



Second Party Opinion

EXECUTIVE SUMMARY

ISSUER

Tampa Bay Water, A Regional Water Supply Authority

OPINION ON

Utility System Revenue Bonds, Series 2022 (Sustainability Bonds)

SUSTAINABILITY STANDARD



GREEN STANDARD AND CATEGORIES



- Climate Change Adaptation
- Sustainable Water Management

SOCIAL STANDARD AND CATEGORY



- Affordable Basic Infrastructure

TARGET POPULATION

Tampa Bay region residents

KEYWORDS

Drinking water, responsible management of natural resources, sustainable water management, energy efficiency, climate resilience, desalination, Tampa Bay, Florida

EVALUATION DATE

September 30, 2022

SUMMARY

Kestrel Verifiers is of the opinion that the Utility System Revenue Bonds, Series 2022 (“Series 2022 Bonds”) are impactful, are net zero aligned, and conform with the four core components of the Sustainability Bond Guidelines 2021 as follows:

- **Use of Proceeds**

The Series 2022 Bonds will finance and reimburse costs of projects included in Tampa Bay Water’s Fiscal Years 2023-2032 Capital Improvements Program (the “2022 Project”) and pay costs of issuance. The 2022 Project will provide equitable access to clean and affordable drinking water and improve the resiliency of the water system. The Series 2022 Bonds align with the *Climate Change Adaptation*, *Sustainable Water Management*, and *Affordable Basic Infrastructure* eligible project categories under the Sustainability Bond Guidelines.
- **Process for Project Evaluation and Selection**

The 2022 Project is part of comprehensive capital and integrated resource planning, as outlined in the Tampa Bay Water Long-term Master Water Plan and 10-year Capital Improvements Plan (2023-2032). Projects are prioritized based on a Multi-Attribute Analysis that uses criteria including compliance, level of service, health and safety, costs and efficiencies, and environmental enhancement.
- **Management of Proceeds**

Series 2022 Bond proceeds shall be deposited into separate project accounts and dispersed to the Series 2022 Project. Funds are anticipated to be spent within two years of issuance.

- **Reporting**

Tampa Bay Water will submit continuing financial disclosures to the Municipal Securities Rulemaking Board (“MSRB”) as long as the Series 2022 Bonds are outstanding. Tampa Bay Water intends to provide updates on the 2022 Project and allocation of proceeds in an annual report located on their website: <https://www.tampabaywater.org/agency/tampa-bay-water-budget-and-financial-information/>.

- **Impact and Alignment with United Nations Sustainable Development Goals**

By financing projects that promote sustainable water management, incorporate climate change planning, and provide equitable access to safe, clean drinking water, the Series 2022 Bonds support and advance multiple UN SDGs, including Goals 6: *Clean Water and Sanitation*, 7: *Affordable and Clean Energy*, 9: *Industry, Innovation, and Infrastructure*, 11: *Sustainable Cities and Communities*, 12: *Responsible Consumption and Production* and 13: *Climate Action*.



Second Party Opinion

Issuer:	Tampa Bay Water, A Regional Water Supply Authority
Issue Description:	Utility System Revenue Bonds, Series 2022 (Sustainability Bonds)
Project:	Capital Improvement Projects
Sustainability Standard:	Sustainability Bond Guidelines
Green Standard:	Green Bond Principles
Green Categories:	Climate Change Adaptation Sustainable Water Management
Social Standard:	Social Bond Principles
Social Bond Category:	Affordable Basic Infrastructure
Target Population:	Tampa Bay region residents
Keywords:	Drinking water, responsible management of natural resources, sustainable water management, energy efficiency, climate resilience, desalination, Tampa Bay, Florida
Par:	\$122,075,000
Evaluation Date:	September 30, 2022

SUSTAINABILITY BONDS DESIGNATION

Kestrel Verifiers, an Approved Verifier accredited by the Climate Bonds Initiative, conducted an independent external review of the Utility System Revenue Bonds, Series 2022 (“Series 2022 Bonds”) to evaluate conformance with the Sustainability Bond Guidelines (June 2021) established by the International Capital Market Association. Our team for this engagement included analysts with backgrounds in environmental science and social science.

This Second Party Opinion reflects our review of the uses and allocation of proceeds, oversight, and conformance of the Series 2022 Bonds with the Sustainability Bond Guidelines. In our opinion, the Series 2022 Bonds are impactful, net zero aligned, conform with the four core components of both the Green Bond Principles and the Social Bond Principles, and therefore qualify for Sustainability Bonds designation.

ABOUT THE ISSUER

A nonprofit, special district of the State of Florida, Tampa Bay Water provides drinking water to all of the Member Governments which supply water to approximately 2.5 million residential and commercial customers in the Tampa Bay. Tampa Bay Water was created in 1998 following the Florida Legislature’s recommendations for restructuring the former West Coast Regional Water Supply Authority. Its six Member Governments—the Counties of Hillsborough, Pasco, and Pinellas, and the Cities of New Port Richey, St. Petersburg, and Tampa—work together to develop water supplies and deliver drinking water to the region. Costs associated with environmental stewardship and developing new water supplies are shared regionally.

Tampa Bay Water was established to improve collaboration among members and develop sustainable long-term water supplies for the region. Prior to creation of Tampa Bay Water, utilities faced competition for supplies, and overdrawn wellfields coupled with drought conditions that led to severe water restrictions. Competition over supply resulted in economic disparities and conflict among members. Under the regional alliance, Member Governments work cooperatively and receive equitable access to a diversified water supply.

Tampa Bay Water has a history of leadership and success in responsible natural resource management. Prior to Tampa Bay Water diversifying the water supply, water managers in the region relied primarily on groundwater. Overdraft of groundwater resulted in degradation of wetlands, lakes and streams and increased intrusion of saltwater into the Upper Floridian aquifer.

Tampa Bay Water engaged in long-term planning to identify a more resilient, reliable and sustainable water supply for the region. The study incorporated climate risk planning and allowed Tampa Bay Water to anticipate projected water needs in the midst of environmental changes, including sea level rise, droughts, and regional growth. As a result, the regional water supply now includes groundwater (60%), surface water (37%) and seawater desalination (3%).¹

By diversifying the regional water supply, Tampa Bay Water has reduced groundwater withdrawals by approximately 50% since 1998,² supporting the recovery of wetland and lake water levels near wellfields and reducing potential for saltwater intrusion.

Average production from Tampa Bay Water has been 190 million gallons of water per day.³ Demand forecasts suggest the regional water supply must increase current production to accommodate projected growth. Accordingly, Tampa Bay Water continues to prioritize a sustainable approach to water management, including:

- Adopting a conservation goal to reduce water use by an additional 11 million gallons per day throughout the region by 2030.⁴ To work toward this goal, the *Tampa Bay Water Wise* program provides rebates for customers who install water savings devices in homes and businesses. In 2021, the program saved more than 24,000 gallons per day and offered nearly 750 rebates.⁵
- Installing a 2.2-acre solar array at the C.W. Bill Young Regional Reservoir, which offsets energy used for reservoir operations.
- Developing a comprehensive Energy Management Program to reduce operational energy use across the water system.

¹ "Tampa Bay Water 2021 Year in Review," Tampa Bay Water, 2022, <https://www.tampabaywater.org/wp-content/uploads/Tampa-Bay-Water-2021-Year-in-Review.pdf>.

² "History of Water in the Tampa Bay Region," Tampa Bay Water, accessed September 15, 2022, <https://www.tampabaywater.org/agency/environmental-recovery/history-of-water/>.

³ October 1, 2021 through August 31, 2022.

⁴ "2022-2027 Strategic Plan," Tampa Bay Water, 2021, <https://www.tampabaywater.org/wp-content/uploads/2022-2027-Strategic-Plan.pdf>.

⁵ "Tampa Bay Water 2021 Year in Review," Tampa Bay Water, 2022, <https://www.tampabaywater.org/wp-content/uploads/Tampa-Bay-Water-2021-Year-in-Review.pdf>.

ALIGNMENT TO SUSTAINABILITY STANDARDS⁶

Use of Proceeds


The Series 2022 Bonds will finance or reimburse a portion of the costs of certain projects included in Tampa Bay Water’s Fiscal Years 2023-2032 Capital Improvements Program (collectively, the “2022 Project”) and pay costs of issuance. The 2022 Project is an eligible green project as defined by the Green Bond Principles in the project categories of 1) *Sustainable Water Management* and 2) *Climate Change Adaptation*. The 2022 Project is an eligible social project as defined by the Social Bond Principles in the project category of *Affordable Basic Infrastructure*. In Kestrel’s view, by supporting responsible management of water resources and providing equitable access to clean drinking water, the bond-financed projects conform with the Sustainability Bond Guidelines.

The 2022 Project & Significant Environmental Impacts

The 2022 Project provides clean and affordable drinking water to communities, expands distribution capabilities, and improves system resiliency. A full list and descriptions of the 2022 Project is available in Appendix B.

Tampa Bay Water uses the Envision Sustainable Infrastructure framework throughout planning activities.⁷ As a result, climate resiliency, sustainability and equitable access are prioritized in infrastructure improvements that are put forward in the Capital Improvements Program. Financed activities support achievement of multiple water and energy conservation goals by increasing efficiency, addressing leaks in water distribution networks, and reducing energy consumption. In Kestrel’s view, the 2022 Project supports improved efficiencies and sustainability of the drinking water system. Select projects and associated environmental and social benefits include:


Green Standard



Eligible Project Categories:

- Climate Change Adaptation
- Sustainable Water Management

Social Standard



Eligible Project Category:

- Affordable Basic Infrastructure

Project Type	Environmental and Social Benefits
Transmission & Distribution	<p>Design and construction of new distribution pipelines, and improving existing transmission and distribution infrastructure, are essential for efficient operations, maintaining a state of good repair and system resilience, and providing water supply to new areas. The South Hillsborough County pipeline segment A project will extend a pipeline by 16 miles from the Surface Water Treatment Plant to reach the southernmost point of the county, enabling delivery of 65 million gallons per day to the largest Member Government served by Tampa Bay Water.</p> <p>The Tampa Bay Water Desalination Facility provides a portion of Tampa Bay Water’s supply. The 2022 Project includes improvements to the tunnel intakes to accommodate changes to the adjacent power plant and to increase redundancy. The project also supports ongoing environmental stewardship efforts to reduce groundwater withdrawals and enable recovery of wetlands and lakes.</p>

⁶ Sustainability Bonds are bonds in which the proceeds will be exclusively applied to finance or refinance a combination of both Green and Social Projects, and are aligned with the four core components of ICMA’s Green Bond Principles and Social Bond Principles.

⁷ Envision is a holistic sustainability framework and rating system for physical infrastructure developed by the Harvard University Graduate School of Design and the Institute for Sustainable Infrastructure. The Institute is a nonprofit education and research organization and was founded by the American Public Works Association, the American Council of Engineering Companies, and the American Society of Civil Engineers. The Envision framework is widely accepted and promoted by the American Society of Civil Engineers as a best practice for sustainable design. Just as LEED is a recognizable standard for green building design, Envision is a recognizable standard for sustainable infrastructure of all types. The Envision framework includes 64 sustainability and resilience indicators (credits) organized around five categories: *Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Resilience*. The framework seeks to collectively address components of community development, human health and well-being, mobility and emissions, wildlife conservation, life cycles of materials, and more.

Project Type	Environmental and Social Benefits
Treatment Plant Upgrades	Upgrades to and expansion of water treatment plants are necessary to add capacity to accommodate population growth and improve water quality. The Surface Water Treatment Plant collects water from local rivers and canals to produce 90-120 million gallons per day (MGD) of potable water. The Surface Water Treatment Expansion and Improvement Project aims to increase treatment capacity by 20 MGD. ⁸ The project is part of Tampa Bay Water’s alternative water supply system.
Well & Pump Developments	A portion of proceeds will finance replacement of wellfield pumps which will increase efficiency and reduce energy consumption.
Water Quality Improvements	Improvements to the water treatment systems to reduce levels of total organic carbon are expected to improve water quality, reduce the need for additional treatment, and provide a more consistent supply of water throughout the region. ⁹

Net Zero Alignment

Tampa Bay Water’s 2022 Project facilitates the transition to net zero greenhouse gas emissions by improving the energy efficiency of the water system. Water utilities globally are among the biggest consumers of electricity.¹⁰ On average, electricity can account for up to 40% of operating costs for drinking water systems.¹¹ Water utilities also experience unintentional water loss through leaks or meter errors, and subsequently result in wasted energy. Addressing these issues and investing in replacements to prevent potential water loss significantly improves the energy efficiency of water infrastructure. Tampa Bay Water has an Energy Management Program and has proactively incorporated efficient technologies and invested in renewable resources. The solar installation at the C.W. Bill Young Reservoir offsets energy consumption associated with operating the facility.¹² As a whole, in Kestrel’s opinion, Tampa Bay Water has demonstrated clear and comprehensive commitments to energy efficiency.

Tampa Bay Water Infrastructure Context & Social Impacts

Access to basic infrastructure, such as reliable running water and safe sanitation, are human rights and basic necessities for the health and well-being of all.¹³ However, access to safe and reliable basic infrastructure is not equitable in the United States, particularly in economically disadvantaged and underfunded communities.¹⁴ In many rural towns and large cities alike, drinking water infrastructure is in poor condition, communities chronically lack access to clean drinking water, and the need for improved water infrastructure is urgent. According to the US Environmental Protection Agency, drinking water infrastructure improvements in Florida will cost approximately \$22 billion over the next 20 years.¹⁵ Tampa Bay Water has established itself as a national leader in the drinking water sector by equitably serving all of its member governments, by diversifying its water supply to meet regional demand, and by implementing innovative solutions, such as desalination, to provide a sustainable water supply. The 2022 Project is necessary to meet current and future drinking water demands, as well as enhance long-term resiliency and redundancy of the system in the face of natural disasters.

Tampa Bay Water maintains a focus on health and safety in capital planning and supporting equitable access to clean drinking water in the region. This results in prioritization of projects with significant impacts on clean drinking water and public health. All components of the 2022 Project advance health and safety

⁸ “Surface Water Expansion,” Tampa Bay Water, accessed September 8, 2022, <https://www.tampabaywater.org/supply/water-sources/future-sources/surface-water-expansion/>.

⁹ “Water Quality Study 2019,” Tampa Bay Water, December 5, 2019, <https://www.tampabaywater.org/wp-content/uploads/Water-Quality-Study-20191205.pdf>.

¹⁰ “Water Distribution Efficiency,” Project Drawdown, accessed September 9, 2022, <https://drawdown.org/solutions/water-distribution-efficiency>

¹¹ “Energy Efficiency for Water Utilities,” US Environmental Protection Agency, accessed September 9, 2022, <https://www.epa.gov/sustainable-water-infrastructure/energy-efficiency-water-utilities>.

¹² “Maintenance and New Projects Keep Water Flowing,” Tampa Bay Water, May 13, 2022, <https://www.tampabaywater.org/blog/maintenance-and-new-projects-keep-water-flowing/>.

¹³ “Human Rights to Water and Sanitation,” United Nations, accessed September 13, 2022, <https://www.unwater.org/water-facts/human-rights-water-and-sanitation>

¹⁴ “Water/Color: A study of Race and Water Affordability Crisis in America’s Cities,” Coty Montag, accessed September 13, 2022, https://www.naacpldf.org/wp-content/uploads/Water_Report_FULL_5_31_19_FINAL_OPT.pdf.

¹⁵ “Florida 2021 Report,” 2021 Report Card for America’s Infrastructure, accessed September 13, 2022, <https://infrastructurereportcard.org/state-item/florida/>.

objectives. In particular, expansion of the Southern Hillsborough County pipeline will accommodate the drinking water needs of the largest county that Tampa Bay Water serves, providing reliable and safe drinking water to the community.

Process for Project Evaluation and Selection

The 2022 Project is part of a comprehensive capital and integrated resource planning effort, as outlined in the Tampa Bay Water Long-term Master Water Plan and 10-year Capital Improvements Plan (2023-2032). The Long-term Master Water Plan developed in 1998 and updated in 2018 outlines priorities for development of new water supplies and addressing environmental risks.

The Capital Improvements Program is authorized and approved annually by the Board of Directors of Tampa Bay Water. Capital improvement projects are prioritized based on a Multi-Attribute Analysis that incorporates criteria such as regulatory compliance, level of service, health and safety, costs and efficiencies, and environmental enhancement.

Kestrel Verifiers reviewed all projects in the Series 2022 Bonds and determined eligibility for Sustainability Bonds designation.

Management of Proceeds

The Series 2022 Bonds will finance and reimburse the costs of the 2022 Project and pay related costs of issuance. Proceeds will be placed in a restricted Construction Fund until spent on the 2022 Project. The Finance department oversees the allocation of funds to ensure proceeds are spent on the 2022 Project.

Reporting

Tampa Bay Water will submit continuing financial disclosures to the Municipal Securities Rulemaking Board (“MSRB”) as long as the Series 2022 Bonds are outstanding, as well as notifications in the event of material developments. This reporting will be available on the Electronic Municipal Market Access (“EMMA”) system operated by the MSRB.

Tampa Bay Water also intends to voluntarily provide updates on the proceeds from the Series 2022 Bonds in an annual report to be posted on the website: <https://www.tampabaywater.org/agency/tampa-bay-water-budget-and-financial-information/>. These reports are anticipated to be provided annually until all proceeds have been spent.

IMPACT AND ALIGNMENT WITH UN SDGs

The bond-financed projects are helping to address United Nations Sustainable Development Goals (“UN SDGs”) 6, 7, 9, 11, 12, and 13 by supporting sustainable water management. Providing clean and affordable drinking water to communities supports Targets 6.1 and 6.4. Tampa Bay Water’s commitments to long-term comprehensive resource planning and partnership with regional water utilities advances Target 6.5, and the focus on energy use reduction supports Target 7.3. Providing reliable regional water infrastructure and improvements to the desalination plant support Targets 9.1 and 9.4. By providing drinking water while planning for climate variability and coastal hazards such as sea level rise, storm surge, and flooding, Tampa Bay Water advances Target 11.5. Target 12.2 is advanced by Tampa Bay Water’s strategic plan and capital improvements planning process that prioritizes environmental enhancement, renewable energy, and energy efficiency. The focus on climate resilience in capital planning supports Target 13.1.






Full text of the Targets for Goals 6, 7, 9, 11, 12, and 13 is available in Appendix A, with additional information available on the United Nations website: un.org/sustainabledevelopment



Clean Water and Sanitation (Targets 6.1, 6.4, 6.5)

Possible Indicators

- Proportion of population provided with safely managed drinking water services
- Documentation of integrated water resource management

	<p>Affordable and Clean Energy (Target 7.3)</p> <p><u>Possible Indicators</u></p> <ul style="list-style-type: none"> Reduction in energy consumption as a result of energy efficiency improvements
	<p>Industry, Innovation and Infrastructure (Targets 9.1, 9.4)</p> <p><u>Possible Indicators</u></p> <ul style="list-style-type: none"> Reliable regional water infrastructure Decreased reliance on groundwater as a result of desalination project
	<p>Sustainable Cities and Communities (Target 11.5)</p> <p><u>Possible Indicators</u></p> <ul style="list-style-type: none"> Documentation of planning for coastal hazards
	<p>Responsible Consumption and Production (Target 12.2)</p> <p><u>Possible Indicators</u></p> <ul style="list-style-type: none"> Increased energy efficiency Decreased reliance on groundwater resources as a result of projects
	<p>Climate Action (Target 13.1)</p> <p><u>Possible Indicators</u></p> <ul style="list-style-type: none"> Avoided down time in water delivery as a result of interconnections and system redundancy Climate risk studies

CONCLUSION

Based on our independent external review, the Utility System Revenue Bonds, Series 2022 conform, in all material respects, with the Sustainability Bond Guidelines (2021). The 2022 Project aligns with the *Sustainable Water Management and Climate Change Adaptation* project categories of the Green Bond Principles, and the *Affordable Basic Infrastructure* project category of the Social Bond Principles. The 2022 Project improves system resiliency, provides clean and affordable drinking water to communities, and supports responsible use of energy and water resources in Florida.

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ABOUT KESTREL VERIFIERS



KESTREL
VERIFIERS™

For over 20 years Kestrel has been a trusted consultant in sustainable finance. Kestrel Verifiers, a division of Kestrel 360, Inc. is a Climate Bonds Initiative Approved Verifier qualified to verify transactions in all asset classes worldwide. Kestrel is a US-based certified Women's Business Enterprise. For more information, visit kestrelverifiers.com.

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DISCLAIMER

This Opinion aims to explain how and why the discussed financing meets the ICMA Sustainability Bond Guidelines based on the information that was provided by Tampa Bay Water or made publicly available by Tampa Bay Water and relied upon by Kestrel only during the time of this engagement (September 2022), and only for purposes of providing this Opinion.

We have relied on information obtained from sources believed to be reliable, and assumed the information to be accurate and complete. However, Kestrel Verifiers can make no warranty, express or implied, nor can we guarantee the accuracy, comprehensive nature, merchantability, or fitness for a particular purpose of the information we were provided or obtained.

By providing this Opinion, Kestrel Verifiers is neither addressing nor certifying the credit risk, liquidity risk, market value risk or price volatility of the projects financed by the Sustainability Bonds. It was beyond Kestrel Verifiers' scope of work to review for regulatory compliance, and no surveys or site visits were conducted by us. Furthermore, we are not responsible for surveillance, monitoring, or implementation of the project, or use of proceeds.

The Opinion delivered by Kestrel Verifiers is for informational purposes only, is current as of the date of issuance, and does not address financial performance of the Sustainability Bonds or the effectiveness of allocation of its proceeds. This Opinion does not make any assessment of the creditworthiness of Tampa Bay Water, nor its ability to pay principal and interest when due. This Opinion does not address the suitability of a Bond as an investment, and contains no offer, solicitation, endorsement of the Bonds nor any recommendation to buy, sell or hold the Bonds. Kestrel Verifiers accepts no liability for direct, indirect, special, punitive, consequential or any other damages (including lost profits), for any consequences when third parties use this Opinion either to make investment decisions or to undertake any other business transactions.

This Opinion may not be altered without the written consent of Kestrel Verifiers. Kestrel Verifiers reserves the right to revoke or withdraw this Opinion at any time. Kestrel Verifiers certifies that there is no affiliation, involvement, financial or non-financial interest in Tampa Bay Water or the projects discussed. We are 100% independent. Language in the offering disclosure supersedes any language included in this Second Party Opinion.

Use of the United Nations Sustainable Development Goal (SDG) logo and icons does not imply United Nations endorsement of the products, services, or bond-financed activities. The logo and icons are not being used for promotion or financial gain. Rather, use of the logo and icons is primarily illustrative, to communicate SDG-related activities.

Appendix A.

UN SDG TARGET DEFINITIONS

Target 6.1

By 2030, achieve universal and equitable access to safe and affordable drinking water for all

Target 6.4

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Target 6.5

By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

Target 7.3

By 2030, double the global rate of improvement in energy efficiency

Target 9.1

Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

Target 9.4

By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Target 11.5

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

Target 12.2

By 2030, achieve the sustainable management and efficient use of natural resources

Target 13.1

Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries



Appendix B. 2022 PROJECT LIST

TRANSMISSION & DISTRIBUTION			
Project #	Project Name	Project Description	Anticipated Budget
1610	Southern Hillsborough County Supply Expansion - Pipeline Segment A	This project includes the construction of a new transmission main "Segment A" of the Southern Hillsborough County Supply Expansion Pipelines. Segment A is anticipated to be a 66-inch diameter, 16-mile-long pipeline from the High Service Pump Station to the existing Lithia Point of Connection. The project when completed will provide an additional 65 MGD of new supply to SE Hillsborough County. This project will receive co-funding from the Southwest Florida Water Management District's Cooperative Funding Initiative.	\$17,743,219
7033	Tampa Bay Desalination Facility Intake Connection Improvements-Phase 2	This project is located at the Tampa Bay Seawater Desalination Water Treatment Plant (Desal Plant). The project is to install a new pipeline and pump station at Tampa Electric Company's (TECO's) Big Bend power plant. The new pipeline will connect the Tunnel 1 intake pipeline connection and isolation valve, installed in Phase 1, to the existing Desal Intake Pump Facility.	\$15,030,130
50073	Cypress Creek Water Treatment Plant 72-Inch Valve	This project is located at the north side of the Cypress Creek Water Treatment Plant (CCWTP) in Pasco County. The project includes the replacement of a 72-inch butterfly valve located in the 72-in steel transmission main on the post side of the CCWTP, and the possibility of relocating the chemical injection points. A temporary bypass will be required during the repairs.	\$6,603,000
50042	Cosme-Odessa Wellfield Improvements	The project is located at the Cosme-Odessa Wellfield and includes: (1) the removal of existing Tampa Bay Water's overhead power lines and replacement with commercial power lines at wells 1, 3, 5-10, 12, 16, 18, 20, 21, 24, 25, 30, 31, 32, and 34; (2) Installation of new motor starters at Wells 1, 3, 5-10, 12, 16, 18, 20, 21, 24, 25, 30, 31, 32, and 34; and (3) Replacement of the existing fiber optic cable.	\$5,728,000
7061	South Pasco Wellfield Underground Commercial Powerline	The project is located at the South Pasco Wellfield and includes the replacement of the existing overhead commercial power lines with looped underground power lines that will feed the eight wells.	\$2,026,000
50047	Morris Bridge Chemical Piping Replacement	This project is located at the Morris Bridge Booster Station and involves replacing the chemical feed systems, which includes the above- and below-ground chemical piping, ammonia chemical pumps, sodium hypochlorite tanks (two), and in-pipe chemical injection points.	\$1,110,000

TRANSMISSION & DISTRIBUTION			
Project #	Project Name	Project Description	Anticipated Budget
7131	Cosme Water Treatment Plant Yard Piping Improvements	This project is located at the Cosme Water Treatment Plant (WTP) and includes new yard piping to permanently connect the South Pasco Transmission Main (TM) to the Northwest Hillsborough TM, and completion of a conceptual design for a future emergency interconnection piping at the Cosme WTP site. The connection between the two transmission mains upstream of the Cosme WTP will allow the South Pasco TM to be kept fresh while the Cosme Bypass piping is being utilized. This project is being constructed by the City of St. Petersburg pursuant to the joint project agreement with Tampa Bay Water.	\$861,609
1605	Morris Bridge Underground Powerline	This project is located at the Morris Bridge Wellfield and will replace about 90,000 linear feet (LF) of direct buried underground powerline that have reached the end of its useful life.	\$800,000
50056	South Pasco Transmission Main Pipe Repair	This project includes repairs to rehabilitate portions of the South Pasco Transmission Main that were identified as damaged or distressed by a condition assessment performed by Pure Technologies US Inc in 2015.	\$482,000
50062	Tampa Bay Desalination Pipeline Reliability-Phase II	This project is located at the Tampa Bay Desalination Plant and includes repairing erosion, removing vegetation, re-coating (painting), and replacing bolts and appurtenances that have corrosion on Tampa Bay Water's above-grade piping located on the TECO Big Bend Power Plant site. Additionally, the double-contained chlorine dioxide chemical piping will be replaced. The 36-inch above grade fiberglass reinforced plastic (FRP) piping will be cleaned and inspected. Manways will be added to the buried 48-inch concentrate and 54-inch seawater supply HDPE piping; these will be accessed, cleaned and inspected. This project is Phase II of three phases to address issues identified after preliminary inspections completed in 2016.	\$145,000

TREATMENT PLANT UPGRADES			
Project #	Project Name	Project Description	Anticipated Budget
90003	System Configuration III-New Water Supply-Surface Water Treatment Plant Expansion	The overall objective of the project is to increase Tampa Bay Water's surface water treatment capacity by 20 MGD to obtain an annual average yield of 10-12.5 MGD to meet Tampa Bay Water long term water supply needs as identified in the 2018 Long-term Master Water Plan Update for the 2020 - 2040 planning horizon. The Regional Surface Water Treatment Plant is part of Tampa Bay Water's alternative water supply system that also includes the Regional C.W. Bill Young Regional Reservoir, the Tampa Bay Desalination Facility, and the Regional Facility Site High Service Pump Station.	\$36,287,500
50075	Surface Water Treatment Plant Renewal & Replacement Program	This is Renewal and Replacement Project at the Surface Water Treatment Plant.	\$8,072,743

TREATMENT PLANT UPGRADES			
Project #	Project Name	Project Description	Anticipated Budget
50051	Cypress Creek Water Treatment Plant Chemical Piping Replacement	This project is located at the Cypress Creek Water Treatment Plant and includes evaluating the replacement of the existing chemical feed systems for (A) Sodium Hydroxide (NaOH), (B) Ammonium Hydroxide (NH ₃), and (C) Sodium Hypochlorite (NaOCl). Will include the above- and below-ground chemical piping, chemical pumps, bulk chemical tanks, and in-pipe chemical injection points.	\$3,736,000
50048	BUD 5 Chemical Piping Replacement	The project involves replacing the chemical feed systems at the BUD 5 Water Treatment Plant.	\$1,190,000
50037	Cypress Creek Water Treatment Plant Stationary Generators	This project is located at the Cypress Creek Pump Station and includes replacement and/or refurbishment of the Laboratory Building, Instrumentation/Electrical/Mechanical building, and the Lighting generators.	\$442,000
1603	Cypress Creek Water Treatment Plant Yard Piping Valves	This project is located at the Cypress Creek Water Treatment Plant. The project includes the replacement of three 42-inch butterfly valves.	\$184,000
50072	Keller Hydrogen Sulfide Chemical Feed System	This project is located at the Keller Hydrogen Sulfide Removal Facility and includes the replacement the chemical feed systems for both for sodium hydroxide and sodium hypochlorite.	\$95,000

WELL & PUMP DEVELOPMENTS			
Project #	Project Name	Project Description	Anticipated Budget
50021	Morris Bridge Wellfield Improvements	This project is located at the Morris Bridge Wellfield and includes: replacing the pumps and motors, main disconnect switch; and ancillary power equipment and associated load panels for 15 of the Morris Bridge Wellfield Pumps and Motors. In addition, new over-current protection devices will be added to reduce the Arc Flash hazard.	\$9,758,061
1602	Cypress Creek Wellfield Pumps and Motors	This project is located at the Cypress Creek Wellfield (Pasco County) and includes the replacement of 13 pumps and motors and improving or replacing the well houses to meet the current electrical code requirements.	\$4,516,000
7070	Tampa Bypass Canal MLK Pumps Refurbishment	This project is located at the Tampa Bypass Canal Martin Luther King Pump Station and entails removing, inspecting and reconditioning of both the pump and motor of eight 800 HP Fairbanks vertical turbine raw water pumps.	\$1,784,000
50052	High Service Pump Station Ball Valve Replacement	This project is located at the High Service Pump Station and includes repair or replacement of ball valves for Pump Nos. 1, 3, 4, and 5 and evaluation of the current condition and configuration of the associated control piping for any irregularities which could impact reliability.	\$1,585,940
50022	Morris Bridge Booster Station Pumps 1 & 2 Replacement	This project is located at the Morris Bridge Booster Station and includes replacement of pumps and motors 2 and 3 with larger pumps and replacement of the Variable Frequency Drives.	\$610,000

WELL & PUMP DEVELOPMENTS

Project #	Project Name	Project Description	Anticipated Budget
50043	Cypress Creek Headwall Erosion Repair	The project is located in the Cypress Creek Wellfield and includes repair of damage caused by erosion to the service road (Pump Station Road) culvert crossing of Cypress Creek.	\$330,376
1606	Section 21 Wellfield Pumps and Motors	This project is located at the Section 21 Wellfield and entails reconditioning or replacing the pumps and motors of five 100 horsepower (HP) wells (wells 5, 6, 8, 9, and 10). As part of this project, motors will be downsized to account for the new operating conditions.	\$79,000

WATER QUALITY IMPROVEMENTS

Project #	Project Name	Project Description	Anticipated Budget
Wtr Quality	Water Quality Improvement Project	Water Quality Improvement Project resulting from the Regional Water Quality Study conducted to evaluate treatment options to achieve water quality improvements.	\$8,569,922

MIXED PROJECTS

Project #	Project Name	Project Description	Anticipated Budget
7005	South Pasco Wellfield and Treatment Improvements	This project is located at the South Pasco Wellfield, and includes: (1) replacement of 8 pumps and motors at each production well sized to deliver supply to the new storage tank; (2) modification of the ammonia feed location; (3) addition of a caustic feed location; (4) addition of a 250,000 gallon tank for increased chlorine contact time; (5) installation of blending capability after the ammonia and caustic addition for blending with regional supply; (6) a new tap on the 42-inch steel regional transmission main; (7) five new 80 horsepower pumps capable of pumping the supply to the high pressure north, or the low pressure system to the south; (8) a 7,200-square-foot building to house the new pumps and variable frequency drives (VFDs); (9) an 8,000-gallon ammonia storage tank with metering pumps; (10) a 5,000-gallon caustic tank (a full truck delivery is 3,750 gallons) and associated metering pumps and analyzers; (11) installation of piping from the upstream side of the meter pit that will provide fire flow for the facility; (12) installation of an energy recovery turbine that will generate energy from the drop in system pressure at the meter pit from the regional supply.	\$2,230,500