

PERSONNEL/ADMINISTRATIVE AFFAIRS COMMITTEE

NOVEMBER 21, 2016

A meeting of the Personnel/Administrative Affairs Committee was held on Monday, November 21, 2016, at 7:00 p.m. in the Aldermanic Chamber.

Chairman Benjamin M. Clemons presided.

Members of the Committee present: Alderman-at-Large David W. Deane, Vice Chair
Alderman Tom Lopez
Alderman Don LeBrun
Alderman June M. Caron

Also in Attendance: Alderman-at-Large Brian S. McCarthy
Ms. Sarah Marchant, Director of Community Development
Ms. Kim Kleiner, Special Assistant to the Mayor
Mr. Steve Dookran, City Engineer
Mr. John L. Griffin, Chief Financial Officer
Mr. Derek Danielson, Sr. Finance & Operations Analyst
Ms. Carolyn O'Connor, Finance & Administrative Mgr. DPW

PUBLIC COMMENT

Mr. Robert Sullivan, 12 Stoney Brook Road

I am here to speak on O-16-019 requesting a 15% increase in our sewer bills. One of the things that I would like to understand is why was there not a public hearing called regarding this ordinance? I believe that a 15% increase in our sewer bills warrants a public hearing. The big issue is a documented 50% increase in our sewer bills over the next five or six years and I'm referring to page 38 of 50 of all of the paperwork that was behind the agenda. In 2021 it is suggested that both the demand and volumetric rates go from \$2.05 to \$3.12. That's more than a 50% increase in a five-year period. We need a public hearing. Why is this ordinance being sent to this committee rather than the Budget Review Committee or the Infrastructure Committee? I would urge people, if this in fact going to be moved to the Board of Aldermen to have a public hearing prior to this. We've had a lot of sticker shocks lately. The Pennichuck water bills, they want a 19.5% increase. Here's 15% and by the way this has been going on for quite some time, since 2010. A 15% increase every other year except for one year. Who is watching the store? We watch the Board of Aldermen meetings and they say they are going to have to increase the property tax bills. Who is watching the store? Do you really think people want to keep hearing this stuff, these increased costs that you are pushing onto us? I don't think so. \$2.05 to \$3.12 over a five-year period doesn't make any sense. I hope that a public hearing is set up for the public to be able to come and ask questions directly.

Mr. Jeff Daley, 74 Walden Pond Drive

I am also here tonight regarding the wastewater tax increase of 15% plus. What was the cost overrun on the CSO project and why? What impact has the CSO blockage and work costs on the blockage on the city's budget for wastewater and the expected tax rate increase under ordinance O-019? Why now? When I lived in Atlanta your wastewater was the same price as your regular water usage. I can't find any of the cost changes and what the cost of that CSO blockage cost the city. It must have been thousands of dollars and I know that right now the wastewater treatment plant is running over budget.

Mr. Ed Stebbins, 13 Strawberry Bank Road

I think the name change in O-16-021 was an excellent idea. I am also here to echo the sentiments of the previous two speakers. If an increase is needed the timing of it is off assuming that Pennichuck is

going to have an increase of 19%. As president of my condo association we have to do a budget one year in advance. Our budget started on November 1st so my budget was prepared back in August. After it was prepared we got the news on Pennichuck so I already have to absorb about \$12,000 in expected increase and now to hear about the sewer bill in another \$8,500 to our budget. I know they say it's only \$10.00 per quarter but people's social security increases only \$2.00 this year. I wish the planning for the increase could be more long-term. Why can't they just go up 7.5% every year for the next five years? I have 304 families and to come up with two double hits in one year is a lot to ask.

Mr. Fred Teeboom, 24 Cheyenne Drive

The first thing I want to talk about is O-16-19, the 15% increase in both the flow rate and the size of the meter attached to your home. As I understand it the CSO combines from overflow costs and the last I remember is that there were a lot of increase of the CSO coverage and a presentation was made about why more money was needed at that time. I see that there are a number of people here from the city and I hope that they will present to this committee so everybody can see what the 15% is based on. I noticed in the back of your agenda there is a lengthy presentation. I started looking at it but it is way too complex to absorb in a few minutes but I hope that somebody here will give a good synopsis as to why 15% is necessary at this point.

The other thing that I wanted to talk about is the appointments. I don't think I have ever talked against anybody being appointed but this time I have to stand up and speak against the appointment of Gerry Repucci to the Planning Board. Gerry was on the Zoning Board for many years and served as chairman. He was not reappointed to the Zoning Board by Mayor Donchess in part because a number of us, including myself, either called in or wrote letters why he should not be re-appointed to the Zoning Board. The reason I asked him not to be re-appointed to the Zoning Board was extremely arbitrary. There are rules that you have to abide by when you are on the Zoning Board called the zoning laws that Mr. Repucci constantly ignored. As an example, there is a requirement for three of the five members to make a decision and he constantly spoke against that and tried to overturn the by-laws of the Zoning Board because he personally doesn't agree only three members of the five should make a decision. He tried to come back before this Board and change the ordinances which didn't fly because a lot of people were upset with the old Zoning Board ordinances. I'm not here to talk about the Zoning Board because the history is prorogued so I don't know why Mayor Donchess appointed Mr. Repucci at this point to the Planning Board. It's for a short period of time and I believe it's a full member and it's until March of next year so he must be replacing somebody else who stepped down because it's a three-year appointment. I'm very concerned that Mr. Repucci who has a bad record...I urge this committee to hold this appointment and ask Mayor Donchess why he did not re-appoint Mr. Repucci to the Zoning Board and why now is he appointing him to the Planning Board. Mayor Lozeau used to always be here and presented her arguments for making an appointment and I don't know if Mayor Donchess does the same.

INTERVIEWS

Building Code Board of Appeals

Daniel Bergeron (New Appointment)

Term to Expire: October 1, 2019

Scott Cote (New Appointment)

Term to Expire: November 1, 2019

Ms. Sarah Marchant, Director of Community Development

The Mayor is held up in another meeting this evening. Dan Bergeron is current member of this committee and is looking to be re-appointed tonight. He served for many years. Scott Cote has served as an Alderman and is here to be appointed to this Board as a new member.

Alderman Deane

It says on my agenda that these are both new appointments. Did Mr. Bergeron's appointment lapse and when did his term end if it did.

Ms. Marchant

The term expired quite a while ago but I don't have the date on hand right now.

Alderman Deane

So we have nobody active in the Building Code Board of Appeals?

Ms. Marchant

The way that Board works is like many other Boards. Even though their terms expire until somebody is re-appointed into that term they can still serve. The point here is to actually re-appoint them, it shouldn't state new appointment.

Alderman Deane

Is that spelled out in the ordinance?

Ms. Marchant

Yes, it is spelled out in the ordinance by state law.

Alderman Deane

So it's spelled out in an RSA?

Ms. Marchant

Correct.

Alderman Deane

Do you happen to know what that RSA number is?

Ms. Marchant

Not off the top of my head but I am sure I could find out for you.

Mr. Dan Bergeron

I was born in Nashua and have been a realtor since 1972 and started a building business in 1983. I have built over 150 homes in the City of Nashua. I am also the past president of the Nashua Home Builders Association and past state president of the New Hampshire Home Builders Association and am an inductee into the New Hampshire Home Builders Hall of Fame and I served for thirteen years and a life director of the National Association of Home Builders.

Mr. Scott Cote

I have been a resident of Nashua since 1988. I currently serve as the vice president of Facilities and

Emergency Management for the Southern New Hampshire Medical Center and have been there for eighteen years and have been responsible for administering construction projects for the past thirty years that are in excess of \$750 million. My connection to understanding the Building Code Board of Appeals is when I was first elected to the Board of Aldermen in 1999 the then Building Department manager, Bill Walsh asked me if I would support the introduction of the International Building Codes as part of my first piece of legislation on this Board. We were one of the first communities in the state of New Hampshire to do that. I was recently contacted by Bill McKinney who is your current Building Department manager and asked me if I would be willing to serve on this committee. I think it's important to point out that the construction work that I manage in the City of Nashua is very different than the traditional construction work that is usually down in this committee, it's very prescriptive, it's health care so it's typically monitored through professional engineers and architects so traditionally there would not be a need for someone like myself to come before a Building Code of Appeals to ask for a waiver on something. One of the things that appeal to me about this committee is that they don't meet that often.

Alderman McCarthy

Mr. Cote, would you also go over your involvement in the Mayor's Blue Ribbon Commission after the Pennichuck roof collapsed.

Mr. Cote

That was a difficult time and happened at the same time we were building the new high school. The roof of the Pennichuck Jr. High School collapsed after a major snowstorm and I believe that was in 2001 and the Mayor asked me if I would form a Blue Ribbon Commission and work with Lucille Jordan who was the president of the community college here in town to come up with a way of ensuring moving forward that we would have a better way of managing projects and understanding how they are done. That was the impetus behind employing the International Building Code Standards that we put in place. We were able to get that school rebuilt and I chaired that committee and in six months' time we were able to get that school open.

Chairman Clemons

Thank you both for putting your names forward, I think these are important positions.

Downtown Improvement Committee

James Tobin (New Appointment)

Term to Expire: November 2, 2019

Ms. Kim Kleiner, Special Assistant to the Mayor

The Mayor is in another meeting tonight and we apologize for his absence. He does appoint and thank Mr. Tobin for stepping forward and feels that he will be a unique asset to the Downtown Improvement Committee. Mr. Tobin is currently with Brady Sullivan Properties and prior to that he was with the Flatly Companies. He is a young bright professional and we believe he will bring a unique perspective to the committee.

Mr. James Tobin

I am currently a commercial real estate broker with Brady Sullivan Properties which is headquartered in Manchester, NH. I was born and raised in Nashua. I graduated from Hollis-Brookline High School in 2008 and went to Colby Sawyer College for four years and started my real estate career in 2011 with the John Flatly Company and have worked with a lot of Nashua businesses. I have worked with a lot of corporate entities from New England based, nationally based but also right here in Nashua with smaller businesses. I live in Nashua now with no plans on leaving. Brady Sullivan Properties just purchased a

very large commercial portfolio about one year ago with about 5,000 square feet of commercial office space in addition to the several hundred residential units being developed over on Franklin Street now. I sat in on a couple of the meetings with Alderman Clemons and was very impressed with the overall group. As someone who has a vested interest in Nashua both on a professional and personal level, I definitely hope to bring a lot to the table.

Chairman Clemons

You have shown up to the last couple of meetings and I apologize that we've been a little delayed in getting your appointment forward but I think you will bring a lot of unique perspectives to the group and I look forward to working with you.

Alderman McCarthy

With Brady Sullivan's investment in the downtown your employer has a fairly large shared interest with the city in terms of the future of downtown but there will also be places where Brady Sullivan's objectives may differ from those of the city. What's your plan to avoid conflicts of interest on the committee?

Mr. Tobin

I have sat down with the Mayor a few times in 2016 just to get to know each other and we looked at possible opportunities to serve on the Zoning Board and the Planning Board which I would likely have to recuse myself in multiple instances so I think with the Downtown Improvement Committee there would be fewer instances where I would have to take a step back so I think it would be more so on an overall level working with guys like Rich Lannon and John Koutsis on an overall level versus a Brady Sullivan centric level.

Chairman Clemons

I would point out that the committee is an advisory committee so if you are likely to have to recuse yourself it's probably going to be for your own personal interest.

Alderman Lopez

What is your experience with the downtown and what is it about it that draws you?

Mr. Tobin

I think the downtown has a lot of unforeseen and untapped potential. I've seen the downtown evolve for probably eighteen years. I think there are areas that can be improved and businesses that have continued to thrive all the while. There is Exit 1 and Exit 8 commerce and not much in between and I think a lot of that can be brought to the downtown.

Chairman Clemons

Thank you very much for coming and for your commitment to the city.

Mine Falls Park Advisory Committee

Bruce Lund (New Appointment)

Term to Expire: November 1, 2019

Ms. Kleiner

The Mayor would like to thank Mr. Lund for stepping forward. We have a unique opportunity to get

someone to the Mine Falls Park Advisory Committee who is very qualified both in botany and biology. He already participates in some volunteer opportunities in the city even though he is relatively new to our city in the past couple of years. He serves on the Nashua River Water Shed Association and the Beaver Brook Association. He has attended meeting of the Mine Falls Park Advisory Committee and we are very fortunate to have him step forward and the Mayor thanks him.

Mr. Bruce Lund

My wife and I arrived here about one year ago after about twenty years in southern Nevada but before that I worked with the Massachusetts Audubon Society for fourteen years. I am a regular user of Mine Falls Park and I have been very impressed with how many people use that park. It's kept clean and neat and that's a difficult thing to pull off. I found the Mine Falls Park committee and I wanted to find out more about it. I contacted Nick and went to a meeting and met the members of the committee. On Sunday I went down to the park to pick up a fairly messy area of beer cans and bottles and there were already two people there cleaning it up before me and they weren't members of the committee. I would like to think that I can add something to the public awareness about the park on an informal basis because it's a gem in the community. In my professional career I have managed natural areas in Massachusetts, Georgia, Nebraska and Nevada.

Alderman Caron

I think you will be a great asset to Mine Falls Park. I was part of it when it first came to be and we are delighted with the numbers of people that utilize it. Thank you for volunteering.

Chairman Clemons

Thank you very much for your commitment to the city.

Nashua Arts Commission:

Marc Thayer (New Appointment)

Term to Expire: April 1, 2019

Ms. Kleiner

Mayor Donchess would like to thank Mr. Thayer for stepping forward to join the Nashua Arts Commission. Mr. Thayer became the executive director Symphony NH as of July of this year and is also a resident of Nashua. He has performed with San Diego's, Syracuse Symphony and the Florida Philharmonic and has a wide variety of experience. We think he will bring unique perspective to the Nashua Arts Commission. We hope that his history of combining education with the symphony will resonate in the Nashua Arts Commission.

Mr. Marc Thayer

I moved here in July and am working with symphony and it's a fantastic organization. I also teach at the Nashua Community Music School and living in Clocktower Place and I am impressed with how much is going on here with the arts and culture and how important that is as part of the downtown revitalization. I love seeing old buildings being brought back to life. I spent the last five years coordinating cultural programs for the state department working in various developing nations in the Middle East, Southeast Asia, Western East Africa and Latin America. Before that I was vice president for Education and Community Programs with the St. Louis Symphony and before that with New World Symphony in Miami Beach where I was also the director of the Community Outreach and Education Program. Symphony NH would like to be more involved with the Adult Learning Center and the immigrant community here. We are very involved in elementary schools and plan to increase our educational programs. We are working very intensively with the Hunt Community and the Huntington Community and other retirement centers.

Alderman Lopez

How do you see the role of the Nashua Arts Commission in creating a more inclusive art community and empowering artists as opposed to delivering art to people?

Mr. Thayer

I have been attending the Arts Commission meetings since July and am impressed with the variety of people involved and the leadership of the Arts Commission is trying very hard to support the many arts organizations here in Nashua but find ways to involve the community. The Arts Commission is talking about helping organizations with professional development so they can grow and expand and provide resources in a time of emergency that may cause it to go bankrupt. In addition to granting funds to organizations that apply for funding they are trying to be involved in supporting the arts and involving the general public.

Alderman Lopez

Do you have specific experience in those kinds of outreach efforts in helping artists better communicate with the community?

Mr. Thayer

The work I did with the St. Louis Symphony and with New World Symphony in Miami very directly involved professional development for musicians and artists in the community and making orchestras into more of a mission driven organizations or purpose driven rather than just entertainment and luxury organizations. Symphonies can't survive on throwing concerts and ticket sales. We rely on philanthropic funding and grants and we have to be involved in the community in more meaningful ways. The immigrant community is very important to us, especially because they bring a cultural richness to our city. They are very vital to the future of this city especially I believe. The more arts organizations can partner together the more they can be efficient and funders like to see that.

Alderman LeBrun

I am totally in awe of the vast area that you have covered where you have performed. I think you should be commended for doing that both nationally and internationally.

Mr. Thayer

Thank you very much. I have enjoyed working in many parts of the world especially in arts and education. That's why I am excited to see that Nashua and New Hampshire are as diverse as they are and increasingly diverse because arts and culture are a wonderful way for us to find common ground outside of politics and religion. It makes the city more exciting to live and it made me want to move here.

Alderman Lopez

Do you see Nashua's arts community as thriving where it becomes a destination? We are a little bit overshadowed by larger cities like Boston.

Mr. Thayer

I can only speak for Symphony NH but I have gotten to know a lot of people and again been impressed with the Arts Commission. As an orchestra we certainly realize that we are competing with the Boston Symphony. In the past ten years the people guiding this orchestra have worked very hard to raise the quality and stature of all of our work, not just in concerts but the work in schools and in the community.

My message now to the community is come and hear us, don't drive to Boston. All of Nashua is really trying and doing very well in developing and growing. In downtown Nashua there are a lot of people who enjoy restaurants and live music at night of all different styles and we want to be part of that. I think some people don't see what is going on downtown at night. I am very impressed with the level of activity both culturally and with restaurants. It's difficult for an orchestra to survive. We are the only professional orchestra left in New Hampshire. Since 2008, Manchester and Concord lost their orchestras. There are small community volunteer orchestras here and there and they struggle to survive. We have managed to hang on by being very frugal and getting more involved in educational work and community development work and finding people to partner with us. My mission here is to expand that work. We are now very active in Concord, Peterborough and Lebanon and want to be more active in other parts of New Hampshire. The New Hampshire Music Festival in Plymouth has hired us to work there and do educational work for them. We have been hired to perform next fall at UNH in Durham as part of their series. We've been hired by various organizations in northern Massachusetts. We are reaching out to find ways to expand our work and our presence in other communities. The vast majority of our work will always be here in Nashua. People come and take part in festivals here, they come to concerts; they go to restaurants and stay in hotels. The arts provide over \$200 million of income for the state and many jobs and secondary sources of income such as restaurants and hotels and other entertainment. I think that if the organizations downtown can work together more Nashua will become a destination. I've had people tell me already that we used to go to Boston for arts and concerts but now we don't have to. Someone in Concord said that to me three weeks ago and it made my night. The hardest part for us is to let people know, marketing and advertising are very expensive and there's not enough awareness of this orchestra here and there's not enough visibility. You will see us at the holiday stroll this weekend. We are going to be part of every downtown project that we can and we are going to support other arts organizations that we can.

Alderman Lopez

I was very encouraged by that response because it's not very often that you get someone with the breadth of experience but who recently moved to downtown. I am also happy to hear Symphony NH's outreach because I would like to see our city get a reputation for being an arts community.

Mr. Thayer

I would love to see all of you on December 10th at our concert and this coming Saturday at the Holiday Stroll.

Chairman Clemons

Thank you very much.

Planning Board

Gerry Repucci (New Appointment)

Term to Expire: March 31, 2017

Ms. Marchant

Mayor Donchess would like to thank Gerry Repucci for stepping forward to volunteer for the Planning Board. He has many years of experience with the Zoning Board as both a member and chair and a pretty diverse background from code enforcement officer and police officer to building from the ground up his own business in Nashua. That diverse background plus his years of experience and dedication lead the Mayor to find him a great candidate as a full member of the Planning Board.

Mr. Repucci

I've lived in Nashua since 1983 and worked in law enforcement for 24 years and in the private sector. I built a business in Nashua in 2004 on Kinsley Street. I built my business in an area of Nashua where some people said it was not the best place to have a business but I saw it quite differently and have no regrets because my business has been a thriving part of the community. When I built the building in 2006 I participated in the processes that were involved in land/use with zoning and planning. At that time, now Attorney Bolton; was the President of the Board of Aldermen and at that time the President of the Board of Aldermen board members, it wasn't the member and it was at that point I was appointed to the Zoning Board. I started as an alternate member there and I served on that Board since 2008 and I became a full time member and elected as chair multiple times. Mayor Donchess asked me if I would consider taking the open position on the Planning Board and I decided it was a good opportunity and diversify myself and apply a lot of the things that I have learned over the years to help the city in a different way.

Chairman Clemons

I am familiar with Mr. Repucci. You did a great job on the Zoning Board and I think you will be a very good addition to the Planning Board and I certainly will support your appointment.

COMMUNICATIONS

From: Dorothy Clarke, Deputy Corporation Counsel
Re: O-16-019, Increasing Sewer User Fees Rates and Charges

**MOTION BY ALDERMAN CLEMONS TO ACCEPT AND PLACE ON FILE
MOTION CARRIED**

From: John L. Griffin, CFO
Re: Wastewater Fund Rate/Revenue Requirements Analysis

**MOTION BY ALDERMAN CLEMONS TO ACCEPT AND PLACE ON FILE
MOTION CARRIED**

APPLICATION TO LICENSE HAWKER'S, PEDDLER'S, ITINERANT VENDOR'S LICENSE - None

APPOINTMENTS BY THE MAYOR

Building Code Board of Appeals

MOTION BY ALDERMAN CLEMONS TO RECOMMEND THE CONFIRMATION OF THE FOLLOWING INDIVIDUALS TO THE BUILDING CODE BOARD OF APPEALS: DANIEL BERGERON FOR A TERM TO EXPIRE OCTOBER 1, 2019; SCOTT COTE FOR A TERM TO EXPIRE NOVEMBER 1, 2019; AND, KEVIN SLATTERY FOR A TERM TO EXPIRE SEPTEMBER 1, 2018

ON THE QUESTION

Alderman Deane

I take it that Mr. Slattery is the only active member?

Chairman Clemons

I believe Mr. Bergeron is also on the Board.

Alderman Deane

Okay so that's a typo, Mr. Bergeron is a re-appointment?

Chairman Clemons

That's correct.

Alderman McCarthy

I think both of the members that we talked to this evening will and have done great work. I think Mr. Bergeron is very knowledgeable as I have worked with him on some zoning changes and I think Mr. Cote's understanding of building code issues is probably second to none. I think he will be a great asset to that committee.

Alderman Lopez

Why is the date of Kevin Slattery as a re-appointment earlier than all of the others?

Alderman McCarthy

That committee hasn't met in probably a decade and I think the two members that were on it were appointed before that decade began.

Alderman Lopez

How do they pick the terms?

Alderman McCarthy

They are usually staggered so they don't all end at the same time.

Alderman Lopez

If the term expires only when somebody fills the spot do these dates really mean anything?

Chairman Clemons

Yes because they know when to make an appointment or a re-appointment.

Alderman Deane

Their terms do expire but I struggle to find this RSA.

Ms. Marchant

RSA 672.7 defines the Building Code Board of Appeals as a local land/use board and 673.5 (III) clearly states that they serve three year terms that shall be staggered so we do know when the last appointments were which is why even though they haven't met or served in a long time and 673.5 (III) states that they do expire but they shall serve until someone else is appointed into that position.

Alderman Deane

Is that the exact language?

Ms. Marchant

"The term of office for an appointed local land/use board member shall begin on a date established by the appointing authority or as soon thereafter as the member is qualified and shall end three years after the date so established. If no successor has been appointed and qualified at the expiration of an appointed members term the member shall be entitled to remain in office until a successor has been appointed and qualified."

Alderman Deane

The Building Code Board of Appeals is considered a land/use board?

Ms. Marchant

Correct, under RSA:672.7.

Alderman Deane

Does it say Building Code Board of Appeals under there?

Ms. Marchant

It does.

Alderman Deane

I think I want to go back to that comment that was made about 2006 by Mr. Repucci. If I remember correctly back then there was a lot of concerns that were raised about some of the things that were going on in the city and the Mayor at the time would not bring the re-appointments in that expired and the approvals continued so I believe legislation was brought in that gave the Board president the opportunity to do that and put an end to it. The only time this Board ever meets is when there are problems or litigation. Is there litigation right now in front of the city that is requiring these folks to come forward?

Ms. Marchant

It's usually pre-litigation. We did have a case about 1 ½ months ago that was heard and is over but the RSA requires that when somebody asks for a Building Code of Appeals meeting that we have to do that within 20 days so we would like to have the Board filled so that we have it if it's needed.

MOTION CARRIED

Downtown Improvement Committee

MOTION BY ALDERMAN LEBRUN TO RECOMMEND THE CONFIRMATION OF THE APPOINTMENT OF JAMES TOBIN TO THE DOWNTOWN IMPROVEMENT COMMITTEE FOR A TERM TO EXPIRE NOVEMBER 2, 2019

MOTION CARRIED

Historic District Commission

MOTION BY ALDERMAN LEBRUN TO RECOMMEND THE CONFIRMATION OF THE REAPPOINTMENT OF ROBERT SAMPSON TO THE HISTORIC DISTRICT COMMISSION FOR A TERM TO EXPIRE SEPTEMBER 30, 2019

MOTION CARRIED

Mine Falls Park Advisory Committee

MOTION BY ALDERMAN LEBRUN TO RECOMMEND THE CONFIRMATION OF THE APPOINTMENT OF BRUCE LUND TO THE MINE FALLS PARK ADVISORY COMMITTEE FOR A TERM TO EXPIRE NOVEMBER 1, 2019
MOTION CARRIED

Nashua Arts Commission

MOTION BY ALDERMAN LEBRUN TO RECOMMEND THE CONFIRMATION OF THE APPOINTMENT OF MARC THAYER TO THE NASHUA ARTS COMMISSION FOR A TERM TO EXPIRE APRIL 1, 2019
MOTION CARRIED

Planning Board

MOTION BY ALDERMAN LEBRUN TO RECOMMEND THE CONFIRMATION OF THE APPOINTMENT OF GERRY REPUCCI TO THE PLANNING BOARD FOR A TERM TO EXPIRE MARCH 31, 2017
MOTION CARRIED

UNFINISHED BUSINESS – None

NEW BUSINESS – RESOLUTIONS – None

NEW BUSINESS – ORDINANCES

O-16-019

Endorser: Mayor Jim Donchess

INCREASING SEWER USE FEES RATES AND CHARGES

MOTION BY ALDERMAN CLEMONS TO AMEND O-16-019 BY CHANGING THE DATE IN THE LAST SENTENCE TO READ: “THIS LEGISLATION SHALL TAKE EFFECT ON JANUARY 1, 2017”

ON THE QUESTION

Alderman Lopez

Given the fact that we are moving this from July to January shouldn't we schedule a public hearing?

Chairman Clemons

I don't believe the ordinance requires that although I will refer to Alderman McCarthy.

Alderman McCarthy

I don't think it's a statutory requirement.

Alderman Lopez

It seems like we are going to surprise people with a huge bill.

Chairman Clemons

There is no harm in discussing what we can do about it this evening as a committee.

MOTION CARRIED

MOTION BY ALDERMAN CLEMONS TO RECOMMEND FINAL PASSAGE AS AMENDED

ON THE QUESTION

Mr. Steve Dookran, City Engineer

We have broken up the wastewater projects into three different systems just for convenience of how we track the projects as well as the funding of the projects. The first one is the combined sewer overflow system. This system takes both storm water and sanitary sewerage within that system. Then we have the collection systems as well as the waste treatment facilities. The second slide shows you how extensive our wastewater system is. The graphic shows the locations of our combined sewer overflows and they are numbered from 002 through 009 and then there is a 014. These are on the Nashua and Merrimack Rivers and they are meant to discharge when we have large rain events because the pipe system is unable to carry such large flows. We have undergone a combined sewer program over a number of years and we have produced some new equipment and facilities that are part of what the wastewater department manages now. We have a storage tank at CSO 4 and a sewerage gate system at CSO 6. The next set is the collection system which is made up of two parts, the sanitary as well as the drainage or storm water. We have 100 miles of combined sewers and those are within the inner city and some date back to over 100 years. We have a separate sanitary system of 190 miles and the pump stations number 13 are located at places where you need to bring sanitary sewerage into the system to get to the waste treatment facility. Our drain system consists of 130 miles of storm drains with most outside of the inner city. We have a very large number of structures, catch basins and manholes numbering about 20,000. We have detention ponds and part of the system includes the Merrimack River Flood Control or levee that runs from the upper Nashua River going south and the pump station that you see between the bridges is there for when the river level is high it assists in discharging overflows into the river. As far as treatment facilities we have the original wastewater treatment facility on Sawmill Drive and we've added a wet weather facility as part of our CSO program and last year we completed the screening and disinfection facility on Bridge Street. Together these facilities can handle almost 200 million gallons per day. Since 2005 we've spent about \$60 million on projects and we are currently trying to complete the Burke Street improvements and we also have annual expenditures so in the end from 2005 we will have spent \$65 million. Our CSO program actually began in the 90's and if you look at the analysis that the CFO will show there was a rate decrease around 2003. In fact, there was an increase in the late 90's because of the CSO program and then a subsequent decrease because of a change in the program. We have just done the final paving on Burke Street and we will be striping when the weather allows us to and that project will come to a close. The other part of on-going projects is the inflow and infiltration removal. We still believe there is still quite a bit of inflow in the infiltration system and we are required to try to detect these and eliminate them as best as we can. We have a study that was \$185,000 that we had to suspend earlier this year because of the drought conditions we weren't getting the flows to measure. We will resume that next year and hopefully we will have the rains and if we come across II that we have to remove that will increase some costs.

Alderman Deane

Can you give a definition of what II means?

Mr. Dookran

II is inflow infiltration. Inflow is if we have a storm and there's runoff and that water gets into the system through openings like cracks in the pipes. The infiltration part is what enters the pipes from groundwater and as it builds up because of rain events. Systems like ours tend to have a rather large amount of II, in some cases as much as 30% of the daily flow. I didn't say that Nashua has that amount but I've read where old systems can have that much. The CSO operation of projects we spend about \$125,000 per year and that's for monitoring the overflows. We have meters at all of the 9 overflows that I mentioned before and we have to report when these activate to the EPA and there is an annual cost for that. We

have to continue to review our flow management at treatment facilities and there is also an on-going cost for that as well as doing what the EPA calls a post-construction monitoring for water quality. We have completed all our major projects in the CSO program and the EPA requires that we monitor the performance of these facilities to show that they have been successful. The EPA recently came out to Nashua and as a result of us asking them to consider our program complete so our reporting requirements will be reduced. They did not agree with doing that for us. They decided that our facilities are not performing optimally and we have to get those going and do the monitoring and get the required water quality before they can consider the program complete. Needless to say, if we don't get those results in the ensuing years we may be asked to do more mitigation projects to the extent of which I don't know until we start sampling, testing and reporting to the EPA.

Chairman Clemons

What were the EPA's concerns of the system?

Mr. Dookran

One of the larger projects we have built is the wet weather facility and we've had some problems with it not taking in all of the flow as designed. There could have been some problems which we are investigating now. We have to report every time there is a rain event. They are aware of the on-going problems with the performance so they want us to address those issues. The collection systems, we do an annual sewer project, especially for the older deteriorated sewers and I've shown where we have spent over \$9 million in the last five years. Currently we are addressing 13 pump stations and the idea is to make these more accessible because some of them are in the ground and it's difficult to get to them as well as upgrading the communications. We need to know when these pump stations are down. That project is estimated at \$8.4 million. Regarding the levee that I talked about before, the Army Corp. inspects this every year and identifies the deficiencies, structural and otherwise so we have programmed some money for fixing those deficiencies. We have been carrying in our budget \$2.7 million for an overflow detention basin that's related to the levee and that basin activates when the river level is high and the pump can't keep up with discharging the CSO. With the development of the Renaissance project there were discussions about having to remove that overflow basin to allow the development and that's the reason why we have had that number of \$2.57 million for that purpose. Also in progress is a capacity management operation and maintenance plan for the collection system, otherwise known as CMOM. We currently have a study which will be prepared by a consultant for about \$300,000 and the idea of getting that plan is for us to understand the condition of that system. Under expenditures with the collection systems we spend about \$1.3 million per year in rehabbing our sewers and we also replace our obsolete and broken structures. We also carry a \$400,000 per year for any work that we need in low lying areas that are subject to sewerage overflows when we have a large rain event so we have a line item in there for that. Then we have a line of \$108,000 per year for storm water and various problems. About one year ago the north gate pump station had a very large issue that we had to deal with so it's important that we look at these and program the required work. The flood control system on the Merrimack River levee includes the actual levee, the pump station, the CSO 5 and the overflow basin. The CMOM for the collection system, the idea is to make sure we understand what our system looks like; a full inventory of the system, its conditions as well as to program what we need to do for maintenance. This is something that will translate into some level of budgeting but it's difficult to know what that is until we get a report. The report will be due early next year. I mentioned that we do \$1.6 million per year for sewer rehab and this fiscal year, 2017, the Mayor gave us some extra money, that's why we have \$3.1 million for sewer work. That's a one-time thing in the budget. It's important to understand that when we develop a sewer rehab program we have to coordinate it with all of the other utilities as well as the paving. We have a number of areas in the inner city that still see combined sewer flooding on occasion like we had on October 21st and we have to try to develop projects to mitigate those. Storm water abatement, here is a picture of flooding on Northeastern Blvd. We have to address these by upsizing culverts or putting in other measures. There is a picture of the rain garden; we try to do more green projects when we can for infiltration. I will turn your attention to the waste treatment

facility and this is just for the sanitary side. We have over the last few years completed multiple projects including the secondary system which was a \$4 million. We did the sludge de-watering which cost almost \$6 million and then the smaller project, the net metering. We have the headworks upgrade and that will begin construction soon. We have a couple of projects that are required by regulations and the EPA and the DES. The effluent defoamant chemical building is still being studied. There is a primary tank upgrade that is still to be done. Currently we are looking at our wastewater plant water booster station upgrades; we have a consultant looking at that right now. The air handling units, the phosphorus removal and storage is also a regulation requirement and we keep trying to address that in the right way. That not only comes in our discharge permit but also in the permit for the storm water. The State of Massachusetts has received its permit and it is a difficult thing to do and that's why the cost is rather high. We continue to talk to the DEP to see if we can get some leniency in doing that. Finally, the SCADA upgrades, that's the communication system at the plant as well as the pump stations and that's an on-going project. This graph just shows you some of the project location within the campus on Sawmill Drive. The last slide is a sample of the equipment replacement program and is one of several sheets that are included in the analysis and the CFO and Derek will cover that as well.

Mr. John L. Griffin, Chief Financial Officer

I would like to go through the Wastewater Fund Rate/Revenue Requirement Analysis. The date on it is September 16th, that's the month that we presented it to the Board of Public Works. Starting off with a little bit history, this particular analysis is for fiscal '16 through '22. Revenues in fiscal '16 are expected to be \$13.1 million. We talked about the volumetric rate aspects of this revenue requirement as well as the demand. The volumetric revenue is approximately 60% of the total user fee revenue on the demand which is associated with the size of the meter is approximately 40% of the user fee revenue. This presentation estimates that the revenues will increase to \$16.1 million in fiscal '19. That would be the growth and the revenue as projected. The estimated debt service payments to pay for the items that Mr. Dookran just explained will increase from \$4.2 million in fiscal '16 to \$6.4 million in fiscal '19. The unrestricted net assets which is a measure of the health of the fund as of June 30, 2015, was \$14.4 million and that would be reduced in the next few years through the use of cash and other expenses. We traditionally review on an annual basis in November of each year after the annual audit; we generally propose over the last two rate increases a rate to take place in January of the ensuing year after we propose the rate increase. Predominantly we keep it away from the general fund budget season and we've found that to be successful as this is a single focused issue. The current issues impacting the wastewater fund are the EPA requirements and regulations, aging infrastructure as you have already seen from the slide deck of Mr. Dookran, the sewer system and treatment plant and state aid grant funding; in 2009 the state wasn't able to provide the grants that we have applied for with the various CSO projects. There has been a slight relief provided but nothing close to what was projected which was 20% of the constructed cost of each system enhancement. The last rate analysis was completed in November of 2013, resulting in a 15% user fee rate revenue increase effective January 1, 2014. We had planned to have an increase in fiscal '16 instead of fiscal '17 but I will explain later why we were able to defer that increase for one year. The rate increase in fiscal '14 was a 15% increase in volumetric rate and a 15% in demand rate. The history of the rate adjustments was in fiscal '04 a reduction in the volumetric rate from \$1.66 to \$1.22 per 100 cf and you will see in fiscal '10 my predecessor, Mr. Gilbar, had successfully presented a rate increase, volumetric only of \$1.22 to \$1.55 and the last two increases were in fiscal '12 and '14 raising the volumetric rate but also raising a 15% increase on the demand charges as well.

Alderman Deane

When the rate was reduced back in '04 we were sitting on about \$26 or \$29 million in retained earnings?

Mr. Griffin

Yes.

Alderman Deane

It's Armageddon on reducing the rate but at that point in time the plan was to use the retained earnings as part of the CERF and when the CSO project started we were going to bond that but instead of doing that the then director and the rest of them went out and spent all of that money so we had no cash on hand or they spent it down to about \$4 million and that's where the problem started. I'm dying to hear what you found out because on this rate increase that was supposed to happen last year it got deferred to this year. I am wondering if it's because someone just didn't want to do and they are finally not in office because we went through all of this before and for you to all of a sudden...I mean we can go back and look at the prior presentations. I am going to give you the benefit of the doubt and hear what you have to say but that's quite a mistake if we could defer something for a year in the analysis that was done, if a mistake was made. A lot of people aren't happy with this but with the aging infrastructure and this is the only facility that we own and as Steve had brought up about the II issue, I don't think 30% is really out of the question. If you look at the operational cost of treating ground water that we don't have to treat and if it were say 25% of what's going into the plant now, that's a tremendous expense right there alone. The expense of repairing the lines and stopping the infiltration of ground water and what not into the system but that's a huge cost that we incur. It's not only a cost to treat but the wear and tear on the equipment to do so. Everything was fine but the plan changed and people decided to spend that money on other things and that created a lot of havoc and turmoil from a financial perspective, that's my opinion. I want to know why we didn't need an increase after we heard this 15% every other year.

Mr. Griffin

We will definitely cover that very soon. This proposal is an increase of 15%. The volumetric rate is shown increasing from \$2.05 to \$2.36. The average quarterly residential demand charge increases from \$27.77 to \$31.94 so all in total the average quarterly residential bill is a \$79.14 bill that will increase \$10.37 per quarter. The cost analysis, you have heard the term WERF which is the wastewater equipment reserve fund, the director and her team at the Department of Public Works undertook a comprehensive analysis of the WERF schedule. Mr. Dookran referenced that with one page of a multi-page piece of information which articulates and identifies most, if not all of the components necessary to be replaced timely in the wastewater, especially the plant.

Alderman McCarthy

Does the down turn in the replacement schedule indicate that we are doing catch up and getting caught up?

Mr. Griffin

The wastewater equipment reserve analysis was a comprehensive approach to A) identifying all of the component parts of the facilities and determining, based on the replacement timeline, these volumes here, Alderman McCarthy, are the scheduled costs to be incurred out of the fund in fiscal '17, '18 and '19. It's not a reflection of saving a bit each year; it's merely the cost of the replacement items in the schedule.

Alderman McCarthy

So in 2021 and 2022 does it stay down near \$.5 million or is there another \$2 million year in there?

Mr. Griffin

It would go up depending on what the needs of the facility is at that time. As you are aware, over the last several years we have had some significant replacement of wastewater infrastructure through the Finance Committee that you have served on. This is basically the capture of the amount of spend in

each fiscal year going forward. We have the whole wastewater replacement information included in the document.

Mr. Dookran

The actual number depends on the life of each piece of equipment and it varies from ten years through fifty years.

Alderman McCarthy

Do we have a model where we flatten out the contribution to the fund on the front end so that we are not having wild variations in what gets paid for out of the rate on a yearly basis?

Mr. Griffin

We have an annual contribution based on the net present value of the cost of the replacements coupled with some earnings in the fund. It's roughly \$1.7 million per year that needs to be appropriated into this fund to cover these expenses over the term.

Alderman McCarthy

So, I take that to mean that FY '18 would be a more typically year than FY '19?

Mr. Griffin

That's correct.

Alderman McCarthy

How much is in the fund itself at this point?

Mr. Derek Danielson, Sr. Finance & Operations Analyst

I believe it is \$10.5 million.

Alderman McCarthy

And we are contributing \$1.7 million and withdrawing a variable amount?

Mr. Danielson

Correct.

Mr. Griffin

As I mentioned that unrestricted net asset number is a very important number. That captures the amount that Mr. Danielson just referenced and has a small amount. If we start with \$14.4 million...

Alderman McCarthy

The \$14.4 million that we saw a little while ago is this \$10 million plus \$4 million of essentially undesignated fund balance?

Mr. Griffin

Correct. What's interesting about this fund is that it's a cash basis fund so you if you spend a lot of cash instead of bonding...it is a drain to unrestricted net assets if we spend cash on things instead of bonding. We try to bond when it makes sense. A lot of these projects and implementations are long life assets and hopefully last twenty or thirty years.

Alderman McCarthy

I think that was Alderman Deane's point earlier was that rather than bond the work in the early part of the CSO upgrades and pay the debt service out of the fund we elected to pay cash for the projects and avoid debt on the projects that were done in those years but now we get rate shock because now we have to bond big projects and we don't have money to cover the debt service in the fund at this point.

Mr. Griffin

Right, the debt service, as I mentioned, will grow about \$2 million from fiscal '16 to fiscal '19. This analysis describes the amount of debt, the amount of the capital projects that were referenced earlier funded by debt in fiscal '18 and '19. This is an on-going annual review so the team represented by Director Fauteux, the City Engineer and those folks. They have to constantly review the operations and the capital projects require these facilities as part of their daily, monthly and yearly routine. The funded by cash, that fiscal '17 \$8 million of which \$4.1 million relates to the annual expenditures that were also referenced, that's an \$8 million drain on unrestricted net assets unless it's replaced to some degree by the \$1.7 million that's going in to fund the WERF.

Alderman McCarthy

Where is the other \$3.9 million going? You said there was \$8 million cash funding in FY '17 and \$4.1 million of it is operating expense. What's the other \$3.9 million?

Mr. Griffin

It could be other capital projects.

Mr. Danielson

I believe it was dewatering and the increase in the sewer structure replacements, the one-time increase that Mr. Dookran referenced.

Alderman McCarthy

Are those projects that would be bondable?

Mr. Griffin

My opinion is that the annual sewer infrastructure is designed to provide the value that you would expect from the replacement of a sewer that would have a longer term life than just an operating amount. I think that could be one of the strategies going forward is to bond some of these amounts.

Alderman Deane

That's only \$700,000 or \$800,000 isn't it?

Mr. Dookran

The on-going is \$1.6 million. We carry a 5% increase per year, something like that.

Mr. Griffin

So most of the years, Alderman Deane, are \$1.6 million but fiscal '17 was \$3.1 million. What we try to do is balance the use of cash being respectful of the unrestricted net asset balance with bonding. This budget season of fiscal '17 we actually instead of putting all of the capital projects in one column we separated them out. We separated the amounts that are going to be used by cash and the others that are going to be bonded. I think that helped with the understanding of what we are doing. This analysis is how the rates for our Nashua residents and businesses compare to Derry, Manchester, Concord and Keene. We fair favorably to those communities. What I have heard, although I haven't witnessed it in person is this is good and bad news. The bad news is that the EPA folks tend to look at this and say we have plenty of room for capital projects and other expansion efforts.

Mr. Dookran

We have made the argument to the EPA that to pay for additional mitigation projects whether it's a CSO issue or a storm water issue, it's a burden to our rate payers and we don't agree with that. They compare us with communities in Massachusetts which I understand are much higher and they end up saying that we can afford it because we have a lot of room to increase our sewer rates.

Alderman Deane

That's just their opinion.

Mr. Griffin

The next slide would be the summary. The objective here is to fund normal operating costs, meet certain of the EPA requirements which we have vigorously opposed since I've been here in 2010, adequately fund reserves for future equipment needs (WERF), fund some improvements with cash and pay for the increase in debt service payments over the next several fiscal years. The next slide that I'd like to put up is since fiscal 2002, this is a good slide to tell the tale of the tape as I say. As Alderman Deane mentions in 2002 coming into the major implementation portion in '05 to 2015 the CSO projects, we had about \$26 million in cash. \$25 million in cash in 2004, the decrease came in and it made all the sense in the world. It doesn't take too long to drain that fund if you are investing in a wet weather facility that costs \$31.5 million. We bonded only \$14 million of the \$31 million so we needed to pay the contractors with cash resulting in a fiscal '09 balance of a negative \$6.21 million. When my predecessor came in, Mr. Gilbar, working with then Mayor Lozeau, they ended up going with that volumetric rate increase in 2010. We knew we had to review this more timely than had been done in the past. The CSO projects took hold, spending \$60 million but we are going to spend another \$5 million going through the process. The increases have been timely and they have been needed. In 2014, Alderman McCarthy and Alderman Deane had a great suggestion which was could we go back and bond the wet weather facility that we didn't bond in the past and we were very successful in using the state loan instrument as opposed to bonding. We were able to get \$12 million as in inflow of cash into this fund and you can see it going from \$5.5 million to \$17.7 million. Analyzing it in fiscal '15 and '16 and to answer Alderman Deane's question is we felt comfortable at that \$12 million that went in would help us postpone the rate increase that was originally scheduled in fiscal '16 to fiscal '17. As you can see the line 15 into line 16, 2016 to 2017, you can see that drop with the use of the cash.

Alderman Deane

What was the cash used for, the \$8 million?

Mr. Griffin

The cash was the \$3.1 million sewer infrastructure annual program as well as...

Alderman Deane

That leaves \$5 million left. Was the principle and interest paid out of that?

Mr. Griffin

That cash would be in the analysis and is fairly robust, it's a direct drain in the unrestricted net assets using cash for things that are not covered in the rates.

Mr. Danielson

One of the things funded with cash in FY '17 anticipated was the Bridge Street overflow detention basin and that's \$2.53 million.

Alderman Deane

Was it unanticipated?

Mr. Danielson

It was anticipated.

Alderman Deane

We still have \$3 million left.

Mr. Danielson

I can list what we are planning to pay for in cash in FY '17. We have the Bridge Street overflow at \$2.5, the capacity management CMOM plan at \$300,000, we have the sewer infrastructure that bumped up to the \$3.1 million and that brings it up to about \$6 million. Then I believe the affluent defoament building its \$.5 million but I think that's on hold. Also we have \$350,000 for the AC and air handling units. I think that gets close to the \$8 million.

Chairman Clemons

What happens if the Board of Aldermen rejects the increase?

Mr. Griffin

We could show the effects of having no increase for the next several years. No increase would result in a negative position in fiscal '18.

Chairman Clemons

Part of that is the battle with the EPA, is that correct?

Mr. Griffin

That's part of it but the other part is the increase in the debt service from \$4.2 to \$6.2 million and that's

an increase every year as you go forward. This isn't accrual accounting, this is cash basis. The fund is an unrestricted net asset cash basis.

Chairman Clemons

So it's \$2.2 million every year that the debt service increases?

Mr. Griffin

No, I'm sorry, it migrates towards that result so you are increasing the debt service payments, your funding the WERF annual payment of \$1.7 million within the revenue requirements and you are paying cash for things that unless you keep up with the rate increases you are not going to be able to fund...you can take some of these items that we mentioned, we can position those with a debt instrument, whether it's a loan from the state or a bond but at some point you have to pay the principle and interest back.

Alderman McCarthy

I guess I wouldn't characterize it as a battle with the EPA. We were forced to comply with the Clean Water Act which in its simplest form says that the city's downstream shouldn't be drinking your sewerage and we are the beneficiary of that because Manchester is upstream from us and has CSO's. I would point out that the original plan in the late 1990's was a \$170 million complete separation of the CSO's. When we re-negotiated that to go to the detention facilities that plan came way down in cost. I think the issues we are seeing have to do with the way we have financed it and not with the EPA making outrageous demands. I think they have steadfastly said that they want to see us not dump chloroform bacteria into the Merrimack and sending to Lowell, Lawrence, Haverhill, etc.

Chairman Clemons

I don't disagree with you as far as the goal but it comes to us an unfunded mandate.

Alderman Lopez

My biggest sticking point is the rate of the increase, not necessarily why we need to do it. Is there any reason why every two years we have to go a full 15%? In 2016, we were in a fairly good spot but knew we would need to raise it. Couldn't we have and shouldn't we in the future raise it by smaller amounts so we don't surprise everybody?

Mr. Griffin

That could be a strategy for your consideration; we could do a 7.5% increase annually. It's not as effective as a 15% every other year but it gets us out into the 2020 before this analysis goes negative.

Alderman McCarthy

Why is it not as effective?

Mr. Griffin

I know we are putting it in in January which half way through the year but it is a 15% increase that starts the next year and 15% not 7.5%. It slows the amount of revenue that you generate if you don't...starting in FY '17 15% and 15% in '19 and 15% in '21, those are more effective. You get more revenue in the door sooner by going that route as opposed to the 7.5%.

Alderman McCarthy

That assumes that you start the...

Mr. Griffin

It doesn't really matter where you start.

Alderman McCarthy

It assumes that you start the annual increases two years after the last biannual increase. If you started them the year after then it would be advantageous to have it at 7.5% per year, right?

Mr. Griffin

Right, what this shows is that in '17 instead of where it says 7.5% it says 15%. You are missing a half of year to start and then the next year would be...it's a multipliable effect as opposed to just additive. We've calculated the effect using one of the major worksheets in the presentation.

Alderman McCarthy

From my standpoint, and I'm not happy that we are here again, I'm not happy that we didn't do the increase last year which would have made us better off. I guess it escaped us that we hadn't seen you for three years instead of two. In the future we need to have a plan and stick to it and make it well known so that people who have to plan around paying the bill can cope with that a lot easier than when we have these meetings and say we are going to action that takes effect three weeks from now.

Alderman Deane

My only concern is that if we let our retained earnings drop we are going to end up with the same problem that we had before. We do have some redundancy at the treatment plant facility and at the end of the day there is no valve to turn to make everything go somewhere else. Most of the equipment down there is sole sourced and it has to be ordered way ahead of time at a cost to the environment. If the plant doesn't run right then we have big problems. Nobody is happy with these increases and I understand that but at the end of the day this is the most important facility in the city by far. If this facility doesn't operate properly then people get sick and we have all sorts of problems. I wouldn't want to see a re-occurrence of what went on prior with all of the cash that we spent. We should have stuck with the way the increases were laid out before.

Chairman Clemons

I have a suggestion. If we did a 15% this year and then every year did 7.5% that would I assume put that column, that year-end balance column even higher than what we are looking at right now, is that correct?

Mr. Griffin

I would assume that if you start with the 15% and don't skip a year but do 7.5% for the next five years the numbers would be much better than what they would be when we just went 7.5% every year to start because you would be 7.5% ahead of the game on a five year plan.

Chairman Clemons

At what point in the future will these increases no longer be needed?

Mr. Griffin

The plant has to be invested in continuously. The things that were put in the 70's needs to be replaced in a timely fashion. I think you've seen the same effects on the Capital Equipment Reserve Fund on the city side. The thing about the WERF is that balance is \$10.5 million and that doesn't go down or up much so when you have an unrestricted net asset balance of \$3 million you really have a \$10 million asset requirement and \$7 million in the hole. My predecessor, Mr. Gilbar, he was modeling; he wanted you to have six months' worth of debt service and a fully funded WERF, these rates would have been significantly increased over the last several years to keep that. Working with the internal team and the Board of Aldermen and the Board of Public Works we felt that it wasn't really necessary to have a significant balance in unrestricted net assets but it needed to be positive.

Alderman McCarthy

At some point there is some relief because the debt service that we are incurring over the CSO separation and treatment facilities is not, we have to fund maintenance of that in the long-term but we don't have keep building at that rate at some point.

Mr. Griffin

That's correct, maybe in the 20's. We could model that, maybe in 2025 through 2030. We have assumed that, as you saw in the slide that said here's what we are going to fund with debt and here's what we are going to fund with cash, there are things that Mr. Dookran and others have come up with that say we need to do this over here. It's not just a \$65 million CSO program, its additional things, headworks, pump stations and sewer infrastructure and as he indicated you don't want to be digging up streets and that's why we advocated to the Mayor for the \$3.1 million.

Alderman McCarthy

Do we have a number and a lifetime for the total value of the assets that are both at the plant and under the street?

Mr. Griffin

These are all capital items depreciated with a schedule. We could get that.

Alderman McCarthy

I assume that our depreciation on the mains is actually substantially longer than the 20 years that it takes to bond or replace.

Mr. Dookran

For mains we do PVC routinely for all new sewers and reports are showing that you could have 100 years with PVC. PVC hasn't been around for 100 years but that's the prediction right now.

Alderman McCarthy

It would seem like we need to basically sink about 1% of the cost of the street infrastructure and probably 3% to 5% of the plant infrastructure on a yearly basis to keep up with it in the long-term.

Chairman Clemons

Personally I am not yay we are going to raise the fees by 15% but I guess I would like to see at least a

proposal next year to raise it by 7.5% and have us at least consider that as an alternative to 15% every two years. I think it's something that people can budget for and it also gives us a heads up in what we have as far as a fund balance.

Alderman Deane

If there was an analysis done and the 7.5% works then until the financial analysis is done you can amend the legislation and put the increases in right now if you would like. Then people understand that it is going to happen. The increase is going to happen, those are the financial requirements needed to operate the facility and keep it solvent.

Alderman Lopez

Is there a fiscal reason that we would have to pass this tonight? It's a bitter pill to swallow and at least if we could apologize to the public by explaining that we are going to change that I feel like it might be helpful.

Alderman Deane

It might be news to some people but this has been out here for a long time. We went back to this when Mr. Gilbar was here. This slide right here is an old slide, is that correct, Mr. Griffin?

Mr. Griffin

This is a slide that I created to understand what happened.

Alderman Deane

What year?

Mr. Griffin

I believe it was fiscal '12. It was an important slide for me.

Alderman McCarthy

I think you will find that the concerns go back to the decrease in 2004 and there was discussion then about was this going to happen ten years from now. I guess it might make sense to do the 15% increase with this bill and then get a longer term analysis and consider during the first couple of months of next year about the 7.5%.

Chairman Clemons

I tend to agree. I think that way we can really look at the two different options and just have a discussion on that. We know where we are at for at least as far as the next year goes.

Alderman Lopez

This is news to some people and I do recognize that this is an on-going issue and I would just say that if we solve the issue this time then we should stick to this plan and make sure that we try to come up with a plan that is a little less startling.

MOTION CARRIED

O-16-021

Endorsers: Alderman June M. Caron
Alderman-at-Large Lori Wilshire
Alderman Richard A. Dowd
Alderman Ken Siegel
Alderdwoman Mary Ann Melizzi-Golja
Alderman Tom Lopez

**CHANGING THE NAME OF THE REVIEW AND COMMENT COMMISSION TO THE CITIZENS
ADVISORY COMMISSION FOR COMMUNITY GRANTS**

**MOTION BY ALDERMAN CARON TO AMEND O-16-021 BY CHANGING THE FIRST SENTENCE IN
SECTION (C)(2) TO READ:** “The Commission shall use a City of Nashua ~~Review and Comment
Community Grants~~ application and ~~Review and Comment
Community Grants~~ commissioner worksheet
approved by the Human Affairs Committee.”

ON THE QUESTION

Alderman Caron

The Human Affairs Committee had a meeting last week and we did bring it to them. It was brought to our attention that part of this still showed Review and Comment and they asked if we would amend it and I told them I would bring it to this Board. The other thing is that we feel that the new name represents what the volunteers in this commission do and that is to review the money that the city gives out to non-profit agencies within the community.

Alderman McCarthy

The only issue I have is that the Human Affairs Committee can't approve anything on its own. If something requires an official approval from this Board then it requires an approval from the Board of Aldermen so I might suggest as we simply word that as “reviewed by the Human Affairs Committee.”

Chairman Clemons

The original language of the ordinance read “application and Review and Comment commissioner worksheet approved by the Human Affairs Committee.” That was the original. Are you suggesting a further amendment?

Alderman McCarthy

If you are going to say approved by it has to be by the Board of Aldermen but I think that's overly oppressive for what we are trying to do here so if we simply say “reviewed by the Human Affairs Committee.”

Alderman Deane

What's driving this?

Alderman Caron

When the commissioners were trying to get people to volunteer to be part of this the question to the commissioners is what is the Review and Comment. Then you have to explain that it's for non-profit agencies applying for money that the city puts aside. They felt that coming up with something within the title that says “City Community Grants” which really is the city's money that we are providing along with

some federal funds. Alderman McCarthy, the Human Affairs Committee, from what I've been told, is the overseer of the applications and worksheets and what have you that the Review and Comment Committee would present to them and they would give the okay for the Board of Aldermen for final approval. I don't see it even needed in that title. It could just say "commissioner worksheets."

Alderman McCarthy

We do these things and the Board only has collective power and it can't, I don't think, delegate that to committees but I don't think it's needed. I don't think we need to vote, I mean everyone is trying to get along it's just a question of the Human Affairs Committee can say we'd rather have it this way.

MOTION BY ALDERMAN CARON TO FURTHER AMEND O-16-021 BY CHANGING THE FIRST SENTENCE IN SECTION (C)(2) TO READ: "The Commission shall use a City of Nashua ~~Review and Comment~~ Community Grants application and ~~Review and Comment~~ Community Grants commissioner worksheet."

MOTION CARRIED

**MOTION BY ALDERMAN CARON FOR FINAL PASSAGE OF O-16-021 AS AMENDED
MOTION CARRIED**

O-16-022

Endorsers: Mayor Jim Donchess
Alderman-at-Large Lori Wilshire
Alderman Don LeBrun
Alderman-at-Large Michael B. O'Brien, Sr.
Alderwoman Mary Ann Melizzi-Golja
Alderman-at-Large Brian S. McCarthy

ESTABLISHING AN ENVIRONMENT AND ENERGY COMMITTEE

**MOTION BY ALDERMAN LEBRUN TO RECOMMEND FINAL PASSAGE
MOTION CARRIED**

TABLED IN COMMITTEE

Alderman McCarthy

Were the amendments distributed?

Chairman Clemons

I didn't get them, did anybody else?

Alderman LeBrun

No.

Chairman Clemons

I would suggest leaving it on the table until the next meeting.

Alderman McCarthy

I did draft an amendment and I went over it with Alderwoman Melizzi-Golja and she is happy with it and it is ready to come to the committee.

Chairman Clemons

We will take it up at the December meeting.

DISCUSSION – None

PUBLIC COMMENT

Mr. Fred Teeboom, 24 Cheyenne Drive

CFO Gilbar came up with the settlement, a very complex bonding layout charts. I asked for a private meeting with him and Lozeau gave me a ½ hour and we were able to try to figure out how this was being bonded, the payback schedule for a number of years to try to get a feel for what was necessary. The idea being you have to complete the CSO project. You have a \$60 million CSO project and at some point you have to complete it. It's like completing a house. When you complete a house, supposedly after the house is done, the payments come down. You are no longer building a house. I didn't get a good feeling when the CSO project is done and when is it done. And, when is it going to be done? When it's going to done you expect the cost to come down because you are no longer paying to build a CSO. I hope LeBrun, it makes sense to you. I didn't see that presented. The other point that I wanted to make is if you look at this ordinance it's a double increase. There's a 15% increase in the flow rate and you have a 15% increase in the meter size. If you look at the previous 2013 increase, I believe that was the previous one; there is only an increase in the flow rate of 15%. If you look at the one before then, which was in 2010, there is only one increase. Fifteen percent and only in the flow rate, not the meter size. This is a double increase as far as I, as a consumer can see. Now I hear, this is not in the resolution, that two years from now, you will come up with another increase. And after that in another two years, another increase? When is this CSO project done? That's all I can tell you. I don't have the insights in these dense spreadsheets. You can't even read them. I'm not saying any of you would necessarily comprehend them. You have to sit down in detail and have somebody explain to you, and this is not the form to do it in. Nevertheless, from a top level view you have to be more probing in exactly what is happening here. What I see happening here is that costs are not under control. They are not under control, not if you say 15% three years ago, 15% two years before then and now you've got effectively 15% double. Then you've got another 15 double two years from now? It's an out of control situation. Not as bad as the pension stuff. That's a disaster. But this is not good. It is not complete. I'm a little bit surprised. John Griffin is an extremely competent person, but you need to put his feet to the fire more closely. You should ask for "what if's". What if we go to 7 ½% next year? That's not the right question. It gets you in the right direction, but it doesn't ask the right question. It certainly isn't the way you should look at the problem. The way you should look at the problem is to do a what if analysis. What if it's all cash? What if it's all bonded? This is an engineering problem that requires an engineering approach.

REMARKS BY THE ALDERMEN

Alderman Lopez

I want to encourage everyone to come to the Holiday Stroll on Saturday at 5:00 p.m. The Great American Downtown has done a great job decorating the downtown.

Alderman LeBrun

I want to send further condolences to the Craffey family.

POSSIBLE NON-PUBLIC SESSION

ADJOURNMENT

**MOTION BY ALDERMAN LEBRUN TO ADJOURN
MOTION CARRIED**

The meeting was declared closed at 9:25 p.m.

Alderman Don LeBrun
Committee Clerk



City of Nashua
Division of Public Works

Wastewater Capital Projects

- Combined Sewer Overflow (CSO)
 - Collection Systems
- Wastewater Treatment Facility

Nashua Wastewater System

CSO Systems

- CSO Outfalls – 9
 - 4 Nashua River
 - 5 Merrimack River
- Storage Tank at CSO 4
- Sluice Gate at CSO 6

Collection Systems

Combined Sewers (in inner city) - 100 miles

Separate Sanitary Sewers -190 miles

Sewage Pump Stations – 13

Separate Storm Drains -130 miles

Catch Basins and Manholes - 19,500

Stormwater Detention Ponds – 35

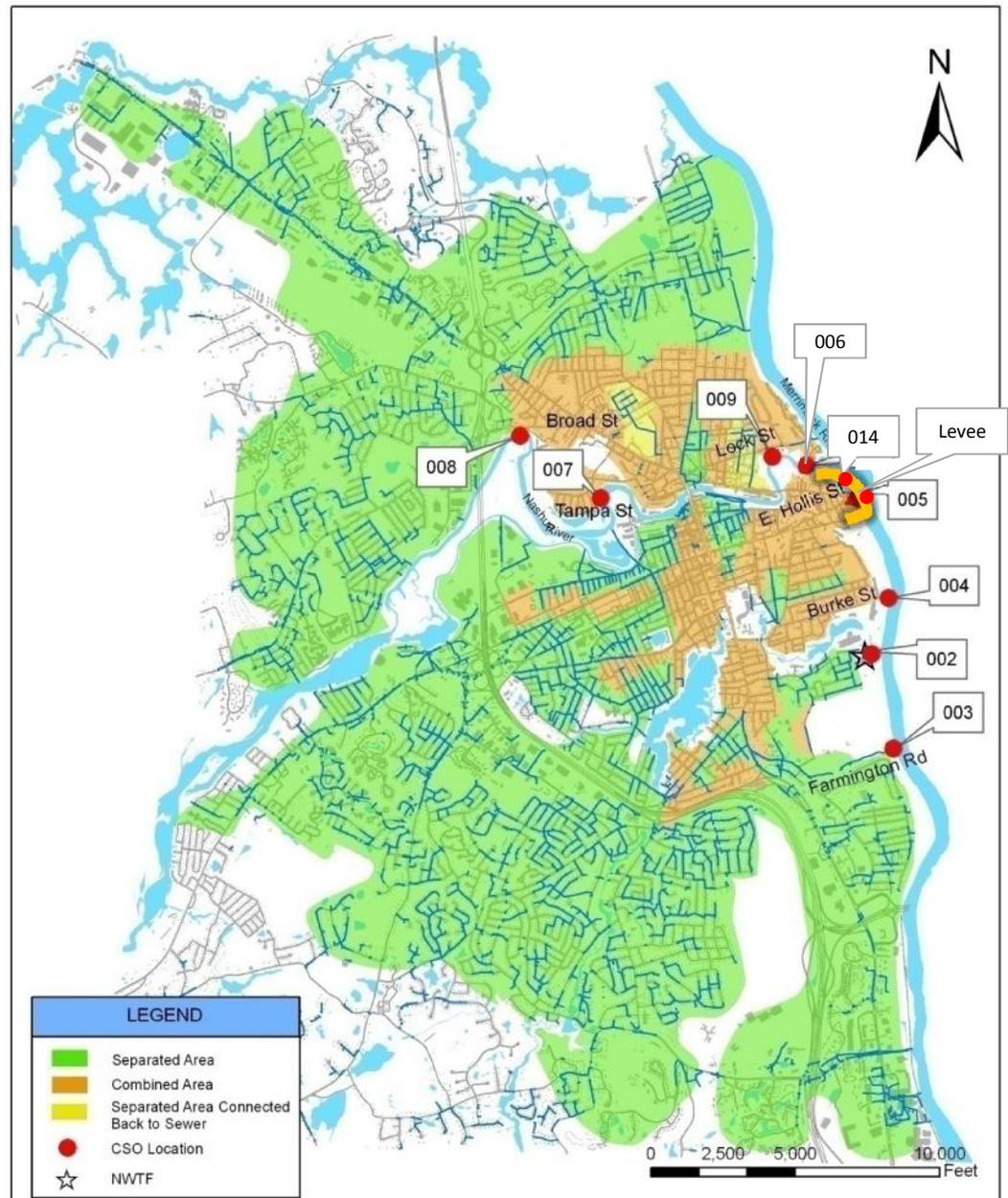
Stormwater Green Infrastructure

Merrimack River Flood Control (levee,
CSO pump station, overflow basin, slide gate)

Wastewater Treatment Facility

Wastewater Facility

- Ave Dry Weather Flow -
11 Million Gal/Day (MGD)
- Wet Weather Capacity - 50 MGD
- Wet Weather Flow (CSO) Treatment Facility -
60 MGD capacity
- Screening and Disinfection Facility
91MGD capacity



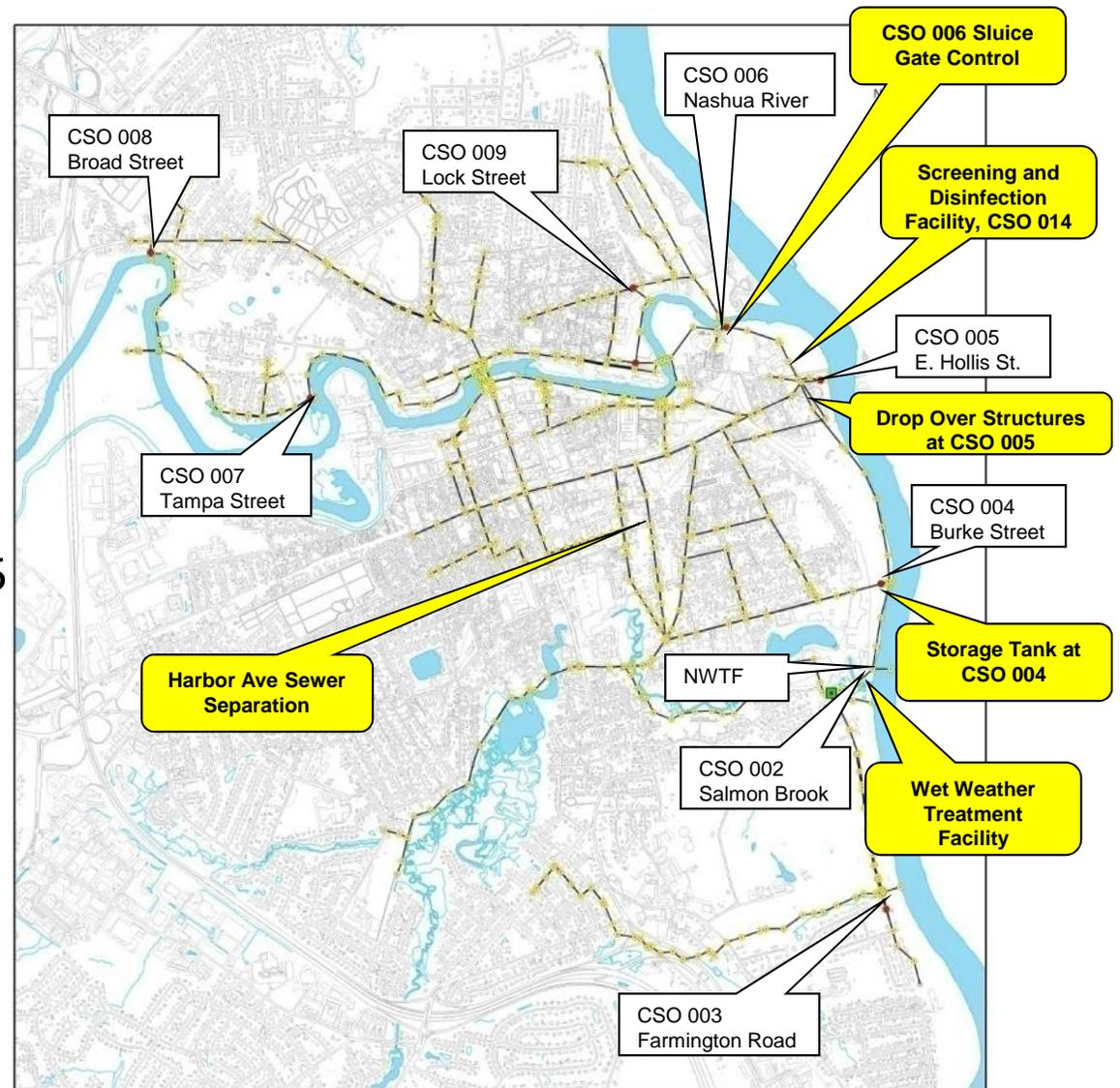
CSO Program

Purpose : EPA required City to reduce Combined Sewer Overflows (CSOs) that are discharging to the Nashua and Merrimack Rivers

Project	Total Cost in \$ Million
Completed (2005 to 2015)	
Harbor Ave Sewer Separation	\$5.58
Wet Weather Flow (CSO) Treatment Facility 60 MGD	\$32.38
System Optimization of CSO Regulators	\$1.81
Sluice Gate Control at CSO 006	\$0.90
Drop Over Structures at CSO 005	\$1.63
CSO 004 – 40,000 Gallon Storage Tank	\$1.70
Screening and Disinfection Facility 91 MGD	\$15.16
In Progress	
CSO 004 - Burke St Sewer Improvements	\$4.06
Infiltration/Inflow Removal	\$0.50
Annual Expenditures (Including future 6 years)	
Consent Decree Operational Expenditures	\$1.36
<ul style="list-style-type: none"> • Post Construction Monitoring 	
Total	\$65.23

CSO Projects Completed

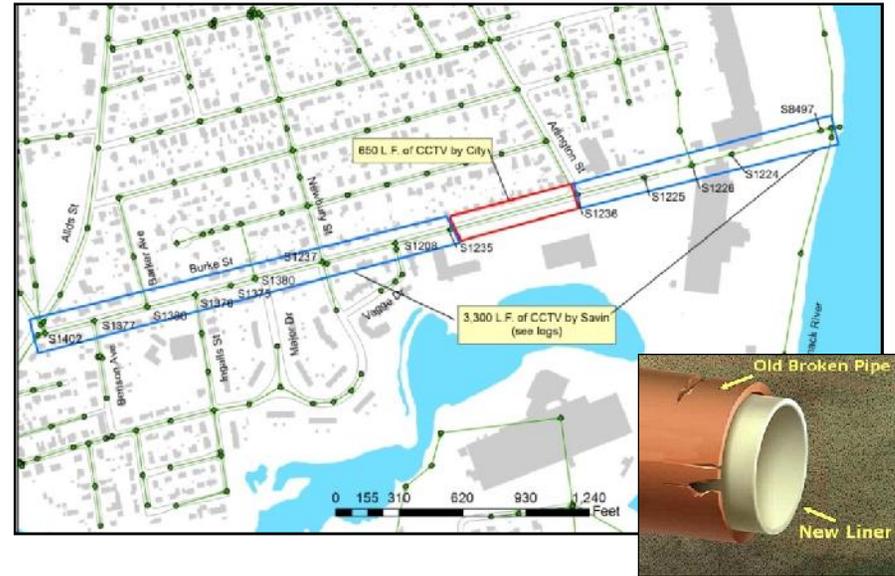
- Harbor Ave Sewer Separation
- Wet Weather Flow (CSO) Treatment Facility 60 MGD
- System Optimization of CSO Regulators
- Sluice Gate Control at CSO 006
- Drop Over Structures at CSO 005
- CSO 004 - 40,000 gal Storage Tank
- Screening and Disinfection Facility 91 MGD



CSO Projects in Progress

CSO 4 - Burke St Infrastructure

- Pipe lining of 24" sewer main, 3,640 feet long - completed
 - Manhole construction - completed
 - Service lines replacement, utility upgrades, street reconstruction
 - Final paving – Fall 2016
- Total Budget \$ 4.1 Mil



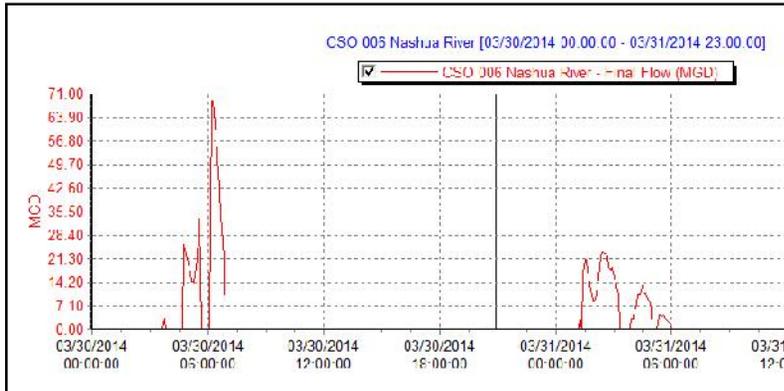
Epoxy lining of sewer manhole 7/15/2016

Inflow /Infiltration Removal

- (i) I/I Study currently undertaken (\$185,000)
- (ii) Anticipated recommendations
 - Sewer lining
 - Manhole lining and grouting
 - Sewer point repairs
 - Disconnect catch basins from sanitary sewer

Total Project Cost \$0.50 Mil

CSO Operational Projects



CSO 6 Overflow Monitoring results

- Ongoing CSO flow monitoring
- High Flow Management at Treatment Facility
- Post Construction Monitoring for water quality



CSO 9 overflow



Confluence of the Nashua and Merrimack Rivers

Collection Systems

Project	Total Cost in \$ Million
Completed	
Annual Rehabilitation Projects past 5 years, approximate	\$9.4
In Progress	
Pump Stations Rehabilitation	\$8.40
Merrimack River Flood Control	
- Rehabilitation	\$0.15
- Overflow Detention Basin, Bridge St	\$2.57
Capacity Management O&M (CMOM) Plan	\$0.30
Annual Expenditures	
Average Annual Sewer Rehabilitation	\$1.32/yr
Sewer Structure Replacement	\$0.23/yr
Combined Sewage Flooding	\$0.40/yr
Stormwater Abatement	\$0.18/yr

Pump Stations Rehabilitation

- City operates 13 wastewater and one CSO pump stations
- Mechanical components and facility infrastructure
- Communication systems to transmit to treatment plant



Northgate Pump Station

Merrimack River Flood Control System

Levee Deficiencies – Overgrown trees, erosion, drainage, encroachment, slide gate inoperable

CSO 5 Pump Station Upgrades

Emergency Overflow Basin – Raw sewage discharge near Renaissance development. May need to be eliminated.



Capacity Management Operation and Maintenance (CMOM) Plan and Implementation

For Wastewater and Drainage Collection Systems

(I) Plan Ongoing - Expected completion February 2017

(II) Implementation of Recommendations

Cleaning

Video Inspection

Condition Assessment

Replacement

Rehabilitation

Staffing and Equipment

Asset Management Software - Cartegraph

Annual Sewer Rehabilitation

Year	Budget
2017	\$3.10 Mil
2018 to 2022	\$1.61 Mil increasing 5% per year

- Focuses on very old, unreinforced concrete pipes and areas with sinkholes
- Coordinates with Annual Paving Program and utilities
- CMOM Plan will include recommendations on implementing a more comprehensive sewer rehabilitation program



Sewer Structure Replacement

- Replaces triangular covers and frames with round ones that meet OSHA standards
- Replaces deteriorated and/or obsolete catch basin frames and grates
- Replaces or repairs vertical structures as needed
- Annual Cost \$ 268,000, increases 5%/year
- In conjunction with street paving and with sewer rehabilitation projects



Combined Sewage Flooding

- Low lying areas that remain problematic
- Issues with combined sewage surcharging during heavy rain events, basement back-ups, and street flooding
- Problem areas - Park Ave/Lawndale Ave area; Courtland St/Hall Ave area; C, D, E Sts; Marshall St (Bowers to East Hollis), Spaulding Ave.
- Annual Funding \$400,000



Annual Expenditure -Recurring

Stormwater Abatement

- Address locations that have drainage issues during rain events
- Demonstration projects that promote water quality and infiltration as required by the EPA
- Projects include porous pavement, rain gardens, stormwater treatment units, drainage swales, etc.
- Annual funding \$197,000 increases 5% per yr

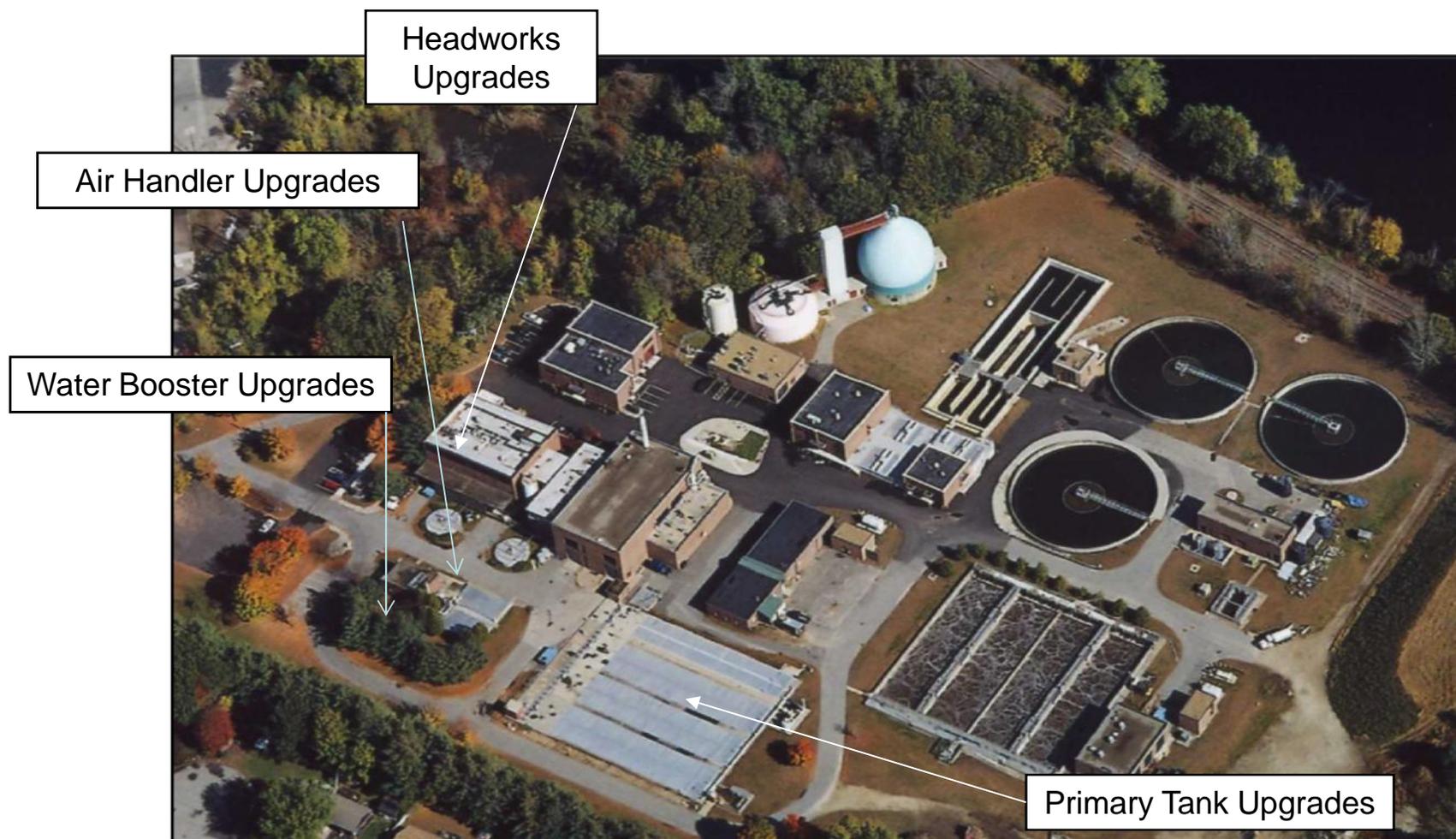


Wastewater Treatment Facility

Project	Total Cost in \$ Million
Completed	
Aeration Blowers/Tank and Secondary Clarifier Upgrades	\$4.16
Dewatering Equipment Replacement	\$5.57
Net Metering	\$0.50
In Progress	
Plant Headworks Upgrade	\$3.80
Effluent Defoamant Chemical Building	\$0.57
Primary Tank Upgrades	\$4.20
Wastewater Plant Water Booster Station	\$0.78
AC & Air Handling Units	\$0.35
Phosphorus Removal & Storage Facility	\$0.86
SCADA Upgrades (WERF funds)	\$.088

Wastewater Treatment Facility Overview

Upcoming Plant Projects



Headworks Upgrades

Construction will begin November 2016

- Install new rake arms and screens
- Debris collected in incoming wastewater flow will be conveyed directly to dumpster at ground level – eliminates having to haul debris from intermediate level to ground level
- Replace overhead hoist
- Ventilation Upgrades
- Reconfigure hallway and relocate women's locker room to new location



Existing Grit Washer with Minors Cart – to be replaced & cart eliminated

Capital Equipment Replacement Expenditures

- \$5,510,000 cost over next six years

Nashua Wastewater Treatment Facility										
Schedule D - Wastewater Equipment Replacement Fund										
As of 5/4/2016										
Major Systems	Major System Facilities	Asset Name	Collections or Operations	Date Installed	Estimated Effective Life	RENEWAL/REPLACEMENT STRATEGY			ANNUAL RESERVE PAYMENT	
						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%	
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



City of Nashua
Wastewater Fund Rate/Revenue Requirement Analysis
September 2016

Presented on 7/25/2016 to the Mayor and Director of Public Works
Presented on 9/29/2016 to the Board of Public Works

Wastewater Fund Rate/Revenue Requirements Analysis

- Analysis of the Wastewater Fund for FY16 through FY22
 - Revenues – FY16 - \$13.1M
 - Volumetric Revenues – Approximately 60% of User Fee Revenue
 - Demand (Meter) Revenues – Approximately 40% of User Fee Revenue
 - Estimated Revenues – Projected to Increase to \$16.1M in FY19
 - Estimated Debt Service Payments – Increase from \$4.2M in FY16 to \$6.4M in FY19
 - Unrestricted Net Assets – 6/30/15 – \$14,400,000 – will be reduced in next few years
 - Annual Review – November of each year after annual audit
 - Rate Increases – FY17 and FY19 would take effect on January 1
- Current issues impacting the Wastewater Fund include:
 - EPA requirements/regulations
 - Aging Infrastructure – Sewer System & Treatment Plant
 - State Aid Grant Funding – continued deferment

Wastewater Fund Rate/Revenue Requirements Analysis

Background

- Last rate analysis completed November 2013 resulted in 15% user fee rate/revenue increase effective January 1, 2014 (FY14).
 - FY14 Rate Increase was applied as follows:
 - 15% Increase in Volumetric Rate
 - 15% Increase Demand Rate
- History of Rate Adjustments:
 - FY04 Volumetric Rate Reduced from \$1.66 to \$1.22 per 100 cf
 - FY10 Volumetric Rate Increased from \$1.22 to \$1.55 per 100 cf
 - FY12 Volumetric Rate Increased from \$1.55 to \$1.78 per 100 cf
 - FY14 Volumetric Rate Increased from \$1.78 to \$2.05 per 100 cf

Wastewater Fund Rate/Revenue Requirements Analysis

Recommendation:

- Approval of a 15% increase in the wastewater user fee rates effective January 1, 2017:
 - Volumetric Rate Increase from \$2.05 to \$2.36 per 100 cf;
 - Average Quarterly Residential Demand Charge Increase from \$27.77 to \$31.94

 - Average Quarterly Residential Bill - \$79.14
 - Quarterly Increase - \$10.37

Wastewater Fund Rate/Revenue Requirements Analysis

Cost Analysis

- The Analysis includes the cost of operations, several capital projects, as well as an updated **WERF** (Wastewater Equipment Reserve Fund) schedule.
- Capital equipment replacement (WERF) costs for the next three fiscal years are projected as follows:
 - FY17 \$2.1 million
 - FY18 \$1.9 million
 - FY19 \$0.4 million

Wastewater Fund Rate/Revenue Requirements Analysis

Cost Analysis

- Capital Projects & Expenditures
 - Funded with Debt:
 - FY17 \$13.4 million
 - FY18 \$0.9 million
 - FY19 None
 - Funded with Cash:
 - FY17 \$8.0 million (of which \$4.1 million relates to annual expenditures)
 - FY18 \$2.6 million
 - FY19 \$2.7 million

Wastewater Fund Rate/Revenue Requirements Analysis

Community Comparison

- Below is a comparison of current user fees for Nashua residents to similar communities in New Hampshire:

	Nashua <i>(current)</i>	Nashua <i>(proposed)</i>	Derry	Manchester	Concord	Keene
Volumetric Rate per CCF	\$2.05	\$2.36	\$2.98	\$3.47	\$4.61	\$5.69
Fixed Charge – Avg. Quarterly	\$27.77	\$31.94	\$35.66	\$21.18	\$41.49	\$55.15
Avg. Quarterly Residential Bill	\$68.77	\$79.14	\$80.36	\$90.58	\$92.20	\$168.95

- Notes:

- Average use 20 CCFs/Quarter.
- Concord Rates change September 1 – above uses current rates.
- Derry & Concord have “break points”/minimums in fixed charges.

Wastewater Fund Rate/Revenue Requirements Analysis

Summary

- Moving forward with the recommended revenue increase and debt financing should allow the City to:
 - Fund normal operating costs;
 - Meet EPA requirements;
 - Adequately fund reserves for future equipment needs;
 - Fund improvements with cash; and
 - Pay for the increase in debt service payments during the next several fiscal years.



**City of Nashua
Wastewater Fund
Rate/Revenue Requirements Analysis
September 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 Combined Sewer Overflow, Collection Systems, Treatment Plant, 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

8/9/2016

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 (Schedule B - Lines 13, 34, and 60)	\$ (3,900,000)	\$ (17,251,498)	\$ (155,000)	\$ (700,000)	\$ -	\$ -	\$ -	
30	Debt Proceeds (Schedule C - Line 25)	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 17 & 41)	\$ (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 67)	\$ (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 28)	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 33)	\$ 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	

City of Nashua
Analysis of Capital Projects
CSO, Collection Systems, and Treatment Plant Projects

Schedule B

Line No.	Description	Total	<<<< PROJECT FUNDING >>>>			PROJECT CASH FLOW >>>>						
			Other	Debt	Cash	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
I. Combined Sewer Overflow (CSO) 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 Sewer Separation	5,581,405	700,000	4,519,057	362,348	-	-	-	-	-	-	-
6	Storage Tank	1,700,000	-	1,700,000	-	-	-	-	-	-	-	-
7	Screening & Disinfection Facility	15,160,000	-	15,000,000	160,000	-	-	-	-	-	-	-
8	Subtotal - Completed Projects	\$ 59,157,405	\$ 700,000	\$ 47,919,057	\$ 10,538,348	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9												
10	In Progress Projects											
11	Inflow and Infiltration	\$ 500,000	\$ -	\$ -	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Burke St. Sewer Improvements	4,064,964	-	4,064,964	-	-	-	-	-	-	-	-
13	Subtotal - In Progress Projects	\$ 4,564,964	\$ -	\$ 4,064,964	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14												
15	Annual Expenditures											
16	Consent Decree Operational Expenditures	\$ 1,504,862	\$ -	\$ -	\$ 1,504,862	\$ 121,555	\$ 125,202	\$ 128,958	\$ 132,827	\$ 136,812	\$ 140,916	\$ 140,916
17	Subtotal - Annual Expenditures	\$ 1,504,862	\$ -	\$ -	\$ 1,504,862	\$ 121,555	\$ 125,202	\$ 128,958	\$ 132,827	\$ 136,812	\$ 140,916	\$ 140,916
18												
19	Total - Combined Sewer Overflow 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
20												
21												
22	II. Collection Systems Expenditures											
23												
24	Completed Projects											
25	Haines Street	\$ 1,499,657	\$ -	\$ 1,338,066	\$ 161,591	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26	Hazard Mitigation	50,593	50,593	-	-	50,593	-	-	-	-	-	-
27	Subtotal - Completed Projects	\$ 1,550,250	\$ 50,593	\$ 1,338,066	\$ 161,591	\$ 50,593	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28												
29	In Progress Projects											
30	Pump Stations Rehab	\$ 8,500,000	\$ -	\$ 8,400,000	\$ 100,000	\$ 100,000	\$ 8,400,000	\$ -	\$ -	\$ -	\$ -	\$ -
31	Merrimack River Levee	150,000	-	-	150,000	-	128,174	-	-	-	-	-
32	Bridge Street Overflow Detention Basin	2,590,000	-	-	2,590,000	-	2,534,323	-	-	-	-	-
33	Capacity Management O&M (CMOM) Plan	300,000	-	-	300,000	-	300,000	-	-	-	-	-
34	Subtotal - In Progress Projects	\$ 11,540,000	\$ -	\$ 8,400,000	\$ 3,140,000	\$ 100,000	\$ 11,362,498	\$ -				
35												
36	Annual Expenditures											
37	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
38	Sewer Structure Replacement	2,031,513	-	-	2,031,513	255,256	268,019	281,420	295,491	304,356	313,486	313,486
39	CSO Flooding	2,800,000	-	-	2,800,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
40	Storm Water Abatement	1,458,621	-	-	1,458,621	191,227	196,964	202,873	208,959	215,228	221,685	221,685
41	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
42												
43	Total - Combined Sewer Overflow Expenditures	\$ 32,554,468	\$ 50,593	\$ 9,738,066	\$ 22,765,809	\$ 2,455,684	\$ 15,327,481	\$ 2,492,408	\$ 2,592,971	\$ 2,692,530	\$ 2,708,118	\$ 2,708,118
44												
45	III. Treatment Plant Expenditures											
46												
47	Completed Projects											
48	Aeration Blowers & Tank Upgrade	\$ 4,160,973	\$ -	\$ 4,160,973	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49	Net Metering	494,339	-	494,339	-	-	-	-	-	-	-	-
50	Dewatering Equipment Replacement	5,666,516	-	5,666,516	100,000	-	-	-	-	-	-	-
51	Subtotal - Completed Projects	\$ 10,321,828	\$ -	\$ 10,221,828	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
52												
53	In Progress Projects											
54	Plant Headworks Upgrade	\$ 3,800,000	\$ -	\$ 3,800,000	\$ -	\$ 3,800,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
55	Effluent Defoamant Chemical Building	565,000	-	-	565,000	-	565,000	-	-	-	-	-
56	Primary Tank Upgrades	4,200,000	-	4,200,000	-	-	4,200,000	-	-	-	-	-
57	Wastewater Plant Water Booster Station	779,000	-	779,000	-	-	779,000	-	-	-	-	-
58	AC & Air Handling Units	345,000	-	-	345,000	-	345,000	-	-	-	-	-
59	Phosphorus Removal & Storage Facility	855,000	-	855,000	-	-	-	155,000	700,000	-	-	-
60	Subtotal - In Progress Projects	\$ 10,544,000	\$ -	\$ 9,634,000	\$ 910,000	\$ 3,800,000	\$ 5,889,000	\$ 155,000	\$ 700,000	\$ -	\$ -	\$ -
61												
62	Total - Treatment Plant Expenditures	\$ 20,865,828	\$ -	\$ 19,855,828	\$ 1,010,000	\$ 3,800,000	\$ 5,889,000	\$ 155,000	\$ 700,000	\$ -	\$ -	\$ -
63												
64	Total Capital Expenditures	\$ 118,647,527	\$ 750,593	\$ 81,577,915	\$ 36,319,020	\$ 6,377,239	\$ 21,341,683	\$ 2,776,366	\$ 3,425,798	\$ 2,829,342	\$ 2,849,034	\$ 2,849,034
65												
66												
67	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, Collection Systems, and Treatment Plant Projects

Schedule C

Line No.	Project Description	Funding	Total	Debt	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	
1	I. Combined Sewer Overflow (CSO) 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/Burke St. Sewer Rehab	Bonds	5,764,964	5,764,964	-	-	-	-	-	-	-	
5	Harbor Ave	SRF	5,581,405	4,519,057	-	-	-	-	-	-	-	
6	Subtotal - Combined Sewer Overflow Projects		\$ 58,881,369	\$ 51,984,021	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
7												
8												
9	II. Collection Systems Projects											
10	Haines Street	SRF	\$ 1,499,657	\$ 1,338,066	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
11	Pump Stations Rehab	SRF	8,500,000	8,400,000	-	8,400,000	-	-	-	-	-	
12	Subtotal - Collections Systems Projects		\$ 9,999,657	\$ 9,738,066	\$ -	\$ 8,400,000	\$ -	\$ -	\$ -	\$ -	\$ -	
13												
14												
15	III. Treatment Plant Projects											
16	Aeration Blowers & Tank Upgrade	Bonds	\$ 4,160,973	\$ 4,160,973	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
17	Net Metering	SRF	\$ 494,339	\$ 494,339	-	-	-	-	-	-	-	
18	Dewatering Equipment Replacement	Bonds	5,666,516	5,567,000	-	-	-	-	-	-	-	
19	Plant Headworks Upgrade	SRF	3,800,000	3,800,000	3,800,000	-	-	-	-	-	-	
20	Primary Tank Upgrades	SRF/Bnd	4,200,000	4,200,000	-	4,200,000	-	-	-	-	-	
21	Phosphorus Removal & Storage Facility	SRF/Bnd	855,000	855,000	-	-	155,000	700,000	-	-	-	
22	Wastewater Plant Water Booster Station	SRF/Bnd	779,000	779,000	-	779,000	-	-	-	-	-	
23	Subtotal - Treatment Plant Projects		\$ 19,955,828	\$ 19,856,312	\$ 3,800,000	\$ 4,979,000	\$ 155,000	\$ 700,000	\$ -	\$ -	\$ -	
24												
25	Total Capital Projects		\$ 88,836,854	\$ 81,578,399	\$ 3,800,000	\$ 13,379,000	\$ 155,000	\$ 700,000	\$ -	\$ -	\$ -	
26												
27												
28	Capital Equipment Replacement Fund		\$ 5,936,941		\$ 405,661	\$ 2,097,867	\$ 1,926,770	\$ 369,257	\$ 508,979	\$ 238,235	\$ 390,172	
29												
30	State Aid Grants											
31	Current State Aid Grants		\$ 1,361,882		\$ 329,491	\$ 328,393	\$ 327,295	\$ 95,547	\$ 94,450	\$ 93,353	\$ 93,353	
32	Estimated State Aid Grants		-		-	-	-	-	-	-	-	
33	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											
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							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	

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					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	

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						RENEWAL/REPLACEMENT STRATEGY					
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					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	

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						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			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%
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											
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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											
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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%
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											
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							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	

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					year	years	\$	Calibrated Column			
						Tab A-1	Estimate	Calculated	2.00%	0.50%	
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				

**City of Nashua
Analysis of Wastewater Fund
FY2002 to FY2022
Annual Increases**

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	\$ 4,985,077	Increase	7.5%	Demand and Volumetric	\$2.05 to \$2.20
17	2018	Est	\$ 1,864,630	Increase	7.5%	Demand and Volumetric	\$2.20 to \$2.37
18	2019	Est	\$ 286,643	Increase	7.5%	Demand and Volumetric	\$2.37 to \$2.55
19	2020	Est	\$ (558,618)	Increase	7.5%	Demand and Volumetric	\$2.55 to \$2.74
20	2021	Est	\$ (27,984)	Increase	7.5%	Demand and Volumetric	\$2.74 to \$2.94
21	2022	Est	\$ 2,022,120	Increase	7.5%	Demand and Volumetric	\$2.94 to \$3.16

**City of Nashua
Analysis of Wastewater Fund
FY2002 to FY2022
No Increase(s)**

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	\$ 4,516,632				
17	2018	Est	\$ (44,285)				
18	2019	Est	\$ (4,107,667)				
19	2020	Est	\$ (8,561,619)				
20	2021	Est	\$ (12,847,217)				
21	2022	Est	\$ (16,911,454)				



City of Nashua
Office of the Chief Financial Officer
229 Main Street - Nashua, NH 03060

(603) 589-3170
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To: Board of Alderman
Mayor Donchess

From: John L. Griffin, CFO

Date: October 28, 2016

Subject: Wastewater Fund Rate/Revenue Requirements Analysis

Background

As of June 30, 2015, the Wastewater Fund had a net asset balance of \$14,408,174. The Wastewater Enterprise Fund's operating expenses were projected to be approximately \$13.0 million in FY16 which were offset by projected revenues of \$13.0 million. The operating expenses are expected to increase to \$14.2 million in FY17, and \$15.5 million in FY18, necessitating a proposed increase in wastewater user fees of 15% for FY17. For the average residential customer, the proposed quarterly increase will be approximately \$10.37.

Attached for your review is the September 2016 Wastewater Fund Rate/Revenue Requirements Analysis. The analysis includes a review of the Wastewater Fund for the period FY16 through FY22. The last rate analysis was completed in November 2013 and resulted in an approved rate increase of 15% effective January 1, 2014 (FY2014). Current issues impacting the Wastewater Fund include:

- EPA Consent Order
- Increase in Debt Service related to Consent Order projects
- Aging Infrastructure
- Continued Deferment of State Aid Grant Funding

Recommendation

The recommendation resulting from the current analysis is the approval of a 15% increase in the Wastewater rates for FY17. The Board of Public Works approved this increase at their September 29, 2016 meeting.

The increase is proposed to become effective on January 1, 2017. Therefore, this increase would be reflected in the April quarterly billing for residential customers and in the January billings for commercial customers as these accounts are billed monthly.

Revenue Analysis

The Wastewater Fund receives most of its revenue from user fees. The wastewater rates are comprised of two components: volumetric (variable) and demand (fixed). It is recommended that the rate increase is applied to both components:

<u>Fiscal Year</u>	<u>Recommended Rate Increase</u>	<u>Average Quarterly Residential Billing Increase</u>
FY17	15%	\$10.37

Increasing both rate components spreads the increase more evenly among all customers and also provides the Wastewater Fund with a more consistent source of demand rate revenue. The demand charge is more constant and provides for improved revenue forecasting. The volumetric component is volatile and could result in revenues coming in lower than forecast. The average quarterly residential bill is currently \$68.77. If the proposed rates are approved, the new average quarterly residential bill will be \$79.14. As these new rates are proposed to become effective mid-way through this fiscal year, the average residential customer will see an increase of \$20.74 in FY2017.

Additional rate increases for FY2019 through FY2022 are projected in the analysis. The projected rate increases assume a January 1st effective date for consistency. We will continue to monitor the Wastewater fund on an annual basis to determine if any changes to the projected rate increases become necessary.

Below is a comparison of user fees in communities similar to Nashua:

	Nashua <i>(current)</i>	Nashua <i>(proposed)</i>	Derry	Manchester	Concord	Keene
Volumetric Rate per CCF	\$2.05	\$2.36	\$2.98	\$3.47	\$4.61	\$5.69
Fixed Charge – Avg. Quarterly	\$27.77	\$31.94	\$35.66	\$21.18	\$41.49	\$55.15
Avg. Quarterly Residential Bill	\$68.77	\$79.14	\$80.36	\$90.58	\$92.20	\$168.95

In addition to user fee revenue, the fund has received State Aid Grants (SAG) towards the cost of wastewater projects. The SAG program was deferred during FY09 and as a result, the City of Nashua has not received any SAG grants on new completed projects since the deferral was put in place. The State plans to fund some of the projects that qualify for funding, but the dollar value due to Nashua is not known at this time.

Cost Analysis

The analysis includes the cost of operations, several capital projects, as well as the capital equipment replacement schedule. Capital equipment replacement (WERF) costs for the next three fiscal years are projected as follows:

- FY17 \$2.1 million
- FY18 \$1.9 million
- FY19 \$0.4 million

The City of Nashua is under an Administrative Consent Order (Consent Decree) from the EPA to reduce combined sewer overflows to the Nashua River and Merrimack River. The cost of the components of the Consent Decree totaled approximately \$65 million at the time of this study. The City has completed nearly all of the Consent Decree capital projects, many of which were funded with debt and are responsible for the increases in debt service payments in the upcoming fiscal years.

Capital Project Financing With Debt

The analysis includes debt financing needs for the larger capital projects. During the next three fiscal years, debt proceeds are projected to be used as follows:

- FY17 \$13.4 million
- FY18 \$0.9 million
- FY19 None

Annual Capital Expenditures Funded With Cash

The analysis includes annual capital expenditures that will be funded with cash. These annual expenditures include consent decree operational expenditures, sewer infrastructure improvements, sewer structure replacement, CSO flooding, storm water abatement and other expenditures noted within the analysis. The annual expenditures for these items over the next three years are projected to be as follows:

- FY17 \$4.1 million
- FY18 \$2.6 million
- FY19 \$2.7 million

As shown in the analysis, the use of cash for these purposes results in a reduction in the Unrestricted Retained Earnings balance.

Summary

The recommended rate increases shown on Schedule A would allow the City to:

- Fund normal operating costs;
- Meet EPA requirements;
- Adequately fund reserves for future equipment needs;
- Fund infrastructure improvements with cash; and
- Pay for the increase in debt service payments during the next several fiscal years.