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HEALTHY ENVIRONMENT

Project Title	Budget Year 2019-2020	Planning Year 2020-2021	Planning Year 2021-2022	Planning Year 2022-2023	Planning Year 2023-2024	Planning Year 2024-2025	Total Planned
Solid Waste Disposal:							
Hanes Mill Road Landfill - Development and Upgrades	\$750,000	\$0	\$0	\$0	\$0	\$0	\$750,000
Hanes Mill Road Landfill - Gas Collection and Extraction System	0	317,000	0	327,000	0	342,000	986,000
Hanes Mill Road Landfill - Mechanically Stabilized Earthen Retaining Wall	541,000	0	0	0	14,587,000	0	15,128,000
Water and Wastewater Treatment:							
Archie Elledge Wastewater Treatment Plant Rehabilitation and Upgrades	\$400,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,900,000
Biosolids Dryer Facility Upgrade	1,500,000	0	0	0	0	0	1,500,000
Muddy Creek Wastewater Treatment Plant Rehabilitation and Upgrades	100,000	250,000	250,000	250,000	250,000	250,000	1,350,000
R.W. Neilson Water Treatment Plant - Phase II Modernization	20,000,000	0	0	0	0	0	20,000,000
Water Treatment Rehabilitation and Upgrades	250,000	250,000	250,000	250,000	250,000	250,000	1,500,000
Wastewater Treatment Plant Expansion / Nutrient Removal Upgrade	0	0	0	5,000,000	5,000,000	5,000,000	15,000,000
Water Distribution and Wastewater Collection:							
Asset Management Program / Studies	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$3,000,000
Collection System Improvement Program	15,000,000	15,000,000	15,000,000	15,000,000	12,000,000	12,000,000	84,000,000
Elledge Basin Capacity Improvements	6,000,000	0	0	0	0	0	6,000,000
Facility Improvements Program	1,000,000	100,000	100,000	100,000	100,000	100,000	1,500,000
Lift Station Capacity / Condition Improvements	3,000,000	750,000	2,531,000	1,314,000	3,854,000	750,000	12,199,000
Muddy Creek Basin Capacity Improvements	0	0	0	559,300	0	0	559,300
NC DOT Road Widening Project Utility Relocations	6,000,000	5,000,000	3,000,000	1,000,000	1,000,000	1,000,000	17,000,000
South Fork Basin Capacity Improvements	7,000,000	0	0	0	0	0	7,000,000
Water Distribution System Improvements	6,000,000	6,000,000	6,000,000	5,000,000	5,000,000	5,000,000	33,000,000
Water Tank Rehabilitation	0	250,000	250,000	250,000	250,000	250,000	1,250,000
Stormwater Management:							
Basin Study Updates	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,800,000
City Yard Remediation	0	0	0	0	0	3,095,100	3,095,100
Drainage Improvements on Private Property	250,000	250,000	250,000	250,000	250,000	250,000	1,500,000
Stormwater Infrastructure Renovations	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	2,507,400	7,507,400
Total Expenditures	\$69,591,000	\$30,467,000	\$29,931,000	\$31,600,300	\$44,841,000	\$32,094,500	\$238,524,800
Funding Sources							
Bonds:							
Revenue Bonds	\$35,000,000	\$250,000	\$2,000,000	\$5,559,300	\$5,000,000	\$5,000,000	\$171,170,300
Reserves:							
Solid Waste Disposal Fund	\$1,291,000	\$317,000	\$0	\$327,000	\$14,587,000	\$342,000	\$16,864,000
Stormwater Management Fund	1,550,000	1,550,000	1,550,000	1,550,000	1,550,000	6,152,500	13,902,500
Water and Sewer Fund	31,750,000	28,350,000	26,381,000	24,164,000	23,704,000	20,600,000	211,474,760
Total Funding Sources	\$69,591,000	\$30,467,000	\$29,931,000	\$31,600,300	\$44,841,000	\$32,094,500	\$238,524,800

PROJECT TITLE Hanes Mill Road Landfill - Development and Upgrades	DEPARTMENT/DIVISION Utilities / Solid Waste
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PROJECT DESCRIPTION/JUSTIFICATION

This project provides for needed improvements to the infrastructure at Hanes Mill Road Landfill. Upcoming work anticipated for FY 2019-20 includes upgrades and renovations to the maintenance shop. Originally constructed in the mid-90's, this facility is in need of significant repair and renovation, including adding additional office space.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Construction	\$1,491,722	\$750,000	\$0	\$0	\$0	\$0	\$0	\$2,241,722
Total Project Expenditures	\$1,491,722	\$750,000	\$0	\$0	\$0	\$0	\$0	\$2,241,722
Funding Sources								
Solid Waste Disposal Fund	\$1,491,722	\$750,000	\$0	\$0	\$0	\$0	\$0	\$2,241,722
Total Project Funding Sources	\$1,491,722	\$750,000	\$0	\$0	\$0	\$0	\$0	\$2,241,722

PROJECT TITLE Hanes Mill Road Landfill - Gas Collection and Extraction System	DEPARTMENT/DIVISION Utilities / Solid Waste
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PROJECT DESCRIPTION/JUSTIFICATION

This project provides for improvements to the landfill gas extraction system required by air quality regulations and permit. Work planned for future years includes design and construction of additional vertical wells and associated piping to be installed in the active landfill footprint.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Construction	\$846,156	\$0	\$317,000	\$0	\$327,000	\$0	\$342,000	\$1,832,156
Total Project Expenditures	\$846,156	\$0	\$317,000	\$0	\$327,000	\$0	\$342,000	\$1,832,156
Funding Sources								
Solid Waste Disposal Fund	\$846,156	\$0	\$317,000	\$0	\$327,000	\$0	\$342,000	\$1,832,156
Total Project Funding Sources	\$846,156	\$0	\$317,000	\$0	\$327,000	\$0	\$342,000	\$1,832,156

PROJECT TITLE Hanes Mill Road Landfill - Mechanically Stabilized Earthen Retaining Wall	DEPARTMENT/DIVISION Utilities / Solid Waste
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PROJECT DESCRIPTION/JUSTIFICATION

This project is for the design, permitting and construction of a mechanically stabilized earthen (MSE) retaining wall to be constructed around the perimeter of Hanes Mill Road Landfill's active cells (1-5). This wall will expand the capacity of the landfill and add several years to its life. No impact to the landfill's operational budget is anticipated. Preliminary design and permitting would occur in 2019 and 2020, with construction tentatively planned for 2024.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$0	\$541,000	\$0	\$0	\$0	\$643,000	\$0	\$1,184,000
Construction	0	0	0	0	0	13,944,000	0	13,944,000
Total Project Expenditures	\$0	\$541,000	\$0	\$0	\$0	\$14,587,000	\$0	\$15,128,000
Funding Sources								
Solid Waste Disposal Fund	\$0	\$541,000	\$0	\$0	\$0	\$14,587,000	\$0	\$15,128,000
Total Project Funding Sources	\$0	\$541,000	\$0	\$0	\$0	\$14,587,000	\$0	\$15,128,000

PROJECT TITLE Archie Elledge Wastewater Treatment Plant Rehabilitation and Upgrades	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

This project provides for general building, grounds, and equipment maintenance at the Archie Elledge Wastewater Treatment Plant. The project also provides for the purchase of costly replacement parts and repairs that are needed for the continuous operation and maintenance of the plant.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$350,000
Construction	350,000	250,000	350,000	350,000	350,000	350,000	350,000	2,350,000
Equipment & Furnishings	75,000	75,000	75,000	75,000	75,000	75,000	75,000	525,000
Contingency	25,000	25,000	25,000	25,000	25,000	25,000	25,000	175,000
Total Project Expenditures	\$500,000	\$400,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$3,400,000
Funding Sources								
Water and Sewer Fund	\$500,000	\$400,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$3,400,000
Total Project Funding Sources	\$500,000	\$400,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$3,400,000

PROJECT TITLE Biosolids Dryer Facility Upgrade	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

The Archie Elledge Regional Dryer Facility is due for an upgrade. A National Fire Protection Association (NFPA) 652 Dust Hazard analysis study was conducted in FY 18/19 and several recommendations were made to keep the facility compliant with the NFPA 652 requirements. Supervisory Control and Data Acquisition (SCADA) upgrades, identified in a recent Cyber-Security assessment, will be included in this project as well.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$50,000
Construction	0	1,250,000	0	0	0	0	0	1,250,000
Contingency	0	200,000	0	0	0	0	0	200,000
Total Project Expenditures	\$0	\$1,500,000	\$0	\$0	\$0	\$0	\$0	\$1,500,000
Funding Sources								
Water and Sewer Fund	\$0	\$1,500,000	\$0	\$0	\$0	\$0	\$0	\$1,500,000
Total Project Funding Sources	\$0	\$1,500,000	\$0	\$0	\$0	\$0	\$0	\$1,500,000

PROJECT TITLE Muddy Creek Wastewater Treatment Plant Rehabilitation and Upgrades	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

This project provides for general building, grounds, and equipment maintenance at the Muddy Creek Wastewater Treatment Plant. The project also provides for the purchase of costly replacement parts and repairs that are needed for the continuous operation and maintenance of the plant.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$43,750	\$17,500	\$43,750	\$43,750	\$43,750	\$43,750	\$43,750	\$280,000
Construction	162,500	75,000	162,500	162,500	162,500	162,500	162,500	1,050,000
Equipment and Furnishings	37,500	5,000	37,500	37,500	37,500	37,500	37,500	230,000
Contingency	6,250	2,500	6,250	6,250	6,250	6,250	6,250	40,000
Total Project Expenditures	\$250,000	\$100,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,600,000
Funding Sources								
Water and Sewer Fund	\$250,000	\$100,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,600,000
Total Project Funding Sources	\$250,000	\$100,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,600,000

PROJECT TITLE: R.W. Neilson Water Treatment Plant - Phase II Modernization	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

The Neilson Water Treatment Plant is the largest water treatment plant in the system with a treatment capacity of 48 mgd. Two major expansions have occurred since the construction of the original 24 mgd plant in 1964. Despite several small miscellaneous improvement projects, significant capital investment is required to replace aging infrastructure, improve treatment to meet current and future regulatory requirements, and ensure the continued reliability in the distribution system supplied by this critical facility. This project will evaluate and upgrade the electrical distribution system of the plant, overhaul the filters and wash water system, replace aging pumps, mixers, and valves, upgrade the instrumentation and control systems, and modify the treatment trains to optimize the plant's process.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$7,874,000	\$0	\$0	\$0	\$0	\$0	\$0	\$7,874,000
Construction	53,996,000	20,000,000	0	0	0	0	0	73,996,000
Total Project Expenditures	\$61,870,000	\$20,000,000	\$0	\$0	\$0	\$0	\$0	\$81,870,000
Funding Sources								
Revenue Bonds	\$41,870,000	\$20,000,000	\$0	\$0	\$0	\$0	\$0	\$61,870,000
State Revolving Loan	20,000,000	0	0	0	0	0	0	\$20,000,000
Total Project Funding Sources	\$61,870,000	\$20,000,000	\$0	\$0	\$0	\$0	\$0	\$81,870,000

PROJECT TITLE Water Treatment Rehabilitation and Upgrades	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

This project provides for general building, grounds, and equipment maintenance at the system's three water treatment plants. The project also provides for the purchase of costly replacement parts and repairs that are needed for the continuous operation and maintenance of the plants. The scope of these improvements or equipment purchases allows them to be completed within the fiscal year.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$106,250	\$31,250	\$31,250	\$31,250	\$31,250	\$31,250	\$31,250	\$293,750
Construction	858,340	208,340	208,340	208,340	208,340	208,340	208,340	2,108,380
Contingency	35,410	10,410	10,410	10,410	10,410	10,410	10,410	97,870
Total Project Expenditures	\$1,000,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$2,500,000
Funding Sources								
Water and Sewer Fund	\$1,000,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$2,500,000
Total Project Funding Sources	\$1,000,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$2,500,000

PROJECT TITLE Wastewater Treatment Plant Expansion / Nutrient Removal Upgrade	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

This project will provide for nutrient removal treatment upgrades at Elledge and Muddy Creek Wastewater Treatment Plants. These improvements are necessary for the plants to comply with effluent nutrient limits that are expected to be implemented by the North Carolina Department of Environmental Quality at both plants when total maximum daily loads for nutrients are enacted for High Rock Lake and the Yadkin River Watershed. It will also provide for additional treatment capacity at the Elledge Wastewater Treatment Plant to accommodate future wastewater flows.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$0	\$0	\$0	\$0	\$5,000,000	\$0	\$0	\$5,000,000
Construction	0	0	0	0	0	5,000,000	5,000,000	10,000,000
Total Project Expenditures	\$0	\$0	\$0	\$0	\$5,000,000	\$5,000,000	\$5,000,000	\$15,000,000
Funding Sources								
Revenue Bonds	\$0	\$0	\$0	\$0	\$5,000,000	\$5,000,000	\$5,000,000	\$15,000,000
Total Project Funding Sources	\$0	\$0	\$0	\$0	\$5,000,000	\$5,000,000	\$5,000,000	\$15,000,000

PROJECT TITLE Asset Management Program / Studies	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

This project will include an asset management program that will incorporate strategic planning and a framework utilizing risk-based and fact-based methodologies to make educated decisions regarding management and maintenance of system assets. The asset management program will assist staff in making improved operational and financial decisions, and provide a more systematic method for managing risks. The scope will also include funding for an asset/work order management software replacement, and fund master plan updates for both water and wastewater. FY 2019-20 improvements include a Water Facilities master plan, GIS asset Collection, and additional Maximo project support.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$1,100,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$4,100,000
Total Project Expenditures	\$1,100,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$4,100,000
Funding Sources								
Water and Sewer Fund	\$1,100,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$4,100,000
Total Project Funding Sources	\$1,100,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$4,100,000

PROJECT TITLE Collection System Improvement Program	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

This program provides multi-year funding for wastewater collection system improvements throughout the City and County. This program will focus on system defects and utilize a "Find and Fix" approach to sewer line rehabilitation to fund inspection, evaluation, design, and construction of sanitary sewer projects throughout the system. This program will continue to fund the Collection System Improvement Program (CSIP), as well as unanticipated projects that arise throughout the fiscal year, such as sewer main relocations or replacements, structure adjustments or replacements, and other miscellaneous system improvements. Scheduled projects for FY 2019-20 include Year 4 of the CSIP, two System-Wide Rehabilitation projects, Zion and Sprague Sanitary Sewer Evaluation Studies, and an additional phase of the Old Salem Rehabilitation project.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning/Design/Engineering	\$12,160,870	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$2,100,000	\$2,100,000	\$28,360,870
Construction	22,278,250	11,250,000	11,250,000	11,250,000	11,250,000	9,600,000	9,600,000	86,478,250
Contingency	1,460,880	750,000	750,000	750,000	750,000	300,000	300,000	5,060,880
Total Project Expenditures	\$35,900,000	\$15,000,000	\$15,000,000	\$15,000,000	\$15,000,000	\$12,000,000	\$12,000,000	\$119,900,000
Funding Sources								
Water and Sewer Fund	\$35,900,000	\$15,000,000	\$15,000,000	\$15,000,000	\$15,000,000	\$12,000,000	\$12,000,000	\$119,900,000
Total Project Funding Sources	\$35,900,000	\$15,000,000	\$15,000,000	\$15,000,000	\$15,000,000	\$12,000,000	\$12,000,000	\$119,900,000

PROJECT TITLE Elledge Basin Capacity Improvements	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

The Utilities Department has completed a Wastewater Collection System Master Plan to review the capacity needs in all three (3) drainage basins (South Fork, Elledge, and Muddy Creek) within the system service area. The Elledge Basin includes over 539 miles of gravity sewer main. This project will fund design and construction projects to provide additional capacity in the Elledge Basin as indicated by the master plan. In FY 2019-20, construction will be funded for four sections of the Peter's Creek Outfall project.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$516,000	\$1,181,600	\$0	\$0	\$0	\$0	\$0	\$1,697,600
Construction	0	4,578,700	0	0	0	0	0	4,578,700
Contingency	0	239,700	0	0	0	0	0	239,700
Total Project Expenditures	\$516,000	\$6,000,000	\$0	\$0	\$0	\$0	\$0	\$6,516,000
Funding Sources								
Revenue Bonds	\$0	\$6,000,000	\$0	\$0	\$0	\$0	\$0	\$6,000,000
Water and Sewer Fund	516,000	0	0	0	0	0	0	516,000
Total Project Funding Sources	\$516,000	\$6,000,000	\$0	\$0	\$0	\$0	\$0	\$6,516,000

PROJECT TITLE Facility Improvement Program	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

This program will fund miscellaneous improvements at our Field Operations and Meter Shop facilities. FY 2019-20 improvements include an upgrade to the interior office space at the Meter Shop facility.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning/Design/Engineering	\$0	\$200,000	\$0	\$0	\$0	\$0	\$0	\$200,000
Construction	0	750,000	100,000	100,000	100,000	100,000	100,000	1,250,000
Contingency	0	50,000	0	0	0	0	0	50,000
Total Project Expenditures	\$0	\$1,000,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$1,500,000
Funding Sources								
Water and Sewer Fund	\$0	\$1,000,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$1,500,000
Total Project Funding Sources	\$0	\$1,000,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$1,500,000

PROJECT TITLE Lift Station Capacity / Condition Improvements	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

The Wastewater Collection System Master Plan includes condition assessments for select lift stations located within the sewer collection system that are aging or out of capacity. The plan identifies and prioritizes needs at each of the lift stations. This project provides for upgrades and replacements of the lift stations to address the identified needs. This project also provides multi-year funding for general building, grounds, and equipment maintenance and repairs needed for the continuous operation of the stations. FY 2019-20 improvements include repairs and rehabilitation to the Avalee, Martin Mill, and Lowery Street Lift Stations, as well as remaining construction funding for the Roswell Drive Lift Station.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$505,400	\$525,000	\$131,250	\$442,925	\$229,950	\$674,450	\$131,250	\$2,640,225
Construction	2,267,950	2,400,000	600,000	2,024,800	1,051,200	3,083,200	600,000	12,027,150
Contingency	97,650	75,000	18,750	63,275	32,850	96,350	18,750	402,625
Total Project Expenditures	\$2,871,000	\$3,000,000	\$750,000	\$2,531,000	\$1,314,000	\$3,854,000	\$750,000	\$15,070,000
Funding Sources								
Water and Sewer Fund	\$2,871,000	\$3,000,000	\$750,000	\$2,531,000	\$1,314,000	\$3,854,000	\$750,000	\$15,070,000
Total Project Funding Sources	\$2,871,000	\$3,000,000	\$750,000	\$2,531,000	\$1,314,000	\$3,854,000	\$750,000	\$15,070,000

PROJECT TITLE Muddy Creek Basin Capacity Improvements	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

The Utilities Department has completed a Wastewater Collection System Master Plan to review the capacity needs in all three drainage basins (South Fork, Elledge, and Muddy Creek) within the system service area. The Muddy Creek Basin includes over 758 miles of gravity sewer main. This project will fund design and construction projects to provide additional capacity in the Muddy Creek Basin as identified by the master plan.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$12,088,280	\$0	\$0	\$0	\$51,300	\$0	\$0	\$12,139,580
Land / Right-of-Way Acquisition	344,400	0	0	0	0	0	0	344,400
Construction	37,370,330	0	0	0	508,000	0	0	37,878,330
Contingency	2,862,990	0	0	0	0	0	0	2,862,990
Total Project Expenditures	\$52,666,000	\$0	\$0	\$0	\$559,300	\$0	\$0	\$53,225,300
Funding Sources								
Revenue Bonds	\$52,666,000	\$0	\$0	\$0	\$559,300	\$0	\$0	\$53,225,300
Total Project Funding Sources	\$52,666,000	\$0	\$0	\$0	\$559,300	\$0	\$0	\$53,225,300

PROJECT TITLE NCDOT Road Widening Project Utility Relocations	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

The North Carolina Department of Transportation has identified various road widening projects in Forsyth County scheduled for construction during the city's six-year capital planning window. In accordance with NCDOT policies, the water and sewer lines in the project right-of-ways may need to be relocated. This project will fund the water and sewer relocations for these projects. The current project includes the Northern Beltway - Eastern Section. Other projects will be identified in future years.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$655,000	\$1,050,000	\$875,000	\$525,000	\$130,000	\$130,000	\$130,000	\$3,495,000
Construction	3,200,000	4,800,000	4,000,000	2,400,000	800,000	800,000	800,000	16,800,000
Contingency	145,000	150,000	125,000	75,000	70,000	70,000	70,000	705,000
Total Project Expenditures	\$4,000,000	\$6,000,000	\$5,000,000	\$3,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$21,000,000
Funding Sources								
Water and Sewer Fund	\$4,000,000	\$6,000,000	\$5,000,000	\$3,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$21,000,000
Total Project Funding Sources	\$4,000,000	\$6,000,000	\$5,000,000	\$3,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$21,000,000

PROJECT TITLE South Fork Basin Capacity Improvements	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

The Utilities Department has completed a Wastewater Collection System Master Plan to review the capacity needs in all three (3) drainage basins (South Fork, Elledge, and Muddy Creek) within the system service area. The South Fork Basin includes over 386 miles of gravity sewer main. This project will fund design and construction projects to provide additional capacity in the South Fork Basin as indicated by the master plan. FY 2019-20 improvements include the replacement of the South Fiddlers Creek outfall.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$2,960,528	\$1,225,000	\$0	\$0	\$0	\$0	\$0	\$4,185,528
Land / Right-of-Way Acquisition	314,000	45,000	0	0	0	0	0	359,000
Construction	16,426,480	5,555,000	0	0	0	0	0	21,981,480
Contingency	2,310,992	175,000	0	0	0	0	0	2,485,992
Total Project Expenditures	\$22,012,000	\$7,000,000	\$0	\$0	\$0	\$0	\$0	\$29,012,000
Funding Sources								
Revenue Bonds	\$22,012,000	\$7,000,000	\$0	\$0	\$0	\$0	\$0	\$29,012,000
Total Project Funding Sources	\$22,012,000	\$7,000,000	\$0	\$0	\$0	\$0	\$0	\$29,012,000

PROJECT TITLE Water Distribution System Improvements	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

This project provides multi-year funding for water distribution improvements throughout the City and County. This project will fund planned work such as valve exercising, hydrant replacement, large meter rehabilitation and replacement, as well as unanticipated projects that arise throughout the fiscal year, such as projects for rehabilitating portions of the water system, chlorination booster projects, structure adjustments, and other miscellaneous system improvements. Scheduled projects for FY 2019-20 include system improvements in Clemmons. Future projects include: pressure zone shifts and design work on the 12" Kernersville Road water line in FY 2020-21, and construction of the Kernersville Road water line in FY 2021-22.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$1,133,430	\$1,200,000	\$1,200,000	\$1,200,000	\$1,000,000	\$1,000,000	\$1,000,000	\$7,733,430
Construction	6,503,800	4,500,000	4,500,000	4,500,000	3,750,000	3,750,000	3,750,000	31,253,800
Contingency	473,770	300,000	300,000	300,000	250,000	250,000	250,000	2,123,770
Total Project Expenditures	\$8,111,000	\$6,000,000	\$6,000,000	\$6,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$41,111,000
Funding Sources								
Revenue Bonds	\$1,813,000	\$2,000,000	\$250,000	\$2,000,000	\$0	\$0	\$0	\$6,063,000
Water and Sewer Fund	6,298,000	4,000,000	5,750,000	4,000,000	5,000,000	5,000,000	5,000,000	35,048,000
Total Project Funding Sources	\$8,111,000	\$6,000,000	\$6,000,000	\$6,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$41,111,000

PROJECT TITLE Water Tank Rehabilitation	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

This project consists of structural repairs, lead paint abatement, and coating replacement for elevated and ground storage tanks. Each of the tanks included in this project has been in service at least 20 years. An engineering firm that specializes in tank maintenance has inspected all of the tanks and this repair program is based on the firm's recommendations. The goal of the project is to maximize the service life of these structures and to bring them into compliance with current Occupational Safety and Health Administration (OSHA) and American Water Works Association (AWWA) standards.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$486,750	\$0	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$736,750
Construction	3,388,340	0	193,750	193,750	193,750	193,750	193,750	4,357,090
Contingency	215,670	0	6,250	6,250	6,250	6,250	6,250	246,920
Total Project Expenditures	\$4,090,760	\$0	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$5,340,760
Funding Sources								
Water and Sewer Fund	\$4,090,760	\$0	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$5,340,760
Total Project Funding Sources	\$4,090,760	\$0	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$5,340,760

PROJECT TITLE Basin Study Updates	DEPARTMENT/DIVISION Stormwater Management
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PROJECT DESCRIPTION/JUSTIFICATION

This project provides for a comprehensive update of existing public and private storm drainage systems in the annexed areas within all 15 sub-watersheds within the city limits. The storm sewer infrastructure will then be modeled to determine drainage system deficiencies (such as identification of an inadequate piping system that overflows and discharges water into the street). In addition to analyzing the capabilities of the right-of-way drainage system, master planning efforts also model the quality of the water using chemical analysis and an Index of Biotic Integrity (IBI) to yield an overall rating for each watershed. This information is used in tracking watershed degradation over time and targeting improvements.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$9,319,200	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$11,119,200
Total Project Expenditures	\$9,319,200	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$11,119,200
Funding Sources								
Stormwater Management Fund	\$9,319,200	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$11,119,200
Total Project Funding Sources	\$9,319,200	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$11,119,200

PROJECT TITLE City Yard Remediation	DEPARTMENT/DIVISION Stormwater Management
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PROJECT DESCRIPTION/JUSTIFICATION

This project involves a comprehensive environmental remediation plan for the lower section of City Yard. Approximately 27,000 tons of contaminated soil and fly ash will be removed from City Yard. Roughly 19,000 gallons of diesel fuel product will be recovered and/or oxidized from the underlying groundwater. Any remaining inert debris (e.g. brick, concrete, tires) will be properly disposed at an appropriate permitted landfill facility. The second phase of the project will involve construction of two stormwater ponds in parallel configuration – the total surface area of these ponds has been calculated to be 2.90 acres. In addition to designing a geosynthetic pond liner system, the ponds will be able to equalize incoming stormwater runoff flow in order to maximize pollutant removal efficiency. Up-gradient infrastructure designs have included a pretreatment vault (for removing incoming trash and soil), a splitter box for diverting stormwater runoff during intensive rain events, and replacing approximately 175 linear feet of 42” corrugated metal piping, which is severely deteriorated due to its age.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning/Design/Engineering	\$2,235,780	\$0	\$0	\$0	\$0	\$0	\$0	\$2,235,780
Construction	25,513,300	0	0	0	0	0	2,756,620	28,269,920
Other (Construction CA/CO)	1,471,820	0	0	0	0	0	338,480	1,810,300
Contingency	230,240	0	0	0	0	0	0	230,240
Total Project Expenditures	\$29,451,140	\$0	\$0	\$0	\$0	\$0	\$3,095,100	\$32,546,240
Funding Sources								
Revenue Bonds	\$13,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$13,000,000
Grants	3,000,000	0	0	0	0	0	0	3,000,000
Stormwater Management Fund	13,451,140	0	0	0	0	0	3,095,100	16,546,240
Total Project Funding Sources	\$29,451,140	\$0	\$0	\$0	\$0	\$0	\$3,095,100	\$32,546,240

PROJECT TITLE Drainage Improvements on Private Property	DEPARTMENT/DIVISION Stormwater Management
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PROJECT DESCRIPTION/JUSTIFICATION

City ordinances authorize the City to participate in the correction of storm drainage problems that occur on private residential property. The City's participation in eligible projects is limited to 70% of the total project costs or \$35,000 per affected owner, whichever is less. Each project request will be reviewed by City staff and presented to the Mayor and City Council for final approval.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Construction	\$2,650,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$4,150,000
Total Project Expenditures	\$2,650,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$4,150,000
Funding Sources								
Stormwater Management Fund	\$2,650,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$4,150,000
Total Project Funding Sources	\$2,650,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$4,150,000

PROJECT TITLE Stormwater Infrastructure Renovations	DEPARTMENT/DIVISION Stormwater Management
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PROJECT DESCRIPTION/JUSTIFICATION

Through stormwater basin studies and City inspections, Stormwater staff have identified locations throughout the City where public stormwater infrastructure is deficient. The drainage systems in these locations are aging or inadequate in size to handle current stormwater volumes. Current projects include infrastructure improvements at Macon Drive, Bennett Drive, and Commonwealth Drive where the piping systems are in need of replacment. Also, staff have identified an aged and deteriorated pipe culvert under the new connector road at City Yard. Continued degradation of this enclosed pipe drainage system could cause sink-holes in the travel lanes and road overtopping, both of which present safety issues for the public.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2020-2025						Grand Total
	Total Approp To Date	Budget FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	Planning FY 23-24	Planning FY 24-25	
Expenditures								
Planning / Design / Engineering	\$160,000	\$0	\$0	\$0	\$0	\$0	\$0	\$160,000
Construction	11,902,090	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	2,507,400	19,409,490
Total Project Expenditures	\$12,062,090	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$2,507,400	\$19,569,490
Funding Sources								
Revenue Bonds	\$1,426,000	\$0	\$0	\$0	\$0	\$0	\$0	\$1,426,000
Stormwater Management Fund	10,636,090	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	2,507,400	18,143,490
Total Project Funding Sources	\$12,062,090	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$2,507,400	\$19,569,490