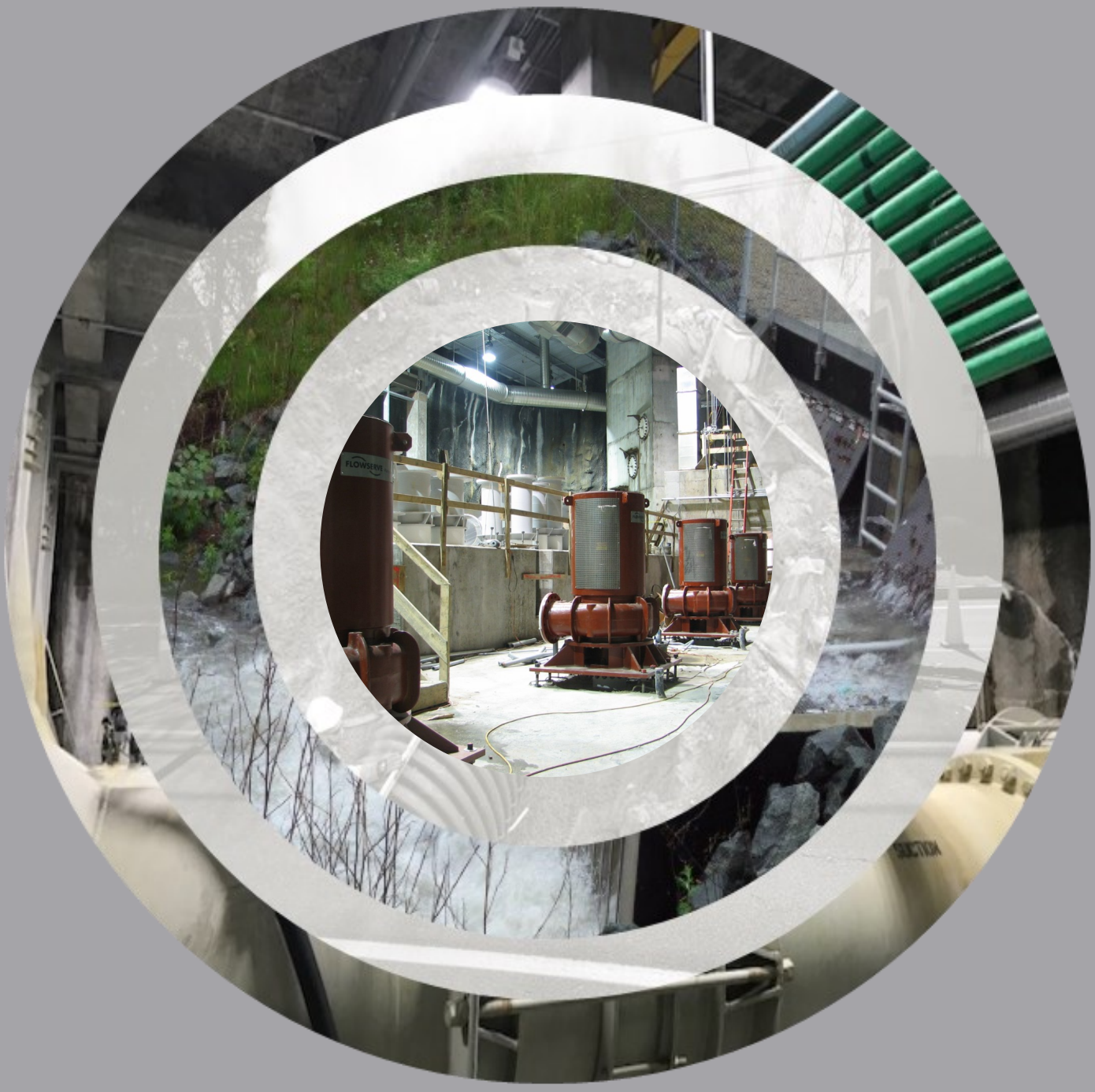
Narragansett Bay Commission

Capital Improvement Program

Fiscal Year 2020 - 2024



Vincent J. Mesolella
Chairman

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Executive Director

Capital Improvement Program
Table of Contents

Capital Project Summary for Fiscal Years 2020-2024
(In Thousands)

Project Number	Project Name		Fiscal Years 2020-2024
Wastewater Treatment Facility Improvements			
10908	FPWWTF Blower Improvements Phase II	$	40
12400	IM Facilities		6,425
13200	FPWWTF Maintenance Facilities		6,119
20000	WWTF Improvements		2,500
40100	NBC Facility Electrical Improvements		109
81000	BPWWTF UV Disinfection Improvements		5,389
	Subtotal		20,582
Infrastructure Management			
1140100	River Model Development		148
1140500	NBC Energy Sustainability		40
1140600	RIPDES Compliance Improvements		879
30700	NBC System-wide Facilities Planning		358
40200	NBC System-wide Inflow Reduction		407
40300	Municipal Lateral Sewer Acquisition Impact		295
40500	RIPDES Flow Monitoring System		65
	Subtotal		2,191
CSO Phase III Facilities			
30800	CSO Phase III A Facilities		314,972
	Subtotal		314,972
Sewer System Improvements			
30500	NBC Interceptor Easements Restoration, Various Locations		685
70900	Omega Pump Station Upgrade		720
71000	Lincoln Septage Station Replacement		2,458
	Subtotal		3,863
Interceptor Cleaning / Restoration and Construction			
30400M	Interceptor Inspection and Cleaning		2,500
30400C	Interceptor Restoration and Construction		4,984
30421	Louisquisset Pike Interceptor Improvements		4,560
30444	Moshassuck Valley Interceptor		2,660
30457	Providence River Siphon		572
30466	Improvements to Interceptors FY 2018		15
	Subtotal		15,291
	Total Capital Improvement Program Window	**$**	**356,899**

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Capital Improvement Program

The Capital Improvement Program

The Narragansett Bay Commission's (NBC) Capital Improvement Program (CIP) is a planning document which identifies programmed capital investments necessary to comply with current and future regulatory requirements, take advantage of technological advancements, ensure the integrity of NBC's infrastructure and achieve operational efficiencies. The projects, schedules and costs that are included in the CIP have been developed through a planning process that involves NBC's Engineering and Construction staff and incorporates needs identified through NBC's asset management program. These capital improvements include construction of new facilities, rehabilitation and replacement of existing infrastructure as well as energy efficiency and sustainability projects. The CIP shows programmed expenditures for the current Fiscal Year (FY) 2019 as well as the following five-year period of FY 2020-2024, which is referred to in this document as the "window". Structuring the CIP this way also enables NBC's program to be easily incorporated into the capital budget of the State of Rhode Island.

Capital Improvement Program Overview

This year's CIP identifies a total of 36 projects that are either in progress, to be initiated, or to be completed during FY 2019-2024. The estimated costs for this year's CIP window are $356.9 million, with additional expenditures of $55.5 million in FY 2019 for a total of $412.4 million. The majority or 88% of the expenditures are related to the third and final phase of the Combined Sewer Overflow (CSO) Abatement Facilities. Other projects in the CIP account for the remaining 12% and reflect the continued investment in NBC's wastewater treatment and collection system infrastructure.

FY 2019-2024 CIP Costs
(In thousands)

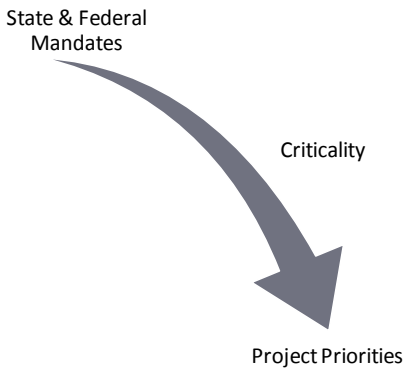
Category	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2020-2024
Administrative	$ 2,428	$ 1,743	$ 1,671	$ 1,434	$ 1,447	$ 1,167	$ 7,461
Land	1,998	50	-	2,000	-	-	2,050
A/E Professional	22,259	19,627	17,280	3,154	3,100	3,058	46,219
Construction	22,039	14,559	31,685	57,572	77,904	97,175	278,894
Contingency	4,875	3,600	2,893	3,350	3,650	2,550	16,043
Other	1,906	1,746	1,723	1,066	558	1,138	6,231
Total	**$ 55,503**	**$ 41,325**	**$ 55,252**	**$ 68,576**	**$ 86,659**	**$ 105,087**	**$ 356,899**

The CIP document reflects all phases of a construction project, including planning and design as a single project. In addition, for planning purposes, projects that are substantially complete with only retainage and/or "punch-list" items remaining are considered complete and are not carried in the CIP summary or detailed project listing; however, these projects are discussed in the completed projects section of the CIP that begins on page 12. The CIP projects are also identified by priority classifications to rank them in terms of priority. The CIP includes additional information regarding changes in the CIP from the prior year, new projects and the projected operating budget impact of each project.

Capital Improvement Program Development

NBC's comprehensive capital improvement planning process takes into consideration the project's relationship to the strategic plan, program priorities, the permitting process, project readiness, scheduling and other factors. The CIP drives NBC's long-term financing requirements, and therefore the particulars of each project are an essential component of NBC's financial plan.

NBC's Project Managers begin the annual CIP process with the development of detailed justifications for each capital project including project scope, basis for the cost estimate and key factors impacting costs and schedules. The Project Managers also explain modifications from the prior year's CIP and provide the overall project schedule. A timeline with all of the detailed project schedules can be found in the Appendix. The CIP Review Committee reviews the proposed capital projects including the assignment of priorities and schedules. Projects approved for inclusion in the CIP are subsequently analyzed to assess major program changes, overall capital funding needs and the strength of the project's connection to the objectives in NBC's Strategic Plan, as well as financing and operating cost impacts.



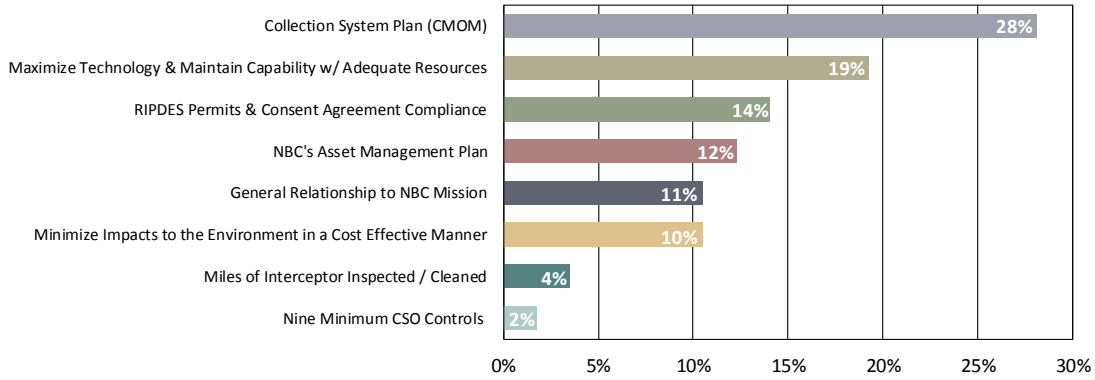
Capital Improvement Program Assumptions

The costs and schedules included in this year's CIP reflect NBC's best estimates and are based on a number of assumptions as follows:

- Costs and cash flows are based on planning or design estimates and/or bids once available.
- The majority of construction projects include a 10% contingency based on the original construction cost estimate, which reflects recent industry experience. The contingency may be modified based upon the bids. Cost estimates for new design and construction projects include a 7% allowance for NBC staff salary and fringe associated with project management, based on historical experience.
- Financing costs and debt service associated with the CIP are not included in the CIP expenditures or the project cash flows. Financing costs are capitalized and amortized over the length of the debt payment schedule and debt service is included as an expense in the annual operating budget.
- The CIP does not include the acquisition or replacement of certain assets that are identified in NBC's annual operating budget and are outlined in the five-year Operating Capital Plan.

Capital Projects by Strategic Objective

NBC's Strategic Plan ensures NBC's ability to meet water quality objectives set forth by regulatory requirements through achieving short-term and long-term objectives at a reasonable cost. As part of the CIP development process, Project Managers identify the one or more strategic goals that a project will address. The following chart illustrates the percentage of capital projects in this year's CIP aligned with each Strategic Objective.

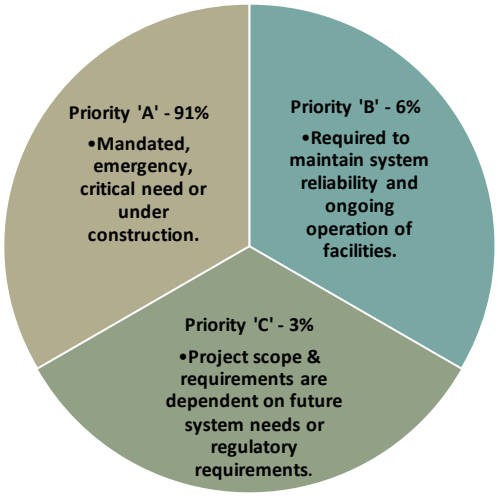


Of the 36 CIP projects, 28% are related to NBC's Collection System Plan strategic objective. These include interceptor restoration and construction projects. In addition, 19% of the projects in the CIP are aligned with the Maximize Technology & Maintain Capability with Adequate Resources strategic objective and 14% of the projects are aligned with the RIPDES Permit/RIDEM Consent Agreement strategic objective. The remaining projects are aligned with NBC's Asset Management Plan and General Relationship to NBC Mission objectives.

Project Priorities

As part of the CIP program development, the criticality of each project is assessed and a priority ranking is assigned based on that assessment. Projects with a ranking of "A", represent a critical need and are either mandated, an emergency or currently under construction. Approximately 91% of the projects identified in the window are prioritized with an "A" ranking and total $323.6 million.

In addition, 6% of projects are identified with a "B" ranking and total $20.5 million, which includes projects that are required to maintain system reliability and ongoing operations of NBC's facilities. The remaining 3% or $12.8 million are identified with a rank of "C" and are dependent on future system needs or regulatory requirements.



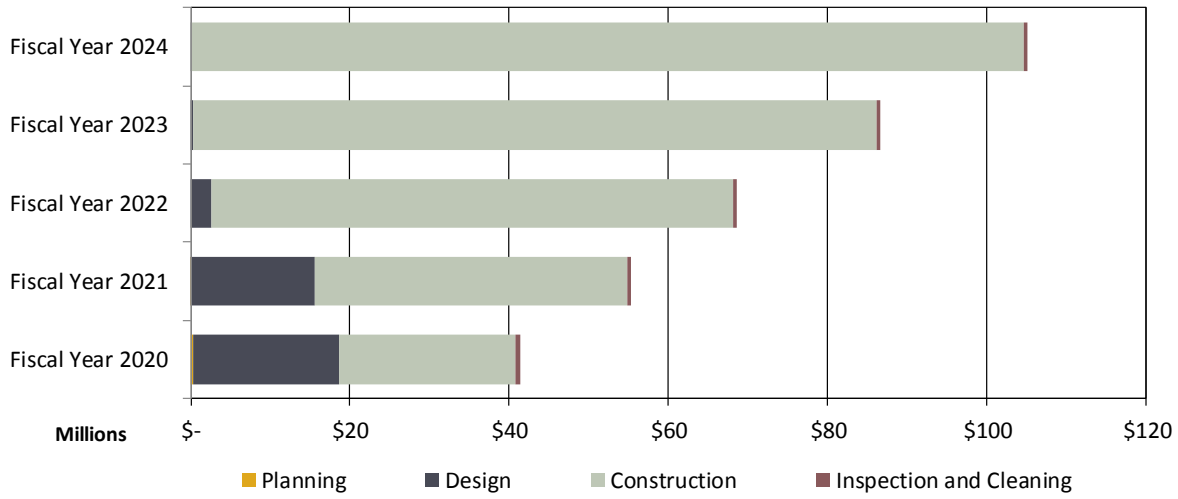
*Percentage calculated on project cost

Capital Expenditure by Phase

NBC's construction projects are generally comprised of three phases including planning, design, and construction. Planning consists of tasks such as feasibility studies and determination of the technology to be implemented. The design phase includes the development of plans and specifications, the acquisition of easements and permits. During the construction phase, facility improvements and infrastructure are constructed. The CIP also includes some programmed capital projects which are not broken down into phases,

such as the inspection, cleaning and repair of NBC's interceptors, or other one-time special studies. As is evident in the chart below the majority or 89% of the programmed expenditures during the five-year CIP window relate to the construction phase at $317.3 million.

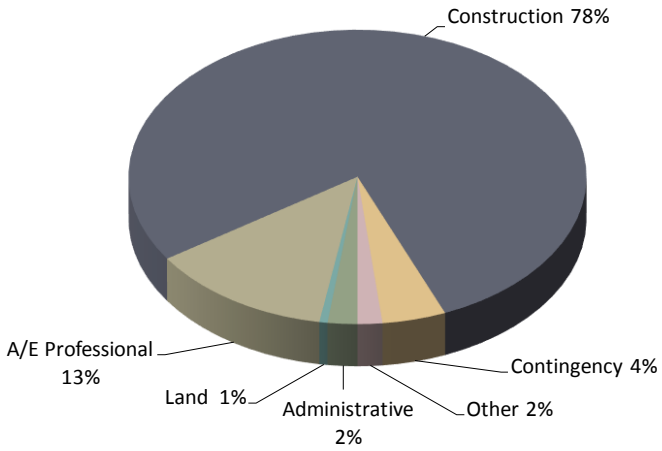
Capital Expenditure by Phase



Capital Expenditure by Cost Category

For planning purposes, the project costs are shown by categories including the Administrative category, which includes NBC's project management costs as well as police, legal and advertising expense. The Land category includes costs for easements, as well as land acquisition. The Architectural/Engineering (A/E) Professional cost category includes costs for professional planning or design services. The Construction cost category reflects contractor and outside construction management costs. Lastly, the Contingency cost category includes an allowance for construction cost increases based upon industry experience related to construction cost factors. As shown in the chart below, construction costs represent $278.9 million, or approximately 78% of the total costs within the FY 2020-2024 window. A/E Professional services represent approximately $46.2 million or 13% of the costs during this same period.

CIP Costs by Type of Activity



Capital Expenditures by Functional Area

For planning purposes, NBC also groups capital projects into functional areas, according to the scope and tasks involved with the capital project. The functional areas are described below.

Functional Area	Project Examples
Wastewater Treatment Facility (WWTF)	Blower Improvements, Biogas Reuse, UV Disinfection and WWTF Improvements
Infrastructure Management (IM)	RIPDES Compliance Improvements
CSO Phase III Facilities	CSO Phase III A ,B, C, and D
Sewer System Improvements	Easement Restoration, Sewer System and Pump Station Improvements
Interceptor Inspection and Cleaning (IIC)	Remote Television Inspection and Grit/Debris Removal and Disposal
Interceptor Restoration and Construction (IRC)	Interceptor Expansion, Improvements, Lining and Manhole Rehabilitation

The following table shows how the CIP costs have shifted by functional area on a year-to-year basis. The most significant change is the $214.0 million increase in the CSO Phase III A Facilities compared to last year's CIP. This is primarily the result of an earlier construction start and the shift in the CIP window to include FY 2024. The most significant increase in percentage terms is the 100% increase in a new Sewer System Improvement cost category as these projects were previously included as part of Infrastructure Management. Finally, costs programmed in the Interceptor Restoration and Construction functional area decreased 41% from the prior year as several projects are scheduled for completion in FY 2019. Overall, programmed expenditures are $200.8 million or 129% more in the current CIP window compared to last year.

Functional Area (In thousands)	Prior Year CIP (FY 2019-2023)	Current Year CIP (FY 2020-2024)	% Change
Wastewater Treatment Facility	$ 28,890	$ 20,582	(29%)
Infrastructure Management	2,087	2,191	5%
CSO Phase III A Facilities	100,994	314,972	212%
Sewer System Improvements	-	3,863	100%
Interceptor Inspection and Cleaning	2,500	2,500	0%
Interceptor Restoration and Construction	21,648	12,791	(41%)
Total	**$ 156,119**	**$ 356,899**	**129%**

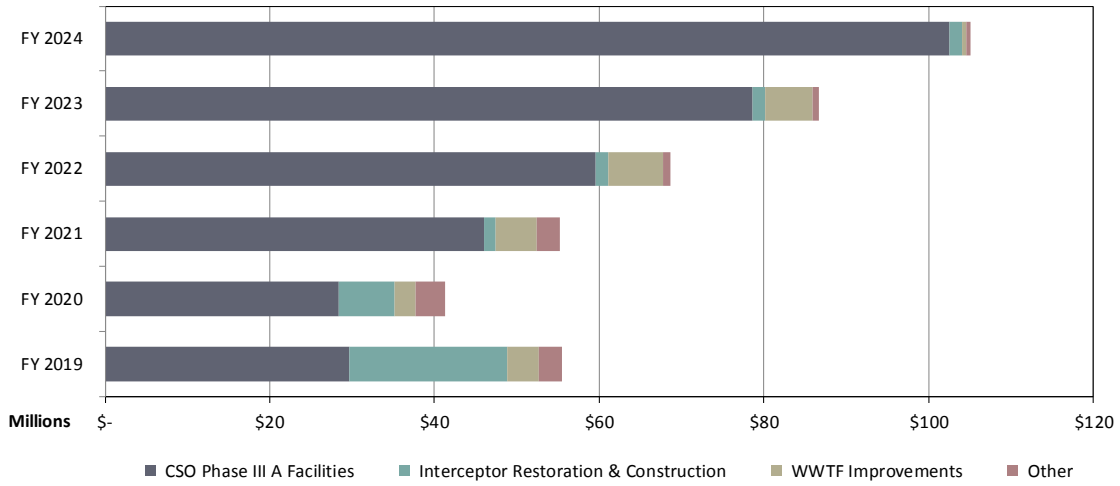
Significant Capital Improvement Projects

The CSO Phase III A Facilities is the most significant project included in this year's CIP and accounts for $315.0 million or 88% of the CIP's programmed costs. Expenditures on this project are projected to increase significantly when construction begins in FY 2021. Other projects account for the remaining 12% of the CIP programmed costs. The following table and graph show the programmed expenditures for the CSO Phase III A Facilities and other projects included in the current CIP window.

Expenditures by Major Project

Project (in Thousands)	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total Costs FY 2020 - 2024	% of Five Year Window
CSO Phase III A Facilities	$ 29,692	$ 28,328	$ 45,955	$ 59,551	$ 78,579	$ 102,560	$ 314,972	88%
WWTF Improvements	3,749	2,579	4,985	6,668	5,850	500	20,582	6%
Interceptor Restoration & Construction	19,169	6,791	1,500	1,500	1,500	1,500	12,791	4%
Other	2,894	3,628	2,812	857	730	528	8,554	2%
Total	**$ 55,503**	**$ 41,325**	**$ 55,252**	**$ 68,576**	**$ 86,659**	**$ 105,087**	**$ 356,899**	**100%**

Expenditures by Major Project



Projects related to WWTF Improvements at Field's Point include Phase II of the Blower Improvements at $9.3 million; Maintenance Facilities at $6.5 million, and the IM Facilities at $6.4 million. Improvements at Bucklin Point include Ultraviolet (UV) Disinfection Improvements at $5.7 million. In addition, NBC has allocated $500 thousand annually for improvements to the wastewater treatment facilities to ensure funding is available to support required investments at the facilities as they are identified through asset management and inspection.

NBC's CIP includes funding for various NBC's Interceptor Restoration and Construction Projects. Two larger projects include, the Johnston Sewer Improvements/Greenville at a cost of $8.9 million and Johnston Sewer Improvements/Hartford at a cost of $2.8 million. These projects will extend NBC's interceptors in the NBC's district to locations that are not presently served. NBC has also programmed improvements to the Moshassuck Valley Interceptor at $6.5 million, the Louisquisset Pike Interceptor at $4.6 million and the Providence River Siphon at $6.5 million.

Programmed expense for Sewer System Improvements includes the Lincoln Septage Station replacement at a cost of $2.8 million and the Omega Pump Station Upgrade at $912 thousand. Additionally, this year's CIP reflects the reallocation of easement restoration projects of $1.1 million into the Sewer System Improvements classification.

Overall, the total programmed expenditures for non-CSO projects has increased by $10.1 million compared to the prior year's CIP, as shown in the table below.

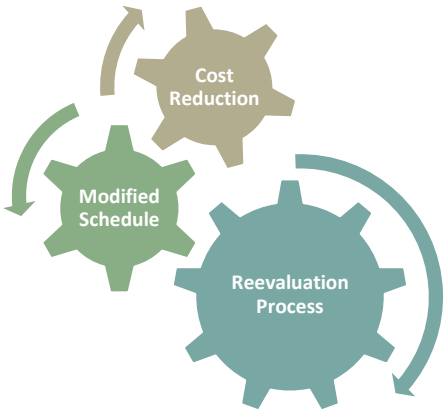
Year-over-Year Difference in the Capital Improvement Program by Major Project						
	FY 2019	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Total**
WWTF Improvements	$ (958)	$ (8,167)	$ (2,692)	$ 3,802	$ 2,956	$ (5,059)
Interceptor Restoration & Construction	5,777	3,035	-	-	-	8,812
Other	1,061	2,603	2,082	357	230	6,333
Total Change Non-CSO Projects	**$ 5,880**	**$ (2,529)**	**$ (611)**	**$ 4,159**	**$ 3,186**	**$ 10,085**
Percent Change in Non-CSO Projects	**29%**	**-16%**	**-6%**	**85%**	**65%**	**18%**

CSO Phase III Facilities (Project 308)

In accordance with the terms and schedule set forth in the Consent Agreement between NBC and RIDEM, this CIP includes design and construction of the third and final phase of the federally mandated CSO Abatement Program. The CSO Phase III Program represents NBC's largest capital investment in this year's CIP.

Subsequent to a reevaluation of the Phase III Facilities completed in 2015, NBC's Board of Commissioners selected an alternative on April 28, 2015, with a pre-design cost estimate of $815.0 million in 2018 dollars. The Program includes four phases to be completed by 2041 and includes $10.0 million for the construction of Green Stormwater Infrastructure in each phase to reduce stormwater inflow by implementing stormwater infiltration projects.

NBC submitted the reevaluation report to RIDEM in July 2015 and RIDEM provided comments to NBC in March 2016. NBC subsequently incorporated RIDEM's comments into an amended reevaluation report which RIDEM approved in December 2017. NBC completed an updated Environmental Assessment of the Program which was approved by RIDEM in December 2017. As a result of the RIDEM review and approval process, NBC will begin design of the Phase III B facilities contemporaneously with the Phase III A design. NBC's Consent Agreement must be renegotiated based upon the final RIDEM approved plan.

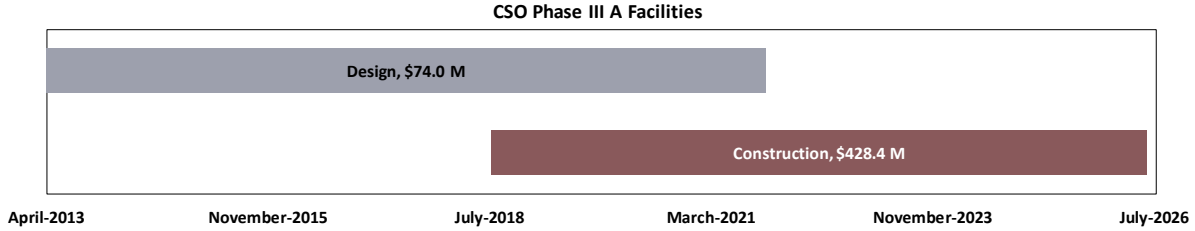


This year's CIP reflects the schedule and scope changes required by RIDEM. In order to provide space for construction of the tunnel pump station, the Program also includes the design and construction of O&M Support Facilities at Bucklin Point, which was previously carried in the CIP as a separate project.

This year's CIP includes expenditures of approximately $29.7 million in FY 2019 and $315.0 million in the five year period of FY 2020-2024 with a total pre-design cost estimate of $779.1 million in 2018 dollars. The estimated construction costs will be updated as additional information is gained through the design process. A description of the facilities to be constructed in each of the four phases, as well as estimated costs and schedules are as follows.

Phase III A

This Phase includes design and construction of a deep rock tunnel in Pawtucket approximately 13,000 feet in length along the Seekonk and Blackstone Rivers, a pump station to convey flow to the Bucklin Point WWTF in East Providence, drop shafts and consolidation conduits. Additionally, this project is to design the Upper BVI relief, CSO 105 relief sewer, CSO 206 sewer separation, green stormwater infrastructure and regulator modifications. Lastly, this project is to design and construct O&M Support Facilities at Bucklin Point to maintain operational infrastructure necessary to provide space for construction of the tunnel pump station. The pre-design cost estimate for design and construction of these facilities in 2018 dollars is $502.4 million. Construction of a small component of this phase, the green stormwater infrastructure, is scheduled to begin in FY 2019.

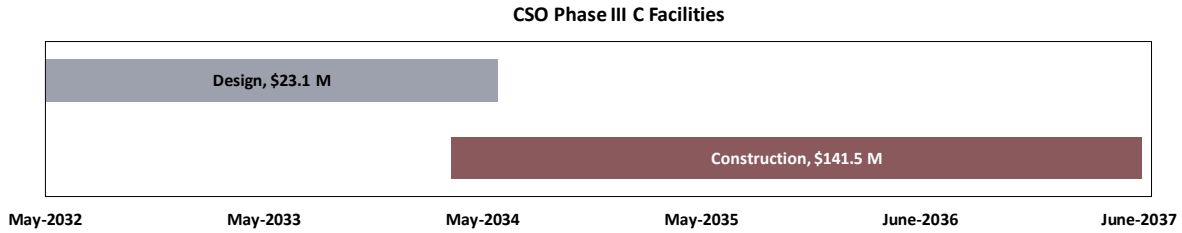


Phase III B

This phase is to construct the Upper BVI Relief, CSO 206 sewer separation, CSO 105 Relief sewer, regulator modifications and green stormwater infrastructure. The pre-design cost estimate for construction of these facilities in 2018 dollars is $28.5 million. Construction of this phase is scheduled to begin in FY 2028.

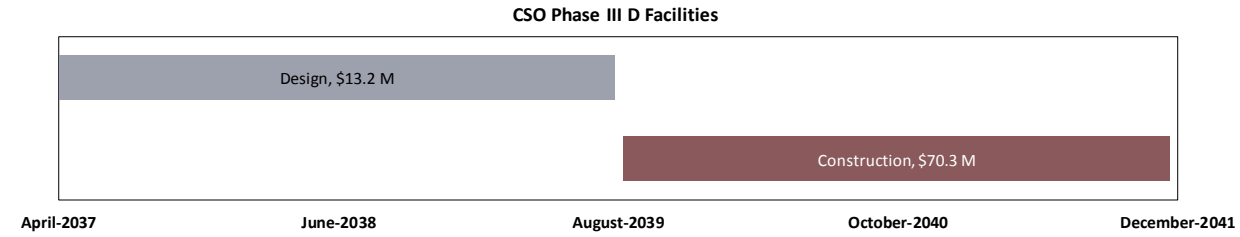
Phase III C

This phase is to design and construct a stub tunnel to convey flow from OF-220 to the Pawtucket tunnel. The pre-design cost estimate in 2018 dollars is $164.7 million. Construction of this phase is scheduled to begin in FY 2034.



Phase III D

This phase is to design and construct an interceptor that will store flow from OF 039 and OF 056 during a storm and later release the flow into the system as capacity allows. The pre-design cost estimate in 2018 dollars is $83.5 million. Construction of this phase is scheduled to begin in FY 2039.



Regulatory Compliance

In anticipation of increasingly stringent permit discharge limitations and other permit requirements that may necessitate improvements to existing facilities or construction of new facilities, this year's CIP includes a new RIPDES Compliance Improvements project. The project incorporates initiatives previously reflected individually in the CIP including the Site Specific Study that was established to address metals and the Upper Bay Dissolved Oxygen Evaluation related to potential nitrogen permit reductions. The project also incorporates a new a climate resiliency initiative that may be required to protect critical functions as part of the RIPDES permit issued by RIDEM.

Photo: Greenhouse Gas Collection

As part of NBC's environmental performance goals of minimizing environmental impact, NBC has programmed a Green House Gas Study which involves quantifying NBC's overall carbon footprint by measuring the gas emissions from the wastewater collection and treatment process. The results will enable NBC to respond quickly to new emissions regulatory requirements. NBC also plans to maximize energy efficiencies and renewable resources through the Energy Sustainability Program which involves the identification and implementation of conservation methods, improved efficiency and sustainable renewable energy resources.

Wastewater Treatment Facility Improvements

This year's CIP includes $32.8 million in programmed funding for projects related to NBC's wastewater treatment facilities. One of the major projects at Field's Point is Phase II of the Blower Improvements (10908) which includes a new blower building and aeration blowers to ensure a reliable air source for the aeration treatment process. The CIP also includes construction of maintenance and equipment storage facilities as part of the FPWWTF Maintenance Facilities Project (13200). With respect to Bucklin Point, the CIP includes funding for the UV Disinfection Improvements Project (81000) which will replace the UV disinfection equipment that is nearing the end of its useful life with a more energy efficient system.

Photo: Ultraviolet Disinfection System

This year's CIP includes three projects developed to address the integrity of NBC's electrical equipment and facilities. The NBC Facility Electrical Improvements Project (40100) involves the evaluation of NBC's existing electrical equipment and facilities and the identification and implementation of improvements needed to ensure reliable and continuous operation. The FPWWTF Project (40101) consists of the assessment and installation of standby power capabilities for critical facilities and the upgrade or replacement of the electrical and control systems at Field's Point and lastly Bucklin Point Facilities Project (40102) specifically addresses needs at Bucklin Point.

Project Number	Project Name	Costs (in thousands)
10908	FPWWTF Blower Improvements Phase II	$ 9,285
12400	IM Facilities	6,425
13200	FPWWTF Maintenance Facilities	6,478
20000	WWTF Improvements	3,296
20100	FY 17 WWTF Improvements	675
40100	NBC Facility Electrical Improvements	130
40101	FPWWTF Facility Electrical Improvements	170
40102	WWTF Electrical Improvements	605
81000	BPWWTF UV Disinfection Improvements	5,726
	Total	$ 32,790

On a system-wide basis NBC continues to program $500 thousand annually for wastewater treatment facility improvements to ensure resources are available in years that do not have specific projects identified in order to maintain the integrity of the treatment facilities. Lastly, the CIP has funding programmed for the construction of new IM Facilities (12400) that would be needed should NBC be required by legislation to assume ownership of lateral sewers currently owned by local communities within its district.

Collection System Infrastructure

This CIP includes several collection system infrastructure projects totaling $43.7 million. The major projects include construction of improvements to expand NBC's service area along Greenville Avenue (30460) and Hartford Avenue (30464) in the Town of Johnston, replacement of a portion of the Moshassuck Valley Interceptor (30444), replacement of the Providence River Siphon (30457) interceptor and increasing the capacity of the Louisquisset Pike Interceptor (30421).

Photo: Infrastructure Repairs

In addition, the Field's Point Drive Interceptor Improvements (30465) and Improvements to Interceptors FY 2018 (30466) will address various deficiencies throughout NBC's service area and includes sewer lining, point repairs, replacements and outfall pipes and manhole rehabilitation. Lastly, NBC is committed to maintaining its infrastructure and collection system by programming an allocation of $500 thousand for interceptor inspection and cleaning and $1.5 million for interceptor restoration and construction annually in years that do not have specific projects identified.

Completed and New Capital Projects

Completed Projects

NBC considers a project complete when the project has been deemed substantially complete and has only retainage and/or "punch list" items remaining. In FY 2018, NBC completed nine capital projects at a cost of $17.1 million.

The BPWWTF Biogas Reuse (12000) project involving the installation of a biogas cogeneration system was completed at a cost of $7.8 million. Two projects that replaced critical components of the treatment process were completed, including the FPWWTF Final Clarifier Improvements (13000) and the BPWWTF Digester & Miscellaneous Improvements (81400) at a cost of $3.8 million and $1.3 million respectively. The old operations and laboratory buildings were repurposed as part of the FPWWTF Operations and Lab Building Reuse (12900) at a cost of $760 thousand. Two interceptor easement restoration projects were completed including Abbott Valley (30438) at a cost of $716 thousand and Blackstone Valley (30501) at a cost of $821 thousand. Two interceptor improvement projects were also completed in FY 2018. Providence/ South Providence Interceptor Inspection and Cleaning (30475) and Improvements to Interceptors FY 2017 (30463) were completed at a cost of $650 thousand and $1.1 million respectively. Lastly, the Site Specific Study (1100000) related to dissolved and total metals in the receiving waters was completed at a cost of $211 thousand. The following table shows the projects completed in FY 2018 and estimated costs.

Project Number	Project Name	Cost (In thousands)
12000	BPWWTF Biogas Reuse	$ 7,752
13000	FPWWTF Final Clarifier Improvements	3,825
81400	BPWWTF Digester & Miscellaneous Improvements	1,274
12900	FPWWTF Operations and Lab Building Reuse	760
30438	NBC Interceptor Easement Restoration - AVI	716
30501	NBC Interceptor Easements Restoration, BVI	821
30475	Providence-South Providence Interceptor Inspection Cleaning	650
30463	Improvements to Interceptors FY 2017	1,070
1100000	Site Specific Study	211
	Total	**$ 17,080**

New Projects

This year's CIP includes seven new capital projects totaling $10.0 million. This includes projects related to infrastructure, electrical improvements, regulatory compliance, sewer system improvements and interceptor

improvements. The new projects and their estimated costs are summarized in the following table and are discussed below.

Project Number	Project Name	Estimated Cost (In thousands)
40102	WWTF Electrical Improvements	$ 605
1140600	RIPDES Compliance Improvements	1,551
30503	NBC Interceptor Easements Restoration, BVI Wetlands	194
70900	Omega Pump Station Upgrade	912
71000	Lincoln Septage Station Replacement	2,804
30476	N. Providence, Johnston, Lincoln Interceptor Inspection & Cleaning	320
30466	Improvements to Interceptors FY 2018	3,572
	Estimated Total	**$ 9,958**

Project (40102) WWTF Electrical Improvements will address the electrical and control systems at both wastewater treatment facilities to ensure continuous uninterrupted operations and that equipment meets safety requirements. As discussed earlier, Project (1140600) RIPDES Compliance Improvements has been established in anticipation of new facilities or improvements that may be required as a result of increasingly stringent permit discharge limitations and other permit requirements. Project (30503) NBC Interceptor Easements Restoration, BVI Wetlands involves clearing easements along the Blackstone Valley Interceptor (BVI) in Cumberland that couldn't be completed as originally planned in Project 30501 due to wetlands issues.

With respect to new sewer system improvements, the Lincoln Septage Station Replacement (71000) project at a cost of $2.8 million involves the design and construction of a new septage receiving station that will be equipped with a screening mechanism and sample collection capabilities. Project (70900) Omega Pump Station Upgrade at a cost of $912 thousand involves the design and replacement of the Omega Pump Station pumps, piping and valves to incorporate new screening and grit technology. It is envisioned that the new technology will improve the reliability and efficiency of the pump station.

Lastly, this year's CIP includes funding for two collection system infrastructure projects. These projects include the inspection and cleaning of interceptors in North Providence, Johnston and Lincoln as part of Project (30476) and restoration of approximately 6,000 feet of interceptors ranging in size from 18" to 48" and rehabilitation of manholes in various locations in Providence, North Providence and Pawtucket as part of Project (30466).

Financial Impact

NBC recognizes the importance of planning for capital expenditures and is committed to minimizing ratepayer impact through an assessment of both operating costs and financing impacts. NBC has incorporated an expanded analysis and presentation of these impacts in the CIP. The project specific information is included in the following discussion rather than on the individual project sheets. Certain capital improvements will directly impact the operating budget either through increased revenue, increased expense, or cost savings. NBC has identified these impacts on a project by project basis. The following table describes the impact categories and should be used to interpret the figures in the detailed operating impact tables in this section of the CIP.

Impact	Description	Refection in Tables
Savings	A reduction in operating costs resulting from no longer operating facilities, reduced energy consumption, and/or the purchase of electricity	Shown as a reduction in Operating Costs
Increased Expense	An increase in operating costs resulting from new facilities becoming operational	Shown as an increase in Operating Costs
Increased Revenue	An increase in revenue through new user charges, incentives, and/or the sale of Renewable Energy Credits	Shown as an increase in Operating Revenue or Non-Operating Revenue

FY 2019 Revenue and Expense Impacts

NBC has determined if there are operating and expense impacts related to eleven capital projects that are anticipated to be completed during FY 2019. Eight of these projects are inspections, restorations, improvements or studies and are not anticipated to have any first year operating impacts or start-up costs. Three projects, the FPWWTF - Blower Improvements Phase II, the Johnston Sewer Improvements/Greenville Avenue and the Johnston Sewer Improvements/Hartford Avenue are projected to have combined operating impacts resulting in a $187,125 increase in revenue and $18,333 increase in expense in FY 2019. Projects with savings, expense or revenue impacts are discussed in the following section.

FPWWTF - Blower Improvements Phase II

The FPWWTF Blower Improvements Phase II Project (10908) includes construction of a new blower building that will house four new centrifugal blowers to provide a reliable air source for the aeration treatment process. The estimated annual ongoing expense is $20,000 and includes $10,000 for 83,333 kWh of additional electricity usage and maintenance expense at $10,000. The FY 2019 expense represents eleven months of operation and the incremental change is reflected in the subsequent year. All start-up costs are carried in the project.

FPWWTF - Blower Improvements Phase II			
	FY 2019	**FY 2020**	**Annual**
Increased Expense			
Electricity	$ 9,167	$ 833	$ 10,000
Maintenance	9,167	833	10,000
Expense Impact	**$ 18,333**	**$ 1,667**	**$ 20,000**

Johnston Sewer Improvements/Greenville Avenue

The Johnston Sewer Improvements/Greenville Avenue Project (30460) includes the construction of improvements to expand sewers in the Town of Johnston. This project involves the installation of approximately 6,750 linear foot of 12" pipe along Greenville Avenue in Johnston. The revenue generated as a result of new customers connecting to NBC's system is estimated at $280,688 annually. One connection will take place in FY 2018 and the remaining connections in FY 2019. The revenue in FY 2019 represents the incremental change from the prior year. Lastly, NBC estimates annual maintenance cost of $10,000 in future years. All start-up costs are included in the project.

Johnston Sewer Improvements/Greenville Avenue			
	FY 2019	**FY 2020**	**Annual**
Increased Revenue			
User Fees	$ 187,125	$ 280,688	$ 280,688
Revenue Impact	**$187,125**	**$280,688**	**$280,688**
Increased Expense			
Maintenance	$ -	$ -	$ 10,000
Expense Impact	**$ -**	**$ -**	**$ 10,000**

Johnston Sewer Improvements/Hartford Avenue

The Johnston Sewer Improvements/Hartford Avenue Project (30464) will extend the Hartford Avenue sewer approximately 5,400 feet to the area west of Route 295 to provide service to areas in NBC's district that are not presently sewered in the Town of Johnston. NBC estimates annual maintenance cost of $10,000.

Johnston Sewer Improvements/Hartford Avenue			
	FY 2019	**FY 2020**	**Annual**
Increased Expense			
Maintenance	$ -	$ -	$ 10,000
Expense Impact	**$ -**	**$ -**	**$ 10,000**

FY 2020-2024 Revenue and Expense Impacts

The table below summarizes the projected impact of new capital projects scheduled to become operational in FY 2019-2024. Projects that involve inspection, studies, cleaning and rehabilitation generally do not have operating cost impacts and are excluded from this list. In FY 2024, the estimated impact as a result of these projects is increased annual revenue of $520,688, savings of $50,000 and increased expense of $176,352. Projects with revenue, savings or expense impacts are discussed in the following section.

Incremental CIP Impacts						
	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Increased Revenue						
Johnston Sewer Improvements/Greenville	$187,125	$280,688	$280,688	$280,688	$280,688	$280,688
Louisquisset Pike Interceptor Replacement	-	-	240,000	240,000	240,000	240,000
Revenue Impact	**$187,125**	**$280,688**	**$520,688**	**$520,688**	**$520,688**	**$520,688**
Savings						
BPWWTF UV Disinfection Improvements	-	-	-	(150,000)	(50,000)	(50,000)
Subtotal	-	-	-	(150,000)	(50,000)	(50,000)
Increased Expense						
Johnston Sewer Improvements/Greenville	-	-	-	-	10,000	-
FPWWTF - Blower Improvements Phase II	18,333	1,667	1,667	1,667	1,667	1,667
CSO Phase III A Facilities	-	-	-	70,864	70,864	70,864
New IM Facilities	-	-	-	-	24,289	72,866
FPWWTF Maintenance Facilities	-	-	-	-	41,909	20,955
Johnston Sewer Improvements/Hartford	-	-	-	-	-	10,000
Subtotal	18,333	1,667	1,667	72,531	148,729	176,352
Net O&M Impact	**$ 18,333**	**$ 1,667**	**$ 1,667**	**$ (77,469)**	**$ 98,729**	**$126,352**

Louisquisset Pike Interceptor Replacement

The Louisquisset Pike Interceptor Replacement Project (30421) is scheduled to be completed in FY 2021. The project involves construction of a larger replacement interceptor in the northern section of the Town of Lincoln to accommodate additional flow. Preliminary estimates indicate that the flow will generate additional sewer user fee revenue of $240,000 annually. The estimated operating expense is $10,000 every 5 years for ongoing maintenance of the collection system. There are no start-up costs associated with the construction of this interceptor.

Louisquisset Pike Interceptor Replacement			
	Savings	**Increased Expense**	**Increased Revenue**
User Fees	$ -	$ -	$ 240,000
Maintenance	-	10,000	-
Total	**$ -**	**$ 10,000**	**$ 240,000**

BPWWTF UV Disinfection Improvements

The BPWWTF UV Disinfection Improvements Project (81000) involves an evaluation of the current UV disinfection system and implementation of a system replacement/upgrade. The new, lower cost technology will result in estimated savings of $200,000 annually as a result of lower electricity use of 1,666,667 kWh. Completion of this project is scheduled for FY 2022.

BPWWTF UV Disinfection Improvements			
	Savings	**Increased Expense**	**Increased Revenue**
Electricity	$ (200,000)	$ -	$ -
Chemicals	**$ -**	**$ -**	**$ -**

CSO Phase III A Facilities

Operating impacts related to the CSO Phase III A Facilities Project (30800) are anticipated to occur in FY 2022 when the facilities at Bucklin Point become operational. The increased expense associated with these facilities is $70,864 annually and includes electricity, natural gas for heating, water and maintenance costs. Start-up costs are included in the project.

CSO Phase III A Facilities			
	Savings	Increased Expense	Increased Revenue
Electricity	$ -	$ 20,000	$ -
Natural Gas	-	39,864	-
Water	-	6,000	-
Maintenance	-	5,000	-
Total	**$ -**	**$ 70,864**	**$ -**

IM Facilities

The IM Facilities Project (12400) is scheduled for completion in FY 2023. This project includes the construction of a new building that will be necessary if NBC is required by legislation to assume ownership of lateral sewers currently owned by local communities within the service area. The new building will include an administrative area, garage area and storage yard to house the existing IM staff and equipment. The increased expense associated with the new building is approximately $97,155 annually for utilities and maintenance costs. All project startup costs, such as staff and equipment relocation are included in the project cost.

New IM Facilities			
	Savings	Increased Expense	Increased Revenue
Electricity	$ -	$ 23,180	$ -
Natural Gas	-	38,939	-
Water	-	3,000	-
Maintenance	-	32,036	-
Total	**$ -**	**$ 97,155**	**$ -**

FPWWTF Maintenance Facilities

The FPWWTF Maintenance Facilities Project (13200) involves the design and construction of a new maintenance building and facilities at the FPWWTF. While not critical to plant operations, it will improve efficiency in maintenance support, since the existing maintenance building was originally built in 1900 and is insufficient to meet the needs of operations. The new facilities are scheduled for completion in FY 2023 and estimated to have increased expense of $62,864 for utilities.

FPWWTF Maintenance Facilities			
	Savings	Increased Expense	Increased Revenue
Electricity	$ -	$ 20,000	$ -
Natural Gas	-	39,864	-
Water	-	3,000	-
Total	**$ -**	**$ 62,864**	**$ -**

Field's Point Drive Interceptor Improvements

The Field's Point Drive Interceptor Improvements Project (30465) is scheduled for completion in FY 2019. The project includes replacement of a collapsed sewer pipe in one location and repair of broken pipe in several other locations. These improvements will restore the sewer to its original capacity. The estimated operating expense is $10,000 every 5 years for ongoing maintenance of the collection system. There are no start-up costs associated with this project.

Field's Point Drive Interceptor Improvements			
	Savings	Increased Expense	Increased Revenue
User Fees	$ -	$ -	$ -
Maintenance	-	10,000	-
Total	**$ -**	**$ 10,000**	**$ -**

Projects in Progress or Initiated but Not Completed in FY 2020-2024

CSO Phase III Facilities

The remaining operating impacts for the CSO Phase III A Facilities Project (30800) is estimated to occur in FY 2027. The increased expense of $1.0 million includes electricity to pump flow and provide dehumidification in the Pawtucket tunnel pump station, natural gas for heating, screening and grit disposal, biosolids disposal, water, treatment chemicals, maintenance and labor costs. The start-up costs are included in this project phase. The operating impacts of the remaining three phases will be determined once the design plans are available.

CSO Phase III Facilities				
Capital Project	**Projected Year Facilities Online**	**Savings**	**Increased Expense**	**Increased Revenue**
CSO Phase III A Facilities				
Electricity	FY 2027	$ -	$ 646,950	$ -
Natural Gas	FY 2027	-	64,240	-
Screening & Grit	FY 2027	-	49,660	-
Biosolids	FY 2027	-	194,866	-
Water	FY 2027	-	968	-
Hypochlorite	FY 2027	-	12,110	-
Sodium Bisulfite	FY 2027	-	4,942	-
Maintenance	FY 2027	-	29,033	-
Personnel	FY 2027	-	9,811	-
	Total	**$ -**	**$ 1,012,580**	**$ -**
CSO Phase III B Facilities	FY 2031	None	TBD	None
CSO Phase III C Facilities	FY 2037	None	TBD	None
CSO Phase III D Facilities	FY 2042	None	TBD	None

Project Financing

In addition to operating cost impacts, the debt service related to financing NBC's capital improvement program also impacts the operating budget. NBC's operating budget includes principal and interest payments as well as a debt service coverage line item. NBC uses a long-term financial model to identify capital funding needs and sources and to project debt issuance. The debt service and user fee projections associated with financing the CIP are identified in the Long-Term Plan section of the Operating Budget. Traditionally, NBC has financed the capital improvement program through the issuance of debt.

It is anticipated that NBC will receive approximately $955 thousand in energy efficiency incentives for further promoting renewable energy with the Biogas Reuse cogeneration and UV Disinfection Improvements. Additionally, NBC will be reimbursed for the total project cost of $2.8 million related to sewer expansion along Hartford Avenue in Johnston. The incentives and reimbursements are outlined in the table below.

Capital Investment Incentives & Reimbursements			
Project	**Source**	**Incentives**	**Reimbursements**
BPWWTF Biogas Reuse	National Grid	$540,000	$ -
BPWWTF Biogas Reuse	Regional Greenhouse Gas Initiative	200,000	-
BPWWTF Biogas Reuse	Rhode Island Renewable Energy Fund	80,000	-
BPWWTF UV Disinfection Improvements	National Grid	135,000	-
Johnston Sewer Improvements/Hartford	Impact Fees	-	2,771,000
	Total	**$955,000**	**$ 2,771,000**

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Capital Project Summary by Fiscal Year

(In Thousands)

Project Number	Project Name	Project Priority	Pre-Fiscal Year 2019	Fiscal Year 2019	Fiscal Years 2020-2024	Post-Fiscal Year 2024	Total Estimated Project Cost
Wastewater Treatment Facility Improvements							
10908	FPWWTF Blower Improvements Phase II	A	$ 7,085	$ 2,159	$ 40	$ -	$ 9,285
12400	IM Facilities	C	-	-	6,425	-	6,425
13200	FPWWTF Maintenance Facilities	B	17	342	6,119	-	6,478
20000	WWTF Improvements	B	-	296	2,500	500	3,296
20100	FY 17 WWTF Improvements	A	471	204	-	-	675
40100	NBC Facility Electrical Improvements	B	-	21	109	-	130
40101	FPWWTF Facility Electrical Improvements	B	53	117	-	-	170
40102	WWTF Electrical Improvements	A	312	293	-	-	605
81000	BPWWTF UV Disinfection Improvements	A	20	317	5,389	-	5,726
	Subtotal		7,959	3,749	20,582	500	32,790
Infrastructure Management							
1140100	River Model Development	C	360	30	148	-	538
1140300	Greenhouse Gas Study	C	55	22	-	-	77
1140500	NBC Energy Sustainability	C	125	60	40	-	225
1140600	RIPDES Compliance Improvements	C	192	481	879	-	1,551
30700	NBC System-wide Facilities Planning	C	-	28	358	-	386
40200	NBC System-wide Inflow Reduction	B	-	48	407	-	455
40300	Municipal Lateral Sewer Acquisition Impact	C	-	1	295	-	296
40400	FPWWTF Facilities Plan Update	A	242	138	-	-	380
40500	RIPDES Flow Monitoring System	C	58	725	65	-	848
	Subtotal		1,032	1,533	2,191	-	4,755
CSO Phase III Facilities							
30800	CSO Phase III A Facilities	A	22,450	29,692	314,972	135,293	502,406
30810	CSO Phase III B Facilities	A	-	-	-	28,484	28,484
30820	CSO Phase III C Facilities	A	-	-	-	164,660	164,660
30830	CSO Phase III D Facilities	A	-	-	-	83,500	83,500
	Subtotal		22,450	29,692	314,972	411,937	779,051
Sewer System Improvements							
30500	NBC Interceptor Easements Restoration, Various Locations	B	2	191	685	-	878
30503	NBC Interceptor Easements Restoration, BVI Wetlands	A	28	166	-	-	194
70900	Omega Pump Station Upgrade	B	23	169	720	-	912
71000	Lincoln Septage Station Replacement	B	11	335	2,458	-	2,804
	Subtotal		64	861	3,863	-	4,788
Interceptor Inspection & Cleaning							
30400M	Interceptor Inspection and Cleaning	B	-	288	2,500	500	3,288
30476	N. Providence, Johnston, Lincoln Interceptor Inspection & Cleaning	B	108	212	-	-	320
	Subtotal		108	500	2,500	500	3,608
Interceptor Restoration & Construction							
30400C	Interceptor Restoration and Construction	B	-	-	4,984	1,500	6,484
30421	Louisquisset Pike Interceptor Improvements	C	-	34	4,560	-	4,594
30444	Moshassuck Valley Interceptor	A	20	3,851	2,660	-	6,531
30457	Providence River Siphon	A	68	5,818	572	-	6,458
30460	Johnston Sewer Improvements/Greenville Avenue	A	4,051	4,823	-	-	8,874
30464	Johnston Sewer Improvements/Hartford Avenue	A	2,398	373	-	-	2,771
30465	Field's Point Drive Interceptor Improvements	A	71	734	-	-	805
30466	Improvements to Interceptors FY 2018	B	21	3,536	15	-	3,572
	Subtotal		6,629	19,169	12,791	1,500	40,089
	Total		**$ 38,241**	**$ 55,503**	**$ 356,899**	**$ 414,437**	**$ 865,080**

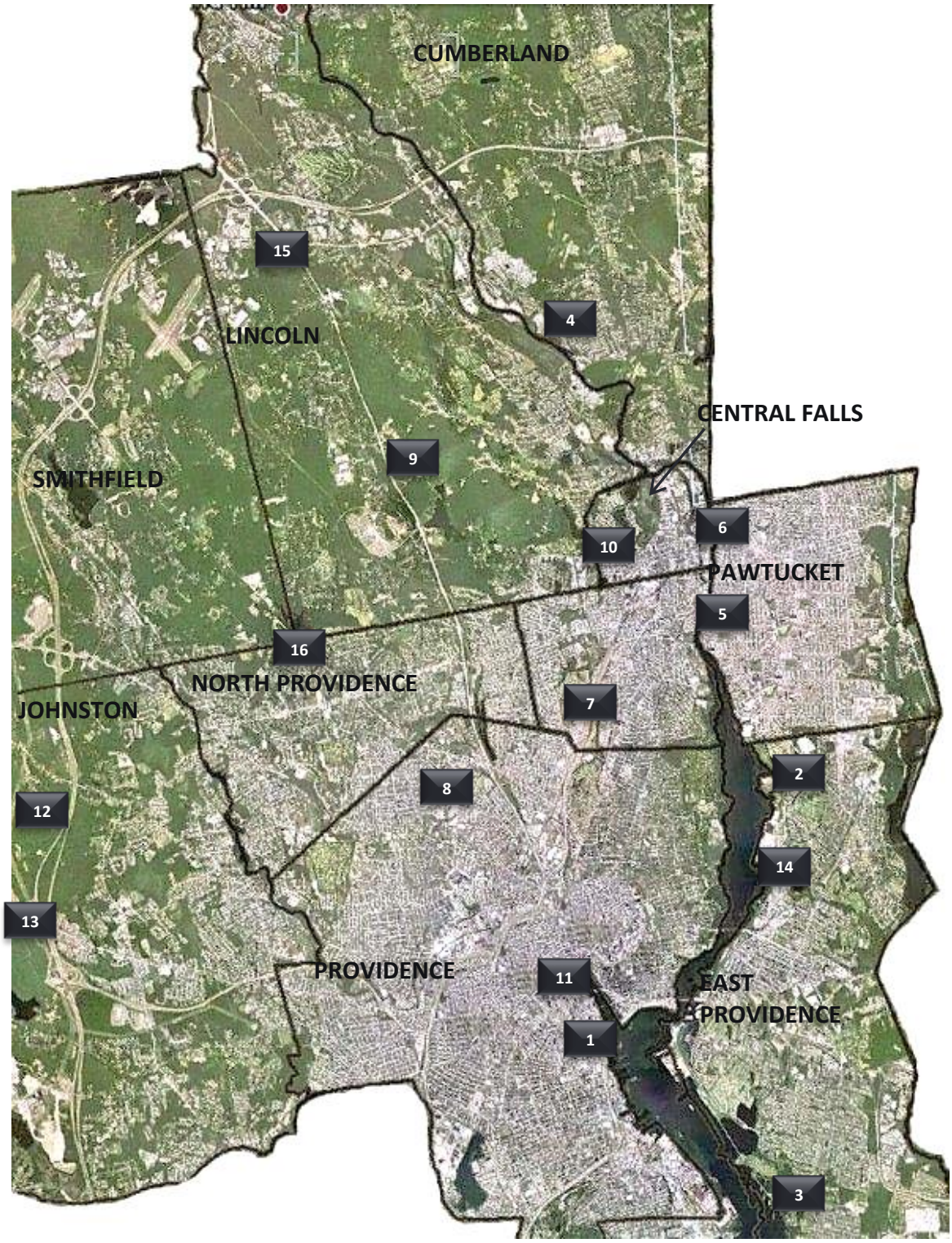
Priority	Description
A	Mandated, emergency, critical need or under construction.
B	Required to maintain system reliability and ongoing operation of facilities.
C	Project scope and requirements are dependent on futures system needs or regulatory requirements.

Capital Improvement Program Project Locations

The capital projects identified in this year's CIP are shown on the map on the following page. The map highlights 16 project locations as identified below. Some projects are System-Wide and noted as SW.

Legend Key	Project Number	Project Name
Wastewater Treatment Facility Improvements		
1	10908	FPWWTF Blower Improvements Phase II
1	12400	IM Facilities
1	13200	FPWWTF Maintenance Facilities
1	20100	FY 17 WWTF Improvements
1, 2	40100	NBC Facility Electrical Improvements
1	40101	FPWWTF Facility Electrical Improvements
1, 2	40102	WWTF Electrical Improvements
2	81000	BPWWTF UV Disinfection Improvements
Infrastructure Management		
3	1140100	River Model Development
1,2	1140300	Greenhouse Gas Study
SW	1140500	NBC Energy Sustainability
SW	1140600	RIPDES Compliance Improvements
SW	30700	NBC System-wide Facilities Planning
SW	40200	NBC System-wide Inflow Reduction
SW	40300	Municipal Lateral Sewer Acquisition Impact
1	40400	FPWWTF Facilities Plan Update
SW	40500	RIPDES Flow Monitoring System
CSO Phase III Facilities		
5	30800	CSO Phase III A Facilities
6	30810	CSO Phase III B Facilities
7	30820	CSO Phase III C Facilities
8	30830	CSO Phase III D Facilities
Sewer System Improvements		
SW	30500	NBC Interceptor Easements Restoration, Various Locations
4	30503	NBC Interceptor Easements Restoration, BVI Wetlands
14	70900	Omega Pump Station Upgrade
15	71000	Lincoln Septage Station Replacement
Interceptor Cleaning / Restoration and Construction		
16	30476	N. Providence, Johnston, Lincoln Interceptor Inspection & Cleaning
9	30421	Louisquisset Pike Interceptor Improvements
10	30444	Moshassuck Valley Interceptor
11	30457	Providence River Siphon
12	30460	Johnston Sewer Improvements/Greenville Avenue
13	30464	Johnston Sewer Improvements/Hartford Avenue
1	30465	Field's Point Drive Interceptor Improvements
SW	30466	Improvements to Interceptors FY 2018

Capital Improvement Program Project Locations



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10908

FPWWTF Blower Improvements Phase II

Project Manager: Rich Bernier, P.E.
Contractor(s): Hart Engineering, Corp.

Location: Field's Point (Providence, RI)
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	February-15	April-16	14 Months	$682
Construction	October-16	August-19	35 Months	9,285
Total Project	**February-15**	**August-19**	**55 Months**	**$9,967**

Photo: Motor control center room in blower building

This project involves the construction of a new blower building, equipped with four new 500 HP single stage centrifugal blowers to provide a reliable air source for the aeration treatment process.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 7,085	**$ 2,159**	**$ 40**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 9,285**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 81	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 81
Land	-	-	-	-	-	-	-	-	-
A/E Professional	582	-	-	-	-	-	-	-	582
Other	19	-	-	-	-	-	-	-	19
Total	**$ 682**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 682**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 123	$ 5	$ -	$ -	$ -	$ -	$ -	$ -	$ 128
A/E Professional	354	91	-	-	-	-	-	-	445
Construction	6,557	941	40	-	-	-	-	-	7,538
Contingency	-	1,074	-	-	-	-	-	-	1,074
Other	51	49	-	-	-	-	-	-	100
Total	**$ 7,085**	**$ 2,159**	**$ 40**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 9,285**

Note: Cash Flow Basis in Thousands

12400
IM Facilities

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A
Location: Field's Point (Providence, RI)
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	March-15	June-21	75 Months	$606
Construction	July-21	May-23	22 Months	5,819
Total Project	**March-15**	**May-23**	**98 Months**	**$6,425**

Photo: Existing IM Building

This project involves the design and construction of a new building that would be needed if NBC is required by legislation to assume ownership of lateral sewers currently owned by local communities within its district. The building will include an administrative area along with a garage and storage yard.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ -	**$ -**	**$ 213**	**$ 393**	**$ 2,014**	**$ 3,805**	**$ -**	**$ -**	**$ 6,425**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ 38	$ 48	$ -	$ -	$ -	$ -	$ 86
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	175	325	-	-	-	-	500
Other	-	-	-	20	-	-	-	-	20
Total	**$ -**	**$ -**	**$ 213**	**$ 393**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 606**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -		$ 51	$ 55	$ -	$ -	$ 106
A/E Professional	-	-	-	-	33	30	-	-	63
Construction	-	-	-	-	1,900	3,100	-	-	5,000
Contingency	-	-	-	-	-	600	-	-	600
Other	-	-	-	-	30	20	-	-	50
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,014**	**$ 3,805**	**$ -**	**$ -**	**$ 5,819**

Note: Cash Flow Basis in Thousands

13200

FPWWTF Maintenance Facilities

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A
Location: Field's Point WWTF (Providence, RI)
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	February-18	April-20	25 Months	$746
Construction	June-20	November-22	29 Months	5,732
Total Project	**February-18**	**November-22**	**56 Months**	**$6,478**

Photo: Existing Maintenance Building

This project involves the design and construction of a new maintenance building and support facilities at the FPWWTF. While not critical to plant operations, it will improve efficiency in maintenance support, since the existing maintenance building was originally built in 1900 and is insufficient to meet the needs of operations.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 17	**$ 342**	**$ 394**	**$ 1,676**	**$ 2,504**	**$ 1,545**	**$ -**	**$ -**	**$ 6,478**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 17	$ 45	$ 40	$ -	$ -	$ -	$ -	$ -	$ 102
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	297	327	-	-	-	-	-	624
Other	-	-	20	-	-	-	-	-	20
Total	**$ 17**	**$ 342**	**$ 387**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 746**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ 5	$ 42	$ 60	$ 25	$ -	$ -	$ 132
A/E Professional	-	-	2	24	24	10	-	-	60
Construction	-	-	-	1,600	2,400	1,000	-	-	5,000
Contingency	-	-	-	-	-	500	-	-	500
Other	-	-	-	10	20	10	-	-	40
Total	**$ -**	**$ -**	**$ 7**	**$ 1,676**	**$ 2,504**	**$ 1,545**	**$ -**	**$ -**	**$ 5,732**

Note: Cash Flow Basis in Thousands

20000
WWTF Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Field's Point & Bucklin Point WWTF's
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	March-18	Ongoing	Ongoing	3,296
Total Project	**March-18**	**Ongoing**	**Ongoing**	**$3,296**

Photo: Aeration Tank Pumps

Project 20000 consists of facility improvements at NBC's WWTF's to comply with current and future regulatory requirements and ensure uninterrupted wastewater treatment processing, 24 hours per day and 365 days per year. NBC programs $500 thousand annually for improvements to ensure resources are available in years that do not have specific projects identified in order to maintain the integrity of the treatment facilities.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ -	**$ 296**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 3,296**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ 35	$ 58	$ 58	$ 58	$ 58	$ 58	$ 58	$ 383
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	250	422	422	422	422	422	422	2,782
Contingency	-	-	-	-	-	-	-	-	-
Other	-	12	20	20	20	20	20	20	132
Total	**$ -**	**$ 296**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 3,296**

Note: Cash Flow Basis in Thousands

20100

FY 17 WWTF Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A
Location: 2 Ernest Street, Providence, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	February-17	November-18	20 Months	675
Total Project	**February-17**	**November-18**	**20 Months**	**$675**

Photo: Hypochlorite Tank Pad

Project 20100 involves improvements to the hypochlorite tank pad and the chlorination building. Other improvements include rehabilitation of the aeration tank wall, installation of an energy recovery system for air handling and replacement of piping in the grit building.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 471	**$ 204**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 675**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 60	$ 35	$ -	$ -	$ -	$ -	$ -	$ -	$ 95
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	391	129	-	-	-	-	-	-	520
Contingency	-	40	-	-	-	-	-	-	40
Other	20	-	-	-	-	-	-	-	20
Total	**$ 471**	**$ 204**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 675**

Note: Cash Flow Basis in Thousands

40100

NBC Facility Electrical Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Providence, RI
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	May-19	May-20	12 Months	$130
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
Total Project	**May-19**	**May-20**	**12 Months**	**$130**

Photo: Field's Point Electrical Switchgear & Transformers

This project involves the evaluation of NBC's existing electrical equipment and facilities. Upon completion of the evaluation, improvements will be performed as necessary to ensure reliable and continuous operation of NBC's facilities.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ -	$ 21	$ 109	$ -	$ -	$ -	$ -	$ -	$ 130

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ 3	$ 17	$ -	$ -	$ -	$ -	$ -	$ 20
A/E Professional	-	8	92	-	-	-	-	-	100
Other	-	10	-	-	-	-	-	-	10
Total	**$ -**	**$ 21**	**$ 109**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 130**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

40101

FPWWTF Facility Electrical Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): SED Associates Corp.

Location: Providence, RI
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	January-16	May-19	40 Months	$170
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
Total Project	**January-16**	**May-19**	**40 Months**	**$170**

Photo: Field's Point Electrical Facilities

This project involves the evaluation and installation of standby power capabilities for critical facilities at the FPWWTF to maintain uninterrupted operation of treatment processes.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 53	**$ 117**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 170**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 19	$ 31	$ -	$ -	$ -	$ -	$ -	$ -	$ 50
A/E Professional	34	85	-	-	-	-	-	-	119
Other	-	1	-	-	-	-	-	-	1
Total	**$ 53**	**$ 117**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 170**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

40102

WWTF Electrical Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): Graybar Electric Company, Inc.
Location: Field's Point and Bucklin Point WWTF's
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	September-17	December-18	16 Months	605
Total Project	**September-17**	**December-18**	**16 Months**	**$605**

Photo: Field's Point Electrical Panel

This project involves the upgrade or replacement of the electrical and control systems at the Field's Point and Bucklin Point facilities and includes switchgears, electrical feed controls and telecommunications equipment. An arc flash study will also be conducted to ensure equipment at both facilities meets safety requirements and ensure uninterrupted operations.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 312	**$ 293**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 605**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 32	$ 23	$ -	$ -	$ -	$ -	$ -	$ -	$ 55
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	280	270	-	-	-	-	-	-	550
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ 312**	**$ 293**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 605**

Note: Cash Flow Basis in Thousands

81000

BPWWTF UV Disinfection Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A
Location: Bucklin Point WWTF (East Providence, RI)
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-18	July-19	18 Months	$360
Construction	June-19	November-21	29 Months	5,366
Total Project	**January-18**	**November-21**	**46 Months**	**$5,726**

Photo: Ultraviolet Disinfection System

This project involves the evaluation of the current Ultraviolet (UV) Disinfection system at Bucklin Point and implementation of a system replacement/upgrade. The current UV equipment is nearing the end of its useful life and the medium pressure, high intensity lamps are expensive and less efficient than newer technologies.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 20	**$ 317**	**$ 1,323**	**$ 2,416**	**$ 1,650**	**$ -**	**$ -**	**$ -**	**$ 5,726**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 20	$ 47	$ 3	$ -	$ -	$ -	$ -	$ -	$ 70
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	230	20	-	-	-	-	-	250
Other	-	40	-	-	-	-	-	-	40
Total	**$ 20**	**$ 317**	**$ 23**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 360**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ 57	$ 60	$ 25	$ -	$ -	$ -	$ 142
A/E Professional	-	-	33	36	15	-	-	-	84
Construction	-	-	1,200	2,300	1,000	-	-	-	4,500
Contingency	-	-	-	-	600	-	-	-	600
Other	-	-	10	20	10	-	-	-	40
Total	**$ -**	**$ -**	**$ 1,300**	**$ 2,416**	**$ 1,650**	**$ -**	**$ -**	**$ -**	**$ 5,366**

Note: Cash Flow Basis in Thousands

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1140100

River Model Development

Project Manager: Thomas Uva
Contractor(s): Kincaid Consulting

Location: NBC Receiving Waters
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	March-05	February-24	228 Months	$538
Construction	N/A	N/A	N/A	N/A
Total Project	**March-05**	**February-24**	**228 Months**	**$538**

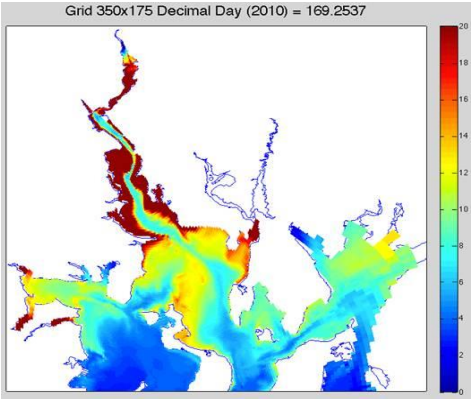

Photo: Map of ROMS model showing near-bottom phytoplankton concentrations during simulated bloom

The Regional Ocean Modeling System (ROMS) for the Providence and Seekonk Rivers and Narragansett Bay tracks the circulation and transport of nutrients and determines how changing nitrogen loads affect the biology and water quality of the receiving waters. Work continues on the model to improve predictions and validate accuracy.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 360	**$ 30**	**$ 30**	**$ 30**	**$ 30**	**$ 30**	**$ 28**	**$ -**	**$ 538**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 56.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 56.00
Land	-	-	-	-	-	-	-	-	-
A/E Professional	266	30	30	30	30	30	28	-	444
Other	38	-	-	-	-	-	-	-	38
Total	**$ 360**	**$ 30**	**$ 30**	**$ 30**	**$ 30**	**$ 30**	**$ 28**	**$ -**	**$ 538**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

1140300

Green House Gas Study

Project Manager: James McCaughey, P.E.
Contractor(s): University of Rhode Island
Location: Field's Point (Providence, RI)
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	October-14	February-19	53 Months	$77
Construction	N/A	N/A	N/A	N/A
Total Project	**October-14**	**February-19**	**53 Months**	**$77**

Photo: Greenhouse Gas Collection

The Greenhouse Gas Study is designed to quantify NBC's overall carbon footprint by measuring greenhouse gas emissions from wastewater collection and treatment operations. The study will ensure NBC can quickly address future regulatory requirements related to greenhouse gas emissions.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 55	**$ 22**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 77**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 15	$ 2	$ -	$ -	$ -	$ -	$ -	$ -	$ 17
Land	-	-	-	-	-	-	-	-	-
A/E Professional	40	20	-	-	-	-	-	-	60
Other	-	-	-	-	-	-	-	-	-
Total	**$ 55**	**$ 22**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 77**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

1140500

NBC Energy Sustainability

Project Manager: James McCaughey, P.E.
Contractor(s): Various

Location: Various Locations
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-16	September-19	45 Months	$225
Construction	N/A	N/A	N/A	N/A
Total Project	**January-16**	**September-19**	**45 Months**	**$225**

Photo: Methods of generating energy

The Energy Sustainability Program is designed to identify, measure, and implement ways of obtaining and using energy so that energy needs are met while minimizing environmental impacts and assuring sufficient energy sources are available to meet future needs. The Energy Sustainability Program maximizes conservation, efficiencies and employment of sustainable renewable energy resources in an economically viable and reliable manner.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 125	**$ 60**	**$ 40**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 225**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 110	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 110
Land	-	-	-	-	-	-	-	-	-
A/E Professional	5	10	-	-	-	-	-	-	15
Other	10	50	40	-	-	-	-	-	100
Total	**$ 125**	**$ 60**	**$ 40**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 225**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

1140600

RIPDES Compliance Improvements

Project Manager: Thomas Uva
Contractor(s): N/A

Location: NBC District
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	February-18	February-23	61 Months	$1,551
Construction	N/A	N/A	N/A	N/A
Total Project	**February-18**	**February-23**	**61 Months**	**$1,551**

Photo: The Providence River, the northernmost part of Narragansett Bay

This project includes improvements to the wastewater treatment and collections system that may be required to comply with new permit limits and mandates. Specific improvements shall be identified through a metals translator study, a site specific study, an upper bay dissolved oxygen evaluation, and the development of a climate resiliency plan.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 192	**$ 481**	**$ 639**	**$ 20**	**$ 20**	**$ 200**	**$ -**	**$ -**	**$ 1,551**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 157	$ 263	$ 450	$ -	$ -	$ 200	$ -	$ -	$ 1,070
Land	-	-	-	-	-	-	-	-	-
A/E Professional	20	158	139	20	20	-	-	-	356
Other	15	60	50	-	-	-	-	-	125
Total	**$ 192**	**$ 481**	**$ 639**	**$ 20**	**$ 20**	**$ 200**	**$ -**	**$ -**	**$ 1,551**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

30700

NBC System-wide Facilities Planning

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	February-19	September-20	19 Months	$386
Construction	N/A	N/A	N/A	N/A
Total Project	**February-19**	**September-20**	**19 Months**	**$386**

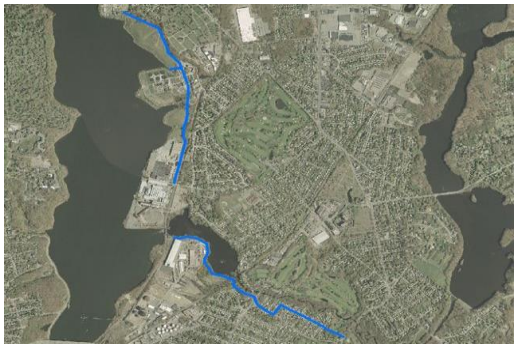

Photo: Proposed area for the East Providence capacity analysis

Project 30700 consists of planning activities that will determine if there is adequate system capacity for the next twenty years and if there is any excess infiltration/inflow in NBC's interceptors. As the evaluations begin for specific cities and towns, each will be given a unique project number.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ -	**$ 28**	**$ 268**	**$ 90**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 386**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ 12	$ 62	$ 8	$ -	$ -	$ -	$ -	$ 82
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	16	206	52	-	-	-	-	274
Other	-	-	-	30	-	-	-	-	30
Total	**$ -**	**$ 28**	**$ 268**	**$ 90**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 386**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

40200

NBC System-wide Inflow Reduction

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	September-18	January-20	16 Months	$137
Construction	March-20	June-21	15 Months	318
Total Project	**September-18**	**June-21**	**33 Months**	**$455**

Photo: Downspouts at NBC's Corporate Office Building

This project involves the development and implementation of an inflow reduction program to remove stormwater from sanitary sewers in the NBC's service area. This project is imperative to ongoing operation to prevent surcharging of sewers that could cause illegal sanitary sewer overflows during wet weather events.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ -	**$ 48**	**$ 107**	**$ 300**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 455**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ 18	$ 14	$ -	$ -	$ -	$ -	$ -	$ 32
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	30	70	-	-	-	-	-	100
Other	-	-	5	-	-	-	-	-	5
Total	**$ -**	**$ 48**	**$ 89**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 137**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ 9	$ 47	$ -	$ -	$ -	$ -	$ 56
A/E Professional	-	-	9	33	-	-	-	-	42
Construction	-	-	-	200	-	-	-	-	200
Contingency	-	-	-	10	-	-	-	-	10
Other	-	-	-	10	-	-	-	-	10
Total	**$ -**	**$ -**	**$ 18**	**$ 300**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 318**

Note: Cash Flow Basis in Thousands

40300

Municipal Lateral Sewer Acquisition Impact

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	June-18	July-20	25 Months	$296
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
Total Project	**June-18**	**July-20**	**25 Months**	**$296**

Photo: Municipal Sewer Manhole Cover

This project involves the evaluation of the impact of NBC assuming ownership of lateral sewers that are currently owned by municipalities within the NBC service area. This project will be required should legislation be passed by the General Assembly requiring NBC to take over ownership and maintenance of local sewers within the NBC district.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ -	$ 1	$ 268	$ 27	$ -	$ -	$ -	$ -	$ 296

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ 1	$ 33	$ 2	$ -	$ -	$ -	$ -	$ 36
A/E Professional	-	-	225	25	-	-	-	-	250
Other	-	-	10	-	-	-	-	-	10
Total	**$ -**	**$ 1**	**$ 268**	**$ 27**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 296**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

40400

FPWWTF Facilities Plan Update

Project Manager: Thomas Brueckner, P.E.
Contractor(s): CH2M Hill

Location: Providence, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	January-17	December-18	23 Months	$380
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
Total Project	**January-17**	**December-18**	**23 Months**	**$380**

Photo: Aeration Tanks FPWWTF

This project involves the update of the FPWWTF Facilities Plan and determining the maximum Nitrogen and Biochemical Oxygen Demand loads that can be accepted at the facility while meeting RIPDES permit limits. Additionally, services will be provided to review the RIPDES permit recently issued by RIDEM.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 242	**$ 138**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 380**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 222	$ 138	$ -	$ -	$ -	$ -	$ -	$ -	$ 360
A/E Professional	20	-	-	-	-	-	-	-	20
Other	-	-	-	-	-	-	-	-	-
Total	**$ 242**	**$ 138**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 380**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

40500

RIPDES Flow Monitoring System

Project Manager: Meg Goulet, P.E.
Contractor(s): N/A
Location: Field's Point & Bucklin Point WWTF
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	December-17	July-19	19 Months	$848
Construction	N/A	N/A	N/A	N/A
Total Project	**December-17**	**July-19**	**19 Months**	**$848**

Photo: Flow Meter Installed

This project involves condition assessments of existing flow monitoring equipment located throughout NBC's collection system. An evaluation will be conducted to determine whether the equipment should be upgraded or replaced with an alternate advanced technology in order to provide consistent and accurate monitoring of flow conditions and measurements in accordance with the RIPDES permit. In addition, field services and data analysis will be conducted throughout the collection system.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 58	**$ 725**	**$ 65**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 848**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 58	$ 40	$ -	$ -	$ -	$ -	$ -	$ -	$ 98
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	685	65	-	-	-	-	-	750
Other	-	-	-	-	-	-	-	-	-
Total	**$ 58**	**$ 725**	**$ 65**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 848**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

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30800

CSO Phase III A Facilities

Project Manager: Kathryn Kelly, P.E.
Contractor(s): Stantec Consulting Services

Location: Pawtucket, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	April-13	December-21	105 Months	$74,022
Construction	August-18	July-26	95 Months	428,384
Total Project	**April-13**	**July-26**	**159 Months**	**$502,406**

Photo: Proposed Phase III CSO Facilities

Phase III A involves the design and construction of a deep rock tunnel in Pawtucket approximately 13,000 feet in length along the Seekonk and Blackstone Rivers, a pump station to convey flow to the Bucklin Point WWTF in East Providence, drop shafts and consolidation conduits. Additionally, this project is to design the Upper BVI relief, CSO 105 relief sewer, CSO 206 sewer separation, green stormwater infrastructure and regulator modifications. Lastly, this project is to design and construct O&M Support Facilities at Bucklin Point to maintain operational infrastructure necessary to provide space for construction of the tunnel pump station.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 22,450	**$ 29,692**	**$ 28,328**	**$ 45,955**	**$ 59,551**	**$ 78,579**	**$ 102,560**	**$ 135,293**	**$ 502,406**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 1,186	$ 552	$ 262	$ 252	$ 126	$ -	$ -	$ -	$ 2,378
Land	3	1,998	-	-	2,000	-	-	-	4,001
A/E Professional	17,887	16,682	14,910	13,681	-	-	-	-	63,160
Other	791	1,081	1,083	1,056	473	-	-	-	4,484
Total	**$ 19,867**	**$ 20,313**	**$ 16,254**	**$ 14,989**	**$ 2,599**	**$ -**	**$ -**	**$ -**	**$ 74,022**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 150	$ 481	$ 363	$ 979	$ 979	$ 979	$ 979	$ 1,933	$ 6,843
A/E Professional	1,263	3,030	3,030	3,030	3,030	3,030	3,030	6,058	25,501
Construction	-	3,060	5,862	24,139	50,130	71,762	95,133	121,462	371,547
Contingency	1,000	2,400	2,400	2,400	2,400	2,400	2,400	5,000	20,400
Other	170	408	418	418	413	408	1,018	840	4,093
Total	**$ 2,583**	**$ 9,379**	**$ 12,073**	**$ 30,966**	**$ 56,951**	**$ 78,579**	**$ 102,560**	**$ 135,293**	**$ 428,384**

Note: Cash Flow Basis in Thousands

30810
CSO Phase III B Facilities

Project Manager: Kathryn Kelly, P.E.
Contractor(s): N/A

Location: Central Falls, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	December-27	December-30	37 Months	28,484
Total Project	**December-27**	**December-30**	**37 Months**	**$28,484**

Photo: Proposed Phase III CSO Facilities

Phase III B involves the construction of the Upper BVI relief and the CSO 105 relief sewer. In addition, this phase includes one sewer separation project and construction of green stormwater infrastructure to reduce stormwater inflow to the combined sewer system. Design of the Phase III B facilities is included in Phase III A.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 28,484	$ 28,484

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 615	$ 615
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	26,433	26,433
Contingency	-	-	-	-	-	-	-	1,356	1,356
Other	-	-	-	-	-	-	-	80	80
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 28,484**	**$ 28,484**

Note: Cash Flow Basis in Thousands

30820

CSO Phase III C Facilities

Project Manager: Kathryn Kelly, P.E.
Contractor(s): N/A

Location: Pawtucket, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	May-32	June-34	26 Months	$23,120
Construction	April-34	June-37	39 Months	141,540
Total Project	**May-32**	**June-37**	**62 Months**	**$164,660**

Photo: Proposed Phase III CSO Facilities

Phase III C consists of the design and construction of a stub tunnel that will convey flow from CSO 220 to the tunnel to be constructed in Phase III A. In addition, GSI facilities will be constructed to reduce stormwater inflow to the combined sewers.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 164,660	$ 164,660

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 968	$ 968
Land	-	-	-	-	-	-	-	2,500	2,500
A/E Professional	-	-	-	-	-	-	-	14,440	14,440
Other	-	-	-	-	-	-	-	5,212	5,212
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 23,120**	**$ 23,120**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,160	$ 2,160
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	135,040	135,040
Contingency	-	-	-	-	-	-	-	3,360	3,360
Other	-	-	-	-	-	-	-	980	980
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 141,540**	**$ 141,540**

Note: Cash Flow Basis in Thousands

30830

CSO Phase III D Facilities

Project Manager: Kathryn Kelly, P.E.
Contractor(s): N/A

Location: Providence, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	April-37	September-39	29 Months	$13,180
Construction	August-39	December-41	28 Months	70,320
Total Project	**April-37**	**December-41**	**57 Months**	**$83,500**

Photo: Proposed Phase III CSO Facilities

Phase III D involves the design and construction of an interceptor that will store flow during a storm and later release the flow into the system as capacity allows. In addition, Green Stormwater Infrastructure facilities will be constructed to reduce stormwater inflow to the combined sewer system. Storm sewers will be constructed to separate stormwater flow from entering the combined sewer.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 83,500	$ 83,500

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,110	$ 1,110
Land	-	-	-	-	-	-	-	1,000	1,000
A/E Professional	-	-	-	-	-	-	-	8,000	8,000
Other	-	-	-	-	-	-	-	3,070	3,070
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 13,180**	**$ 13,180**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,010	$ 1,010
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	67,760	67,760
Contingency	-	-	-	-	-	-	-	1,320	1,320
Other	-	-	-	-	-	-	-	230	230
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 70,320**	**$ 70,320**

Note: Cash Flow Basis in Thousands

30500

NBC Interceptor Easements Restoration, Various Locations

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A
Location: NBC Service Area
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	June-18	January-20	19 Months	$439
Construction	January-20	November-20	10 Months	439
Total Project	**June-18**	**November-20**	**29 Months**	**$878**

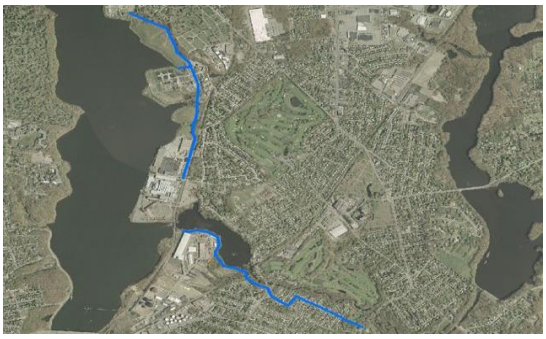

Photo: Proposed area for the East Providence easement investigation

This project involves verification of easement locations and clearing the easements in overland areas to ensure sufficient access and enable NBC to maintain the integrity of the collection system.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 2	**$ 191**	**$ 364**	**$ 321**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 878**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 2	$ 31	$ 41	$ -	$ -	$ -	$ -	$ -	$ 74
Land	-	-	50	-	-	-	-	-	50
A/E Professional	-	160	140	-	-	-	-	-	300
Other	-	-	15	-	-	-	-	-	15
Total	**$ 2**	**$ 191**	**$ 246**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 439**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ 18	$ 20	$ -	$ -	$ -	$ -	$ 38
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	100	250	-	-	-	-	350
Contingency	-	-	-	35	-	-	-	-	35
Other	-	-	-	16	-	-	-	-	16
Total	**$ -**	**$ -**	**$ 118**	**$ 321**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 439**

Note: Cash Flow Basis in Thousands

30503

NBC Interceptor Easements Restoration, BVI Wetlands

Project Manager: Rich Bernier, P.E.
Contractor(s): N/A
Location: Cumberland, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	March-18	December-18	10 Months	194
Total Project	**March-18**	**December-18**	**10 Months**	**$194**

Photo: Easement Clearing in Cumberland

This project involves clearing easements along the Blackstone Valley Interceptor in Cumberland that couldn't be completed as originally planned in Project 30501 due to wetlands issues. Wetlands permits will be obtained under Project 30501 and wetlands easements will be cleared under this project.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 28	**$ 166**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 194**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 14	$ 40	$ -	$ -	$ -	$ -	$ -	$ -	$ 54
A/E Professional	4	16	-	-	-	-	-	-	20
Construction	-	100	-	-	-	-	-	-	100
Contingency	-	10	-	-	-	-	-	-	10
Other	10	-	-	-	-	-	-	-	10
Total	**$ 28**	**$ 166**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 194**

Note: Cash Flow Basis in Thousands

70900

Omega Pump Station Upgrade

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A
Location: Omega Pump Station, East Providence, RI
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-18	January-19	12 Months	$164
Construction	January-19	June-20	17 Months	748
Total Project	**January-18**	**June-20**	**29 Months**	**$912**

Photo: Omega Pump Station

This project involves the evaluation, design and replacement of pumps, piping and valves at the Omega Pump Station, which were originally built in the 1950's and are nearing the end of their useful life. New screening and grit technology will shred and reduce the size of coarse solid materials within the wastewater and facilitate their transport to the wastewater treatment facility. Additionally, the new technology will provide for the upgrade of the facility to improve reliability of the motor control center and streamline operations.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 23	**$ 169**	**$ 720**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 912**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 23	$ 21	$ -	$ -	$ -	$ -	$ -	$ -	$ 44
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	100	-	-	-	-	-	-	100
Other	-	20	-	-	-	-	-	-	20
Total	**$ 23**	**$ 141**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 164**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ 20	$ 36	$ -	$ -	$ -	$ -	$ -	$ 56
A/E Professional	-	8	24	-	-	-	-	-	32
Construction	-	-	600	-	-	-	-	-	600
Contingency	-	-	60	-	-	-	-	-	60
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 28**	**$ 720**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 748**

Note: Cash Flow Basis in Thousands

71000

Lincoln Septage Station Replacement

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A
Location: Bucklin Point (Lincoln)
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	March-18	August-19	17 Months	$404
Construction	August-19	July-21	23 Months	2,400
Total Project	**March-18**	**July-21**	**40 Months**	**$2,804**

Photo: Septage Receiving Station

The existing Lincoln Septage Receiving Station has reached the end of its useful life and needs to be replaced. This project includes design and construction of a new septage receiving station equipped with a screening mechanism and sample collection capabilities in accordance with NBC's Standard Operating Procedures for monitoring septage.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 11	**$ 335**	**$ 627**	**$ 1,524**	**$ 307**	**$ -**	**$ -**	**$ -**	**$ 2,804**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 11	$ 45	$ 8	$ -	$ -	$ -	$ -	$ -	$ 64
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	250	50	-	-	-	-	-	300
Other	-	40	-	-	-	-	-	-	40
Total	**$ 11**	**$ 335**	**$ 58**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 404**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ 47	$ 60	$ 5	$ -	$ -	$ -	$ 112
A/E Professional	-	-	22	24	2	-	-	-	48
Construction	-	-	500	1,400	100	-	-	-	2,000
Contingency	-	-	-	-	200	-	-	-	200
Other	-	-	-	40	-	-	-	-	40
Total	**$ -**	**$ -**	**$ 569**	**$ 1,524**	**$ 307**	**$ -**	**$ -**	**$ -**	**$ 2,400**

Note: Cash Flow Basis in Thousands

304 M Summary

Interceptor Inspection and Cleaning

Project Manager: Meg Goulet, P.E.
Contractor(s): Various

Location: NBC Service Area
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Inspection and Cleaning	July-09	Ongoing	Ongoing	3,608
Total Project	**July-09**	**Ongoing**	**Ongoing**	**$3,608**

Photo: Interceptor grit removal

The 304 M Project includes the inspection and cleaning of interceptors in order to maintain NBC's infrastructure and collection system. The inspections determine pipe condition and identify infrastructure issues. NBC allocates $500 thousand annually for inspections and cleaning in years that do not have specific projects identified to ensure resources are available. As new inspection and cleaning projects are identified, they will be given a unique project number.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 108	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 3,608**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 21	$ 61	$ 55	$ 55	$ 55	$ 55	$ 55	$ 55	$ 412
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	80	373	370	370	370	370	370	370	2,673
Contingency	-	-	-	-	-	-	-	-	-
Other	7	66	75	75	75	75	75	75	523
Total	**$ 108**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 3,608**

Note: Cash Flow Basis in Thousands

30400C

Interceptor Restoration and Construction

Project Manager: Rich Bernier, P.E.
Contractor(s): Various

Location: NBC Service Area
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	July-01	Ongoing	Ongoing	6,484
Total Project	**July-01**	**Ongoing**	**Ongoing**	**$6,484**

Photo: Proposed portion of Lincoln Interceptor Replacement

Project 30400C consists of funding programmed for potential restoration and construction to correct issues such as structural damage, aging or inaccessible infrastructure, odor control and emergency situations. NBC allocates $1.5 million annually for interceptor restoration and construction, in years that do not have specific projects identified to ensure resources are available. As new projects are identified, they will be given a unique project number.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ -	**$ -**	**$ -**	**$ 484**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 6,484**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ 24	$ 75	$ 75	$ 75	$ 75	$ 324
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	403	1,250	1,250	1,250	1,250	5,403
Contingency	-	-	-	48	150	150	150	150	648
Other	-	-	-	8	25	25	25	25	108
Total	**$ -**	**$ -**	**$ -**	**$ 484**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 6,484**

Note: Cash Flow Basis in Thousands

30421

Louisquisset Pike Interceptor Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Lincoln, RI
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	May-07	May-09	24 Months	N/A
Construction	February-19	July-20	17 Months	4,594
Total Project	**May-07**	**July-20**	**158 Months**	**$4,594**

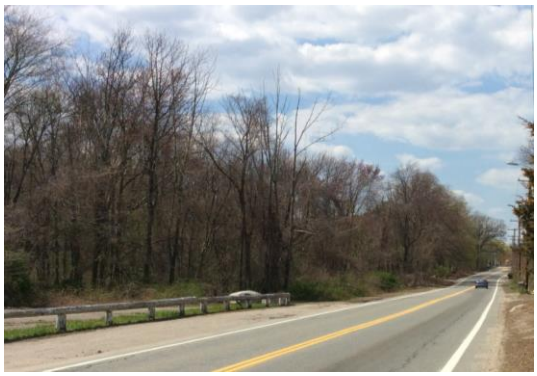

Photo: Lincoln Interceptor Replacement Location

This project involves the construction of a larger diameter interceptor in the northern section of the Town of Lincoln. The larger capacity pipe will accommodate the additional flow resulting from expected development.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ -	**$ 34**	**$ 3,544**	**$ 1,016**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,594**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ 22	$ 103	$ 16	$ -	$ -	$ -	$ -	$ 141
A/E Professional	-	12	41	-	-	-	-	-	53
Construction	-	-	3,400	600	-	-	-	-	4,000
Contingency	-	-	-	400	-	-	-	-	400
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 34**	**$ 3,544**	**$ 1,016**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,594**

Note: Cash Flow Basis in Thousands

30444

Moshassuck Valley Interceptor

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Central Falls, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-12	January-18	73 Months	$504
Construction	February-18	October-19	21 Months	6,531
Total Project	**January-12**	**October-19**	**94 Months**	**$7,035**

Photo: Portion of the Moshassuck Valley Interceptor to be replaced

An inspection of the Moshassuck Valley Interceptor from Higginson Street in Central Falls to Lockbridge Street in Pawtucket revealed that this line has sunk from its original grade at numerous points by as much as 2.5 feet. This project consists of design and construction of a new sewer to replace the existing sewer.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 20	**$ 3,851**	**$ 2,660**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,531**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 79	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 79
Land	95	-	-	-	-	-	-	-	95
A/E Professional	324	-	-	-	-	-	-	-	324
Other	6	-	-	-	-	-	-	-	6
Total	**$ 504**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 504**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 14	$ 65	$ 20	$ -	$ -	$ -	$ -	$ -	$ 99
A/E Professional	6	26	10	-	-	-	-	-	42
Construction	-	3,750	2,050	-	-	-	-	-	5,800
Contingency	-	-	580	-	-	-	-	-	580
Other	-	10	-	-	-	-	-	-	10
Total	**$ 20**	**$ 3,851**	**$ 2,660**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,531**

Note: Cash Flow Basis in Thousands

30457

Providence River Siphon

Project Manager: Thomas Brueckner, P.E.
Contractor(s): Stantec Consulting Services

Location: Providence, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	March-13	May-15	26 Months	N/A
Design	July-15	June-18	35 Months	$464
Construction	February-18	July-19	17 Months	6,458
Total Project	**March-13**	**July-19**	**76 Months**	**$6,922**

Photo: Siphon Outlet Chamber

During the planning phase of this project, it was determined that the existing Providence River siphon was in good condition but that a section of the 78" interceptor needed to be replaced and that the inlet and outlet siphon chambers needed repair. These deficiencies will be corrected in the design and construction phases.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 68	**$ 5,818**	**$ 572**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,458**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 168	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 168
Land	21	-	-	-	-	-	-	-	21
A/E Professional	269	-	-	-	-	-	-	-	269
Other	6	-	-	-	-	-	-	-	6
Total	**$ 464**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 464**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 20	$ 68	$ 4	$ -	$ -	$ -	$ -	$ -	$ 92
A/E Professional	48	96	8	-	-	-	-	-	152
Construction	-	5,604	-	-	-	-	-	-	5,604
Contingency	-	-	560	-	-	-	-	-	560
Other	-	50	-	-	-	-	-	-	50
Total	**$ 68**	**$ 5,818**	**$ 572**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,458**

Note: Cash Flow Basis in Thousands

30460

Johnston Sewer Improvements/Greenville Avenue

Project Manager: Rich Bernier, P.E.
Contractor(s): DiGregorio, Inc.

Location: Johnston, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	May-16	February-18	21 Months	$410
Construction	December-16	September-18	21 Months	8,874
Total Project	**May-16**	**September-18**	**28 Months**	**$9,285**

Photo: Construction on Greenville Avenue

The Facilities Plan for Johnston has been completed and approved by RIDEM. The plan recommended that sewers in the Town be expanded to accommodate future development in NBC's service area. This project involves design and construction of approximately 7,300 linear foot of 12" pipe in Greenville Avenue from Salina Road to west of Route 295.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 4,051	**$ 4,823**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 8,874**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 145	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 145
Land	50	-	-	-	-	-	-	-	50
A/E Professional	210	-	-	-	-	-	-	-	210
Other	5	-	-	-	-	-	-	-	5
Total	**$ 410**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 410**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 335	$ 60	$ -	$ -	$ -	$ -	$ -	$ -	$ 395
A/E Professional	121	209	-	-	-	-	-	-	330
Construction	3,594	3,906	-	-	-	-	-	-	7,500
Contingency	-	649	-	-	-	-	-	-	649
Other	1	-	-	-	-	-	-	-	1
Total	**$ 4,051**	**$ 4,823**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 8,874**

Note: Cash Flow Basis in Thousands

30464

Johnston Sewer Improvements/Hartford Avenue

Project Manager: Rich Bernier, P.E.
Contractor(s): D'Ambra Construction

Location: Johnston, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	February-17	December-17	10 Months	$253
Construction	June-17	June-19	23 Months	2,771
Total Project	**February-17**	**June-19**	**27 Months**	**$3,024**

Photo: Aerial View Hartford Avenue in Johnston

This project includes the extension of the 12" Hartford Avenue sewer pipe by approximately 5,500 linear foot to the area west of Route 295 to extend service to areas in NBC's service district that are not presently served.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 2,398	**$ 373**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,771**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 60	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 60
Land	-	-	-	-	-	-	-	-	-
A/E Professional	189	-	-	-	-	-	-	-	189
Other	4	-	-	-	-	-	-	-	4
Total	**$ 253**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 253**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 222	$ 20	$ -	$ -	$ -	$ -	$ -	$ -	$ 242
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	1,766	71	-	-	-	-	-	-	1,837
Contingency	-	282	-	-	-	-	-	-	282
Other	410	-	-	-	-	-	-	-	410
Total	**$ 2,398**	**$ 373**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,771**

Note: Cash Flow Basis in Thousands

30465

Field's Point Drive Interceptor Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Providence, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	January-18	December-18	11 Months	805
Total Project	**January-18**	**December-18**	**11 Months**	**$805**

Photo: Field's Point Drive

The Field's Point Drive sewer has collapsed in one location and in several other locations the pipe is broken and will need to be repaired. In other locations the pipe is cracked and will need to be lined. These measures will restore the sewer to its original capacity.

CIP Window Summary	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
	$ 71	**$ 734**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 805**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 51	$ 54	$ -	$ -	$ -	$ -	$ -	$ -	$ 105
A/E Professional	20	10	-	-	-	-	-	-	30
Construction	-	600	-	-	-	-	-	-	600
Contingency	-	60	-	-	-	-	-	-	60
Other	-	10	-	-	-	-	-	-	10
Total	**$ 71**	**$ 734**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 805**

Note: Cash Flow Basis in Thousands

30466

Improvements to Interceptors FY 2018

Project Manager: Rich Bernier, P.E.
Contractor(s): N/A
Location: Providence, N. Providence, and Pawtucket, RI
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-18	April-18	2 Months	$20
Construction	April-18	December-19	20 Months	3,572
Total Project	**January-18**	**December-19**	**23 Months**	**$3,592**

Photo: Conducting Sewer System Repairs

This project consists of lining approximately 6,000 feet of interceptors ranging in size from 18" to 48". Additionally, approximately 61 manholes will be rehabilitated in various locations in Providence, North Providence and Pawtucket.

CIP Window Summary

Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
$ 21	**$ 3,536**	**$ 15**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 3,572**

Projected Expenditures - Planning

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ 20**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 20**

Projected Expenditures - Construction

Cost Category	Pre FY 19	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Post FY 24	Total
Administrative	$ 21	$ 191	$ -	$ -	$ -	$ -	$ -	$ -	$ 212
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	2,985	15	-	-	-	-	-	3,000
Contingency	-	360	-	-	-	-	-	-	360
Other	-	-	-	-	-	-	-	-	-
Total	**$ 21**	**$ 3,536**	**$ 15**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 3,572**

Note: Cash Flow Basis in Thousands

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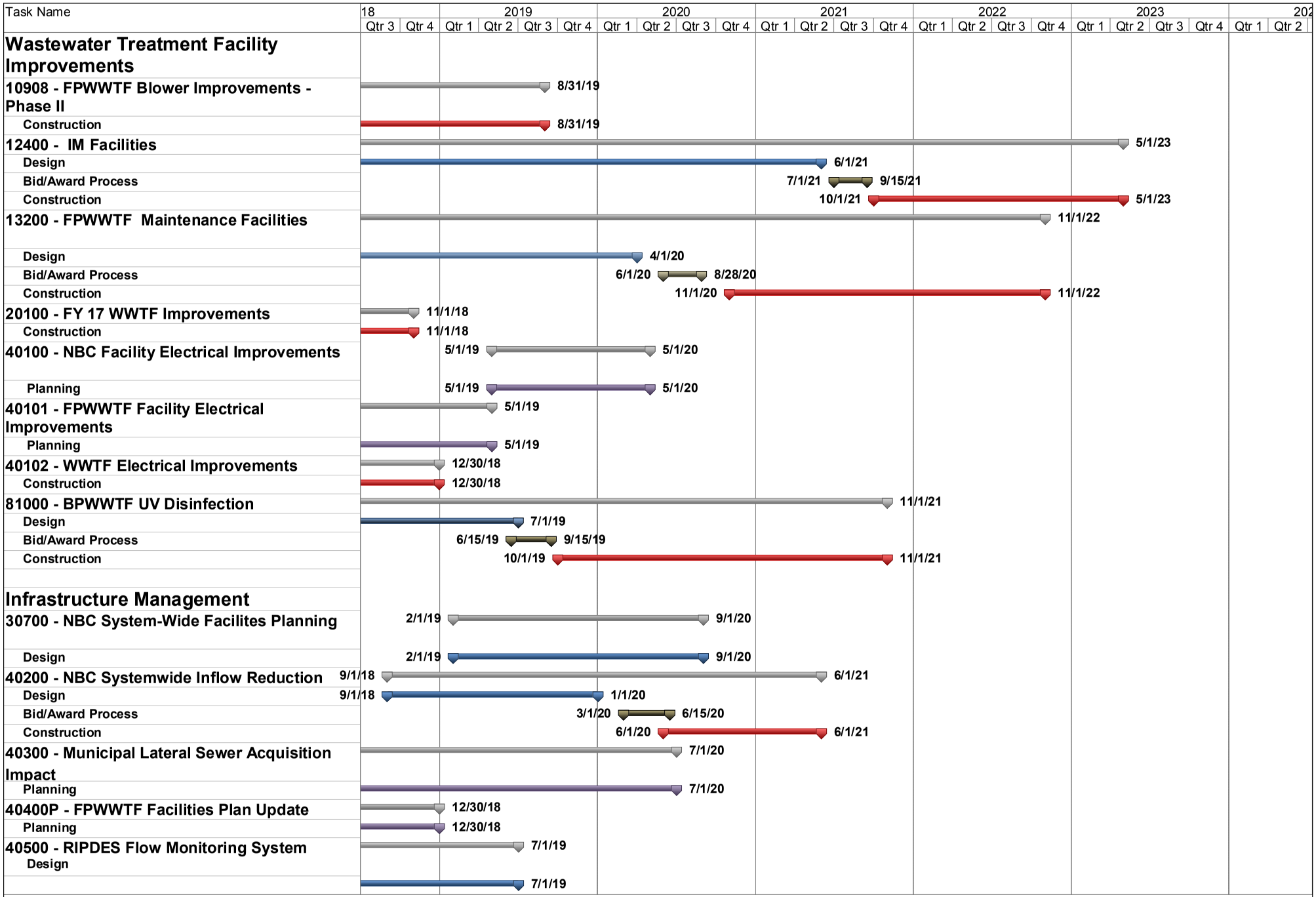
Capital Improvement Program

Timeline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18
2019
2020
2021
2022
2023
202
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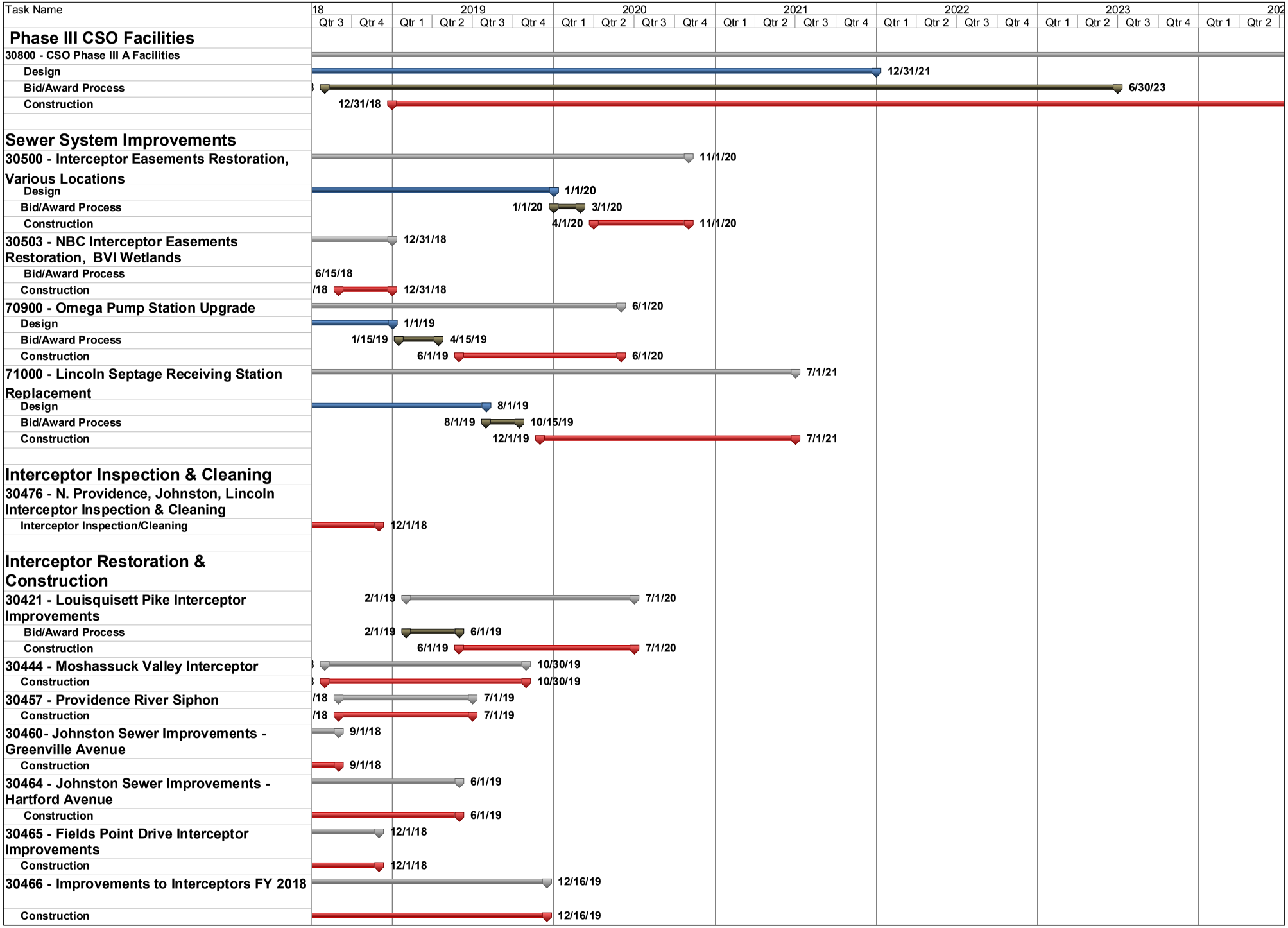
Wastewater Treatment Facility Improvements
10908 - FPWWTF Blower Improvements - Phase II
8/31/19
Construction
8/31/19
12400 - IM Facilities
5/1/23
Design
6/1/21
Bid/Award Process
7/1/21
9/15/21
Construction
10/1/21
5/1/23
13200 - FPWWTF Maintenance Facilities
11/1/22
Design
4/1/20
Bid/Award Process
6/1/20
8/28/20
Construction
11/1/20
11/1/22
20100 - FY 17 WWTF Improvements
11/1/18
Construction
11/1/18
40100 - NBC Facility Electrical Improvements
5/1/19
5/1/20
Planning
5/1/19
5/1/20
40101 - FPWWTF Facility Electrical Improvements
5/1/19
Planning
5/1/19
40102 - WWTF Electrical Improvements
12/30/18
Construction
12/30/18
81000 - BPWWTF UV Disinfection
11/1/21
Design
7/1/19
Bid/Award Process
6/15/19
9/15/19
Construction
10/1/19
11/1/21
Infrastructure Management
30700 - NBC System-Wide Facilites Planning
2/1/19
9/1/20
Design
2/1/19
9/1/20
40200 - NBC Systemwide Inflow Reduction
9/1/18
6/1/21
Design
9/1/18
1/1/20
Bid/Award Process
3/1/20
6/15/20
Construction
6/1/20
6/1/21
40300 - Municipal Lateral Sewer Acquisition Impact
7/1/20
Planning
7/1/20
40400P - FPWWTF Facilities Plan Update
12/30/18
Planning
12/30/18
40500 - RIPDES Flow Monitoring System
7/1/19
Design
7/1/19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18
2019
2020
2021
2022
2023
202
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Qtr 2
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Qtr 3
Qtr 4
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Qtr 2
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Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Phase III CSO Facilities
30800 - CSO Phase III A Facilities
Design
12/31/21
Bid/Award Process
6/30/23
Construction
12/31/18
Sewer System Improvements
30500 - Interceptor Easements Restoration, Various Locations
11/1/20
Design
1/1/20
Bid/Award Process
1/1/20
3/1/20
Construction
4/1/20
11/1/20
30503 - NBC Interceptor Easements Restoration, BVI Wetlands
12/31/18
Bid/Award Process
6/15/18
Construction
/18
12/31/18
70900 - Omega Pump Station Upgrade
6/1/20
Design
1/1/19
Bid/Award Process
1/15/19
4/15/19
Construction
6/1/19
6/1/20
71000 - Lincoln Septage Receiving Station Replacement
7/1/21
Design
8/1/19
Bid/Award Process
8/1/19
10/15/19
Construction
12/1/19
7/1/21
Interceptor Inspection & Cleaning
30476 - N. Providence, Johnston, Lincoln Interceptor Inspection & Cleaning
Interceptor Inspection/Cleaning
12/1/18
Interceptor Restoration & Construction
30421 - Louisquisett Pike Interceptor Improvements
2/1/19
7/1/20
Bid/Award Process
2/1/19
6/1/19
Construction
6/1/19
7/1/20
30444 - Moshassuck Valley Interceptor
10/30/19
Construction
10/30/19
30457 - Providence River Siphon
/18
7/1/19
Construction
/18
7/1/19
30460- Johnston Sewer Improvements - Greenville Avenue
9/1/18
Construction
9/1/18
30464 - Johnston Sewer Improvements - Hartford Avenue
6/1/19
Construction
6/1/19
30465 - Fields Point Drive Interceptor Improvements
12/1/18
Construction
12/1/18
30466 - Improvements to Interceptors FY 2018
12/16/19
Construction
12/16/19