Charles Town Utility Board

2018 Wastewater Strategic Plan

April 2018



Approved April 25, 2018

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1.0 Executive Summary

The City of Charles Town by and through the Charles Town Utility Board first published a Sewer Strategic Plan (SSP or Plan) in 2007. Historically, the Plan examined growth scenarios in four regions (Northeast, Central, Southern, and Southwest) of the area primarily defined by drainage basins. Previous options and recommendations for the provision of wastewater treatment capacity in these areas were based on growth projections as provided by the development community and decreased to align with actual new construction. This revision to the SSP will address flows directed from the regions based on unified collection and pumping infrastructure to either the Charles Town Wastewater Treatment Plant (CTWWTP) or the Tuscawilla WWTP. These two facilities now provide the treatment of flows from Charles Town, Ranson and the adjacent Jefferson County Public Service District (JCPSD).

This most recent revision to the SSP was approved by the Utility Board on April 25, 2018. Pursuant to a resolution for a tri-annual Sewer Strategic Plan update, the current amendment serves as the required April 2018 update. The original Charles Town Utility Board (CTUB) 2006 Strategic Plan Resolution found in Attachment A, was amended on February 12, 2014, by the Board and is included herein as Attachment B. In summary, this amendment wishes to recognize the many factors that affect the SSP since first adopted.

The 2015 SSP reported that Jefferson County was not experiencing rapid growth pressure and treatment capacity issues previously faced. Since that update, Jefferson County has started to see an increase in both commercial and residential growth.

Compliance with mandated Chesapeake Bay environmental standards is now recognized in Charles Town's National Pollutant Discharge Elimination System (WV/NPDES) Permit. Accordingly, Charles Town has been successfully operating the Tuscawilla Wastewater Treatment Plant (WWTP) since the fall of 2014. In 2017, the Charles Town Wastewater Treatment Plant upgrade for tertiary treatment to assist in meeting Chesapeake Bay environmental standards was completed.

In the prior SSP, updated developer projections were used, with a conservative approach for forecasting capacity needs. These development trends continue to fluctuate and it may be necessary as development increases to have an SSP updated more frequently, however at this time tri-annual reporting appears to be adequate.

While growth in the Jefferson County region is still an important factor in planning for future wastewater needs, this Plan will present future capacity in light of the factors and changes that are impacting the region. Developer growth projections are being provided in this Plan, but available capacity will be forecast on a more comprehensive approach. Emphasis will be placed on deriving equivalent dwelling units (EDUs) based on volumetric flow with safeguards to meet Chesapeake Bay nutrient limits.

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Connections to the Charles Town Wastewater Treatment Plant have been:

Year	EDU's
2010	146
2011	33
2012	41
2013	158
2014	93
2015	172
2016	117
2017	103

In addition, the Jefferson County Engineering Department reported the following new construction building permits (single family and townhomes):

Year	EDU's
2010	101
2011	81
2012	58
2013	88
2014	95
2015	104
2016	137
2017	124

The 2018 Strategic Plan update differs from the previous versions in the following ways:

- On July 21, 2016, Charles Town was reissued WV/NPDES Permit No. WV0022349, effective September 1, 2016 with an expiration date of June 30, 2021.
- The Chesapeake Bay nutrient limits now prescribed by WV/NPDES permit are measurable and being achieved. The limits allow clearer timelines for capital improvements and in this SSP will allow the removal of one forecasted project.
- The capital improvement projects funded under the West Virginia Infrastructure and Jobs Development Council (WV IJDC) Project 2011S-1304 (and part of SB245 grant funding) are complete. These projects (CWSRF No. C-544496-01 / IJDC No. 2011S-1304) included the Charles Town Wastewater Treatment Plant tertiary treatment and the Tuscawilla Effluent Line (Project Cost \$5,140,290).
- The City of Charles Town purchased the Willow Spring Public Service Corporation as approved in PSC Case No. 12-0217-S-PC. The Asset Purchase was completed on October 1, 2013. Subsequently, a Major Modification to combine Willow Spring under Charles Town's Permit was filed October 6, 2016. DEP published Modification No. 1 on February 23, 2017 to allow flows to Charles Town from Willow Spring and, most importantly, recognized nutrient loading transfers to Charles Town. Flows from Willow Spring to Charles Town began May 30, 2017.

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• The 2016 Sewer Projects are also complete and include:

New Pump Stations at Willow Spring, Demory Farm and Clarence Drive and 4,659 linear feel (LF) of 12" SDR 35 PVC Gravity Sewer, 441 LF of 6" C900 Class 165 PVC Force Main, 21 Sewer Manholes completed by JR Contracting, Inc. at a cost of \$2,822,938. Included in this contract was the decommissioning of the Wal-Mart and Patrick Henry pump stations. Upon completion, all flows from Willow Spring were directed to Charles Town.

The Willow Spring Wastewater Treatment Plant was decommissioned by the CTUB in June 2017 and 8,300 LF of 6" C900 Class 165 PVC Force Main was installed in the fall of 2016.

WVNPDES Permit No. WV0086452 (Willow Spring) was terminated by the West Virginia Department of Environmental Protection (WV DEP) on June 30, 2017 (see WV/NPDES Permit No. WV0022349, Modification No. 1 dated March 30, 2017).

Samuel Street Pump Station construction cost \$153,144, started June 7, 2017 and completed August 28, 2017. Work included piping for bypass pumping, wet well liner, electrical upgrades (wiring) and check valves.

Headworks building construction cost \$424,778, started April 25, 2017. Completed August 31, 2017. The 2016 Sewer Projects engineering / inspection costs were \$463,715.

- Upon completion of the 2016 Sewer Projects, the JCPSD system was relieved of approximately 40,000 gallons per day in their collection system that provides sewer service to developments including Breckenridge, Beallair and Aspen Green.
- On July 06, 2017 Governor Jim Justice announced that ROXUL will build a \$150 million manufacturing plant in the City of Ranson, Jefferson County. Upon completion, the plant is expected to create up to 150 jobs with positions ranging from management level to the production line. Roxul, Inc. is part of the ROCKWOOL Group, North America's largest producer of stone wool insulation. On December 6, 2017 the Infrastructure and Jobs Development Council (WV IJDC) approved a \$9 million loan to construct an extension to the Roxul plant and adjacent property known as Jefferson Orchards in Jefferson County, West Virginia.
- As a result of realistic efforts for Charles Town to acquire the assets of both the Ranson and the JCPSD sewer collection and pumping systems, a new Plan section has been added to address collection and pumping in all regions. The Roxul sewer infrastructure is now a key factor in developing this Plan section.
- Finally, the CTWWTP Nutrient Removal Phase 2 Project is being eliminated as a result of successful nitrification / denitrification operational efforts.

The following recommendations are made for the <u>treatment</u> of wastewater in the Charles Town, Ranson and Jefferson County Area:

Northern and Southern Regions

• Wastewater generated in the Northern and Southern regions will be treated at either the CTWWTP or Tuscawilla WWTP (utilizing either the Transfer PS, Huntfield PS, or both).

<u>Eastern</u>

- Wastewater in the Eastern region will continue to be conveyed to and treated at the CTWWTP.
- Wastewater in the Willow Spring region is currently being transferred via a series of pump stations to the CTWWTP.

Western

- Wastewater generated in the Western region of the Charles Town area (Tuscawilla / Locust Hill) will continue to be treated at the Tuscawilla WWTP.
- The Huntfield Force Main and Charles Town to Tuscawilla Pumping Station will be utilized as growth demands.
- The Tuscawilla Effluent Line, to specifically measure nutrient savings from pounds of nitrogen and phosphorus that remain on the Locust Hill Golf Course will continue to be utilized.

General Projects:

- Metal salts, or PAC will continue to be added at Charles Town and Tuscawilla WWTP's to meet total phosphorus pounds annually.
- Design for a 2021 Renewal and Replacement project will begin in 2019 to address aging infrastructure. The project, in part, will include upgrades to the current CTWWTP aeration system (one blower), replacement of 3 (three) influent pumps and wiring to the plant control room, lining of the 3 (three) sequential batch reactor basins, UV upgrades, rehabilitation of the existing belt press and the addition of a second belt press. At Tuscawilla, the renewal and replacement of the existing membrane filter media will include a capital and operational cost comparison for replacement versus a more traditional clarifier type media.
- Growth related capital planning includes:
 - Design of the CTWWTP Expansion to 2.25 MGD (previously referenced as Phase 3) project to increase volumetric capacity at Charles Town from 1.75 mgd to 2.25 mgd is forecast to begin in 2033.
 - The design for the Tuscawilla Phase 2 to 1.0 mgd was completed as part of the WV IJDC applications for nutrient removal projects. This design will be re-examined in a future SSP.

The Charles Town Utility Board 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 Tuscawilla Phase 2 Upgrade to 1.0 mgd would require a separate funding strategy in a future SSP publication.

In WV PSC Case No. 09-1562-S-MA, the City of Charles Town was granted a Certificate of Convenience and Necessity to construct improvements to its existing wastewater treatment plant serving the Tuscawilla and Locust Hill communities. The Order also granted an increase in the Capacity Improvement Fee. Based on the developer growth rates, however, the CIF fee remains at \$1,127.

The following recommendations are made for the <u>collection and pumping</u> of wastewater in the Charles Town, Ranson and Jefferson County Regions:

Northern

 Wastewater generated in the Northern region will be collected at a centralized pump station in the Jefferson County (Burr/Bardane) Industrial Park (Industrial Park). As a result of the funding for the Roxul project, the ability to utilize one central station will benefit this region.

Southern

• The Southern region presently has pump station capacity at Norborne Glebe, Huntfield and Spruce Hill.

<u>Eastern</u>

- Wastewater collection and pumping in the Eastern region currently flows from the Breckenridge Pump Station to the Ranson Flowing Springs pump station. A review of adding pumping capacity to transmit new flows from the eastern region will look at a centralized pumping station near the Sleepy Hollow Golf Course to be transmitted to the new Demory Farm pump station.
- The Willow Spring region will continue to utilize the Demory Farm route to the CTWWTP.

Western

• Wastewater generated in the Western region will continue to utilize the existing collection and pump stations within the Tuscawilla / Locust Hill Subdivisions.

2.0 Background

Prior to 2008, the City of Charles Town and the Jefferson County area had been undergoing substantial growth pressures with a number of developments proposed and under construction. Because the development rate is highly variable, dependent on economic conditions and developer-specific plans and issues, predicting future growth is challenging. This Plan will attempt to remove the volatility in the development rate by considering all factors to forecast available capacity.

On April 26, 2006, the Charles Town Utility Board resolved (see Attachment B) to prepare, and update annually, a Sewer Strategic Plan that would include:

- Locations and expansion capacities of wastewater treatment plants,
- Anticipated timeline for expansion,
- Anticipated costs for total build-out of needed wastewater facility expansion and/or acquisition - including Chesapeake Bay requirements and,
- Anticipated plans for financing build-out without burdening current ratepayers.

On February 12, 2014, the Board resolved to prepare and update a SSP on a tri-annual basis with the first tri-annual Plan to be published in April 2015. The Plan will still address the specific points as listed above.

Crucial 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, growth has started to increase and will be monitored to ensure that appropriate measures are taken to address sewer infrastructure and capacity needs. Developer projections are

included in this Plan, and will be, in part, considered in determining the timing of those future capital improvements.

2.1 Updating

The City has committed to updating this document on a tri-annual basis. Adjustments based on actual construction and new information regarding developer activity will be considered. The accuracy of the planning process continues to be enhanced through the development of current data and historical data captured in previous Strategic Plans.

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

- January New data, information, and comments solicited from stakeholders
- February Plan updated and revised
- March Draft Plan issued for comments
- April Plan revised, adopted and published

Although it is clear that the region is in a rapidly-changing situation and that it would be possible to revise the Plan on an almost continuous basis, the Charles Town Utility Board has elected to update the Plan only in accordance with the tri-annual schedule above in an effort to provide stability to the planning process.

Since the final Total Maximum Daily Limit (TMDL) was issued in December 2010 by the Environmental Protection Agency (EPA), followed by the final limits specifically provided to Charles Town, regulatory certainty exists and these final limits are being achieved.

2.2 Development Growth

The City of Charles Town, City of Ranson, and JCPSD have provided information regarding planned developments, including development size, expected start date, and anticipated construction by year. This data has been gathered from developers and is generally expected to be optimistic regarding build-out plans that will vary with the state of the economy and rate of occupancy, along with the size of other developments in the area. Details of the projections are presented in Table 2-1.

The area has been divided into four regions based on geography, topography, treatment, and, to a lesser extent, municipal/political boundaries. These areas are shown in Figure 2-1, and are described below:

- <u>Northern</u> This is the area located north and east of Ranson and is predominately Ranson and JCPSD customers. Sewage can be served by either the CTWWTP or the Tuscawilla WWTP via the transfer pump station and Huntfield pump station. Refer to Figure 2-2-A and 2-2-B.
- <u>Southern</u> This region is located south of Charles Town, along US 340 and St Augustine Avenue. Sewage from this area can be served by either the CTWWTP or the Tuscawilla WWTP via the Huntfield pump station. Refer to Figure 2-3.
- <u>Eastern</u> Predominately the City of Charles Town but, consists of both Charles Town and JCPSD customers. The Willow Spring service area has

now been combined in this region with the decommissioning of the Willow Spring Wastewater Plant. The CTWWTP will treat the sewage from this area. Refer to Figure 2-4.

 <u>Western</u> – This area consists primarily of the Tuscawilla and Locust Hills subdivision's although the future growth areas west of the Norfolk & Southern Railroad are included in the area. Wastewater from this area will be treated at the Tuscawilla WWTP. Refer to Figure 2-5.

2.2.1 Developer Growth Projections

While the growth projection approach was critical in previous Plans, certainty of available capacity now exists to allow for extensive growth throughout the region. In previous Plans, updated developer projections were used, with a conservative approach for forecasting capacity needs.

Projections are included in Table 2-1, however, known historical data has been utilized for future volumetric capacity forecasting.

The greater Charles Town housing market is starting to recover from the economic downturn, but growth has not returned to previous levels. Therefore, it is foreseen that development will occur at a slower rate than projected by developers.

Table 2-1 -- Development Projections

City of Charles Town 2018 Strategic Plan							
Development Projections							
Development i rojections							
					Total to be		EDUs Bevond
			Total Design	Total Built	Built (2018 -	Total Flow	2047
Development	Utility	Region	EDUs	as of 2018	2047)	(2018 - 2047)	
Town of Ranson							
Shenandoah Springs Neighborhood	RA	Northern	705	178	527	94,860	0
President's Pointe	RA	Northern	1,100	0	1,100	198,000	0
Potomac Marketplace	RA	Northern	54	0	54	9,720	0
Ranson Gateway / Boulevard	RA	Northern	1,175	0	1,175	211,500	0
Lakeland Place / Lloyd's Landing	RA	Northern	600	0	600	108,000	0
American Heritage	RA	Northern	500	0	500	90,000	0
Old Town Ranson - Infill	RA	Northern	250	0	250	45,000	0
Locust Knoll	RA DA	Northern	339	0	339	04,020	0
Jenerson Orchards	RA	Northern	888	0	888	159,840	0
Claubill Form	RA DA	Northern	200	0	200	54,000	0
Lloyd Bronorty	D A	Northern	500	0	500	90,000	0
Subtotal	KA	Normern	7.021	178	6 852	1 222 540	0
Juffarson Public Service District			7,031	1/0	0,855	1,235,540	0
Spruge Hill North	DED	Southorn	215	215	0	0	0
Agnon Groop	PSD	Northern	213	215	200	36,000	0
Reputer	PSD	Northern	203	95	200	51,660	0
Brackepridge East	PSD	Northern	694	250	207	79.920	0
Brier Dup	PSD	Northern	121	100	21	5 580	0
Burr Industrial Park & Bardana	PSD	Northern	174	100	174	31 320	0
Cambridge	PSD	Northern	77	0	77	13 860	0
Daniels Forest	PSD	Northern	102	0	102	34,560	0
Lafferson Crossing II	PSD	Northern	00	50	192	8 820	0
Norborne Glebe	PSD	Factorn	1.001	437	564	101 520	0
Horvest Hills	PSD	Northern	202	437	286	60.480	0
Subtotal	FSD	Normern	3 5 50	1 146	2 404	432 720	0
CITY OF CHARLES TOWN			3,330	1,140	2,404	432,720	0
Huntfield	СТ	Western	3 200	350	1.020	183 600	1 830
Winchester Cold Storage	СТ	Western	5,200	0	675	121 500	1,050
Stolipher	СТ	Southern	324	0	324	58 320	0
Langlet	СТ	Eastern	1,000	0	950	171.000	50
Langiet	СТ	Eastern	220	0	220	20,600	30
Windmill Crossing	СТ	Willow Spring	100	80	220	39,000	0
Prospect Place	CT	Factorn	170	0	170	30,600	0
Fritte Property	СТ	Eastern	270	0	270	50,000	0
Palvadara Form	CT	Eastern	370	0	370	63,000	0
Allowance for Anticipated Development	СТ	Eastern	250	0	250	45,000	0
Subtotal	C1	Eastern	6 650	430	4 340	43,000	1 890
Bubioldi			0,039	430	4,347	102,020	1,880
Total Projected Development			17 240	1 754	13 606	2,449,080	1 880
			17,240	1,754	15,000	2,119,000	1,000
* For this forecast only Huntfield reduced from 3	3 200 to 1 370						
* For this forecast only Langlet reduced from 1.0	00 to 950						
in the second start and the second se		1	1	1	1	1	1

Figure 2-1 -- Proposed Sewer Service Regions



Figure 2-2-A -- Proposed Sewer Service Northern Region 1



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Figure 2-2-B – Proposed Sewer Service Northern Region 2



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Figure 2-3 -- Proposed Sewer Service Southern Region



Figure 2-4 -- Proposed Sewer Service Eastern Region



Figure 2-5 -- Proposed Sewer Service Western Region



2.2.2 Development Areas Not Specifically Considered

There are a number of developments with existing or proposed treatment plants in the area that are not specifically considered as a part of this plan. Developments not considered include:

- <u>Old Standard</u> this development has an existing treatment plant serving stand-alone developments in the Harpers Ferry area. It is not expected to contribute to the CTWWTP in the future.
- <u>Tackley Farms</u> this development is located north of the Industrial Park and is within the City Limits of Ranson. This development could be served by the ROXUL project noted herein that is anticipated to be constructed in 2019.
- <u>Race Track</u> the Charles Town Races and Slots constructed a new wastewater treatment plant in 2007 with a capacity of 348,000 gpd to serve the new hotel and other construction.

2.2.3 Development Areas Now Being Considered

• <u>Jefferson Orchards and Roxul</u> – On July 06, 2017 Governor Jim Justice announced:

ROXUL will build a \$150 million manufacturing plant in the City of Ranson, Jefferson County. Upon completion, the plant is expected to create up to 150 jobs with positions ranging from management level to the production line. Roxul, Inc. is part of the ROCKWOOL Group, North America's largest producer of stone wool insulation. The West Virginia facility will be the second facility ROXUL has opened in the United States.

"West Virginia welcomes ROXUL as the newest international member to join our business community," said Governor Justice. "This achievement is the result of the outstanding teamwork between ROXUL, our Development Office, the Jefferson County Development Authority, Jefferson County Commission, and the City of Ranson."

"The Mountain State is pleased to add ROXUL to the growing list of international companies investing in West Virginia," said Secretary of Commerce H. Wood Thrasher. "ROXUL's expansion to West Virginia is a testimony to the state's global competitiveness and presents a great opportunity for West Virginia's high-quality workforce."

"We want to thank the State of West Virginia, the City of Ranson, and the Jefferson County Development Authority for the very good collaboration on this significant investment, which will create wellpaying jobs for around 150 people. We're excited to become a part of the local business community in Jefferson County," said Trent Ogilvie, president of ROXUL, the ROCKWOOL Group's North American subsidiary. ROXUL plans to build a 463,000-square-foot manufacturing facility on an estimated 130 acres on the Jefferson Orchards site in Jefferson County. The plant will produce stone wool insulation for building insulation, customized solutions for industrial applications, acoustic ceilings, and other applications.

"We are very excited about this project," said Eric Lewis, president of the Jefferson County Development Authority. "It was the result of multiple agencies at the state, county, and city level all working together to bring a quality employer to Ranson and Jefferson County."

"We are delighted that ROXUL has selected the City of Ranson for its multi-million dollar investment and high tech manufacturing facility," said Ranson Mayor Duke Pierson. "This investment will provide many high-quality jobs, expand infrastructure for future development, and broaden our tax base. We look forward to working with ROXUL as it transitions to the construction phase."

"Jefferson County is thrilled to welcome ROXUL to our beautiful county," said Peter Onoszko, president of the Jefferson County Commission. "The decision on the part of ROXUL to locate a major production operation here will benefit the county in many ways above and beyond the obvious economic benefit. I would also like to recognize the tremendous effort on the part of both our state and county development authorities in bringing this to pass. Job well done to all!"

An official groundbreaking will take place in October 2017, and construction is expected to be completed by early 2020.¹

Planning for this project has begun and incorporation of those plans to the greatest extent possible will be included herein.

 <u>Cave Quarter Utility Acquisition and Developer Expansion</u> – The CTUB is also evaluating route alternatives and cost for extending service to Cave Quarter Estates that includes 45 existing homes and 140 proposed single family homes. While this development has not been annexed into the City of Charles Town, this land is in the Charles Town Growth Boundary. Connection to public water and sewer could be viable with the extension of services to and through adjacent annexed parcels.

2.3 Annexation and City Resident Policy

It is the policy of the City of Charles Town that all current and future residents of the City of Charles Town are served by Charles Town WWTPs. This policy is supported by a 1998 West Virginia Supreme Court Decision² which says in part "...as between the municipality and the public service district, the municipality has the superior right under this section to extend public services, such as water and/or sewer service..."

¹ <u>https://blog.jcda.net/blog/roxul</u>

² Berkeley County Public Service Sewer District v. West Virginia Public Service Commission, 204 W. Va. 279, 512 S.E. 2d 201 (1998).

2.4 Impacts Other Than Growth

2.4.1 Consolidation Efforts

Consolidation has been discussed for many years. More recently, movement toward a unified system is being realized. The Jefferson County Commission and the City of Ranson adopted Resolutions allowing the City of Charles Town to acquire the assets of their sewer systems. In late 2017, the Jefferson County Public Service District voted to support the acquisition efforts.

On February 7, 2018, in Case 17-1534-S-PC (City of Charles Town and City of Ranson), the West Virginia Public Service Commission (WV PSC) granted prior consent and approval of the transfer of Ranson's sewer system assets to Charles Town. In addition, consent was granted for Charles Town and Ranson to enter into the Purchase Agreement as filed. This Order will allow the Charles Town Utility Board to add the City of Ranson's current rates and charges to the City of Charles Town Sewer Tariff.

Also, on February 7, 2018, the WV PSC combined Case No. 17-09 15-PSWD-PC (Jefferson County Commission Petition for consent and approval of dissolution of Jefferson County Public Service District with Case No. 18-0006-PSD-C (Jefferson County Citizens for Economic Preservation, Shenandoah Junction Public Sewer, Inc. and Arcadia Land, Inc. v Jefferson County Public Service District).

In late 2017, the JCPSD Board members voted to support the asset acquisition effort by Charles Town. With this support, a revised Purchase Agreement will be presented as between the City of Charles Town and the JCPSD to the WV PSC.

2.4.2 Current Projects

The <u>JCPSD Flowing Springs Project</u> – On March 23, 2017, the WV PSC issued an Order in CASE NO. 16-06 16-PSD-PC-CN (Jefferson County Public Service District a public corporation. Application for a certificate of convenience and necessity to construct wastewater collection and transmission system improvements, authorize Post-Project rates and petition for approval of an inter-utility agreement). The Commission granted the application for a certificate of convenience and necessity (CCN) and approved a Post-Project rate increase. Funding for the Project consisted of (i) a \$3,575,000 USDA RD loan at a 2.5 percent interest rate over 40 years. And (ii) a DEP 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. January 17, 2017 DEP assurance letter.

The <u>Roxul Project</u> – In December 2017, the City of Ranson requested funding for the Roxul project. The West Virginia Infrastructure and Jobs Development Council (WV IJDC) approved the following:

A loan to construct an extension to the Roxul plant and adjacent property known as Jefferson Orchards in Jefferson County, West Virginia. An engineering fee waiver will be required. The terms are: 1. A non-interest bearing loan of up to \$9 million for a term of 20 years from completion of the project. 2. Principal repayment shall be deferred for a period of one year from completion of this project. Provided if the Roxul facility is not complete at that time, payment will start three months after the Roxul plant becomes operational. 3. The loan will be secured by the Sewer Main Extension and Financing Agreement. 4. Other terms as required by the IJDC. (WV IJDC Project No. 2017E-175).

Included in the WV PSC Order of February 7, 2018 that combined CASE NO. 17-09 15-PSWD-PC with CASE NO. 18-0006-PSD-C, the WV PSC requested the following:

Charles Town, the County Commission and the PSD should include in their forthcoming pleading their plans to upgrade the sewer system in the former PSD territory, including the timeline for any planned construction. Their statement should make clear whether and to what extent the Flowing Springs Project will be constructed and the estimated cost of the improvements or upgrades that will be constructed. If Charles Town or the County Commission intends to upgrade service in a manner different from what was authorized in the certificate case, Charles Town or the County Commission must explain any alternative plan and provide a cost estimate and construction timeline.

In March 2018, additional pleadings by Charles Town addressed plans to upgrade the sewer system in the former JCPSD territory, including the timeline for any planned construction in combination with the Ranson Extension (Roxul) project.

Preliminary efforts to work cooperatively with Ranson will provide reductions in the duplication of capital expenditures in the northern region including the Industrial Park. The focus is now shifting to a central pumping station and requisite collection lines from Jefferson Orchards through the Industrial Park and southward to the CTWWTP. Additionally, a central pumping station in the Industrial Park will allow future connections from the entire northern region. Refer to Figures 2-2-A and 2-2-B, Proposed Sewer Service in the Northern Regions herein.

3.0 Current Conditions

There are now two (2) existing public wastewater treatment plants in the area – Charles Town and Tuscawilla WWTP's. The facilities are owned by the City of Charles Town and operated by the Charles Town Utility Board.

The Charles Town WWTP has a volumetric capacity of 1.75 million gallons per day (mgd). The nutrient limits for this facility include 32,115 pounds of nitrogen and 3,577 pounds of phosphorus annually. The Willow Spring nutrients were transferred to Charles Town as part of WV/NPDES Permit No. WV0022349, Modification No. 1. An additional 5,479 pounds of nitrogen and 913 pounds of phosphorus were added to Charles Town.

The Tuscawilla WWTP facility has a capacity of 0.5 mgd with expansion capability to 1.0 mgd. The nutrient limits for this facility include 10,740 pounds of nitrogen and 1,790 pounds of phosphorus annually.

In summary, Tables 3-1 and 3-2 depict WV/NPDES permitted values for both flow and nutrients as follows:

Permitted volumetric riows			
	Average Daily Flow (in MG)	Total Annual Flow (in MG)	
Charles Town	1.75	638.8	
Tuscawilla	0.50	182.5	
Total (Rounded)	2.25	821.3	

Table 3-1 Permitted Volumetric Flows

Table 3-2

Combined Wasteload Allocation (WLA)

	Total Nitrogen (lbs/yr)	Total Phosphorus (Ibs/yr)
Charles Town	26,636	2,664
Tuscawilla	10,740	1,790
Willow Spring		
Addition	5,479	913
Total (Rounded)	42,855	5,367

3.1 Wastewater Treatment Plant Facilities

3.1.1 Charles Town Wastewater Treatment Plant

The Charles Town WWTP is located on WV Route 115 in Charles Town and is currently sized to treat 1.75 mgd of wastewater to secondary treatment standards (non-Chesapeake Bay compliance), with the following major permit limits (WV/NPDES Permit No. WV0022349, expiring June 30, 2021):

Table 3-3Charles Town WWTP Permit Limits

Parameter	Monthly	Max Day
	Average	
BOD	20.6 mg/L	41.2 mg/L
TSS	30 mg/L	60 mg/L
Ammonia Nitrogen	4.1 mg/L	8.2 mg/L

Effective September 01, 2016, Charles Town was issued an NPDES Permit for the period April 2016 through June 30, 2021. This Permit allowed for the operation and maintenance of an existing wastewater collection system and an existing 1.75 mgd sequencing batch reactor wastewater treatment plant. The wastewater treatment plant is comprised of a mechanical bar screen, a vortex grit removal unit, three (3) reactor chambers with a volume of 583,000 gallons each and function as integral clarifiers, ultraviolet disinfection facilities, three (3) aerobic digesters with a volume of 75,000 gallons each, a holding tank with a volume of 71,000 gallons, a 2.0 meter sludge dewatering belt press, a plant backup power generator, and all requisite appurtenances.

The facilities are to serve a population equivalent of approximately 17,500 persons in the City of Charles Town, the Jefferson County Public Service District, the City of Ranson and discharge treated wastewater through Outlet No. 001 to Evitts Run, approximately 4.5 miles from its mouth, of the Shenandoah River of the Potomac River.

WV/NPDES Permit No. 22349, Modification No. 1

This modification issued on March 30, 2017 incorporated the following data and changes, respectively:

- 1. To accept the wastewater flow being conveyed from the former Willow Springs Public Service Corporation at the Charles Town plant for subsequent treatment and discharge through Outlet No. 001 to Evitts Run, approximately 4.5 miles from its mouth, of the Shenandoah River of the Potomac River. The additional wastewater flow is projected to be approximately 0.07 million gallons per day with a maximum design volume of 0.1 million gallons per day.
- To incorporate the wastewater collection system covered under WV/NPDES Water Pollution Control Permit No. WV0086452, issued the 19th day of April 2016, into this WV/NPDES Water Pollution Control Permit.
- 3. To operate and maintain the wastewater collection system comprised of approximately 1,200 linear feet of six (6) inch diameter gravity sewer line, 11,700 linear feet of eight (8) inch diameter gravity line, 350 linear feet of 10 inch diameter gravity sewer line, 94 manholes, four (4) lift stations, 350 linear feet of one and one half (1-1/2) inch diameter forcemain, 11,800 linear feet of four (4) inch diameter force main, and all requisite appurtenances.
- 4. To allow for the addition of the Total Maximum Daily Loads for total nitrogen and total phosphorous, under the Chesapeake Bay Total Maximum Daily Load for the Willow Springs facilities, covered under WV/NPDES Water Pollution Control Permit No. WV0086452, to be added to the combined loading already afforded under this WV/NPDES Water Pollution Control Permit under Outlet No. 003. Under the Chesapeake Bay Total Maximum Daily Load, the total nitrogen is 5,479 pounds per year and the total phosphorous is 913 pounds per year for the Willow Springs facilities.
- 5. Whereupon the wastewater flow for Willow Springs is connected to the Charles Town, Outlet No. 001, facilities, the permitee shall contact the agency and notify of the completion of the undertaking. The agency will then proceed to issues a Letter of Amendment to the WV/NPDES Water Pollution Control Permit to incorporate the additional total nitrogen and total phosphorous loadings into Section A.003 of the permit and institute the necessary revisions to the electronic Discharge Monitoring Report system. This procedure

is being opted for in this case in order to deter the creation of another outlet in the electronic database.

- 6. This permit modification shall supercede WV/NPDES Water Pollution Control Permit No. WV0086452, issued the 19th day of April 2016. Consequently, the revisions to the Total Maximum Daily Loadings are not anticipated to occur until around June of 2017. Until that time, the permitee shall continue to monitor and report using the Outlet No. 001 Discharge Monitoring Report from WV/NPDES Permit No. WV0086452. Additionally, WV/NPDES Permit No. WV0086452 shall remain in effect until the 30th day of June 2017.
- 7. Upon the completion of the decommissioning of the Willow Springs wastewater treatment plant, Section D.25 of the WV/NPDES Water Pollution Control Permit shall be voided. This section shall be held in reserve for future use.

Letter of Amendment

A letter of amendment was issued on June 14, 2017 which served to effectuate the appropriate changes to Section A.003 in accordance with the provisions of Section 5 of Modification No. 1, dated the 30th day of March 2017, and the WV/NPDES Water Pollution Control Permit.

Based on the above Modification to the permit, the following nutrient discharge limitations are currently required at the CTWWTP:

Charles Iown wwile Nutrient Limits			
Parameter	Annual Load	Equivalent Average (1.75 mgd)	
Total Nitrogen	32,115 lb/yr	5.0 mg/L	
Total Phosphorus	3,577 lb/yr	0.5 mg/L	

Table 3-4 Charles Town WWTP Nutrient Limits

Overall compliance for total nitrogen and phosphorous shall be assessed on the total load calculated between the existing Charles Town wastewater Treatment plant, identified as Outlet No. 001, and the upgraded Tuscawilla wastewater treatment plant, identified as Outlet No. 002. The allocation afforded to Charles Town (WV0022349--Outlet No. 001) and Charles Town Tuscawilla (WV0088013-- Outlet No. 002) have been combined into one (1) total allocation for both facilities. Outlet No. 003 has been created to impose the necessary combined annual loading limits and reporting requirements for nitrogen and phosphorous. In addition, Internal Outlet Nos. 201 and 202 were previously created for further tracking of nitrogen and phosphorous loadings during the interim. The Tuscawilla direct discharge effluent line shall be identified as Internal Outlet No. 203.

Table 3-5 summarizes these Outlets for nutrient reporting purposes.

Table 3-5				
Outfall ID	Nitrogen and Phosphorus Load Reporting Description			
001	Total load discharged from Outlet No. 001.			
002	Total load discharged from Outlet No. 002 (Tuscawilla Plant), regardless of whether it is discharged to Evitts Run, or used for spray irrigation.			
201	The Section A.201 requirements are deleted upon completion of the new effluent line.			
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 No. 001 and Internal Outlet No. 203.			

Two (2) additional Modifications to the permit have subsequently been issued to address Water Plant Slurry and Processing at the CTWWTP.

Modification No. 2

Modification No. 2 was provided to incorporate and effectuate the following data and changes, respectively:

- 1) To accept non-domestic wastewater from the Charles Town Water Plant. The non-domestic wastewater consists of slurry from the water plant settling basins. The slurry is approximately 6.5 percent solids (65,000 mg/l). A truck load of about 5,000 gallons shall be brought to the headworks and staged. However, the maximum daily flow of the slurry accepted into the headworks shall not exceed 2,000 gallons. The slurry shall not be slugged but shall be discharged into the headworks at a uniform rate over the discharge period. The actual flow accepted shall be estimated and recorded daily. A maximum of six (6) truckloads per month shall be accepted.
- 2) Resultant to the source of this non-domestic waste stream and the additional constituents being introduced into the wastewater treatment plant, the agency performed an analysis of the additional loading and the potential impact on the sludge quality that is being land applied. This resulted in revisions to the land application loading rates for the Maximum Annual Loading Rate and the Five (5) Year Cumulative Loading Rate.

Modification No. 3

This modification No. 3 was provided to update, incorporate and effectuate the following data and changes, respectively:

1) To accept non-domestic wastewater from the Charles Town Water Plant. The non-domestic wastewater consists of slurry from the water plant settling basins. The slurry is approximately 6.5 percent solids (65,000 mg/l). The slurry shall be accepted either into an isolated aerobic digester with a volume of 75,000 gallons or the holding tank with a volume of 71,000 gallons. However, the maximum daily flow of the slurry accepted shall not exceed 5,000 gallons. The actual flow accepted shall be estimate and recorded daily. A maximum of 40,000 gallons per month shall be accepted. The slurry shall be dewatered and processed through the belt press. The filtrate shall be sent to the headworks. The water plant slurry and the sewage sludge need not be segregated for processing to the belt press.

Charles Town completed a major Water Treatment Plant Upgrade in late 2017. Given the start-up of the new Water Plant upgrades there may be future modification to the permit based on unknown volumes of slurry that are being produced. The additional volume of slurry will not, however, significantly impact wastewater flows at Charles Town.

Historic wastewater flow data for the Charles Town facility is shown Table 3-6:

Year	Total Annual Flow (in MG)	Average Daily Flow (in mgd)	Average Peak Flow (in mgd) *	
2010	386	1.06	1.50	
2011	386	1.06	1.58	
2012	381	1.04	1.46	
2013	379	1.04	1.40	
2014	355	0.97	1.55	
2015	384	1.05	1.50	
2016	419	1.14	1.51	
2017	393	1.08	1.52	

Table 3-6 Charles Town Flow Data

* Maximum monthly day / 12 months

** Average Daily and Peak calculated on Effluent Flows beginning May 2017 with the installation of a new effluent channel and flow meter.

Currently, the Charles Town plant is operating below the design capacity of 1.75 mgd. The CTUB strives to continue to improve its ability to meet the TMDL nutrient limits at lower temperatures and at existing flows.

Table 3-7, summarizes the nutrient removal upgrades and expansion requirements that were identified in the previous 2015 Plan. Since the 2015 SSP, Table 3-7 also shows completed projects for Charles Town.

Table 3-7				
Charles Town Projects Completed				

Year	From the 2012 Plan Scenario 3 Updated	
2015	Tuscawilla Effluent Line Project.	
2015	Constructed Wetlands at Tuscawilla as part of a WV DEP Supplemental Environmental Project (SEP).	
2016	Charles Town Phase 1 Nutrient Removal Project	
2017	Charles Town 2016 Sewer Projects that included installation of three (3) new pump stations, Samuel Street pump station improvements, new CTWWTP Headworks building, decommissioning of Willow Springs WWTP and decommissioning of the Patrick Henry and Wal-Mart pump stations.	

3.1.2 Tuscawilla Wastewater Treatment Plant

The original Tuscawilla WWTP was a lagoon-based wastewater treatment system located in the Tuscawilla subdivision, adjacent to the Locust Hills Golf Course. This plant was originally constructed, owned, and operated by the developer of the community. The City assumed ownership and operation of the facility in 2001. The plant was sized for 0.196 mgd.

On May 31, 2011, the WV Division of Environmental Protection issued an NPDES Permit to operate and maintain an existing wastewater collection system and the 0.196 mgd wastewater treatment plant. Also, to acquire, construct, install, operate and maintain a new 0.5 mgd (expandable to 1.0 mgd) biological membrane nutrient removal wastewater treatment plant comprised of; a mechanical bar screen; a vortex-type grit removal system; one (1) submersible pumping station; an equalization basin; two (2) drum-type fine screens; three (3) positive displacement blowers; a new electrical control room; a chemical feed room; two (2) BNR basins to be operated in parallel; a Membrane Bio-Reactor (MBR) treatment system; a sludge pumping station; ultraviolet disinfection; re-aeration facilities; a thickening sludge centrifuge; an aerobic digester; and all necessary appurtenances.

The WWTP serves a population of approximately 1,250 housing units from the Tuscawilla Hills Subdivision and Locust Hills area. Treated wastewater is discharged via Outlet No. 002 to the Tuscawilla West Golf Course pond/irrigation system with ultimate discharge to Evitts Run of the Shenandoah River of the Potomac River.

However, effective December 31, 2013, Tuscawilla WV/NPDES Permit No. WV0088013, was superseded with WV/NPDES Permit No. WV0022349, Modification No. 2. The following major permit limits (WV0022349, Outlet 002, expiring June 30, 2021):

Tuscawilla WWTP Permit Limits			
Parameter Monthly		Max Day	
	Average		
BOD	10 mg/L	20 mg/L	
TSS	30 mg/L	60 mg/L	
Ammonia Nitrogen	2 mg/L	4 mg/L	

Table 3-8

In addition to the limits listed Table 3-8, the Permit established nutrient loading limitations as shown in Table 3-9. Although the plant will have a permitted flow capacity of 0.5 mgd, expandable to 1.0 mgd, the nutrient loadings were calculated based on 0.196 mgd. The established nutrient discharge limitations for Outlet 002 are:

Table 3-9

Tuscawilla WWTP Nutrient Limits

Parameter	Annual Load	Equivalent Average (0.196 mgd)
Total Nitrogen	10,740 lb/yr	18 mg/L
Total Phosphorus	1,790 lb/yr	3 mg/L

The previous Plan choices regarding the Tuscawilla WWTP described the benefits associated with expansion of the Tuscawilla facility to accommodate new flows in the area and the construction of the Huntfield Force Main and Charles Town to Tuscawilla Pumping Station to transfer flows from the Charles Town WWTP. The nutrient allocation for this facility will be utilized to support and facilitate the growth for the entire Charles Town region.

Historic flow data for the Tuscawilla facility is shown in Table 3-10:

Table 3-10 **Tuscawilla Flow Data**

Year	Total Annual Flow (in MG)	Average Daily Flow (in mgd)	Average Peak Flow (in mgd) *
2010	50	0.14	0.19
2011	50	0.14	0.22
2012	52	0.14	0.17
2015	48	0.13	0.19
2016	49	0.13	0.19
2017	48	0.14	0.21

* Maximum monthly day / 12 months

Data for 2013 and 2014 are excluded due to start-up of the new facility.

Additional benefits of the Tuscawilla facility continue to be:

Charles Town and Tuscawilla are now operating under a Combined • Permit for a combined wasteload allocation for total nitrogen and total phosphorus as both facilities discharge into the same receiving stream (Evitts Run).

• 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. As part of the Tuscawilla Effluent Line project, telemetry was installed on two of the seven golf course ponds to measure specific levels. The telemetry triggers the use of the Tuscawilla Effluent Line for direct discharge to Evitts Run (Outlet 203) when flows exceed Golf Course irrigation use. Outlet 002 or the contribution of the total load from the Tuscawilla Plant that is used by the golf course for spray irrigation is shown in Table 3-11:

Table 3-11Nutrient Contributions to Golf Course

Year	Total Annual Flow (in MG) Golf Course Irrigation	Total Nitrogen Contribution to Golf Course (Ibs/yr)	Total Phosphorus Contribution to Golf Course (lbs/yr)
2015	40	1,318	38
2016	40	912	209
2017	42	1,250	235

• The constructed wetlands adjacent to the plant provide significant environmental benefit.

The 500,000 gallon per day Membrane Bioreactor (MBR) wastewater treatment plant at Tuscawilla is currently treating an average of 0.14 mgd. This plant was constructed to meet both existing and future nutrient capacity and provide credits through the golf course irrigation. The capacity of the next phase should be considered when the Tuscawilla plant reaches approximately 375,000 gallons per day flow.

3.1.3 Willow Spring Wastewater Treatment Plant

With the issuance of WV/NPDES Permit No. WV0022349, Modification No. 1 and subsequent WV DEP correspondence, flows from the former Willow Springs Public Service Corporation to the Charles Town plant began May 30, 2017.

As part of the 2016 Sewer Projects, the WV DEP approved operation and maintenance of the wastewater collection system comprised of approximately 1,200 linear feet of six (6) inch diameter gravity sewer line, 11,700 linear feet of eight (8) inch diameter gravity line, 350 linear feet of 10 inch diameter gravity sewer line, 94 manholes, four (4) lift stations, 350 linear feet of one and one half (1-1/2) inch diameter forcemain, 11,800 linear feet of four (4) inch diameter force main, and all requisite appurtenances.

This modification also allowed the addition of the Total Maximum Daily Loads for total nitrogen and total phosphorous, under the Chesapeake Bay Total Maximum Daily Load for the Willow Springs facilities, covered under WV/NPDES Water Pollution Control Permit No. WV0086452, to be added to the combined loading already afforded under this WV/NPDES Water Pollution Control Permit under Outlet No. 003. Under the Chesapeake Bay Total Maximum Daily Load, the total nitrogen is 5,479 pounds per year and the total phosphorous is 913 pounds per year for the Willow Springs facilities. The Letter of Amendment was issued on June 14, 2017, incorporated the additional total nitrogen and total phosphorous loadings into Section A.003 of the permit.

WV/NPDES Water Pollution Control Permit No. WV0086452, issued the 19th day of April 2016, expired on the 30th day of June 2017.

The decommissioning of the Willow Spring Wastewater Treatment Plant and completion of improvements to allow collection and pumping to the CTWWTP provides sewer service expansion opportunities in the eastern region.

3.2 Current Capacity Allocation

The previous SSP depicted capacity allocated to each of the three (3) entities discharging flow to the CTWWTP. Assigned EDU allocations to Charles Town, Ranson and the JCPSD are no longer being provided. In 2015, the overall available volumetric flow was 0.75 mgd or 4,166 Equivalent Dwelling Units (EDUs). In this SSP, Section 4.2 will show the same current capacity allocation of 4,166 EDUs.

3.3 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. The established limits are shown in Table 3-2.

Under Senate Bill 245, Charles Town benefited from receipt of grant funds totaling \$10,903,213 for projects described as Charles Town's Chesapeake Bay "eligible" projects with costs totaling \$21,537,600. Those projects are now complete and include:

Tuscawilla Phase 1 Upgrade to 0.5 mgd

Huntfield Force Main and Pumpover Station from Charles Town to Tuscawilla

Charles Town Phase 1 Nutrient Removal Project

With completion of these projects, nutrient management is being achieved. Since the reissuance of WV/NPDES Permit WV0022349, Charles Town must report nutrient removal for the annual period September 1 to August 31. Table 3-12 depicts permitted pounds and actual pounds removed.

Nutrient Removal 2016/2017				
	Total Permitted (lbs/yr)	Total Reported (lbs/yr)		
Nitrogen	42,855	18,158		
Phosphorus	5.367	1,237		

Table 3-12

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 3-12, will eliminate the need for the CTWWTP Nutrient Removal Phase 2 Project. See also Section 4.1.

4.0 **Expansion Capacity**

4.1 Treatment Expansion

A recap of the two public wastewater treatment plants in the area – Charles Town and Tuscawilla is as follows:

4.1.1 **Charles Town Wastewater Treatment Plant**

Charles Town is presently operating under the following:

- WV/NPDES Permit No. WV0022349 for the period September 01, • 2016 through June 30, 2021,
- WV/NPDES Permit No. WV0022349, Modification No. 1, issued • March 30, 2017,
- Letter of Amendment (regarding Willow Springs), issued June 14, 2017,
- WV/NPDES Permit No. WV0022349, Modification No. 2, issued August 9, 2017 and,
- WV/NPDES Permit No. WV0022349, Modification No. 3, issued December 4, 2017.

Table 4-1 describes Charles Town's future projects:

Table 4-1

Charles Town Future Opgrades and Expansion			
Year	Description		
2019	CTWWTP Renewal & Replacement Projects begin Design		
2021	CTWWTP Renewal & Replacement Projects begin Construction		
2033	CTWWTP Expansion to 2.25 MGD begin Design		
2035	CTWWTP Expansion to 2.25 MGD begin Construction		

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The Charles Town WWTP has a volumetric capacity of 1.75 million gallons per day (mgd). The nutrient limits for this facility include 32,115 pounds of nitrogen and 3,577 pounds of phosphorus annually. With the completion of the Charles Town Phase 1 Nutrient Removal Project, nutrient removal is available when demand for additional volumetric capacity is needed up to 1.75 MGD.

The 2015 SSP proposed the CTWWTP Nutrient Removal Phase 2 Project. The project was based upon a May 2012 preliminary engineering report for expanding nutrient removal treatment capacity of the CTWWTP with an estimated cost of \$15.523M. The 2012 recommendations, referenced as Phase 2 – Nutrient Removal Upgrade, were based on a 2008 optimization report. Since the 2008 report, operational improvements have significantly reduced ammonia nitrogen and total nitrogen through nitrification and denitrication within the sequential batch reactor process. Further, in this SSP, actual data is known regarding the pounds of nitrogen being reported. Based upon factual data since the previous SSP, the Phase 2 – Nutrient Removal Upgrade is no longer needed to meet the nutrient limit for nitrogen that is now known. The CTWWTP can meet nitrogen permit limits up to 1.75 MGD without the Phase 2 project as evidenced in Table 3-12.

4.1.2 Tuscawilla Wastewater Treatment Plant

Tuscawilla is presently operating under WV/NPDES Permit No. WV0022349 for the period September 01, 2016 through June 30, 2021.

The Tuscawilla WWTP facility has a capacity of 0.5 mgd. The nutrient limits for this facility include 10,740 pounds of nitrogen and 1,790 pounds of phosphorus annually. Further expansion capacity, and therefore additional Nutrient Management is possible with a future upgrade to 1.0 mgd. Expansion of this facility is beyond the 20 year horizon.

4.2 Collection and Pumping Expansion

The Charles Town and Tuscawilla Treatment Plants provide service for the City of Ranson, City of Charles Town and the Jefferson County Public Service District. Consolidation efforts and current projects will provide additional capacity as outlined in Sections 2.4.1 and 2.4.2.

Design and engineering efforts are underway for the Ranson Extension (Roxul) project . The Roxul project will have an impact and change the proposed JCPSD Flowing Springs project. As of this Plan, Charles Town was requested by the WV PSC in Case No. 17-0915-PSWD-PC to review coordination of construction of the JCPSD's project approved in Case No. 16-0616-PC-CN with the Ranson Extension. This preliminary review was completed and filed with the WV PSC on March 14, 2018. In that filing, Charles Town believes that proposed revisions to the JCPSD Flowing Springs project as a result of Ranson Extension will accomplish all of the goals for the District and satisfy the concerns of the development community for substantially less cost than the initial proposed JCPSD project.

As consolidation efforts unfold, Charles Town could have the ability to ensure collection and pumping expansions in all regions. Clearly, for the Northern Region, capacity will become available upon completion of the Ranson Extension. For the Eastern Region, Charles Town's proposed revisions to the JCPSD Flowing Springs project will increase capacity together with Developer Alternate Main Line

Extensions. Collection and pumping capacity are available in the Southern and Western Regions now.

4.3 Future Capacity Allocations

From Table 3-6 and Table 3-10, the available total annual and daily volumetric flows can be derived as shown in Tables 4-4 and 4-5:

Table 4-4

Forecast of Annual Volumetric Flows

Volumetric Flow	Permitted Annual Flow (MG)	Average Total Annual Flow (MG)	Available Total Annual Flow (MG)
Charles Town	638.8	385.4	253.4
Tuscawilla	182.5	49.5	133.0
Total (Rounded)	821.3	434.9	386.4

Table 4-5

Forecast of Daily Volumetric Flows

Volumetric Flow	Permitted Daily Flow (mgd)	Average Daily Flow (mgd)	Available Daily Flow (mgd)
Charles Town	1.75	1.06	0.69
Tuscawilla	0.50	0.14	0.36
Total	2.25	1.20	1.05

Using the water gallons per day of 150 per EDU from the Capacity Improvement Fee (Charles Town Sewer Tariff No. 15, Schedule III), the available capacity in EDUs would be over 7,000 (1,050,000 / 150). More appropriately, an allowance for inflow and infiltration would use 180 gallons per day. Consistent with the 2015 SSP (available daily flow of 1,120,000) and in order to safeguard future NPDES Permit compliance, this available annual capacity is being reduced to 0.75 mgd. The available capacity in EDUs continues to be 4,166 EDUs (750,000 / 180) based on the following factors:

- 1. Weather events,
- 2. Loss of nitrification caused by a plant upset or severe cold,
- 3. Inflow and Infiltration,
- 4. Design criteria and plant expansions are based on maximum daily flow data and,
- 5. Limited operational data on the improvements to the Tuscawilla and pending Charles Town WWTP nutrient projects.

5.0 Timeline for Upgrades

Timelines for future projects are:

• 2021 Charles Town Renewal and Replacement Projects

•	Complete Engineering	4 th Quarter of 2019
•	Permitting & Approvals	1 st Quarter of 2020
•	Initiate Construction	3 rd Quarter of 2020
•	Complete Construction	3 rd Quarter of 2021
•	Start-up	4 th Quarter of 2021

• Of the two remaining growth related capital projects that include the expansion of the Charles Town WWTP to 2.25 mgd and the Tuscawilla Phase 2 Expansion to 1.0 mgd, design for the CTWWTP expansion is still forecast to begin in 2033.

6.0 Estimated Costs

Preliminary cost estimates for future projects are:

6.1 Charles Town Renewal and Replacement Project

Maintaining operations throughout the system is critical until a new capital improvement project is commenced. The project anticipated in order to maintain facilities include the following:

Design for a 2021 Renewal and Replacement project will begin in 2019 to address aging infrastructure. The project, in part, will include upgrades to the current CTWWTP aeration system (one blower), replacement of 3 (three) influent pumps and wiring to the plant control room, lining of the 3 (three) sequential batch reactor basins, UV upgrades, rehabilitation of the existing belt press and the addition of a second belt press. At Tuscawilla, the renewal and replacement of the existing membrane filter media will include a capital and operational cost comparison for replacement versus a more traditional clarifier type media. At Huntfield, an oxygenation system for odor and corrosion control, and to reduce sulfide loading in the transfer line will be assessed.

The funding for these projects is anticipated to be sought through traditional bond market financing. In 2016, a debt service analysis was completed by Compass Municipal Advisors, LLC. As a result of older bond issues being paid in full, this analysis shows available funds of approximately \$167,000 per year in 2022, without a customer rate increase. Based on this debt service payment and current market rates, a bank qualified insured utility revenue bond could be issued in the amount of \$2,750,000.00 for the project to include:

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Renewal and Replacement Design	\$	230,000
Renewal and Replacement Project Costs	\$	2,122,000
Expansion of CTWWTP Belt Press Operation (from CIFs)	\$	600,000
Engineering & Construction Management	\$	184,000
Construction Contingency	\$	165,500
Project Contingency	\$	10,000
Estimated Project Cost	\$	3,356,000
PSC Attorney	\$	2,000
Accountant	\$	5,000

2021 Renewal and Replacement Project Funding Detail

April 2018

Registrar	\$ 500
Bond Council	\$ 30,000
Contingency	\$ 1,000
Estimated Other Cost	\$ 38,500
Total Renewal and Replacement Project	\$ 3,394,500

CIFs are anticipated to be utilized for the expansion of the Charles Town Wastewater Treatment Plant belt press operations.

6.2 Charles Town and Tuscawilla WWTPs Phase 2

The WV IJDC application for Project 2012S-1350 to achieve nutrient reductions at the Charles Town WWTP for permitted flow of 1.75 MGD received approval, however, based upon current data, the previous CTWWTP Nutrient Removal Phase 2 project is no longer forecast.

At this point, the expansion of Charles Town WWTP is expected to be needed in 2035. The Tuscawilla Phase 2 to 1.0 MGD project is beyond the 20 years and beyond what is considered to be a valid time frame for cost estimation. However, a cost estimate for Tuscawilla Phase 2 to 1.0 mgd was contained in the 2012 Plan as:

Tuscawilla WWTP Construction Cost Estimate Phase 2 to 1.0 mgd

Upgrade from 0.5 mgd to 1.0 mgd	
Total Estimated Project Cost	\$10,603,094
(in IJDC Project 2009S-1160)	

This estimate is based on a preliminary cost estimate developed by Black & Veatch in 2009 dollars. As well as additional Operations & Maintenance costs for this facility associated with Tuscawilla Phase 2, estimated at \$350,000 per year.

The Board filed this project with the WV IJDC in order to obtain grant funding eligibility. The WV IJDC approved funding in IJDC Preliminary Application 2009S-1160, on February 9, 2010 in the amount of \$10,603,094. A review of this cost estimate would be required in the future as well as to remove the transfer pumping station from the project.

7.0 Financing Plans

The Charles Town Utility Board 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 CIFs. The Tuscawilla Phase 2 Upgrade to 1.0 mgd would require a separate funding strategy in a future SSP publication.

In the event that the 2021 Renewal and Replacement Project exceeds the estimated costs outlined in Section 6.1 (without rate impact), the Board will complete the following prior to seeking a rate increase:

2019 Renewal and Replacement Design

1. Engineering assessment of individual Renewal and Replacement items presently being developed by staff.

- 2. Engineering cost estimate for the preparation of a preliminary engineering report detailing the final items together with justifications, alternative options (such as preselection) and cost estimates for each capital improvement.
- 3. Preliminary forecast of the bond market conditions and all financing option alternatives including the use of debt service funds available as older bond issues are paid, WV DEP SRF funding or public market issue.

2021 Renewal and Replacement Project

- 1. Engineering cost estimate for the preparation full engineering for the final items together with justifications, alternative options (such as preselection) and cost estimates for each capital improvement.
- 2. Preliminary forecast of the bond market conditions and all financing option alternatives including WV DEP SRF funding or public market issue.
- 3. A proposed timeline for completion full engineering efforts.
- 4. A proposed timeline for construction of capital improvements.

The following are the current rates pursuant to City of Charles Town Sewer Tariff No. 16³:

Charles Town		
2,000 gallons (minimum)	\$14.07	per 1,000 gallons
8,000 gallons	\$10.12	per 1,000 gallons
10,000 gallons	\$9.20	per 1,000 gallons
Flat Rate (with non-metered water sup	\$53.44	per 4,500 gallons
Resale Rate		
Ranson/JCPSD Resale	\$6.53	per 1,000 gallons

The Charles Town Utility Board will prepare the following information for multiple work sessions with the Charles Town City Council prior to proceeding with any revisions to the Charles Town Sewer Tariff No. 16, effective July 1, 2016 for:

8.0 Recommendations

The following recommendations are made for the treatment of wastewater in the Charles Town/Ranson and Jefferson County Area:

- Wastewater generated in the Northern and Southern regions will be treated at either the Charles Town WWTP or Tuscawilla WWTP (utilizing either the Transfer PS, Huntfield PS, or both).
- Wastewater in the Eastern region will continue to be conveyed to and treated at the Charles Town WWTP.
- Wastewater in the Willow Spring region will now be treated at the Charles Town WWTP.
- Wastewater generated in the Western region of the Charles Town area (Tuscawilla / Locust Hill) will continue to be treated at the new Tuscawilla WWTP.

³ Complete City of Charles Town Sewer Tariff No. 16 at <u>www.ctubwv.com</u>

- The Huntfield Force Main and Charles Town to Tuscawilla Pumping Station will be utilized as growth demands.
- Metal salts, or PAC will continue to be added at Charles Town and Tuscawilla WWTPs to meet total phosphorus pounds annually.
- Design of the CTWWTP Renewal and Replacement project will begin in 2019.
- The Charles Town Nutrient Removal Phase 2 Project is now eliminated.
- Growth related capital planning now includes:
 - Completion of the Ranson Extension for Roxul. Preliminarily, the project consists of design, acquisition, construction and equipping of two (2) pump stations, approximately 16,700 linear feet of sanitary sewer force main and approximately 9,240 linear feet of gravity sanitary sewer main, and all necessary appurtenances (collectively, the "Project"). The Project will extend sanitary sewerage service to the ROXUL, USA, Inc. development to be located at the Jefferson Orchards Site in the vicinity of the Bardane Exit on West Virginia State Route 9. The project a will also serve the Burr Business and Industrial Parks, Shenandoah Junction and other connections in the Northern Route 9 region as feasible.
 - Pursue proposed revisions to the JCPSD Flowing Springs project as a result of Ranson Extension pending approval of the JCPSD asset acquisition by Charles Town.
 - Design of the CTWWTP Expansion to 2.25 MGD project to increase volumetric capacity at Charles Town from 1.75 mgd to 2.25 mgd is forecast to begin in 2033.
 - The design for the Tuscawilla Phase 2 to 1.0 mgd was completed as part of the WV IJDC applications for nutrient removal projects. This design will be re-examined beyond 2044.

Attachment A

Resolution to Approve the Strategic Plan Resolution April <mark>22</mark>, 2018



Charles Town

Utility Board

832 S. George Street, Charles Town, WV 25414 Phone: (304) 725-2316 ◆ Fax: (304) 725-4313 ◆ Web: <u>www.ctubwv.com</u>

RESOLUTION NO. <u>2015-03</u> CHARLES TOWN UTILITY BOARD FOR THE 2015 SEWER STRATEGIC PLAN

CHAIRMAN Dave Mills

> UTILITY BOARD

> > Pete Kubic

Charles W. Kline

> Tommy Stocks

Kristen Stolipher

UTILITY MANAGER Jane E. Arnett On this 22nd day of April, 2015, the Charles Town Utility Board (the "Board") has approved the following resolution concerning the Board's sewer strategic plan.

Whereas, the Board approved a resolution concerning the adoption of a sewer strategic plan process on April 26, 2006 ("2006 Resolution"); and

Whereas, the Board's 2006 Resolution called for the preparation of a comprehensive Sewer Strategic Plan ("Plan") each year; and

Whereas, as stated in the 2006 Resolution, the Board implemented the sewer strategic plan process to provide a mechanism for strategically planning its future wastewater needs that would be flexible and could be modified as needs change and such modifications would be quickly and readily approved by all necessary regulatory agencies; and

Whereas, since 2006, many of the factors affecting the City of Charles Town and the Board's required expenditures, planning and maintenance of the Board's wastewater treatment facilities have changed significantly; and

Whereas, under Resolution 2013-23, The Board amended its 2006 Resolution; and

Whereas, from that date, the Board will prepare a Sewer Strategic Plan ("Plan") on a tri-annual basis with the first tri-annual Plan to be published prior to the beginning of fiscal year 2016 in April 2015.

Resolution 2015-03 April 22, 2015 Page 2 of 2

Whereas, the Board takes this action freely and voluntarily, and pursuant to no requirement of law.

Therefore, be it **RESOLVED** and **ORDERED** that:

The Board adopt the 2015 Sewer Strategic Plan with the intent that the Plan be viewed by all as a positive and essential mechanism to help manage current and future wastewater treatment needs and ensure compliance with all state and federal regulations inclusive of Chesapeake Bay mandates.

This motion being duly presented and seconded, has been adopted by a quorum vote and relative to wastewater facilities on behalf of the Charles Town Utility Board.

AUTHORIZED REPRESENTATIVE

Utility Board Chairman

ATTESTED BY:

Clerk/Recorder/Secretary Signature

Date _____April 22, 2015 _____

Attachment B

Strategic Plan Resolution April 26, 2006

RESOLUTION

Whereas, the Board currently operates two wastewater treatment facilities, the Charles Town and Tuscawilla plants; and

Whereas, the wastewater treatment facilities must be expanded at a rate adequate to meet the demands of extraordinary housing development and related growth in the City of Charles Town and areas served by the Board's wastewater facilities; and

Whereas, the inadequacy of the current wastewater treatment facilities has been a major impediment to land development growth in the City of Charles Town and surrounding areas; and

Whereas, it is in the benefit of the economy of the City of Charles Town, the adjacent city of Ranson, the County of Jefferson, and the State of West Virginia to allow for the continued development of the City of Charles Town's lands and surrounding areas; and

Whereas, it is in the benefit of the environment of the City of Charles Town to proactively manage and plan for future wastewater treatment needs; and

Whereas, the Board desires a methodology to proactively manage and plan for future wastewater treatment needs; and

Whereas, the Board firmly believes that those responsible for the creation of additional wastewater treatment capacity needs should be responsible for the costs associated with providing the additional capacity; and

Whereas, the development and adoption of a "Sewer Strategic Plan" is a goal of the Board and provides environmental and economic benefit; and

Whereas, the Board desires a mechanism for strategically planning its future wastewater needs that is flexible and can be modified as needs change and such modifications can be quickly and readily approved by all necessary regulatory agencies; and

Whereas, the Board takes this action freely and voluntarily, and pursuant to no requirement of law.

Therefore, be it **RESOLVED** and **ORDERED** that:

CH808816.1

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- 1. The Board will annually prepare a Sewer Strategic Plan ("Plan") for adoption at the beginning of each fiscal year. The initial draft of the Plan will be completed approximately 60 days prior to each fiscal year for public presentation. The Board will allow 30 days of Plan availability for public review and comment. The Board will consider the public comments and, at the Board's discretion, modify the Plan accordingly, prior to final adoption at the beginning of each fiscal year.
- 2. The Plan will address and provide for, at a minimum, the following:
 - a. Locations and expansion capacities of wastewater treatment plants
 - i. The Board will determine the existing and anticipated capacities of its wastewater treatment facilities, and, based on such capacities, determine the anticipated area to be served by said plants, and identify such areas on a map of the City and its surrounding areas. Such anticipated growth areas shall identify 5 year and 10 year projected growth boundaries, as well as current areas served.
 - ii. From time to time, the Board may consider whether it is prudent to acquire or construct additional wastewater treatment plants. Upon construction or acquisition of such plants, the changes in projected growth boundaries shall be identified on maps at the next annual update of the Plan.
 - b. Anticipated timeline for expansion
 - i. After analyzing where the most urgent projected wastewater treatment needs will reside, the Board will construct a timeline for expansion of the current facilities or acquisition of other wastewater facilities, with the most urgent wastewater treatment needs areas given first and priority position in the timeline.
 - ii. The Board will also have a strategic focus on the future by anticipating wastewater treatment needs for a 5 year and 10 year period and developing a plan and timeline for meeting those longterm wastewater treatment needs.
 - c. Anticipated costs for total build-out of needed wastewater facility expansion and/or acquisition- including Chesapeake Bay requirements
 - The Board will calculate all projected costs for meeting wastewater treatment needs, including, but not limited to, all environmental and other regulatory requirement costs.
 - d. Anticipated plans for financing build-out without burdening current ratepayers
 - Each year, the Board will project costs for total build-out to capacity and determine the per equivalent dwelling unit (edu) cost.

CH808816.1

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- ii. At any time during a fiscal year, any developer will be able to reserve future capacity (from a formula to be determined) by pre-paying capacity improvement fees based on that year's per edu cost.
- iii. Each year, the per edu cost will be revised based on prepaid costs, and newly revised estimates of costs to build-out. It is anticipated that the going-forward per edu cost will increase each year.
- Board representatives will review the Plan with all necessary regulating agencies, 3. including but not limited to, the Public Service Commission, the Department of Environmental Protection, the Department of Health, and the Governor's Office, in order to receive comments and suggestions from these agencies. It is the sincere hope and expectation of the Board that all involved in this process will aid in the development of the Plan, which will be viewed by all as a positive and essential mechanism to help the Board manage its growing wastewater treatment needs.
- 4. The Board will work with all necessary regulating agencies to construct a methodology where the annual revisions and emergency revisions, when necessary, to the Plan may be expeditiously approved by the regulating agencies.

PASSED and APPROVED by a vote of 5 to 0 this 26th day of Arere, 2006.

Jace E. Quett Charles Town Utility Board

CH808816.1

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Attachment C

Resolution to Amend the Strategic Plan Resolution February 12, 2014



Charles Town

Utility Board

832 S. George Street, Charles Town, WV 25414 Phone: (304) 725-2316 • Fax: (304) 725-4313 • Web: <u>www.ctubwy.com</u>

On this 12th day of February, 2014, the Utility Board of the City of Charles Town, West Virginia (the "Board") has approved the following amended resolution concerning the Board's sewer strategic plan process.

AMENDED RESOLUTION NO. 2013-23 FOR THE SEWER STRATEGIC PLAN

Whereas, the Board approved a resolution concerning the adoption of a sewer strategic plan process on April 26, 2006 ("2006 Resolution"); and

Whereas, the Board's 2006 Resolution called for the preparation of a comprehensive Sewer Strategic Plan ("Plan") each year; and

Whereas, as stated in the 2006 Resolution, the Board implemented the sewer strategic plan process to provide a mechanism for strategically planning its future wastewater needs that would be flexible and could be modified as needs change and such modifications would be quickly and readily approved by all necessary regulatory agencies; and

Whereas, since 2006, many of the factors affecting the City of Charles Town and the Board's required expenditures, planning and maintenance of the Board's wastewater treatment facilities have changed significantly; and

Whereas, the areas served by the Board, that include the City of Charles Town, the adjacent City of Ranson, and surrounding areas of Jefferson County are no longer experiencing rapid growth pressure and treatment capacity issues that plagued the Cities and County when it adopted the 2006 Resolution; and

Whereas, the Plan and subsequent updates issued in accordance with the 2006 Resolution have been a critically important tool for the Board. The Plan has facilitated effective and efficient planning for future obligations and consistent environmental compliance. However, updating the Plan each year is a significant financial and administrative burden on the Board; and

Whereas, due to changes in regional growth, the Board's progress toward compliance with Chesapeake Bay nutrient requirements and numerous other factors, the Board feels it is not necessary at this time to draft a comprehensive Plan every year; and

Joe Cosentini UTILITY BOARD Charles W, Kline Pete Kubic

CHAIRMAN

Tommy Stocks Kristen Stolipber

UTILITY MANAGER Jane E. Arnett Resolution 2013-23 February 12, 2014 Page 2 of 3

Whereas, the Board takes this action freely and voluntarily, and pursuant to no requirement of law.

Therefore, be it **RESOLVED** and **ORDERED** that:

- 1. Due to significant changes in the greater Charles Town area regarding the rate of growth and anticipated future wastewater treatment needs, the Board is hereby amending its 2006 Resolution.
- 2. From the date of this Resolution the Board will prepare a Sewer Strategic Plan ("Plan") on a tri-annual basis. The first tri-annual Plan will be published prior to the beginning of fiscal year 2016 in April 2015. The initial draft will be completed approximately 60 days prior to the appropriate fiscal year for public presentation. The Board will make the initial draft available for public review and comment for a period of thirty (30) days. The Board will consider any public comments and, at the Board's sole discretion, modify the Plan accordingly, prior to final adoption at the beginning of each tri-annual update.
- 3. The 2012 Sewer Strategic Plan will remain as published until the publication of the April 2015 update.
- 4. The tri-annual Plan will address and provide for, at a minimum, the following:
 - a. Location and expansion capacities of wastewater treatment plants.
 - i. The Board will determine the existing and anticipated capacities of its wastewater treatment facilities, and, based on such capacities, determine the anticipated area to be served by said plants, and identify such areas on a map of the City and its surrounding areas. The anticipated growth areas shall identify 5 year and 10 year projected growth boundaries, as well as current areas served.
 - ii. From time to time, the Board may consider whether it is prudent to acquire or construct additional wastewater treatment plants. Upon construction or acquisition of such plants, the changes in projected growth boundaries shall be identified on maps at the next tri-annual update of the Plan.
 - b. Anticipated timeline for expansion.
 - i. The Board will first determine if there is a need for expanded wastewater treatment capacity by inquiry of the development community. If the Board determines there is a need for expanded capacity, the Board will construct a timeline for expansion of the current facilities or acquisition of other wastewater facilities, with the most urgent wastewater treatment need areas given first and priority position in the timeline.
 - ii. The Board will also analyze anticipated future needs and work to plan for wastewater treatment needs for a 5-year and 10-year period and develop a timeline for meeting those anticipated wastewater treatment needs.

Resolution 2013-23 February 12, 2014 Page 3of 3

- c. Anticipated costs for capital improvements, wastewater facility expansion and/or acquisition.
 - i. The Board will calculate all projected costs for meeting wastewater treatment needs, including, but not limited to, the anticipated costs of all environmental and other regulatory requirements. If the Board determines that no expansion or additional capacity is needed, the Board will present cost estimates for continued compliance and maintenance of the Board's facilities.
 - ii. If the Board determines that additional capacity is needed, the Board will provide both anticipated capital and nutrient credit / trading costs to ensure that political leaders, citizens and the development community are shown the necessary costs for continued compliance with each additional capacity option presented.
- d. Anticipated plans for financing any necessary capital improvements or expansions.
 - i. In each tri-annual Plan, the Board will project costs for any required build-outs and/or capacity improvements and determine the per equivalent dwelling unit (edu) cost.
 - ii. At any time, based on the most recent Plan, any developer is able to reserve future capacity through Capacity Assurance Fees (CAFS) as approved by the West Virginia Public Service Commission (Case No. 06-1187-S-PC, January 26, 2007) by pre-paying as further described in the Commission's Order.
- 5. Board representatives will review the Plan with all necessary regulating agencies, including but not limited to, the West Virginia Public Service Commission, the West Virginia Department of Environmental Protection, the West Virginia Department of Health and Human Resources, and the Governor's Office, in order to solicit comments and suggestions from these agencies. It is the sincere hope and expectation of the Board that all involved in this process will aid in the development of the Plan. The Board's expectation is that the Plan will be viewed by all as a positive and essential mechanism to help manage current and future wastewater treatment needs and ensure compliance with all state and federal regulations inclusive of Chesapeake Bay mandates.

PASSED and APPROVED by a vote of 5 to 0 on this 12th day of February 2014.

ATTESTED BY:

[Seal]

Date

Utility Board Chairman

Authorized Representative