

- 799 -

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Rep. Vincent J. Mesolella
Chairman

Paul Pinault
Executive Director



November 1, 1994

Dear Interested Party:

Enclosed please find one (1) copy of the final NBC Capital Improvement Program (CIP) for FY 1995-1999.

If you have any questions, please contact Jackie Saul at 277-6680.

Sincerely,

Paul Pinault, P.E.
Executive Director

PP/amr
Enclosure

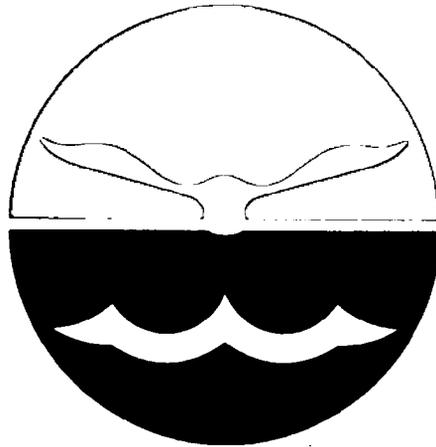
IN CITY COUNCIL

NOV 17 1994
READ

WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.

CLERK

**FY 1995 - 1999
CAPITAL IMPROVEMENT
PROGRAM**



The Narragansett Bay Commission

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

**Vincent Mesolella, Jr.
Chairman**

**Paul Pinault
Executive Director**

AUGUST, 1994

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 NBC's fiscal year 1995 - 1999 Capital Improvement Program (CIP). This document serves to describe the major projects that will be initiated or completed within the NBC's service area over the next five years.

Once again, the largest project reflected in this year's CIP is the Combined Sewer Overflow Abatement Program. This project alone represents 68% of the costs outlined in this document over the next five years. We are currently nearing completion of the subsurface exploration borings for the preliminary design portion of the first phase of the project and we are about to enter into contracts with five consulting firms to design the highest priority facilities. It is estimated that this project will take twelve to fifteen years to complete.

As the NBC is committed to serving the needs of the community and its users to improve the quality of water in Narragansett Bay, I believe this year's CIP serves as an indicator of that commitment.

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

IN CITY COUNCIL

NOV 17 1994

READ
WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.

Jean M. Angelone CLERK

Paul Pinault, P.E.
Executive Director

ACKNOWLEDGEMENTS

The fiscal year 1995 - 1999 Capital Improvement Program was prepared by Jackie Saul, Environmental Planner, Division of Planning, Policy & Regulation, based on input from staff from all sections and divisions of the NBC. This plan was completed with the assistance and supervision of Karen Giebink, Policy Associate.

The development of this CIP also involved the cooperation, assistance and guidance of Juan Mariscal, Assistant Director of Planning, Policy and Regulation and 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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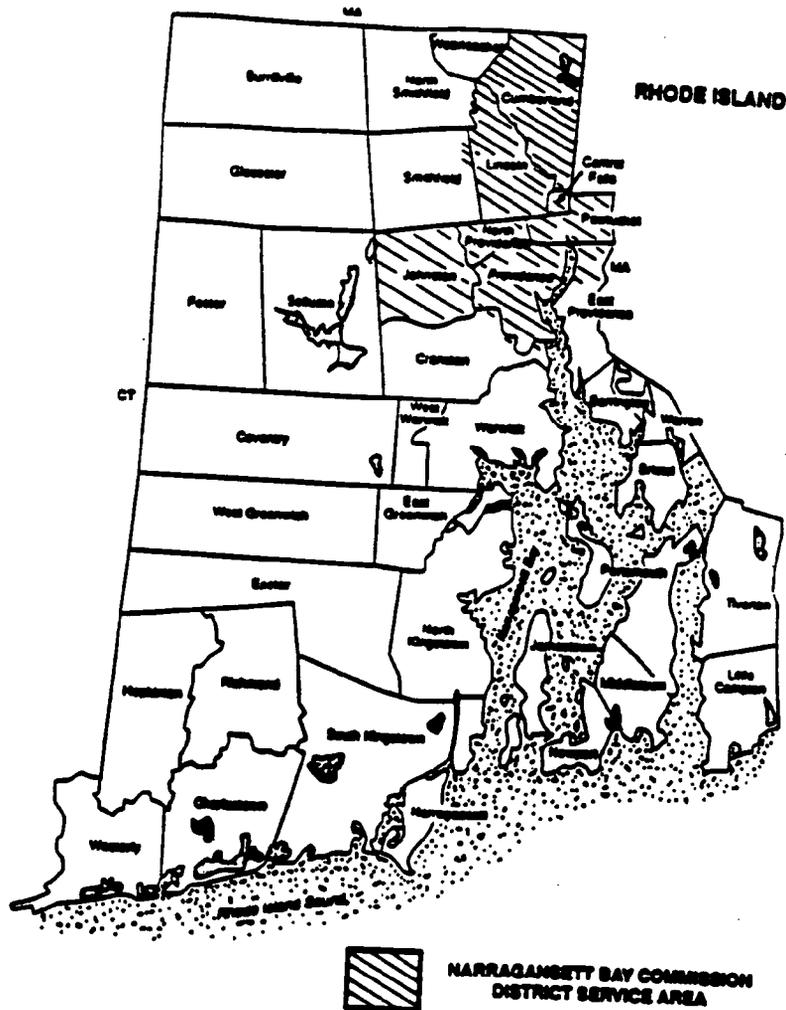
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SERVICE AREA of the NARRAGANSETT BAY COMMISSION

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.

BRIEF PROJECT LISTINGS

CAPITAL IMPROVEMENT PROGRAM PROJECT LISTING

WASTEWATER TREATMENT FACILITY IMPROVEMENTS 1995-1999

FIELD'S POINT

CONTRACT 101: FINAL CLARIFIERS AND CONTROL SYSTEM UPGRADE \$13,225,000
 SOLIDS HANDLING: PAINTING OF ASH LAGOONS AND CRANE SYSTEM \$30,000

INCINERATOR MONITORING EQUIPMENT: HYDROCARBON MONITOR \$169,000
 GAS CHROMATOGRAPH/MASS SPECTROMETER \$67,000
 AUTOMATED CYANIDE DISTILLATION SYSTEM FOR THE LABORATORY \$24,000
 INDUCTIVELY COUPLED PLASMA W/ MASS SPECTROPHOTOMETER (ICP/MS) FOR LAB. \$200,000
 AUTOMATIC DIGESTION SYSTEM FOR LABORATORY \$45,000
 DEVELOPMENT OF SITE-SPECIFIC CRITERIA \$300,000

BUCKLIN POINT

CONTRACT 103: BUCKLIN POINT WWTF IMPROVEMENTS \$2,000
 CONTRACT 802: REPLACEMENT OF MAIN TRANSFORMER \$3,000
 CONTRACT 807: BUCKLIN POINT WWTF IMPROVEMENTS PHASE II \$9,412,000
 CONTRACT 803: LOCKER ROOM AND LUNCH ROOM \$250,000
 FINAL SETTLING TANK WEIR REPLACEMENT \$40,000
 RETURN ACTIVATED & WASTE ACTIVATED SLUDGE PUMP FLOW CONTROL \$40,000

FIELD'S POINT AND BUCKLIN POINT

CONTRACT 102: DISINFECTION ALTERNATIVES \$3,283,000
 CONTRACT 104: SEPTAGE RECEIVING FACILITY(S) \$1,386,000
 SOLIDS HANDLING IMPROVEMENTS \$21,740,000
 INCINERATOR EMISSION EQUIPMENT: WET ELECTROSTATIC PRECIPITATOR \$1,000,000

TOTAL \$51,216,000

SEWER SYSTEM IMPROVEMENTS 1995 - 1999

FIELD'S POINT

CONTRACT 201: REHAB. OF RESERVOIR AVE. AND WASHINGTON PARK PUMP STATIONS \$50,000
 CONTRACT 401: BUTLER HOSPITAL INTERCEPTOR REPLACEMENT/REPAIRS \$10,000
 CONTRACT 404: GANO ST. TO PITMAN ST. INTERCEPTOR REPLACEMENT \$2,800,000
 CONTRACT 301: STORMWATER & SANITARY SEPARATION-R.I. STATE HOUSE & STATE OFFICE BLDG \$15,000
 JOHNSTON SEWER SYSTEM EVALUATION SURVEY \$20,000
 CONTRACT 502: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON \$30,000
 CONTRACT 503: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON \$1,918,000
 CONTRACT 504: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON \$8,070,000
 CONTRACT 601: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN N. PROVIDENCE \$2,777,000
 CSO 2B: HEADWALL IMPROVEMENTS \$519,000

BUCKLIN POINT

CONTRACT 806: OMEGA PUMPING STATION WELL \$20,000
 REPAIR OF MVI NEAR HIGGINSON AVE. \$726,000
 CONTRACT 701: REPLACEMENT OF THE LINCOLN (SAYLESVILLE) PUMP STATION \$1,916,000

FIELD'S POINT AND BUCKLIN POINT

CONTRACT 302: COMPREHENSIVE COMBINED SEWER OVERFLOW (CSO) PROGRAM \$150,200,000
 GEOGRAPHIC INFORMATION SYSTEM IMPLEMENTATION \$1,125,000

TOTAL \$170,196,000

BUILDINGS AND GROUNDS 1995 - 1999

FIELD'S POINT

WINDOW REPLACEMENT \$40,000
 HEATING SYSTEM \$65,000
 ICM MANAGEMENT INFORMATION SYSTEM SOFTWARE \$27,000
 VEHICLE REPLACEMENTS \$665,000

BUCKLIN POINT

VEHICLE REPLACEMENTS \$410,000

TOTAL \$1,207,000

GRAND TOTAL \$222,619,000

SECTION I

(CIP OVERVIEW)

FISCAL YEAR 1995- 1999 CAPITAL IMPROVEMENT PROGRAM

This year's Capital Improvement Program (CIP) identifies over \$222 million of capital improvement projects in progress, to be initiated or completed within the next five fiscal years (fiscal years 1995 - 1999). It also reflects total expenditures of \$593 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 (WWTF), systems and buildings and grounds.) Projects are also identified by wastewater facility treatment area (Field's Point vs. Bucklin Point). Cash flows for each project, functional area and service area are provided and the funding sources and schedules are also shown. Project costs are 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 Fund program (SRF) and pending federal legislation in order to accurately reflect the costs associated with the funding of this program and the resulting impact upon users within the District.

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. However, the debt service calculations reflect these costs.

NBC'S COMBINED SEWER OVERFLOW ABATEMENT PROJECT

Of all the projects noted in this CIP, the most significant project being undertaken by the Narragansett Bay Commission is the Combined Sewer Overflow Abatement Project. This project alone represents about 68% of the total costs outlined in this document.

There are 86 combined sewer overflows (CSO) contributing to the degradation of Narragansett Bay. During periods of heavy rain, the flow through the NBC's existing CSO's frequently exceeds the capacity of the sewer system. As a result, untreated sewage and stormwater mixture is sent directly into our rivers and into Narragansett Bay. The overflows have been a continual source of pollution in the Upper Bay, often requiring RI Department of Environmental Management to close parts of the Bay to shellfishing.

After several years of study, the NBC approved a comprehensive CSO Abatement plan to mitigate this problem. This plan involves the

construction of seven near-surface storage facilities and twelve miles of deep rock tunnels. These near surface storage tanks and tunnels will contain the sewage that would have otherwise overflowed into the Rhode Island waterways. After the storm has passed, the stored flows will be returned to the system for treatment.

When the CSO improvements have been completed, the annual volume of overflows is expected to be reduced by 99%.

The NBC has submitted the CSO abatement plan to Rhode Island Department of Environmental Management (RIDEM). Approval by RIDEM is expected in FY 94 and construction is expected to start in 1996. Construction will proceed in three phases and is expected to take approximately twelve to fifteen years to complete. Total project costs are estimated at \$472 million.

For more detailed information on any of the projects in this CIP, contact the NBC offices.

PROGRAM CHANGES

Wastewater Treatment Facilities

A number of program changes are reflected in this year's CIP. With respect to Field's Point projects, Contract IIB: Grit Removal Facilities has been completed. The replacement of the Aeration System Electrical Activators and the Refurbishing of Dissolved Oxygen Metering System has been incorporated into Contract 101. The Incinerator Dispersion Modelling has been completed as part of our sludge permit submittal to EPA. The need for the Redesign of the I.D. Fan for the incinerator was also eliminated after staffs' analysis determined that the current design meets all of our requirements.

The Long-Term Biosolids Management Program has been removed from the CIP due to the decision by the NBC to privatize this project. When proposals for this project were solicited, the RFP indicated that the NBC would be looking at two options; a privately-owned facility and a publicly-owned facility. Companies were requested to submit proposals for both options. After analyzing the benefits of both options, a decision was made to pursue the privatization option. As a result, the selected vendor will be responsible for building and financing this facility.

As a safeguard in the event the long term sludge project does not proceed; however, the NBC has also included the purchase of a Wet Electrostatic Precipitator for our Field's Point Incinerator and a Solids Handling Improvements Project. Both projects would only be initiated

if the long term sludge project does not proceed. Total cost for these two items is in excess of \$22 million. It is anticipated that state revolving loans would be pursued to finance these projects.

Other new projects at the Field's Point Facility include the purchase and installation of several new pieces of monitoring equipment for NBC's Laboratory. These new pieces of equipment will automate functions in the laboratory in order to analyze industrial waste samples in accordance with the new EPA requirements.

Sewer System Improvements

Several Sewer System projects were completed in FY 1993: Contract 301: Stormwater and Sanitary Separation - R.I. State House and R.I. State Office Building was complete in January, 1993; the NBC has completed its study of NBC-owned interceptors in the town of Johnston (SSES) and the repair of the Blackstone Valley Interceptor Manhole at 142 Broadway was also completed. The purchase and installation of Permanent Flow meters has also been deleted from this year's CIP.

In the Bucklin Point Wastewater Treatment Facility service area, Contract 806: Omega Pumping Station Well has been added to develop a new well source of water to replace the city water connection. The Lincoln Septage Receiving Facility Improvements Project has been deleted and will be part of Contract 104, Septage Receiving Facility.

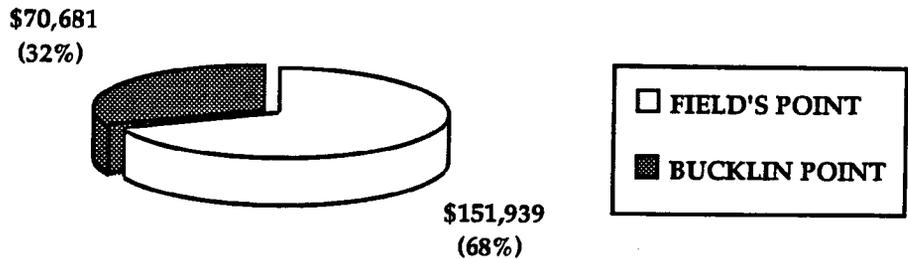
Buildings and Grounds

The roof replacement at 459 Promenade Street was completed this past year. Also, the exterior concrete resurfacing was determined to no longer be necessary. Instead, NBC staff chose a less expensive method of repair by cleaning and painting the existing exterior concrete surface.

COST BY SERVICE AREA

NBC's current rate structure provides for different rates in the Field's Point and Bucklin Point service areas and as a result, this CIP shows a breakout of costs by service area. Of the \$222 million in capital improvements scheduled over the next five years, the majority of the costs, 68% or \$151 million is for projects within the Field's Point District and 32% or \$70 million is for projects within the Bucklin Point District. Consistent with NBC's rate filing with the Public Utilities Commission, we have allocated the CSO Abatement Project costs by service area based on a percentage of the total CSO project costs. Cost splits between the two areas are 70% Field's Point, and 30% Bucklin Point.

PROJECT COSTS BY SERVICE AREA
(In Thousands \$)



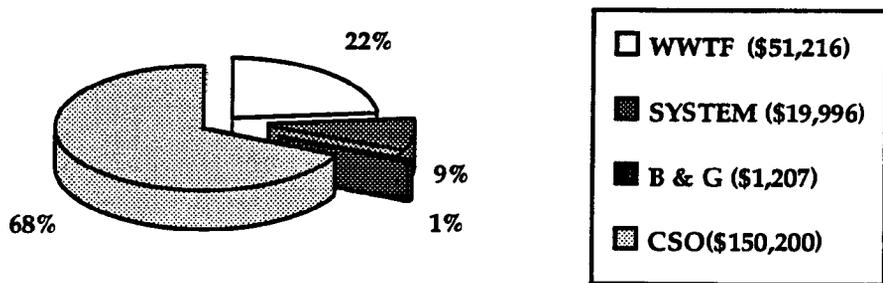
COST BY FUNCTIONAL AREA

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

Buildings and Grounds (BG) projects include building repairs and equipment purchases to support staff. Field's Point and Bucklin Point Wastewater Treatment Facility improvements include the major facility upgrade contracts, septage receiving facility improvements and various maintenance projects. Sewer System and Interceptor Construction and Maintenance (ICM) projects include those for Combined Sewer Overflow Mitigation, interceptor rehabilitation, outlying sewers and pumping stations.

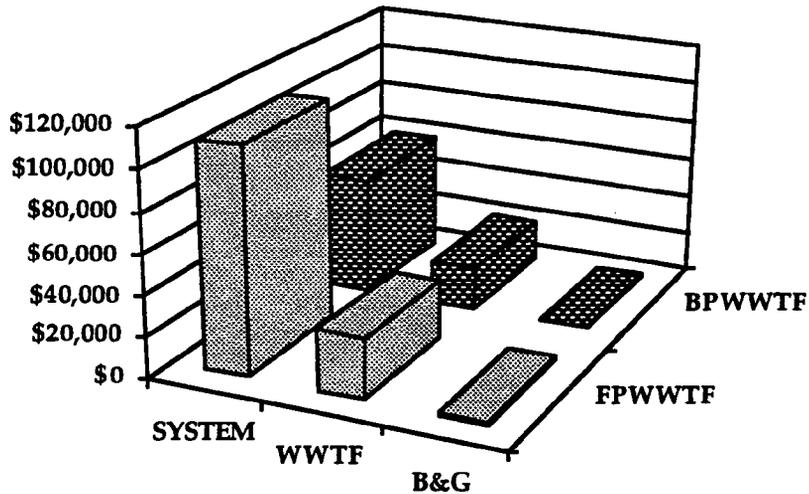
Most of the costs identified in the CIP are related to the CSO mitigation project which are within the sewer system functional area. As a result, this area accounts for 68% or \$150.2 million of the costs in the CIP. Of the remaining costs, 22% are associated with treatment facility improvements, 9% are associated with sewer system improvements, and 1% are for buildings and grounds projects.

PROJECT COSTS BY FUNCTIONAL AREA
(In Thousands \$)



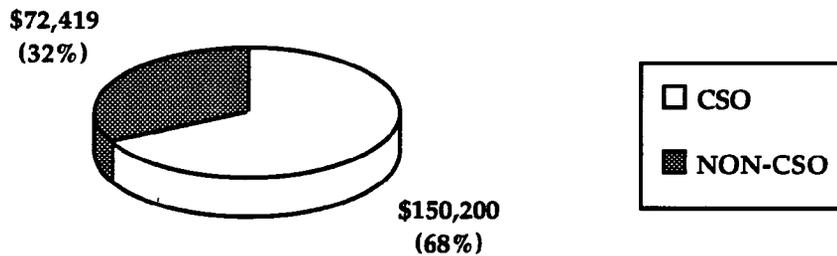
A similar percentage split between the functional areas exists within each of the service areas which can be seen as follows:

**PROJECT COSTS BY FUNCTIONAL AREA WITHIN EACH SERVICE AREA
(In Thousands \$)**



A percentage split of costs between CSO and non-CSO projects can be seen as follows:

**CSO PROJECT VERSES NON-CSO PROJECTS COSTS
(In Thousands \$)**



FISCAL IMPACT

The CIP is a planning document and the costs and schedules it reflects are based on the best available information, however; experience indicates that as projects proceed from planning to construction, costs generally have increased.

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

Grants

Federal grants were provided by the U.S. 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 for 15% of the total eligible project cost. Also included in this category are State Aquafund grants. This program; however, has been phased out and replaced with the State Revolving Fund.

BVDC Bonds

The former Blackstone Valley District Commission (NBC merged with the former BVDC on 1/1/92) has the use of State general obligation bonds (g.o.) issued on their behalf. The Bucklin Point users are responsible for all of the debt service on these bonds. 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 in proportion of the community's flow to the total flow. Based on NBC's most recent filing on behalf of the Bucklin Point facility, debt service on debt incurred prior to the merger will continue to be billed to the municipalities and debt service resulting from debt incurred after 12/31/91 will be billed directly to the users. The NBC will be proposing in the next rate filing on behalf of the Field's Point and Bucklin Point, to incorporate all debt service into user charges.

Bay Bonds

In 1980, an \$87.7 million bond issue was passed 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 and the Pawtuxet River Authority during the 1990 session of the Rhode Island General Assembly. A \$15 million Bond issue was placed on the State Ballot in the 1992 general

election and was passed by the voters. As a result, there are a total of \$87.7 million in Bay Bonds available to the Field's Point facility and \$6.0 million in Bay Bonds available to the Bucklin Point facility. To date, Field's Point has used a total of \$54.450 million of the Bay Bonds. Of the \$87.7 million, RI General Laws 46-25 set the amount to be paid by sewer user charges to the debt service on \$14.059 million. To date, Field's Point user charges are financing the debt service on \$13.485 million. This means that Field's Point users will be responsible for the debt service on a maximum \$0.574 million of the remaining Bay Bond issues.

Bucklin Point has spent \$0.775 million of the \$6.0 million in Bay Bonds that were transferred to the former BVDC in 1990. Unlike Field's Point, Bucklin Point is not responsible for any of the debt service on these bonds.

For the purposes of this document, we have assumed that both service areas will benefit from the use of all bay bonds available.

In addition, the projected availability of Bay Bonds noted in this CIP is consistent with the State of Rhode Island Capital Budget's commitment to the distribution of Bay Bonds to the NBC over the next four years. The State Budget Office is responsible for the issuance of Bay Bonds for the Commission.

SRF (State Revolving Fund)

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. The SRF finances water quality improvement projects through a low interest loan program. For planning purposes, we have estimated that the maximum funding that will be available through the end of fiscal year 1999 is \$250 million and that the NBC will be the only recipient of SRF funds. The actual amount that will be available is dependent upon Congressional action and how much other communities borrow from the SRF.

The SRF program is administered by the RI Clean Water Finance Agency. 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 DEM. Loans are at a rate one-third below the 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 SRF financing to fund Contracts 201, 401 and 601. In fiscal year 1993, the NBC was a recipient of a "pool" loan of \$14.781 million. After deducting financing costs, \$13.7 million is available for actual project costs and will be used to finance a variety of projects including preliminary design and a portion of final design for the CSO LDM Program, design of Contracts 101, 102, 504 and 701. The "pool" loan will also supplement the construction financing of the Smith Street Separation project. 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 will be paid from user charges. In general, revenue bonds will be used to: 1) only finance those projects that are not eligible for SRF funding or 2) will be used only when all SRF funds are exhausted. The financing costs associated with the issuance of revenue bonds are reflected in the debt service calculations.

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.

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.

Table 1
(Cash Flow Basis in Thousand \$)

Wastewater Treatment Facilities

FUNDING SOURCE	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FIVE YEAR TOTAL
GRANT	817	0	0	0	0	0	0
BVDC BONDS	3,486	205	0	0	0	0	205
BAY BONDS	10,123	1,169	4,040	7,080	7,080	3,540	22,909
SRF	820	4,244	12,530	6,082	4,090	660	27,606
REV. BONDS	0	0	0	0	0	0	0
REP. RESERVE	0	251	245	0	0	0	496
OP. BUDGET	0	0	0	0	0	0	0
TOTAL	15,246	5,869	16,815	13,162	11,170	4,200	51,216

Sewer System Improvements: Construction & Maintenance

FUNDING SOURCE	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FIVE YEAR TOTAL
GRANT	0	0	339	0	0	0	339
BVDC BONDS	127	0	0	0	0	0	0
BAY BONDS	11,383	4,064	9,000	18,000	8,035	0	39,099
SRF	10,141	7,195	4,258	5,953	53,571	59,741	130,046
REV. BONDS	0	0	0	0	0	0	0
REP. RESERVE	0	0	0	0	0	0	0
OP. BUDGET	0	20	0	0	0	0	20
TOTAL	21,651	11,279	12,905	23,953	61,606	59,741	170,196

Buildings and Grounds

FUNDING SOURCE	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FIVE YEAR TOTAL
GRANT	0	0	0	0	0	0	0
BVDC BONDS	0	0	0	0	0	0	0
BAY BONDS	0	0	0	0	0	0	0
SRF	0	0	0	0	0	0	0
REV. BONDS	0	0	0	0	0	0	0
REP. RESERVE	0	295	160	305	255	60	1,075
OP. BUDGET	0	132	0	0	0	0	132
TOTAL	0	427	160	305	255	60	1,207

The 37 scheduled and ongoing projects have projected costs of \$222,619 million over the next five years. Table 2 below summarizes projected cash flows from each of the various funding sources.

**Table 2
(Total Funding Source)**

FUNDING SOURCE	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FIVE YEAR TOTAL
GRANT	817	0	339	0	0	0	339
BVDC	3,613	205	0	0	0	0	205
BAY BONDS	21,506	4,233	9,000	18,000	8,035	0	39,268
SRF	10,961	12,439	20,136	19,135	64,741	63,941	181,084
REV. BONDS	0	0	0	0	0	0	0
REP.RESERVE	0	546	405	305	255	60	1,571
OP. BUDGET	0	152	0	0	0	0	152
TOTAL	36,897	17,575	29,880	37,440	73,031	73,031	222,619

When this information is displayed graphically, the increased dependence on State Revolving Loan Funds becomes apparent. This is the result of a combination of factors such as the lack of federal financial assistance in the form of grants for CSO abatement and the SRF funding is considerably more cost effective than revenue bonds due to the subsidized interest rates. It is also interesting to note the increased use of Bay Bonds in fiscal years 1996, 1997 and 1998. The State of Rhode Island's capital budget and NBC's cash flow projections indicates that these bonds will be exhausted by fiscal year 1998.

**TOTAL FUNDING SOURCES
(In Thousands \$)**



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

The changes in the financing sources and the advancement of the CSO mitigation project to the construction phase will have a significant impact on the NBC's total annual revenue requirements and sewer user fees. It should be noted that NBC's sewer user charges are regulated by the Public Utilities Commission (PUC). Any modifications to sewer user charges to recover additional debt service must be approved by the PUC.

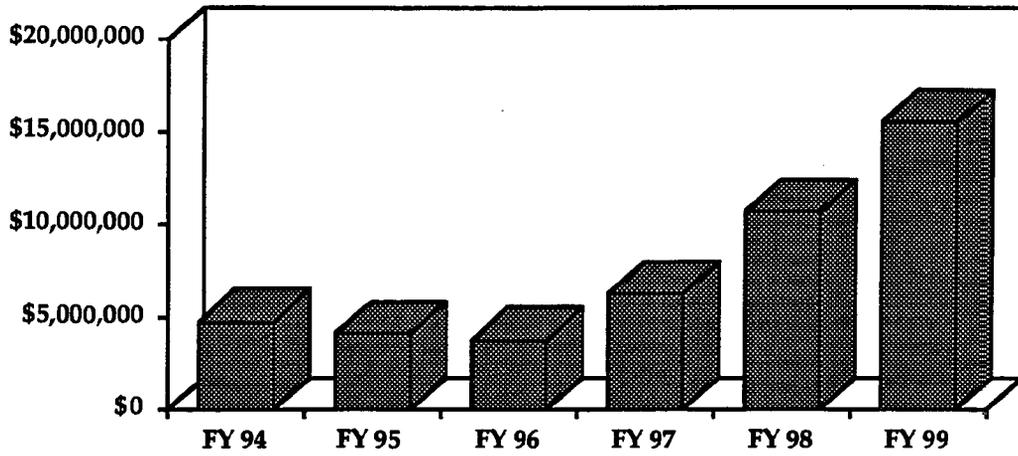
In order to assess the fiscal impact of the scheduled capital improvements, debt service payments have been estimated from the cash flow projections. Debt service for the Field's Point and the Bucklin Point are shown separately since they have distinct rate structures and from a financial perspective are treated as separate "financial entities".

In general, costs can be readily identified as "benefiting" Bucklin Point or Field's Point. Costs associated with projects that benefit both service areas have been proportionally allocated based on engineering estimates. In the case of the CSO program, we have assumed 30% of the costs are attributable to Bucklin Point and 70% to Field's Point from July 1, 1994 forward. We have also assumed that both service areas will benefit proportionally from the Bay Bonds the State has programed to issue for this project over the next four years. (Estimated debt service schedules are provided in the appendix.)

Field's Point

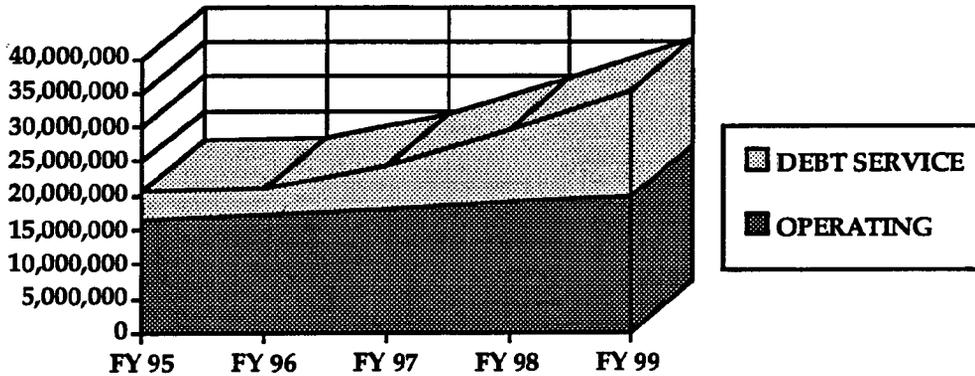
Within the Field's Point service area, annual debt service decreases from \$4.7 million in fiscal year 1994 to \$3.7 million in fiscal year 1996. The debt service decreases because the NBC will have completed the payback of the loan from the State general fund in fiscal year 1995 and debt service payments on the City of Providence bonds drops by more than \$0.5 million. Debt service then increases drastically each fiscal year as debt service on SRF loans increases. By 1999, debt service is expected to rise to \$15.5 million as Field's Point proceeds to the construction phase on portions of the CSO abatement project.

FIELD'S POINT ANNUAL DEBT SERVICE



Assuming a reasonable increase of 5% per year to the Field's Point operating budget (sans debt service) beginning with FY 95, a total revenue requirement of approximately \$34 million is needed in FY 99. Of this amount, debt service would account for approximately 40% of the total annual budget. This is depicted in the following graph.

**FIELD'S POINT ANNUAL OPERATING
and DEBT SERVICE EXPENSE**

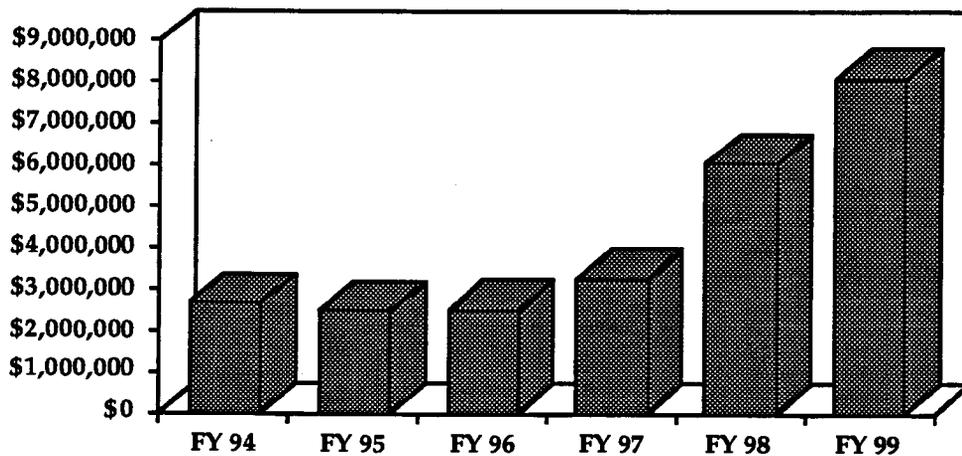


Bucklin Point

Debt service for the Bucklin Point service area also increases over the next five years although the most significant impact will not occur until fiscal year 1998 when the debt service begins to reflect CSO mitigation work within the

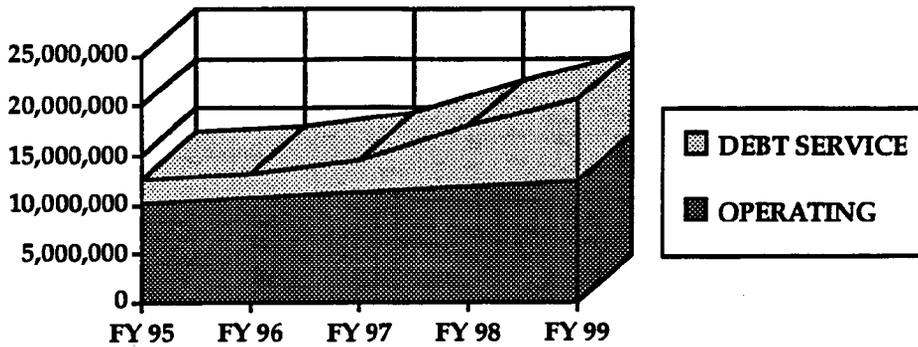
Bucklin Point service area. Debt service remains within the \$2.4 - \$3.2 million range until fiscal years 1998 and 1999 when it increases to \$6.0 million and \$8.1 million respectively. These significant increases reflect the debt service associated with the progression of the CSO mitigation project. Under the present rate structure, the increase in debt service will have an even greater impact on the users within Bucklin Point because the municipalities will continue to be responsible for debt service only on the debt existing as of 12/31/91. Those existing debt service levels, however, will continue to drop annually while new debt service increases resulting in a larger share being allocated directly to the users.

BUCKLIN POINT PROJECTED ANNUAL DEBT SERVICE



As above, assuming a reasonable increase of 5% per year to the Bucklin Point operating budget (sans debt service) beginning with FY 95 a total revenue requirement of approximately \$19.2 million is needed in FY 99. By 1999, debt service would be close to 41% of the annual operating expenses as is reflected in the following graph:

**BUCKLIN POINT ANNUAL OPERATING
and DEBT SERVICE EXPENSE**



SEWER USER FEES

The present sewer user fees are designed to recover, on an annual basis, approximately \$16.4 million from the Field's Point service area (including an average debt service of \$4.8 million) and \$10.2 million from the Bucklin Point service area (including an average debt service of \$2.6 million). It is apparent that financing of the projects in the CIP as outlined will require additional revenue, which will necessitate a filing to the PUC. Any resulting modifications to sewer user fees, rate design and revenue requirements would be determined by the PUC.

As a planning document, this CIP treats the Field's Point and the Bucklin Point service areas as distinct financial entities. NBC is currently in the process of a rate study and as part of that process is examining the feasibility of combining tariff structures which would result in "one district, one rate". The NBC is also considering a variety of modifications to the current rate structures in each service area.

SECTION II

(DETAILED PROJECT LISTINGS)

WASTEWATER TREATMENT FACILITY IMPROVEMENTS

WASTEWATER TREATMENT FACILITY PROJECTS ...A LISTING

The following is a listing of the 18 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 5-year period is
\$51,216,000

PROPOSED PROJECT:	5 YEAR PERIOD COST:
<i>FIELD'S POINT</i>	
CONTRACT 101: FINAL CLARIFIERS AND CONTROL SYSTEM UPGRADE	\$13,225,000
SOLIDS HANDLING: PAINTING OF ASH LAGOONS AND CRANE SYSTEM	\$30,000
INCINERATOR MONITORING EQUIPMENT: HYDROCARBON MONITOR	\$169,000
GAS CHROMATOGRAPH/MASS SPECTROMETER	\$67,000
AUTOMATED CYANIDE DISTILLATION SYSTEM FOR THE LABORATORY	\$24,000
INDUCTIVELY COUPLED PLASMA W/ MASS SPECTROPIOTOMETER (ICP/MS) FOR LAB.	\$200,000
AUTOMATIC DIGESTION SYSTEM FOR LABORATORY	\$45,000
DEVELOPMENT OF SITE-SPECIFIC CRITERIA	\$300,000
SUBTOTAL	\$14,060,000
<i>BUCKLIN POINT</i>	
CONTRACT 103: BUCKLIN POINT WWTF IMPROVEMENTS	\$2,000
CONTRACT 802: REPLACEMENT OF MAIN TRANSFORMER	\$3,000
CONTRACT 807: BUCKLIN POINT WWTF IMPROVEMENTS PHASE II	\$9,412,000
CONTRACT 803: LOCKER ROOM AND LUNCH ROOM	\$250,000
FINAL SETTLING TANK WEIR REPLACEMENT	\$40,000
RETURN ACTIVATED & WASTE ACTIVATED SLUDGE PUMP FLOW CONTROL	\$40,000
SUBTOTAL	\$9,747,000
<i>FIELD'S POINT AND BUCKLIN POINT</i>	
CONTRACT 102: DISINFECTION ALTERNATIVES	\$3,283,000
CONTRACT 104: SEPTAGE RECEIVING FACILITY(S)	\$1,386,000
INCINERATOR EMISSION EQUIPMENT: WET ELECTROSTATIC PRECIPITATOR	\$1,000,000
SOLIDS HANDLING IMPROVEMENTS	\$21,740,000
SUBTOTAL	\$27,409,000
TOTAL	\$51,216,000

FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM

PROJECT DESCRIPTION

CONTRACT 101:

**IMPROVEMENTS TO
FIELD'S POINT
WASTEWATER
TREATMENT FACILITY
FINAL CLARIFIER AND
CONTROL SYSTEM
UPGRADE**

This project involves the design of three new final clarifiers, new grease and scum handling facilities and the selection of a vendor to provide a new computer system at the Field's Point Facility. These improvements were identified during the facilities planning phase of the project. The replacement or rehabilitation of the Ernest St. Force Main was originally part of this project, however, during facilities planning it was determined that the force main was in good condition and did not warrant replacement or rehabilitation.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS	163							0	163
SRF	810	3,236	8,588	1,271	130		13,225		14,035
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	973	3,236	8,588	1,271	130	0	13,225		14,198

PHASE (Description)	PROJECT COST BY 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 8/94 to 8/96 (24 Months)	\$13,157
TOTAL		\$14,198

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**SOLIDS HANDLING:

PAINTING OF ASH
LAGOONS AND
CRANE SYSTEM**

This structure was built in the mid 1950's. It has not been painted since NBC assumed operation of the WWTF in 1982. The paint is bubbling and chipping. In order to prevent corrosion of the facility, the structural steel and concrete base of the ash lagoons and crane system need to be sandblasted and painted.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF								0	0
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET		30						30	30
TOTAL	0	30	0	0	0	0	30	30	30

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING		
DESIGN		
CONSTRUCTION	From 9/94 to 10/94 (1 Month)	\$30
TOTAL		\$30

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**INCINERATOR
MONITORING
EQUIPMENT:

HYDROCARBON
MONITOR**

In accordance with new EPA sludge regulations, the purchase and installation of a total hydrocarbon continuous monitor is required.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS		169						169	169
SRF								0	0
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	0	169	0	0	0	0	0	169	169

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
DESIGN	Completed	
DESIGN	From 4/93 to 9/94 (17 Months)	\$50
CONSTRUCTION	From 7/94 to 9/95 (4 Months)	\$119
TOTAL		\$169

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**GAS
CHROMATOGRAPH/
MASS SPECTROMETER**

The current GC/MS is being programmed for extractable organic compounds - EPA method 625. The purgeable organic compounds are being performed on a gas chromatograph (Purge & Trap) - EPA methods 61 and 602. This is acceptable for RIPDES permit requirements but it is not being recognized by EPA for Total Toxic Organics on pretreatment samples. The method now required by EPA is purge & trap GC/MS - EPA method 624. Therefore, a new GC/MS (purge & trap) will be purchased and dedicated solely to purgeable organic compound analysis required by pretreatment.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE						5 YEAR	AFTER	TOTAL
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	TOTAL	JULY '99	PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF								0	0
REVENUE BONDS								0	0
REPL RESV		67						67	67
OPER BUDGET								0	0
TOTAL		0	67	0	0	0	0	67	67

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PURCHASE/ INSTALL		\$67
TOTAL		\$67

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**AUTOMATED
CYANIDE
DISTILLATION
SYSTEM FOR THE
LABORATORY**

In order to adhere to EPA method 335.2 (distillation) on all cyanide samples an automated system is needed. The Leeman Lab Automated Cyanide Distillation System (AP1214) meets the above problems. It will also take less time and be less hazardous.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF								0	0
REVENUE BONDS								0	0
REPL RESV		24						24	24
OPER BUDGET								0	0
TOTAL		0	24	0	0	0	0	24	24

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PURCHASE/ INSTALL		\$24
TOTAL		\$24

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**INDUCTIVELY
COUPLED PLASMA
WITH A MASS
SPECTROPHOTO-
METER (ICP/MS) FOR
THE LABORATORY**

Because of the continual lowering of detection limits for metals by EPA, the Graphite Furnace/AA System will not be adequate to meet these new requirements. What is being recommended by EPA is an ICP/MS. This unit has the detection power, sensitivity and elemental coverage to comply with the stricter EPA regulations now going into effect.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE						5 YEAR	AFTER	TOTAL
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	TOTAL	JULY '99	PROJECT COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REPL RESV			200				200		200
OPER BUDGET							0		0
TOTAL		0	200	0	0	0	200		200

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PURCHASE/ INSTALL		\$200
TOTAL		\$200

FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM

PROJECT DESCRIPTION

**AUTOMATIC
DIGESTION SYSTEM
FOR LABORATORY**

The present digestion method for preparation of samples for the graphite furnace is very labor intensive and time consuming. It consists of multiple stages with many chances of contamination. The preparation for the cleaning of the glassware is twenty four hours soaking in acid solutions.

A automatic digestion system would digest, cool and filter samples automatically. It will operate without operator supervision, require no glassware or vessel cleaning. The unit will diminish drastically acid usage.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REPL RESV			45				45		45
OPER BUDGET							0		0
TOTAL	0	0	45	0	0	0	45		45

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PURCHASE/ INSTALL		\$45
TOTAL		\$45

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

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

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 RIPDES Consent Agreement between DEM and the NBC effective December 15, 1992.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS		300						300	300
SRF								0	0
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	0	300	0	0	0	0	300		300

**PHASE
(Description)**

**PROJECT COST BY PHASE
(Project Schedule)**

COST BY PHASE

STUDY
DESIGN
CONSTRUCTION
TOTAL

From 9/94 to 9/95

\$300
\$300

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

CONTRACT 103:

**BPWWTF
IMPROVEMENTS**

Contract 103 is the final phase in a series of contracts undertaken at the BPWWTF and associated pump stations. Work at the BPWWTF includes the installation of two standby power generator stations, a hazardous gas monitoring system, and relocation of two heated sludge circulation pumps. Natural gas standby power, conversion of the electrical system, and a fourth pump along with misc. improvements were added to the Omega pump station. A new electrical building was added to the Lincoln pump station to provide standby power, electrical distribution, and control systems. Other improvements included the construction of a new flow meter chamber and the addition of two pumps.

This project is essentially complete and the costs shown reflect the release of retainage.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE							5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99				
GRANT								0	0	
BVDC BONDS	3,351	2						2	3,353	
BAY BONDS								0	0	
SRF								0	0	
REVENUE BONDS								0	0	
REPL RESV								0	0	
OPER BUDGET								0	0	
TOTAL	3,351	2	0	0	0	0	0	2	3,353	

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 5/90 to 12/91 (9 Months)	\$369
DESIGN	From 12/91 to 5/93 (17 Months)	\$2,984
CONSTRUCTION		
TOTAL		\$3,353

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**CONTRACT 802:

REPLACEMENT OF
MAIN TRANSFORMER**

The existing PCB transformer at the BPWWTF poses PCB liability. It is recommended that the transformer be replaced with a new transformer which would eliminate the PCB liability. Design and construction services costs for the replacement were part of Contract 103.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE							5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99				
GRANT								0	0	
BVDC BONDS	135	3						3	138	
BAY BONDS								0	0	
SRF								0	0	
REVENUE BONDS								0	0	
REPL RESV								0	0	
OPER BUDGET								0	0	
TOTAL	135	3	0	0	0	0	0	3	138	

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	Included as part of Contract 103	\$0
DESIGN	Included as part of Contract 103	\$0
CONSTRUCTION	From 6/93 to 5/94 (11 Months)	\$138
TOTAL		\$138

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

CONTRACT 807:

**BPWWTF
IMPROVEMENTS
PHASE II**

PROJECT DESCRIPTION

The 1991 RIPDES permit for the Bucklin Point WWTF indicates sufficient plant capacity to receive and treat peak sanitary flows of 46 mgd for sustained periods of time. At present, these flow levels do not reach the plant due to CSO discharges. The CSO mitigation plans, however, call for the storage of wet weather flows, with the pumpback to the BPWWTF at the maximum 46 mgd flow rate over a period of 2-3 days until stored volumes are depleted. This project will include the evaluation of unit processes to determine their capability of providing secondary treatment levels over an extended period 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 expansion and a new digester heat exchanger. Additional improvements include the replacement of the heating boilers in the Administration, Screen & Grit, Service and Dewatering Buildings. Also included is the replacement of the Administration Building air conditioning system.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF	10	400	1,092	3,300	3,960	660	9,412		9,422
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	10	400	1,092	3,300	3,960	660	9,412		9,422

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 7/94 to 6/95 (12 Months)	\$400
DESIGN	From 7/95 to 6/96 (12 Months)	\$1,092
CONSTRUCTION	From 9/96 to 8/97 (11 Months)	\$7,920
TOTAL		\$9,412

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

CONTRACT 803:

**LOCKER ROOM AND
LUNCH ROOM**

The existing facilities for operations personnel are inadequate. The locker room is not large enough to accommodate the personnel and there is no centrally located lunch room. The second floor of the dewatering building No.2 formerly housed vacuum filter equipment which has been removed. In this space lockers would be constructed to accommodate 50 persons (men and women), along with showers, washing sinks, toilets and a janitorial closet. Open space would also be utilized for lunch room facilities.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS		200					200		200
BAY BONDS								0	0
SRF								0	0
REVENUE BONDS								0	0
REPL RESV		50					50		50
OPER BUDGET								0	0
TOTAL	0	250	0	0	0	0	250		250

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 7/94 to 10/94 (3 Months)	\$50
DESIGN	Design included in above schedule	
CONSTRUCTION	From 1/95 to 6/95 (6 Months)	\$200
TOTAL		\$250

FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM

PROJECT DESCRIPTION

FINAL SETTLING
TANK WEIR
REPLACEMENT

The effluent weirs on our settling tanks were originally installed 20 years ago. They are made of steel and are corroding. This project includes their replacement with corrosion resistant fiberglass weirs. Additional scum collection facilities will also be added.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF								0	0
REVENUE BONDS								0	0
REPL RESV		40						40	40
OPER BUDGET								0	0
TOTAL		40	0	0	0	0	40	40	40

PHASE
(Description)

PROJECT COST BY PHASE
(Project Schedule)

COST BY PHASE

PURCH/INSTALL

From 7/94 to 6/95 (12 Months)

\$40

TOTAL

\$40

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**RAS
PUMP
FLOW
CONTROL**

Return sludge flows must be modified on a flow basis for proper operation of a wastewater treatment facility. This project would modify two speed motors to variable speed motors which would be controlled from the Bucklin Point facility's control tower.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REPL RESV		40					40		40
OPER BUDGET							0		0
TOTAL	0	40	0	0	0	0	40		40

**PHASE
(Description)**

**PROJECT COST BY PHASE
(Project Schedule)**

COST BY PHASE

PURCH/INSTALL

From 7/94 to 6/95 (12 Months)

\$40

TOTAL

\$40

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**CONTRACT 102:

DISINFECTION
ALTERNATIVES**

This project is required to implement a disinfection method at both Field's Point and Bucklin Point to meet the new RIPDES effluent permit limits for total residual chlorine. This involves finalizing pilot testing of the ultraviolet disinfection alternative at Bucklin Point and Field's Point WWTF's. Once the collected data is tested and analyzed, a recommended alternative for disinfection at each facility can be selected. The design and construction of the recommended alternative will be implemented.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS	215							0	215
SRF		204	2,068	1,011			3,283		3,283
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	215	204	2,068	1,011	0	0	3,283		3,498

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 7/92 to 10/94 (28 Months)	\$215
DESIGN	From 11/94 to July 95 (8 Months)	\$253
CONSTRUCTION	From 9/95 to 9/96 (12 Months)	\$3,030
TOTAL		\$3,498

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

CONTRACT 104:

**SEPTAGE RECEIVING
FACILITY(S)**

This project consists of a facilities planning study to evaluate which of two options would best serve the community's needs for septage receiving in the Commission's service area. The two options are:

- 1) to construct a new septage receiving facility within the Field's Point service area and make improvements to the Bucklin Point septage receiving facility, or;
- 2) to increase the capacity of the Bucklin Point septage receiving facility to accommodate the projected capacity required to meet the needs of the Bucklin Point and Field's Point service areas.

The recommended alternative will be implemented during the design and construction phases.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF		104	782	500			1,386		1,386
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	0	104	782	500	0	0	1,386		1,386

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	9/94 to 3/95 (6 Months)	\$75
DESIGN	5/95 to 11/95 (6 Months)	\$185
CONSTRUCTION	1/95 to 10/96 (9 Months)	\$1,126
TOTAL		\$1,386

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**INCINERATOR
EMMISSION
EQUIPMENT:

WET ELECTROSTATIC
PRECIPITATOR**

The present air scrubber system for the multiple hearth incinerator allows us to meet EPA's air emission standards for total particulates and metals. Recently enacted EPA 503 sludge regulations will require the control of total hydrocarbons (THC). While we can operate our afterburner to reduce THC, it requires large amounts of fuel oil. A wet electrostatic precipitator would not only allow us to further reduce total particulates and metals, but would also allow us to meet THC limits without use of an afterburner. If the Long-Term Sludge project does not proceed, this project would be promulated.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE						5 YEAR	AFTER	TOTAL
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	TOTAL	JULY '99	PROJECT COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF		1,000					1,000		1,000
REVENUE BONDS							0		0
REPL RESV							0		0
OPER BUDGET							0		0
TOTAL	0	1,000	0	0	0	0	1,000		1,000

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING		
DESIGN		
CONSTRUCTION	From 7/94 to 9/94 (2 Months)	\$1,000
TOTAL		\$1,000

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**SOLIDS HANDLING
IMPROVEMENTS**

In 1987, just before RIDEM imposed restrictions on sludge disposed at the Central Landfill, the NBC had just completed a design for solids handling which entailed the transfer of some equipment for interim solids handling as well as construction of new solids handling equipment such as additional belt filter presses, sludge holding tanks and reliance on the incinerator (with SWMC landfilling as a back-up) for sludge disposal. If the long-term sludge project does not progress, this contact would be reinstated.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF			4,040	7,080	7,080	3,540	21,740		21,740
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	0	0	4,040	7,080	7,080	3,540	21,740		21,740

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING		
DESIGN	From 7/95 to 1/96 (6 Months)	\$500
CONSTRUCTION	From 1/96 to 1/98 (24 Months)	\$21,240
TOTAL		\$21,740

SEWER SYSTEM IMPROVEMENTS

SEWER SYSTEM IMPROVEMENTS & MAINTENANCE PROJECTS ...A LISTING

The following is a listing of the 15 Sewer System Improvements & 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 5-year period is
\$170,196,000

PROPOSED PROJECT:	5 YEAR PERIOD COST:
<i>FIELD'S POINT</i>	
CONTRACT 201: REHAB. OF RESERVOIR AVE. AND WASHINGTON PARK PUMP STATIONS	\$50,000
CONTRACT 401: BUTLER HOSPITAL INTERCEPTOR REPLACEMENT/REPAIRS	\$10,000
CONTRACT 404: GANO ST. TO PITMAN ST. INTERCEPTOR REPLACEMENT	\$2,800,000
CONTRACT 301: STORMWATER & SANITARY SEPARATION-R.I. STATE HOUSE & STATE OFFICE BLDG	\$15,000
JOHNSTON SEWER SYSTEM EVALUATION SURVEY	\$20,000
CONTRACT 502: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON	\$30,000
CONTRACT 503: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON	\$1,918,000
CONTRACT 504: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON	\$8,070,000
CONTRACT 601: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN N. PROVIDENCE	\$2,777,000
CSO 2B: HEADWALL IMPROVEMENTS	\$519,000
SUBTOTAL	\$16,209,000
<i>BUCKLIN POINT</i>	
CONTRACT 806: OMEGA PUMPING STATION WELL	\$20,000
REPAIR OF MVI NEAR HIGGINSON AVE.	\$726,000
CONTRACT 701: REPLACEMENT OF THE LINCOLN (SAYLESVILLE) PUMP STATION	\$1,916,000
SUBTOTAL	\$2,662,000
<i>FIELD'S POINT AND BUCKLIN POINT</i>	
CONTRACT 302: COMPREHENSIVE COMBINED SEWER OVERFLOW (CSO) PROGRAM	\$150,200,000
GEOGRAPHIC INFORMATION SYSTEM IMPLEMENTATION	\$1,125,000
SUBTOTAL	\$151,325,000
TOTAL	\$170,196,000

FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM

PROJECT DESCRIPTION

CONTRACT 201:

**REHABILITATION OF
RESERVOIR AVE.
AND
WASHINGTON PARK
PUMPING STATIONS**

A facilities plan to address operation and maintenance problems at these two pump stations recommended replacement of the Washington Park Pump Station and rehabilitation of the Reservoir Ave. Pump Station. Project is near completion.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS	379							0	379
SRF	2,825	50						50	2,875
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	3,204	50	0	0	0	0	50		3,254

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 3/90 to 7/90 (4 Months)	\$79
DESIGN	From 1/91 to 4/92 (15 Months)	\$300
CONSTRUCTION	From 10/92 to 4/94 (18 Months)	\$2,875
TOTAL		\$3,254

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**CONTRACT 401:

BUTLER HOSPITAL
INTERCEPTOR
REPLACEMENT/
REPAIRS**

Approximately 1,200 ft. of interceptor through the Butler Hospital property is presently deteriorated and in need of repair. The design of the Butler Hospital interceptor involves replacement of the existing interceptor with a new interceptor along a new alignment. Repairs to headwalls at OF 023 and OF 025 will involve replacing deteriorated headwalls with new structures. This project was completed in November 1993.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	S YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS	770							0	770
SRF	1,195	10						10	1,205
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	1,965	10	0	0	0	0	10		1,975

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	Part of CSO A Wet Weather Facilities Plan	\$0
DESIGN	From 1/87 to 6/92 (66 Months)	\$770
CONSTRUCTION	From 9/92 to 7/93 (10 Months)	\$1,205
TOTAL		\$1,975

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**CONTRACT 404:

GANO ST. TO PITMAN
ST. INTERCEPTOR
REPLACEMENT**

During the study of CSO Area A structural deficiencies were found in the Seekonk River Interceptor in the segment that runs from Pitman Street to Gano Street. The proposed solution for this segment is replacement of the interceptor along a new route essentially parallel to the existing interceptor.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS	866							0	866
SRF	10	2,105	661	34			2,800		2,810
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	876	2,105	661	34	0	0	2,800		3,676

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	Included as part of CSO A Wet Weather FP	\$0
DESIGN	1/87 to 3/94 (75 Months)	\$866
CONSTRUCTION	From 11/94 to 8/95 (9 Months)	\$2,810
TOTAL		\$3,676

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

CONTRACT 301:

**STORMWATER AND
SANITARY
SEPARATION - R.I.
STATE HOUSE AND
R.I. STATE OFFICE
BUILDING**

The need for this project was identified as part of the CSO B study. It involves the separation of stormwater and sanitary flow on Smith Street. In order to provide separation of flows, it is necessary to separate roof leaders and sanitary plumbing in the State House and State Office Building. This project will allow the CSO for this area to be abandoned. This project was completed in November 1993.

PROJECT FINANCING & EXPENDITURES

(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS	173							0	173
SRF	554	15						15	569
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	727	15	0	0	0	0	15		742

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING		
DESIGN	From 9/88 to 11/92 (50 Months)	\$173
CONSTRUCTION	From 6/93 to 10/93 (4 Months)	\$569
TOTAL		\$742

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**IMPROVEMENTS TO
NBC OWNED
INTERCEPTORS IN
THE TOWN OF
JOHNSTON - SSES**

This study addressed various tasks that determined and defined problem areas associated with infiltration and inflow within the Town of Johnston. This project is essentially complete. Costs shown reflect the release of retainage.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS	363	20						20	383
SRF								0	0
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	363	20	0	0	0	0	20		383

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
STUDY	Completed	\$383
DESIGN		
CONSTRUCTION		
TOTAL		\$383

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**CONTRACT 502:

IMPROVEMENTS TO
NBC OWNED
INTERCEPTORS IN
THE TOWN OF
JOHNSTON**

An upgrading of the Johnston Sewer System is needed to minimize I/I problems in existing facilities; and address the present demands along with sewer growth. Contract 502 addresses the replacement and expansion of sewer interceptors along Silver Lake Ave., cross/lots along the Pocasset River, Plainfield St. and Atwood Ave. to Central Ave. Construction was initiated May, 1992 and was essentially completed in July, 1993.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF	3,270	30					30		3,300
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	3,270	30	0	0	0	0	30		3,300

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING		
DESIGN	From 9/89 to 6/91 (21 Months)	\$195
CONSTRUCTION	From 4/92 to 7/93 (15 Months)	\$3,105
TOTAL		\$3,300

FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM

PROJECT DESCRIPTION

CONTRACT 503:

**IMPROVEMENTS TO
NBC OWNED
INTERCEPTORS IN
JOHNSTON**

A group of residents within the general area of Cherry Hill Road formed the Cherry Hill Association in order to achieve their goal of connecting present and future dwellings into NBC's sewer system. Contingent on the number of homes connecting to the sewer system, NBC has indicated that it would design and construct the necessary facilities to convey flow to its existing interceptors. NBC has completed a preliminary engineering study outlining project requirements. Subsequent to the initiation of this project, however, a draft Facilities Plan for the Johnston area indicated that there was insufficient capacity downstream from the Cherry Hill site to handle any additional flows. Contract 504 has been initiated to upgrade and expand the downstream interceptors so that Contract 503 can proceed. As a result of mandated improvements to our existing wastewater system and treatment facility, this project has been placed in a lower priority. Should funding become available this project will move higher on the priority list.

PROJECT FINANCING & EXPENDITURES

(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	70						0		70
SRF		1,110	680	62	66		1,918		1,918
REVENUE BONDS							0		0
REPL RESV							0		0
OPER BUDGET							0		0
TOTAL	70	1,110	680	62	66	0	1,918		1,988

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	Completed	\$35
DESIGN	From 8/96 to 2/97 (6 Months)	\$35
CONSTRUCTION	From 7/96 to 10/98 (27 Months)	\$1,918
TOTAL		\$1,988

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

**CONTRACT 504:
IMPROVEMENTS TO
NBC OWNED
INTERCEPTORS IN
THE TOWN OF
JOHNSTON - NORTH
END**

PROJECT DESCRIPTION

On June 24, 1992 NBC consultants submitted a preliminary draft of a Facilities Plan for the upgrading of NBC owned sewers in the northern section of Johnston. This area consists primarily of land east of I-295 and north of Hartford Ave. in the Town of Johnston. For the most part, these sewers are tributary to the NBC Manton Ave. sewers in Providence. A small portion of this study area is also south of the eastern end of Hartford Ave. Currently this area is served by sewers which were constructed during the 1950's and 1960's. Considerable growth has taken place since that time and the sewers are not capable of adequately handling present and/or projected flows.

The draft Facilities Plan for this area recommends the upgrading of all NBC interceptors and replacement and/or abandonment of some pumping stations and the possible construction of new ones. Construction to be divided into three contracts: 1) lower RR Interceptor & Border; 2) upper RR Interceptor; 3) Greenville, Central.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE						5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99			
GRANT			339				339		339
BVDC BONDS							0		0
BAY BONDS							0		0
SRF	162	350	724	3,376	2,540	741	7,731		7,893
REVENUE BONDS							0		0
REPL RESV							0		0
OPER BUDGET							0		0
TOTAL	162	350	1,069	3,376	2,540	741	8,070		8,232

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	Planning included as part of SSES	
DESIGN	From 11/93 to 12/96 (37 Months)	\$689
CONSTRUCTION	From 4/96 to 9/98 (29 Months)	\$7,543
TOTAL		\$8,232

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

CONTRACT 601:

**IMPROVEMENTS TO
NBC OWNED
INTERCEPTORS IN
NORTH PROVIDENCE**

There are extensive and extremely high infiltration/inflow problems in North Providence. The estimated 13.0 MGD of I/I is approximately 35% of the total ADF at the FPWWTF. Reduction of this flow will reduce pumping and treatment costs. A Sewer System Evaluation Survey (SSES) was performed on 53,900 LF of NBC owned interceptor sewers in the Town of North Providence by conducting a video inspection. Two I/I studies were completed for both the Woonasquatucket Ave. (WAI) and the Canada Pond Interceptor. The reports concluded that the WAI was contributing the highest amount of I/I. The report also recommends that approximately 11,000 LF of the WAI is in need of immediate rehabilitation work which would reduce I/I in the WAI by 55%.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS		360					360		360
SRF		1,685	712	20			2,417		2,417
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	0	2,045	712	20	0	0	2,777		2,777

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 9/88 to 10/89 (13 Months)	\$312
DESIGN	From 4/90 to 6/91 (14 Months)	\$118
CONSTRUCTION	From 7/93 to 1/95 (18 Months)	\$2,347
TOTAL		\$2,777

FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM

PROJECT DESCRIPTION

CSO 2B:
HEADWALL
IMPROVEMENTS

The headwalls along the Woonasquatucket River in CSO Area 2 are in disrepair. Plans and specifications have been completed for these repairs, however, construction cannot be initiated until the Department of Transportation's moratorium on road cuts for the Promenade Street area is lifted.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS	132							0	132
SRF				519			519		519
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	132	0	0	519	0	0	519		651

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 10/88 to 3/91 (30 Months)	\$132
DESIGN	Design included in above	
CONSTRUCTION	From 7/96 to 11/96 (4 Months)	\$519
TOTAL		\$651

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**CONTRACT 806:
OMEGA PUMPING
STATION WELL**

The Omega Pumping Station currently uses city water as a source of seal water and for other uses. Problems with the water service reliability due to the age and condition of the existing pipe have led us to investigate alternate sources of supply. This project is to develop a well source of water on that site to replace the city water connection.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF								0	0
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET		20						20	20
TOTAL	0	20	0	0	0	0	20	20	20

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 7/94 to 8/94 (2 Months)	\$5
DESIGN	From 9/94 to 10/94 (2 Months)	\$15
CONSTRUCTION		
TOTAL		\$20

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**REPLACEMENT
OF
THE MOSHASSUCK
VALLEY
INTERCEPTOR**

**NEAR
HIGGINSON AVE.**

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 Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF		17	114	595			726		726
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET								0	0
TOTAL	0	17	114	595	0	0	726		726

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 3/95 to 9/95 (6 Months)	\$35
DESIGN	From 9/95 to 3/96 (6 Months)	\$96
CONSTRUCTION	From 7/96 to 12/96 (6 Months)	\$595
TOTAL		\$726

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

CONTRACT 701:

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

An evaluation of the adequacy of the existing package type pumping station in Saylesville was undertaken as part of Contract 103. It was determined that the existing station has limitations of size in both the wet well and 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 Thousands)**

SOURCE OF FUNDING	BEFORE						S YEAR	AFTER	TOTAL
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	TOTAL	JULY '99	PROJECT COSTS
GRANT							0		0
BVDC BONDS	127						0		127
BAY BONDS							0		0
SRF		232	842	842			1,916		1,916
REVENUE BONDS							0		0
REPL RESV							0		0
OPER BUDGET							0		0
TOTAL	127	232	842	842	0	0	1,916		2,043

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	Before 7/94	\$127
DESIGN	From 7/94 to 5/95 (10 Months)	\$232
CONSTRUCTION	From 9/95 to 3/97 (10 Months)	\$1,684
TOTAL		\$2,043

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**CONTRACT 302:

COMPREHENSIVE
COMBINED
SEWER
OVERFLOW (CSO)
PROGRAM**

Providence, Pawtucket and Central Falls all have combined sewers which overflow at about 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. A lead design manager (LDM) was hired in January, 1992 to oversee this program. The work will be completed in three phases. Phase I, which was completed in June, 1993, involved the development of a conceptual design report which recommended facilities to be constructed and established priorities for construction. The recommended facilities include seven (7) near surface storage facilities and 61,350 linear feet of tunnels. Phase II will involve design of recommended facilities and Phase III will be construction of the facilities. Completion of this entire project is expected to take 15-20 years.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	5,000	3,654	9,000	18,000	8,035		38,689		43,689
SRF	3,700	1,546			50,965	59,000	111,511	89,260	204,471
REVENUE BONDS							0	244,640	244,640
REPL RESV							0		0
OPER BUDGET							0		0
TOTAL	8,700	5,200	9,000	18,000	59,000	59,000	150,200	333,900	492,800

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING	From 1/92 to 6/93 (18 Months)	\$5,000
DESIGN	From 7/93 to 12/96 (48 Months)	\$24,000
CONSTRUCTION	From 7/97 to 6/07 (120 Months)	\$463,800
TOTAL		\$492,800

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

**GEOGRAPHIC
INFORMATION
SYSTEM
IMPLEMENTATION**

PROJECT DESCRIPTION

The Geographic Information System (GIS) project is intended to be a long-term commitment to update the Commission's mapping capabilities and to organize the information that the Commission works with in a geographically referenced manner. The implementation project will involve a feasibility study to address the methods and equipment to be used. From the feasibility study an implementation program will be established whereby appropriate hardware will be obtained and software applications will be developed for the various sections of the Commission that will benefit from the system. This will likely include the involvement of the Engineering, Planning, Policy & Regulation, Interceptor Construction & Maintenance, and Administration & Finance (Customer Service) sections of the Commission.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE						5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99			
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF	10	75	525	525			1,125		1,135
REVENUE BONDS							0		0
REPL RESV							0		0
OPER BUDGET							0		0
TOTAL	10	75	525	525	0	0	1,125		1,135

**PHASE
(Description)**

**PROJECT COST BY PHASE
(Project Schedule)**

COST BY PHASE

PLANNING/ DEVELOPMENT
DESIGN
CONSTRUCTION
TOTAL

From 6/94 to 6/97 (36 months)

\$1,135
\$1,135

BUILDINGS & GROUNDS IMPROVEMENTS

BUILDING AND GROUNDS PROJECTS ...A LISTING

The following is a listing of the 5 Building 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 5-year period is
\$1,207,000

PROPOSED PROJECT:	5 YEAR PERIOD COST:
<i>FIELD'S POINT</i>	
WINDOW REPLACEMENT	\$40,000
HEATING SYSTEM	\$65,000
ICM MANAGEMENT INFORMATION SYSTEM SOFTWARE	\$27,000
VEHICLE REPLACEMENTS	\$665,000
SUBTOTAL	\$797,000
 <i>BUCKLIN POINT</i>	
VEHICLE REPLACEMENTS	\$410,000
SUBTOTAL	\$410,000
TOTAL	\$1,207,000

FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM

PROJECT DESCRIPTION

IMPROVEMENTS TO
NBC OWNED
PROPERTY LOCATED
AT 459 PROMENADE
ST.

WINDOW
REPLACEMENT

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

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF								0	0
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET		40						40	40
TOTAL		0	40	0	0	0	0	40	40

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING		
DESIGN	From 9/94 to 2/95 (6 Months)	\$10
CONSTRUCTION	From 4/95 to 6/95 (3 Months)	\$30
TOTAL		\$40

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

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

HEATING SYSTEM**

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 Thousands)**

SOURCE OF FUNDING	BEFORE						5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
	JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99			
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REPL RESV							0		0
OPER BUDGET		65					65		65
TOTAL	0	65	0	0	0	0	65		65

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
PLANNING		
DESIGN	From 7/95 to 12/95 (6 Months)	\$10
CONSTRUCTION	From 1/96 to 6/96 (6 Months)	\$55
TOTAL		\$65

**FY 95-99
CAPITAL
IMPROVEMENT
PROGRAM**

PROJECT DESCRIPTION

**INTERCEPTOR
CONSTRUCTION
AND
MAINTENANCE

MANAGEMENT
INFORMATION
SYSTEM**

Information collected on the maintenance of the Narragansett Bay Commission's sewer system is presently done manually and the scheduling of crews is performed on an as needed basis. In order to better implement a preventative maintenance process, it is proposed that a database management system be established which can generate work orders, maintenance schedules, etc. Specific software packages have been developed for use by public utilities to manage this type of information. The purpose of this computer program would be to collect and organize data relative to interceptor maintenance and generate work orders based on past maintenance requirements as well as status reports and budget information.

**PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousands)**

SOURCE OF FUNDING	BEFORE JULY '94	FY 95	FY 96	FY 97	FY 98	FY 99	5 YEAR TOTAL	AFTER JULY '99	TOTAL PROJECT COSTS
GRANT								0	0
BVDC BONDS								0	0
BAY BONDS								0	0
SRF								0	0
REVENUE BONDS								0	0
REPL RESV								0	0
OPER BUDGET		27						27	27
TOTAL	0	27	0	0	0	0	27		27

PHASE (Description)	PROJECT COST BY PHASE (Project Schedule)	COST BY PHASE
SPECIFICATION	From 10/94 to 12/93 (3 Months)	\$0
PURCH/INSTALL	From 2/95 to 3/95 (2 Months)	\$27
TOTAL		\$27

VEHICLE REPLACE SCHEDULE
(In Thousands)

All items are to be funded from the replacement reserve

	FY 95	FY 96	FY 97	FY 98	FY 99	Total
1984 Sewer Bucket Cleaning Machine			70			70
1984 Backhoe				80		80
Dump Truck with Plow	40					40
1984 Digger Truck (Unit 12)		80				80
1984 Digger Truck (Unit 11)	80					80
1985 Flusher Truck (Unit 8)		80				80
101 Wheeler (Unit19)					60	60
1989 Vactor Truck (Unit 17)				175		175
Subtotal FPWWTF	120	160	70	255	60	665
1983 2.5 CY Front End Loader	175					
1981 6 CY Dump Truck			35			35
1985 15CY Dump Trucks (2)			200			200
Subtotal BPWWTF	175	0	235	0	0	410
TOTAL	350	160	305	255	60	1,130

*Vehicles expected to cost more than \$20,000

SECTION III

(APPENDIX)

THE NARRAGANSETT BAY COMMISSION

ABBREVIATIONS & ACRONYMS FOR THE 1995 - 1999 CIP

Automated Cyanide Distillation System	ACDS
Automatic Digestion system	ADS
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
Disolved Air Floataion	DAF
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.
Gas Chromatograph/Mass Spectrometer	GC/MS
Geographic Information System	GIS
Incinerator Monitoring Equipment:Hydrocarbon Monitor	IME:HM
Interceptor Construction & Maintainence (Narragansett Bay Commission)	ICM
Induced Draft Fan	I.D. Fan
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 O2	O 2
Project O3	O 3
Out Fall	OF
Operating (to modify "budget")	OP/Oper.
Polychlorobiphenyls	PCBs
Public Utilities Commission (Rhode Island)	PUC
Pleasant Valley Parkway	PVP
Return Activated Sludge	RAS
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
Sewer System Evaluation Survey	SSES
Waste Activated Sludge	WAS
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. With the addition of the primary wet weather facilities, the plant provides primary treatment and disinfection for wet weather 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.

NBC also owns, operates and maintains five outlying pump stations. The Washington Park and Reservoir Ave. pump stations located within the City of Providence are listed on the National Historic Register and are both scheduled for construction improvements in Fall 1992. There are three additional pump stations in Johnston. The newest, Central Avenue, came on-line in 1987.

NBC is also responsible for the maintenance of seven flow metering stations that are used to measure flows from the various service areas. These meters are read weekly.

In addition, NBC owns and is responsible for the maintenance and correction of 59 Combined Sewer Overflows (CSO's), 32 tidegates and 75 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 67mgd.

Wastewater treated at the Bucklin Point Facility first flows through a mechanically cleaned screen, a grit chamber, a pre-aeration channel, two primary settling tanks and then flows into four aeration tanks 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. The digested sludge is dewatered with plate and frame recessed chamber presses and landfilled on the Bucklin Point site.

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

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 27 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**

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 June 22, 1994 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 July 1, 1994. Comments were received at the June 22 Public Hearing and were subsequently submitted in writing. The Commission prepared written responses which are included in the following pages. Where applicable, comments/suggestions were incorporated into the CIP.

On June 13, 1994 the Draft CIP was distributed to the Commission's Construction Engineering & Operations Committee and the Board of Commissioners.

On July 6, 1994 the Draft CIP was presented to the Citizen Advisory Committee.

On July 18, 1994 the Final Draft CIP was reviewed by the Commission's Construction, Engineering & Operations Committee and subsequently adopted by the Board of Commissioners.



**NARRAGANSETT
BAY COMMISSION**

PUBLIC HEARING
on the
**CAPITAL IMPROVEMENT
PROGRAM**
for
FISCAL YEAR 95-99

The general public is invited to attend a Public Hearing on:
JUNE 22, 1994, 7:00 P.M.

at
**THE NARRAGANSETT BAY COMMISSION
FOUNDRY CORPORATE OFFICE CENTER
235 PROMENADE STREET SUITE 500
PROVIDENCE, RHODE ISLAND**

Comments will be taken from the public following an overview of the Commission's Capital Improvement Program (CIP) for fiscal years 1995 through 1999. The CIP is a planning document identifying \$567 million in NBC major projects, repairs and purchases over the next five years.

The meeting site is accessible to the handicapped. Individuals requiring services for the hearing impaired must notify the NBC at (401) 277-6680 or TDD (401) 277-6680, 72 hours in advance of the meeting date. For further information or for copies of the CIP, contact Jackie Saul at (401) 277-6680.

**PAUL PINAULT,
EXECUTIVE DIRECTOR**

**VINCENT J. MESOLELLA
CHAIRMAN**

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

"PUBLIC COMMENT

by

**THE CITIZENS ADVISORY COMMITTEE FOR THE NARRAGANSETT BAY COMMISSION ON THE
CAPITAL IMPROVEMENT PROGRAM (CIP) FOR FISCAL YEAR
1995 THROUGH 1999.**

The Citizens Advisory Committee to the Narragansett Bay Commission (NBC) approve of the proposed Capital Improvement Program for fiscal year 1995-1999 in its entirety, but realize it is a planning document (which may undergo changes) whose implementation depends on favorable action by various government agencies.

As in earlier CIP's, the projects are described well, the priorities are clearly defined, and the financial impacts and modes of financing are explained.

Our Citizen's Advisory Committee (CAC) is comprised of 14 members who serve staggered three year terms. Their names and affiliations are listed on the attached sheet. Part of our advisory role is to work with and observe many of the NBC staff activities such as this CIP.

Based on our review, the CAC approves of this CIP in its' entirety and the members unanimously approved this statement.

Respectfully Submitted
On behalf of the CAC to NBC...."
Howard E. Schachter, CHAIRMAN

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

MEMBERSHIP LIST

Mr. Lionel Bernardino
27 Park Street
N. Providence, RI 02904

Mr. George Champagne
35 Corliss Street
P.O. Box 40115
Providence, RI 02904

Ms. Donna Frechette
32 Scenery Lane
Johnston, RI 02917

Mr. Phil Holmes
218 Market Street
Warren, RI 02885

Mr. Joseph Thibodeau
54 Fisk Street
Providence, RI 02905

Mr. Stanley Smith
Colfax Inc.
33 Colfax Street
Pawtucket, RI 02860

Mr. Thomas Ucci
26 Oneida Street
Johnston, RI 02919

Mr. William Lupino
129 Simonsville Ave.
Johnston, RI 02919

Mr. Kurt Teichert
P.O. Box 1941
Brown University
Providence, RI 02906

Mr. Harold Gadon
51 Fairlawn Avenue
Pawtucket, RI 02860

Hr. Howard Benisvy
83 Yale Drive
Coventry, RI 02816

Mr. Robert Ricci
2 Industrial Lane
Johnston, RI 02919

Mr. Christopher Hamblet
SAVE THE BAY
434 Smith Street
Providence, RI 02908

Mr. Howard Schachter
150 Butler Avenue
Providence, RI 02906

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. Mesolella
Chairman

Paul Pinault
Executive Director



July 6, 1994

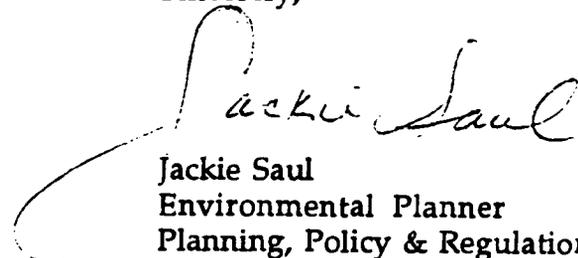
Mr. Howard E. Schachter
Chairman
Citizen's Advisory Committee
The Foundry Corporate Office Center
235 Promenade Street - Suite 500
Providence, RI 02908-5739

Dear Mr. Schachter:

The Narragansett Bay Commission is in receipt of your comments on our draft 1995-1999 Capital Improvement Program (CIP). Your comments will be included in the final CIP.

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

Sincerely,


Jackie Saul
Environmental Planner
Planning, Policy & Regulation

/JAS

NARRAGANSETT BAY COMMISSION - FIELD'S POINT

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

			FY '95	FY '96	FY '97	FY '98	FY '99
\$1.4 M	State/G.O.'s	Principal	6,082	2,027	4,055	8,110	16,219
		Interest	52,810	52,512	52,409	52,194	51,748
		Subtotal	58,892	54,539	56,464	60,304	67,967
1987 Bonds Refunded 5/92	State/G.O.'s	Principal	8,924	2,975	5,949	11,898	23,797
		Interest	164,602	164,165	164,013	163,698	163,044
		Subtotal	173,526	167,140	169,962	175,596	186,841
1984 Bonds	State/G.O.'s	Principal	20,000	20,000	20,000	15,000	15,000
		Interest	9,945	8,725	7,465	6,165	5,175
		Subtotal	29,945	28,725	27,465	21,165	20,175
1988 Bonds	State/G.O.'s	Principal	175,000	175,000	175,000	175,000	175,000
		Interest	177,275	165,200	153,125	141,050	128,975
		Subtotal	352,275	340,200	328,125	316,050	303,975
1986 Bonds City of Providence	State/G.O.'s	Principal	970,721	396,357	390,244	383,010	375,647
		Interest	211,978	150,822	125,456	100,090	74,812
		Subtotal	1,182,699	547,179	515,700	483,100	450,459
Promenade St. Property		Principal	65,231	72,062	79,607	87,943	97,153
		Interest	35,769	28,938	21,393	13,057	3,847
		Subtotal	101,000	101,000	101,000	101,000	101,000
General Fund Payback	3 yr. Payback	Principal	1,000,000				
		Interest	50,000				
		Subtotal	1,050,000				
1991 Bonds	State/G.O.'s	Principal	285,000	285,000	285,000	280,000	270,000
\$21.55 M GOB's		Interest	267,158	250,058	232,958	215,858	199,058
		Subtotal	552,158	535,058	517,958	495,858	469,058
Contract 401-Butler	SRF	Principal	59,346	61,580	63,898	66,303	68,799
		Interest	59,297	57,021	54,659	52,208	49,665
		Subtotal	118,643	118,601	118,557	118,511	118,464
Contract 601-North Prov.	SRF	Principal	98,434	102,100	105,903	109,848	113,940
		Interest	89,860	86,125	82,252	78,234	74,065
		Subtotal	188,294	188,225	188,155	188,082	188,005

CAPITAL IMPROVEMENT PROGRAM 1995-1999
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NARRAGANSETT BAY COMMISSION - FIELD'S POINT

Contract 201-Wash. Park	SRF	Principal	130,182	134,783	139,548	144,480	149,587
		Interest	14,925	122,997	118,172	113,177	108,006
		Subtotal	145,107	257,780	257,720	257,657	257,593
Pool Financing FP Share	SRF	Principal		0	461,475	478,350	496,125
		Interest		414,075	479,640	462,398	444,520
		Subtotal		414,075	941,115	940,748	940,645
Pool Financing II	SRF	Principal			676,271	623,610	636,729
		Interest	0	277,629	483,309	614,976	587,304
		Subtotal		277,629	1,159,580	1,238,586	1,224,033
		TOTALS					
		Principal	2,818,920	1,251,884	2,406,950	2,383,552	2,437,996
		Interest	1,133,619	1,778,267	1,974,851	2,013,105	1,890,220
		Grand Total Existing	3,952,539	3,030,151	4,381,801	4,396,657	4,328,216



NARRAGANSETT BAY COMMISSION - FIELD'S POINT

NEW BAY BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS:

9.00% INTEREST, 20 YEAR FINANCING

MAXIMUM RESPONSIBILITY OF FPWWTF USERS in FY '97 (From State CIP)

		FY '95	FY '96	FY '97	FY '98	FY '98
FY 95 NEW BAY BONDS	\$2,557,964 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 96 NEW BAY BONDS	\$6,300,000 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 97 NEW BAY BONDS	\$12,198,200 Principal		0	9,173	10,162	11,257
	\$574,000 Interest		0	60,035	59,047	57,952
	Subtotal	0	0	69,209	69,209	69,209
FY 98 NEW BAY BONDS	\$0 Principal					
	Interest					
	Subtotal	0	0	0	0	0
FY 99 NEW BAY BONDS	\$0 Principal					
	Interest					
	Subtotal	0	0	0	0	0
	Totals					
	Principal	0	0	9,173	10,162	11,257
	Interest	0	0	60,035	59,047	57,952
	Total Bay Bonds	0	0	69,209	69,209	69,209

NARRAGANSETT BAY COMMISSION - FIELD'S POINT

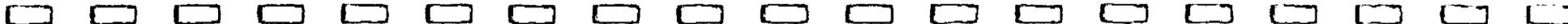
NEW SRF BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS:

6% INTEREST FY94, 20 YEAR FINANCING
 INTEREST FY95 - FY 98, 20 YEAR FINANCING
 INCLUDES FINANCING COSTS OF 7%

		FY '95	FY '96	FY '97	FY '98	FY '99
FY 95 NEW SRF	\$1,728,000 Principal	86,400	86,400	86,400	86,400	86,400
	Interest	103,680	98,496	93,312	88,128	82,944
	Subtotal	190,080	184,896	179,712	174,528	169,344
FY 96 NEW SRF	\$5,123,000 Principal		256,150	256,150	256,150	256,150
	Interest		307,380	292,011	276,642	261,273
	Subtotal		563,530	548,161	532,792	517,423
FY 97 NEW SRF	\$9,598,000 Principal			479,900	479,900	479,900
	Interest			575,880	547,086	518,292
	Subtotal			1,055,780	1,026,986	998,192
FY 98 NEW SRF	\$40,470,000 Principal				2,023,500	2,023,500
	Interest				2,428,200	2,306,790
	Subtotal				4,451,700	4,330,290
FY 99 NEW SRF	\$47,067,000 Principal					2,353,350
	Interest					2,824,020
	Subtotal					5,177,370
Totals						
	Principal	86,400	342,550	822,450	2,845,950	5,199,300
	Interest	103,680	405,876	961,203	3,340,056	5,993,319
	Total New SRF	190,080	748,426	1,783,653	6,186,006	11,192,619

CAPITAL IMPROVEMENT PROGRAM 1995-1999
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NARRAGANSETT BAY COMMISSION - FIELD'S POINT

SUMMARY OF ALL DEBT SERVICE SCHEDULES

		FY '95	FY '96	FY '97	FY '98	FY '99
EXISTING DEBT SERVICE	Principal	2,818,920	1,251,884	2,406,950	2,383,552	2,437,996
	Interest	1,133,619	1,778,267	1,974,851	2,013,105	1,890,220
NEW BAY BONDS	Principal	0	0	9,173	10,162	11,257
	Interest	0	0	60,035	59,047	57,952
NEW SRF BONDS	Principal	86,400	342,550	822,450	2,845,950	5,199,300
	Interest	103,680	405,876	961,203	3,340,056	5,993,319
TOTAL	Principal	2,905,320	1,594,434	3,238,573	5,239,664	7,648,553
	Interest	1,237,299	2,184,143	2,996,090	5,412,208	7,941,491
	GrandTotal	4,142,619	3,778,577	6,234,663	10,651,872	15,590,044

NARRAGANSETT BAY COMMISSION - BUCKLIN POINT

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

			FY '95	FY '96	FY '97	FY '98	FY '99
8/6/92 Issue \$100,000	State/G.O.'s	Principal	5,000	5,000	5,000	5,000	5,000
		Interest	5,550	5,150	4,750	4,350	3,950
		Subtotal	10,550	10,150	9,750	9,350	8,950
8/6/92 Issue \$3,315,000	State/G.O.'s	Principal	90,000	100,000	105,000	110,000	120,000
		Interest	182,380	174,780	166,580	157,980	148,780
		Subtotal	272,380	274,780	271,580	267,980	268,780
3/1/76 Issue \$1,000,000	State/G.O.'s	Principal	185,000	200,000	0	0	0
		Interest	23,678	12,300	0	0	0
		Subtotal	208,678	212,300	0	0	0
4/1/86 Issue \$800,000	State/G.O.'s	Principal	135,000	0	0	0	0
		Interest	8,100	0	0	0	0
		Subtotal	143,100	0	0	0	0
3/1/76 Issue \$400,000	State/G.O.'s	Principal	30,000	30,000	0	0	0
		Interest	3,600	1,800	0	0	0
		Subtotal	33,600	31,800	0	0	0
5/15/92 Issue \$12,750,364.15	State/G.O.'s	Principal	47,059	15,686	31,373	62,745	125,490
		Interest	29,734	27,429	26,629	24,966	21,515
		Subtotal	76,793	43,115	58,001	87,711	147,005
5/15/92 Issue \$7,731,583.1	State/G.O.'s	Principal	24,592	8,197	16,394	32,789	65,577
		Interest	453,592	452,387	451,968	451,100	449,296
		Subtotal	478,183	460,584	468,363	483,888	514,874
6/15/88 Issue \$4,770,000	State/G.O.'s	Principal	830,000	465,000	415,000	415,000	390,000
		Interest	266,625	211,455	181,385	156,085	130,555
		Subtotal	1,096,625	676,455	596,385	571,085	520,555
8/1/90 Issue \$200,000	State/G.O.'s	Principal	0	0	0	200,000	0
		Interest	13,000	13,000	13,000	6,500	0
		Subtotal	13,000	13,000	13,000	206,500	0

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NARRAGANSETT BAY COMMISSION - BUCKLIN POINT

	State/G.O.'s					
10/15/91 Issue \$900,000	Principal	50,000	50,000	50,000	50,000	50,000
	Interest	48,863	45,863	42,863	39,863	36,863
	Subtotal	98,863	95,863	92,863	89,863	86,863
BP Share of Pool Loan I	Principal		0	51,275	53,150	55,125
	Interest		46,008	53,293	51,378	49,391
	Subtotal	0	46,008	104,568	104,528	104,516
	Totals					
	Principal	1,396,650	873,883	674,042	928,684	811,193
	Interest	1,035,121	990,171	940,468	892,220	840,350
	Total Existing	2,431,771	1,864,054	1,614,510	1,820,904	1,651,542

NARRAGANSETT BAY COMMISSION - BUCKLIN POINT

NEW BVDC BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS: 9.00% INTEREST, 20 YEAR FINANCING
 MAXIMUM RESPONSIBILITY OF FPWWTF USERS in FY '97 (From State CIP)

		FY '95	FY '96	FY '97	FY '98	FY '98
FY 95 NEW BVDC BONDS	\$0 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 96 NEW BVDC BONDS	\$0 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 97 NEW BVDC BONDS	\$0 Principal		0			
	Interest		0			
	Subtotal	0	0			
FY 98 NEW BVDC BONDS	\$0 Principal					
	Interest					
	Subtotal	0	0	0	0	0
FY 99 NEW BVDC BONDS	\$0 Principal					
	Interest					
	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

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NARRAGANSETT BAY COMMISSION - BUCKLIN POINT

NEW SRF BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS: 6% INTEREST FY94, 20 YEAR FINANCING
 INTEREST FY95 - FY 98, 20 YEAR FINANCING
 INCLUDES FINANCING COSTS OF 7%

		FY '95	FY '96	FY '97	FY '98	FY '99
FY 95 NEW SRF	\$523,000 Principal	26,150	26,150	26,150	26,150	26,150
	Interest	31,380	29,811	28,242	26,673	25,104
	Subtotal	57,530	55,961	54,392	52,823	51,254
FY 96 NEW SRF	\$5,375,000 Principal		268,750	268,750	268,750	268,750
	Interest		322,500	306,375	290,250	274,125
	Subtotal		591,250	575,125	559,000	542,875
FY 97 NEW SRF	\$9,459,000 Principal			472,950	472,950	472,950
	Interest			567,540	539,163	510,786
	Subtotal			1,040,490	1,012,113	983,736
FY 98 NEW SRF	\$23,639,000 Principal				1,181,950	1,181,950
	Interest				1,418,340	1,347,423
	Subtotal				2,600,290	2,529,373
FY 99 NEW SRF	\$21,350,000 Principal					1,067,500
	Interest					1,281,000
	Subtotal					2,348,500
Totals						
	Principal	26,150	294,900	767,850	1,949,800	3,017,300
	Interest	31,380	352,311	902,157	2,274,426	3,438,438
	Total New SRF	57,530	647,211	1,670,007	4,224,226	6,455,738

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NARRAGANSETT BAY COMMISSION - BUCKLIN POINT

SUMMARY OF ALL DEBT SERVICE SCHEDULES

		FY '95	FY '96	FY '97	FY '98	FY '99
EXISTING DEBT SERVICE	Principal	1,396,650	873,883	674,042	928,684	811,193
	Interest	1,035,121	990,171	940,468	892,220	840,350
NEW BAY BONDS	Principal	0	0	0	0	0
	Interest	0	0	0	0	0
NEW SRF BONDS	Principal	26,150	294,900	767,850	1,949,800	3,017,300
	Interest	31,380	352,311	902,157	2,274,426	3,438,438
TOTAL	Principal	1,422,800	1,168,783	1,441,892	2,878,484	3,828,493
	Interest	1,066,501	1,342,482	1,842,625	3,166,646	4,278,788
	GrandTotal	2,489,301	2,511,265	3,284,517	6,045,130	8,107,280

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