

Capital Improvement Program

Fiscal Years 2000 - 2004

IN CITY COUNCIL
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READ
WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED

Michael A. Clement CLERK

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Acknowledgements

The fiscal year 2000 - 2004 Capital Improvement Program was prepared by Jackie Saul, Environmental Planner, Division of Administration and Finance, based upon input from staff from all sections and divisions of the Narragansett Bay Commission.

The development of the CIP also involved the cooperation, assistance and guidance of Paul Pinault, P.E., Executive Director, the Narragansett Bay Commission Board of Commissioners and its Construction, Engineering and Operations Subcommittee, as well as the Narragansett Bay Commission's Citizens Advisory Committee.

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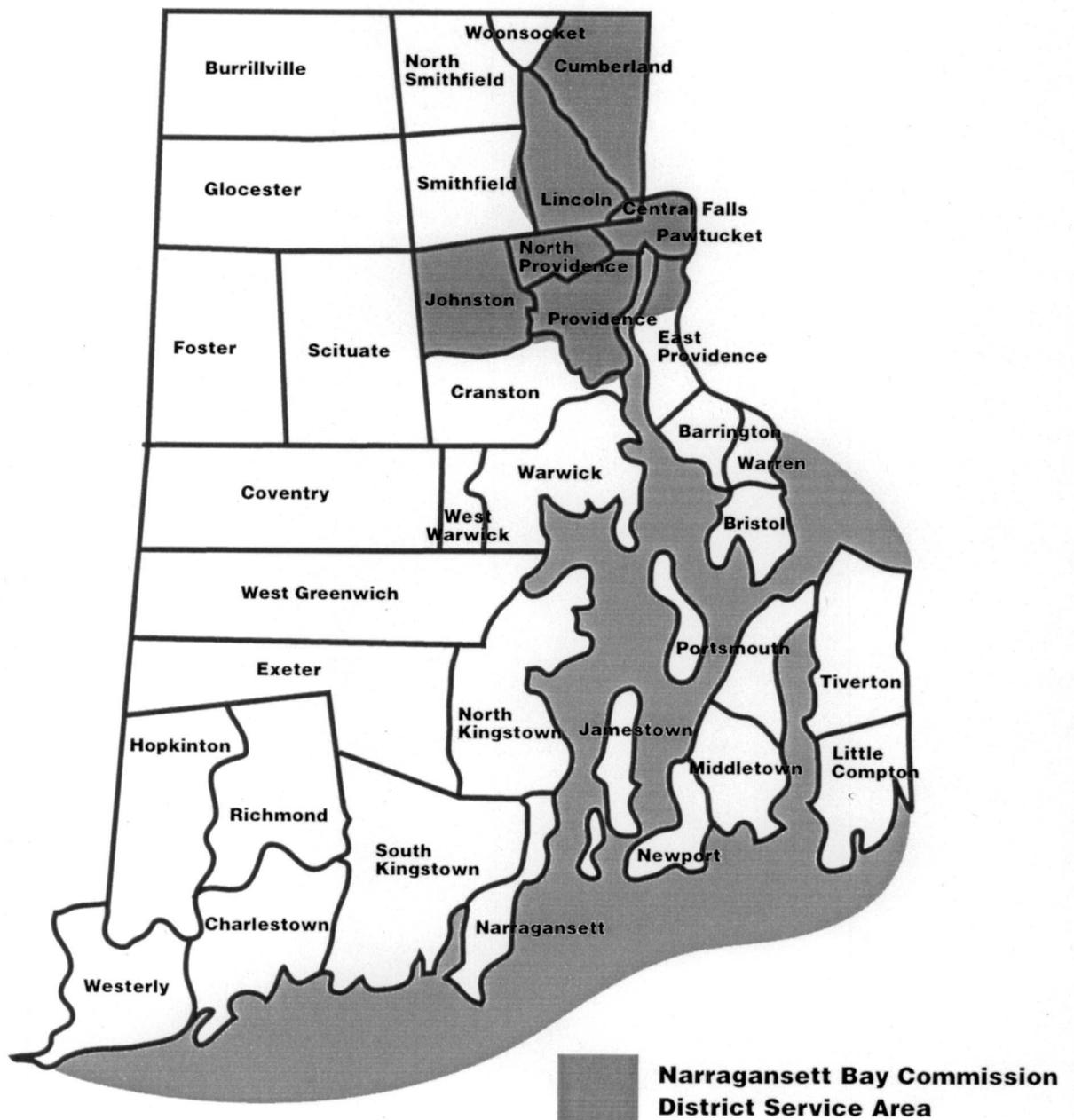
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Narragansett Bay Commission

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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Brief Project Listing



Section I
CIP Overview

FISCAL YEAR 2000 - 2004 CAPITAL IMPROVEMENT PROGRAM

This year's Capital Improvement Program (CIP) identifies over \$202 million of capital improvement projects in progress, to be initiated or completed within the five fiscal year period of 2000-2004. It also reflects total expenditures of approximately \$298 million for the completion 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 flow projections for each project are shown along with the functional area, funding sources and projected schedule. Project costs are also depicted by phase (planning, design and construction).

There are many factors that can impact the Narragansett Bay Commission's (NBC) 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 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 302.3: Phase I Combined Sewer Overflow (CSO) Facilities

The Combined Sewer Overflow (CSO) Facilities Project alone comprises 69% of the total costs outlined in this document. As such, it remains the most significant project underway at the NBC.

The Phase I CSO Facilities is the first of three phases that comprise the Commission's CSO Program. In March of 1993, after several years of study, the NBC originally approved a comprehensive CSO Abatement Program at a cost of \$559 million. The NBC received final approval from the Rhode Island Department of Environmental Management (RIDEM) in July of 1994 and began preliminary design of the "high priority" facilities identified in the program. In April 1994, shortly before RIDEM approved the NBC program, the United States Environmental Protection Agency (USEPA) adopted a national CSO policy which allowed more flexibility in the development of CSO control plans. This new policy allowed plans to be developed based on water quality improvements and offered the potential of reducing the cost of the CSO abatement program, which was the biggest issue raised against the proposed program.

Based upon this new guidance, the NBC decided to reassess its proposed program to determine if a less expensive program could be developed and still meet regulatory requirements.

With the assistance of a stakeholders group, a revised CSO abatement plan was selected in August 1997. This new program was selected because it has the lowest operation and maintenance cost and construction costs are approximately \$170 million less than the originally proposed plan. This new proposed CSO abatement plan which will be implemented in three phases is expected to cost \$389 million. Please note; however, that the description schedule and costs reflected in the detailed 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.

PROGRAM CHANGES

One major program change to this year's CIP is the five-year timeframe for project costs and funding availability. This time period change was made in an effort to dovetail NBC's Capital Program with that of the State of Rhode Island's Capital Program. The NBC essentially develops two Capital Programs. One for the NBC, the other as part of the State of Rhode Island's Capital Program. Because the State's Program is for a different time period, duplicative efforts of compiling data are necessary. This time period change will eliminate these duplicative efforts for the NBC.

Wastewater Treatment Facilities (WWTF)

Deleted from this year's CIP is the Long Term Sludge Management Plan for the Field's Point and Bucklin Point Wastewater Treatment Facilities. The alternatives for both the Field's Point and Bucklin Point facilities are limited and the options presently in place offer the most flexibility for the NBC. In the meantime, Contract 103: Short Term Solids Handling Improvements will provide improvements to the incinerator and solids handling equipment at the Field's Point plant.

As the NBC's laboratory section continues to strive forward and maintain compliance with EPA requirements, the need to improve laboratory functions, equipment and its environment are necessary. This year's CIP includes the purchase of additional monitoring equipment for the laboratory section which will automate laboratory functions and enhance performance when analyzing industrial waste samples in accordance with these EPA requirements. Due to a timeframe change, the construction of a Trace Metals Clean Room within the existing laboratory has been removed since construction is not expected to begin prior to FY 2004.

Sewer System

Contract 304.2C Branch Avenue Interceptor Rehabilitation has been added to this year's CIP. This project will rehabilitate a failed interceptor detected during a 1997 inspection program (see Contract 304 – Evaluation and Cleaning of CSO Interceptors). Due to the magnitude and cost of this repair, this project has been listed as a separate project. CSO 049 Outfall Modification project has been incorporated into Contract 305 – CSO 2B headwall Improvements.

Buildings and Grounds

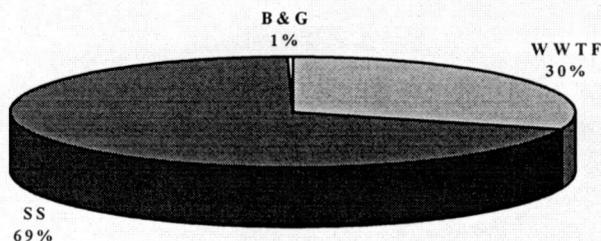
Included in this year's buildings and grounds section of the CIP is the Office Space Planning Project. This project not only replaces the Rehabilitation of the NBC's building at 459 Promenade Street Building project noted in last year's CIP, but, has expanded in scope to include the long-range office space plans for other NBC office locations as well.

COSTS BY FUNCTIONAL AREA

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

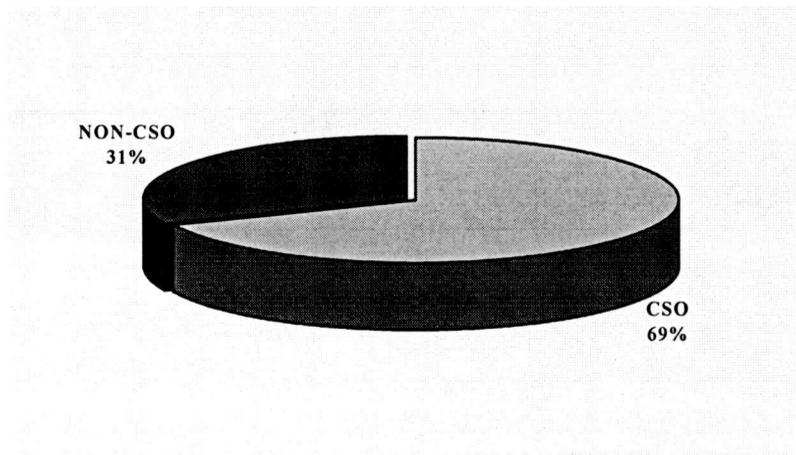
Buildings and Grounds (BG) projects include building repairs and equipment purchases to support NBC staff. Field's Point and Bucklin Point Wastewater Treatment Facility (WWTF) improvements include the contracts related to facility improvements, laboratory, septage receiving and various facility maintenance projects. Sewer System (SS) improvements include the Combined Sewer Overflow project, interceptor rehabilitation, and outlying sewer construction and pumping station improvements. Of the \$202 million in capital improvements scheduled over the five year period, 69% or \$141 million of the total costs fall within the sewer system category, 30% or \$61 million are for wastewater treatment facility improvements, and 1% or \$.5 million are for buildings and grounds projects.

COST BY FUNCTIONAL AREA



To readily view the magnitude of the CSO program, the chart below shows that the CSO program related costs account for \$140 million or 69% of the total five-year 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

In the past, 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.

The NBC is currently lobbying its Rhode Island Congressional Delegation for their assistance to advocate on our behalf in Congress for a special federal appropriation to offset a portion of the financial burden associated with the implementation of the CSO program.

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 that 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, voters have authorized a total of \$93.7 million in Bay Bonds for NBC. 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.

State Revolving Fund (SRF)

When the Construction Grants Program was phased out as a result of the 1987 reauthorization of the Federal Clean Water Act it was replaced with the SRF program. The SRF finances water quality improvement projects through a low interest loan program. According to officials at the Rhode Island Clean Water Finance Agency (RICWFA), \$260 million is the maximum funding available through the end of fiscal

year 2004. The actual amount that will be available is dependent upon congressional action and the borrowings of other Rhode Island communities.

The Rhode Island Clean Water Finance Agency administers the SRF program. As a public corporation of the State, the agency receives its funding through capitalization grants from the EPA and state bond issues and by selling its own tax-exempt revenue bonds supported by these capitalization grants. The agency loans funds to municipalities, sewer commissions, and wastewater management districts for water pollution abatement projects upon approval by RIDEM. Loans are at a rate one-third below the borrowers' market cost of borrowing. The Agency's operating expenses are funded solely by loan fees and investment income generated from administering the SRF.

The NBC has used \$8 million in SRF funds to finance contracts 201, 401 and 601. In fiscal year 1993, the NBC was the recipient of a \$14.781 million pool loan. After deducting financing costs, \$13.7 million is available for projects. The pool loan has been used to finance a variety of projects including preliminary design of the Contract 302: Comprehensive Combined Sewer Overflow Abatement Program, Contracts 101,102,103,301, 504 and 701. In addition, the NBC was able to finance the construction costs of Contracts 701 and 803 from the proceeds of these SRF loans. In fiscal year 1994, the NBC received a second pool loan in the amount of \$17.2 million which has been used to finance Contracts 101, 404, 807 and 902. In fiscal year 1997, the NBC received its third pool loan in the amount of \$8.15 million which will fund the following projects: Construction of Contract 504; Design of Contract 103; Planning of Project 702; Implementation of Contract 902 (now referred to as Contract 903) and; Construction of Contract 105. It is anticipated that the NBC will need to seek additional SRF funding during FY 1999 to finance some of the projects listed in this document.

The financing costs associated with the SRF program are reflected in the debt service calculations.

Revenue Bonds

This category includes those projects that are to be funded via Revenue Bonds and all debt service that will be paid from user charges. In general, revenue bonds will be used only to finance those projects that are not eligible for SRF funding or once all SRF funds are exhausted. The financing costs associated with the issuance of revenue bonds are reflected in the debt service calculations. This year's CIP does not propose to fund any projects with revenue bonds since it is the NBC's most expensive means of financing capital improvements.

Replacement Reserve

The NBC has established a replacement reserve to fund the replacement of vehicles and equipment at the end of their useful life. This account is funded by user charges via a restricted account.

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.

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 00 | FY 01 | FY 02 | FY 03 | FY 04 | Total |
|----------------|---------------|---------------|---------------|--------------|----------|---------------|
| Grant | 0 | 0 | 0 | 0 | 0 | 0 |
| BVDC Bonds | 0 | 0 | 0 | 0 | 0 | 0 |
| Bay Bonds | 70 | 0 | 0 | 0 | 0 | 70 |
| SRF | 12,413 | 19,933 | 18,529 | 9,834 | 0 | 60,709 |
| Revenue Bonds | 0 | 0 | 0 | 0 | 0 | 0 |
| Rep. Reserve | 45 | 0 | 200 | 0 | 0 | 245 |
| Op. Budget | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 12,528 | 19,933 | 18,729 | 9,834 | 0 | 61,024 |

Sewer System Improvements

| Funding Source | FY 00 | FY 01 | FY 02 | FY 03 | FY 04 | Total |
|----------------|--------------|---------------|---------------|---------------|---------------|----------------|
| Grant | 0 | 0 | 0 | 0 | 0 | 0 |
| BVDC Bonds | 0 | 0 | 0 | 0 | 0 | 0 |
| Bay Bonds | 4,400 | 10,200 | 8,920 | 0 | 0 | 23,520 |
| SRF | 980 | 33,200 | 21,980 | 30,700 | 30,700 | 117,560 |
| Revenue Bonds | 0 | 0 | 0 | 0 | 0 | 0 |
| Rep. Reserve | 0 | 0 | 0 | 0 | 0 | 0 |
| Op. Budget | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 5,380 | 43,400 | 30,900 | 30,700 | 30,700 | 141,080 |

Buildings & Grounds

| Funding Source | FY 00 | FY 01 | FY 02 | FY 03 | FY 04 | 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 | 90 | 110 | 95 | 150 | 70 | 515 |
| Op. Budget | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 90 | 110 | 95 | 150 | 70 | 515 |

The estimated cost of the projects identified in this year's capital program is approximately \$202.6 million between FY 2000 – FY 2004. Table 2 summarizes the projected cash flows from each of the funding sources.

Table 2
(In Thousand \$'s)

Total Funding Sources

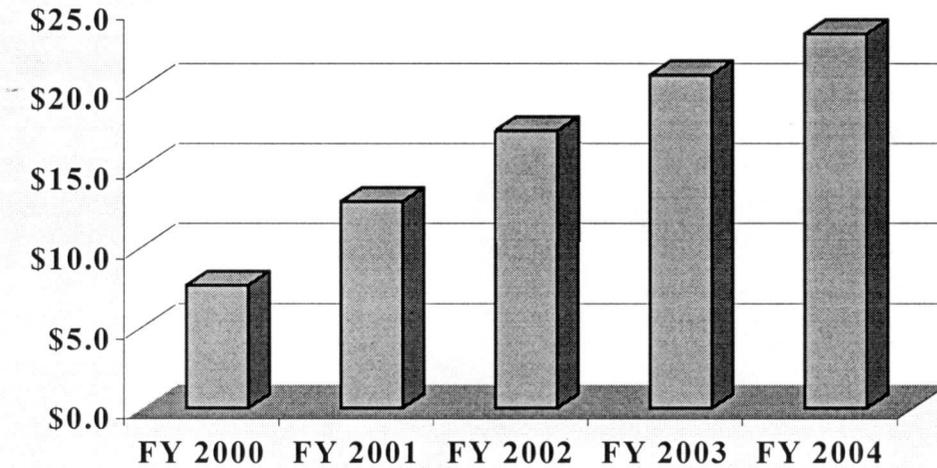
| Funding Source | FY 00 | FY 01 | FY 02 | FY 03 | FY 04 | Total |
|----------------|--------|--------|--------|--------|--------|---------|
| Grant | 0 | 0 | 0 | 0 | 0 | 0 |
| BVDC Bonds | 0 | 0 | 0 | 0 | 0 | 0 |
| Bay Bonds | 4,470 | 10,200 | 8,920 | 0 | 0 | 23,590 |
| SRF | 13,393 | 53,133 | 40,509 | 40,534 | 30,700 | 178,269 |
| Revenue Bonds | 0 | 0 | 0 | 0 | 0 | 0 |
| Rep. Reserve | 135 | 110 | 295 | 150 | 70 | 760 |
| Op. Budget | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 17,998 | 63,443 | 49,724 | 40,684 | 30,770 | 202,619 |

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 by fiscal year 2002. At that point, the NBC will pursue the use of SRF funds as the least costly alternative and will utilize the SRF program as its primary source of funding for NBC's capital program. Approximately \$178 million in SRF funds are anticipated to be expended between FY 2000 through FY 2004.

IMPACT ON TOTAL ANNUAL REVENUE REQUIREMENTS
AND SEWER USER FEES

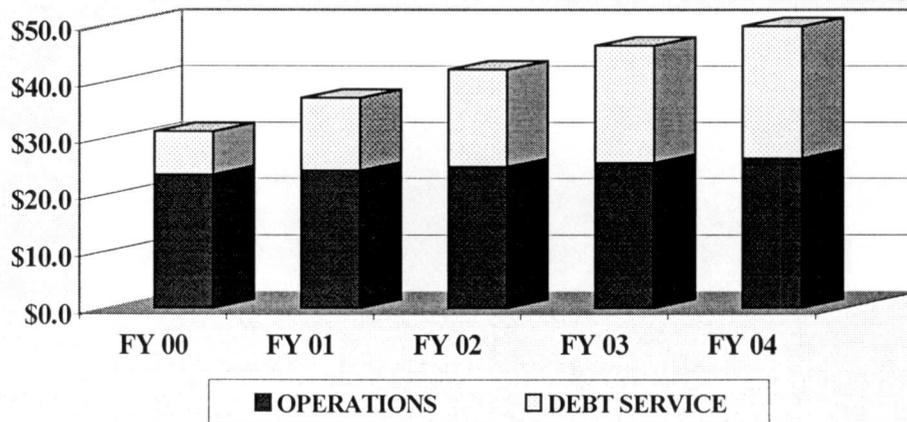
As the NBC proceeds with the construction phase of the CSO abatement project and financing mechanisms become more costly, the impact of the capital program on NBC's budget and ultimately its users becomes more significant. In order to assess the fiscal impact of the improvements, debt service payments have been estimated from the cash flow projections. As depicted graphically on the next page, annual debt service increases from \$7.7 million in fiscal year 2000 to \$23.4 million in fiscal year 2004.

ANNUAL DEBT SERVICE (In Million \$'s)



Assuming a reasonable increase of 3% per year to the operating budget (sans debt service) beginning in fiscal year 2000, NBC's total revenue requirement increases from \$31.1 million in FY 2000 to approximately \$49.8 million in fiscal year 2004. Of this amount, debt service would account for 25% of the total annual budget in FY 2000 and approximately 47% of the total annual budget in FY 2004 as shown in the following graph.

ANNUAL REVENUE REQUIREMENT (In Million \$'s)



SEWER USER FEES

The Public Utilities Commission (PUC) regulates the NBC. Any modifications to NBC user fees are subject to a lengthy review and approval process by the PUC. NBC's revenue requirement as of July 1, 1998 is \$30.4 million. Included in this revenue requirement 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 one of the lowest annual sewer user bills not only within Rhode Island, but nationally as well.



Section II

Detailed Project Listings



Wastewater Treatment Facility Improvements

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

The following is a listing of the 12 Wastewater Treatment Facility Projects which
have been included in the Capital Improvement Program.
An explanation and cost breakdown of each of these projects
is included in this section. The total costs of these
projects during this five year period is
\$61,024,000

| PROPOSED PROJECT | 2000-2004 |
|-----------------------------------------------------------------------------|------------------|
| CONTRACT 101: FINAL CLARIFIERS AND CONTROL SYSTEM | \$ - * |
| CONTRACT 102:FPWWTF DRY WEATHER AND CSO CHLORINATION/DECHLORINATION SYSTEM | \$ 60,000 |
| CONTRACT 103: SHORT TERM SOLIDS HANDLING IMPROVEMENTS | \$14,148,000 |
| CONTRACT 104: SEPTAGE RECEIVING FACILITIES | \$ 386,000 |
| CONTRACT 105: FPWWTF STORAGE BUILDING AND MISCELLANEOUS CSO AND OTHER IMPR. | \$ 50,000 |
| CONTRACT 803: BPWWTF SERVICE BUILDING IMPROVEMENTS | \$ - * |
| CONTRACT 807: BPWWTF IMPROVEMENTS | \$45,925,000 |
| CONTRACT 807CD: BPWWTF IMPROVEMENTS - DECHLORINATION FACILITIES | \$ 10,000 |
| CONTRACT 809: BUCKLIN POINT NORTH LANDFILL CLOSURE | \$ - * |
| SITE SPECIFIC CRITERIA | \$ 200,000 |
| LABORATORY EQUIPMENT: ICP/MS | \$ 200,000 |
| LABORATORY: AUTOMATIC AMMONIA SYSTEM | \$ 45,000 |
| SUBTOTAL | \$61,024,000 |

*project costs through FY 1999 only.

CONTRACT 101:

PROJECT DESCRIPTION

FPWWTF
IMPROVEMENTS TO
FINAL CLARIFIER
AND
CONTROL SYSTEM
UPGRADE

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. This project was declared substantially complete on February 14, 1997.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|---------------|----------|----------|----------|----------|----------|--------------|---------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | 0 | |
| BVDC BONDS | | | | | | | 0 | 0 | |
| BAY BONDS | 163 | | | | | | 0 | 163 | |
| SRF | 12,303 | | | | | | 0 | 12,303 | |
| REVENUE BONDS | | | | | | | 0 | 0 | |
| REP. RESERVE | | | | | | | 0 | 0 | |
| OP. BUDGET | | | | | | | 0 | 0 | |
| TOTAL | 12,466 | 0 | 0 | 0 | 0 | 0 | 0 | 12,466 | |

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 2/97 (28 Months) | \$11,425 |
| TOTAL | | \$12,466 |

CONTRACT 102 :

PROJECT DESCRIPTION

FPWWTF DRY WEATHER
AND CSO
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 JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------------|-----------|----------|----------|----------|----------|--------------|--------------|--------------|
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | 3,693 | 60 | | | | | 60 | | 3,753 |
| SRF | 290 | | | | | | 0 | | 290 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 3,983 | 60 | 0 | 0 | 0 | 0 | 60 | | 4,043 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|-------------------------------|----------------|
| PLANNING | Completed as part of 102P | \$253 |
| DESIGN | From 3/96 to 11/96 (9 Months) | \$290 |
| CONSTRUCTION | From 7/97 to 1/99 (18 Months) | \$3,500 |
| TOTAL | | \$4,043 |

CONTRACT 103:

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 particulate removal equipment to reduce fine particulate and metals emissions; 2) addition of incinerator controls for ease of operation and control; 3) installation of other miscellaneous incinerator equipment; 4) new dewatering equipment which will result in more reliable operations.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|--------------|--------------|--------------|----------|----------|---------------|--------------|---------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | 3,511 | 5,184 | 5,184 | 3,780 | | | 14,148 | | 17,659 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 3,511 | 5,184 | 5,184 | 3,780 | 0 | 0 | 14,148 | | 17,659 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|---------------------------------|-----------------|
| PLANNING | From 2/96 to 7/97 (18 Months) | \$239 |
| DESIGN | From 10/97 to 11/98 (13 Months) | \$1,220 |
| CONSTRUCTION | From 4/99 to 1/02 (33 Months) | \$16,200 |
| TOTAL | | \$17,659 |

CONTRACT 104:

SEPTAGE
RECEIVING
FACILITY

PROJECT DESCRIPTION

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 | | | | | AFTER | TOTAL COSTS |
|----------------|------------|------------|----------|----------|----------|----------|------------|--------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | TOTAL | |
| GRANT | | | | | | | 0 | 0 |
| BVDC BONDS | 166 | | | | | | 0 | 166 |
| BAY BONDS | | | | | | | 0 | 0 |
| SRF | 794 | 386 | | | | | 386 | 1,180 |
| REVENUE BONDS | | | | | | | 0 | 0 |
| REP. RESERVE | | | | | | | 0 | 0 |
| OP. BUDGET | | | | | | | 0 | 0 |
| TOTAL | 960 | 386 | 0 | 0 | 0 | 0 | 386 | 1,346 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|-------------------------------------|----------------|
| PLANNING | From 3/95 through 2/97 (24 Months) | \$97 |
| DESIGN | From 4/97 through 6/98 (14 Months) | \$116 |
| CONSTRUCTION | From 11/98 through 9/99 (10 Months) | \$1,133 |
| TOTAL | | \$1,346 |

**CONTRACT 105 -
FPWWTF STORAGE
BUILDING AND
MISCELLANEOUS CSO
AND OTHER
IMPROVEMENTS**

PROJECT DESCRIPTION

This design and construction project will meet the storage needs at the FPWWTF and make other necessary improvements. The facilities plan amendment recommends the construction of a new building to the southeast of the grit facilities. This building will provide one location to store archived files, maintenance equipment and supplies. Space within the building will also be allocated to provide indoor parking for the scum truck during the winter months. Other improvements to be made at the FPWWTF include replacement of return activated sludge pipe support brackets, repair of the parapet at the Ernest Sreet pump station, painting of the ash crane, installation of a variable frequency drive to operate return sludge pumps, addition of a cyclonic grit separator, filling in of subterranean channels north of aeration tanks and installation of security cameras and improvements to the CSO wet weather facilities.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|-----------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | 0 | |
| BVDC BONDS | | | | | | | 0 | 0 | |
| BAY BONDS | | | | | | | 0 | 0 | |
| SRF | 2,450 | 50 | | | | | 50 | 2,500 | |
| REVENUE BONDS | | | | | | | 0 | 0 | |
| REP. RESERVE | | | | | | | 0 | 0 | |
| OP. BUDGET | | | | | | | 0 | 0 | |
| TOTAL | 2,450 | 50 | 0 | 0 | 0 | 0 | 50 | 2,500 | |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|------------------------------------|----------------|
| PLANNING | Completed as part of Contract 101D | |
| DESIGN | Completed as part of Contract 101C | |
| CONSTRUCTION | From 4/98 to 7/99 (15 Months) | \$2,500 |
| TOTAL | | \$2,500 |

CONTRACT 803:

PROJECT DESCRIPTION

BPWWTF
SERVICE BUILDING
IMPROVEMENTS

The existing building is 40 plus years old and is in need of several improvements in order to continue to be functional. This project would result in a new HVAC system for the building, 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. This project was declared substantially completed on February 14, 1997.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|------------|----------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | 0 | |
| BVDC BONDS | 24 | | | | | | 0 | 24 | |
| BAY BONDS | | | | | | | 0 | 0 | |
| SRF | 700 | | | | | | 0 | 700 | |
| REVENUE BONDS | | | | | | | 0 | 0 | |
| REP. RESERVE | | | | | | | 0 | 0 | |
| OP. BUDGET | | | | | | | 0 | 0 | |
| TOTAL | 724 | 0 | 0 | 0 | 0 | 0 | 0 | 724 | |

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 2/97 (11 Months) | \$700 |
| TOTAL | | \$724 |

CONTRACT 807:

PROJECT DESCRIPTION

**BPWWTF CSO FACILITIES
AND OTHER
IMPROVEMENTS**

A Facilities Plan Amendment (FPA) has been prepared to evaluate improvements needed at the Bucklin Point WWTF to provide wet weather primary capacity of 116 MGD during storms and secondary capacity of 46 MGD over sustained periods of time. Improvements currently proposed in design are: new influent pumping station, new screening and grit handling facilities, new dry weather primary settling tanks, conversion of the existing primary tanks to wet weather treatment, conversion to a fine bubble aeration system, new UV disinfection facilities, new effluent pumping station for dry weather flows, new plant instrumentation and control system.

PROJECT FINANCING & EXPENDITURES

(Cash Flow Basis in Thousand \$)

| FUNDING SOURCE | BEFORE JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------------|--------------|---------------|---------------|--------------|----------|---------------|--------------|---------------|
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | 1,100 | | | | | | 0 | | 1,100 |
| SRF | 1,607 | 6,593 | 14,749 | 14,749 | 9,834 | | 45,925 | | 47,532 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 2,707 | 6,593 | 14,749 | 14,749 | 9,834 | 0 | 45,925 | 0 | 48,632 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|---------------------------------|-----------------|
| PLANNING | From 12/95 to 10/98 (34 Months) | \$485 |
| DESIGN | From 2/98 to 2/00 (24 Months) | \$3,900 |
| CONSTRUCTION | From 2/00 to 3/03 (36 Months) | \$44,247 |
| TOTAL | | \$48,632 |

CONTRACT 807CD:

BPWWTF IMPROVEMENTS
DECHLORINATION
FACILITY

PROJECT DESCRIPTION

The dechlorination facility provided by this project was part of the overall Bucklin Point Improvements, but has been placed into a separate project for construction to expedite the completion, in accordance with Compliance Order RIO-052, which requires that the chlorine residual be removed from the Bucklin Point WWTF effluent within one year of RIDEM approval of the dechlorination design plans and specifications (estimated completion of construction - July 1999). The cost projections below are for the construction phase only as the planning and design phases of this project are included in the Bucklin Point Improvement project.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR | AFTER | TOTAL COSTS |
|----------------|------------|-----------|----------|----------|----------|----------|-----------|--------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | TOTAL | FY '04 | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | 450 | 10 | | | | | 10 | | 460 |
| SRF | 80 | | | | | | 0 | | 80 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 530 | 10 | 0 | 0 | 0 | 0 | 10 | | 540 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|---------------------------------|---------------|
| PLANNING | From 12/95 to 11/97 (24 Months) | |
| DESIGN | From 11/97 to 7/98 (7 Months) | |
| CONSTRUCTION | From 7/98 to 7/99 (12 Months) | \$540 |
| TOTAL | | \$540 |

CONTRACT 809:

**BPWWTF
NORTH LANDFILL
CLOSURE**

PROJECT DESCRIPTION

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. Regrading and seeding the site, as required by the landfill closure plan prepared by NBC and approved by RIDEM, was completed in FY 97. Work to be completed in FY 99 includes installing a fence around the site and repair of the plant access road from the north gate to the parking lot.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|------------|----------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | | | | | | | 0 | | 0 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | 505 | | | | | | 0 | | 505 |
| TOTAL | 505 | 0 | 0 | 0 | 0 | 0 | 0 | | 505 |

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 10/98 (32 Months) | \$455 |
| TOTAL | | \$505 |

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

PROJECT DESCRIPTION

This project entails the development of site specific criteria in accordance with the Rhode Island Site Specific Criteria Development Policy to evaluate the appropriateness of 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 JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------------|------------|----------|----------|----------|----------|--------------|--------------|-------------|
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | 100 | 200 | | | | | 200 | | 300 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 100 | 200 | 0 | 0 | 0 | 0 | 200 | | 300 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|------------------------------------|---------------|
| STUDY | From 9/98 through 8/00 (24 Months) | \$300 |
| TOTAL | | \$300 |

LABORATORY
EQUIPMENT:

PURCHASE OF
INDUCTIVELY
COUPLED PLASMA/MASS
SPECTROPHOTOMETER
(ICP/MS)

PROJECT DESCRIPTION

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 JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------------|----------|----------|------------|----------|----------|--------------|--------------|-------------|
| 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 |
| TOTAL | 0 | 0 | 0 | 200 | 0 | 0 | 200 | | 200 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|------------------|---------------|
| PURCHASE | Fiscal Year 2001 | \$200 |
| TOTAL | | \$200 |

LABORATORY
EQUIPMENT:

AUTOMATIC AMMONIA
SYSTEM

PROJECT DESCRIPTION

The purchase of an automatic ammonia system will allow the Laboratory to distill a maximum of 20 samples per run. Currently, only one sample can be distilled at a time.

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

| FUNDING SOURCE | BEFORE JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------------|-----------|----------|----------|----------|----------|--------------|--------------|-------------|
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | | | | | | | 0 | | 0 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | 45 | | | | | 45 | | 45 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 0 | 45 | 0 | 0 | 0 | 0 | 45 | | 45 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|------------------|---------------|
| PURCHASE | Fiscal Year 2000 | \$45 |
| TOTAL | | \$45 |



Sewer System Improvements

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

The following is a listing of the 12 Sewer System & Maintenance Projects which
have been included in the 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
\$141,080,000

| PROPOSED PROJECT | 2000-2004 |
|------------------------------------------------------------------------------|----------------|
| CONTRACT 302.2: CSO REASSESSMENT | \$ - * |
| CONTRACT 302.3: PHASE I COMBINED SEWER OVERFLOW (CSO) FACILITIES | \$ 139,170,000 |
| CONTRACT 304: EVALUATION AND CLEANING OF CSO INTERCEPTORS | \$ 415,000 |
| CONTRACT 304.2C: BRANCH AVENUE INTERCEPTOR REHABILITATION | \$ 30,000 |
| CONTRACT 305: CSO 2B HEADWALL IMPROVEMENTS | \$ 20,000 |
| CSO FLOWMETERS | \$ 500,000 |
| CONTRACT 404: GANO ST. TO PITMAN ST. INTERCEPTOR REPLACEMENT | \$ - * |
| CONTRACT 504: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON | \$ 70,000 |
| CONTRACT 701: REPLACEMENT OF THE SAYLESVILLE PUMPING STATION | \$ - * |
| CONTRACT 702: INFILTRATION/INFLOW STUDY: LOUISQUISSET PIKE AREA | \$ - * |
| CONTRACT 704P: INVESTIGATION AND REHAB. OF WASHINGTON HWY AND OMEGA PUMP STS | \$ 75,000 |
| CONTRACT 903: GEOGRAPHIC INFORMATION SYSTEM IMPLEMENTATION | \$ 800,000 |
| SUBTOTAL | \$ 141,080,000 |

*project costs through FY 1999 only.

CONTRACT 302.2:

COMPREHENSIVE
COMBINED
SEWER
OVERFLOW (CSO)
PROGRAM

REASSESSMENT

PROJECT DESCRIPTION

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. This reassessment has resulted in a modified CSO control plan that is approximately \$170 million less than the originally proposed plan. The stakeholders' group also recommended that the Commission investigate revising its rate structure to include a stormwater user fee and investigate alternatives to prevent stormwater runoff from reaching the combined sewers. These are the only tasks that remain to be completed under this contract.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|----------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | 0 | |
| BVDC BONDS | | | | | | | 0 | 0 | |
| BAY BONDS | 1,428 | | | | | | 0 | 1,428 | |
| SRF | 218 | | | | | | 0 | 218 | |
| REVENUE BONDS | | | | | | | 0 | 0 | |
| REP. RESERVE | | | | | | | 0 | 0 | |
| OP. BUDGET | | | | | | | 0 | 0 | |
| TOTAL | 1,646 | 0 | 0 | 0 | 0 | 0 | 0 | 1,646 | |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|-------------------------------|----------------|
| PLANNING | From 1/96 to 1/99 (36 months) | \$1,646 |
| TOTAL | | \$1,646 |

PROJECT DESCRIPTION

**CONTRACT 302.3:
PHASE I
COMBINED
SEWER
OVERFLOW (CSO)
FACILITIES**

Providence, Pawtucket and Central Falls all have combined sewers which overflow at approximately 84 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. A reassessment of the CSO control program that was approved by DEM in 1994 was completed in August 1997 after a series of 19 meetings in 20 months with a 40 member stakeholder's group. This reassessment has resulted in a proposed modification of the original control program. The new proposed program consists of two tunnels, the main spine (13,500 ft. long) and the Pawtucket tunnel (13,000 ft. long), two tunnel pump stations, five CSO interceptors and twelve sewer separation projects at a projected cost of \$389 million. Contract 302.3 includes design and construction of the Phase I facilities (the main spine tunnel and pump station estimated at \$165 million) and is expected to be completed in about seven years. Upon completion of construction of Phase I, the proposed Phase II facilities will be reassessed to determine if any changes should be made to the plan. Cost estimates for Phase II facilities is \$72 million; for Phase III facilities is \$152 million.

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

| FUNDING SOURCE | BEFORE JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------------|--------------|---------------|---------------|---------------|---------------|----------------|---------------|----------------|
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | 8,500 | 4,370 | 10,200 | 8,920 | | | 23,490 | | 31,990 |
| SRF | 14,840 | | 32,800 | 21,680 | 30,600 | 30,600 | 115,680 | 19,490 | 150,010 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 23,340 | 4,370 | 43,000 | 30,600 | 30,600 | 30,600 | 139,170 | 19,490 | 182,000 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|-------------------------------|------------------|
| PLANNING | From 1/92 to 7/98 (78 months) | \$6,600 |
| DESIGN | From 7/93 to 6/00 (84 months) | \$19,000 |
| CONSTRUCTION | From 7/00 to 7/05 (60 months) | \$156,400 |
| TOTAL | | \$182,000 |

PROJECT DESCRIPTION

CONTRACT 304:

EVALUATION AND
CLEANING OF CSO
INTERCEPTORS

This project involves the long term ongoing evaluation of interceptor sewers in the Commission's service area to determine their condition and develop solutions to correct any problems that may be identified such as cleaning or repair. Interceptors currently identified as in need of evaluation are: 1) Moshassuck Valley Interceptor; 2) Blackstone Valley Interceptor; and 3) Allens Avenue Interceptor. Interceptors identified as needing to be cleaned are: 1) Southerly portion of the Seekonk River Interceptor; 2) Elmwood/South Providence Interceptor; and 4) Kinsley Avenue Interceptor. This project also includes conducting Infiltration/Inflow evaluations of the system as needed. The Branch Avenue interceptor in the vicinity of Silver Spring Street has been identified as in need of repair and is listed as a separate project under 304.2.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|------------|------------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | 90 | | | | | | 0 | 90 | |
| BVDC BONDS | | | | | | | 0 | 0 | |
| BAY BONDS | 170 | | | | | | 0 | 170 | |
| SRF | 415 | 415 | | | | | 415 | 830 | |
| REVENUE BONDS | | | | | | | 0 | 0 | |
| REP. RESERVE | | | | | | | 0 | 0 | |
| OP. BUDGET | | | | | | | 0 | 0 | |
| TOTAL | 675 | 415 | 0 | 0 | 0 | 0 | 415 | 1,090 | |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|----------------|-------------------------------|---------------|
| IMPLEMENTATION | From 7/97 to 6/00 (35 Months) | \$1,090 |
| TOTAL | | \$1,090 |

CONTRACT: 304.2C

BRANCH AVENUE
INTERCEPTOR
REHABILITATION

PROJECT DESCRIPTION

During a July 1997 inspection program, it was discovered that a partial failure of our 48 inch brick interceptor in the vicinity of Silver Spring Street on Branch Avenue had occurred. This contract will rehabilitate the interceptor as well as line approximately 2700 feet of the 48 inch interceptor in the same area.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|-----------|----------|----------|----------|----------|--------------|--------------|--------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | 2,850 | 30 | | | | | 30 | | 2,880 |
| SRF | | | | | | | 0 | | 0 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 2,850 | 30 | 0 | 0 | 0 | 0 | 30 | | 2,880 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|-------------------------------|----------------|
| DESIGN | From 11/97 to 7/98 (8 Months) | \$200 |
| CONSTRUCTION | From 9/98 to 6/99 (10 Months) | \$2,680 |
| TOTAL | | \$2,880 |

CONTRACT 305:

**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 fiscal year 1998 when the Rhode Island Department of Transportation (RIDOT) moratorium on road cuts on Promenade St. expired.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|-----------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | 0 | |
| BVDC BONDS | | | | | | | 0 | 0 | |
| BAY BONDS | 1,200 | | | | | | 0 | 1,200 | |
| SRF | 138 | 20 | | | | | 20 | 158 | |
| REVENUE BONDS | | | | | | | 0 | 0 | |
| REP. RESERVE | | | | | | | 0 | 0 | |
| OP. BUDGET | | | | | | | 0 | 0 | |
| TOTAL | 1,338 | 20 | 0 | 0 | 0 | 0 | 20 | 1,358 | |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|-----------------|--------------------------------|----------------|
| PLANNING/DESIGN | From 10/88 to 3/91 (30 Months) | \$132 |
| DESIGN UPDATE | From 7/97 to 11/97 (5 Months) | \$32 |
| CONSTRUCTION | From 4/98 to 1/99 (9 Months) | \$1,194 |
| TOTAL | | \$1,358 |

PROJECT DESCRIPTION

CSO FLOWMETERS

This project involves the monitoring of CSO discharge and the water quality of rivers that receive discharges. Flow meters will be used by NBC staff to conduct a CSO flow monitoring study over the next several years to evaluate the amount of discharge during wet weather events from CSO outfalls. This information will be used to design CSO control facilities. Water monitoring will be conducted for the Providence and Seekonk Rivers and their tributaries to determine the impact of CSO discharges on water quality. This data will provide a benchmark to measure water quality improvements after the CSO facilities are constructed.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|------------|------------|------------|------------|------------|------------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | 100 | | | | | | 0 | | 100 |
| SRF | 147 | 100 | 100 | 100 | 100 | 100 | 500 | | 647 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 247 | 100 | 100 | 100 | 100 | 100 | 500 | | 747 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|---------------------------|--------------------------------|---------------|
| PURCHASE/ INSTALLATION | From 7/95 to 6/04 (108 months) | \$747 |
| TOTAL | | \$747 |

CONTRACT 404:

**GANO STREET
TO
PITMAN STREET
INTERCEPTOR
REPLACEMENT**

PROJECT DESCRIPTION

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 interceptor because the existing interceptor has become misaligned both vertically and horizontally over the past 60 years. This project is complete.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|----------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | 0 | |
| BVDC BONDS | | | | | | | 0 | 0 | |
| BAY BONDS | 866 | | | | | | 0 | 866 | |
| SRF | 3,747 | | | | | | 0 | 3,747 | |
| REVENUE BONDS | | | | | | | 0 | 0 | |
| REP. RESERVE | | | | | | | 0 | 0 | |
| OP. BUDGET | | | | | | | 0 | 0 | |
| TOTAL | 4,613 | 0 | 0 | 0 | 0 | 0 | 0 | 4,613 | |

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) | \$3,747 |
| TOTAL | | \$4,613 |

CONTRACT 504:

**IMPROVEMENTS TO
NBC OWNED
INTERCEPTORS
IN JOHNSTON**

NORTH END

PROJECT DESCRIPTION

In order to correct capacity problems in the northern portion of the Town of Johnston, the NBC is currently constructing improvements to the interceptor system. These improvements will provide sufficient capacity in NBC pipes for future growth in this portion of the Town.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|-----------|----------|----------|----------|----------|--------------|--------------|--------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | 120 | | | | | | 0 | | 120 |
| SRF | 5,215 | 70 | | | | | 70 | | 5,285 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 5,335 | 70 | 0 | 0 | 0 | 0 | 70 | | 5,405 |

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 4/97 to 10/98 (18 Months) | \$4,540 |
| TOTAL | | \$5,405 |

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. this project is substantially complete.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|----------|----------|----------|----------|----------|--------------|--------------|--------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | 151 | | | | | | 0 | | 151 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | 1,675 | | | | | | 0 | | 1,675 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 1,826 | 0 | 0 | 0 | 0 | 0 | 0 | | 1,826 |

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 11/96 to 7/98 (20 Months) | \$1,480 |
| TOTAL | | \$1,826 |

CONTRACT: 702

PROJECT DESCRIPTION

INFILTRATION/INFLOW
STUDY

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/inflow study and an evaluation of the sewer repair or rehabilitation.

LOUISQUISSETT
PIKE AREA

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------|----------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | 50 | | | | | | 0 | | 50 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 50 | 0 | 0 | 0 | 0 | 0 | 0 | | 50 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|-----------------------------|---------------|
| PLANNING | From 5/98 to 1/99 (9Months) | \$50 |
| TOTAL | | \$50 |

CONTRACT 704P:

PROJECT DESCRIPTION

**INVESTIGATION AND
 REHABILITATION OF
 WASHINGTON HIGHWAY
 AND OMEGA PUMP
 STATIONS**

The Washington Highway and Omega Pump Stations in the Bucklin Point Service area are both older pump stations nearing the end of their design life. This project involves a study of the stations to determine if any rehabilitation or improvements need to be made at this time. Depending on the outcome of this investigation, design and construction phases may follow.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------|-----------|----------|----------|----------|----------|--------------|--------------|-------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | | | 0 |
| BVDC BONDS | | | | | | | | | 0 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | 75 | 75 | | | | | 75 | | 150 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 75 | 75 | 0 | 0 | 0 | 0 | 75 | | 150 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|--------------|--------------------------------|---------------|
| PLANNING | From 12/98 to 2/99 (12 Months) | \$150 |
| DESIGN | From 7/99 to 6/00 (12 Months) | |
| CONSTRUCTION | From 7/00 to 12/01 (18 Months) | |
| TOTAL | | \$150 |

CONTRACT 903:

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 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 '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|-----------------|------------|------------|------------|----------|----------|--------------|--------------|--------------|
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | 489 | 300 | 300 | 200 | | | 800 | | 1,289 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | | | | | | | 0 | | 0 |
| TOTAL | 489 | 300 | 300 | 200 | 0 | 0 | 800 | | 1,289 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|----------------|--------------------------------|----------------|
| PLANNING | From 10/95 to 5/96 (8 Months) | \$89 |
| IMPLEMENTATION | From 12/97 to 6/03 (66 Months) | \$1,200 |
| TOTAL | | \$1,289 |



Buildings & Grounds Improvements

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

The following is a listing of the 2 Buildings and Grounds Projects which
have been included in the 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
\$515,000

| <u>PROPOSED PROJECT</u> | <u>2000-2004</u> |
|-------------------------|-------------------|
| OFFICE SPACE PLANNING | \$ - * |
| VEHICLE REPLACEMENTS | \$ <u>515,000</u> |
| SUBTOTAL | \$ 515,000 |

*project costs through FY 1999 only.

OFFICE SPACE
PLANNING

PROJECT DESCRIPTION

This project involves the long range plans of the NBC office space. This project will include plans to combine our business activities at 235 Promenade Street, 459 Promenade Street and other select business activities at the FPWWTF and the BPWWTF to one central business location. This project may include the selling of NBC property and the purchase of land/building.

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

| FUNDING SOURCE | BEFORE | | | | | | 5 YEAR TOTAL | AFTER FY '04 | TOTAL COSTS |
|----------------|--------------|----------|----------|----------|----------|----------|--------------|--------------|--------------|
| | JULY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | | | |
| GRANT | | | | | | | 0 | | 0 |
| BVDC BONDS | | | | | | | 0 | | 0 |
| BAY BONDS | | | | | | | 0 | | 0 |
| SRF | | | | | | | 0 | | 0 |
| REVENUE BONDS | | | | | | | 0 | | 0 |
| REP. RESERVE | | | | | | | 0 | | 0 |
| OP. BUDGET | 2,557 | | | | | | 0 | | 2,557 |
| TOTAL | 2,557 | 0 | 0 | 0 | 0 | 0 | 0 | | 2,557 |

PROJECT COST BY PHASE

| Phase | Project Schedule | Cost By Phase |
|---------------------------|--------------------------------|----------------|
| PLANNING | From 6/98 to 10/98 (24 months) | \$12 |
| DESIGN | From 1/99 to 1/00 (12 month) | \$45 |
| PURCHASE/ CONSTRUCTION | From 6/00 to 6/02 (24 months) | \$2,500 |
| TOTAL | | \$2,557 |

VEHICLE REPLACEMENT SCHEDULE*

(In Thousand \$'s)

| DESCRIPTION | FY '99 | FY '00 | FY '01 | FY '02 | FY '03 | FY '04 | 5 YEAR TOTAL |
|-------------------------------------|--------------|-------------|--------------|-------------|--------------|-------------|-----------------|
| 1984 Sewer Bucket Cleaning Machine | | | | 60 | | | 60 |
| 1984 Digger Truck (Unit 12) | 80 | | | | | | |
| 1980 Mack 6-year dump (Unit 7) | | | | | | 70 | 70 |
| 10 Wheeler (Unit 10) | | | 80 | | | | 80 |
| 1985 City Suburban (Unit 14) | | 30 | | | | | 30 |
| 1989 Vactor Truck (Unit 17) | 154 | | | | | | |
| 1989 Chevy C-30 (Unit 6) | | | | 35 | | | 35 |
| Video Inspection (TV) Utility Truck | | | | | 150 | | 150 |
| 1990 Station Wagon | | 30 | | | | | 30 |
| 1989 Van (Unit 30) | | 30 | | | | | 30 |
| 1989 Van (Unit 31) | | | 30 | | | | 30 |
| Total | \$234 | \$90 | \$110 | \$95 | \$150 | \$70 | \$515 |

* All Items are to be funded from the Replacement Reserve

Section III

Appendix

THE NARRAGANSETT BAY COMMISSION
ABBREVIATIONS & ACRONYMS
FOR THE 2000-2004 CIP

| | |
|----------------------------------------------------------------------|------------|
| 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 |
| 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 |
| Out Fall | OF |
| Operating (to modify "budget") | OP/Oper. |
| 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 four outlying pump stations. The Washington Park and Reservoir Ave. pump stations located within the City of Providence have recently completed construction improvements. There are two 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, in the Field's Point service area, NBC 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 NBC assumed ownership of the Bucklin Point Wastewater Treatment Facility (BPWWTF) in 1992 from the Blackstone Valley District Commission (BVDC) which 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 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 ceased and the landfill is closed. NETCO presently disposes of the sludge under contract to NBC.

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.

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

In August 1998 the Draft CIP was distributed to the Board of Commissioners.

On August 12, 1998, the Draft CIP was presented to the Citizen's Advisory Committee.

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 13, 1998 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 21, 1998. Several comments were received at the August 13th Public Hearing. The Commission has prepared written responses to those comments and are included in the following pages. Where applicable, comments/suggestions were incorporated into the CIP.

On August 13, 1998, the Citizen's Advisory Committee commented on the Draft CIP.

On September 28, 1998, 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 on its

Capital Improvement Program for Fiscal Years 2000 - 2004

on
Thursday, August 13, 1998 • 7:00 p.m.

at
The Narragansett Bay Commission Office*
235 Promenade Street, Suite 500, Providence, RI

At the hearing, the NBC will give the public an overview of its Capital Improvement Program (CIP) for fiscal years 2000-2004. The CIP is a planning document identifying over \$201 million in projects, repairs and purchases anticipated over the next five years. Testimony will be taken from the public following the presentation. For more information, contact Jackie Saul at (401) 222-6680/TDD (401) 222-6680.

*The meeting site is accessible. Individuals requesting interpreter services must notify the NBC at 222-6680/TDD 222-6680 at least 72 hours in advance of the meeting date.

Rep. Vincent Mesoella, *Chairman*

Paul Pinault, P.E., *Executive Director*



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

August 13, 1998

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

**RE: CAPITAL IMPROVEMENT PROGRAM (CIP) FY 2000-2004 FOR THE NARRAGANSETT BAY
WATER QUALITY MANAGEMENT DISTRICT COMMISSION**

The Citizen's Advisory Committee (CAC) to the Narragansett Bay Commission has authorized us to submit a Statement commending the NBC Staff on their draft of the Capital Improvement Program for the FY-2000-2004 for the Narragansett Bay Water Quality Management District Commission.

The Citizens Advisory Committee did have draft copies to study and a comprehensive presentation of the Draft by Ms. Jacqueline Saul of the NBC Staff 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 as submitted with an added commitment to strenuously seek State and Federal financial support of the CSO project. Realizing that the CSO project is Federally mandated and that it now represents 69% of the total cost of the CIP every effort must be made in this area to mitigate the rate impact on users.

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

Respectfully Submitted
On behalf of the
CITIZEN'S ADVISORY COMMITTEE

Harold Gadon

**HAROLD GADON
CHAIRMAN**

Howard Schachter

**Howard Schachter
Secretary**

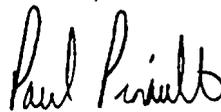
\$389 million for the revised plan. This revised plan will be implemented in three phases. After the first phase is completed, the NBC is committed to a two-year re-evaluation period to evaluate the water quality improvements and reassess the technologies to determine if future phases of the plan should be modified.

Similarly, at the request of the stakeholders group, a Stormwater Assessment Committee has been formed to evaluate the feasibility of an alternative rate structure to NBC's current rate structure that would shift some of the financial burden of the CSO program to the generators of stormwater runoff.

Lastly, the Commission is regulated by the Public Utilities Commission (PUC). As such, rates established are not only designed to be fair and equitable for all users, but must be approved by the PUC prior to implementation. Residential rates within the NBC service area remains one of the lowest in the State and the fifth lowest in the nation for metropolitan cities similar in size.

The Commission remains committed to its role to improve water quality in Narragansett Bay at the least possible cost to our customers.

Sincerely,

A handwritten signature in cursive script that reads "Paul Pinault".

Paul Pinault, P.E.
Executive Director

With the assistance of this stakeholders group, a less costly CSO control plan was selected which reduced the cost from \$559 million for the original plan to approximately \$389 million for the revised plan. This revised plan will be implemented in three phases. After the first phase is completed, 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.

Similarly, at the request of the stakeholders group, a Stormwater Assessment Committee has been formed to evaluate the feasibility of an alternative rate structure to NBC's current rate structure that would shift some of the financial burden of the CSO program to the generators of stormwater runoff.

Lastly, the Commission is regulated by the Public Utilities Commission (PUC). As such, rates established are not only designed to be fair and equitable for all users, but must be approved by the PUC prior to implementation. Residential rates within the NBC service area remains one of the lowest in the State and the fifth lowest in the nation for metropolitan cities similar in size.

The Commission remains committed to its role to improve water quality in Narragansett Bay at the least possible cost to our customers.

Sincerely,



Paul Pinault, P.E.
Executive Director

NARRAGANSETT BAY COMMISSION

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

| | | | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 |
|---------------------------------|--------------|-----------|---------|---------|---------|---------|---------|
| \$14 M | State/G.O.'s | Principal | 33,959 | 145,973 | 163,916 | 165,216 | 167,416 |
| | | Interest | 49,708 | 47,738 | 39,126 | 29,257 | 17,562 |
| | | Subtotal | 83,667 | 193,711 | 203,042 | 194,473 | 184,977 |
| 1987 Bonds Refunded 5/92 (\$6M) | State/G.O.'s | Principal | 47,594 | 47,594 | 259,092 | 261,192 | 264,692 |
| | | Interest | 154,353 | 151,592 | 148,784 | 133,191 | 114,594 |
| | | Subtotal | 201,947 | 199,187 | 407,876 | 394,383 | 379,286 |
| 1984 Bonds (\$3M) | State/G.O.'s | Principal | 15,000 | 15,000 | 15,000 | 15,000 | 0 |
| | | Interest | 4,170 | 3,150 | 2,114 | 1,065 | 0 |
| | | Subtotal | 19,170 | 18,150 | 17,114 | 16,065 | 0 |
| 1988 Bonds (\$5.5M) | State/G.O.'s | Principal | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 |
| | | Interest | 116,725 | 104,300 | 91,700 | 78,925 | 65,975 |
| | | Subtotal | 291,725 | 279,300 | 266,700 | 253,925 | 240,975 |
| 1986 Bonds City of Providence | | Principal | 366,974 | 357,812 | 0 | 0 | 0 |
| | | Interest | 49,642 | 24,689 | 0 | 0 | 0 |
| | | Subtotal | 416,616 | 382,501 | 0 | 0 | 0 |
| Promenade St. Property | | Principal | 97,153 | 107,326 | 118,564 | 0 | 0 |
| | | Interest | 19,453 | 12,207 | 4,202 | 0 | 0 |
| | | Subtotal | 116,605 | 119,532 | 122,766 | 0 | 0 |
| 1991 Bonds \$21.55 M GOB's | State/G.O.'s | Principal | 276,796 | 278,660 | 349,485 | 291,859 | 289,888 |
| | | Interest | 173,771 | 157,184 | 131,182 | 115,389 | 100,497 |
| | | Subtotal | 450,567 | 435,844 | 480,667 | 407,248 | 390,385 |

NARRAGANSETT BAY COMMISSION

| | | | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 |
|------------------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Contract 401-Butler | SRF | Principal | 71,389 | 74,076 | 76,865 | 79,758 | 82,761 |
| | | Interest | 47,026 | 44,289 | 41,447 | 38,500 | 35,441 |
| | | Subtotal | 118,415 | 118,365 | 118,312 | 118,258 | 118,201 |
| Contract 601-North Prov. | SRF | Principal | 118,185 | 122,587 | 127,153 | 131,890 | 136,803 |
| | | Interest | 69,742 | 65,258 | 60,606 | 55,782 | 50,777 |
| | | Subtotal | 187,927 | 187,845 | 187,760 | 187,671 | 187,580 |
| Contract 201-Wash. Park | SRF | Principal | 154,875 | 160,349 | 166,017 | 171,886 | 177,961 |
| | | Interest | 102,652 | 97,109 | 91,370 | 85,427 | 79,275 |
| | | Subtotal | 257,527 | 257,458 | 257,387 | 257,313 | 257,236 |
| Pool Financing I | SRF | Principal | 571,500 | 592,500 | 614,500 | 637,000 | 660,500 |
| | | Interest | 473,314 | 451,959 | 429,542 | 406,856 | 383,052 |
| | | Subtotal | 1,044,814 | 1,044,459 | 1,044,042 | 1,043,856 | 1,043,552 |
| Pool Financing II | SRF | Principal | 673,805 | 697,465 | 721,955 | 747,306 | 773,546 |
| | | Interest | 523,255 | 499,300 | 474,504 | 448,838 | 422,270 |
| | | Subtotal | 1,197,060 | 1,196,765 | 1,196,459 | 1,196,144 | 1,195,816 |
| 8/6/92 Issue \$100,000 | State/G.O.'s | Principal | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| | | Interest | 3,585 | 3,294 | 3,045 | 2,793 | 2,535 |
| | | Subtotal | 8,585 | 8,294 | 8,045 | 7,793 | 7,535 |
| 8/6/92 Issue \$3,315,000 | State/G.O.'s | Principal | 125,000 | 135,000 | 140,000 | 150,000 | 160,000 |
| | | Interest | 139,855 | 132,335 | 125,480 | 118,155 | 110,170 |
| | | Subtotal | 264,855 | 267,335 | 265,480 | 268,155 | 270,170 |
| 5/15/92 Issue \$1,270,364.15 | State/G.O.'s | Principal | 247,619 | 0 | 0 | 0 | 0 |
| | | Interest | 14,362 | 0 | 0 | 0 | 0 |
| | | Subtotal | 261,981 | 0 | 0 | 0 | 0 |

NARRAGANSETT BAY COMMISSION

| | | | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 |
|-----------------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5/15/92 Issue \$7,731,583.1 | State/G.O.'s | Principal | 131,155 | 131,155 | 713,975 | 719,675 | 729,575 |
| | | Interest | 425,348 | 417,741 | 410,003 | 367,036 | 315,780 |
| | | Subtotal | 556,503 | 548,896 | 1,123,977 | 1,086,711 | 1,045,354 |
| 6/15/88 Issue \$4,770,000 | State/G.O.'s | Principal | 420,000 | 415,000 | 435,000 | 430,000 | 280,000 |
| | | Interest | 113,395 | 94,075 | 74,570 | 53,690 | 32,620 |
| | | Subtotal | 533,395 | 509,075 | 509,570 | 483,690 | 312,620 |
| 8/1/90 Issue \$200,000 | State/G.O.'s | Principal | 0 | 0 | 0 | 0 | 0 |
| | | Interest | 0 | 0 | 0 | 0 | 0 |
| | | Subtotal | 0 | 0 | 0 | 0 | 0 |
| 10/15/91 Issue \$900,000 | State/G.O.'s | Principal | 51,256 | 51,600 | 64,764 | 53,956 | 53,577 |
| | | Interest | 32,177 | 29,105 | 24,289 | 21,365 | 18,612 |
| | | Subtotal | 83,433 | 80,705 | 89,053 | 75,321 | 72,189 |
| Pool Loan Financing III | SRF | Principal | 0 | 283,397 | 283,778 | 304,539 | 315,695 |
| | | Interest | 245,084 | 291,881 | 281,363 | 270,459 | 260,156 |
| | | Subtotal | 245,084 | 575,278 | 565,141 | 574,998 | 575,851 |
| TOTALS | | | | | | | |
| Principal | | | 3,582,260 | 3,795,494 | 4,430,063 | 4,339,277 | 4,272,413 |
| Interest | | | 2,757,616 | 2,627,206 | 2,433,327 | 2,226,728 | 2,009,316 |
| Grand Total Existing | | | 6,339,876 | 6,422,700 | 6,863,391 | 6,566,004 | 6,281,729 |

NARRAGANSETT BAY COMMISSION

NEW BAY BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS: 7.00% Interest, 20 Year Financing

| | | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 |
|-----------------------|-----------------|---------|---------|---------|---------|---------|
| FY 2000 NEW BAY BONDS | \$0 Principal | 0 | 0 | 0 | 0 | 0 |
| | Interest | 0 | 0 | 0 | 0 | 0 |
| | Subtotal | 0 | 0 | 0 | 0 | 0 |
| FY 2001 NEW BAY BONDS | \$0 Principal | 0 | 0 | 0 | 0 | 0 |
| | Interest | 0 | 0 | 0 | 0 | 0 |
| | Subtotal | 0 | 0 | 0 | 0 | 0 |
| FY 2002 NEW BAY BONDS | \$0 Principal | 0 | 0 | 0 | 0 | 0 |
| | Interest | 0 | 0 | 0 | 0 | 0 |
| | Subtotal | 0 | 0 | 0 | 0 | 0 |
| FY 2003 NEW BAY BONDS | \$0 Principal | 0 | 0 | 0 | 0 | 0 |
| | Interest | 0 | 0 | 0 | 0 | 0 |
| | Subtotal | 0 | 0 | 0 | 0 | 0 |
| FY 2004 NEW BAY BONDS | \$0 Principal | 0 | 0 | 0 | 0 | 0 |
| | Interest | 0 | 0 | 0 | 0 | 0 |
| | Subtotal | 0 | 0 | 0 | 0 | 0 |
| Totals | | | | | | |
| | Principal | 0 | 0 | 0 | 0 | 0 |
| | Interest | 0 | 0 | 0 | 0 | 0 |
| | Total Bay Bonds | 0 | 0 | 0 | 0 | 0 |

NARRAGANSETT BAY COMMISSION

NEW SRF BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS: 4.7% Interest, 20 Year Financing

| | | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 |
|-----------------|------------------------|-----------|-----------|------------|------------|------------|
| FY 2000 NEW SRF | \$13,970,000 Principal | 698,500 | 474,150 | 474,150 | 474,150 | 474,150 |
| | Interest | 656,590 | 625,730 | 596,321 | 568,294 | 541,584 |
| | Subtotal | 1,355,090 | 1,099,880 | 1,070,471 | 1,042,444 | 1,015,734 |
| FY 2001 NEW SRF | \$55,630,000 Principal | 0 | 2,781,500 | 2,731,500 | 2,731,500 | 2,731,500 |
| | Interest | 0 | 2,614,610 | 2,491,723 | 2,374,612 | 2,263,006 |
| | Subtotal | 0 | 5,396,110 | 5,223,223 | 5,106,112 | 4,994,506 |
| FY 2002 NEW SRF | \$42,413,000 Principal | 0 | 0 | 2,120,650 | 2,115,650 | 2,115,650 |
| | Interest | 0 | 0 | 1,993,411 | 1,899,721 | 1,810,434 |
| | Subtotal | 0 | 0 | 4,114,061 | 4,015,371 | 3,926,084 |
| FY 2003 NEW SRF | \$42,439,000 Principal | 0 | 0 | 0 | 2,121,950 | 2,121,950 |
| | Interest | 0 | 0 | 0 | 1,994,633 | 1,900,885 |
| | Subtotal | 0 | 0 | 0 | 4,116,583 | 4,022,835 |
| FY 2004 NEW SRF | \$32,143,000 Principal | 0 | 0 | 0 | 0 | 1,607,150 |
| | Interest | 0 | 0 | 0 | 0 | 1,510,721 |
| | Subtotal | 0 | 0 | 0 | 0 | 3,117,871 |
| Totals | | | | | | |
| | Principal | 698,500 | 3,255,650 | 5,326,300 | 7,443,250 | 9,050,400 |
| | Interest | 656,590 | 3,240,340 | 5,081,455 | 6,837,260 | 8,123,059 |
| | Total New SRF | 1,355,090 | 6,495,990 | 10,407,755 | 14,280,510 | 17,173,459 |

NARRAGANSETT BAY COMMISSION

SUMMARY OF ALL DEBT SERVICE SCHEDULES

| | | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 |
|------------------------------|-------------|-----------|------------|------------|------------|------------|
| EXISTING DEBT SERVICE | Principal | 3,582,260 | 3,795,494 | 4,430,063 | 4,339,277 | 4,272,413 |
| | Interest | 2,757,616 | 2,627,206 | 2,433,327 | 2,226,728 | 2,009,316 |
| | | 6,339,876 | 6,422,700 | 6,863,391 | 6,566,004 | 6,281,729 |
| NEW BAY BONDS | Principal | 0 | 0 | 0 | 0 | 0 |
| | Interest | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 |
| NEW SRF BONDS | Principal | 698,500 | 3,255,650 | 5,326,300 | 7,443,250 | 9,050,400 |
| | Interest | 656,590 | 3,240,340 | 5,081,455 | 6,837,260 | 8,123,059 |
| | | 1,355,090 | 6,495,990 | 10,407,755 | 14,280,510 | 17,173,459 |
| TOTAL | Principal | 4,280,760 | 7,051,144 | 9,756,363 | 11,782,527 | 13,322,813 |
| | Interest | 3,414,206 | 5,867,546 | 7,514,782 | 9,063,987 | 10,132,375 |
| | Grand Total | 7,694,966 | 12,918,690 | 17,271,146 | 20,846,514 | 23,455,187 |