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HEALTHY ENVIRONMENT

Project Title	Budget Year 2017-2018	Planning Year 2018-2019	Planning Year 2019-2020	Planning Year 2020-2021	Planning Year 2021-2022	Planning Year 2022-2023	Total Planned
Solid Waste Disposal:							
Hanes Mill Road Landfill - Development and Upgrades	\$400,000	\$0	\$0	\$0	\$0	\$0	\$400,000
Hanes Mill Road Landfill Expansion/Cell Construction	0	0	723,800	0	0	0	723,800
Water and Wastewater Treatment:							
15th Street Pump Station Electrical Upgrades	\$0	\$1,200,000	\$0	\$0	\$0	\$0	\$1,200,000
Archie Elledge Wastewater Treatment Plant Rehabilitation and Upgrades	460,000	750,000	750,000	750,000	750,000	750,000	4,210,000
Lift Station Capacity / Condition Improvements	575,000	854,900	250,000	250,000	946,000	250,000	3,125,900
Muddy Creek & Archie Elledge WWTP Digester and Gravity Thickener Upgrades	10,600,000	0	0	0	0	0	10,600,000
Muddy Creek Wastewater Treatment Plant Rehabilitation and Upgrades	183,000	750,000	750,000	750,000	750,000	750,000	3,933,000
R.W. Neilson Water Treatment Plant - Phase II Modernization	5,000,000	55,000,000	0	0	0	0	60,000,000
Sides Road Pump Station Electrical Upgrades	0	4,400,000	0	0	0	0	4,400,000
Water Treatment Rehabilitation and Upgrades	750,000	250,000	250,000	250,000	250,000	250,000	2,000,000
Wastewater Treatment Plant Expansion / Nutrient Removal Upgrade	0	0	5,500,000	5,000,000	5,000,000	5,000,000	20,500,000
Water Distribution and Wastewater Collection:							
Advanced Meter Infrastructure	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$0	\$0	\$40,000,000
Asset Management Program / Studies	500,000	500,000	500,000	500,000	500,000	500,000	3,000,000
Collection System Improvement Program	13,200,000	13,200,000	11,800,000	10,000,000	9,000,000	9,000,000	66,200,000
Elledge Basin Capacity Improvements	516,000	5,908,000	5,518,000	3,434,400	0	1,636,300	17,012,700
Hydrant Replacement	800,000	0	500,000	0	500,000	0	1,800,000
Muddy Creek Basin Capacity Improvements	9,668,400	0	0	0	0	559,300	10,227,700
NCDOT Road Widening Project Utility Relocations	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	6,000,000
South Fork Basin Capacity Improvements	22,012,000	8,661,800	0	0	1,055,000	0	31,728,800
Water Distribution System Improvements	2,813,000	3,298,000	2,886,000	1,267,000	3,029,000	1,000,000	14,293,000
Water Tank Rehabilitation	751,250	250,000	250,000	250,000	250,000	250,000	2,001,250
Stormwater Management:							
Basin Study Updates	\$0	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,500,000
City Yard Remediation	3,015,160	0	0	0	0	0	3,015,160
Drainage Improvements on Private Property	0	250,000	250,000	250,000	250,000	250,000	1,250,000
Stormwater Infrastructure Renovations	0	1,024,000	1,176,000	1,000,000	1,000,000	1,000,000	5,200,000
Total Expenditures	\$82,243,810	\$107,596,700	\$42,403,800	\$35,001,400	\$24,580,000	\$22,495,600	\$314,321,310
Funding Sources							
Bonds:							
Revenue Bonds	\$38,493,400	\$65,959,800	\$7,386,000	\$5,267,000	\$7,029,000	\$7,195,600	\$131,330,800
Intergovernmental Resources:							
State Revolving Loan	\$10,600,000	\$0	\$0	\$0	\$0	\$0	\$10,600,000
Reserves:							
Solid Waste Disposal Fund	\$400,000	\$0	\$723,800	\$0	\$0	\$0	\$1,123,800
Stormwater Management Fund	3,015,160	1,574,000	1,726,000	1,550,000	1,550,000	1,550,000	10,965,160
Water and Sewer Fund	29,735,250	40,062,900	32,568,000	28,184,400	16,001,000	13,750,000	160,301,550
Total Funding Sources	\$82,243,810	\$107,596,700	\$42,403,800	\$35,001,400	\$24,580,000	\$22,495,600	\$314,321,310

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 2017-18 includes: an upgrade to the security camera system; installation of a new fire hydrant required by the fire code; upfit of an office for a new senior civil engineer position; and pavement repairs.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Construction	\$341,722	\$400,000	\$0	\$0	\$0	\$0	\$0	\$741,722
Total Project Expenditures	\$341,722	\$400,000	\$0	\$0	\$0	\$0	\$0	\$741,722
Funding Sources								
Solid Waste Disposal Fund	\$341,722	\$400,000	\$0	\$0	\$0	\$0	\$0	\$741,722
Total Project Funding Sources	\$341,722	\$400,000	\$0	\$0	\$0	\$0	\$0	\$741,722

PROJECT TITLE Hanes Mill Road Landfill Expansion/Cell Construction	DEPARTMENT/DIVISION Utilities / Solid Waste
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PROJECT DESCRIPTION/JUSTIFICATION

This project provides for the future construction of composite lined landfill cells for the disposal of municipal solid waste at Hanes Mill Road Landfill. Construction is complete through Cell 5 of Phase 2, approximately 66 acres. Additional cell capacity (Cell 6) will need to be constructed, approved by the state, and available for use by a projected date of 2025. Planned appropriations in FY 2019-20 will cover initial design and permitting costs for the construction of Cell 6.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$1,670,500	\$0	\$0	\$65,800	\$0	\$0	\$0	\$1,736,300
Construction	16,981,400	0	0	658,000	0	0	0	17,639,400
Total Project Expenditures	\$18,651,900	\$0	\$0	\$723,800	\$0	\$0	\$0	\$19,375,700
Funding Sources								
Solid Waste Disposal Fund	\$18,651,900	\$0	\$0	\$723,800	\$0	\$0	\$0	\$19,375,700
Total Project Funding Sources	\$18,651,900	\$0	\$0	\$723,800	\$0	\$0	\$0	\$19,375,700

PROJECT TITLE 15th Street Pump Station Electrical Upgrades	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

The 15th Street Pumping Station electrical motor control center is approaching the end of its useful life. Due to the age of the electrical equipment, this project proposes to install a new 480V generator, automatic transfer switch, switchgear, fuel storage tank, electrical transformer and upgrade the stations PLC's and controls. A new 480V motor control center will be installed to replace the existing pump starters. The existing standby diesel engine will be removed and salvaged. This project is scheduled to occur in FY 2018-19.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$0	\$0	\$240,000	\$0	\$0	\$0	\$0	\$240,000
Construction	0	0	930,000	0	0	0	0	930,000
Contingency	0	0	30,000	0	0	0	0	30,000
Total Project Expenditures	\$0	\$0	\$1,200,000	\$0	\$0	\$0	\$0	\$1,200,000
Funding Sources								
Water and Sewer Fund	\$0	\$0	\$1,200,000	\$0	\$0	\$0	\$0	\$1,200,000
Total Project Funding Sources	\$0	\$0	\$1,200,000	\$0	\$0	\$0	\$0	\$1,200,000

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 plants. Budget year expenditures are for new pumps, replacement mixers, dust hazard analysis and pavement repairs.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$589,500	\$46,000	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$1,010,500
Construction	2,535,500	402,500	525,000	525,000	525,000	525,000	525,000	5,563,000
Equipment and Furnishings	137,500	0	112,500	112,500	112,500	112,500	112,500	700,000
Contingency	92,500	11,500	37,500	37,500	37,500	37,500	37,500	291,500
Total Project Expenditures	\$3,355,000	\$460,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$7,565,000
Funding Sources								
Water and Sewer Fund	\$3,355,000	\$460,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$7,565,000
Total Project Funding Sources	\$3,355,000	\$460,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$7,565,000

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

The Wastewater Facilities Master Plan study, conducted by a consulting engineer, included condition assessments for select lift stations located within the sewer collection system that are aging or out of capacity. The study assessments identified and prioritized 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 2017-18 improvements include repairs and rehabilitation to the Avalee, Linville Springs, Walnut Hollow, Plum Street and Belews Creek Lift Stations.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$230,800	\$74,750	\$76,941	\$22,500	\$22,500	\$85,140	\$22,500	\$535,131
Construction	894,350	460,000	743,763	217,500	217,500	823,020	217,500	3,573,633
Contingency	28,850	40,250	34,196	10,000	10,000	37,840	10,000	171,136
Total Project Expenditures	\$1,154,000	\$575,000	\$854,900	\$250,000	\$250,000	\$946,000	\$250,000	\$4,279,900
Funding Sources								
Water and Sewer Fund	\$1,154,000	\$575,000	\$854,900	\$250,000	\$250,000	\$946,000	250,000	\$4,279,900
Total Project Funding Sources	\$1,154,000	\$575,000	\$854,900	\$250,000	\$250,000	\$946,000	\$250,000	\$4,279,900

PROJECT TITLE Muddy Creek & Archie Elledge WWTP Digester and Gravity Thickener Upgrades	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

A condition assessment, conducted by a consultant engineer, was performed to evaluate the condition of the existing facilities and equipment. The existing facilities and equipment are over 20 years old, in poor condition, and in need of replacement/upgrade. This project provides for upgrades to the gravity thickeners at the Archie Elledge and Muddy Creek Wastewater Treatment plants and improvements to the aging digesters at the Muddy Creek Wastewater Treatment plant in FY 2017-18.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning/Design/Engineering	\$0	\$1,060,000	\$0	\$0	\$0	\$0	\$0	\$1,060,000
Construction	0	9,275,000	0	0	0	0	0	9,275,000
Contingency	0	265,000	0	0	0	0	0	265,000
Total Project Expenditures	\$0	\$10,600,000	\$0	\$0	\$0	\$0	\$0	\$10,600,000
Funding Sources								
State Revolving Fund	\$0	\$10,600,000	\$0	\$0	\$0	\$0	\$0	\$10,600,000
Total Project Funding Sources	\$0	\$10,600,000	\$0	\$0	\$0	\$0	\$0	\$10,600,000

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 plants. FY 2017-18 expenditures are for replacement pumps and repairing building parapet walls.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$380,000	\$0	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$755,000
Construction	1,722,500	94,000	525,000	525,000	525,000	525,000	525,000	4,441,500
Equipment and Furnishings	0	89,000	112,500	112,500	112,500	112,500	112,500	651,500
Contingency	47,500	0	37,500	37,500	37,500	37,500	37,500	235,000
Total Project Expenditures	\$2,150,000	\$183,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$6,083,000
Funding Sources								
Water and Sewer Fund	2,150,000	183,000	750,000	750,000	750,000	750,000	750,000	6,083,000
Total Project Funding Sources	\$2,150,000	\$183,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$6,083,000

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, valves, upgrade the instrumentation and control systems, and modify the treatment trains to optimize the efficiency of the process.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$374,000	\$5,000,000	\$2,500,000	\$0	\$0	\$0	\$0	\$7,874,000
Construction	1,496,000	0	52,500,000	0	0	0	0	53,996,000
Total Project Expenditures	\$1,870,000	\$5,000,000	\$55,000,000	\$0	\$0	\$0	\$0	\$61,870,000
Funding Sources								
Revenue Bonds	\$1,870,000	\$5,000,000	\$55,000,000	\$0	\$0	\$0	\$0	\$61,870,000
Total Project Funding Sources	\$1,870,000	\$5,000,000	\$55,000,000	\$0	\$0	\$0	\$0	\$61,870,000

PROJECT TITLE: Sides Road Pump Station Electrical Upgrades	DEPARTMENT/DIVISION Utilities / Water and Wastewater Treatment
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PROJECT DESCRIPTION/JUSTIFICATION

The electrical power, pumps and emergency backup pumping systems at the Sides Road Pump Station are approximately 33 years old and are nearing the end of their anticipated useful lives. The scope of this project includes the installation of a 4160V emergency generator, an automatic transfer switch, switchgear, a fuel storage tank, upgrade of the existing PLC and station controls and replacement of the stations pumps and associated control valves. The 33 year-old motor control center will be replaced with reduced voltage solid state starters. The No. 2 diesel powered engine currently providing emergency backup for the No. 2 pump will be removed and salvaged. Any isolation valves in the yard and inside the pumping station that are failing and do not provide adequate isolation for maintenance will also be addressed during this project.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$0	\$0	\$500,000	\$0	\$0	\$0	\$0	\$500,000
Construction	0	0	3,733,330	0	0	0	0	3,733,330
Contingency	0	0	166,670	0	0	0	0	166,670
Total Project Expenditures	\$0	\$0	\$4,400,000	\$0	\$0	\$0	\$0	\$4,400,000
Funding Sources								
Water and Sewer Fund	\$0	\$0	\$4,400,000	\$0	\$0	\$0	\$0	\$4,400,000
Total Project Funding Sources	\$0	\$0	\$4,400,000	\$0	\$0	\$0	\$0	\$4,400,000

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. Improvements for FY 2017-18 include adding a second 10 MGD pump due to the age of the existing 10 MGD pump at the Swann Water Treatment Plant, cleaning raw water reservoir #1 at Neilson, and developing and implementing changes to the Laboratory Information Management System (LIMS) to correct continuing problems while also increasing its efficiency.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$199,300	\$75,000	\$31,250	\$31,250	\$31,250	\$31,250	\$31,250	\$430,550
Construction	1,253,250	650,000	208,340	208,340	208,340	208,340	208,340	2,944,950
Contingency	76,450	25,000	10,410	10,410	10,410	10,410	10,410	153,500
Total Project Expenditures	\$1,529,000	\$750,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$3,529,000
Funding Sources								
Water and Sewer Fund	\$1,529,000	\$750,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$3,529,000
Total Project Funding Sources	\$1,529,000	\$750,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$3,529,000

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 Environment and Natural Resources Division of Water 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 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$0	\$0	\$0	\$5,500,000	\$0	\$0	\$0	\$5,500,000
Construction	0	0	0	0	5,000,000	5,000,000	5,000,000	15,000,000
Total Project Expenditures	\$0	\$0	\$0	\$5,500,000	\$5,000,000	\$5,000,000	\$5,000,000	\$20,500,000
Funding Sources								
Revenue Bonds	\$0	\$0	\$0	\$5,500,000	\$5,000,000	\$5,000,000	\$5,000,000	\$20,500,000
Total Project Funding Sources	\$0	\$0	\$0	\$5,500,000	\$5,000,000	\$5,000,000	\$5,000,000	\$20,500,000

PROJECT TITLE Advanced Meter Infrastructure	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

This multiyear project funds the implementation of advanced metering infrastructure (AMI) throughout the entire water system. The AMI system will provide greatly enhanced customer service, data collection/analysis, and distribution system management. Key components of the system will include an accelerated and systematic upgrade/replacement of existing water meter infrastructure, a fixed radio network to receive meter data, a meter data management system, and associated information technology security/storage improvements.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$4,375,000	\$250,000	\$250,000	\$250,000	\$250,000	\$0	\$0	\$5,375,000
Contingency	1,100,000	0	0	0	0	0	0	1,100,000
Construction	4,525,000	9,750,000	9,750,000	9,750,000	9,750,000	0	0	43,525,000
Total Project Expenditures	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$0	\$0	\$50,000,000
Funding Sources								
Water and Sewer Fund	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$0	\$0	\$50,000,000
Total Project Funding Sources	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$0	\$0	\$50,000,000

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 include strategic planning and 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.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$1,750,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$4,750,000
Total Project Expenditures	\$1,750,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$4,750,000
Funding Sources								
Water and Sewer Fund	\$1,750,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$4,750,000
Total Project Funding Sources	\$1,750,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$4,750,000

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

The City of Winston-Salem received an EPA Notice of Violation for sanitary sewer overflows (SSO). No action was taken by the EPA because of the SSO reductions the City has already achieved, but notice was given that the City must continue to make progress in eliminating SSOs or future enforcement actions may be taken. To accomplish this, the City has hired an engineering firm to assist in developing a preventative management, operations and maintenance program with an early emphasis on cleaning and SSO response assessment, along with providing a comprehensive system assessment program with the goal of reducing SSOs to less than 2 per 100 miles of lines. Once the early objectives are well underway, the program will focus on system defects and utilize a "Find and Fix" approach to sewer line rehabilitation as part of a multi-year program to fund inspection, evaluation, design and construction of sanitary sewer rehabilitation projects throughout the system.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning/Design/Engineering	\$3,760,870	\$4,200,000	\$4,200,000	\$3,550,000	\$2,500,000	\$2,250,000	\$2,250,000	\$22,710,870
Construction	5,478,250	8,400,000	8,400,000	7,700,000	7,000,000	6,300,000	6,300,000	49,578,250
Contingency	260,880	600,000	600,000	550,000	500,000	450,000	450,000	3,410,880
Total Project Expenditures	\$9,500,000	\$13,200,000	\$13,200,000	\$11,800,000	\$10,000,000	\$9,000,000	\$9,000,000	\$75,700,000
Funding Sources								
Water and Sewer Fund	\$9,500,000	\$13,200,000	\$13,200,000	\$11,800,000	\$10,000,000	\$9,000,000	\$9,000,000	\$75,700,000
Total Project Funding Sources	\$9,500,000	\$13,200,000	\$13,200,000	\$11,800,000	\$10,000,000	\$9,000,000	\$9,000,000	\$75,700,000

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

The Utilities Division has completed a Wastewater Master Plan to review the capacity needs in all three (3) drainage basins (South Fork, Elledge, and Muddy Creek) within the division's 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 Wastewater Master Plan. In FY 2017-18, planning and design will be funded for two sections of the Peter's Creek Outfall. In FY 2018-19, construction will be funded for these two sections.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$1,797,760	\$516,000	\$1,181,600	\$1,103,600	\$686,880	\$0	\$163,550	\$5,449,390
Construction	5,416,330	0	4,578,700	4,276,450	2,661,660	0	1,431,750	18,364,890
Contingency	174,710	0	147,700	137,950	85,860	0	41,000	587,220
Total Project Expenditures	\$7,388,800	\$516,000	\$5,908,000	\$5,518,000	\$3,434,400	\$0	\$1,636,300	\$24,401,500
Funding Sources								
Revenue Bonds	\$7,388,800	\$0	\$0	\$0	\$0	\$0	\$1,636,300	\$9,025,100
Water and Sewer Fund	0	516,000	5,908,000	5,518,000	3,434,400	0	0	15,376,400
Total Project Funding Sources	\$7,388,800	\$516,000	\$5,908,000	\$5,518,000	\$3,434,400	\$0	\$1,636,300	\$24,401,500

PROJECT TITLE Hydrant Replacement	DEPARTMENT/DIVISION Utilities / Water Distribution and Wastewater Collection
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PROJECT DESCRIPTION/JUSTIFICATION

This project will fund replacing fire hydrants that are out of service due to them leaking or not operating properly.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Construction	\$0	\$800,000	\$0	\$500,000	\$0	\$500,000	\$0	\$1,800,000
Total Project Expenditures	\$0	\$800,000	\$0	\$500,000	\$0	\$500,000	\$0	\$1,800,000
Funding Sources								
Water and Sewer Fund Balance	\$0	\$800,000	\$0	\$500,000	\$0	\$500,000	\$0	\$1,800,000
Total Project Funding Sources	\$0	\$800,000	\$0	\$500,000	\$0	\$500,000	\$0	\$1,800,000

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

The Utilities Division has completed a Wastewater Master Plan to review the capacity needs in all three drainage basins (South Fork, Elledge, and Muddy Creek) within the division's 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 Wastewater Master Plan. In FY 2017-18, the Mill Creek Outfall #2 construction will be funded.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$12,088,280	\$0	\$0	\$0	\$0	\$0	\$51,300	\$12,139,580
Land / Right-of-Way Acquisition	294,000	50,400	0	0	0	0	0	344,400
Construction	28,716,230	8,654,100	0	0	0	0	508,000	37,878,330
Contingency	1,899,090	963,900	0	0	0	0	0	2,862,990
Total Project Expenditures	\$42,997,600	\$9,668,400	\$0	\$0	\$0	\$0	\$559,300	\$53,225,300
Funding Sources								
Revenue Bonds	\$42,997,600	\$9,668,400	\$0	\$0	\$0	\$0	\$559,300	\$53,225,300
Total Project Funding Sources	\$42,997,600	\$9,668,400	\$0	\$0	\$0	\$0	\$559,300	\$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 projects include the Northern Beltway - Eastern Section and Business I-40 Reconstruction. Other projects will be identified in future years.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$0	\$130,000	\$130,000	\$130,000	\$130,000	\$130,000	\$130,000	\$780,000
Construction	0	800,000	800,000	800,000	800,000	800,000	800,000	4,800,000
Contingency	0	70,000	70,000	70,000	70,000	70,000	70,000	420,000
Total Project Expenditures	\$0	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$6,000,000
Funding Sources								
Water and Sewer Fund	\$0	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$6,000,000
Total Project Funding Sources	\$0	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$6,000,000

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

The Utilities Division has completed a Wastewater Master Plan to review the capacity needs in all three (3) drainage basins (South Fork, Elledge, and Muddy Creek) within the division's 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 Wastewater Master Plan. Planning and construction for the North Fiddlers Creek Outfall and the South Fork #3 Outfall will begin in FY 2017-18, and planning and construction for the Abbott's Creek Outfall will begin in FY 2018-19.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$0	\$2,960,528	\$1,120,184	\$0	\$0	\$206,000	\$0	\$4,286,712
Land / Right-of-Way Acquisition	0	314,000	45,000	0	0	25,000	0	384,000
Construction	0	16,426,480	6,893,440	0	0	798,250	0	24,118,170
Contingency	0	2,310,992	603,176	0	0	25,750	0	2,939,918
Total Project Expenditures	\$0	\$22,012,000	\$8,661,800	\$0	\$0	\$1,055,000	\$0	\$31,728,800
Funding Sources								
Revenue Bonds	\$0	\$22,012,000	\$8,661,800	\$0	\$0	\$0	\$0	\$30,673,800
Water and Sewer Fund	0	\$0	\$0	\$0	\$0	\$1,055,000	\$0	\$1,055,000
Total Project Funding Sources	\$0	\$22,012,000	\$8,661,800	\$0	\$0	\$1,055,000	\$0	\$31,728,800

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, 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, large meter replacements, and other miscellaneous system improvements. Scheduled projects for FY 2017-18 include system improvements in Lewisville (\$1,613,000) and the addition of an emergency generator at the Glenn High Pump Station (\$200,000). Future projects include: system improvements in Kernersville in FY 2018-19, system improvements in Clemmons in FY 2019-20, 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 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$300,000	\$384,690	\$448,740	\$395,180	\$184,710	\$413,770	\$150,000	\$2,277,090
Construction	1,600,000	2,265,400	2,638,400	2,308,800	1,013,600	2,423,200	800,000	13,049,400
Contingency	100,000	162,910	210,860	182,020	68,690	192,030	50,000	966,510
Total Project Expenditures	\$2,000,000	\$2,813,000	\$3,298,000	\$2,886,000	\$1,267,000	\$3,029,000	\$1,000,000	\$16,293,000
Funding Sources								
Revenue Bonds	\$0	\$1,813,000	\$2,298,000	\$1,886,000	\$267,000	\$2,029,000	\$0	\$8,293,000
Water and Sewer Fund	2,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	8,000,000
Total Project Funding Sources	\$2,000,000	\$2,813,000	\$3,298,000	\$2,886,000	\$1,267,000	\$3,029,000	\$1,000,000	\$16,293,000

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. The 9th Street, Walkertown, and Glenn High water tanks will be rehabilitated in FY 2017-18.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$396,750	\$90,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$736,750
Construction	2,763,340	625,000	193,750	193,750	193,750	193,750	193,750	4,357,090
Contingency	179,420	36,250	6,250	6,250	6,250	6,250	6,250	246,920
Total Project Expenditures	\$3,339,510	\$751,250	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$5,340,760
Funding Sources								
Water and Sewer Fund	\$3,339,510	\$751,250	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$5,340,760
Total Project Funding Sources	\$3,339,510	\$751,250	\$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 targeting watersheds improvement/degradation over time.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$9,319,200	\$0	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$10,819,200
Total Project Expenditures	\$9,319,200	\$0	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$10,819,200
Funding Sources								
Stormwater Management Fund	\$9,319,200	\$0	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$10,819,200
Total Project Funding Sources	\$9,319,200	\$0	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$10,819,200

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 FY 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning/Design/Engineering	\$2,135,780	\$100,000	\$0	\$0	\$0	\$0	\$0	\$2,235,780
Construction	23,069,960	2,443,340	0	0	0	0	0	25,513,300
Other (Construction CA/CO)	1,000,000	471,820	0	0	0	0	0	1,471,820
Contingency	230,240	0	0	0	0	0	0	230,240
Total Project Expenditures	\$26,435,980	\$3,015,160	\$0	\$0	\$0	\$0	\$0	\$29,451,140
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	10,435,980	3,015,160	0	0	0	0	0	13,451,140
Total Project Funding Sources	\$26,435,980	\$3,015,160	\$0	\$0	\$0	\$0	\$0	\$29,451,140

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 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Construction	\$2,650,000	\$0	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$3,900,000
Total Project Expenditures	\$2,650,000	\$0	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$3,900,000
Funding Sources								
Stormwater Management Fund	\$2,650,000	\$0	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$3,900,000
Total Project Funding Sources	\$2,650,000	\$0	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$3,900,000

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 several locations. The drainage system at Spring Park and Lockland Park currently does not meet City design standards. Improvements to the Spring Park drainage system will replace and enhance stormwater infrastructure along West End Boulevard and stabilize the embankment and restore stream segments. The underground drainage system through Lockland Park is aged, undersized, and failing. Sinkholes have developed along the enclosed pipe segments and up-gradient systems are being surcharged along the adjacent streets. Also, staff have identified an aged and deteriorated corrugated metal 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 traveling public.

FINANCIAL SUMMARY:

	Prior Years	Planned Appropriations 2018-2023						Grand Total
	Total Approp To Date	Budget FY 17-18	Planning FY 18-19	Planning FY 19-20	Planning FY 20-21	Planning FY 21-22	Planning FY 22-23	
Expenditures								
Planning / Design / Engineering	\$160,000	\$0	\$0	\$0	\$0	\$0	\$0	\$160,000
Construction	10,732,090	0	1,024,000	1,176,000	1,000,000	1,000,000	1,000,000	15,932,090
Total Project Expenditures	\$10,892,090	\$0	\$1,024,000	\$1,176,000	\$1,000,000	\$1,000,000	\$1,000,000	\$16,092,090
Funding Sources								
Revenue Bonds	\$1,426,000	\$0	\$0	\$0	\$0	\$0	\$0	\$1,426,000
Stormwater Management Fund	9,466,090	0	1,024,000	1,176,000	1,000,000	1,000,000	1,000,000	14,666,090
Total Project Funding Sources	\$10,892,090	\$0	\$1,024,000	\$1,176,000	\$1,000,000	\$1,000,000	\$1,000,000	\$16,092,090