

HALIFAX WATER**Capital Budget 2019/20****Summary**

Asset Category	Project Costs
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<i>Water - Land -- T O T A L</i>	\$525,000
<i>Water - Transmission -- T O T A L</i>	\$8,640,000
<i>Water - Distribution -- T O T A L</i>	\$5,690,000
<i>Water - Structures -- T O T A L</i>	\$441,000
<i>Water - Treatment Facilities -- T O T A L</i>	\$7,211,000
<i>Water - Energy -- T O T A L</i>	\$540,000
<i>Water - Security -- T O T A L</i>	\$50,000
<i>Water - Equipment -- T O T A L</i>	\$50,000
<i>Water - Corporate Projects - T O T A L</i>	\$9,696,000
TOTAL - Water	\$32,843,000

<i>Wastewater - Trunk Sewers -- T O T A L</i>	\$755,000
<i>Wastewater - Collection System -- T O T A L</i>	\$16,516,000
<i>Wastewater - forcemains -- T O T A L</i>	\$575,000
<i>Wastewater Structures -- T O T A L</i>	\$1,475,000
<i>Wastewater - Treatment Facility -- T O T A L</i>	\$3,245,000
<i>Wastewater - Energy -- T O T A L</i>	\$425,000
<i>Wastewater - Security -- T O T A L</i>	\$200,000
<i>Wastewater - Equipment -- T O T A L</i>	\$145,000
<i>Wastewater - Corporate Projects -- T O T A L</i>	\$10,642,800
TOTAL - Wastewater	\$33,978,800

HALIFAX WATER

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Summary

Asset Category	Project Costs
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<i>Stormwater - Pipes -- T O T A L</i>	\$2,447,000
<i>Stormwater - Culverts -- T O T A L</i>	\$1,766,000
<i>Stormwater - Structures -- T O T A L</i>	\$4,225,000
<i>Stormwater - Corporate Projects -- T O T A L</i>	\$2,088,200
TOTAL - Stormwater	\$10,526,200

GRAND TOTAL	\$77,348,000
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Water

Project Number	Project Name	Project Cost
<u>Water - Land</u>		
3.033	Watershed Land Acquisition	\$100,000
3.383	Bennery Lake Watershed Land	\$350,000
3.497	Lake Major Watershed - Glasgow Lands	\$75,000
<i>Water - Land -- T O T A L</i>		\$525,000
<u>Water - Transmission</u>		
3.470	Critical Valve Replacements 2019	\$225,000
3.291	Port Wallace Transmission Main - Caledonia Section	\$120,000
3.389	Halifax Peninsula Transmission Main Project	\$400,000
3.399	Cogswell Interchange - Water Transmission Main Realignment	\$600,000
3.019	Lucasville Road Transmission Main - Phase 1	\$7,150,000
3.045	Bedford West CCC - Various Phases	\$15,000
3.261	Lakeside Timberlea CCC	\$5,000
3.232	MacIntosh Estates Phase 1 Oversizing	\$125,000
<i>Water - Transmission -- T O T A L</i>		\$8,640,000
<u>Water - Distribution</u>		
3.022	Water Distribution - Main Renewal Program	\$4,330,000
3.067	~ Valves Renewals	\$125,000
3.068	~ Hydrants Renewals	\$75,000
3.069	~ Service Lines Renewals	\$100,000
3.390	Lead Service Line Replacement Program	\$1,000,000
3.294	Automated Flushing Program	\$20,000
3.334	Coburg Road Bridge Watermain Replacement	\$40,000
<i>Water - Distribution -- T O T A L</i>		\$5,690,000

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Water

Project Number	Project Name	Project Cost
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Water - Structures

3.391	Lake Major Dam Monitoring Program	\$120,000
3.490	Robie 2 Emergency Pump Meter Installation	\$21,000
3.414	Dam Safety Review	\$300,000

Water - Structures -- T O T A L

\$441,000

Water - Treatment Facilities

J D Kline Water Supply Plant:

3.452	JD Kline WSP - Process Upgrades	\$250,000
3.499	JD Kline WSP - Low Lift Station Crane Renewal	\$75,000
3.493	JD Kline WSP - Pilot Plant Upgrades	\$200,000
3.415	JD Kline WSP - Raw Water Intake Traveling Screen Replacement Program	\$245,000
3.478	JD Kline WSP - Pre-mix Area Mixers Upgrade	\$90,000
3.428	JD Kline WSP - Caustic Tank Liner Replacements	\$16,000
3.353	JD Kline WSP - Effluent Valve Actuator Replacement Program	\$200,000
3.242	JD Kline WSP - Replace CO2 Feeders	\$590,000
3.338	J D Kline WSP - Upgrades to the Process Wastewater Lagoons	\$150,000
3.354	J D Kline WSP - Upgrade the PLC	\$420,000
3.341	JD Kline WSP - Roof Replacement	\$270,000
3.461	J D Kline WSP - New Lime Blower System	\$35,000
3.462	JD Kline WSP - New Alum Chemical Supply	\$15,000
3.466	JD Kline WSP - Purchase New Microscope	\$17,000

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Water

Project Number	Project Name	Project Cost
3.465	JD Kline WSP - Low Lift Pump #3	\$1,000,000
3.472	JD Kline WSP - Replace Floc Tank Valve	\$35,000
3.474	JD Kline WSP - Low Lift Station Roof Fan Shroud Replacement	\$21,000
3.480	JD Kline WSP - Raw Water Pump Station Window/Wall/Building Envelope	\$50,000
3.481	JD Kline WSP - Building Envelope Upgrades	\$100,000
3.483	JD Kline WSP - Raw Water Pump Station Electrical Room Ventilation	\$50,000
3.484	JD Kline WSP - Back-up Power Supply Study	\$50,000
3.351	JD Kline WSP - Replace Westinghouse Electrical Panels	\$8,000
Lake Major Water Supply Plant:		
3.159	Lake Major WSP - Replace Contactors in the MCC	\$34,000
3.162	Lake Major WSP - Butterfly valve replacement program	\$200,000
3.476	Lake Major WSP - CO2 System Replacement - Construction	\$215,000
3.485	Lake Major WSP - Lab Relocation	\$235,000
3.304	Lake Major WSP - Dry Polymer Feed System	\$305,000
3.161	Lake Major WSP - Replace the Lime Feed and Delivery System	\$120,000
3.491	Lake Major WSP - Overall Process and Design Study	\$350,000
3.495	Lake Major WSP - Purchase Spectrophotometer	\$15,000
3.496	Lake Major WSP - Purchase Turbidimeter	\$18,000
3.195	Lake Major WSP - Filtration System Replacement	\$280,000
3.278	Lake Major WSP - Clarifier Repair	\$285,000
Bennery Lake Water Supply Plant:		
3.477	Aerotech Booster Station Capital Upgrades	\$60,000
3.488	Bennery Lake WSP - Surge Anticipator Valves Replacement	\$20,000
3.486	Bennery Lake WSP - Access Road Upgrade	\$100,000
3.487	Bennery Lake WSP - Filter Influent Valves	\$64,000
3.418	Bennery Lake WSP - Sludge Valve Replacement Program	\$7,000
Non-Urban Core WSP		
3.459	Miller Lake Small System - Public Main Extension - Miller Lake Road	\$540,000
3.451	Silversands WSP - Electrical/Architectural Upgrades	\$150,000

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Water

Project Number	Project Name	Project Cost
3.211	Chlorine Analyzer Replacement Program	\$16,000
3.455	Reservoir Mixing and Residuals Management Upgrade Program	\$150,000
3.467	Purchase and Install TOC Analyzers WSP Facilities	\$90,000
3.469	Purchase and Install Water Quality Sonde Equipment	\$70,000
Water - Treatment Facilities -- T O T A L		\$7,211,000

HALIFAX WATER

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Water

Project Number	Project Name	Project Cost
<u>Water - Energy</u>		
3.437	Lake Major WSP - Process Area HVAC Upgrades	\$375,000
3.254	Bennery Lake WSP - MCC Replacement	\$150,000
3.479	Bennery Lake WSP - Tank Insulation Repairs	\$15,000
<i>Water - Energy -- T O T A L</i>		\$540,000
<u>Water - Security</u>		
4.009	Security Upgrade Program	\$50,000
<i>Water - Security -- T O T A L</i>		\$50,000
<u>Water - Equipment</u>		
3.101	Miscellaneous Equipment Replacement	\$50,000
<i>Water - Equipment -- T O T A L</i>		\$50,000
<i>Water - Corporate Projects - T O T A L</i>		\$9,696,000
<i>GRAND TOTAL - WATER</i>		<u>\$32,843,000</u>

HALIFAX WATER

Capital Budget 2019/20

Wastewater

Project Number	Project Name	Project Cost
<u>Wastewater - Trunk Sewers</u>		
2.697	Sackville Trunk Sewer - Condition Assessment	\$155,000
2.584	Fairview Cove Trunk Sewer	\$600,000
<i>Wastewater - Trunk Sewers -- T O T A L</i>		\$755,000
<u>Wastewater - Collection System</u>		
2.052	Integrated Wastewater Projects - Program	\$1,700,000
2.168	Wastewater System - Trenchless Rehabilitation Program	\$2,900,000
2.728	Main Street Sewer Main Replacement	\$100,000
2.692	Cogswell Redevelopment - Sewer Relocation	\$170,000
2.659	Fairview Clayton Park Bridgeview I/I Reduction	\$2,500,000
2.013	Wanda Lane Sanitary Sewer Replacement	\$1,050,000
2.746	Sewer Relocation at South Street CN Bridge	\$50,000
2.357	Manhole Renewals WW	\$20,000
2.358	Lateral Replacements WW (non-tree roots)	\$1,685,000
2.563	Lateral Replacements WW (tree roots)	\$526,000
2.223	Wet Weather Management Program	\$350,000
2.074	Bedford West Collection System CCC	\$100,000
- WRWIP PROJECTS		
2.675	Bayers Rd Phase 1 - Sewer Separation	\$1,375,000
2.677	Romans - Federal Avenues - Sewer Separation	\$2,600,000
2.68	Bayers Rd Phase 2 - Sewer Separation	\$1,390,000
<i>Wastewater - Collection System -- T O T A L</i>		\$16,516,000
<u>Wastewater - Forcemains</u>		
2.727	Beaver Crescent PS - FM Replacement	\$500,000
2.748	Caldwell Road ARV/MH Replacement	\$75,000
<i>Wastewater - Forcemains -- T O T A L</i>		\$575,000

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Wastewater

Project Number	Project Name	Project Cost
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Wastewater - Structures

2.42	Emergency Pumping Station Pump replacements	\$250,000
2.442	Wastewater Pumping Station Component Replacement Program - West Region	\$200,000
2.443	Wastewater Pumping Station Component Replacement Program - East Region	\$200,000
2.444	Wastewater Pumping Station Component Replacement Program - Central Region	\$250,000
2.698	Fish Hatchery FM - ARV Chamber Water Proofing	\$25,000
2.745	Pump Station Elimination - Concept Design	\$25,000
2.005	Autoport Pleasant Street PS Replacement	\$50,000
2.696	Upper Water Street CSO Replacement	\$150,000
2.088	Russell Lake PS Upgrade	\$25,000
2.093	Windmill Road PS Replacement	\$100,000
2.665	CSO Upgrade Program	\$125,000
2.74	Duffus PS CSO - Modification	\$50,000
2.089	Fairfield Holding Tank Rehabilitation	\$25,000

Wastewater Structures -- T O T A L

\$1,475,000

Wastewater - Treatment Facility

2.056	Plant Optimization Audit Program	\$125,000
2.522	Emergency Wastewater Treatment Facility equipment replacements	\$400,000
2.564	Carbon Media Replacement	\$50,000
2.699	HSPs - Outfall Inspection Program	\$20,000
2.701	HHSP - OCS Wet Scrubber Chlorine Analyzers	\$125,000

Halifax Wastewater Treatment Facility:

2.532	Duct Work Replacement	\$50,000
2.653	New Raw Water Pumps	\$350,000
2.705	AHU Coil Replacement	\$30,000
2.702	Grit Pump Replacement	\$75,000

Dartmouth Wastewater Treatment Facility:

2.502	Duct Work Replacement	\$25,000
2.707	Densadeg Flow Meters	\$125,000

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Wastewater

Project Number	Project Name	Project Cost
2.501	Coagulant Dosing Pump Replacements	\$40,000
	Herring Cove Wastewater Treatment Facility:	
2.639	Duct Work Replacement Program	\$25,000
	Mill Cove Wastewater Treatment Facility:	
2.642	South Secondary Splitter Box Rehabilitation	\$30,000
2.64	Process Upgrades - Preliminary & Detailed Design	\$150,000
2.708	Digester Mixers - Failure Analysis	\$20,000
2.709	Lining of Supernatant Pump Station Croc	\$50,000
2.71	Replace Oxygen Analyzer	\$75,000
2.711	South Secondary Clarifier - Recoat/Replace Mechanisms	\$100,000
2.713	New Lab Cabinets and Counter Tops	\$60,000
	Eastern Passage Wastewater Treatment Facility:	
2.468	Process Upgrade Program	\$50,000
2.714	Rebuild Centrifuge 802	\$50,000
2.715	RAS Pumps - Spare Parts	\$40,000
2.716	Primary Sludge Pumps - Spare Parts	\$15,000
2.717	Atlas Copco Blowers - Spare VFD	\$20,000
2.718	Drum Thickener Overhaul - Spare Parts	\$15,000
2.719	Yard Lighting	\$35,000
2.72	Outfall Inspection and Warning Signage	\$15,000
	Aerotech Wastewater Treatment Facility:	
2.747	Upgrade and Expansion Project Extra Costs	\$500,000
2.667	Asset Renewal Program	\$100,000
	Timberlea Wastewater Treatment Facility:	
2.509	Asset Renewal Program	\$50,000
	Community Wastewater Treatment Facilities:	
2.723	Springfield Lake and Noth Preston - Driveway Replacement	\$15,000
2.741	Easement for Sewer and Access	\$15,000

Biosolids Processing Facility:

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Wastewater

Project Number	Project Name	Project Cost
2.568	Management Plan	\$150,000
2.731	Building Cleaning and Corrosion Protection	\$250,000
Wastewater - Treatment Facility -- T O T A L		\$3,245,000
<u>Wastewater - Energy</u>		
2.491	Pump Station HVAC Retro-Commissioning Program	\$100,000
2.65	HHSP - BAS + HVAC Recommissioning	\$50,000
2.651	NSPI Meter Relocations	\$25,000
2.554	Wastewater Puumping Station Performance Testing	\$250,000
Wastewater - Energy -- T O T A L		\$425,000
<u>Wastewater - Security</u>		
4.008	Security Upgrade Program	\$200,000
Wastewater - Security -- T O T A L		\$200,000
<u>Wastewater - Equipment</u>		
2.161	I&I Reduction (SIR) Program Flow Meters and Related Equipment	\$25,000
2.451	Miscellaneous Equipment Replacement	\$120,000
Wastewater - Equipment -- T O T A L		\$145,000
Wastewater - Corporate Projects -- T O T A L		\$10,642,800
GRAND TOTAL - WASTEWATER		\$33,978,800

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Capital Budget 2019/20

Stormwater

Project Number	Project Name	Project Cost
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Stormwater - Pipes

1.188	Cogswell Redevelopment - SW Sewer Relocation	\$300,000
1.038	Integrated Stormwater Projects - Program	\$1,200,000
1.198	Wanda Lane Deep Storm Sewer	\$205,000
1.218	Wanda Lane Storm System Upgrade	\$210,000
1.219	Lakecrest Drive CMP Replacement	\$75,000
1.22	Everette Street at Bonnie Brae Drive Drainage Upgrade	\$75,000
1.222	Celtic Drive Storm Sewer Renewal	\$120,000
1.102	Manhole Renewals SW	\$15,000
1.103	Catchbasin Renewals SW	\$60,000
1.135	Lateral Replacements SW	\$12,000
1.019	Drainage Remediation Program Surveys/Studies	\$25,000
1.204	National Disaster Mitigation Program	\$50,000
1.201	Stormwater Pipe Condition Inspections (CSP)	\$100,000

Stormwater - Pipes -- T O T A L

\$2,447,000

Stormwater - Culverts/Ditches

1.104	Driveway Culvert Replacements	\$812,000
1.187	Stormwater Survey and Studies Program	\$60,000

Street Specific Culvert Replacements:

1.214	BUNDY LANE, near civic 79	\$38,000
1.215	PARKWAY DRIVE and ATHOLEA DRIVE	\$38,000
1.216	FREDERICK DRIVE at DYKE ROAD	\$38,000
1.217	MILLERS ROAD, near civic 1	\$38,000
1.213	HIGHWAY 2, near civic 1380	\$170,000
1.221	MURRAY ROAD at CALDWELL ROAD	\$50,000
1.208	YANKEETOWN ROAD, near civic 16	\$170,000
1.125	CORONET AVENUE DRIVEWAY CULVERT REPLACEMENT PROJECT	\$200,000
1.209	LUCASVILLE ROAD, Sta. 0+910, near civic 1155	\$38,000
1.21	LUCASVILLE ROAD, Sta. 1+595, at Third St	\$38,000
1.211	LUCASVILLE ROAD, Sta. 2+695, near civic 758	\$38,000
1.212	LUCASVILLE ROAD, Sta. 2+750, near civic 749 and 743	\$38,000

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Stormwater

Project Number	Project Name	Project Cost
Stormwater - Culverts/Ditches -- T O T A L		\$1,766,000
<u>Stormwater - Structures</u>		
1.202	Ellenvale Run Retaining Wall System - Phase 2	\$2,220,000
1.203	Ellenvale Run Retaining Wall System - Phase 3 (Wanda Lane)	\$1,830,000
1.006	Clement St Berm	\$175,000
Stormwater - Structures -- T O T A L		\$4,225,000
Stormwater - Corporate Projects -- T O T A L		\$2,088,200
GRAND TOTAL - STORMWATER		\$10,526,200

1.000

~ Denotes Blanket approval

* Denotes Project with Funding Split between Services

HALIFAX WATER

Capital Budget 2019/20

Corporate Projects

Project Number	Project Name	Project Cost
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Corporate - Information Technology

4.011	Desktop Computer Replacement Program	\$290,000
4.012	IT Server Hosting	\$240,000
4.013	Document/Content Management	\$100,000
4.083	Computerized Maintenance Management System (CMMS) Enhancements	\$1,000,000
4.074	Asset Registry	\$200,000
4.086	IT Foundations	\$200,000
4.089	Telephony	\$90,000
4.091	Permit Approvals	\$770,000
1.161	Stormwater Billing Support	\$225,000
4.107	Customer Portal	\$700,000
4.097	Analytics Decision Support System	\$225,000
4.098	Regulatory Reporting	\$400,000
4.121	New Payroll System	\$600,000
4.102	Approval Forms Framework	\$600,000
4.101	Mobile Devices and Applications	\$200,000
4.1	SAP S4 Hana Upgrade	\$2,000,000
4.125	Water/Wastewater Data Quality Software Replacement	\$600,000
4.127	Migrate to Office 365	\$250,000
4.094	Customer Transactional Site	\$600,000
4.123	Data Governance	\$150,000

Corporate - Information Technology -- T O T A L

\$9,440,000

Corporate - GIS

4.115	GIS Data Build - Services (ICI)	\$250,000
4.010	Sewer Service Entry	\$550,000
4.116	GIS Data Project	\$250,000
4.038	GIS Hardware/Software Program	\$100,000
4.039	GIS Application Support Program	\$150,000
4.059	Water Database Model	\$50,000

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Corporate Projects

Project Number	Project Name	Project Cost
4.118	Engineering Drawing Database	\$250,000
Corporate - GIS -- T O T A L		\$1,600,000
<u>Corporate - Asset Management</u>		
2.523	Wastewater Sewer Condition Assessment	\$90,000
1.156	Storm Sewer Condition Assessment	\$60,000
2.043	Corporate Flow Monitoring Program	\$1,760,000
3.398	Hydraulic Water Model Build	\$190,000
4.113	Vulnerability to Climate Change Risk Assessment-Asset Class Pilot	\$100,000
Corporate - Asset Management -- T O T A L		\$2,200,000
<u>Corporate - Facility</u>		
2.176	East/Central Regional Operational Facility	\$4,000,000
4.077	Building Capital Improvements	\$100,000
Corporate - Facility -- T O T A L		\$4,100,000

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Capital Budget 2019/20

Corporate Projects

Project Number	Project Name	Project Cost
<u>Corporate - SCADA & Other Equipment</u>		
4.093	GPS Units - Replacement	\$67,000
4.004	SCADA Control System Enhancements	\$100,000
4.080	Large and New Customer Meters	\$460,000
4.430	Meter Deployment	\$2,600,000
Corporate - SCADA & Other Equipment -- T O T A L		\$3,227,000
<u>Corporate - Fleet</u>		
4.006	Fleet Upgrade Program Stormwater	\$295,000
4.006	Fleet Upgrade Program Wastewater	\$1,180,000
4.007	Fleet Upgrade Program Water	\$385,000
Corporate - Fleet -- T O T A L		\$1,860,000
GRAND TOTAL - Corporate Projects		\$22,427,000

ALLOCATION BREAKDOWN:

Water - Corporate Projects - T O T A L	\$9,696,000
Wastewater - Corporate Projects -- T O T A L	\$10,642,800
Stormwater - Corporate Projects -- T O T A L	\$2,088,200

GRAND TOTAL - Corporate Projects	\$22,427,000
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Note: All corporate projects are allocated as follows:

50% Water

40% Wastewater

10% Stormwater

(unless otherwise noted)

HALIFAX WATER

Capital Budget 2019/20

Summary of Routine Capital Expenditures included within Capital Budget

Project Number	Project Name	Project Cost
3.067	Valves Renewals	\$125,000
3.068	Hydrants Renewals	\$75,000
3.069	Service Lines Renewals	\$100,000
3.390	Lead Service Line Replacement Program	\$1,000,000
3.101	Miscellaneous Equipment Replacement (W)	\$50,000
4.007	Fleet Upgrade Program Water	\$385,000
2.357	Manhole Renewals WW	\$20,000
2.358	Lateral Replacements WW (non-tree roots)	\$1,685,000
2.563	Lateral Replacements WW (tree roots)	\$526,000
2.161	I&I Reduction (SIR) Program Flow Meters and Related Equipment	\$25,000
2.451	Miscellaneous Equipment Replacement (WW)	\$120,000
4.006	Fleet Upgrade Program Wastewater	\$1,180,000
1.102	Manhole Renewals SW	\$15,000
1.103	Catchbasin Renewals SW	\$60,000
1.135	Lateral Replacements SW	\$12,000
4.006	Fleet Upgrade Program Stormwater	\$295,000
4.011	Desktop Computer Replacement Program	\$290,000
4.093	GPS Units - Replacement	\$67,000
4.080	Large and New Customer Meters	\$460,000
4.430	Meter Deployment	\$2,600,000
GRAND TOTAL - Routine Capital Projects		\$9,090,000

Summary
Water
Wastewater
Stormwater

Values
\$ 32,843,000
\$ 33,978,800
\$ 10,526,200

2019/2020 Capital Budget by Asset Class - All Divisions

