follow up on the reported loss of solids. DEQ staff asked to speak to Mr. Deavers, Mr. Fortune said he was not onsite. Mr. Fortune called Mr. Deavers to inform him DEQ staff was onsite and Mr. Deavers said he was suspended from operator duties and not able to come to the facility.

Mr. Fortune gave DEQ staff a tour of the facility and the following observations were made:

Oxidation Ditch

Mr. Fortune said during the high flow conditions the blowers were turned off and the gates were closed to retain the solids in this unit process. **Photo 1**

Clarifier

Ashing was observed on the clarifier surface*. Mr. Fortune believes there are filamentous bacteria in the mixed liquors. **Photos 2-4**

DEQ staff asked what the solids blanket was in the clarifier and Mr. Fortune said the "sludge judge" broke the day before. The logbook denoted on August 4, 2020 "2:00 p.m. … fixing cracked sludge judge". Operations staff said a new sludge judge was on order. **See Request for Corrective Action**

*Ashing was observed in this unit during the December 18, 2018 inspection as well.

Sand filters
There are three sand filters. Mr. Fortune said sand filters #1 and #2 were not in operation due to equipment malfunction. Sand filter # 3 was the only sand filter in operation, **Photos 5-8**.
Request for Corrective Action

Ultraviolet Disinfection
Bank 1A was not in operation. The screen indicated "MJ*Module Err". Bank 1B intensity meter reading was 3.1 MW/cm2, **Photos 9-10**.
See Request for Corrective Action

Final effluent weir
The final effluent flow meter was not operational. Operations staff were using the influent flow meter to report flow, **Photo 11**.
See Notes and Comments

Outfall 001
No problems were observed, **Photos 12 – 15**.

Aerobic Digesters
During the high flow conditions, solids were wasted to the aerobic digester to reduce the amount of solids loss from the clarifier**, Photos 16 & 17**.

Drying Beds
Solids from the Aerobic Digestor were added to drying beds 2 and 5, **Photo 18**.
No problems were observed.

DEQ staff asked Mr. Fortune if final effluent samples were collected on August 4, 2020, during the plant upset due to high flow conditions. He said operations staff did not collect samples on August 4, 2020. DEQ staff asked what the approximate solids loss were and he said the final effluent flow meter has not been operating properly (giving erratic readings) since July 19, 2020 and were unable to provide a solids loss estimate at this time.

DEQ staff discussed the inflow and infiltration into the collection system, which is heavily impacting the treatment facility during and after rain events. Ms. Lewis said that the Town of Bowling Green has "been working with the USDA to secure a Special Evaluation Assistance for Rural Communities and Households (SEARCH) grant to fund the Preliminary Engineering Report (PER). The town is currently waiting on a determination from USDA - Rural Development on this project's qualification for the grant."

Logbook review
On August 3, 2020, the last entry in the logbook was "5:00 Lock up". Mr. Deavers said the Mr. Fortune was onsite until 1:00 p.m. August 4, 2020. **See Notes and Comments**

DEQ staff reviewed the e-DMR for July 2020 and August 2020 and noted operations staff did not report the final effluent flow meter was not operating properly. **See Request for Corrective Action**.

DEQ staff departed at 1:30 p.m.

E-mail Correspondence after the August 5, 2020 site inspection:

August 8, 2020

Ms. Lewis provided additional information on the I&I and PER status:

"…I've contacted Reid Engineering to clarify what scope of work was discussed with Billy and Reese. Shane Reid has provided the attached proposal detailing what the Preliminary Engineering and Environmental Reports will include once we have given them the order to proceed. After reading the proposal it became clear that Inflow and Infiltration was not included in the initial assessment. I've asked Shane to expand the scope to include I & I. We have plans to regroup with our USDA representative, Cyndy Hines, to discuss including an I & I study. It has been my experience in working with the USDA that the town is able secure a greater grant to loan ratio with larger projects. I believe that it will be beneficial to the town to expand our scope of work to include the collection system infrastructure."

Ms. Lewis provided a 5-day letter:

"…On the morning of August 4, 2020 we experienced an unusual discharge which included a loss of solids that left the plant. The solid loss was a result of extremely high flows which occurred because of Tropical Storm Isaias. The storm dropped 4+ inches of rain in a very short period of time. The town is aware of the inflow and infiltration issues and is currently in the preliminary stages of working with an engineer on plans to replace and upgrade infrastructure to rectify this.

The evening of August 3rd, staff member Shawn Fortune was monitoring the plant; he left at approximately 1 a.m. the morning of August 4th. At that time, the sludge blanket was 7' and the influent flow was low, around 100 gpm. According to the influent flow chart the flows held steady at 100 gpm until 6:45 a.m. at which time they increased to 1000 gpm.

Alicia Warner, lead operator, arrived at the plant at 6:50 a.m. to find solids flowing over the weir of the clarifier and through the effluent. She immediately began wasting into the digestors and drying beds # 4 and #2. She wasted 21,507 gallons. The gates on the splitter boxes were throttled down and the gate on the oxidation ditch was closed and the air was cut off to the ditches. This allowed the ditch to settle and run clear water to the clarifiers giving them a chance to settle and the solids to stop spilling. Settling agent was added to the clarifiers to aid in settling.

The extreme flow that pushed the blankets over the weirs did not begin until approximately 6:45 a.m. The spill was completely contained by 9:30 a.m. the morning of August 4th. The influent flow chart shows the flow holding steady at around 100 gpm until 6:45 a.m. at which time it jumped to approximately 1000 gpm. We were unable to use the effluent meter to determine the amount of discharge because on July 19, 2020 the meter had been found to be not working properly. The meter was in the process of being repaired and recalibrated but was not back in operation until August 7th. To best calculate the volume of the discharge, we used the influent readings during the period of high flow (6:45 a.m. to 9:30 a.m.) which totaled 111,000 gallons and subtracted the 21,507 gallons of solids that were wasted. Our best estimate of the amount discharged is approximately 89,500 gallons…"

August 27, 2020

Ms. Lewis provided an facility status update:
"I would like to keep you informed about the operations at the Wastewater Treatment Plant. We are currently working on repair and maintenance of the following items:

Oxidation Ditch: one side of the oxidation ditch is currently at the shop to address oil leak from drive and gear and chain housing.

UV lights: A contractor recently came out to evaluate our UV light sensors because one of the sensors was displaying zero intensity. He installed a digital readout that's hooked directly to the sensor on bank #1, which was showing 0 intensity. Bank #2 is currently showing intensity, but the contractor will return to install a digital read out on that bank as well as a preventive measure.

Sand Filters: Currently one filter is out of service. A manufacturer's representative took a look at the filter and recommended new airlines. We have requested a quote on 3 new lines so that we can install new lines in both filters and have an extra airline on hand. We were advised that the life expectancy of the airlines is 3 to 5 years, which ours have exceeded. We expect the replacement of the airline on the out of service filter to bring the filter back into service."

Permit #	VA0020737

EFFLUENT FIELD DATA: N/A

Flow	MGD	**Dissolved Oxygen**	mg/L	**TRC (Contact Tank)**	mg/L
pH	S.U.	**Temperature**	˚C	**TRC (Final Effluent)**	mg/L

Was a Sampling Inspection conducted? ☐Yes (See Sampling Inspection) ☑No

CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall: ☑Shore Based ☐Submerged Diffuser? ☐Yes ☑No
2. Are the outfall and supporting structures in good condition? ☑Yes ☐No ☐ Not observed
3. Final Effluent (evidence of following problems): ☐Sludge Bar ☐Grease ☐Turbid effluent ☐Visible foam ☐Unusual color ☐Oil sheen
4. Is there a visible effluent plume in the receiving stream? ☐Yes ☑No
5. Receiving stream: ☑No observed problems ☐Indication of problems (explain below)

Comments:

REQUEST for CORRECTIVE ACTION:

1. **As stated in Permit Number VA0020737, Part II.Q. Proper Operation and Maintenance. "The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit."**

   During the inspection the following observations were made:
   - UV Bank 1A was not in operation. The screen indicated "MJ*Module Err";
   - Ashing was observed on the clarifier surface;
   - The sludge judge for the clarifier was broken;
   - One out of the three available sand filters was operational; and
   - The final effluent flow meter was not operating properly (giving erratic readings).

   The permittee shall furnish to DEQ-NRO within thirty days of the date of this inspection report an explanation and timeframe as to how and when the facility plans to address these items.

NOTES and COMMENTS:

On August 3, 2020, the last entry in the logbook was "5:00 Lock up". Mr. Deavers said the Mr. Fortune was onsite until 1:00 p.m. August 4, 2020 making process adjustments in preparation for the anticipated high flow event.
DEQ staff recommends denoting process adjustments in the logbook in preparation for anticipated high flow events and the time that the last operator leaves the facility for the day.

The final effluent flow meter is not properly operating (giving erratic readings). Operations staff are using the influent flow meter to report final effluent flow.
DEQ staff requires the final effluent flow meter to be calibrated annual. DEQ recommends calibrating the influent flow meter annually as well if the influent flow meter will be used as a "back-up" to the effluent flow meter.

1) Oxidation Ditch

2) Clarifiers

3) Ashing on Clarifier Surface

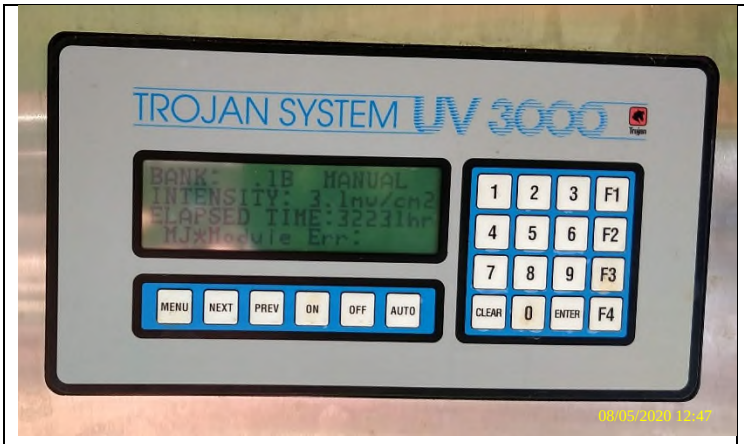
4) Ashing on Clarifier Surface

5) Sand Filter wet well – Grease balls along the wall

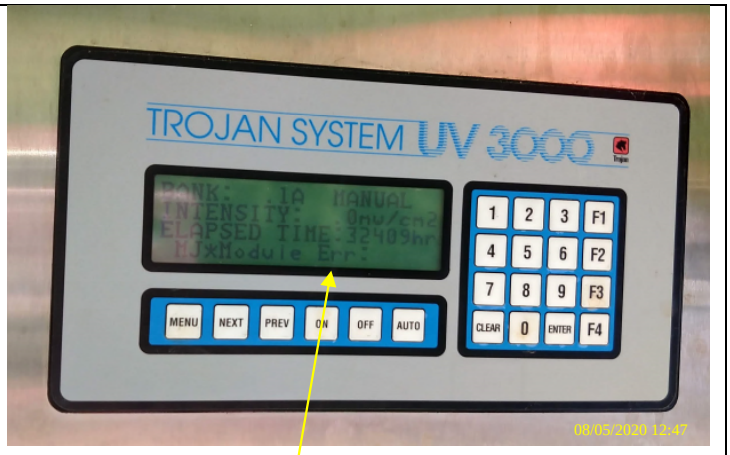
6) Sand filter

7) Rising solids in sand filter

8) Rising solids in sand filter



9) UV Bank 1B Screen

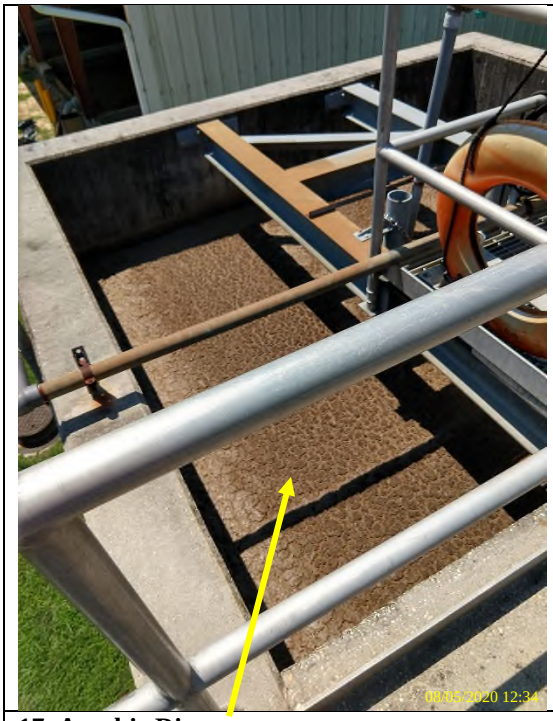


10) UV Bank 1A "Error reading"

11) Final effluent sample collection point

12) Outfall 001

	
13) Receiving Stream **(Yellow arrow indicates direction of flow)**	**14) Receiving Stream** **(Yellow arrow indicates direction of flow)**
	
15. Downstream of Outfall 001 **(Yellow arrow indicates direction of flow)**	**16. Aerobic Digester**

	
17. Aerobic Digester	**18. Drying Beds**

COMMONWEALTH of VIRGINIA

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Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

November 17, 2020

WARNING LETTER

Melissa Lewis
Acting Town Manager
Town of Bowling Green
P.O. Box 468
Bowling Green, VA 22427

RE: WL No. W2020-11-N-1011
Town of Bowling Green WWTP
VA0020737
Caroline County
VIA EMAIL: towntreasurer@townofbowlinggreen.com

Dear Ms. Lewis;

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that the Town of Bowling Green may be in violation of State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9VAC25-31 *et seq.* at the Town of Bowling Green - Wastewater Treatment Plant (WWTP) facility.

This letter addresses conditions at the facility named above, and also recites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq*.

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observations*: During the inspection conducted on August 5, 2020, DEQ staff observed the following:
    - One of out the two ultraviolet banks was operational. UV Bank 1A was not operational. The screen indicated "MJ*Module Err";
    - Ashing was observed on the clarifier surface;
    - The sludge judge for the clarifier was broken;
    - One out of the three available sand filters was operational; and
    - The final effluent flow meter was not operating properly (giving erratic readings).

***Legal Requirement* Part II. Q. "Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit."**

***This facility had 1.0 point in the Compliance Auditing System at the end of September 2020.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to $32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to $100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose a civil penalty. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

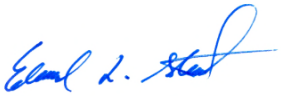
FUTURE ACTIONS

After reviewing this letter, please respond in writing to DEQ **within 30 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to formalize a plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ's Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No. 8-2005 posted on the Department's website under "Programs," "Enforcement," and "Laws, Regulations, & Guidance" (http://www.deq.virginia.gov/Programs/Enforcement/Laws,Regulations,Guidance.aspx) or ask the DEQ contact below.

Please direct written materials electronically, via E-mail, regarding this matter to Rebecca Johnson. DEQ recommends sending electronic responses as an Acrobat PDF or in a Word-compatible, write-protected format. If you have questions or wish to arrange a meeting, please contact Rebecca Johnson at (703) 583-3854 or by e-mail at Rebecca.Johnson@deq.virginia.gov

Sincerely,



Edward L. Stuart
Regional Water Compliance Manager

cc via electronic copy:
ECM; Compliance Manager; and Compliance Auditor – DEQ

Appendix D – Sewer Rates

Town of Bowling Green WWTP Improvements PER

TAX AND UTILITY RATES FOR THE FISCAL YEAR BEGINNING JULY 1, 2020 AND ENDING JUNE 30, 2021

ORDINANCE NUMBER O-2020-002 to set Tax and utility rates for the fiscal year beginning July 1, 2020 and ending June 30, 2020.

BE IT ORDAINED by the Bowling Green Town Council, at its regular monthly meeting on the 25th day of June 2020 that the Bowling Green Town Council sets the tax and utility rates as follows:

Tax Rates

Real Estate	$0.13/$100
Personal Property	$0.72/$100
Mobile Homes	$0.10/$100
Machinery/Tools	$0.72/$100
Route 301 Tax District	$0.92/$100
Vehicle License Tax	$30 for cars and light trucks
Vehicle License Tax	$25 for motorcycles

Residential and Commercial Bi-Monthly Water/Sewer Rate

Current Bi-Monthy Water & Sewer Rates									Proposed Bi-Monthy Water & Sewer Rates								
RESIDENTIAL			COMMERCIAL			COMMERCIAL			RESIDENTIAL			COMMERCIAL			COMMERCIAL		
In-Town			In-Town			Out -of-Town			In-Town			In-Town			Out -of-Town		
Gallons	Water	Sewer	Gallons	Water	Sewer	Gallons	Water	Sewer	Gallons	Water	Sewer	Gallons	Water	Sewer	Gallons	Water	Sewer
0-5,000	$36.47	$86.53	0-5,000	$36.47	$93.48	0-5,000	$72.94	$112.38	0-5,000	$40.12	$86.53	0-5,000	$40.12	$93.48	0-5,000	$80.23	$112.38
5,001-10,000	$1.85	$4.39	5,001-10,000	$2.04	$5.21	5,001-10,000	$4.07	$6.26	5,001-10,000	$2.04	$4.39	5,001-10,000	$2.24	$5.21	5,001-10,000	$4.48	$6.26
10,001-20,000	$1.95	$4.62	10,001-20,000	$2.10	$5.40	10,001-20,000	$4.21	$6.49	10,001-20,000	$2.15	$4.62	10,001-20,000	$2.31	$5.40	10,001-20,000	$4.63	$6.49
20,010-30,000	$2.04	$4.82	20,001-30,000	$2.18	$5.58	20,001-30,000	$4.35	$6.71	20,010-30,000	$2.24	$4.82	20,001-30,000	$2.40	$5.58	20,001-30,000	$4.79	$6.71
30,001 & Up	$2.10	$5.00	30,001-40,000	$2.28	$5.83	30,001-40,000	$4.54	$7.01	30,001 & Up	$2.31	$5.00	30,001-40,000	$2.51	$5.83	30,001-40,000	$4.99	$7.01
Out-of-Town			40,001-50,000	$2.34	$6.02	40,001-50,000	$4.72	$7.23	Out-of-Town			40,001-50,000	$2.57	$6.02	40,001-50,000	$5.19	$7.23
Gallons	Water	Sewer	50,001-100,000	$2.43	$6.24	50,001-100,000	$4.84	$7.50	Gallons	Water	Sewer	50,001-100,000	$2.67	$6.24	50,001-100,000	$5.32	$7.50
0-5,000	$72.94	$97.80	100,001 & Up	$2.50	$6.39	100,001 & Up	$4.99	$7.68	0-5,000	$80.23	$97.80	100,001 & Up	$2.75	$6.39	100,001 & Up	$5.49	$7.68
5,001-10,000	$3.71	$4.96							5,001-10,000	$4.08	$4.96						
10,001-20,000	$3.89	$5.22							10,001-20,000	$4.28	$5.22						
20,010-30,000	$4.07	$5.45							20,010-30,000	$4.48	$5.45						
30,001 & Up	$4.21	$5.65							30,001 & Up	$4.63	$5.65						

Solid Waste Collection Bi-Monthly Rate Schedule

Residential Rates: $32.56

Commercial Rates: $25.72 bimonthly/per cubic yard

Appendix E – Project Planning Factors

Town of Bowling Green WWTP Improvements PER

APPENDIX E - PROJECT PLANNING FACTOR
SCENARIO 1

INCOME:		Estimated	
Sewer	Annual Charges	Number of Connections	Net Consumption
Sewer Charges			
Residential In-Town	$ 266,987.00	368	16506446
Residential Out-Of-Town	$ 76,934.00	110	4403025
Commercial In-Town	$ 123,514.00	80	12045504
Commercial Out-OF-Town	$ 794.00	1	36237
County Bulk	$ 14,623.00	3	974764
Connection Fees	$ 1,500		
Offset From Town General Fund	$ 260,000		
SEWER INCOME	**$ 744,352**		

EXPENSES:	Estimated		
Sewer System Operation			
Personnel Services	$ 129,303		
Fringe Benefits	$ 71,560		
Other Operating Expenses	$ 243,500		
Total Operating Costs (includes Insurance)	$ 444,363		
Short Lived Asset Recovery	$ 10,000		
SEWER EXPENSES	**$ 454,363**		
		Monthly Payment	
Sewer Debt Service			
Existing	$ 88,881		
New			
- USDA RD New Bond	$ 181,246	$15,103.86	
- Debt Reserve (10%)	$ 18,125		
Total Debt Payment	$ 288,252		
TOTAL EXPENSES (SEWER + DEBT)	**$ 742,615**		
	$ 1,737	**Annual Income (Annual Deficit)**	
	$ 145	**Monthly Income (Monthly Deficit)**	

Loan Assumptions:	
Total project cost	$ 15,902,900
Assumed Percentage Grant Funding	30.00%
USDA Grant Funding	$ 4,700,000
Other Funding	$ 5,500,000
USDA-RD Loan	$ 5,702,900
Interest Rate	1.25%
Loan Term (years)	40

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
MONTHLY REPORT / PROJECT UPDATE

AGENDA ITEM: Police Departments Monthly Report October 2021

DATE: 10/29/2021

PREPARED BY: Chief Justin Cecil Sr.

MONTHLY REPORT / PROJECT UPDATE:

Police Activity for October 2021

41 Total calls for service

70 Summons / Parking tickets

1 Burglary

1 Drug related

65 Park walk and talks

21 Assist other agencies

55 Property checks/ Vacation checks/ Business Checks

2 Warrant Services/ Arrests

0 Domestic / Assault

2 Motor Vehicle Accidents

1 Juvenile Offenders

5 Alarms

0 Animal control

ATTACHMENTS:
None

HEADS UP ITEMS:

In contact with VDOT on traffic controls and visibility of speed limit signs in town. Reflective tape has been added to speed limit signs by VDOT.

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
MONTHLY REPORT / PROJECT UPDATE

AGENDA ITEM: Community & Economic Dev.; Council Monthly Report for September 2021

DATE: 10/28/21

PREPARED BY: Jo-Elsa Jordan

MONTHLY REPORT / PROJECT UPDATE:

Economic Development Authority:

- Coordinating with George Washington Regional Commission and Caroline County Economic Development office for supporting statistics/data for marketing piece (i.e. labor force, fiberoptic capabilities, utilities, tax rates, etc.)
- Update EDA board on Town Council's plan for ARPA funding.
- Site visit to billboard locations for photos as needed for estimate to re-face; See estimate from Sign Enterprise attached.
- Provide the Berkley Group with list of businesses for market study.
- Connect with new property owner for Caroline Square; set up meeting.
- Create agenda and packet for 10/25/21 meeting; distribute and publish
- Attend EDA meeting 10/25/21; record meeting minutes

Harvest Festival:

- Facebook/Instagram promotion/paid ads
- Review/Approve vendor applications
- Update Vendor Spreadsheet
- Coordinate with Town Clerk to process vendor payment
- Finalize event layout
- Finalize vendor assignments
- Print/mail vendor assignments, event information and meals tax forms
- Coordinate with the VDH for compliance with all participating food vendors
- Volunteer recruitment (Vendor check-in, Beer Garden, floaters)
- Finalize volunteer assignments
- Pre-event meeting with Caroline County first responders, CCSO, volunteers and Public Works
- Accept donation from MC Dean of 10 safety vests
- Coordinate for use of a power source from Caroline Square property owner for Car Show
- Coordinate with Bowling Green Suites property owner for placement of

entertainment stage and Beer Garden.

- Secure sponsorship banner for entertainment stage
- Coordinate trophy pick-up
- Creating/printing profile cards for Car Show and Motorcycle Show.
- Coordinate with Town Treasure for cash banks as needed for the Beer Garden, Car Show and Bike Show
- Coordinate with port-o-pottie vendor on delivery and placement
- Coordinate with volunteer for set up of McKesson pumpkin decorating station
- Directional signage pick-up and placement
- Coordinate with Public Works for securing Car Show area, Beer Garden area, street closures and "No Parking" signage
- Coordinate with Town Treasurer/Clerk for check requests needed on event day
- Provide entertainers with information on access, loading, unloading, set times, etc.
- Accept stage delivery/placement
- Coordinate installation of sponsorship banners on entertainment stage
- Measuring/marking Main Street
- Locating food vendors night before event
- Provide notes for event Emcee
- Vendor check-in
- Coordinate use of a beer truck for event day
- Accept beer delivery
- Meet each vendor and gauge vendor satisfaction
- Coordinate with BGPD vendor exit/opening streets
- Misc. troubleshooting
- Event clean up (collection of directional signage, etc.)
- Development of After-Action Report for Town Council's review at November meeting
- Provide Town Council with event expenditures/revenues report. *See attached

Christmas Parade of Lights:

- Create 2021 registration form and publish on website
- Coordinate with graphic designer for marketing
- Accept registration forms and add to master spreadsheet
- HEADS UP; Need decision from Town Council on Santa

Planning Commission:

- Follow up with VCU for Planning Commissioners class material.
- Per direction from TM; Meet with Gibson's ice cream to understand plans for expansion and to understand zoning questions for the Zoning Administrator (TM); Prepare email to TM summarizing the meeting and outlining questions; Request meeting with TM and Gibson's for 11/3/21.
- Per direction from TM; Follow up with realtor on zoning question regarding a

pre-existing/nonconforming use at 215 Milford Street; Research zoning code and provide an interpretation of code.
- Follow up with food truck owner requesting set-up on private property in town; Send email to TM asking for guidance.
- Coordinate meeting with PC Chair to understand priorities for the Commission.

Community Relations:
- Judge for door-decorating contest at school board office.
- Facilitate Zoom meeting on 10/22/21 with Mayor, Town Manager, CCPS Senior team and Old Mansion to discuss holiday tree project.
- Field calls/emails for Tinsel Town vendors and forward to event organizers.

Misc.
- Prepare document for Town Hall rental rates and provide to the TM.
- Prepare verbiage for emails to be sent to applicants for the Town Manager position.
- Coordinate with Director of Public Works & Utilities to understand details of water meter project.
- Continued updates on water meter project via Facebook and town website.
- Inquiry into copyright/public performance license needed for live music events.
- Field emails/calls about renting Town Hall for private functions.
- General social media posts.
- Attend weekly staff meetings
- Prepare time-sheet

ITEM	COST
Pumpkins	600
Sponsor Banner	112
Oriental Trading	225
Entertainment	4600
Beer Order	866
DJ (Car Show)	300
Car Show Give-Away	56.55
Beer Truck	300
Tractor Show	422.15
Radio Advertising	1650
Bathrooms	1200
Dumpsters	2700
Hay Bales	140
Security	2208
VDOT Permit	100
Petting Zoo	500
Trophies	910
Clean Up	500
Graphic Design	250
Front Porch	900
HF Banner	148
Facebook Advertising	250
Main Stage	2400
Misc.	40
TOTAL	**21,379**
UNDER BUDGET	**2,121**
REVENUES	
Vendor Fees	11,120
Sponsors	7,000
BG/CS/MS	3182
Meals Tas (10/28/21)	370
TOTAL	**21,672.70**
NET REVENUE	**293.7**

Sign Enterprise - Corporate HQ
1317 Alum Spring Road, Fredericksburg, Virginia, 22401
paul@signenterprise.com
(540) 899-9555
Fax : (540) 899-9554

http://www.signenterprise.com

Quote 17603

Billboard Face Replacements

SALES REP INFO
Jonathan Dabney
Senior VP, Corporate & Retail Accounts
jonathan@signenterprise.com
804-543-5513

QUOTE DATE
10/22/2021

QUOTE EXPIRY DATE
10/27/2021

TERMS
50/50

ORDERED BY
Town of Bowling Green
117 Butler Street
Bowling Green, VA, 22427, United States

CONTACT INFO
Jo-Elsa Jordan
EDAcoordinator@townofbowlinggreen.com
+1 804-516-5045

About this Quote:

#	ITEM	QTY	UOM	U.PRICE	TOTAL (EXCL. TAX)
1	**Face Replacement** New ACM panels at 10' H x 20' W with applied vinyl graphics to mount over existing billboard faces	2	Each	$3,750.00	$7,500.00
2	**Labor** Survey + installation new ACM faces onto two (2) existing billboards	1	Each	$3,200.00	$3,200.00

50% required upon signed approval. Remaining 50% required upon installation, completion, and/or delivery. Thank you for considering our excellent work provided by Sign Enterprise. All electrical signs will be manufactured to UL 48 standards. All signs will be listed and labeled with Underwriters Laboratories (UL), which is required by state law. All signs come with a 1 Year Parts and Labor Warranty. All LED's and power supplies come with a 5 Year Manufacturer's Warranty. All signs and designs remain the property of Sign Enterprise until paid in full! Customer approval signature required. Sign Enterprise assumes area is free and clear of obstructions and electrical is hooked up prior to installation. If electrical is not hooked up at time of installation, additional charges will be incurred on an hourly basis with the minimum return charge of $500. Electrical must be supplied within 4 feet of illuminated signs and pole signs must have cutoff switch--provided by customer. Customer approval signature required.

Subtotal:	**$10,700.00**
Sales Tax (5.3%):	**$397.50**
Total:	**$11,097.50**

Downpayment (50.0 %)	**$5,548.75**

SIGNATURE: **DATE:**

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
MONTHLY REPORT / PROJECT UPDATE

AGENDA ITEM: Town Clerk/Treasurer Council Monthly Report
October 2021

DATE: November 04, 2021

PREPARED BY: Tracy Wright

MONTHLY REPORT / PROJECT UPDATE:

- Notified candidates that applied, the Town Manager position had been filled.
- Attended Monthly Meeting for Water/Meter Project.
- Attended Project-Update Utility Meeting (Bi-weekly).
- Attended Weekly Staff Meetings
- Completed monthly payrolls/taxes.
- Completed monthly accounts payable.
- Completed daily register reconciliation.
- Completed daily banking/cc payment processing- supervisor approval.
- Attended Zoom meeting with the Town Manager and Judson Van Dervort,,Jr. with Keystone Information Systems to review approved software package.
- Process required information for VRSA Workers' Compensation Policy Audit.
- Completed Utility cut-offs for bills due October 01, 2021.
- Processed handheld for Public Works for September/October meter reads.

ATTACHMENTS:

- Monthly Town Hall Rental Report – October 2021
- Delinquent Tax Report – Current Report
- YTD Budget Report – Current Report

HEADS UP ITEMS: NONE

DEPT	HALF	CLASS	OTHER CHARGES	TAXES	PENALTY PAID	INT. PAID	PAYMENTS	ADJUSTMENTS	BALANCE DUE	COUNT
PP2017	1	PP	.00	3,190.98	5.72	1.58	1,442.57-	.00	1,748.41	111
	1	VL	.00	2,429.00	.00	.00	184.33-	.00	2,244.67	98
	HALF TOTALS =		.00	5,619.98	5.72	1.58	1,626.90-	.00	3,993.08	209
	DEPT# TOTALS =		.00	5,619.98	5.72	1.58	1,626.90-	.00	3,993.08	209
PP2018	1	MC	.00	.00	.00	.00	.00	.00	.00	0
	1	PP	.00	6,817.17	22.75	53.14	3,127.31-	.00	3,689.86	190
	1	VL	.00	5,525.00	.00	.00	472.81-	.00	5,052.19	185
	HALF TOTALS =		.00	12,342.17	22.75	53.14	3,600.12-	.00	8,742.05	375
	DEPT# TOTALS =		.00	12,342.17	22.75	53.14	3,600.12-	.00	8,742.05	375
PP2019	1	PP	.00	10,755.61	35.00	4.36	4,463.69-	.00	6,291.92	250
	1	VL	.00	6,475.00	.00	.00	.00	.00	6,475.00	217
	HALF TOTALS =		.00	17,230.61	35.00	4.36	4,463.69-	.00	12,766.92	467
	DEPT# TOTALS =		.00	17,230.61	35.00	4.36	4,463.69-	.00	12,766.92	467
PP2020	1		.00	.00	.00	.00	.00	.00	.00	0
	1	PP	.00	12,187.76	30.40	1.61	5,257.78-	.00	6,929.98	314
	1	VL	.00	8,005.00	.00	.00	126.78-	.00	7,878.22	268
	HALF TOTALS =		.00	20,192.76	30.40	1.61	5,384.56-	.00	14,808.20	582
	DEPT# TOTALS =		.00	20,192.76	30.40	1.61	5,384.56-	.00	14,808.20	582
PP	TOTALS =		.00	55,385.52	93.87	60.69	15,075.27-	.00	40,310.25	1633
	COMPANY TOTALS =		.00	55,385.52	93.87	60.69	15,075.27-	.00	40,310.25	1633

	DEPT ADJUSTMENTS	PPTRA CREDIT ADJUSTED TOTAL
DEPT. TOTALS	.00	.00 .00

DEPT	HALF	CLASS	OTHER CHARGES	TAXES	PENALTY PAID	INT. PAID	PAYMENTS	ADJUSTMENTS	BALANCE DUE	COUNT
RE2000	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2001	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2002	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2003	1		.00	59.08	.00	.00	.00	.00	59.08	1
	HALF TOTALS =		.00	59.08	.00	.00	.00	.00	59.08	1
	DEPT# TOTALS =		.00	59.08	.00	.00	.00	.00	59.08	1
RE2004	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2005	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2006	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2007	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2008	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2009	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2010	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0

DEPT	HALF	CLASS	OTHER CHARGES	TAXES	PENALTY PAID	INT. PAID	PAYMENTS	ADJUSTMENTS	BALANCE DUE	COUNT
RE2011	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2012	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2013	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2014	1		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
RE2015	1		.00	22.20	6.78	.18	14.64-	.00	7.56	2
	HALF TOTALS =		.00	22.20	6.78	.18	14.64-	.00	7.56	2
	2		.00	.00	.00	.00	.00	.00	.00	0
	HALF TOTALS =		.00	.00	.00	.00	.00	.00	.00	0
	DEPT# TOTALS =		.00	22.20	6.78	.18	14.64-	.00	7.56	2
RE2016	1		.00	.65	.00	.00	.00	.00	.65	1
	HALF TOTALS =		.00	.65	.00	.00	.00	.00	.65	1
	DEPT# TOTALS =		.00	.65	.00	.00	.00	.00	.65	1
RE2017	1		.00	.65	.00	.00	.00	.00	.65	1
	HALF TOTALS =		.00	.65	.00	.00	.00	.00	.65	1
	DEPT# TOTALS =		.00	.65	.00	.00	.00	.00	.65	1
RE2018	1		.00	838.63	83.67	156.07	978.99-	.00	140.36-	4
	HALF TOTALS =		.00	838.63	83.67	156.07	978.99-	.00	140.36-	4
	DEPT# TOTALS =		.00	838.63	83.67	156.07	978.99-	.00	140.36-	4
RE2019	1		.00	855.79	.23	.38	2.33-	.00	853.46	7
	HALF TOTALS =		.00	855.79	.23	.38	2.33-	.00	853.46	7
	DEPT# TOTALS =		.00	855.79	.23	.38	2.33-	.00	853.46	7
RE2020	1		.00	6,349.45	70.43	16.19	1,220.83-	.00	5,128.62	36
	HALF TOTALS =		.00	6,349.45	70.43	16.19	1,220.83-	.00	5,128.62	36
	DEPT# TOTALS =		.00	6,349.45	70.43	16.19	1,220.83-	.00	5,128.62	36
RE		TOTALS =	.00	8,126.45	161.11	172.82	2,216.79-	.00	5,909.66	52
	COMPANY TOTALS =		.00	8,126.45	161.11	172.82	2,216.79-	.00	5,909.66	52

DEPT	HALF	CLASS	OTHER CHARGES	TAXES	PENALTY PAID	INT. PAID	PAYMENTS	ADJUSTMENTS	BALANCE DUE	COUNT
TD2011	1	01	.00	.00	.00	.00	.00	.00	.00	0
HALF TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
DEPT# TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
TD2012	1	01	.00	.00	.00	.00	.00	.00	.00	0
HALF TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
DEPT# TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
TD2013	1	01	.00	.00	.00	.00	.00	.00	.00	0
HALF TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
DEPT# TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
TD2014	1	01	.00	.00	.00	.00	.00	.00	.00	0
HALF TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
DEPT# TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
TD2015	1	01	.00	.00	.00	.00	.00	.00	.00	0
HALF TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
DEPT# TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
TD2016	1	01	.00	.00	.00	.00	.00	.00	.00	0
HALF TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
DEPT# TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
TD2017	1	01	.00	.00	.00	.00	.00	.00	.00	0
HALF TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
DEPT# TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
TD2018	1	01	.00	.00	.00	.00	.00	.00	.00	0
HALF TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
DEPT# TOTALS =			.00	.00	.00	.00	.00	.00	.00	0
TD2019	1	01	.00	1,960.26	28.46	31.31	299.53-	.00	1,660.73	3
HALF TOTALS =			.00	1,960.26	28.46	31.31	299.53-	.00	1,660.73	3
DEPT# TOTALS =			.00	1,960.26	28.46	31.31	299.53-	.00	1,660.73	3
TD2020	1	01	.00	5,152.00	.00	.00	.00	.00	5,152.00	4
HALF TOTALS =			.00	5,152.00	.00	.00	.00	.00	5,152.00	4
DEPT# TOTALS =			.00	5,152.00	.00	.00	.00	.00	5,152.00	4
TD TOTALS =			.00	7,112.26	28.46	31.31	299.53-	.00	6,812.73	7
COMPANY TOTALS =			.00	7,112.26	28.46	31.31	299.53-	.00	6,812.73	7

DEPT	ADJUSTMENTS	PPTRA CREDIT ADJUSTED TOTAL

TOWN HALL RENTALS

October

#USES	NAME OF USER	ACTIVITY	FEES
9	Town Hall Activities	Class	$ 210.00
3	Water Meter Replacement	Meeting	N/C
1	Town Council Meeting	Meeting	N/C
1	Policy & Personnel	Meeting	N/C
1	Utilities & Streets	Meeting	N/C
1	Planning Commission	Meeting	N/C
1	EDA Meeting	Meeting	N/C
1	Bowling Green Volunteer FD	Dinner	$ 250.00
1	Private Party	Birthday Party	$ 175.00
19		Totals	$ 635.00

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ACCT#	DESCRIPTION	BUDGET AMOUNT	APPR. AMOUNT	CURRENT AMOUNT	Y-T-D AMOUNT	BALANCE	% UNCOLLECTED
FUND #-100	***GENERAL FUND REVENUE***						
11010	***REAL ESTATE**	140,500.00	140,500.00	5,108.22	5,108.22	135,391.78	96.36
11011	***RT 301 SPECIAL TAX DISTRICT***	34,269.00	34,269.00	.00	.00	34,269.00	100.00
11020	***PUBLIC SERVICE***	3,500.00	3,500.00	.00	.00	3,500.00	100.00
11030	***PERSONAL PROPERTY***	45,500.00	45,500.00	339.26	339.26	45,160.74	99.25
11060	***PENALTY & INTEREST***	5,000.00	5,000.00	556.84	556.84	4,443.16	88.86
15010	INTEREST EARNED	5,000.00	5,000.00	488.27	488.27	4,511.73	90.23
16099	***REFUSE COLLECTION FEES***	85,729.00	85,729.00	15,576.26	15,576.26	70,152.74	81.83
120101	SALES TAX	40,000.00	40,000.00	10,172.77	10,172.77	29,827.23	74.56
120201	CONSUMER UTILITY TAX	30,000.00	30,000.00	10,615.39	10,615.39	19,384.61	64.61
120301	BUSINESS LICENSE	68,000.00	68,000.00	11,344.14	11,344.14	56,655.86	83.31
120501	VEHICLE LICENSE FEES	20,000.00	20,000.00	440.89	440.89	19,559.11	97.79
120601	BANK STOCK TAX	250,000.00	250,000.00	.00	.00	250,000.00	100.00
121001	TRANSIENT OCCUPANCY TAX	2,000.00	2,000.00	1,864.98	1,864.98	135.02	6.75
121101	MEALS TAX	235,000.00	235,000.00	100,633.33	100,633.33	134,366.67	57.17
130306	***PERMITS, FEES AND LICENSES***	3,200.00	3,200.00	2,082.50	2,082.50	1,117.50	34.92
140101	***FINES AND FORFEITURES***	20,800.00	20,800.00	10,079.43	10,079.43	10,720.57	51.54
150201	***RENTALS***	11,300.00	11,300.00	9,219.08	9,219.08	2,080.92	18.41
220108	ROLLING STOCK TAX	.00	.00	2.43	2.43	2.43-	100.00-
220109	VA 599 POLICE FUNDING	24,500.00	24,500.00	6,369.00	6,369.00	18,131.00	74.00
220110	PPTRA REIMBURSEMENT-STATE	21,900.00	21,900.00	21,907.50	21,907.50	7.50-	.03-
220111	COMMUNICATIONS TAX	31,500.00	31,500.00	9,651.79	9,651.79	21,848.21	69.35
240407	***GRANTS***	800.00	800.00	.00	.00	800.00	100.00
240412	VIRGINIA FIRE PROGRAMS	15,000.00	15,000.00	.00	.00	15,000.00	100.00
410502	TRANSFERS IN	415,256.00	415,256.00	.00	.00	415,256.00	100.00
999999	MISCELLANEOUS	.00	.00	288.00	288.00	288.00-	100.00-
	--FUND TOTAL--	1,508,754.00	1,508,754.00	216,740.08	216,740.08	1,292,013.92	85.63
FUND #-320	***ECONOMIC DEVELOPMENT AUTH***						
18990	DONATIONS	10,000.00	10,000.00	.00	.00	10,000.00	100.00
	--FUND TOTAL--	10,000.00	10,000.00	.00	.00	10,000.00	100.00
FUND #-400	***EVENTS AND ACTIVITIES FUND***						
19050	EVENTS AND ACTIVITIES	500.00	24,000.00	20,527.78	20,527.78	3,472.22	14.46
410501	USE OF FUND BALANCE	12,950.00	12,950.00	.00	.00	12,950.00	100.00
	--FUND TOTAL--	13,450.00	36,950.00	20,527.78	20,527.78	16,422.22	44.44
FUND #-500	***WATER REVENUE***						
16099	***WATER REVENUE***	2,310,300.00	2,310,300.00	230,061.62	230,061.62	2,080,238.38	90.04
410501	***SAVINGS TRANSFER***	71,204.00	71,204.00	.00	.00	71,204.00	100.00
	--FUND TOTAL--	2,381,504.00	2,381,504.00	230,061.62	230,061.62	2,151,442.38	90.33

ACCT#	DESCRIPTION	BUDGET AMOUNT	APPR. AMOUNT	CURRENT AMOUNT	Y-T-D AMOUNT		BALANCE	% UNCOLLECTED
FUND #-520 ** SEWER OPERATIONS **								
16099	SEWER SALES	642,000.00	642,000.00	143,246.06	143,246.06		498,753.94	77.68
410501	USE OF FUND BALANCE SEWER	107,255.00	107,255.00	.00	.00		107,255.00	100.00
	--FUND TOTAL--	749,255.00	749,255.00	143,246.06	143,246.06		606,008.94	80.88
	--FINAL TOTAL--	4,662,963.00	4,686,463.00	610,575.54	610,575.54		4,075,887.46	86.97

ACCT#	DESCRIPTION	BUDGET AMOUNT	APPR. AMOUNT	CURRENT AMOUNT	Y-T-D AMOUNT	ENCUMBRANCE AMOUNT	UNENCUMBERED BALANCE	% REMAINING
FUND #-100	***GENERAL FUND EXPENDITURES***							
12110	**COUNCIL AND ADMINSTRATOR EXPENSE	285,984.00	285,984.00	89,219.09	89,219.09	.00	196,764.91	68.80
12410	***TREASURER'S EXPENSES***	213,094.00	213,094.00	78,360.10	78,360.10	.00	134,733.90	63.22
31100	***POLICE DEPT. EXPENSES***	187,108.00	187,108.00	54,577.11	54,577.11	.00	132,530.89	70.83
31200	***POLICE DEPT RESTRICTED FUNDS***	1,000.00	1,000.00	2,970.29	2,970.29	.00	1,970.29-	197.02-
32000	***DONATIONS***	17,000.00	17,000.00	.00	.00	.00	17,000.00	100.00
43100	***PUBLIC WORKS***	348,867.00	348,867.00	89,924.42	89,924.42	.00	258,942.58	74.22
410501	***TRANSFERS OUT***	34,270.00	34,270.00	.00	.00	.00	34,270.00	100.00
	--FUND TOTAL--	1,087,323.00	1,087,323.00	315,051.01	315,051.01	.00	772,271.99	71.02
FUND #-300	***CIP EXPENDITURES***							
300100	***CAPITAL PROJECTS FUND(GF)***	.00	.00	30,484.80	30,484.80	.00	30,484.80-	100.00-
	--FUND TOTAL--	.00	.00	30,484.80	30,484.80	.00	30,484.80-	100.00-
FUND #-320	***ECONOMIC DEV AUTH EXPENSES***							
32100	EDA LOANS AND GRANTS	10,000.00	10,000.00	.00	.00	.00	10,000.00	100.00
	--FUND TOTAL--	10,000.00	10,000.00	.00	.00	.00	10,000.00	100.00
FUND #-400	***EVENTS AND ACTIVITIES***							
71200	EVENTS COORDINATOR	13,450.00	36,950.00	19,371.09	19,371.09	.00	17,578.91	47.57
	--FUND TOTAL--	13,450.00	36,950.00	19,371.09	19,371.09	.00	17,578.91	47.57
FUND #-500	***WATER EXPENDITURES***							
500100	***WATER OPERATIONS***	681,504.00	681,504.00	132,536.96	132,536.96	.00	548,967.04	80.55
500500	***WATER CIP***	1,700,000.00	1,700,000.00	80,510.26	80,510.26	.00	1,619,489.74	95.26
	--FUND TOTAL--	2,381,504.00	2,381,504.00	213,047.22	213,047.22	.00	2,168,456.78	91.05
FUND #-520	***SEWER OPERATIONS***							
500100	***SEWER OPERATIONS***	749,256.00	749,256.00	153,684.17	153,684.17	.00	595,571.83	79.48
	--FUND TOTAL--	749,256.00	749,256.00	153,684.17	153,684.17	.00	595,571.83	79.48
	--FINAL TOTAL--	4,241,533.00	4,265,033.00	731,638.29	731,638.29	.00	3,533,394.71	82.84

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
MONTHLY REPORT / PROJECT UPDATE

AGENDA ITEM: Town Manager Monthly Report - October 2021

DATE: November 4, 2021

PREPARED BY: Allyson Finchum

MONTHLY REPORT / PROJECT UPDATE:

- Staff for October 18th Planning Commission Meeting – Preparation of legal ad, packets, facility set up, adjacent property mailings, meetings, inquiries from citizens/developer/Commissioners/others
- Review of Site Plan for ZP 2021-013 Village Self-Storage on Route 301
- Review of ZP 2021-020 Residential Rezoning on Route 301 (Fairmont)
- Staff Preparation of "Harvest Festival" Event
- Preparation of October 7th Town Council Agenda
- Review Zoning Permits
- Assistance with Planning and Zoning Inquiries
- Keystone Software Implementation
- Review of ARPA Funds
- Review of Safety/Security Proposal for Town Hall

Meetings/Training attended:

- October 7th Town Council Meeting
- October 18th Planning Commission Meeting
- Economic Development Authority
- Weekly Staff Meetings
- Meetings on various topics with:
- Developers/Citizens
- Caroline County/Commissioner of the Revenue/State Governmental Agencies
- Planning Commissioners
- Town Council Members
- Specific Topics:
- Town Hall Rental Rates
- Water Meter Project
- Rappahannock River Project
- Keystone Software
- Fairmont Rezoning
- Water and Sewer Plan

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
AGENDA ITEM REPORT

AGENDA ITEM: Minutes – October 7, 2021 Town Council Work Session

ITEM TYPE: Consent Agenda

PURPOSE OF ITEM: Decision - By Motion

PRESENTER: Tracy Wright, towntreasurer@townofbowlinggreen.com

PHONE: (804) 633-6212

BACKGROUND / SUMMARY:
Minutes transcribed from the October 7, 2021 Town Council Work Session

ATTACHMENTS:
Minutes from the October 7, 2021 Town Council Work Session

REQUESTED ACTION:
Approve Minutes.

TOWN OF BOWLING GREEN
TOWN COUNCIL WORK SESSION

M I N U T E S

Thursday, October 07, 2021
5:00 PM

CALL TO ORDER AND QUORUM ESTABLISHED:

The Mayor called the meeting to order and noted a quorum was present.

PRESENT:
Mayor Mark Gaines
Vice-Mayor Valarie Coyle
Council Member Tammie Gaines
Council Member Deborah Howard
Council Member Jerry Covington
Council Member Jeff Voit
Council Member Arthur Wholey

BUSINESS:

Keystone Software

Presenter - Judson B. Van Dervort, Jr., Keystone Information Systems.

Keystone Software

Town Council held a Work Session on October 7, 2021 to discuss a Keystone Software Proposal for Governmental Operations. Mr. Judson B. Van Dervort, Jr. was invited to speak and provided council with an itemized proposal of the software package for their review.

ADJOURNMENT

Motion made by Council Member Gaines, Seconded by Council Member Voit to adjourn.

Voting Yea: Vice-Mayor Coyle, Council Member T. Gaines, Council Member Howard, Council Member Covington, Council Member Voit, Council Member Wholey.

Motion passed.

Meeting adjourned at 6:31 p.m.

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
AGENDA ITEM REPORT

AGENDA ITEM: Bills - October 2021

ITEM TYPE: Consent Agenda

PURPOSE OF ITEM: Decision - By Motion

PRESENTER: Tracy Wright, towntreasurer@townofbowlinggreen.com

PHONE: (804) 633-6212

BACKGROUND / SUMMARY:
Invoices for items purchased and services rendered in October 2021

ATTACHMENTS:
Check Reports:

- 10/08/2021
- 10/15/2021
- 10/16/2021
- 10/22/2021
- 10/29/2021

REQUESTED ACTION:
Approve invoices.

CHECK#	VEND#	VENDOR	CLASS	DATE	AMOUNT	DISCOUNT
26486	944	ATLANTIC BROADBAND /	000	10/08/2021	203.04	.00
26487	477	BEAZLEY A W	000	10/08/2021	600.00	.00
26488	1128	BEVERLY FLOYD	000	10/08/2021	900.00	.00
26489	621	CAROLINE COUNTY	000	10/08/2021	500.00	.00
26490	1070	CAROLINE HIGH SCHOOL FFA	000	10/08/2021	500.00	.00
26491	865	CASH	000	10/08/2021	1,100.00	.00
26492	897	CINTAS CORPORATION	000	10/08/2021	14.15	.00
26493	14	CINTAS OF RICHMOND	000	10/08/2021	830.43	.00
26494	550	COLEMAN WICK	000	10/08/2021	100.00	.00
26495	679	DAVID L BROOKS HAULING &	000	10/08/2021	6,950.00	.00
26496	341	DOMINION CHEMICAL CO	000	10/08/2021	395.50	.00
26497	161	EI TECHNICAL SERVICES	000	10/08/2021	266.00	.00
26498	805	FRENCH BILL	000	10/08/2021	500.00	.00
26499	237	GRAINGER	000	10/08/2021	179.79	.00
26500	1127	GRAY SHAD	000	10/08/2021	500.00	.00
26501	898	JAMES MARY	000	10/08/2021	175.00	.00
26502	1115	JUSTTECH	000	10/08/2021	176.63	.00
26503	416	MAIN STAGE PRODUCTIONS	000	10/08/2021	2,400.00	.00
26504	1129	MOUNTAIN HIGHWAY, LLC	000	10/08/2021	1,500.00	.00
26505	593	NEAL CHAD	000	10/08/2021	500.00	.00
26506	256	VERIZON WIRELESS	000	10/08/2021	537.71	.00
26507	44	VUPS	000	10/08/2021	63.00	.00
26508	12	WASTE MANAGEMENT	000	10/08/2021	2,650.30	.00
26509	1049	WEX BANK	000	10/08/2021	1,195.37	.00
		CLASS TOTAL			22,736.92	.00
		ACH TOTAL			.00	
		CHECK TOTAL			22,736.92	
		EPY TOTAL			.00	
		FINAL TOTAL			22,736.92	.00

I HEREBY APPROVE THIS REGISTER FOR PAYMENT WITH EXCEPTIONS LISTED BELOW OR PREVIOUSLY DOCUMENTED.
THE TOTAL 22,736.92- EQUALS THE WEEKLY LOG SHEET TOTALS AS ADJUSTED.

DATE

TOWN MANAGER

P.O. NO.	VENDOR NO.	VENDOR NAME	INVOICE NO.	INVOICE DATE	A/P ACCRL	ACCOUNT NO.	NET AMOUNT	CHECK NO.	ACH PMT	ACH PMT	G/L ACCOUNT DESC.		BATCH	INV.DESCRIPTION
0000000	000944	ATLANTIC BROADBAND /	2021-10	10/08/2021		4100-012410-5230-	129.09	26486			TELECOMMUNICATIONS		00898	TH
0000000	000944		2021-10	10/08/2021		4520-500100-5230-	73.95	26486			TELECOMMUNICATIONS		00898	WWTP
DISC. TOTAL	.00	CHECK TOTAL	203.04	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		203.04
0000000	000477	BEAZLEY A W	20211008	10/08/2021		4400-071200-1250-	600.00	26487			PARADE/HOLIDAY EVENTS		00898	PUMPKINS
DISC. TOTAL	.00	CHECK TOTAL	600.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		600.00
0000000	001128	BEVERLY FLOYD	20211008	10/08/2021		4400-071200-1250-	900.00	26488			PARADE/HOLIDAY EVENTS		00898	BAND
DISC. TOTAL	.00	CHECK TOTAL	900.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		900.00
0000000	000621	CAROLINE COUNTY	20211008	10/08/2021		4400-071200-1250-	500.00	26489			PARADE/HOLIDAY EVENTS		00898	PETTING ZOO
DISC. TOTAL	.00	CHECK TOTAL	500.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		500.00
0000000	001070	CAROLINE HIGH SCHOOL FFA	20211008	10/08/2021		4400-071200-1250-	500.00	26490			PARADE/HOLIDAY EVENTS		00898	CLEAN UP H FEST
DISC. TOTAL	.00	CHECK TOTAL	500.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		500.00
0000000	000865	CASH	20211008	10/08/2021		4400-071200-1250-	600.00	26491			PARADE/HOLIDAY EVENTS		00898	BEER GARDEN BANK
0000000	000865		20211008	10/08/2021		4400-071200-1250-	300.00	26491			PARADE/HOLIDAY EVENTS		00898	CAR SHOW BANK
0000000	000865		20211008	10/08/2021		4400-071200-1250-	200.00	26491			PARADE/HOLIDAY EVENTS		00898	MOTORCYCLE BANK
DISC. TOTAL	.00	CHECK TOTAL	1,100.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		1,100.00
0000000	000897	CINTAS CORPORATION	8405347611	10/08/2021		4520-500100-6011-	14.15	26492			UNIFORMS/ SAFETY EQUIPMENT		00898	FIRST AID
DISC. TOTAL	.00	CHECK TOTAL	14.15	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		14.15
0000000	000014	CINTAS OF RICHMOND	1902415072	10/08/2021		4100-043100-6011-	133.34	26493			UNIFORMS/ SAFETY EQUIP		00898	UNIFORMS
0000000	000014		1902415072	10/08/2021		4500-500100-6011-	133.34	26493			UNIFORMS/SAFETY EQUIP		00898	UNIFORMS
0000000	000014		1902415072	10/08/2021		4520-500100-6011-	133.35	26493			UNIFORMS/ SAFETY EQUIPMENT		00898	UNIFORMS
0000000	000014		1902422511	10/08/2021		4100-043100-6011-	143.47	26493			UNIFORMS/ SAFETY EQUIP		00898	UNIFORMS
0000000	000014		1902422511	10/08/2021		4500-500100-6011-	143.47	26493			UNIFORMS/SAFETY EQUIP		00898	UNIFORMS
0000000	000014		1902422511	10/08/2021		4520-500100-6011-	143.46	26493			UNIFORMS/ SAFETY EQUIPMENT		00898	UNIFORMS
DISC. TOTAL	.00	CHECK TOTAL	830.43	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		830.43
0000000	000550	COLEMAN WICK	20211016	10/08/2021		4400-071200-1250-	100.00	26494			PARADE/HOLIDAY EVENTS		00898	2021
DISC. TOTAL	.00	CHECK TOTAL	100.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		100.00
0000000	000679	DAVID L BROOKS HAULING &	23155	10/08/2021		4500-500100-6007-	6,950.00	26495			REPAIR/MAINTENANCE		00898	MARTIN ST 07/2020
DISC. TOTAL	.00	CHECK TOTAL	6,950.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		6,950.00
0000000	000341	DOMINION CHEMICAL CO	71000234	10/08/2021		4500-500100-6021-	395.50	26496			TESTING SUPPLIES/CHEMICALS		00898	SODIUM HYPOCHLORIT
DISC. TOTAL	.00	CHECK TOTAL	395.50	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		395.50
0000000	000161	EI TECHNICAL SERVICES	10042101	10/08/2021		4520-500100-6004	266.00	26497			LAB SUPPLIES/CHEMICALS		00898	ANNUAL CLAIBRATION
DISC. TOTAL	.00	CHECK TOTAL	266.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		266.00
0000000	000805	FRENCH BILL	20211008	10/08/2021		4400-071200-1250-	500.00	26498			PARADE/HOLIDAY EVENTS		00898	BAND
DISC. TOTAL	.00	CHECK TOTAL	500.00	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		500.00
0000000	000237	GRAINGER	9074733126	10/08/2021		4100-043100-6006-	59.93	26499			HAND TOOLS		00898	SHOVELS & MARKING
0000000	000237		9074733126	10/08/2021		4500-500100-6006-	59.93	26499			HAND TOOLS		00898	SHOVELS & MARKING
0000000	000237		9074733126	10/08/2021		4520-500100-6006-	59.93	26499			SMALL TOOLS		00898	SHOVELS & MARKING
DISC. TOTAL	.00	CHECK TOTAL	179.79	ACH PMT TOTAL		.00 CPA PMT TOTAL	.00	EPY PMT TOTAL			.00	TOTAL		179.79

P.O. NO.	VENDOR NO.	VENDOR NAME	INVOICE NO.	INVOICE DATE	A/P ACCRL	ACCOUNT NO.	NET AMOUNT	CHECK NO.	ACH PMT	ACH PMT	G/L ACCOUNT DESC.		BATCH INV.DESCRIPTION
0000000	001127	GRAY SHAD	20211008	10/08/2021		4400-071200-1250-	500.00	26500			PARADE/HOLIDAY EVENTS		00898 BAND
	DISC. TOTAL	.00	CHECK TOTAL	500.00	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	500.00
0000000	000898	JAMES MARY	2021-09	10/08/2021		4400-071200-1310-	175.00	26501			TOWN HALL ACTIVITIES		00898 HAPPY YOGA CLASSES
	DISC. TOTAL	.00	CHECK TOTAL	175.00	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	175.00
0000000	001115	JUSTTECH	73716	10/08/2021		4100-012410-3310-	176.63	26502			OFFICE EQUIPMENT		00898 2021-09
	DISC. TOTAL	.00	CHECK TOTAL	176.63	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	176.63
0000000	000416	MAIN STAGE PRODUCTIONS	20211008	10/08/2021		4400-071200-1250-	2,400.00	26503			PARADE/HOLIDAY EVENTS		00898 STAGE
	DISC. TOTAL	.00	CHECK TOTAL	2,400.00	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	2,400.00
0000000	001129	MOUNTAIN HIGHWAY, LLC	20211008	10/08/2021		4400-071200-1250-	1,500.00	26504			PARADE/HOLIDAY EVENTS		00898 BAND
	DISC. TOTAL	.00	CHECK TOTAL	1,500.00	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	1,500.00
0000000	000593	NEAL CHAD	20211008	10/08/2021		4400-071200-1250-	500.00	26505			PARADE/HOLIDAY EVENTS		00898 BAND
	DISC. TOTAL	.00	CHECK TOTAL	500.00	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	500.00
0000000	000256	VERIZON WIRELESS	9888832093	10/08/2021		4100-031100-5230-	174.57	26506			TELECOMMUNICATIONS		00898 PC
0000000	000256		9888832093	10/08/2021		4100-043100-5230-	59.91	26506			TELECOMMUNICATIONS		00898 PW
0000000	000256		9888832093	10/08/2021		4100-012110-5250-	68.41	26506			TELECOMMUNCATIONS		00898 TM
0000000	000256		9888832093	10/08/2021		4100-012110-2600-	68.41	26506			MAYOR EXPENSES		00898 MAYOR
0000000	000256		9888832093	10/08/2021		4500-500100-5230-	59.90	26506			TELECOMMUNICATIONS		00898 WATER
0000000	000256		9888832093	10/08/2021		4500-500100-5230-	23.31	26506			TELECOMMUNICATIONS		00898 WATER METERS
0000000	000256		9888832093	10/08/2021		4500-500100-5230-	23.30	26506			TELECOMMUNICATIONS		00898 SEWER METERS
0000000	000256		9888832093	10/08/2021		4520-500100-5230-	59.90	26506			TELECOMMUNICATIONS		00898 SEWER
	DISC. TOTAL	.00	CHECK TOTAL	537.71	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	537.71
0000000	000044	VUPS	09210456	10/08/2021		4500-500100-5899-	63.00	26507			MISS UTILITY COSTS		00898 TRANSMISSIONS
	DISC. TOTAL	.00	CHECK TOTAL	63.00	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	63.00
0000000	000012	WASTE MANAGEMENT	274373702811	10/08/2021		4520-500100-3320-	89.71	26508			PROFESSIONAL SERVICES		00898 WWTP
0000000	000012		274399002816	10/08/2021		4100-043100-7130-	2,560.59	26508			REFUSE COLLECTION		00898 DUMPSTERS
	DISC. TOTAL	.00	CHECK TOTAL	2,650.30	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	2,650.30
0000000	001049	WEX BANK	74825667	10/08/2021		4100-031100-6008-	344.79	26509			VEHICLE FUEL/OIL		00898 PC
0000000	001049		74825667	10/08/2021		4100-043100-6008-	283.52	26509			VEHICLE FUEL/ OIL		00898 PW
0000000	001049		74825667	10/08/2021		4500-500100-6008-	283.53	26509			VEHICLE FUEL/OIL		00898 WATER
0000000	001049		74825667	10/08/2021		4520-500100-6008-	283.53	26509			VEHICLE FUEL & OIL		00898 SEWER
	DISC. TOTAL	.00	CHECK TOTAL	1,195.37	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	1,195.37
		.00	CHECK TOTAL	22,736.92	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	22,736.92
		.00	CHECK TOTAL	22,736.92	ACH PMT TOTAL	.00 CPA PMT TOTAL	.00 EPY PMT TOTAL				.00	TOTAL	22,736.92

I HEREBY APPROVE THIS REGISTER FOR PAYMENT WITH EXCEPTIONS LISTED BELOW OR PREVIOUSLY DOCUMENTED.
THE TOTAL 22,736.92- EQUALS THE WEEKLY LOG SHEET TOTALS AS ADJUSTED.

DATE

TOWN MANAGER

CHECK#	VEND#	VENDOR	CLASS	DATE	AMOUNT	DISCOUNT
26510	18	A & M HOME CENTER	000	10/15/2021	53.61	.00
26511	536	CAS SEVERN	000	10/15/2021	4,089.33	.00
26512	617	CROWN TROPHY #103	000	10/15/2021	909.45	.00
26513	10	DOMINION VIRGINIA POWER	000	10/15/2021	5,380.74	.00
26514	478	FRONT PORCH	000	10/15/2021	900.00	.00
26515	28	G & G MILFORD FARM SERV.	000	10/15/2021	329.40	.00
26516	237	GRAINGER	000	10/15/2021	78.39	.00
26517	1130	HARVEY SANSBERRY	000	10/15/2021	300.00	.00
26518	514	K L LANGFORD EXCAVATING	000	10/15/2021	1,255.00	.00
26519	743	LOCAL SERVICES	000	10/15/2021	135.00	.00
26520	999999	RAPPAHANNOCK ELECTRIC COO	000	10/15/2021	150.00	.00
26521	1122	SHIFFLETT'S WASTE SERVICE	000	10/15/2021	5,812.50	.00
26522	1089	SNAP-ON TOOLS	000	10/15/2021	830.95	.00
26523	148	THE FREE LANCE STAR	000	10/15/2021	545.40	.00
26524	1038	VA EAGLE DISTRIBUTING	000	10/15/2021	896.02	.00
26525	12	WASTE MANAGEMENT	000	10/15/2021	997.04	.00
26526	902	WBQB/WFVA RADIO	000	10/15/2021	209.00	.00
		CLASS TOTAL			22,871.83	.00
		ACH TOTAL			.00	
		CHECK TOTAL			22,871.83	
		EPY TOTAL			.00	
		FINAL TOTAL			22,871.83	.00

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THE TOTAL 22,871.83- EQUALS THE WEEKLY LOG SHEET TOTALS AS ADJUSTED.

DATE

TOWN MANAGER

P.O. NO.	VENDOR NO.	VENDOR NAME	INVOICE NO.	INVOICE DATE	A/P ACCRL	ACCOUNT NO.	NET AMOUNT	CHECK NO.	ACH PMT	ACH PMT	G/L ACCOUNT DESC.	BATCH	INV.DESCRIPTION
0000000	000018	A & M HOME CENTER	C59388	10/15/2021		4100-043100-6007-	18.87	26510			REPAIR/ MAINT TOWN BUILDINGS	00899	PAINT ROLLERS
0000000	000018		C59588	10/15/2021		4500-500100-6007-	14.58	26510			REPAIR/MAINTENANCE	00899	VACUUM BREAKER
0000000	000018		C60101	10/15/2021		4100-043100-6007-	2.79	26510			REPAIR/ MAINT TOWN BUILDINGS	00899	CAULK
0000000	000018		C60169	10/15/2021		4500-500100-6009-	5.99	26510			EQUIPMENT/SUPPLIES	00899	CABLE TIES
0000000	000018		C60187	10/15/2021		4100-043100-7110-	11.38	26510			PARKING LOT/STREET/SIDEWALK M	00899	FIX SIGN
DISC. TOTAL	.00	CHECK TOTAL	53.61	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	53.61		
0000000	000536	CAS SEVERN	20211015	10/15/2021		4100-012410-3320-	3,976.33	26511			COMPUTER LICENSES/SUPPORT	00899	2021-2022
0000000	000536		439544	10/15/2021		4100-012110-5830-	113.00	26511			COVID-19 EXPENSES	00899	PRT02 PROBLEMS
DISC. TOTAL	.00	CHECK TOTAL	4,089.33	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	4,089.33		
0000000	000617	CROWN TROPHY #103	62880	10/15/2021		4400-071200-1210-	909.45	26512			HARVEST FESTIVAL	00899	2021 H FEST
DISC. TOTAL	.00	CHECK TOTAL	909.45	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	909.45		
0000000	000010	DOMINION VIRGINIA POWER	2021-09	10/15/2021		4100-043100-7200-	354.79	26513			TOWN HALL EXPENSES	00899	TH
0000000	000010		2021-09	10/15/2021		4100-043100-7200-	40.92	26513			TOWN HALL EXPENSES	00899	109 COURTHOUSE LN
0000000	000010		2021-09	10/15/2021		4100-043100-5110-	1,584.79	26513			ELECTRICITY-STREETLIGHTS	00899	BUT/CHASE ST LIGHT
0000000	000010		2021-09	10/15/2021		4100-043100-5110-	51.75	26513			ELECTRICITY-STREETLIGHTS	00899	MAIN ST ST LIGHTS
0000000	000010		2021-09	10/15/2021		4100-031100-5110-	87.11	26513			ELECTRICITY	00899	PC
0000000	000010		2021-09	10/15/2021		4500-500100-5110-	374.97	26513			ELECTRICITY	00899	CHASE/BUT WTR TWR
0000000	000010		2021-09	10/15/2021		4500-500100-5110-	104.81	26513			ELECTRICITY	00899	BULTER GRND TNK
0000000	000010		2021-09	10/15/2021		4500-500100-5110-	675.21	26513			ELECTRICITY	00899	WELL #5
0000000	000010		2021-09	10/15/2021		4520-500100-5110-	1,906.02	26513			ELECTRICITY	00899	WWTP
0000000	000010		2021-09	10/15/2021		4520-500100-5110-	42.14	26513			ELECTRICITY	00899	LACY LN PMP STAT
0000000	000010		2021-09	10/15/2021		4520-500100-5110-	84.47	26513			ELECTRICITY	00899	SCHOOL RD PMP STAT
0000000	000010		2021-09	10/15/2021		4520-500100-5110-	18.04	26513			ELECTRICITY	00899	ROGERS CLK PMP STA
0000000	000010		2021-09	10/15/2021		4520-500100-5110-	55.72	26513			ELECTRICITY	00899	CHASE ST PMP STAT
DISC. TOTAL	.00	CHECK TOTAL	5,380.74	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	5,380.74		
0000000	000478	FRONT PORCH	17464	10/15/2021		4400-071200-1210-	900.00	26514			HARVEST FESTIVAL	00899	AD
DISC. TOTAL	.00	CHECK TOTAL	900.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	900.00		
0000000	000028	G & G MILFORD FARM SERV.	K92202	10/15/2021		4100-043100-6009-	15.91	26515			EQUIPMENT/ SUPPLIES	00899	EDGER BLADES
0000000	000028		192170	10/15/2021		4100-043100-6007-	44.35	26515			REPAIR/ MAINT TOWN BUILDINGS	00899	WIRE
0000000	000028		192191	10/15/2021		4100-043100-6009-	5.00	26515			EQUIPMENT/ SUPPLIES	00899	SHARPEN CHAIN SAW
0000000	000028		192292	10/15/2021		4100-043100-6009-	22.99	26515			EQUIPMENT/ SUPPLIES	00899	M&RV HOSE
0000000	000028		192513	10/15/2021		4100-043100-6009-	224.57	26515			EQUIPMENT/ SUPPLIES	00899	M18 COMBO KIT
0000000	000028		192518	10/15/2021		4100-043100-6007-	16.58	26515			REPAIR/ MAINT TOWN BUILDINGS	00899	SILICONE & CAULK
DISC. TOTAL	.00	CHECK TOTAL	329.40	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	329.40		
0000000	000237	GRAINGER	9070617247	10/15/2021		4520-500100-6007-	21.64	26516			REPAIR/ MAINTENANCE	00899	CLEAN OUT PLUG
0000000	000237		9083236167	10/15/2021		4500-500100-6007-	56.75	26516			REPAIR/MAINTENANCE	00899	VALVE & ELBOW
DISC. TOTAL	.00	CHECK TOTAL	78.39	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	78.39		
0000000	001130	HARVEY SANSBERRY	20211015	10/15/2021		4400-071200-1210-	300.00	26517			HARVEST FESTIVAL	00899	CAR SHOW DJ
DISC. TOTAL	.00	CHECK TOTAL	300.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	300.00		
0000000	000514	K L LANGFORD EXCAVATING	7357	10/15/2021		4500-500100-6007-	1,255.00	26518			REPAIR/MAINTENANCE	00899	HILLDALE AVE
DISC. TOTAL	.00	CHECK TOTAL	1,255.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	1,255.00		
0000000	000743	LOCAL SERVICES	70816	10/15/2021		4100-012110-6021-	135.00	26519			PUBLIC RELATIONS	00899	PLAYGROUND POTTY
DISC. TOTAL	.00	CHECK TOTAL	135.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	135.00		

P.O. NO.	VENDOR NO.	VENDOR NAME	INVOICE NO.	INVOICE DATE	A/P ACCRL	ACCOUNT NO.	NET AMOUNT	CHECK NO.	ACH PMT	ACH PMT	G/L ACCOUNT DESC.		BATCH INV.DESCRIPTION
0000000	999999	RAPPAHANNOCK ELECTRIC COO	THDR 20220123	10/15/2021		100-000200-3500-	150.00	26520			REFUNDS PAYABLE		00899 THDR CANCEL COVID
	DISC. TOTAL	.00	CHECK TOTAL	150.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	150.00
0000000	001122	SHIFFLETT'S WASTE SERVICE	145653	10/15/2021		4100-043100-7130-	5,812.50	26521			REFUSE COLLECTION		00899 2021-10 RESIDENTS
	DISC. TOTAL	.00	CHECK TOTAL	5,812.50	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	5,812.50
0000000	001089	SNAP-ON TOOLS	100721129474	10/15/2021		4500-500100-6006-	415.48	26522			HAND TOOLS		00899 TOOLS
0000000	001089		100721129474	10/15/2021		4520-500100-6006-	415.47	26522			SMALL TOOLS		00899 TOOLS
	DISC. TOTAL	.00	CHECK TOTAL	830.95	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	830.95
0000000	000148	THE FREE LANCE STAR	2021-09	10/15/2021		4100-012110-3600-	505.40	26523			ADVERTISING		00899 PC PH & CLEANSWEEP
0000000	000148		2021-09	10/15/2021		4400-071200-1240-	40.00	26523			CLEAN SWEEP		00899 PC PH & CLEANSWEEP
	DISC. TOTAL	.00	CHECK TOTAL	545.40	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	545.40
0000000	001038	VA EAGLE DISTRIBUTING	20211015	10/15/2021		4400-071200-1210-	896.02	26524			HARVEST FESTIVAL		00899 BEER GARDEN
	DISC. TOTAL	.00	CHECK TOTAL	896.02	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	896.02
0000000	000012	WASTE MANAGEMENT	274487702814	10/15/2021		4520-500100-3180-	997.04	26525			SLUDGE REMOVAL		00899 SLUDGE
	DISC. TOTAL	.00	CHECK TOTAL	997.04	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	997.04
0000000	000902	WBQB/WFVA RADIO	367200009	10/15/2021		4400-071200-1210-	209.00	26526			HARVEST FESTIVAL		00899 2021
	DISC. TOTAL	.00	CHECK TOTAL	209.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	209.00
		.00	CHECK TOTAL	22,871.83	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	22,871.83
		.00	CHECK TOTAL	22,871.83	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL	22,871.83

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_____ DATE

_____ TOWN MANAGER

CHECK#	VEND#	VENDOR	CLASS	DATE	AMOUNT	DISCOUNT
26527	1061	PETERSON MARK	000	10/16/2021	600.00	.00
			CLASS TOTAL		600.00	.00
			ACH TOTAL		.00	
			CHECK TOTAL		600.00	
			EPY TOTAL		.00	
			FINAL TOTAL		600.00	.00

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THE TOTAL 600.00- EQUALS THE WEEKLY LOG SHEET TOTALS AS ADJUSTED.

DATE

TOWN MANAGER

VEND. NO.	VENDOR NAME	* = DUP INVOICE NO.	G/L ACCT. NO.	INVOICE DATE	DUE DATE	GROSS AMOUNT	DESC /CLS	PO. NO.	SEQ. NO.
001061	PETERSON MARK	20211016 1099-N	4400-071200-1210- HARVEST FESTIVAL	10/16/2021	10/16/2021	600.00	HFEST 000		10
	INVOICE TOTAL	20211016				600.00	.00	600.00	
1061	COMPANY TOTAL					600.00	.00	600.00	

HASH TOTALS-> FUND 4400 DEPT 71200 LOC 0 ACCT 1210

BATCH#- 900 CREATED BY JUDY ON 10/16/2021 RUN BY JUDY ON 10/16/2021

CHECK#	VEND#	VENDOR	CLASS	DATE	AMOUNT	DISCOUNT
26534	1111	BKT UNIFORMS	000	10/22/2021	797.98	.00
26535	237	GRAINGER	000	10/22/2021	721.98	.00
26536	514	K L LANGFORD EXCAVATING	000	10/22/2021	1,470.00	.00
26537	743	LOCAL SERVICES	000	10/22/2021	1,560.00	.00
26538	1021	MUNICIPAL CODE CORP	000	10/22/2021	1,715.00	.00
26539	919	PRO SHRED SECURITY	000	10/22/2021	45.00	.00
26540	11	RAPPAHANNOCK ELEC COOP	000	10/22/2021	440.24	.00
26541	1002	VACORP	000	10/22/2021	353.31	.00
26542	1131	W.V. DELOACH HOME IMPROVE	000	10/22/2021	1,550.00	.00
		CLASS TOTAL			8,653.51	.00
		ACH TOTAL			.00	
		CHECK TOTAL			8,653.51	
		EPY TOTAL			.00	
		FINAL TOTAL			8,653.51	.00

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P.O. NO.	VENDOR NO.	VENDOR NAME	INVOICE NO.	INVOICE DATE	A/P ACCRL	ACCOUNT NO.	NET AMOUNT	CHECK NO.	ACH PMT	ACH PMT	G/L ACCOUNT DESC.		BATCH	INV.DESCRIPTION
0000000	001111	BKT UNIFORMS	84297	10/22/2021		4100-031100-6011-	797.98	26534			UNIFORMS		00901	UNIFORMS
	DISC. TOTAL	.00	CHECK TOTAL	797.98	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		797.98
0000000	000237	GRAINGER	9089480363	10/22/2021		4500-500100-6007-	721.98	26535			REPAIR/MAINTENANCE		00901	MOTOR STARTER
	DISC. TOTAL	.00	CHECK TOTAL	721.98	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		721.98
0000000	000514	K L LANGFORD EXCAVATING	7356	10/22/2021		4500-500100-6007-	1,470.00	26536			REPAIR/MAINTENANCE		00901	LACY LN
	DISC. TOTAL	.00	CHECK TOTAL	1,470.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		1,470.00
0000000	000743	LOCAL SERVICES	2214003	10/22/2021		4400-071200-1210-	1,560.00	26537			HARVEST FESTIVAL		00901	PORTA POTTIES
	DISC. TOTAL	.00	CHECK TOTAL	1,560.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		1,560.00
0000000	001021	MUNICIPAL CODE CORP	00360583	10/22/2021		4100-012110-3152-	1,715.00	26538			WEB BASED SERVICES		00901	2 HALF CODE
	DISC. TOTAL	.00	CHECK TOTAL	1,715.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		1,715.00
0000000	000919	PRO SHRED SECURITY	41153	10/22/2021		4100-012110-3140-	45.00	26539			CONTRACTED SERVICES/SHREDDING		00901	2021-10
	DISC. TOTAL	.00	CHECK TOTAL	45.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		45.00
0000000	000011	RAPPAHANNOCK ELEC COOP	2021-09	10/22/2021		4100-043100-5110-	51.27	26540			ELECTRICITY-STREETLIGHTS		00901	TRANS ON HILL CEDA
0000000	000011		2021-09	10/22/2021		4500-500100-5110-	234.16	26540			ELECTRICITY		00901	WELL #4
0000000	000011		2021-09	10/22/2021		4500-500100-5110-	22.05	26540			ELECTRICITY		00901	RT 2 TOWER LIGHT
0000000	000011		2021-09	10/22/2021		4520-500100-5110-	26.08	26540			ELECTRICITY		00901	OAK RIDGE PMP STAT
0000000	000011		2021-09	10/22/2021		4520-500100-5110-	84.54	26540			ELECTRICITY		00901	LAKEWOOD PMP STAT
0000000	000011		2021-09	10/22/2021		4520-500100-5110-	22.14	26540			ELECTRICITY		00901	CEDAR LN WR HSE
	DISC. TOTAL	.00	CHECK TOTAL	440.24	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		440.24
0000000	001002	VACORP	2021-07	10/22/2021		4100-031100-6001-	17.67	26541			OFFICE SUPPLIES & PRINTING		00901	HYBRID
0000000	001002		2021-07	10/22/2021		4100-012110-2500-	27.07	26541			DISABILITY INSURANCE - VML		00901	HYBRID
0000000	001002		2021-07	10/22/2021		4100-012410-2500-	18.83	26541			HYBRID DISBILITY INSURANCE		00901	HYBRID
0000000	001002		2021-07	10/22/2021		4100-043100-2500-	25.90	26541			HYBRID DISABILITY INSURANCE		00901	HYBRID
0000000	001002		2021-07	10/22/2021		4500-500100-2500-	12.95	26541			HYBRID DISBILITY INS		00901	HYBRID
0000000	001002		2021-07	10/22/2021		4520-500100-2500-	15.29	26541			HYBRID DISABILITY INS		00901	HYBRID
0000000	001002		2021-08	10/22/2021		4100-031100-6001-	17.67	26541			OFFICE SUPPLIES & PRINTING		00901	HYBRID
0000000	001002		2021-08	10/22/2021		4100-012110-2500-	27.07	26541			DISABILITY INSURANCE - VML		00901	HYBRID
0000000	001002		2021-08	10/22/2021		4100-012410-2500-	18.83	26541			HYBRID DISBILITY INSURANCE		00901	HYBRID
0000000	001002		2021-08	10/22/2021		4100-043100-2500-	25.90	26541			HYBRID DISABILITY INSURANCE		00901	HYBRID
0000000	001002		2021-08	10/22/2021		4500-500100-2500-	12.95	26541			HYBRID DISBILITY INS		00901	HYBRID
0000000	001002		2021-08	10/22/2021		4520-500100-2500-	15.29	26541			HYBRID DISABILITY INS		00901	HYBRID
0000000	001002		2021-09	10/22/2021		4100-031100-6001-	17.67	26541			OFFICE SUPPLIES & PRINTING		00901	HYBRID
0000000	001002		2021-09	10/22/2021		4100-012110-2500-	27.07	26541			DISABILITY INSURANCE - VML		00901	HYBRID
0000000	001002		2021-09	10/22/2021		4100-012410-2500-	18.83	26541			HYBRID DISBILITY INSURANCE		00901	HYBRID
0000000	001002		2021-09	10/22/2021		4100-043100-2500-	25.90	26541			HYBRID DISABILITY INSURANCE		00901	HYBRID
0000000	001002		2021-09	10/22/2021		4500-500100-2500-	13.04	26541			HYBRID DISBILITY INS		00901	HYBRID
0000000	001002		2021-09	10/22/2021		4520-500100-2500-	15.38	26541			HYBRID DISABILITY INS		00901	HYBRID
	DISC. TOTAL	.00	CHECK TOTAL	353.31	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		353.31
0000000	001131	W.V. DELOACH HOME IMPROVE	20211022	10/22/2021		4100-043100-6007-	1,550.00	26542			REPAIR/ MAINT TOWN BUILDINGS		00901	STEP REPLACE WWTP
	DISC. TOTAL	.00	CHECK TOTAL	1,550.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		1,550.00
		.00	CHECK TOTAL	8,653.51	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		8,653.51
		.00	CHECK TOTAL	8,653.51	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL		.00	TOTAL		8,653.51

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CHECK#	VEND#	VENDOR	CLASS	DATE	AMOUNT	DISCOUNT
26543	1063	ALACRITI PAYMENTS, LLC	000	10/29/2021	134.88	.00
26544	600	BENNETT DEBORAH T	000	10/29/2021	175.00	.00
26545	1094	BMW CLEANING SERVICES	000	10/29/2021	875.00	.00
26546	429	CAROLINE COUNTY SHERIFF'S	000	10/29/2021	1,978.00	.00
26547	1017	CORE & MAIN	000	10/29/2021	4,869.69	.00
26548	1058	DIAMOND SPRINGS	000	10/29/2021	105.26	.00
26549	234	ENVIROCOMPLIANCE LAB INC	000	10/29/2021	1,335.00	.00
26550	234	ENVIROCOMPLIANCE LAB INC	000	10/29/2021	655.00	.00
26551	648	ERARD ANDREA G	000	10/29/2021	6,000.00	.00
26552	237	GRAINGER	000	10/29/2021	1,581.48	.00
26553	898	JAMES MARY	000	10/29/2021	140.00	.00
26554	546	JOHNSON'S EXTERMINATING	000	10/29/2021	625.00	.00
26555	514	K L LANGFORD EXCAVATING	000	10/29/2021	1,570.00	.00
26556	48	MID-ATLANTIC LAB	000	10/29/2021	440.00	.00
26557	816	POLLARDWATER.COM	000	10/29/2021	70.50	.00
26558	1089	SNAP-ON TOOLS	000	10/29/2021	267.75	.00
26559	653	STEMMLE PLUMBING REPAIR	000	10/29/2021	1,190.00	.00
26560	12	WASTE MANAGEMENT	000	10/29/2021	776.06	.00
		CLASS TOTAL			22,788.62	.00
		ACH TOTAL			.00	
		CHECK TOTAL			22,788.62	
		EPY TOTAL			.00	
		FINAL TOTAL			22,788.62	.00

I HEREBY APPROVE THIS REGISTER FOR PAYMENT WITH EXCEPTIONS LISTED BELOW OR PREVIOUSLY DOCUMENTED.
THE TOTAL 22,788.62- EQUALS THE WEEKLY LOG SHEET TOTALS AS ADJUSTED.

DATE

TOWN MANAGER

P.O. NO.	VENDOR NO.	VENDOR NAME	INVOICE NO.	INVOICE DATE	A/P ACCRL	ACCOUNT NO.	NET AMOUNT	CHECK NO.	ACH PMT	ACH PMT	G/L ACCOUNT DESC.		BATCH	INV.DESCRIPTION
0000000	001063	ALACRITI PAYMENTS, LLC	NMXGPB135MMODY6	10/29/2021		4100-012410-3130-	25.05	26543			CREDIT CARD AND BANK FEES		00902	2021-09 2.5%
0000000	001063		NMXGP913KBOCV31	10/29/2021		4100-012410-3130-	109.83	26543			CREDIT CARD AND BANK FEES		00902	2021-08 2.5%
DISC. TOTAL	.00	CHECK TOTAL	134.88	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		134.88
0000000	000600	BENNETT DEBORAH T	2021-10	10/29/2021		4400-071200-1310-	175.00	26544			TOWN HALL ACTIVITIES		00902	YOGA CLASSES
DISC. TOTAL	.00	CHECK TOTAL	175.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		175.00
0000000	001094	BMW CLEANING SERVICES	0000008	10/29/2021		4100-043100-7200-	500.00	26545			TOWN HALL EXPENSES		00902	OFFICE CLEANINGS
0000000	001094		0000009	10/29/2021		4100-043100-7200-	375.00	26545			TOWN HALL EXPENSES		00902	EVENT CLEANING
DISC. TOTAL	.00	CHECK TOTAL	875.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		875.00
0000000	000429	CAROLINE COUNTY SHERIFF'S	2021-10	10/29/2021		4400-071200-1210-	1,978.00	26546			HARVEST FESTIVAL		00902	SECURITY
DISC. TOTAL	.00	CHECK TOTAL	1,978.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		1,978.00
0000000	001017	CORE & MAIN	REQUEST 2	10/29/2021		4500-500500-3500-	4,869.69	26547			2019 USDA SYSTEM UPGRADE		00902	METER PROJECT
DISC. TOTAL	.00	CHECK TOTAL	4,869.69	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		4,869.69
0000000	001058	DIAMOND SPRINGS	2021-10	10/29/2021		4100-043100-7200-	60.89	26548			TOWN HALL EXPENSES		00902	TH
0000000	001058		2021-10	10/29/2021		4100-043100-7200-	9.95	26548			TOWN HALL EXPENSES		00902	109 COURTHOUSE LN
0000000	001058		2021-10	10/29/2021		4520-500100-5840-	34.42	26548			MISCELLANEOUS		00902	WWTP
DISC. TOTAL	.00	CHECK TOTAL	105.26	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		105.26
0000000	000234	ENVIROCOMPLIANCE LAB INC	R1857124	10/29/2021		4520-500100-3160-	115.00	26549			TESTING		00902	TESTING
0000000	000234		R1857155	10/29/2021		4520-500100-3160-	115.00	26549			TESTING		00902	TESTING
0000000	000234		R1857200	10/29/2021		4520-500100-3160-	155.00	26549			TESTING		00902	TESTING
0000000	000234		R1857294	10/29/2021		4520-500100-3160-	115.00	26549			TESTING		00902	TESTING
0000000	000234		R1857318	10/29/2021		4520-500100-3160-	115.00	26549			TESTING		00902	TESTING
0000000	000234		R1957361	10/29/2021		4520-500100-3160-	155.00	26549			TESTING		00902	TESTING
0000000	000234		R1957446	10/29/2021		4520-500100-3160-	160.00	26549			TESTING		00902	TESTING
0000000	000234		R1957461	10/29/2021		4520-500100-3160-	135.00	26549			TESTING		00902	TESTING
0000000	000234		R1957500	10/29/2021		4520-500100-3160-	155.00	26549			TESTING		00902	TESTING
0000000	000234		R1957597	10/29/2021		4520-500100-3160-	115.00	26549			TESTING		00902	TESTING
DISC. TOTAL	.00	CHECK TOTAL	1,335.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		1,335.00
0000000	000234	ENVIROCOMPLIANCE LAB INC	R1957623	10/29/2021		4520-500100-3160-	115.00	26550			TESTING		00902	TESTING
0000000	000234		R1957670	10/29/2021		4520-500100-3160-	155.00	26550			TESTING		00902	TESTING
0000000	000234		R1957761	10/29/2021		4520-500100-3160-	115.00	26550			TESTING		00902	TESTING
0000000	000234		R1957795	10/29/2021		4520-500100-3160-	115.00	26550			TESTING		00902	TESTING
0000000	000234		R1957836	10/29/2021		4520-500100-3160-	155.00	26550			TESTING		00902	TESTING
DISC. TOTAL	.00	CHECK TOTAL	655.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		655.00
0000000	000648	ERARD ANDREA G	2021-09	10/29/2021		4100-012110-3150-	3,000.00	26551			PROFESSIONAL SERVICES - LEGAL		00902	TOWN ATTORNEY
0000000	000648		2021-10	10/29/2021		4100-012110-3150-	3,000.00	26551			PROFESSIONAL SERVICES - LEGAL		00902	TOWN ATTORNEY
DISC. TOTAL	.00	CHECK TOTAL	6,000.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		6,000.00
0000000	000237	GRAINGER	9097803010	10/29/2021		4500-500100-6007-	170.40	26552			REPAIR/MAINTENANCE		00902	CONNECTOR, BLUE MA
0000000	000237		9098285886	10/29/2021		4500-500100-6007-	1,411.08	26552			REPAIR/MAINTENANCE		00902	TRIPOD WINCH
DISC. TOTAL	.00	CHECK TOTAL	1,581.48	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		1,581.48
0000000	000898	JAMES MARY	2021-10	10/29/2021		4400-071200-1310-	140.00	26553			TOWN HALL ACTIVITIES		00902	HAPPY YOGA
DISC. TOTAL	.00	CHECK TOTAL	140.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL				TOTAL		140.00

P.O. NO.	VENDOR NO.	VENDOR NAME	INVOICE NO.	INVOICE DATE	A/P ACCRL	ACCOUNT NO.	NET AMOUNT	CHECK NO.	ACH PMT	ACH PMT	G/L ACCOUNT DESC.		BATCH INV.DESCRIPTION
0000000	000546	JOHNSON'S EXTERMINATING	2021-10	10/29/2021		4100-031100-3320-	50.00	26554			PROFESSIONAL SERVICES		00902 PC
0000000	000546		2021-10	10/29/2021		4100-043100-7120-	75.00	26554			PARK MAINTENANCE		00902 PLAYGROUND
0000000	000546		2021-10	10/29/2021		4100-043100-7200-	65.00	26554			TOWN HALL EXPENSES		00902 TH
0000000	000546		2021-10	10/29/2021		4100-043100-7200-	10.00	26554			TOWN HALL EXPENSES		00902 109 COURTHOUSE LN
0000000	000546		2021-10	10/29/2021		4520-500100-3320-	425.00	26554			PROFESSIONAL SERVICES		00902 WWTP
DISC. TOTAL	.00	CHECK TOTAL	625.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	625.00		
0000000	000514	K L LANGFORD EXCAVATING	7381	10/29/2021		4500-500100-6007-	1,570.00	26555			REPAIR/MAINTENANCE		00902 16450 TINDER DR
DISC. TOTAL	.00	CHECK TOTAL	1,570.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	1,570.00		
0000000	000048	MID-ATLANTIC LAB	16312	10/29/2021		4500-500100-6022-	440.00	26556			WATER TESTING		00902 24 HR TESTING
DISC. TOTAL	.00	CHECK TOTAL	440.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	440.00		
0000000	000816	POLLARDWATER.COM	WW019372	10/29/2021		4500-500100-6009-	45.75	26557			EQUIPMENT/SUPPLIES		00902 39 IN SHUT OFF KEY
0000000	000816		WW019379	10/29/2021		4500-500100-6009-	24.75	26557			EQUIPMENT/SUPPLIES		00902 DOORHANGER
DISC. TOTAL	.00	CHECK TOTAL	70.50	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	70.50		
0000000	001089	SNAP-ON TOOLS	102021129963	10/29/2021		4100-043100-3311-	89.25	26558			VEHICLE MAINT		00902 BR BLEEDER,HEX BIT
0000000	001089		102021129963	10/29/2021		4500-500100-3311-	89.25	26558			VEHICLE MAINTENANCE		00902 BR BLEEDER,HEX BIT
0000000	001089		102021129963	10/29/2021		4520-500100-3311-	89.25	26558			VEHICLE MAINTENANCE		00902 BR BLEEDER,HEX BIT
DISC. TOTAL	.00	CHECK TOTAL	267.75	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	267.75		
0000000	000653	STEMMLE PLUMBING REPAIR	181882	10/29/2021		4520-500100-6007-	1,190.00	26559			REPAIR/ MAINTENANCE		00902 MAIN ST
DISC. TOTAL	.00	CHECK TOTAL	1,190.00	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	1,190.00		
0000000	000012	WASTE MANAGEMENT	274601502819	10/29/2021		4520-500100-3180-	776.06	26560			SLUDGE REMOVAL		00902 SLUDGE
DISC. TOTAL	.00	CHECK TOTAL	776.06	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	776.06		
	.00	CHECK TOTAL	22,788.62	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	22,788.62		
	.00	CHECK TOTAL	22,788.62	ACH PMT TOTAL	.00	CPA PMT TOTAL	.00	EPY PMT TOTAL	.00	TOTAL	22,788.62		

I HEREBY APPROVE THIS REGISTER FOR PAYMENT WITH EXCEPTIONS LISTED BELOW OR PREVIOUSLY DOCUMENTED.
THE TOTAL 22,788.62- EQUALS THE WEEKLY LOG SHEET TOTALS AS ADJUSTED.

DATE

TOWN MANAGER

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
AGENDA ITEM REPORT

AGENDA ITEM: Town Hall Rental Rates

ITEM TYPE: Action Item

PURPOSE OF ITEM: Decision - By Motion

PRESENTER: Allyson Finchum, townmanager@townofbowlinggreen.com

PHONE: (804) 633-6212

BACKGROUND / SUMMARY:

A meeting was held with Council Member Tammy Gaines and staff to review current rental rates for Town Hall. Discussion involved issues with covering expenses of the building including internal/external building maintenance, utilities, police protection, set up and cleaning. A draft document was prepared and revised following discussions at sub-committee and Council meetings that outlines suggested new rates.

A public hearing must be held to adopt a new rate schedule.

ATTACHMENTS:

Proposed rate sheet.

REQUESTED ACTION:

At the Town Council Worksession - Review and edit the attached documents on change of rental rates for Town Hall.

At the Town Council Meeting - Motion to authorize a public hearing for amendment of rental rates for Town Hall.

TOWN OF BOWLING GREEN

BOWLING GREEN EVENT HALL RENTAL RATES

PROPOSAL BASED ON COUNCIL MEMBERS' FEEDBACK AT 10/7/21 TOWN COUNCIL MEETING

USO BALLROOM

The proposed rates below include the fee of $275 for set-up, breakdown and cleaning. Cleaning includes bathrooms, kitchen and floors.

- **STANDARD RENTAL – CURRENT RATE $575.00**
  PROPOSED RATE $1,150.00

- **NON-PROFIT – CURRENT RATE $250.00**
  PROPOSED RATE $500.00

- **TOWN RESIDENT/TOWN EMPLOYEE (Discussion Item) ..... TBD**

- **EXTRA PREPERATION AFTER 4:00 THE NIGHT BEFORE AN EVENT**

  CURRENT RATE $100.00
  (For decorating only, no dinner, practice, etc.)
  PROPOSED RATE: $200.00

RAPPAHANNOCK ROOM

The proposed rates below include the fee of $100 for set-up, breakdown and cleaning. Cleaning includes bathrooms, kitchen and floors.

- **STANDARD RENTAL – CURRENT RATE $175.00**
  PROPOSED RATE: $350.00

DEPOSITS

Deposit returned following inspection of the property.

- **USO BALLROOM – CURRENT RATE $150.00**
  PROPOSED RATE $300.00
- **RAPPAHANNOCK ROOM – CURRENT RATE $50.00**
  PROPOSED RATE: $100.00

TOWN OF BOWLING GREEN
TOWN COUNCIL MEETING
AGENDA ITEM REPORT

AGENDA ITEM: ARPA Fund Projects

ITEM TYPE: Action Item

PURPOSE OF ITEM: Decision - Introduction

PRESENTER: Allyson Finchum, townmanager@townofbowlinggreen.com

PHONE: (804) 633-6212

BACKGROUND / SUMMARY:
The entitlement of ARPA funds distributed through the Commonwealth of Virginia to Bowling Green is $1,219,082.00. The first allocation of $609,541 has been received. Funds must be used for qualified purposes incurred between March 31, 2021 to December 31, 2024.

Use of the funds is limited to costs that:

- Support public health expenditures
- Address negative economic impacts caused by the public health emergency
- Replace lost public sector revenue
- Provide premium pay for essential workers
- Invest in water, sewer, and broadband infrastructure

Proposed Projects:
The Economic Development Authority (EDA) is requesting 20% of the ARPA funds.
Town staff is proposing funds for a new replacement well.

ATTACHMENTS:
Well Replacement Quote
EDA Proposal

REQUESTED ACTION:
Review and decision by Council

A.C. Schultes of Md., Inc.
8221 Cloverleaf Dr.
Millersville, MD 21108

24-hour Service
(410) 841-6710 - Office
(410) 841-6711 - Fax

October 21, 2021

Town of Bowling Green
219 Anderson Ave
Bowling Green, Va. 22427

Attention: Josh Irby
(804) 221-1834
jirby@townofbowlinggreen.com

Reference: Installation of a 6" x 420' replacement well # 4A
ACSM Quote# TOBG.092221.CK

Dear Mr. Irby,

As per your request, A.C. SCHULTES OF MARYLAND, INC. is pleased to propose the following:

1. Obtain necessary well construction permit.
2. Contact Miss Utility to mark the well site location.
3. Mobilize a 2-man drill crew complete with a mud rotary rig capable of drilling depths up to 600'.
4. Drill an 8'' pilot hole to approximately 435'. During the drilling we will collect and containerize ditch samples at 10' intervals.
5. Electric log pilot hole.
6. Based on the electric log, ditch samples and existing well construction, design the well.
7. Ream the pilot hole to 11".
8. Be prepared to supply and install up to 40' of 6" stainless steel screen separated by stainless steel blanks. The well will transition to 6'' carbon steel casing above the uppermost screen and extended to the surface.
9. Via tremmie pipe, gravel pack the annular space to a height of approximately 30' above the screen.
10. Via tremmie pipe, cement grout the remainder of the annular space as per Virginia regulations.
11. Develop the well to yield a minimum of 100 GPM or be 70% efficient.
12. Install a test pump capable of pumping 100 GPM.
13. Perform a 24 hour well test followed by a 12 hour recovery test.
14. Per Virginia regulations, water quality samples will be collected during this test and analyzed by a certified lab.
15. Remove the test pump.
16. Supply and install a new Baker style 6" x 3" monitor pitless adaptor.
17. Utilize 4" ductile iron pipe to make a connection inside the well house to the existing pipeline (est. 15').
18. Run new wire and conduit to the well controls.
19. Supply and install a new Gould's model 100H15 submersible pump powered by a new 15 Hp, 240 volt, 3 phase motor. As part of the installation A.C. SCHULTES OF MARYLAND, INC. will supply 336' of 3'' T&C column pipe, submersible wire, (2) 3'' check valves, and 1'' poly water level tubing. The pump will design to yield 100 GPM @ 400' TDH.
20. Run a pump step test overboard to verity proper pump operation (1 hour maximum).

21. Perform startup of the new well and pump.
22. A completion report will be filed with the governing authority.
23. The well pump will be removed from the existing well #4.
24. Tremmie pipe will be used to abandon and sealed the 6" x 433' well with grout per Virginia regulations.
25. An abandonment report will be filed with the governing authority.
26. A technical data packet will be provided containing all relevant information.

The cost for the aforementioned is as follows:

➢ Mobilization.		**$ 15,000.00**
➢ Drill, construct and test well as outlined above.		**$ 152,600.00**
➢ Abandonment of existing well #4.		**$ 6,000.00**
	TOTAL:	**$ 173,600.00**

Please note: Due to the rapid market increases in material costs, this proposal is only valid for 30 days from proposal date. If you wish to proceed with the proposal beyond this date, please contact our office regarding updated pricing.

Our terms of payment are net upon presentation. An interest charge of 1.5% per month will be assessed to all unpaid balances in excess of (30) thirty days past due.

Please be advised the above-mentioned costs do not include the following:

- Site access. The site must be accessible for our truck-mounted equipment.
- Obtaining any permits other than well construction permits.
- Any costs associated with repairs to damaged utilities that are not marked by Miss Utility or the owner.
- Any repairs or modifications to the existing electrical, starters or controls.
- Any repairs or modifications to any piping within the building.
- Supplying or installing any storage tanks.
- Supplying or installing any water treatment equipment.
- Any guarantees of water quality other than meeting the required turbidity, sand, and bacteriological parameters.
- Any offsite disposal of pump test fluids and/or development fluids.
- Supplying or installing a transducer or remote read out.
- Supplying or installing a new flow meter.
- Any guarantee of the existing pipeline condition where we make our connection or costs associated with additional repairs.
- Any coordination or assistance with obtaining COP.
- Any steps required by DEQ or VDH concerning well abandonment in addition to what is stated above.
- Any site restoration beyond rough grading.
- Any work other than noted above.

A.C. SCHULTES OF MARYLAND, INC. would like to thank you for your time and cooperation regarding this matter. If there are any questions or comments, please do not hesitate to contact me at our office.

Respectfully,

A.C. SCHULTES OF MARYLAND, INC.

Chris Kay

Chris Kay
Project Administrator
(ACSM Quote#: TOBG.092221.CK.)

I hereby acknowledge that the description is correct and that all pricing is acceptable for this project (ACSM Quote#:TOBG.092221.CK)

_____ _____

Company Name Representative Name

_____ _____

Signature Date

_____

Purchase Order No. and/or Contract No.

Billing Information: (**please fill in all appropriate information for our accounting dept. to submit invoices**)

____ Invoices must be submitted to the following email address: _____

____ Invoices must be mailed to the following: _____

_____

_____

____ Email and mail to the above listed address (for additional address - list below).

_____

In addition to the above please list any required invoice submission guidelines: _____

_____

_____

_____

Return to admin@acschultes.net or fax (410) 841-6711

ECONOMIC DEVELOPMENT AUTHORITY OF THE TOWN OF BOWLING GREEN, VIRGINIA

The Honorable Mark Gaines, Mayor
Members of Town Council
Town of Bowling Green
117 Butler Street / P.O. Box 468
Bowling Green, Virginia 22427

August 25, 2021

Dear Mr. Mayor and Members of Town Council:

On behalf of the Economic Development Authority of the Town of Bowling Green (EDA), I am requesting Council's consideration to appropriate 20% of funds received through the American Rescue Plan of 2021, to be used for infrastructure projects, visitation and tourism that directly impact our small business community.

Unlike many municipalities suffering from the negative economic impacts of the pandemic, Bowling Green has seen some growth in new business, while residential growth continues to gain interest among developers. Town Council, the Planning Commission and the EDA are charged with the important responsibility of managing the process so that this growth is smart and strategic, yielding positive results for the Town of Bowling Green and its fiscal position.

The EDA is requesting this appropriation in order to continue beautifying the town through addressing infrastructure needs in our downtown business district, along with projects that speak to improving the visitor experience such as, but not limited to, installing and/or improving wayfinding signage. The EDA will work to define a clear scope of work, along with the required estimates and documentation for improvements.

The EDA is dedicated to representing our governing body in a way that reflects support and prosperity in our community and we look forward to collaborating in the future. Thank you for your consideration.

Yours Very Truly,

John Lane
Chairman

CC: Allyson Finchum, Interim Town Manager
Jo-Elsa Jordan, Director of Economic Development