



**City of Nashua
Wastewater Fund
Rate/Revenue Requirements Analysis
July 2016**

Wastewater Fund: Rate/Revenue Requirements Analysis

Page 3 – Schedule A – Analysis of Operations

Schedule A is the Analysis of Operations for the Wastewater Fund for the period FY2016 through FY2022. Included in the analysis is:

- 1) Percentage increases projected in Retail User Fees.
- 2) Projected Revenues and Expenditures from operational activities resulting in the calculation of Net Surplus from Operations for each year.
- 3) Projected Capital Costs offset by Debt proceeds, Use of Funding from the Capital Equipment Reserve, and State Aid Grants resulting in Net Surplus or Deficit from Capital Projects and Expenditures for each year.
- 4) Projected Total Unrestricted Net Assets in the Fund - Unrestricted Retained Earnings and Capital Equipment Reserve.

Page 4 – Schedule B - Analysis of Capital Projects – Capital Expenditures

Schedule B is the Analysis of Capital Projects for the Wastewater Fund. Included in the analysis is:

- 1) A listing of the various Consent Decree Projects and Collections System and Other Expenditures.
- 2) For each project, the schedule shows the total project amount, the type and amount of financing used and the estimated spending plan for the years FY2016 to FY2022.

Page 5 - Schedule C – Analysis of Capital Projects – Capital Funding Sources

Schedule C is the Analysis of Capital Funding Sources for the Wastewater Fund. Included in the analysis is:

- 1) A listing of the Projects funded by debt along with the anticipated debt proceeds for each year.
- 2) Use of funds from the Capital Equipment Replacement Fund for each year.
- 3) A listing of State Aid Grants and the amounts anticipated to be received for the years FY2016 to FY2022.

Page 6 - Schedule D – Capital Equipment Replacement Fund Schedule

This table lists all plant and mobile equipment and includes year acquired, original cost, life, year of replacement, future value (projected value at year of replacement), and amount to reserve each year in order to reach that future value (with inflation and investment earnings factored in). This equipment is categorized by plant and collections.

Page 21 - Schedule E – New Project Debt

This table shows the debt schedules for each of the projects being debt financed.

Page 22 - Schedule F – Analysis of Wastewater Fund

This table shows the year end fund balance and rate changes for FY2002 to FY2022.

City of Nashua
Analysis of Operations
FY2016 through FY2022

Schedule A

6/10/2016

Line No.	Description	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
1	Projected Percent Increase in Retail User Fees		0.00%	15.00%	0.00%	15.00%	0.00%	15.00%	0.00%
2	Effective Rate for the Fiscal Year Assuming a Mid-Year Rate Change		0.00%	7.50%	0.00%	7.50%	0.00%	7.50%	0.00%
3	Projected Percent Increase in Other Revenue		3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
4									
5	Revenue								
6	Retail User Fee Revenue - Base	\$ 12,491,875	\$ 12,491,875	\$ 12,491,875	\$ 14,365,656	\$ 14,365,656	\$ 16,520,505	\$ 16,520,505	\$ 18,998,580
7	Retail User Fee Revenue - Increase		-	936,891	-	1,077,424	-	1,239,038	-
8	Other Revenue		604,582	631,040	649,971	669,470	689,554	710,241	731,548
9	Total Revenues		\$ 13,096,457	\$ 14,059,806	\$ 15,015,627	\$ 16,112,551	\$ 17,210,059	\$ 18,469,784	\$ 19,730,129
10									
11	Projected Percent Increase in Operating Expenditures				3.00%	3.00%	3.00%	3.00%	3.00%
12	Expenditures								
13	Operating Expenditures								
14	Personnel Related Expenditures	\$ 3,502,423	\$ 3,824,804	\$ 3,939,548	\$ 4,057,735	\$ 4,179,467	\$ 4,304,851	\$ 4,433,996	
15	Operations and Maintenance	3,222,575	3,281,234	3,379,671	3,481,061	3,585,493	3,693,058	3,803,850	
16	Subtotal - Operating Expenditures	\$ 6,724,998	\$ 7,106,038	\$ 7,319,219	\$ 7,538,796	\$ 7,764,960	\$ 7,997,908	\$ 8,237,846	
17									
18	Non-Operating Expenditures								
19	Reserve for Replacements	\$ 1,607,129	\$ 1,607,129	\$ 2,055,600	\$ 2,055,600	\$ 2,055,600	\$ 2,055,600	\$ 2,055,600	
20	Buildings and Improvements	235,000	275,000	275,000	275,000	275,000	275,000	275,000	
21	Debt Service Payments (Schedule E)	4,187,167	5,247,739	5,887,703	6,411,424	6,351,550	6,220,890	5,628,962	
22	Subtotal - Non-Operating Expenditures	\$ 6,029,296	\$ 7,129,868	\$ 8,218,303	\$ 8,742,024	\$ 8,682,150	\$ 8,551,490	\$ 7,959,562	
23									
24	Total Expenditures	\$ 12,754,294	\$ 14,235,906	\$ 15,537,522	\$ 16,280,820	\$ 16,447,110	\$ 16,549,398	\$ 16,197,408	
25									
26	Net Surplus From Operations	\$ 342,163	\$ (176,101)	\$ (521,894)	\$ (168,269)	\$ 762,949	\$ 1,920,386	\$ 3,532,721	
27									
28	Capital Projects and Expenditures								
29	Capital Costs Funded by Debt (Schedule B - Lines 11 & 43)	\$ (3,900,000)	\$ (17,251,498)	\$ (155,000)	\$ (700,000)	\$ -	\$ -	\$ -	
30	Debt Proceeds (Schedule C - Line 22)	3,800,000	13,379,000	155,000	700,000	-	-	-	
31	Capital Costs Funded by Cash	\$ (100,000)	\$ (3,872,498)	\$ -	\$ -	\$ -	\$ -	\$ -	
32									
33	Annual Capital Expenditures Funded by Cash (Schedule B - Lines 16 & 50)	\$ (2,426,646)	\$ (4,090,185)	\$ (2,621,366)	\$ (2,725,798)	\$ (2,829,342)	\$ (2,849,034)	\$ (2,849,034)	
34									
35	Capital Equipment Replacement Expenditures (Schedule B - Line 57)	\$ (405,661)	\$ (2,097,867)	\$ (1,926,770)	\$ (369,257)	\$ (508,979)	\$ (238,235)	\$ (390,172)	
36	Funding from Capital Equipment Reserve (Schedule C - Line 25)	405,661	2,097,867	1,926,770	369,257	508,979	238,235	390,172	
37	Net Proceeds (Costs) from Capital Equipment Reserve	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
38									
39	State Aid Grants (Schedule C - Line 30)	\$ 329,491	\$ 328,393	\$ 327,295	\$ 95,547	\$ 94,450	\$ 93,353	\$ 93,353	
40									
41	Net Surplus (Deficit) From Capital Projects and Expenditures	\$ (2,197,155)	\$ (7,634,290)	\$ (2,294,071)	\$ (2,630,251)	\$ (2,734,892)	\$ (2,755,681)	\$ (2,755,681)	
42									
43	Unrestricted Retained Earnings								
44	Beginning Balance	\$ 3,855,493	\$ 2,000,501	\$ (5,809,889)	\$ (8,625,855)	\$ (11,424,375)	\$ (13,396,317)	\$ (14,231,613)	
45	Net Surplus (Deficit) From Operations (Line 26 above)	342,163	(176,101)	(521,894)	(168,269)	762,949	1,920,386	3,532,721	
46	Net Surplus (Deficit) From Capital Projects and Expenditures (Line 41 above)	(2,197,155)	(7,634,290)	(2,294,071)	(2,630,251)	(2,734,892)	(2,755,681)	(2,755,681)	
47	Ending Balance	\$ 3,855,493	\$ 2,000,501	\$ (5,809,889)	\$ (8,625,855)	\$ (11,424,375)	\$ (13,396,317)	\$ (14,231,613)	
48									
49	Capital Equipment Reserve								
50	Beginning Balance	\$ 10,552,681	\$ 11,754,149	\$ 11,263,412	\$ 11,392,242	\$ 13,078,585	\$ 14,625,206	\$ 16,442,570	
51	Capital Equipment Additions Funded by Sewer Rates (Schedule D)	1,607,129	1,607,129	2,055,600	2,055,600	2,055,600	2,055,600	2,055,600	
52	Payments for Capital Equipment Expenditures (Schedule D)	(405,661)	(2,097,867)	(1,926,770)	(369,257)	(508,979)	(238,235)	(390,172)	
53	Ending Balance	\$ 10,552,681	\$ 11,754,149	\$ 11,263,412	\$ 11,392,242	\$ 13,078,585	\$ 14,625,206	\$ 16,442,570	
54									
55	Total Unrestricted Net Assets	\$ 14,408,174	\$ 13,754,650	\$ 5,453,522	\$ 2,766,387	\$ 1,654,210	\$ 1,228,888	\$ 2,210,958	\$ 4,653,426

City of Nashua
Analysis of Capital Projects
CSO and Other Projects

Schedule B

Line No.	Description	Total	<<<< PROJECT FUNDING >>>>			PROJECT CASH FLOW >>>>						
			Other	Debt	Cash	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Consent Decree Expenditures												
Completed Projects												
1	Wet Weather Facility	\$ 32,375,000	\$ -	\$ 26,700,000	\$ 5,675,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	Sluice Gate	897,000	-	-	897,000	-	-	-	-	-	-	-
3	Drop Over Structures	1,634,000	-	-	1,634,000	-	-	-	-	-	-	-
4	System Optimization	1,810,000	-	-	1,810,000	-	-	-	-	-	-	-
5	Harbor Ave	5,581,405	700,000	4,519,057	362,348	-	-	-	-	-	-	-
6	Subtotal - Completed Projects	\$ 42,297,405	\$ 700,000	\$ 31,219,057	\$ 10,378,348	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7												
8	In Progress Projects											
9	Screening & Disinfection Facility	15,160,000	-	15,000,000	160,000	-	-	-	-	-	-	-
10	Storage Tank	5,764,964	-	5,764,964	-	-	-	-	-	-	-	-
11	Subtotal - In Progress Projects	\$ 20,924,964	\$ -	\$ 20,764,964	\$ 160,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12												
13	Annual Expenditures											
14	Inflow and Infiltration	\$ 500,000	\$ -	\$ -	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	Consent Decree Operational Expenditures	1,504,862	-	-	1,504,862	121,555	125,202	128,958	132,827	136,812	140,916	140,916
16	Subtotal - Annual Expenditures	\$ 2,004,862	\$ -	\$ -	\$ 2,004,862	\$ 121,555	\$ 125,202	\$ 128,958	\$ 132,827	\$ 136,812	\$ 140,916	\$ 140,916
17												
18	Total - Consent Decree Expenditures	\$ 65,227,231	\$ 700,000	\$ 51,984,021	\$ 12,543,210	\$ 121,555	\$ 125,202	\$ 128,958	\$ 132,827	\$ 136,812	\$ 140,916	\$ 140,916
19												
20												
21	Collection System and Other Expenditures											
22												
23	Completed Projects											
24	Haines Street	\$ 1,499,657	\$ -	\$ 1,338,066	\$ 161,591	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
25	Manchester Street	100,000	-	-	100,000	-	-	-	-	-	-	-
26	Net Metering	494,339	-	494,339	-	-	-	-	-	-	-	-
27	Subtotal - Completed Projects	\$ 2,093,996	\$ -	\$ 1,832,405	\$ 261,591	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28												
29	In Progress Projects											
30	Aeration Blowers & Tank Upgrade	4,160,973	\$ -	\$ 4,160,973	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31	Dewatering Equipment Replacement	5,666,516	-	5,566,516	100,000	-	-	-	-	-	-	-
32	Plant Headworks Upgrade	3,800,000	-	3,800,000	-	3,800,000	-	-	-	-	-	-
33	Pump Stations Rehab	8,500,000	-	8,400,000	100,000	100,000	8,400,000	-	-	-	-	-
34	Merrimack River Levee	150,000	-	-	150,000	-	128,174	-	-	-	-	-
35	Hazard Mitigation	50,593	50,593	-	-	-	-	-	-	-	-	-
36	Bridge Street Overflow Detention Basin	2,590,000	-	-	2,590,000	-	2,534,323	-	-	-	-	-
37	Effluent Defoamant Chemical Building	565,000	-	-	565,000	-	565,000	-	-	-	-	-
38	Primary Tank Upgrades	4,200,000	-	4,200,000	-	-	4,200,000	-	-	-	-	-
39	Phosphorus Removal & Storage Facility	855,000	-	855,000	-	-	-	155,000	700,000	-	-	-
40	Wastewater Plant Water Booster Station	779,000	-	779,000	-	-	779,000	-	-	-	-	-
41	AC & Air Handling Units	345,000	-	-	345,000	-	345,000	-	-	-	-	-
42	Capacity Management O&M (CMOM) Plan	300,000	-	-	300,000	-	300,000	-	-	-	-	-
43	Subtotal - In Progress Projects	\$ 31,962,082	\$ 50,593	\$ 27,761,489	\$ 4,150,000	\$ 3,900,000	\$ 17,251,498	\$ 155,000	\$ 700,000	\$ -	\$ -	\$ -
44												
45	Annual Expenditures											
46	Annual Sewer Infrastructure Improvements	\$ 13,174,084	\$ -	\$ -	\$ 13,174,084	\$ 1,458,608	\$ 3,100,000	\$ 1,608,115	\$ 1,688,521	\$ 1,772,947	\$ 1,772,947	\$ 1,772,947
47	Sewer Structure Replacement	2,031,513	-	-	2,031,513	255,256	268,019	281,420	295,491	304,356	313,486	313,486
48	CSO Flooding	2,800,000	-	-	2,800,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
49	Storm Water Abatement	1,458,621	-	-	1,458,621	191,227	196,964	202,873	208,959	215,228	221,685	221,685
50	Subtotal - Annual Expenditures	\$ 19,464,218	\$ -	\$ -	\$ 19,464,218	\$ 2,305,091	\$ 3,964,983	\$ 2,492,408	\$ 2,592,971	\$ 2,692,530	\$ 2,708,118	\$ 2,708,118
51												
52	Total Collection System and Other Expenditures	\$ 53,520,296	\$ 50,593	\$ 29,593,894	\$ 23,875,809	\$ 6,205,091	\$ 21,216,481	\$ 2,647,408	\$ 3,292,971	\$ 2,692,530	\$ 2,708,118	\$ 2,708,118
53												
54	Total Capital Expenditures	\$ 118,747,527	\$ 750,593	\$ 81,577,915	\$ 36,419,020	\$ 6,326,646	\$ 21,341,683	\$ 2,776,366	\$ 3,425,798	\$ 2,829,342	\$ 2,849,034	\$ 2,849,034
55												
56												
57	Capital Equipment Replacement Expenditures	\$ 5,936,941				\$ 405,661	\$ 2,097,867	\$ 1,926,770	\$ 369,257	\$ 508,979	\$ 238,235	\$ 390,172

City of Nashua
 Analysis of Use of Debt Proceeds, Capital Equipment Reserve and State Aid Grants
 CSO and Other Projects

Schedule C

Line No.	Project Description	Funding	Total	Debt	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	
1	Consent Decree Projects											
2	Wet Weather Facility	SRF	\$ 32,375,000	\$ 26,700,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3	Screening & Disinfection Facility	SRF	15,160,000	15,000,000	-	-	-	-	-	-	-	
4	Storage Tank	Bonds	5,764,964	5,764,964	-	-	-	-	-	-	-	
5	Harbor Ave	SRF	5,581,405	4,519,057	-	-	-	-	-	-	-	
6	Subtotal - Consent Decree Projects		\$ 58,881,369	\$ 51,984,021	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
7												
8												
9	Collection System and Other Projects											
10												
11	Aeration Blowers & Tank Upgrade	Bonds	4,160,973	4,160,973	-	-	-	-	-	-	-	
12	Dewatering Equipment Replacement	Bonds	5,666,516	5,567,000	-	-	-	-	-	-	-	
13	Plant Headworks Upgrade	SRF	3,800,000	3,800,000	3,800,000	-	-	-	-	-	-	
14	Pump Stations Rehab	SRF	8,500,000	8,400,000	-	8,400,000	-	-	-	-	-	
15	Haines Street	SRF	1,499,657	1,338,066	-	-	-	-	-	-	-	
16	Primary Tank Upgrades	SRF/Bnd	4,200,000	4,200,000	-	4,200,000	-	-	-	-	-	
17	Phosphorus Removal & Storage Facility	SRF/Bnd	855,000	855,000	-	-	155,000	700,000	-	-	-	
18	Wastewater Plant Water Booster Station	SRF/Bnd	779,000	779,000	-	779,000	-	-	-	-	-	
19	Net Metering	SRF	494,339	494,339	-	-	-	-	-	-	-	
20	Subtotal - Collection System and Other Projects		\$ 29,955,485	\$ 29,594,378	\$ 3,800,000	\$ 13,379,000	\$ 155,000	\$ 700,000	\$ -	\$ -	\$ -	
21												
22	Total Capital Projects		\$ 88,836,854	\$ 81,578,399	\$ 3,800,000	\$ 13,379,000	\$ 155,000	\$ 700,000	\$ -	\$ -	\$ -	
23												
24												
25	Capital Equipment Replacement Fund		\$ 5,936,941		\$ 405,661	\$ 2,097,867	\$ 1,926,770	\$ 369,257	\$ 508,979	\$ 238,235	\$ 390,172	
26												
27	State Aid Grants											
28	Current State Aid Grants		\$ 1,361,882		\$ 329,491	\$ 328,393	\$ 327,295	\$ 95,547	\$ 94,450	\$ 93,353	\$ 93,353	
29	Estimated State Aid Grants		-		-	-	-	-	-	-	-	
30	Total State Aid Grants		\$ 1,361,882		\$ 329,491	\$ 328,393	\$ 327,295	\$ 95,547	\$ 94,450	\$ 93,353	\$ 93,353	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
						RENEWAL/REPLACEMENT STRATEGY					
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
1	HW	Eqpt	Mechanical Bar Screen No. 1		Operations	1999	21	\$ 108,000	2016	\$ 110,160	\$ 6,200
2	HW	Eqpt	Mechanical Bar Screen No. 2		Operations	1999	21	\$ 108,000	2016	\$ 110,160	\$ 6,200
3	HW	Eqpt	Screenings Wash Press No. 1		Operations	1999	21	\$ 91,800	2016	\$ 93,636	\$ 5,300
4	HW	Eqpt	Screenings Wash Press No. 2		Operations	1999	21	\$ 91,800	2016	\$ 93,636	\$ 5,300
5	HW	Eqpt	Screenings Roll-Off Container No. 1		Operations	1999	21	\$ 33,000	2016	\$ 33,660	\$ 1,900
6	HW	Eqpt	Screenings Roll-Off Container No. 2		Operations	1999	21	\$ 33,000	2016	\$ 33,660	\$ 1,900
7	HW	Eqpt	Screenings Roll-Off Winch		Operations	1999	21	\$ 23,625	2016	\$ 24,098	\$ 1,400
8	HW	G/A	Influent WWTF Sluice Gate		Operations	1972	53	\$ 162,000	2024	\$ 193,605	\$ 3,300
9	HW	G/A	HW-SLG-1 Hydraulic Power Plant Actuator		Operations	1999	20	\$ 114,750	2018	\$ 121,774	\$ 6,100
10	HW	G/A	Influent SCR Slide Gate No. 1		Operations	1972	53	\$ 27,000	2024	\$ 32,267	\$ 500
11	HW	G/A	HW-SLD-1 Electric Actuator		Operations	1999	35	\$ 7,425	2036	\$ 11,254	\$ 300
12	HW	G/A	Influent SCR Slide Gate No. 2		Operations	1972	53	\$ 27,000	2024	\$ 32,267	\$ 500
13	HW	G/A	HW-SLD-2 Electric Actuator		Operations	1999	35	\$ 7,425	2036	\$ 11,254	\$ 300
14	HW	G/A	Effluent SCR Slide Gate No. 1		Operations	1972	53	\$ 27,000	2024	\$ 32,267	\$ 500
15	HW	G/A	Effluent SCR Slide Gate No. 2		Operations	1972	53	\$ 27,000	2024	\$ 32,267	\$ 500
16	HW	G/A	Wet Well XC Sluice Gate		Operations	1972	53	\$ 27,000	2024	\$ 32,267	\$ 500
17	HW	G/A	HW-SLG-2 Electric Actuator		Operations	1999	35	\$ 7,425	2036	\$ 11,254	\$ 300
18	RSPS	Eqpt	Bridge Crane No. 1 (3-Ton)		Operations	1972	50	\$ 135,000	2022	\$ 155,073	\$ 2,700
19	RSPS	Eqpt	Monorail System No. 1 (3-Ton) (part of Headworks project)		Operations	1972	41	\$ 67,500	2016	\$ 68,850	\$ 1,400
20	RSPS	Instr	Influent Magnetic Flow Meter		Operations	1995	35	\$ 20,250	2031	\$ 27,799	\$ 700
21	RSPS	MCC	MCC-101		Operations	1999	40	\$ 162,000	2041	\$ 271,094	\$ 5,800
22	RSPS	MCC	MCC-Headworks		Operations	1999	40	\$ 108,000	2040	\$ 177,185	\$ 3,900
23	RSPS	MCC	MCC-1A		Operations	1998	40	\$ 81,000	2039	\$ 130,283	\$ 2,900
24	RSPS	MCC	MCC-1B		Operations	1998	40	\$ 81,000	2039	\$ 130,283	\$ 2,900
25	RSPS	Pump	Raw Sewage Pump No. 1		Operations	2012	40	\$ 229,500	2054	\$ 496,809	\$ 10,700
26	RSPS	Pump	Raw Sewage Pump No. 2		Operations	2016	40	\$ 120,000	2057	\$ 270,264	\$ 6,000
27	RSPS	Pump	Raw Sewage Pump No. 3		Operations	2016	40	\$ 120,000	2057	\$ 270,264	\$ 6,000
28	RSPS	Pump	Raw Sewage Pump No. 4		Operations	2013	40	\$ 229,500	2055	\$ 506,745	\$ 10,900
29	RSPS	Pump	Sump Pump No. 1		Operations	2015	15	\$ 27,000	2031	\$ 37,065	\$ 2,200
30	TPS	Eqpt	Thickened Primary Sludge Grinder No. 1		Operations	1989	40	\$ 16,200	2031	\$ 22,239	\$ 500
31	TPS	Eqpt	Thickened Primary Sludge Grinder No. 2		Operations	1989	40	\$ 16,200	2031	\$ 22,239	\$ 500
32	TPS	Eqpt	Thickened Primary Sludge Grinder No. 3		Operations	1989	40	\$ 16,200	2031	\$ 22,239	\$ 500
33	TPS	Eqpt	Primary Thickener Drive Mechanism No. 1		Operations	2014	40	\$ 89,000	2056	\$ 204,455	\$ 4,400
34	TPS	Eqpt	Primary Thickener Drive Mechanism No. 2		Operations	2014	40	\$ 89,000	2056	\$ 204,455	\$ 4,400
35	TPS	Eqpt	Primary Thickener Structure No. 1		Operations	1972	53	\$ 47,250	2028	\$ 61,123	\$ 900
36	TPS	Eqpt	Primary Thickener Structure No. 2		Operations	1972	53	\$ 47,250	2028	\$ 61,123	\$ 900
37	TPS	HVAC	Dry Well Supply Fan		Operations	1999	40	\$ 24,300	2042	\$ 41,477	\$ 900
38	TPS	HVAC	Wet Well Supply Fan		Operations	1999	40	\$ 24,300	2042	\$ 41,477	\$ 900
39	TPS	HVAC	Dry Well Exhaust Fan		Operations	1999	40	\$ 6,750	2042	\$ 11,521	\$ 200
40	TPS	HVAC	Wet Well Exhaust Fan		Operations	1999	40	\$ 27,000	2042	\$ 46,086	\$ 1,000
41	TPS	HVAC	Primary Thickener OCS No. 1		Operations	2005	20	\$ 40,500	2024	\$ 48,401	\$ 2,400

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY				
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
42	TPS	MCC	MCC-TPS	Operations	2016	40	\$ 81,000	2058	\$ 189,798	\$ 4,100	
43	TPS	Pump	Thickened Primary Sludge Transfer Pump No. 1	Operations	2015	40	\$ 67,500	2056	\$ 152,024	\$ 3,400	
44	TPS	Pump	Thickened Primary Sludge Transfer Pump No. 2	Operations	2015	40	\$ 67,500	2056	\$ 152,024	\$ 3,400	
45	TPS	Pump	Thickened Primary Sludge Transfer Pump No. 3	Operations	2015	40	\$ 67,500	2056	\$ 152,024	\$ 3,400	
46	TPS	Valves	Supply Primary Thickener No. 1	Operations	2014	30	\$ 1,620	2046	\$ 2,993	\$ 100	
47	TPS	Valves	Drain Primary Thickener No. 1	Operations	1972	50	\$ 1,620	2017	\$ 3,949	\$ 100	
48	TPS	Valves	Supply Primary Thickener No. 2	Operations	2014	30	\$ 1,620	2046	\$ 2,993	\$ 100	
49	TPS	Valves	Drain Primary Thickener No. 2	Operations	1972	50	\$ 1,620	2017	\$ 3,949	\$ 100	
50	TPS	Valves	Supply Cross Connect Primary Thickener	Operations	1972	50	\$ 1,620	2017	\$ 1,685	\$ -	
51	WAC	Eqpt	WWTF Air Compressor No. 1	Operations	2010	25	\$ 40,500	2036	\$ 61,384	\$ 2,200	
52	WAC	Eqpt	WWTF Air Compressor No. 2	Operations	2010	25	\$ 20,250	2034	\$ 29,500	\$ 1,200	
53	WAC	Eqpt	Air Receiver No. 1	Operations	1972	53	\$ 1,350	2021	\$ 1,520	\$ -	
54	WAC	EE	Transformer NG-T2	Operations	2000	40	\$ 7,425	2043	\$ 12,927	\$ 300	
55	NG	Eqpt	North Emergency Generator (25MW)	Operations	2009	30	\$ 324,000	2040	\$ 598,619	\$ 17,900	
56	NG	MCC	MCC-North Generator	Operations	2009	40	\$ 70,200	2051	\$ 161,267	\$ 3,500	
57	NG	SWBD	SWBD-NG	Operations	2009	40	\$ 70,200	2051	\$ 161,267	\$ 3,500	
58	NG	SWBD	SWBD-CB	Operations	2009	40	\$ 70,200	2051	\$ 161,267	\$ 3,500	
59	NG	Tank	Underground Storage Tank (Diesel Fuel)	Operations	2002	40	\$ 108,000	2045	\$ 195,627	\$ 4,100	
60	CB	HVAC	Air Handling Unit	Operations	1988	33	\$ 101,250	2017	\$ 105,341	\$ 3,400	
61	CB	HVAC	AC Unit	Operations	1988	33	\$ 47,250	2017	\$ 49,159	\$ 1,600	
62	CB	HVAC	Boiler No. 1	Operations	2015	40	\$ 67,500	2058	\$ 158,165	\$ 3,300	
63	CB	HVAC	Boiler No. 2	Operations	2015	40	\$ 67,500	2058	\$ 158,165	\$ 3,300	
64	Lab	Eqpt	Chemical Exhaust Hood No. 1	Operations	1988	35	\$ 13,500	2019	\$ 14,613	\$ 400	
65	Lab	Eqpt	Chemical Exhaust Hood No. 2	Operations	1988	35	\$ 13,500	2019	\$ 14,613	\$ 400	
66	Lab	Eqpt	Chemical Exhaust Hood No. 3	Operations	1988	35	\$ 6,750	2019	\$ 7,306	\$ 200	
67	Lab	Eqpt	Chemical Exhaust Hood No. 4	Operations	1988	35	\$ 6,750	2019	\$ 7,306	\$ 200	
68	Lab	Eqpt	Muffler Furnace Exhaust Hood No. 1	Operations	1988	35	\$ 6,750	2019	\$ 7,306	\$ 200	
69	Lab	Eqpt	Deionized System No. 1	Operations	2000	20	\$ 12,150	2020	\$ 13,415	\$ 600	
70	Lab	Eqpt	Deionized System No. 2	Operations	2000	20	\$ 12,150	2020	\$ 13,415	\$ 600	
71	Lab	Eqpt	Raw Influent Sampler	Operations	2015	15	\$ 5,400	2031	\$ 7,413	\$ 400	
72	Lab	Eqpt	Primary Effluent Sampler	Operations	2015	15	\$ 5,400	2031	\$ 7,413	\$ 400	
73	Lab	Eqpt	Secondary Effluent Sampler	Operations	2015	15	\$ 5,400	2031	\$ 7,413	\$ 400	
74	Lab	Eqpt	Bypass Sampler	Operations	2015	15	\$ 4,185	2031	\$ 5,745	\$ 300	
75	Lab	Eqpt	Portable Sampler No. 1	Operations	2015	15	\$ 4,185	2031	\$ 5,745	\$ 300	
76	Lab	Eqpt	Portable Sampler No. 2	Operations	2015	15	\$ 4,185	2031	\$ 5,745	\$ 300	
77	Lab	Eqpt	Portable Sampler No. 3	Operations	2015	15	\$ 4,185	2031	\$ 5,745	\$ 300	
78	Lab	Eqpt	Portable Sampler No. 4	Operations	2015	15	\$ 4,185	2031	\$ 5,745	\$ 300	
79	CR	Instr	SCADA System - Phase 1	Operations	1998	21	\$ 270,000	2016	\$ 275,400	\$ 14,700	
80	CR	Instr	SCADA System - Phase 2	Operations	1998	21	\$ 468,500	2017	\$ 477,870	\$ 24,000	
81	CR	Instr	SCADA System - Phase 3	Operations	1998	21	\$ 174,000	2018	\$ 181,030	\$ 8,600	
82	WMBS	Eqpt	Water Meter Booster Station	Operations	1995	23	\$ 101,250	2017	\$ 156,530	\$ 6,700	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY				
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
83	GR	Blwr	Aerated Grit Blower No. 1	Operations	2014	20	\$ 27,000	2033	\$ 39,334	\$ 2,000	
84	GR	Blwr	Aerated Grit Blower No. 2	Operations	2014	20	\$ 27,000	2033	\$ 39,334	\$ 2,000	
85	GR	Eqpt	Grit Chamber Screw Conveyor No. 1	Operations	2014	20	\$ 60,750	2032	\$ 86,766	\$ 4,600	
86	GR	Eqpt	Grit Chamber Screw Conveyor No. 2	Operations	2014	20	\$ 60,750	2032	\$ 86,766	\$ 4,600	
87	GR	Eqpt	Grit Washing Unit No. 1	Operations	2014	20	\$ 128,250	2034	\$ 190,573	\$ 9,100	
88	GR	Eqpt	Grit Washing Unit No. 2	Operations	2014	20	\$ 128,250	2034	\$ 190,573	\$ 9,100	
89	GR	Eqpt	Grit Roll-Off Container No. 1	Operations	1998	22	\$ 40,500	2018	\$ 42,979	\$ 2,000	
90	GR	Eqpt	Grit Roll-Off Container No. 2	Operations	1998	22	\$ 40,500	2018	\$ 42,979	\$ 2,000	
91	GR	Eqpt	Grit Chamber Aeration Diffusers No. 1	Operations	2014	20	\$ 27,000	2034	\$ 40,121	\$ 1,900	
92	GR	Eqpt	Grit Chamber Aeration Diffusers No. 2	Operations	2014	20	\$ 27,000	2034	\$ 40,121	\$ 1,900	
93	GR	G/A	Slide Gate No. 1	Operations	2014	30	\$ 27,000	2045	\$ 49,885	\$ 1,500	
94	GR	G/A	Slide Gate No. 2	Operations	2014	30	\$ 27,000	2045	\$ 49,885	\$ 1,500	
95	GR	G/A	GC-SLD-1 Actuator	Operations	2014	30	\$ 7,425	2045	\$ 13,718	\$ 400	
96	GR	G/A	GC-SLD-2 Actuator	Operations	2014	30	\$ 7,425	2045	\$ 13,718	\$ 400	
97	GR	Pump	Grit Pump No. 1	Operations	2014	10	\$ 32,400	2021	\$ 37,217	\$ 5,200	
98	GR	Pump	Grit Pump No. 2	Operations	2014	10	\$ 32,400	2021	\$ 37,217	\$ 5,200	
99	GR	Instr	Flow Meter No. 1	Operations	2014	40	\$ 4,050	2056	\$ 9,304	\$ 200	
100	GR	Instr	Flow Meter No. 2	Operations	2014	40	\$ 4,050	2056	\$ 9,304	\$ 200	
101	PC	Blwr	Odor Control Blower No. 1	Operations	2005	22	\$ 13,500	2023	\$ 15,817	\$ 800	
102	PC	Blwr	Odor Control Blower No. 2	Operations	2005	20	\$ 13,500	2021	\$ 15,203	\$ 900	
103	PC	Eqpt	Collector Drive Mechanism / Chain & Flights No. 1	Operations	2007	13	\$ 94,500	2017	\$ 98,318	\$ 9,600	
104	PC	Eqpt	Collector Drive Mechanism / Chain & Flights No. 2	Operations	2007	13	\$ 94,500	2017	\$ 98,318	\$ 9,600	
105	PC	Eqpt	Collector Drive Mechanism / Chain & Flights No. 3	Operations	2007	13	\$ 148,500	2017	\$ 154,499	\$ 15,100	
106	PC	Eqpt	Collector Drive Mechanism / Chain & Flights No. 4	Operations	2007	13	\$ 148,500	2017	\$ 154,499	\$ 15,100	
107	PC	Eqpt	Collector Drive Mechanism / Chain & Flights No. 5	Operations	2007	13	\$ 148,500	2017	\$ 154,499	\$ 15,100	
108	PC	Eqpt	Cross Collector Drive Mechanism / Chain & Flights No. 3A	Operations	2007	13	\$ 33,750	2017	\$ 35,114	\$ 3,400	
109	PC	Eqpt	Cross Collector Drive Mechanism / Chain & Flights No. 3B	Operations	2007	13	\$ 33,750	2017	\$ 35,114	\$ 3,400	
110	PC	Eqpt	Cross Collector Drive Mechanism / Chain & Flights No. 4A	Operations	2007	13	\$ 33,750	2017	\$ 35,114	\$ 3,400	
111	PC	Eqpt	Cross Collector Drive Mechanism / Chain & Flights No. 4B	Operations	2007	13	\$ 33,750	2017	\$ 35,114	\$ 3,400	
112	PC	Eqpt	Cross Collector Drive Mechanism / Chain & Flights No. 5A	Operations	2007	13	\$ 33,750	2017	\$ 35,114	\$ 3,400	
113	PC	Eqpt	Cross Collector Drive Mechanism / Chain & Flights No. 5B	Operations	2007	13	\$ 33,750	2017	\$ 35,114	\$ 3,400	
114	PC	Eqpt	Grease / Scum Grinder No. 1	Operations	2008	40	\$ 27,000	2047	\$ 50,883	\$ 1,200	
115	PC	Eqpt	Odor Control Scrubber Tower No. 1	Operations	2005	20	\$ 20,250	2025	\$ 24,685	\$ 1,200	
116	PC	G/A	Influent Slide Gate No. 1 (12" X 48")	Operations	2007	30	\$ 10,800	2038	\$ 17,031	\$ 500	
117	PC	G/A	Influent Slide Gate No. 2 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
118	PC	G/A	Influent Slide Gate No. 3 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
119	PC	G/A	Influent Slide Gate No. 4 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
120	PC	G/A	Influent Slide Gate No. 5 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
121	PC	G/A	Influent Slide Gate No. 6 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
122	PC	G/A	Influent Slide Gate No. 7 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
123	PC	G/A	Influent Slide Gate No. 8 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
						RENEWAL/REPLACEMENT STRATEGY					
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
124	PC	G/A	Influent Slide Gate No. 9 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
125	PC	G/A	Influent Slide Gate No. 10 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
126	PC	G/A	Influent Slide Gate No. 11 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
127	PC	G/A	Influent Slide Gate No. 12 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
128	PC	G/A	Influent Slide Gate No. 13 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
129	PC	G/A	Influent Slide Gate No. 14 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
130	PC	G/A	Influent Slide Gate No. 15 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
131	PC	G/A	Influent Slide Gate No. 16 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
132	PC	G/A	Influent Slide Gate No. 17 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
133	PC	G/A	Influent Slide Gate No. 18 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
134	PC	G/A	Influent Slide Gate No. 19 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
135	PC	G/A	Influent Slide Gate No. 20 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
136	PC	G/A	Influent Slide Gate No. 21 (12" X 24")	Operations	2007	30	\$ 6,750	2038	\$ 10,644	\$ 300	
137	PC	G/A	Influent Slide Gate No. 22 (12" X 48")	Operations	2007	30	\$ 10,800	2038	\$ 17,031	\$ 500	
138	PC	G/A	PC-SLD-1 Actuator	Operations	2007	30	\$ 7,425	2036	\$ 11,254	\$ 400	
139	PC	G/A	PC-SLD-22 Actuator	Operations	2007	30	\$ 7,425	2036	\$ 11,254	\$ 400	
140	PC	G/A	Primary Sludge Low Suction Valve No. 1 Actuator	Operations	2007	30	\$ 2,700	2036	\$ 4,092	\$ 100	
141	PC	G/A	Primary Sludge Suction Valve No. 1 Actuator	Operations	2007	30	\$ 2,700	2036	\$ 4,092	\$ 100	
142	PC	G/A	Primary Sludge Suction Valve No. 2 Actuator	Operations	2007	30	\$ 2,700	2036	\$ 4,092	\$ 100	
143	PC	G/A	Primary Sludge Suction Valve No. 3 Actuator	Operations	2007	30	\$ 2,700	2036	\$ 4,092	\$ 100	
144	PC	G/A	Primary Sludge Suction Valve No. 4 Actuator	Operations	2007	30	\$ 2,700	2036	\$ 4,092	\$ 100	
145	PC	G/A	Primary Sludge Suction Valve No. 5 Actuator	Operations	2007	30	\$ 2,700	2036	\$ 4,092	\$ 100	
146	PC	G/A	Primary Effluent Weir Gate No. 1 (120" X 36")	Operations	1988	30	\$ -	2019	\$ -	\$ -	
147	PC	G/A	PEWG-1 Actuator	Operations	2016	30	\$ 8,370	2047	\$ 15,774	\$ 500	
148	PC	HVAC	Primary Gallery Air Handling Unit No. 1	Operations	2007	40	\$ 27,000	2045	\$ 48,907	\$ 1,200	
149	PC	Instr	Primary Effluent Flow Meter (36" Venturi)	Operations	1988	40	\$ 60,750	2030	\$ 81,762	\$ 1,800	
150	PC	Pump	Primary Clarifier Scum Pump No. 1	Operations	2007	35	\$ 22,950	2039	\$ 36,914	\$ 1,100	
151	PC	Pump	Primary Sludge Pump No. 1 (25 HP)	Operations	2007	35	\$ 60,750	2041	\$ 101,660	\$ 2,800	
152	PC	Pump	Primary Sludge Pump No. 2 (25 HP)	Operations	2007	35	\$ 60,750	2041	\$ 101,660	\$ 2,800	
153	A	Blwr	Blower No. 1	Operations	2015	30	\$ 305,100	2046	\$ 563,699	\$ 16,900	
154	A	Blwr	Blower No. 2	Operations	2015	30	\$ 305,100	2046	\$ 563,699	\$ 16,900	
155	A	Blwr	Blower No. 3	Operations	2015	30	\$ 305,100	2046	\$ 563,699	\$ 16,900	
156	A	Eqpt	Diffusers No. 1	Operations	2015	30	\$ 95,850	2046	\$ 177,091	\$ 5,300	
157	A	Eqpt	Diffusers No. 2	Operations	2015	30	\$ 95,850	2046	\$ 177,091	\$ 5,300	
158	A	Eqpt	Diffusers No. 3	Operations	2015	30	\$ 95,850	2046	\$ 177,091	\$ 5,300	
159	A	Eqpt	Diffusers No. 4	Operations	2015	30	\$ 95,850	2046	\$ 177,091	\$ 5,300	
160	A	G/A	Splitter Structure Sluice Gate No. 1 (60" X 60")	Operations	1988	40	\$ 27,000	2025	\$ 35,626	\$ 900	
161	A	G/A	Splitter Structure Sluice Gate No. 2 (60" X 60")	Operations	1988	40	\$ 27,000	2025	\$ 35,626	\$ 900	
162	A	G/A	Influent Sluice Gate No. 1A (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
163	A	G/A	Influent Sluice Gate No. 1B (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
164	A	G/A	Influent Sluice Gate No. 1C (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
						RENEWAL/REPLACEMENT STRATEGY					
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
165	A	G/A	Influent Sluice Gate No. 1D (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
166	A	G/A	Influent Sluice Gate No. 2A (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
167	A	G/A	Influent Sluice Gate No. 2B (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
168	A	G/A	Influent Sluice Gate No. 2C (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
169	A	G/A	Influent Sluice Gate No. 2D (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
170	A	G/A	Influent Sluice Gate No. 3A (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
171	A	G/A	Influent Sluice Gate No. 3B (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
172	A	G/A	Influent Sluice Gate No. 3C (12" X 15")	Operations	2015	13	\$ 6,750	2027	\$ 9,266	\$ 800	
173	A	G/A	Influent Sluice Gate No. 3D (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
174	A	G/A	Influent Sluice Gate No. 4A (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
175	A	G/A	Influent Sluice Gate No. 4B (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
176	A	G/A	Influent Sluice Gate No. 4C (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
177	A	G/A	Influent Sluice Gate No. 4D (12" X 15")	Operations	1988	40	\$ 6,750	2025	\$ 8,906	\$ 200	
178	A	G/A	Aeration Motor Operated Butterfly Valve No. 1A (5")	Operations	2015	15	\$ 11,745	2030	\$ 15,807	\$ 1,000	
179	A	G/A	Aeration Motor Operated Butterfly Valve No. 1B (6")	Operations	2015	15	\$ 12,555	2030	\$ 16,897	\$ 1,100	
180	A	G/A	Aeration Motor Operated Butterfly Valve No. 1A (8")	Operations	2015	15	\$ 13,770	2030	\$ 18,533	\$ 1,200	
181	A	G/A	Aeration Motor Operated Butterfly Valve No. 2A (5")	Operations	2015	15	\$ 11,745	2030	\$ 15,807	\$ 1,000	
182	A	G/A	Aeration Motor Operated Butterfly Valve No. 2B (6")	Operations	2015	15	\$ 12,555	2030	\$ 16,897	\$ 1,100	
183	A	G/A	Aeration Motor Operated Butterfly Valve No. 2A (8")	Operations	2015	15	\$ 13,770	2030	\$ 18,533	\$ 1,200	
184	A	G/A	Aeration Motor Operated Butterfly Valve No. 3A (5")	Operations	2015	15	\$ 11,745	2030	\$ 15,807	\$ 1,000	
185	A	G/A	Aeration Motor Operated Butterfly Valve No. 3B (6")	Operations	2015	15	\$ 12,555	2030	\$ 16,897	\$ 1,100	
186	A	G/A	Aeration Motor Operated Butterfly Valve No. 3A (8")	Operations	2015	15	\$ 13,770	2030	\$ 18,533	\$ 1,200	
187	A	G/A	Aeration Motor Operated Butterfly Valve No. 4A (5")	Operations	2015	15	\$ 11,745	2030	\$ 15,807	\$ 1,000	
188	A	G/A	Aeration Motor Operated Butterfly Valve No. 4B (6")	Operations	2015	15	\$ 12,555	2030	\$ 16,897	\$ 1,100	
189	A	G/A	Aeration Motor Operated Butterfly Valve No. 4A (8")	Operations	2015	15	\$ 13,770	2030	\$ 18,533	\$ 1,200	
190	A	G/A	Blower Outlet Motor Operated Butterfly Valve No. 1 (14")	Operations	2015	30	\$ 21,600	2044	\$ 38,358	\$ 1,200	
191	A	G/A	Blower Outlet Motor Operated Butterfly Valve No. 2 (14")	Operations	2015	30	\$ 21,600	2044	\$ 38,358	\$ 1,200	
192	A	G/A	Blower Outlet Motor Operated Butterfly Valve No. 3 (14")	Operations	2015	30	\$ 21,600	2044	\$ 38,358	\$ 1,200	
193	A	HVAC	Aeration Building Air Handling Unit No. 1	Operations	1989	40	\$ 67,500	2029	\$ 89,065	\$ 2,000	
194	A	Instr	Dissolved Oxygen Probe No. 1A	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
195	A	Instr	Dissolved Oxygen Probe No. 1B	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
196	A	Instr	Dissolved Oxygen Probe No. 1C	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
197	A	Instr	Dissolved Oxygen Probe No. 2A	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
198	A	Instr	Dissolved Oxygen Probe No. 2B	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
199	A	Instr	Dissolved Oxygen Probe No. 2C	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
200	A	Instr	Dissolved Oxygen Probe No. 3A	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
201	A	Instr	Dissolved Oxygen Probe No. 3B	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
202	A	Instr	Dissolved Oxygen Probe No. 3C	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
203	A	Instr	Dissolved Oxygen Probe No. 4A	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
204	A	Instr	Dissolved Oxygen Probe No. 4B	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	
205	A	Instr	Dissolved Oxygen Probe No. 4C	Operations	2015	5	\$ 4,860	2019	\$ 5,261	\$ 1,300	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
						RENEWAL/REPLACEMENT STRATEGY					
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
206	A	Instr	DO Probe Controller No. 1 (SC-1000)	Operations	2015	5	\$ 3,375	2019	\$ 3,653	\$ 900	
207	A	Instr	DO Probe Controller No. 2 (SC-1000)	Operations	2015	5	\$ 3,375	2019	\$ 3,653	\$ 900	
208	A	Instr	MLSS Probe No. 1	Operations	2015	5	\$ 13,500	2019	\$ 14,613	\$ 3,600	
209	A	Instr	MLSS Probe No. 2	Operations	2015	5	\$ 13,500	2019	\$ 14,613	\$ 3,600	
210	A	Instr	MLSS Probe Controller No. 1	Operations	2015	5	\$ 2,160	2019	\$ 2,338	\$ 600	
211	A	Instr	MLSS Probe Controller No. 2	Operations	2015	5	\$ 2,160	2019	\$ 2,338	\$ 600	
212	A	Instr	Flow Meter No. 1A	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
213	A	Instr	Flow Meter No. 1B	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
214	A	Instr	Flow Meter No. 1C	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
215	A	Instr	Flow Meter No. 2A	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
216	A	Instr	Flow Meter No. 2B	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
217	A	Instr	Flow Meter No. 2C	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
218	A	Instr	Flow Meter No. 3A	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
219	A	Instr	Flow Meter No. 3B	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
220	A	Instr	Flow Meter No. 3C	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
221	A	Instr	Flow Meter No. 4A	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
222	A	Instr	Flow Meter No. 4B	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
223	A	Instr	Flow Meter No. 4C	Operations	2015	15	\$ 2,700	2030	\$ 3,634	\$ 200	
224	A	MCC	Blower Building Motor Control Center	Operations	2015	40	\$ 162,000	2057	\$ 372,154	\$ 8,000	
225	A	MCC	Ampgaurd Medium Voltage Motor Center	Operations	2015	40	\$ 162,000	2057	\$ 372,154	\$ 8,000	
226	SEG	Eqpt	South Emergency Generator	Operations	2000	40	\$ 283,500	2042	\$ 651,269	\$ 14,000	
227	SEG	FT	Unleaded Fuel Tank No. 1	Operations	2000	30	\$ 47,250	2031	\$ 87,299	\$ 2,600	
228	SEG	FT	Diesel (No. 2) Fuel Tank No. 2	Operations	2000	30	\$ 24,300	2031	\$ 44,896	\$ 1,300	
229	CEG	Eqpt	Central Emergency Generator	Operations	2000	25	\$ 209,250	2023	\$ 329,966	\$ 13,600	
230	CEG	SWBD	SWBD-CEG	Operations	2000	25	\$ 108,000	2025	\$ 177,185	\$ 6,700	
231	CEG	FT	Diesel (No. 2) Fuel Tank No. 1	Operations	2000	30	\$ 24,300	2031	\$ 44,896	\$ 1,300	
232	SC	Eqpt	Drive Mechanism No. 1	Operations	2014	20	\$ 70,180	2034	\$ 104,284	\$ 5,000	
233	SC	Eqpt	Drive Mechanism No. 2	Operations	2014	20	\$ 70,180	2034	\$ 104,284	\$ 5,000	
234	SC	Eqpt	Drive Mechanism No. 3	Operations	2014	20	\$ 70,180	2034	\$ 104,284	\$ 5,000	
235	SC	Eqpt	Structure No. 1 (63'-10" Radius)	Operations	1988	50	\$ 283,500	2041	\$ 474,414	\$ 7,800	
236	SC	Eqpt	Structure No. 2 (63'-10" Radius)	Operations	1988	50	\$ 283,500	2041	\$ 474,414	\$ 7,800	
237	SC	Eqpt	Structure No. 3 (63'-10" Radius)	Operations	1988	50	\$ 283,500	2041	\$ 474,414	\$ 7,800	
238	SC	G/A	Splitter Structure Weir Gate No. 1 (144" X 42")	Operations	1988	35	\$ 40,500	2020	\$ 48,401	\$ 1,400	
239	SC	G/A	Splitter Structure Weir Gate No. 2 (144" X 42")	Operations	1988	35	\$ 40,500	2020	\$ 48,401	\$ 1,400	
240	SC	G/A	Splitter Structure Weir Gate No. 3 (144" X 42")	Operations	1988	35	\$ 40,500	2020	\$ 48,401	\$ 1,400	
241	SC	G/A	Splitter Structure Weir Gate No. 4 (144" X 42")	Operations	1988	35	\$ 40,500	2020	\$ 48,401	\$ 1,400	
242	SC	G/A	Splitter Structure Weir Gate No. 5 (144" X 42")	Operations	1988	35	\$ 40,500	2020	\$ 48,401	\$ 1,400	
243	SC	G/A	Splitter Structure Influent Slide Gate No. 1	Operations	1988	35	\$ 29,700	2020	\$ 35,494	\$ 1,000	
244	SC	HVAC	Pump Building Air Handling Unit No. 1	Operations	1988	40	\$ 67,500	2025	\$ 82,282	\$ 2,000	
245	SC	Instr	Secondary Effluent Flow Meter (60" Venturi)	Operations	1988	35	\$ 189,000	2025	\$ 230,390	\$ 5,700	
246	SC	Pump	Return Activated Sludge Pump No. 1	Operations	2015	30	\$ 78,300	2046	\$ 144,666	\$ 4,300	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
						RENEWAL/REPLACEMENT STRATEGY					
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
247	SC	Pump	Return Activated Sludge Pump No. 2	Operations	2015	30	\$ 78,300	2046	\$ 144,666	\$ 4,300	
248	SC	Pump	Return Activated Sludge Pump No. 3	Operations	2015	30	\$ 78,300	2046	\$ 144,666	\$ 4,300	
249	SC	Pump	Return Activated Sludge Pump No. 4	Operations	2015	30	\$ 78,300	2046	\$ 144,666	\$ 4,300	
250	SC	Pump	Waste Activated Sludge Pump No. 1	Operations	2015	30	\$ 22,950	2046	\$ 42,402	\$ 1,300	
251	SC	Pump	Waste Activated Sludge Pump No. 2	Operations	2015	30	\$ 22,950	2046	\$ 42,402	\$ 1,300	
252	SC	Pump	Waste Activated Sludge Pump No. 3	Operations	2015	30	\$ 22,950	2046	\$ 42,402	\$ 1,300	
253	SC	Pump	WAS Thickening Polymer Pump No. 1	Operations	2015	30	\$ 20,925	2045	\$ 37,903	\$ 1,200	
254	SC	Pump	WAS Thickening Polymer Pump No. 2	Operations	2015	30	\$ 20,925	2045	\$ 37,903	\$ 1,200	
255	SC	Pump	WAS Thickening Polymer Pump No. 3	Operations	2015	30	\$ 20,925	2045	\$ 37,903	\$ 1,200	
256	SC	Pump	WAS Thickening Polymer Pump No. 4	Operations	2015	30	\$ 20,925	2045	\$ 37,903	\$ 1,200	
257	PWS	Eqpt	Plant Water Dual Basket Strainer	Operations	2014	20	\$ 16,200	2034	\$ 24,072	\$ 1,100	
258	PWS	Eqpt	Plant Water System Skid	Operations	2014	20	\$ 114,750	2034	\$ 170,512	\$ 8,100	
259	Dis	G/A	Slide Gate No. 1 (60" X 60")	Operations	1988	35	\$ 27,000	2020	\$ 32,267	\$ 900	
260	Dis	G/A	Slide Gate No. 2 (60" X 60")	Operations	1988	35	\$ 27,000	2020	\$ 32,267	\$ 900	
261	Dis	G/A	CCT-SLD-1 Actuator	Operations	2008	15	\$ 8,775	2021	\$ 9,882	\$ 700	
262	Dis	G/A	CCT-SLD-2 Actuator	Operations	1988	35	\$ 8,775	2021	\$ 9,882	\$ 300	
263	Dis	HVAC	Dechlor Building Air Handling Unit No. 1	Operations	1989	40	\$ 40,500	2029	\$ 53,439	\$ 1,200	
264	Dis	MCC	MCC-PB1	Operations	1988	40	\$ 162,000	2028	\$ 209,564	\$ 4,700	
265	Dis	MCC	MCC-PB2	Operations	1988	40	\$ 162,000	2028	\$ 209,564	\$ 4,700	
266	Dis	MCC	Pump Building Automatic Transfer Switch	Collections	2000	40	\$ -	2041	\$ -	\$ -	
267	Dis	Mix	Sodium Hypochlorite Mixer No. 1	Operations	2015	20	\$ 8,100	2035	\$ 12,036	\$ 600	
268	Dis	Mix	Sodium Hypochlorite Mixer No. 2	Operations	2015	20	\$ 8,100	2035	\$ 12,036	\$ 600	
269	Dis	Mix	Sodium Bisulfite Mixer No. 1	Operations	2015	20	\$ 8,100	2035	\$ 12,036	\$ 600	
270	Dis	Mix	Sodium Bisulfite Mixer No. 2	Operations	2015	20	\$ 8,100	2035	\$ 12,036	\$ 600	
271	Dis	Pump	Sodium Hypochlorite Metering Pump No. 1	Operations	2008	12	\$ 5,400	2019	\$ 5,845	\$ 500	
272	Dis	Pump	Sodium Hypochlorite Metering Pump No. 2	Operations	2008	12	\$ 5,400	2019	\$ 5,845	\$ 500	
273	Dis	Pump	Sodium Hypochlorite Metering Pump No. 3	Operations	2008	12	\$ 5,400	2019	\$ 5,845	\$ 500	
274	Dis	Pump	Sodium Hypochlorite Metering Pump No. 4	Operations	2008	12	\$ 5,400	2019	\$ 5,845	\$ 500	
275	Dis	Pump	Sodium Hypochlorite Metering Pump No. 5	Operations	2008	12	\$ 5,400	2019	\$ 5,845	\$ 500	
276	Dis	Pump	Sodium Hypochlorite Metering Pump No. 6	Operations	2008	12	\$ 5,400	2019	\$ 5,845	\$ 500	
277	Dis	Pump	Sodium Hypochlorite Metering Pump No. 7	Operations	2008	12	\$ 5,400	2019	\$ 5,845	\$ 500	
278	Dis	Pump	Sodium Bisulfite Metering Pump No. 1	Operations	2008	12	\$ 22,950	2019	\$ 24,842	\$ 2,200	
279	Dis	Pump	Sodium Bisulfite Metering Pump No. 2	Operations	2008	12	\$ 22,950	2019	\$ 24,842	\$ 2,200	
280	Dis	Pump	Sodium Bisulfite Metering Pump No. 3	Operations	2008	12	\$ 22,950	2019	\$ 24,842	\$ 2,200	
281	Dis	Tank	Sodium Hypochlorite Tank No. 1	Operations	1998	30	\$ 101,250	2028	\$ 130,978	\$ 4,100	
282	Dis	Tank	Sodium Hypochlorite Tank No. 2	Operations	1998	30	\$ 101,250	2028	\$ 130,978	\$ 4,100	
283	Dis	Tank	Sodium Bisulfite Tank No. 1	Operations	1998	30	\$ 67,500	2028	\$ 87,318	\$ 2,700	
284	Dis	Tank	Sodium Bisulfite Tank No. 2	Operations	2000	30	\$ 67,500	2030	\$ 90,846	\$ 2,800	
285	Dis	Tank	Sodium Bisulfite Tank No. 3	Operations	1998	30	\$ 67,500	2028	\$ 87,318	\$ 2,700	
286	ER	Eqpt	Primary Digester Draft Tube Mixer	Operations	2014	10	\$ 218,700	2023	\$ 261,367	\$ 28,500	
287	ER	Eqpt	Primary Digester Spiral Heat Exchanger	Operations	2011	10	\$ 48,600	2020	\$ 58,081	\$ 6,300	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY				
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
288	ER	Eqpt	Digester Sludge Grinder No. 1	Operations	2014	40	\$ 47,250	2051	\$ 98,312	\$ 2,400	
289	ER	Eqpt	Digester Sludge Grinder No. 2	Operations	2014	40	\$ 47,250	2051	\$ 98,312	\$ 2,400	
290	ER	Eqpt	Digester Sludge Grinder No. 3	Operations	2014	40	\$ 47,250	2057	\$ 110,716	\$ 2,300	
291	ER	Eqpt	Digester Sludge Grinder No. 4	Operations	2014	40	\$ 47,250	2057	\$ 110,716	\$ 2,300	
292	ER	Eqpt	Digester Sludge Grinder No. 5	Operations	2014	40	\$ 47,250	2051	\$ 98,312	\$ 2,400	
293	ER	Eqpt	Digester Sludge Grinder No. 6	Operations	2014	40	\$ 47,250	2051	\$ 98,312	\$ 2,400	
294	ER	Eqpt	Methane Gas Purifier	Operations	2000	45	\$ 67,500	2048	\$ 129,751	\$ 2,400	
295	ER	Eqpt	Methane Gas Mist Eliminator	Operations	2000	45	\$ 54,000	2045	\$ 97,814	\$ 1,900	
296	ER	Eqpt	Energy Recovery Generator	Operations	2000	22	\$ 607,500	2018	\$ 867,660	\$ 46,200	
297	ER	Eqpt	Iron Sponge	Operations	2000	20	\$ 67,500	2019	\$ 98,335	\$ 4,900	
298	ER	HVAC	Boiler No. 1	Operations	2000	40	\$ 135,000	2039	\$ 292,241	\$ 6,800	
299	ER	HVAC	Boiler No. 2	Operations	2000	40	\$ 135,000	2039	\$ 292,241	\$ 6,800	
300	ER	HVAC	Digester Complex Air Handling Unit No. 1	Operations	2000	40	\$ 67,500	2039	\$ 108,570	\$ 2,500	
301	ER	MCC	Energy Recovery Motor Control Center	Operations	2000	40	\$ 108,000	2042	\$ 184,344	\$ 4,000	
302	ER	MCC	ENICON	Operations	2010	40	\$ 168,750	2052	\$ 387,660	\$ 8,300	
303	ER	Pump	Primary Digester Mixer Grease Pump	Operations	2014	10	\$ 13,500	2023	\$ 16,134	\$ 1,800	
304	ER	Pump	Primary Digester Scum Suppression Pump No. 1	Operations	2000	25	\$ 13,500	2021	\$ 15,203	\$ 700	
305	ER	Pump	Primary Digester Scum Suppression Pump No. 2	Operations	2000	25	\$ 13,500	2021	\$ 15,203	\$ 700	
306	ER	Pump	Digested Sludge Transfer Pump No. 1	Operations	2015	20	\$ 58,050	2035	\$ 86,259	\$ 4,100	
307	ER	Pump	Digested Sludge Transfer Pump No. 2	Operations	2015	20	\$ 58,050	2035	\$ 86,259	\$ 4,100	
308	ER	Pump	Digested Sludge Transfer Pump No. 3	Operations	2000	25	\$ 58,050	2021	\$ 65,374	\$ 3,000	
309	ER	Pump	Heating/Cooling Pump No. 1	Operations	2013	20	\$ 27,000	2033	\$ 40,121	\$ 1,900	
310	ER	Pump	Heating/Cooling Pump No. 2	Operations	2000	21	\$ 27,000	2018	\$ 29,810	\$ 1,600	
311	ER	Pump	Heating/Cooling Pump No. 3	Operations	2000	21	\$ 27,000	2018	\$ 29,810	\$ 1,600	
312	ER	Pump	Heating/Cooling Pump No. 4	Operations	2000	21	\$ 27,000	2018	\$ 29,810	\$ 1,600	
313	ER	Pump	Heating/Cooling Pump No. 5	Operations	2013	20	\$ 27,000	2033	\$ 40,121	\$ 1,900	
314	ER	Pump	Heating/Cooling Pump No. 6	Operations	2013	20	\$ 27,000	2033	\$ 40,121	\$ 1,900	
315	ER	Pump	Primary Digester Sludge Recirculation Pump No. 1	Operations	2014	10	\$ 56,700	2022	\$ 66,433	\$ 8,200	
316	ER	Pump	Primary Digester Sludge Recirculation Pump No. 2	Operations	2014	10	\$ 56,700	2022	\$ 66,433	\$ 8,200	
317	ER	Pump	Secondary Digester Mixing Pump No. 1	Operations	2014	20	\$ 84,375	2033	\$ 122,918	\$ 6,200	
318	ER	Pump	Secondary Digester Mixing Pump No. 2	Operations	2014	20	\$ 84,375	2033	\$ 122,918	\$ 6,200	
319	ER	Pump	Primary Digester Sump Pump No. 1	Operations	2000	18	\$ 27,000	2017	\$ 28,091	\$ 1,600	
320	ER	Pump	Primary Digester Sump Pump No. 2	Operations	2000	18	\$ 27,000	2017	\$ 28,091	\$ 1,600	
321	Dwtr	Eqpt	Polymer Bulk Storage Tank Mixer No. 1	Operations	1988	40	\$ 13,500	2027	\$ 17,121	\$ 400	
322	Dwtr	Eqpt	Screw Press No. 1	Operations	2014	20	\$ 418,500	2034	\$ 621,869	\$ 29,600	
323	Dwtr	Eqpt	Screw Press No. 2	Operations	2014	20	\$ 418,500	2034	\$ 621,869	\$ 29,600	
324	Dwtr	Eqpt	Screw Press No. 3	Operations	2014	20	\$ 418,500	2034	\$ 621,869	\$ 29,600	
325	Dwtr	Eqpt	Electric Hoist No. 1 (3-Ton)	Operations	1988	42	\$ 13,500	2024	\$ 15,817	\$ 400	
326	Dwtr	Eqpt	Electric Hoist No. 2 (3-Ton)	Operations	1988	31	\$ 13,500	2017	\$ 13,770	\$ 400	
327	Dwtr	Eqpt	Electric Hoist No. 3 (2,000 lbs)	Operations	1959	67	\$ 6,000	2017	\$ 6,120	\$ 100	
328	Dwtr	Eqpt	Manual Hoist No. 1 (2-Ton Low-Profile)	Operations	2014	40	\$ 2,295	2056	\$ 5,272	\$ 100	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY				
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
329	Dwtr	Eqpt	Manual Hoist No. 2 (2-Ton Low-Profile)	Operations	2014	40	\$ 2,295	2056	\$ 5,272	\$ 100	
330	Dwtr	Eqpt	Manual Hoist No. 3 (2-Ton Low-Profile)	Operations	2014	40	\$ 2,295	2056	\$ 5,272	\$ 100	
331	Dwtr	Eqpt	Manual Hoist No. 4 (2-Ton Low-Profile)	Operations	2014	40	\$ 2,295	2056	\$ 5,272	\$ 100	
332	Dwtr	Eqpt	Manual Hoist No. 5 (2-Ton Low-Profile)	Operations	2014	40	\$ 2,295	2056	\$ 5,272	\$ 100	
333	Dwtr	Eqpt	Manual Hoist No. 6 (2-Ton Low-Profile)	Operations	2014	40	\$ 2,295	2056	\$ 5,272	\$ 100	
334	Dwtr	Eqpt	Screw Conveyor No. 1	Operations	2014	20	\$ 67,500	2034	\$ 100,301	\$ 4,800	
335	Dwtr	Eqpt	Screw Conveyor No. 2	Operations	2014	20	\$ 87,750	2034	\$ 130,392	\$ 6,200	
336	Dwtr	Eqpt	Screw Conveyor No. 3	Operations	2015	20	\$ 129,600	2035	\$ 192,579	\$ 9,200	
337	Dwtr	Eqpt	Screw Conveyor No. 4	Operations	2015	20	\$ 129,600	2035	\$ 192,579	\$ 9,200	
338	Dwtr	Eqpt	Electric Personnel Lift No. 1	Operations	2000	20	\$ 13,500	2020	\$ 14,905	\$ 700	
339	Dwtr	Eqpt	WAS Belt Thickener No. 1	Operations	2013	20	\$ 175,500	2033	\$ 250,657	\$ 11,900	
340	Dwtr	Eqpt	WAS Belt Thickener No. 2	Operations	2014	20	\$ 175,500	2034	\$ 255,670	\$ 12,200	
341	Dwtr	Eqpt	WAS Belt Thickener No. 3	Operations	2014	20	\$ 175,500	2034	\$ 255,670	\$ 12,200	
342	Dwtr	Eqpt	Dewatering Polymer Make-Up Unit No. 1	Operations	2014	20	\$ 62,100	2034	\$ 92,277	\$ 4,400	
343	Dwtr	Eqpt	WAS Polymer Make-up Unit No. 1	Operations	2014	20	\$ 54,000	2034	\$ 80,241	\$ 3,800	
344	Dwtr	Eqpt	Sludge Storage Tank Grinder No. 1	Operations	2014	40	\$ 47,250	2057	\$ 110,716	\$ 2,300	
345	Dwtr	Eqpt	Sludge Storage Tank Grinder No. 2	Operations	2014	40	\$ 47,250	2057	\$ 110,716	\$ 2,300	
346	Dwtr	Eqpt	Sludge Storage Tank Grinder No. 3	Operations	2014	40	\$ 47,250	2057	\$ 110,716	\$ 2,300	
347	Dwtr	Eqpt	Sludge Storage Tank Grinder No. 4	Operations	2014	40	\$ 47,250	2057	\$ 110,716	\$ 2,300	
348	Dwtr	Eqpt	Sludge Storage Tank Grinder No. 5	Operations	2014	40	\$ 47,250	2057	\$ 110,716	\$ 2,300	
349	Dwtr	Eqpt	Sludge Storage Tank Mixing System	Operations	2014	25	\$ 175,500	2040	\$ 293,685	\$ 10,600	
350	Dwtr	HVAC	Air Handling Unit No. 5	Operations	2014	40	\$ 13,500	2056	\$ 31,013	\$ 700	
351	Dwtr	HVAC	AC Unit No. 1	Operations	2014	40	\$ 2,700	2056	\$ 6,203	\$ 100	
352	Dwtr	HVAC	Sludge Storage Tank OCS Fan	Operations	2014	20	\$ 8,100	2034	\$ 12,036	\$ 600	
353	Dwtr	HVAC	Building Scrubber No. 1	Operations	1988	40	\$ 27,000	2027	\$ 34,243	\$ 800	
354	Dwtr	HVAC	Transfer Fan No. 1	Operations	2014	20	\$ 7,425	2034	\$ 11,033	\$ 500	
355	Dwtr	HVAC	Building Scrubber Fan No. 1	Operations	2014	40	\$ 28,350	2056	\$ 65,127	\$ 1,400	
356	Dwtr	HVAC	Air Handling Unit No. 1	Operations	1988	42	\$ 40,500	2024	\$ 48,401	\$ 1,200	
357	Dwtr	HVAC	Air Handling Unit No. 2	Operations	1988	42	\$ 27,000	2024	\$ 32,267	\$ 800	
358	Dwtr	HVAC	Air Handling Unit No. 3	Operations	1988	40	\$ 27,000	2022	\$ 31,015	\$ 800	
359	Dwtr	MCC	MCC-CBR	Operations	1988	40	\$ 108,000	2028	\$ 139,710	\$ 3,200	
360	Dwtr	MCC	MCC-CB1	Operations	1988	40	\$ 162,000	2028	\$ 209,564	\$ 4,700	
361	Dwtr	MCC	MCC-SP1	Operations	1988	40	\$ 162,000	2028	\$ 209,564	\$ 4,700	
362	Dwtr	MCC	MCC-SP2	Operations	1988	40	\$ 162,000	2028	\$ 209,564	\$ 4,700	
363	Dwtr	MCC	MCC-SP3	Operations	1988	40	\$ 162,000	2028	\$ 209,564	\$ 4,700	
364	Dwtr	MCC	MCC-SP4	Operations	2014	40	\$ 243,000	2056	\$ 558,230	\$ 12,000	
365	Dwtr	Pump	Plant Water Booster Pump No. 1	Operations	2014	20	\$ 10,800	2034	\$ 16,048	\$ 800	
366	Dwtr	Pump	Plant Water Booster Pump No. 2	Operations	2014	20	\$ 10,800	2034	\$ 16,048	\$ 800	
367	Dwtr	Pump	SST OCS Recirculation Pump No. 1	Operations	2014	20	\$ 8,100	2034	\$ 12,036	\$ 600	
368	Dwtr	Pump	SST OCS Recirculation Pump No. 2	Operations	2014	20	\$ 8,100	2034	\$ 12,036	\$ 600	
369	Dwtr	Pump	Building Scrubber Recirculation Pump No. 1	Operations	2014	20	\$ 18,900	2034	\$ 28,084	\$ 1,300	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY				
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
370	Dwtr	Pump	Building Scrubber Recirculation Pump No. 2	Operations	2014	20	\$ 18,900	2034	\$ 28,084	\$ 1,300	
371	Dwtr	Pump	Polymer Transfer Pump No. 1	Operations	2013	20	\$ 22,950	2033	\$ 33,434	\$ 1,600	
372	Dwtr	Pump	TWAS Pump No. 1	Operations	2015	20	\$ 67,500	2035	\$ 102,307	\$ 4,900	
373	Dwtr	Pump	TWAS Pump No. 2	Operations	2015	20	\$ 67,500	2035	\$ 102,307	\$ 4,900	
374	Dwtr	Pump	Digester Feed Pump 1	Operations	2015	20	\$ 67,500	2035	\$ 102,307	\$ 4,900	
375	Dwtr	Pump	Digester Feed Pump 2	Operations	2015	20	\$ 67,500	2035	\$ 102,307	\$ 4,900	
376	Dwtr	Pump	Screw Press Feed Pump No. 1	Operations	2014	20	\$ 25,650	2034	\$ 38,115	\$ 1,800	
377	Dwtr	Pump	Screw Press Feed Pump No. 2	Operations	2014	20	\$ 25,650	2034	\$ 38,115	\$ 1,800	
378	Dwtr	Pump	Screw Press Feed Pump No. 3	Operations	2014	20	\$ 25,650	2034	\$ 38,115	\$ 1,800	
379	Dwtr	Pump	Screw Press Feed Pump No. 4	Operations	2014	20	\$ 25,650	2034	\$ 38,115	\$ 1,800	
380	Dwtr	Pump	Dewatering Polymer Pump No. 1	Operations	2014	20	\$ 21,600	2034	\$ 32,096	\$ 1,500	
381	Dwtr	Pump	Dewatering Polymer Pump No. 2	Operations	2014	20	\$ 21,600	2034	\$ 32,096	\$ 1,500	
382	Dwtr	Pump	Dewatering Polymer Pump No. 3	Operations	2014	20	\$ 21,600	2034	\$ 32,096	\$ 1,500	
383	Dwtr	Pump	Dewatering Polymer Pump No. 4	Operations	2014	20	\$ 21,600	2034	\$ 32,096	\$ 1,500	
384	Dwtr	Pump	Dewatering Polymer Plant Water Booster Pump No. 1	Operations	2014	20	\$ 10,800	2034	\$ 16,048	\$ 800	
385	Dwtr	Pump	Dewatering Polymer Plant Water Booster Pump No. 2	Operations	2014	20	\$ 10,800	2034	\$ 16,048	\$ 800	
386	Dwtr	Tank	WAS Thickening Polymer Tank No. 1	Operations	1988	40	\$ 40,500	2027	\$ 51,364	\$ 1,200	
387	Dwtr	Tank	Dewatering Polymer Tank No. 1	Operations	1988	40	\$ 40,500	2027	\$ 51,364	\$ 1,200	
388	Dwtr	Tank	Dewatering Polymer Tank No. 2	Operations	1988	40	\$ 40,500	2027	\$ 51,364	\$ 1,200	
389	Dwtr	Tank	OCS Sodium Hypochlorite Tank No. 1	Operations	2004	40	\$ 13,500	2046	\$ 24,942	\$ 500	
390	Dwtr	Tank	OCS Sodium Hypochlorite Tank No. 2	Operations	2004	40	\$ 13,500	2046	\$ 24,942	\$ 500	
391	Dwtr	Tank	Polymer Bulk Storage Tank No. 1	Operations	1988	40	\$ 81,000	2027	\$ 102,728	\$ 2,400	
392	WW	Eqpt	Mechanical Bar Screen No. 1	Collections	2009	20	\$ 492,750	2027	\$ 703,768	\$ 37,500	
393	WW	Eqpt	Mechanical Bar Screen No. 2	Collections	2009	20	\$ 492,750	2027	\$ 703,768	\$ 37,500	
394	WW	Eqpt	Screenings Wash Press No. 1 (may eliminate-being evaluated)	Collections	2009	20	\$ 162,000	2025	\$ 222,391	\$ 13,400	
395	WW	Eqpt	Screenings Wash Press No. 2 (may eliminate-being evaluated)	Collections	2009	20	\$ 162,000	2025	\$ 222,391	\$ 13,400	
396	WW	Eqpt	Screenings Conveyor No. 1 (may eliminate-being evaluated)	Collections	2009	20	\$ 108,000	2025	\$ 148,261	\$ 8,900	
397	WW	Eqpt	Screenings Container	Operations	2009	20	\$ 8,100	2028	\$ 11,800	\$ 600	
398	WW	Eqpt	Odor Control Carbon Absorber Unit No. 1	Collections	2009	20	\$ 357,750	2029	\$ 531,598	\$ 25,300	
399	WW	Eqpt	Bridge Crane No. 1	Collections	2009	40	\$ 94,500	2051	\$ 217,090	\$ 4,700	
400	WW	Eqpt	Hoist No. 1	Collections	2009	40	\$ 13,500	2051	\$ 31,013	\$ 700	
401	WW	Eqpt	Hoist No. 2	Collections	2009	40	\$ 6,750	2051	\$ 15,506	\$ 300	
402	WW	Eqpt	Hoist No. 3	Collections	2009	40	\$ 13,500	2051	\$ 31,013	\$ 700	
403	WW	Eqpt	Polymer Batch Unit No. 1	Operations	2009	20	\$ 74,250	2027	\$ 106,047	\$ 5,600	
404	WW	Eqpt	Polymer Batch Unit No. 2	Operations	2009	20	\$ 74,250	2027	\$ 106,047	\$ 5,600	
405	WW	Eqpt	Bulk Bag Unloader No. 1	Operations	2009	20	\$ 124,200	2027	\$ 177,388	\$ 9,400	
406	WW	Eqpt	Hydrocyclone No. 1-1	Operations	2009	20	\$ 47,250	2029	\$ 70,211	\$ 3,300	
407	WW	Eqpt	Hydrocyclone No. 1-2	Operations	2009	20	\$ 47,250	2029	\$ 70,211	\$ 3,300	
408	WW	Eqpt	Hydrocyclone No. 1-3	Operations	2009	20	\$ 47,250	2029	\$ 70,211	\$ 3,300	
409	WW	Eqpt	Hydrocyclone No. 2-1	Operations	2009	20	\$ 47,250	2029	\$ 70,211	\$ 3,300	
410	WW	Eqpt	Hydrocyclone No. 2-2	Operations	2009	20	\$ 47,250	2029	\$ 70,211	\$ 3,300	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY				
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
411	WW	Eqpt	Hydrocyclone No. 2-3	Operations	2009	20	\$ 47,250	2029	\$ 70,211	\$ 3,300	
412	WW	Eqpt	Clarifier No. 1	Operations	2009	20	\$ 233,550	2029	\$ 347,043	\$ 16,500	
413	WW	Eqpt	Clarifier No. 2	Operations	2009	20	\$ 233,550	2029	\$ 347,043	\$ 16,500	
414	WW	Eqpt	Sludge Thickener No. 1	Operations	2009	20	\$ 364,500	2029	\$ 541,628	\$ 25,800	
415	WW	Eqpt	Ferric Chloride Metering Pump Skid No. 1	Operations	2009	20	\$ 117,450	2028	\$ 171,102	\$ 8,600	
416	WW	Eqpt	Ferric Chloride Metering Pump Skid No. 2	Operations	2009	20	\$ 117,450	2028	\$ 171,102	\$ 8,600	
417	WW	Eqpt	Caustic Soda Metering Pump Skid No. 1	Operations	2009	20	\$ 117,450	2028	\$ 171,102	\$ 8,600	
418	WW	Eqpt	Chemical Room Duplex Strainer No. 1	Operations	2009	20	\$ 13,500	2028	\$ 19,667	\$ 1,000	
419	WW	Eqpt	Chemical Room Duplex Strainer No. 2	Operations	2009	20	\$ 13,500	2028	\$ 19,667	\$ 1,000	
420	WW	Eqpt	Vortex Flow Unit	Collections	2009	40	\$ 124,200	2051	\$ 285,318	\$ 6,100	
421	WW	Eqpt	Scum Collection Equipment	Operations	2009	20	\$ 70,200	2029	\$ 104,314	\$ 5,000	
422	WW	Eqpt	Wet Weather Wet Weather Facility - Pump Building Odor Control Fan No. 1	Collections	2009	20	\$ 29,700	2029	\$ 44,133	\$ 2,100	
423	WW	G/A	Slide Gate No. 1 (CI) (60" X 120")	Collections	2009	30	\$ 202,500	2040	\$ 374,137	\$ 11,200	
424	WW	G/A	Slide Gate No. 2 (CI) (48" X 48")	Operations	2009	30	\$ 114,750	2040	\$ 212,011	\$ 6,300	
425	WW	G/A	Slide Gate No. 3 (CI) (48" X 48")	Operations	2009	30	\$ 114,750	2040	\$ 212,011	\$ 6,300	
426	WW	G/A	Slide Gate No. 4 (48" X 48")	Operations	2009	30	\$ 33,750	2040	\$ 62,356	\$ 1,900	
427	WW	G/A	Slide Gate No. 5 (48" X 48")	Operations	2009	30	\$ 33,750	2040	\$ 62,356	\$ 1,900	
428	WW	G/A	WW-SG-1 Hydraulic Actuator	Collections	2009	30	\$ 135,000	2040	\$ 249,424	\$ 7,500	
429	WW	G/A	WW-SG-2 Electric Actuator	Operations	2009	30	\$ 8,775	2040	\$ 16,213	\$ 500	
430	WW	G/A	WW-SG-3 Electric Actuator	Operations	2009	30	\$ 8,775	2040	\$ 16,213	\$ 500	
431	WW	G/A	RWWP-1 Effluent Gate Valve Operator	Collections	2009	30	\$ 5,400	2040	\$ 9,977	\$ 300	
432	WW	G/A	RWWP-2 Effluent Gate Valve Operator	Collections	2009	30	\$ 5,400	2040	\$ 9,977	\$ 300	
433	WW	G/A	RWWP-3 Effluent Gate Valve Operator	Collections	2009	30	\$ 5,400	2040	\$ 9,977	\$ 300	
434	WW	G/A	RWWP-4 Effluent Gate Valve Operator	Collections	2009	30	\$ 5,400	2040	\$ 9,977	\$ 300	
435	WW	HVAC	Air Handling Unit No. 1	Collections	2009	40	\$ 27,000	2051	\$ 62,026	\$ 1,300	
436	WW	HVAC	Air Handling Unit No. 2	Collections	2009	40	\$ 27,000	2051	\$ 62,026	\$ 1,300	
437	WW	HVAC	Air Handling Unit No. 3	Collections	2009	40	\$ 27,000	2051	\$ 62,026	\$ 1,300	
438	WW	HVAC	Air Handling Unit No. 4	Collections	2009	40	\$ 27,000	2051	\$ 62,026	\$ 1,300	
439	WW	HVAC	Boiler No. 1	Collections	2009	40	\$ 108,000	2051	\$ 248,102	\$ 5,300	
440	WW	HVAC	Boiler No. 2	Collections	2009	40	\$ 108,000	2051	\$ 248,102	\$ 5,300	
441	WW	Instr	Instrumentation*	Collections	2009	10	\$ 263,250	2018	\$ 314,608	\$ 34,300	
442	WW	Instr	Pressure Monitoring Assemblies	Collections	2009	10	\$ 60,750	2018	\$ 72,602	\$ 7,900	
443	WW	Instr	Actiflo Control Panel	Operations	2009	20	\$ 175,500	2029	\$ 260,784	\$ 12,400	
444	WW	Instr	Raw Water Turbidimeter	Collections	2009	10	\$ 22,950	2018	\$ 27,427	\$ 3,000	
445	WW	Instr	Settled Water Turbidimeter	Collections	2009	10	\$ 22,950	2018	\$ 27,427	\$ 3,000	
446	WW	Instr	pH Meters	Collections	2009	10	\$ 22,950	2018	\$ 27,427	\$ 3,000	
447	WW	MCC	Primary Feeders	Collections	2009	40	\$ 60,750	2051	\$ 139,558	\$ 3,000	
448	WW	MCC	WWTF - Motor Control Center B*	Collections	2009	40	\$ 203,850	2051	\$ 468,293	\$ 10,000	
449	WW	MCC	Wet Weather Facility-Sedimentation Building Motor Control Center	Collections	2009	40	\$ 425,250	2051	\$ 976,903	\$ 21,000	
450	WW	MCC	Site Feeders	Operations	2009	40	\$ 276,750	2051	\$ 635,762	\$ 13,600	
451	WW	Pump	Raw Wastewater Pump No. 1	Collections	2009	20	\$ 141,750	2029	\$ 210,633	\$ 10,000	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY			ANNUAL RESERVE PAYMENT	
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)		Future Cost of Renewal
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%		0.50%
452	WW	Pump	Raw Wastewater Pump No. 2	Collections	2009	20	\$ 141,750	2029	\$ 210,633	\$ 10,000	
453	WW	Pump	Raw Wastewater Pump No. 3	Collections	2009	20	\$ 141,750	2029	\$ 210,633	\$ 10,000	
454	WW	Pump	Raw Wastewater Pump No. 4	Collections	2009	20	\$ 141,750	2029	\$ 210,633	\$ 10,000	
455	WW	Pump	Dewatering Sump Pump	Collections	2009	20	\$ 20,250	2025	\$ 27,799	\$ 1,700	
456	WW	Pump	Sump Pump System No. 1	Collections	2009	20	\$ 27,000	2027	\$ 38,563	\$ 2,100	
457	WW	Pump	Sump Pump System No. 2	Collections	2009	20	\$ 27,000	2027	\$ 38,563	\$ 2,100	
458	WW	Pump	Sump Pump System No. 3	Collections	2009	20	\$ 27,000	2027	\$ 38,563	\$ 2,100	
459	WW	Pump	Polymer Metering Pump No. 1	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
460	WW	Pump	Polymer Metering Pump No. 2	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
461	WW	Pump	Polymer Metering Pump No. 3	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
462	WW	Pump	Polymer Metering Pump No. 4	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
463	WW	Pump	Polymer Metering Pump No. 5	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
464	WW	Pump	Polymer Metering Pump No. 6	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
465	WW	Pump	Polymer Metering Pump No. 7	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
466	WW	Pump	Polymer Metering Pump No. 8	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
467	WW	Pump	Polymer Metering Pump No. 9	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
468	WW	Pump	Polymer Transfer Pump No. 1	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
469	WW	Pump	Polymer Transfer Pump No. 2	Operations	2009	20	\$ 27,000	2029	\$ 40,121	\$ 1,900	
470	WW	Pump	Recycle Pump No. 1-1	Operations	2009	20	\$ 36,450	2027	\$ 52,060	\$ 2,800	
471	WW	Pump	Recycle Pump No. 1-2	Operations	2009	20	\$ 36,450	2027	\$ 52,060	\$ 2,800	
472	WW	Pump	Recycle Pump No. 1-3	Operations	2009	20	\$ 36,450	2027	\$ 52,060	\$ 2,800	
473	WW	Pump	Recycle Pump No. 2-1	Operations	2009	20	\$ 36,450	2027	\$ 52,060	\$ 2,800	
474	WW	Pump	Recycle Pump No. 2-2	Operations	2009	20	\$ 36,450	2027	\$ 52,060	\$ 2,800	
475	WW	Pump	Recycle Pump No. 2-3	Operations	2009	20	\$ 36,450	2027	\$ 52,060	\$ 2,800	
476	WW	Pump	Thickened Sludge Pump No. 1	Operations	2009	20	\$ 67,500	2029	\$ 100,301	\$ 4,800	
477	WW	Pump	Thickened Sludge Pump No. 2	Operations	2009	20	\$ 67,500	2029	\$ 100,301	\$ 4,800	
478	WW	Pump	Sand Slurry Booster Pump No. 1	Operations	2009	20	\$ 13,500	2029	\$ 20,060	\$ 1,000	
479	WW	Tank	Caustic Soda Tank No. 1	Collections	2009	40	\$ 40,500	2051	\$ 93,038	\$ 2,000	
480	WW	Tank	Ferric Chloride Tank No. 1	Collections	2009	40	\$ 40,500	2051	\$ 93,038	\$ 2,000	
481	WW	Tank	Polymer Feed Tank No. 1	Collections	2009	40	\$ 20,250	2051	\$ 46,519	\$ 1,000	
482	WW	Tank	Polymer Feed Tank No. 2	Collections	2009	40	\$ 20,250	2051	\$ 46,519	\$ 1,000	
483	WW	Tank	Polymer Mix Tank No. 1	Collections	2009	40	\$ 14,850	2051	\$ 34,114	\$ 700	
484	WW	Tank	Polymer Mix Tank No. 2	Collections	2009	40	\$ 14,850	2051	\$ 34,114	\$ 700	
485	WW	Mix	POLMT-1 Mixer	Operations	2009	20	\$ 8,100	2029	\$ 12,036	\$ 600	
486	WW	Mix	POLMT-1 Mixer	Operations	2009	20	\$ 8,100	2029	\$ 12,036	\$ 600	
487	WW	Mix	Injection Tank No. 1 Mixer	Operations	2009	20	\$ 87,750	2029	\$ 130,392	\$ 6,200	
488	WW	Mix	Injection Tank No. 2 Mixer	Operations	2009	20	\$ 87,750	2029	\$ 130,392	\$ 6,200	
489	WW	Mix	Coagulation Tank No. 1 Mixer	Operations	2009	20	\$ 87,750	2029	\$ 130,392	\$ 6,200	
490	WW	Mix	Coagulation Tank No. 2 Mixer	Operations	2009	20	\$ 87,750	2029	\$ 130,392	\$ 6,200	
491	WW	Mix	Maturation Tank No. 1 Mixer	Operations	2009	20	\$ 87,750	2029	\$ 130,392	\$ 6,200	
492	WW	Mix	Maturation Tank No. 2 Mixer	Operations	2009	20	\$ 87,750	2029	\$ 130,392	\$ 6,200	

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY				
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
493	WW	Mix	Flocculation Tank No. 1 Mixer	Operations	2009	20	\$ 164,700	2029	\$ 244,736	\$ 11,700	
494	MB	EE	Transformer	Operations	2000	40	\$ 7,425	2040	\$ 12,181	\$ 300	
495	MB	Eqpt	Industrial Part Cleaner No. 1	Operations	2010	15	\$ 1,000	2025	\$ 1,219	\$ 100	
496	WW	MCC	WWTF - Motor Control Center A*	Collections	2009	8	\$ 113,400	2016	\$ 130,261	\$ 18,300	
497	WW	Instr	Instrumentation (flow Meter & related components)*	Collections	2016	30	\$ 36,350	2043	\$ 71,271	\$ 2,500	
498	MB	Eqpt	Dewatering Flood Pump No. 2	Operations	2015	20	\$ 5,000	2036	\$ 7,578	\$ 300	
499	MB	HVAC	Boiler No. 1	Operations	2000	40	\$ 67,500	2041	\$ 112,956	\$ 2,500	
500	MB	HVAC	Boiler No. 2	Operations	2000	40	\$ 67,500	2041	\$ 112,956	\$ 2,500	
501	SE	EE	Transformer No. 1	Operations	1988	40	\$ 29,700	2029	\$ 39,189	\$ 900	
502	SE	EE	Transformer No. 2	Operations	1988	40	\$ 24,975	2029	\$ 32,954	\$ 700	
503	SE	EE	Transformer No. 3	Operations	1988	40	\$ 67,500	2029	\$ 89,065	\$ 2,000	
504	SE	EE	Transformer No. 4	Operations	1988	40	\$ 24,975	2029	\$ 32,954	\$ 700	
505	SE	EE	Transformer No. 5	Operations	2010	40	\$ 24,975	2052	\$ 51,965	\$ 1,100	
506	SE	EE	Transformer No. 6	Operations	2007	40	\$ 51,975	2048	\$ 99,908	\$ 2,200	
507	Misc	Boat	Terhi Nordic 6020 with Mercury 30 HP and Trailer	Operations	2001	40	\$ 5,500	2043	\$ 12,635	\$ 300	
508	Misc	PEG	Portable Emergency Generator No. 1	Collections	1979	41	\$ 20,000	2017	\$ 20,808	\$ 500	
509	Misc	PEG	Portable Emergency Generator No. 2	Operations	2013	30	\$ 25,000	2045	\$ 45,284	\$ 1,300	
510	Misc	PEG	Portable Emergency Generator No. 3	Operations	2000	30	\$ 20,000	2028	\$ 34,820	\$ 1,200	
511	Misc	Veh	Car 3 Ford Fusion - Hybrid	Operations	2011	10	\$ 28,000	2021	\$ 31,533	\$ 3,100	
512	Misc	Veh	Truck 4 CB Cleaner with Clam Shell Bucket (chassis-floor boards)	Operations	2004	14	\$ 90,250	2017	\$ 92,055	\$ 6,900	
513	Misc	Veh	Truck 62 2WD Chevy Plant Operations	Operations	2014	10	\$ 17,340	2024	\$ 20,723	\$ 2,000	
514	Misc	Veh	Truck 82 Ford 550 CNG with Crane	Collections	2012	10	\$ 62,000	2022	\$ 71,219	\$ 7,000	
515	Misc	Veh	Truck 87 Vacuum Truck No. 1	Collections	2014	10	\$ 300,000	2024	\$ 358,528	\$ 35,100	
516	Misc	Veh	Truck 112 TV Video Monitor & Support Truck	Collections	2000	16	\$ 180,000	2017	\$ 187,272	\$ 10,600	
517	Misc	Veh	Collection System Video Camera, pole camera, pencil camera	Collections	2010	10	\$ 40,800	2020	\$ 45,046	\$ 4,400	
518	Misc	Veh	Truck 135 3/4 Ton Chevy	Collections	2012	12	\$ 30,200	2023	\$ 35,384	\$ 3,100	
519	Misc	Veh	Truck 136 1/2 Ton Chevy with Crane	Collections	2006	12	\$ 50,328	2017	\$ 52,361	\$ 4,600	
520	Misc	Veh	Truck 171 Vacuum Truck No. 2	Collections	2005	15	\$ 20,000	2020	\$ 22,082	\$ 1,400	
521	Misc	Veh	Truck 176 4WD Ford F350 Wet Weather Facility - Pump Building Truck with Plow	Collections	2014	12	\$ 45,000	2026	\$ 55,952	\$ 4,500	
522	Misc	Veh	Truck 186 4WD Ford with Plow	Collections	2015	10	\$ 30,000	2025	\$ 36,570	\$ 3,600	
523	Misc	Veh	Freightliner M2 112 Roll-off Truck	Collections	2013	10	\$ 172,000	2023	\$ 201,525	\$ 19,700	
524	Misc	Veh	Kubota Tractor	Collections	2004	15	\$ 15,000	2018	\$ 15,918	\$ 1,100	
525	Misc	Veh	Street Sweeper	Collections	2004	15	\$ 90,000	2018	\$ 95,509	\$ 6,600	
526	SDF	EE	Transfer Switch	Collections	2014	40	\$ 10,800	2056	\$ 24,810	\$ 500	
527	SDF	EE	Main Breaker Panel	Collections	2014	40	\$ 5,400	2056	\$ 12,405	\$ 300	
528	SDF	EE	Transformer No. 1	Collections	2014	40	\$ 5,400	2056	\$ 12,405	\$ 300	
529	SDF	EE	Emergency Generator	Collections	2014	40	\$ 48,600	2056	\$ 111,646	\$ 2,400	
530	SDF	EE	Avtron Spirit Load Bank	Collections	2014	40	\$ 5,400	2056	\$ 12,405	\$ 300	
531	SDF	Eqpt	Fine Combing Screen No. 1	Collections	2014	20	\$ 259,200	2034	\$ 385,158	\$ 18,400	
532	SDF	Eqpt	Fine Combing Screen No. 2	Collections	2014	20	\$ 259,200	2034	\$ 385,158	\$ 18,400	
533	SDF	Eqpt	Fine Combing Screen Hydraulic Power Unit	Collections	2014	35	\$ 21,600	2051	\$ 44,943	\$ 1,100	

Nashua Wastewater Treatment Facility												
Schedule D - Wastewater Equipment Replacement Fund												
As of 5/4/2016												
							RENEWAL/REPLACEMENT STRATEGY			ANNUAL RESERVE PAYMENT		
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)		Future Cost of Renewal	
						year	years	\$	Calibrated Column			
							Tab A-1	Estimate	Calculated		2.00%	
534	SDF	Eqpt	Tipping Bucket No. 1			Collections	2014	20	\$ 21,600	2034	\$ 32,096	\$ 1,500
535	SDF	Eqpt	Tipping Bucket No. 2			Collections	2014	20	\$ 21,600	2034	\$ 32,096	\$ 1,500
536	SDF	Eqpt	Electric Fork Lift			Collections	2014	40	\$ 16,200	2056	\$ 37,215	\$ 800
537	SDF	G/A	Grande Flush Gate No. 1			Collections	2014	30	\$ 10,125	2045	\$ 18,707	\$ 600
538	SDF	G/A	Grande Flush Gate No. 2			Collections	2014	30	\$ 10,125	2045	\$ 18,707	\$ 600
539	SDF	G/A	Grande Flush Gate No. 3			Collections	2014	30	\$ 10,125	2045	\$ 18,707	\$ 600
540	SDF	G/A	Grande Flush Gate No. 4			Collections	2014	30	\$ 10,125	2045	\$ 18,707	\$ 600
541	SDF	G/A	Grande Flush Gate No. 5			Collections	2014	30	\$ 10,125	2045	\$ 18,707	\$ 600
542	SDF	G/A	Grande Flush Gate No. 6			Collections	2014	30	\$ 10,125	2045	\$ 18,707	\$ 600
543	SDF	G/A	Grande Flush Gate No. 7			Collections	2014	30	\$ 10,125	2045	\$ 18,707	\$ 600
544	SDF	G/A	Grande Flush Gate No. 8			Collections	2014	30	\$ 10,125	2045	\$ 18,707	\$ 600
545	SDF	G/A	Flush Gate Hydraulic Power Unit			Collections	2014	35	\$ 10,125	2051	\$ 21,067	\$ 500
546	SDF	G/A	Drain Gate No. 1			Collections	2014	30	\$ 54,000	2045	\$ 99,770	\$ 3,000
547	SDF	G/A	Drain Gate No. 2			Collections	2014	30	\$ 54,000	2045	\$ 99,770	\$ 3,000
548	SDF	G/A	Drain Gate Hydraulic Power Unit			Collections	2014	35	\$ 21,600	2051	\$ 44,943	\$ 1,100
549	SDF	G/A	Overflow Slide Gate			Collections	2014	30	\$ 37,800	2045	\$ 69,839	\$ 2,100
550	SDF	G/A	Flap Gate No. 1 (CSO-005/006)			Collections	2014	30	\$ 43,200	2045	\$ 79,816	\$ 2,400
551	SDF	G/A	Flap Gate No. 2 (CSO-006)			Collections	2014	30	\$ 37,800	2045	\$ 69,839	\$ 2,100
552	SDF	HVAC	Electric Wall Heater No. 1			Collections	2014	20	\$ 10,800	2034	\$ 16,048	\$ 800
553	SDF	HVAC	Electric Duct Heater No. 1			Collections	2014	20	\$ 16,200	2034	\$ 24,072	\$ 1,100
554	SDF	HVAC	Electric Unit Heater No. 1			Collections	2014	20	\$ 10,800	2034	\$ 16,048	\$ 800
555	SDF	HVAC	Electric Unit Heater No. 2			Collections	2014	20	\$ 10,800	2034	\$ 16,048	\$ 800
556	SDF	HVAC	AC Unit No. 1			Collections	2014	20	\$ 21,600	2034	\$ 32,096	\$ 1,500
557	SDF	Instr	Chlorine Analyzer No. 1			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
558	SDF	Instr	Chlorine Analyzer No. 2			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
559	SDF	Instr	SHS Magnetic Flow Meter			Collections	2014	40	\$ 2,700	2056	\$ 6,203	\$ 100
560	SDF	Instr	SBS Magnetic Flow Meter			Collections	2014	40	\$ 2,700	2056	\$ 6,203	\$ 100
561	SDF	Instr	Force Flow SHS Scale No. 1			Collections	2014	20	\$ 2,160	2034	\$ 3,210	\$ 200
562	SDF	Instr	Force Flow SHS Scale No. 2			Collections	2014	20	\$ 2,160	2034	\$ 3,210	\$ 200
563	SDF	Instr	Force Flow SHS Scale No. 3			Collections	2014	20	\$ 2,160	2034	\$ 3,210	\$ 200
564	SDF	Instr	Force Flow SBS Scale No. 1			Collections	2014	20	\$ 2,160	2034	\$ 3,210	\$ 200
565	SDF	Instr	Force Flow SBS Scale No. 2			Collections	2014	20	\$ 2,160	2034	\$ 3,210	\$ 200
566	SDF	Instr	Level Sensor No. 1			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
567	SDF	Instr	Level Sensor No. 2			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
568	SDF	Instr	Level Sensor No. 3			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
569	SDF	Instr	Level Sensor No. 4			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
570	SDF	Instr	Level Sensor No. 5			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
571	SDF	Instr	Level Sensor No. 6			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
572	SDF	Instr	Level Sensor No. 7			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
573	SDF	Instr	Level Sensor No. 8			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
574	SDF	Instr	Level Sensor No. 9			Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700

Nashua Wastewater Treatment Facility											
Schedule D - Wastewater Equipment Replacement Fund											
As of 5/4/2016											
							RENEWAL/REPLACEMENT STRATEGY				
Major Systems	Major System Facilities	Asset Name			Collections or Operations	Date Installed	Estimated Effective Life	Cost of Renewal Option	Recommended Renewal Date (FY)	Future Cost of Renewal	ANNUAL RESERVE PAYMENT
					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
575	SDF	Instr	Level Sensor No. 10		Operations	2014	10	\$ 5,400	2023	\$ 6,453	\$ 700
576	SDF	Instr	Influent Flow Meter No. 1		Collections	2014	40	\$ 9,450	2056	\$ 21,709	\$ 500
577	SDF	Instr	Influent Flow Meter No. 2		Collections	2014	40	\$ 9,450	2056	\$ 21,709	\$ 500
578	SDF	Instr	Influent Flow Meter No. 3		Collections	2014	40	\$ 9,450	2056	\$ 21,709	\$ 500
579	SDF	Instr	Influent Flow Meter No. 4		Collections	2014	40	\$ 9,450	2056	\$ 21,709	\$ 500
580	SDF	Instr	Programmable Logic Controller		Collections	2014	20	\$ 27,000	2034	\$ 40,121	\$ 1,900
581	SDF	Instr	Sodium Hypochlorite Vacuum Doser No. 1		Operations	2014	10	\$ 27,000	2023	\$ 32,267	\$ 3,500
582	SDF	Instr	Sodium Hypochlorite Vacuum Doser No. 2		Operations	2014	10	\$ 27,000	2023	\$ 32,267	\$ 3,500
583	SDF	Instr	Sodium Bisulfite Vacuum Doser No. 1		Operations	2014	10	\$ 27,000	2023	\$ 32,267	\$ 3,500
584	SDF	Instr	Sodium Bisulfite Vacuum Doser No. 2		Operations	2014	10	\$ 27,000	2023	\$ 32,267	\$ 3,500
585	SDF	Instr	Sample Pump No. 1		Operations	2014	10	\$ 29,700	2023	\$ 35,494	\$ 3,900
586	SDF	Instr	Sample Pump No. 2		Operations	2014	10	\$ 29,700	2023	\$ 35,494	\$ 3,900
587	Misc	Instr	Gas Monitoring Systems		Operations	2014	10	\$ 120,000	2024	\$ 146,279	\$ 14,300
588	TD	Pump	Tank Drain Pump Station No. 1		Operations	2016	15	\$ 49,300	2032	\$ 69,032	\$ 4,200
589	TD	Pump	Tank Drain Pump Station No. 2		Operations	2016	15	\$ 49,300	2032	\$ 69,032	\$ 4,200
Plans reviewed:								Grand Total		\$ 51,240,963	\$ 2,055,600
1959 - Sewage Works Improvements (CDM)											
1972 - Treatment Plant Addition (CDM)											
1985 - Secondary Wastewater Treatment Plant (CDM)											
1998 - Anaerobic Digester Project (Stearns & Wheeler)											
2006 - Wet Weather Flow Treatment Facility (AECOM)											
2012 - Dewatering and Grit Systems Upgrade (WP)											
NOTES:											
* MCC-PS: Replace breakers 1, 2 & 3 in Wet Weather Electric Rm 1 in FY 2016											
* MCC-PSB: Replace remaining breakers & control panels in Wet Weather Electric Rm											
* -WW-INST: Replaces mag flow meter with extra for unanticipated failure of another instrument in Wet Weather Facility											
* -WW-INST-B: Replaces other instrumentation in Wet Weather Facility											

City of Nashua
Debt Service Schedule
FY2016 through FY2022

Schedule E

<u>EXISTING DEBT</u>											
<u>Line No.</u>	<u>Project</u>	<u>Debt Amount</u>	<u>Debt Type</u>	<u>FY2016</u>	<u>FY2017</u>	<u>FY2018</u>	<u>FY2019</u>	<u>FY2020</u>	<u>FY2021</u>	<u>FY2022</u>	
1	Sewer Component Refunding	\$ 186,478	SRF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2											
3	Storage Tank	\$ 5,162,772	Bonds	450,238	439,871	426,915	413,958	401,000	388,043	375,085	
4											
5	Aeration Blowers & Tank Upgrade	\$ 3,726,330	Bonds	249,844	244,092	236,901	229,710	222,520	215,330	208,140	
6											
7	Dewatering Equipment Replacement	\$ 2,864,898	Bonds	324,968	317,487	308,134	298,782	289,430	280,077	270,725	
8											
9	Dewatering Equipment	\$ 2,200,000	Bonds	183,700	181,500	179,300	177,100	174,900	171,600	168,300	
10											
11	Sludge Digester	\$ 3,690,163	SRF	494,206	488,716	483,227	477,737	472,249	466,759	-	
12											
13	Haines Street	\$ 608,422	SRF	47,040	46,172	45,304	44,436	43,568	42,700	41,833	
14											
15	Net Metering	\$ 224,984	SRF	27,179	26,841	26,505	26,166	25,830	25,491	25,154	
16											
17	Wet Weather Facility	\$ 12,495,000	SRF	1,011,889	993,046	974,202	955,359	936,515	917,672	898,828	
18											
19	Wet Weather Facility	\$ 12,000,000	SRF	1,040,700	1,021,320	1,001,940	982,560	963,180	943,800	924,420	
20											
21	Harbor Ave	\$ 4,600,077	SRF	\$ 357,402	\$ 355,163	\$ 348,575	\$ 341,988	\$ 335,401	\$ 328,814	\$ 322,226	
22											
23	Subtotal - Existing Debt Service			<u>\$ 4,187,167</u>	<u>\$ 4,114,208</u>	<u>\$ 4,031,003</u>	<u>\$ 3,947,796</u>	<u>\$ 3,864,593</u>	<u>\$ 3,780,286</u>	<u>\$ 3,234,711</u>	
24											
25											
26	<u>NEW DEBT</u>										
27											
28		<u>Debt Amount</u>		<u>FY2016</u>	<u>FY2017</u>	<u>FY2018</u>	<u>FY2019</u>	<u>FY2020</u>	<u>FY2021</u>	<u>FY2022</u>	
29											
30	Disinfection Facility	\$ 15,009,686	SRF	-	1,133,531	1,114,379	1,095,227	1,076,074	1,056,922	1,037,770	
31											
32	Plant Headworks Upgrade	\$ 3,800,000	SRF	-	-	-	304,000.00	298,300	292,600	286,900	
33											
34	Pump Stations Rehab	\$ 8,500,000	SRF/Bond	-	-	680,000	667,250	654,500	641,750	629,000	
35											
36	Primary Tank Upgrades	\$ 4,200,000	SRF/Bond	-	-	-	336,000	329,700	323,400	317,100	
37											
38	Phosphorus Removal & Storage Facility	\$ 855,000	SRF/Bond	-	-	-	-	68,400	67,118	65,835	
39											
40	Wastewater Plant Booster Stations	\$ 779,000	SRF/Bond	-	-	62,320	61,152	59,983	58,815	57,646	
41											
42	Subtotal - New Debt Service			<u>\$ -</u>	<u>\$ 1,133,531</u>	<u>\$ 1,856,699</u>	<u>\$ 2,463,628</u>	<u>\$ 2,486,957</u>	<u>\$ 2,440,604</u>	<u>\$ 2,394,251</u>	
43											
44	Total Debt Service			<u>\$ 4,187,167</u>	<u>\$ 5,247,739</u>	<u>\$ 5,887,703</u>	<u>\$ 6,411,424</u>	<u>\$ 6,351,550</u>	<u>\$ 6,220,890</u>	<u>\$ 5,628,962</u>	

City of Nashua
Analysis of Wastewater Fund
FY2002 to FY2022
Increases Every Other Year

Schedule F

Line No.	Fiscal Year		Year End Balance	Rate Change	% Change	Type of Rate Change	Volumetric Change
1	2002		\$ 24,023,769				
2	2003		\$ 24,007,147				
3	2004		\$ 25,885,082	(Decrease)	-27%	Volumetric Rate Only	\$1.66 to \$1.22
4	2005		\$ 26,563,313				
5	2006		\$ 25,038,320				
6	2007		\$ 13,463,254				
7	2008		\$ 1,036,825				
8	2009		\$ (6,211,530)				
9	2010		\$ 8,629,973	Increase	27%	Volumetric Rate Only	\$1.22 to \$1.55
10	2011		\$ 4,608,016				
11	2012		\$ 5,044,891	Increase	15%	Demand and Volumetric	\$1.55 to \$1.78
12	2013		\$ 5,500,000				
13	2014		\$ 17,704,956	Increase	15%	Demand and Volumetric	\$1.78 to \$2.05
14	2015		\$ 14,408,174				
15	2016	Est	\$ 13,754,650				
16	2017	Est	\$ 5,453,522	Increase	15%	Demand and Volumetric	\$2.05 to \$2.36
17	2018	Est	\$ 2,766,387				
18	2019	Est	\$ 1,654,210	Increase	15%	Demand and Volumetric	\$2.36 to \$2.71
19	2020	Est	\$ 1,228,888				
20	2021	Est	\$ 2,210,958	Increase	15%	Demand and Volumetric	\$2.71 to \$3.12
21	2022	Est	\$ 4,653,426				