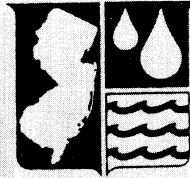


NEW JERSEY WATER SUPPLY AUTHORITY



EST. 1981



— 1993 —

== ANNUAL REPORT ==

AND THE

COMPONENT UNIT FINANCIAL REPORT
FOR THE YEAR ENDED JUNE 30, 1993

Certificate of Achievement for Excellence in Financial Reporting

Presented to

New Jersey Water Supply
Authority

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended
June 30, 1992

A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFRs) achieve the highest standards in government accounting and financial reporting.



Arnold J. Habig

President

Jeffrey L. Esser

Executive Director

1993 Annual Report

Governor
Christine Todd Whitman



EST. 1981

Authority Members

Robert C. Shinn, Jr.
Chair

George M. Haskew, Jr.
Vice-Chair - Chair, Capital Projects Committee

Peggy Haskin
Secretary - Chair, Public Information Committee

Richard G. Schoon
Treasurer - Chair, Finance Committee -
Chair, Personnel and Operations Committee

Gary B. Mount
Chair, Insurance Committee

Louis C. Mai
Chair, Audit Committee

Staff

Rocco D. Ricci, P.E.
Executive Director

Thomas G. Baxter, P.E.
Chief Engineer

Helene P. Chudzik, Esq.
Deputy Attorney General

1994 Monthly Meetings

The 1994 Monthly Meetings of the New Jersey Water Supply Authority are scheduled to be held in the Conference Room of the Authority's Delaware and Raritan Canal Office Building, 770 Bear Tavern Road, West Trenton, New Jersey, unless otherwise indicated, beginning at 3:00 p.m. on the following Mondays:

January 3, 1994
February 7, 1994
March 7, 1994 (Manasquan System Office)
April 4, 1994
May 2, 1994
June 6, 1994 (Spruce Run Office)
July 11, 1994
August 1, 1994
September 12, 1994 (Manasquan System Office)
October 3, 1994
November 7, 1994
December 5, 1994

The period from 1:30 p.m. to 3:00 p.m. on the above dates is set aside, as needed, for separate Committee meetings of the Personnel, Finance, Capital Projects and other Committees of the Authority.

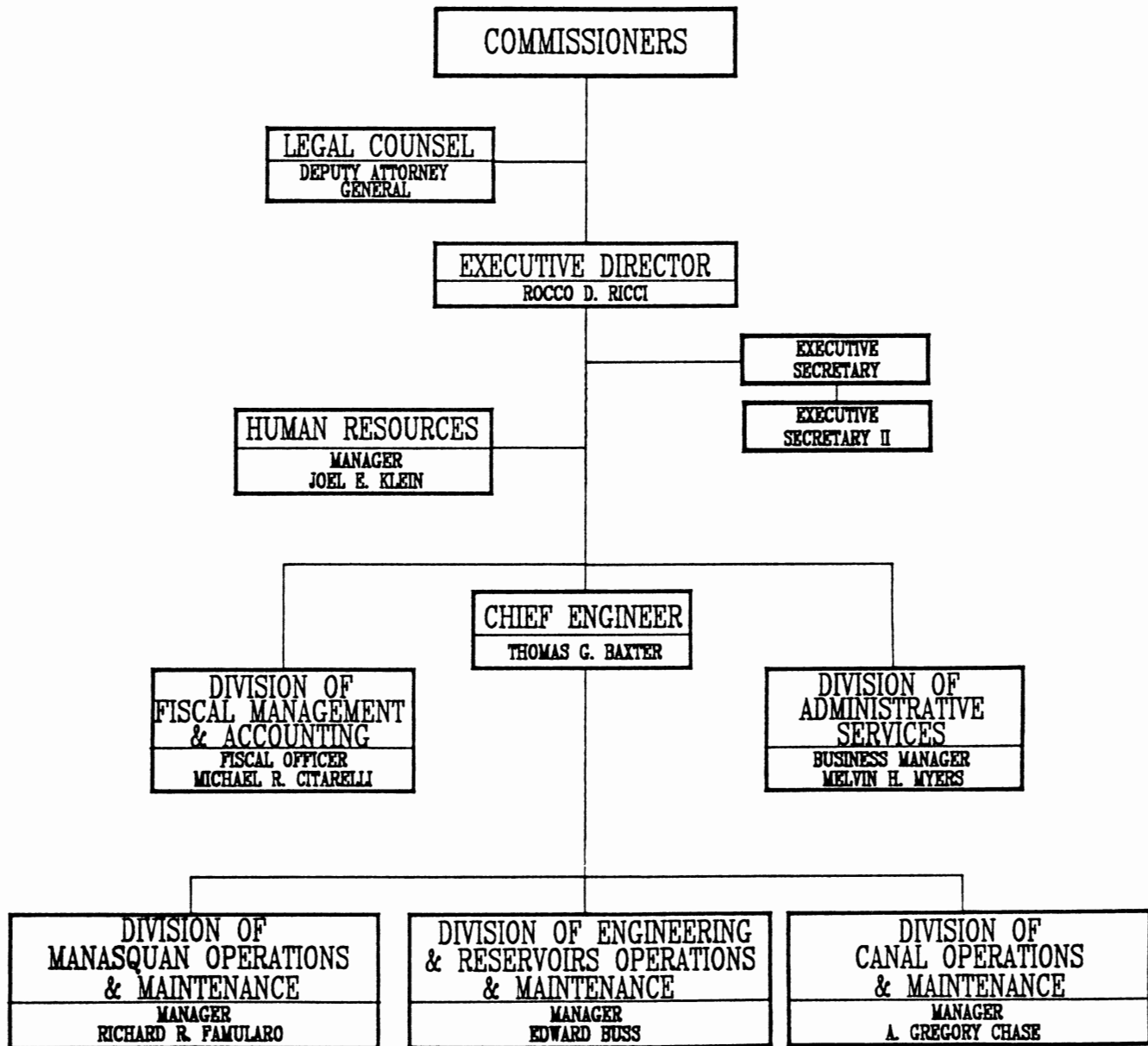
Cover: One of eight such structures, the Ten Mile Lock near Zarepath in Somerset County, regulates the flow of water in the Delaware and Raritan Canal.

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The New Jersey Water Supply Authority was created on October 7, 1981 (P.L. 1981, c. 293) to operate on a self-supporting basis the existing State water supply facilities and to develop future State water supply projects as recommended in the Water Supply Master Plan. The Authority's Spruce Run/Round Valley Reservoir System and the Delaware and Raritan Canal Water Transmission Complex (the Raritan Basin System), provides the basic source of water supply to a number of public and private water utilities serving over 1,200,000 people in central New Jersey. The Manasquan Water Supply System in Monmouth County commenced delivery of this new surface water supply to a number of public and private water utilities serving over 125,000 people in the Monmouth County Area on July 1, 1990. Under agreement with the Monmouth County Improvement Authority, the Authority also operates and maintains a 4 million gallon per day water treatment plant and distribution system for five municipalities in Monmouth County. Under agreement with the New Jersey Department of Environmental Protection and Energy, the Authority also maintains emergency water supply pumping facilities capable of supplying up to 25 million gallons per day from Lake Hopatcong to northeast New Jersey.

NEW JERSEY WATER SUPPLY AUTHORITY
TABLE OF ORGANIZATION



Letter to Governor and Legislature



NEW JERSEY WATER SUPPLY AUTHORITY

P.O. BOX 5196 • CLINTON, N.J. 08809 • (908) 638-6121 • (908) 638-5241 (FAX)

February, 1994

To the Honorable Christine Todd Whitman, Governor
and Members of the New Jersey Legislature

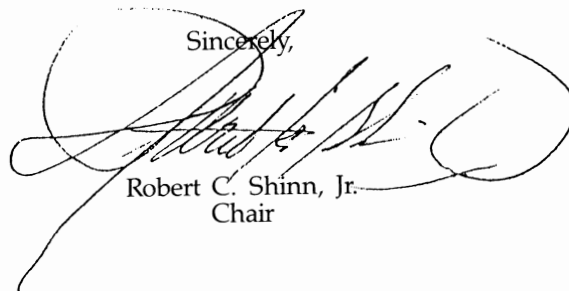
Since our creation in 1981, the New Jersey Water Supply Authority has successfully operated, maintained and upgraded its facilities in the Raritan River Basin and has developed a reliable new surface water supply in the Manasquan River Basin, all of which has been achieved on a "self supporting" basis.

This Annual Report for the year "1993" coincides with the conclusion of the Authority's current Five Year Capital Improvement Program for the Delaware and Raritan Canal-Spruce Run/Round Valley Reservoirs System which was financed through the issuance of the Authority's first revenue bonds totaling \$32,405,000 on December 7, 1988. Under this program a total of 40 projects have been successfully undertaken to help ensure that these Raritan Basin System facilities continue to provide a safe and dependable source of water supply for approximately 1,200,000 residents in the central New Jersey region. The Authority has recently proposed a new \$7,237,600 Capital Improvement Program for the Raritan Basin System for the period 1994-1999 which can be financed through the assessment of annual charges as part of our rate structure, without incurring long term debt.

The Authority's new Manasquan Reservoir in Monmouth County was constructed to provide a surface water supply for the Monmouth — Northern Ocean County region and has been continuously operated without any significant problems since July, 1990. On going studies by State and Federal agencies have documented a significant improvement in the groundwater resources of the region due to the construction and operation of these Manasquan Reservoir facilities.

Finally, we mention with some pride that the New Jersey Water Supply Authority was recently awarded the prestigious "Certificate of Achievement for Excellence in Financial Reporting" by the Government Finance Officers Association of the United States and Canada (GFOA) for our 1992 Annual Report and Component Unit Financial Report. We believe this 1993 Annual Report and Component Unit Financial Report continues to conform to the stringent GFOA program requirements and standards.

Sincerely,



Robert C. Shinn, Jr.
Chair

Raritan Basin System

Facilities

Delaware and Raritan Canal

The Delaware and Raritan Canal was originally constructed in 1834 and operated as a barge canal until 1932. The Canal was taken over by the State of New Jersey from the Pennsylvania Railroad Company in 1934. During the 1950's the Canal was rehabilitated to serve as a public water supply transmission system. In 1974 the Canal was designated as a State Park and was also placed on the State and Federal Registry of Historic Sites.

Originally, the navigable Delaware and Raritan Canal consisted of 43 miles of main Canal between the Delaware River at Bordentown and the Raritan River at New Brunswick and the 22 miles of feeder Canal between Bulls Island, Hunterdon County and the City of Trenton. The present Canal water supply transmission facility is 60 miles long with its Delaware River intake at Bulls Island in Hunterdon County and its outlet at the Raritan River in the City of New Brunswick. The Canal Right of Way varies in width between 60 feet and 200 feet and includes a waterway varying between 40 and 80 feet. Flow from the Delaware River to the Raritan River is entirely by gravity and is regulated by control gates installed in the original lock structures.

In addition to the 100 million gallon per day (mgd) non drought diversion entitlement from the Delaware River, natural streams and storm drains are directly tributary to the Canal. Four Authority Water Supply Operators, with 24-hour responsibility to take emergency action on their own initiative, constantly monitor water levels and weather conditions and adjust operating gates and open flood gates to protect the Canal during times of heavy rainfall.



The Carnegie Lake Aqueduct near Princeton, Mercer County.

Spruce Run and Round Valley Reservoirs

The Spruce Run and Round Valley Reservoirs located in Hunterdon County were constructed by the State of New Jersey as initial steps in the long-range water conservation and development program authorized by the 1958 Water Supply Law and its companion Water Bond Act.

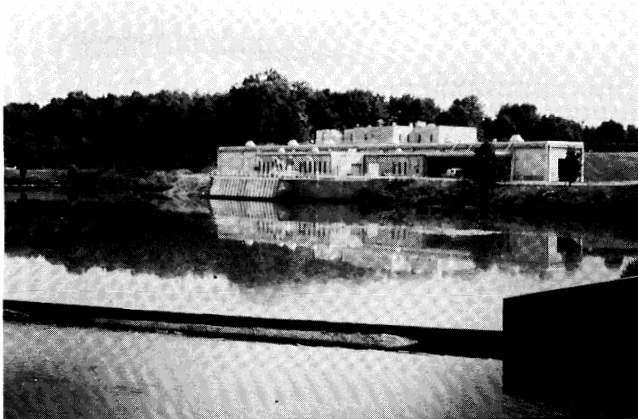
The 55 billion gallon Round Valley Reservoir which became operational in 1965 was formed by construction of two dams and a dike, closing off gaps in a natural horseshoe shaped valley. The earth dams and dike, faced with dumped stone riprap and sod, are of extra width and have an offset clay



A view of the Round Valley Reservoir in Clinton Township, Hunterdon County.

core in order to permit an increase in height for future additional storage capacity. With no appreciable local drainage area (five square miles), Round Valley Reservoir must be filled by pumping from the South Branch of the Raritan River. Minimum flows must be maintained in natural streams below the Reservoir. To accomplish this, a total of one mgd is released from both the North and South Dams. A 3.6 mile nine foot diameter Release Pipeline from the North Dam to the South Branch of the Rockaway Creek, near Whitehouse Station in Readington Township is currently being modified to provide discharges for water supply to the South Branch of the Rockaway Creek under a reduced pressure mode of operation.

The 350 mgd South Branch Pumping Station at Hamden, which pumps surplus water from the South Branch of the Raritan River, maintains the storage in the Round Valley Reservoir via a 3.2 mile nine foot diameter force main which enters the Reservoir at the South Dam. In 1990 modifications were completed on this force main to permit this pipeline to release up to 120 million gallons per day from the Round Valley Reservoir into the South Branch of the Raritan River.



Releases can be made from the Round Valley Reservoir into the South Branch of the Raritan River at the South Branch Pumping Station.

The 11 billion gallon on-stream Spruce Run Reservoir, which was placed into operation in 1963, includes a 6,000 foot long earthen

dam and two earthen dikes. A concrete spillway having a safe discharge capacity of 15.5 billion gallons per day provides protection for the earthen dams during periods of heavy rainfall.

The two reservoirs, by augmenting stream-flow during periods of low natural runoff, make available 160 mgd for sale at Bound Brook based on the 1960's drought. Additionally, a minimum statutory flow of 90 mgd must be maintained in the Raritan River at the Bound Brook stream gage. For these purposes, waters are released from the Spruce Run Reservoir to the South Branch of the Raritan River, from the Round Valley Reservoir to the South Branch of the Rockaway Creek and from the Round Valley Reservoir through the alternate release facilities to the South Branch of the Raritan River, for routing to the Raritan River. Operation by the Authority staff involves maintenance of continuous hydrographs on the basis of data transmitted from six stream gaging stations. Predictions of natural flow at these control points, including anticipated storm runoff, must be made sufficiently in advance to allow for time of travel so that the releases meet minimum streamflow regulations and customer demands.

The 1958 Water Supply Law allows recreational use of the water supply facilities. The cost of operating and administering the recreational facilities is provided by the Department of Environmental Protection and Energy's Division of Parks and Forestry and Division of Fish, Game and Wildlife.

Raritan Basin to Delaware and Raritan Canal Ten Mile Pumping Station

This 60 million gallon per day pumping station, located where the Raritan and Millstone Rivers meet adjacent to the Canal near South Bound Brook, was constructed after the drought of 1980-1981 to permit the transfer of water from the Raritan River, as sustained by releases from the Raritan Basin Reservoirs, to the adjacent Delaware and Raritan Canal. This facility is a major component of the integrated management pro-

gram for the water resources of the Raritan Basin and the water diverted from the Delaware River. Surplus water in the Raritan River can now be transferred to the Delaware and Raritan Canal as needed or in the event of an upstream emergency or construction affecting the normal delivery of the Canal Water supply. Based upon the Canal carrying capacity of 100 mgd, it is also possible to divert excess Canal flows, up to 30 mgd, through gates into the Raritan River for water supply or stream flow maintenance resulting in the maximum conservation of stored waters in the Spruce Run and Round Valley Reservoirs. Full development of the maximum possible yields, resulting from the integrated management of the water from the two basins, at least cost, is vital to meeting the water supply needs of the central New Jersey communities dependent upon these two sources of supply.

Emergency Water Supply Facilities

Under agreement with the New Jersey Department of Environmental Protection and Energy, the Authority is responsible for the maintenance and safekeeping of certain pumping facilities in connection with the 25 mgd Lake Hopatcong emergency water supply system. During 1993 the Authority continued to maintain the component equipment which was put into storage during 1985.

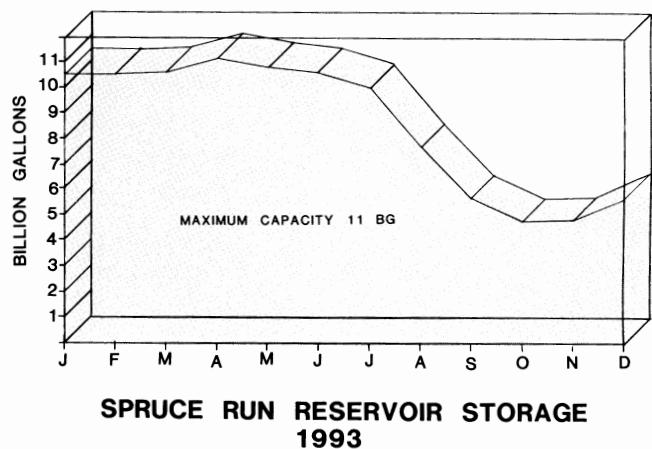
Operations and Maintenance

Spruce Run/Round Valley Reservoir Water Supply Operations

Demand for reservoir water was high during the summer of 1993. During the four month period of May to August, the basin received only 54% of the expected average rainfall. The corresponding low flows in the river basin required substantial augmentation from the reservoirs to meet statutory flow requirements and the water supply demand of Elizabethtown Water Company.

The Spruce Run Reservoir supplied the majority of the summertime demand. The Spruce Run Reservoir began the season near its full capacity of 11.0 billion gallons and releases lowered the reservoir storage to 4.6 billion gallons by September. Releases for the summer period averaged 72 mgd with a peak of 135 mgd. The storage in the Spruce Run Reservoir began to recover later in September and continued through the end of the year.

The storage levels at the Round Valley Reservoir remained high throughout the



year. The Round Valley Reservoir began the year at nearly 95% of its 55 billion gallon capacity and another one-half billion gallons were added during the spring maintenance pumping period at the South Branch Pumping Station increasing the total storage to over 98% by summer. Releases were made from the Round Valley Reservoir during the peak demand periods in the summer. These releases, made through the energy dissipating valve at the South Branch Pumping Station, averaged 25 mgd. The Round Valley Reservoir storage was 52 billion gallons at year's end, representing 95% of capacity.

Reservoir Maintenance

The staff at the South Branch Pumping Station had a successful and productive year. The annual maintenance pumping operation was conducted in late April



Four of the ten 2,000 HP pumps located at the South Branch Pumping Station used to pump water into the Round Valley Reservoir.

without problems. The preventive maintenance tasks for the pumping equipment were placed on a computer database in order to automate the scheduling and tracking of these tasks. The Pumping Station staff also completed several large maintenance projects this year, including: overhauling the trash rack, rehabilitating the sand filters, and a major cleaning and repainting of the traveling waterscreens.

The Authority's Grounds Maintenance staff worked steadily throughout the year on the routine maintenance and ground-keeping duties necessary to keep the Reservoirs facilities in good operational condition. As in the past, the mowing and maintenance of the face of the dams and the 6 miles of pipeline right-of-ways required considerable effort during the summer months. During the fall and winter of the year, the grounds maintenance crew clean-

ed fencelines, repaired the Authority's private roads, and accomplished other tasks as needed.

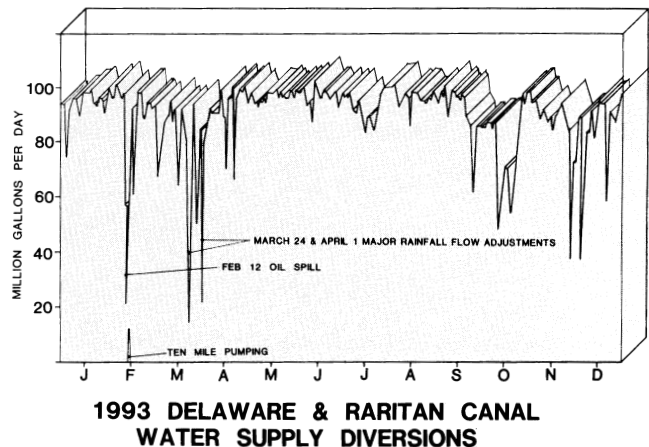
Reorganization

From January 1 through June 30, 1993 the Delaware and Raritan Canal operations and maintenance activities came under the Division of Operations and Maintenance in Clinton which also managed the operations and maintenance of the Spruce Run/Round Valley Reservoir System. Effective July 1, 1993 the Delaware and Raritan Canal was made a separate Division within the Authority with its headquarters at the new Canal Office in West Trenton.

Delaware and Raritan Canal Water Supply Operations

Normal flow conditions were experienced in the Delaware and Raritan Canal from January through September 20th and the average Canal diversion was 92 million gallons per day (mgd) as measured at the Port Mercer Gauging Station. To conserve releases from the Spruce Run and Round Valley Reservoirs an average of 9 mgd was transferred from the Canal to the Millstone River through the Ten Mile Waste Gate. These releases were made during the period August 1 through September 15.

During the period September 21, 1993 through December 6, 1993, the allowable diversion from the Delaware River was reduced from 100 mgd to 85 mgd by the



Delaware River Basin Commission (DRBC) due to prolonged low precipitation which caused reservoirs storage in the Upper Delaware Basin to drop to the drought warning stage. The mandated reduced diversion had only minor impacts on the Canal water supply operations since the reduction occurred during the low demand period of the year.

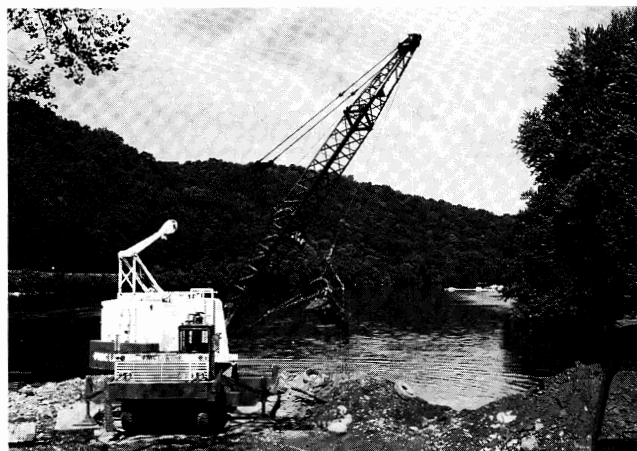
February 12th Oil Spill

On Friday, February 12, 1993, a tractor trailer truck hauling Number Six Fuel Oil failed to negotiate a curve and overturned into the Delaware and Raritan Canal on Route 29 near Belle Mountain south of Lambertville. Approximately 300 to 500 gallons of fuel oil was spilled into the Canal requiring Delaware and Raritan Canal personnel to respond to the incident along with various local and state agencies. To contain the spill, booms were placed in the Canal and the downstream flow was stopped, isolating the area affected by the oil for three days. The Ten Mile Pumping Station was placed into operation on February 13 and 14 and pumped a total of 12 mgd to maintain uninterrupted service to the Authority's water customers. Following the removal of the surface oil, the downstream Canal flow was restored on February 14, 1993.

During the summer months, daily temperatures often exceeded 90 degrees and caused fuel oil which is still on the bottom of the Canal to dislodge and rise to the surface. An emergency response cleanup contractor was called in to place additional oil containment booms in the Canal. The contractor will continue to maintain the booms until a solution for removing the fuel oil on the bottom of the Canal is determined.

Canal Inlet Dredging

At the start of the summer, low Delaware and Raritan Canal flows at the Bulls Island head gates signaled the need to clear the .3 mile inlet channel of accumulated silt

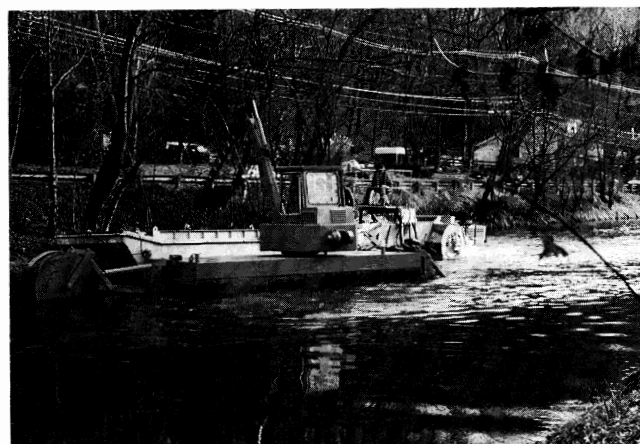


Dredging of the Canal Inlet in Kingwood Township, Hunterdon County.

deposits. Urgent dredging activities in the inlet section of the Canal commenced on June 16, 1993. The dredging activities took place from June 16 through July 19 and a total of 3000 cubic yards of sediment was removed from the inlet channel. The removed sediment was taken to the Route 202 stockpile site for temporary stockpiling.

Maintenance Dredging Program

The new Annual Preventive Maintenance Dredging Program commenced on December 8, 1993 in Stockton where a large sand bar created by the Brookville Creek was removed from the Delaware and Raritan Canal. All procedures as outlined in the Annual Maintenance Dredging Program were followed. Material dredged from the Canal was transported to the Route 202



Canal Staff engaged in the removal of sediment deposits as part of the Annual Preventive Maintenance Dredging Program.

stockpile site for temporary stockpiling. Previously unanticipated questions and problems which occurred during the course of the dredging operation were overcome. This Annual Maintenance Dredging Program will greatly reduce the need for costly major Canal waterway maintenance projects as were needed in the 1980's.

Weed Harvesting Program

The annual weed growth in the Delaware and Raritan Canal did not have an adverse effect on the water supply operations this year. Unlike 1992, when weed harvesting was performed for several months, weed harvesting activities were only needed on one day. On August 10, 1993, the weed harvester was launched to remove some heavy weed growth from the Canal near the North Brunswick Township's water intake structure. After the successful removal of this weed growth, the equipment was not utilized for the remainder of the year.

Zarepath Embankment Leakage

A Canal embankment leak was located approximately 1000 feet up the Canal from Zarepath on April 17, 1993. Canal waterways unit personnel responded to the embankment leak by placing approximately 100 sand bags on the embankment. The Canal water elevation was subsequently lowered, and an eight foot deep trench was excavated in the towpath for a length of thirty-five feet. The trench was filled with clay to prevent the flow of water through the embankment. Following these repairs, the leakage site was monitored and no subsequent evidence of leakage was observed.

Towpath Restoration

During the summer months the initial restoration of the towpath between the Five Mile Lock and the Landing Lane Spillway was undertaken. This section of towpath has needed repairs for some time. A total of 1000 tons of material were utilized to rehabilitate the towpath. Further towpath restoration is still required in this area.

Trenton Route 1 Conduit Dewatering and Inspection Project

In October 1993, the western barrel of the 6000 foot long Canal conduit under Route U.S. 1 in Trenton was isolated and dewatered for an engineering inspection and surveying project for the Department of Transportation to determine the nature of the sediment located in the conduit. Survey cross sections were also taken of the sediment to determine the total quantity for later removal. While the conduit was dewatered, sediment samples were collected for laboratory analysis.



Dewatering operations at the US Route 1 conduit in Trenton.

SUMMARY OF WATER USE CONTRACTS
Raritan Basin System
(Million Gallons Per Day - mgd)

<u>User</u>	<u>Type of Contract</u>	<u>Supply</u>
Lambertville Water Company	U	0.200 (1)
Mercer County Park Commission	U&SB	0.100 (1)
Trenton Country Club	U&SB	0.250 (1)
<hr/>		
Total Delaware Basin Users		<u>0.550 mgd</u>
Vaccaro Brothers	U&SB	0.200
Mercer County Park Commission	U&SB	0.135
Princeton University (Forrestal)	U	1.000
Princeton Nurseries	U&SB	0.300
North Brunswick Township	U	8.000
Selody Sod Farms, Inc.	U&SB	0.100
Elizabethtown Water Company	U	102.000
East Brunswick Township	U	8.000 (2)
City of New Brunswick	U	10.500
Johnson & Johnson	U&SB	0.500
Middlesex Water Company	U	20.000
Tredegar Industries Inc.	U	0.012 (3)
<hr/>		
Total Raritan Basin Users		<u>150.747 mgd</u>
<hr/>		
System Total:		<u>151.297 mgd</u>

- (1) These users withdraw their supply from and return water to the Delaware River Basin and are excluded from payment of the debt service rate component for the 1969 Water Conservation Bonds.
- (2) Water treated and supplied through Middlesex Water Company.
- (3) Non-depletive use

U = Uninterruptible Service
SB = Standby Service

SUMMARY OF FIRE STANDBY CONTRACTS

<u>User</u>	<u>Withdrawal Capacity (gpm)</u>	<u>Source</u>
Union Carbide Chemicals and Plastics Company, Inc.	4,500	D&R Canal

Capital Improvement Projects

1988 Water System Revenue Bonds

1993 marked the final year of the ongoing Five Year Capital Improvement Program funded by the \$32,405,000 issue of Water Supply Revenue Bonds, Series 1988. The original 30 project program has been expanded to 40 projects at both the Spruce Run/Round Valley Reservoir Complex and the Delaware and Raritan Canal. During 1993, the Mile Run Culvert was added to the Authority's Capital Improvement Program. The following projects were substantially completed during the year:

Rehabilitation of the Lumberville Wing Dam

The Lumberville Wing Dam spans the Delaware River between Delaware Township, Hunterdon County, NJ and



Rehabilitation of the Lumberville Wing Dam spanning the Delaware River between Delaware Township, NJ and Plumstead Township, PA.

Plumstead Township, Bucks County, PA. The dam raises the water level in the Delaware River at the inlet of the Canal for diversion into the Canal. The rehabilitation included patching deteriorated concrete, reconstruction of missing sections of the dam and construction of concrete and timber walls for added structural stability. The rehabilitation took two years with a shutdown during the fish migration period between March 1 and June 30, 1993. Rehabilitation included the adjacent embankment of the Delaware Canal in Pennsylvania which eroded during high flows in the River in October 1992. The final cost of the project is anticipated to be \$2,500,000.

Fiddlers Creek Culvert

The Fiddlers Creek Culvert, under the Canal and NJ Route 29 in the Titusville area of Hopewell Township, Mercer County, was rehabilitated as a joint project between the Authority and the New Jersey Department of Transportation. The rehabilitation consisted of partial removal of the existing concrete liner and the construction of an embedded, expanded metal liner secured to the interior face of the existing liner and faced with shotcrete. The Authority's share of the final construction cost was \$547,528 and NJDOT contributed \$261,595 to the reconstruction of the culvert and \$54,000 to the engineering design.



Canal Overbanks Spillway

Two additional overbank spillways were constructed on the D & R Canal in the vicinity of Jacobs Creek in Hopewell Township and the NJ Route 29 overpass in Ewing Township, both in Mercer County. These additional spillways on the Feeder Canal will facilitate the controlled runoff in the Canal during major storms to reduce the risk of breaching the embankment. The final cost of the construction was \$262,498.



Overbank spillway construction on the Canal in the vicinity of Jacobs Creek (above) and the Route 29 overpass (below).



Replacing of Valve and Operator at the Round Valley South Dam

The 36-inch diameter steel pipe, embedded in concrete, conveys low level outflow through the base of the South Dam to a downstream concrete vault. The non-functioning 12-inch electrically operated gate valve was replaced with a valve and ac-

tuator that could function reliably under 150 feet of water. The selected valve and actuator is a hydraulically operated system which uses a non-toxic food grade oil. The new valve and operating system were installed at a cost of \$139,370.

Reduced Pressure Operation of the Round Valley Reservoir Release Pipeline

The Release Pipeline is the primary means for releasing water from the Round Valley Reservoir. Water released at the North Dam is carried 3.6 miles in the Release Pipeline to the South Branch Rockaway



Sections of the 3.6 mile long Round Valley Release Pipeline were replaced.

Creek, and is then carried in natural water courses to the Raritan River. The Release Pipeline is a 9-foot diameter prestressed concrete cylinder pipe, and was constructed in 1977. Due to an inherent deficiency in the manufacture of the pipe, the Release Pipeline could no longer be safely used as designed. After studies by several consultants, a new method of operation of the pipeline was devised that allows much of the existing pipeline to continue to be used. This conversion to “reduced pressure operation” involves three major parts:

- 1) installation of valves at the North Dam to reduce the pressure in the pipeline;
- 2) replacement of approximately 2,500 feet of existing concrete pipe with new 9-foot diameter steel pipe; and

- 3) reinforcing approximately 2,000 feet of existing pipe by adding a 2 inch cement lining.



Completion of modifications to the Whitehouse Station Release Building in connection with the reduced pressure operation of the Round Valley Reservoir Release Pipeline.

The Whitehouse Station Release Building was also modified to serve as a weir when water is discharged from the Release Pipeline.

The cost for the conversion is expected to be \$3,529,762.

Progress on the following projects continued during the year.

Clinton Administration Building

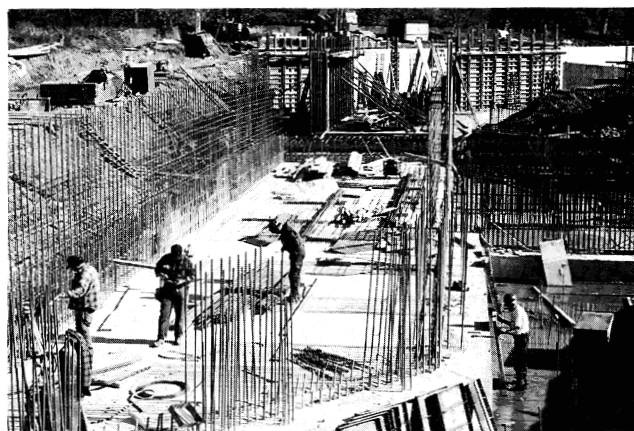
The Authority plans to remodel the existing Administration Building on Route 31 in Clinton to bring it into compliance with the Americans with Disabilities Act (ADA) and to increase the office area within the building by 3,400 square feet. Design of the remodeling and addition was completed in 1993 and construction is scheduled to begin in the spring of 1994.

Island Farm Weir Construction

A \$2,527,170 contract for the construction of the "Island Farm" weir, downstream of the confluence of the Raritan and Millstone Rivers in Bridgewater and Franklin Townships, Somerset County, was awarded in the summer of 1993. Construction of the weir began in August and is expected to be



Construction of the "Island Farm" weir downstream of the confluence of the Raritan and Millstone Rivers in Somerset County.



completed by March 1994. This project is essential to the development of the full safe yield of the Raritan River Basin System. The proposed weir, with a crest at elevation 23 feet above mean sea level, will provide a common pool downstream of the confluence of the Raritan and Millstone Rivers and will permit existing and proposed intake facilities to draft water from the two rivers in an efficient manner.

Long Range Improvement Studies

Two investigative studies were completed in 1993 which will aid the Authority in planning long range improvements to its facilities. A more detailed description of each study follows:

Canal Inlet Improvement Study

Ebasco Services, Inc. was retained to perform a multifaceted study of the inlet to the Canal. The goal of the first part of their

study was to evaluate the structural integrity of the right bank of the Canal and to identify the need for any remedial measures. The tasks to achieve this goal included: (1) determining the structural nature of the embankment and identifying evidence of any past breaches, (2) reconnaissance of the entire study reach to evaluate its present condition and identify problem areas, (3) hydraulic analysis to determine the erosion potential of overtopping and flood flows, (4) identification of sites at risk of future erosion or breaching, and (5) determination of effective conceptual designs for remedial measures where necessary.

No "top priority" items were identified which would warrant immediate attention. Rather, the consultant recommended that a number of features be monitored over a period of years to detect ongoing deterioration.

A second goal of the consultant's effort was to evaluate the sediment contribution of the Delaware River into the Canal and to evaluate alternatives for reducing this sedimentation. The consultant recommended a one-time dredging of the Canal between the Inlet and the Raven Rock Lock in order to ensure the hydraulic capacity of the Canal when the Delaware River level is low. Completion of the rehabilitation of the Lumberville Wing Dam will increase the water level in the Delaware River and will aid in the ability to divert Delaware River water into the Canal.

Lower Canal Improvement Study

The Authority has undertaken a phased study to ensure the reliability of the Canal between the Ten Mile Lock and the NJ Route 18 spillway. Eighty-five percent of the raw water supply from the Canal is withdrawn from this reach of the Canal. A multi-disciplinary team was assembled to conduct the study consisting of personnel from Camp Dresser & McKee, Inc.; Buck Seifert & Jost, Inc.; A. G. Lichtenstein & Associates, Inc.; and Hunter Research, Inc. Phase I of the study was to develop an

understanding of the problem. Phase II consisted of an evaluation of the structural and geotechnical integrity of the left bank of the Canal between the Canal waterway and the Raritan River. Phase III was to assess the vulnerability of the Canal to potential sources of contamination. Phase IV was an examination of the effects of an interruption of the Canal flow on the water customers withdrawing their supply from the Canal downstream of the Ten Mile Lock. Phase V consisted of an evaluation of the feasibility of automating the various control structures in the study reach. A number of recommendations from this study have been used in formulating the next Capital Improvement Program.

**New Jersey Water Supply Authority
CAPITAL IMPROVEMENT PROGRAM
1988 WATER SYSTEM REVENUE BONDS**

PROJECT NUMBER	DESCRIPTION	CURRENT ESTIMATE	STATUS
1.	Embankment Improvement (D&R)	\$ 546,601.15	COMPLETE
2.	Guardrail/Fencing (D&R)	81,492.97	COMPLETE
3.	SBPS Improvements (SBPS)	429,000.00	CONSTRUCTION ON-GOING
4.	Road Repaving (SR/RV)	49,819.00	COMPLETE
5.	Administration Building Improvements	1,940,000.00	ON-GOING
6.	Maintenance Dredging EIA (D&R)	348,000.00	EIA COMPLETE
7.	Sluice Gate Rehabilitation (D&R)	0.00	DEFERRED
8.	SR Spillway	105,000.00	COMPLETE
9.	Aqueduct Rehabilitation (D&R)	1,312,609.54	COMPLETE
10.	Lock & Waste Gates (D&R)	758,173.84	COMPLETE
11.	Raritan River Weir	4,267,000.00	CONSTRUCTION ON-GOING
12.	SR Riprap Facing	2,037,326.48	COMPLETE
13.	Route 1 Bypass (D&R)	138,000.00	EIA COMPLETE
14.	Canal Office Construction	2,315,000.00	COMPLETE
15.	Headgates Rehabilitation (D&R)	796,664.46	COMPLETE
16.	Landing Lane Spillway Rehabilitation (D&R)	553,000.00	COMPLETE
17.	Heathcote Brook Culvert Rehab (D&R)	645,000.00	COMPLETE
18.	Wickecheoke Creek (D&R)	243,500.00	DESIGN COMPLETE
19.	Brookville Waste Gate (D&R)	63,800.00	DESIGN COMPLETE
20.	Lumberville Wing Dam (D&R)	3,460,000.00	COMPLETE
21.	Port Mercer Dike (D&R)	78,000.00	EIS COMPLETE
22.	Shipetaukin Creek Culvert (D&R)	175,000.00	EIS COMPLETE
23.	RV Riprap Facing	2,709,646.15	COMPLETE
24.	Fiddlers Creek Culvert (D&R)	1,140,000.00*	COMPLETE
25.	Lower Canal Study (D&R)	100,000.00	COMPLETE
26.	Overbank Spillways (D&R)	361,000.00	COMPLETE
27.	Emergency Warning System (SR/RV)	4,045.68	DESIGN COMPLETE
28.	RV Drainage Improvement	1,520,970.47	COMPLETE
29.	Canal Inlet Improvement	68,134.02	COMPLETE
30.	Round Valley Pipe Rehab	2,452,000.00	COMPLETE
31.	Randolph Brook Culvert (D&R)	320,645.71	COMPLETE
32.	Five & Ten Mile Waste Gates (D&R)	96,000.00	DESIGN COMPLETE
33.	Culvert @ 2344 + 17 (D&R)	242,999.83	COMPLETE
34.	Culvert Inspection Program (D&R)	53,928.68	COMPLETE
35.	Moore's Creek Culvert Rehab (D&R)	61,000.00	DESIGN COMPLETE
36.	Jacob's Creek Culvert Rehab (D&R)	51,000.00	DESIGN COMPLETE
37.	RVPP Reduced Pressure Implementation	4,822,468.02	COMPLETE
38.	Mettlars Brook Culvert (D&R)	58,000.00	DESIGN COMPLETE
39.	Parkside & Sullivan Way (D&R)	58,000.00	DESIGN ON-GOING
40.	Mile Run Culvert Rehab (D&R)	71,000.00	DESIGN ON-GOING

\$34,533,826.00

FOOT NOTES:

D&R -Delaware & Raritan Canal	EIA -Environmental Impact Assessment
RV -Round Valley Reservoir	EIS -Environmental Impact Statement
SR -Spruce Run Reservoir	* -Includes \$315,595 reimbursement from NJDOT.
SBPS -South Branch Pumping Station	

The estimated project costs listed includes engineering, cultural, construction and miscellaneous expenses.

Proposed Capital Improvement Program (1994-1999)

The Authority has reached a milestone in its continuing efforts to properly maintain, rehabilitate or replace, and upgrade its facilities. During the period from 1982-1993 the Authority has invested \$62,000,000 in the Capital Improvement Program for the Raritan Basin System. Much of this cost was the direct result of inadequate investments in the facilities during the years preceding the creation of the Authority. These Capital Improvement Programs were financed through the issuance of long term debt obligations (i.e., 1981 Water Supply Bond Funds and 1988 Water System Revenue Bonds).

The Authority's next Capital Improvement Program commencing on January 1, 1994 requires the investment of approximately \$1,500,000 per year. In evaluating the options for financing this program the Authority has looked at (1) the continuation of the practice of incurring long term debt through the issuance of Revenue Bonds and (2) the feasibility of current financing through the assessment of annual charges as part of the water use rate structure. It has been determined that financing of such a small annual Capital Improvement Program based upon the issuance of long term debt is fiscally imprudent.

The Authority's proposed financial plan is predicated upon the establishment of a new Capital Fund Component of \$10 per million gallons (MG) starting on July 1, 1994 with subsequent increases in this component of the total rate structure to \$15 per MG effective July 1, 1995, \$20 per MG effective June 1, 1996, and to \$25 per MG effective on July 1, 1997 and thereafter.

This level of current financing (\$1,500,000-\$2,000,000/yr) for reinvestments in plant and equipment is consistent with the booked depreciation of the plant and equipment for the Raritan System facilities (without the depreciation of the dams) which amounts to about \$1,900,000 per year. Any future unplanned or unanticipated ma-

ior capital investment will, however, require the issuance of long term debt.

A separate report entitled "Five Year Capital Improvement Program 1994-1999" has been prepared to provide the details of on going capital needs as well as the analysis of the financial options to fund these needs. As noted in this report, the use of internally generated funds for capital improvements is the least costly method of financing and will place the Authority in the strongest possible financial position to meet the needs of the Raritan Basin System in the 21st Century.

Following is a Table of Projects proposed to be accomplished under this new Capital Improvement Program.

New Jersey Water Supply Authority

PROPOSED CAPITAL IMPROVEMENT PROGRAM

PROJECT	ESTIMATED PROJECT COST	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000
Rehab Sullivan Way & Parkside Aque. (D&R)	\$ 637,600*	637,600					
Rehab of Jacobs Creek Culvert (D&R)	\$ 600,000	600,000					
Rehab of Moores Creek Culvert (D&R)	\$ 425,000		425,000				
Rehab of Lock Gates (D&R)	\$ 480,000			175,000	155,000	150,000	
Rehab of Mettlars Brook Culvert (D&R)	\$ 400,000		400,000				
Mile Run Culvert Rehabilitation (D&R)	\$ 475,000		475,000				
Rehab of Culvert @ 324+30 (D&R)	\$ 350,000			50,000	300,000		
Griggstown Spillway (D&R)	\$ 500,000		100,000	400,000			
Rehab of Culvert @ 2370+28 (D&R)	\$ 600,000		50,000	550,000			
SR/RV Safe Yield Analysis	\$ 400,000		50,000	100,000	200,000	50,000	
Rehab of Culvert @ 2249+79 (D&R)	\$ 250,000			50,000	200,000		
Five & Ten Mile Waste Gate Rehab (D&R)	\$ 600,000			30,000	570,000		
Port Mercer Dike Rehab (D&R)	\$ 1,200,000			75,000	25,000	1,100,000	
Route 1 Conduit Automated Rakes (D&R)	\$ 70,000			70,000			
Evaluation of Ten Mile Pumping Station	\$ 50,000				50,000		
Embankment Improvements Lower Canal	\$ 200,000					200,000	
Total	\$ 7,237,600	1,237,600	1,500,000	1,500,000	1,500,000	1,500,000	0
Embankment Improvements Lower Canal	\$ 400,000						400,000
Evaluation of SBPS	\$ 200,000						200,000
Rehab of Culvert @ 697+40 (D&R)	\$ 425,000						425,000
Rehab of Culvert @ 2121+70 (D&R)	\$ 270,000						270,000
Embankment Improvements Canal Feeder	\$ 300,000						300,000
Route 1 Bypass (D&R)	Funding by NJDOT						
Port Mercer Dike Rehab (D&R)	\$ 3,200,000						3,200,000
Total	\$ 4,795,000	0	0	0	0	0	4,795,000

* The total estimated cost for the rehabilitation of the Sullivan Way and Parkside Avenue Aqueducts is \$900,000. \$262,400 of the cost of this project will be funded from balances in the 1976 Bond Fund.

FOOT NOTES:

D&R — Delaware & Raritan Canal
RV — Round Valley Reservoir
SR — Spruce Run Reservoir
SBPS — South Branch Pumping Station

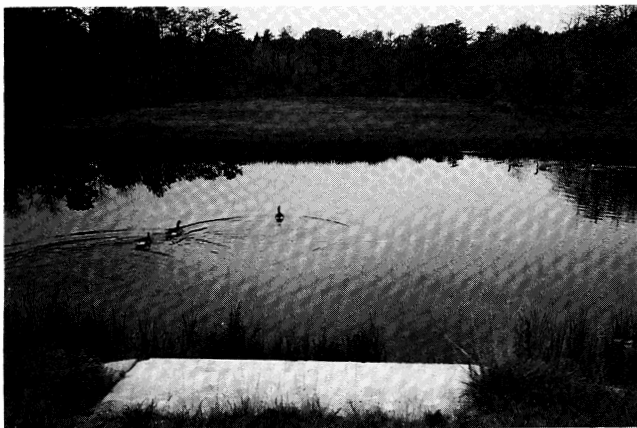
The estimated project costs list includes engineering, cultural, construction and miscellaneous expenses.

Manasquan Water Supply System

Facilities

The Manasquan Water Supply System consists of a 740-acre reservoir located on Timber Swamp Brook, a tributary of the Manasquan River, in Howell Township, Monmouth County, which can store four billion gallons of water when full. Water to fill the Reservoir is drawn during periods of high flows in the Manasquan River at an intake pumping facility located in Wall Township. To create the reservoir approximately 800,000 cubic yards of earth materials excavated from within the reservoir site were used to construct the main dam, dike, Georgia Tavern Road embankment, and the wetland dikes at the reservoir. A critical portion of the main dam and dike construction involved the installation of a soil-bentonite clay cut-off wall to control water seepage through the dam embankment. Groundwater levels around the reservoir are controlled by a perimeter drain system constructed along the north and south shores of the reservoir varying in depth up to 15 feet.

As part of the reservoir construction, the Authority was responsible for the creation of six emergent wetland areas at several loca-



A view of the "Wetland 3" area along Georgia Tavern Road in Howell Township.

tions along the reservoir periphery, at the intake site, and at three other off-site locations within Monmouth County. These sites were excavated and/or filled, depending on

the topography, to create shallow ponds with a water depth of one to three feet. A multi-year evaluation of these wetland areas is now underway. The survival rate of planted species, growth of indigenous plants, and use of the areas as wildlife habitat is being evaluated to determine the success of the manmade freshwater wetland areas in replacing natural areas lost in the construction process.

The Intake Facilities consist of an Intake Pump Station on the Manasquan River; a Flow Meter/Valve Chamber, the point of delivery to the majority of the water customers; a Reservoir Pump Station housing five pumping units; and the Maintenance/Administrative Office area for the system. The Intake Facility is designed with a peak pumping capacity of 150 million gallons of water per day while maintaining no less than an 8 million gallon per day minimum downstream passing flow in the Manasquan River. A stream gaging station on the river monitors flows downstream of the intake pumping station.

The river water is pumped from the intake structure and pump station to a settling basin where the sediments settle out. The water from the settling basin can be pumped through a 5.25 mile long, 66-inch diameter pipeline to storage in the Manasquan Reservoir or it may be pumped via the New Jersey-American Water Company's facilities to storage at their Glendola Reservoir or allowed to flow by gravity from the settling basin to the Monmouth County Improvement Authority Treatment Plant which is also located at the intake site.

The 66-inch diameter prestressed concrete cylinder pipeline to the Manasquan Reservoir is buried a minimum of five feet along a route which minimized disturbance to archaeological sites and private property. At the reservoir the 66-inch pipeline is enclosed in a 120 inch diameter concrete pipe which passes

through the dam embankment to the Inlet/Outlet Tower. This tower rises 84 feet above the reservoir floor and performs the functions of either releasing reservoir water or accepting pumped water from the Reservoir Pump Station located at the Intake Facilities.

The water supply system which commenced operations on July 1, 1990 provides the region with a safe, dependable and renewable water supply which reduces the region's dependence on groundwater supplies. This system can supply a safe yield of 30 million gallons of water per day (mgd) even during a recurrence of the worst drought to strike the region. Of the Manasquan System's safe yield of 30 mgd, raw water contracts currently total 16.097 million gallons per day.

The New Jersey-American Water Company receives 11.132 mgd for treatment at its Jumping Brook treatment facility. This water is delivered to New Jersey-American customers in northeastern Monmouth County and to other water supply systems along the Raritan Bayshore Region.

Raw water in the amount of 3.535 mgd is contracted for delivery to the treatment facility owned by the Monmouth County Improvement Authority (MCIA), located at the Manasquan Intake site. The MCIA has contracts to deliver treated water to the Boroughs of Brielle, Sea Girt, Spring Lake, Spring Lake Heights and Wall Township. The New Jersey Water Supply Authority, under a separate contract with the MCIA, designed, constructed and operates this treatment facility.

Howell Township operates a treatment facility which withdraws 1.43 mgd of water directly from the 66 inch diameter reservoir pipeline. This facility treats and delivers this water to customers within its own system and to the Adelphia Water Company.

The remaining 13.903 mgd of the safe yield of the Manasquan Water Supply System is available for use in meeting the future water needs of Monmouth and Northern Ocean Counties.

The reservoir also provides environmental and recreational benefits to the area. Under

agreement with the Authority, the Monmouth County Park System is managing the recreational use of the reservoir. County park rangers and staff provide maintenance of areas outside the restricted access zones and security patrols of the entire site. The County encourages and sponsors programs for use of the five-mile long perimeter trail walk. Operation of the boat launch ramps by the County provides access for recreational boaters and fishermen. The construction of a boathouse/reception center is anticipated to be complete in mid 1994 and will enhance access and improve amenities for those using the reservoir site.

The reservoir also provides an excellent opportunity for fishing. The gravel spawning beds and log shelters in the northwest corner of the reservoir have proven attractive to fish. Fishing has been successful from bank areas as well as from watercraft. The NJDEPE's Division of Fish, Game and Wildlife has stocked the reservoir with fish of various species since the spring of 1990. Indigenous species of fish are also making a strong showing in numbers and size. These fish apparently migrated to the reservoir from the small streams and ponds which lie in the compact watershed or were incorporated into the impoundment.

Operations and Maintenance

As in the past, the Manasquan staff has operated the system to maximize the use of the water available in the river. This also minimizes the electrical power costs. Although much of the State suffered a serious rainfall deficit in 1993, the Manasquan River continued to furnish sufficient flows to meet water demands well into the summer. When the river flow could no longer sustain minimum flow levels, water was withdrawn from the reservoir and blended with river water to meet system requirements. This mode of operations enabled the system to maintain the reservoir level with a minimum of pumping thereby minimizing operational costs to the system's users. The reservoir level was drawn down several feet by the Fall due to the use of water for blending.

Pumping for maintenance purposes and to replenish the reservoir was also restricted to off-peak weekend or overnight hours in order to minimize the cost of electric energy.

The Manasquan staff and the Authority's Engineering personnel monitored the dam and appurtenances throughout the year visually and by means of the data continuously recorded by instrumentation buried within the dam and dike structures. The performance of the dam and dike has been confirmed to be well within design predictions.

The annual dam inspection was conducted by the NJDEPE - Dam Safety Section and again resulted in a safe rating. Deficiencies noted in the report were of a minor nature.

Inspections of the dam and dike are now being conducted quarterly. Personnel from the Authority's Engineering staff and D & R Canal Division often assist the Manasquan staff in this procedure.

Monitoring of the water quality in the reservoir continued throughout the year in order to obtain information on seasonal variations in the water. During the warmer months, the data collected by the Manasquan staff was used by the Authority's algae control contractor to



Copper Sulfate is applied to the reservoir to control the growth of algae.

schedule applications of copper sulfate to the reservoir. Timely information on the reservoir water quality permits the contractor to schedule the applications to provide maximum benefit and the best margin of safety for higher aquatic life forms. The growth of algae, a natural occurrence in surface water impoundments, can cause treatment difficulties resulting in unpleasant taste and odor if permitted to go unchecked.

The maintenance of the grassed areas on the dam and dike, at the intake site, wetlands, and along the pipeline easements is managed by the Buildings and Grounds Maintenance Unit. The unit also handled the maintenance of drainage structures. The unit completed the installation of riprap erosion protection on the saddle area between



The installation of riprap on the saddle area between the dam and the dike at the Manasquan Reservoir in Howell Township.

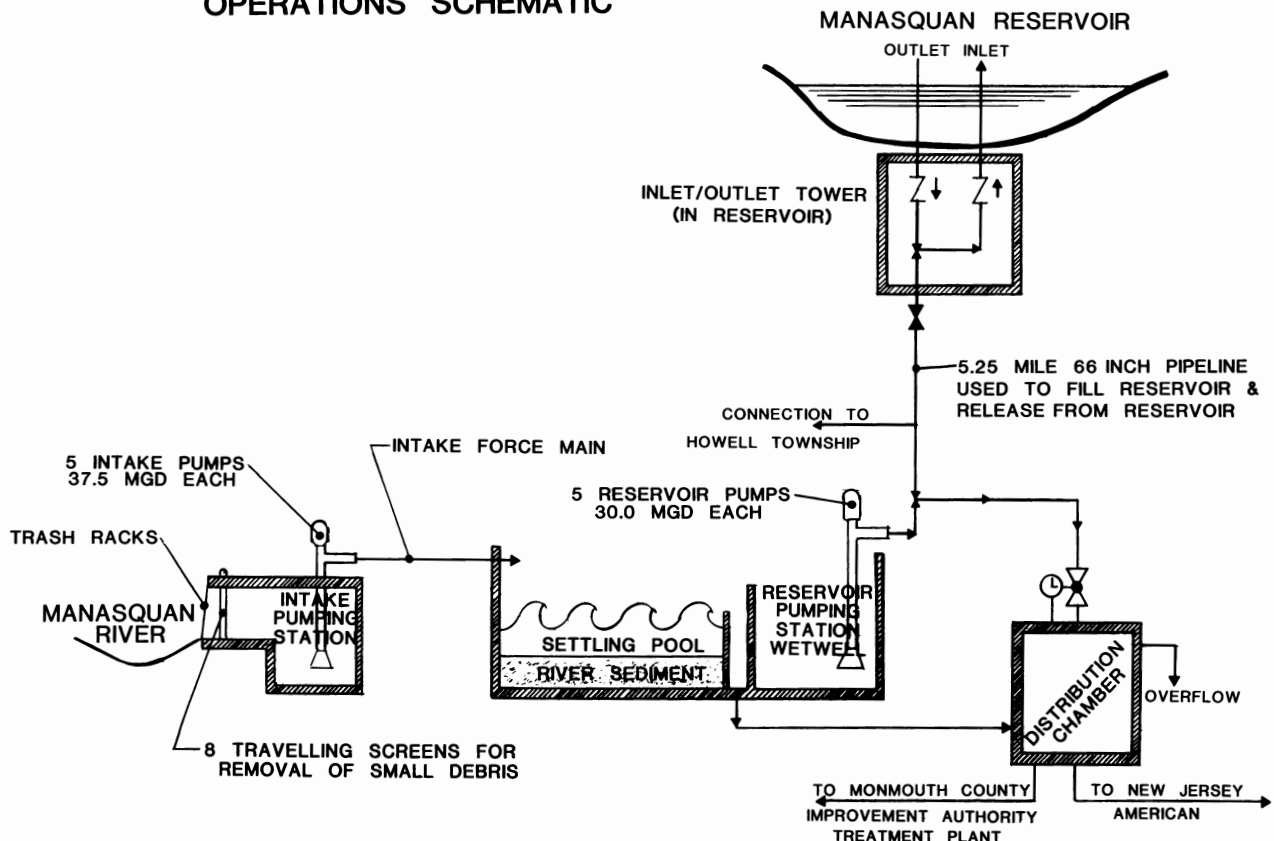
the dam and dike. Portions of the shoreline in this area had experienced moderate erosion at higher reservoir water elevations. The grounds unit is also responsible for the removal of residual material from the Backwash Recycle Lagoons at the Water Treatment Plant.

Maintenance of mechanical devices is the responsibility of the Facilities Maintenance Unit. The preventive maintenance function is directed by a computer based maintenance program. All preventive maintenance activities have been identified and fed into the computer record. The program maintains a schedule of events and issues work orders which detail the tasks to be performed and the work force, supplies, parts and special tools required to perform the task. New tasks which arise and corrective actions

taken by the unit are logged into the program to create a maintenance history of all individual devices. This computer program is also integrated into the payroll function of the unit. The unit's time is recorded by workorder number which allows the accurate distribution of the unit's time allocation between the various budget expense centers.

The Facilities Maintenance Unit is responsible for the coordination of the activities of numerous vendor and service organizations. The unit participates with these organizations in tasks such as the maintenance and testing of the 2,300 volt variable frequency drives on the intake and reservoir pumps and the removal of residuals from the intake pump station.

MANASQUAN RESERVOIR SYSTEM OPERATIONS SCHEMATIC



SUMMARY OF WATER USE CONTRACTS
Manasquan Water Supply System
(Million Gallons Per Day - mgd)

<u>User</u>	<u>Type of Contract</u>	<u>Supply</u>
Wall Township	U	2.300 (1)
Borough of Avon	U	0.142 (2)
Shorelands Water Company	U	1.900 (2)
New Jersey-American Water Co.	U	6.305
Borough of Red Bank	U	0.778 (2)
Borough of Sea Girt	U	0.075 (1)
Borough of Spring Lake	U	0.310 (1)
Borough of Spring Lake Heights	U	0.450 (1)
Borough of Belmar	U	0.650 (2)
Howell Township Water & Sewer	U	1.130
Borough of Brielle	U	0.400 (1)
Borough of Highlands	U	0.330 (2)
Adelphia Water Company	U	0.300 (4)
Borough of Keyport	U	0.458 (3)
Borough of Matawan	U	0.469 (2)
Borough of South Belmar	U	0.100 (2)
<hr/> System Total:		16.097 mgd

(1) Water treated and distributed through Monmouth County Improvement Authority Facilities.

(2) Water supplied through New Jersey-American Water Company, Eastern Division.

(3) Water supplied through Shorelands Water Company.

(4) Water supplied through Howell Township Water & Sewer.

U = Uninterruptible Service

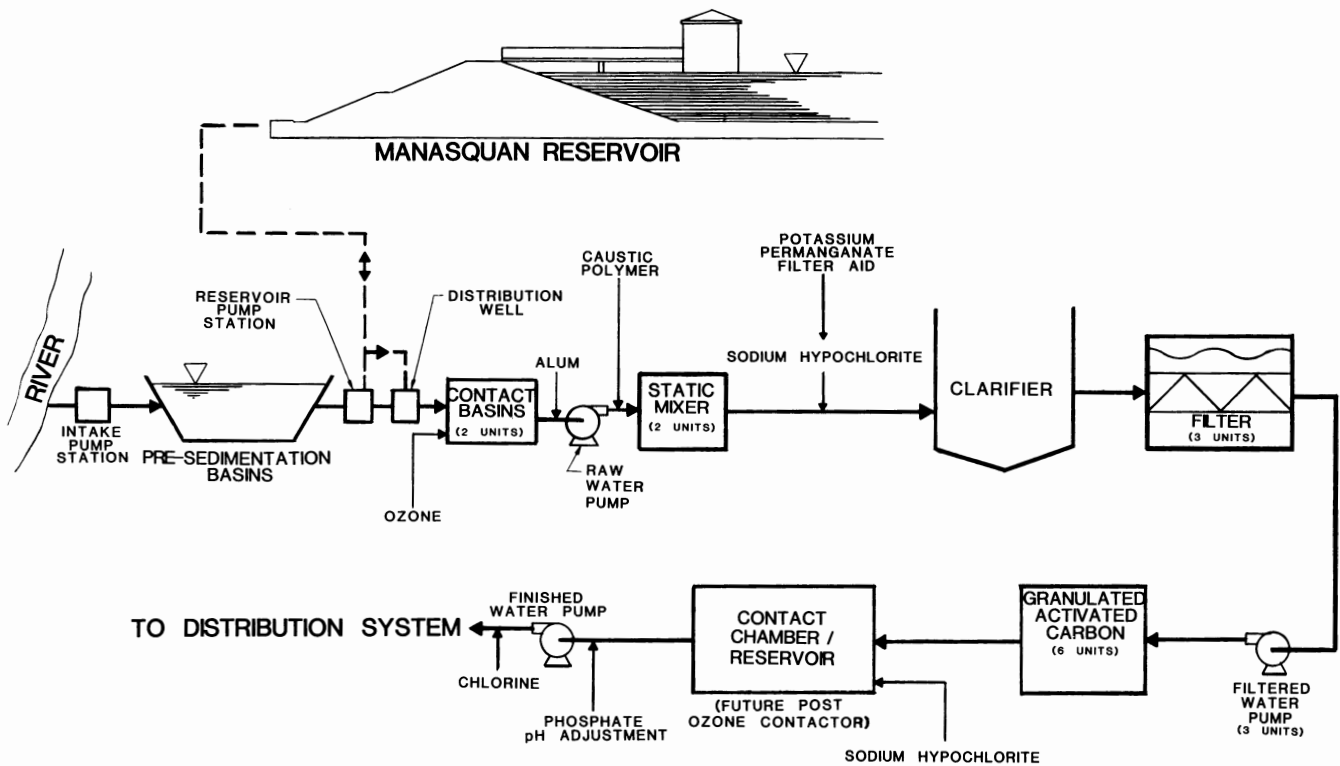
Water Treatment Plant and Transmission System

As part of the overall distribution of water from the Manasquan project, the Monmouth County Improvement Authority entered into a contract with the Authority to construct and operate a 4 million gallon per day water treatment plant and treated water transmission system for the benefit of the communities of Wall Township, Brielle, Sea Girt, Spring Lake and Spring Lake Heights. Throughout the first three years of operation, the plant has produced an average of 2.9 million gallons of water per day.

The technology employed in the design of the treatment plant has proven able to effectively treat raw water drawn from the river and the reservoir as well as a blend of the two water sources. In the treatment process, the plant employs preoxidation with ozone,

coagulation with aluminum sulfate, flocculation, clarification/filtration package units, granular activated carbon absorption (GAC) contact, disinfection, pH adjustment and the addition of a corrosion control agent. The quality of the plant effluent continues to surpass the design predictions. The plant staff has put their operating experience to use by streamlining the treatment process. The use of treatment chemicals, a major budget item, has been steadily reduced, resulting in a savings to the customers and lower treatment plant residuals.

The treated water quality readily meets standards set by current State and Federal regulations. Proposed new standards may require variations in operation but the outlook is good for meeting these regulations without the need for major changes.



MANASQUAN WATER TREATMENT PLANT

FLOW SCHEMATIC

The Operations and Maintenance Units have completed a rehabilitation of media in the three filter/clarification units. There had been concern over a coating of chemical precipitates on the filter media, which was reducing the filter efficiency. A high pH chemical wash removed the build-up and the volume of the media was supplemented to return the filter beds to design levels. Operating procedures have been revised and some control functions have been changed to avoid a recurrence of the condition.

The Manasquan plant provides between 25 and 85 percent of the drinking water consumed in the customer communities. The treatment plant was designed to function as a constant flow facility meeting the base demand of the customer communities; however, the demand imposed upon the plant is greatest during the day and is at a minimum during the late night and early morning hours. The plant staff has developed operational plans which meet this demand pattern.



The three Filter Clarifier Units in the Water Treatment Plant have been rehabilitated.

Letter of Transmittal - Fiscal Officer



NEW JERSEY WATER SUPPLY AUTHORITY

P.O. BOX 5196 • CLINTON, N.J. 08809 • (908) 638-6121 • (908) 638-5241 (FAX)

September 17, 1993

To the Commissioners of the New Jersey Water Supply Authority

The Component Unit Financial Report of the New Jersey Water Supply Authority for the year ended June 30, 1993 is submitted herewith. Responsibilities for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures rests with the Authority. To the best of our knowledge and belief, the enclosed data are accurate in all material respects and are reported in a manner designed to present fairly the Authority's financial position, results of operations and cash flows in accordance with generally accepted accounting principles. In accordance with these accounting principles, the Authority is a component unit of the State of New Jersey and, as such, is included in the State of New Jersey's Comprehensive Annual Financial Report.

Reporting Entity and its Services

The New Jersey Water Supply Authority was created on October 7, 1981 (P.L. 1981 c.293) and was established in but not of the Department of Environmental Protection & Energy of the State of New Jersey. The "New Jersey Water Supply Authority Act" created the New Jersey Water Supply Authority to acquire, finance, construct and operate water systems under certain circumstances and authorizes the issuance of bonds of the Authority.

The Authority operates three separate systems, (1) the Raritan Basin System, (2) the Manasquan Water Supply System, and (3) the Manasquan Water Treatment Plant/Transmission System. The Manasquan Water Treatment Plant/Transmission

System is owned by the Monmouth County Improvement Authority on behalf of the municipalities of Wall, Spring Lake, Spring Lake Heights, Brielle, and Sea Girt. This system is operated and maintained by the New Jersey Water Supply Authority under the terms of an operating agreement. Each of these systems provide sufficient revenues to cover their own operating expenses, and each system's debt service.

The New Jersey Water Supply Authority is governed by a seven member Board of Commissioners. The Board of Commissioners consists of the Commissioner of the Department of Environmental Protection & Energy of the State of New Jersey who serves as Chair and six public members appointed for three (3) year terms by the Governor with the advice and consent of the Senate. The Commissioner may designate, in writing, an officer or employee of the Department as a representative to act on behalf of the Commissioner. The members must include an expert in the field of Water Resource Management and one expert in Public Finance. The remaining members must represent the agricultural community, industrial water users, residential water users and watershed associations. The Board also designates a Vice Chair, a Treasurer and a Secretary. The Commissioners of the Authority serve without compensation.

The Executive Director is responsible for the management of the daily operations of the three systems and prepares proposals for presentation to the Board of Commissioners at monthly business meetings. The Executive Director is responsible for imple-

menting such proposals after presentation to and approval by the Board. The Authority's Executive Director heads a full-time staff of professional, technical, and operational personnel totaling 132.

The meetings of the Authority are usually scheduled for the first working Monday of each month. Four Commissioners of the Authority constitutes a quorum at any meeting. Action may be taken and motions and resolutions adopted by the Authority at any meeting by the affirmative vote of at least four Commissioners of the Authority. A copy of the minutes of every meeting of the Authority must be delivered to the Governor. Actions taken at the meeting will not be effective until 10 business days after the copy of the minutes has been delivered. If in this 10 day period the Governor returns the copy of the minutes with a veto of any action taken by the Authority at that meeting, the action will be ineffective. All meetings held by the Authority are in accordance with the Open Public Meetings Act, which requires that all meetings of public bodies be open to the public.

Accounting System and Budgetary Control

The New Jersey Water Supply Authority's consolidated financial statements are prepared in accordance with generally accepted accounting principles. The Authority operates and reports as a single enterprise fund utilizing the accrual basis of accounting. The enterprise fund concept is similar to how private business enterprises are financed and operated. The intent is that the costs of providing services to water users on a continuing basis be financed primarily through user charges.

In an effort to ensure compliance with the Authority's by-laws and to safeguard its assets, an internal control structure has been developed by management and implemented. This internal control structure includes policies and procedures, approved organizational structures, and approved budgets for capital and operating expenditures.

The New Jersey Water Supply Authority adopts an annual budget for its operations and establishes billing rates accordingly. The budget of the Authority establishes spending limitations, and is used as a management tool for the purpose of establishing rates. Even though the Authority is required to give at least six months advance notice of proposed rate adjustments to contractual customers, the Authority usually begins the rate adjustment procedure nine months in advance of the effective date through informal meetings with the water users. The initial informal meeting with the water users usually takes place in September or October of the year preceding the proposed effective date of the following July 1.

Financial Position

The total assets of the Authority as of June 30, 1993 were \$231,377,826 an increase of two percent over the previous year's total of \$226,230,387. The Consolidated Utility Plant in service increased four percent or \$8,073,368, from \$187,336,952 to \$195,410,320. The Raritan Basin System increased eight percent or \$8,048,388, from \$94,973,174 to \$103,021,562. The increase within this system is largely due to completed projects associated with the Five Year Capital Improvement Program being transferred from construction work in progress into utility plant in service. A \$32,405,000 Five Year Capital Improvement Program was started on December 7, 1988, and most of the projects are within their final stages of completion. As of June 30, 1993 \$22,006,904 has been expended on projects within the Capital Improvement Program. Two large projects, the Lumberville Wing Dam and the Round Valley Release Pipeline Rehabilitation, having a combined budget of \$8,022,468, are expected to be completed by no later than December 1993, which is the five year anniversary of the present Capital Improvement Program. With the present Capital Improvement Program coming to an end the Authority has turned its attention on financing the next Five Year Capital Im-

provement Program (1994-1999) for the Raritan Basin System. The Authority is proposing to spend \$7,237,600 over the next five years and to finance the program utilizing an internally generated Capital Fund Component. The Authority has proposed a new Capital Fund Component of \$10 per million gallons starting on July 1, 1994 with subsequent increases in this component of the total rate structure to \$15 per million gallons effective July 1, 1995, \$20 per million gallons effective July 1, 1996, and to \$25 per million gallons effective July 1, 1997 and thereafter. The Authority considers the use of internally generated funds for capital improvements to be the most cost effective method of financing which will also place the Authority in the strongest possible financial position to meet the needs of the Raritan Basin System in the 21st century. The assets of the Manasquan Water Supply System increased less than one percent, or \$24,980, from \$92,363,778 to \$92,388,758. The small increase is due to final payments to complete the construction of the Manasquan Water Supply System and capital equipment purchases at the System. The Utility Plant associated with the Manasquan Water Treatment Plant and Transmission System is not reported within the Authority's financial statements and is the responsibility of the Monmouth County Improvement Authority. The Monmouth County Improvement Authority contracts with the Authority to operate the water treatment plant and related transmission facilities.

The total of cash and cash equivalents decreased by \$7,703,416 or 24% from \$31,550,506 to \$23,847,090. The decrease in cash is attributable to the payments made for the ongoing Raritan Basin System Five Year Capital Improvement Program and the Manasquan Reservoir Project.

Current liabilities increased \$1,108,295 from \$6,090,077 to \$7,198,372, an increase of 18%. The increase is primarily due to the increase of principle payments on our long-term debt obligations and accounts payable. Total capitalization of the

Authority increased by \$4,074,340 from \$73,964,398 to \$78,038,738, an increase of six percent.

The Consolidated Revenues increased five percent or \$902,153 due to normal rate increases, from \$17,703,248 to \$18,605,401. The Consolidated Operating Expenses increased four percent or \$325,898, from \$8,716,079 to \$9,041,977. Contained in the following paragraphs is an explanation of changes in revenue and expense for each system.

The Raritan Basin System Revenues increased five percent or \$589,607, from \$11,734,880 or \$12,324,487. The increase in revenues is due to the adjustment in the Raritan Basin System water rates from \$201.33 to \$214.86 per million gallons effective July 1, 1992. Total Operating Expenses increased three percent or \$156,303, from \$6,086,102 to \$6,242,405. Payroll and Fringe Benefits increased one percent or \$62,031, from \$4,405,943 to \$4,467,974 due to agreements in the Union Contracts and annual increases from the insurance companies underwriting our benefit package. Operations and Maintenance expenses increased six percent, or \$94,272 from \$1,680,159 to \$1,774,431, mostly due to increases in electric costs for pumping and liability insurance.

The Manasquan Water Supply System Revenues increased five percent, or \$312,546 from \$5,968,368 to \$6,280,914. The increase in revenues is due to the adjustment in the Manasquan System water rates from \$1,033.53 to \$1,054.27 on July 1, 1992 and to \$1,086.67 on February 1, 1993, per million gallons. The Manasquan Water Supply System started operations in Fiscal Year 1991. Total Operating Expenses increased three percent or \$53,207, from \$1,693,050 to \$1,746,257. Payroll and Fringe Benefits decreased two percent or \$9,447, from \$536,409 to \$526,962. The decrease in the Manasquan Reservoir System Payroll and Fringe Benefits is due to the increased allocation to the Water Treatment Plant for the rehabilitation of the Filter Clarifiers since employees share responsibilities bet-

ween the two systems. The disproportionate share of work on the Water Treatment Plant Filter Clarifiers should not reoccur in the future. Operations and Maintenance expenses increased five percent or \$62,654, from \$1,156,641 to \$1,219,295 mostly due to increases in electrical expenses and maintenance of equipment. Most of the warranties, covering the new equipment put into operation in 1990 are expiring and the repair and replacement costs are now the responsibility of the Authority.

Operating Revenue for the Water Treatment Plant/Transmission System decreased one percent or \$17,026 from \$1,151,026 to \$1,134,000 and total operating expenses increased 12% or \$116,388, from \$936,927 to \$1,053,315. The budget is prepared on the basis of delivering the contracted amount of 3.42 million gallons per day to the five participating municipalities. The actual Operations and Maintenance expenses will vary with the actual draw from the Treatment Plant. The Water Treatment Plant Payroll and Fringe Benefits increased 22% or \$84,024, from \$378,262 to \$462,286, and is subject to the same allocation of salary as the Manasquan Reservoir System.

In April 1993, the Authority adopted the Raritan Basin System rate to become effective July 1, 1993 of \$220.47 per million gallons covering Operations and Maintenance and Debt Service for the fiscal year ending June 30, 1994. This rate was an increase of \$5.61 or three percent from the previous fiscal year. The proposed rate for the fiscal year ending June 30, 1995, effective July 1, 1994 is \$237.65 per million gallons covering Operations and Maintenance and Debt Service and the new Capital Fund Component. The proposed fiscal year 1995 rate represents an increase of \$17.18 or eight percent.

A revised rate of \$1,064.33 per million gallons, effective July 1, 1993 and \$1,096.75 per million gallons, effective February 1, 1994 was adopted for the Manasquan Water Supply System at the April 1993 Authority meeting. In accordance with the Manasquan Reservoir Water Supply System Bond Resolution, Section 713, the Manasquan

Water Supply System is required to establish a debt service coverage charge starting at five percent of gross debt service with the first interest payment date, 10% with the third interest payment date, 15% with the fifth interest payment date, and 20% with the seventh interest payment date and thereafter. The increase in February 1994 is due to a gradual increase in debt service coverage from 115% to 120% as required. The proposed fiscal year 1995 rate for the Manasquan Water Supply System is \$1,116.09 per million gallons, effective July 1, 1994. There will be no further changes in the water rate due to increases in debt coverage requirements, which will reach the maximum coverage level of 120% as of February 1, 1994. The rate of \$1,116.09 per million gallons, effective July 1, 1994 represents a total rate increase, from the original rate of \$1,000 per million gallons set July 1, 1990, of \$116.09 per million gallons, a 12% increase or an average of three percent per year.

The New Jersey Water Supply Authority entered into an agreement on September 1, 1987 with the Monmouth County Improvement Authority to design, construct, operate, and maintain the Manasquan Water Treatment Plant and Transmission System. The Monmouth County Improvement Authority raises all of the revenues necessary to cover Operations and Maintenance Expenses and Debt Service and Transfers to the New Jersey Water Supply Authority the annual budget requirement on a monthly basis. The New Jersey Water Supply Authority is responsible for presenting a calendar year operating budget to the Monmouth County Improvement Authority at least 210 days prior to the beginning of each calendar year. The New Jersey Water Supply Authority is responsible for submitting a statement of actual operation and maintenance expenses for the prior fiscal (calendar) year to the Monmouth County Improvement Authority 120 days after the end of each calendar year. The budget for calendar year 1994 is \$1,092,190 which represents a \$2,510 decrease over calendar year 1993 budget of \$1,094,700.

Cash Management

The Raritan Basin System had a total of \$25,403,532 in cash and investments as of June 30, 1993. These funds generated interest income of \$1,102,659.

The Manasquan Water Supply System had a total of \$3,926,540 in cash and investments as of June 30, 1993. These funds generated interest income of \$115,528.

The Manasquan Water Treatment Plant and Transmission System had a total of \$736,143 in cash and investments, which consists of operating funds held by the New Jersey Water Supply Authority on behalf of the Monmouth County Improvement Authority as of June 30, 1993. These funds generated interest income of \$21,581.

Funds of \$19,273,344 from all systems are held by the Trustees in accordance with bond resolutions and are invested in securities of the U.S. Government and its agencies and are collateralized at 102% of the carrying amount. Funds of \$6,732,746 from all systems were invested in the State of New Jersey Cash Management Fund. State laws permit the Division of Investment to invest in a variety of securities, such as obligations of the U.S. Government and its agencies, commercial paper, certificates of deposit, repurchase agreements, bankers' acceptances and loan participation notes. All such investments must fall within the guidelines set forth by the regulations of the State's investment council. The investment council does not impose any limits on the amount of funds which may be deposited or withdrawn. The falling interest rate has brought new investment challenges to the Authority, and as a result the Authority has elected to invest \$3,194,499 of funds from the Raritan Basin System in 5-year Treasury Notes at a six percent return, due July 31, 1997. Funds of \$792,071 are held at the National Westminster Bank and the Chemical Bank NJ representing the Revenue, Operating and Payroll accounts as of June 30, 1993.

Debt Service

The Raritan Basin System has the obligation to repay the following debt. The 1969 Bond Fund obligation has a remaining principle and interest balance of \$6,930,000 as of June 30, 1993. The bonds bear interest at 5.4% and payments are made semi-annually in the amount of \$385,000. On December 12, 1985 the Authority obtained a loan of \$19,600,000 from a 1981 State of New Jersey Water Supply Bond Appropriation of \$20,550,000 for the purpose of financing the Dredging Program for the Delaware and Raritan Canal. The 1981 Bond Fund obligation has a remaining principle and interest balance of \$23,681,146 as of June 30, 1993. The bonds bear interest at 7.3% and debt service payments are made semi-annually and range from \$169,204 to \$1,865,204 through November 1, 2006. On December 7, 1988, the Authority issued \$32,405,000 of Water System Revenue Bonds, Series 1988, to finance a Five Year Capital Improvement Program for projects relating to the Delaware and Raritan Canal and the Spruce Run/Round Valley Reservoirs System. The Series 1988 Bonds are obligations of the Authority payable from revenues and pledged property. Payments on the Series 1988 Bonds is secured solely by pledged properties of the Authority. The Series 1988 Revenue Bonds have a bond yield of 7.86%, the remaining principle and interest balance is \$65,629,972 at June 30, 1993. Semi-annual payments are made in the amount of \$1,250,000 to the bondholders. The Manasquan Water Supply System has the obligation to repay \$63,600,000 of State Loan Notes, which bear interest at 7.15% and \$7,416,000 of Completion Loan Notes, which bear interest at 6.24%. The notes are held by the State of New Jersey and were issued to construct the Manasquan Reservoir Facilities. The current portion of the debt is defined as the ratio of the present water purchased under contract divided by the total system yield of 30 million gallons per day. At present the Manasquan Reservoir System has 16.097 million gallons per day

under contract. The Authority has the obligation only to repay the current portion of the loans as defined in the terms of the State Loan Agreement with the State of New Jersey. The State Loan Notes and the Completion Loan have a principle and interest balance of \$155,186,882, as of June 30, 1993 which represents both the current and deferred portion. Semi-annual payments are made on the current portion only in the amount of \$1,905,000 to the State of New Jersey.

In accordance with the Delaware and Raritan Water System Revenue Bonds, Series 1988, Bond Resolution, Section 713, the Raritan Basin System's schedule of rates shall be maintained at such a level so as to produce net revenues equal to at least 1.20 times the amount required to be paid in the Debt Service Account. For Fiscal Year 1993, the coverage is adequate at 2.10.

Risk Management

The Authority carries insurance for all of its facilities covering direct physical loss or damage and loss of revenue resulting therefrom, with deductibles as it deems appropriate. The Authority also carries general and umbrella public liability insurance, with Self-Insured Retainers as it deems appropriate. Automotive and Public Officials Liability coverage is also maintained with deductibles. Worker's Compensation insurance coverage is also maintained as required by the laws of the State of New Jersey.

Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the New Jersey Water Supply Authority for its Component Unit Financial Report for the fiscal year ended June 30, 1992. The Certificate of Achievement is a prestigious national award recognizing con-

formance with the highest standards for preparation of state and local government financial reports.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized (comprehensive annual/component unit) financial report, whose contents conform to program standards. Such (CAFR/CUFR) must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. The New Jersey Water Supply Authority has received this Certificate of Achievement for the fiscal year ended June 30, 1992. We believe our current report continues to conform to the Certificate of Achievement program requirements, and we are submitting it to the GFOA.

Independent Audit

In accordance with the "New Jersey Water Supply Authority Act" (L. 1981, c. 293), before the last day in February an Annual Report of the Authority's activities of the preceding calendar year is due to the Governor and the Legislature. The Annual Report must include an audit of the Authority's books and accounts. Deloitte & Touche, Certified Public Accountants, was retained to perform an audit of the 1993 Fiscal Year in accordance with generally accepted auditing standards. Deloitte & Touche reports directly to the Audit Committee of the Board of Commissioners. Deloitte & Touche also performed as part of the annual audit a review of the internal control structure.



Michael R. Citarelli
Fiscal Officer

Independent Auditor's Report

**Deloitte &
Touche**



Two Hilton Court
P.O. Box 319
Parsippany, New Jersey 07054-0319

Telephone: (201) 631-7000
Facsimile: (201) 631-7459

To the Commissioners of the
New Jersey Water Supply Authority:

We have audited the accompanying consolidated balance sheets of the New Jersey Water Supply Authority as of June 30, 1993 and 1992, and the related consolidated statements of revenue and expenses and changes in retained earnings and cash flows for the years then ended. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of the Authority as of June 30, 1993 and 1992 and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The consolidating and supplemental information listed in the table of contents is presented for the purpose of additional analysis of the basic consolidated financial statements and is not a required part of the basic consolidated financial statements. This consolidating and supplemental information is the responsibility of the Authority's management. Such information has been subjected to the auditing procedures applied to our audits of the basic 1993 consolidated financial statements and, in our opinion, is fairly stated in all material respects when considered in relation to the basic financial statements taken as a whole.

September 17, 1993

**Deloitte Touche
Tohmatsu
International**

New Jersey Water Supply Authority
CONSOLIDATED BALANCE SHEETS
June 30, 1993 and 1992

<u>ASSETS</u>	<u>1993</u>	<u>1992</u>
Utility plant:		
Utility plant in service (Note 3)	\$195,410,320	\$187,336,952
Less: Accumulated depreciation (Note 3)	<u>29,746,765</u>	<u>25,808,884</u>
Net utility plant in service	165,663,555	161,528,068
Construction work in progress	<u>11,312,172</u>	<u>14,045,342</u>
Net utility plant	<u>176,975,727</u>	<u>175,573,410</u>
Current assets:		
Cash (Note 4)	792,071	78,365
Restricted cash (Note 4)	898,097	—
Short-term investments (Note 4)	6,726,218	8,311,551
Unbilled sales	1,043,802	949,458
Accounts receivable, less allowance for doubtful accounts of \$1,000 for the D&R System at June 30, 1993 and 1992	1,693,041	2,457,946
Accounts receivable — State of New Jersey	22,373	72,284
Prepaid expenses and other current assets	<u>613,873</u>	<u>497,523</u>
Total current assets	<u>11,789,475</u>	<u>12,367,127</u>
Restricted investments:		
D&R System Revenue Bonds, Series 1988 proceeds, current (Note 4)	14,040,325	19,983,817
D&R System Revenue Bonds, Series 1988 proceeds, long-term (Note 4)	2,748,575	—
D&R System Revenue Bonds, Series 1988 — Rebate Requirement (Note 4)	—	580,236
Manasquan System — State Loan Notes proceeds, current (Note 4)	1,310,296	1,873,160
Manasquan System — State Loan Notes proceeds, long-term (Note 4)	276,051	—
Manasquan System — Rebate Requirement (Note 4 & 9)	80,083	723,377
Deferred compensation plan assets (Note 7)	<u>164,814</u>	<u>120,288</u>
Total restricted investments	<u>18,620,144</u>	<u>23,280,878</u>
Long-term investments (Note 4)	3,194,499	—
Appropriation receivable — State of New Jersey 1976 Bond Act	262,393	274,067
Costs to be recovered from future revenues (Note 2)	<u>20,535,588</u>	<u>14,734,905</u>
Total assets	<u>\$231,377,826</u>	<u>\$226,230,387</u>

(continued on next page)

*The accompanying notes are an integral
part of these consolidated financial statements.*

New Jersey Water Supply Authority
CONSOLIDATED BALANCE SHEETS (Continued)
June 30, 1993 and 1992

CAPITALIZATION AND LIABILITIES	1993	1992
Capitalization:		
Contributed capital	\$ 51,402,335	\$ 51,402,335
Retained earnings	26,636,403	22,562,063
Total capitalization	78,038,738	73,964,398
 Long-term liabilities:		
Due to State of New Jersey including accrued interest of \$24,751,738 at June 30, 1993 and \$22,440,114 at June 30, 1992 and net of unamortized issuance costs of \$454,659 at June 30, 1993 and \$417,383 at June 30, 1992 (Note 5)	114,958,067	113,818,502
D&R System Revenue Bonds, Series 1988, net of unamortized issuance costs of \$554,136 at June 30, 1993 and \$581,219 at June 30, 1992 and unamortized bond discount of \$228,112 at June 30, 1993 and \$239,272 at June 30, 1992 (Note 6)	30,937,752	31,584,509
Deferred rebate requirement (Note 9)	80,083	652,613
Accrued deferred compensation plan (Note 7)	164,814	120,288
Total long-term liabilities	146,140,716	146,175,912
 Current liabilities:		
Current portion of amounts due to State of New Jersey and principal on bonds	2,384,879	1,588,967
Accounts payable	1,843,291	1,077,495
Accrued payroll and payroll taxes	223,901	246,835
Accrued interest	1,956,249	1,992,695
Accrued vacation	154,701	—
Deferred Revenue (Note 2)	635,351	533,085
Current portion of rebate requirement (Note 9)	—	651,000
Total current liabilities	7,198,372	6,090,077
Total capitalization and liabilities	\$231,377,826	\$226,230,387

*The accompanying notes are an integral
part of these consolidated financial statements.*

New Jersey Water Supply Authority
CONSOLIDATED STATEMENTS OF REVENUES AND EXPENSES AND CHANGES
IN RETAINED EARNINGS
For the Years Ended June 30, 1993 and 1992

	<u>1993</u>	<u>1992</u>
Operating revenues:		
Water sales	\$ 18,605,401	\$ 17,703,248
Reimbursement of operating expenses	1,134,000	1,151,026
Total operating revenues	<u>19,739,401</u>	<u>18,854,274</u>
Operating expenses:		
Payroll	4,156,891	4,116,213
Operations and maintenance	3,584,755	3,395,475
Fringe benefits	1,300,331	1,204,391
Total operating expenses	<u>9,041,977</u>	<u>8,716,079</u>
Income from operations before depreciation	10,697,424	10,138,195
Depreciation	4,378,819	4,483,649
Income from operations	<u>6,318,605</u>	<u>5,654,546</u>
Costs to be recovered from future revenues (Note 2)	<u>2,676,749</u>	<u>2,786,073</u>
Non-operating revenues:		
Interest income	698,214	717,936
Rental income	55,228	54,144
Other (loss)/income	(78,570)	199,105
Total non-operating revenues	<u>674,872</u>	<u>971,185</u>
Non-operating expenses:		
Interest component of debt service to the State of New Jersey	5,545,173	5,224,553
Amortization of issuance costs and bond discount — D&R System Revenue Bonds, Series 1988	38,242	38,176
Amortization of issuance costs — Manasquan State Loan Notes	12,471	11,993
Total non-operating expenses	<u>5,595,886</u>	<u>5,274,722</u>
Net income	4,074,340	4,137,082
Retained earnings, beginning of year	<u>22,562,063</u>	<u>18,424,981</u>
Retained earnings, end of year	<u>\$ 26,636,403</u>	<u>\$ 22,562,063</u>

The accompanying notes are an integral part of these consolidated financial statements.

New Jersey Water Supply Authority
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the years ended June 30, 1993 and 1992

	1993	1992
Cash flow from operating activities:		
Cash received from water sales	\$ 19,276,975	\$ 16,956,215
Cash received from reimbursable expenses	1,242,649	1,819,213
Cash received from rental income	15,107	14,614
Cash paid to or on behalf of employees	(5,464,422)	(5,035,260)
Cash paid to suppliers	(3,586,273)	(4,097,677)
Net cash provided by operating activities	11,484,036	9,657,105
Cash flows from capital and related financing activities:		
Principal paid on capital obligation	(1,588,967)	(1,483,477)
Interest paid on capital obligation, net of capitalized interest	(6,220,362)	(7,452,855)
Additions to utility plant	(5,206,212)	(4,814,389)
Payment of rebate requirement	(651,000)	(126,268)
Net cash (used) for financing activities	(13,666,541)	(13,876,989)
Cash flows from investing activities:		
Purchase of investment securities	(6,219,125)	—
Interest received on investments	698,214	717,936
Net cash (used) provided for investing activities	(5,520,911)	717,936
Net decrease in cash and cash equivalents	(7,703,416)	(3,501,948)
Cash and cash equivalents, beginning of year (Note 2)	31,550,506	35,052,454
Cash and cash equivalents, end of year (Note 2)	\$ 23,847,090	\$ 31,550,506

(continued on next page)

The accompanying notes are an integral part of these consolidated financial statements.

New Jersey Water Supply Authority
CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)
For the years ended June 30, 1993 and 1992

	1993	1992
Reconciliation of income from operations to the cash provided by operating activities:		
Income from operations	6,318,605	5,654,546
Adjustments to reconcile income from operations to net cash flows provided by operating activities:		
Operating activities:		
Depreciation	4,378,819	4,483,649
Change in assets and liabilities:		
(Increase)/decrease in unbilled sales	(94,344)	1,471,042
Decrease/(increase) in accounts receivable	764,905	(2,239,144)
Decrease/(increase) in accounts receivable — State of New Jersey	49,911	(60,456)
(Increase) in prepaid expenses	(116,350)	(23,875)
Increase in accounts payable	103,158	129,144
(Decrease)/increase in accrued payroll and taxes	(22,934)	28,100
Increase in deferred revenue	102,266	214,099
Total adjustments	5,165,431	4,002,559
Net cash provided by operating activities	\$ 11,484,036	\$ 9,657,105

*The accompanying notes are an integral
part of these consolidated financial statements.*

New Jersey Water Supply Authority

Notes to Consolidated Financial Statements

1. Organization and Operations:

The New Jersey Water Supply Authority (the "Authority"), consisting of the Spruce Run/Round Valley Reservoirs Complex and the Delaware and Raritan Canal Transmission Complex (the "Delaware and Raritan System") and Manasquan Reservoir Water Supply System (the "Manasquan System"), is a public body, corporate and politic, constituted as an instrumentality of the State of New Jersey, exercising public and essential governmental functions. The Authority is a component unit of the State of New Jersey. The Authority was created by the New Jersey Water Supply Authority Act (the "Act") on October 7, 1981, and in connection with the Act, all water supply facilities owned or operated by the State (Delaware and Raritan Canal Transmission Complex and Spruce Run/Round Valley Reservoir Complex) were transferred or leased to the Authority. The Act empowers the Authority to acquire, finance, construct and operate water systems under certain circumstances and authorizes the issuance of bonds of the Authority and provides for the terms and security thereof. The members of the Authority consist of the Commissioner of the New Jersey Department of Environmental Protection and Energy (ex officio member) and six public members appointed by the Governor upon the advice and consent of the New Jersey Senate. The public members represent the agricultural community, industrial water users, residential water users and private watershed associations. The Authority prepares an annual budget. The Authority's budget does not constitute a legal budget for purposes of determining or establishing spending limitations. The budget is used to establish rates and as a management tool.

2. Summary of Significant Accounting Policies:

Basis of Accounting

The Authority derives most of its revenues from water user charges and is considered to be an enterprise fund; accordingly, the Authority presents its financial statements on the accrual basis of accounting. In addition, the Authority has established certain restricted funds as directed by internal resolution.

Revenues

Charges for wholesale water usage are established to provide sufficient services, essential repairs and improvements to utility plant, and repayment of debt service on certain long-term obligations used for plant construction. Sales are recognized as revenue after water is made available to customers and are billed in the month or quarter following availability.

Utility Plant

Utility plant is stated at original cost and consists primarily of amounts expended to license, construct, acquire, complete and place in operation the projects of the Authority. Such expenditures include labor, materials, services and indirect costs. Normal maintenance and repair costs are charged to operations and maintenance expense. Major repairs, improvements and replacements are capitalized. Costs of computer hardware and software are capitalized. Interest earned on long-term debt proceeds used for utility plant construction and temporarily invested during the construction period is netted against interest expense. The excess, if any, is capitalized to construction work in progress, and the portion related to completed projects is expensed. The cost of utility plant retired net of any gain or loss on the disposal of such utility plant is offset to accumulated depreciation.

Depreciation

Utility plant is depreciated on the straight-line basis over the estimated useful lives of the various classes of plant.

Investments

Short-term investments and restricted investments for construction, payment of interest, and the rebate requirement on the Water System Revenue Bonds, Series 1988 and the Manasquan State Loan Notes consist of money market funds and U.S. Government backed securities with various interest rates. All investments are carried at cost, which approximates market.

Compensated Absences

All full-time employees accumulate vacation benefits in varying annual amounts up to a maximum allowable accumulation of two years benefit. Unused sick leave benefits are earned by all full-time employees at a rate of 15 days per year and may be accumulated without limit. In the event of termination, an employee is reimbursed for all accumulated vacation days. Unused sick leave benefits do not vest but are payable only upon retirement to a maximum of \$15,000.

Costs to be recovered from future revenues

The Authority's cost recovery rate model used to establish rates, fees and charges includes an amount for debt principal repayment and not depreciation on the related debt financed assets and also includes vacation amounts paid. In accordance with Financial Accounting Standards Board Statement No. 71, the Authority has deferred the excess of current depreciation on assets financed with debt proceeds over the costs for debt principal repayment and the excess of vacation expense over vacation paid. The deferred costs will be recovered through future revenues in accordance with the rate model. The deferred amount for the years ended June 30, 1993 and 1992 were determined as follows:

	<u>D&R System</u>	
	<u>June 30, 1993</u>	<u>June 30, 1992</u>
Cost excluded from rate model:		
Depreciation of debt-financed utility plant	\$ 2,751,127	\$ 2,797,369
Excess vacation expense over vacation paid	133,101	—
Cost excluded from rate model	<u>2,884,228</u>	<u>2,797,369</u>
Cost included in rate model:		
Debt principal repayment	(1,083,967)	(1,018,477)
Cost included in rate model	(1,083,967)	(1,018,477)
D&R Sub-Total	<u>\$ 1,800,261</u>	<u>\$ 1,778,892</u>
	<u>Manasquan System</u>	
	<u>June 30, 1993</u>	<u>June 30, 1992</u>
Cost excluded from rate model:		
Depreciation of debt financed utility plant recoverable from current rate payers	\$ 867,551	\$ 904,802
Depreciation of debt financed utility plant recoverable from future rate payers	749,304	781,478
Excess vacation expense over vacation paid	11,847	—
Simple interest on deferred debt recoverable from future rate payers (Note 5)	2,876,720	2,891,160
Cost excluded from rate model	<u>4,505,422</u>	<u>4,577,440</u>
Cost included in rate model:		
Debt principal repayment	(505,000)	(465,000)
Cost included in rate model	(505,000)	(465,000)
Manasquan Sub-Total	<u>\$ 4,000,422</u>	<u>\$4,112,440</u>
Total	<u>\$ 5,800,683</u>	<u>\$5,891,332</u>
Balance, beginning of year	<u>\$14,734,905</u>	<u>\$8,843,573</u>
Balance, end of year	<u>\$20,535,588</u>	<u>\$14,734,905</u>

Accounting for Monmouth County Improvement Authority Agreement

Effective with the commencement of operations of the Manasquan Reservoir System on July 1, 1990, the authority assumed responsibility for the operations and maintenance of a Water Treatment Plant/Transmission System ("WTP/TS") of the Monmouth County Improvement Authority ("MCIA"). Per the terms of the contract dated September 1, 1987 covering this

Notes to Consolidated Financial Statements (Continued)

agreement, the MCIA is charged for budgeted operating expenses expected to be incurred by the Authority during the MCIA's fiscal year (January 1 through December 31).

Because of the difference resulting from billing the MCIA for budgeted expenses versus actual expenses appearing in the financial statements, the Authority includes deferred costs (actual costs exceed MCIA billings) or deferred revenues (MCIA billings exceed actual costs) in its balance sheet. These excess costs or billings will be recovered or recognized in future periods. As of June 30, 1993, deferred revenues amounted to \$635,351 and were determined as follows:

Reimbursement of operating expenses	\$ 1,155,581
Operating expenses	<u>1,053,315</u>
Deferred revenue	\$ 102,266
Balance, beginning of year	<u>\$ 533,085</u>
Balance, end of year	<u>\$ 635,351</u>

Cash and Cash Equivalents

For purposes of the statements of cash flows the Authority considers short-term and restricted investments that have original maturities of three months or less to be cash equivalents. Cash equivalents consists of the following at June 30, 1993 and June 30, 1992:

	<u>June 30, 1993</u>	<u>June 30, 1992</u>
Cash	\$ 792,071	\$ 78,365
Restricted cash	898,097	—
Short-term Investments	6,726,218	8,311,551
Restricted Investments:		
D&R System Revenue Bonds, Series '88 proceeds, current	14,040,325	19,983,817
D&R System Revenue Bonds, Series '88-Rebate Requirement	—	580,236
Manasquan System-State Loan Notes proceeds, current	1,310,296	1,873,160
Manasquan System-Rebate Requirement	<u>80,083</u>	<u>723,377</u>
Cash and cash equivalents	<u>\$23,847,090</u>	<u>\$31,550,506</u>

Reclassifications

Certain prior year amounts have been reclassified to conform to current year presentation.

3. Utility Plant:

Utility plant in service, at original cost consists of the following major classifications:

	<u>Estimated Useful Life</u>	<u>June 30, 1993</u>	<u>June 30, 1992</u>
D&R System:			
Land and land rights		\$ 6,126,958	\$6,126,958
Dams	100 years	47,146,974	47,185,208
Building, structures & improvements	15,40 years	26,267,131	18,106,768
D&R Dredging Project	20 years	20,796,053	20,796,053
Machinery and equipment	3,5,10 years	<u>2,684,446</u>	<u>2,758,187</u>
D&R System subtotal		<u>\$103,021,562</u>	<u>94,973,174</u>

	<u>Estimated Useful Life</u>	<u>June 30, 1993</u>	<u>June 30, 1992</u>
Manasquan System:			
Land and land rights		3,854,212	3,854,212
Dams	100 years	43,411,097	43,401,938
Building, structures & improvements	15,40 years	44,791,187	44,764,154
Machinery and equipment	3,5,10 years	<u>332,262</u>	<u>343,474</u>
Manasquan System subtotal		<u>92,388,758</u>	<u>92,363,778</u>
TOTAL		<u>\$195,410,320</u>	<u>\$187,336,952</u>

Accumulated depreciation on utility plant in service consists of the following major classifications:

ACCUMULATED DEPRECIATION			
	<u>Estimated Useful Life</u>	<u>June 30, 1993</u>	<u>June 30, 1992</u>
D&R System:			
Dams	100 years	\$11,243,699	\$10,754,894
Building, structures & improvements	15,40 years	4,144,793	3,266,348
D&R Canal Dredging Project	20 years	7,798,520	6,758,717
Machinery and equipment	3,5,10 years	<u>1,744,330</u>	<u>1,811,163</u>
D&R System subtotal		<u>24,931,342</u>	<u>22,591,122</u>
Manasquan System:			
Dams	100 years	1,303,391	866,894
Building, structures & improvements	15,40 years	3,358,763	2,235,986
Machinery and equipment	3,5,10 years	<u>153,269</u>	<u>114,882</u>
Manasquan System subtotal		<u>4,815,423</u>	<u>3,217,762</u>
TOTAL		<u>\$29,746,765</u>	<u>\$25,808,884</u>

4. Cash and Investments:

The Authority's policy regarding bank deposits and investments, as described by bond resolutions, permits the following investments and deposits:

- (i) Any bonds or other obligations which as to principal and interest constitute direct general obligations of, or are unconditionally guaranteed by, the United States of America, including obligations of any of the Federal agencies set forth in (iii) below to the extent unconditionally guaranteed by the United States of America;
- (ii) Any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state or of any agency or instrumentality of any such local governmental unit (a) which are not callable prior to maturity or as to which irrevocable instructions have been given to the trustee of such bonds or other obligations by the obligor to give due notice of redemption and to call such bonds for redemption on the date or dates specified in such instructions, (b) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in (i) above which fund may be applied only to the payment of such

Notes to Consolidated Financial Statements (Continued)

- principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption date or dates specified in the irrevocable instructions referred to in (a) above, as appropriate, and (c) as to which the principal of and interest on the bonds and obligations of the character described in (i) above which have been deposited in such fund along with any cash on deposit in such fund are sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this clause on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in (a) above as appropriate;
- (iii) Bonds, debentures, or other evidences of indebtedness issued or guaranteed by any agency or corporation which has been or may hereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America;
 - (iv) New housing authority bonds issued by public agencies or municipalities and fully secured as to the payment of both principal and interest by a pledge of annual contributions under an annual contributions contract or contracts with the United States of America; or project notes issued by public agencies or municipalities and fully secured as to the payment of both principal and interest by a requisition or payment with the United States of America;
 - (v) Direct and general obligations of any state of the United States of America, to the payment of the principal of and interest on which the full faith and credit of such state is pledged, provided that at the time of their purchase hereunder such obligations are rated in either of the two highest rating categories by Moody's Investors Service and Standard & Poor's Corporation;
 - (vi) Obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision which shall be rated in the highest rating category by Moody's Investors Service and by Standard & Poor's Corporation;
 - (vii) Direct and general obligations of the State of New Jersey to the payment of the principal of and interest of which the full faith and credit of, said State are pledged or any bonds or other obligations which as to principal and interest are unconditionally guaranteed by the State of New Jersey;
 - (viii) Certificates or other instruments that evidence ownership of the rights to payments of principal of or interest on obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision, provided that such obligations shall be held in trust by a bank or trust company or a national banking association meeting the requirements for a successor Trustee as defined by bond resolutions, and provided further that the payments of all principal of and interest on such certificates or such obligations shall be fully insured or unconditionally guaranteed by, or otherwise unconditionally payable pursuant to a credit support arrangement provided by, one or more financial institutions or insurance companies or associations which shall be rated in the highest rating category by Moody's Investors Service and Standard & Poor's Corporation, or, in the case of an insurer providing municipal bond insurance policies insuring the payment, when due, of the principal of and interest on municipal bonds, such insurance policy shall result in such municipal bonds being rated in the highest rating category by Moody's Investors Service and Standard & Poor's Corporation;
 - (ix) Certificates that evidence ownership of the right to payments of principal or interest on such obligations described in (i) above, provided that such obligations shall be held in trust by a bank or trust company or a national banking association meeting the requirements for a successor Trustee as defined by the bond resolutions;
 - (x) Certificates of deposit, whether negotiable or non-negotiable, and banker's acceptances of any of the 50 largest banks in the United States which is rated not lower than the second highest rating category by Standard & Poor's Corporation and Moody's Investors Service;
 - (xi) Commercial paper, other than that issued by bank holding companies, rated at the date of investment in the highest rating category by Moody's Investors Service and by Standard & Poor's Corporation;
 - (xii) Any repurchase agreement which by its terms matures not later than one year from its date of execution with any bank or trust company organized under the laws of any state of the United States of America or any national banking association or government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York, which agreement is secured by any one or more of the securities described in (i), (iii), (iv), (x) or (xi) above which securities shall at all times have a market value exclusive of accrued interest (such market value to be determined not less frequently than monthly be the provider of such repurchase agreement or by such other person, firm or corporation as the Authority may select) not less than one hundred two percent (102%) of the full amount of the repurchase agreement, dates of maturity not in excess of 7 years and be delivered to another bank or trust company organized under the laws of any state of the United States of America or any national banking association, as custodian;
 - (xiii) Shares of an Investment Company, organized under the Investment Company Act of 1940 as amended, which invests its assets exclusively in obligations of the type described in (i), (vi), (x), (xi) or (xii);
 - (xiv) Investment contracts or certificates of deposit issued by or time deposits with a commercial bank, trust company or any national bank holding company or government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York; provided that such investment contracts, certificates of deposit and time deposits shall be fully collaterally secured as to principal with obligations of the type specified in (i), (iii), (iv), (x) or (xi) above, which obligations shall at all times have a market value exclusive of accrued interest at least equal to the full amount of such certificate of deposit or time deposit and at least equal to the full amount of such certificate of deposit or time deposit and full amount of such investment contract (such market value to be determined not less frequently than monthly by the deposit or time deposit or by such other person, firm or corporation as the Authority may select), except that such deposits do not need to be collateralized if they are issued by or made with a commercial bank, trust company, national banking association or bank holding company, that either (A) has unsecured or uncollateralized long-term debt obligations which, at the time of investment, are rated in either of the two highest rating categories of Moody's Investors Service, Inc. and Standard & Poor's Corporation, or (B) has capital stock and surplus of more than \$50,000,000.

Notes to Consolidated Financial Statements (Continued)

1) Cash

The Authority's bank balance was \$1,784,128 at June 30, 1993. \$459,752 of this balance was covered through the Federal Depository Insurance and \$300,820 was fully collateralized by collateral held by a financial institution's trust department in the trust department's name. The remaining balance of \$1,023,556 was not collateralized.

2) Investments - Investments are carried at cost which approximates market. Governmental Accounting Standards Board Statement No. 3 requires a disclosure of the credit risk associated with the investments as follows:

Category 1 - Securities held by the Authority in Authority's name.

Category 2 - Securities held by bank's trust department in the Authority's name.

Category 3 - Uncollateralized.

Description	GASB Category	Rate	Book Value	Market Value
Categorized investments:				
GNMA, FHLMC, FNMA (Morgan Stanley)	2	various	\$12,091,343	\$12,091,343
US Treasury Bill (Chemical Bank due 7/29/93)	2	3.01%	294,289	302,936
US Treasury Bill (Chemical Bank due 7/29/93)	2	2.85%	76,823	79,071
US Treasury Bill (Chemical Bank due 7/29/93)	2	2.80%	937,880	965,286
US Treasury Bill (NatWest due 7/31/97)	2	5.50%	1,531,326	1,541,250
US Treasury Bill (NatWest due 7/31/97)	2	5.50%	245,012	246,600
US Treasury Bill (NatWest due 7/31/97)	2	5.50%	1,020,884	1,027,500
US Treasury Bill (NatWest due 7/31/97)	2	5.50%	197,031	198,307
US Treasury Bill (NatWest due 7/31/97)	2	5.50%	272,576	274,342
US Treasury Bill (Chemical Bank due 5/15/99)	2	9.125%	278,931	294,942
US Treasury Notes (Midlantic due 9/30/93)	2	5.50%	<u>2,787,120</u>	<u>2,794,150</u>
Categorized investments			<u>19,733,215</u>	<u>19,815,727</u>
Uncategorized investment:				
State of New Jersey's Cash Management Fund (Dean Witter)	—	various	6,732,746	6,732,746
Compass US Treasury Fund (Midlantic)	—	various	<u>1,911,704</u>	<u>1,911,704</u>
Uncategorized investments			<u>8,644,450</u>	<u>8,644,450</u>
Total investments, June 30, 1993			<u>\$28,377,665</u>	<u>\$28,460,177</u>

5. Due to State of New Jersey

The Authority has a contractual obligation to repay the following debt:

- a) The remaining principal and interest associated with the 1969 bond issue which amounted to \$5,446,771 and \$1,483,229, respectively, as of June 30, 1993. The bonds bear interest at 5.40% and are payable in semi-annual payments of \$385,000, including interest through June 25, 2002.
- b) The December 12, 1985 loan of \$19,600,000 which was obtained from the 1981 bond appropriation of \$20,550,000 for the purpose of financing improvements to the Delaware and Raritan Canal. The outstanding principal and interest on this loan amounted to \$16,303,000 and \$7,378,146, respectively, as of June 30, 1993. The loan bears interest at 7.30% and is payable in semi-annual payments, including interest, which range from \$169,204 to \$1,865,204 through November 1, 2006.
- c) The \$63,600,000 of Manasquan Reservoir Water Supply System (the "System") State Loan Notes (the "State Loan Notes") issued June 3, 1987 pursuant to the terms of the State Loan Agreement between the Authority and the State of New Jersey (the "State Loan Agreement") from monies authorized by the 1981 bond appropriation of \$72,000,000 for construction of the System, and the \$7,416,000 of Interim Advance Notes issued September 12, 1988 from monies made available from the General Fund of the State to finance completion costs of the System. The State Loan Notes and the Completion Loan Notes bear interest at 7.15% and 6.24% (converted from 7.16% Interim Advance Notes effective February 1, 1992), respectively, and are collateralized by the property and revenues of the System.

In accordance with the terms of the State Loan Agreement, the State Loan Notes are classified as either Current Debt Service Portion Notes (the "Current Notes") or Deferred Debt Service Portion Notes (the "Deferred Notes"). At June 30, 1993, the principal amount classified as the Current Notes was \$41,262,205 and the principal amount classified as the Deferred Notes was \$44,478,529. Per the terms of the Agreement dated September 12, 1989, the Interim Advance Notes are to be accounted for in accordance with the terms of the State Loan Agreement. Accordingly, \$4,384,277 of the Interim Advance Notes have been classified as Current Notes and the remaining \$4,692,823 have been classified as Deferred Notes. Payment of the interest on the Current Notes was deferred until February 1, 1991. Interest accruing on the Current Notes accreted as principal and bore interest through July 31, 1990. Principal of the Current Notes shall be payable in thirty annual installments, the first of which was due on August 1, 1991.

The interest on the Deferred Notes accretes as principal through July 31, 1993 and is not payable until they have been exchanged for Current Notes. The interest which accretes as principal through July 31, 1990 accrued interest; however, the interest which accretes for the period from August 1, 1990 through July 31, 1993 will not accrue interest. Principal of the Deferred Notes will be discharged solely by exchange for Current Notes or by the expiration of a period of forty years from the date of their issuance. The Deferred Notes must be exchanged for Current Notes on a pro rata basis to the extent that the Authority enters into additional long term contracts to sell water from the System on an annual basis. Such Current Notes are payable over a thirty year period commencing from a date as defined, in the State Loan Agreement.

Notes to Consolidated Financial Statements (Continued)

The accretion of interest to the principal amount for the Current Notes and the Deferred Notes is expected to be \$25,563,184. The initial issuance costs of \$478,406 for the State Loan Notes are being amortized over a forty year period. Additional issuance costs of \$49,748 are also being amortized over a forty year period. During the System's construction period, the amortization of the issuance costs was charged to construction work in progress.

d) Aggregate maturities of bond, loan, State Loan Notes and Interim Advance Notes principal and interest, net of unamortized issuance costs, are as follows:

<u>As of June 30,</u>	<u>D&R System</u>	<u>Manasquan System</u>	<u>Total</u>
1994	\$ 2,612,001	\$ 3,788,037	\$ 6,400,038
1995	2,612,302	3,788,208	6,400,510
1996	2,613,698	3,785,565	6,399,263
1997	2,614,860	3,789,750	6,404,610
1998	2,619,350	3,785,561	6,404,911
1999 through 2021	20,083,935	87,078,409	107,162,344
Deferred Portion	—	49,171,352	49,171,352
Total principal & interest	33,156,146	155,186,882	188,343,028
Less: Amounts representing interest	11,406,375	59,824,048	71,230,423
Principal amount due to State of New Jersey	21,749,771	95,362,834	117,112,605
Less: Current principal portion	1,154,879	545,000	1,699,879
Unamortized issuance costs	—	454,659	454,659
Long term liability at June 30, 1993	<u>\$20,594,892</u>	<u>\$ 94,363,175</u>	<u>\$114,958,067</u>

6. D&R System Revenue Bonds, Series 1988:

On December 7, 1988, the Authority issued \$32,405,000 of Water System Revenue Bonds, Series 1988 (Delaware and Raritan System) (the "Bonds"), dated November 1, 1988. The proceeds of the Bonds are being used to finance certain capital improvement projects relating to the Delaware & Raritan Canal - Spruce Run/Round Valley Reservoirs System (the "System"). \$10,915,000 of the bonds have been classified as serial bonds which bear interest at varying rates from 6.8% to 7.7% and mature in incremental annual principal amounts over an eleven-year period from November 1, 1993 through November 1, 2003. Principal maturities as of June 30, 1994 and 1995 are \$685,000 and \$735,000, respectively. The remaining \$21,490,000 of the Bonds have been classified as term bonds due on November 1, 2013, which bear interest at 7.875%. The term bonds are subject to mandatory redemption in incremental principal amounts prior to maturity on each November 1, commencing November 1, 2004, by lot, at a redemption price of 100% of the principal amount thereof plus accrued interest thereon to the redemption date specified. Principal maturity as of November 1, 2004 is \$1,495,000. The property and revenues of the System are pledged as collateral for the Bonds.

For the year ended June 30, 1993, interest expense amounted to \$2,703,066 and the related interest income earned on the restricted investments amounted to \$720,127. The excess of interest expense over interest income relating to projects under construction has been charged to construction work in progress. The remaining interest expense and interest income relating to completed projects has been recognized. The bond discount and initial issuance costs of \$956,043 are being amortized over the total twenty-five year financing period. Aggregate maturities of Bond principal and interest, net of unamortized issuance costs, are as follows:

DELAWARE & RARITAN '88 WATER REVENUE BONDS

<u>As of June 30,</u>	
1994	\$ 3,161,027
1995	3,162,380
1996	3,159,547
1997	3,157,253
1998	3,149,765
1999 through 2021	<u>49,840,000</u>
Total principal & interest	65,629,972
Less: Amounts representing interest	33,224,972
Principal amount due	32,405,000
Less: Current principal portion	685,000
Unamortized issuance costs	554,136
Unamortized bond discount	<u>228,112</u>
Long term liability at June 30, 1993	<u>\$30,937,752</u>

7. Employee Benefits:

a. Pension and Retirement Plans

Permanent full-time employees of the Authority are covered by the Public Employee's Retirement System of the State of New Jersey (PERS), a multiple employer public retirement system. The payroll for employees covered by PERS for the years ended June 30, 1993 and 1992 was \$3,840,287 and \$4,098,416, respectively. The Authority's total payroll for the years ended June 30, 1993 and 1992 was \$4,156,891 and \$4,116,213, respectively.

All Authority permanent employees are required as a condition of employment to be members of PERS. A member may retire on a service retirement allowance as early as age 60; no minimum service requirement must be established. The formula for benefits is an annual allowance in the amount equal to years of service, divided by 60, times the final average salary. Final average salary means the average of the salaries received by the member for the last three years of creditable membership service preceding retirement or the highest three fiscal years of membership service, whichever provides the largest benefit. Pension benefits fully vest on reaching 10 years of service. Vested employees who have established 25 years or more of creditable service may retire without penalty at or after age 55 and receive full retirement benefits. The system also provides death and disability benefits. Benefits are established by State statute.

Covered Authority employees are required by PERS to contribute a percentage of their salary based on their age at the time of enrollment. The Authority is required by State statute to contribute the remaining amounts necessary to pay benefits when due. The amount of the Authority's contribution is certified each year by the PERS on the recommendation of the Actuary who makes an annual actuarial valuation. The valuation is a determination of the financial condition of the retirement system. It includes the computation of the present dollar value of benefits payable to former and present members and the present dollar value of future employer and employee contributions, giving effect to mortality among active and retired members and also to the rates of disability, retirement, withdrawal, former service, salary and interest.

The actuarial contribution requirements and the contributions made for the years ended June 30, 1993 and 1992 were \$299,638 and \$256,798, respectively, which consisted of \$143,746 and \$96,680 from the Authority and \$155,892 and \$160,118 from the employees, respectively. The employer and employee contributions represented 3.74 percent and 4.06 percent of covered payroll for the year ended June 30, 1993 and 2.36 percent and 3.91 percent of covered payroll for

Notes to Consolidated Financial Statements (Continued)

the year ended June 30, 1992. The PERS bills the Authority annually for its required contributions. Contributions were made in accordance with the actuarial funding requirement.

The "Pension Benefit Obligation" is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases and step-rate benefits, estimated to be payable in the future as a result of employee service to date. The measure, which is the actuarial present value of credited projected benefits is intended to help users assess the PERS funding status on a going-concern basis, assess progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among PERS and employers. PERS does not make separate measurements of assets and pension benefit obligations for individual employers. The last PERS information available indicated the pension benefit obligation at June 30, 1992 for PERS as a whole determined through an actuarial valuation performed as of that date, was \$12,621,600,000. The book value of assets at June 30, 1992 was \$11,905,512,000, which resulted in an unfunded pension benefit obligation at June 30, 1992 of \$716,088,000. The market value of assets at June 30, 1992 was \$12,035,832,000. The Authority's 1992 contribution represented less than one (1) percent of total contributions required of all participating entities. The unfunded pension benefit obligation of the PERS does not constitute an obligation of the Authority.

Funding by the State and related employers are based upon annual actuarially determined percentages of total compensation of all active members. This amount approximates the actuarially determined pension cost for the year, including amortization of prior service cost over 5 to 27 years. The plans use the "projected benefit method" with aggregate normal cost and frozen initial unfunded accrued liability. Under this method, employers are required to make a normal cost and an accrued liability contribution to fund retirement benefits accrued by members with credited past service.

In determining plan obligations, the assumed rate of return on investments was 8.75% and assumed salary increases for the plans ranged from 5.0% to 10.2%. Mortality, vestings, retirement age and withdrawal estimates are based upon tables supplied by the plan actuary.

Governmental Accounting Standards Board Statement No. 5 requires employers participating in cost-sharing multiple employer public employees' retirement systems to disclose certain information which the standard requires the system itself to disclose. Therefore, information has been extracted from the June 30, 1992 comprehensive annual financial report of the State of New Jersey. The State of New Jersey does not provide the 10 year trend information which is required for disclosure in accordance with Governmental Accounting Standards Board No. 5.

Accumulated benefits information as well as other actuarial information for the PERS at June 30, 1992 was as follows:

	<u>PERS</u> <u>(in thousands)</u>
Pension benefit obligation:	
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$ 4,520,480
Current employees:	
Accumulated employee contributions with interest	2,294,390
Employer financed:	
Vested	4,403,030
Nonvested	<u>1,403,700</u>
Total pension benefit obligation	12,621,600
Fund balance available for benefits at cost	<u>11,905,512</u>
Unfunded pension benefit obligations	<u>716,088</u>
Net assets available as a percentage of the pension benefit obligation	<u>94.3%</u>
Market value of net assets	<u>12,035,832</u>

Legislation enacted during the year required a change in the actuarial funding methodology, retroactive to the 1990 valuation year for the State pension plans. Significant changes required under the pension revaluation include the following: (1) the asset valuation method was changed from book and amortized cost value to market-related value; (2) the assumed rate of return on investments was increased from 7% to 8-3/4%; (3) the Systems' normal and accrued liability contribution rates were redetermined based on the entry age normal cost method. As a result of the pension revaluation, actuarially determined State and local employer contributions payable in the current year were decreased. In accordance with the new legislation, the pension funds were required to reimburse the State for contributions paid in excess of the revalued 1992 certified amounts. On June 30, 1992, \$773,400,000 (\$690,500,000 in contributions and \$82,900,000 in interest) was reimbursed to the State from various pension funds. Also, as a result of the pension revaluation, unfunded accrued liabilities decreased by \$5.4 billion for all State pension plans.

b. Deferred Compensation Plan

The Authority offers its employees a deferred compensation plan created in accordance with Internal Revenue Code Section 457. The plan, available to all full time employees, permits them to defer a portion of their salary until future years. The deferred compensation is not available to employees until termination, retirement, death or unforeseeable emergency. The Authority's deferred compensation plan is administered by the State of New Jersey, Department of the Treasury, Division of Pensions.

All amounts of compensation deferred under the plan, all property and rights purchased with those amounts, and all income attributable to those amounts, property, or rights are (until paid or made available to the employee or other beneficiary) solely the property and rights of the Authority (without being restricted to the provisions of benefits under the plan), subject only to the claims of the Authority's general creditors. Participants' rights under the plan are equal to those of general creditors of the Authority in an amount equal to the fair market value of the deferred account for each participant.

It is the opinion of the Authority that it has no liability for losses under the plan but does have the duty of due care that would be required of an ordinary prudent investor. The Authority believes that it is unlikely that it will use the assets to satisfy the claims of general creditors in the future.

Notes to Consolidated Financial Statements (Continued)

c. Post-Retirement Health Care Benefits

The Authority provides continued health care benefits to employees retiring after twenty-five years of service for themselves and eligible dependents. Benefits, contributions, funding and the manner of administration are determined by the State Legislature. The Division of Pensions within the New Jersey Treasury Department administers the funds. Monthly, the Division of Pensions charges the Authority for its contribution. Total cost for these post-retirement benefits, included in fringe benefits approximated \$68,550 and \$35,968 for the years ended June 30, 1993 and 1992.

8. Major Water Customers:

During fiscal year 1993, the Authority supplied water to approximately seventeen customers of the Delaware and Raritan System and seventeen customers of the Manasquan System. Two customers accounted for approximately 80% of total Delaware and Raritan System operating revenues. Three Manasquan System customers accounted for approximately 60% of total operating revenues.

9. Deferred Rebate Requirement:

The Tax Reform Act of 1986 enacted Section 148 of the Internal Revenue Code, (the "Code") setting forth certain requirements which must be met related to the Manasquan Project State Loan Notes (the "Notes") and the Water System Revenue Bonds, Series 1988 (the "Bonds"). Specifically, the difference between the aggregate future value of all payments and the aggregate future value of all receipts (including constructive receipts) related to the Notes and Bonds must be rebated to the United States Department of the Treasury (the "Treasury"). The Code requires that this rebate requirement be calculated at the end of every fifth year that the Notes and the Bonds are outstanding with payment representing at least 90% of the cumulative rebate requirements made within sixty days, thereafter. Additionally, the final payment constituting the balance of the rebate requirement must be made within sixty days of the retirement of the Notes and the Bonds.

The rebate requirement as of June 30, 1993 and June 30, 1992 are as follows:

	D&R System	Manasquan System	Total
June 30, 1993:			
Long-term portion	\$ —	\$ 80,083	\$ 80,083
Current portion	—	—	—
June 30, 1992:			
Long-term portion	580,236	72,377	652,613
Current portion	—	651,000	651,000

New Jersey Water Supply Authority
CONSOLIDATING BALANCE SHEET INFORMATION
June 30, 1993

<u>ASSETS</u>	<u>Delaware & Raritan System</u>	<u>Manasquan Reservoir System</u>	<u>Elimination Entries</u>	<u>Consolidated Total</u>
Utility plant:				
Utility Plant in service (Note 3)	\$103,021,562	\$92,388,758		\$195,410,320
Less: Accumulated depreciation (Note 3)	24,931,342	4,815,423		29,746,765
Net utility plant in service	78,090,220	87,573,335		165,663,555
Construction work in progress	11,312,172	—		11,312,172
Net utility plant	89,402,392	87,573,335		176,975,727
Current assets:				
Cash (Note 4)	752,068	9,533		761,601
Cash WTP/TS (Note 4)	—	30,470		30,470
Restricted cash (Note 4)	400,820	497,277		898,097
Short-term investments (Note 4)	4,267,245	1,753,300		6,020,545
Short-term investments WTP/TS (Note 4)	—	705,673		705,673
Unbilled sales	1,043,802	—		1,043,802
Accounts receivable, less allowance for doubtful accounts of \$1,000 for the D&R system at June 30, 1993	343,049	1,432,162	(82,170)	1,693,041
Accounts receivable — State of				
New Jersey	11,674	10,699		22,373
Prepaid expenses and other current assets	465,363	74,655		540,018
Inventory WTP/TS	—	73,855		73,855
Total current assets	7,284,021	4,587,624	(82,170)	11,789,475
Restricted investments (Note 4):				
D&R System Revenue Bonds, Series 1988 proceeds, current	14,040,325	—		14,040,325
D&R System Revenue Bonds, Series 1988 proceeds, long-term	2,748,575	—		2,748,575
D&R System Revenue Bonds, Series 1988 Rebate Requirement	—	—		—
Manasquan System — State Loan Notes proceeds, current	—	1,310,296		1,310,296
Manasquan System — State Loan Notes proceeds, long-term	—	276,051		276,051
Manasquan System — Rebate Requirement	—	80,083		80,083
Deferred compensation plan assets	159,466	5,348		164,814
Total restricted investments	16,948,366	1,671,778		18,620,144
Long-term investments (Note 4)	3,194,499	—		3,194,499
Appropriations receivable — State of New Jersey	262,393	—		262,393
Costs to be recovered from future revenues (Note 2)	8,221,150	12,314,438		20,535,588
Total assets	\$125,312,821	\$106,147,175	\$(82,170)	\$231,377,826

(continued on next page)

New Jersey Water Supply Authority
CONSOLIDATING BALANCE SHEET INFORMATION, Continued
June 30, 1993

<u>CAPITALIZATION AND LIABILITIES</u>	<u>Delaware & Raritan System</u>	<u>Manasquan Reservoir System</u>	<u>Elimination Entries</u>	<u>Consolidated Total</u>
Capitalization:				
Contributed capital	\$ 44,218,123	\$ 7,184,212		\$ 51,402,335
Retained earnings	25,060,930	1,575,473		26,636,403
Total capitalization	<u>69,279,053</u>	<u>8,759,685</u>		<u>78,038,738</u>
Long-term liabilities:				
Due to State of New Jersey including accrued interest of \$24,751,738 and net of unamortized issuance costs of \$454,659 at June 30, 1993 (Note 5)	20,594,892	94,363,175		114,958,067
D&R System Revenue Bonds, Series 1988, net of unamortized issuance costs of \$554,136 and unamortized bond discount of \$228,112 at June 30, 1993 (Note 5)	30,937,752	—		30,937,752
Deferred rebate requirement (Note 9)	—	80,083		80,083
Accrued deferred compensation plan (Note 7)	159,466	5,348		164,814
Total long-term liabilities	<u>\$ 51,692,110</u>	<u>\$ 94,448,606</u>		<u>\$146,140,716</u>
Current liabilities:				
Current portion of amounts payable to State of New Jersey and principal on bonds	1,839,879	545,000		2,384,879
Accounts payable	1,566,560	255,576	(82,170)	1,739,966
Accounts payable WTP/TS	—	103,325		103,325
Accrued payroll and payroll taxes	188,618	35,283		223,901
Accrued vacation	133,101	21,600		154,701
Accrued interest	613,500	1,342,749		1,956,249
Deferred revenue WTP/TS (Note 2)	—	635,351		635,351
Total current liabilities	<u>4,341,658</u>	<u>2,938,884</u>	<u>(82,170)</u>	<u>7,198,372</u>
Total capitalization and liabilities	<u>\$125,312,821</u>	<u>\$106,147,175</u>	<u>\$ (82,170)</u>	<u>\$231,377,826</u>

New Jersey Water Supply Authority
CONSOLIDATING STATEMENT OF REVENUES AND EXPENSES
AND CHANGES IN RETAINED EARNINGS
For the Year Ended June 30, 1993

	<u>Delaware & Raritan System</u>	<u>Manasquan Reservoir System</u>	<u>Water Treatment Plant/Transmission System</u>	<u>Consolidated Total</u>
Operating revenues:				
Water sales	\$12,324,487	\$6,280,914	—	\$18,605,401
Reimbursement of operating expenses	—	—	1,134,000	1,134,000
Total operating revenues	<u>12,324,487</u>	<u>6,280,914</u>	<u>1,134,000</u>	<u>19,739,401</u>
Operating expenses:				
Payroll	3,406,425	403,458	347,008	4,156,891
Operations and maintenance (Direct)	2,170,637	814,377	476,363	3,461,377
Operations and maintenance (G & A)		80,029	43,349	123,378
Fringe benefits	1,061,549	123,504	115,278	1,300,331
Headquarters overhead	(396,206)	324,889	71,317	0
Total operating expenses	<u>6,242,405</u>	<u>1,746,257</u>	<u>1,053,315</u>	<u>9,041,977</u>
Income from operations before depreciation	6,082,082	4,534,657	80,685	10,697,424
Depreciation	<u>2,761,964</u>	<u>1,616,855</u>	<u>—</u>	<u>4,378,819</u>
Income from operations	<u>3,320,118</u>	<u>2,917,802</u>	<u>80,685</u>	<u>6,318,605</u>
Costs (Revenue) to be recovered from (recognized against) future revenues (costs)	<u>1,667,160</u>	<u>1,111,855</u>	<u>(102,266)</u>	<u>2,676,749</u>
Non-operating revenues:				
Interest income	567,813	108,820	21,581	698,214
Rental income	50,307	4,921	—	55,228
Other loss	(64,794)	(13,776)	—	(78,570)
Total non-operating revenues	<u>553,326</u>	<u>99,965</u>	<u>21,581</u>	<u>674,872</u>
Non-operating expenses:				
Interest component of debt service to the State of New Jersey	2,290,439	3,254,734	—	5,545,173
Amortization of issuance costs and bond discount — D&R System Revenue Bonds, Series 1988	38,242	—	—	38,242
Amortization of issuance costs - Manasquan State Loan Notes	—	12,471	—	12,471
Total non-operating expenses	<u>2,328,681</u>	<u>3,267,205</u>	<u>—</u>	<u>5,595,886</u>
Net income	<u>3,211,923</u>	<u>862,417</u>	<u>—</u>	<u>4,074,340</u>
Retained earnings, beginning of year	<u>21,849,007</u>	<u>713,056</u>	<u>—</u>	<u>22,562,063</u>
Retained earnings, end of year	<u>25,060,930</u>	<u>1,575,473</u>	<u>—</u>	<u>26,636,403</u>

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New Jersey Water Supply Authority
DELAWARE AND RARITAN SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

	OPERATING FUND				Reserve for O&M
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	
Fund Balance — July 1, 1992	\$4	\$13,080	\$750	\$255,412	\$1,936,122
Cash Receipts:					
Water Sales Operations & Maintenance	7,179,191				
Water Sales Debt Service	5,569,975				
Rental Income	15,107				
Capital Improvement Program					150,932
Manasquan Reservoir Support					11,293
Manasquan Water Treatment Supplies					22
Headquarters Overhead				393,791	
Hackettstown Future Reservoir					4,508
Disposition of Property					1,025
Telephone Reimbursement					8,550
Non-Refundable Bid Deposits		175			225
Recycling Revenue					492
GHA lock Joint Matter					23,667
Prescription Rebate					12,783
Misc. Expense Reimb.		145			
Rebate Transfer					
Contributions from Reserve for O&M:				100,000	(100,208)
Contributions to Reserve for O&M:					(758,605)
Contributions from Operating Fund:		4,500,500	2,174,271	(12,825,257)	500,000
Contributions to Operating Fund:				15,000	
Transfers for Operations:	(12,044,617)			12,044,617	
Distribution from Reserves to Operations:		3,010,373		551,029	
Interest Income	0	0	0	42,799	96,868
Per Resolution, Section 603					
Interest Income, transfer from:	371,512			(42,653)	(67,760)
Interest Income, transfer to:	(371,512)			25,834	148,347
Total Cash Receipts	719,656	7,511,193	2,174,271	305,160	32,139
Total Available Funds	\$719,660	\$7,524,273	\$2,175,021	\$560,572	\$1,968,261

**New Jersey Water Supply Authority
DELAWARE AND RARITAN SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993**

Pumping Reserve	Self-Insurance Reserve	Depreciation Reserve	Major Rehabilitation	1988 Bonds Debt Service Account	1988 Bonds Debt Service Reserve	Sub-Total
\$238,802	\$1,000,871	\$1,027,822	\$1,740,581	\$523,773	\$2,765,296	\$9,502,513
						0
						0
						7,179,191
						5,569,975
						15,107
						150,932
						11,293
						22
						393,791
						0
		29,807				34,315
						1,025
						8,725
						225
						492
						23,667
						12,928
						0
208						0
			357,785			(400,820)
		125,000		2,500,000		(3,025,486)
						15,000
						0
						0
		(99,040)	(93,701)			3,368,661
						0
12,607	52,591	39,123	58,292	19,128	189,373	510,781
						0
(7,006)	(35,119)	(7,342)		(19,007)	(167,549)	25,076
402	2,541	7,342				(187,046)
<u>6,211</u>	<u>20,013</u>	<u>94,890</u>	<u>322,376</u>	<u>2,500,121</u>	<u>21,824</u>	<u>13,707,854</u>
<u>\$245,013</u>	<u>\$1,020,884</u>	<u>\$1,122,712</u>	<u>\$2,062,957</u>	<u>\$3,023,894</u>	<u>\$2,787,120</u>	<u>\$23,210,367</u>

Supplemental Information

**New Jersey Water Supply Authority
DELAWARE AND RARITAN SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993**

	Sub-Total From Preceding Page	1969 Debt Service Fund	1981 Debt Service Fund	Construction Fund (A)	Construction Fund (B)	Rate Stabilization Fund
Fund Balance — July 1, 1992	\$9,502,513	\$2,282	\$481,114	\$2,332,650	\$13,276,935	\$539,726
Cash Receipts:						
Water Sales Operations & Maintenance	7,179,191					
Water Sales Debt Service	5,569,975					
Rental Income	15,107					
Capital Improvement Program	150,932					
Manasquan Reservoir Support	11,293					
Manasquan Water Treatment Supplies	22					
Headquarters Overhead	393,791					
Hackettstown Future Reservoir	0					
Disposition of Property	34,315					
Telephone Reimbursement	1,025					
Non-Refundable Bid Deposits	8,725					
Recycling Revenue	225					
GHA lock Joint Matter	492					
Prescription Rebate	23,667					
Misc. Expense Reimb.	12,928					
Rebate Transfer	0			659,774		
Contributions from Reserve for O&M:	0					400,820
Contributions to Reserve for O&M:	(400,820)					114,500
Contributions from Operating Fund:	(3,025,486)	770,000	1,843,159			
Contributions to Operating Fund:	15,000					
Transfers for Operations:	0			13,276,935	(13,276,935)	
Distribution from Reserves to Operations:	3,368,661	(770,000)	(1,843,159)			(498,755)
Interest Income	510,781	4,794	14,664	529,122		1,831
Per Resolution, Section 603	0					
Interest Income, transfer from:	25,076	(4,431)	(14,435)			
Interest Income, transfer to:	(187,046)			186,556		
Total Cash Receipts	13,707,854	363	229	14,652,387	(13,276,935)	18,396
Total Available Funds	\$23,210,367	\$2,645	\$481,343	\$16,985,037	\$0	\$558,122

New Jersey Water Supply Authority
DELAWARE AND RARITAN SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

D&R Rebate Fund	General Reserve Fund	1969 Debt Service Reserve	Employment Benefit Funds	TOTALS
\$642,277	\$0	\$193,092	\$400,197	\$27,370,786
				7,179,191
				5,569,975
				15,107
				150,932
				11,293
				22
				393,791
				0
				34,315
				1,025
				8,725
				225
				492
				23,667
				12,928
(659,774)				0
				0
				0
			141,553	(156,274)
			(15,000)	0
				0
				0
			(256,747)	0
17,497		10,149	13,821	1,102,659
				0
		(6,210)		0
		490		0
(642,277)	0	4,429	(116,373)	14,348,073
\$0	\$0	\$197,521	\$283,824	\$41,718,859

New Jersey Water Supply Authority
DELAWARE AND RARITAN SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

	OPERATING FUND				
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M
Total Available Funds	\$719,660	\$7,524,273	\$2,175,021	\$560,572	\$1,968,261
Cash Disbursements					
Payroll		1,324,036	2,174,271		
Fringe Benefits		784,369			
Operations & Maintenance		1,348,014			
Prepaid Insurance		747,812			
GHA lock Joint Matter		76,005			
Capital Improvements:					
Capital Assets		404,447			
Major Rehabilitation		84,339			
Five Year Construction Project		100,455			
'76 Bond Funds					
Manasquan Reservoir Support					
Manasquan WTP/TS					
Six Mile Run House		4,354			
Principal on 1969 Bonds		460,967			
Interest on 1969 Bonds		309,033			
Principal on 1981 Bonds		623,000			
Interest on 1981 Bonds		1,220,159			
Interest on 1988 Revenue Bonds					
Insurance Claim					
Johnson & Johnson — Renewal		736			
Miscellaneous Disbursements		176			
Manasquan Prescription Rebate		4,613			
Refundable Bid Deposits		100			
Total Cash Disbursements	0	7,492,615	2,174,271	0	0
Fund Balance — June 30, 1993	\$719,660	\$31,658	\$750	\$560,572	\$1,968,261
Summary of Funds:					
CASH (RARITAN)	\$719,660	\$31,658	\$750		
RESTRICTED CASH					
SHORT-TERM INVESTMENTS				560,572	470,839
LONG-TERM INVESTMENTS					1,497,422
RESTRICTED INVESTMENTS (CURRENT)					
RESTRICTED INVESTMENTS (LONG-TERM)					
D&R SYSTEM REBATE REQUIREMENT					
TOTAL FUNDS	<u>\$719,660</u>	<u>\$31,658</u>	<u>\$750</u>	<u>\$560,572</u>	<u>\$1,968,261</u>

**New Jersey Water Supply Authority
DELAWARE AND RARITAN SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993**

Pumping Reserve	Self-Insurance Reserve	Depreciation Reserve	Major Rehabilitation	1988 Bonds Debt Service Account	1988 Bonds Debt Service Reserve	Sub-Total
\$245,013	\$1,020,884	\$1,122,712	\$2,062,957	\$3,023,894	\$2,787,120	\$23,210,367
						3,498,307
						784,369
						1,348,014
						747,812
						76,005
						0
						404,447
						84,339
						100,455
						0
						0
						0
						4,354
						460,967
						309,033
						623,000
						1,220,159
				2,499,318		2,499,318
						0
						736
						176
						4,613
						100
0	0	0	0	2,499,318	0	12,166,204
\$245,013	\$1,020,884	\$1,122,712	\$2,062,957	\$524,576	\$2,787,120	\$11,044,163
						\$752,068
						\$0
\$5,426	\$22,603	\$856,171	\$2,062,957			\$3,978,568
\$239,587	\$998,281	\$266,541				\$3,001,831
				\$524,576		\$563,121
					\$38,545	\$2,748,575
					2,748,575	\$0
\$245,013	\$1,020,884	\$1,122,712	\$2,062,957	\$524,576	\$2,787,120	\$11,044,163

Supplemental Information

**New Jersey Water Supply Authority
DELAWARE AND RARITAN SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993**

	Sub-Total From Preceding Page	1969 Debt Service Fund	1981 Debt Service Fund	Construction Fund (A)	Construction Fund (B)	Rate Stablization Fund
Total Available Funds	\$23,210,367	\$2,645	\$481,343	\$16,985,037	\$0	\$558,122
Cash Disbursements:						
Payroll	3,498,307					
Fringe Benefits	784,369					
Operations & Maintenance	1,348,014					
Prepaid Insurance	747,812					
GHA lock Joint Matter	76,005					
Capital Improvements:	0					
Capital Assets	404,447			4,149,123		
Major Rehabilitation	84,339					
Five Year Construction Project	100,455					
'76 Bond Funds	0					
Manasquan Reservoir Support	0					
Manasquan WTP/TS	0					
Six Mile Run House	4,354					
Principal on 1969 Bonds	460,967					
Interest on 1969 Bonds	309,033					
Principal on 1981 Bonds	623,000					
Interest on 1981 Bonds	1,220,159					
Interest on 1988 Revenue Bonds	2,499,318					
Insurance Claim	0					
Johnson & Johnson — Renewal	736					
Miscellaneous Disbursements	176					
Manasquan Prescription Rebate	4,613					
Refundable Bid Deposits	100					
Total Cash Disbursements	<u>12,166,204</u>	<u>0</u>	<u>0</u>	<u>4,149,123</u>	<u>0</u>	<u>0</u>
Fund Balance — June 30, 1993	<u>\$11,044,163</u>	<u>\$2,645</u>	<u>\$481,343</u>	<u>\$12,835,914</u>	<u>\$0</u>	<u>\$558,122</u>
Summary of Funds:						
CASH (RARITAN)	\$752,068					
RESTRICTED CASH	\$0					400,820
SHORT-TERM INVESTMENTS	\$3,978,568					
LONG-TERM INVESTMENTS	\$3,001,831					
RESTRICTED INVESTMENTS (CURRENT)	\$563,121	\$2,645	\$481,343	\$12,835,914	\$0	\$157,302
RESTRICTED INVESTMENTS (LONG-TERM)	\$2,748,575					
D&R SYSTEM REBATE REQUIREMENT	\$0					
TOTAL FUNDS	<u>\$11,044,163</u>	<u>\$2,645</u>	<u>\$481,343</u>	<u>\$12,835,914</u>	<u>\$0</u>	<u>\$558,122</u>

**New Jersey Water Supply Authority
DELAWARE AND RARITAN SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993**

D&R Rebate Fund	General Reserve Fund	1969 Debt Service Reserve	Employment Benefit Funds	TOTALS
\$0	\$0	\$197,521	\$283,824	\$41,718,859
				3,498,307
				784,369
				1,348,014
				747,812
				76,005
				0
				4,553,570
				84,339
				100,455
				0
				0
				0
				4,354
				460,967
				309,033
				623,000
				1,220,159
				2,499,318
				0
				736
				176
				4,613
				100
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>16,315,327</u>
<u>\$0</u>	<u>\$0</u>	<u>\$197,521</u>	<u>\$283,824</u>	<u>\$25,403,532</u>
				\$752,068
				\$400,820
	\$0	\$4,853	\$283,824	\$4,267,245
		\$192,668		\$3,194,499
				\$14,040,325
				\$2,748,575
<u>\$0</u>	<u>\$0</u>	<u>\$197,521</u>	<u>\$283,824</u>	<u>\$0</u>
<u>\$0</u>	<u>\$0</u>	<u>\$197,521</u>	<u>\$283,824</u>	<u>\$25,403,532</u>

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**New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993**

	OPERATING FUND				
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M
Fund Balance — July 1, 1992	\$44,235	\$6,300	\$750	\$115,377	\$505,741
Cash Receipts:					
Water Sales Operations & Maintenance	2,077,763				
Water Sales Debt Service	4,397,436				
Receipt of WTP/TS Reimbursement					2,059
N.J. American, Pumping Costs					75,276
Reservoir Construction Expenses					31,227
Reimbursement of WTP Capital Expenses					101,208
Disposition of Assets					
Jersey Central Power & Light Rebate				18,877	
Prescription Rebate					4,613
O&M Reimbursement					1,225
Rebate Transfer					
Contribution from Reserve for O&M:				50,000	(50,000)
Contributions to Reserve for O&M:					
Contributions from Operating Fund:		1,542,049	513,023	(6,898,284)	168,125
Contributions to Operating Fund:				434,500	
Transfers for Operations:	(6,519,430)			6,744,430	(225,000)
Distribution from Reserves to Operations:		672,941		22,684	
Interest Income	0	0	0	10,830	20,233
Interest Income Sweeps				(10,773)	(20,076)
Total Cash Receipts	(44,231)	2,214,990	513,023	372,264	108,890
Total Available Funds	\$4	\$2,221,290	\$513,773	\$487,641	\$614,631

New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

Self-Insurance Reserve	Renewal & Replacement Account	Depreciation Reserve	Pumping Reserve	Sediment Reserve	Rebate Fund	Sub-Total
\$90,125	\$0	\$91,927	\$18,147	\$101,120	\$909,150	\$1,882,872
						2,077,763
						4,397,436
						2,059
						75,276
						31,227
						101,208
		3,300				3,300
						18,877
						4,613
						1,225
					1,227	1,227
						0
						0
159,750	58,517	50,745	26,200	20,000		(4,359,875)
						434,500
	186,000				(186,000)	0
						0
	25,000			(22,648)	(651,000)	46,977
						0
6,694	5,106	4,232	1,100	3,519	6,706	58,420
(6,630)			(1,089)	(3,493)		(42,061)
159,814	274,623	58,277	26,211	(2,622)	(829,067)	2,852,172
\$249,939	\$274,623	\$150,204	\$44,358	\$98,498	\$80,083	\$4,735,044

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New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

	Sub-Total From Preceding Page	WATER TREATMENT PLANT / TRANSMISSION SYSTEM			
		Operating Account	Operating Fund	Sediment Reserve	Carbon Filter Reserve
Fund Balance — July 1, 1992	\$1,882,872	\$13,245	\$175,254	\$151,645	\$221,300
Cash Receipts:					
Water Sales Operations & Maintenance	2,077,763				
Water Sales Debt Service	4,397,436				
Receipt of WTP/TS Reimbursement	2,059		1,134,000		
N.J. American, Pumping Costs	75,276				
Reservoir Construction Expenses	31,227				
Reimbursement of WTP Capital Expenses	101,208		1,889		
Disposition of Assets	3,300				
Jersey Central Power & Light Rebate	18,877				
Prescription Rebate	4,613				
O&M Reimbursement	1,225				
Rebate Transfer	1,227				
Contributions from Reserve for O&M:	0				
Contributions to Reserve for O&M:	0				
Contributions from Operating Fund:	(4,359,875)	400,000	(504,676)	56,203	51,150
Contributions to Operating Fund:	434,500	96,857	(582,606)	24,999	26,250
Transfers for Operations:	0				
Distribution from Reserves to Operations:	46,977		24,619	(10,324)	(14,295)
Interest Income	58,420		6,493	6,475	8,613
Interest Income Sweeps	(42,061)		15,020	(6,221)	(8,798)
Total Cash Receipts	2,852,172	496,857	94,739	71,132	62,920
Total Available Funds	\$4,735,044	\$510,102	\$269,993	\$222,777	\$284,220

New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

1981 Bonds Debt Service Account	1981 Bonds Debt Service Reserve	Construction Fund	General Reserve Fund	Employment Benefit Funds	TOTALS
\$1,234,838	\$278,551	\$174,000	\$713	\$47,302	\$4,179,720
					2,077,763
					4,397,436
					1,136,059
					75,276
					31,227
					103,097
					3,300
					18,877
					4,613
					1,225
		(1,227)			0
					0
					0
3,770,290	458,209			29,674	(99,025)
					0
					0
				(46,977)	0
21,172	29,603	4,447	34	1,852	137,109
			42,060		0
<u>3,791,462</u>	<u>487,812</u>	<u>3,220</u>	<u>42,094</u>	<u>(15,451)</u>	<u>7,886,957</u>
<u>\$5,026,300</u>	<u>\$766,363</u>	<u>\$177,220</u>	<u>\$42,807</u>	<u>\$31,851</u>	<u>\$12,066,677</u>

New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

	OPERATING FUND				
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M
Total Available Funds	\$4	\$2,221,290	\$513,773	\$487,641	\$614,631
Cash Disbursements:					
Payroll		262,758	513,023		
Fringe Benefits		178,946			
Operations & Maintenance		799,409			
Demolition work due from State of N.J.		10,699			
Miscellaneous Disbursements		318			
Prepaid Insurance		95,217			
Inventory		2,019			
Headquarters Overhead		q		241,252	
N.J. American Water, Pumping Costs		70,428			
Reservoir Construction		114,125			
Capital Assets Water Treatment Plant		19,445			
Capital Assets Reservoir		8,147			
Principal on 1981 Bonds					
Interest on 1981 Bonds					
Deferred Rebate		651,000			
Total Cash Disbursements	0	2,212,511	513,023	241,252	0
Fund Balance — June 30, 1993	\$4	\$8,779	\$750	\$246,389	\$614,631
Summary of Funds:					
CASH (MANASQUAN)	\$4	\$8,779	\$750		
CASH (WATER TREATMENT PLANT / TS)					
RESTRICTED CASH (MANASQUAN)					
SHORT-TERM INVESTMENTS				\$246,389	\$614,631
SHORT-TERM INVESTMENTS (WTP / TS)					
RESTRICTED INVESTMENTS (CURRENT)					
RESTRICTED INVESTMENTS (LONG-TERM)					
MANASQUAN SYSTEM REBATE REQUIREMENT					
TOTAL FUNDS	\$4	\$8,779	\$750	\$246,389	\$614,631

New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

Self-Insurance Reserve	Renewal & Replacement Account	Depreciation Reserve	Pumping Reserve	Sediment Reserve	Rebate Fund	Sub-Total
\$249,939	\$274,623	\$150,204	\$44,358	\$98,498	\$80,083	\$4,735,044
						0
						0
						0
						775,781
						178,946
						799,409
						10,699
						318
						95,217
						2,019
						241,252
						70,428
						114,125
						19,445
						8,147
						0
						0
						651,000
0	0	0	0	0	0	2,966,786
\$249,939	\$274,623	\$150,204	\$44,358	\$98,498	\$80,083	\$1,768,258
						\$9,533
						\$0
						\$0
\$249,939	\$274,623	\$150,204	\$44,358	\$98,498		\$1,678,642
						\$0
						\$0
						\$0
					\$80,083	\$80,083
\$249,939	\$274,623	\$150,204	\$44,358	\$98,498	\$80,083	\$1,768,258

New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

	Sub-Total From Preceding Page	WATER TREATMENT PLANT / TRANSMISSION SYSTEM			
		Operating Account	Operating Fund	Sediment Reserve	Carbon Filter Reserve
Total Available Funds	\$4,735,044	\$510,102	\$269,993	\$222,777	\$284,220
Cash Disbursements:					
Payroll	775,781				
Fringe Benefits	178,946				
Operations & Maintenance	799,409	322,928			
Demolition work due from State of N.J.	10,699				
Miscellaneous Disbursements	318				
Prepaid Insurance	95,217	42,853			
Inventory	2,019	111,301			
Headquarters Overhead	241,252		71,317		
N.J. American Water, Pumping Costs	70,428				
Reservoir Construction	114,125				
Capital Assets Water Treatment Plant	19,445	2,550			
Capital Assets Reservoir	8,147				
Principal on 1981 Bonds	0				
Interest on 1981 Bonds	0				
Deferred Rebate	651,000				
Total Cash Disbursements	2,966,786	479,632	71,317	0	0
Fund Balance — June 30, 1993	\$1,768,258	\$30,470	\$198,676	\$222,777	\$284,220
Summary of Funds:					
CASH (MANASQUAN)	\$9,533				
CASH (WATER TREATMENT PLANT / TS)	0	\$30,470			
RESTRICTED CASH (MANASQUAN)	\$0				
SHORT-TERM INVESTMENTS	\$1,678,642				
SHORT-TERM INVESTMENTS (WTP / TS)	0		\$198,676	\$222,777	\$284,220
RESTRICTED INVESTMENTS (CURRENT)	\$0				
RESTRICTED INVESTMENTS (LONG-TERM)	\$0				
MANASQUAN SYSTEM REBATE REQUIREMENT	\$80,083				
TOTAL FUNDS	\$1,768,258	\$30,470	\$198,676	\$222,777	\$284,220

New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SCHEDULE OF CHANGES IN CASH & INVESTMENTS BY FUND INFORMATION
For the Year ended June 30, 1993

1981 Bonds Debt Service Account	1981 Bonds Debt Service Reserve	Construction Fund	General Reserve Fund	Employment Benefit Funds	TOTALS
\$5,026,300	\$766,363	\$177,220	\$42,807	\$31,851	\$12,066,677
					775,781
					178,946
					1,122,337
					10,699
					318
					138,070
					113,320
					312,569
					70,428
					114,125
					21,995
		101,208			109,355
505,000					505,000
3,280,051					3,280,051
					651,000
3,785,051	0	101,208	0	0	7,403,994
\$1,241,249	\$766,363	\$76,012	\$42,807	\$31,851	\$4,662,683
					\$9,533
					\$30,470
8,982	488,295				\$497,277
			\$42,807	\$31,851	\$1,753,300
					\$705,673
\$1,232,267	\$2,017	\$76,012			\$1,310,296
	\$276,051				\$276,051
					\$80,083
\$1,241,249	\$766,363	\$76,012	\$42,807	\$31,851	\$4,662,683

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Statistical Section

Summary Financial Information 1984 - 1993

Summary of Raritan Basin System Water Use Contracts 1984 - 1993

Summary of Manasquan Water Supply System Water Use Contracts ... 1990 - 1993

Raritan Basin System Water Rates 1981 - 1993

Manasquan Water Supply System Water Rates 1990 - 1993

New Jersey Water Supply Authority
SUMMARY FINANCIAL INFORMATION 1984-1993

	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
REVENUE AND EXPENSES					
Operating Revenue	\$ 5,913,375	\$ 5,905,709	\$ 7,599,316	\$ 8,703,542	\$ 8,876,502
Operating Expense	<u>3,358,042</u>	<u>3,588,043</u>	<u>4,205,159</u>	<u>4,513,277</u>	<u>4,836,452</u>
Income from Operations before Depreciation	2,555,333	2,317,666	3,394,157	4,190,265	4,040,050
Depreciation Expense	<u>744,037</u>	<u>785,593</u>	<u>1,243,245</u>	<u>1,839,095</u>	<u>1,957,194</u>
Income from Operations	1,811,296	1,532,073	2,150,912	2,351,170	2,082,856
Costs to be recovered from Future Revenues				519,313	240,292
Non-Operating Revenues	925,543	629,003	454,275	414,893	461,558
Non-Operating Expenses	<u>278,626</u>	<u>367,350</u>	<u>1,648,440</u>	<u>2,578,613</u>	<u>1,444,350</u>
Net Income	2,458,213	1,793,726	956,747	706,763	1,340,356
Net Investment in Plant beginning of period	<u>819,655</u>	<u>3,277,868</u>	<u>5,071,594</u>	<u>6,028,341</u>	<u>6,735,104</u>
Net Investment in Plant end of period	\$ 3,277,868	\$ 5,071,594	\$ 6,028,341	\$ 6,735,104	\$ 8,075,460
ASSETS					
Net Utility Plant	52,602,223	68,243,433	73,301,214	77,167,401	112,661,551
Current Assets	5,248,657	5,882,205	6,971,969	7,711,148	7,303,130
Restricted Investments and other Assets	<u>20,633,760</u>	<u>11,160,700</u>	<u>70,938,364</u>	<u>63,473,407</u>	<u>41,528,288</u>
Total Assets	\$78,484,640	\$85,286,338	\$151,211,547	\$148,351,956	\$161,492,969
CAPITALIZATION AND LIABILITIES					
Total Capitalization	51,317,372	53,032,675	53,989,422	54,681,920	59,876,488
Long Term Liabilities	25,482,734	29,764,470	93,810,659	89,876,592	94,233,999
Current Liabilities	<u>1,684,534</u>	<u>2,489,193</u>	<u>3,411,466</u>	<u>3,793,444</u>	<u>7,382,482</u>
Total Capitalization and Liabilities	\$78,484,640	\$85,286,338	\$151,211,547	\$148,351,956	\$161,492,969

New Jersey Water Supply Authority
SUMMARY FINANCIAL INFORMATION 1984-1993

<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
\$ 8,846,647	\$ 10,283,279	\$ 17,865,600	\$ 18,854,274	\$ 19,739,401
<u>5,156,353</u>	<u>5,354,800</u>	<u>7,468,949</u>	<u>8,716,079</u>	<u>9,041,977</u>
3,690,294	4,928,479	10,396,651	10,138,195	10,697,424
<u>2,050,188</u>	<u>2,070,557</u>	<u>3,826,536</u>	<u>4,483,649</u>	<u>4,378,819</u>
1,640,106	2,857,922	6,570,115	5,654,546	6,318,605
1,381,412	1,165,880	2,547,597	2,786,073	2,676,749
991,957	664,823	836,466	971,185	674,872
<u>1,783,892</u>	<u>1,751,321</u>	<u>4,771,544</u>	<u>5,274,722</u>	<u>5,595,886</u>
2,229,583	2,937,304	5,182,634	4,137,082	4,074,340
<u>8,075,460</u>	<u>10,305,043</u>	<u>13,242,347</u>	<u>18,424,981</u>	<u>22,562,063</u>
\$ 10,305,043	\$ 13,242,347	\$ 18,424,981	\$ 22,562,063	\$ 26,636,403
145,523,509	167,741,197	173,001,674	175,573,410	176,975,727
8,008,651	8,618,354	11,249,856	12,367,127	11,789,475
<u>51,837,666</u>	<u>35,617,719</u>	<u>36,050,120</u>	<u>38,289,850</u>	<u>42,612,624</u>
\$205,369,826	\$211,977,270	\$220,301,650	\$226,230,387	\$231,377,826
61,707,378	64,644,682	69,827,316	73,964,398	78,038,738
138,108,629	143,074,727	145,485,634	146,175,912	146,140,716
<u>5,553,819</u>	<u>4,257,861</u>	<u>4,988,700</u>	<u>6,090,077</u>	<u>7,198,372</u>
\$205,369,826	\$211,977,270	\$220,301,650	\$226,230,387	\$231,377,826

New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
SUMMARY OF WATER USE CONTRACTS

MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY -MGD

<u>WATER USER</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Lambertville Water Company	0.200	0.200	0.200	0.200	0.200
Mercer County Park Commission	0.100	0.100	0.100	0.100	0.100
Trenton Country Club	0.133	0.133	0.133	0.250	0.133
SDS Bio Tech Corporation	0.667	0.667	0.667		
Fermenta Animal Health Co.				0.667	0.667
Vaccaro Brothers	0.200	0.200	0.200	0.200	0.200
Mercer County Park Commission	0.135	0.135	0.135	0.135	0.135
Princeton University	1.000	1.000	1.000	1.000	1.000
Princeton Nurseries	0.300	0.300	0.300	0.300	0.300
North Brunswick	8.000	8.000	8.000	8.000	8.000
AGI Rubber Company	0.050				
Selody Sod Farms, Inc.	0.100	0.100	0.100	0.100	0.100
Elizabethtown Water Company	102.000	102.000	102.000	102.000	102.000
Union Carbide	0.720	0.720	0.720	0.720	0.720
East Brunswick	4.000	4.000	6.000	8.000	8.000
New Brunswick	10.500	10.500	10.500	10.500	10.500
Johnson & Johnson	2.326	2.326	2.326	2.326	2.326
Middlesex Water Company	20.000	20.000	20.000	20.000	20.000
Johns Manville Sales Corporation	3.500	3.500	3.500	3.500	
American Cyanamid Corporation	1.000				
Tenneco Polymers, Inc.	0.500				
Ethyl Corporation		0.006	0.012	0.012	0.012
Tredegear Industries					
SYSTEM TOTAL	155.431	153.887	155.893	158.010	154.393

New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
SUMMARY OF WATER USE CONTRACTS

MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY -MGD

<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
0.200	0.200	0.200	0.200	0.200
0.100	0.100	0.100	0.100	0.100
0.250	0.250	0.250	0.250	0.250
0.667				
0.200	0.200	0.200	0.200	0.200
0.135	0.135	0.135	0.135	0.135
1.000	1.000	1.000	1.000	1.000
0.300	0.300	0.300	0.300	0.300
8.000	8.000	8.000	8.000	8.000
0.100	0.100	0.100	0.100	0.100
102.000	102.000	102.000	102.000	102.000
8.000	8.000	8.000	8.000	8.000
10.500	10.500	10.500	10.500	10.500
2.326	2.326	2.326	2.326	2.326
20.000	20.000	20.000	20.000	20.000
<u>0.012</u>	<u>0.012</u>	<u>0.012</u>	<u>0.012</u>	<u>0.012</u>
153.790	153.123	153.123	153.123	153.123

**New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SUMMARY OF WATER USE CONTRACTS**

MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY -MGD

	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
Wall Township	2.300	2.300	2.300	2.300
Borough of Avon	0.142	0.142	0.142	0.142
Shorelands Water Company	1.900	1.900	1.900	1.900
New Jersey-American Water Company	5.400	5.715	6.215	6.305
Borough of Red Bank	0.778	0.778	0.778	0.778
Borough of Sea Girt	0.075	0.075	0.075	0.075
Borough of Spring Lake	0.310	0.310	0.310	0.310
Borough of Spring Lake Heights	0.450	0.450	0.450	0.450
Borough of Union Beach	0.500	0.500		
Borough of Belmar	0.750	0.650	0.650	0.650
Howell Township MUA	1.130	1.130		
Howell Township			1.130	1.130
Borough of Brielle	0.400	0.400	0.400	0.400
Borough of Highlands	0.330	0.330	0.330	0.330
Aberdeen Township MUA	0.315			
Adelphia Water Company	0.300	0.300	0.300	0.300
Borough of Allenhurst	0.090	0.090	0.090	
Borough of Keyport	0.458	0.458	0.458	0.458
Borough of Matawan	0.469	0.469	0.469	0.469
Borough of South Belmar		<u>0.100</u>	<u>0.100</u>	<u>0.100</u>
	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>

NOTE: The Manasquan System started operations on July 1, 1990

New Jersey Water Supply Authority

**DELAWARE AND RARITAN CANAL - SPRUCE RUN/ROUND VALLEY RESERVOIRS SYSTEM
WATER CHARGES PER MILLION GALLONS OF RAW WATER DAILY**

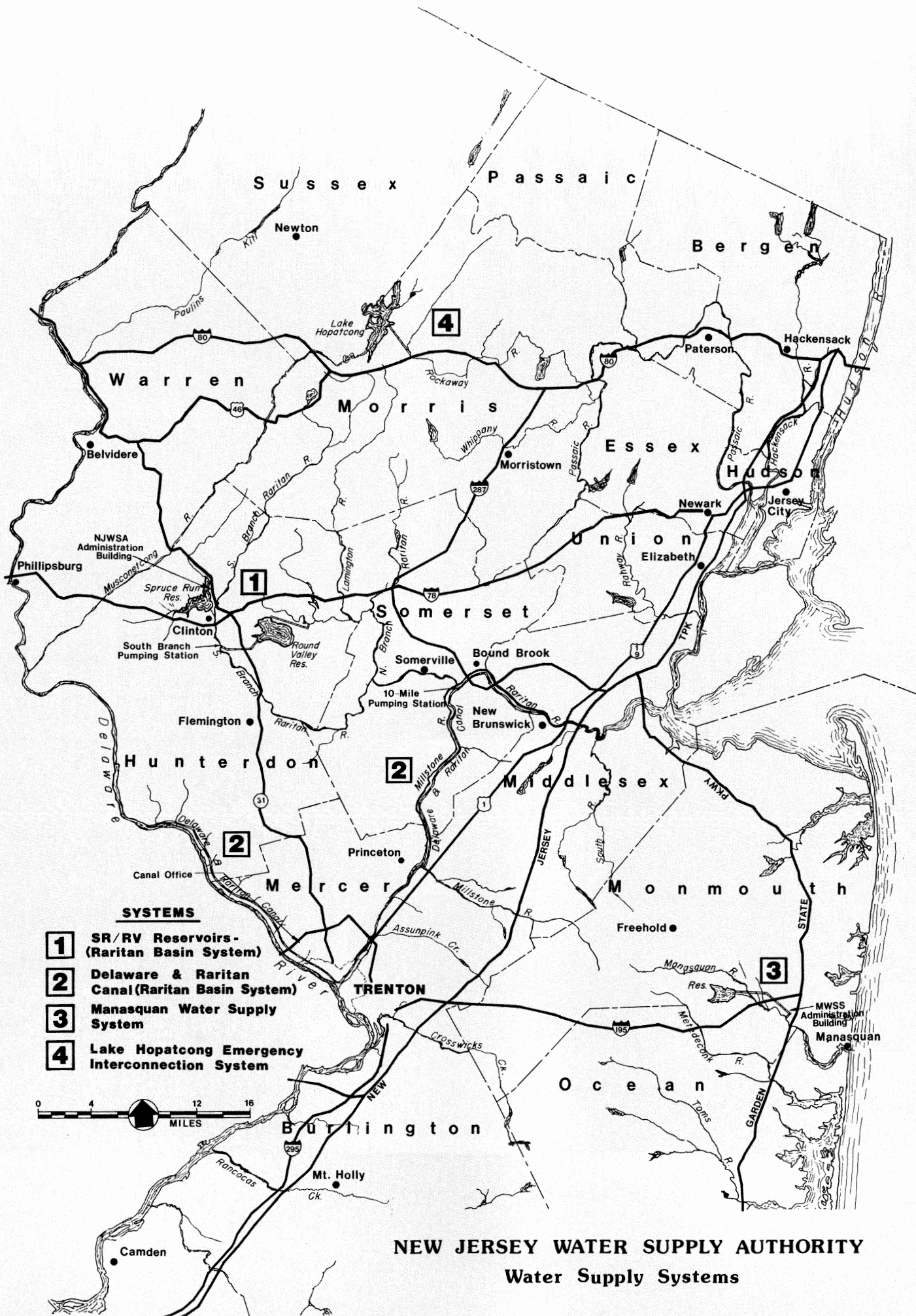
<u>EFFECTIVE DATE</u>	<u>7/1/81</u>	<u>7/1/83</u>	<u>10/1/85</u>	<u>7/1/86</u>	<u>7/1/88</u>	<u>7/1/89</u>	<u>7/1/90</u>	<u>7/1/91</u>	<u>7/1/92</u>	<u>7/1/93</u>
RATE PER MGD	\$75.00	\$105.39	\$147.37	\$152.17	\$152.12	\$187.56	\$188.60	\$201.33	\$214.86	\$220.47

New Jersey Water Supply Authority

**MANASQUAN WATER SUPPLY SYSTEM
WATER CHARGES PER MILLION GALLONS OF RAW WATER DAILY**

<u>EFFECTIVE DATE</u>	<u>7/1/90</u>	<u>2/1/91</u>	<u>7/1/91</u>	<u>2/1/92</u>	<u>7/1/92</u>	<u>2/1/93</u>	<u>7/1/93</u>	<u>2/1/94</u>
RATE PER MGD	\$1,000.00	\$1,032.75	\$1,000.86	\$1,033.53	\$1,054.27	\$1,086.67	\$1,064.33	\$1,096.75

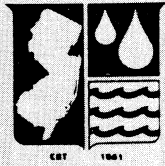
NOTE: The Manasquan System started operations on July 1, 1990



- SYSTEMS**
- 1** SR/RV Reservoirs - (Raritan Basin System)
 - 2** Delaware & Raritan Canal (Raritan Basin System)
 - 3** Manasquan Water Supply System
 - 4** Lake Hopatcong Emergency Interconnection System



NEW JERSEY WATER SUPPLY AUTHORITY
Water Supply Systems



New Jersey Water Supply Authority
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