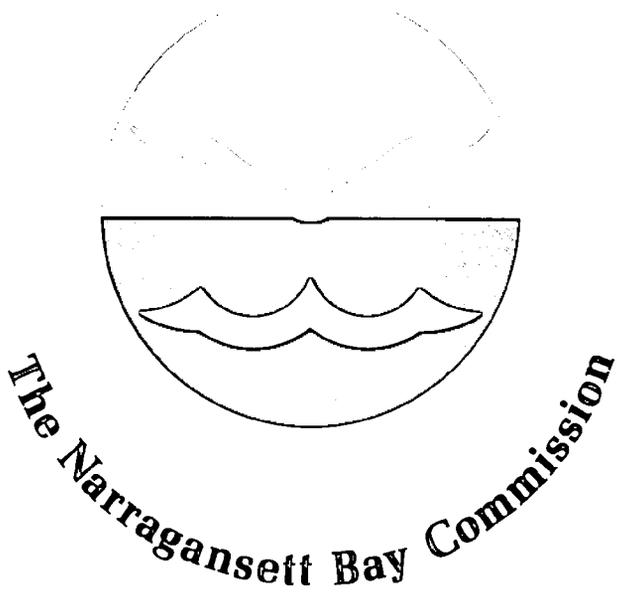


# FY 1997 - 2001 CAPITAL IMPROVEMENT PROGRAM

IN CITY COUNCIL  
JAN 16 1997  
READ  
WHEREUPON IT IS ORDERED THAT  
THE SAME BE RECEIVED.  
*Michael A. Clement* CLERK



FOUNDRY CORPORATE OFFICE CENTER  
235 PROMENADE STREET, SUITE 500  
PROVIDENCE, RI 02908  
(401) 277-6680

Vincent Mesolella, Jr.  
Chairman

Paul Pinault  
Executive Director

SEPTEMBER, 1996

The Foundry Corporate Office Center  
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Rep. Vincent J. Mesolella  
Chairman

Paul Pinault  
Executive Director

Dear Friends:

I am pleased to present the Narragansett Bay Commission's (NBC) fiscal year 1997 - 2001 Capital Improvement Program (CIP). This document serves to summarize the major projects that will be initiated or completed within the NBC's service area over the next five years.

The CIP is updated annually and is designed to strengthen the basis on which the capital projects relate to one another and to the NBC financial needs. This CIP identifies a five-year capital financial need of \$182 million. The CIP identifies the possible sources of financing for these projects as well as the financial impact of these projects on the NBC's annual operating budget.

The CIP also serves to illustrate the NBC's commitment to improving our treatment facilities and interceptors in order to improve the quality of water in Narragansett Bay and its tributary rivers.

I wish to take this opportunity to thank the Board of Commissioners, the Citizens Advisory Committee, members of my staff and everyone who contributed in the development of this year's CIP.

  
Paul Pinault, P.E.  
Executive Director

## **ACKNOWLEDGEMENTS**

The fiscal year 1997-2001 Capital Improvement Program was prepared by Karen Giebink, Policy Associate, based on input from staff from all sections and divisions of the NBC.

The development of this CIP also involved the cooperation, assistance and guidance of Juan Mariscal, Assistant Director for Planning, Policy and Regulation, Raymond Marshall, Deputy Director, Paul Pinault, Executive Director, the Board of NBC Commissioners and its Construction, Engineering and Operations Committee as well as the NBC's Citizen's Advisory Committee.

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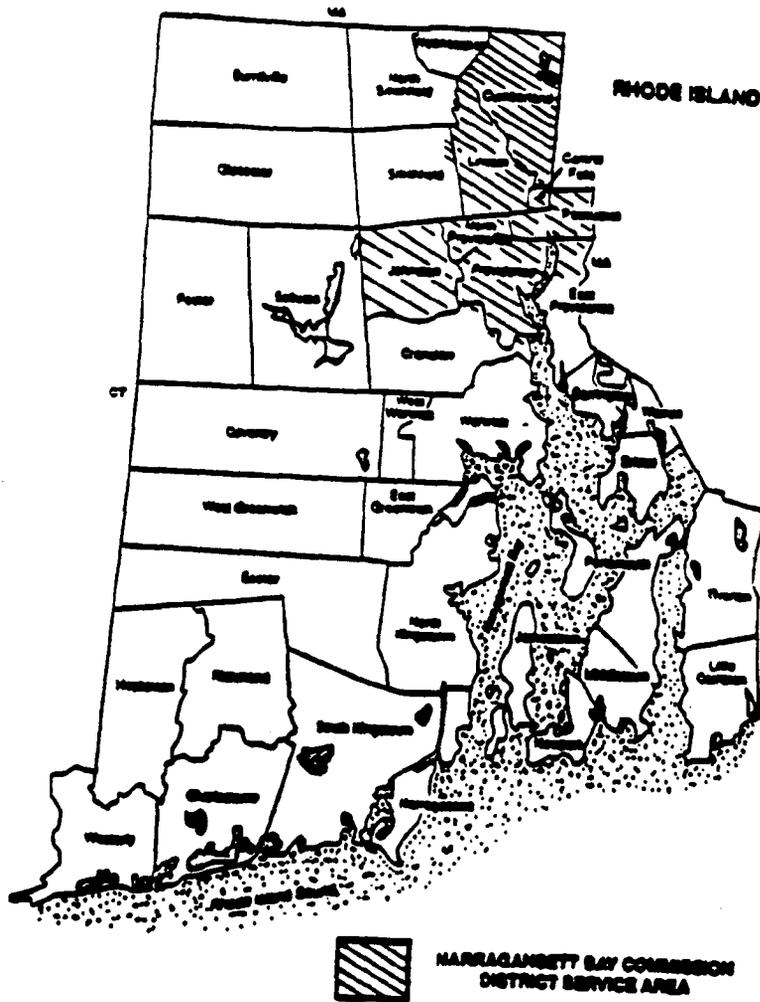
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# SERVICE AREA of the NARRAGANSETT BAY COMMISSION

The Narragansett Bay Commission (NBC) was created in 1980. In 1982, the NBC acquired the Field's Point Wastewater Treatment Facility (FPWWTF) in Providence. This facility serves the communities of Providence and North Providence, and portions of the towns of Johnston, Lincoln and the City of Cranston. On January 1, 1992, the NBC assumed ownership of the Bucklin Point Wastewater Treatment Facility (BPWWTF) and expanded its district to include the Cities of Pawtucket, and Central Falls, the Towns of Cumberland and Lincoln, and portions of East Providence and Smithfield.



A brief description of the facilities within NBC district is located in the appendix.

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**BRIEF  
PROJECT LISTINGS**

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**SECTION I**  
**CIP OVERVIEW**

## FISCAL YEAR 1997 - 2001 CAPITAL IMPROVEMENT PROGRAM

This year's Capital Improvement Program (CIP) identifies over \$182 million of capital improvement projects in progress, to be initiated or completed within the next five fiscal years (fiscal years 1997 - 2001). It also reflects total expenditures of over \$540 million for the completion of all scheduled projects.

The CIP identifies each capital project, defined as a capital expenditure greater than \$20,000, by functional area (wastewater treatment facilities, sewer systems and buildings and grounds). Cash flows for each project and functional area are provided and the funding sources and schedules are also shown. Project costs are also depicted by phase (planning, design and construction).

There are many events that can impact NBC's sources of capital. This CIP attempts to take into consideration the most significant of these factors such as the State of Rhode Island's capital budget, the maximum funding available under the State Revolving Loan Fund program (SRF) and pending federal legislation. This is done to accurately reflect 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: Comprehensive Combined Sewer Overflow Abatement Project

The Combined Sewer Overflow Abatement Project remains the most significant project underway by the NBC. The project comprises 71% of the total costs outlined in this document.

Contract 302 is the result of a federal mandate requiring clean up of the 86 combined sewer overflows (CSO's) which contribute to the degradation of 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. This results in an untreated sewage and stormwater mixture entering rivers and Narragansett Bay. These overflows have been a continual source of pollution in the Upper Bay, often requiring the Rhode Island Department of Environmental Management (RIDEM) to close parts of the Bay to shellfishing.

The NBC approved a comprehensive CSO Abatement Plan in March 1993 to mitigate this problem. This plan involves the construction of seven near surface storage facilities and twelve miles of deep rock storage tunnels. These near surface storage tanks and tunnels will contain the sewage/stormwater that would have otherwise overflowed into the Rhode

Island waterways. After the storm has passed, the stored flows will be returned to the NBC's system for treatment. As presently approved, the total annual volume of overflows is expected to decrease by 99% once these improvements have been completed.

The RIDEM approved the CSO Abatement Plan in July, 1994. Preliminary design (30% plans) of the high priority facilities was subsequently initiated. The preliminary design plans were completed in January, 1996 and is currently under review by RIDEM.

Because of the rate impact that the CSO's will have on NBC users and changes that have occurred in the national CSO policy since the 1994 approval of the CSO Abatement Plan, the Commission convened a stakeholders group in early 1996 to review the proposed plan. The options considered by the group are to proceed with the current plan as proposed or investigate alternative, less costly approaches to achieve compliance with the new policy. Because there have been substantial changes to the proposed facilities during preliminary design, the NBC will need to make revisions to the currently approved plan for either approach. As a result of these meetings, the Commission has decided to investigate alternative, less costly approaches to achieve compliance with the new policy. Contract 302.2 is the reassessment of the CSO program.

Should it be agreed that the current plan is the alternative selected, NBC will initiate final design of the high priority facilities upon RIDEM approval of the preliminary design and revised facilities plan. Construction is expected to begin in 1998 and will take approximately twelve to fifteen years to complete. Total project costs are estimated at \$481 million in 1992 dollars. The schedule and costs for this alternative are provided in the detailed project listings.

#### Solids Handling:

Deleted from this year's CIP is the long term solids handling improvement project. This project would have resulted in long term improvements to dewatering and incineration equipment at Field's Point in lieu of proceeding with privatization of solids handling, which was rejected by the Public Utilities Commission (PUC). The Commission has decided to make short-term improvements to its existing solids handling facilities at Field's Point until it can determine the approach it should take for the long term. The Commission has also initiated a facilities plan for its Bucklin Point facility which will evaluate all viable long term sludge disposal alternatives.

### PROGRAM CHANGES

#### Wastewater Treatment Facilities

The long term solids handling project has been deleted in this year's CIP. Long term solids handling improvements for Bucklin Point will be addressed in the facilities plan being prepared under Contract 807:BPWWTF Improvements Phase II. With respect to

Field's Point, Contract 103: Short Term Solids Handling Improvements will result in improvements to the incinerator and solids handling equipment.

Based on a facilities plan amendment, the interim storage building project at Field's Point has been replaced with the design and construction of a permanent storage building to be located on the existing filter building site.

#### Sewer System

Some substantial sewer system projects were completed in the last year. This includes Contract 401: Butler Hospital Interceptor Replacement/Repairs, Contract 601: Improvement to NBC-owned Interceptors in North Providence and Contract 404: Gano St. to Pitman St. Interceptor Replacement. Two new projects are reflected in this year's capital program including the cleaning of the Seekonk River Interceptor and an Infiltration/Inflow Study for the Louisquisset Pike Interceptor. The cleaning of the Seekonk River Interceptor will be partially funded by an Aquafund grant.

#### Buildings and Grounds

Other than several vehicle replacements there have been no significant changes within this category.

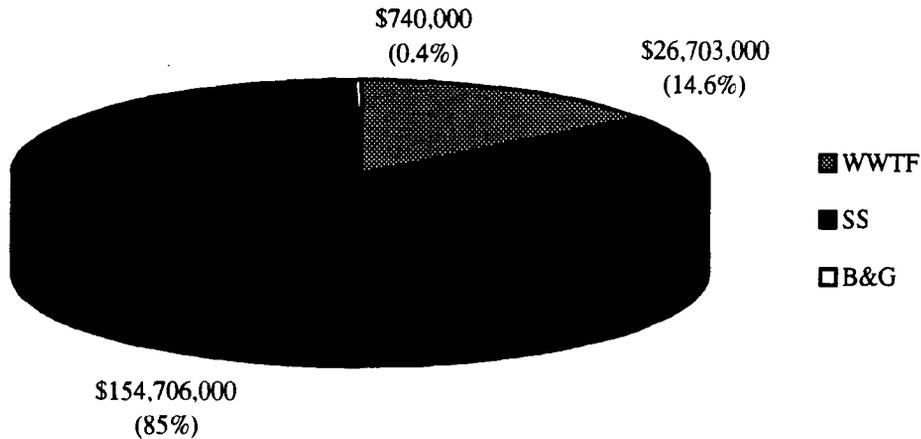
#### COSTS BY FUNCTIONAL AREA

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

Buildings and Grounds (BG) projects include building repairs and equipment purchases to support NBC staff. 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 (SS) improvements include the Combined Sewer Overflow project, interceptor rehabilitation, and outlying sewer construction and pumping station improvements.

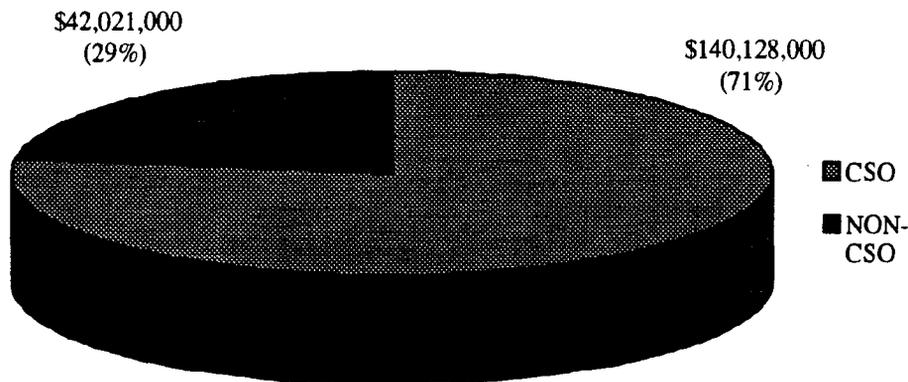
The majority of the costs identified in the capital program are associated with the CSO mitigation which falls within the definition of the SS category. As a result, this area accounts for 85% or \$154.7 million of the total costs of the capital program. Of the remaining costs, 14.6% are for treatment facility improvements, and 0.4% are for buildings and grounds projects.

### COST BY FUNCTIONAL AREA



To readily view the magnitude of the CSO program, the chart below shows that CSO program related costs account for \$140.1 million or 71% of the total capital program.

### CSO vs. NON-CSO COSTS



### FISCAL IMPACT

The CIP is a planning document and the costs and schedules it reflects are based on the best available information. Experience dictates that as projects proceed from planning to construction, costs generally increase.

There are several funding sources for scheduled CIP projects and many projects will have funding from more than one source. The funding options available are as follows:

#### Grants

Federal grants were provided by the United States Environmental Protection Agency under the Construction Grants Program. Grants were between 55% and 75% of the total

eligible project cost. In addition, RIDEM provided a federal grant match with a grant of 15% of the total eligible project cost. The Construction Grants Program has been phased out and replaced with the State Revolving Loan Fund. State Aquafund grants are also included in this category.

#### **BVDC Bonds**

The NBC merged with the former Blackstone Valley District Commission (BVDC) on January 1, 1992. The former BVDC had the use of state general obligation (g.o.) bonds issued on their behalf. A statewide voter referendum approved in 1971 authorized \$3.3 million in g.o. bonds for site specific uses such as the planning, construction and equipping of interceptor sewer extension for the Washington Highway Interceptor. In 1986, a statewide voter referendum was passed by the voters authorizing the use of \$17.2 million for upgrades and improvements to the Bucklin Point facility and its interceptor system.

Prior to the merger, debt service was recovered through billings to each of the municipalities served by the Bucklin Point facility. Debt service was allocated based on the proportion of the community's flow to the total flow. As a result of NBC's most recent rate filing, all debt service is now billed directly to the users.

#### **Bay Bonds**

In 1980, an \$87.7 million bond issue was passed by the voters to finance improvements to the NBC sewer system which would result in improved water quality. Of the \$87.7 million in "Bay Bonds," \$15 million of the authorization was transferred to the former Blackstone Valley District Commission (\$6 million) and the Pawtuxet River Authority (\$9 million) during the 1990 session of the Rhode Island General Assembly. A \$15 million NBC bond issue was passed in the 1992 general election to replace these funds. As a result, a total of \$93.7 million in Bay Bonds have been authorized for NBC by voters. A total of \$67.5 million has been issued.

Of the \$93.7 million authorized, R.I. General Law 46-25 requires that NBC users be responsible for the debt service on \$14.059 million. To date, user charges are financing the debt service on \$13.485 million of this amount. This means that users will be responsible for the debt service on a maximum of \$0.574 million of the unissued \$26.2 million Bay Bonds. The remaining amount will become an obligation of the State.

The State Budget Office is responsible for the issuance of Bay Bonds on behalf of NBC. The projected availability of Bay Bonds noted in the CIP is consistent with the State of Rhode Island's Capital Budget. It should be noted, however, that the State occasionally modifies the bond issuance schedule set forth in the State Capital Budget.

## Operating Budget

The operating budget is financed by sewer user charges. It funds the purchase of non-replacement capital equipment and facilities and may also reflect the annual operating expense associated with short term financing.

### Summary

Funding source and cash flows by functional area are shown in Table 1 below.

Table 1  
(Cash Flow Basis in Thousand \$'s)

#### Wastewater Treatment Facilities

Funding Source	FY 97	FY 98	FY 99	FY 00	FY 01	Total
Grant	0	0	0	0	0	0
BVDC Bonds	84	42	0	0	0	126
Bay Bonds	767	2,733	0	0	0	3,500
SRF	4,095	2,773	4,479	6,792	4,480	22,619
Revenue Bonds	0	0	0	0	0	0
Rep. Reserve	78	0	0	0	200	278
Op. Budget	180	0	0	0	0	180
<b>Total</b>	<b>5,204</b>	<b>5,548</b>	<b>4,479</b>	<b>6,792</b>	<b>4,680</b>	<b>26,703</b>

#### Sewer System Improvements

Funding Source	FY 97	FY 98	FY 99	FY 00	FY 01	Total
Grant	90	0	0	0	0	90
BVDC Bonds	0	0	0	0	0	0
Bay Bonds	9,273	6,872	19,630	0	0	35,775
SRF	3,373	6,254	16,415	46,435	46,000	118,841
Revenue Bonds	0	0	0	0	0	0
Rep. Reserve	0	0	0	0	0	0
Op. Budget	0	0	0	0	0	0
<b>Total</b>	<b>13,100</b>	<b>13,126</b>	<b>36,045</b>	<b>46,435</b>	<b>46,000</b>	<b>154,706</b>

### Buildings & Grounds

Funding Source	FY 97	FY 98	FY 99	FY 00	FY 01	Total
Grant	0	0	0	0	0	0
BVDC Bonds	0	0	0	0	0	0
Bay Bonds	0	0	0	0	0	0
SRF	0	0	0	0	0	0
Revenue Bonds	0	0	0	0	0	0
Rep. Reserve	165	175	195	60	0	595
Op. Budget	75	70	0	0	0	145
<b>Total</b>	<b>240</b>	<b>245</b>	<b>195</b>	<b>60</b>	<b>0</b>	<b>740</b>

The estimated cost of the projects identified in this year's capital program is approximately \$182 million over the next five years. Table 2 summarizes the projected cash flows from each of the funding sources.

Table 2  
(In Thousand \$'s)

Funding Source	FY 97	FY 98	FY 99	FY 00	FY 01	Total
Grant	90	0	0	0	0	90
BVDC Bonds	84	42	0	0	0	126
Bay Bonds	10,040	9,605	19,630	0	0	39,275
SRF	7,832	9,027	20,894	53,227	50,480	141,460
Revenue Bonds	0	0	0	0	0	0
Rep. Reserve	243	175	195	60	200	873
Op. Budget	255	70	0	0	0	325
<b>Total</b>	<b>18,544</b>	<b>18,919</b>	<b>40,719</b>	<b>53,287</b>	<b>50,680</b>	<b>182,149</b>

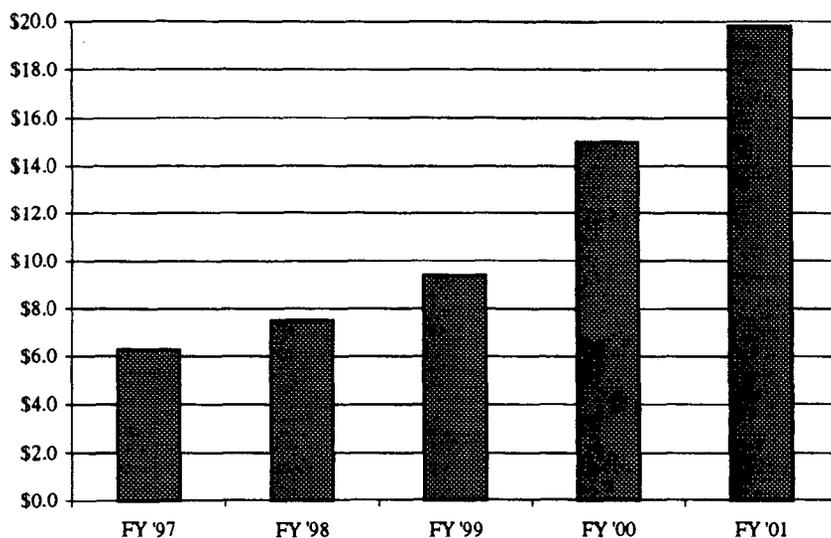
Based on the State's current capital budget, existing bond authorizations, and projected rates of expenditure, it appears that the Bay Bonds will be exhausted in fiscal year 1999. At that point, the NBC will pursue the use of SRF funds as the least expensive alternative and the SRF program will be the primary the source of funding for NBC's capital program. Approximately \$141.5 million in SRF funds are anticipated to be expended over the next five years.

#### IMPACT OF TOTAL ANNUAL REVENUE REQUIRMENTS AND SEWER USER FEES

As the NBC proceeds with the construction phase of the CSO mitigation project and financing mechanisms 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

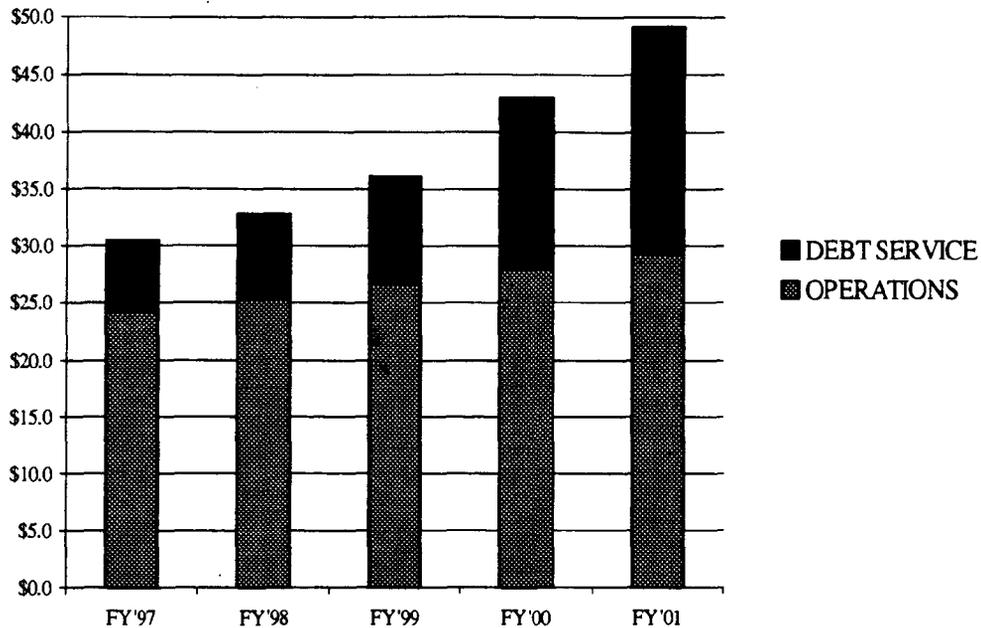
flow projections. As depicted graphically below, annual debt service more than doubles from \$6.3 million in fiscal year 1997 to \$15 million in fiscal year 2000. In 2001, annual debt service would increase to approximately \$19.7 million.

**ANNUAL DEBT SERVICE**  
(In Million \$'s)



Of the \$30.6 million total revenue requirement in fiscal year 1997, \$6.3 million or 26% is for debt service. Assuming a reasonable increase of 5% per year to the operating budget (without debt service) beginning in fiscal year 1997, a total revenue requirement of approximately \$49.2 million is needed in fiscal year 2001. Of this amount, debt service would account for \$19.8 million or approximately 67% of the total annual budget as is shown in the following graph.

**ANNUAL REVENUE REQUIREMENT  
(In Million \$'s)**



**SEWER USER FEES**

The NBC is regulated by the Public Utilities Commission (PUC). Any modifications to NBC user fees are subject to a lengthy review process and approval of the PUC. NBC's most recent rate filing resulted in the granting a \$5.5 million increase in total revenue requirement. Included in the new rates is an allowance of \$7.2 million for debt service and debt service coverage on SRF loans. This Capital Program will require additional rate relief to fund debt service. Further, the PUC has placed specific restrictions on the expenditure of funds in excess of those they specifically allowed in the Order for the CSO project.

Despite the substantial number of capital improvements that the NBC has made to its facilities it should be noted that the NBC and its users enjoy the fifth lowest annual sewer user bills in the nation for large cities.

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**SECTION II**  
**DETAILED PROJECT LISTINGS**

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**WASTEWATER  
TREATMENT FACILITY  
IMPROVEMENTS**

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**WASTEWATER  
TREATMENT FACILITY PROJECTS  
...A LISTING**

The following is a listing of the 11 Wastewater Treatment Facility Projects which  
have been included in the current Capital Improvement Program.  
An explanation and cost breakdown of each of these projects  
is included in this section. The total cost of these  
projects during this five year period is  
\$26,703,000

<b>WASTEWATER TREATMENT FACILITY IMPROVEMENTS</b>	<b>1997-2001</b>
CONTRACT 101: FINAL CLARIFIERS AND CONTROL SYSTEM	\$ 3,150,000
CONTRACT 102C & D: DRY WEATHER AND CSO CHLORINATION/DECHLORINATION SYSTEM	\$ 3,567,000
CONTRACT 103: SHORT TERM SOLIDS HANDLING IMPROVEMENTS	\$ 6,051,000
CONTRACT 104: SEPTAGE RECEIVING FACILITIES	\$ 846,000
CONTRACT 803: BPWWTF LOCKER AND LUNCH ROOM	\$ 165,000
CONTRACT 807: BPWWTF IMPROVEMENTS	\$ 11,218,000
CONTRACT 809: BUCKLIN POINT NORTH LANDFILL CLOSURE	\$ 180,000
SITE SPECIFIC CRITERIA	\$ 300,000
FPWWTF PERMANENT VEHICULAR MAINTENANCE & STORAGE BUILDING	\$ 948,000
LABORATORY EQUIPMENT: ICP/MS	\$ 200,000
LABORATORY EQUIPMENT: TRACE ANALYZER	\$ 78,000
SUBTOTAL	\$ 26,703,000

**CONTRACT 101:**

**FPWWTF  
IMPROVEMENTS TO  
FINAL CLARIFIER  
AND  
CONTROL SYSTEM  
UPGRADE**

**PROJECT DESCRIPTION**

Contract 101 encompasses several improvements to the FPWWTF including: the demolition of the seven (7) existing final clarifiers, chlorine field lab and chlorine contact tank; construction of three (3) 125 foot final clarifiers a return sludge pump station, a valve station and a splitter box; replacement of the existing instrumentation and control computer system; and miscellaneous other improvements throughout the plant.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis In Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS	163						0	163	
SRF	9,108	2,920	230				3,150	12,258	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>9,271</b>	<b>2,920</b>	<b>230</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,150</b>	<b>12,421</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 3/92 to 4/93 (13 Months)	\$163
DESIGN	From 4/93 to 6/94 (14 Months)	\$878
CONSTRUCTION	From 10/94 to 11/96 (25 Months)	\$11,380
<b>TOTAL</b>		<b>\$12,421</b>

**CONTRACT 102 C & D:**

**PROJECT DESCRIPTION**

**FPWWTF  
CHLORINATION/  
DECHLORINATION  
SYSTEM**

This design and construction project will implement the recommendation for the Field's Point portion of the Facilities Plan Amendment for Disinfection Alternatives at the Field's Point and Bucklin Point WWTF's. At Field's Point it is recommended that sodium hypochlorite be used for disinfection and sodium bisulfite for dechlorination. The recommendation for the Bucklin Point WWTF will be implemented separately under Contract 807 (Bucklin Point WWTF Improvements).

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis In Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS	253	767	2,733				3,500	3,753	
SRF	170	67					67	237	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>423</b>	<b>834</b>	<b>2,733</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,567</b>	<b>3,990</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Completed as part of 102P	\$253
DESIGN	From 3/96 through 11/96 (8 Months)	\$237
CONSTRUCTION	From 2/97 through 1/98 (11 Months)	\$3,500
<b>TOTAL</b>		<b>\$3,990</b>

**CONTRACT103:**

**PROJECT DESCRIPTION**

**SHORT TERM  
 SOLIDS  
 HANDLING  
 IMPROVEMENTS**

This project implements a variety of improvements that are required to enable the NBC to continue to incinerate sludge at its Field's Point facility. Some of the improvements include the: 1) purchase of a regenerative thermal oxidizer and a wet electrostatic precipitator which will allow THC limits to be met without the use of an afterburner and reduce particulates and metals; 2) addition of incinerator controls for ease of operation and control 3) installation of a blower and burner to Hearth #3 which will lower emissions and reduce slag formation; 4) new dewatering equipment which will result in more reliable operations; and 5) addition of other miscellaneous incinerator equipment.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS							0	0	
SRF	169	396	1,743	2,357	1,547		6,043	6,212	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET			8				8	8	
<b>TOTAL</b>	<b>169</b>	<b>396</b>	<b>1,751</b>	<b>2,357</b>	<b>1,547</b>	<b>0</b>	<b>6,051</b>	<b>6,220</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 2/96 to 8/96 (6 Months)	\$195
DESIGN	From 12/96 to 7/97 (7 Months)	\$378
CONSTRUCTION	From 11/97 to 1/00 (26 Months)	\$5,647
<b>TOTAL</b>		<b>\$6,220</b>

**CONTRACT 104:**

**PROJECT DESCRIPTION**

**SEPTAGE RECEIVING FACILITY**

The facilities planning study and marketing survey for septage receiving concluded that there are sufficient septage receiving facilities within the State of Rhode Island to handle the septage generated. However, certain aspects of the Lincoln Septage Receiving Facility need upgrading to address the operational inefficiencies. The identified areas of need are: more efficient method of grit removal; odor control to meet existing and additional needs resulting from the new grit removal system; construction of bathroom and sampling areas, and an evaluation of existing HVAC system and capacities. This project involves the design and construction of these facilities.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS	38	84	42				126	164	
BAY BONDS							0	0	
SRF	50		160	560			720	770	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>88</b>	<b>84</b>	<b>202</b>	<b>560</b>	<b>0</b>	<b>0</b>	<b>846</b>	<b>934</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 3/95 through 4/96 (13 Months)	\$88
DESIGN	From 1/97 through 10/97 (9 Months)	\$126
CONSTRUCTION	From 9/98 through 2/99 (9 Months)	\$720
<b>TOTAL</b>		<b>\$934</b>

**CONTRACT 803:**

**BPWWTF  
LOCKER ROOM  
AND  
LUNCH ROOM**

**PROJECT DESCRIPTION**

The existing facilities for operation's personnel are inadequate. the locker room is not large enough to accommodate the personnel and there is no centrally located lunch room. This project would result in the construction of locker room space along with showers, sinks, toilets for both men and women in the second floor of the dewatering building that formerly housed vacuum filter equipment. A janitorial closet, laundry facilities and a lunch room are also to be located on the second floor. In addition, this project includes the construction of a paint shop and an electrical shop in the vacant areas of the first floor of the dewatering building.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis In Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS	24						0	24	
BAY BONDS							0	0	
SRF	435	150	15				165	600	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>459</b>	<b>150</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>165</b>	<b>624</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Included as part of design	
DESIGN	From 10/94 to 4/95 (6 Months)	\$24
CONSTRUCTION	From 3/96 to 10/96 (7 Months)	\$600
<b>TOTAL</b>		<b>\$624</b>

**CONTRACT 807:**

**PROJECT DESCRIPTION**

**BPWWTF  
IMPROVEMENTS  
PHASE II**

This project will include the evaluation of unit processes at the Bucklin Point WWTF to determine their capability of providing wet weather primary capacity of 67 MGD during storms and secondary capacity of 46 MGD over sustained periods of time. The project will involve a facilities plan update, as well as design and construction. Processes currently identified as requiring evaluation and/or improvements are: grit handling facilities, primary settling tanks, conversion to a fine bubble aeration system, effluent pumping station, plant instrumentation and control system, and overall solids treatment and disposal. A long term sludge disposal plan will be developed as part of this project. In addition, the design and construction phases will include chlorination/dechlorination facilities which were studied in Contract 102, the Disinfection Alternatives Study.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS							0	0	
SRF	96	262	617	1,562	5,015	3,762	11,218	11,314	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>96</b>	<b>262</b>	<b>617</b>	<b>1,562</b>	<b>5,015</b>	<b>3,762</b>	<b>11,218</b>	<b>11,314</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 12/95 to 5/97 (18 Months)	\$358
DESIGN	From 11/97 to 10/98 (12 Months)	\$925
CONSTRUCTION	From 4/99 to 3/01 (24 Months)	\$10,031
<b>TOTAL</b>		<b>\$11,314</b>

**CONTRACT 809:**

**PROJECT DESCRIPTION**

**BPWWTF  
 NORTH LANDFILL  
 CLOSURE**

In response to capacity limitations and federal regulations, the NBC ceased landfilling sludge at the Bucklin Point North Landfill in February, 1996. This project involves the activities required to permanently close the landfill. This includes regrading, seeding and fencing the site to conform with the landfill closure plan prepared by NBC and approved by RIDEM.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS							0	0	
SRF							0	0	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET	270	180					180	450	
<b>TOTAL</b>	<b>270</b>	<b>180</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>180</b>	<b>450</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Performed by NBC staff	
DESIGN	From 5/95 to 11/95 (7 Months)	\$50
CONSTRUCTION	From 2/96 to 10/96 (9 Months)	\$400
<b>TOTAL</b>		<b>\$450</b>

**SITE SPECIFIC  
CRITERIA  
EVALUATION  
FOR FIELD'S POINT**

**PROJECT DESCRIPTION**

This poroject entails the development of site specific criteria in accordance with the Rhode Island Site specific Criteria Development Policy to evaluate the appropriatenessof the criteria used to establish the limitations for metals and other effluent parameters contained in the 1992 permit for the Field's Point Wastewater Treatment Facility. This project is required by the December 15, 1992 RIPDES consent agreement between RIDEM and NBC.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS							0	0	
SRF		300					300	300	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>0</b>	<b>300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>300</b>	<b>300</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
STUDY	From 9/96 through 8/97 (12 Months)	\$300
<b>TOTAL</b>		<b>\$300</b>

**FPWWTF  
PERMANENT  
VEHICULAR  
MAINTENANCE &  
STORAGE BUILDING**

**PROJECT DESCRIPTION**

This design and construction project will meet the vehicular maintenance and storage needs at the FPWWTF. A facilities plan amendment recommends the construction of a new building on the existing filter building site. Since part of the filter building is currently used for dewatering operations, this project cannot be implemented until new solids handling facilities are operational. This building will provide one location to store archived files, maintenance equipment and supplies. Currently, these materials are stored in several different locations throughout the plant. space within the building will also be allocated to provide indoor parking for the scum truck during the winter months.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis In Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS							0	0	
SRF					230	718	948	948	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>230</b>	<b>718</b>	<b>948</b>	<b>948</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Completed as part of Contract 101 D	
DESIGN	From 7/99 to 3/00 (8 Months)	\$193
CONSTRUCTION	From 6/00 to 6/01 (12 Months)	\$755
<b>TOTAL</b>		<b>\$948</b>

**LABORATORY  
 EQUIPMENT:**

**PROJECT DESCRIPTION**

**PURCHASE OF  
 INDUCTIVELY  
 COUPLED PLASMA  
 WITH A MASS  
 SPECTROMETER  
 (ICP/MS)**

The continual lowering of metal detection limits by EPA requires the use of highly sensitive instruments. The EPA recommends the use of an ICP/MS for the metal analyses. This instrument has the detection power, sensitivity and elemental coverage to comply with the more stringent EPA regulations.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE		5 YEAR					AFTER	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01	TOTAL	FY '01	
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE						200	200		200
OP. BUDGET							0		0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>200</b>	<b>200</b>		<b>200</b>

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PURCHASE	Fiscal Year 2001	\$200
<b>TOTAL</b>		<b>\$200</b>

Fiscal Year 1997 - 2001  
 Capital Improvement Program

**LABORATORY  
 EQUIPMENT:**

**PURCHASE OF  
 THERMO JARRELL  
 ASH ICAP  
 61E TRACE ANALYZER**

**PROJECT DESCRIPTION**

The current AA/graphite furnace is nine years old. Metal analysis on the unit is a tedious and time consuming process. The Jarrell Ash ICAP 61E Trace Analyzer possesses speed linearity and multi-element capabilities of ICP emission with detection limits comparable to GFAAS.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS							0	0	
SRF							0	0	
REVENUE BONDS							0	0	
REP. RESERVE		78					78	78	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>0</b>	<b>78</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>78</b>	<b>78</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PURCHASE	Fiscal Year 1997	\$78
<b>TOTAL</b>		<b>\$78</b>

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**SEWER SYSTEM  
IMPROVEMENTS**

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**SEWER SYSTEM IMPROVEMENTS  
& MAINTENANCE PROJECTS  
...A LISTING**

The following is a listing of the 13 Sewer System & Maintenance Projects which  
have been included in the current Capital Improvement Program.  
An explanation and cost breakdown of each of these projects  
is included in this section. The total cost of these  
projects during this five year period is  
\$154,706,000

<b>PROPOSED PROJECT</b>	<b>1997-2001</b>
CONTRACT 302: CSO HIGH PRIORITY FACILITIES	\$ 139,100,000
CONTRACT 302.2: CSO REASSESSMENT	\$ 1,028,000
CONTRACT 404: GANO ST. TO PITMAN ST. INTERCEPTOR REPLACEMENT	\$ 73,000
CONTRACT 503: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON	\$ 1,953,000
CONTRACT 504: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON	\$ 6,140,000
CONTRACT 701: REPLACEMENT OF THE SAYLESVILLE PUMPING STATION	\$ 1,240,000
CONTRACT 902: GEOGRAPHIC INFORMATION SYSTEM IMPLEMENTATION	\$ 1,299,000
CSO 2B HEADWALL IMPROVEMENTS	\$ 714,000
CSO FLOWMETERS	\$ 104,000
REPLACEMENT OF A SECTION OF MOSHASSUCK VALLEY INTERCEPTOR	\$ 726,000
OVERFLOW 049 CSO RECONSTRUCTION	\$ 779,000
INFILTRATION/INFLOW STUDY: LOUISQUISSET PIKE AREA	\$ 50,000
SEEKONK RIVER CSO INTERCEPTOR CLEANUP	\$ 1,500,000
SUBTOTAL	\$ 154,706,000

**CONTRACT 302:**

**PROJECT DESCRIPTION**

**COMPREHENSIVE  
COMBINED  
SEWER  
OVERFLOW (CSO)  
PROGRAM**

**HIGH PRIORITY  
FACILITIES**

Providence, Pawtucket and Central Falls all have combined sewers which overflow at approximately 80 locations during wet weather. This Comprehensive Combined Sewer Overflow (CSO) program will mitigate the impact of these overflows through the construction of wet weather control facilities. The work will be completed in three phases. Phase I, completed in June 1993, developed recommendations and priorities for the facilities to be constructed. The facilities recommended include seven (7) near surface storage facilities and 61,350 linear feet of tunnels. Phase II consists of design and Phase III is construction. This project addresses only the high priority facilities consisting of: the Main Spine and Seekonk Tunnels and the C-East and C-West underground storage facilities. Preliminary design (30% plans) for these facilities were complete d and submitted to RIDEM in January 1996. Final design will begin subsequent to receipts of RIDEM approval.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS	5,000	6,500	6,000	20,822			33,322	38,322	
SRF	11,000			13,778	46,000	46,000	105,778	202,620	
REVENUE BONDS							0	63,110	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>16,000</b>	<b>6,500</b>	<b>6,000</b>	<b>34,600</b>	<b>46,000</b>	<b>46,000</b>	<b>139,100</b>	<b>148,952</b>	<b>304,052</b>

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 1/92 to 7/93 (18 months)	\$5,000
DESIGN	From 7/93 to 3/98 (56 months)	\$23,500
CONSTRUCTION	From 10/98 to 10/04 (72 months)	\$276,500
<b>TOTAL</b>		<b>\$305,000</b>

**CONTRACT 302.2:**

**PROJECT DESCRIPTION**

**COMPREHENSIVE  
COMBINED  
SEWER  
OVERFLOW (CSO)  
PROGRAM**

Because of the rate impact that the CSO program will have on NBC users and changes that have occurred in the national CSO policy since the 1994 approval of the CSO Abatement Plan, the Commission convened a stakeholders group in early 1996 to review the proposed plan. As a result of these meetings the Commission has decided to proceed with investigating alternative, less costly approaches to comply with the new policy. This project involves the investigation of alternatives and will be funded with Bay Bonds. Also included in this project is the design of overflow 049 CSO reconstruction.

**REASSESSMENT**

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS		1,028					1,028		1,028
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
<b>TOTAL</b>	<b>0</b>	<b>1,028</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,028</b>	<b>0</b>	<b>1,028</b>

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 1/92 to 7/93 (18 months)	\$1,028
<b>TOTAL</b>		<b>\$1,028</b>

**CONTRACT 404:**

**PROJECT DESCRIPTION**

**GANO STREET  
 TO  
 PITMAN STREET  
 INTERCEPTOR  
 REPLACEMENT**

Contract 404 is the replacement of approximately 2,285 feet of the 42" interceptor from Gano Street to Pitman Street with a new 42" PCCP interceptr because the existing interceptor has become misaligned both vertically and horizontally over the past 60 years. This project is essentially complete and remaining costs reflect retainage.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis In Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS	866						0	866	
SRF	3,534	73					73	3,607	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>4,400</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73</b>	<b>4,473</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Included as part of CSO A Facilities Plan	
DESIGN	From 1/87 to 3/94 (75 Months)	\$866
CONSTRUCTION	From 3/95 to 1/96 (10 Months)	\$3,607
<b>TOTAL</b>		<b>\$4,473</b>

**CONTRACT 503:**

**IMPROVEMENTS TO  
NBC OWNED  
INTERCEPTORS  
IN JOHNSTON**

**PROJECT DESCRIPTION**

A preliminary engineering study has been completed by NBC. The Town of Johnston's Draft Facilities Plan indicated that there was insufficient downstream capacity from the Cherry Hill site to handle additional flows. Contract 504 was initiated to upgrade and expand the downstream interceptors so that Contract 503 can proceed. As a result of mandated improvements to out existing wastewater system and treatment facilities, this project has been placed on a lower priority. Recently there has been activity by the Town to bring sewers to this area through a cooperative effort of the Town, a developer and NBC.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01	5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
GRANT									0
BVDC BONDS									0
BAY BONDS	35						0		35
SRF		1,145	680	62	66		1,953		1,953
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
<b>TOTAL</b>	<b>35</b>	<b>1,145</b>	<b>680</b>	<b>62</b>	<b>66</b>	<b>0</b>	<b>1,953</b>		<b>1,988</b>

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Completed	\$35
DESIGN	From 9/97 to 2/98 (6 Months)	\$35
CONSTRUCTION	From 7/97 to 10/99 (27 Months)	\$1,918
<b>TOTAL</b>		<b>\$1,988</b>

**CONTRACT 504:**

**PROJECT DESCRIPTION**

**IMPROVEMENTS TO  
 NBC OWNED  
 INTERCEPTORS  
 IN JOHNSTON**

In order to correct capacity problems in the northern portion of the Town of Johnston, the NBC is currently designing improvements in the interceptor system. These improvements will provide sufficient capacity for future growth in this portion of the Town. This contract will cover the railroad interceptor area.

**NORTH END**

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS	120						0	120	
SRF	745	1,637	4,503				6,140	6,885	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>865</b>	<b>1,637</b>	<b>4,503</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,140</b>	<b>7,005</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Planning included as part of SSES	
DESIGN	From 11/93 to 3/96 (30 Months)	\$865
CONSTRUCTION	From 3/97 to 6/98 (15 Months)	\$6,140
<b>TOTAL</b>		<b>\$7,005</b>

**CONTRACT 701:**

**PROJECT DESCRIPTION**

**REPLACEMENT  
OF THE  
LINCOLN (SAYLESVILLE)  
PUMP STATION**

An evaluation of the existing package type pumping station in Saylesville was undertaken as part of Contract 103. It was determined that the existing pumping station has size limitations in both the wet well and the dry pit. A new pumping station is necessary in order to provide firm capacity and reliable operation for future flows.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS	151						0	151	
BAY BONDS							0	0	
SRF	195	626	588	26			1,240	1,435	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>346</b>	<b>626</b>	<b>588</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>1,240</b>	<b>1,586</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Prior to 7/95	\$151
DESIGN	From 11/94 to 9/95 (11 Months)	\$195
CONSTRUCTION	From 12/96 to 10/97 (11 Months)	\$1,240
<b>TOTAL</b>		<b>\$1,586</b>

**CONTRACT 902:**

**PROJECT DESCRIPTION**

**GEOGRAPHIC INFORMATION SYSTEM (GIS) IMPLEMENTATION**

The NBC has completed a study to implement a Geographic Information System (GIS) program. This GIS would allow the NBC to geographically relate and maintain databases on its sewer system, filling and pretreatment programs. The project includes data conversion, data development and acquisition of additional hardware and software. This would be a long term project requiring annual updating subsequent to the initial data acquisition.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01	5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF	89	186	372	372	369		1,299		1,388
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
<b>TOTAL</b>	<b>89</b>	<b>186</b>	<b>372</b>	<b>372</b>	<b>369</b>	<b>0</b>	<b>1,299</b>		<b>1,388</b>

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 10/95 to 5/96 (8 months)	\$89
IMPLEMENTATION	From 1/97 to 6/00 (36 months)	\$1,299
<b>TOTAL</b>		<b>\$1,388</b>

**CSO 2B  
HEADWALL  
IMPROVEMENTS**

**PROJECT DESCRIPTION**

This project includes rebuilding the headwalls for seven (7) outfall pipes along the Woonasquatucket River. Although design was completed five years ago, construction could not start until the Rhode Island Department of Transportation (RIDOT) moratorium on road cuts on Promenade St. expire. It is expected that the moratorium will end by the start date proposed. This will be verified by RIDOT and schedules will be adjusted as appropriate. Prior to bid, design documents must be updated and permits and easements must be obtained.

**PROJECT FINANCING & EXPENDITURES**  
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS	132	24	300	390			714	846	
SRF							0	0	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>132</b>	<b>24</b>	<b>300</b>	<b>390</b>	<b>0</b>	<b>0</b>	<b>714</b>	<b>846</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING/DESIGN	From 10/88 to 3/91 (30 Months)	\$132
DESIGN UPDATE	From 4/97 to 8/97 (4 Months)	\$32
CONSTRUCTION	From 4/98 to 11/98 (7 Months)	\$682
<b>TOTAL</b>		<b>\$846</b>

**CSO FLOWMETERS**

**PROJECT DESCRIPTION**

This project consists of the purchase and installation of several velocity flow meters and ultrasonic level only flow meters. These meters will be used by NBC staff to conduct a CSO monitoring study over approximately one year to evaluate surcharge conditions during wet weather events. When the study is complete, the meters will be installed in existing metering locations throughout the Field's Point and Bucklin Point service areas.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS	87	19	85				104	191	
SRF							0	0	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>87</b>	<b>19</b>	<b>85</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>104</b>	<b>191</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PURCHASE/ INSTALLATION	From 7/95 to 7/98 (36 months)	\$191
<b>TOTAL</b>		<b>\$191</b>

**REPLACEMENT  
 OF THE  
 MOSHASSUCK  
 VALLEY  
 INTERCEPTOR  
 NEAR  
 HIGGINSON AVE.**

**PROJECT DESCRIPTION**

A portion of the Moshassuck Valley Interceptor south of Higginson Avenue in Central Falls was constructed in peat and has subsided over the years. The extent of the problem is not known at this time, but flow is not obstructed. This project consists of identifying the extent of the problem and designing and constructing a replacement sewer.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS							0	0	
SRF		35	96	595			726	726	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>0</b>	<b>35</b>	<b>96</b>	<b>595</b>	<b>0</b>	<b>0</b>	<b>726</b>	<b>726</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 9/96 to 3/97 (6 Months)	\$35
DESIGN	From 7/97 to 12/97 (6 Months)	\$96
CONSTRUCTION	From 7/98 to 12/98 (6 Months)	\$595
<b>TOTAL</b>		<b>\$726</b>

OF 049

**PROJECT DESCRIPTION**

**CSO RECONSTRUCTION**

During large rainstorms a flooding condition exists on Valley St. near the Moshassuck River. As part of the design phase of the L-East Underground Storage Facility it was determined that this condition could be improved through modifications to the existing facilities. Design of these modifications will be accomplished through the Contract 302.2. In order to implement the modifications and alleviate the flooding conditions as soon as possible, construction of these improvements will be executed as a separate contract.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis In Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0	0	
BVDC BONDS							0	0	
BAY BONDS		292	487				779	779	
SRF							0	0	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>0</b>	<b>292</b>	<b>487</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>779</b>	<b>779</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	Part of Contract 302	
DESIGN	Part of Contract 302	
CONSTRUCTION	From 4/97 to 12/97 (8 months)	\$779
<b>TOTAL</b>		<b>\$779</b>

Fiscal Year 1997 - 2001  
 Capital Improvement Program

**INFILTRATION/INFLOW  
 STUDY**

**LOUISQUISSETT  
 PIKE AREA**

**PROJECT DESCRIPTION**

NBC's Interceptor Construction and Maintenance section has reported high flow levels and root problems in the Louisquisset Pike area of Lincoln. This project is comprised of an infiltration and inflow study of the area through the use of existing NBC resources. This costs identified below reflect activities that are outside of NBC's expertise.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis In Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT								0	
BVDC BONDS								0	
BAY BONDS							0	0	
SRF		35	15				50	50	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>0</b>	<b>35</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>	<b>50</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 3/97 to 11/97 (9 Months)	\$50
<b>TOTAL</b>		<b>\$50</b>

Fiscal Year 1997 - 2001  
 Capital Improvement Program

**SEEKONK  
 RIVER CSO  
 INTERCEPTOR  
 CLEANING**

**PROJECT DESCRIPTION**

The NBC has applied for an Aquafund grant to fund the cleaning of the Seekonk River Interceptor. The completion of this project will require the expenditure of NBC funds beyond the grant. A portion of this interceptor was recently rehabilitated through contracts 401 and 404 and the implementation of this project will maximize the capacity of this interceptor and ensure fewer CSO events.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT		90					90	90	
BVDC BONDS							0	0	
BAY BONDS		1,410					1,410	1,410	
SRF								0	
REVENUE BONDS							0	0	
REP. RESERVE							0	0	
OP. BUDGET							0	0	
<b>TOTAL</b>	<b>0</b>	<b>1,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,500</b>	<b>1,500</b>	

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
IMPLEMENTATION	From 1/97 to 6/97 (6 Months)	\$1,500
<b>TOTAL</b>		<b>\$1,500</b>

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**BUILDINGS & GROUNDS  
IMPROVEMENTS**

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**BUILDINGS  
AND GROUNDS PROJECTS  
...A LISTING**

The following is a listing of the 4 Buildings and Grounds Projects which have been included in the current Capital Improvement Program. An explanation and cost breakdown of each of these projects is included in this section. The total cost of these projects during this five year period is \$740,000

<u>PROPOSED PROJECT</u>	<u>1997-2001</u>
WINDOW REPLACEMENT	\$ 40,000
HEATING SYSTEM	\$ 65,000
ELECTRICAL UPGRADE AND OFFICE SPACE EXPANSION	\$ 40,000
VEHICLE REPLACEMENTS	\$ 595,000
SUBTOTAL	\$ 740,000

**IMPROVEMENTS TO NBC  
 OWNED PROPERTY LOCATED  
 AT 459 PROMENADE ST.**

**WINDOWS**

**PROJECT DESCRIPTION**

The windows in the building at 459 Promenade St. were installed 60 years ago when the facility was built. They are old, drafty, do not close tightly and are not energy efficient. The office windows were replaced in 1991 however, it is recommended that all of the garage windows be replaced with properly fitted, energy efficient thermopane windows.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET			40				40		40
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>		<b>40</b>

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING		
DESIGN	From 9/97 to 2/98 (4 months)	\$10
CONSTRUCTION	From 4/98 to 7/98 (3 months)	\$30
<b>TOTAL</b>		<b>\$40</b>

**IMPROVEMENTS TO NBC  
 OWNED PROPERTY LOCATED  
 AT 459 PROMENADE ST.  
 HEATING SYSTEM**

**PROJECT DESCRIPTION**

The Promenade St., building has an old inadequate and inefficient heating system. The system does not distribute heat evenly which results in cold spots in office areas and also requires frequent repairs. Replacement of the old system with a new gas fired heating system that can be zoned to provide efficient heating is recommended.

**PROJECT FINANCING & EXPENDITURES  
 (Cash Flow Basis In Thousand \$)**

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET		65					65		65
<b>TOTAL</b>	0	65	0	0	0	0	65		65

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING		
DESIGN	From 10/96 to 1/97 (3 months)	\$10
CONSTRUCTION	From 2/97 to 6/97 (4 months)	\$55
<b>TOTAL</b>		<b>\$65</b>

**IMPROVEMENTS TO NBC OWNED PROPERTY LOCATED AT 459 PROMENADE ST.**

**PROJECT DESCRIPTION**

The 65 year old building at 459 Promenade Street has the original wiring and fixtures. A considerable amount of the wiring has been abandoned and should be removed. Breaker panels also need to be consolidated and relocated. Lighting fixtures need to be replaced and the existing wiring needs to be examined and replaced if necessary.

**WIRING AND ELECTRICAL UPGRADE**

**OFFICE SPACE PLANNING**

This project also includes the planning of additional office space to accommodate staff presently located in other buildings.

**PROJECT FINANCING & EXPENDITURES**  
 (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE						5 YEAR TOTAL	AFTER FY '01	TOTAL COSTS
	JULY '96	FY '97	FY '98	FY '99	FY '00	FY '01			
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET	10	10	30				40		50
<b>TOTAL</b>	<b>10</b>	<b>10</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>		<b>50</b>

**PROJECT COST BY PHASE**

Phase	Project Schedule	Cost By Phase
PLANNING	From 7/98 to 1/99 (6 months)	\$30
CONSTRUCTION	From 11/95 to 10/96 (10 months)	\$20
<b>TOTAL</b>		<b>\$50</b>

## VEHICLE REPLACEMENT SCHEDULE

( In Thousand \$'s)

All Items are to be funded from the Replacement Reserve

	<u>FY '97</u>	<u>FY '98</u>	<u>FY '99</u>	<u>FY '00</u>	<u>FY '01</u>
1984 Sewer Bucket Cleaning Machine		70			
1984 Digger Truck (Unit 11)		80			
10 Wheeler (Unit 10)				60	
1985 City Suburban (Unit 14)			20		
1989 Vactor Truck (Unit 17)			175		
1989 Iveco Utility Van (Unit 16)		25			
Front Loader and Backhoe	65				
15 CY Dumptruck	100				
Total	<u>165</u>	<u>175</u>	<u>195</u>	<u>60</u>	<u>0</u>

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**SECTION III**  
**APPENDIX**

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# THE NARRAGANSETT BAY COMMISSION

## ABBREVIATIONS & ACRONYMS FOR THE 1997-2001 CIP

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Average Daily Flow	ADF
Buildings and Grounds	BG
Bucklin Point Wastewater Treatment Facility	BPWWTF
Blackstone Valley District Commission	BVDC
Blackstone Valley Interceptor	BVI
Capital Improvement Plan	CIP
Combined Sewer Overflow	CSO
Department of Environmental Management (Rhode Island)	DEM
Dissolved Oxygen	DO/D.O.
Environmental Protection Agency (United States)	EPA
Ernest Street Pumping Station	ESPS
Field's Point Wastewater Treatment Facility	FPWWTF
General Obligation Bonds (issued by The State of Rhode Island)	G.O./g.o.
Geographic Information System	GIS
Inductively Coupled Plasma w/Mass Spectro Photometer	ICP/MS
Interceptor Construction & Maintenance (Narragansett Bay Commission)	ICM
Linear Feet	LF
Million Gallons per Day	MGD/mgd
Moshassuck Valley Interceptor	MVI
Narragansett Bay Water Quality Management District Commission	NBC
National Pollution Discharge Elimination System	NPDES
Project O4	O 2
Out Fall	OF
Operating (to modify "budget")	OP/Oper.
Polychlorobiphenyls	PCBs
Public Utilities Commission (Rhode Island)	PUC
Replacement (used with "Reserve Fund")	REP./REPL.
Revenues (used with "Bonds")	REV.
Rhode Island Department of Environmental Management	RIDEM
Rhode Island Pollution Discharge Elimination System	RIPDES
State Revolving Fund (Rhode Island)	SRF
Wastewater Treatment Facility	WWTF

## **NARRAGANSETT BAY COMMISSION FACILITIES**

### ***NBC Field's Point Service Area Facilities***

The FPWWTF can provide secondary treatment to average dry weather flows of 65 million gallons per day (mgd), sustained wet weather flows of 77 mgd, and peak hourly flows of 91 mgd. Wet weather facilities provide primary treatment and disinfection for stormwater flows of up to 123 mgd beyond the primary and secondary process systems' capacity. Total treatment capacity at the Field's Point facility is 200 mgd.

The Field's Point facility uses an activated sludge process for secondary treatment, incorporating grit removal, primary sedimentation, secondary aeration, final clarification and chlorination for disinfection in the overall treatment process. Final effluent discharge is to the Providence River. The majority of the flow is pumped to the treatment facility by the Ernest Street Pumping Station (ESPS).

Sludge is processed through gravity thickeners and then to two 2-meter Parkson Magnum 3000 belt filter presses which went on-line in mid June, 1988. Sludge is then conveyed to a Nichols nine-hearth sludge incinerator (16 feet diameter, 10 wet ton/hour maximum capacity). The resulting ash from the incinerator is conveyed in a wet state to ash settling tanks. The settled ash is then landfilled.

The Field's Point service area operates and maintains five outlying pump stations. The Washington Park and Reservoir Ave. pump stations located within the City of Providence have recently completed construction improvements. There are three additional pump stations in Johnston. The newest, Central Avenue, came on-line in 1987.

The Field's Point service area has several flow metering stations that are used to measure flows from the various service areas. These meters are read weekly.

In addition, the Field's Point service area owns and is responsible for the maintenance and correction of 57 Combined Sewer Overflows (CSO's), 32 tidegates and 68 miles of interceptors.

### *NBC Bucklin Point Service Area Facilities*

The Blackstone Valley District Commission (BVDC) was established by the Rhode Island General Assembly in 1947 to plan, design, construct and operate and maintain facilities for the abatement of pollution generated from wastewater. Rhode Island voters also granted BVDC the ability to use state issued (but BVDC retired) bonds. The Bucklin Point wastewater treatment plant, providing primary treatment, began operating in 1952. The plant was upgraded to secondary treatment in 1973.

The Bucklin Point Wastewater Treatment Facility (BPWWTF) can provide maximum secondary treatment to 46 mgd and primary treatment for flows up to 60 mgd.

Wastewater treated at the Bucklin Point Facility first flows through mechanically cleaned screens, grit chambers, a pre-aeration channel, two primary settling tanks and then flows into aeration basins where it receives secondary treatment through the use of activated sludge technology. The activated sludge and the wastewater then flow to six final settling tanks. The effluent from the final settling tanks flows to the chlorine contact tank for disinfection. The treated effluent is discharged to the Seekonk River.

Waste sludge from the activated sludge process is pumped to the flotation thickener where it is thickened with the aid of chemicals and is then pumped to one of the digesters. The sludge is anaerobically digested and methane gas and carbon dioxide are produced as part of this process. The methane is used to heat the digesters and plant buildings. In accordance with Federal Regulations, sludge disposal at the landfill has been ceased and the landfill is in the process of being closed. NETCO presently dewateres and disposes of the sludge in out-of-state landfills.

NBC also owns and operates three pump stations within the service area, the Omega (East Providence) Pump Station, the Saylesville (Lincoln) Pump Station and the Washington Highway Pump Station in Lincoln.

NBC is also responsible for five interceptors in the BPWWTF service area: the Blackstone Valley, Washington Highway, Moshassuck Valley, Abbott Run and East Providence. The total length of the interceptors is approximately 28 miles.

In addition, legislation passed by the Rhode Island General Assembly in 1989 assigned responsibility for the 27 CSO's in Pawtucket and Central Falls to BVDC in addition to the BVDC's North Diversion Structure located at Bucklin Point.

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**PUBLIC REVIEW PROCESS  
WITH  
PUBLIC COMMENTS  
AND  
RESPONSES**

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On July 15, 1996 the Draft CIP was distributed to the Board of Commissioners.

A display advertisement for a public hearing on the Capital Improvement Program (CIP) was published in the Providence Journal Bulletin (see following page). The CIP Public Hearing was held on August 7, 1996 at 7:00 p.m. at The Narragansett Bay Commission Corporate Office, 235 Promenade Street, Suite 500. At the hearing it was noted that public comments would be accepted until August 9, 1996. Any written comments received from this Public Hearing have been included in the following pages along with the written responses from the Commission. Where applicable, comments/suggestions were incorporated into the CIP.

On August 14, 1996 the Draft CIP was presented to the Citizen's Advisory Committee.

On September 10, 1996, the Citizen's Advisory Committee commented on the Draft CIP.

On September 23, 1996 the Final Draft CIP was adopted by the Board of Commissioners.

# Public Hearing

## The Narragansett Bay Commission

invites the public to attend a Public Hearing concerning its

### Capital Improvement Program for Fiscal Years 1997-2001

on Wednesday August 7, at 7:00 p.m.

at

The Narragansett Bay Commission\*

235 Promenade Street, Suite 500, Providence, RI 02908

Comments will be taken from the public following an overview of the NBC's Capital Improvement Program (CIP) for fiscal years 1997 through 2001. The CIP is a planning document identifying over \$180 million in NBC major projects, repairs and purchases over the next five years. For further information or for a copy of the CIP, contact Jean-Marie Grossi at (401) 277-6680.

\*The meeting site is accessible. Individuals requesting interpreter services must notify the NBC at 277-6680/TDD 277-6680 seventy-two hours in advance of the meeting date.

Rep. Vincent Mesolella, Chairman

Paul Pirnik, Executive Director



THE FOUNDRY CORPORATE OFFICE CENTER  
235 Promenade Street - Suite 500  
PROVIDENCE, RI 02908-5739

Howard E. Schachter  
Chairman

Donna Frechette  
Secretary

**CITIZEN'S ADVISORY COMMITTEE  
TO THE  
NARRAGANSETT BAY COMMISSION**

September 10, 1996

Mr. Paul Pinault, Executive Director  
**Narragansett Bay Commission**  
459 Promenade Street  
Providence, RI 02908

**RE: CAPITAL IMPROVEMENT PROGRAM (CIP) FY 1997-2001 FOR THE  
NARRAGANSETT BAY WATER QUALITY MANAGEMENT DISTRICT  
COMMISSION**

The Citizens's Advisory Committee (CAC) to the Narragansett Bay Commission has authorized me to submit a Statement commending the NBC Staff on their Draft of the Capital Improvement Program for the FY-1997-2001 for the Narragansett Bay Water Quality Management District Commission.

The Citizens Advisory Committee had the privilege of having draft copies to study and a comprehensive presentation of the Draft by Ray Marshall that enabled us to draw our positive conclusions. In so doing, we unanimously agreed that the CIP Draft, was not only an extremely thorough presentation that covered every projected capital project , but also, was set forth with clarity and the kind of logical organization so needed for this type of documentation on behalf of NBC Sewer users and the general public

We approve of the Capital Improvement Program draft as submitted with an added commitment to further support the review process currently underway as part of the CSO "stakeholders" meetings. Since the CSO Abatement Plan represents 71% of the total cost of the CIP we feel that every effort must be made to achieve less costly options.

We realize that a Federal Mandate created the need for the CSO plan so our support is there, however, because of the rate impact on the users represented within our committee our goal is to strenuously seek less costly approaches to achieve compliance with the new policy.

We are hopeful and confident that the NBC Board of Commissions will agree with our assessment of this Draft and forward their approval with a minimum amount of deliberation.

I must apologize for this late submittal that resulted from a delayed distribution of the draft to our committee members which prevented us from responding sooner.

Respectfully Submitted  
On behalf of the  
**CITIZENS'S ADVISORY COMMITTEE**

A handwritten signature in cursive script, appearing to read "Howard E. Schachter".

**HOWARD E. SCHACHTER**  
**CHAIRMAN**

cc: Raymond Marshall

The Foundry Corporate Office Center  
235 Promenade Street — Suite 500  
Providence, RI  
02908-5739  
401 • 277 • 6680  
401 • 277 • 2584 Fax  
401 • 277 • 6680 TDD

Rep. Vincent J. Mesoilella  
Chairman

Paul Pinault  
Executive Director



September 23, 1996

Mr. Howard E. Schachter  
Chairman  
Citizen's Advisory Committee  
The Foundry Corporate Office Center  
235 Promenade Street - Suite 500  
Providence, Rhode Island 02908-5739

Dear Mr. <sup>Howard</sup> Schachter:

The Narragansett Bay Commission (NBC) is in receipt of your comments on our draft 1997-2001 Capital Improvement Program (CIP). Your comments will be included in the final CIP.

With regards to your comments concerning the Combined Sewer Abatement Program, please be assured that the NBC is committed to developing the best program to maximize water use benefits given the financial resources of those who will pay for the program.

The Commission appreciates the CAC membership's unanimous support and commitment in assisting us with our goals.

Sincerely,

Paul Pinault, P.E.  
Executive Director

**NARRAGANSETT BAY COMMISSION**

**EXISTING DEBT SERVICE FOR CAPITAL PROJECTS (BASED ON ACTUAL PAYMENT SCHEDULES)**

			<b>FY '97</b>	<b>FY '98</b>	<b>FY '99</b>	<b>FY '00</b>	<b>FY 2001</b>
\$1.4 M	State/G.O.'s	Principal	4,055	8,110	16,219	33,959	145,973
		Interest	52,409	52,194	51,748	50,823	48,853
		Subtotal	56,464	60,304	67,967	84,782	194,826
1987 Bonds Refunded 5/92	State/G.O.'s	Principal	5,949	11,898	23,797	47,594	47,594
		Interest	164,013	163,698	163,044	161,687	158,927
		Subtotal	169,962	175,596	186,841	209,282	206,521
1984 Bonds	State/G.O.'s	Principal	20,000	15,000	15,000	15,000	15,000
		Interest	7,465	6,165	5,175	4,170	3,150
		Subtotal	27,465	21,165	20,175	19,170	18,150
1988 Bonds	State/G.O.'s	Principal	175,000	175,000	175,000	175,000	175,000
		Interest	153,125	141,050	128,975	116,725	104,300
		Subtotal	328,125	316,050	303,975	291,725	279,300
1986 Bonds City of Providence		Principal	390,244	383,010	375,647	366,974	357,812
		Interest	125,456	100,090	74,812	49,642	24,689
		Subtotal	515,700	483,100	450,459	416,616	382,501
Promenade St. Property		Principal	79,607	87,943	97,153	107,326	118,564
		Interest	21,393	13,057	3,847	11,294	5,928
		Subtotal	101,000	101,000	101,000	118,620	124,492
1991 Bonds \$21.55 M GOB's	State/G.O.'s	Principal	300,089	282,991	275,092	276,796	278,660
		Interest	209,377	210,661	193,659	177,162	160,575
		Subtotal	509,466	493,652	468,751	453,958	439,235

NARRAGANSETT BAY COMMISSION

			FY '97	FY '98	FY '99	FY '00	FY 2001
Contract 401-Butler	SRF	Principal	63,898	66,303	68,799	71,389	74,076
		Interest	54,659	52,208	49,665	47,026	44,289
		Subtotal	118,557	118,511	118,464	118,415	118,365
Contract 601-North Prov.	SRF	Principal	105,903	109,848	113,940	118,185	122,587
		Interest	82,252	78,234	74,065	69,742	65,258
		Subtotal	188,155	188,082	188,005	187,927	187,845
Contract 201-Wash. Park	SRF	Principal	139,548	144,480	149,587	154,875	160,349
		Interest	118,172	113,177	108,006	79,652	97,109
		Subtotal	257,720	257,657	257,593	234,527	257,458
Pool Financing I	SRF	Principal	512,750	531,500	551,250	571,500	592,500
		Interest	532,933	513,776	493,912	473,314	451,959
		Subtotal	1,045,683	1,045,276	1,045,162	1,044,814	1,044,459
Pool Financing II	SRF	Principal	676,271	623,610	636,729	660,718	685,611
		Interest	483,309	614,976	587,304	562,985	537,750
		Subtotal	1,159,580	1,238,586	1,224,033	1,223,703	1,223,361
8/6/92 Issue \$100,000	State/G.O.'s	Principal	5,000	5,000	5,000	5,000	5,000
		Interest	4,750	4,350	3,950	3,585	3,295
		Subtotal	9,750	9,350	8,950	8,585	8,295
8/6/92 Issue \$3,315,000	State/G.O.'s	Principal	105,000	110,000	120,000	125,000	135,000
		Interest	166,580	157,980	148,780	139,855	132,355
		Subtotal	271,580	267,980	268,780	264,855	267,355
5/15/92 Issue\$12,750,364.15	State/G.O.'s	Principal	31,373	62,745	125,490	247,619	0
		Interest	26,629	24,966	21,515	14,362	0
		Subtotal	58,001	87,711	147,005	261,981	0

**NARRAGANSETT BAY COMMISSION**

			<b>FY '97</b>	<b>FY '98</b>	<b>FY '99</b>	<b>FY '00</b>	<b>FY 2001</b>
5/15/92 Issue \$7,731,583.1	State/G.O.'s	Principal	16,394	32,789	65,577	131,155	131,155
		Interest	451,968	451,100	449,296	445,558	437,951
		Subtotal	468,363	483,888	514,874	576,713	569,106
6/15/88 Issue \$4,770,000	State/G.O.'s	Principal	415,000	415,000	390,000	420,000	415,000
		Interest	181,385	156,085	130,555	113,395	94,075
		Subtotal	596,385	571,085	520,555	533,395	509,075
8/1/90 Issue \$200,000	State/G.O.'s	Principal	0	200,000	0	0	0
		Interest	13,000	6,500	0	0	0
		Subtotal	13,000	206,500	0	0	0
10/15/91 Issue \$900,000	State/G.O.'s	Principal	52,754	50,548	50,941	51,256	51,600
		Interest	38,488	38,892	35,855	32,800	29,728
		Subtotal	91,242	89,440	86,796	84,056	81,328
<b>TOTALS</b>							
		Principal	3,098,835	3,315,775	3,255,222	3,579,346	3,511,482
		Interest	2,887,364	2,899,158	2,724,163	2,553,779	2,400,191
		Grand Total Existing	5,986,199	6,214,933	5,979,385	6,133,125	5,911,672

NARRAGANSETT BAY COMMISSION

NEW BAY BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS: 7.00% INTEREST, 20 YEAR FINANCING

		FY '97	FY '98	FY '99	FY '00	FY '01
FY 97 NEW BAY BONDS	\$9,279,000 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 98 NEW BAY BONDS	\$17,426,000 Principal	0	28,700	28,700	28,700	28,700
	\$574,000 Interest	0	40,180	38,171	36,162	34,153
	Subtotal	0	68,880	66,871	64,862	62,853
FY 99 NEW BAY BONDS	\$7,528,995 Principal		0	0	0	0
	Interest		0	0	0	0
	Subtotal	0	0	0	0	0
FY 00 NEW BAY BONDS	\$0 Principal					
	Interest					
	Subtotal	0	0	0	0	0
FY 01 NEW BAY BONDS	\$0 Principal					
	Interest					
	Subtotal	0	0	0	0	0
	Totals					
	Principal	0	28,700	28,700	28,700	28,700
	Interest	0	40,180	38,171	36,162	34,153
	Total Bay Bonds	0	68,880	66,871	64,862	62,853

**NARRAGANSETT BAY COMMISSION**

**NEW SRF BOND FINANCING FOR CAPITAL PROJECTS**

ASSUMPTIONS:

4.7% INTEREST, 20 YEAR FINANCING  
INCLUDES FINANCING COSTS OF 7%

		FY '97	FY '98	FY '99	FY '00	FY '01
FY 97 NEW SRF	\$3,113,000 Principal	155,650	155,650	155,650	155,650	155,650
	Interest	146,311	138,995	131,680	124,364	117,049
	Subtotal	301,961	294,645	287,330	280,014	272,699
FY 98 NEW SRF	\$9,404,000 Principal		470,200	470,200	470,200	470,200
	Interest		441,988	419,889	397,789	375,690
	Subtotal		912,188	890,089	867,989	845,890
FY 99 NEW SRF	\$22,357,000 Principal			1,117,850	1,117,850	1,117,850
	Interest			1,050,779	998,240	945,701
	Subtotal			2,168,629	2,116,090	2,063,551
FY 00 NEW SRF	\$56,953,000 Principal				2,847,650	2,847,650
	Interest				2,676,791	2,542,951
	Subtotal				5,524,441	5,390,601
FY 01 NEW SRF	\$54,014,000 Principal					2,700,700
	Interest					2,538,658
	Subtotal					5,239,358
<b>Totals</b>						
	Principal	155,650	625,850	1,743,700	4,591,350	7,292,050
	Interest	146,311	580,983	1,602,348	4,197,185	6,520,049
	<b>Total New SRF</b>	<b>301,961</b>	<b>1,206,833</b>	<b>3,346,048</b>	<b>8,788,535</b>	<b>13,812,099</b>

*NARRAGANSETT BAY COMMISSION*

**SUMMARY OF ALL DEBT SERVICE SCHEDULES**

		<b>FY '97</b>	<b>FY '98</b>	<b>FY '99</b>	<b>FY '00</b>	<b>FY '01</b>
<b>EXISTING DEBT SERVICE</b>	Principal	3,098,835	3,315,775	3,255,222	3,579,346	3,511,482
	Interest	2,887,364	2,899,158	2,724,163	2,553,779	2,400,191
<b>NEW BAY BONDS</b>	Principal	0	28,700	28,700	28,700	28,700
	Interest	0	40,180	38,171	36,162	34,153
<b>NEW SRF BONDS</b>	Principal	155,650	625,850	1,743,700	4,591,350	7,292,050
	Interest	146,311	580,983	1,602,348	4,197,185	6,520,049
<b>TOTAL</b>	Principal	3,254,485	3,970,325	5,027,622	8,199,396	10,832,232
	Interest	3,033,675	3,520,322	4,364,681	6,787,125	8,954,393
<b>Grand Total</b>		6,288,160	7,490,647	9,392,303	14,986,521	19,786,624