# CHARLES TOWN UTILITY BOARD
# AGENDA

**WEDNESDAY, MAY 8, 2024**

**Regular Meeting** | **661 South George Street, Charles Town, WV 25414** | **4:00 PM**

## CALL TO ORDER

1. **APPROVAL OF MINUTES**
   a. Approval of April 24, 2024 Minutes
      UB Minutes 04.24.24.pdf

2. **PUBLIC COMMENT**
   This portion of the agenda is designed for members of the general public to share thoughts on items of interest in the community. By law, Board members may ask clarifying questions or discuss procedural matters but are not permitted to discuss the policy merits of any issue unless it is scheduled for discussion.

   The Public is invited to attend this meeting in person or via webcast (www.ctubwv.com- Board Meeting - Meeting Agendas and Minutes 2024) or by accessing the following zoom link:

   https://us06web.zoom.us/j/89852619700?pwd=KnSNZHFo0XqUUoycmaEd6Y8pCoUck8.1

   Meeting ID: 898 5261 9700
   Passcode: 400907
   (301)715-8592

3. **UNFINISHED BUSINESS**
   a. Sewer Strategic Plan - Draft
      SSP 2024 Rev.pdf

4. **NEW BUSINESS**
   a. Renewal and Replacement Project Resolution No. 19 - Contractor Pay Application No. 19
      GDF Pay App No. 19.pdf
   b. GDF Greenfield Forcemain Task Order
      Greenfield Forcemain Task Order.pdf
   c. GDF Greenfield Pump Station Upgrades Task Order
      Greenfield PS Task Order.pdf

5. **MANAGER REPORTS**

a. Utility Manager Report
   UM Report 05.08.24.pdf
   Collection Project Schedule 04.22.24.pdf
   Renewal and Replacement Updates 04.30.24.pdf
b. Chairman Report

6. **APPROVAL OF BILLS**
   a. May 8, 2024
      Board Report 05.08.24.pdf

7. **ADJOURNMENT**

8. **INFORMATION ONLY**
   a. Next Meeting - May 22, 2024 at 4:00 P.M.

**Charles Town Utility Board**
**Regular Board Meeting**
**April 24, 2024**

The Charles Town Utility Board held a regular meeting on April 24, 2024 at 4:00 P.M. Members of the Board present were John Nissel, Chairman; Duke Pierson, Vice Chairman; Tommy Stocks, Treasurer; Jeff Whitten, Board Member; and Heidi Parker, Board Member. Also present were Kristen Stolipher, Utility Manager; April Shultz, Assistant Utility Manager; Ashley Stottlemyer, Secretary; Robert Rodecker, Legal Counsel and Tricia Jackson, County Commission Liaison.

## CALL TO ORDER

The Chairman called the meeting to order at 4:00 P.M.

## APPROVAL OF MINUTES

Approval of April 10, 2024 Regular Meeting Minutes

The Chairman called for changes or corrections to the April 10, 2024 regular meeting minutes.

**Action:** **Motion made by Mr. Whitten, second by Mr. Pierson, the Board unanimously approved the April 10, 2024 minutes.**

## PUBLIC COMMENT

Public comment was received from Jacquelyn Milliron, Elizabeth Ricketts and Micheal George.

## OLD BUSINESS

Public Hearing for Source Water Protection Plan – Draft

The Chairman opened the Public Hearing for comments on the draft Source Water Protection Plan. He mentioned the draft plan is due to the WV Bureau of Public Health by May 1st. Public comment was received by Maria Russo from the WV Rivers Coalition.

**Action:** **No action required by the Board.**

Sewer Strategic Plan – Draft

Mrs. Stolipher mentioned that written comments on the draft plan are being accepted until Friday, April 26th. She will bring the draft plan back to the May 8th meeting for adoption.

**Action:** **No action required by the Board.**

## NEW BUSINESS

Spruce Hill North Pump Purchase

Mrs. Stolipher provided the quote for a replacement pump for the Spruce Hill North pump station in the amount of $11,850.00.

**Action:** **Motion made by Mr. Pierson, second by Mr. Stocks, the Board unanimously approved the quote for the Spruce Hill North pump station replacement pump for $11,850.00.**

Race Track Pump Purchase

Mrs. Stolipher provided the quote for a replacement pump for the Race Track (near Applebee's) pump station in the amount of $10,900.00.

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**Action:** **Motion made by Mr. Whitten, second by Mr. Pierson, the Board unanimously approved the quote for the Race Track pump station replacement pump for $10,900.00.**

Resolution 2024-02 – FY 2025 Budget - Draft

Mrs. Shultz briefed the Board on the FY 2025 water and sewer operating budgets. She also included the water and sewer Capital Improvement Projects and Capital Expenditure Budgets. The Board provided discussions.

**Action:** **Motion made by Mr. Pierson, second by Mr. Stocks, the Board unanimously approved Resolution 2024-02 – FY 2025 Budget.**

## MANAGER REPORTS

Utility Manager Report

Mrs. Stolipher provided the contract for the Greenfield project was closed out and the invoice was paid for the test pitting work that was done. At the next meeting, Mrs. Stolipher will have a proposal from Gwin Dobson & Foreman for a redesign of the Greenfield Project to include a new boring.

**Action:** **No action required by the Board.**

Chairman Report

The Chairman provided the County Commission will forward one name to the Charles Town City Council for the appointment of the CTUB Board member vacancy.

**Action:** **No action required by the Board.**

## APPROVAL OF BILLS

April 24, 2024

**Action:** **Motion made by Mr. Stocks, second by Mr. Pierson, the Board unanimously approved the payment of the bills.**

## EXECUTIVE SESSION

Burns Farm Agreement Renewal - Possible Executive Session Under: WV 1 State Code Section §6-9A-4(b)(9) - To consider matters involving or affecting the purchase, sale or lease of property, advance construction planning, the investment of public funds or other matters involving commercial competition, which if made public, might adversely affect the financial or other interest of the state or any political subdivision and involving contract matters.

**Action:** **Motion by Mr. Pierson, second by Mr. Stocks, the Board unanimously approved convening into Executive Session at 4:43 P.M. to discuss the Burns Farm Agreement Renewal.**

**Action:** **Motion made by Mr. Pierson, second by Mr. Stocks, the Board unanimously approved returning to public session. Executive session was declared over at 4:53 P.M.**

**Action:** **Motion made by Mr. Stocks, second by Mr. Pierson, the Board unanimously approved the Burns Farm agreement renewal.**

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Mrs. Parker mentioned she would like to see a discussion regarding CIFs in association with the Strategic Plan discussion at the next meeting. She also thanked Mrs. Shultz for her work in drafting the FY2025 budget and Mrs. Stolipher for adding an index to the subdivision map in the Strategic Plan.

**ADJOURNMENT**

There being no further business at this time, the Board adjourned the meeting.

**Action:** **Motion by Mr. Whitten, second by Mr. Pierson, the Board unanimously adjourned the meeting at 4:55 P.M.**

**INFORMATION ONLY**

The next meeting is scheduled for Wednesday, May 8, 2024 at 4:00 P.M. at 661 S. George Street.

| | |
|---|---|
| _____ | _____ |
| John Nissel | Ashley Stottlemyer |
| Chairman | Secretary |

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# SEWER STRATEGIC PLAN

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## 2024-2027

## CHARLES TOWN UTILITY BOARD

661 South George Street, Suite 101
Charles Town, West Virginia 25414

Phone: (304) 725-2316
Email: info@ctubwv.com

Charles Town Utility Board (CTUB)
Sewer Strategic Plan
2024-2027

Adopted:

_____

**BOARD OF DIRECTORS**

John Nissel, **Chairman**, City of Charles Town City Manager

Keith D. Pierson, **Vice Chairman**, City of Ranson Mayor, City of Ranson Representative

Thomas Stocks, **Treasurer**, City of Charles Town Representative

Jeff Whitten, City of Charles Town Representative

Heidi Parker, Jefferson County Representative

Tricia Jackson, Jefferson County Commission Liaison

**CTUB MANAGEMENT**

Kristen M. Stolipher, Utility General Manager – kstolipher@ctubwv.com

April L. Shultz, Assistant Utility Manager – ashultz@ctubwv.com

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# EXECUTIVE SUMMARY

## Purpose

The purpose of this Sewer Strategic Plan (SSP) is to document the Charles Town Utility Board's (CTUB) existing wastewater collection and treatment system to establish a plan for conveyance of all wastewater that will be generated within the region to the CTUB wastewater treatment plants during current and future periods of growth. The plan will evaluate future improvements needed and implementation strategies both physically and financially. Another major purpose of this SSP is the identification of wastewater peak flows and the evaluation of the capacity of the existing collection and conveyance system to convey these peak flows without backups of wastewater into homes and businesses and without sanitary sewer overflows. The City of Charles Town, by and through CTUB first published a SSP in 2007. The most recent revision to the SSP was approved by CTUB on April 28, 2021. Pursuant to a resolution for a tri-annual SSP update, the current revision serves as the required April 2024 update. The SSP is adopted by the CTUB Board of Directors. Upon adoption, development of actions to implement the SSP can begin. The SSP provides an overall high-level direction to prioritize resources and achieve future success.



Since the adoption of the last SSP, CTUB, through the City of Charles Town, has successfully equalized the sewer rates between the City of Charles Town sewer system, the City of Ranson Sewer System and the Jefferson County Public Service District subsequent to the utility consolidation efforts that occurred on July 1, 2018 and January 1, 2019, respectively. The equalization of rates took place almost 5 years earlier than anticipated. The wastewater treatment and collection systems of the consolidated regional utility are reviewed herein. Significant growth has occurred since the last plan and will be steadily monitored to ensure that appropriate measures are taken to address future capital improvements, operation and maintenance as well as capacity needs. Growth projections are included in this SSP, and will be, in part, considered in determining the timing of those future capital improvements. Communication with local planning and zoning authorities to acquire accurate growth projections is essential for successful monitoring of growth. This plan details the growth within the system based on growth projections provided by the local planning and zoning agencies.

## Scope

The principal issues examined as part of this revision to the SSP include the following:

- Customer satisfaction and public education
- Analyze growth scenarios and develop plant and collection system expansion needs.
- Evaluate the existing wastewater collection system and treatment process in relation to future flows, loads and discharge standards.
- Assess system improvement needs, including capital costs and O&M requirements.
- Develop timeframes associated with necessary system improvements to encompass the plants and collection system.
- Update planning for future sewerage facilities to serve existing and expanded service area.

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## Plan Updates

CTUB has committed to updating this document on a tri-annual basis. Adjustments to the SSP are based on the condition and performance of the overall system, updated construction data and new information regarding growth. Previously published SSP's serve as guidance to achieve accuracy in planning and to enhance the development of current and historical data. The accuracy of the planning process continues to be enhanced through the development of current data and historical data captured in previous SSP's. CTUB makes every effort to involve customers, officials and stakeholders in this process.

Tri-annual updating is expected to proceed in accordance with the following schedule:

- February New data, information, and comments solicited from stakeholders
- March Plan updated.
- April Board of Directors review DRAFT SSP
- May Draft Plan issued for comments
- May/June Plan revised, adopted and published

## Project Planning

This SSP serves as a framework for decision making outlining the specific goals, strategies and objectives for the purpose of planning for future capital improvements based on a 10-year planning period from 2024 to the year 2034. Since the last SSP was adopted, CTUB has initiated the Renewal and Replacement project detailed in the prior SSP. CTUB awarded the project to Alvarez Contractors, Inc. in September 2022 for the construction of the Renewal and Replacement Project at the Charles Town Wastewater Plant. The project will replace critical equipment and aging infrastructure which will allow CTUB operations staff to be more efficient and have additional controls over the operation of the wastewater plant. There are also numerous collection system projects that are currently designed or in design that will address improved efficiencies and upgrade or decommission pump stations to reduce operation and maintenance costs. Based on analysis of available information the following recommendations outline projected near and long-term improvements:

- **Charles Town Wastewater plant**
  - Completion of Renewal and Replacement project
    - Expected to be completed by December 2024.
  - Sand Filters
    - Assessment of Sand Filters (completed December 2023).
    - Implementation of sand filter assessment and successful operation.
  - Future - Expansion of CTWWTP from 1.75 MGD
  - Water Treatment Plant Forcemain Tie-in Project

- **Tuscawilla Wastewater Treatment Plant (TWWTP)**
  - Assessment and possible installation of secondary MBR's.
  - Future – Expansion from 500,000 gpd and/or alternatives analysis

- **Completion of the 2022 Collection System Project (formerly JCPSD Flowing Spring project)**
- **Collection system projects:**
  - George/North/Liberty/Charles Gravity replacement
  - 6th Avenue/Reymann Gravity replacement
  - Mountaineer Pump Station Rehabilitation
  - Wilt's Mobile Home Park Pump Station Decommissioning
  - Belvedere Farm Pump Station Decommissioning

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### Project Recommendations

Critical infrastructure upgrades will be detailed in this SPP. This will include a review of completed projects and future capital improvements. Since the last version of the SSP several key projects have started construction and others are moving through the design phase. In addition to the system wide improvements, it is necessary to begin planning and engineering for expansion of the CTWWTP in the next 10 years.

### Financial

The projected costs associated with the projects outlined above are detailed in this plan. CTUB recently completed the full rate equalization in January 2024. This was a significant accomplishment almost 5 years ahead of schedule. As part of the rate equalization process, CTUB completed a Class Cost of Service Study to assess rates for all customer classes. CTUB will continue to review this every 3 to 5 years to ensure rates are fair, equitable and consistent with the cost of service. CTUB continues to pursue a strategy for funding upgrades, and expansions in a manner that will minimize the burden to the current and future ratepayers. The Board intends to fund the costs for the renewal and replacement project and the facility expansions through conventional rate impacts, payment of prior bonds and Capacity Improvement Fees (CIFs). The CTWWTP and TWWTP Phase 2 Upgrade to 1.0 MGD will require separate funding strategies in a future SSP publication. If the current sewer tariff rates and fees are insufficient to generate funds prior to the next phase of expansion, the City will need to consider funding options for future expansion.

## INTRODUCTION

### Background

The Mission of the Charles Town Utility Board (CTUB) is to provide reliable water and sewer services that protect public health and the environment with financial accountability, regional stewardship, and superior customer service. Specific goals and key areas of focus are:

**Customer Service** – Provide efficient and effective level of service to meet customer and stakeholder expectations.

**Environmental Stewardship** – Take advantage of opportunities to invest in energy efficiency, renewable energy, water and sustainable practices that protect the environment. Meet all applicable regulatory notification and reporting requirements.

**Infrastructure Maintenance** – Properly manage, operate and maintain all parts of the wastewater collection system and provide best service in a cost-effective manner to the customer.

**Financial Stability** – Manage the CTUB finances to support the Utility needs and maintain reasonable sewer rates.

**Workforce Planning and Development** – Provide team-oriented workforce that is fully trained, fairly compensated, and accountable with clearly defined career paths for the evolving work environment.

**Operational Optimization** – Improve functions that support the administrative, financial, technical and field activities and provide the best service to the customer.

CTUB is a combined water and sewer utility that provides sanitary sewerage collection and treatment services for approximately 8,900 sewer customers comprising residential, commercial, industrial and public authority entities within the municipalities of the City of Charles Town, the City of Ranson as well as the surrounding areas within Jefferson County. The County has a population of just under 60,000 and encompasses 212 square miles.

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CTUB has a five (5) member Board of Directors that meets twice monthly to consider issues of substance for Utility operations, making recommendations to the Utility Manager regarding infrastructure management, finances and other policy questions. Subsequent to the Utility consolidation, the Board of Directors has representation from the City of Ranson and Jefferson County (including a voting member and non-voting County Commission liaison). The Board of Directors are appointed by the Mayor and Council of the City of Charles Town and serve staggered four-year terms. In addition to the appointment of the Board of Directors, the City of Charles Town is responsible for the following as it pertains to CTUB:

1) Retains ownership of the assets of the system
2) Authorization of all changes in rates and charges for the water and sewer system
3) Issuance of bonds, notes and other debt obligations secured by the gross revenues of the system
4) Approval of capital projects for the water and sewer system which are not in the "normal course of business"; and
5) Approval of real property condemnations for the System.

CTUB has 31 full-time employees, 2 part-time employees and a sewer operating budget of roughly $6 million annually. Infrastructure assets include three (3) wastewater treatment plants, 125 miles (over 100 miles of gravity and over 25 miles of force main) and 43 pump stations. CTUB has the ability to treat flows interchangeably between the CTWWTP and TWWTP facilities through the Huntfield Transfer Pump stations.

CTUB is a locally rate regulated utility with ultimate oversight by the West Virginia Public Service Commission (WVPSC). CTUB follows the Title 150 Legislature Rule Series 5 which is the rule for the Government of Sewer Utilities established by the WVPSC. Additionally, CTUB has Sewer Specifications and a Developer policy that define requirements for new development and additions/modifications to the sewer system.

### Facilities Plan Summary

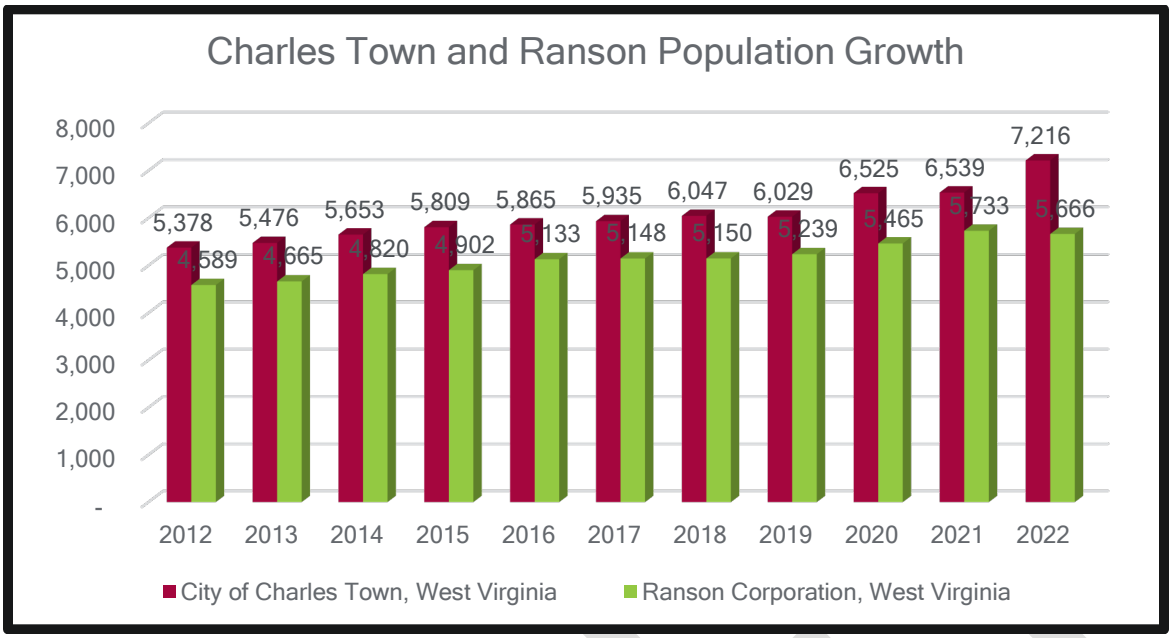
The period used for planning efforts for the Renewal and Replacement projects and 2021 collection system projects are based on a 10-year planning period. This period is the basis for evaluating population growth, estimating treatment capacity requirements, operational needs and evaluating treatment process alternatives. The overall planning period extends from 2024 to 2034 which includes short-term and long-term planning objectives. CTUB has completed the first steps in establishing a sewer-modeling efforts to assist with development of updated capacity improvement fees requirements and capital improvement projects for the next 15 years. Any capital projects identified in the sewer master plan will be included in future SSP's.

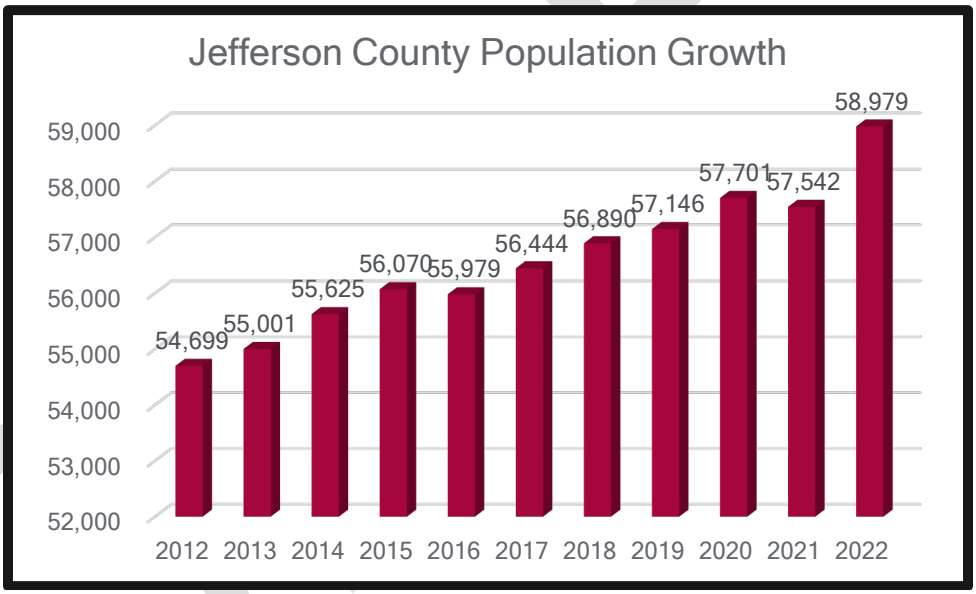
## EXISTING CONDITIONS

### Regional Growth and Service Area

The City of Charles Town, City of Ranson and Jefferson County have continued to experience consistent growth since the issuance of the last SSP. A demonstrated in the charts below, the growth rates in the region have maintained a steady 1% growth increase on an annual basis:

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**Reference: Annual Estimates of the Resident Population for Incorporated Places in West Virginia: April 1, 2020 to July 1, 2022 (SUB-IP-EST2022-POP). Source: U.S. Census Bureau, Population Division, Release Date: May 2020.**

The City of Charles Town, City of Ranson and the Jefferson County Department of Planning, Zoning and Engineering have provided information regarding permits obtained since the issuance of the last SSP. Table 1.1 illustrates the past three years of residential and commercial development data. This historical data shows that an average of 490 residential units were built per year which is significantly up from the average of 129 residential units built per year from the prior reporting period (2018 to 2020).

**Table 1.1 - Development Growth Trend 2021-2023**

| | | | Building Permit Connections | | |
|---|---|---|---|---|---|
| **Region** | **Subdivision** | **Type** | **2021** | **2022** | **2023** |
| County | Aspen Greens | Residential | 0 | 12 | 26 |
| County | Beallair | Residential | 16 | 22 | 16 |
| County | Walnut Grove | Residential | 1 | 1 | 2 |
| County | Burr Park | Commercial | 4 | 5 | 2 |
| County | Cambridge | Residential | 4 | 3 | 1 |
| County | Woodland MHP | Residential | 0 | 0 | 2 |
| County | Tuscawilla | Residential | 1 | 0 | 0 |
| County | Kings Crossing | Residential | 0 | 0 | 27 |
| County | Magnolia Springs | Residential | 116 | 88 | 71 |
| Charles Town | CT Limits | Commercial | 0 | 1 | 0 |
| Charles Town | CT Limits | Residential | 5 | 16 | 18 |
| Charles Town | Washington Landing | Residential | 61 | 26 | 25 |
| Charles Town | Tate Manor | Residential | 29 | 34 | 17 |
| Charles Town | Huntfield | Residential | 0 | 43 | 84 |
| Charles Town | Norborne Glebe | Residential | 1 | 115 | 155 |
| Ranson | Ranson Limits | Commercial | 0 | 0 | 2 |
| Ranson | Ranson Limits | Residential | 2 | 5 | 3 |
| Ranson | President's Pointe | Residential | 6 | 28 | 106 |
| Ranson | Shenandoah Springs | Residential | 0 | 28 | 61 |
| Ranson | Briar Run | Residential | 4 | 0 | 0 |
| Ranson | Huntwell West | Residential | 0 | 0 | 26 |
| Ranson | Potomac Marketplace | Commercial | 0 | 0 | 2 |
| Ranson | Jefferson Crossing | Residential | 37 | 43 | 84 |
| | | | | | |
| **Total Residential Building Permits** | | | **283** | **464** | **724** |
| **Total Commercial Building Permits** | | | **4** | **6** | **6** |

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## Future Development Projections

In addition to the historical information that was provided, future development forecasts were obtained from the City of Charles Town, City of Ranson and Jefferson County Department of Planning Zoning and Engineering that will be monitored to determine necessary improvements to the sewer system. For the purposes of these future projections an average annual build-out of 30 units per year for larger subdivisions/developments is being used for those developments that have surpassed the Concept Plan stage. For those developments that have not entered the design phase but may still come to fruition, a projection of an average built-out of 20 units per year is being used. These averages are based on the most recent historical trends of building within the County. These projections may vary depending on various economic factors such as growth and development trends. Details of the projections are presented in Table 1.2 and known historical data has been utilized for future volumetric capacity forecasting. A full copy of the Development Forecast is included in Appendix A. Refer to Exhibit 1-2 in Appendix C for the location of projected developments.

The housing market in the region has experienced tremendous growth over the past three years and continues in an upward trend with several large housing developments currently under construction. Commercial growth has also seen significant upward trends since the development of the last SSP.

Table 1.2 -CTUB Sewer Strategic Plan 2024 Development Forecast

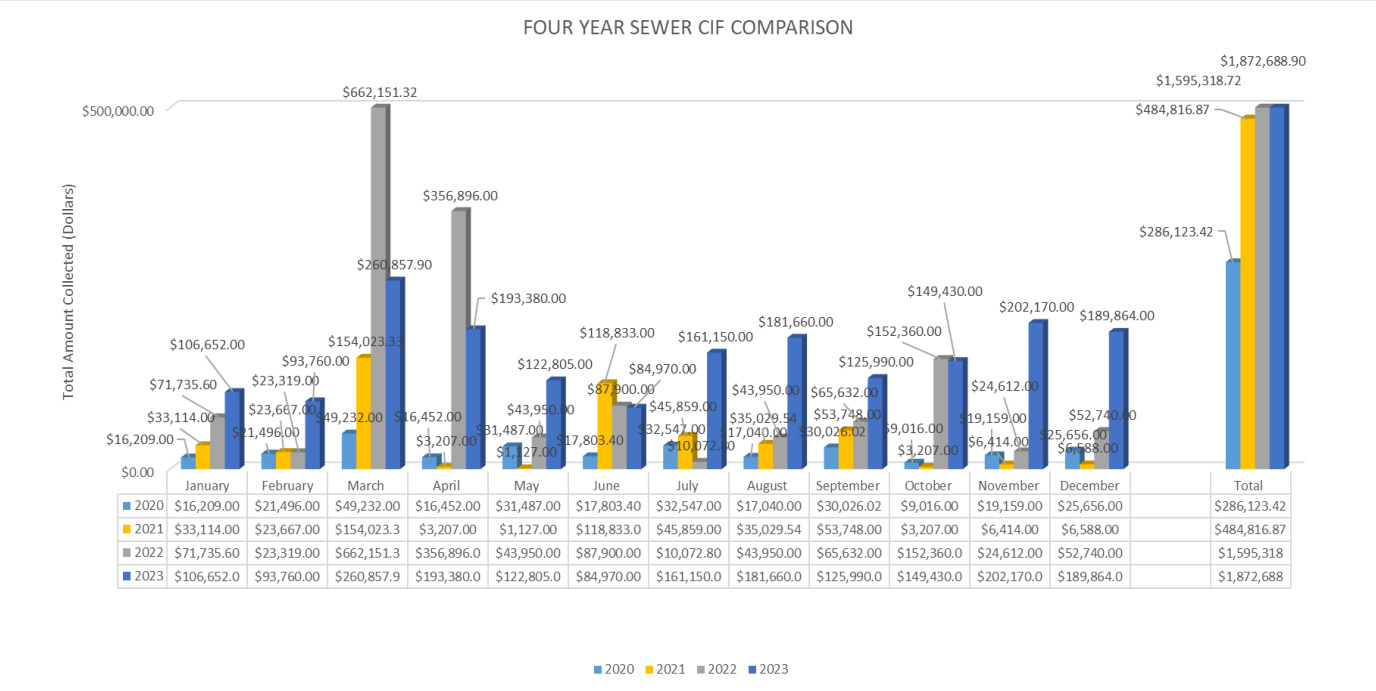
| | Development | Total Design EDUs | Total Built as of 2024 | 20 year forecast to be built | Total Flow | Beyond 20 year forecast | Year 1 2024 | Year 2 2025 | Year 3 2026 | Year 4 2027 | Year 5 2028 | Year 6 2029 | Year 7 2030 | Year 8 2031 | Year 9 2032 | Year 10 2033 | Years 11-20 2034-2043 | TOTAL @ Year 20 | TOTAL REMAINING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Aspen Green | 203 | 85 | 118 | 30,450 | 0 | 30 | 30 | 30 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | 0 |
| 2 | Beallair | 372 | 176 | 196 | 55,800 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 16 | 0 | 0 | 0 | 0 | 196 | 0 |
| 3 | Blackford Village/Tackley Mill | 500 | 0 | 500 | 75,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 20 | 200 | 260 | 240 |
| 4 | Briar Run | 164 | 126 | 38 | 24,600 | 0 | 30 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 |
| 5 | Burr Industrial Park & Bardane | 200 | 178 | 22 | 30,000 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 0 | 0 | 0 | 22 | 0 |
| 6 | Cambridge | 134 | 92 | 42 | 20,100 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 12 | 42 | 0 |
| 7 | Cantor Hollow | 124 | 0 | 124 | 18,600 | 0 | 0 | 0 | 30 | 30 | 30 | 34 | 0 | | | | | 124 | 0 |
| 8 | Charles Town Infill | 250 | 38 | 212 | 37,500 | 112 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 50 | 100 | 112 |
| 9 | Clayhill Farm | 300 | 0 | 300 | 45,000 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 200 | 300 | 0 |
| 10 | Country Club Commons | 8 | 0 | 8 | 1,200 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 8 | 0 |
| 11 | Fairview | 450 | 0 | 450 | 67,500 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 210 | 450 | 0 |
| 12 | Harvest Hills | 392 | 6 | 386 | 58,800 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 200 | 220 | 166 |
| 13 | Huntfield | 3,200 | 554 | 2,646 | 480,000 | 2,046 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 300 | 600 | 2046 |
| 14 | Huntwell West | 350 | 26 | 324 | 52,500 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 24 | 324 | 0 |
| 15 | Jefferson Orchards | 888 | 0 | 888 | 133,200 | 688 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 200 | 200 | 688 |
| 16 | Kable Townhomes | 22 | 0 | 22 | 3,300 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 |
| 17 | King's Crossing | 404 | 58 | 346 | 60,600 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 46 | 346 | 0 |
| 18 | Locust Knoll | 300 | 0 | 300 | 45,000 | 0 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 140 | 300 | 0 |
| 19 | Magnolia Springs | 300 | 259 | 41 | 45,000 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 0 |
| 20 | Norborne Glebe | 1,050 | 626 | 424 | 157,500 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 124 | 424 | 0 |
| 21 | Old Town Ranson - Infill | 250 | 10 | 240 | 37,500 | 90 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 150 | 90 |
| 22 | Orchard Springs | 270 | 0 | 270 | 40,500 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 0 | 270 | 0 |
| 23 | Potomac Marketplace | 54 | 2 | 52 | 8,100 | 0 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 52 | 0 |
| 24 | President's Pointe | 1,100 | 233 | 867 | 165,000 | 267 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 300 | 600 | 267 |
| 25 | Prospect Place | 170 | 0 | 170 | 25,500 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 25 | 25 | 25 | 25 | 52 | 170 | 0 |
| 26 | Ranson Gateway / Boulevard | 1,175 | 0 | 1,175 | 176,250 | 815 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 200 | 360 | 815 |
| 27 | Ranson Heights | 428 | 0 | 428 | 64,200 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 128 | 428 | 0 |
| 28 | Red Clover Meadows (formerly Lloyd Property) | 258 | 0 | 258 | 38,700 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 18 | 0 | 0 | 258 | 0 |
| 29 | Shenandoah Springs | 705 | 285 | 420 | 105,750 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 120 | 420 | 0 |
| 30 | Spring Hill | 588 | 0 | 588 | 88,200 | 48 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 300 | 540 | 48 |
| 31 | Stonecrest | 320 | 0 | 320 | 48,000 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 20 | 320 | 0 |
| 32 | Stone Spring (formerly Fritts Property) | 328 | 0 | 328 | 49,200 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 28 | 328 | 0 |
| 33 | Washington Landing | 274 | 204 | 70 | 41,100 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 0 |
| 34 | Windmill Crossing | 150 | 146 | 4 | 22,500 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 35 | Lakeland Place | 464 | 0 | 464 | 69,600 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 224 | 464 | 0 |
| 36 | Shoemaker Property | 300 | 0 | 300 | 45,000 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 60 | 300 | 0 |
| 37 | WVU Medical | 500 | 0 | 500 | 75,000 | 50 | 0 | 0 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 300 | 450 | 50 |
| 38 | Hillside | 150 | 0 | 150 | 22,500 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 0 | 0 | 0 | 0 | 0 | 150 | 0 |
| 39 | Vinton Property | 300 | 0 | 300 | 45,000 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 60 | 300 | 0 |
| | **Total Projected Development** | **16,145** | **3,104** | **14,291** | **2,541,750** | **4,232** | **528** | **447** | **548** | **546** | **526** | **550** | **518** | **520** | **507** | **509** | **3,130** | **8,569** | **4,472** |

## Capacity Improvement and Development Fees

Capacity Improvement fees (CIF's) are one-time charges assessed against new wastewater customers or developers/builders to recover a proportional share of capital costs incurred to provide capacity for the new utility customers. CTUB completed a CIF study that was completed in December 2021 which set the Sewer CIF at $2,930.00 per equivalent dwelling unit (or per single family home).

A high-level assessment with this study provides the Board with assurance that the CIF fee remains consistent with the CIF study based on changes incorporated in this document. Additional projects will be considered to ensure that the CIF remains in alignment. The Board intends to evaluate the CIF every 3 years.

The following is chart depicts a four-year comparison of sewer capacity fees collected:




| | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2020 | $16,209.00 | $21,496.00 | $49,232.00 | $16,452.00 | $31,487.00 | $17,803.40 | $32,547.00 | $17,040.00 | $30,026.02 | $9,016.00 | $19,159.00 | $25,656.00 | $286,123.42 |
| 2021 | $33,114.00 | $23,667.00 | $154,023.3 | $3,207.00 | $1,127.00 | $118,833.0 | $45,859.00 | $35,029.54 | $53,748.00 | $3,207.00 | $6,414.00 | $6,588.00 | $484,816.87 |
| 2022 | $71,735.60 | $23,319.00 | $662,151.3 | $356,896.0 | $43,950.00 | $87,900.00 | $10,072.80 | $43,950.00 | $65,632.00 | $152,360.0 | $24,612.00 | $52,740.00 | $1,595,318 |
| 2023 | $106,652.0 | $93,760.00 | $260,857.9 | $193,380.0 | $122,805.0 | $84,970.00 | $161,150.0 | $181,660.0 | $125,990.0 | $149,430.0 | $202,170.0 | $189,864.0 | $1,872,688 |

# WASTEWATER TREATMENT

## Description of Existing Treatment Systems

CTUB operates three wastewater plants: the Charles Town Wastewater Treatment Plant (CTWWTP), the Tuscawilla Wastewater Treatment Plant (TWWTP) and the Deerfield Sewer Treatment Plant. These wastewater facilities are designed to process the wastewater collected throughout the community and return the treated water to the environment. The treat methods included a number of physical and biological processes designed to provide optimal conditions for nutrient removal. CTUB is regulated by the West Virginia Department of Environmental Protection (WVDEP) through the U.S. Environmental Protection Agency (EPA).

## Charles Town Wastewater Treatment Plant (CTWWTP)

The CTWWTP is located on WV route 115 in Charles Town. The facility is a Sequencing Batch Reactor (SBR) treatment facility which operates as an Intermittent Cycle Extended Aeration System (ICEAS) and has a hydraulic capacity of 1.75 million gallons per day (MGD). Wastewater treatment components include one (1) coarse bar screen and compactor, one (1) grit removal system with a washer/compactor, one wet well with three (3) submersible pumps, an influent distribution box, three (3) SBR process trains operated in parallel with chemical addition for phosphorus removal, one (1) post SBR equalization tank, six (6) denitrification filters operated in parallel (currently bypassed) with chemical addition for phosphorus removal and carbon addition for denitrification, one (1) ultraviolet (UV) disinfection system and a utility water system (currently not in use). The solids handling consists of three (3) aerobic digesters operated in parallel, one (1) 573,000-gallon aerobic digester (currently not in use), one (1) sludge transfer pump, one (1) belt filter press with conveyor and one (1) lime silo with one (1) dry feed system and screw auger. The belt filter solids are land applied on farms permitted by the WV DEP.

The Charles Town facility originally consisted of primary treatment, activated sludge tanks, secondary settling basins, disinfection by chlorination, aerobic sludge digestion and sand drying beds. The plant was expanded in 1987 to include a third aeration basin and settling basin. Additionally, the plant added an open-channel Ultraviolet Disinfection (UV) unit and a belt filter press with the associated structures. The sand drying beds were removed as part of this expansion.



The plant was upgraded in 2001 and converted the SBR to an ICEAS process. The current influent pump station, headworks building and blower building were also constructed as part of this upgrade. The 573,000-gallon aerobic digester tank was added to the facility during an upgrade in 2005. The digester tank was built to provide additional sludge processing time and increased storage capacity in an effort to produce higher quality solids. Additionally, denitrification filters were installed at the facility in 2016, which included chemical addition facilities for a coagulant for phosphorus precipitation and carbon for denitrification.

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The CTWWTP accepts non-domestic wastewater from the Charles Town Water Plant. The Utility Board currently hauls approximately 6,000-9,000 gallons per week of non-domestic liquid water treatment facility sludge from their existing plant to the CTWWTP digester for processing and thickening. This sludge which is 2-6% solids, consists primarily of river laden material such as sand and dirt along with an aluminum-based coagulant from the sedimentation basins and conventional sand filters. The contents are generally rich in total organic carbon (TOC) from the river source and are difficult to press with the existing Ashbrook belt filter press. The filtrate from the press is returned back to the headworks. The maximum daily permitted volume is 10,000 gallons. The designated NPDES discharge is Outlet No. 001.

The water treatment plant sludge requires a significant amount of polymer addition and adds to the total amount of generated dry tons. It also increases the amount of lime needed for raising the solids pH content. CTUB is currently pursing alternative options to treat and dispose of the water treatment facility sludge through a connection to an adjacent developments sanitary sewer system. This connection is expected to be complete in 2024. This will eliminate the expense and treatment issues with the current method of hauling the sludge to the wastewater treatment facility.

The CTWWTP operates under the West Virginia NPDES No. WV0022349. The current permit, reissued on August 23, 2021, expires on June 30, 2026.

The CTWWTP is permitted for an annual average flow of 1.75 million gallons per day (MGD). Additionally, if the facility discharges 90% (1.58 MGD) or more of its permitted flow over 3 consecutive months, a Plan of Action must be submitted to the WVDEP to demonstrate how to address the capacity of the facility. The maximum monthly average flow during the period of 2021 through 2023 was 1.22 MG.

This facility serves a population equivalent of approximately 17,500 persons in the City of Charles Town, the City of Ranson and the surrounding areas of Jefferson County and discharges treated wastewater through Outlet No. 001 to Evitts Run, approximately 4.5 miles from its mouth, of the Shenandoah River of the Potomac River.

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## CTWWTP Flows and Loading

Historical flow and loading data have been compiled and analyzed for the system. This data provides the basis for projecting future flows and loadings to better understand the timing when a capacity restriction may occur at one of the treatment processes and thus must be addressed in order to provide adequate capacity to serve future growth. Table 1.3 summarize the historical and current values for flow for the CTWWTP.

**TABLE 1.3: CTWWTP PLANT FLOWS 2021-2023**

| 2021 | | | 2022 | | | 2023 | | |
|---|---|---|---|---|---|---|---|---|
| | Total (MG) | AVERAGE (MG) | | Total (MG) | AVERAGE (MG) | | Total (MG) | AVERAGE (MG) |
| JANUARY | 35.83 | 1.22 | JANUARY | 37.25 | 1.20 | JANUARY | 36.55 | 1.21 |
| FEBRUARY | 32.98 | 1.18 | FEBRUARY | 33.8 | 1.21 | FEBRUARY | 28.96 | 1.03 |
| MARCH | 36.39 | 1.17 | MARCH | 33.28 | 1.07 | MARCH | 30.46 | 1.02 |
| APRIL | 34.33 | 1.18 | APRIL | 32.98 | 1.1 | APRIL | 29.52 | 0.98 |
| MAY | 33.24 | 1.07 | MAY | 35.86 | 1.16 | MAY | 30.78 | 0.99 |
| JUNE | 36.24 | 1.21 | JUNE | 29.9 | 1.00 | JUNE | 29.64 | 0.99 |
| JULY | 30.99 | 1.00 | JULY | 29.78 | 0.96 | JULY | 31.2 | 1.01 |
| AUGUST | 29.94 | 0.97 | AUGUST | 30.19 | 1.01 | AUGUST | 29.96 | 1.00 |
| SEPTEMBER | 36.36 | 1.17 | SEPTEMBER | 29.62 | 0.96 | SEPTEMBER | 33.38 | 1.11 |
| OCTOBER | 29.97 | 0.97 | OCTOBER | 29.02 | 0.94 | OCTOBER | 33.02 | 1.07 |
| NOVEMBER | 30.12 | 1.00 | NOVEMBER | 30.09 | 1.00 | NOVEMBER | 33.61 | 1.12 |
| DECEMBER | 35.22 | 1.21 | DECEMBER | 35.38 | 1.14 | DECEMBER | 35.2 | 1.14 |
| | | | | | | | | |
| Annual Total | 401.61 | 1.11 | Annual Total | 387.15 | 1.06 | Annual Total | 382.28 | 1.06 |

Table 1.4 below summarizes the historical plant flow for the CCWWTP from 2019 through 2023. The percent plant capacity on a Maximum 3-month average daily flow basis varied from 65% to 89%. The plant expansion has been noted in the past several SSP's and is further discussed in the future projects section of this SSP. Growth has continued to increase and will be monitored to ensure that appropriate measures are taken to address sewer infrastructure and capacity needs in order to meet the needs of the regional utility.

CTUB continues to monitor growth as well as optimization efforts that have been recommended by CTUB Engineer's Gwin, Dobson & Foreman in advance of the CTWWTP expansion that may extend the service life of the existing facility, enhance process operations and provide additional capacity and improve treatment efficiencies. These optimization efforts include proper digesting of sludge through the addition of equipment which will reduce costs for sludge handling and disposal. These improvements that are part of the Renewal and Replacement project are expected to have significant impact on the operations of the facility and treatment.

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| Table 1.4: Historical Plant Flow CTWWTP | | | | | |
|---|---|---|---|---|---|
| Year | Total Annual Flow (MG) | Annual Average Daily Flow (MGD) | Average Daily Flow (3-month max.) | Permit Capacity (MGD) | Percent Capacity (Average 3-month max/Permit) |
| 2019 | 459 | 1.26 | 1.56 | 1.75 | 89% |
| 2020 | 419.7 | 1.15 | 1.24 | 1.75 | 71% |
| 2021 | 401.61 | 1.11 | 1.52 | 1.75 | 87% |
| 2022 | 387.15 | 1.06 | 1.19 | 1.75 | 68% |
| 2023 | 382.28 | 1.06 | 1.13 | 1.75 | 65% |

The CTWWTP and TWWTP Facilities share total effluent loading limits to the Chesapeake Bay via Outfall 003. Table 1.5 below details the outlets associated with WV0022349:

| Table 1.5: WV/NPDES WV0022349 Outfall Descriptions | |
|---|---|
| Outfall ID | Project Description |
| 001 | Charles Town Plant outlet to Evitts Run |
| 002 | Tuscawilla Plant outlet regardless of whether it is discharged to Evitts Run or used for spray irrigation |
| 202 | Contribution of the total load from the Tuscawilla Plant that is used by the golf course for spray irrigation |
| 203 | Contribution of the total load from the Tuscawilla Plant that is discharged directly to Evitts Run through the new effluent line |
| 003 | Total load actually discharged to Evitts Run. This is the calculated sum of the loads determined from Outlet 001 and Internal Outlet 203. |

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The effluent limits for Outfall 001 are listed below in Tables 1.6 through 1.8 and the minimum sampling and monitoring frequencies are listed in Table 1.6. The tables below include the following parameters:

Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Ammonia (NH3), Total Nitrogen (TN) Total Phosphorous (TP). TN and TP concentrations.

**Table 1.6: NPDES EFFLUENT LIMITS (OUTLET 001) BOD5, TSS AND AMMONIA-NITROGEN**

| Effluent Characteristics | Monthly Average Loading Rate, lbs./day | Weekly Average Loading Rate, lbs./day | Max Daily Loading Rate, lbs./day | Monthly Average Concentration, mg/L | Weekly Average Concentration, mg/L | Max Daily Concentration, mg/L |
|---|---|---|---|---|---|---|
| BOD5 | 301 | N/A | 601 | 20.6 | N/A | 41.2 |
| TSS* | 438 | N/A | 876 | 30 | N/A | 60 |
| Ammonia-Nitrogen as N | 60 | N/A | 120 | 4.1 | N/A | 8.2 |

**Table 1.7: TMDL ANNUAL WASTELOAD ALLOCATIONS: NITROGEN AND PHOSPHOROUS**

| Effluent Characteristics | Charles Town Plant (Outfall 001) | Tuscawilla Plant (Outfall 203) | Annual Total Load Limit (Outfall 003) |
|---|---|---|---|
| Total Nitrogen | 32,115 lbs. | 10,740 lbs. | 42,855 lbs. |
| Total Phosphorus | 3,577 lbs. | 1,790 lbs. | 5,367 lbs. |

**Table 1.8: EFFLUENT LIMITS (OUTFALL OO1); COLIFORM, RESIDUAL CHLORINE, Ph AND D.O.**

| Effluent Characteristics | Maximum | Minimum |
|---|---|---|
| **Fecal Coliform** | 200 Counts/100 mL (Geo. Mean)<br>400 Counts/100 mL (Maximum) | N/A |
| **pH** | 9 | 6 |
| **Dissolved Oxygen (All Year)** | N/A | 6.0 mg/L at anytime |

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| Table 1.9: ANNUAL NPDES PERMIT MINIMUM MONITORING REQUIREMENTS (OUTLET 001) | | |
|---|---|---|
| **Effluent Characteristics** | **Measurement Frequency** | **Sample Type** |
| BOD5 | Once per week | 24-hour composite |
| BOD5 % Removal | Four per month | Calculated |
| Total Suspended Solids (TSS) | Once per week | 24-hour composite |
| Suspended Solids % Removal | Four per month | Calculated |
| Fecal Coliform | Once per week | Grab |
| pH | Once per week | Grab |
| Dissolved Oxygen | Once per week | Grab |
| Ammonia Nitrogen | Once per week | 24-hour composite |
| Total Nitrogen as N (Monthly) | Once per week | 24-hour composite |
| Total Nitrogen as N (Yearly) | Once per year | Calculated |
| Total Phosphorous (Monthly) | Once per week | 24-hour composite |
| Total Phosphorous (Yearly) | Once per year | Calculated |
| Total Copper | Once per quarter | 24-hour composite |
| Total Lead | Once per year | 24-hour composite |
| Total Zinc | Once per year | 24-hour composite |
| Total Arsenic as As | Once per year | 24-hour composite |
| Total Cadmium | Once per year | 24-hour composite |
| Hexavalent Chromium | Once per year | 24-hour composite |
| Cyanide | Once per year | Grab |
| Total Mercury as Hg | Once per month | Grab |
| Total Nickel | Once per year | 24-hour composite |
| Total Silver | Once per year | 24-hour composite |
| Total Hardness as CaCO3 | Once per 6-month period | Grab |
| Total Aluminum | Once per quarter | 24-hour composite |
| Chloride as Cl | Once per quarter | 24-hour composite |
| Chronic Tox. - Cerlodaphina Dubia | Once per year | 24-hour composite |
| Chronic Tox. - Pimephales Promelas | Once per year | 24-hour composite |
| Flow | Continuous | Measured |

Annual effluent loading limits contained in the permit were established under the Chesapeake Bay Total Maximum Daily Load (TMDL) for total nitrogen (TN) and total phosphorus (TP). The Charles Town and Tuscawilla Facilities share total effluent loading limits to the Chesapeake Bay via Outfall 003. The other discharge limits are typical water quality - based limitations developed by the West Virginia Department of Environmental Protection.

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## Tuscawilla Wastewater Treatment Plant (TWWTP)

The TWWTP is a Biological Nutrient Removal (BNR) intergraded with a Membrane Bio-Reactor (MBR) treatment facility having a hydraulic capacity of 0.50 million gallons per day (MGD). Wastewater treatment components include preliminary treatment consisting of one (1) coarse bar screen and compactor, one (1) grit removal system with a washer/compactor, one (1) flow equalization impoundment, one (1) wet well with four (4) submersible pumps and two (2) fine drum screens and compactor, two (2) BNR process treatment trains operated in parallel, chemical addition for phosphorus removal and carbon addition for denitrification, a single MBR basin in operation, one (1) ultraviolet (UV) disinfection system and a utility water system. The solids handling consists of an aerobic digester. Liquid aerobic sludge is transported to the CTWWTP for further processing and disposal. The facility primarily serves the Tuscawilla Hills Subdivision and Locust Hills area. Treated wastewater is discharged to the Tuscawilla Golf Course ponds and irrigation system (to the west) and also into Evitts Run, which is a tributary to the Shenandoah River, via a pumping system (to the east). The upgraded TWWTP has been in operation since 2014. In August of 2020 the MBR filters in Basin #3 were replaced with Toray Filters. The TWWTP operates under the West Virginia NPDES No. WV0022349. The current permit, reissued on August 23, 2021, expires on June 30, 2026. The TWWTP is permitted for an annual average flow of 0.5 million gallons per day (MGD).

## TWWTP Flows and Loading

Historical flow and loading data have been compiled and analyzed for the system. This data provides the basis for projecting future flows and loadings to better understand the timing when a capacity restriction may occur at one of the treatment processes and thus must be addressed in order to provide adequate capacity to serve future growth. Table 2.1 summarize the historical and current values for flow.

**TABLE 2.1: TWWTP PLANT FLOWS 2021-2023**

| 2021 | | | 2022 | | | 2023 | | |
|---|---|---|---|---|---|---|---|---|
| | Total (MG) | AVERAGE (MG) | | Total (MG) | AVERAGE (MG) | | Total (MG) | AVERAGE (MG) |
| JANUARY | 0.52 | 0.07 | JANUARY | 0 | 0 | JANUARY | 7.3 | 0.24 |
| FEBRUARY | 2.22 | 0.08 | FEBRUARY | 0 | 0 | FEBRUARY | 6.38 | 0.23 |
| MARCH | 4.22 | 0.14 | MARCH | 4.34 | 0.14 | MARCH | 6.41 | 0.21 |
| APRIL | 1.12 | 0.04 | APRIL | 4.68 | 0.16 | APRIL | 6.13 | 0.20 |
| MAY | 0.89 | 0.03 | MAY | 6.03 | 0.19 | MAY | 6.30 | 0.20 |
| JUNE | 3.37 | 0.11 | JUNE | 6.21 | 0.21 | JUNE | 6.89 | 0.23 |
| JULY | 3.9 | 0.13 | JULY | 6.48 | 0.21 | JULY | 7.31 | 0.24 |
| AUGUST | 3.6 | 0.12 | AUGUST | 7.01 | 0.23 | AUGUST | 7.7 | 0.25 |
| SEPTEMBER | 4.53 | 0.15 | SEPTEMBER | 7.11 | 0.24 | SEPTEMBER | 6.98 | 0.23 |
| OCTOBER | 3.94 | 0.13 | OCTOBER | 7.27 | 0.23 | OCTOBER | 6.92 | 0.22 |
| NOVEMBER | 3.73 | 0.12 | NOVEMBER | 6.94 | 0.23 | NOVEMBER | 7.22 | 0.24 |
| DECEMBER | 0.51 | 0.07 | DECEMBER | 6.73 | 0.22 | DECEMBER | 8.24 | 0.27 |
| | | | | | | | | |
| Annual Total | 32.55 | 0.10 | Annual Total | 62.8 | 0.17 | Annual Total | 83.78 | 0.230 |

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Table 2.2 summarizes the historical plant flow for the TWWTP from 2019 through 2023. The percent plant capacity on a Maximum 3-month average daily flow basis varied from 0% to 43%.

| Table 2.2: Historical Plant Flow TWWTP | | | | | |
|---|---|---|---|---|---|
| **Year** | **Total Annual Flow (MG)** | **Annual Average Daily Flow (MGD)** | **Average Daily Flow (3-month max.)** | **Permit Capacity (MGD)** | **Percent Capacity** |
| 2019 | 55.24 | 0.15 | 0.14 | 0.5 | 29% |
| 2020 | 1.09 | 0.16 | 0.00 | 0.5 | 0% |
| 2021 | 32.55 | 0.1 | 0.13 | 0.5 | 25% |
| 2022 | 62.8 | 0.17 | 0.11 | 0.5 | 22% |
| 2023 | 83.78 | 0.23 | 0.21 | 0.5 | 43% |
| ** TWWTP was offline for the majority of 2020 due to MBR replacement | | | | | |

| Table 2.3: NPDES EFFLUENT LIMITS (OUTLET 002) BOD5, TSS AND AMMONIA-NITROGEN | | | | |
|---|---|---|---|---|
| **Effluent Characteristics** | **Monthly Average Loading Rate, lbs./day** | **Max Daily Loading Rate, lbs./day** | **Monthly Average Concentration, mg/L** | **Max Daily Concentration, mg/L** |
| BOD5 | 42 | 83 | 10 | 20 |
| TSS* | 125 | 250 | 30 | 60 |
| Ammonia-Nitrogen | 8.3 | 16.7 | 2 | 4 |

| Table 1.7: TMDL ANNUAL WASTELOAD ALLOCATIONS: NITROGEN AND PHOSPHOROUS | | | |
|---|---|---|---|
| Effluent Characteristics | Charles Town Plant (Outfall 001) | Tuscawilla Plant (Outfall 203) | Annual Total Load Limit (Outfall 003) |
| Total Nitrogen | 32,115 lbs. | 10,740 lbs. | 42,855 lbs. |
| Total Phosphorus | 3,577 lbs. | 1,790 lbs. | 5,367 lbs. |

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| Table 2.4: EFFLUENT LIMITS (OUTFALL OO2); COLIFORM, RESIDUAL CHLORINE, Ph AND D.O. | | |
|---|---|---|
| **Effluent Characteristics** | **Maximum** | **Minimum** |
| **Fecal Coliform** | 200 Counts/100 mL (Geo. Mean)<br>400 Counts/100 mL (Maximum) | N/A |
| **pH** | 9 | 6 |
| **Dissolved Oxygen (All Year)** | N/A | 6.0 mg/L at anytime |

Annual effluent loading limits contained in the permit were established under the Chesapeake Bay Total Maximum Daily Load (TMDL) for total nitrogen (TN) and total phosphorus (TP).

Nutrient offsets continue to enhance the City's ability to expand wastewater treatment capacity in light of the nutrient removal requirements of the Chesapeake Bay Program. Because the Tuscawilla WWTP is adjacent to the Locust Hills Golf Course, a portion of its effluent flow is utilized for course irrigation. Telemetry triggers the use of the Tuscawilla Effluent Line for direct discharge to Evitts Run (Outlet 203) when flows exceed Golf Course irrigation use.

Annual reports are submitted to WVDEP for reporting period September through August. Table 2.5 demonstrates CTUB's ability to achieve Chesapeake Bay nutrient limits:

| Table 2.5: Nutrient Reporting | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Year** | **CTWWTP Nitrogen lbs./year** | **CTWWTP Phosphorous lbs./year** | **TWWTP Nitrogen lbs./year** | **TWWTP Nitrogen lbs./year** | **Total Nitrogen (Outlet 003) *Annual Limit 42,855*** | **Total Phosphorous (Outlet 003) *Annual Limit 5,367*** | **Golf Course Total Nitrogen (Outlet 202)** | **Golf Course Total Phosphorous (Outlet 202)** |
| 2020-2021 | 17,112 | 1,785 | 1,643 | 473 | 13,617 | 1,550 | 1,643 | 473 |
| 2021-2022 | 19,194 | 2,045 | 3,190 | 1,361 | 17,247 | 1,904 | 3,190 | 1,361 |
| 2022-2023 | 17,127 | 2,036 | 4,993 | 498 | 17,127 | 2,036 | 4,993 | 498 |

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## Deerfield Treatment Plant

The Deerfield Sewer Treatment Plant is located off Route 480 on Southpaw Lane between Route 9 and Shepherdstown. The facility consists of two adjacent Ashco re-circulating sand filter wastewater treatment plants, one pump station and twelve septic tanks with associated piping. The effluent from this system is distributed just below ground level into two disposal fields.

The Deerfield operates under the West Virginia Department of Environmental Protection Underground Injection Control Permit No. 1503-20-037. The current permit was renewed with an effective date of August 25, 2021 and an expiration date of August 25, 2026. The monitoring requirements are detailed in Table 3.1:

**Table 3.1: DEERFIELD PERMIT MINIMUM MONITORING REQUIREMENTS**

| Effluent Characteristics | Measurement Frequency | Sample Type |
|---|---|---|
| Dissolved Oxygen | Once per 6 months | Grab |
| BOD, 5-day | Once per 6 months | Grab |
| Total Suspended Solids (TSS) | Once per 6 months | Grab |
| Total Nitrogen | Once per 6 months | Grab |
| Total Phosphorous | Once per 6 months | Grab |
| Flow | Once per 6 months | Grab |
| Fecal Coliform | Once per 6 months | Grab |
| pH | Once per 6 months | Grab |

## Performance and Capacity of Existing Treatment Systems

Effluent results indicate that both the CTWWTP and TWWTP facilities produce effluent water quality consistently meeting the permit requirements. The effluent data demonstrates that BOD and TSS concentrations are generally below the 30-day average permit value. Average monthly effluent NH3 concentrations are also observed to be below the minimum daily maximum permit values.

Flow projections for the CTWWTP indicate expansion improvements will be necessary within the next ten years. In 2021 CTUB had Dewberry and GDF, Inc. review the Capacity Improvement Fees as well as a high-level assessment of future capacity needed for a Wastewater Treatment plant expansion. It is anticipated that in 2030 an expansion up to 2.35 with a potential future expansion of the TWWTP Phase 2 Expansion to 1.0 MGD. Based on the data in Table 1.10, growth projections in Table 1.2 and Appendix A, CTUB will begin preliminary evaluation of options for regional wastewater facility needs and expansion in 2024/2025 based on the extensive time required to design and permit a substantial plant upgrade.

### Nutrient Management

Nutrient Management continues to be critical in the regulatory permitting and treatment of sanitary sewer. Previous versions of the SSP documented the history of the implementation of US Environmental Protection Agency (USEPA) 2010 Chesapeake Bay Watershed Initiative. As a headwater partner in the Chesapeake Bay Program, West Virginia established permitted Total Nitrogen and Total Phosphorous pounds. CTUB continues to follow changes in the regulatory requirements to determine necessary changes that may be forthcoming in the Watershed Implementation Program (WIP). CTUB is compliant with nutrient management requirements. CTUB must report nutrient removal for the annual period September 1 to August 31. Table 4.1 depicts permitted pounds and actual pounds removed for the period 2020 through current reporting.

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| Table 4.1: Nutrient Management | | | | | |
|---|---|---|---|---|---|
| | Total Permitted Nitrogen (lbs./yr.) | Total Reported (lbs./yr.) | | Total Permitted Phosphorous (lbs./yr.) | Total Reported (lbs./yr.) |
| 2020-2021 | 42,855 | 13,617 | | 5,367 | 1,550 |
| 2021-2022 | 42,855 | 17,247 | | 5,367 | 1,904 |
| 2022-2023 | 42,855 | 17,127 | | 5,367 | 2,036 |

Forecasted capacity must now also be based on nutrient limitations. In addition to volumetric capacity, nutrient limits will be a factor in determining the timing of capital projects. The ability to achieve the reported levels, as shown in Table 4.1, will eliminate the need for the CTWWTP Nutrient Removal Phase 2 Project.

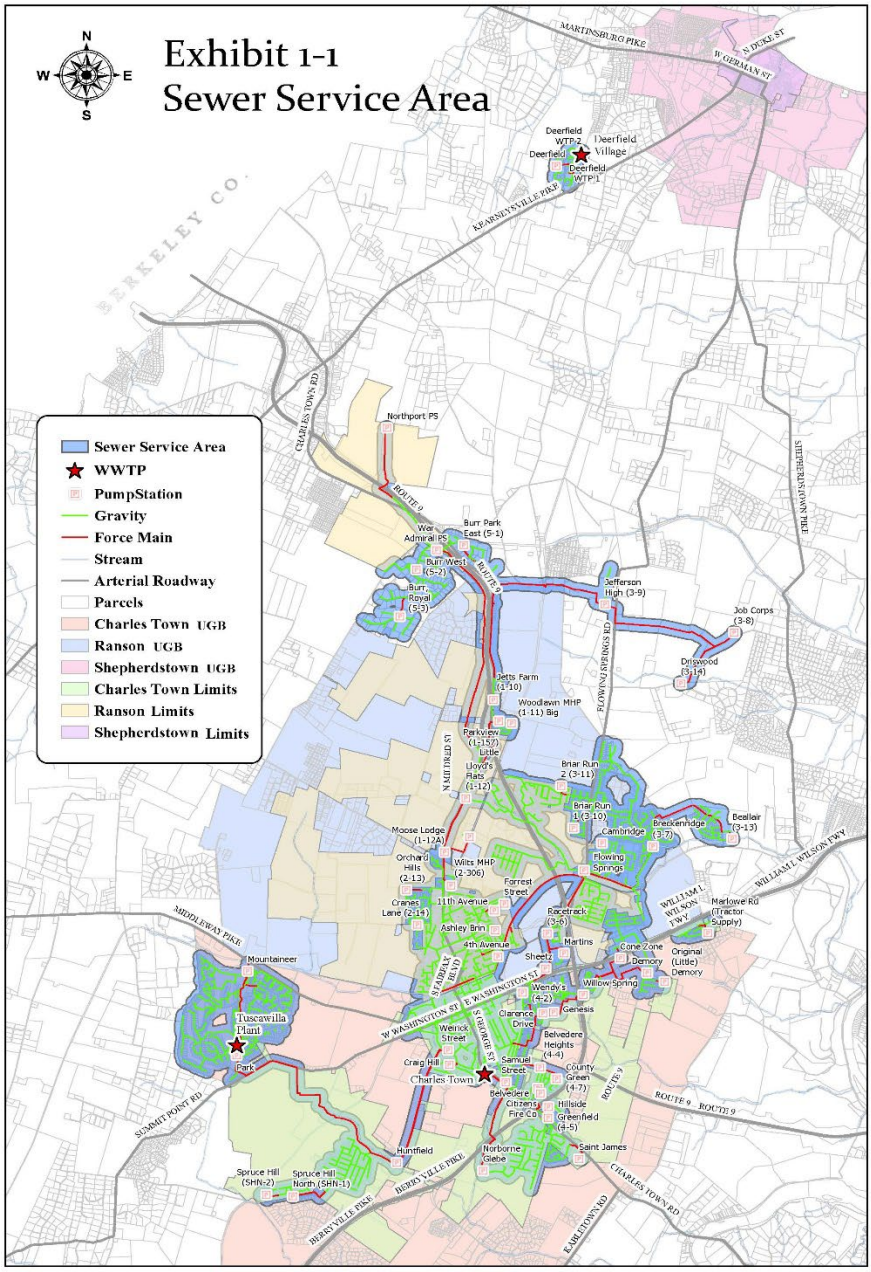
## Sludge Disposal

Sludge Management is covered under the West Virginia NPDES No. WV0022349. The current permit, reissued on August 23, 2021, expires on June 30, 2026. The requirements for sludge management reporting are extensive and are covered in the permit. The Charles Town Plant currently accepts all of the waste sludge from Tuscawilla as well as the water treatment plant process waste. An upgrade to the sludge process is included with the Renewal and Replacement project which will eliminate the belt press process and construct a new centrifuge process. This process will eliminate the use of lime and will drastically improve operations with a reduction in labor expense due to the improved process.

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## COLLECTION SYSTEM, TRANSMISSION MAINS AND PUMP STATIONS

CTUB provides wastewater service to approximately 8,800 sewer customers through a network of collection and transmission systems through over 125 miles (over 100 miles of gravity and over 25 miles of force main) and 43 pump stations to the three (3) treatment facilities noted in the previous section. Refer to Exhibit 1-1 and Appendix B for the current collection system service area and pump station locations.



## Collection System and Pumping Stations



The collection system includes gravity and force mains that range from 1.5 to 24 inches in diameter. The collection system comprises of varying pipe materials including asbestos-cement, clay, ductile, cast and PVC piping. There are significant portions of the collection system that are aging and will likely need of repairs or replacement. A sewer hydraulic model was completed in January 2021 that identified several portions of the conveyance system that may need to be addressed due to capacity concerns. Specifically, the study identified capacity concerns along the Evitt's Run interceptor as well as the gravity line through Jefferson Memorial Park. These critical upgrades have been included in the 2022 Collection System Project. Additionally, studies have focused on manholes structures throughout the system that need to be repaired or replaced in the near future. To the extent possible these will be achieved within the annual operation and maintenance budgets. CTUB will continue to perform flow monitoring throughout the system to assess capacity constraints.

Pump stations and force mains are used to pump flows to another gravity collection system, to a master pump station or directly to the wastewater treatment facilities. There are 43 pump stations in the CTUB system. As a result of utility consolidation, efficiencies have been realized that allow for the installation of gravity sewer mains and decommissioning of pump stations. Where possible, the efficiencies will be pursued to reduce overall operation and maintenance expenses. To the extent possible these projects may be performed in-house to reduce overall project costs.

## Fats, Oils and Grease

Overflows and sewer backups are commonly caused by fats, oil and grease (FOG). FOG gets into the sewer from household drains and neglected grease interceptors at businesses and restaurants. The FOG blocks sewer pipes, causing health hazards and leading to expensive fixes. CTUB will focus on community education and outreach to reduce the damage to the utility sewer system.

## Inflow and Infiltration

Inflow occurs when stormwater flows directly into the sewer collection system. This may be through a manhole cover, or a cross connection between a storm drain and the sewer collection system. Infiltration is typically caused by ground water entering the collection system at defects in mains, laterals or manholes. CTUB has included additional smoke testing in the operational budgets for the next Strategic Planning period. CTUB continues to assess ways to address disconnection of any cross connections of storm drains to the sewer system which are considered illegal connections. CTUB is working with the City of Charles Town staff and officials to determine the appropriate enforcement actions to remove the illegal connections from the sewer system.

# PROJECT REVIEW

## Completed Projects

Since the last issuance of the SSP, significant improvements have been made throughout the treatment and collection system. Necessary upgrades and improvements to the CTWWTP and TWWTP were completed to address WVDEP Inspection requirements as well as operation and maintenance improvements to the collection and pump station network have been made as a result of consolidation into a regional utility. These improvements include elimination of pump stations through installation of gravity lines which reduce operation and maintenance expenses as well as projects that address rehabilitation of aging pump stations and lines to further reduce utility expenses.

**Table 5.1: Projects Completed since 2021 SSP**

| Year | Project Description |
|---|---|
| 2021 | NPDES Permit Reissuance |
| 2021 | Completed 1st step in rate equalization |
| 2021 | Completed Manhole assessment |
| 2021 | $1,966,030 EEG Grant received for the Renewal and Replacement Project |
| 2021 | Decommissioned Hale Road and County Green Pump Stations |
| 2021 | Initiated and Completed Sewer Capacity Improvement fee assessment |
| 2022 | Issue Notice to Proceed on Renewal and Replacement Project in September 2022 |
| 2022 | Cave Road and Shenandoah Junction Distressed Utility assistance |
| 2022 | Initiate Greenfield Force main upgrade project |
| 2023 | Received $1,620,000 EEG Grant from IJDC for the Collection System Project |
| 2023 | Completed Class Cost of Service Study on rates |
| 2023 | Wendy's Pump Station Upgrades |
| 2023 | Basin Cleaning at Charles Town Wastewater Plant |
| 2024 | Completed rate equalization of all rates in January 2024 |

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It should be noted that since the last SSP several key projects have either been completed or are no longer viable projects for CTUB. Specifically, the initial phases of Inflow and Infiltration studies and sewer modeling efforts were completed. Additionally, the Shenandoah Junction and Cave Road distressed utility connections were deemed part of the Jefferson Utility acquisition by West Virginia American Water therefore they are no longer part of planning efforts for CTUB.

## Current Development and Projects

There are numerous on-going sewer projects that CTUB is evaluating:

### 2022 Collection System Project (formerly JCPSD Flowing Springs Project/Modified Flowing Springs Plan)

CTUB is working with RK&K and various consultants to finalize this project and is currently in the process of obtaining easements for the project. The engineer's construction cost estimate for this project is currently $8,283,000. CTUB has received a grant award in the amount of $1,620,000. CTUB also anticipates contributing approximately $3,000,000.00 towards the project from Capacity Improvement Fees. Funding for the Project consists of (i) a $3,575,000 USDA RD loan at a 2.5 percent interest rate over 40 years. And (ii) a WVDEP SRF loan of $2,844,984 at .25 percent interest, and a .25 percent administrative fee for a term up to 40 years, and debt forgiveness in the amount of $500,000 per the January 17, 2017 DEP assurance letter. During the consolidation of utilities, CTUB committed to the WV PSC completing necessary components of the Flowing Springs project through submission of a Modified Flowing Springs Plan in March 2018. Since the utility consolidation and completion of the Route 9 sewer project, CTUB has evaluated efficiencies and operational alternatives to significantly reduce components and costs of the Modified Flowing Springs Plan. The Flowing Springs Project and Modified Flowing Springs plan have evolved into a 2025 Collection System projects which consists of necessary improvements to the CTUB collection system. Table 5.2 includes a summary of the anticipated components and costs of this project.

### 2021 Renewal and Replacement Project for CTWWTP and TWWTP

In 2022, CTUB issued the Notice to Proceed on the Renewal and Replacement Project for the Charles Town Wastewater Treatment Plant. This project was awarded to Alvarez Contractors, Inc. in the amount of $10,151,000.00. The project was designed by Gwin, Dobson and Foreman, Inc. (GDF) and included improvements to the following:

- Headworks screening
- The influent and effluent pump stations
- UV disinfection system
- Supervisory Control and Data Acquisition (SCADA) system modifications
- Solids Handling upgrade to Centrifuge
- New Electrical Building and electrical throughout the plant
- Implementation of full sludge digestion
- FRP Shelter installation for electrical components.

The Renewal and Replacement project is approximately 75% complete with several key electrical components waiting to be shipped. Although the project was expected to be substantially complete by June 2024, however it appears that these delays will impact the schedule and delay substantial completion by several months. The project continues to be within budget.

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Table 5.2 below illustrates the anticipated costs associated with the current and future projects:

| Table 5.2: 2024 Project Estimate Summary | |
|---|---|
| **WASTEWATER TREATMENT PLANT PROJECTS** | |
| **Wastewater Treatment projects** | **Costs** |
| Renewal and Replacement Project (Near Completion end of 2024) | $12,135,000.00 |
| Preliminary Engineering for Plant expansion | $50,000.00 |
| Blue-Nite Sand Filter Rehabilitation | $200,000.00 |
| Maintenance Shop (split with Water Operations) | $250,000.00 |
| | |
| **Future Plant Projects** | |
| CTWWTP Upgrades and Expansion (2030) | $20,500,000.00 |
| | . |
| **Total Wastewater Plant Project Costs** | **$33,135,000.00** |
| | |
| **Collection System Projects** | **Costs** |
| RK&K Task 7 Parkview MHP Pump Station Decommission | In-house (COMPLETED) |
| RK&K Task 7 Lloyd's Flat Pump Station Decommission | In-house (COMPLETED) |
| Upgrades to Existing Wendy's Pump Station | In-house (COMPLETED) |
| | |
| **2022 Collection System Project** | |
| Burr East Pump Station | $910,900.00 |
| Moose Lodge | $426,400.00 |
| Jett's Farm | $721,100.00 |
| Lakeland Place | $1,257,800.00 |
| Jefferson Memorial Park Collector | $332,500.00 |
| Evitt's Run Collector | $1,668,400.00 |
| Flowing Spring Pump Station (Possible Bid Alternate) | $2,965,900.00 |
| Collection System Engineering, Legal, Design | $1,275,000.00 |
| **RK&K Collection System Project Total** | **$9,558,000.00** |
| | |
| **Future CTUB Collection System Projects** | **Costs** |
| Cantor Hollow Pump Station | $145,000.00 |
| Greenfield | $1,100,000.00 |
| Greenfield Pump Station | $370,000.00 |
| Fairfax Parallel Line/Collector Project | $510,000.00 |
| 2026/2027 Collection system project | $3,000,000.00 |
| Collections Project and Pump Stations Project (2031) | $3,250,000.00 |
| **Total 2022 and Future Collection System Project Costs** | **$17,933,000.00** |
| | |
| **Total Plant and Collection Projects** | **$51,068,000.00** |

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### Future Projects

CTUB is actively working on various projects that will result in more operational efficiencies, tracking and growth of the utility system. CTUB continues to keep the sewer hydraulic model updated and follows changes in growth that may impact the collection and transmission system growth related projects. CTUB has developed a 10-year Capital Improvement Plan (CIP) Expenditure Plan to track capital projects and expenditures. The CIP prioritizes planning projects that are needed as a result of the following factors:

- Regulatory Compliance
- Condition/Probability of Failure
- Consequences of Failure/Risk
- Capacity / System Operational Efficiencies
- Improved Operations and Maintenance costs
- Safety
- Design Life / Best Replacement Practices
- Redundancy / Reliability
- Opportunity Projects
- Development Extensions

The CTUB Asset Management Plan will be updated to assist with the development and maintenance of a CIP over the next several years. CTUB is continuing to evaluate conversion to a software program that will provide cohesive interaction between accounting, billing, asset management and maintenance programming for all facilities.

### CTWWTP Plant Expansion

Expansion of the CTWWTP is expected within the next 10 years based on the historical flow data in Table 1.4 as well as the development projections detailed in Table 1.2. Design efforts will be initiated in 2024/2025.

There are various factors that need to be evaluated with an expansion of the CTWWTP including location, size, type of facility and environmental protection. An expansion from 1.75 MGD is estimated to cost approximately $18 to $23 million in today's dollars. Every effort will be made to provide the most cost-effective design to minimize any burden to ratepayers.

## RATE EQUALIZATION, FUNDING AND FINANCIAL OPTIONS

### Rate Equalization

During the consolidation of utilities, the City of Charles Town agreed to exercise its best efforts to equalize the rates and charges for water service of all water and sewer customers within 10 years after the closing date. In January 2024, CTUB completed this obligation nearly 5 years ahead of schedule. CTUB continues to maintain a positive financial position. The ability to equalize rates well in advance of the 10-year mark demonstrates the benefits of the consolidation efforts.

The Class Cost of Service Study performed in 2023 identified several rate adjustments necessary for sewer. No rate increase was necessary however the rate tariff structure was revised to more appropriately align the various rates with the customer classes.

CTUB continues to maintain a minimum debt/service coverage ratio of 130%. The debt service coverage ratio required by bondholders for the combined utility is 115%.

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## Funding and Financial Planning

CTUB has successfully initiated the Renewal and Replacement project at the Charles Town Wastewater Plant. In addition, CTUB is nearing completion of the 2021 Collection System Project and expects to have the project out to bid in the summer of 2024.

CTUB continues to pursue a strategy for funding upgrades and expansion in a manner that will minimize the burden to the current and future ratepayers. CTUB intends to fund the costs for the above projects through conventional rate impacts, payment of prior bonds and Capacity Improvement Fees. The development of a capital improvement plan will identify future capital purchases that are necessary for the operation of the sewer system. CTUB continues to update the Capital Improvement Plan that will identify system needs and will aid in the evaluation of the Capacity Improvement fees. The next evaluation of Capacity Improvement Fees is anticipated to be underway in 2025.

Future CTWWTP expansion is expected to be necessary within the next 10 years. This will require a significant capital outlay and funding strategies in a future SSP and project discussion. It is anticipated that plant expansion could range from $18 to $23 million.

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# APPENDIX A – GROWTH PROJECTIONS

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| | Table 1.2 -CTUB Sewer Strategic Plan 2024 Development Forecast | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Development | Total Design EDUs | Total Built as of 2024 | 20 year forecast to be built | Total Flow | Beyond 20 year forecast | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Years 11-20 | TOTAL @ Year 20 | TOTAL REMAINING |
| | | | | | | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2034-2043 | | |
| 1 | Aspen Green | 203 | 85 | 118 | 30,450 | 0 | 30 | 30 | 30 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | 0 |
| 2 | Beallair | 372 | 176 | 196 | 55,800 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 196 | 0 |
| 3 | Blackford Village/Tackley Mill | 500 | 0 | 500 | 75,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 200 | 260 | 240 |
| 4 | Briar Run | 164 | 126 | 38 | 24,600 | 0 | 30 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 |
| 5 | Burr Industrial Park & Bardane | 200 | 178 | 22 | 30,000 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 |
| 6 | Cambridge | 134 | 92 | 42 | 20,100 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 0 | 0 | 0 | 0 | 0 | 12 | 42 | 0 |
| 7 | Cantor Hollow | 124 | 0 | 124 | 18,600 | 0 | 0 | 0 | 30 | 30 | 30 | 34 | 0 | | | | | | | | | | | | | | | 124 | 0 |
| 8 | Charles Town Infill | 250 | 38 | 212 | 37,500 | 112 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 50 | 100 | 112 |
| 9 | Clayhill Farm | 300 | 0 | 300 | 45,000 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 200 | 300 | 0 |
| 10 | Country Club Commons | 8 | 0 | 8 | 1,200 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| 11 | Fairview | 450 | 0 | 450 | 67,500 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 0 | 0 | 0 | 210 | 450 | 0 |
| 12 | Harvest Hills | 392 | 6 | 386 | 58,800 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 200 | 220 | 166 |
| 13 | Huntfield | 3,200 | 554 | 2,646 | 480,000 | 2,046 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 300 | 600 | 2046 |
| 14 | Huntwell West | 350 | 26 | 324 | 52,500 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 324 | 0 |
| 15 | Jefferson Orchards | 888 | 0 | 888 | 133,200 | 688 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 200 | 200 | 688 |
| 16 | Kable Townhomes | 22 | 0 | 22 | 3,300 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 |
| 17 | King's Crossing | 404 | 58 | 346 | 60,600 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 346 | 0 |
| 18 | Locust Knoll | 300 | 0 | 300 | 45,000 | 0 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 0 | 0 | 0 | 140 | 300 | 0 |
| 19 | Magnolia Springs | 300 | 259 | 41 | 45,000 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 0 |
| 20 | Norborne Glebe | 1,050 | 626 | 424 | 157,500 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 124 | 424 | 0 |
| 21 | Old Town Ranson - Infill | 250 | 10 | 240 | 37,500 | 90 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 50 | 150 | 90 |
| 22 | Orchard Springs | 270 | 0 | 270 | 40,500 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 0 |
| 23 | Potomac Marketplace | 54 | 2 | 52 | 8,100 | 0 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 52 | 0 |
| 24 | President's Pointe | 1,100 | 233 | 867 | 165,000 | 267 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 300 | 600 | 267 |
| 25 | Prospect Place | 170 | 0 | 170 | 25,500 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 25 | 25 | 25 | 25 | 25 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 170 | 0 |
| 26 | Ranson Gateway / Boulevard | 1,175 | 0 | 1,175 | 176,250 | 815 | 0 | 0 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 200 | 360 | 815 |
| 27 | Ranson Heights | 428 | 0 | 428 | 64,200 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 8 | 0 | 0 | 0 | 0 | 0 | 128 | 428 | 0 |
| 28 | Red Clover Meadows (formerly Lloyd Property) | 258 | 0 | 258 | 38,700 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 0 |
| 29 | Shenandoah Springs | 705 | 285 | 420 | 105,750 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 420 | 0 |
| 30 | Spring Hill | 588 | 0 | 588 | 88,200 | 48 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 300 | 540 | 48 |
| 31 | Stonecrest | 320 | 0 | 320 | 48,000 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 320 | 0 |
| 32 | Stone Spring (formerly Fritts Property) | 328 | 0 | 328 | 49,200 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 328 | 0 |
| 33 | Washington Landing | 274 | 204 | 70 | 41,100 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 0 |
| 34 | Windmill Crossing | 150 | 146 | 4 | 22,500 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 35 | Lakeland Place | 464 | 0 | 464 | 69,600 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 14 | 0 | 0 | 224 | 464 | 0 |
| 36 | Shoemaker Property | 300 | 0 | 300 | 45,000 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 300 | 0 |
| 37 | WVU Medical | 500 | 0 | 500 | 75,000 | 50 | 0 | 0 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 300 | 450 | 50 |
| 38 | Hillside | 150 | 0 | 150 | 22,500 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 150 | 0 |
| 39 | Vinton Property | 300 | 0 | 300 | 45,000 | 0 | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 300 | 0 |
| | **Total Projected Development** | **16,145** | **3,104** | **14,291** | **2,541,750** | **4,232** | **528** | **447** | **548** | **546** | **526** | **550** | **518** | **520** | **507** | **509** | **472** | **386** | **343** | **347** | **258** | **250** | **250** | **200** | **200** | **200** | **3,130** | **8,569** | **4,472** |

# APPENDIX B – EXISTING SERVICE AREA

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# Exhibit 1-1
# Sewer Service Area

N
W
E
S

- Sewer_Service_Area
- WWTP
- Pump_Station
- Gravity
- Force_Main
- Stream
- Arterial_Roadway
- Parcels
- Charles_Town_UGB
- Ranson_UGB
- Shepherdstown_UGB
- Charles_Town_Limits
- Ranson_Limits
- Shepherdstown_Limits

MARTINSBURG PIKE
N DUKE ST
W GERMAN ST
Deerfield Village
Deerfield
KEARNEYSVILLE PIKE
BERKELEY CO.
Northport PS
CHARLES TOWN RD
War Admiral PS
Burr Park East (5-1)
Burr West (5-2)
Burr, Royal (5-3)
ROUTE 9
Jefferson High (3-9)
Job Corps (3-8)
FLOWING SPRINGS RD
Driswood (3-14)
SHEPHERDSTOWN PIKE
Jetts Farm (1-10)
Woodlawn MHP (1-11) Big
Briar Run 2 (3-11)
N MILDRED ST
Briar Run 1 (3-10)
Beallair (3-13)
Breckenridge (3-7)
Moose Lodge (1-12A)
Flowing Springs
WILLIAM L WILSON FWY
Orchard Hills (2-13)
Wilts MHP (2-306)
Forrest Street
Cranes Lane (2-14)
11th Avenue
Marlowe Rd (Tractor Supply)
Ashley Brin
Racetrack (3-6)
4th Avenue
MIDDLEWAY PIKE
Mountaineer
Original (Little) Demory
Demory
Willow Spring
E WASHINGTON ST
N GEORGE ST
Wendy's (4-2)
Clarence Drive
W WASHINGTON ST
Tuscawilla Plant
Weirick Street
Magnolia Springs
Charles Town
Craig Hill
Park
S GEORGE ST
Belvedere
Samuel Street
Hillside
ROUTE 9
ROUTE 9
ROUTE 9
Greenfield (4-5)
SUMMIT POINT RD
BERRYVILLE PIKE
Huntfield
Spruce Hill (SHN-2)
Spruce Hill North (SHN-1)
BERRYVILLE PIKE
CHARLES TOWN RD
KABLETOWN RD

# APPENDIX C – PROJECTED DEVELOPMENTS

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# Exhibit 1-2
# Projected Developments

* See 2024-2043 Development Forecast spreadsheet in Appendix A of Strategic Plan

| | Development |
|---|---|
| 1 | Aspen Green |
| 2 | Beallair |
| 3 | Blackford Village/Tackley Mill |
| 4 | Briar Run |
| 5 | Burr Industrial Park & Bardane |
| 6 | Cambridge |
| 7 | Cantor Hollow |
| 8 | Charles Town Infill |
| 9 | Clayhill Farm |
| 10 | Country Club Commons |
| 11 | Fairview |
| 12 | Harvest Hills |
| 13 | Huntfield |
| 14 | Huntwell West |
| 15 | Jefferson Orchards |
| 16 | Kable Townhomes |
| 17 | King's Crossing |
| 18 | Locust Knoll |
| 19 | Magnolia Springs |
| 20 | Norborne Glebe |
| 21 | Old Town Ranson - Infill |
| 22 | Orchard Springs |
| 23 | Potomac Marketplace |
| 24 | President's Pointe |
| 25 | Prospect Place |
| 26 | Ranson Gateway / Boulevard |
| 27 | Ranson Heights |
| 28 | Red Clover Meadows (formerly Lloyd Property) |
| 29 | Shenandoah Springs |
| 30 | Spring Hill |
| 31 | Stonecrest |
| 32 | Stone Spring (formerly Fritts Property) |
| 33 | Washington Landing |
| 34 | Windmill Crossing |
| 35 | Lakeland Place |
| 36 | Shoemaker Property |
| 37 | WVU Medical |
| 38 | Hillside |
| 39 | Vinton Property |

Tuscawilla Plant

Charles Town

WWTP
Gravity
Force_Main
Stream
Arterial_Roadway
Parcels
Charles_Town
Ranson_UGB
Shepherdstown_UGB
Charles_Town_Limits
Ranson_Limits

**CHARLES TOWN UTILITY BOARD**
**2022 RENEWAL AND REPLACEMENT PROJECT**

**RESOLUTION NO. 19**

**RESOLUTION OF THE CITY OF CHARLES TOWN UTILITY BOARD APPROVING INVOICES RELATING TO THE CONSTRUCTION AND OTHER SERVICES FOR THE 2022 CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT AND AUTHORIZING PAYMENT THEREOF,**

**WHEREAS**, the City of Charles Town Utility Board (CTUB) has reviewed the invoices attached hereto and incorporated herein by reference relation to the project:

a) That none of the items for which payment is proposed to be made has formed the basis for any disbursement theretofore made.

b) That each item for which the payment is proposed to be paid is or was necessary in connection with the Project and constitutes a cost of the project.

c) That each of such costs has been otherwise properly incurred.

d) That the payment for each of the items proposed is due and owing.

**NOW, THEREFORE, BE IT RESOLVED** the City of Charles Town Utility Board that the payment of the attached Contractor's Application for Payment No. 19 as summarized below, is hereby authorized and directed.

| Vendor | 2022B & 2022C Construction Fund | WDA Funding EEGF Grant | Total |
|---|---|---|---|
| Alvarez Contractors, Inc. | $0.00 | $277,040.90 | $277,040.90 |
| | | | |
| **Total** | **$0.00** | **$277,040.90** | **$277,040.90** |

**ADOPTED BY the City of Charles Town Utility Board**, at the meeting held on the 8th day of May, 2024.

By: _____
John Nissel, Chairman

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

# Contractor's Application for Payment No. 19

| | | |
|---|---|---|
| To (Owner): CHARLES TOWN UTILITY BOARD | Application Period: 4/01/24-4/30/24 | Application Date: 4/30/2024 |
| Project: CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT | From (Contractor): ALVAREZ CONTRACTORS, INC. | Via (Engineer): GWIN, DOBSON & FOREMAN INC. |
| Owner's Contract No.: | Contract: CONTRACT #1 | |
| | Contractor's Project No.: | Engineer's Project No.: |

**Application For Payment**

**Change Order Summary**

Approved Change Orders

| Number | Additions | Deductions |
|---|---|---|
| CO 1 | $498,183.42 | |
| CO 2 | $41,179.57 | |
| CO 3 | $90,351.00 | |
| | | |
| | | |
| | | |
| | | |
| | | |
| TOTALS | $629,713.99 | |
| NET CHANGE BY CHANGE ORDERS | **$629,713.99** | |

| | | |
|---|---|---|
| 1. ORIGINAL CONTRACT PRICE | $ | $10,151,000.00 |
| 2. Net change by Change Orders | $ | $629,713.99 |
| 3. Current Contract Price (Line 1 ± 2) | $ | $10,780,713.99 |
| 4. TOTAL COMPLETED AND STORED TO DATE (Column F total on Progress Estimates) | $ | $8,069,615.06 |
| 5. RETAINAGE: | | |
| a. 5% X $7,764,433.26 Work Completed | $ | $388,221.66 |
| b. 5% X $305,181.80 Stored Material | $ | $15,259.09 |
| c. Total Retainage (Line 5.a + Line 5.b) | $ | $403,480.75 |
| 6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5.c) | $ | $7,666,134.31 |
| 7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application) | $ | $7,389,093.41 |
| 8. AMOUNT DUE THIS APPLICATION | $ | $277,040.90 |
| 9. BALANCE TO FINISH, PLUS RETAINAGE (Column G total on Progress Estimates + Line 5.c above) | $ | $3,114,579.68 |

**Contractor's Certification**

The undersigned Contractor certifies, to the best of its knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

**Contractor Signature**

| By: | Date: |
|---|---|
| | 4/30/2024 |

Payment of: $ $277,040.90
(Line 8 or other - attach explanation of the other amount)

is recommended by: _____ 04/30/2024
(Engineer) (Date)

Payment of: $ $277,040.90
(Line 8 or other - attach explanation of the other amount)

is approved by: _____ _____
(Owner) (Date)

Approved by: _____ _____
Funding or Financing Entity (if applicable) (Date)


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## Progress Estimate - Lump Sum Work

## Contractor's Application

| For (Contract): | CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT | Application Number: | 19 |
|---|---|---|---|
| Application Period: | 4/01/24-4/30/24 | Application Date: | 4/30/2024 |

| | | | Work Completed | | E | F | | G |
|---|---|---|---|---|---|---|---|---|
| A | | B | C | D | | | | |
| Schedule of Values Item No. | Description | Scheduled Value ($) | From Previous Application (C+D) | This Period | Materials Presently Stored (not in C or D) | Total Completed and Stored to Date (C + D + E) | % (F / B) | Balance to Finish (B - F) |
| 1 | D1 - Moblization/Demob. | $20,000.00 | $20,000.00 | $0.00 | $0.00 | $20,000.00 | 100.0% | $0.00 |
| 2 | D1 - Bonds/Insurance | $178,000.00 | $178,000.00 | $0.00 | $0.00 | $178,000.00 | 100.0% | $0.00 |
| 3 | D1 - Video Taping | $4,500.00 | $4,500.00 | $0.00 | $0.00 | $4,500.00 | 100.0% | $0.00 |
| 4 | D1 - Field Office | $18,000.00 | $14,580.00 | $540.00 | $0.00 | $15,120.00 | 84.0% | $2,880.00 |
| 5 | D1 - QC Testing (Cash Allowance) | $50,000.00 | $17,000.00 | $0.00 | $0.00 | $17,000.00 | 34.0% | $33,000.00 |
| 6 | D1 - Submittals/Shop Drawings by ACI | $40,000.00 | $38,000.00 | $0.00 | $0.00 | $38,000.00 | 95.0% | $2,000.00 |
| | **DIVISION 2 - SITE WORK** | | | | | | | |
| 7 | D2 - Sediment & Erosion Control | $20,200.00 | $17,776.00 | $0.00 | $0.00 | $17,776.00 | 88.0% | $2,424.00 |
| | **SITE DEMOLITION** | | | | | | | |
| 8 | D2 - Concrete Pads | $4,100.00 | $205.00 | $0.00 | $0.00 | $205.00 | 5.0% | $3,895.00 |
| 9 | D2 - Remove all Ex. Underground Lines at Centrifuge Bldg. Site | $32,900.00 | $29,610.00 | $0.00 | $0.00 | $29,610.00 | 90.0% | $3,290.00 |
| 10 | D2 - Remove all Ex. Underground Lines at Electrical Bldg. Site | $12,400.00 | $12,400.00 | $0.00 | $0.00 | $12,400.00 | 100.0% | $0.00 |
| 11 | D2 - Remove Portions of Underground Lines at Ex. Press Bldg. | $4,200.00 | $210.00 | $0.00 | $0.00 | $210.00 | 5.0% | $3,990.00 |
| | **STRUCTURES & BUILDING DEMOLITION** | | | | | | | |
| 12 | D2 - Headworks Building | $40,200.00 | $40,200.00 | $0.00 | $0.00 | $40,200.00 | 100.0% | $0.00 |
| 13 | D2 - Influent Pump Station & Bypass Pump Set Up | $97,500.00 | $97,500.00 | $0.00 | $0.00 | $97,500.00 | 100.0% | $0.00 |
| 14 | D2 - UV Equipment | $18,300.00 | $16,470.00 | $0.00 | $0.00 | $16,470.00 | 90.0% | $1,830.00 |
| 15 | D2 - Plant Drain Pump Station | $14,800.00 | | | | $0.00 | | $14,800.00 |
| 16 | D2 - Electrical Building by ACI | $7,900.00 | | | | $0.00 | | $7,900.00 |
| 17 | D2 - Sludge Day Tank & Pump Building | $97,800.00 | $97,800.00 | $0.00 | $0.00 | $97,800.00 | 100.0% | $0.00 |
| 18 | D2 - Digester Blower Building | $32,500.00 | $32,500.00 | $0.00 | $0.00 | $32,500.00 | 100.0% | $0.00 |
| 19 | D2 - Sludge Transfer Pump Building | $3,200.00 | | | | $0.00 | | $3,200.00 |
| 20 | D2 - Digester Tank | $8,200.00 | $8,200.00 | $0.00 | $0.00 | $8,200.00 | 100.0% | $0.00 |
| 21 | D2 - SBR | $1,600.00 | | | | $0.00 | | $1,600.00 |
| | **EXCAVATION (MAJOR STRUCTURES)** | | | | | | | |
| 22 | D2 - Centrifuge Building | $38,900.00 | $38,900.00 | $0.00 | $0.00 | $38,900.00 | 100.0% | $0.00 |
| 23 | D2 - Electrical Building by ACI | $7,800.00 | $7,800.00 | $0.00 | $0.00 | $7,800.00 | 100.0% | $0.00 |
| 24 | D2 - Blower Pad | $5,100.00 | $5,100.00 | $0.00 | $0.00 | $5,100.00 | 100.0% | $0.00 |
| 25 | D2 - Generator Pad | $5,200.00 | $5,200.00 | $0.00 | $0.00 | $5,200.00 | 100.0% | $0.00 |
| | **BACKFILL (MAJOR STRUCTURES)** | | | | | | | |
| 26 | D2 - Centrifuge Building | $42,300.00 | $38,070.00 | $0.00 | $0.00 | $38,070.00 | 90.0% | $4,230.00 |
| | **STRUCTURAL STONE** | | | | | | | |
| 27 | D2 - Centrifuge Building | $13,400.00 | $13,400.00 | $0.00 | $0.00 | $13,400.00 | 100.0% | $0.00 |
| 28 | D2 - Electrical Building | $5,600.00 | $5,600.00 | $0.00 | $0.00 | $5,600.00 | 100.0% | $0.00 |
| 29 | D2 - FRP Building | $2,000.00 | $2,000.00 | $0.00 | $0.00 | $2,000.00 | 100.0% | $0.00 |
| 30 | D2 - Generator Pad | $1,500.00 | $1,500.00 | $0.00 | $0.00 | $1,500.00 | 100.0% | $0.00 |
| 31 | D2 - Blower Pad | $1,500.00 | $1,500.00 | $0.00 | $0.00 | $1,500.00 | 100.0% | $0.00 |
| | **YARD PIPING** | | | | | | | |


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## Progress Estimate - Lump Sum Work

## Contractor's Application

| For (Contract): | CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT | Application Number: | 19 |
|---|---|---|---|
| Application Period: | 4/01/24-4/30/24 | Application Date: | 4/30/2024 |

| | | | Work Completed | | E | F | | G |
|---|---|---|---|---|---|---|---|---|
| A | | B | C | D | | | | |
| Schedule of Values Item No. | Description | Scheduled Value ($) | From Previous Application (C+D) | This Period | Materials Presently Stored (not in C or D) | Total Completed and Stored to Date (C + D + E) | % (F / B) | Balance to Finish (B - F) |
| 32 | D2 - 2" Sch 80 PVC Water Service to Headworks Bldg. | $9,900.00 | $9,900.00 | $0.00 | $0.00 | $9,900.00 | 100.0% | $0.00 |
| 33 | D2 - 2" Sch 80 PVC Water Service to Centrifuge Bldg. | $25,100.00 | $25,100.00 | $0.00 | $0.00 | $25,100.00 | 100.0% | $0.00 |
| 34 | D2 - 4" DIP WAS Line from Centrifuge Bldg. to Sanitary Sewer | $16,600.00 | $16,600.00 | $0.00 | $0.00 | $16,600.00 | 100.0% | $0.00 |
| 35 | D2 - 4" DIP WAS Inlet to Centrifuge Bldg. | $17,400.00 | $12,180.00 | $0.00 | $0.00 | $12,180.00 | 70.0% | $5,220.00 |
| 36 | D2 - 4" DIP Sludge Drain Off Line from Digester | $16,800.00 | $16,800.00 | $0.00 | $0.00 | $16,800.00 | 100.0% | $0.00 |
| 37 | D2 - 4" DIP WAS Line from Centrifuge Bldg. to Digester | $16,700.00 | $0.00 | $0.00 | $2,000.00 | $2,000.00 | 12.0% | $14,700.00 |
| 38 | D2 - 6" PVC Drain from Centrifuge Bldg. to Manhole | $16,500.00 | $16,500.00 | $0.00 | $0.00 | $16,500.00 | 100.0% | $0.00 |
| 39 | D2 - 4" PVC Drain from Centrifuge Bldg. to Manhole | $15,200.00 | $15,200.00 | $0.00 | $0.00 | $15,200.00 | 100.0% | $0.00 |
| 40 | D2 - 6" DIP Existing System Connection to New T-Valve | $16,700.00 | $16,700.00 | $0.00 | $0.00 | $16,700.00 | 100.0% | $0.00 |
| 41 | D2 - 8" PVC Drain Line Under Centrifuge Bldg. | $13,500.00 | | | | $0.00 | | $13,500.00 |
| 42 | D2 - 24" & 12" HDPE Storm Drain at Centrifuge Bldg. | $58,000.00 | $46,400.00 | $0.00 | $0.00 | $46,400.00 | 80.0% | $11,600.00 |
| 43 | D2 - 18" HDPE Storm Drain at Electrical Bldg. | $39,000.00 | $33,150.00 | $0.00 | $0.00 | $33,150.00 | 85.0% | $5,850.00 |
| 44 | D2 - 10" Stainless Steel Air Line to Digester | $10,900.00 | $10,900.00 | $0.00 | $0.00 | $10,900.00 | 100.0% | $0.00 |
| | **YARD STRUCTURES** | | | | | | | |
| 45 | D2 - 4' Dia. Precast Drain Line Manhole | $3,400.00 | | | | $0.00 | | $3,400.00 |
| 46 | D2 - Type G Precast Drop Inlet | $9,200.00 | $9,200.00 | $0.00 | $0.00 | $9,200.00 | 100.0% | $0.00 |
| | **FINAL RECLAMATION** | | | | | | | |
| 47 | D2 - Asphalt Paving | $98,800.00 | | | | $0.00 | | $98,800.00 |
| 48 | D2 - Final Grading, Seed & Mulch | $5,700.00 | $1,140.00 | $0.00 | $0.00 | $1,140.00 | 20.0% | $4,560.00 |
| | **DIVISION 3 - CONCRETE** | | | | | | | |
| | **SITE CONCRETE** | | | | | | | |
| 49 | D3 - Generator Pad | $10,100.00 | $10,100.00 | $0.00 | $0.00 | $10,100.00 | 100.0% | $0.00 |
| 50 | D3 - FRP Shelter Pad | $9,400.00 | $9,400.00 | $0.00 | $0.00 | $9,400.00 | 100.0% | $0.00 |
| 51 | D3 - Digester Blower Pad | $28,200.00 | $23,970.00 | $0.00 | $0.00 | $23,970.00 | 85.0% | $4,230.00 |
| 52 | D3 - Digester Equipment Pads | $24,900.00 | $24,900.00 | $0.00 | $0.00 | $24,900.00 | 100.0% | $0.00 |
| 53 | D3 - Sidewalks at Blower Bldg. Area | $10,700.00 | | | | $0.00 | | $10,700.00 |
| 54 | D3 - Sidewalks at Covered Sludge Storage Area | $11,400.00 | | | | $0.00 | | $11,400.00 |
| | **ELECTRICAL BLDG.** | | | | | | | |
| 55 | D3 - Grade Beams | $38,300.00 | $38,300.00 | $0.00 | $0.00 | $38,300.00 | 100.0% | $0.00 |
| 56 | D3 - Concrete Pads/SOG | $18,100.00 | $18,100.00 | $0.00 | $0.00 | $18,100.00 | 100.0% | $0.00 |
| 57 | D3 - Door Stoops/Pads | $12,000.00 | | | | $0.00 | | $12,000.00 |
| 58 | D3 - Exterior SOG/Sidewalks | $15,400.00 | | | | $0.00 | | $15,400.00 |
| 59 | D3 - Misc. Equipment Pads | $3,000.00 | $3,000.00 | $0.00 | $0.00 | $3,000.00 | 100.0% | $0.00 |
| | **COVERED SLUDGE STORAGE AREA & CENTRIFUGE BLDG.** | | | | | | | |
| 60 | D3 - Footings, Grade Beams & Walls | $162,000.00 | $162,000.00 | $0.00 | $0.00 | $162,000.00 | 100.0% | $0.00 |
| 61 | D3 - Thickened SOG at Trench Drains | $22,200.00 | $22,200.00 | $0.00 | $0.00 | $22,200.00 | 100.0% | $0.00 |
| 62 | D3 - 6" SOG at 2 - Areas | $49,700.00 | $49,700.00 | $0.00 | $0.00 | $49,700.00 | 100.0% | $0.00 |
| 63 | D3 - Equipment Pads, Containment Curbs & Walls | $15,400.00 | $15,400.00 | $0.00 | $0.00 | $15,400.00 | 100.0% | $0.00 |


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## Progress Estimate - Lump Sum Work

## Contractor's Application

| For (Contract): | CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT | Application Number: | 19 |
|---|---|---|---|
| Application Period: | 4/01/24-4/30/24 | Application Date: | 4/30/2024 |

| A | | B | Work Completed | | E | F | | G |
|---|---|---|---|---|---|---|---|---|
| Schedule of Values Item No. | Description | Scheduled Value ($) | C<br>From Previous Application (C+D) | D<br>This Period | Materials Presently Stored (not in C or D) | Total Completed and Stored to Date (C + D + E) | % (F / B) | Balance to Finish (B - F) |
| 64 | D3 - Door/Stoop | $8,100.00 | | | | $0.00 | | $8,100.00 |
| | **DIGESTER BLDG. & TANK** | | | | | | | |
| 65 | D3 - Equipment Pads | $4,400.00 | $4,400.00 | $0.00 | $0.00 | $4,400.00 | 100.0% | $0.00 |
| | **DIVISION 4 - MASONRY** | | | | | | | |
| | **CENTRIFUGE BUILDING** | | | | | | | |
| 66 | D4 - 12" Standard CMU's | $53,000.00 | $53,000.00 | $0.00 | $0.00 | $53,000.00 | 100.0% | $0.00 |
| | **DIVISION 5 - MISC. METALS** | | | | | | | |
| | **SITE** | | | | | | | |
| 67 | D5 - Permanent Bollards | $7,200.00 | $4,320.00 | $0.00 | $0.00 | $4,320.00 | 60.0% | $2,880.00 |
| 68 | D5 - Removable Bollards | $12,300.00 | $9,225.00 | $0.00 | $0.00 | $9,225.00 | 75.0% | $3,075.00 |
| | **ELECTRICAL BLDG.** | | | | | | | |
| 69 | D5 - Partition Walls | $69,200.00 | $69,200.00 | $0.00 | $0.00 | $69,200.00 | 100.0% | $0.00 |
| 70 | D5 - Roof/Ceiling Framing | $35,000.00 | $35,000.00 | $0.00 | $0.00 | $35,000.00 | 100.0% | $0.00 |
| | **CENTRIFUGE BUILDING** | | | | | | | |
| 71 | D5 - W8 x 28 Steel Lintel | $1,800.00 | $1,800.00 | $0.00 | $0.00 | $1,800.00 | 100.0% | $0.00 |
| 72 | D5 - Monorail Framing | $11,100.00 | $11,100.00 | $0.00 | $0.00 | $11,100.00 | 100.0% | $0.00 |
| 73 | D5 - Covered Storage Framing | $12,900.00 | $12,900.00 | $0.00 | $0.00 | $12,900.00 | 100.0% | $0.00 |
| 74 | D5 - Steel Erection | $25,500.00 | $25,500.00 | $0.00 | $0.00 | $25,500.00 | 100.0% | $0.00 |
| 75 | D5 - Stainless Steel Polymer Fill Station | $4,600.00 | $3,680.00 | $0.00 | $0.00 | $3,680.00 | 80.0% | $920.00 |
| | **DIVISION 6 - WOOD AND PLASTICS** | | | | | | | |
| | **CENTRIFUGE BUILDING** | | | | | | | |
| 76 | D6 - Wood Trusses & Sheathing | $69,500.00 | $69,500.00 | $0.00 | $0.00 | $69,500.00 | 100.0% | $0.00 |
| 77 | D6 - Wood Framing & Interior Finishes | $53,700.00 | $26,850.00 | $0.00 | $0.00 | $26,850.00 | 50.0% | $26,850.00 |
| 78 | D6 - FRP Grating & Ladders | $11,700.00 | $11,700.00 | $0.00 | $0.00 | $11,700.00 | 100.0% | $0.00 |
| | **ELECTRICAL SHELTER** | | | | | | | |
| 79 | D6 - FRP Shelter Building | $48,600.00 | $48,600.00 | $0.00 | $0.00 | $48,600.00 | 100.0% | $0.00 |
| | **DIVISION 7 - THERMAL & MOISTURE PROTECTION** | | | | | | | |
| | **ELECTRICAL BLDG.** | | | | | | | |
| 80 | D7 - SSR Roofing & Soffit | $105,900.00 | $100,605.00 | $0.00 | $0.00 | $100,605.00 | 95.0% | $5,295.00 |
| | **CENTRIFUGE BUILDING** | | | | | | | |
| 81 | D7 - SSR Roofing & Soffit | $107,200.00 | $107,200.00 | $0.00 | $0.00 | $107,200.00 | 100.0% | $0.00 |
| 82 | D7 - Corefill Insulation | $2,900.00 | $2,900.00 | $0.00 | $0.00 | $2,900.00 | 100.0% | $0.00 |
| 83 | D7 - EIFS Outsulation | $39,300.00 | $37,335.00 | $0.00 | $0.00 | $37,335.00 | 95.0% | $1,965.00 |
| | **DIVISION 8 - DOORS & WINDOWS** | | | | | | | |
| | **ELECTRICAL BLDG.** | | | | | | | |
| 84 | D8 - Hollow Metal Doors, Frames & Hardware | $25,500.00 | $17,085.00 | $0.00 | $0.00 | $17,085.00 | 67.0% | $8,415.00 |
| | **CENTRIFUGE BUILDING** | | | | | | | |
| 85 | D8 - FRP Door & Window | $16,800.00 | | | | $0.00 | | $16,800.00 |


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## Progress Estimate - Lump Sum Work

## Contractor's Application

| For (Contract): | CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT | Application Number: | 19 |
|---|---|---|---|
| Application Period: | 4/01/24-4/30/24 | Application Date: | 4/30/2024 |

| | | | Work Completed | | E | F | | G |
|---|---|---|---|---|---|---|---|---|
| A | | B | C | D | | | | |
| Schedule of Values Item No. | Description | Scheduled Value ($) | From Previous Application (C+D) | This Period | Materials Presently Stored (not in C or D) | Total Completed and Stored to Date (C + D + E) | % (F / B) | Balance to Finish (B - F) |
| 86 | D8 - Overhead Door (10'x12') | $16,200.00 | $13,770.00 | $0.00 | $0.00 | $13,770.00 | 85.0% | $2,430.00 |
| 87 | D8 - Fixed Window | $3,800.00 | | | | $0.00 | | $3,800.00 |
| | **DIVISION 9 - FINISHES** | | | | | | | |
| | **ELECTRICAL BLDG.** | | | | | | | |
| 88 | D9 - ACT Ceiling | $38,900.00 | $19,450.00 | $0.00 | $0.00 | $19,450.00 | 50.0% | $19,450.00 |
| 89 | D9 - Paint Walls, Floors & Doors | $11,000.00 | $5,500.00 | $0.00 | $0.00 | $5,500.00 | 50.0% | $5,500.00 |
| | **CENTRIFUGE BUILDING** | | | | | | | |
| 90 | D9 - Paint Walls, Floors & Doors | $31,000.00 | $18,600.00 | $0.00 | $0.00 | $18,600.00 | 60.0% | $12,400.00 |
| 91 | D9 - Chemical Containment | $6,500.00 | $6,500.00 | $0.00 | $0.00 | $6,500.00 | 100.0% | $0.00 |
| 92 | D9 - Piping | $5,700.00 | $5,130.00 | $0.00 | $0.00 | $5,130.00 | 90.0% | $570.00 |
| | **DIVISION 10 - SPECIALTIES** | | | | | | | |
| 93 | D10 - Fire Extinguishers | $400.00 | | | | $0.00 | | $400.00 |
| 94 | D10 - Project Signs | $6,700.00 | | | | $0.00 | | $6,700.00 |
| | **DIVISION 11 - EQUIPMENT** | | | | | | | |
| | **SITE** | | | | | | | |
| 95 | D11 - Influent Pump Station - Submersible Pumps | $189,200.00 | $18,920.00 | $0.00 | $140,566.30 | $159,486.30 | 84.3% | $29,713.70 |
| 96 | D11 - Plant Drain Pump Station Submersible Pumps | $89,400.00 | $8,940.00 | $0.00 | $60,242.70 | $69,182.70 | 77.4% | $20,217.30 |
| | **CENTRIFUGE BUILDING** | | | | | | | |
| 97 | D11 - Centrifuge System | $619,200.00 | $557,280.00 | $0.00 | $0.00 | $557,280.00 | 90.0% | $61,920.00 |
| 98 | D11 - Digester Sludge Pump | $30,000.00 | $28,500.00 | $0.00 | $0.00 | $28,500.00 | 95.0% | $1,500.00 |
| 99 | D11 - Inline Grinder | $34,500.00 | $32,775.00 | $0.00 | $0.00 | $32,775.00 | 95.0% | $1,725.00 |
| 100 | D11 - Polymer Feed System | $32,900.00 | $31,255.00 | $0.00 | $0.00 | $31,255.00 | 95.0% | $1,645.00 |
| 101 | D11 - Polymer Bulk Tank | $7,800.00 | $7,020.00 | $0.00 | $0.00 | $7,020.00 | 90.0% | $780.00 |
| | **UV BUILDING** | | | | | | | |
| 102 | D11 - UV System with Controls | $303,900.00 | $303,900.00 | $0.00 | $0.00 | $303,900.00 | 100.0% | $0.00 |
| | **HEADWORKS BUILDING** | | | | | | | |
| 103 | D11 - Mechanical Bar Screen w/Controls | $159,000.00 | $159,000.00 | $0.00 | $0.00 | $159,000.00 | 100.0% | $0.00 |
| 104 | D11 - Washer/Compactor w/Controls | $85,600.00 | $85,600.00 | $0.00 | $0.00 | $85,600.00 | 100.0% | $0.00 |
| 105 | D11 - Grit Removal System w/Controls | $262,000.00 | $262,000.00 | $0.00 | $0.00 | $262,000.00 | 100.0% | $0.00 |
| | **EXISTING DIGESTER** | | | | | | | |
| 106 | D11 - Digester Aeration & Mixing System w/Controls | $670,000.00 | $636,500.00 | $0.00 | $0.00 | $636,500.00 | 95.0% | $33,500.00 |
| | **EXISTING SBR TANKS** | | | | | | | |
| 107 | D11 - MCP w/ PLC & Instrumentation | $274,800.00 | $68,700.00 | $178,620.00 | $0.00 | $247,320.00 | 90.0% | $27,480.00 |
| | **DIVISION 13 - SPECIAL CONSTRUCTION** | | | | | | | |
| | **SCADA / INTEGRATION** | | | | | | | |
| 108 | D13 - SCADA, Control Panels, MCC, Field Instrumentation | $765,000.00 | $76,500.00 | $0.00 | $80,264.00 | $156,764.00 | 20.5% | $608,236.00 |
| | **DIVISION 14 - CONVEYING SYSTEMS** | | | | | | | |
| | **CENTRIFUGE BUILDING** | | | | | | | |


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## Progress Estimate - Lump Sum Work

## Contractor's Application

| For (Contract): | CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT | Application Number: | 19 |
|---|---|---|---|
| Application Period: | 4/01/24-4/30/24 | Application Date: | 4/30/2024 |

| | | | Work Completed | | E | F | | G |
|---|---|---|---|---|---|---|---|---|
| A | | B | C | D | | | | |
| Schedule of Values Item No. | Description | Scheduled Value ($) | From Previous Application (C+D) | This Period | Materials Presently Stored (not in C or D) | Total Completed and Stored to Date (C + D + E) | % (F / B) | Balance to Finish (B - F) |
| 109 | D14 - Hoist & Monorail | $27,700.00 | | | | $0.00 | | $27,700.00 |
| | **HEADWORKS BUILDING** | | | | | | | |
| 110 | D14 - Screw Conveyor | $70,200.00 | $66,690.00 | $0.00 | $0.00 | $66,690.00 | 95.0% | $3,510.00 |
| | **DIVISION 15 - MECHANICAL** | | | | | | | |
| | **PROCESS PIPING** | | | | | | | |
| 111 | D15 - Influent PS - DI Pipe, Fittings, Valves & Sch 40 Stilling Well | $49,000.00 | $0.00 | $0.00 | $16,935.80 | $16,935.80 | 34.6% | $32,064.20 |
| 112 | D15 - Effluent PS- Sch 40 Stilling Well | $3,900.00 | | | | $0.00 | | $3,900.00 |
| 113 | D15 - Plant Drain PS - DI Pipe, Fittings, Valves & Sch 40 Stilling Well | $19,500.00 | $0.00 | $0.00 | $4,488.80 | $4,488.80 | 23.0% | $15,011.20 |
| 114 | D15 - Plan Drain PS - New Top Slab w/Hatch & Vent Pipe | $5,000.00 | | | | $0.00 | | $5,000.00 |
| 115 | D15 - Plant Drain PS - Portable Hoist w/Socket | $3,000.00 | | | | $0.00 | | $3,000.00 |
| 116 | D15 - Electrical Bldg- 12" Lug Style BF Valve w/SS Flange Spool | $10,700.00 | | | | $0.00 | | $10,700.00 |
| 117 | D15 - Centrifuge Bldg. - DI Pipe, Fittings & Valves | $86,800.00 | $86,800.00 | $0.00 | $0.00 | $86,800.00 | 100.0% | $0.00 |
| 118 | D15 - Centrifuge Bldg. - Sch 80 PVC Polymer Feed System | $27,100.00 | $25,745.00 | $0.00 | $0.00 | $25,745.00 | 95.0% | $1,355.00 |
| 119 | D15 - Sludge Transfer Pump Bldg - DI Pipe, Fittings & Valves | $5,700.00 | $0.00 | $0.00 | $684.20 | $684.20 | 12.0% | $5,015.80 |
| 120 | D15 - Headworks Bldg. - DI Pipe, Fittings & Valves | $47,200.00 | $47,200.00 | $0.00 | $0.00 | $47,200.00 | 100.0% | $0.00 |
| 121 | D15 - Headworks Bldg. - Sch 80 PVC Drains | $9,000.00 | $9,000.00 | $0.00 | $0.00 | $9,000.00 | 100.0% | $0.00 |
| 122 | D15 - Ex. Digester Bldg. Mixing Sys. Air Comp. Room - 2" SS Air Pip | $11,600.00 | $11,600.00 | $0.00 | $0.00 | $11,600.00 | 100.0% | $0.00 |
| 123 | D15 - Ex. Digester Bldg. Mixing Sys. Air Comp. Room - 2" Sch 40 PV | $3,200.00 | $3,200.00 | $0.00 | $0.00 | $3,200.00 | 100.0% | $0.00 |
| 124 | D15 - Ex. Digester Tank - 6" DI Pipe & Fittings w/Elec. Actuated T-Va | $43,000.00 | $43,000.00 | $0.00 | $0.00 | $43,000.00 | 100.0% | $0.00 |
| 125 | D15 - Ex. Digester Tank - 10" SS Pipe & Valve Air Supply Line to Mai | $19,500.00 | $19,500.00 | $0.00 | $0.00 | $19,500.00 | 100.0% | $0.00 |
| 126 | D15 - Ex. Digester Tank - Pipe Penetrations to Tank by Mack Ind. | $15,700.00 | $15,700.00 | $0.00 | $0.00 | $15,700.00 | 100.0% | $0.00 |
| 127 | D15 - Digester Blower Pad - 10" & 8" SS Pipe, Fittings & Valves | $15,800.00 | $15,800.00 | $0.00 | $0.00 | $15,800.00 | 100.0% | $0.00 |
| 128 | D15 - SBR Tanks - Install Process Sensors & Instrumentation | $12,000.00 | | | | $0.00 | | $12,000.00 |
| | **PLUMBING** | | | | | | | |
| 129 | D15 - Headworks Bldg. - Sch 80 PVC Water Pipe, Fittings, Valves, BF | $35,800.00 | $35,800.00 | $0.00 | $0.00 | $35,800.00 | 100.0% | $0.00 |
| 130 | D15 - Centrifuge Bldg. - Sch 80 PVC Water Pipe, Fittings, Valves, BFF | $46,200.00 | $46,200.00 | $0.00 | $0.00 | $46,200.00 | 100.0% | $0.00 |
| 131 | D15 - Centrifuge Bldg. - Sch 80 PVC Drain Pipe, Fittings, Floor Drains | $16,700.00 | $16,700.00 | $0.00 | $0.00 | $16,700.00 | 100.0% | $0.00 |
| 132 | D15 - Centrifuge Bldg. - Plumbing Fixtures & Eyewash/Shower | $32,800.00 | $32,800.00 | $0.00 | $0.00 | $32,800.00 | 100.0% | $0.00 |
| | **HVAC** | | | | | | | |
| 133 | D15 - Electrical Bldg. - Split System HVAC Unit | $22,600.00 | $20,340.00 | $0.00 | $0.00 | $20,340.00 | 90.0% | $2,260.00 |
| 134 | D15 - Centrifuge Bldg. - Exhaust Fans, Louvers, Unit Heaters | $29,900.00 | $25,415.00 | $0.00 | $0.00 | $25,415.00 | 85.0% | $4,485.00 |
| | **DIVISION 16 - ELECTRICAL** | | | | | | | |
| | **ELECTRICAL WORK BY S&S ELECTRIC** | | | | | | | |
| 135 | D16 - Electrical Demolition | $163,500.00 | $132,435.00 | $3,270.00 | $0.00 | $135,705.00 | 83.0% | $27,795.00 |
| 136 | D16 - Lighting - Material | $11,300.00 | $11,300.00 | $0.00 | $0.00 | $11,300.00 | 100.0% | $0.00 |
| 137 | D16 - Lighting - Labor | $8,900.00 | | | | $0.00 | | $8,900.00 |
| 138 | D16 - Gear - Material | $278,300.00 | $225,423.00 | $52,877.00 | $0.00 | $278,300.00 | 100.0% | $0.00 |
| 139 | D16 - Gear - Labor | $60,900.00 | $36,540.00 | $18,270.00 | $0.00 | $54,810.00 | 90.0% | $6,090.00 |


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## Progress Estimate - Lump Sum Work

## Contractor's Application

| For (Contract): | CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT | Application Number: | 19 |
|---|---|---|---|
| Application Period: | 4/01/24-4/30/24 | Application Date: | 4/30/2024 |

| | | | Work Completed | | E | F | | G |
|---|---|---|---|---|---|---|---|---|
| A | | B | C | D | | | | |
| Schedule of Values Item No. | Description | Scheduled Value ($) | From Previous Application (C+D) | This Period | Materials Presently Stored (not in C or D) | Total Completed and Stored to Date (C + D + E) | % (F / B) | Balance to Finish (B - F) |
| 140 | D16 - Emergency Generator - Material | $382,500.00 | $286,875.00 | $0.00 | $0.00 | $286,875.00 | 75.0% | $95,625.00 |
| 141 | D16 - Emergency Generator - Labor | $22,700.00 | $11,350.00 | $0.00 | $0.00 | $11,350.00 | 50.0% | $11,350.00 |
| 142 | D16 - Devices - Material | $5,600.00 | $1,680.00 | $0.00 | $0.00 | $1,680.00 | 30.0% | $3,920.00 |
| 143 | D16 - Devices - Labor | $7,300.00 | $2,190.00 | $0.00 | $0.00 | $2,190.00 | 30.0% | $5,110.00 |
| 144 | D16 - Boxes/Troughs - Material | $101,900.00 | $81,520.00 | $0.00 | $0.00 | $81,520.00 | 80.0% | $20,380.00 |
| 145 | D16 - Boxes/Troughs - Labor | $59,900.00 | $37,138.00 | $0.00 | $0.00 | $37,138.00 | 62.0% | $22,762.00 |
| 146 | D16 - SCADA Equipment Install - Labor | $25,800.00 | | | | $0.00 | | $25,800.00 |
| 147 | D16 - Conduit - Material | $380,500.00 | $304,400.00 | $19,025.00 | $0.00 | $323,425.00 | 85.0% | $57,075.00 |
| 148 | D16 - Conduit - Labor | $634,000.00 | $424,780.00 | $19,020.00 | $0.00 | $443,800.00 | 70.0% | $190,200.00 |
| 149 | D16 - Cable - Material | $487,600.00 | $73,140.00 | $0.00 | $0.00 | $73,140.00 | 15.0% | $414,460.00 |
| 150 | D16 - Cable - Labor | $358,000.00 | $53,700.00 | $0.00 | $0.00 | $53,700.00 | 15.0% | $304,300.00 |
| 151 | D16 - Grounding - Material | $12,000.00 | $3,600.00 | $0.00 | $0.00 | $3,600.00 | 30.0% | $8,400.00 |
| 152 | D16 - Grounding - Labor | $20,700.00 | $5,796.00 | $0.00 | $0.00 | $5,796.00 | 28.0% | $14,904.00 |
| 153 | D16 - Temporary Electric | $53,500.00 | $44,405.00 | $0.00 | $0.00 | $44,405.00 | 83.0% | $9,095.00 |
| | **BID ALTERNATE A - INFLUENT METERING VAULT** | | | | | | | |
| 154 | Bonds & Insurance | $2,800.00 | $2,800.00 | $0.00 | $0.00 | $2,800.00 | 100.0% | $0.00 |
| 155 | Demolition | $14,000.00 | $14,000.00 | $0.00 | $0.00 | $14,000.00 | 100.0% | $0.00 |
| 156 | Excavation & Backfill | $7,600.00 | $7,600.00 | $0.00 | $0.00 | $7,600.00 | 100.0% | $0.00 |
| 157 | Precast Concrete Vault | $23,000.00 | $23,000.00 | $0.00 | $0.00 | $23,000.00 | 100.0% | $0.00 |
| 158 | Piping, Fittings, Valves & Supports | $45,000.00 | $45,000.00 | $0.00 | $0.00 | $45,000.00 | 100.0% | $0.00 |
| 159 | 16" Mag Meter | $14,600.00 | $13,140.00 | $0.00 | $0.00 | $13,140.00 | 90.0% | $1,460.00 |
| 160 | Electrical Material | $16,000.00 | $1,600.00 | $0.00 | $0.00 | $1,600.00 | 10.0% | $14,400.00 |
| 161 | Electrical Labor | $29,000.00 | | | | $0.00 | | $29,000.00 |
| | **BID ALTERNATE B - WAS METERING VAULT** | | | | | | | |
| 162 | Bonds & Insurance | $4,400.00 | $4,400.00 | $0.00 | $0.00 | $4,400.00 | 100.0% | $0.00 |
| 163 | Demolition | $14,700.00 | | | | $0.00 | | $14,700.00 |
| 164 | Excavation & Backfill | $10,200.00 | $7,650.00 | $0.00 | $0.00 | $7,650.00 | 75.0% | $2,550.00 |
| 165 | Precast Concrete Vault | $21,000.00 | $21,000.00 | $0.00 | $0.00 | $21,000.00 | 100.0% | $0.00 |
| 166 | Piping, Fittings, Valves & Supports | $65,600.00 | $65,600.00 | $0.00 | $0.00 | $65,600.00 | 100.0% | $0.00 |
| 167 | Flow Meters | $17,100.00 | $15,390.00 | $0.00 | $0.00 | $15,390.00 | 90.0% | $1,710.00 |
| 168 | Misc. Metals | $23,000.00 | $16,100.00 | $0.00 | $0.00 | $16,100.00 | 70.0% | $6,900.00 |
| 169 | Electrical Material | $33,000.00 | $6,600.00 | $0.00 | $0.00 | $6,600.00 | 20.0% | $26,400.00 |
| 170 | Electrical Labor | $46,000.00 | $4,600.00 | $0.00 | $0.00 | $4,600.00 | 10.0% | $41,400.00 |
| | **CHANGE ORDER #1** | | | | | | | |
| 171 | CHANGE ORDER #1 | $498,183.42 | $498,183.42 | $0.00 | $0.00 | $498,183.42 | 100.0% | $0.00 |
| 172 | CHANGE ORDER #2 | $41,179.57 | $41,179.57 | $0.00 | $0.00 | $41,179.57 | 100.0% | $0.00 |
| 173 | CHANGE ORDER #3 | $90,351.00 | $78,605.27 | $0.00 | $0.00 | $78,605.27 | 87.0% | $11,745.73 |
| | **SubTotal** | **$10,780,713.99** | **$7,472,811.26** | **$291,622.00** | **$305,181.80** | **$8,069,615.06** | **74.9%** | **$2,711,098.93** |


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## Stored Material Summary

## Contractor's Application

| For (Contract): CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT | | | | | | | | Application Number: 19 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Application Period: 4/01/24-4/30/24 | | | | | | | | Application Date: 4/30/2024 | | | |
| A | | B | C | | D | | E | | F | | G |
| | | | | | Stored Previously | | | | Incorporated in Work | | |
| Bid Item No. | Supplier Invoice No. | Submittal No. (with Specification Section | Storage Location | Description of Materials or Equipment Stored | Date Placed into Storage (Month/Year) | Amount ($) | Amount Stored this Month ($) | Subtotal Amount Completed and Stored to Date (D + E) | Date (Month/ Year) | Amount ($) | Materials Remaining in Storage ($) (D + E - F) |
| 34, 37, 42, 158, 166 | S100204638.001 | | Inwood shop | CITCO Water - Piping, Valves, Fittings for Yard Piping & Bid Alternates | 1/2023 | $16,302.08 | | $16,302.08 | 9/2023 | $11,193.08 | $5,109.00 |
| 111, 113, 117, 119, 158, 166 | S100198279.001 | | Inwood shop | CITCO Water - Piping, Valves, Fittings for Mechanical Piping & Bid Alternates | 1/2023 | $33,962.32 | | $33,962.32 | 12/2023 | $22,172.47 | $11,789.85 |
| 136 | 3624349 | | onsite | Scott Electric - lighting | 1/2023 | $3,299.00 | | $3,299.00 | 3/2023 | $3,299.00 | |
| 42 | S100204638.002 | | Inwood shop | CITCO Water - Piping, Valves, Fittings for Yard Piping | 1/2023 | $5,281.95 | | $5,281.95 | 9/2023 | $5,281.95 | |
| 158 | S100198279.002 | | Inwood shop | CITCO Water - Piping, Valves, Fittings for Bid Alternate A | 1/2023 | $7,075.75 | | $7,075.75 | 10/2023 | $7,075.75 | |
| 138 | S6606924.005, S6606924.003 | | onsite | Schaedler yesco electrical material for gear | 2/2023 | $2,481.00 | | $2,481.00 | 3/2023 | $2,481.00 | |
| 13 | 21073974 | | Inwood shop | ISCO Industries Piping for Bypass pump | 2/2023 | $6,795.23 | | $6,795.23 | 3/2023 | $6,795.23 | |
| 43 | S100207506.001 | | Inwood shop | CITCO Water - Nyloplast Drain Basins | 2/2023 | $14,097.00 | | $14,097.00 | 4/2023 | $14,097.00 | |
| 171 | 483242 | | Inwood shop | Skyline Steel - H-Piles | 3/2023 | $62,060.00 | | $62,060.00 | 4/2023 | $62,060.00 | |
| 106 | 6183.03-.05 | | Inwood shop | Enviromix, Inc. - Digester Aeration & Mixing Sys w/Controls | 3/2023 | $259,425.00 | | $259,425.00 | 9/2023 | $259,425.00 | |
| 157,165 | MIVC0029470 | | Inwood shop | Mack Industries - PS Meter Vault, WAS Valve Vault | 4/2023 | $33,815.00 | | $33,815.00 | 12/2023 | $33,815.00 | |
| 102 | 902090889 | | Inwood shop | Veolia UV System | 4/2023 | $237,600.00 | | $237,600.00 | 10/2023 | $237,600.00 | |
| 117 | S100211394.001 | | Inwood shop | CITCO Water - Process Piping for Centrifuge Bldg | 4/2023 | $5,774.80 | | $5,774.80 | 12/2023 | $5,774.80 | |
| 117 | S100209868.002 | | Inwood shop | CITCO Water - Process Piping for Centrifuge Bldg | 4/2023 | $4,582.50 | | $4,582.50 | 12/2023 | $4,582.50 | |
| 117 | S100198279.004 | | Inwood shop | CITCO Water - Process Piping for Centrifuge Bldg | 4/2023 | $3,386.75 | | $3,386.75 | 12/2023 | $3,386.75 | |
| 111,120 | S100209822.004 | | Inwood shop | CITCO Water - Process Piping for HW Bldg & Inf PS | 4/2023 | $11,549.36 | | $11,549.36 | 7/2023 | $4,339.41 | $7,209.95 |
| 33 | S100213814.001 | | Inwood shop | CITCO Water - Yard Piping for Water Svc to Centrifuge Bldg | 4/2023 | $5,871.20 | | $5,871.20 | 8/2023 | $5,871.20 | |
| 158 | S100211150.003 | | Inwood shop | CITCO Water - Piping for Bid Alternate A - Inf. Metering Vault | 4/2023 | $5,581.64 | | $5,581.64 | 9/2023 | $5,581.64 | |
| 105 | 9865-1, 9865-2 | | Inwood shop | Envirodyne Systems Inc. - Grit Removal System | 4/2023 | $70,462.00 | | $70,462.00 | 7/2023 | $70,462.00 | |
| 13 | 0134274-IN | | Inwood shop | Precision Pump & Valve - Pumps for bypass | 4/2023 | $32,204.00 | | $32,204.00 | 5/2023 | $32,204.00 | |
| 103,104 | 93254 | | Inwood shop | Zima Corporation - Bar Screen, Washer/Compactor | 4/2023 | $165,750.30 | | $165,750.30 | 7/2023 | $165,750.30 | |
| 108 | 220802-1 | | Inwood shop | Micro-Tech Designs, Inc. - SCADA equipment | 4/2023 | $36,698.00 | | $36,698.00 | | | $36,698.00 |
| 106 | 6183.06 | | Inwood shop | Enviromix, Inc. - Diffusers, Aeration piping, pipes/supports | 5/2023 | $77,827.50 | | $77,827.50 | 9/2023 | $77,827.50 | |
| 125,127 | 683 | | Inwood shop | B.A. Martin Welding - SS Piping for Digester | 5/2023 | $18,779.95 | | $18,779.95 | 10/2023 | $18,779.95 | |
| 71-75 | 1457 | | Inwood shop | Southern Steel Products Company - Misc. Metals for Cent. Bldg | 5/2023 | $38,450.00 | | $38,450.00 | 2/2024 | $38,450.00 | |
| 95-96 | 9261 | | Inwood shop | Pumpman Pittsburgh - Submersible Pumps | 5/2023 | $200,809.00 | | $200,809.00 | | | $200,809.00 |
| 105 | 9865-3 | | Inwood shop | Envirodyne Systems Inc. - Grit Removal System | 6/2023 | $134,158.00 | | $134,158.00 | 8/2023 | $134,158.00 | |
| 166 | S100198279.005 | | Inwood shop | CITCO Water - Plug valves | 7/2023 | $26,796.00 | | $26,796.00 | 12/2023 | $26,796.00 | |
| 106 | 6183.07 | | Inwood shop | Enviromix, Inc. - Digester Blowers | 7/2023 | $181,597.50 | | $181,597.50 | 10/2023 | $181,597.50 | |
| 97 | PSI-31936 | | Inwood shop | Centrisys - Centrifuge System | 9/2023 | $499,840.00 | | $499,840.00 | 1/2024 | $499,840.00 | |
| 108 | 220802-2 | | Inwood shop | Micro-Tech Designs, Inc. - Controls and Instrumentation | 9/2023 | $14,087.00 | | $14,087.00 | | | $14,087.00 |
| 134 | 111977-00 | | Inwood shop | Aircon Engineering - Unit Heaters, Louvers, Split System | 9/2023 | $26,918.00 | | $26,918.00 | 3/2024 | $26,918.00 | |
| 83 | 1327 | | Inwood shop | Kephart Plaster and Stone - EIFS Outsulation | 11/2023 | $13,000.00 | | $13,000.00 | 12/2023 | $13,000.00 | |
| 78 | 10033728 | | Inwood shop | Fibergrate Composite Structures - FRP Ladder | 11/2023 | $2,975.00 | | $2,975.00 | 2/2024 | $2,975.00 | |
| 166 | S100234535.004 | | Inwood shop | CITCO Water - DI Piping | 11/2023 | $8,800.61 | | $8,800.61 | 12/2023 | $8,800.61 | |
| 108 | 220802-3, 4 | | onsite | Micro-Tech Designs-Float Control Panels, Eff./Drain Pumps | 2/2024 | $29,479.00 | | $29,479.00 | | | $29,479.00 |
| | | | | | | | | | | | |
| | | | | **Totals** | | **$2,297,572.44** | | **$2,297,572.44** | | **$1,992,390.64** | $305,181.80 |

EJCDC® C-620 Contractor's Application for Payment
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Date: May 8, 2024

**Charles Town Utility Board**
**2022 Renewal and Replacement Project**
**Schedule B**

| A. COST OF PROJECT | APPROVED CONSTRUCTION BUDGET | Paid by CTUB from Operating Account 11/16/2023-12/13/2023 | Paid by CTUB from Operating Account 12/14/2023-2/14/2024 | Paid by CTUB from Operating Account 2/15/2024-4/10/2024 | Paid by CTUB from Operating Account 4/11/2024-5/8/2024 | Resolution No. 15 Contractor's Application for Payment No. 15 | Resolution No. 16 Contractor's Application for Payment No. 16 | Resolution No. 17 Contractor's Application for Payment No. 17 | Resolution No. 18 Contractor's Application for Payment No. 18 | Resolution No. 19 Contractor's Application for Payment No. 19 | BALANCE REMAINING |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 **CONSTRUCTION** | | | | | | | | | | | |
| a. Contract | $ 10,151,000.00 | | | | | $ 157,984.22 | $ 125,791.52 | $ 231,456.69 | $ 74,676.45 | $ 277,040.90 | $ 3,102,833.95 |
| b. Construction Contingency 5% - (See note #2 & #5 below) | $ 376,019.43 | | | | | | | | | | $ 376,019.43 |
| c. Change Order #1 (See note #1 below) | $ 498,183.42 | | | | | | | | | | $ - |
| d. Change Order #2 | $ 41,179.57 | | | | | | | | | | $ - |
| e. Change Order #3 | $ 90,351.00 | | | | | $ 9,035.10 | $ 6,324.57 | $ 23,491.26 | $ 3,614.00 | $ - | $ 11,745.73 |
| 2 **ENGINEERING SERVICES** | | | | | | | | | | | |
| **GDF Engineering fees (including CA and RPR)** | $ 760,000.00 | $ 14,913.65 | $ 7,050.87 | $ 2,873.49 | $ 2,329.80 | | | | | | $ 42,841.27 |
| **Additional RPR inspection** | $ 125,000.00 | | $ 19,765.50 | $ 21,537.64 | $ 12,607.15 | | | | | | $ 71,089.71 |
| **Initial GDF R&R Report** | $ 40,082.50 | | | | | | | | | | $ - |
| 3 **LEGAL SERVICES** | | | | | | | | | | | |
| a. Local Project Attorney | $ 20,000.00 | | | $ 148.75 | | | | | | | $ 14,244.00 |
| 4 **ADMINISTRATIVE SERVICES** | | | | | | | | | | | |
| a. Project Accountant (CPA) | $ 20,000.00 | | | | | | | | | | $ 9,112.50 |
| b. Other Administrative Costs | $ 10,000.00 | | | | | | | | | | $ 3,151.74 |
| 5 **Total Project Costs Lines 1-6** | **$ 12,131,815.92** | **$ 14,913.65** | **$ 26,816.37** | **$ 24,559.88** | **$ 14,936.95** | **$ 167,019.32** | **$ 132,116.09** | **$ 254,947.95** | **$ 78,290.45** | **$ 277,040.90** | **$ 3,631,038.33** |
| | | | | | | | | | | | |
| **B. SOURCES OF FUNDS** | **APPROVED PROJECT FUNDING** | | | | | | | | | | |
| **1 PROJECT FUNDS** | | | | | | | | | | | |
| **Internal Funds & EEG Grant** | | | | | | | | | | | |
| a. Capacity Improvement Fees | $ 1,170,163.00 | | | | | | | | | | $ 1,170,163.00 |
| b. Renewal & Replacement (See note #3 & #4 below) | $ 500,000.00 | | | | | | | | | | $ 1,816.58 |
| c. Operating Cash | $ 1,515,122.92 | $ (14,913.65) | $ (26,816.37) | $ (24,559.88) | $ (14,936.95) | | | | | | $ 680,479.64 |
| d. EEG Grant Funds | $ 1,966,030.00 | | | | | | $ (132,116.09) | | $ (78,290.45) | $ (277,040.90) | $ 958,808.95 |
| **Total Internal Funds & EEG Grant Funds** | **$ 5,151,315.92** | | | | | | | | | | **$ 2,811,268.17** |
| | | | | | | | | | | | |
| **Bond Proceeds** | | | | | | | | | | | |
| e. 2022B & 2022C Construction Fund Account | **$ 6,980,500.00** | | | | | $ (167,019.32) | $ - | $ (254,947.95) | $ - | | **$ 819,770.16** |
| | | | | | | | | | | | |
| **Total Funds Available** | **$ 12,131,815.92** | **$ (14,913.65)** | **$ (26,816.37)** | **$ (24,559.88)** | **$ (14,936.95)** | **$ (167,019.32)** | **$ (132,116.09)** | **$ (254,947.95)** | **$ (78,290.45)** | **$ (277,040.90)** | **$ 3,631,038.33** |

Note #1 - March 1, 2023 this line item was increased to include the full amount of Change Order #1. Internal funds that were previously allocated for the Collection System project will be dedicated to this Change Order. This will require an increase of the requested funds from CWSRF for the Collection System Project.
Note #2 - March 8, 2023 this line item was decreased by $41,179.57 to include the full amount of Change Order #2.
Note #3 - Pay App #7 in the amount of $1,068,229.84 includes $298,910 from Change Order #1. $769,319.84 will be paid from the 2022B and $298,910 will be paid from the Renewal & Replacement Account.
Note #4 - Pay App #8 in the amount of $872,756.88 includes the remaining balance of $199,273.42 from Change Order #1. $673,483.46 will be paid from the 2022B and $199,273.42 will be paid from the Renewal & Replacement Account.
Note #5 - August 23, 2023 this line item was decreased by $90,351 to include the full amount of Change Order #3.

GD&F
GWIN
DOBSON &
FOREMAN
CONSULTING ENGINEERS

April 22, 2024

Charles Town Utility Board
661 South George Street, Suite 101
Charles Town, WV 25414

Attn: Kristen M. Stolipher, Utility General Manager

**RE: Greenfield Forcemain & Samuel Street**
**Flow Meter Design & Construction Administration**

Dear Mrs. Stolipher:

Per your request, Gwin, Dobson & Foreman, Inc. (GD&F) is pleased to present the following proposal (Task Order) to design, permit, and assist in construction of the above referenced Forcemain and Flow Meter Installation.

***Understanding of the Project***

Design, permit, bid, and provide construction administration to upgrade the existing Greenfield Pump Station Forcemain and associated Flow Meter Installation of the Samuel Street Pump Station. These upgrades are required as a result of the King's Crossing Tie-In Project. The Forcemain must cross under WV-340 via a new proposed boring.

***Proposed Services***

GD&F will provide the following services:

- Detailed site topographic survey
- Design forcemain for the existing pump station
- Design necessary improvements to install a flow meter on the discharge of the Samuel Street Pump Station
- Prepare and submit sanitary sewer permit to WVBPH
- Prepare specifications and a cost estimate
- Assist in bid phase of project
- Provide Construction Administration through completion of the Project

Services that are not included:

- HOP permit
- NPDES Permit modification (if required)
- Permit Fees
- Resident Project Representative/Inspection

***Proposed Schedule***

GD&F will begin immediately upon written authorization from the Board and will complete the design by the end of July 2024.

***Proposed Cost***

GD&F will provide the above scope of services for an estimated, not-to-exceed, fee of $51,500. Invoices will be submitted on a monthly basis based on GDF current standard rates. Payment will be made on an accrued hourly basis plus expenses. The expenses include direct expenses such as mileage, printing/copying, etc. as necessary to complete the services. Payment is due within thirty (30) days of invoicing.

| **Estimated Engineering Fees:** | |
|---|---|
| Site Survey | $16,500 |
| Easement Drawings & Legal Descriptions | $3,000 |
| Forcemain Design | $9,000 |
| Specifications | $2,000 |
| Cost Estimate | $1,000 |
| Permitting | $4,000 |
| Bid Phase | $2,000 |
| Project Management | $14,000 |
| **Total Estimated Engineering Cost** | **$51,500** |

We appreciate the opportunity to submit this proposal. To authorize the services, please complete the following authorization section of this proposal and return a signed copy to our office. If you have any questions, please contact our office at your convenience.

Respectfully submitted,
GWIN, DOBSON & FOREMAN, INC.

David Pedersen, P.E.
Senior Environmental Engineer

CME/mad
Prop/2024/CTUB_GreenfieldForcemain_4-22-24.doc
cc: File

***ACCEPTANCE OF PROPOSAL***

The Charles Town Utility Board hereby accepts the above service and cost proposal.

Authorized Representative Date

Attest/Witness

GD&F
GWIN
DOBSON &
FOREMAN
CONSULTING ENGINEERS

April 22, 2024

Charles Town Utility Board
661 South George Street, Suite 101
Charles Town, WV 25414

Attn: Kristen M. Stolipher, Utility General Manager

**RE: Greenfield Sewer Pump Station Construction**
**Cost Estimate & Design Proposal (Task Order)**

Dear Mrs. Stolipher:

Per your request, Gwin, Dobson & Foreman, Inc. (GD&F) is pleased to present the following proposal (Task Order) to assist in rehabilitation of the Greenfield Sewer Pump Station. The Forcemain of this Pump Station is set to be replaced as part of a separate Task Order.

***Understanding of the Project***

Provide an initial construction cost estimate for rehabilitation of the Greenfield Pump Station. If CTUB elects to continue with the project, provide the design and assist as necessary. This Task Order has been split into three (3) phases for convenience.

***Proposed Services***

**Phase 1 - Construction Cost Estimate (Completed)**

GD&F delivered a construction cost estimate (attached) to overhaul the mechanical portions of the pump station that are not included in the recent Greenfield Forcemain Upgrade Project.

**Phase 2 - Design of Selected Upgrades & Permits**

GD&F will design mechanical and electrical upgrades based on CTUB's selection from the Construction Cost Estimate. The design will be based on the assumption CTUB will self-perform the work unless otherwise notified by CTUB. GD&F will also prepare and submit a sanitary sewer permit if directed to do so by CTUB. Permit fees will be the responsibility of CTUB.

**Phase 3 - Bid Phase Preparation/Services (Future)**

GD&F will prepare specifications and final cost estimate for the design completed in Phase 2 and assist in bid phase of the project including pre-bid meeting, addendums, etc.

***Proposed Schedule***

GD&F will begin Phase 2 services following written authorization from the Board and completion of the Greenfield Forcemain Replacement Project.

***Proposed Cost***

GD&F will provide the above scope of Phase 2 services for an estimated, not-to-exceed, fee of $25,000. Invoices will be submitted on a monthly basis based on GDF current standard rates. Payment will be made on an accrued hourly basis plus expenses. The expenses include direct expenses such as mileage, printing/ copying, etc. as necessary to complete the services. Payment is due within thirty (30) days of invoicing.

We appreciate the opportunity to submit this proposal. To authorize the services, please complete the following authorization section of this proposal and return a signed copy to our office. If you have any questions, please contact our office at your convenience.

Respectfully submitted,
GWIN, DOBSON & FOREMAN, INC.



David Pedersen, P.E.
Senior Environmental Engineer

CME/mad
Prop/2024/CTUB_GreenfieldMech2_4-22-24.doc
cc: File

***ACCEPTANCE OF PROPOSAL***

The Charles Town Utility Board hereby accepts the above service and cost proposal.

Authorized Representative _____ Date _____

Attest/Witness _____

# Charles Town Utility Board

661 S. George Street, Suite 101 Charles Town, WV 25414
Phone: (304) 725-2316 ♦ Fax: (304) 725-7150 ♦ Web: www.ctubwv.com


**MEMORANDUM TO THE BOARD OF DIRECTORS**

FROM: Kristen Stolipher, Utility General Manager
SUBJECT: Utility General Manager's Report
DATE: May 8, 2024

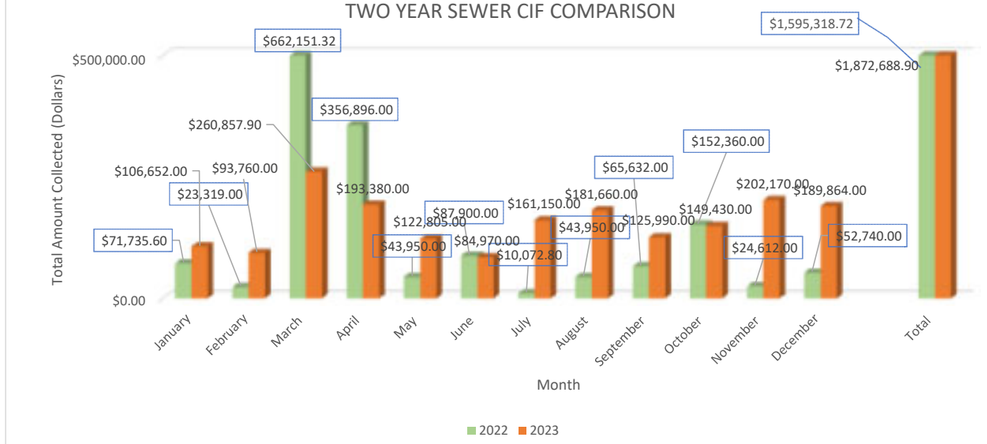
- **Customer Counts**
  - Sewer 8,925
  - Water 6,901

- **Grants**
  - Local Source Water Protection Grant submitted in the amount of $38,000

- **Water**
  - Hydrant Flushing on-going through May 10th
  - Lead and Copper Inventory on-going and on track for completion October 2024

- **Sewer**
  - Renewal and Replacement Project
  - Collection System Project
  - Greenfield Forcemain

| Charles Town Utility Board<br>2023 Capacity Improvement Fee Collections/EDU for Sewer | | | | | | |
|---|---|---|---|---|---|---|
| **Month** | **Commercial** | **Residential** | **Total Number of EDU's** | **Total Sewer CIF Collected** | **CIF Paid to Ranson** | **Total** |
| Jan-23 | | 36.4 | 36.4 | $ 116,402.00 | $ 9,750.00 | $ 106,652.00 |
| Feb-23 | | 32 | 32 | $ 93,760.00 | | $ 93,760.00 |
| Mar-23 | 4.03 | 85 | 89.03 | $ 286,906.65 | $ 26,048.75 | $ 260,857.90 |
| Apr-23 | | 66 | 66 | $ 206,380.00 | $ 13,000.00 | $ 193,380.00 |
| May-23 | 5.19 | 36 | 41.19 | $ 139,380.00 | $ 17,550.00 | $ 122,805.00 |
| Jun-23 | | 29 | 29 | $ 84,970.00 | | $ 84,970.00 |
| Jul-23 | | 55 | 55 | $ 237,525.00 | $ 76,375.00 | $ 161,150.00 |
| Aug-23 | | 62 | 62 | $ 202,785.00 | $ 21,125.00 | $ 181,660.00 |
| Sep-23 | | 43 | 43 | $ 156,865.00 | $ 30,875.00 | $ 125,990.00 |
| Oct-23 | | 51 | 51 | $ 191,680.00 | $ 42,250.00 | $ 149,430.00 |
| Nov-23 | | 69 | 69 | $ 237,920.00 | $ 35,750.00 | $ 202,170.00 |
| Dec-23 | 33 | 32 | 65 | $ 196,364.00 | $ 6,500.00 | $ 189,864.00 |
| | | | | | | |
| **Total 2023** | **42.02** | **491.4** | **638.42** | **$ 2,150,937.65** | **$ 279,223.75** | **$ 1,872,688.90** |

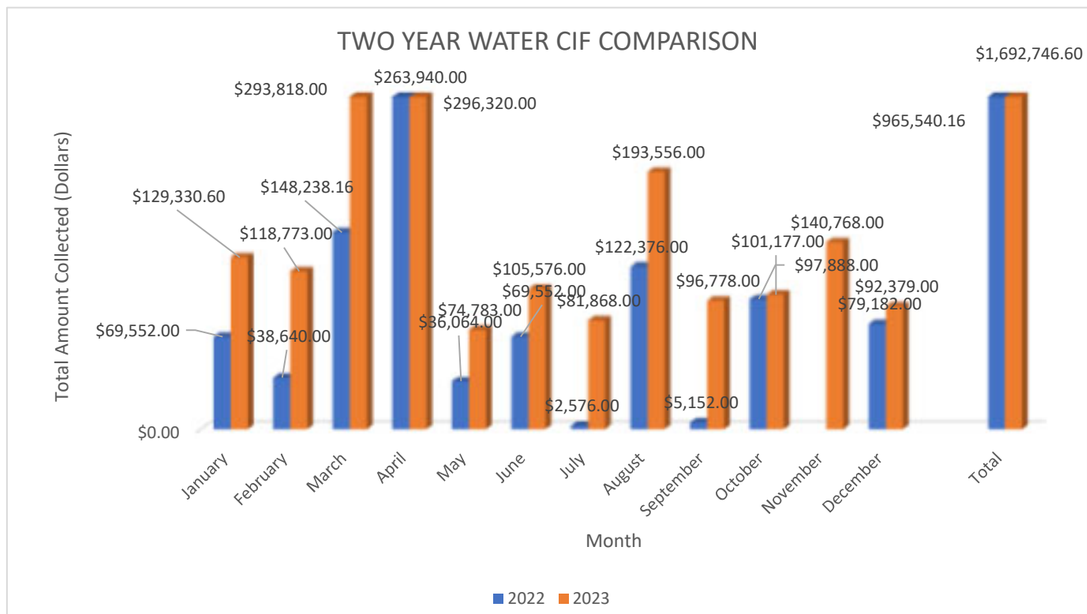


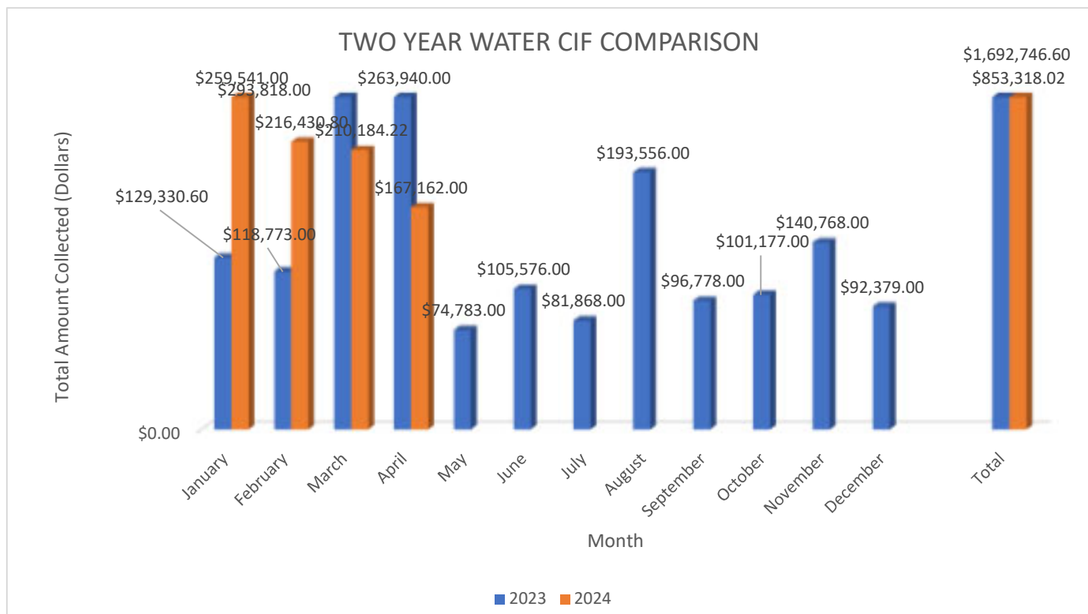

| Charles Town Utility Board<br>2024 Capacity Improvement Fee Collections/EDU for Sewer | | | | | | |
|---|---|---|---|---|---|---|
| **Month** | **Commercial** | **Residential** | **Total Number of EDU's** | **Total Sewer CIF Collected** | **CIF Paid to Ranson** | **Total** |
| Jan-24 | 1.5 | 86 | 87.5 | $ 289,687.50 | $ 33,312.50 | $ 256,375.00 |
| Feb-24 | | 130 | 130 | $ 458,900.00 | $ 78,000.00 | $ 380,900.00 |
| Mar-24 | 6.78 | 52 | 58.78 | $ 181,975.40 | $ 9,750.00 | $ 172,225.40 |
| Apr-24 | 25 | 107 | 132 | $ 438,885.00 | $ 50,375.00 | $ 388,510.00 |
| May-24 | | 9 | 9 | $ 39,370.00 | $ 13,000.00 | $ 26,370.00 |
| Jun-24 | | | | | | |
| Jul-24 | | | | | | |
| Aug-24 | | | | | | |
| Sep-24 | | | | | | |
| Oct-24 | | | | | | |
| Nov-24 | | | | | | |
| Dec-24 | | | | | | |
| | | | | | | |
| **Total 2024** | **33.28** | **384** | **417.28** | **$ 1,408,817.90** | **$ 184,437.50** | **$ 1,224,380.40** |



| 2023 Capacity Improvement Fee Collections/EDU for Water | | | | |
|---|---|---|---|---|
| **Month** | **Commercial** | **Residential** | **Total Number of EDU's** | **Total Water CIF** |
| Jan-23 | | 30.4 | 30.4 | $ 129,330.60 |
| Feb-23 | | 27 | 27 | $ 118,773.00 |
| Mar-23 | | 81.5 | 81.5 | $ 293,818.00 |
| Apr-23 | | 60 | 60 | $ 263,940.00 |
| May-23 | | 17 | 17 | $ 74,783.00 |
| Jun-23 | | 24 | 24 | $ 105,576.00 |
| Jul-23 | 24.95 | 4 | 28.95 | $ 81,868.00 |
| Aug-23 | | 44 | 44 | $ 193,556.00 |
| Sep-23 | | 22 | 22 | $ 96,778.00 |
| Oct-23 | | 23 | 23 | $ 101,177.00 |
| Nov-23 | | 32 | 32 | $ 140,768.00 |
| Dec-23 | | 21 | 21 | $ 92,379.00 |
| | | | | |
| **Total 2023** | **24.95** | **362.9** | **410.85** | **$ 1,692,746.60** |

| 2024 Capacity Improvement Fee Collections/EDU for Water | | | | |
|---|---|---|---|---|
| **Month** | **Commercial** | **Residential** | **Total Number of EDU's** | **Total Water CIF** |
| Jan-24 | | 59 | 59 | $ 259,541.00 |
| Feb-24 | | 49.2 | 49.2 | $ 216,430.80 |
| Mar-24 | 6.78 | 41 | 47.78 | $ 210,184.22 |
| Apr-24 | | 38 | 38 | $ 167,162.00 |
| May-24 | | | | |
| Jun-24 | | | | |
| Jul-24 | | | | |
| Aug-24 | | | | |
| Sep-24 | | | | |
| Oct-24 | | | | |
| Nov-24 | | | | |
| Dec-24 | | | | |
| | | | | |
| **Total 2024** | **6.78** | **187.2** | **193.98** | **$ 853,318.02** |



**CHARLES TOWN UTILITY BOARD**
**WASTEWATER TREATMENT PLANT FLOW DATA**

| CHARLES TOWN WASTEWATER PLANT FLOW DATA | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | Total Design (MGD) | TOTAL ANNUAL FLOW (MG) | AVERAGE DAILY (MGD) | Total Design minus Average Daily (MGD) | Total Available (gpd) | Total Available (EDU's) |
| 2015 | 1.75 | 384 | 1.05 | 0.7 | 700,000 | 4,667 |
| 2016 | 1.75 | 419 | 1.14 | 0.61 | 610,000 | 4,067 |
| 2017 | 1.75 | 393 | 1.08 | 0.67 | 670,000 | 4,467 |
| 2018 | 1.75 | 491 | 1.34 | 0.41 | 410,000 | 2,733 |
| 2019 | 1.75 | 459 | 1.26 | 0.49 | 490,000 | 3,267 |
| 2020 | 1.75 | 419.7 | 1.15 | 0.60 | 603,333 | 4,022 |
| 2021 | 1.75 | 401.61 | 1.11 | 0.64 | 637,500 | 4,250 |
| 2022 | 1.75 | 387.15 | 1.06 | 0.69 | 687,500 | 4,583 |
| 2023 | 1.75 | 382.28 | 1.06 | 0.69 | 694,167 | 4,628 |
| 2024 | 1.75 | 147.56 | 1.22 | 0.53 | 530,000 | 3,533 |

| TUSCAWILLA WASTEWATER PLANT FLOW DATA | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | Total Design (MGD) | TOTAL ANNUAL FLOW (MG) | AVERAGE DAILY (MGD) | Total Design minus Average Daily (MGD) | Total Available (gpd) | Total Available (EDU's) |
| 2015 | 0.5 | 48 | 0.13 | 0.37 | 370,000 | 2,467 |
| 2016 | 0.5 | 49 | 0.13 | 0.37 | 370,000 | 2,467 |
| 2017 | 0.5 | 48 | 0.14 | 0.36 | 360,000 | 2,400 |
| 2018 | 0.5 | 78 | 0.21 | 0.29 | 290,000 | 1,933 |
| 2019 | 0.5 | 55.24 | 0.15 | 0.35 | 350,000 | 2,333 |
| 2020 | 0.5 | 1.09 | 0.16 | 0.34 | 340,000 | 2,267 |
| 2021 | 0.5 | 32.55 | 0.10 | 0.40 | 400,833 | 2,672 |
| 2022 | 0.5 | 62.8 | 0.17 | 0.33 | 328,333 | 2,189 |
| 2023 | 0.5 | 83.78 | 0.23 | 0.27 | 270,000 | 1,800 |
| 2024 | 0.5 | 28.19 | 0.23 | 0.27 | 267,500 | 1,783 |

| Total EDU's available between CT and Tuscawilla | |
|---|---|
| 2015 | 7,133 |
| 2016 | 6,533 |
| 2017 | 6,867 |
| 2018 | 4,667 |
| 2019 | 5,600 |
| 2020 | 6,289 |
| 2021 | 6,922 |
| 2022 | 6,772 |
| 2023 | 6,428 |
| 2024 | 5,317 |

**Legend:**
**MGD= Million gallons per day**
**MG=million gallons**
**gpd= gallons per day**
**EDU= Equivalent Dwelling Unit (150 gpd)**

| 2022 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 37.25 | 1.20 |
| FEBRUARY | 33.8 | 1.21 |
| MARCH | 33.28 | 1.07 |
| APRIL | 32.98 | 1.1 |
| MAY | 35.86 | 1.16 |
| JUNE | 29.9 | 1.00 |
| JULY | 29.78 | 0.96 |
| AUGUST | 30.19 | 1.01 |
| SEPTEMBER | 29.62 | 0.96 |
| OCTOBER | 29.02 | 0.94 |
| NOVEMBER | 30.09 | 1.00 |
| DECEMBER | 35.38 | 1.14 |
| | | |
| Annual Total | 387.15 | 1.06 |

| 2023 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 36.55 | 1.21 |
| FEBRUARY | 28.96 | 1.03 |
| MARCH | 30.46 | 1.02 |
| APRIL | 29.52 | 0.98 |
| MAY | 30.78 | 0.99 |
| JUNE | 29.64 | 0.99 |
| JULY | 31.2 | 1.01 |
| AUGUST | 29.96 | 1.00 |
| SEPTEMBER | 33.38 | 1.11 |
| OCTOBER | 33.02 | 1.07 |
| NOVEMBER | 33.61 | 1.12 |
| DECEMBER | 35.2 | 1.14 |
| | | |
| Annual Total | 382.28 | 1.06 |

| 2024 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 36.06 | 1.16 |
| FEBRUARY | 34.43 | 1.19 |
| MARCH | 38.99 | 1.26 |
| APRIL | 38.08 | 1.27 |
| MAY | | |
| JUNE | | |
| JULY | | |
| AUGUST | | |
| SEPTEMBER | | |
| OCTOBER | | |
| NOVEMBER | | |
| DECEMBER | | |
| | | |
| Annual Total | 147.56 | 1.22 |

| 2022 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 0 | 0 |
| FEBRUARY | 0 | 0 |
| MARCH | 4.34 | 0.14 |
| APRIL | 4.68 | 0.16 |
| MAY | 6.03 | 0.19 |
| JUNE | 6.21 | 0.21 |
| JULY | 6.48 | 0.21 |
| AUGUST | 7.01 | 0.23 |
| SEPTEMBER | 7.11 | 0.24 |
| OCTOBER | 7.27 | 0.23 |
| NOVEMBER | 6.94 | 0.23 |
| DECEMBER | 6.73 | 0.22 |
| | | |
| Annual Total | 62.8 | 0.17 |

| 2023 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 7.3 | 0.24 |
| FEBRUARY | 6.38 | 0.23 |
| MARCH | 6.41 | 0.21 |
| APRIL | 6.13 | 0.20 |
| MAY | 6.30 | 0.20 |
| JUNE | 6.89 | 0.23 |
| JULY | 7.31 | 0.24 |
| AUGUST | 7.7 | 0.25 |
| SEPTEMBER | 6.98 | 0.23 |
| OCTOBER | 6.92 | 0.22 |
| NOVEMBER | 7.22 | 0.24 |
| DECEMBER | 8.24 | 0.27 |
| | | |
| Annual Total | 83.78 | 0.230 |

| 2024 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 8.61 | 0.28 |
| FEBRUARY | 8.25 | 0.28 |
| MARCH | 6.28 | 0.2 |
| APRIL | 5.05 | 0.17 |
| MAY | | |
| JUNE | | |
| JULY | | |
| AUGUST | | |
| SEPTEMBER | | |
| OCTOBER | | |
| NOVEMBER | | |
| DECEMBER | | |
| | | |
| Annual Total | 28.19 | 0.233 |

**CHARLES TOWN UTILITY BOARD**
**WATER TREATMENT PLANT FLOW DATA**

| CHARLES TOWN WATER PLANT FLOW DATA | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | Total Design (MGD) | TOTAL ANNUAL FLOW (MG) | AVERAGE DAILY (MGD) | Total Design minus Average Daily (MGD) | Total Available (gpd) | Total Available (EDU's) |
| 2019 | 2.8 | 644.32 | 1.77 | 1.03 | 1,034,980 | 6,900 |
| 2020 | 2.8 | 615.64 | 1.68 | 1.12 | 1,117,946 | 7,453 |
| 2021 | 2.8 | 601.87 | 1.64 | 1.16 | 1,164,627 | 7,764 |
| 2022 | 2.8 | 588.97 | 1.60 | 1.20 | 1,204,163 | 8,028 |
| 2023 | 2.8 | 602.24 | 1.63 | 1.17 | 1,168,256 | 7,788 |
| 2024 | 2.8 | 1,832.29 | 1.52 | 1.28 | 1,284,141 | 8,561 |

| GLEN HAVEN WATER PLANT FLOW DATA | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | Total Design (MGD) | TOTAL ANNUAL FLOW (MG) | AVERAGE DAILY (MGD) | Total Design minus Average Daily (MGD) | Total Available (gpd) | |
| 2020 | 0.0216 | 1.04 | 0.01 | 0.01 | 13,120 | |
| 2021 | 0.0216 | 3.06 | 0.01 | 0.01 | 13,213 | - |
| 2022 | 0.0216 | 2.70 | 0.01 | 0.01 | 14,335 | - |
| 2023 | 0.0216 | 2.99 | 0.01 | 0.01 | 13,573 | - |
| 2024 | 0.0216 | 0.85 | 0.01 | 0.01 | 14,867 | - |

| CAVALAND WATER PLANT FLOW DATA | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | Total Design (MGD) | TOTAL ANNUAL FLOW (MG) | AVERAGE DAILY (MGD) | Total Design minus Average Daily (MGD) | Total Available (gpd) | |
| 2020 | 0.036 | 0.59 | 0.005 | 0.03 | 31,210 | |
| 2021 | 0.036 | 1.91 | 0.01 | 0.03 | 30,766 | |
| 2022 | 0.036 | 1.84 | 0.005 | 0.03 | 31,041 | |
| 2023 | 0.036 | 1.79 | 0.005 | 0.03 | 31,186 | |
| 2024 | 0.036 | 0.00 | 0.00 | 0.03 | 31,213 | |

**Legend:**
**MGD= Million gallons per day**
**MG=million gallons**
**gpd= gallons per day**
**EDU= Equivalent Dwelling Unit (150 gpd)**

| 2022 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 47,918,736 | 1,545,766 |
| FEBRUARY | 43,703,896 | 1,560,853 |
| MARCH | 48,063,482 | 1,550,435 |
| APRIL | 47,294,978 | 1,525,644 |
| MAY | 49,834,352 | 1,607,560 |
| JUNE | 49,111,936 | 1,584,256 |
| JULY | 51,919,787 | 1,674,832 |
| AUGUST | 51,872,384 | 1,673,303 |
| SEPTEMBER | 50,844,952 | 1,640,160 |
| OCTOBER | 50,572,280 | 1,631,364 |
| NOVEMBER | 47,643,899 | 1,536,900 |
| DECEMBER | 50,188,260 | 1,618,976 |
| | | |
| Annual Total | 588,968,942 | 1,595,837 |

| 2023 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 50,324,969 | 1,623,386 |
| FEBRUARY | 44,512,256 | 1,589,723 |
| MARCH | 51,243,776 | 1,653,025 |
| APRIL | 49,507,092 | 1,597,003 |
| MAY | 51,882,496 | 1,673,629 |
| JUNE | 51,245,216 | 1,653,071 |
| JULY | 53,546,017 | 1,727,291 |
| AUGUST | 53,866,467 | 1,737,628 |
| SEPTEMBER | 51,067,174 | 1,647,328 |
| OCTOBER | 49,781,275 | 1,605,848 |
| NOVEMBER | 47,073,432 | 1,518,498 |
| DECEMBER | 48,189,312 | 1,554,494 |
| | | |
| Annual Total | 602,239,482 | 1,631,744 |

| 2024 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 48,027,207 | 1,549,265 |
| FEBRUARY | 44,217,320 | 1,579,190 |
| MARCH | 46,432,344 | 1,497,818 |
| APRIL | 44,552,042 | 1,437,163 |
| MAY | | |
| JUNE | | |
| JULY | | |
| AUGUST | | |
| SEPTEMBER | | |
| OCTOBER | | |
| NOVEMBER | | |
| DECEMBER | | |
| | | |
| Annual Total | 183,228,913 | 1,515,859 |

| 2022 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 204,300 | 6,590 |
| FEBRUARY | 178,600 | 5,761 |
| MARCH | 191,200 | 6,168 |
| APRIL | 222,000 | 7,161 |
| MAY | 237,300 | 7,655 |
| JUNE | 286,600 | 9,245 |
| JULY | 301,600 | 9,729 |
| AUGUST | 262,800 | 8,477 |
| SEPTEMBER | 221,600 | 7,148 |
| OCTOBER | 236,700 | 7,635 |
| NOVEMBER | 215,200 | 6,942 |
| DECEMBER | 144,500 | 4,661 |
| | | |
| Annual Total | 2,702,400 | 7,265 |

| 2023 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 233,300 | 7,526 |
| FEBRUARY | 184,300 | 5,945 |
| MARCH | 218,200 | 7,039 |
| APRIL | 234,800 | 7,574 |
| MAY | 264,800 | 8,542 |
| JUNE | 268,900 | 8,674 |
| JULY | 325,100 | 10,487 |
| AUGUST | 281,300 | 9,074 |
| SEPTEMBER | 265,600 | 8,568 |
| OCTOBER | 233,900 | 7,545 |
| NOVEMBER | 242,500 | 7,823 |
| DECEMBER | 233,500 | 7,532 |
| | | |
| Annual Total | 2,986,200 | 8,027 |

| 2024 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 234,900 | 7,577 |
| FEBRUARY | 182,100 | 5,874 |
| MARCH | 206,200 | 6,250 |
| APRIL | 224,200 | 7,232 |
| MAY | | |
| JUNE | | |
| JULY | | |
| AUGUST | | |
| SEPTEMBER | | |
| OCTOBER | | |
| NOVEMBER | | |
| DECEMBER | | |
| | | |
| Annual Total | 847,400 | 6,733 |

| 2022 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 150,100 | 4,842 |
| FEBRUARY | 127,200 | 4,103 |
| MARCH | 130,300 | 4,203 |
| APRIL | 141,600 | 4,568 |
| MAY | 145,000 | 4,677 |
| JUNE | 155,500 | 5,016 |
| JULY | 173,500 | 5,597 |
| AUGUST | 167,200 | 5,394 |
| SEPTEMBER | 138,500 | 4,468 |
| OCTOBER | 144,300 | 4,655 |
| NOVEMBER | 145,300 | 4,687 |
| DECEMBER | 226,300 | 7,300 |
| | | |
| Annual Total | 1,844,800 | 4,959 |

| 2023 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 134,900 | 4,352 |
| FEBRUARY | 122,700 | 3,958 |
| MARCH | 140,000 | 4,516 |
| APRIL | 143,100 | 4,616 |
| MAY | 153,400 | 4,948 |
| JUNE | 166,200 | 5,361 |
| JULY | 166,400 | 5,368 |
| AUGUST | 170,400 | 5,497 |
| SEPTEMBER | 163,600 | 5,277 |
| OCTOBER | 140,600 | 4,535 |
| NOVEMBER | 143,200 | 4,619 |
| DECEMBER | 146,400 | 4,723 |
| | | |
| Annual Total | 1,790,900 | 4,814 |

| 2024 | | |
|---|---|---|
| | Total (MG) | AVERAGE (MG) |
| JANUARY | 155,600 | 5,019 |
| FEBRUARY | 135,000 | 4,355 |
| MARCH | 148,800 | 4,750 |
| APRIL | 155,700 | 5,023 |
| MAY | | |
| JUNE | | |
| JULY | | |
| AUGUST | | |
| SEPTEMBER | | |
| OCTOBER | | |
| NOVEMBER | | |
| DECEMBER | | |
| | | |
| Annual Total | 595,100 | 4,787 |

CHARLES TOWN UTILITY BOARD
2022 Sewer Collection System Project

RK&K Project No. 19339.019
IJDC Project No. 2021S-2041
CWSRF Project No. C544686

Project Schedule
April 22, 2024

1. Plans & Specs.
    a. Final Submission – December 2023
    b. Final Approval – February 2024
2. Permitting
    a. C&H Clearance – obtained
    b. DEP E&S – anticipate May 2024
    c. DEP Minor Mod – anticipate March 2024
    d. DOH – anticipate April 2024
    e. ACOE/DNR/USFWS – anticipate May 2024
3. Easements / Acquisition
    a. 39 Easements required – 21 obtained
    b. 2 Acquisitions required – 0 obtained
4. Binding Commitment
    a. CWSRF $2.8M Loan – obtained
    b. CWSRF $0.2M Loan – anticipate May 2024
    c. CWSRF “Green” – anticipate May 2024
    d. WDA – obtained
    e. CTUB CIF – in-place
    f. CTUB Working Capital – in-place
    g. Charles Town ARPA – obtained
5. Bidding
    a. Request Approval to Advertise – July 2024
    b. Bid Opening – August 2024
6. Construction
    a. Notice to Proceed – November 2024
    b. Construction (18 months) – April 2026

# Current Status of Electrical Equipment
# Quarterly CAP Update
# April 30, 2024

The following equipment cannot currently be utilized until both primary and backup power to the equipment is established: new influent pumps (typical of 3), valves and related instrumentation, the new instrumentation and control panel for the SBRs, the new digester mixing system and diffusers, blowers (typical of 2) and instrumentation, the new centrifuge, sludge transfer pump, grinder, polymer feed system and conveyor, new meter vault instrumentation, new plant drain pumps, new emergency generator, and the new SCADA system. The following new equipment listed above has currently been installed: the new digester mixing system and diffusers, blowers (typical of 2) and instrumentation, the new centrifuge, sludge transfer pump, grinder, polymer feed system and conveyor, new meter vault instrumentation and new emergency generator.

The following list of new electrical equipment has been delayed significantly beyond their original expected shipment dates during the construction project: automatic transfer switch, switchboard No. 1, 1200 and 1600 Amp breakers and motor control center (MCC) No. 1.

All existing and new electrical equipment items are ultimately fed to or from Switchboard No. 1. MCC No. 1 provides power to the following equipment: SBR blowers, sludge holding tank mixers and blowers, the WAS transfer pump and the plant drain pumps. The new 800 kW emergency generator was designed to provide emergency backup power to the entire facility (all existing and new equipment). The automatic transfer switch is required to make the power transition from utility to generator power. Without the automatic transfer switch, the newly installed equipment would not have backup power. Thus, the delivery and installation of the automatic transfer switch is currently driving the construction schedule.

**Updated Schedule**

The Motor Control Center (MCC) No.1 has been received by the integrator (Micro-Tech). Micro-Tech said that they can complete their integration and testing of MCC No. 1 within four (4) to six (6) weeks. This means that MCC No. 1 will arrive to the site in June of 2024, at which time it will take several weeks to install. The automatic transfer switch is currently scheduled to be shipped September 30, 2024. It will take about a week in transit and a few days to install. Switchboard No. 1 has arrived onsite and is currently being installed.

**Delays**

All electrical equipment currently being delayed is manufactured by Square D. Square D is one of, if not the most, renowned electrical equipment manufacturers in the country. During the COVID pandemic, the electrical parts manufacturers suffered severe schedule delays due to be unable to purchase or secure specific electrical components within the electrical equipment. Most of these components come from overseas. They simply don't have all the parts needed to manufacturer the equipment. These post-Covid delays are still being seen nation-wide in the electrical industry. While some manufacturers have better lead times than others, Charles Town Utility Board had to go with Square D because the existing MCC's and gear being retrofitted are Square D.

**CITY OF CHARLES TOWN PROPOSED CORRECTIVE ACTION PLAN FOR ADMINISTRATIVE ORDER ON CONSENT**
**U.S. EPA DOCKET NO. CWA-03-2023-0085DN**

Color Legend
Red Font — Item Completed
Green Font — Item in Progress and/or from previous submissior
Blue Font — Item Updated from previous submission

| Phase | Category | Description | Projected Completion Date | Status as of April 30, 2024 |
|---|---|---|---|---|
| **Work Completion Certification I** | | | | |
| | The City will shall provide EPA with a written certification that the following work has been completed at the Charles Town WWTP | Not applicable | Within thirty (30) calendar days of the Effective Date of the AOC | Complete |
| | Schedule of completion | Not applicable | Within thirty (30) calendar days of the Effective Date of the AOC | Complete |
| | | | | |
| | | Survey and establish control of the Charles Town WWTP construction site | Within thirty (30) calendar days of the Effective Date of the AOC | Complete |
| | | Complete work on the sludge day tank and building demolition | Within thirty (30) calendar days of the Effective Date of the AOC | Complete |
| | | Perform test pitting at the Digester area | Within thirty (30) calendar days of the Effective Date of the AOC | Complete |
| | | Complete digester blower building demolition | Within thirty (30) calendar days of the Effective Date of the AOC | Complete |
| | | Complete underground piping demolition | Within thirty (30) calendar days of the Effective Date of the AOC | Complete |
| | | | | |
| | | | | |
| **Work Completion Certification II** | | | | |
| | The City shall provide to EPA a written certification, including current photographic documentation with accompanying individual image narrative description, that the following work has been completed at the Charles Town WWTP | Not applicable | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | Schedule of completion | Not applicable | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | | | | |
| | | Install new yard piping | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | | Building earthwork and concrete pad preparation | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | | Install pour blower pad | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | | Fiber-reinforced plastics shelter installation | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | | Install duct banks to protect electrical and data cables | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | | | | |
| | | | | |
| **Initial Proposed Corrective Action Plan** | | | | |
| | The City shall provide to EPA for review an Initial Proposed Corrective Action Plan (CAP), which meets the requirements set forth in this AOC. The Initial Proposed CAP shall include, at a minimum, plans and schedules for implementing corrective actions at the Charles Town WWTP | Not applicable | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | Schedule of completion | Not applicable | Within sixty (60) calendar days of the Effective Date of the AOC | Complete |
| | | | | |
| | | | | |
| **Phase I** | | | | |
| | The City provide a detailed plan and schedule for undertaking, and as required completing, the work encompassed within Phase I | Not applicable | No later than the last business day of the first full calendar quarter following the Effective Date | In progress |
| | Schedule of completion | Not applicable | No later than the last business day of the first full calendar quarter following the Effective Date | In progress |
| | | | | |
| | | Demolish existing screen and washer compactor | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Demolish existing grit system | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Demolish influent pumps, valves and related instrumentation | Scheduled to be completed from October 2023 to November 2023 | Scheduled to be completed by October 2024. Delayed due to updated electrical ATS delivery delay. See below. |
| | | Continue Electrical Building construction, including installation of walls, doors, roof, Heating, Ventilation, and, Air Conditioning System (HVAC System), lighting, plumbing (as necessary) and related finishes | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Complete work related to demolishing the existing Sludge Holding Tank and the Sludge Building (Existing Sludge Handling Building) | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Continue New Sludge Handling Building construction, including finish pouring foundation, floor slabs, walls and roof | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Begin concrete masonry unit (CMU) block wall installation | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |

| | | | | |
|---|---|---|---|---|
| | | Complete underground electrical component/conduit installation | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Complete installation of concrete pad | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Complete installation of FRP Shelter structure, including and not limited to, flooring, walls, roof, doors and windows (if any) | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Complete installation of new grit removal system, including completion of startup related tasks | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Initiate modifications to aeration portion of aerobic digester system, including installation of all structural work and installation of new equipment | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Initiate and complete construction of Temporary Headworks Bypass System, including all start-up tasks | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Initiate and complete demolition of Existing Headworks System | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Complete installation of New Headworks System, including complete installation of all mechanical components, new headworks screen and washer compactor, including completion of startup related tasks | No later than the last business day of the first full calendar quarter following the Effective Date | Completed new headworks screen, washer compactor and grit system. Replacement of existing influent pumps and piping to be complete by October 2024. Delayed due to updated electrical ATS delivery delay. See below. |
| | | Clean Sequencing Batch Reactor (SBR) basins and complete installation of new instrumentation | Instrumentation is scheduled to be installed from November to December 2023 | All three (3) existing SBR basins have been cleaned. Instrumentation scheduled to be installed by September 2024. |
| | | Complete installation of new influent meter vault and piping. | Scheduled to be performed in November 2023. | The precast vault and meter have been placed, piping is complete. Flow meter to be wired into SCADA by September 2024. |
| | | Continue installation of underground duct bank(s) (one or more underground reinforced concrete or metal container(s) used for laying utility lines, such as electric and telecommunication cables) | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Initiate and complete installation of new wiring and controls to new screen, grit system and influent pumps | No later than the last business day of the first full calendar quarter following the Effective Date | Completed wiring to new screen and grit system. Wiring of influent pumps and piping to be complete by October 2024. |
| | | Initiate digester aeration system modifications, including electrical modification tasks | No later than the last business day of the first full calendar quarter following the Effective Date | Complete |
| | | Schedule for ordering and acquiring all new equipment necessary for the completions of work described Phases I-V of the CAP | No later than the last business day of the first full calendar quarter following the Effective Date | In progress |
| | | | | |
| | | | | |
| **Phase II** | | | | |
| | The City provide a detailed plan and schedule for undertaking, and as required completing, the work encompassed within Phase II | Not applicable | No later than the last business day of the second full calendar quarter following the Effective Date | In progress |
| | Schedule of completion | Not applicable | No later than the last business day of the second full calendar quarter following the Effective Date | In progress |
| | | | | |
| | | Initiate and complete demolition of existing UV system (UV System) | No later than the last business day of the second full calendar quarter following the Effective Date | Complete |
| | | Complete UV System demolition work relating to existing piping and electrical equipment, as necessary to accommodate new piping and electrical equipment | No later than the last business day of the second full calendar quarter following the Effective Date | Complete |
| | | Complete installation of new UV System, including electrical and startup tasks | No later than the last business day of the second full calendar quarter following the Effective Date | Complete |
| | | Complete Electrical Building construction, including installation of walls, doors, roof, HVAC System, lighting, plumbing (as necessary) and related finishes and start-up tasks | Scheduled to be complete by January 2024 | Complete |
| | | Initiate installation of new electrical equipment, in coordination with delivery of such equipment, including low and high voltage panels, transformer, motor control center, switchboard, circuit breakers, automatic transfer switch, blower surge panels, SBR panel and remote Input and Output (I/O) panel | Scheduled to be complete by January 2024 | Complete |
| | | Complete centrifuge building construction tasks, including completion of CMU block walls, installation of structural steel and roof installation | No later than the last business day of the second full calendar quarter following the Effective Date | Complete |
| | | Initiate installation planning (a.k.a. rough-in tasks) for building plumbing, mechanical and electrical lines | No later than the last business day of the second full calendar quarter following the Effective Date | Complete |
| | | Initiate installation of new doors, windows, lighting installation and HVAC System installation | Scheduled to be installed from December 2023 to January 2024 | Complete |

| | | | | |
|---|---|---|---|---|
| | | Initiate installation of electrical equipment, in coordination with delivery of such equipment, including panelboards, transformer, variable frequency drives, motor starters and disconnects and remote I/O panel | Electrical equipment scheduled to be installed from October 2023 to January 2024 | Complete |
| | | Complete installation of new influent pumps, including installation of level control system, piping and valves | Scheduled to be installed from October to November of 2023 | Replacement of influent pumps, valves, instrumentation and control system to be completed October of 2024, due to electrical equipment delays. |
| | | Complete installation of new influent meter valve vault and installation of influent meter, including all start-up tasks | Startup scheduled from October to November of 2023. | Vault work complete with exception of meter startup which is scheduled for October 2024. |
| | | Complete modifications/upgrades to aeration portion of aerobic digester system equipment, including electrical modification tasks and startup of equipment tasks | Temporary startup of New Digester system startup scheduled for November to December of 2023 | All mechanical piping inside the new digester tank is complete including installation of telescoping valve, diffusers and piping. New digester blowers and piping is complete. Digester aeration mixing system inside existing Blower Room was completed in January 2024. Wiring/startup to be completed October of 2024. |
| | | Complete installation of underground duct bank(s), necessary for operation of UV system, and continue installation of remaining underground duct bank(s) | No later than the last business day of the second full calendar quarter following the Effective Date | Complete |
| | | | | |
| | | | | |
| | | | | |
| **Phase III** | | | | |
| | The City provide a detailed plan and schedule for undertaking, and as required completing, the work encompassed within Phase III | Not applicable | No later than the last business day of the third full calendar quarter following the Effective Date | Scheduled |
| | Schedule of completion | Not applicable | No later than the last business day of the third full calendar quarter following the Effective Date | Scheduled |
| | | | | |
| | | Complete piping demolition work within the Sludge Transfer Building | Scheduled to be completed in March to April of 2024 | Scheduled |
| | | Continue installation of new electrical equipment within the Electrical Building, including, and not limited to, low and high voltage panels, transformer, motor control center, switchboard, circuit breakers, automatic transfer switch, blower surge panels, SBR control panel and related instrumentation and remote I/O panel | Scheduled to be completed in January 2024 | The SBR Control Panel has been mounted. Motor Control Center has been received by integrator (MicroTech). Will take MicoTech 4-6 weeks for configuration and integration. Switchboard No. 1 arrived this month (April 24, 2024). The 1200 and 1600 Amp breakers are onsite and installed. Automatic Transfer Switch is expected to ship September 30, 2024. |
| | | Complete Sludge Handling Building construction work, including, and not limited to, plumbing, mechanical lines, electrical lines, windows, doors, finishes, HVAC installation, lighting installation and related start-up tasks | Scheduled to be completed in April of 2024 | All building plumbing and mechanical process piping is complete. All equipment has been installed including centrifuge, sludge pump, grinder, conveyor and polymer feed system. |
| | | Complete installation of new maintenance crane and monorail system | Scheduled to be completed in November of 2023 | Completed in December 2023. |
| | | Complete installation of electrical, power and control for any centrifuge related equipment | Scheduled to be completed in March of 2024 | Wiring of equipment has begun. |
| | | Complete installation of new sludge handling equipment, including startup tasks, of new centrifuge, pump, grinder, polymer feed system, and conveyor | Equipment startup scheduled for February to April of 2024 | Items installed. Pre-liminary startup now scheduled for June-July with final in October 2024. |
| | | Continue installation, including startup tasks, of electrical equipment including panelboards, transformer, variable frequency drives, motor starters and disconnects and remote I/O panel | Scheduled for December of 2023 | Panelboards have been installed along with transformers. Some items will be based upon electrical equipment deliveries which are not expected until June 2024. |
| | | Complete installation, including startup tasks, of new sludge transfer pump flow meter and valves | Scheduled for April of 2024 | Scheduled |
| | | Complete installation of all underground duct banks, including all necessary piping and wiring tasks | No later than the last business day of the third full calendar quarter following the Effective Date | All underground ductbank conduits are complete. Wiring is currently being pulled. Ongoing |
| | | | | |
| | | | | |
| **Phase IV** | | | | |
| | The City provide a detailed plan and schedule for undertaking, and as required completing, the work encompassed within Phase IV | Not applicable | No later than the last business day of the fourth full calendar quarter following the Effective Date | Scheduled |
| | Schedule of completion | Not applicable | No later than the last business day of the fourth full calendar quarter following the Effective Date | Scheduled |
| | | | | |
| | | Complete demolition of Waste Activated Sludge (WAS) vault | Scheduled for April 2024 to June 2024 | Scheduled |

| | | | | |
|---|---|---|---|---|
| | | Continue installation of new electrical equipment within the Electrical Building, including, and not limited to, low and high voltage panels, transformer, motor control center, switchboard, circuit breakers, automatic transfer switch, blower surge panels, SBR control panel and related instrumentation and remote I/O panel | Scheduled to be complete by January 2024 | The SBR Control Panel has been mounted. Motor Control Center has been received by integrator (MicroTech). Will take MicoTech 4-6 weeks for configuration and integration. Switchboard No. 1 arrived this month (April 24, 2024). The 1200 and 1600 Amp breakers are onsite and installed. Automatic Transfer Switch is expected to ship September 30, 2024. |
| | | Continue installation of electrical equipment, including panel boards, transformer, variable frequency drives, motor starters and disconnects and remote I/O panel | Scheduled to be complete from October 2023 to December 2023 | Some equipment installed Some items will be based upon electrical equipment deliveries which are not expected until June 2024. |
| | | Initiate and complete installation of a new emergency generator, including startup tasks | Generator startup scheduled for July of 2024 | New emergency generator was set in November of 2023. Automatic Transfer Switch not expected until October of 2024 (note that supply chain issues has pushed this out from 40 to 80 weeks of lead-time. The order was released on December 2, 2022.) |
| | | Complete new WAS vault construction, including installation and startup of electrical components | Scheduled for April 2024 to June 2024 | New precast WAS vault has been set in place. Mechanical piping is ongoing. Electrical startup scheduled for September 2024. |
| | | Initiate and complete installation of Drain Pump Station Bypass System, including startup tasks | Scheduled for October to December of 2023 | Delayed due to electrical equipment delays. Work scheduled for October 2024. |
| | | Complete a Supervisory Control and Data Acquisition System (SCADA System) analysis of: a) all upgrades to the SCADA system, and categorize such upgrades as either appropriate upgrades or necessary upgrades, and b) options for replacement of the SCADA System (SCADA System Upgrades or Replacement Analysis). | Scheduled to begin in June 2024 and extend through October of 2024 | Scheduled |
| | | | | |
| | | | | |
| **Phase V** | | | | |
| | The City provide a detailed plan and schedule for undertaking, and as required completing, the work encompassed within Phase V | Not applicable | No later than the last business day of the fifth full calendar quarter following the Effective Date | Scheduled |
| | Schedule of completion | Not applicable | No later than the last business day of the fifth full calendar quarter following the Effective Date | Scheduled |
| | | | | |
| | | Initiate and complete demolition of previously used emergency generator | Scheduled for July through August of 2024 | Scheduled |
| | | Complete all remaining demolition work at the Charles Town WWTP | Scheduled by August of 2024 | Scheduled |
| | | Complete installation of all remaining electrical equipment | Scheduled from October 2023 to January of 2024 | Delayed due to electrical equipment delays. Scheduled to be completed by October 2024. |
| | | Complete any additional Electrical Building work necessary to ensure practical useability of the building and the equipment in such building | Scheduled to be completed by February of 2024 | Delayed due to electrical equipment delays. Scheduled to be completed by October 2024. |
| | | Complete tasks necessary to connect monitoring equipment in the Sludge Handling Building with the main SCADA system | Scheduled to be completed in September of 2024 | Scheduled |
| | | Complete any additional Sludge Handling Building and sludge handling equipment work necessary to ensure practical useability of the building and the equipment in such building | Scheduled to be completed in September of 2024 | Scheduled |
| | | Complete installation of any and all electrical components, including panelboards, transformer, variable frequency drives, motor starters and disconnects, remote I/O panel and all related start-up tasks | Scheduled to be completed from November 2023 to January 2024 | Delayed due to electrical equipment delays. Scheduled to be completed by June 2024. |
| | | Complete any additional FRP Shelter Building work necessary to ensure practical useability of the building and the equipment in such building | Scheduled to be completed by January 2024 | Delayed due to electrical equipment delays. Scheduled to be completed by June 2024. |
| | | Complete installation of new waste activated sludge meter and valve vault | Scheduled to be completed from April 2024 to June 2024 | Scheduled |
| | | Complete installation of new emergency generator | See above | Scheduled |
| | | Initiate and complete installation, including startup tasks, of all pumps intended to be part of the new Plant Drain Pump Station | Scheduled to be completed from October to December of 2023 | Delayed due to electrical equipment delays. Scheduled to be completed by October 2024. |
| | | Initiate tasks to implement the selected upgrades or replacement work set forth in the SCADA System Upgrades or Replacement Analysis | Scheduled to be completed from June 2024 to October 2024 | Scheduled |
| | | Complete Final Exterior Grounds Sitework, including, and not limited to, pavement restoration, grading, sidewalks, bollards and seeding/planting work | Scheduled to be completed in June to September of 2024 | Scheduled |
| | | Complete all remaining tasks necessary to achieve substantial completion of all Charles Town WWTP construction and demolition work, including all demobilization activities | Scheduled to be completed from September 2024 to October 2024 | Scheduled |
| | | | | |
| | | | | |
| **Phase VI** | | | | |
| | The City provide a detailed plan and schedule for undertaking, and as required completing, the work encompassed within Phase VI | Not applicable | No later than the last business day of the sixth full calendar quarter following the Effective Date | Scheduled |

| | | | | |
|---|---|---|---|---|
| | Schedule of completion | Not applicable | No later than the last business day of the sixth full calendar quarter following the Effective Date | Scheduled |
| | | | | |
| | | Complete debugging of plant, including addressing any issues with SCADA System operation, reports, data collection and analysis, alarms and programming for data collection and analysis | Scheduled to be completed from October 2024 to December of 2024 | Scheduled |
| | | Complete training related to Charles Town WWTP operations, including SCADA system operations | Scheduled to be completed from October 2024 to December of 2024 | Scheduled |
| | | Complete Charles Town WWTP construction work, including, and not limited to, site restoration, Erosion and Sediment (E&S) control removal, final cleaning, and related punch list items | Scheduled to be completed from October 2024 to December of 2024 | Scheduled |

| VENDOR SORT KEY | DESCRIPTION | FUND | DEPARTMENT | | AMOUNT |
|---|---|---|---|---|---|
| | DEERFIELD MAINT | SEWER FUND | SEWER | | 296.24 |
| | PMPSTN SUPPLIES | SEWER FUND | SEWER | | 374.74 |
| | PMPSTN MAINT | SEWER FUND | SEWER | | 58.56 |
| | ADVERTISING | SEWER FUND | SEWER | | 588.15 |
| | GEN EXPENSE | SEWER FUND | SEWER | | 10.99 |
| | TRANSPORTATION | SEWER FUND | SEWER | | 3,044.11 |
| | | | | TOTAL: | 13,684.19 |
| HD SUPPLY INC | TUBE VALVE | WATER FUND | WATER | | 191.70 |
| | HYDRANT MARKER | WATER FUND | WATER | | 389.74 |
| | HYDRANT MARKER | WATER FUND | WATER | | 350.74 |
| | HYDRANT MARKER | WATER FUND | WATER | | 53.96 |
| | WATER TRACER KIT | WATER FUND | WATER | | 826.27 |
| | WIPES, ALGAE BRUSH, VALVEB | SEWER FUND | SEWER | | 563.50 |
| | WIPES, ALGAE BRUSH, VALVEB | SEWER FUND | SEWER | | 467.25 |
| | RADIAL BULLET | SEWER FUND | SEWER | | 64.25 |
| | | | | TOTAL: | 2,907.41 |
| WAKEFIELD & ASSOCIATES INC | APR COLLECTIONS | WATER FUND | WATER | | 159.92 |
| | APR COLLECTIONS | SEWER FUND | SEWER | | 159.91 |
| | | | | TOTAL: | 319.83 |
| WIRELESS NETWORKS GROUP, INC. | MISC SVCS, APR | WATER FUND | WATER | | 125.00 |
| | | | | TOTAL: | 125.00 |
| WV AMERICAN WATER | SHUTOFFS & RECONNECTS | SEWER FUND | SEWER | | 860.00 |
| | | | | TOTAL: | 860.00 |
| WV WATER DEVELOPMENT AUTHORITY | #2017-175 INFRSCTR FNDPRJC | SEWER FUND | NON-DEPARTMENTAL | | 2,517.05 |
| | | | | TOTAL: | 2,517.05 |

| FUND TOTALS | |
|---|---|
| 50 WATER FUND | 106,086.56 |
| 60 SEWER FUND | 357,853.28 |
| GRAND TOTAL: | 463,939.84 |

TOTAL PAGES: 5

APPROVED BY: _____

APPROVED BY: _____

| VENDOR SORT KEY | DESCRIPTION | FUND | DEPARTMENT | | AMOUNT |
|---|---|---|---|---|---|
| | TESTING: TUSC WKLY | SEWER FUND | SEWER | | 182.30 |
| | TESTING: TUSC WKLY | SEWER FUND | SEWER | | 161.30 |
| | TESTING: CT WKLY | SEWER FUND | SEWER | | 270.80 |
| | TESTING: TUSC WKLY | SEWER FUND | SEWER | | 154.70 |
| | TESTING: CT WKLY | SEWER FUND | SEWER | | 264.20 |
| | | | | TOTAL: | 1,325.10 |
| FCI GROUP LLC | WATER VEHICLE TIRES & BATT | WATER FUND | WATER | | 983.45 |
| | | | | TOTAL: | 983.45 |
| ROSS H BARE | CTWWTP SVC CLL | SEWER FUND | SEWER | | 300.00 |
| | | | | TOTAL: | 300.00 |
| SG PLUMBING, INC. | 412 W LIBERTY ST 4/25/24 | WATER FUND | WATER | | 1,300.00 |
| | YARD REPAIRS 5/02/24 | WATER FUND | WATER | | 925.00 |
| | 136 WEIRICK ROW 5/03/24 | WATER FUND | WATER | | 1,850.00 |
| | | | | TOTAL: | 4,075.00 |
| SMITH & LOVELESS INC | TRBLSHT PISTA GRIT SYSTM | SEWER FUND | SEWER | | 6,300.00 |
| | | | | TOTAL: | 6,300.00 |
| SNYDER ENVIRONMENTAL SERVICES, INC | CHK VLV FOR RIVER INTAKE | WATER FUND | WATER | | 11,586.70 |
| | | | | TOTAL: | 11,586.70 |
| STH, INC. | RVRINTAKEPMPS OILCHNG&PCKN | WATER FUND | WATER | | 2,530.00 |
| | | | | TOTAL: | 2,530.00 |
| T-MOBILE | MONTHLY CELL SVC | WATER FUND | WATER | | 113.61 |
| | MONTHLY CELL SVC | SEWER FUND | SEWER | | 178.58 |
| | | | | TOTAL: | 292.19 |
| GERALD TAYLOR CO., INC. | PUMP / TRANSPORT | WATER FUND | WATER | | 908.25 |
| | PUMP / TRANSPORT | WATER FUND | WATER | | 866.19 |
| | SUPERVAC | SEWER FUND | SEWER | | 2,790.81 |
| | | | | TOTAL: | 4,565.25 |
| THE CI THORNBURG CO, INC. | TRANSCEIVER | WATER FUND | WATER | | 9,154.00 |
| | CHLORINE, CARBON SLURRY | WATER FUND | WATER | | 3,725.00 |
| | SRII TRPL | WATER FUND | WATER | | 6,260.40 |
| | | | | TOTAL: | 19,139.40 |
| U.S. BANK | OFFICE SUPPLIES | WATER FUND | WATER | | 1,393.28 |
| | SUBSCRIPTIONS | WATER FUND | WATER | | 56.29 |
| | MAINT METERS | WATER FUND | WATER | | 198.34 |
| | PMPNG SUPPLIES | WATER FUND | WATER | | 259.27 |
| | WTP SUPPLIES | WATER FUND | WATER | | 1,661.76 |
| | GH/CAV SUPPLIES | WATER FUND | WATER | | 326.82 |
| | MAINT SUPPLIES | WATER FUND | WATER | | 1,071.57 |
| | TRAINING | WATER FUND | WATER | | 132.00 |
| | ADVERTISING | WATER FUND | WATER | | 486.62 |
| | TRANSPORTATION | WATER FUND | WATER | | 214.04 |
| | OFFICE SUPPLIES | SEWER FUND | SEWER | | 1,423.74 |
| | SUBSCRIPTIONS | SEWER FUND | SEWER | | 56.28 |
| | CLLCTN SYSTM | SEWER FUND | SEWER | | 34.99 |
| | TRMNT &DSPSL SUPPLIES | SEWER FUND | SEWER | | 1,789.40 |
| | TRAINING | SEWER FUND | SEWER | | 207.00 |

| VENDOR SORT KEY | DESCRIPTION | FUND | DEPARTMENT | | AMOUNT |
|---|---|---|---|---|---|
| LYLE C TABB & SONS | 30YDS BRUSH & LOGS | SEWER FUND | SEWER | | 350.00 |
| | 30YDS BRUSH & LOGS | SEWER FUND | SEWER | | 350.00 |
| | BRUSH & LOGS | SEWER FUND | SEWER | | 700.00 |
| | BRUSH & LOGS | SEWER FUND | SEWER | | 350.00 |
| | | | | TOTAL: | 1,750.00 |
| MARYLAND TRANSPORTATION AUTHORITY | TOLL | WATER FUND | WATER | | 3.39 |
| | | | | TOTAL: | 3.39 |
| MCKINNEY'S AUTO REPAIR | SERVICE WATER VEHICLE | WATER FUND | WATER | | 135.54 |
| | SVC & RPR SEWER VEHICLE | SEWER FUND | SEWER | | 1,252.27 |
| | | | | TOTAL: | 1,387.81 |
| METLIFE, INC | AD&D PAYABLE | WATER FUND | WATER | | 8.70 |
| | LIFE PAYABLE | WATER FUND | WATER | | 46.34 |
| | LTD PAYABLE | WATER FUND | WATER | | 292.70 |
| | STD PAYABLE | WATER FUND | WATER | | 363.34 |
| | AD&D PAYABLE | SEWER FUND | SEWER | | 9.28 |
| | LIFE PAYABLE | SEWER FUND | SEWER | | 49.36 |
| | LTD PAYABLE | SEWER FUND | SEWER | | 284.99 |
| | STD PAYABLE | SEWER FUND | SEWER | | 355.42 |
| | | | | TOTAL: | 1,410.13 |
| SECURITY DEPOSIT REFUNDS | 101-000995 | WATER FUND | NON-DEPARTMENTAL | | 60.04 |
| | 102-000125 | WATER FUND | NON-DEPARTMENTAL | | 47.83 |
| | 103-000010 | WATER FUND | NON-DEPARTMENTAL | | 88.79 |
| | 104-000460 | WATER FUND | NON-DEPARTMENTAL | | 58.30 |
| | 104-002010 | WATER FUND | NON-DEPARTMENTAL | | 51.21 |
| | 105-001624 | WATER FUND | NON-DEPARTMENTAL | | 93.45 |
| | 106-001020 | WATER FUND | NON-DEPARTMENTAL | | 77.14 |
| | 106-001115 | WATER FUND | NON-DEPARTMENTAL | | 7.87 |
| | 106-001430 | WATER FUND | NON-DEPARTMENTAL | | 81.54 |
| | 202-001600 | WATER FUND | NON-DEPARTMENTAL | | 48.05 |
| | 108-000250 | WATER FUND | NON-DEPARTMENTAL | | 77.68 |
| | 108-000252 | WATER FUND | NON-DEPARTMENTAL | | 64.04 |
| | 108-000289 | WATER FUND | NON-DEPARTMENTAL | | 61.27 |
| | 202-001850 | WATER FUND | NON-DEPARTMENTAL | | 9.87 |
| | 203-001425 | WATER FUND | NON-DEPARTMENTAL | | 100.13 |
| | 203-001445 | WATER FUND | NON-DEPARTMENTAL | | 92.79 |
| | 204-001475 | WATER FUND | NON-DEPARTMENTAL | | 55.76 |
| | 205-000260 | WATER FUND | NON-DEPARTMENTAL | | 60.97 |
| | 301-000275 | WATER FUND | NON-DEPARTMENTAL | | 69.32 |
| | 302-000445 | WATER FUND | NON-DEPARTMENTAL | | 61.85 |
| | 401-000055 | WATER FUND | NON-DEPARTMENTAL | | 51.11 |
| | 401-000383 | WATER FUND | NON-DEPARTMENTAL | | 58.37 |
| | 401-000448 | WATER FUND | NON-DEPARTMENTAL | | 49.35 |
| | 401-000876 | WATER FUND | NON-DEPARTMENTAL | | 20.18 |
| | 402-000477 | WATER FUND | NON-DEPARTMENTAL | | 57.03 |
| | 504-900033 | WATER FUND | NON-DEPARTMENTAL | | 38.64 |
| | 514-150101 | WATER FUND | NON-DEPARTMENTAL | | 98.07 |
| | 514-150110 | WATER FUND | NON-DEPARTMENTAL | | 97.24 |
| | 514-150112 | WATER FUND | NON-DEPARTMENTAL | | 92.34 |
| | 514-150113 | WATER FUND | NON-DEPARTMENTAL | | 94.80 |
| | | | | TOTAL: | 1,925.03 |
| PACE ANALYTICAL SERVICES, LLC | TESTING: CT WKLY | SEWER FUND | SEWER | | 291.80 |

| VENDOR SORT KEY | DESCRIPTION | FUND | DEPARTMENT | AMOUNT |
|---|---|---|---|---|
| D.R. HORTON, INC. | SEWER UPSIZING PER AMEA | SEWER FUND | NON-DEPARTMENTAL | 10,000.00 |
| | | | TOTAL: | 10,000.00 |
| WV DEPT OF HEALTH & HUMAN SERVICES | FLOURIDE TEST | WATER FUND | WATER | 15.00 |
| | BACTERIOLOGICAL TEST | WATER FUND | WATER | 100.00 |
| | BACTERIOLOGICAL TEST | WATER FUND | WATER | 40.00 |
| | | | TOTAL: | 155.00 |
| ENCOVA INSURANCE | INSTALLMENT | WATER FUND | WATER | 1,441.96 |
| | INSTALLMENT | SEWER FUND | SEWER | 1,331.04 |
| | | | TOTAL: | 2,773.00 |
| ERM & ASSOCIATES LLC | ESMNT ACQSTN 2023CLLCTNSYS | SEWER FUND | NON-DEPARTMENTAL | 2,989.20 |
| | | | TOTAL: | 2,989.20 |
| GUTTMAN ENERGY | W/E 4/21/24 | WATER FUND | WATER | 722.56 |
| | W/E 4/28/24 | WATER FUND | WATER | 1,210.68 |
| | W/E 4/21/24 | SEWER FUND | SEWER | 1,291.16 |
| | W/E 4/21/24 | SEWER FUND | SEWER | 77.49 |
| | W/E 4/28/24 | SEWER FUND | SEWER | 1,116.62 |
| | | | TOTAL: | 4,418.51 |
| GANNETT FLEMING VALUATION & RATE CONSU | WA & WW COST SVC STUDY | WATER FUND | WATER | 445.00 |
| | WA & WW COST SVC STUDY | SEWER FUND | SEWER | 605.00 |
| | | | TOTAL: | 1,050.00 |
| GRANICUS | LIVE ENCODER & SOFTWARE | WATER FUND | WATER | 3,180.00 |
| | LIVE ENCODER & SOFTWARE | SEWER FUND | SEWER | 3,180.00 |
| | | | TOTAL: | 6,360.00 |
| HACH COMPANY | VARIOUS FOR WTP | WATER FUND | WATER | 4,890.05 |
| | | | TOTAL: | 4,890.05 |
| JASON HARRIS | MAINT SHOP | WATER FUND | WATER | 600.00 |
| | | | TOTAL: | 600.00 |
| PROTOUCH COMMUNICATIONS, LLC | APR AFTER-HRS EMERGENCY | WATER FUND | WATER | 123.50 |
| | APR AFTER-HRS EMERGENCY | SEWER FUND | SEWER | 123.50 |
| | | | TOTAL: | 247.00 |
| INWOOD QUARRY, INC. | C2 & I10 PICKUPS: 4/26/24 | WATER FUND | WATER | 1,055.24 |
| | C2 & I10 PICKUPS: 4/26/24 | WATER FUND | WATER | 1,055.23 |
| | | | TOTAL: | 2,110.47 |
| IRON MOUNTAIN, INC | SHREDDING, STORAGE | WATER FUND | WATER | 618.49 |
| | SHREDDING, STORAGE | SEWER FUND | SEWER | 618.48 |
| | | | TOTAL: | 1,236.97 |
| JAMES RIVER EQUIPMENT | 755K CRAWLER LOADER | WATER FUND | WATER | 2,539.73 |
| | 755K CRAWLER LOADER | SEWER FUND | SEWER | 2,539.72 |
| | 9'11"L-ARM/20"RUBB RENTAL | SEWER FUND | SEWER | 1,308.07 |
| | FT4/ROPS/365-70R18 RENTAL | SEWER FUND | SEWER | 2,367.82 |
| | | | TOTAL: | 8,755.34 |
| JEFFERSON PUBLISHING COMPANY | 4/17 AD: SRC WA PRTCT PLN | WATER FUND | WATER | 50.74 |
| | | | TOTAL: | 50.74 |

| VENDOR SORT KEY | DESCRIPTION | FUND | DEPARTMENT | | AMOUNT |
|---|---|---|---|---|---|
| WILLIAM HOAK | ASPHALT & CONCRETE: 3/04/2 | WATER FUND | WATER | | 3,664.00 |
| | ASPHALT & CONCRETE: 3/12/2 | WATER FUND | WATER | | 6,844.00 |
| | CONCRETE: 3/18/24 | WATER FUND | WATER | | 2,800.00 |
| | CONCRETE: 3/18/24 | SEWER FUND | SEWER | | 880.00 |
| | CONCRETE: 3/18/24 | SEWER FUND | SEWER | | 2,240.00 |
| | | | | TOTAL: | 16,428.00 |
| ALS GROUP USA CORP | TESTING | WATER FUND | WATER | | 905.85 |
| | | | | TOTAL: | 905.85 |
| ALVAREZ CONTRACTORS, INC | WWTP PROJECT | SEWER FUND | NON-DEPARTMENTAL | | 277,040.90 |
| | | | | TOTAL: | 277,040.90 |
| AMERIGAS PROPANE LP | DISPATCH, SURVEY, LABOR: G | WATER FUND | WATER | | 319.99 |
| | SERVICES: GH MASON DR | WATER FUND | WATER | | 1,738.76 |
| | | | | TOTAL: | 2,058.75 |
| ANTIETAM ELECTRICAL CONTRACTORS, INC | WTP UNIT HEATER W/LABOR | WATER FUND | WATER | | 8,131.08 |
| | | | | TOTAL: | 8,131.08 |
| ARDEN EQUIPMENT REPAIR, INC. | WEED EATER REPAIRS | SEWER FUND | SEWER | | 253.79 |
| | WEED EATER REPAIRS | SEWER FUND | SEWER | | 173.95 |
| | | | | TOTAL: | 427.74 |
| BOYD'S GUTTERING | GUTTER @ SHOP | WATER FUND | WATER | | 376.00 |
| | | | | TOTAL: | 376.00 |
| JP & RF BURNS PARTNERSHIP | APR LOADS - 69 | SEWER FUND | SEWER | | 12,351.00 |
| | | | | TOTAL: | 12,351.00 |
| CAVALIER INVESTMENTS, LLC | EASEMENT COMPENSATION | SEWER FUND | NON-DEPARTMENTAL | | 5,000.00 |
| | | | | TOTAL: | 5,000.00 |
| CHS TRAFFIC CONTROL SERVICES, INC. | NEW 2" SVC LINE PRSPCT@MLB | WATER FUND | WATER | | 5,493.00 |
| | | | | TOTAL: | 5,493.00 |
| CITY NATIONAL BANK | LOCKBOX SVCS: APR | WATER FUND | WATER | | 133.56 |
| | LOCKBOX SVCS: APR | SEWER FUND | SEWER | | 133.56 |
| | | | | TOTAL: | 267.12 |
| CORE & MAIN | CPL | WATER FUND | WATER | | 106.95 |
| | CPL | WATER FUND | WATER | | 106.95 |
| | CPL | WATER FUND | WATER | | 106.95 |
| | CPL | WATER FUND | WATER | | 106.95 |
| | DEVELOPMENT TAP | WATER FUND | WATER | | 4,703.38 |
| | DEERFIELD | SEWER FUND | SEWER | | 1,761.45 |
| | | | | TOTAL: | 6,892.63 |
| COYNE CHEMICAL | AMMONIUM SULFATE 40% NSF | WATER FUND | WATER | | 1,586.00 |
| | | | | TOTAL: | 1,586.00 |
| CUMMINS, INC | PM: WLLSPRNGS | SEWER FUND | SEWER | | 548.88 |
| | PM: CRAIGHILL | SEWER FUND | SEWER | | 460.99 |
| | PM: TWWTP | SEWER FUND | SEWER | | 1,604.21 |
| | PM: FLWNGSPRGS | SEWER FUND | SEWER | | 744.48 |
| | | | | TOTAL: | 3,358.56 |