



# **Capital Improvement Program**

## **Fiscal Years 2004 – 2008**



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<b>2004-2008 Capital Improvement Program</b> <b>Project Listing</b>
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**Wastewater Treatment Facility Improvements**

	Page		
Contract 103.00D	10	Short-Term Solids Handling Improvements	\$ 810,000
Contract 109.01P	12	FPWWTF - Nitrogen Removal Facilities and Odor Control	39,300,000
Contract 109.03C	14	FPWWTF - Odor Control at Field's Point	54,000
Contract 113.01P	16	Incinerator Permitting	165,000
Contract 114.00P	18	Water Quality Background Monitoring, Including Nutrients	90,000
Contract 115.00P	20	Asset Management System	125,000
Contract 807.00C	22	BPWWTF CSO Facilities and Other Improvements	51,739,000
<b>Total Wastewater Treatment Facility Improvements</b>			<b>\$ 92,283,000</b>

**Sewer System Improvements**

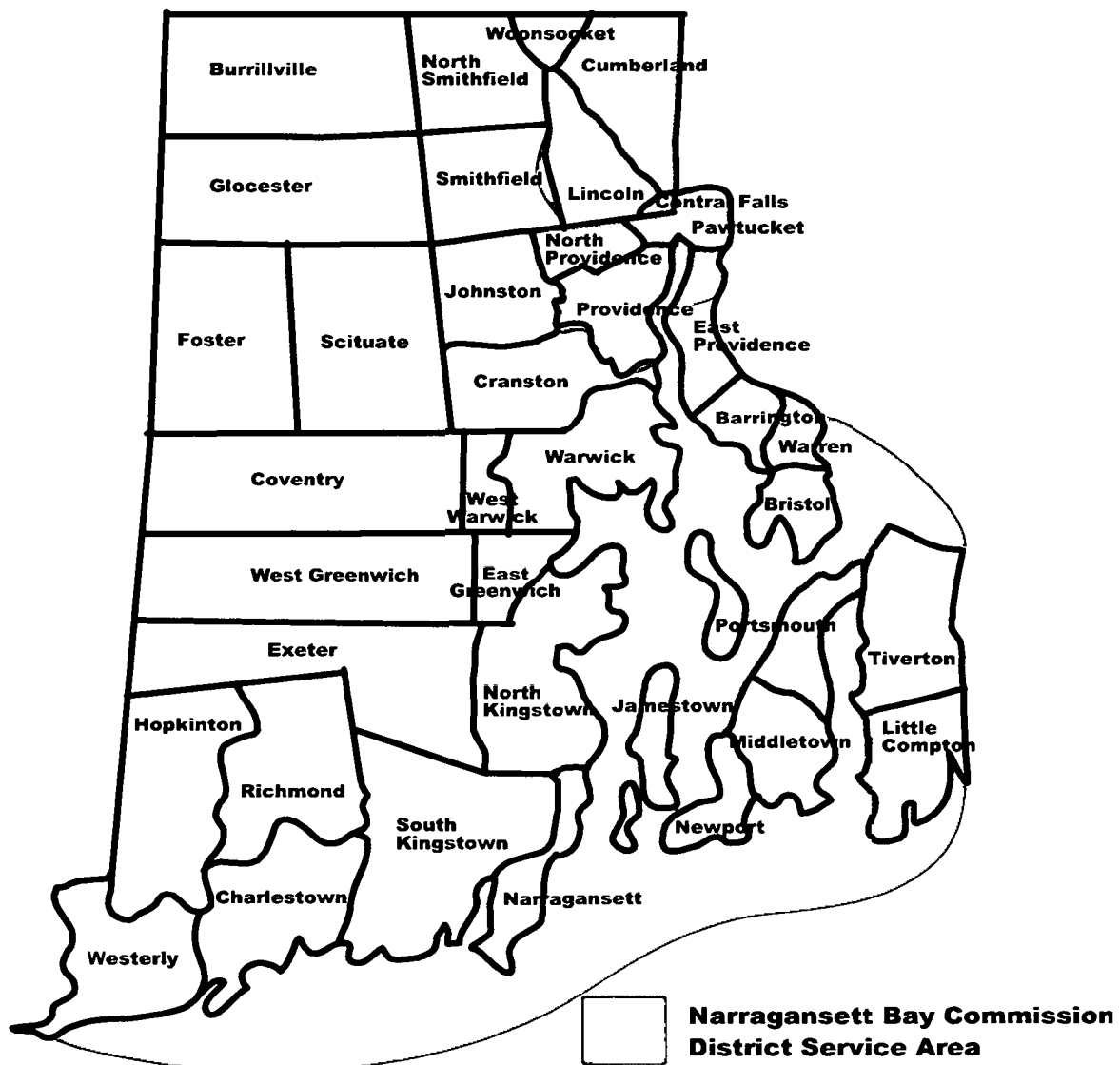
Contract 302.03D	26	Phase I CSO Facilities - Design	\$ 110,000
Contract 302.03 RS	28	Phase I CSO Facilities - Program Management and Construction Management	22,990,000
Contract 302.06C	30	Phase I CSO Facilities - Main Spine and Ancillary Facilities	115,316,000
Contract 302.06	32	Phase I CSO Facilities - Owner Controlled Insurance Policy (OCIP)	6,901,000
Contract 302.08C	34	Phase I CSO Facilities - Overflows 004/061	2,464,000
Contract 302.09C	36	Phase I CSO Facilities - Overflow 009 and Emergency Overflow Structure	6,487,000
Contract 302.10C	38	Phase I CSO Facilities - Overflow 032	7,000,000
Contract 302.11C	40	Phase I CSO Facilities - Woonasquatucket Interceptor Relief	2,750,000
Contract 302.12C	42	Phase I CSO Facilities - Overflow 067	4,510,000
Contract 302.13C	44	Phase I CSO Facilities - Regulator Modifications	1,683,000
Contract 302.14C	46	Phase I CSO Facilities - Tunnel Pump Station Fitout and Startup	33,660,000
Contract 302.15C	48	Phase I CSO Facilities - Overflows 006/007	5,449,000
Contract 302.21.00	50	CSO Flow and Water Quality Monitoring	1,000,000
Contract 302.22P	52	Stormwater Attenuation Pilot Study	300,000
Contract 304.00.00	54	Evaluation and Cleaning of CSO Interceptors	5,000,000
Contract 304.07D	56	Concord Street Sewer Repair	300,000
Contract 304.09D	58	Burrington Street and Grotto Brook Sewer Repairs	1,100,000
Contract 304.10P	60	Sewer System Infiltration/Inflow Study	3,000,000
Contract 304.11C	62	Floatables Control Facilities	15,630,000
Contract 704.00D	64	Rehabilitation of Washington Highway and Omega Pump Stations	5,764,000
Contract 903	66	Geographic Information System Implementation	235,000
<b>Total Sewer System Improvements</b>			<b>\$ 241,649,000</b>

**Total Improvements** **\$ 333,932,000**

# Narragansett Bay Commission

## Service Area

The Narragansett Bay Commission is Rhode Island's largest wastewater authority dedicated to providing reliable, cost-effective wastewater collection and treatment services to over 360,000 residents and 8,000 businesses in ten Rhode Island communities in the metropolitan Providence and Blackstone Valley areas. These communities include: Providence, North Providence, Johnston, Pawtucket, Central Falls, Cumberland, Lincoln, the Northern portion of East Providence and small sections of Cranston and Smithfield.



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## **OVERVIEW**

The Narragansett Bay Commission's (NBC) Fiscal Year 2004 - 2008 Capital Improvement Program (CIP) identifies over \$333.9 million in capital improvement projects in progress, to be initiated or completed within the five fiscal years of 2004 - 2008. Also reflected are total expenditures of approximately \$471 million for the completion of all scheduled projects.

The CIP describes each capital project while providing cash flow projections, funding sources and schedules. Project costs are also depicted by phase (planning, design, and construction).

The CIP mirrors the five-year window used by the State of Rhode Island for capital planning purposes. Capital items funded through the operating budget and/or replacement reserve are not identified in the CIP, as these items are now reflected in NBC's operating budget. A contingency on the construction portion of projects is included in the CIP.

The CIP is a planning document that serves to outline projected costs, schedules and funding sources for significant projects that are necessary to meet current and anticipated regulatory requirements and/or will improve the efficiency of NBC's operations. There are many factors that influence how the NBC finances its capital program. This CIP incorporates the State of Rhode Island's capital budget, funding available under the State Revolving Loan Fund program (SRF), and pending legislation to estimate the costs associated with the funding of this program and the resulting impact upon users within the service area.

It should also be noted that for the purpose of simplification, this CIP does not include the financing costs associated with new debt in the individual project description sheets. These costs are reflected in the debt service calculations.

## **SIGNIFICANT CAPITAL PROJECTS**

### ***Contract 302: Phase I Combined Sewer Overflow (CSO) Facilities***

The Fiscal Year 2004 – 2008 Capital Improvement Plan reflects NBC's primary strategic focus with the ongoing construction of the Combined Sewer Overflow Abatement Project (CSO). The CSO project is the most extensive capital initiative for NBC since the NBC was founded in 1980. Development of the CSO control plan was a requirement of the federal Clean Water Act and Rhode Island's water quality regulations and incorporated the input of more than 40 stakeholders over a two-year period.

Providence, Pawtucket and Central Falls have combined sewers that overflow at approximately 66 locations during significant wet weather events. NBC's Combined Sewer Overflow (CSO) Project will mitigate the impact of these overflows through the construction of wet weather control facilities. The project will improve water quality in and around the greater Providence metropolitan area and the Upper Bay by controlling the discharge of sewage from combined sewer overflows during and after storm events.

Phase I of the program includes the design and construction of a 16,000 foot main spine tunnel and pump station. It is projected that these facilities will reduce the overflow volume by approximately 40 percent and, as a result, reduce conditional closures of fertile shell-fishing areas by 40 percent in the Upper Bay and 78 percent in the Lower Bay.

Phases II and III will address the remaining CSOs that discharge to the Woonasquatucket, Moshassuck, West, Seekonk, and Blackstone Rivers. Phase II of the CSO plan will include CSO interceptors to transport flows from remote CSOs to the tunnel, sewer separation, and a constructed wetlands treatment facility. Phase III will include the Pawtucket Tunnel, CSO interceptors, and sewer separation. The remaining outfalls that have smaller CSO flows will be either blocked or controlled according to federally accepted methods.

Given the CSO project's complexity and magnitude, it is difficult to estimate its costs and cash flows. As the project has moved from design to construction, and as more information becomes available, costs and schedules have been modified. In this CIP, the CSO project represents 67% of the total costs included.

The description, schedule, and costs reflected in the detailed portion of the project listings in this document are for the first phase only. At the end of this phase, the NBC is committed to a two-year re-evaluation period to evaluate the water quality improvements and reassess the technologies to determine if future phases of the plan should be modified. The NBC has fully explored all available alternatives for satisfying the Federal Clean Water Act mandate to eliminate or mitigate the CSOs in its service area. The stakeholder process, along with the assistance of The Louis Berger Group, has resulted in a program that will impose the least cost burden on NBC's ratepayers while meeting regulatory requirements.

#### ***Contract 807: Bucklin Point Wastewater Treatment Facility Improvements***

Construction began in March 2002 on Contract 807, the second largest project underway at the NBC. This project will result in a complete modernization of the Bucklin Point Wastewater Treatment Facility. The last major improvements to the plant occurred in 1973 when it was upgraded to secondary treatment. Current planned improvements include increasing wet weather capacity to 116 MGD (million gallons per day) along with a new influent pumping station, screening and grit handling facilities and dry weather primary settling tanks. The project also entails the conversion of the existing primary tanks to wet weather treatment, the conversion to a fine bubble aeration system, and includes ultra-violet disinfection facilities, a new effluent pumping station for dry weather flows, and a new plant instrumentation and control system.

## **FINANCING**

Given the significant costs and benefits of the CSO program, the NBC has been working hand in hand with officials at both the state and federal level to obtain financial assistance.

In November 2000, Rhode Island voters overwhelmingly approved a \$60 million state bond issue that will be used by the Rhode Island Clean Water Finance Agency (RICWFA) to fund over \$210 million in zero interest loans to municipalities and agencies with wastewater infrastructure needs. Of the total zero interest loan amount the referendum entitles the NBC to a minimum of \$70 million in zero interest loans.

The RICWFA has been refining the structure of their “zero interest” loan program. As it stands now, the \$57 million in general obligation bond proceeds has been loaned directly to the NBC at the traditional subsidized rate. Additional loans will be made to qualifying borrowers, including NBC, at a blended rate of zero percent and the traditional subsidized rate. NBC expects to receive the first blended rate loan in FY 2003. NBC’s ratepayers will benefit significantly from this new program.

In addition, the NBC has been working closely with its federal delegation to obtain financial assistance. These efforts have been rewarded. In FY 2001, the NBC received a \$1 million federal appropriation. In fiscal year 2002, the NBC was the recipient of a \$3.25 million federal appropriation. This is reflected in FY 2003 funding for CSO Project 302.06C. The NBC continues to lobby at the federal level to help mitigate ratepayer impact from the capital program.

## **PROGRAM CHANGES, CURRENT AND FUTURE**

The following contracts have been removed from this year’s CIP:

### **Completed Projects:**

- Contract 104C: Septage Receiving Facilities
- Contract 109.02: Evaluation of Grit Removal Facilities at FPWWTF
- Contract 302.04C: Phase I CSO Facilities - MRI
- Contract 302.05C: Phase I CSO Facilities - Floatables Control Demonstration Facility
- Contract 302.07C: Phase I CSO Facilities - Preparation of Workshaft Site Termination
- Contract 302.20: Phase I CSO Facilities – Land Acquisition RIDOT
- Contract 304.03: Saylesville Pump Station Force Main Repair
- Contract 904: NBC Corporate Office Building, Lab & IM Building



The presentation of the Phase I facilities of the CSO abatement project reflects some additional contracts. NBC's Owner Controlled Insurance Program (OCIP), previously included as part of contract 302.06C is now reflected as a separate contract. The OCIP was determined to be a more efficient and effective method of insuring the CSO construction contracts. In addition, due to the complex nature of Contract 302.08C, this contract has been split into two separate construction contracts. Contract 302.08C addresses overflows 004/061 and 302.15C addresses overflows 006/007.

Contract 103 has also been modified from last year's CIP and is now defined as the demolition of Field's Point Incinerating Facilities. This project was originally envisioned as a long-term solution to solids handling for NBC and it included dewatering and incineration improvements. Subsequent to the original development of the project, the NBC began negotiations with the Rhode Island Resource Recovery Corporation (RIRRC) for the disposal of solids as part of a new regional solids handling facility. Assuming the permitting, financing, and construction of a regional sludge disposal facility is successful, NBC would demolish the existing filter building, the interim solids handling building and one of the two incinerators (contract 103C). If, however, the regional facility is not feasible, NBC will be required to make the capital improvements originally designed as Contract 103 to refurbish these facilities. Costs for these improvements range from \$10 to \$12 million, a significant impact on future capital requirements.

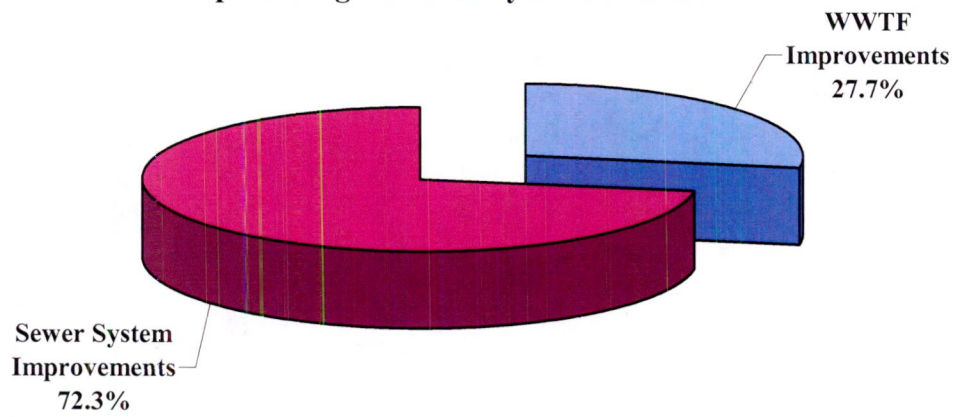
## **COSTS BY FUNCTIONAL AREA**

The capital projects have been assigned to functional area as follows:

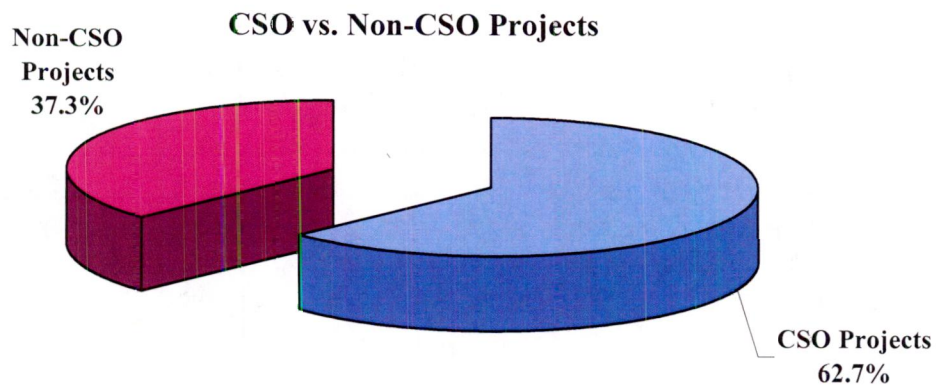
Field's Point and Bucklin Point Wastewater Treatment Facility (WWTF) improvements include the contracts related to facility improvements, laboratory, septage receiving and various facility maintenance projects. Sewer System Improvements (SSI) include the Combined Sewer Overflow project, interceptor rehabilitation, sewer construction, and pumping station improvements.

Of the \$333.9 million in capital improvements scheduled over the five year period fiscal years 2004 - 2008, 72.3% or \$241.6 million are in the sewer system category and 27.7% or \$92.3 million are for wastewater treatment facility improvements. These costs are depicted in the chart on the following page.

### Capital Program Cost By Functional Area

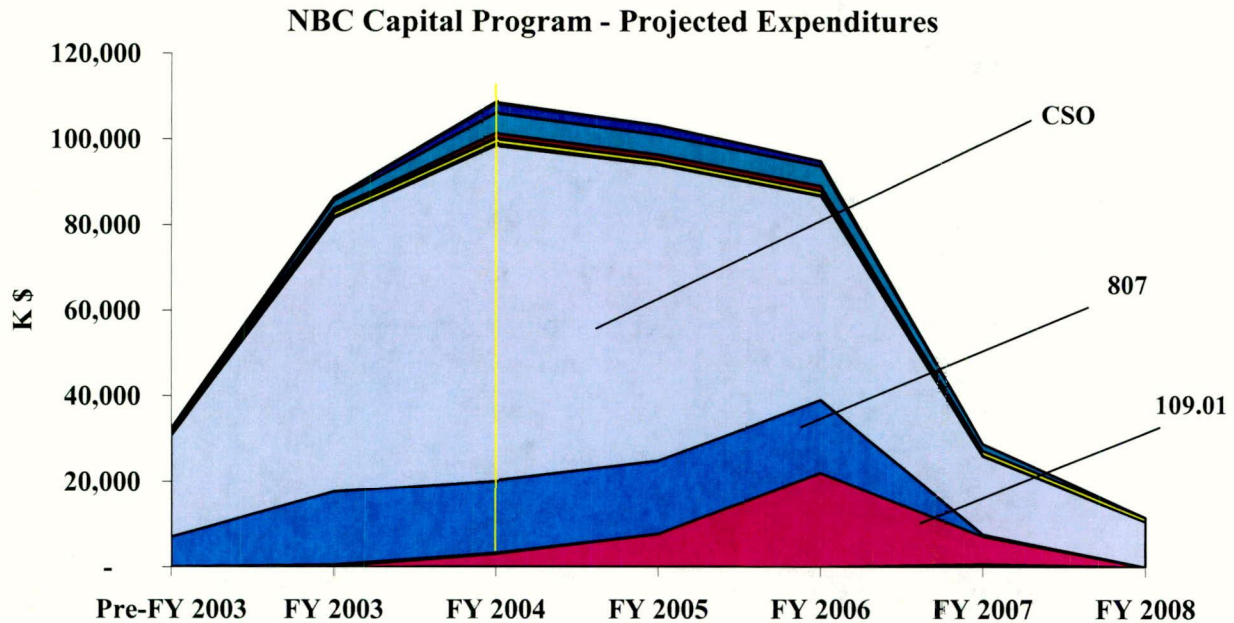


To readily view the magnitude of the CSO program, the chart below shows the CSO program related costs account for \$209.3 million or 62.7% of the five-year FY 2004 - FY 2008 capital program.



## CASH FLOWS

The area graph below illustrates the impact of the major capital projects contained in this year's CIP on overall cash flows. This representation also allows for the analysis of cash flows over time. Due to size and scale constraints, the fourteen separate CSO Phase I projects have been consolidated in this graph.



The estimated cost of the projects identified in this year's capital program is approximately \$334 million during FY 2004 - FY 2008.

NBC will be funding the CSO through SRF funds as the least costly alternative and will utilize the SRF program as its primary source of funding for NBC's other capital projects as well. Due to capacity limitations of the SRF program, the NBC will be using interim financing mechanisms to meet cash flow needs. This program shows the expenditure of \$332.8 million in SRF funds during fiscal years 2004 through 2008.

In addition, this year's CIP includes a concept called *pay as you go* financing in its debt service calculations. The pay as you go concept is derived from NBC's policy of establishing rates that will generate 125% of debt service. The additional coverage is essentially required by bond rating agencies for NBC to maintain its credit rating. The NBC recently received an upgrade in its bond rating by Standard and Poor's from an A to an A+ and one of the items cited was NBC's debt service coverage policy.

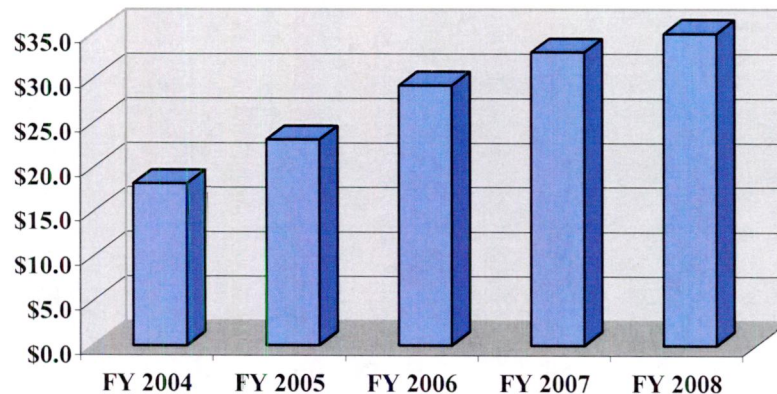
Currently, the NBC deposits the additional debt service coverage in a restricted cash account. We will be requesting authority from the Rhode Island Public Utilities Commission (PUC) to use the surplus funds to pay directly for capital needs once the

coverage requirement has been met. This process will allow the NBC to mitigate ratepayer impact by reducing overall debt.

### **IMPACT ON TOTAL ANNUAL REVENUE REQUIREMENTS AND SEWER USER FEES**

As the NBC proceeds with the construction phase of the CSO abatement project and financing resources become more costly, the impact of the capital program on NBC's budget and ultimately its users becomes more significant. In order to assess the fiscal impact of the improvements, debt service payments have been estimated from the cash flow projections. As shown graphically below, annual debt service increases from \$18.1 million in fiscal year 2004 to \$35 million in fiscal year 2008.

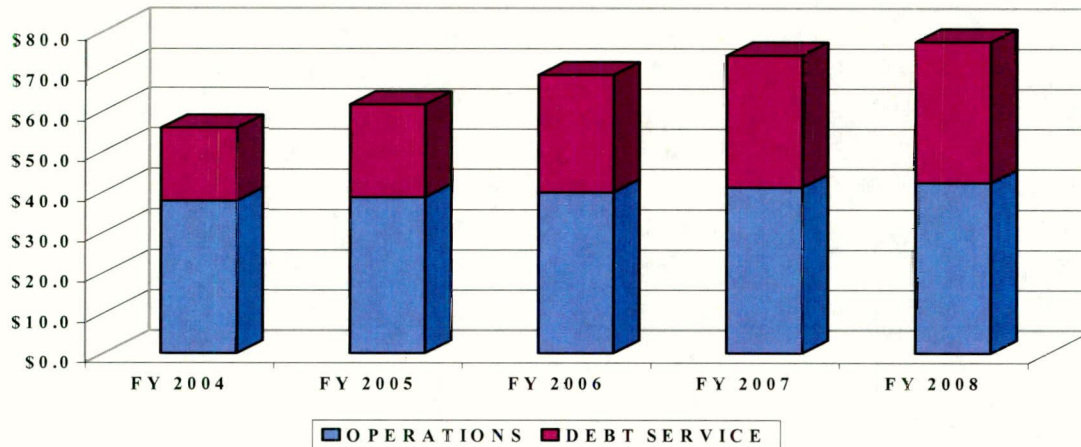
**ANNUAL DEBT SERVICE**  
(In millions of \$)



Assuming an increase of 3% per year to the operating budget (less debt service) and beginning in fiscal year 2004, NBC's total revenue requirement will increase from \$55.7 million in FY 2004 to approximately \$77.3 million in fiscal year 2008. Of this amount, debt service would account for 32.5% of the total requirement in FY 2004 and approximately 45.2% of the total requirement in FY 2008, as shown in the following graph.



### ANNUAL REVENUE REQUIREMENT (In Millions of \$)



### SEWER USER FEES

The PUC regulates the NBC. Any modifications to NBC user fees are subject to a lengthy review and approval process by the PUC. In FY 2002 NBC applied for, and was granted, rate relief for debt service, with new rates being effective June 6<sup>th</sup>, 2002. NBC's newly approved revenue requirement is \$45.5 million including an allowance of \$20.4 million for debt service and debt service coverage. Further rate relief will be required over time in order to fund the debt service generated by this capital program.

A comparison of NBC's current residential sewer rates with other Rhode Island Communities can be found in the Appendix section of this document.

When compared with an annual survey on residential sewer charges for major U.S. Cities (conducted by the Massachusetts Water Resource Authority (MWRA)), the current NBC average rate of \$204.67 is 31% below the national average. An illustration of this survey is located in the Appendix section of this document.

# **Wastewater Treatment Facility Projects**

**Contract: 103.00C**

**Demolition of Field's Point Incinerating Facilities**

**Project Manager: Teresa Cote**

**Description:**

This project anticipates the permitting and financing of a regional sludge disposal facility in accordance with an agreement between the NBC and the Rhode Island Resource Recovery Corporation (RIRRC). If the regional facility is constructed NBC will no longer incinerate sludge at its Field's Point facility, and this project will be implemented.

The expenditures included for Contract 103.00C in this capital plan represent the costs for demolition of the existing filter building, the interim solids handling building and one of the two incinerators. These facilities will be demolished once the new RIRRC facility is operational.

**Reason for Project/Benefits:**

The existing buildings are beyond their useful life and in need of extensive repair. Once the buildings are demolished, the space may be used for either parking or additional process facilities.

**Status of On-going Project:**

Design Phase.

103.00C - Project Cost by Phase				
	Duration			Cost
Planning	From: Jul-03	To: Dec-03	(5 Months)	50
Design	From: Oct-04	To: Feb-05	(4 Months)	100
Construction	From: Jul-06	To: Nov-06	(4 Months)	660
<b>Total</b>				<b>810</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning			50					50
A&E/Professional				100				100
Land Acquisition								-
Site Improvement								-
Construction						600		600
Contingency						60		60
Other								-
<b>Total Project Costs</b>	-	-	50	100	-	660	-	<b>810</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund			50	100		660		810
State Aquafund Grants								-
<b>Total Financing</b>	-	-	50	100	-	660	-	<b>810</b>

\* Cash Flow Basis in Thousands (000's)



**Contract: 109.01P**

**Field's Point Wastewater Treatment Facility Plan Amendment for Nitrogen Removal**

**Project Manager: Teresa Cote**

**Description:**

It is anticipated that future revisions to the Field's Point Wastewater Treatment Facility permit will require the attainment of new standards for nitrogen and ammonia. The facilities plan amendment will determine how to achieve these standards. The facilities plan for nitrogen removal could not be completed in FY 02 because the criteria needed to complete the planning was not available from the Rhode Island Department of Environmental Management (RIDEM). RIDEM is in the process of completing a study to assign a nitrogen load limit to the Field's Point facility, however the NBC will not be able to complete its facilities plan until that study is complete. Costs for these facilities could range from \$13.5 - \$68 million, depending on RIDEM requirements. This capital plan reflects the estimate for the mid-range cost alternative.

**Reason for Project/Benefits:**

Improvements are needed at NBC facilities to meet new permit requirements for nitrogen.

**Status of On-going Project:**

The planning phase was initiated for nitrogen removal.

109:01P Project Cost by Phase				
	Duration			Cost
Planning	From: Apr-01	To: Jun-03	(20 Months)	368
Design	From: Jul-03	To: Jun-04	(12 Months)	3,000
Construction	From: Jan-05	To: Jan-07	(24 Months)	36,300
<b>Total</b>				<b>39,668</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning	219	149						368
A&E/Professional			3,000					3,000
Land Acquisition								-
Site Improvement								-
Construction				7,000	20,000	6,000		33,000
Contingency				700	2,000	600		3,300
Other								-
<b>Total Project Costs</b>	<b>219</b>	<b>149</b>	<b>3,000</b>	<b>7,700</b>	<b>22,000</b>	<b>6,600</b>		<b>39,668</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund	139	117	3,000	7,700	22,000	6,600		39,556
State Aquafund Grants	80	32						112
<b>Total Financing</b>	<b>219</b>	<b>149</b>	<b>3,000</b>	<b>7,700</b>	<b>22,000</b>	<b>6,600</b>		<b>39,668</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 109.03C**

**Odor Control at Field's Point WWTF**

**Project Manager: Teresa Cote**

**Description:**

A facilities plan amendment for odor control at FPWWTF was completed under contract 109.01. The delay in developing nitrogen limits necessitated that this project be broken out from contract 109.01 so that it could proceed to design for odor control improvements.

**Reason for Project/Benefits:**

To reduce or eliminate odor sources at the FPWWTF.

**Status of On-going Project:**

The planning phase has been completed. Ready to begin design.

109.03C - Project Cost by Phase				
	Duration			Cost
Planning	From:	To:		
Design	From: Jul-02	To: Sep-02	(3 Months)	10
Construction	From: Nov-03	To: Aug-03	(11 Months)	54
<b>Total</b>				<b>64</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition								-
Site Improvement								-
Construction			32	8				40
Contingency			4					4
Other		10	8	2				20
<b>Total Project Costs</b>	<b>-</b>	<b>10</b>	<b>44</b>	<b>10</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>64</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund		10	44	10				64
State Aquafund Grants								-
<b>Total Financing</b>	<b>-</b>	<b>10</b>	<b>44</b>	<b>10</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>64</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 113.01P**  
**Incinerator Permitting**  
**Project Manager: Teresa Cote**

**Description:**

In order to comply with RIDEM requirements to operate the Field's Point sludge incinerator, dispersion modelling, and possibly stack emissions testing, must be conducted. The results of this work will determine if any further improvements will be needed for the incinerator in order to comply with RIDEM requirements. More funding may be required to comply with permit requirements.

**Reason for Project/Benefits:**

To determine compliance with RIDEM requirements and to allow NBC to continue to operate its sludge incinerator.

**Status of On-going Project:**

To begin in FY 2003.

13.01P Project Cost by Phase				
	Duration			Cost
Planning	From: Aug-02	To: Oct-02	(3 months)	23
Design	From: Jan-03	To: Mar-03	(3 months)	25
Construction	From: Jul-03	To: Dec-03	(6 months)	165
<b>Total</b>				<b>213</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional		48						48
Land Acquisition								-
Site Improvement								-
Construction			150					150
Contingency			15					15
Other								-
<b>Total Project Costs</b>	-	48	165	-	-	-	-	<b>213</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds		48						48
State Revolving Fund			165					165
State Aquafund Grants								-
<b>Total Financing</b>	-	48	165	-	-	-	-	<b>213</b>

\* Cash Flow Basis In Thousands (000's)

**Contract: 114.00**

**Water Quality Background Monitoring of the NBC Receiving Waters and WWTF Including Nutrients**

**Project Manager: Sharon Pavignano**

**Description:**

In accordance with RIPDES Permits, background monitoring for the CSO Abatement and Bucklin Point Upgrades and TMDL development, NBC will design and conduct a long term monitoring program of the Providence, Seekonk and tidal portions of the Moshassuck and Woonasquatucket Rivers. The study will include physical parameters, analysis for nutrients, trace metals and bacteria, biological surveys and a bioaccumulation study.

A nutrient analyzer will be purchased and increase NBC's analytical capabilities to include the analysis of seawater samples and the analysis of WWTF and river samples for a greater number of nutrient parameters and to a lower detection level.

**Reason for Project/Benefits:**

This program will allow the NBC to better define pollutant levels in the receiving waters of WWTFs and CSOs to determine effluent quality necessary to minimize impacts on the receiving waters. It will also serve to provide background information on water quality for future assessment of the CSO Abatement and treatment plant improvements.

This project will allow the NBC to better define nutrient levels in WWTF effluent and the receiving waters and to determine the effluent quality necessary to minimize impacts on the receiving waters. It will in addition, allow the NBC to move in a direction of acting as a regional lab for nutrients and to assist other WWTFs in Rhode Island.

**Status of On-going Project:**

New project in support of on-going WWTF upgrade, CSO abatement and TMDL programs.

Project Cost by Phase			
Planning	From: Sep-02	To: Mar-04	Cost  462
Design	From:	To:	
Construction	From:	To:	
<b>Total</b>			<b>462</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								0
A&E/Professional		58	40					98
Land Acquisition								0
Site Improvement								0
Construction								0
Contingency			50					50
Other		314						314
<b>Total Project Costs</b>	-	<b>372</b>	<b>90</b>	-	-	-	-	<b>462</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								0
Federal Grant								0
Bay Bonds								0
State Revolving Fund		372	90					462
State Aquafund Grants								0
<b>Total Financing</b>	-	<b>372</b>	<b>90</b>	-	-	-	-	<b>462</b>

\* Cash Flow Basis In Thousands (000's)



**Contract: 115.00P**  
**Asset Management System**  
**Project Manager: Ray Marshall**

**Description:**

An Asset Management System (AMS) will evaluate the NBC's collection and treatment facilities, establishing methods to account for and link inventory, condition, service levels, useful life, and repair costs. This will produce insights regarding where, how much, and when to invest in system maintenance, rehabilitation and replacement.

**Reason for Project/Benefits:**

Asset Management Systems provide a means of managing infrastructure to minimize the cost of owning and operating wastewater collection treatment facilities while delivering the service levels customers expect.

**Status of On-going Project:**

Project initial stages just beginning.

15-00P Project Cost by Phase				
Planning	From:	Oct. 02	To:	Jun-04
Design	From:		To:	
Construction	From:		To:	
Duration				20 months
Cost				200
Total				200

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning		25	50					75
A&E/Professional		50	75					125
Land Acquisition								-
Site Improvement								-
Construction								-
Contingency								-
Other								-
Total Project Costs	-	75	125	-	-	-	-	200

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund		75	125					200
State Aquafund Grants								-
Total Financing	-	75	125	-	-	-	-	200

\* Cash Flow Basis in Thousands (000's)

**Contract: 807.00C**

**BPWWTF CSO Facilities and Other Improvements**

**Project Manager: Rich Bernier**

**Description:**

A Facilities Plan Amendment has been completed to evaluate improvements needed at the Bucklin Point WWTF to provide wet weather capacity of 116 MGD during storms and secondary capacity of 46 MGD over sustained periods of time. Improvements include a new influent pumping station, screening and grit handling facilities, dry weather primary settling tanks, effluent pumping station for dry weather flows, as well as plant instrumentation and control systems. It also includes conversion of the existing primary tanks to wet weather treatment and conversion to a fine bubble aeration system. UV disinfection facilities are also included in this project.

**Reason for Project/Benefits:**

The majority of these improvements are required under the RIPDES permit. Other improvements required as useful life of equipment is reached and equipment needs replacement.

**Status of On-going Project:**

Construction Phase.

807,000 Project Cost by Phase				
	Duration			Cost
Planning	From: Dec-95	To: Oct-98	(34 Months)	495
Design	From: Feb-98	To: Jul-01	(41 Months)	3,864
Construction	From: Jan-02	To: Jan-06	(48 Months)	71,456
<b>Total</b>				<b>75,815</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning	495							495
A&E/Professional	3,864							3,864
Land Acquisition								-
Site Improvement								-
Construction	2,618	15,545	15,545	15,546	15,546	400		65,200
Contingency		1,554	1,554	1,554	1,554	40		6,256
Other								-
<b>Total Project Costs</b>	<b>6,977</b>	<b>17,099</b>	<b>17,099</b>	<b>17,100</b>	<b>17,100</b>	<b>440</b>	<b>-</b>	<b>75,815</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund	6,977	17,099	17,099	17,100	17,100	440		75,815
State Aquafund Grants								-
<b>Total Financing</b>	<b>6,977</b>	<b>17,099</b>	<b>17,099</b>	<b>17,100</b>	<b>17,100</b>	<b>440</b>	<b>-</b>	<b>75,815</b>

\* Cash Flow Basis in Thousands (000's)

# **Sewer System Improvements**

**Contract: 302.03D**

**Phase I Combined Sewer Overflow (CSO) Facilities**

**Project Manager: Thomas Brueckner**

**Description:**

Providence, Pawtucket and Central Falls have combined sewers that overflow at approximately 66 locations during wet weather. This Combined Sewer Overflow (CSO) Program will mitigate the impact of these overflows through the construction of wet weather control facilities. The proposed program consists of two tunnels, the Main Spine tunnel (16,000 ft. long) and the Pawtucket tunnel (13,000 ft. long), two tunnel pump stations, five CSO interceptors and twelve sewer separation projects. Contract 302.03D includes design of the Phase I facilities, the Main Spine tunnel and pump station, and is expected to be completed in about seven years. The construction of the Phase I facilities is reflected in a number of separate contracts in this submittal. Upon completion of the construction of Phase I, the proposed Phase II facilities will be reassessed to determine if any changes should be made to the plan.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 66 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Final design of Phase I is complete except for the tunnel pump station. This is expected to be complete by July 2004. Revisions to the final plans will be made prior to this contract being sent out to bid. Construction of Contract 302.04C – CSO Phase I facilities MRI began in May, 2001. Construction of the Main Spine Tunnel began in Fall, 2001.

302.03D - Project Cost by Phase			
Planning Design Construction	From: From: Jul-98 From:	To: To: Jun-04 To:	Duration (72 Months) Cost 14,853
Total			14,853

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional	11,739	200	83					12,022
Land Acquisition	1,398							1,398
Site Improvement								-
Construction								-
Contingency								-
Other	1,327	79	27					1,433
Total Project Costs	14,464	279	110	-	-	-	-	14,853

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds	9,047							9,047
State Revolving Fund	5,417	279	110					5,806
State Aquafund Grants								-
Total Financing	14,464	279	110	-	-	-	-	14,853

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.03RS**

**Phase I CSO Facilities - Program and Construction Management**

**Project Manager: Rich Bernier**

**Description:**

This contract is to provide for Program Management and Construction Management of the Phase I CSO Facilities construction program, which consists of twelve (12) separate construction contracts.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction began in the Fall of 2001.



302-03 RSP Project Costs by Phase			
	Duration		Cost
Planning	From:	To:	
Design	From:	To:	
Construction	From: May-01	To: May-08 (84 Months)	30,250
<b>Total</b>			<b>30,250</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition								-
Site Improvement								-
Construction	1,460	5,800	5,800	5,800	4,800	4,800	1,790	30,250
Contingency								-
Other								-
<b>Total Project Costs</b>	<b>1,460</b>	<b>5,800</b>	<b>5,800</b>	<b>5,800</b>	<b>4,800</b>	<b>4,800</b>	<b>1,790</b>	<b>30,250</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant	1,000							1,000
Bay Bonds								-
State Revolving Fund	460	5,800	5,800	5,800	4,800	4,800	1,790	29,250
State Aquafund Grants								-
<b>Total Financing</b>	<b>1,460</b>	<b>5,800</b>	<b>5,800</b>	<b>5,800</b>	<b>4,800</b>	<b>4,800</b>	<b>1,790.00</b>	<b>30,250</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.06C**

**Phase I CSO Facilities - Main Spine Tunnel and Ancillary Facilities**

**Project Manager: Richard Bernier**

**Description:**

The construction of the Phase I CSO facilities is currently allocated over twelve (12) separate construction contracts. Contract 302.06C is for the construction of a 16,000 foot tunnel that is 26 feet finished diameter, in bedrock. This contract includes the construction of two 26 foot diameter workshafts, excavation of the tunnel pump station chamber 300 feet below ground and an 11 foot diameter equipment shaft. It also includes a 32 foot diameter utility shaft for the tunnel pump station and a 9 foot diameter dropshaft for overflow 067. The construction will begin near Ernest Street and terminate at Calverly Street.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction began in January 2002 and is scheduled to be completed in March 2006.

302.06C - Project Cost by Phase			
	Duration		Cost
Planning	From:	To:	
Design	From:	To:	
Construction	From: Jan-02	To: Mar-06 (50 Months)	180,171
<b>Total</b>			<b>180,171</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition		50						50
Site Improvement								-
Construction	4,752	54,594	50,914	38,223	15,696			164,179
Contingency		5,459	3,001	3,822	1,570			15,942
Other								-
<b>Total Project Costs</b>	<b>4,752</b>	<b>60,103</b>	<b>56,805</b>	<b>42,045</b>	<b>17,266</b>	-	-	<b>180,171</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant		3,182						3,182
Bay Bonds		3,002						3,002
State Revolving Fund	4,752	53,919	56,005	42,045	17,266			173,987
State Aquafund Grants								-
<b>Total Financing</b>	<b>4,752</b>	<b>60,103</b>	<b>56,805</b>	<b>42,045</b>	<b>17,266</b>	-	-	<b>180,171</b>

\* Cash Flow Basis in Thousands (000's)

\*actual from 2002

**Contract: 302.0600**

**Phase I CSO Facilities - Owner Controlled Insurance Program**

**Project Manager: Richard Bernier**

**Description:**

The construction of the Phase I CSO facilities will be done under ten (10) separate construction contracts. This contract covers the cost for liability insurance on all CSO construction activities.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction began in January 2002 and is scheduled to be completed in March 2006. Insurance coverage extends over the duration of construction.

302.0600 Project Cost by Phase			
	Duration		Cost
Planning	From:	To:	
Design	From:	To:	
Construction	From: Jan-02	To: Mar-06 (50 Months)	14,187
<b>Total</b>			<b>14,187</b>

302.0600 Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition								-
Site Improvement								-
Construction								-
Contingency								-
Other	5,477	1,809	1,871	1,871	1,871	1,288		14,187
<b>Total Project Costs</b>	<b>5,477</b>	<b>1,809</b>	<b>1,871</b>	<b>1,871</b>	<b>1,871</b>	<b>1,288</b>	<b>-</b>	<b>14,187</b>

302.0600 Projected Financing Sources								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund	5,477	1,809	1,871	1,871	1,871	1,288		14,187
State Aquafund Grants								-
<b>Total Financing</b>	<b>5,477</b>	<b>1,809</b>	<b>1,871</b>	<b>1,871</b>	<b>1,871</b>	<b>1,288</b>	<b>-</b>	<b>14,187</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.08C**

**Phase I CSO Facilities - Overflows 004/061**

**Project Manager: Richard Bernier**

**Description:**

Contract 302.08C is for the construction of one (1) dropshaft to the tunnel, associated gate and screening structures, diversion chambers and consolidation piping. The work will be conducted in Allens Avenue, between Henderson and Public Streets.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction is expected to begin in June 2002 and to be completed in September 2003.

302.08C - Project Cost by Phase			
	Duration		Cost
Planning	From:	To:	
Design	From:	To:	
Construction	From: Jun-02	To: Sep-03 (15 Months)	8,245
<b>Total</b>			<b>8,245</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition		50						50
Site Improvement								-
Construction		5,210	2,200	40				7,450
Contingency		521	220	4				745
Other								-
<b>Total Project Costs</b>	-	<b>5,781</b>	<b>2,420</b>	<b>44</b>	-	-	-	<b>8,245</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds		50						50
State Revolving Fund		5,731	2,420	44				8,195
State Aquafund Grants								-
<b>Total Financing</b>	-	<b>5,781</b>	<b>2,420</b>	<b>44</b>	-	-	-	<b>8,245</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.09C**

**Phase I CSO Facilities - Overflow 009 and Emergency Overflow Structure**

**Project Manager: Richard Bernier**

**Description:**

Contract 302.09C is for the construction of one dropshaft to the tunnel, the associated gate and screening structure, diversion chamber and consolidation piping. Overflow 009 will be diverted to the dropshaft, which will also serve as the emergency overflow structure for the tunnel. The work will be conducted in the vicinity of Dyer Street.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction is expected to begin in September 2003 and to be completed in October 2004.



302.0903 Project Cost by Phase			
Planning Design Construction	From: From: From:	To: To: To:	Duration Cost
	Sep-02	Oct-04	(13 Months) 6,487
<b>Total</b>			<b>6,487</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition			750					750
Site Improvement								-
Construction			3,600	1,615				5,215
Contingency			360	162				522
Other								-
<b>Total Project Costs</b>	-	-	<b>4,710</b>	<b>1,777</b>				<b>6,487</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds			750					750
State Revolving Fund			3,960	1,777				5,737
State Aquafund Grants								-
<b>Total Financing</b>	-	-	<b>4,710</b>	<b>1,777</b>				<b>6,487</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.10C**

**Phase I CSO Facilities - Overflow 032**

**Project Manager: Richard Bernier**

**Description:**

Contract 302.10C is for the construction of one dropshaft to the tunnel, associated gate and screening structure, and diversion chamber and consolidation piping for overflow 032. The work will be conducted in Charles Street, from Ashburton Street to south of Orms Street.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction is expected to begin in November 2003 and to be completed in September 2004.

30210C - Project Cost by Phase			
Planning Design Construction	From: From: From:	To: To: To:	Duration Cost
	Nov-03	Sep-04	(12 Months) 7,000
<b>Total</b>			<b>7,000</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition			400					400
Site Improvement								-
Construction			4,500	1,500				6,000
Contingency			450	150				600
Other								-
<b>Total Project Costs</b>	-	-	5,350	1,650	-	-	-	<b>7,000</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds			400					400
State Revolving Fund			4,950	1,650				6,600
State Aquafund Grants								-
<b>Total Financing</b>	-	-	5,350	1,650	-	-	-	<b>7,000</b>

\* Cash Flow Basis In Thousands (000's)

**Contract: 302.11C**

**Phase I CSO Facilities - Woonasquastucket Interceptor Relief**

**Project Manager: Richard Bernier**

**Description:**

Contract 302.11C is for the construction of one dropshaft to the tunnel, the associated gate and screening structure, and diversion chamber and consolidation piping. This project will provide relief of the Woonasquastucket River Interceptor to the tunnel. It will relieve surcharging in this interceptor and reduce upstream overflows that will not be eliminated until Phase II of the CSO program. This work will take place at the intersection of Promenade Street and Bath Street.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction is expected to begin in March 2003 and to be completed in February 2004.

30211G - Project Cost by Phase			
Planning Design Construction	From: From: From: Mar-03	To: To: To: Feb-04 (12 Months)	Duration Cost 4,600
Total			4,600

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition		200						200
Site Improvement								-
Construction		1,500	2,500					4,000
Contingency		150	250					400
Other								-
Total Project Costs	-	1,850	2,750					4,600

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds		200						200
State Revolving Fund		1,650	2,750					4,400
State Aquafund Grants								-
Total Financing	-	1,850	2,750					4,600

\* Cash Flow Basis In Thousands (000's)

**Contract: 302.12C**

**Phase I CSO Facilities - Overflow 067**

**Project Manager: Richard Bernier**

**Description:**

Contract 302.12C is for the construction of the tunnel, gate and screening structure, diversion chamber and consolidation piping for Overflow 067. This work will be conducted in Ernest Street.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction is expected to begin in August 2005 and to be completed in September 2006.

302M205 Project Cost by Phase				
	Duration			Cost
Planning	From:	To:		
Design	From:	To:		
Construction	From: Aug-05	To: Oct-06	(14 Months)	4,510
<b>Total</b>				<b>4,510</b>

302M205 Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition								-
Site Improvement								-
Construction					2,800	1,300		4,100
Contingency					280	130		410
Other								-
<b>Total Project Costs</b>	-	-	-	-	3,080	1,430	-	<b>4,510</b>

302M205 Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund					3,080	1,430		4,510
State Aquafund Grants								-
<b>Total Financing</b>	-	-	-	-	3,080	1,430	-	<b>4,510</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.13C**

**Phase I CSO Facilities - Regulator Modifications**

**Project Manager: Richard Bernier**

**Description:**

Contract 302.13C involves construction of modifications to the regulator structures at overflows 012, 013, 016, 042, 043 and 044. These modifications will allow these overflows to be diverted to existing interceptors. This work will take place along the Woonasquatucket River, South Water Street and Hay Market Square.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction is expected to begin in June 2004 and to be completed in November 2005.



Project Cost by Phase			
Planning Design Construction	From: From: From:	To: To: To:	Duration Cost
	Jun-04	Nov-05	(18 Months) 1,683
<b>Total</b>			<b>1,683</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition								-
Site Improvement								-
Construction			50	980	500			1,530
Contingency			5	98	50			153
Other								-
<b>Total Project Costs</b>	-	-	55	1,078	550	-	-	<b>1,683</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund			55	1,078	550			1,683
State Aquafund Grants								-
<b>Total Financing</b>	-	-	55	1,078	550	-	-	<b>1,683</b>

\* Cash Flow Basis In Thousands (000's)

**Contract: 302.14C**

**Phase I CSO Facilities - Tunnel Pump Station Fitout and Startup**

**Project Manager: Richard Bernier**

**Description:**

Contract 302.14C includes construction necessary to complete the tunnel pump station. This includes installation of pumps, piping and all other necessary mechanical equipment into the tunnel pump station chamber, which will be excavated under Contract 302.06. Also included in this contract is the installation of a screen at shaft S-1, the tunnel pump station above ground building force main, and screening building. The instrumentation and controls for all the Phase I facilities and startup of the facilities will also be done under this contract. The pump station will be located near Ernest and Ellis Streets.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction is expected to begin in February 2005 and to be completed in November 2007.

302-140 Project Cost by Phase			
	Duration		Cost
Planning	From:	To:	
Design	From:	To:	
Construction	From: Feb-05	To: Nov-07 (33 Months)	33,660
<b>Total</b>			<b>33,660</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition								-
Site Improvement								-
Construction				1,500	11,100	10,000	8,000	30,600
Contingency				150	1,110	1,000	800	3,060
Other								-
<b>Total Project Costs</b>	-	-	-	1,650	12,210	11,000	8,800	<b>33,660</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund				1,650	12,210	11,000	8,800	33,660
State Aquafund Grants								-
<b>Total Financing</b>	-	-	-	1,650	12,210	11,000	8,800	<b>33,660</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.15C**

**Phase I CSO Facilities - Overflows 006/007**

**Project Manager: Richard Bernier**

**Description:**

Contract 302.15C is for the construction of one (1) dropshaft to the tunnel, associated gate and screening structures, diversion chambers and consolidation piping.

**Reason for Project/Benefits:**

This project is a result of a federal mandate requiring clean up of approximately 70 combined sewer overflows (CSO's) which contribute to the degradation of the Narragansett Bay. During periods of heavy rain, the flow through the combined portions of the NBC's collection system frequently exceeds the capacity of the system. As a result, untreated sewage and stormwater mixture enters rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay often requiring RIDEM to close parts of the Bay to shellfishing. This CSO Abatement Project would mitigate this problem.

**Status of On-going Project:**

Construction is expected to begin in November 2002 and to be completed in February 2004.

302.15C - Project Cost by Phase			
	Duration		Cost
Planning	From:	To:	
Design	From:	To:	
Construction	From: Nov-02	To: Feb-04 (15 Months)	9,847
<b>Total</b>			<b>9,847</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition		700						700
Site Improvement								-
Construction		3,362	4,954					8,316
Contingency		336	495					831
Other								-
<b>Total Project Costs</b>	-	<b>4,398</b>	<b>5,449</b>	-	-	-	-	<b>9,847</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds		700						700
State Revolving Fund		3,698	5,449					9,147
State Aquafund Grants								-
<b>Total Financing</b>	-	<b>4,398</b>	<b>5,449</b>	-	-	-	-	<b>9,847</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.21.00**

**CSO Flow Monitoring**

**Project Manger: Teresa Cote**

**Description:**

This project includes the installation and maintenance of flow meters at CSO outfalls to determine frequency and volume of CSO discharges.

**Reason for Project/Benefits:**

To obtain flow monitoring data for design of floatables control facilities and for design of Phase II and Phase III CSO facilities.

**Status of On-going Project:**

Flow metering and monitoring was begun last year as a part of Phase I design project. It has been identified as a separate project in this year's CIP.

302/21/00 - Project Cost by Phase			
Planning Design Construction	From: From: From:	To: To: To:	Duration Cost
	Jul-02	Jun-07	1,250
<b>Total</b>			<b>1,250</b>

302/21/00 - Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning		125	125	125	125	125		625
A&E/Professional		125	125	125	125	125		625
Land Acquisition								-
Site Improvement								-
Construction								-
Contingency								-
Other								-
<b>Total Project Costs</b>	-	250	250	250	250	250	-	<b>1,250</b>

302/21/00 - Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund		250	250	250	250	250		1,250
State Aquafund Grants								-
<b>Total Financing</b>	-	250	250	250	250	250	-	<b>1,250</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 302.22P**

**Stormwater Attenuation Pilot Study**

**Project Manager: Thomas Brueckner**

**Description:**

Several participants in the stakeholder process for the CSO project suggest that one way to reduce combined sewer overflow volumes and therefore the cost of CSO facilities for Phases II and III would be by reducing the amount of runoff reaching the combined sewers. A stormwater attenuation study was completed by NBC in 2000 which recommended that a pilot study be conducted to determine the effectiveness of disconnecting downspouts from combined sewers in a residential area. This project would implement the downspout disconnection pilot study.

**Reason for Project/Benefits:**

To determine if disconnection of downspouts from residences in a combined sewers area can substantially reduce combined sewer overflows, and therefore result in a reduction of capital expenditures for future phases of the CSO program.

**Status of On-going Project:**

In evaluation and design phase.



302122PE Project Cost by Phase				
	Duration			Cost
Planning	From:	To:		
Design	From: Oct-02	To: Jun-03	(8 months)	100
Construction	From: Jul-03	To: Jun-04	(11 months)	300
<b>Total</b>				<b>400</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning		100						100
A&E/Professional			300					300
Land Acquisition								-
Site Improvement								-
Construction								-
Contingency								-
Other								-
<b>Total Project Costs</b>	-	100	300	-	-	-	-	<b>400</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund		100	300					400
State Aquafund Grants								-
<b>Total Financing</b>	-	100	300	-	-	-	-	<b>400</b>

\* Cash Flow Basis In Thousands (000's)

**Contract: 304.00.00**

**Evaluation and Cleaning of CSO Interceptors**

**Project Manager: Meg Goulet**

**Description:**

This project involves TV inspection of all interceptor sewers in the NBC's service area over the next ten years to determine their condition and to develop solution to correct any problems which may be identified. Based on inspections done to date, the interceptors primarily need to have accumulated grit removed.

**Reason for Project/Benefits:**

Improve the carrying capacity of the sewers and reduce CSO discharge volumes.

**Status of On-going Project:**

Implementation.

00400000 Project Cost by Phase			
	Duration		Cost
Planning	From:	To:	
Design	From:	To:	
Construction	From: Ongoing	To: Ongoing	6,154
<b>Total</b>			<b>6,154</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional								-
Land Acquisition								-
Site Improvement								-
Construction								-
Contingency								-
Other	154	1,000	1,000	1,000	1,000	1,000	1,000	6,154
<b>Total Project Costs</b>	<b>154</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>6,154</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund	154	1,000	1,000	1,000	1,000	1,000	1,000	6,154
State Aquafund Grants								-
<b>Total Financing</b>	<b>154</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>6,154</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 304.07D**

**Concord Street Sewer Repair**

**Project Manager: Thomas Grala**

**Description:**

As a part of the interceptor cleaning and inspection program, NBC found the Concord Street interceptor to be severely damaged and in need of immediate repair/replacement. This project includes the evaluation of alternatives for the repair, design of the selected alternative, and construction.

**Reason for Project/Benefits:**

Sewer is in extremely poor condition and needs to be repaired/replaced in order to prevent failure of the sewer.

**Status of On-going Project:**

In evaluation and design phase.

304.07D - Project Cost by Phase				
	Duration			Cost
Planning	From:	To:		
Design	From: Feb-02	To: Oct-02	(8 months)	100
Construction	From: Mar-03	To: Sep-03	(6 months)	525
<b>Total</b>				<b>625</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional	50	50						100
Land Acquisition								-
Site Improvement								-
Construction		225	300					525
Contingency								-
Other								-
<b>Total Project Costs</b>	<b>50</b>	<b>275</b>	<b>300</b>					<b>625</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund	50	275	300					625
State Aquafund Grants								-
<b>Total Financing</b>	<b>50</b>	<b>275</b>	<b>300</b>					<b>625</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 304.09D**

**Burrington Street and Grotto Brook Sewer Repairs**

**Project Manager: Thomas Grala**

**Description:**

As a part of the interceptor cleaning and inspection program, NBC found the Burrington Street interceptor and the Grotto Brook system to be damaged and in need of repair/replacement. This project is for the planning, design and construction of repairs/replacement.

**Reason for Project/Benefits:**

The Burrington St. sewer needs to be repaired/replaced to avoid failure. The Grotto Brook system needs repair/replacement because of damage to the pipe, infiltration problems and difficulty in conducting maintenance due to inaccessibility in a wetland.

**Status of On-going Project:**

Planning phase to be initiated in FY 2003.

304.09D - Project Cost by Phase				
	Duration			Cost
Planning	From: Jul-02	To: Oct-02	(3 months)	75
Design	From: Nov-02	To: Feb-03	(3 months)	100
Construction	From: Jul-03	To: Jan-04	(6 months)	1,100
<b>Total</b>				<b>1,275</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional		175						175
Land Acquisition								-
Site Improvement								-
Construction			1,000					1,000
Contingency			100					100
Other								-
<b>Total Project Costs</b>	-	175	1,100	-	-	-	-	<b>1,275</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund		175	1,100					1,275
State Aquafund Grants								-
<b>Total Financing</b>	-	175	1,100	-	-	-	-	<b>1,275</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 304.10P**

**Sewer System Infiltration/Inflow Study**

**Project Manager: Thomas Brueckner**

**Description:**

The sewers in the Field's Point service area are subject to high infiltration/inflow. In order to determine if this flow is excessive, an intensive sewer metering program needs to be conducted to identify the amount and location of these flows. This project will entail installing flow meters at locations throughout the sewer system and analyzing the data to determine if these flows should be reduced.

**Reason for Project/Benefits:**

To determine if excessive flows are causing surcharging of the sewer and hydraulic loading of the Field's Point Wastewater Treatment Facility.

**Status of On-going Project:**

To begin in FY 2003.



30410P - Project Cost by Phase			
Planning	From: Jan-03	To: Jun-06	Duration (42 months)
Design	From:	To:	
Construction	From:	To:	
<b>Total</b>			<b>3,500</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning								-
A&E/Professional		500	1,000	1,000	1,000			3,500
Land Acquisition								-
Site Improvement								-
Construction								-
Contingency								-
Other								-
<b>Total Project Costs</b>	-	500	1,000	1,000	1,000	-	-	<b>3,500</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund		500	1,000	1,000	1,000			3,500
State Aquafund Grants								-
<b>Total Financing</b>	-	500	1,000	1,000	1,000	-	-	<b>3,500</b>

\* Cash Flow Basis In Thousands (000's)

**Contract: 304.11C**

**Floatables Control Facilities**

**Project Manager: Thomas Brueckner**

**Description:**

As part of the nine minimum controls required under EPA's CSO Control Policy, floatables control is to be provided at all CSO overflows. RIDEM will require that all CSO overflows to be addressed in Phase II and III of the CSO program must be provided with floatables control in the interim. NBC will complete the evaluation of a trash net floatables control facility by the end of December 2002 and will submit a plan for addressing floatables control for Phase II and III overflows to RIDEM in early 2003. Design and construction of floatables control facilities at approximately 40 outfalls will follow.

**Reason for Project/Benefits:**

To eliminate the discharge of floatables from CSO overflows that are included in Phase II and Phase III of the CSO project.

**Status of On-going Project:**

Demonstration pilot ongoing. Planning and design to begin in FY 2003.

304110 Project Cost by Phase				
	Duration			Cost
Planning	From: Dec-02	To: Feb-03	(2 months)	25
Design	From: Jul-03	To: Jul-07	(48 months)	1,000
Construction	From: Jan-04	To: Jun-08	(54 months)	16,500
<b>Total</b>				<b>17,525</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning		25						25
A&E/Professional			250	250	250	250		1,000
Land Acquisition								-
Site Improvement								-
Construction		1,700	4,000	4,000	4,000	1,300		15,000
Contingency		170	400	400	400	130		1,500
Other								-
<b>Total Project Costs</b>	-	<b>1,895</b>	<b>4,650</b>	<b>4,650</b>	<b>4,650</b>	<b>1,680</b>	-	<b>17,525</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund		1,895	4,650	4,650	4,650	1,680		17,525
State Aquafund Grants								-
<b>Total Financing</b>	-	<b>1,895</b>	<b>4,650</b>	<b>4,650</b>	<b>4,650</b>	<b>1,680</b>	-	<b>17,525</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 704.00D**

**Investigation and Rehabilitation of the Washington Hwy and Omega Pump Stations**

**Project Manager: Thomas Grala**

**Description:**

The Washington Highway and Omega Pump Stations in the Bucklin Point service area are older stations nearing the end of their design life. A study of these stations has been completed. It is recommended that the Washington Highway Pump Station be replaced and that improvements be made to the Omega Pump Station.

**Reason for Project/Benefits:**

To maintain pump stations in good operating condition and to meet current safety and design standards.

**Status of On-going Project:**

Planning is completed. Design began in January 2002.

704,000 - Project Cost by Phase				
	Duration			Cost
Planning	From: Feb-00	To: Apr-01	(14 Months)	91
Design	From: Jan-02	To: Jan-03	(12 Months)	576
Construction	From: Jun-03	To: Nov-05	(30 Months)	5,764
<b>Total</b>				<b>6,431</b>

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning	91							91
A&E/Professional	50	380						430
Land Acquisition		50						50
Site Improvement								-
Construction			2,100	2,100	1,040			5,240
Contingency		40	210	210	104			564
Other		56						56
<b>Total Project Costs</b>	<b>141</b>	<b>526</b>	<b>2,310</b>	<b>2,310</b>	<b>1,144</b>	<b>-</b>	<b>-</b>	<b>6,431</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds		50						50
State Revolving Fund	141	476	2,310	2,310	1,144			6,381
State Aquafund Grants								-
<b>Total Financing</b>	<b>141</b>	<b>526</b>	<b>2,310</b>	<b>2,310</b>	<b>1,144</b>	<b>-</b>	<b>-</b>	<b>6,431</b>

\* Cash Flow Basis in Thousands (000's)

**Contract: 903.01.00**

**Geographic Information System Implementation (GIS)**

**Project Manager: Thomas Grala**

**Description:**

The NBC has completed a study to implement a GIS program. This GIS would allow the NBC to geographically relate and maintain databases on its sewer system and other facilities. The project includes data conversion, data development, and acquisition of additional hardware and software. The implementation of GIS includes potential functions for the Interceptor Maintenance and Construction, Engineering, Pretreatment, and Customer Service sections of the NBC. The first part of the GIS program will be to provide coverage of NBC interceptors throughout the district.

**Reason for Project/Benefits:**

Plans and records need to be updated to reflect actual locations/sizes of facilities. This will enhance NBC's existing records, assist with planning, enhance facilities management and allow NBC to more easily comply with new reporting procedures required by the EPA.

**Status of On-going Project:**

Beginning implementation by development of the interceptor system coverage.

903-01-00: Project Cost by Phase						
Planning Design Construction	From:	Oct-95	To:	May-96	(8 Months)	Cost
	From:		To:			89
	From:	Mar-01	To:	Dec-04	(45 Months)	783
Total						872

Projected Expenditures								
Project Costs	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
Program Planning	89							89
A&E/Professional	212	140	150					502
Land Acquisition								-
Site Improvement								-
Construction								-
Contingency	30	14	10					24
Other	77	75	75					150
<b>Total Project Costs</b>	<b>408</b>	<b>229</b>	<b>235</b>					<b>872</b>

Projected Financing								
Financing	Pre-FY 2003	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total
State Grant								-
Federal Grant								-
Bay Bonds								-
State Revolving Fund	408	229	235					872
State Aquafund Grants								-
<b>Total Financing</b>	<b>408</b>	<b>229</b>	<b>235</b>					<b>872</b>

\* Cash Flow Basis In Thousands (000's)

# **Appendix**



Description	Debt Type		Fiscal Year 2003	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008
\$3M GOB - REFUNDED \$270,000 (1988 Series A)	State/G.O.'s	Principal	15,000	-	-	-	-	-
		Interest	1,065	-	-	-	-	-
		Subtotal	16,065	-	-	-	-	-
\$14M GOB - REFUNDED \$967,781 (1992A Refunded)(Refunded 2002)	State/G.O.'s	Principal	180,000	110,000	110,000	-	-	-
		Interest	16,541	7,150	2,200	-	-	-
		Subtotal	176,541	117,150	112,200	-	-	-
\$14M GOB 1997 Refunding portion (1997 Refunded - \$134,500)	State/G.O.'s	Principal	1,300	66,500	66,700	-	-	-
		Interest	6,694	4,998	1,668	-	-	-
		Subtotal	7,994	71,498	68,368	-	-	-
6M GOB - REFUNDED - \$2,605,687.89 (1992A Refunding dated 1992)(Refunded 2002)	State/G.O.'s	Principal	255,000	175,000	170,000	480,000	475,000	-
		Interest	72,351	49,375	41,600	28,600	9,500	-
		Subtotal	327,351	224,375	211,600	508,600	484,500	-
6M GOB 1997 Refunding (1997 Refunding - \$802,300)	State/G.O.'s	Principal	2,100	104,600	104,600	297,300	293,700	-
		Interest	40,319	37,526	32,165	22,118	7,343	-
		Subtotal	42,419	142,126	136,765	319,418	301,043	-
21.55M GOB 1997 Refunding Portion (1997 Refunded - \$560,000)	State/G.O.'s	Principal	4,200	3,200	1,900	1,600	2,100	-
		Interest	10,923	10,744	10,813	10,525	10,433	10,380
		Subtotal	15,123	13,944	12,513	12,125	12,533	10,380
21.55M GOB - REFUNDED - \$2,040,904 (1996)	State/G.O.'s	Principal	287,859	286,888	288,285	289,570	280,283	280,765
		Interest	104,467	89,753	72,504	55,169	38,073	22,224
		Subtotal	392,126	376,441	360,789	344,739	318,356	302,989
5.5M GOB - REFUNDED - \$3,500,000 (1980 SERIES D)	State/G.O.'s	Principal	175,000	175,000	175,000	175,000	175,000	175,000
		Interest	78,925	65,975	52,850	39,725	26,800	13,300
		Subtotal	253,925	240,975	227,850	214,725	201,800	188,300
CEDE & CO. \$7.731M (BVDC) (BVDC 1992A Refunding and non-Refunded) (Refunded 2002)	State/G.O.'s	Principal	695,000	480,000	470,000	1,325,000	1,310,000	-
		Interest	199,256	138,200	114,800	78,900	26,200	-
		Subtotal	894,256	618,200	584,800	1,403,900	1,336,200	-
\$7.731M 1997 Refunding Portion (1997 Refunded - \$2,211,700)	State/G.O.'s	Principal	5,700	288,600	288,600	819,300	809,500	-
		Interest	111,150	103,448	88,655	60,958	20,238	-
		Subtotal	116,850	392,048	377,255	880,258	829,738	-
1993 REFUNDING BOND \$3,080,000 (BVDC) (\$4.85M) (BVDC 1993 Refunding)	State/G.O.'s	Principal	430,000	280,000	270,000	-	-	-
		Interest	53,690	32,620	18,900	-	-	-
		Subtotal	483,690	312,620	288,900	-	-	-
\$800,000 Part A 1997 Refunding Portion (1997 Refunded - \$103,800)	State/G.O.'s	Principal	800	600	400	300	400	-
		Interest	2,025	1,991	1,965	1,948	1,930	1,920
		Subtotal	2,825	2,591	2,365	2,248	2,330	1,920
1996 REFUNDING BOND \$377,753 (\$900,000 Part B) (BVDC) (GOB Refunding 1996- BVDC)	State/G.O.'s	Principal	53,156	52,977	53,272	53,509	52,012	52,101
		Interest	19,341	16,622	13,434	10,231	7,065	4,124
		Subtotal	72,497	69,599	66,706	63,740	59,077	56,225
FLEET \$100,000 (BVDC) (BVDC 1971 Series D)	State/G.O.'s	Principal	5,000	5,000	-	-	-	-
		Interest	637	380	250	250	250	250
		Subtotal	5,637	5,380	250	250	250	250
FLEET \$100,000 (BVDC) Partial Refunding (BVDC 1971 Series D 9/98 Ref.)	State/G.O.'s	Principal	-	-	-	-	5,000	10,000
		Interest	1,519	1,519	1,519	1,519	1,394	1,019

Description	Debt Type		Fiscal Year 2003	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008
		Subtotal	1,519	1,519	1,519	1,519	6,394	11,019
FLEET \$100,000 (BVDC) Partial Refunding (BVDC 1971 Series D 4/01 Ref.)	State/G.O.'s	Principal	-	-	5,000	-	-	-
		Interest	525	525	400	275	275	275
		Subtotal	525	525	5,400	275	275	275
CAPITAL APPRECIATION BONDS (BVDC 1996)		Principal	-	-	-	16,751	12,288	8,888
		Interest	-	-	-	333,249	312,712	281,112
		Subtotal	-	-	-	350,000	325,000	290,000
FLEET \$3,315,000 (BVDC 1988 Series F)	State/G.O.'s	Principal	150,000	160,000	-	-	-	-
		Interest	26,145	18,160	14,000	14,000	14,000	14,000
		Subtotal	176,145	178,160	14,000	14,000	14,000	14,000
FLEET \$3,315,000 - Partial Refunding (\$1.3M) 9/98 (BVDC 1988 Series F)	State/G.O.'s	Principal	5,000	5,000	5,000	-	90,000	250,000
		Interest	49,128	48,935	48,738	48,638	48,388	37,888
		Subtotal	54,128	53,935	53,738	48,638	138,388	287,888
FLEET \$3,315,000 - Partial Refunding (\$305K) 9/98 (BVDC 1988 Series F)	State/G.O.'s	Principal	-	-	-	-	95,000	140,000
		Interest	12,288	12,288	12,288	12,288	10,388	5,888
		Subtotal	12,288	12,288	12,288	12,288	105,388	145,888
FLEET \$3,315,000 - Partial Refunding (\$415K) (BVDC 1988 Series F) 4/01 Ref.	State/G.O.'s	Principal	-	-	165,000	-	-	-
		Interest	22,000	22,000	17,875	13,750	13,750	13,750
		Subtotal	22,000	22,000	182,875	13,750	13,750	13,750
SRF - NO. PROV. \$2.647M	SRF	Principal	131,890	136,803	141,899	147,184	152,667	158,354
		Interest	55,782	50,777	45,586	40,202	34,617	28,825
		Subtotal	187,671	187,580	187,485	187,387	187,284	187,179
SRF - WP/RA - \$3.694	SRF	Principal	171,886	177,961	184,252	190,765	197,508	204,489
		Interest	85,427	79,275	72,905	66,311	59,483	52,413
		Subtotal	257,313	257,236	257,157	257,076	256,991	256,902
SRF - BUTLER - \$1.662M	SRF	Principal	79,758	82,761	85,676	89,109	92,463	95,944
		Interest	38,500	35,441	32,266	28,973	25,555	22,009
		Subtotal	118,258	118,201	118,143	118,082	118,019	117,953
SRF POOL LOAN I - \$14.781M	SRF	Principal	837,000	660,500	685,000	710,250	736,500	763,500
		Interest	406,856	383,052	358,368	332,771	306,229	278,710
		Subtotal	1,043,856	1,043,552	1,043,368	1,043,021	1,042,729	1,042,210
SRF POOL LOAN II - \$17.279M	SRF	Principal	747,306	773,546	800,708	828,824	857,927	888,052
		Interest	448,638	422,270	394,769	366,303	336,837	306,337
		Subtotal	1,196,144	1,195,816	1,195,477	1,195,127	1,194,764	1,194,389
SRF POOL LOAN III - \$8.150M	SRF	Principal	304,539	315,695	327,250	339,246	351,673	364,555
		Interest	270,459	260,166	248,439	235,263	222,702	209,655
		Subtotal	574,998	575,861	575,689	574,509	574,375	574,210
SRF POOL LOAN IV - \$23.955M	SRF	Principal	1,000	1,000	1,000	1,000	1,000	2,155,000
		Interest	846,073	846,038	846,002	845,967	845,932	807,657
		Subtotal	847,073	847,038	847,002	846,967	846,932	2,962,657
SRF POOL LOAN V - \$57M	SRF	Principal	1,305,000	2,305,000	2,380,000	1,250,000	1,500,000	2,250,000
		Interest	1,688,191	1,729,543	1,655,262	1,597,708	1,554,107	1,494,651
		Subtotal	2,993,191	4,034,543	4,035,262	2,847,708	3,054,107	3,744,651
	Totals	Principal	5,623,284	6,846,431	6,779,742	7,014,708	7,490,022	7,798,648
		Interest	4,669,111	4,466,757	4,200,021	4,245,668	3,931,999	3,606,385
		Total Existing	10,292,405	11,313,187	10,979,763	11,260,376	11,422,020	11,405,033
Estimated Increase in Debt Service to Fund Current Capital Program	Principal & Interest		1,079,597	6,973,449	12,091,097	17,895,152	21,484,878	23,580,882
Grand Total			11,372,002	18,086,636	23,070,860	29,155,528	32,886,898	34,985,915

## 2001 RHODE ISLAND RESIDENTIAL SEWER USER CHARGES

MUNICIPALITY / WASTEWATER TREATMENT FACILITY	ANNUAL SEWER USER FEE	BASED ON 200 GPD or 97.6 HCF
BARRINGTON	\$2.15/hcf	\$209.84
BRISTOL*	Flat Rate \$202.00	\$202.00
BURRILLVILLE*	Flat Rate \$240.00	\$240.00
CRANSTON	Flat Rate \$267.75	\$267.75
EAST GREENWICH	\$2.08/hcf for 85% of Water Usage	\$172.56
EAST PROVIDENCE	\$10.00 Plus \$1.90/hcf over 35 hcf	\$128.94
JAMESTOWN	\$4.09/hcf	\$399.18
MIDDLETOWN	\$3.98/hcf	\$388.45
NARRAGANSETT	Flat Rate \$345.00 Plus \$2.75/hcf for 101-200 hcf; \$3.25/hcf for 201-300 hcf; Over 301 hcf - \$2.75/hcf	\$345.00
NBC SERVICE AREA**	\$68.24 Plus \$1.40/hcf	\$204.67
NEWPORT	\$3.68/hcf	\$359.17
NORTH SMITHFIELD*	Flat Rate \$200.00	\$200.00
SMITHFIELD*	Flat Rate \$200.00 plus \$10 for Industrial Pretreatment Program	\$210.00
SOUTH KINGSTOWN*	Flat Rate: \$147 Plus \$1.83/hcf over 100 hcf	\$147.00
WARREN	Ad-Valorem Taxes	
WARWICK*	\$45.42 Plus \$1.91/hcf For 85% of Water Usage	\$203.87
WEST WARWICK	\$73.27, Plus \$2.83/hcf For 80% of Water Usage	\$294.24
WESTERLY*	Flat Rate \$123.00	\$123.00
WOONSOCKET	Flat Rate \$204.00	\$204.00
AVERAGE	EXISTING RATE:	\$238.87

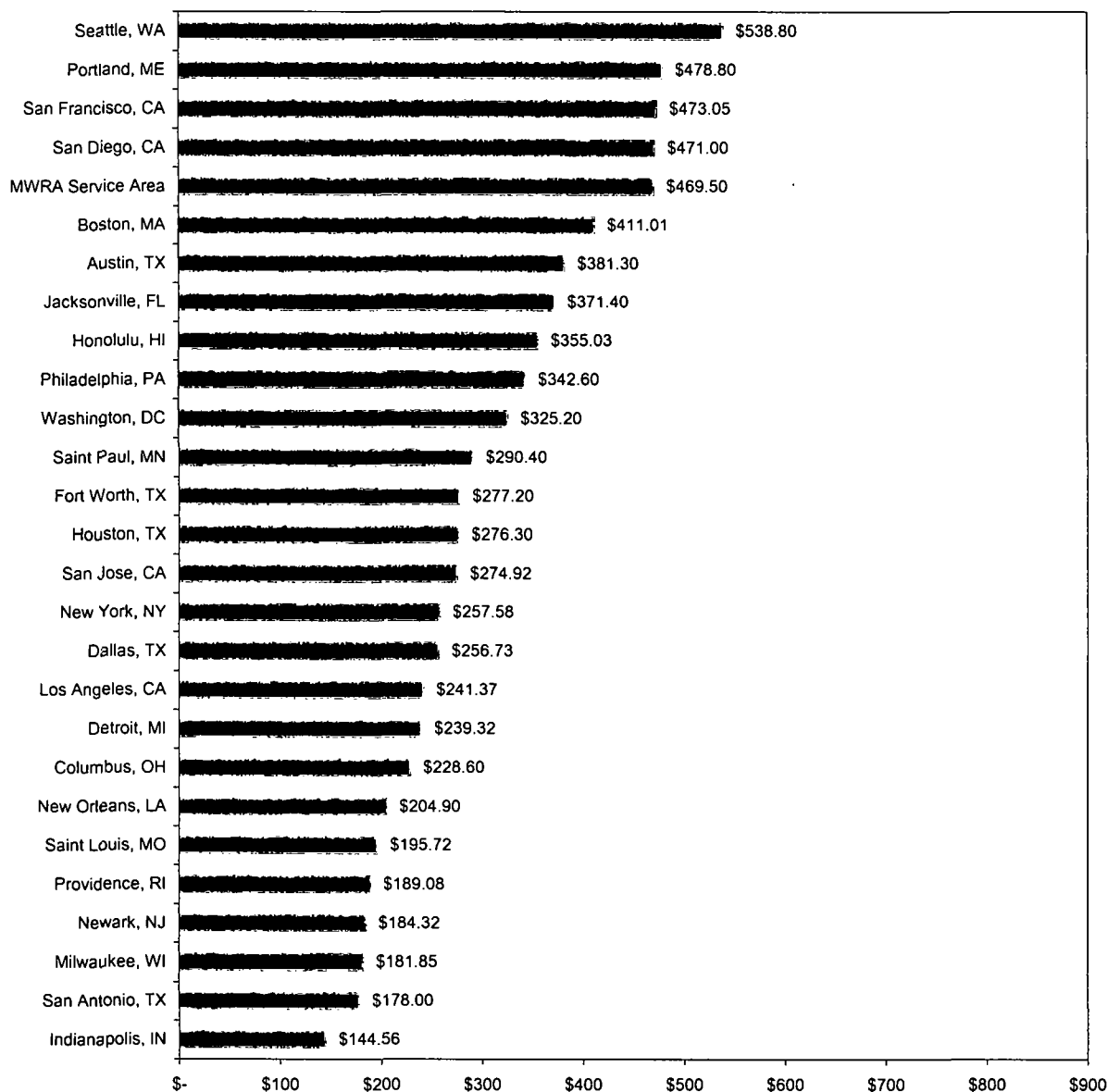
\* Debt Service for capital improvements either not included in user charge or only partially funded by user charge. Other sources of debt service funding include sewer assessments, ad-valorem taxes, bond issues and/or general fund.

\*\* Rates include transportation and treatment costs only. Additional fees associated with the operation and maintenance of all municipally-owned collection sewer lines are borne by the users through local taxes.

Note: Survey results from the above cities/towns indicate that the estimated average water consumed by a single family home is 194 gpd (gallons per day).

A survey shown below compares annual residential sewer charges for major U.S. Cities conducted by the Massachusetts Water Resource Authority (MWRA) in 2001 showed that Providence ranked 5<sup>th</sup> lowest in the country.

### Annual Residential Sewer Charges for Major U.S. Cities



Source: 2001 MWRA Water & Sewer Retail Rate Survey