

NEW JERSEY WATER SUPPLY AUTHORITY

THE SUNSET OF TEN YEARS OF SERVICE AT MANASQUAN



THE DAWN OF OUR TWENTIETH YEAR AS AN AUTHORITY

2000 ANNUAL REPORT

AND THE
ANNUAL
FINANCIAL STATEMENTS
FOR THE YEAR ENDED
JUNE 30, 2000

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, 1999

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.



Cary Brubaker
President

Jeffrey L. Esall
Executive Director

NEW JERSEY WATER SUPPLY AUTHORITY

A COMPONENT UNIT OF THE STATE OF NEW JERSEY

2000 ANNUAL REPORT

AND THE

ANNUAL FINANCIAL STATEMENTS



FOR THE YEAR ENDED
JUNE 30, 2000

2000 Annual Report

Governor
Christine Todd Whitman



Authority Members

Robert C. Shinn, Jr.
Chair

Peggy Haskin
Vice Chair
Chair, Capital Projects Committee

Warren H. Victor
Secretary
Chair, Audit Committee
Chair, Public Participation Committee

Louis C. Mai
Treasurer
Chair, Finance Committee
Chair, Personnel Committee

Donald L. Correll
Chair, Insurance Committee

Susan Blew

Staff

Thomas G. Baxter, P.E.
Executive Director

Helene P. Chudzik, Esq.
Deputy Attorney General

2001 Monthly Meetings

The 2001 Monthly Meetings of the New Jersey Water Supply Authority are scheduled to be held in the Conference Room of the Authority's Clinton Administration Building, 1851 Highway 31, Clinton, New Jersey, unless otherwise indicated, beginning at 2:00 p.m. on the following Mondays:

January 8, 2001

February 5, 2001

March 5, 2001

April 2, 2001

May 7, 2001

June 4, 2001 (Canal Office)

July 2, 2001 (Canal Office)

August 6, 2001 (Canal Office)

September 10, 2001

October 1, 2001 (Manasquan Office)

November 5, 2001

December 3, 2001

The period from 12:00 p.m. to 2:00 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.

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 State Water Supply Master Plan. The Authority's Spruce Run/Round Valley Reservoirs 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 1,300,000 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 250,000 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 four million gallon per day water treatment plant and distribution system for five municipalities in Monmouth County.

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Contents

Introductory Section

Letter to Governor and Legislature..... 5
Raritan Basin System
Facilities 6
Operations, Maintenance and Engineering..... 9
Capital Improvement Program 13
Manasquan Water Supply System
Facilities 18
Operations and Maintenance 21
Water Treatment Plant and Transmission System 25
Watershed Protection Programs Unit
Watershed Management for the Raritan River Basin..... 28
Watershed Management for the Manasquan River Watershed 30
Letter of Transmittal
Chief Financial Officer..... 31

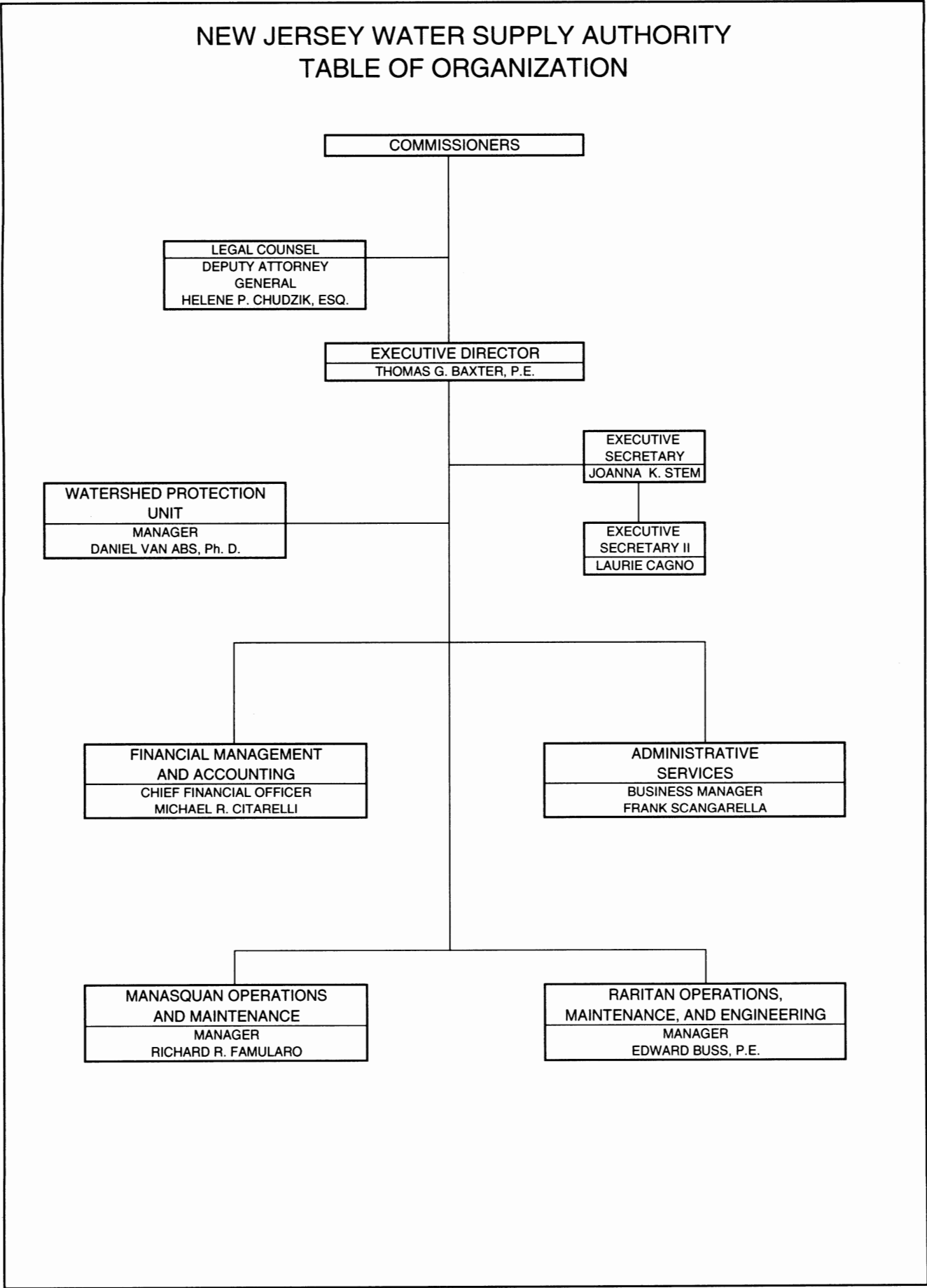
Financial Section

Annual Financial Report for the Year Ended June 30, 2000
Report of Independent Auditors 41
General Purpose Financial Statements
Balance Sheets..... 42
Statements of Revenues & Expenses & Changes in Retained Earnings 44
Statements of Cash Flows 45
Notes to Financial Statements 46
Supplemental Information..... 51

Statistical Section

Summary of Financial Information 74
Summary of Raritan Basin System Water Use Contracts 76
Summary of Manasquan Water Supply System Water Use Contracts..... 78
Raritan Basin System Revenue Bond Coverage 80
Raritan Basin System Water Charges..... 81
Manasquan Water Supply System Water Charges 81
Spruce Run Rain Gauge 82
West Windsor Rain Gauge..... 82
Spruce Run Reservoir Storage 83
Round Valley Reservoir Storage 83
Manasquan Reservoir Rainfall 84
Manasquan Reservoir Storage..... 84

NEW JERSEY WATER SUPPLY AUTHORITY TABLE OF ORGANIZATION



Letter to Governor and Legislature



NEW JERSEY WATER SUPPLY AUTHORITY

Post Office Box 5196 • Clinton, NJ 08809 • (908) 638-6121
www.njwsa.org FAX • (908) 638-5241

February 2001

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

The Authority was created on October 7, 1981 (P.L. 1981, c.293) and was established in but not of the Department of Environmental Protection of the State of New Jersey. This "New Jersey Water Supply Authority Act" under Section 58:1 B-20 calls for the Authority to have an Annual Report of its books on or before the last day of February of the preceding calendar year. I am pleased to submit the 19th Annual Report of the New Jersey Water Supply Authority.

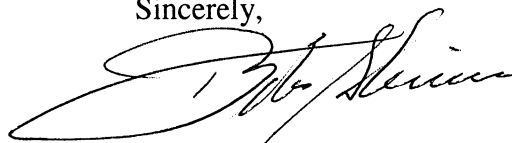
Operations at all facilities were uninterrupted during the year. Storage levels at the Spruce Run, Round Valley, and Manasquan Reservoirs were replenished following the drawdowns experienced during 1999. The pumping program at the South Branch Pumping Station between January 14, 2000 and May 12, 2000 added 11.11 billion gallons of storage into Round Valley Reservoir. Periodic pumping at the Manasquan Reservoir was needed to refill the reservoir. Unlike 1999, storage levels in the three reservoirs remained near capacity during 2000.

The Authority's capital improvement programs continue successfully at the Raritan Basin System, Manasquan Reservoir System, and the Water Treatment Plant/Transmission System.

The Authority has projected no change in the water rate schedule for the Raritan Basin System, our third year in a row, and a small increase for the Manasquan Water Supply System for Fiscal Year 2002.

The Authority's annual financial reports have been awarded the prestigious "Certificate of Achievement for Excellence in Financial Reporting" by the Government Finance Officers Association of the United States and Canada for each of the past eight years. Our 2000 financial report shows the Authority's continued sound financial condition.

Sincerely,



Robert C. Shinn, Jr.
Chair

Raritan Basin System

Facilities

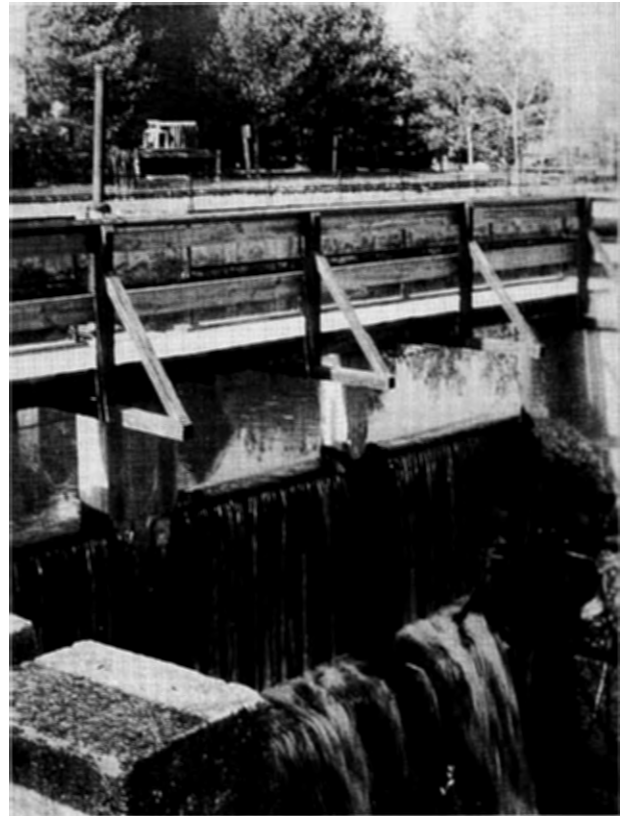
Delaware and Raritan Canal

The Delaware and Raritan Canal (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 22 miles of feeder Canal between Bulls Island in 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 wide. 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 gallons 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 Swan Creek Aqueduct carries the Delaware and Raritan Canal water across the Swan Creek in the City of Lambertville in Hunterdon 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.

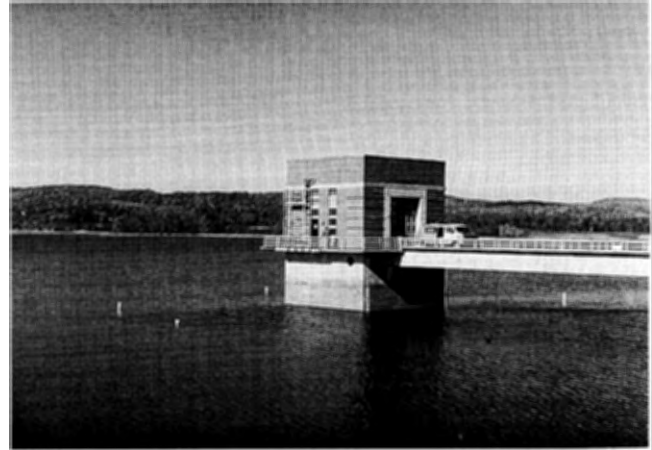
The 55 billion gallon Round Valley Reservoir, which became operational in

1965, was formed by construction of two dams and a dike, closing off gaps in a natural horseshoe shaped valley. The earthen dams and dike, faced with dumped stone riprap and sod, are of extra width and have an offset clay 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 million gallons is released daily 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 discharges water to the South Branch of the Rockaway Creek under a low 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 also permit this pipeline to release up to 120 mgd from the Round Valley Reservoir into the South Branch of the Raritan River.

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 Reservoirs, by augmenting stream flow during periods of low natural runoff,



The Spruce Run Tower is part of the 11 billion gallon on-stream Spruce Run Reservoir Complex facility placed in service in 1963 in Clinton, Hunterdon County.

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 gauge. For these purposes, water is 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 Authority staff involves maintenance of continuous hydrographs on the basis of data transmitted from six stream gauging 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 both minimum stream flow 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 New Jersey Department of

Environmental Protection's (NJDEP's)
Division of Parks and Forestry and Division
of Fish, Game and Wildlife.

Raritan River to Delaware and Raritan Canal 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 program for the water resources of the Raritan Basin and the water diverted from the Delaware River. Water in the Raritan River can 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.

Operations, Maintenance, and Engineering

Spruce Run/Round Valley Reservoirs Complex

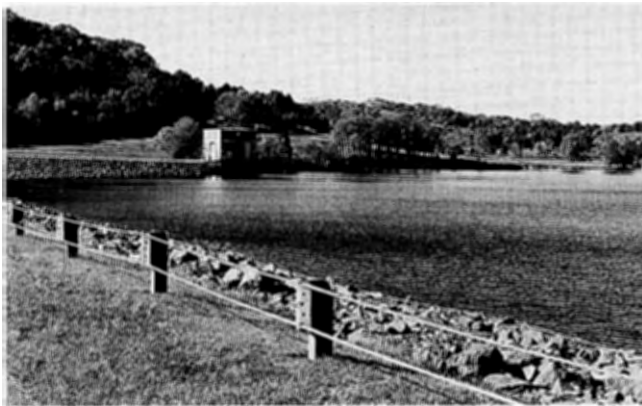
Reservoir Operations

Despite below average precipitation during the first nine months of the year, operation of the Spruce Run and Round Valley Reservoirs approached normal conditions.

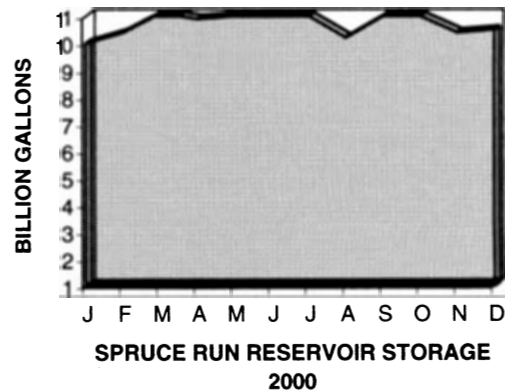
Spruce Run Reservoir completed its refill cycle after a low of 55 percent of capacity in September 1999 and discharged over the spillway on February 28, 2000. The reservoir never went below 90 percent of capacity for the remainder of this year.

Round Valley Reservoir started the year down 15.75 feet because of the dry spring and summer of 1999. Pumping into the reservoir from the South Branch Pumping Station commenced on January 14, 2000 and continued until May 12, 2000.

Approximately 10 billion gallons were pumped into the reservoir during this program raising storage in the reservoir to within one foot of capacity.



The South Tower of Round Valley Reservoir located in Hunterdon County contains a nine-foot diameter force main used to fill and release water from the reservoir.



Reservoir Maintenance

Throughout the year personnel from the South Branch Pumping Station assisted with numerous inspections and tests made on the Round Valley Release Pipeline and Force Main. This work included charging and draining these pipelines for various engineering tests and inspections. Reservoir maintenance crews performed regular maintenance work essential for continued proper management of the reservoir facilities including maintaining the grass cover on the embankments, the removal of vegetative growth from the embankments and removal of debris accumulation on the on the upstream faces of the embankments.

Dam Inspections

The 2000 annual dam inspection was conducted by Authority Engineering Staff on September 13 and 22, 2000 in accordance with State Dam Safety Regulations. The dams were found to be well maintained. All

four embankments were characterized as "safe" and only minor routine repairs were recommended.

The Authority also continued its program of quarterly inspections of the dams, dikes, and appurtenances in accordance with the Authority's Internal Management Program.

Delaware and Raritan Canal Operations

Operations of the Delaware and Raritan Canal were without incident during the year. The annual average Canal diversion at the Port Mercer Gauging Station measured 90 million gallons per day (mgd). An average of 24 mgd was diverted to the Millstone River from the Canal at the Ten Mile Waste Gates during the year. Discharges from the Canal to the Millstone River reduce the demand on the Spruce Run and Round Valley Reservoirs.

South Bound Brook Leak Repair

A minor leak through the towpath was discovered on the downstream side of the South Bound Brook spillway on July 12, 2000. The minor leak was approximately three (3) feet below the Canal towpath elevation and was repaired by the Waterways and Embankments Unit on July 17, 2000.

Griggstown Spillway Repair

Maintenance personnel performed temporary repairs to the Griggstown Spillway, located in Franklin Township, Somerset County, after several washouts appeared as a result of storm activity. The crew filled in deep ruts and sandbagged the inlet side of the spillway as a temporary measure prior to a complete rehabilitation under the Capital Improvement Program.

Maintenance Dredging Program

The Authority's maintenance dredging program continued. Utilizing a long arm excavator, the Waterways and Embankments Unit removed over 2,700 cubic yards of material from the Brookville Creek inlet in Delaware Township, Hunterdon County; the Mile Creek culvert in Ewing Township, Mercer County; and the Cherry Tree Lane storm drain in Lawrence Township, Mercer County.



The Waterways and Embankments unit removed over 2700 cubic yards of material from the Brookville Creek Inlet in Delaware Township, Hunterdon County.

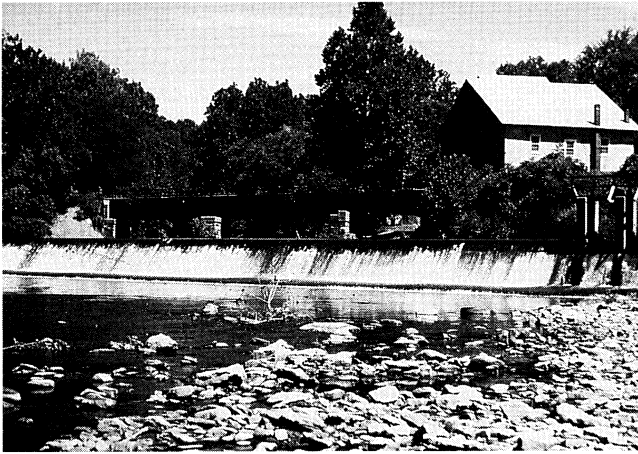
Additionally, large sediment deposits were removed from the inlet and outlet of the Little Shabakunk Creek culvert also in Lawrence Township.

A recent addition to the equipment fleet, the long arm excavator has improved the efficiency of the maintenance dredging program. Operations that previously required the pontoon excavator, boat, barge, crane and roll-off trucks, have been significantly reduced in time and labor. Canal staff looks to expand the role of the long arm excavator as the maintenance dredging program progresses.

Water Quality Study

The US Geological Survey completed their analysis of water quality of the Delaware and Raritan Canal during 1998-1999. The study reflects water quality as a snapshot in time. It was authorized in response to water quality concerns expressed by the Authority's water customers.

The study found that the water quality in the Canal varied along the length of the Canal. Turbidity levels increased



Turbidity levels in the Delaware and Raritan Canal increase significantly downstream of the inlets of major tributaries such as the Wickecheoke Creek in Prallsville, Hunterdon County.

significantly downstream of the inlets of major tributaries including Wickecheoke Creek and Lockatong Creek in the western section of the Canal. Unexplained deviations in turbidity were found in the reach between Port Mercer in Lawrence Township, Mercer County and Griggstown in Franklin Township, Somerset County and the reach between the Ten Mile Lock in Franklin Township, Somerset County and the Route 18 Spillway in New Brunswick, Middlesex County. Additional investigations are necessary to develop an understanding of the deviations.

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

<u>User</u>	<u>Type of Contract</u>	<u>Supply</u>
United Water Lambertville, Inc.	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>
Mercer County Park Commission	U&SB	0.135
Princeton University (Forrestal)	U	0.500
North Brunswick Township	U	8.000
Selody Sod Farms, Inc.	U&SB	0.100
Elizabethtown Water Company	U	104.000
East Brunswick Township	U	8.000 (2)
City of New Brunswick	U	10.500
Middlesex Water Company	U	20.000
Flemington Film Products	SU	0.012 (3)
<hr/>		
Total Raritan Basin Users		<u>151.247 mgd</u>
<hr/>		
System Total:		<u>151.797 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.

SUMMARY OF FIRE STANDBY AND SPECIAL USER CONTRACTS

<u>User</u>	<u>Type of Contract</u>	<u>Withdrawal Capacity (gpm)</u>	<u>Source</u>
Union Carbide Corporation	FSB	4,500	D & R Canal
Hillsborough Golf Association	SU	375	Millstone River

U = Uninterruptible Service
SB = Standby Service
FSB = Fire Standby Use
SU = Special Use

Capital Improvement Program

The Authority's current Capital Improvement Program entails the investment of approximately \$1,500,000 per year. In evaluating the options for financing this program, the Authority 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 was determined that financing of such a small annual Capital Improvement Program based upon the issuance of long-term debt would not be fiscally prudent.

The Authority's present financing for reinvestment in plant and capital is consistent with the booked depreciation of plant and equipment for the Raritan System facilities (without the depreciation of the dams) which amounts to about \$1,900,000 per year.

The following is a description of projects undertaken in 2000 which were funded from the Capital Improvement Program.

Rehabilitation of the Washington Crossing Waste Gates and Spillway

The Washington Crossing Waste Gate and Spillway is located on the right bank of the Delaware and Raritan Canal at Station 720+15 in Hopewell Township, Mercer County. This location is approximately three (3) miles north of the I-95 Bridge across the Delaware River. The concrete spillway structure was built circa 1915. Two waste gates and their supporting concrete structure were installed in 1956. These waste gates became inoperable and needed to be replaced. The concrete structure was deteriorated to varying degrees, and sections needed to be replaced.

Rehabilitation of the waste gates and spillway has been completed. Deteriorated concrete was replaced with new concrete. New motor-controlled waste gates were installed. The gates can be operated from the site or remotely from the Canal Office. An automatic control system has also been installed to operate the gates when the Canal water level at the site reaches predetermined limits.

Rehabilitation of the Workhouse Spillway

The Workhouse Spillway is located across the Canal from the Mercer County Workhouse at Station 503+06 in Hopewell Township, Mercer County. It is a concrete structure constructed in 1913. The overflow is carried under the Canal towpath in three (3) pipes and discharges into a ditch that feeds into the Delaware River. The downstream apron and retaining wall appear to be stone capped with concrete. The retaining wall is undermined and spalled. The apron is severely deteriorated and needs to be replaced. The concrete spillway in the Canal is spalled and cracked in several places. Major rehabilitation of the spillway is necessary.

Engineering and cultural resource consultants are in the final stages of design for the rehabilitation. Conceptual approval of the project design has been given by the Delaware River Canal Commission and the Historic Preservation Organization. Construction is anticipated in spring 2001.

Rehabilitation of the Griggstown Spillway and Culvert

The Griggstown Spillway is located in the Griggstown Lock to the Ten Mile Lock

section of the Canal in Franklin Township, Somerset County, approximately one mile down-canal of the Griggstown Causeway. The Canal towpath is depressed for approximately 210 feet forming an uncontrolled spillway. The downstream wall of the spillway is deteriorated. Stones are dislodged from the Canal edge and crest on the spillway. During periods of heavy flow over the spillway, concentrated flows dislodge additional stone. Major rehabilitation of the spillway is necessary.

A culvert is located near the downstream end of the spillway. The culvert was dewatered and cleaned in the summer of 1999. Only minor repairs to the barrel of the culvert and the outlet headwall are necessary.

Design of the rehabilitation is complete and permit approvals are obtained. Bids for construction have been taken and it is anticipated that a contract should be awarded in fall of 2000.

Rehabilitation of the Canal Embankment at the Five Mile Lock

Route I-287 crosses over the Canal at two locations, Station 2813+00 upstream of the South Bound Brook Lock and Station 2675+00 just downstream of the Five Mile Lock in Franklin Township, Somerset County. Road runoff drops over 20 feet from road scuppers and erodes the crest of the embankment during major storm events such as Hurricane Floyd on September 15 and 16, 1999. In the 1970's, the runoff from the road eroded the Canal embankment at these crossings causing the embankment to breach at both locations. Emergency repairs made following the breaches have proven effective in preventing additional breaches but are not effective in preventing surficial erosion.

The two spillways, located upstream and downstream of the Five Mile Lock are in need of rehabilitation as well as the Five Mile Waste Gate. The spillways also sustain severe erosion during major storm events. Finally, this project includes stopping the seepage problems of the non-operational Fieldsville Dam culverts that used to convey water from the Raritan River into the Canal at the Five Mile Lock.

Rehabilitation of the Canal embankment at the Five Mile Lock, the two spillways, the waste gate, and the culverts is expected to begin in the fall of 2001.

Instrumentation on the D&R Canal

At the present time a Water Supply Operator locally operates the majority of the locks and waste gates along the Delaware and Raritan Canal. Most of the existing gates are not motorized, and either have a hand crank and/or a keyed shaft to receive a portable motor carried by the Water Supply Operator. The operator observes the water elevation of the Canal and adjacent waterways, and manually opens or closes the gates based on visual inspection, past experience, and an intimate knowledge of how the various structures interrelate to each other and to the Canal and the rivers.

The intent of this project is to develop an incremental plan for automation of the Canal operations. The first step of the plan will be to install instrumentation to monitor water levels along the length of the Canal and transmit the information to a central monitoring station at the Canal Office. The second step will be to install motorized gates on select structures to be operated by push button controls. This will be followed by installation of facilities to operate the structures by remote control from the Canal Office. The ultimate goal is to develop a

system of automated operation that responds to changing water levels in the Canal. Design of the instrumentation to monitor water levels is complete. Installation of the system will be bid shortly.

Pipeline Evaluation and Rehabilitation of the Release Pipeline

The Round Valley Release Pipeline continues to be operated as a gravity release pipeline. However, under certain conditions sections of the pipeline may be overstressed and may need to be strengthened or replaced. Alternatives range from adding internal support to carry overburden loads at an estimated cost of \$2,200,000 to replacement of approximately 4,000 linear feet of the pipeline at an estimated cost of \$5,000,000.

The pipeline will continue to be monitored before and after release periods to ascertain if any deterioration is occurring.

Force Main

Authority staff inspected the Force Main in the fall of 1998. The inspection included a hammer sounding of every fifth section of the pipe. Several pipe sections exhibited "peculiar" sounds that warranted further investigation.

The Authority retained Raytheon Infrastructure for such an investigation. Raytheon engaged a firm that developed an acoustical technology for identifying Prestressed Concrete Cylinder Pipe (PCCP) sections that are in distress.

Following non-destructive testing of the pipeline, it was found that the majority of the pipes in the force main appear to be in excellent condition. However, there are several sections of PCCP that have lost prestress or that show indications of

delamination. In PCCP, a significant structural weakness due to these conditions would show up as a crack on the interior of the pipe at the spring line. No such crack is evident in any of the pipe sections in question. Raytheon concluded that the Force Main is not in imminent danger of failure. They recommended that the Authority excavate and perform an external inspection of the three sections of pipe that appear to have the most significant structural distress to determine the actual condition of these sections. This excavation was planned for the fall of 2000. A course of action will be laid out once the sections are inspected.

Rehabilitation of the Simonson Brook Culvert

The Authority is in the process of evaluating and rehabilitating culverts under the Canal. The Simonson Brook Culvert is located at Station 212+70 on the Canal and conveys the waters of the Simonson Brook beneath the Canal towards the Millstone River. The culvert is situated approximately 150 feet north of the Griggstown Causeway in Franklin Township, Somerset County.

The culvert construction includes three arches approximately 135 feet long. The inlet and outlet ends have historic headwalls and wingwalls.

As part of the investigation, the Authority contracted for the removal of sediment and debris from the three barrels. One of the three barrels was totally blocked with sediment and debris. The other two were partially blocked. The barrels were found to be in good condition and not in need of rehabilitation. The headwalls and wingwalls on the inlet and outlet ends of the culvert barrels, however, are deteriorated and in need of repair.

Rehabilitation of the headwalls and wingwalls is planned for Fiscal Year 2003.

Rehabilitation of Two Culverts in the Vicinity of the Prallsville Lock

The culverts at Station 152+00 and Station 153+50 are located at the Prallsville Lock in Stockton Borough, Hunterdon County. During the culvert inspections done in 1991, both culverts were found to be blocked by excessive debris or sediment which prevented inspection. Both culverts need to be cleaned and inspected.

A contract for the removal of sediment and debris from the culverts was awarded in the fall of 2000, and set for completion in the spring of 2001.

Rehabilitation of the culverts will be dependent on the outcome of the inspection following the cleaning of the culverts.

Rehabilitation of the Stone Embankment Upstream of the Wickecheoke Creek Spillway

Approximately 130 feet of stone embankment upstream of the Wickecheoke Creek Spillway sustained damage from the stream flows of Hurricane Floyd in September 1999. The engineering staff designed the rehabilitation of the stone embankment. Rehabilitation began in October 2000 and has been completed.



The stone wall upstream of the Wickecheoke Creek spillway was rehabilitated in the fall to repair damage caused by Hurricane Floyd in 1999.

NEW JERSEY WATER SUPPLY AUTHORITY
CAPITAL IMPROVEMENT PROGRAM

Project	Estimated Project Cost	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004 & beyond
Island Farm Weir	350,000	254,630	95,370			
Rehab of Moores Creek Culvert (D&R)	300,000	285	299,715			
Litigation Regarding RVRP	1,050,000	1,032,687	17,313			
Pipeline Evaluation - Release Pipeline	1,000,000	43,397	116,603	50,000		790,000
Pipeline Evaluation - Force Main	1,200,000	111,221	700,000	388,779		
Admin Bldg Fuel Facility Remediation	250,000	99,019	30,981	30,000	30,000	60,000
Repairs @ SBPS	110,000		110,000			
Admin Bldg Improvements	280,000					280,000
Water Quality Characterization (D&R)	200,000	183,738	16,262			
Workhouse Spillway Rehab (D&R)	800,000	40,233	200,000	559,767		
Maintenance Dredging	125,000	14,044	110,956			
Rehab of Lock Gates (D&R)	820,000		100,000	120,000	600,000	
Washington Crossing Waste Gate Rehab	650,000	567,148	82,852			
Instrumentation of D&R Canal	400,000	24,948	375,052			
Rehab of SR Spillway	75,000			75,000		
Rehab of Culvert @ 324+30 (D&R)	350,000				50,000	300,000
Rehab of Culvert @ 2021+89 (D&R)	329,790	10,395		49,395	270,000	
Rehab of Culvert @ 2249+79 (D&R)	165,000			165,000		
Rehab of Swan Creek Culvert (D&R)	375,000			75,000	300,000	
Rehab of Simonson Brook Culvert (D&R)	180,000	821	59,179		120,000	
Route 1 Conduit Automated Rakes	85,000		85,000			
Evaluation of Ten Mile Pumping Station	50,000					50,000
Evaluation of South Branch Pumping Station	200,000				200,000	
Embankment Improvements - Canal	235,000	488	104,512	80,000	50,000	
Rehab Embankment at Five Mile	2,100,000	18,797	56,203	1,625,000	400,000	
Rehab of Griggstown Spillway & Culvert	900,000	89,225	810,775			
Rehab of Ten Mile Waste Gates	700,000				50,000	650,000
Rehab of Canal Embankment @ 122+00	850,000					850,000
Rehab of Port Mercer Dike	2,500,000				130,000	2,370,000
Culvert Cleaning & Inspection	200,000			200,000		
Rock Stabilization near RVND	350,000	20,584	329,416			
Rehab Culverts at Prallsville Lock	800,000	882	200,000	599,118		
Dredging between Griggstown & Ten Mile	0					
TOTAL	\$17,979,790	\$2,512,542	\$3,900,189	\$4,017,059	\$2,200,000	\$5,350,000

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

FOOTNOTES:

D&R - Delaware & Raritan Canal

RV - Round Valley Reservoir

RVRP - Round Valley Release Pipeline

SR - Spruce Run Reservoir

SBPS - South Branch Pumping Station

RVND - Round Valley North Dam

MANASQUAN WATER SUPPLY SYSTEM

Facilities

The Manasquan Water Supply System consists of a 770-acre reservoir located on Timber Swamp Brook, a tributary of the Manasquan River, in Howell Township, Monmouth County, that can store over 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 earthen 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 locations 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 five year wetland monitoring program was required under our U.S Army Corps of Engineers permit for the Manasquan Reservoir System mitigation plan. The monitoring program in its last year concluded with a meeting and site visit by U.S. Army Corp of Engineers representatives. The wetland monitoring

program assessed the survival rate of planted species, growth of indigenous plants, and use of the areas as wildlife habitat to determine the success of the manmade freshwater wetland areas in replacing natural areas lost in the construction process.

The Intake Facilities consists 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 Manasquan Administration building houses a reservoir pumping station and the maintenance and administrative offices for the system in Wall Township.

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 eight (8) million gallon per day minimum downstream passing flow in the Manasquan River. A stream gauging 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 allow 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 location where the 66-inch pipeline is enclosed in a 120-inch diameter prestressed concrete cylinder pipe, the pipe changes to a structural steel pipe as it 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 operation on July 1, 1990, provides the region with a safe, dependable and renewable water supply which reduces the region's dependence on depleted 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 mgd.

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 Water 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 Lakes Heights, and Wall Township. The New Jersey Water Supply Authority, under a separate contract with the MCIA, designed, constructed and operates this state-of-the-art treatment facility.

New Jersey-American Water Company now operates the treatment facility in Howell Township, which withdraws 1.43 mgd of water directly from the 66-inch diameter reservoir pipeline. This facility treats and delivers water to customers within the water systems formerly operated by Howell Township and 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 the 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 County's Visitor Center was completed in June 1994, and its operation has

maximized the recreational uses available at the reservoir site. The attractive building with its various amenities promotes greater utilization of the reservoir area by the public. The Visitor's Center houses a photo display, donated by the Authority, depicting the actual operational schematic of the Manasquan Reservoir Water Supply System.

On July 14, 2000, the Visitor's Center played host to a ten year anniversary celebration of the Manasquan Reservoir Water Supply System. The celebration was used to gather and recognize the individuals who made the Manasquan Reservoir a reality.

The County is currently constructing the Manasquan Reservoir Environmental Center that will expand the environmental education opportunities at the reservoir site. The Environmental Center is scheduled for completion in the spring of 2001.

The reservoir also provides an excellent opportunity for recreational fishing. The

gravel spawning beds and log shelters in the northwest corner of the reservoir has proven attractive to fish. Fishing has been successful from bank areas as well as from watercraft. The NJDEP's Division of Fish, Game and Wildlife have 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.



The Manasquan Reservoir located in Monmouth County provides an excellent opportunity for recreational fishing as well as being a source of raw water for central New Jersey.

Operations and Maintenance

What a difference a wet year has on the water supply situation! With rainfall totals near normal during the spring and above normal in late summer, the water supply situation changed drastically to the point where the New Jersey Department of Environmental Protection discontinued the statewide drought warning on July 20, 2000 as the rainfall deficient dwindled with the wet conditions. The Manasquan Reservoir storage volume is a good indication of the changed water supply conditions whereby the storage volume has not dropped below 93 percent of full capacity since being refilled. Authority's operation staff successfully refilled the Manasquan Reservoir during the winter and spring and the reservoir reached full capacity in May 2000.

The Manasquan staff and the Authority's Engineering personnel monitored the dam and appurtenances throughout the year both 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.

A formal dam inspection was conducted by Schnabel Engineering, the Authority's Manasquan and Engineering staff, along with the NJDEP-Dam Safety Section, and again resulted in a safe rating. Any deficiencies noted in the report were of a minor nature.

In 1993 the State of New Jersey granted a waiver of a requirement to install a siren warning system downstream of the Manasquan Dam. Following receipt of this waiver the Authority adopted an Internal Management Plan (IMP) to augment the existing Manasquan Dam-Emergency

Action Plan (EAP) and Dam Safety and Maintenance Manual. As part of this IMP, the Authority's Engineering and Safety personnel assist in various activities required by all plans in order to assure the facilities are safe and operating within design parameters. These activities include quarterly inspections of the dam, dike and appurtenant structures, review of the monthly dam instrumentation and observation well data, and semi-annual drills of the EAP. The EAP is currently being updated to include the latest changes in the communications sections of the plan.

Monitoring of the water quality in the reservoir continued throughout the year in order to obtain information on seasonal variations of reservoir water. During the warmer months, the data collected by the Manasquan staff was used by the Authority's algae control contractor to 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 water treatment difficulties resulting in unpleasant taste and odor if permitted to go unchecked.

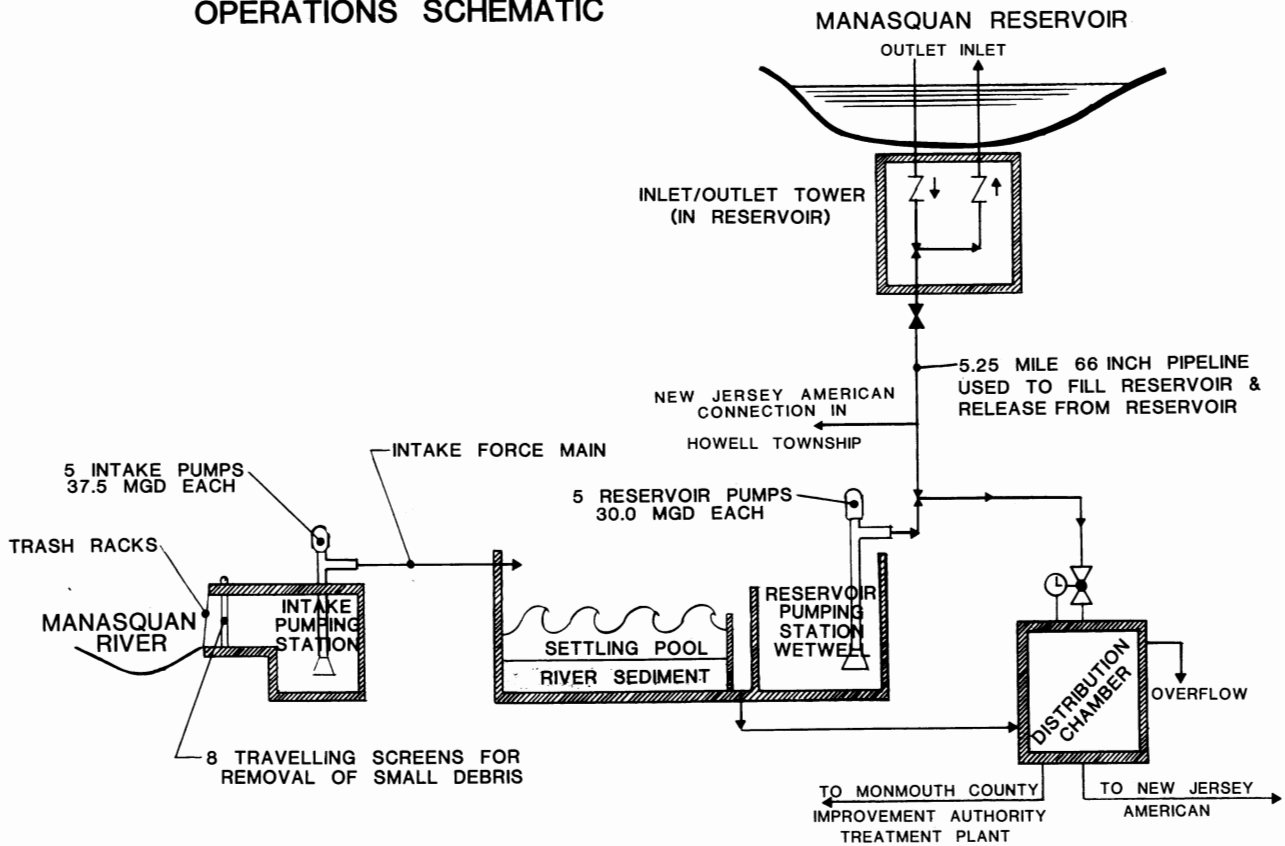
The maintenance of the grassed areas on the dam and dike, at the intake site, wetlands, and along the pipeline easements is managed by the Buildings and Grounds Maintenance Unit. The unit also handled the maintenance of drainage structures at the reservoir and the wetland areas.

Maintenance of mechanical devices is the responsibility of the Facilities Maintenance Unit. The preventative 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 a work order number which allows the analysis 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, the removal of residuals from the intake pump station, and the high voltage electrical testing and maintenance program.

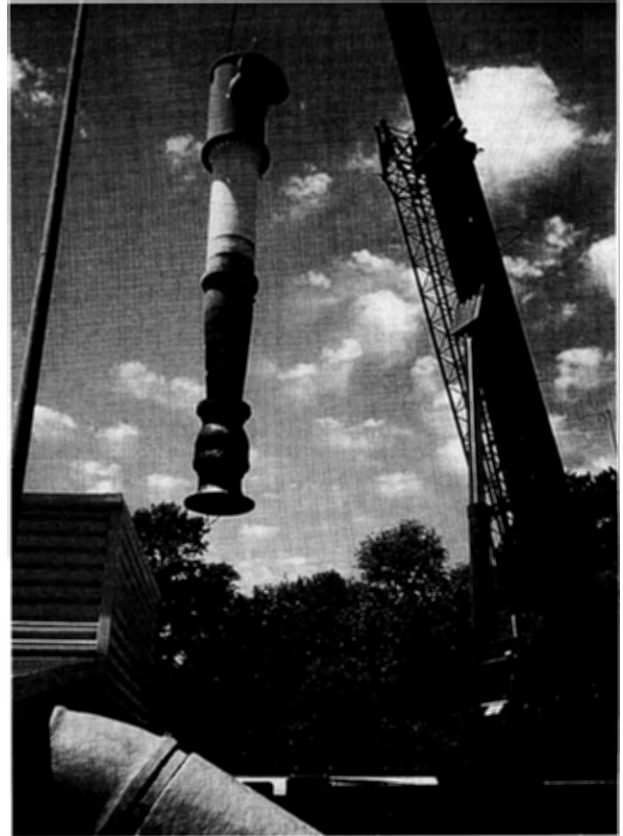
MANASQUAN RESERVOIR SYSTEM OPERATIONS SCHEMATIC



Capital Improvement Program

A Capital Improvement Program funded by the Renewal and Replacement Reserve was first recommended in September 1996 when excess debt service funding became available for this purpose. The program consists of a rehabilitation reserve for extraordinary operations and maintenance costs in case of a catastrophic failure of one of the main system components shown in the plan. The other projects represent improvement projects identified to upgrade or enhance the reservoir system facilities.

The annual funding is scheduled at \$120,000 for reservoir system improvements. Progress is being made on each specific project with the schedule currently in place for this program. Fiscal Year 2000 project activities included the work on the development of an operational model and system yield calculations for the Manasquan Reservoir Water Supply system by the United States Geological Survey. The Fiscal Year also represented the start of several projects within the program; namely, rebowling of a pumping unit at the Intake Pumping Station, replacement of the washwater basket strainers for the Intake Pumping Station traveling water screens, and upgrading the site security system.



Rebowling of a pumping unit at the intake pumping station in Wall Township is one of several capital improvement projects underway at the Manasquan Reservoir Complex.

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 Company	U	8.065	
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)
Borough of Brielle	U	0.400	(1)
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:		<hr/> 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.

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 four (4) million gallon per day water treatment plant and transmission system for the benefit of the communities of Wall Township, Brielle, Sea Girt, Spring Lake, and Spring Lake Heights. Throughout the first ten years of operation, the plant has produced an average of just over three (3) 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 and predisinfection with ozone, coagulation with aluminum sulfate, flocculation, clarification/filtration package units, granular activated carbon adsorption (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.

The Manasquan plant provides between 15 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



The Manasquan Water Treatment Plant monitors the treated water in its plant laboratory to control the treatment process.

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 Authority continues to utilize its NJPDES permit for the distribution and land application of water treatment residuals produced by the Manasquan plant. Laboratory analysis has indicated that the treatment plant residuals are not harmful and that beneficial use can be made of the material.

The NJPDES permit offer different options to the Authority for re-use of the residuals. The residuals may be employed as a soil enhancer through direct land application or blended with sediment from the Intake Pump Station to create "topsoil" for use throughout the Manasquan Reservoir System.

A long-term plan has been developed to return portions of the project site to

agricultural uses by incorporating the residuals into the soil to improve the soil consistency and mineral content. A small grain crop has been planted on a 7.3 acre parcel of land during last spring's planting season, after direct land application of residuals. A local farming business was used to plant the crop. Our own work crew will harvest the small grain crop for either reseeding the field or straw bales. The field has yet to yield production of straw bales because of the damage caused by a resident goose population. Since the permit has been in place, the Buildings and Grounds Unit has utilized the blended material for fill on a wide variety of projects that managed to keep the amount of residuals stored on-site within the permit requirements.

A five-year capital program has been designed to upgrade the water treatment plant and transmission system facilities in anticipation of amended New Jersey Department of Environmental Protection regulations and requirements and to provide for general facility improvements. The projects include chemical feed system replacements, engineering of an upgrade for the adsorption clarifier/filter units, meter vault improvements, recycle water system analysis, upgrade of the sodium hypochlorite storage/feed system and other modifications for estimated project costs in the amount of \$225,000 on an annual basis.

A professional engineering services contract was issued to Metcalf & Eddy, Inc. in July 1998 for engineering an upgrade to the adsorption clarifier/filter units and reviewing filter to waste and recycle water issues for the water treatment plant. The project identified and assessed the current operations, investigated options to enhance filtered water quality, and looked at ways to reduce and manage plant use water in the most economical way.

Metcalf & Eddy, Inc. has completed all phases of the project with the exception of some changes to the final design drawings and specifications for an upgrade to the clarifier/filter units. The units will undergo extensive work within the filter area. The filters will be totally reconstructed utilizing a different filter media and a new underdrain system. The new filters will be cleaned with a combination of air and filtered water backwash. The construction time frame to accomplish the upgrade to these units has yet to be determined.

The Authority has also been working with Killam Associates-Consulting Engineers on the upgrade to the sodium hypochlorite storage/feed system. The consultants identified a temporary feed system, final replacement equipment and the redesign of the sodium hypochlorite room. Authority personnel are now in the process of constructing the temporary feed system so that the work can then begin within the sodium hypochlorite room. This project is scheduled for completion by the spring of 2001.

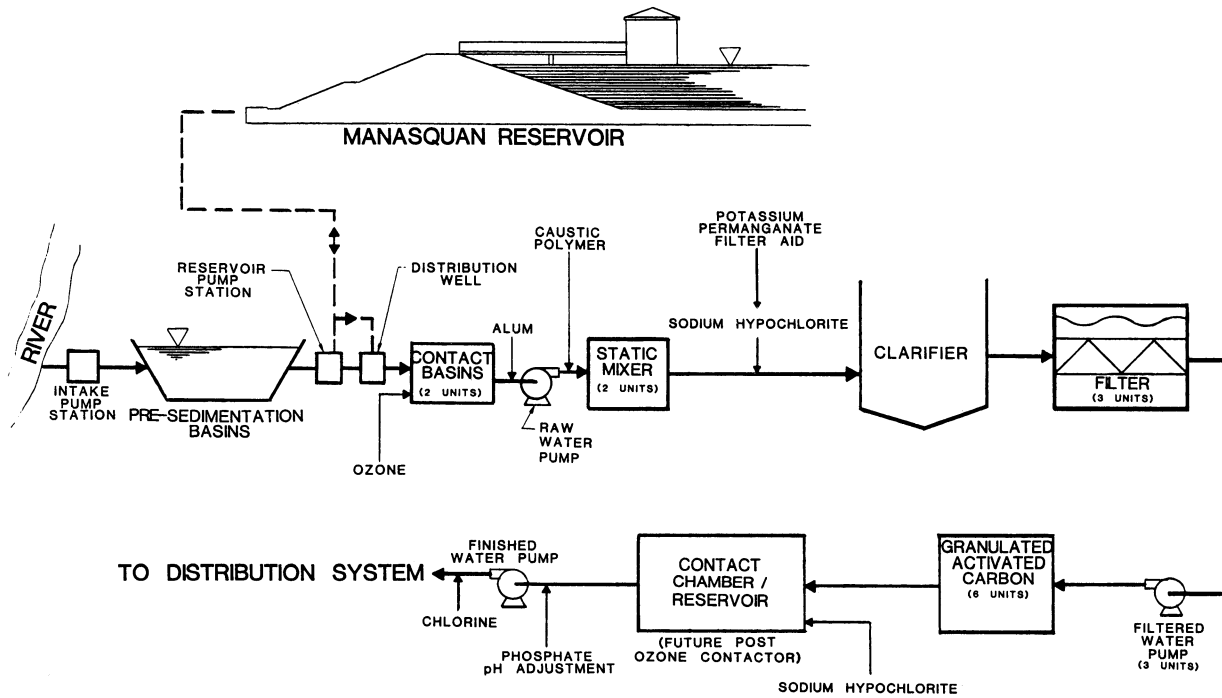
On May 9, 2000, the emergency generator at the Water Treatment Plant failed while running during a power curtailment requested by the electric power company. The emergency generator failure did not result in a disruption to water delivery since electrical power was available from the power company so all plant functions were returned to normal electrical power feed. By the next morning, the diesel generator was observed for evidence of internal engine damage by Authority staff and manufacturer's technical and maintenance representatives. The diesel engine was determined to have suffered major internal damage.

The diesel engine manufacturer representatives also determined that repairs

could not be made on-site; therefore, immediate arrangements were made to rent an emergency generator package of sufficient size to handle the water treatment plant power requirements in case of loss of electrical power from the power company. By the end of the workday on May 11, 2000, a rental emergency generator unit was hooked up to the electrical system of the water treatment plant.

Through negotiations with the manufacturer of the emergency diesel generator and our insurance company, a repair plan was adopted to deliver a

permanent repair by the month of August 2000. The emergency generator repair was completed by August 15, 2000 and the generator rental unit was removed from the water treatment plant site the very next day. The repaired emergency generator has operated on both a planned maintenance schedule and unplanned brief power outages without incident.



MANASQUAN WATER TREATMENT PLANT

FLOW SCHEMATIC

Watershed Protection Programs Unit

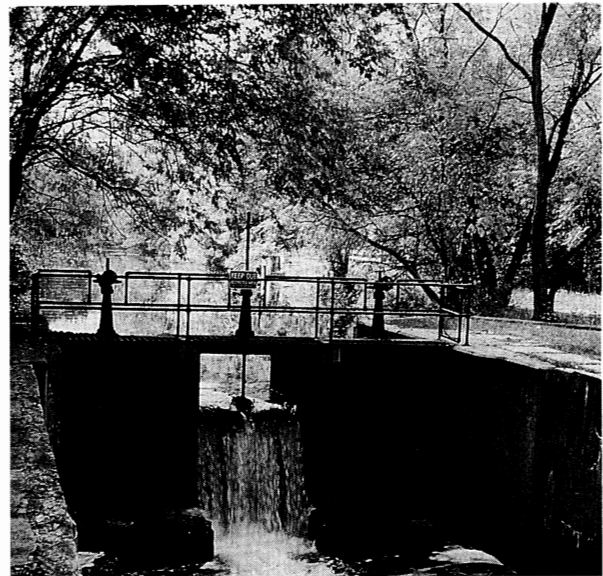
The New Jersey Water Supply Authority formed its Watershed Protection Programs Unit in Fiscal Year 1999 to implement a *watershed management process* for the Raritan River Basin under contract to the New Jersey Department of Environmental Protection (NJDEP). The unit also represents the Authority at watershed management projects for the Manasquan River (including the Manasquan Reservoir) and the Upper Delaware Watershed Management Area, which provides water for the Delaware & Raritan Canal. Primary functions of the unit are planning for watershed protection, development and implementation of projects that improve protection of water supply for the Authority and its customers, and involvement with State regulatory issues regarding watershed protection. In Fiscal Year 2000, shortly after Hurricane Floyd ended the 1999 drought, the watershed unit moved to its current quarters in the lock tender's house at the Ten Mile Lock, Delaware & Raritan Canal, in Franklin Township, Somerset County. Unit staff gives presentations on a wide variety of watershed topics to government, non-profit and academic audiences, as well as to conferences and workshops.

Watershed Management for the Raritan River Basin

Ground and surface waters of the Raritan River Basin, in central New Jersey, provide potable water for over 1.3 million people, along with recreational opportunities, habitat for aquatic life, aesthetic benefits and many

other advantages. Protecting these water resources, and improving them where necessary, will be vital for the continued health of our communities.

The Raritan River Basin is actually a collection of many watersheds, areas of land that collect runoff from precipitation and direct it to streams, rivers, lakes and reservoirs. These waters all drain to a common point, the Raritan Bay, between Perth Amboy and Sayreville. Major waterways in the Basin include the North Branch and South Branch of the Raritan River, the Millstone River, the Green Brook, the Lawrence Brook and the South River, along with all their many feeder streams which encompasses over 2,000 miles in all. The Delaware & Raritan Canal,



The Delaware and Raritan Canal augments Raritan Basin water supplies by bringing water from the Delaware River to the eastern part of the basin over its length of 60 miles.

which brings water from the Delaware River to the eastern part of the Basin, augments Raritan water supplies. In

addition, ground water underlies the entire Basin. This ground water system receives water from land surfaces and gradually releases the water to surface waters and to wells. All in all, the Basin covers approximately 1,100 square miles in Hunterdon, Mercer, Middlesex, Monmouth, Morris, Somerset, and Union counties.

The New Jersey Department of Environmental Protection selected the New Jersey Water Supply Authority to implement a *watershed management process* for the Raritan River Basin. Under Phase 1 of this project, NJDEP provided \$624,950 to the Authority in Fiscal Year 1999 for development of a characterization (current status and trends) and assessments (comparison of the current status to the desired condition) for the entire Basin. Project partners include United States Geological Survey, USDA-Natural Resources Conservation Service, South Branch Watershed Association, Stony Brook-Millstone Watershed Association, Upper Raritan Watershed Association, Rutgers Center for Environmental Communication, and the North Jersey Resource Conservation & Development Council.

A large committee of public and private interests from around the Basin was formed in Fiscal Year 1999 to help guide the project. The resulting Characterization & Assessment Report will be a basis for the next step, developing a Raritan River Basin Management Plan that is both effective and accepted by the public, local governments, private interests and the NJDEP. Phase 2, the management planning phase of this project, was started in the fall of 2000 with the Authority again serving as project manager.

During Fiscal Year 2000, the Authority and its project team developed a series of technical reports on critical issues. An analysis of surface water quality concluded that the rivers in the northwestern Basin (such as the Lamington, North Branch Raritan, South Branch Raritan upstream of Clinton, and both major tributaries to the Spruce Run Reservoir) had better quality in the 1990's than most rivers of the eastern and southern parts of the Basin. The most significant pollutant problems in degraded streams focus on phosphorus (a nutrient), fecal coliform bacteria (an indicator of disease-causing bacteria), pH (a measure of acidity) and elevated temperature in trout streams. However, the report also notes that in the non-tidal streams no problems were found with industrial chemicals (such as volatile organic chemicals, or VOC's), and elevated levels of pesticides were found in few situations.

A technical report on geography, land use and population documented the Raritan Basin's geology, soils, topography, climate hydrology and other important factors. In addition, the report discussed the population growth and development shifts in the Basin from 1930 to 1997. Population densities are highest in the older urban and suburban core areas, but population densities are increasing most quickly in formerly rural areas along the major highway corridors. Population continues to grow, as well, though the shift in population is more significant than the growth. This shift and increase in population is resulting in the loss of forests, agricultural lands, and wetlands in many growing suburbs.

Finally, two reports on water resources, a water budget for the Basin and an analysis of water supply availability. They provided a regional look at precipitation, runoff, ground water

recharge and evapotranspiration (the process where water moves to the air from the land surface and vegetation). Some parts of the Basin, because of their natural soils and geology, have very different rates of water runoff and ground water recharge. These differences, plus topography, help determine whether aquifers or surface water supplies are abundant or sparse. Overall, like all of New Jersey, the Raritan Basin is a water-rich system. Basin-wide, there appears to be sufficient water supplies already constructed for the next three decades or more, and at least two good projects are available for future surface water supplies. However, local ground water supplies have been over used in some cases or are fully subscribed and cannot support further demands. Whether any specific part of the Basin has sufficient or insufficient water supplies depends on many factors, including water demands, the nature of the aquifers and surface water supplies, pollution from past land uses, and development patterns.

In Fiscal Year 2001, the Authority will complete the characterization and assessment process and begin Phase 2, development of the watershed management plan for the entire Basin. At the same time, the Authority will initiate projects to protect and improve its water supplies. Partnerships will be developed wherever possible.

Watershed Management for the Manasquan River Watershed

The Manasquan Watershed Management Group was formed in Fiscal Year 1998, with representatives from a wide variety of public and private interests, to help develop and implement a watershed management plan for that watershed. The project focuses on both

the freshwater streams (including the Authority's Manasquan Reservoir) and salt water estuaries in the watershed. The New Jersey Water Supply Authority has served on the Management Group since its initiation, and has worked to ensure that the water supply investment in the watershed would be safeguarded. A Characterization & Assessment Report was completed in Fiscal Year 1999, identifying many issues in the freshwater and estuarine parts of the watershed. In Fiscal Year 2000, the Manasquan Watershed Management Group developed a management strategy to address issues identified by the Characterization & Assessment Report. The third year of this project, began in Fiscal Year 2000 and continuing into the next year, focuses on implementation of the management plan, with a specific focus on storm water management and municipal action.

Statewide Watershed Management Initiatives

The Authority continues its close involvement in watershed management initiatives that have a statewide impact. The New Jersey Department of Environmental Protection manages most of these efforts. Authority staff has been involved with, among other efforts:

- Water Supply Advisory Committee and Water Supply Advisory Council
- Watershed Management Committee of the NJ Clean Water Council
- Watershed Management Rules Advisory Committee
- Surface Water Quality Standards Advisory Committee
- Nonpoint Source Advisory Committee
- Drought Policy Committee
- Water Purveyors Coalition

Letter of Transmittal - Chief Financial Officer



NEW JERSEY WATER SUPPLY AUTHORITY

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August 28, 2000

To the Commissioners of the New Jersey Water Supply Authority

The Comprehensive Annual Financial Report of the New Jersey Water Supply Authority ("Authority") for the year ended June 30, 2000 is submitted herewith. Responsibility 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 is 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 Annual Report.

The Annual Report is presented in three sections: Introductory, Financial, and Statistical. The Introductory Section contains a reproduction of the Authority's Government Finance Officers Association Certificate of Achievement, a list of principal officials, the organizational chart, a letter to the Governor, and operational and

maintenance information on the Raritan Basin System, the Manasquan Water Supply System and the Manasquan Water Treatment Plant and Transmission System, and the Watershed Protection Programs Unit. The Financial Section contains the Independent Auditor's Report, the Financial Statements for Fiscal Year 2000, and comparative data for Fiscal Year 1999, as well as notes and supplemental information to the Financial Statements. The Statistical Section contains historical, financial, and operational data on a multi-year basis.

Reporting Entity and its Services

The Authority was created on October 7, 1981 (P.L. 1981, c.293) and was established in but not of the Department of Environmental Protection of the State of New Jersey. This "New Jersey Water Supply Authority Act" established the 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: the Raritan Basin System, the Manasquan Water Supply System, and the Manasquan Water Treatment Plant and

Transmission System. The Manasquan Water Treatment Plant and Transmission System is owned by the Monmouth County Improvement Authority (MCIA), and is operated and maintained by the Authority under the terms of an operating agreement. Each of these systems provides sufficient revenues to cover their own operating expenses, and each system's debt service.

The Authority is governed by a seven member Board of Commissioners. The Board of Commissioners consists of the Commissioner of the Department of Environmental Protection of the State of New Jersey, who serves as Chair and six public members appointed for three 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 one expert in the field of Water Resource Management and Distribution, and one expert in Public Finance. The remaining members must represent the Agricultural Community, Industrial Water Users, Residential Water Users, and Private Watershed Associations. The Board annually designates a Vice Chairman, a Treasurer, and a Secretary. The members 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 implementing 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 125 employees, consisting of 100 employees of

the Raritan Basin System and 25 employees of the Manasquan Reservoir System.

The meetings of the Authority are normally scheduled for the first working Monday of each month. Four members of the Authority constitute 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 members 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 ten business days after the copy of the minutes has been delivered. If in this ten 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 Authority's 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 service 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 and implemented by management. This internal control structure includes policies, procedures, approved

organizational structures, and approved budgets for capital and operating expenditures.

The Authority adopts an annual budget for its operations and establishes water rates accordingly. The budget of the Authority does not establish legal spending limitations, but is used for the purpose of establishing rates. Although the Authority is only 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 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, 2000 were \$222,823,427, a decrease of less than one percent over the previous year's total of \$222,987,862. The Consolidated Utility Plant in service increased \$665,510, less than one percent, from \$222,898,649 to \$223,564,159. Utility Plant in service of the Raritan Basin System increased \$489,390, less than one percent, from \$130,442,726 to \$130,932,116. The increase within this System is largely due to completed projects associated with the Authority's current Five Year Capital Improvement Program being transferred from construction work in progress to utility plant in service. The Authority anticipates spending \$1.5 to \$2 million a year during the period 2001-2006 for capital improvement projects and will finance this Five Year Capital Improvement Program utilizing an internally generated Capital Fund Component. The Authority

established a new Capital Fund Component of \$10 per million gallons (mg) effective July 1, 1994 with subsequent changes in this component over the last six years, and is proposing a Capital Fund Component of \$10.87 per mg, effective July 1, 2001. The Authority deems that the use of these internally generated funds for capital improvements is the most cost effective method of financing. This method of financing annual capital improvements will also place the Authority in the strongest possible financial position to meet the needs of the Raritan Basin System in the 21st century. As of June 30, 2000, a total of \$8,885,966 has been expended on projects within this Capital Improvement Program.

Utility Plant in Service of the Manasquan Water Supply System increased \$176,120, less than one percent, from \$92,455,923 to \$92,632,043. The small increase is due to capital items being placed into service. 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 MCIA. The MCIA contracts with the Authority to operate the water treatment plant and related transmission facilities.

The total of cash and cash equivalents for the Authority increased \$464,972, or three percent, from \$17,752,116 to \$18,217,088. The increase in cash is mainly attributable to an increase in unanticipated revenues within the Raritan System, and an increase in the Capital Improvement Fund due to decreased operational costs within the Raritan System.

Current liabilities increased \$70,356, or one percent, from \$7,164,444 to \$7,234,800. The increase is primarily due to the increase in the current portion of amounts due to the State of New Jersey from \$4,120,175 in Fiscal Year 1999 to \$4,333,160 in Fiscal Year 2000. Total capitalization of the

Authority increased \$4,007,768, or three percent, from \$86,934,007 to \$90,941,775.

The Consolidated Revenues decreased by \$274,196 or two percent, from \$18,237,398 to \$17,963,202 due to a decrease in the Manasquan Reservoir System revenues. The Consolidated Operating Expenses increased \$896,022, or ten percent, from \$8,927,423 to \$9,823,445. Nonoperating revenues increased \$3,080,286, from \$1,629,293 to \$4,709,579 due to a settlement of \$2.8 million from our claim against Cruz Construction and Whitman Requardt and Associates for the defective design and installation of the 108" pipeline used in the Release Pipeline at the Round Valley Reservoir. Nonoperating expenses decreased \$184,396 from \$4,870,630 to \$4,686,234 due to a decrease in the Interest Component of debt service. Contained in the following paragraphs is an explanation of changes in revenue and expense for each system.

The Raritan Basin System Revenues increased \$85,412, or one percent, from \$13,141,472 to \$13,226,884. The increase in revenues is due to an increase in overdraft revenue collected. Total Operating Expenses increased \$824,975, or fourteen percent, from \$5,957,214 to \$6,782,189. Payroll and Fringe Benefits increased \$136,211, or three percent, from \$4,438,497 to \$4,574,708 due to contractual salary increases and fringe benefit renewal increases. Operations and Maintenance expenses increased \$688,764, or forty-five percent, from \$1,518,717 to \$2,207,481, mostly due to increases in electricity for pumping costs.

The Manasquan Water Supply System Revenues decreased \$359,608, or seven percent, from \$5,095,926 to \$4,736,318. The decrease in revenues is due to the downward adjustment in the water rates

from \$832.92 per mg on July 1, 1998 to \$695.31 per mg on July 1, 1999. Total Operating Expenses decreased \$10,866, or one percent, from \$1,669,748 to \$1,658,882. Payroll and Fringe Benefits increased \$22,961, or three percent, from \$691,782 to \$714,743. The increase is due to contractual salary increases and fringe benefit renewal increases. Operations and maintenance expenses decreased \$33,827, or three percent, from \$977,966 to \$944,139, mostly due to decreases in professional services and sediment removal.

Operating Revenue for the Manasquan Water Treatment Plant and Transmission System increased \$98,017, or seven percent, from \$1,316,804 to \$1,414,821 and total Operating Expenses increased \$81,923, or six percent, from \$1,300,461 to \$1,382,384. The budget is prepared on the basis of delivering the contracted amount of 3.42 million gallons per day (mgd) 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 \$17,174, or three percent, from \$588,704 to \$605,878, and is subject to the same increases or decreases as the Manasquan Reservoir System depending upon the allocation of employee responsibilities between the two systems. Operations and Maintenance expenses increased \$864,749, or nine percent, from \$711,757 to \$776,506, due to increases in maintenance of equipment and special and professional services.

At the April 2000 Authority meeting, the Authority adopted a Raritan Basin System rate to become effective July 1, 2000 of \$205.00 per mg covering Operations and Maintenance, Debt Service, and the Capital Fund Component, for the Fiscal Year ending June 30, 2001. This rate represents no

change from the previous Fiscal Year rate of \$205.00 per mg. The proposed rate for the fiscal year ending June 30, 2002, effective July 1, 2001, is \$205.00 per mg covering Operations and Maintenance, Debt Service, and the Capital Fund Component. The proposed Fiscal Year 2002 rate represents no change from the previous fiscal year.

A revised rate of \$728.81 per mg, effective July 1, 2000, was adopted for the Manasquan Water Supply System at the April 2000 Authority meeting. In accordance with the Manasquan Reservoir Water Supply System Bond Resolution, Section 713, the Manasquan Water Supply System was required to establish a debt service coverage charge starting at five percent of gross debt service with the first interest payment date, 10 percent with the third interest payment date, 15 percent with the fifth interest payment date, and 20 percent with the seventh interest payment date and thereafter. The proposed Fiscal Year 2002 rate for the Manasquan Water Supply System is \$797.92 per mg, effective July 1, 2001. There will be no further changes in the water rate due to increases in debt coverage requirements, which reached a maximum coverage level of 20 percent as of February 1, 1994. The proposed rate of \$797.92 per mg, effective July 1, 2001, represents a rate increase from the previous fiscal year of \$728.81 per mg, or nine percent.

The Authority entered into an agreement on September 1, 1987 with the MCIA to design, construct, operate and maintain the Manasquan Water Treatment Plant and Transmission System. The MCIA raises all of the revenues necessary to cover operations and maintenance expenses and debt service. The MCIA transfers to the New Jersey Water Supply Authority the annual budget requirements on a monthly

basis. The Authority is responsible for presenting a calendar year operating budget to the MCIA at least 210 days prior to the beginning of each calendar year. The Authority is responsible for submitting a statement of actual operations and maintenance expenses for the prior fiscal (calendar) year to the MCIA 120 days after the end of each calendar year. The budget for calendar year 2000 is \$1,382,742, which represents a six percent increase or \$78,778, over calendar year 1999's budget of \$1,303,964.

Cash Management

The Raritan Basin System had a total of \$23,453,493 in cash and investments as of June 30, 2000. These funds generated interest income of \$1,336,456.

The Manasquan Water Supply System had a total of \$9,994,724 in cash and investments as of June 30, 2000. These funds generated interest income of \$569,057.

The Manasquan Water Treatment Plant and Transmission System had a total of \$388,394 in cash and investments, which consisted of operating funds held by the Authority, as of June 30, 2000. These funds generated interest income of \$20,435.

Funds of \$7,236,640 of the Raritan Basin System, and \$4,348,922 of the Manasquan Reservoir System 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 percent of the carrying amount. Funds of \$12,990,594 of the Raritan Basin System, \$4,519,344 of the Manasquan Reservoir System, and \$361,475 of the Manasquan Water Treatment Plant and Transmission System 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, banker's 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 amounts of funds, which may be deposited or withdrawn. To gain a higher rate of return than what is earned in the State of New Jersey Cash Management Fund, the Authority had elected to invest \$3,173,871 of funds from the Raritan Basin System and \$832,574 of funds from the Manasquan Reservoir System in (non-callable) Federal Home Loan Bank Securities at a 7.25 percent return, due May 15, 2003. Funds of \$52,389 of the Raritan Basin System, \$293,885 of the Manasquan Reservoir System, and \$26,918 of the Manasquan Water Treatment Plant and Transmission System were held at PNC Bank representing the Revenue, Operating and Payroll accounts as of June 30, 2000.

Debt Service

The Raritan Basin System has the obligation to repay the following debt.

The 1969 Bond Fund obligation has a remaining principal and interest balance of \$1,442,514 and \$97,486, respectively, as of June 30, 2000. The bonds bear interest at 5.4 percent and payments are made semi-annually in the amount of \$385,000, including interest through June 25, 2002.

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 principal and interest balance of \$10,395,000 and \$2,188,002, respectively, as of June 30, 2000. During June 1997, the Authority, through an agreement with the State of New Jersey, reduced the interest rate on this loan from 7.30 percent to 5.58 percent effective for the payments due on and after November 1, 1998, for an overall savings of \$1,137,686. 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 25 year 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 are secured solely by pledged properties of the Authority.

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 2000, the coverage is adequate at 2.30. The Authority decided to take advantage of favorable market rates on the call date of November 1, 1998, and issue \$28,290,000 in 15 year Water System Revenue Refunding Bonds, Series 1998 to refund on a current basis \$28,465,000 in Water System Revenue Bonds, Series 1988. The refinancing of the 1988 Bonds with the 1998 Bonds produced

net present value savings to the Authority of \$4,207,589 which is 14.7 percent of the principal amount of the 1988 Bonds being refunded. The true interest cost of the 1998 Bonds is 4.8748 percent as compared to the original true interest cost of the 1988 Bonds which was 7.9926 percent. The Prior Bonds were subject to the private activity bond refunding limitation because a substantial portion of the System's water is sold to privately-owned water companies. The 1998 Bonds are private activity bonds and interest earned on the 1998 Bonds will be tax-exempt, but will be subject to the alternative minimum tax. The 1998 Bonds may not be refunded prior to their first call date on November 1, 2007. The payment of principal and interest on the 1998 bonds are insured by MBIA. The 1998 Bonds are rated AAA/aaa by Standard & Poor's Corporation and Moody's Investors Service. Standard & Poor's gave an underlying rating of A+ to the 1998 Bonds.

The Series 1998 Revenue Refunding Bonds have a Bond yield of 4.78 percent, the remaining principal and interest balance is \$26,945,000, and \$10,968,641, respectively, at June 30, 2000. Semi-annual payments range from \$69,875 to \$2,669,875 through November 1, 2013.

The Manasquan Water Supply System has the obligation to repay the \$63,600,000 of State Loan Notes, and the \$7,416,000 of Completion Loan Notes, which were sold to construct the Manasquan Reservoir Facilities. During June 1997, the Authority, through an agreement with the State of New Jersey, reduced the interest rate on the State Loan Notes from 7.15 percent to 5.93 percent, effective for the payments due on and after August 1998, for an overall savings of \$8,013,134. The Completion Loan Notes bear interest at 6.24 percent, converted from 7.16 percent Interim

Advance Notes effective February 1, 1992. 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 mgd. At present the Manasquan Reservoir System has 16.097 mgd sold 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. The State Loan Notes and the Completion Loan have a principal and interest balance of \$121,607,638, at June 30, 2000, which represents both the current and deferred portion. The current portion of the State Loan Notes have a remaining principal and interest balance of \$37,258,327 and \$27,884,193, respectively, and the deferred portion has a principal balance of \$44,703,907, at June 30, 2000. The State Loan Notes are payable through semi-annual installments which range from \$89,327 to \$3,102,025 through August 1, 2020. The current portion of the Completion Loan Notes have a remaining principal and interest balance of \$3,929,277 and \$3,118,139, respectively, and the deferred portion has a principal balance of \$4,713,795, at June 30, 2000. Completion Loan Notes are payable through semi-annual installments which range from \$10,177 to \$334,394 through August 1, 2020.

Risk Management

The Authority carries property 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 Liability Insurance and Automotive coverage, with self-insured retainers as it deems appropriate. Public Officials Liability

coverage with enhanced Employment Liability coverage is also maintained with deductibles. Workers' Compensation coverage is also maintained as required by State law.

Independent Audit

In accordance with the "New Jersey Water Supply Authority Act" (P.L. 1981, c.293), before the last day of February, an Annual Report of the Authority's activities of the preceding calendar year is due to the Governor and the Legislature. This Annual Report must include an audit of the Authority's books and accounts. Ernst & Young LLP, Certified Public Accountants, was retained to perform an audit of the 2000 Fiscal Year in accordance with generally accepted auditing standards and *Government Auditing Standards* issued by the Comptroller General of the United States. Ernst & Young LLP reports directly to the Audit Committee of the Board of Commissioners. Ernst & Young LLP also performed, as part of the annual audit, a review of the internal control structure.

The Authority has previously established rates, and intends to continue establishing rates on the basis of its cash needs in any fiscal year to meet its requirements for Operations and Maintenance Expenses, Debt Service and Capital Fund Component.

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 Annual Financial Report for the fiscal year ended June 30, 1999. The

Certificate of Achievement is a prestigious national award recognizing conformance 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 Financial Report (CAFR), whose contents conform to program standards. Such CAFR 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 Authority has received a Certificate of Achievement for the last eight years (fiscal years ended June 30, 1992 through June 30, 1999). We believe our current report continues to conform to the Certificate of Achievement program requirements, and we are submitting it to the GFOA for consideration.

Acknowledgements

The preparation of this report on a timely basis could not be accomplished without the efficient and dedicated services of the Financial and Administrative staff of the New Jersey Water Supply Authority. In particular, the Financial Secretary, Doris Stecker, for the in-house typing and preparation of the report, and Steve Hardick, Chief of Safety and Security, and Gerry Hoagland, Computer Technician, who helped in the collecting, editing, and printing of the report. Any financial report is also only as good as the accounting records that supply its supporting data. The Authority's entire accounting staff, supervised by Rita Nagy, deserves special recognition for their dedication, perseverance and attention to detail that results in the Authority's records being kept in a manner which reflects credit on the staff as a unit as well as each

employee individually. I would like to express my appreciation to all employees of the New Jersey Water Supply Authority who contributed to this report's preparation. The report also could not have been prepared without the full support and encouragement of the Chair and Members of the Board, and the Executive Director.

Economic Outlook

The continuing economic viability of the Authority is ensured by the water contracts we maintain with our water users. The water users have entered into long-term contracts for a supply of water for their respective systems, which they are authorized to continuously withdraw without interruption, for potable or industrial water supply purposes. During Fiscal Year 2000, the Authority supplied water to 15 contractual customers of the Raritan Basin System, which provided water to 1,300,000 people in central New Jersey, and 13 contractual customers of the Manasquan System, which provides water to 250,000 people in the Monmouth County area. Two customers accounted for approximately 81 percent of total Raritan Basin System operating revenues. Three customers accounted for approximately 76 percent of total Manasquan System operating revenues. The total sales base for the Raritan Basin System is 151.875 million gallons per day, and the total sales base for the Manasquan Reservoir System is 16.097 million gallons per day. To better serve our water customers, the Authority now maintains a Web Site, www.njwsa.org, where we post a daily operations report and other important information. Payments for uninterruptible service are based upon the mgd amount specified in each water user contract, and are payable to the Authority whether or not the

water user actually withdraws the full amount of water available as defined in the contract as daily uninterruptible service. Elizabethtown Water Company of the Raritan Basin System recently increased their water contract by 2 mgd to a total of 104 million gallons per day, and we are expecting our major water customers to continue to increase their contractual water allocations in the future.



Michael R. Citarelli
Chief Financial Officer

Financial Section

Report of Independent Auditors

General Purpose Financial Statements

Balance Sheets

Statements of Revenues and

Expenses and Changes in Retained Earnings

Statements of Cash Flows

Notes to Financial Statements

Combining Statements and Schedules

Report of Independent Auditors

To the Commissioners of the
New Jersey Water Supply Authority

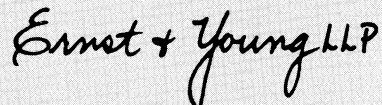
We have audited the accompanying balance sheets of the New Jersey Water Supply Authority (the "Authority"), a component unit of the State of New Jersey, at June 30, 2000 and 1999, and the related statements of revenues and expenses and changes in retained earnings and cash flows for the years then ended. 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 and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. 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, the financial statements referred to above present fairly, in all material respects, the financial position of the New Jersey Water Supply Authority at June 30, 2000 and 1999, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

In accordance with *Government Auditing Standards*, we have also issued a report dated July 28, 2000 on our consideration of the New Jersey Water Supply Authority's internal control over financial reporting and our test of its compliance with certain provisions of laws, regulations, contracts, and grants. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be read in conjunction with this report in considering the results of our audit.

Our audits were conducted for the purpose of forming an opinion on the financial statements taken as a whole. The supplemental information listed in the table of contents is presented for the purpose of additional analysis and is not a required part of the financial statements. Such information has been subjected to the auditing procedures applied in our audit of the 2000 financial statements and, in our opinion, is fairly stated in all material respects in relation to the 2000 financial statements taken as a whole.



July 28, 2000

New Jersey Water Supply Authority

Balance Sheets

	June 30	
	2000	1999
Assets		
Utility plant:		
Utility plant in service (<i>Note 3</i>)	\$223,564,159	\$222,898,649
Less accumulated depreciation (<i>Note 3</i>)	65,505,784	60,277,271
Net utility plant in service	158,058,375	162,621,378
Construction work in progress	5,225,719	4,203,077
Net utility plant	163,284,094	166,824,455
Current assets:		
Cash and cash equivalents (<i>Note 4a. and b.</i>)	17,920,570	17,142,394
Unbilled sales	1,002,635	1,055,260
Accounts receivable, less allowance for doubtful accounts of \$1,000 at June 30, 2000 and 1999	1,181,775	1,265,473
Claim receivable (<i>Note 10</i>)	2,800,000	
Interest receivable (<i>Note 4b.</i>)	132,071	112,219
Prepaid expenses and other current assets	381,201	353,541
Total current assets	23,418,252	19,928,887
Restricted cash equivalents and investments:		
Cash equivalents	296,518	609,722
D & R System Revenue Refunding Bonds, Series 1998 proceeds, current (<i>Note 4b.</i>)	7,236,640	6,699,843
Manasquan System-State Loan Notes proceeds, current (<i>Note 4b.</i>)	2,595,403	2,518,535
Manasquan System-State Loan Notes proceeds, long-term (<i>Note 4b.</i>)	1,846,847	1,844,651
Total restricted cash equivalents and investments	11,975,408	11,672,751
Long-term investments (<i>Note 4b.</i>)	3,953,238	4,296,019
Costs to be recovered from future revenues (<i>Note 2</i>)	19,477,027	19,511,014
Deferred issuance cost	715,408	754,736
Total assets	\$222,823,427	\$222,987,862

See accompanying notes.

New Jersey Water Supply Authority

Balance Sheets (continued)

	June 30	
	2000	1999
Capitalization and liabilities		
Capitalization:		
Contributed capital	\$ 51,402,335	\$ 51,402,335
Retained earnings	39,539,440	35,531,672
Total capitalization	<u>90,941,775</u>	<u>86,934,007</u>
Long-term liabilities:		
Due to State of New Jersey, including accrued interest of \$25,563,184 at June 30, 2000 and 1999 (<i>Note 5</i>)	99,509,660	102,442,820
D & R System Revenue Refunding Bonds, Series 1998, including unamortized bond premium of \$731,098 and \$785,904 at June 30, 2000 and 1999, respectively, and net of unamortized deferral of \$1,138,906 and \$1,284,313 at June 30, 2000 and 1999, respectively (<i>Note 6</i>)	25,137,192	26,446,591
Total long-term liabilities	<u>124,646,852</u>	<u>128,889,411</u>
Current liabilities:		
Current portion of amounts due to State of New Jersey and principal on bonds	4,333,160	4,120,175
Accounts payable	464,779	395,431
Accrued payroll and payroll taxes	266,801	192,258
Accrued vacation	160,862	143,934
Accrued interest	1,330,529	1,373,645
Deferred revenue (<i>Note 2</i>)	678,669	939,001
Total current liabilities	<u>7,234,800</u>	<u>7,164,444</u>
Total liabilities	<u>131,881,652</u>	<u>136,053,855</u>
Total capitalization and liabilities	<u>\$222,823,427</u>	<u>\$222,987,862</u>

See accompanying notes.

New Jersey Water Supply Authority

Statements of Revenues and Expenses and
Changes in Retained Earnings

	Year ended June 30	
	2000	1999
Operating revenues:		
Water sales	\$17,963,202	\$18,237,398
Reimbursement of operating expenses	1,414,821	1,316,804
Total operating revenues	19,378,023	19,554,202
Operating expenses:		
Payroll	4,695,420	4,491,112
Operations and maintenance	3,928,126	3,208,440
Fringe benefits	1,199,909	1,227,871
Total operating expenses	9,823,455	8,927,423
Income from operations before depreciation	9,554,568	10,626,779
Depreciation	5,469,149	5,553,456
Income from operations	4,085,419	5,073,323
Costs to be recovered from future revenues <i>(Note 2)</i>	(100,996)	774,023
Nonoperating revenues:		
Investment income	1,727,459	1,551,978
Rental income	42,628	50,778
Gain on settlement of claim	2,800,000	
Other income	139,492	26,537
Total nonoperating revenues	4,709,579	1,629,293
Nonoperating expenses:		
Interest component of debt service to the State of New Jersey	4,646,905	4,825,010
Amortization of issuance costs-D & R System Revenue Refunding Bonds, Series 1998	25,229	16,728
Amortization of issuance costs and bond discount - D & R System Revenue Bonds, Series 1988		13,001
Amortization of issuance costs - Manasquan State Loan Notes	14,100	14,100
Other		1,791
Total nonoperating expenses	4,686,234	4,870,630
Net income	4,007,768	2,606,009
Retained earnings, beginning of year	35,531,672	32,925,663
Retained earnings, end of year	\$39,539,440	\$35,531,672

See accompanying notes.

New Jersey Water Supply Authority

Statements of Cash Flows

	Year ended June 30	
	2000	1999
Cash flows from operating activities		
Cash received from water sales	\$ 18,209,596	\$ 18,268,862
Cash received from reimbursable expenses	1,326,558	1,311,089
Cash received from rental income	14,432	14,617
Cash paid to or on behalf of employees	(5,790,316)	(5,667,434)
Cash paid to suppliers	(996,505)	(3,253,237)
Cash paid/received for watershed study	(313,204)	609,722
Net cash provided by operating activities	12,450,561	11,283,619
Cash flows from capital and related financing activities		
Proceeds from sale of refunding bonds		29,112,241
Principal paid on capital obligation	(4,029,575)	(31,502,027)
Interest paid on capital obligation	(4,690,022)	(5,079,807)
Issuance costs paid on refunding		(366,430)
Additions to utility plant	(4,700,519)	(2,382,554)
Net cash used in financing activities	(13,420,116)	(10,218,577)
Cash flows from investing activities		
Sale of investment securities	19,265,535	16,011,739
Purchase of investment securities	(19,739,124)	(16,845,437)
Premium on matured investments	200,509	
Interest received on investments	1,707,607	1,553,917
Net cash provided by investing activities	1,434,527	720,219
Net increase in cash and cash equivalents	464,972	1,785,261
Cash and cash equivalents, beginning of year	17,752,116	15,966,855
Cash and cash equivalents, end of year	\$ 18,217,088	\$ 17,752,116
Reconciliation of income from operations to net cash provided by operating activities:		
Income from operations	\$ 4,085,419	\$ 5,073,323
Adjustments to reconcile income from operations to net cash provided by operating activities:		
Non-cash items expensed to operations and maintenance	938	(429)
Cash received for operating activity shown in other income	2,928,934	53,543
Depreciation	5,469,149	5,553,456
Change in assets and liabilities:		
Decrease (increase) in unbilled sales	52,625	(57,466)
Decrease in accounts receivable	116,504	72,274
Increase in prepaid expenses	(27,660)	(15,681)
Increase (decrease) in accounts payable	63,313	(28,103)
Increase in accrued payroll and taxes	74,543	22,980
(Decrease) increase in deferred revenue	(313,204)	609,722
Net cash provided by operating activities	\$ 12,450,561	\$ 11,283,619

See accompanying notes.

New Jersey Water Supply Authority

Notes to Financial Statements

June 30, 2000

I. 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 "Raritan Basin System") and the 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 (Raritan Basin System) were transferred or leased to the Authority. The Act empowers the Authority to acquire, finance, construct, and operate water systems and issue bonds. Members of the Authority consist of the Commissioner of the New Jersey Department of Environmental Protection (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, private watershed associations, public finance, and water resource management and distribution. The Authority prepares an annual budget that is used to establish rates and as a management tool, but it does not constitute a legal budget or establish spending limitations.

The Authority does not have component units that should be included within its financial statements.

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 and bond indentures.

In its accounting and financial reporting, the Authority follows the pronouncements of the Governmental Accounting Standards Board (GASB). In addition, the Authority follows the pronouncements of all applicable Financial Accounting Standards Board (FASB) Statements and Interpretations, Accounting Principles Board (APB) Opinions and Accounting Research Bulletins (ARBs) of the Committee on Accounting Procedure issued on or before November 30, 1989, unless they conflict with or contradict GASB pronouncements. The Authority has elected not to apply standards issued by the FASB after November 30, 1989.

Revenues

Charges for wholesale water usage are established to provide revenues sufficient for 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 purchased 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.

Cash and Cash Equivalents

For purposes of the statements of cash flows the Authority considers non-restricted short-term investments that have original maturities of three months or less to be cash equivalents.

Investments

Short-term investments and restricted investments for construction and payment of interest consist of money market funds and U.S. Government-backed securities with various interest rates. Restricted investments are restricted under the terms of the Authority's bond indentures for the payment of debt services. All investments are carried at fair value, in accordance GASB Statement No. 31 "Accounting and Financial Reporting for Certain Investments and for External Investment Pools".

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.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Income Taxes

The Authority is exempt from federal income taxes under the Internal Revenue Code, Section 115, and from state income taxes under NJSA27:25-16 and, accordingly, no provision is recorded for federal and state income taxes.

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, but not for depreciation on the related debt financed assets and also includes charges for vacation based on the amounts paid. In accordance with FASB Statement No. 71, the Authority has

Notes to Financial Statements (continued)

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, 2000 and 1999 were determined as follows:

	June 30	
	2000	1999
Raritan Basin System		
Cost excluded from rate model:		
Depreciation of debt-financed utility plant recoverable from rate payers	\$ 2,513,547	\$ 2,588,934
Excess vacation expense over vacation paid	15,685	(8,449)
	2,529,232	2,580,485
Cost included in rate model:		
Debt principal repayment	(3,163,273)	(2,448,112)
	(634,041)	132,373
Manasquan System		
Cost excluded from rate model:		
Depreciation of debt-financed utility plant recoverable from rate payers	1,558,505	1,562,777
Excess vacation expense over vacation paid	(1,549)	1,298
	1,556,956	1,564,075
Cost included in rate model:		
Debt principal repayment	(956,902)	(896,976)
	600,054	667,099
Total Raritan Basin and Manasquan	(33,987)	799,472
Balance, beginning of year	19,511,014	18,711,542
Balance, end of year	\$19,477,027	\$19,511,014

The reduction of cost to be recovered from future revenues of \$100,996 as shown in the income statement for the year ended June 30, 2000 includes \$52,872 of Manasquan Water Treatment Plant deferred revenue, which is not part of the rate model, and does not include a credit balance of \$14,137 of accrued vacation.

Accounting for Monmouth County Improvement Authority Agreement

The Authority operates and maintains a Water Treatment Plant/Transmission System ("WTP/TS") for the Monmouth County Improvement Authority ("MCIA"). 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, 2000, deferred revenues amounted to \$382,151 and were determined as follows:

Reimbursement of operating expenses	\$1,435,256
Operating expenses	1,382,384
Deferred revenue	52,872
Balance, beginning of year	329,279
Balance, end of year	\$382,151

Accounting for Watershed Protection Program

During 1999, the Authority received \$624,950 from the New Jersey Department of Environmental Protection for the costs associated with a watershed protection study of the Raritan System. These funds are restricted for the use of mapping out streams and other water sources and will be recognized as revenue as the related costs are incurred. As of June 30, 2000, the balance of restricted cash equivalents and deferred revenue is \$296,518.

3. Utility Plant

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

	Estimated Useful Life	June 30	
		2000	1999
Raritan Basin System:			
Land and land rights		\$ 6,126,958	\$ 6,126,958
Dams	100 years	34,114,867	34,114,867
Building, structures and improvements	15,40 years	65,696,372	65,669,817
D & R Canal			
Dredging	20 years	21,160,274	21,160,274
Machinery and equipment	3,5,10 years	3,833,645	3,370,810
		130,932,116	130,442,726
Manasquan System:			
Land and land rights		3,854,212	3,854,212
Dams	100 years	43,254,293	43,251,442
Building, structures and improvements	15,40 years	45,034,611	44,869,408
Machinery and equipment	3,5,10 years	488,927	480,861
		92,632,043	92,455,923
		\$223,564,159	\$222,898,649

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

	Estimated Useful Life	June 30	
		2000	1999
Raritan Basin System:			
Dams	100 years	\$12,025,163	\$11,661,958
Building, structures and improvements	15,40 years	19,481,304	17,367,379
D & R Canal			
Dredging	20 years	15,298,706	14,222,481
Machinery and equipment	3,5,10 years	2,739,204	2,660,219
		49,544,377	45,912,037
Manasquan System:			
Dams	100 years	4,354,269	3,917,438
Building, structures and improvements	15,40 years	11,261,426	10,127,387
Machinery and equipment	3,5,10 years	345,712	320,409
		15,961,407	14,365,234
		\$65,505,784	\$60,277,271

Notes to Financial Statements (continued)

4. Cash and Investments

New Jersey statutes permit the deposit of public funds in institutions located in New Jersey which are insured by the Federal Deposit Insurance Corporation (FDIC) or by any other agencies of the United States that insure deposits or in the State of New Jersey Cash Management Fund. All funds of the Authority may be invested in obligations of, or guaranteed by, the United States Government.

The Authority's bond resolutions limit the investment of restricted assets to obligations of the U.S. Government or its agencies, investments in certain certificates of deposit of commercial banks which are members of the Federal Reserve System, investments in the State of New Jersey Cash Management Fund and direct and general obligations of any State which meets the minimum requirements of the resolution.

The State of New Jersey Cash Management Fund is managed by the State of New Jersey, Division of Investment under the Department of the Treasury. It consists of U.S. Treasury obligations, government agencies obligations, certificates of deposit and commercial paper.

a. Cash

The Authority's bank balance was \$685,701 at June 30, 2000, of which \$100,000 was covered through the Federal Depository Insurance. The remaining balance of \$585,701 was not collateralized. The cash balance per the balance sheet is shown exclusive of outstanding checks totaling \$311,444. The balance sheet amount includes petty cash totaling \$506.

b. Investments

Investments are categorized by credit risk as follows:

Description	GASB Category	Rate	Fair Value
Categorized investments:			
U.S. Treasury Bill (Chase Manhattan, due 7/27/00)	2	5.545%	\$ 1,550,444
U.S. Treasury Bill (Chase Manhattan, due 7/27/00)	2	5.500	115,586
U.S. Treasury Bill (Chase Manhattan, due 7/27/00)	2	5.500	854,937
FNMA (Fleet, due 5/15/03)	2	7.250	462,875
FNMA (Fleet, due 5/15/03)	2	7.250	231,438
FNMA (Fleet, due 5/15/03)	2	7.250	90,563
FNMA (Fleet, due 5/15/03)	2	7.250	45,281
FNMA (Fleet, due 5/15/03)	2	7.250	1,368,500
FNMA (Fleet, due 5/15/03)	2	7.250	462,875
FNMA (Fleet, due 5/15/03)	2	7.250	910,656
FNMA (Fleet, due 5/15/03)	2	7.250	176,094
FNMA (Fleet, due 5/15/03)	2	7.250	246,531
U.S. Treasury Note (Chase Manhattan, due 2/15/05)	2	7.500	1,898,154
			8,413,934
Uncategorized investments:			
State of New Jersey's Cash Management Fund (Morgan Stanley Dean Witter)		various	17,955,950
Compass U.S. Treasury Fund (Chase)		various	7,236,640
			25,192,590
Total investments, June 30, 2000			\$33,606,524

Component of investments:

Cash equivalents	\$17,842,325
Interest receivable	132,071
D & R System Revenue Refunding Bonds, Series 1998 proceeds, current	7,236,640
Manasquan System-State Loan Notes proceeds, current	2,595,403
Manasquan System-State Loan Notes proceeds, long-term	1,846,847
Long-term investments	3,953,238
	\$33,606,524

Category 2 - securities held by bank's trust department (counterparty) in the Authority's name.

c. Investment Income

Investment income of \$1,727,459 and \$1,551,978 for the years ended June 30, 2000 and 1999, respectively, was comprised of the following:

	2000	1999
Interest earned on bank accounts and certificates of deposit	\$1,292,036	\$1,108,975
Interest earned on securities	592,045	609,060
Decrease in fair value of securities	(156,622)	(166,057)
	\$1,727,459	\$1,551,978

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 \$1,442,514 and \$97,486, respectively, as of June 30, 2000. 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 \$10,395,000 and \$2,188,002, respectively, as of June 30, 2000. The loan bears interest at 5.58% and is payable in semi-annual payments, including interest, which range from \$50,108 to \$1,846,108 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 5.93% 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.

Notes to Financial Statements (continued)

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, 2000, the principal amount classified as the Current Notes was \$38,125,229 and are payable through annual installments which range from \$89,327 to \$3,102,025 and the principal amount classified as the Deferred Notes was \$44,703,907. 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, \$4,019,277 of the Interim Advance Notes have been classified as Current Notes and are payable through annual installments which range from \$10,117 to \$334,394 and the remaining \$4,713,795 have been classified as Deferred Notes.

The interest on the Deferred Notes accreted as principal through July 31, 1993 and is not payable until they have been exchanged for Current Notes. The interest which accreted as principal through July 31, 1990 accrued interest; however, the interest which accreted for the period from August 1, 1990 through July 31, 1993 did 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, June 3, 1987. 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. The accretion of interest to the principal amount for the Current Notes and the Deferred Notes is \$25,563,184 at June 30, 2000, and 1999.

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

Year ending June 30,	Raritan Basin System	Manasquan System	Total
2001	\$ 2,532,115	\$ 3,439,247	\$ 5,971,362
2002	2,530,365	3,438,163	5,968,528
2003	1,758,709	3,436,767	5,195,476
2004	1,755,951	3,435,059	5,191,010
2005	1,851,080	3,437,884	5,288,964
2006-2010	3,694,783	17,192,435	20,887,218
2011-2015		17,186,300	17,186,300
2016-2020		17,187,662	17,187,662
2021		3,436,419	3,436,419
Deferred portion		49,417,702	49,417,702
	14,123,003	121,607,638	135,730,641
Less amounts representing interest	2,285,489	31,002,332	33,287,821
Principal amount due to State of New Jersey	11,837,514	90,605,306	102,442,820
Less current principal portion	1,918,280	1,014,880	2,933,160
Long-term liability at June 30, 2000	\$ 9,919,234	\$ 89,590,426	\$ 99,509,660

6. D & R System Revenue Refunding Bonds, Series 1998

On August 4, 1998, the Authority issued Water System Revenue Refunding Bonds, Series 1998 (the "Refunding Bonds") in the amount of \$28,290,000. The Refunding Bonds are serial bonds of which \$26,945,000 are outstanding at June 30, 2000 and bear interest at varying rates from 4.5% to 5.375% and mature in incremental annual principal amounts through 2014. Principal maturities for the year ending June 30, 2001 are \$1,400,000. The Refunding Bonds maturing on or after November 1, 2009 are subject to redemption prior to their stated maturity dates at the option of the Authority, on or after November 1, 2008. The property and revenues of the System are pledged as collateral for the Refunding Bonds.

The net proceeds of the Refunding Bonds along with available funds were used to purchase U.S. Government securities. Those securities were deposited in an irrevocable trust with an escrow agent to provide for debt service on the 1988 Bonds to the call date of November 1, 1998 and a call premium of \$550,000 due at that time. Unamortized 1988 bond issuance costs and discount were \$168,000 and \$409,000, respectively, at the date of the refunding.

Although the advance refunding resulted in the deferral of \$1,395,725 of costs at June 30, 1999, the Authority in effect reduced its aggregate debt service payments by almost \$8,108,000 over the next 15 years and obtained an economic gain (difference between the present value of the old and new debt service payments) of \$4,208,000.

For the year ended June 30, 2000, interest expense on the Refunding Bonds amounted to \$1,400,394 and the related interest income earned on the restricted investments amounted to \$178,129.

Aggregate maturities of bond principal and interest, net of unamortized issuance cost, and unamortized deferral are as follows:

Delaware and Raritan 1998 Water Revenue Refunding Bonds

Year ending June 30,	
2001	\$ 2,738,631
2002	2,735,506
2003	2,731,369
2004	2,728,966
2005	2,727,325
2006-2010	13,542,488
2011-2014	10,709,356
	37,913,641
Less amounts representing interest	10,968,641
Principal amount due	26,945,000
Less:	
Current principal portion	1,400,000
Unamortized deferral amount	1,138,906
Plus:	
Unamortized bond premium	731,098
Long-term liability at June 30, 2000	<u>\$25,137,192</u>

7. Employee Benefits

a. Pension and Retirement Plans

Full-time employees of the Authority are covered by the Public Employees' Retirement System of the State of New Jersey (PERS). The Division of Pensions within the Treasury Department of the State of New Jersey is the administrator of the funds and charges employers

Notes to Financial Statements (continued)

annually for their respective contributions. The plans provide retirement and disability benefits, annual cost of living adjustments and benefits to plan members and beneficiaries. The plans are cost sharing multiple-employer defined benefit plans and as such do not maintain separate records for each employer in the state, therefore, the actuarial data for the Authority is not available. The Division of Pensions issues publicly available financial reports for each of the plans that includes financial statements and required supplementary information. The reports may be obtained by writing the State of New Jersey, Division of Pensions.

All Authority full-time 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 is required. 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 3% of their salary. 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 payroll for employees covered by PERS for the years ended June 30, 2000, 1999, and 1998 was \$4,401,817, \$4,252,303, and \$4,128,224, respectively. The Authority's total payroll for the years ended June 30, 2000, 1999, and 1998 was \$4,725,455, \$4,491,112, and \$4,344,426, respectively. The actuarial contribution requirements and the contributions made for the years ended June 30, 2000, 1999, and 1998 were \$167,303, \$193,397, and \$197,022, respectively, all of which was made by Authority employees. The employer and employee contributions represented 0% and 3.80% of covered payroll for the year ended June 30, 2000, 0% and 4.55% of covered payroll for the year ended June 30, 1999 and 0% and 4.77% of covered payroll for the year ended June 30, 1998. Contributions were made in accordance with the actuarial funding requirement.

b. 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. The total number of employees receiving benefits was 27, 26, and 25 at June 30, 2000, June 30, 1999, and June 30, 1998, respectively. Total cost for these post-retirement benefits, included in fringe benefits approximated \$100,885, \$105,295 and \$89,628 for the years ended June 30, 2000, 1999, and 1998, respectively.

8. Major Water Customers

During fiscal year 2000, the Authority supplied water to approximately fifteen customers of the Raritan Basin System and fourteen customers of the Manasquan System.

Two customers accounted for approximately 81% of total Raritan Basin System operating revenues. Three customers accounted for approximately 76% of total Manasquan System operating revenues.

9. 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. Workers' Compensation coverage is also maintained as required by State law. Settled claims resulting from the aforementioned risks have not exceeded insurance coverage in any of the past three fiscal years.

10. Settlement of Claim

During fiscal year 2000 the Authority settled for \$2.8 million, its claims against Cruz Construction Inc., and Whitman, Requardt and Associates, LLP, Consulting Engineer for the defective design and installation of the 108" pipeline used in the Release Pipeline at the Round Valley Reservoir. The funds will be invested for future Capital Improvement projects.

Supplemental Information

New Jersey Water Supply Authority
Combining Balance Sheet

June 30, 2000

	Raritan Basin System	Manasquan Reservoir System	Elimination Entries	Combined Total
Assets				
Utility plant:				
Utility plant in service	\$130,932,116	\$ 92,632,043		\$223,564,159
Less accumulated depreciation	49,544,377	15,961,407		65,505,784
Net utility plant in service	81,387,739	76,670,636		158,058,375
Construction work in progress	5,218,057	7,662		5,225,719
Net utility plant	86,605,796	76,678,298		163,284,094
Current assets:				
Cash	52,794	295,051		347,845
Cash WTP/TS		26,918		26,918
Cash equivalents	12,778,613	4,405,719		17,184,332
Cash equivalents WTP/TS		361,475		361,475
Unbilled sales	1,002,635			1,002,635
Accounts receivable, less allowance for doubtful accounts of \$1,000 for the Raritan Basin System	382,163	899,408	\$(99,796)	1,181,775
Claim receivable	2,800,000			2,800,000
Interest receivable	32,935	99,136		132,071
Prepaid expenses and other current assets	226,213	39,377		265,590
Inventory WTP/TS		115,611		115,611
Total current assets	17,275,353	6,242,695	(99,796)	23,418,252
Restricted cash equivalents and investments:				
Cash equivalents	296,518			296,518
D & R System Revenue Refunding Bonds, Series 1998, current	7,236,640			7,236,640
Manasquan System-State Loan Notes proceeds, current		2,595,403		2,595,403
Manasquan System-State Loan Notes proceeds, long-term		1,846,847		1,846,847
Total restricted cash equivalents and investments	7,533,158	4,442,250		11,975,408
Long-term investments	3,131,721	821,517		3,953,238
Costs to be recovered from future revenues	1,017,008	18,460,019		19,477,027
Deferred issuance cost	336,552	378,856		715,408
Total assets	\$115,899,588	\$107,023,635	\$(99,796)	\$222,823,427

New Jersey Water Supply Authority
Combining Balance Sheet (continued)

June 30, 2000

	Raritan Basin System	Manasquan Reservoir System	Elimination Entries	Combined Total
Capitalization and liabilities				
Capitalization:				
Contributed capital	\$ 44,218,123	\$ 7,184,212		\$ 51,402,335
Retained earnings	32,068,884	7,470,556		39,539,440
Total capitalization	<u>76,287,007</u>	<u>14,654,768</u>		<u>90,941,775</u>
Long-term liabilities:				
Due to State of New Jersey, including accrued interest of \$25,563,184	9,919,234	89,590,426		99,509,660
D & R System Revenue Refunding Bonds, Series 1998 including unamortized bond premium of \$731,098 and net of unamortized deferral of \$1,138,906	<u>25,137,192</u>			<u>25,137,192</u>
Total long-term liabilities	<u>35,056,426</u>	<u>89,590,426</u>		<u>124,646,852</u>
Current liabilities:				
Current portion of amounts payable to State of New Jersey and principal on bonds	3,318,280	1,014,880		4,333,160
Accounts payable	290,272	153,276	\$(99,796)	343,752
Accounts payable WTP/TS		121,027		121,027
Accrued payroll and payroll taxes	198,233	68,568		266,801
Accrued vacation	133,836	27,026		160,862
Accrued interest	319,016	1,011,513		1,330,529
Deferred revenue WTP/TS		382,151		382,151
Deferred revenue	<u>296,518</u>			<u>296,518</u>
Total current liabilities	<u>4,556,155</u>	<u>2,778,441</u>	<u>(99,796)</u>	<u>7,234,800</u>
Total liabilities	<u>39,612,581</u>	<u>92,368,867</u>	<u>(99,796)</u>	<u>131,881,652</u>
Total capitalization and liabilities	<u>\$115,899,588</u>	<u>\$107,023,635</u>	<u>\$(99,796)</u>	<u>\$222,823,427</u>

New Jersey Water Supply Authority
Combining Statement of Revenues and Expenses
and Changes in Retained Earnings
Year ended June 30, 2000

	Raritan Basin System	Manasquan Reservoir System	Manasquan Water Treatment Plant	Combined Total
Operating revenues:				
Water sales	\$13,226,884	\$4,736,318		\$17,963,202
Reimbursement of operating expenses			\$1,414,821	1,414,821
Total operating revenues	<u>13,226,884</u>	<u>4,736,318</u>	<u>1,414,821</u>	<u>19,378,023</u>
Operating expenses:				
Payroll	3,634,666	575,122	485,632	4,695,420
Operations and maintenance (direct)	2,662,481	507,521	656,254	3,826,256
Operations and maintenance (general and administrative)		61,318	40,552	101,870
Fringe benefits	940,042	139,621	120,246	1,199,909
Headquarters overhead	(455,000)	375,300	79,700	-
Total operating expenses	<u>6,782,189</u>	<u>1,658,882</u>	<u>1,382,384</u>	<u>9,823,455</u>
Income from operations before depreciation	6,444,695	3,077,436	32,437	9,554,568
Depreciation	3,841,029	1,628,120		5,469,149
Income from operations	<u>2,603,666</u>	<u>1,449,316</u>	<u>32,437</u>	<u>4,085,419</u>
Costs to be recovered from future revenue	(649,726)	601,602	(52,872)	(100,996)
Nonoperating revenues:				
Investment income	1,172,090	534,934	20,435	1,727,459
Rental income	42,628			42,628
Gain on settlement of claim	2,800,000			2,800,000
Other income	124,011	15,481		139,492
Total nonoperating revenues	<u>4,138,729</u>	<u>550,415</u>	<u>20,435</u>	<u>4,709,579</u>
Nonoperating expenses:				
Interest component of debt service to the State of New Jersey	2,186,068	2,460,837		4,646,905
Amortization of issuance costs-D&R System Revenue Refunding Bonds, Series 1998	25,229			25,229
Amortization of issuance costs - Manasquan State Loan Notes		14,100		14,100
Total nonoperating expenses	<u>2,211,297</u>	<u>2,474,937</u>		<u>4,686,234</u>
Net income	3,881,372	126,396	-	4,007,768
Retained earnings, beginning of year	28,187,512	7,344,160	-	35,531,672
Retained earnings, end of year	<u>\$32,068,884</u>	<u>\$7,470,556</u>	<u>\$ -</u>	<u>\$39,539,440</u>

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New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Raritan Basin System
Year ended June 30, 2000

	Operating Fund				
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M
Cash and investments - July 1, 1999	\$3	\$29,419	\$20,000	\$2,039,666	\$3,970,966
Cash receipts:					
Water sales operations and maintenance	4,093,498				
Water sales debt service	5,318,778				
Water sales capital fund	1,876,763				
Water sales overdrafts	1,970,429				
Rental income	14,358				2,122
Manasquan reservoir support				4,804	29,683
Headquarters overhead				447,675	
Disposition of property					
Recycling revenue	114				
Sale of investment securities	3,365,000				1,836,708
Insurance reimbursement				84,537	2,408
Miscellaneous expense reimbursement	61,638	311			3,865
Transfers:					
Contributions from operating fund	15,000	4,409,828	2,259,284	(17,395,802)	
Contributions to operating fund				3,781,050	(675,000)
Transfers for operations	(13,570,495)			13,574,543	(3,118)
Distribution from reserves to operations	(3,145,000)	7,261,238		(25,978)	(235,000)
Investment income				74,795	268,571
Per resolution, Section 603:					
Investment income, transfer from	823,167			(75,844)	(269,593)
Investment income, transfer to	(823,167)				623,671
Unrealized gain/(loss) on fair value					13,645
Total cash receipts	83	11,671,377	2,259,284	469,780	1,597,962
Total available cash and investments	\$86	\$11,700,796	\$2,279,284	\$2,509,446	\$5,568,928

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Raritan Basin System (continued)
Year ended June 30, 2000

Pumping Reserve	Self-Insurance Reserve	Depreciation Reserve	Watershed Management Fund	Subtotal
\$225,566	\$928,179	\$2,365,786	\$609,722	\$10,189,307
				4,093,498
				5,318,778
				1,876,763
				1,970,429
				16,480
				34,487
				447,675
		12,136		12,136
				114
	913,308	247,249		6,362,265
				86,945
				65,814
		200,000	13,776	(10,497,914)
			(349,898)	2,756,152
			(4,048)	(3,118)
		(124,202)		3,731,058
19,580	80,559	143,750	26,966	614,221
(19,580)	(80,559)	(21,805)		355,786
		21,805		(177,691)
2,895	(222)	(60)		16,258
2,895	913,086	478,873	(313,204)	17,080,136
\$228,461	\$1,841,265	\$2,844,659	\$296,518	\$27,269,443

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Raritan Basin System
Year ended June 30, 2000

	Subtotal	Major Rehabilitation	Capital Improvement Fund	Employment Benefit Funds	1998 Bonds Debt Service Account
Cash and investments - July 1, 1999	\$10,189,307	\$1,956,267	\$3,975,185	\$137,807	\$700,140
Cash receipts:					
Water sales operations and maintenance	4,093,498				
Water sales debt service	5,318,778				
Water sales capital fund	1,876,763				
Water sales overdrafts	1,970,429				
Rental income	16,480				
Manasquan reservoir support	34,487				
Headquarters overhead	447,675				
Disposition of property	12,136				
Recycling revenue	114				
Sale of investment securities	6,362,265				
Insurance reimbursement	86,945				
Miscellaneous expense reimbursement	65,814				
Transfers:					
Contributions from operating fund	(10,497,914)		1,897,695	95,607	2,745,394
Contributions to operating fund	2,756,152				
Transfers for operations	(3,118)			(64,331)	
Distribution from reserves to operations	3,731,058	(15,983)	(1,175,399)	(5,494)	
Investment income	614,221	110,314	247,788	7,883	41,911
Per resolution, Section 603:					
Investment income, transfer from	355,786				(39,985)
Investment income, transfer to	(177,691)		177,691		
Unrealized gain/(loss) on fair value	16,258				
Total cash receipts	17,080,136	94,331	1,147,775	33,665	2,747,320
Total available cash and investments	\$27,269,443	\$2,050,598	\$5,122,960	\$171,472	\$3,447,460

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Raritan Basin System (continued)
Year ended June 30, 2000

1998 Bonds Debt Service Reserve	1969 Debt Service Fund	1981 Debt Service Fund	Rate Stabilization Fund	1969 Debt Service Reserve	Totals
\$2,748,105	\$2,783	\$485,586	\$2,763,229	\$179,428	\$23,137,837
					4,093,498
					5,318,778
					1,876,763
					1,970,429
					16,480
					34,487
					447,675
					12,136
					114
				176,606	6,538,871
					86,945
					65,814
	770,000	1,764,182	3,225,036		-
			(2,756,152)		-
			67,449		-
	(770,000)	(1,764,182)			-
136,218	8,685	24,774	129,087	15,575	1,336,456
(137,707)	(8,583)	(24,491)	(129,445)	(15,575)	-
					-
				(43)	16,215
(1,489)	102	283	535,975	176,563	21,814,661
\$2,746,616	\$2,885	\$485,869	\$3,299,204	\$355,991	\$44,952,498

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Raritan Basin System
Year ended June 30, 2000

	Operating Fund				
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	Reserve for O&M
Total available cash and investments	\$86	\$11,700,796	\$2,279,284	\$2,509,446	\$5,568,928
Cash disbursements:					
Payroll			2,107,373		
Fringe benefits		845,516	151,911	1,050,035	
Employee deferred comp. and credit union		227,882		215,574	
Operations and maintenance		2,346,222			
Prepaid insurance		374,456			
Miscellaneous disbursements		3,294			
Watershed Management Fund		256,104			
Capital improvements:					
Capital assets		705,756			
New five year construction project		1,173,920			
Purchase of investments securities		3,201,106			1,904,088
Principal on 1969 bonds		666,273			
Interest on 1969 bonds		103,727			
Principal on 1981 bonds		1,152,000			
Interest on 1981 bonds		612,182			
Principal on 1998 revenue bonds					
Interest on 1998 revenue bonds					
Total cash disbursements	-	11,668,438	2,259,284	1,265,609	1,904,088
Cash and investments - June 30, 2000	\$86	\$32,358	\$20,000	\$1,243,837	\$3,664,840
 Summary of cash and investments:					
Cash	\$86	\$32,358	\$20,000		
Short-term investments				\$1,243,837	\$1,852,523
Long-term investments					1,812,317
Restricted investments (current)					
Total cash and investments	\$86	\$32,358	\$20,000	\$1,243,837	\$3,664,840

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Raritan Basin System (continued)
Year ended June 30, 2000

Pumping Reserve	Self-Insurance Reserve	Depreciation Reserve	Watershed Management Fund	Subtotal	
\$228,461	\$1,841,265	\$2,844,659	\$296,518	\$27,269,443	
				2,107,373	
				2,047,462	
				443,456	
				2,346,222	
				374,456	
				3,294	
				256,104	
				705,756	
				1,173,920	
228,461	939,806	254,423		6,527,884	
				666,273	
				103,727	
				1,152,000	
				612,182	
				-	
				-	
228,461	939,806	254,423	-	18,520,109	
\$	-	\$901,459	\$2,590,236	\$296,518	\$8,749,334
				\$52,444	
	\$281	\$2,346,271	\$296,518	5,739,430	
\$	-	901,178	243,965	2,957,460	
				-	
\$	-	\$901,459	\$2,590,236	\$296,518	\$8,749,334

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments

Raritan Basin System

Year ended June 30, 2000

	Subtotal	Major Rehabilitation	Capital Improvement Fund	Employment Benefit Funds	1998 Bonds Debt Service Account
Total available cash and investments	\$27,269,443	\$2,050,598	\$5,122,960	\$171,472	\$3,447,460
Cash disbursements:					
Payroll	2,107,373				
Fringe benefits	2,047,462			8,979	
Employee deferred comp. and credit union	443,456				
Operations and maintenance	2,346,222				
Prepaid insurance	374,456				
Miscellaneous disbursements	3,294				
Watershed Management Fund	256,104				
Capital improvements:					
Capital assets	705,756				
New five year construction project	1,173,920				
Purchase of investments securities	6,527,884				
Principal on 1969 bonds	666,273				
Interest on 1969 bonds	103,727				
Principal on 1981 bonds	1,152,000				
Interest on 1981 bonds	612,182				
Principal on 1998 revenue bonds	-				1,345,000
Interest on 1998 revenue bonds	-				1,400,394
Total cash disbursements	<u>18,520,109</u>	-	-	<u>8,979</u>	<u>2,745,394</u>
Cash and investments - June 30, 2000	<u>\$8,749,334</u>	<u>\$2,050,598</u>	<u>\$5,122,960</u>	<u>\$162,493</u>	<u>\$702,066</u>

Summary of cash and investments:

Cash	\$52,444			\$350	
Short-term investments	5,739,430	\$2,050,598	\$5,122,960	162,143	
Long-term investments	2,957,460				
Restricted investments (current)	-				\$702,066
Total cash and investments	<u>\$8,749,334</u>	<u>\$2,050,598</u>	<u>\$5,122,960</u>	<u>\$162,493</u>	<u>\$702,066</u>

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Raritan Basin System (continued)
Year ended June 30, 2000

1998 Bonds Debt Service Reserve	1969 Debt Service Fund	1981 Debt Service Fund	Rate Stabilization Fund	1969 Debt Service Reserve	Totals
\$2,746,616	\$2,885	\$485,869	\$3,299,204	\$355,991	\$44,952,498
					2,107,373
					2,056,441
					443,456
					2,346,222
					374,456
					3,294
					256,104
					705,756
					1,173,920
				181,730	6,709,614
					666,273
					103,727
					1,152,000
					612,182
					1,345,000
					1,400,394
-	-	-	-	181,730	21,456,212
\$2,746,616	\$2,885	\$485,869	\$3,299,204	\$174,261	\$23,496,286
					\$52,794
					13,075,131
				\$174,261	3,131,721
\$2,746,616	\$2,885	\$485,869	\$3,299,204		7,236,640
\$2,746,616	\$2,885	\$485,869	\$3,299,204	\$174,261	\$23,496,286

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Manasquan Water Supply System
Year ended June 30, 2000

	Operating Fund				Reserve for O&M
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	
Cash and investments - July 1, 1999	\$210,712	\$16,245	\$20,000	\$124,771	\$1,101,165
Cash receipts:					
Water sales operations and maintenance	849,475				
Water sales debt service	3,238,355				
Water sales overdrafts	873,230				
NJ-American pumping costs	106,336				45,480
Headquarters overhead					5,410
Reimbursement of WTP capital expenses					2,700
Disposition of assets					464,223
Reimbursement from Raritan Basin					11,862
Sale of investments securities	825,000				
Miscellaneous reimbursement	7				
Transfers:					
Contributions from operating fund		2,430,000	682,474	(7,436,946)	
Contributions to operating fund				1,677,604	(225,000)
Transfers for operations	(5,027,430)			5,027,430	
Distribution from reserves to operations	(824,800)	844,045		509	(474)
Investment income				28,729	77,663
Per resolution, Section 603:					
Investment income, transfer from	190,192			(28,692)	(77,953)
Investment income, transfer to	(190,192)			116,767	73,425
Unrealized gain/(loss) on fair value					13,977
Total cash receipts	40,173	3,274,045	682,474	(614,599)	391,313
Total cash and investments	\$250,885	\$3,290,290	\$702,474	(\$489,828)	\$1,492,478

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Manasquan Water Supply System (continued)
Year ended June 30, 2000

Self- Insurance Reserve	Renewal and Replacement Account	Depreciation Reserve	Pumping Reserve	Sediment Reserve	Subtotal
\$246,110	\$1,866,382	\$505,985	\$96,476	\$97,903	\$4,285,749
					849,475
					3,238,355
					873,230
					151,816
					-
					5,410
					2,700
					-
232,111		90,826	45,413		1,657,573
					11,869
	120,000	14,250			(4,190,222)
					1,452,604
					-
	(1,939)	(17,815)			(474)
21,039	111,889	31,651	6,789	5,417	283,177
(21,036)		(8,010)	(6,776)	(5,391)	42,334
					-
6,990		2,734	1,368		25,069
239,104	229,950	113,636	46,794	26	4,402,916
\$485,214	\$2,096,332	\$619,621	\$143,270	\$97,929	\$8,688,665

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Manasquan Water Supply System
Year ended June 30, 2000

	Water Treatment Plant/Transmission System				
	Subtotal	Operating Account	Operating Fund	Residuals Reserve	Carbon Filter Reserve
Cash and investments - July 1, 1999	\$4,285,749	\$21,464	\$192,407	\$28,145	\$123,333
Cash receipts:					
Water sales operations and maintenance	849,475				
Water sales debt service	3,238,355				
Water sales overdrafts	873,230				
NJ-American pumping costs	151,816				
Headquarters overhead	-		1,304,200		
Reimbursement of WTP capital expenses	5,410		126,809		
Disposition of assets	2,700				
Reimbursement from Raritan Basin	-		16,442		
Sale of investments securities	1,657,573				
Miscellaneous reimbursement	11,869				
Transfers:					
Contributions from operating fund	(4,190,222)	745,000	(817,448)		
Contributions to operating fund	1,452,604		(552,302)	(1,390)	(6,095)
Transfers for operations	-				
Distribution from reserves to operations	(474)				
Investment income	283,177		12,096	1,548	6,790
Per resolution, Section 603:					
Investment income, transfer from	42,334				
Investment income, transfer to	-				
Unrealized gain/(loss) on fair value	25,069				
Total cash receipts	4,402,916	745,000	89,797	158	695
Total cash and investments	\$8,688,665	\$766,464	\$282,204	\$28,303	\$124,028

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Manasquan Water Supply System (continued)
Year ended June 30, 2000

1981 Bonds Debt Service Account	1981 Bonds Debt Service Reserve	Rebate Fund	General Reserve Fund	Employment Benefit Funds	Totals
\$2,411,005	\$1,845,134	\$107,544	\$893,804	\$64,743	\$9,973,328
					849,475
					3,238,355
					873,230
					151,816
					1,304,200
					132,219
					2,700
					16,442
	1,947,390				3,604,963
					11,869
3,277,307			959,341	26,022	-
			(892,817)		-
					-
			37,962	(37,488)	-
75,255	158,780	6,081	42,719	3,046	589,492
158,780	(158,780)		(42,334)		-
					-
283	66,423				91,775
3,511,625	2,013,813	6,081	104,871	(8,420)	10,866,536
\$5,922,630	\$3,858,947	\$113,625	\$998,675	\$56,323	\$20,839,864

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Manasquan Water Supply System
Year ended June 30, 2000

	Operating Fund				
	Revenue Fund	Operating Account	Payroll Account	Operating Fund	
Total available cash and investments	\$250,885	\$3,290,290	\$702,474	(\$489,828)	\$1,492,478
Cash disbursements:					
Payroll			628,039		
Fringe benefits		1,489,399	54,435	(1,084,871)	
Employee deferred comp. and credit union		107,612		107,019	
Operations and maintenance		571,051			
NJ-American pumping costs		168,642			
Prepaid insurance		51,952			
Headquarters overhead				367,975	
Capital assets reservoir		35,154			
Capital improvement program (reservoir)		4,313			
Purchase of investment securities		839,721			491,783
Principal on 1981 bonds					
Interest on 1981 bonds					
Total cash disbursements	-	3,267,844	682,474	(609,877)	491,783
Cash and investments - June 30, 2000	\$250,885	\$22,446	\$20,000	\$120,049	\$1,000,695
 Summary of cash and investments:					
Cash (Manasquan)	\$250,885	\$22,446	\$20,000		
Cash (Water Treatment Plant/TS)					
Short-term investments				\$120,049	\$542,637
Short-Term investments (WTP/TS)					
Long-term investments					458,058
Restricted investments (current)					
Restricted investments (long-term)					
Total cash and investments	\$250,885	\$22,446	\$20,000	\$120,049	\$1,000,695

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Manasquan Water Supply System (continued)
Year ended June 30, 2000

Self- Insurance Reserve	Renewal and Replacement Account	Depreciation Reserve	Pumping Reserve	Sediment Reserve	Subtotal
\$485,214	\$2,096,332	\$619,621	\$143,270	\$97,929	\$8,688,665
					628,039
					458,963
					214,631
					571,051
					168,642
					51,952
					367,975
					35,154
					4,313
245,891		96,218	48,109		1,721,722
					-
					-
245,891	-	96,218	48,109	-	4,222,442
\$239,323	\$2,096,332	\$523,403	\$95,161	\$97,929	\$4,466,223
					\$293,331
					-
\$10,294	\$2,096,332	\$433,783	\$50,351	\$97,929	3,351,375
					-
229,029		89,620	44,810		821,517
					-
					-
\$239,323	\$2,096,332	\$523,403	\$95,161	\$97,929	\$4,466,223

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Manasquan Water Supply System
Year ended June 30, 2000

	Water Treatment Plant/Transmission System				
	Subtotal	Operating Account	Operating Fund	Residuals Reserve	Carbon Filter Reserve
Total available cash and investments	\$8,688,665	\$766,464	\$282,204	\$28,303	\$124,028
Cash disbursements:					
Payroll	628,039				
Fringe benefits	458,963				
Employee deferred comp. and credit union	214,631				
Operations and maintenance	571,051	739,546			
NJ-American pumping costs	168,642				
Prepaid insurance	51,952				
Headquarters overhead	367,975		73,060		
Capital assets reservoir	35,154				
Capital improvement program (reservoir)	4,313				
Purchase of investment securities	1,721,722				
Principal on 1981 bonds	-				
Interest on 1981 bonds	-				
Total cash disbursements	4,222,442	739,546	73,060	-	-
Cash and investments - June 30, 2000	\$4,466,223	\$26,918	\$209,144	\$28,303	\$124,028
Summary of cash and investments:					
Cash (Manasquan)	\$293,331				
Cash (Water Treatment Plant/TS)	-	\$26,918			
Short-term investments	3,351,375				
Short-Term investments (WTP/TS)	-		\$209,144	\$28,303	\$124,028
Long-term investments	821,517				
Restricted investments (current)	-				
Restricted investments (long-term)	-				
Total cash and investments	\$4,466,223	\$26,918	\$209,144	\$28,303	\$124,028

New Jersey Water Supply Authority
Schedule of Changes in Cash and Investments
Manasquan Water Supply System (continued)
Year ended June 30, 2000

1981 Bonds Debt Service Account	1981 Bonds Debt Service Reserve	Rebate Fund	General Reserve Fund	Employment Benefit Funds	Totals
\$5,922,630	\$3,858,947	\$113,625	\$998,675	\$56,323	\$20,839,864
					628,039
					458,963
					214,631
					1,310,597
					168,642
					51,952
					441,035
					35,154
					4,313
	2,011,867				3,733,589
956,902					956,902
2,483,117					2,483,117
3,440,019	2,011,867	-	-	-	10,486,934
\$2,482,611	\$1,847,080	\$113,625	\$998,675	\$56,323	\$10,352,930
					\$295,051
\$833	\$233			\$654	26,918
			\$998,675	55,669	4,405,719
					361,475
					821,517
2,481,778		\$113,625			2,595,403
	1,846,847				1,846,847
\$2,482,611	\$1,847,080	\$113,625	\$998,675	\$56,323	\$10,352,930

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Statistical Section

Summary of Financial Information.....	1991 - 2000
Summary of Raritan Basin System Water Use Contracts	1991 - 2000
Summary of Manasquan Water Supply System Water Use Contracts	1991 - 2000
Raritan Basin System Revenue Bond Coverage	1991 - 2000
Raritan Basin System Water Charges	1983 - 2000
Manasquan Water Supply System Water Charges	1990 - 2000
Spruce Run Rain Gauge	1991 - 2000
West Windsor Rain Gauge	1991 - 2000
Spruce Run Reservoir Storage	1991 - 2000
Round Valley Reservoir Storage	1991 - 2000
Manasquan System Rainfall	1991 - 2000
Manasquan Reservoir Storage Data.....	1991 - 2000

New Jersey Water Supply Authority
SUMMARY OF FINANCIAL INFORMATION 1991 - 2000

	1991	1992	1993	1994	1995
REVENUE AND EXPENSES					
Operating revenue	\$17,865,600	\$18,854,274	\$19,739,401	\$20,750,036	\$21,316,171
Operating expense	7,468,949	8,716,079	9,041,977	9,150,905	9,349,446
Income from operations before depreciation	10,396,651	10,138,195	10,697,424	11,599,131	11,966,725
Depreciation expense	3,826,536	4,483,649	4,378,819	4,769,187	5,070,009
Income from operations	6,570,115	5,654,546	6,318,605	6,829,944	6,896,716
Costs to be recovered from future revenues	2,547,597	2,786,073	2,676,749	2,383,069	2,452,558
Nonoperating revenues	836,466	971,185	674,872	(542,296)	4,047,594
Nonoperating expenses	4,771,544	5,274,722	5,595,886	5,808,771	6,189,365
Net income	5,182,634	4,137,082	4,074,340	2,861,946	7,207,503
Retained earnings beginning of year	13,242,347	18,424,981	22,562,063	26,636,403	29,498,349
Retained earnings end of year	\$18,424,981	\$22,562,063	\$26,636,403	\$29,498,349	\$36,705,852
ASSETS					
Net utility plant	173,001,674	175,573,410	176,975,727	179,995,711	179,880,192
Current assets	11,249,856	12,367,127	11,789,475	13,044,745	16,030,402
Restricted investments and other assets	36,050,120	38,289,850	42,612,624	38,500,313	40,703,654
Total assets	\$220,301,650	\$226,230,387	\$231,377,826	\$231,540,769	\$236,614,248
CAPITALIZATION AND LIABILITIES					
Total capitalization	69,827,316	73,964,398	78,038,738	80,900,684	88,108,188
Long term liabilities	145,485,634	146,175,912	146,140,716	143,992,735	142,292,791
Current liabilities	4,988,700	6,090,077	7,198,372	6,647,350	6,213,269
Total capitalization and liabilities	\$220,301,650	\$226,230,387	\$231,377,826	\$231,540,769	\$236,614,248

New Jersey Water Supply Authority
SUMMARY OF FINANCIAL INFORMATION 1991 - 2000

<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
\$21,138,739	\$19,689,581	\$19,795,670	\$19,554,202	\$19,378,023
<u>9,364,864</u>	<u>9,039,373</u>	<u>8,571,774</u>	<u>8,927,423</u>	<u>9,823,455</u>
11,773,875	10,650,208	11,223,896	10,626,779	9,554,568
<u>5,372,317</u>	<u>5,556,324</u>	<u>5,561,782</u>	<u>5,553,456</u>	<u>5,469,149</u>
6,401,558	5,093,884	5,662,114	5,073,323	4,085,419
2,898,833	989,731	1,111,458	774,023	(100,996)
1,640,593	1,732,570	2,003,192	1,629,293	4,709,579
<u>6,584,621</u>	<u>6,652,185</u>	<u>6,515,052</u>	<u>4,870,630</u>	<u>4,686,234</u>
4,356,363	1,164,000	2,261,712	2,606,009	4,007,768
<u>36,705,852</u>	<u>29,499,951</u>	<u>30,663,951</u>	<u>32,925,663</u>	<u>35,531,672</u>
\$41,062,215	\$30,663,951	\$32,925,663	\$35,531,672	\$39,539,440
176,797,558	173,574,882	169,983,775	166,824,455	163,284,094
17,970,349	17,275,932	18,755,296	19,928,887	23,418,252
<u>42,925,761</u>	<u>33,344,691</u>	<u>34,064,861</u>	<u>36,234,520</u>	<u>36,121,081</u>
\$237,693,668	\$224,195,505	\$222,803,932	\$222,987,862	\$222,823,427
92,464,550	82,066,286	84,327,998	86,934,007	90,941,775
139,034,247	135,879,609	132,545,681	128,889,411	124,646,852
<u>6,194,871</u>	<u>6,249,610</u>	<u>5,930,253</u>	<u>7,164,444</u>	<u>7,234,800</u>
\$237,693,668	\$224,195,505	\$222,803,932	\$222,987,862	\$222,823,427

**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>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
UNITED WATER LAMBERTVILLE, INC	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	0.250	0.250	0.250	0.250	0.250
VACCARO BROTHERS	0.200	0.200	0.200	0.050	0.050
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 TOWNSHIP	8.000	8.000	8.000	8.000	8.000
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
EAST BRUNSWICK TOWNSHIP	8.000	8.000	8.000	8.000	8.000
NEW BRUNSWICK, CITY OF	10.500	10.500	10.500	10.500	10.500
JOHNSON & JOHNSON CORPORATION	2.326	2.326	2.326	0.500	0.500
MIDDLESEX WATER COMPANY	20.000	20.000	20.000	20.000	20.000
TREDEGAR INDUSTRIES	0.012	0.012	0.012		
FLEMINGTON FILM PRODUCTS				0.012	0.012
SYSTEM TOTAL	153.123	153.123	153.123	151.147	151.147

**New Jersey Water Supply Authority
 RARITAN BASIN SYSTEM
 SUMMARY OF WATER USE CONTRACTS
 MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY - MGD**

<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</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
0.050				
0.135	0.135	0.135	0.135	0.135
1.000	0.500	0.500	0.500	0.500
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
0.500	0.500			
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>
151.147	150.297	149.797	149.797	149.797

**New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
SUMMARY OF WATER USE CONTRACTS
MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY - MGD**

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
WALL TOWNSHIP	2.300	2.300	2.300	2.300	2.300
BOROUGH OF AVON	0.142	0.142	0.142	0.142	0.142
SHORELANDS WATER COMPANY	1.900	1.900	1.900	1.900	1.900
NEW JERSEY-AMERICAN WATER CO.	5.715	6.215	6.305	7.035	7.035
BOROUGH OF RED BANK	0.778	0.778	0.778	0.778	0.778
BOROUGH OF SEA GIRT	0.075	0.075	0.075	0.075	0.075
BOROUGH OF SPRING LAKE	0.310	0.310	0.310	0.310	0.310
BOROUGH OF SPRING LAKE HEIGHTS	0.450	0.450	0.450	0.450	0.450
BOROUGH OF UNION BEACH	0.500				
BOROUGH OF BELMAR	0.650	0.650	0.650	0.650	0.650
HOWELL TOWNSHIP MUA	1.130				
HOWELL TOWNSHIP		1.130	1.130	0.730	0.730
BOROUGH OF BRIELLE	0.400	0.400	0.400	0.400	0.400
BOROUGH OF HIGHLANDS	0.330	0.330	0.330		
ADELPHIA WATER COMPANY	0.300	0.300	0.300	0.300	0.300
BOROUGH OF ALLENHURST	0.090	0.090			
BOROUGH OF KEYPORT	0.458	0.458	0.458	0.458	0.458
BOROUGH OF MATAWAN	0.469	0.469	0.469	0.469	0.469
BOROUGH OF SOUTH BELMAR	0.100	0.100	0.100	0.100	0.100
	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>	<u>16.097</u>

NOTE: The Manasquan System started operations JULY 1,1990.

**New Jersey Water Supply Authority
 MANASQUAN WATER SUPPLY SYSTEM
 SUMMARY OF WATER USE CONTRACTS
 MAXIMUM DAILY ALLOCATION IN MILLIONS GALLONS PER DAY - MGD**

<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
2.300	2.300	2.300	2.300	2.300
0.142	0.142	0.142	0.142	0.142
1.900	1.900	1.900	1.900	1.900
7.035	7.035	7.765	8.065	8.065
0.778	0.778	0.778	0.778	0.778
0.075	0.075	0.075	0.075	0.075
0.310	0.310	0.310	0.310	0.310
0.450	0.450	0.450	0.450	0.450
0.650	0.650	0.650	0.650	0.650
0.730	0.730			
0.400	0.400	0.400	0.400	0.400
0.300	0.300	0.300		
0.458	0.458	0.458	0.458	0.458
0.469	0.469	0.469	0.469	0.469
0.100	0.100	0.100	0.100	0.100
16.097	16.097	16.097	16.097	16.097

**NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM**

**SERIES 1988, D & R SYSTEM REVENUE BOND COVERAGE*
SERIES 1998, D & R SYSTEM REVENUE REFUNDING BOND COVERAGE**

<u>Fiscal Year</u>	<u>Gross Revenue</u>	<u>Operating Expenses</u>	<u>Net Revenue Available for Debt Service</u>	<u>Debt Service Payments</u>	<u>Coverage</u>
2000	\$14,467,229	\$7,187,900	\$7,279,329	\$2,745,394	2.65
1999	\$14,073,166	\$8,433,100	\$5,640,066	\$3,151,000	1.79
1998	\$14,402,400	\$8,433,400	\$5,969,000	\$3,150,000	1.89
1997	\$13,804,500	\$7,829,500	\$5,975,000	\$3,160,000	1.89
1996	\$13,747,250	\$7,697,050	\$6,050,200	\$3,160,000	1.91
1995	\$13,703,700	\$7,754,700	\$5,949,000	\$3,162,000	1.88
1994	\$12,764,300	\$6,815,300	\$5,949,000	\$3,162,000	1.88
1993	\$12,153,357	\$6,915,198	\$5,238,159	\$2,500,000	2.10
1992	\$11,959,554	\$6,743,413	\$5,216,141	\$2,500,000	2.09
1991	\$11,326,150	\$6,106,010	\$5,220,140	\$2,500,000	2.09

Note 1. Section 713 of the Delaware & Raritan Canal - Spruce Run/Round Valley Reservoirs System Bond Resolution, adopted November 17, 1988, requires that the Net Revenues in each fiscal year be at least 120% of the Debt Service on the 1988 bonds for the twelve month period in such fiscal year. Revenue bond coverage information prior to the year ended June 30, 1990 is not available.

* Numbers to calculate bond coverage were extracted from the corresponding budget for the applicable fiscal year.

**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>7/1/83</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>
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RATE PER MGD	\$105.39	\$147.37	\$152.17	\$152.12	\$187.56	\$188.60	\$201.33	\$214.86	\$220.47
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<u>EFFECTIVE DATE</u>	<u>7/1/94</u>	<u>7/1/95</u>	<u>7/1/96</u>	<u>7/1/97</u>	<u>7/1/98</u>	<u>7/1/99</u>	<u>7/1/00</u>
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RATE PER MGD	\$229.50	\$220.78	\$211.16	\$211.16	\$211.16	\$205.00	\$205.00
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**New Jersey Water Supply Authority
MANASQUAN WATER SUPPLY SYSTEM
WATER CHARGES PER MILLION GALLONS OF RAW WATER DAILY**

<u>EFFECTIVE DATE</u>	<u>7/01/90</u>	<u>2/01/91</u>	<u>7/01/91</u>	<u>2/01/92</u>	<u>7/01/92</u>	<u>2/01/93</u>	<u>7/01/93</u>	<u>2/01/94</u>
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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
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<u>EFFECTIVE DATE</u>	<u>7/01/94</u>	<u>7/01/95</u>	<u>7/01/96</u>	<u>7/01/97</u>	<u>7/01/98</u>	<u>7/01/99</u>	<u>7/01/00</u>
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RATE PER MGD	\$1,114.98	\$1,105.47	\$1,065.15	\$938.92	\$832.92	\$695.31	\$728.81
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NOTE: The Manasquan System started operations JULY 1, 1990.

**New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
SPRUCE RUN RAIN GAUGE (INCHES)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2000	2.90	2.00	3.20	2.90	4.70	4.10	4.00	4.80	2.00	0.90	2.60	3.70	37.80
1999	6.00	2.90	4.20	2.60	1.80	0.50	0.20	3.60	10.60	3.70	2.70	2.00	40.80
1998	3.70	4.50	3.60	5.20	5.60	3.60	1.40	4.20	2.50	3.50	1.20	0.80	39.80
1997	3.20	1.60	2.80	2.40	3.00	2.30	6.90	4.10	1.70	1.70	3.20	3.80	36.70
1996	6.00	1.50	3.90	5.50	2.40	5.50	8.00	1.40	4.20	8.10	3.70	8.20	58.40
1995	3.00	2.50	1.40	1.90	2.10	2.50	5.20	1.00	2.60	11.00	4.30	2.30	39.80
1994	5.30	2.70	4.80	2.20	3.20	6.00	3.00	3.60	1.80	1.30	3.50	2.70	40.10
1993	2.30	3.50	7.20	4.30	1.70	2.40	1.60	3.20	5.70	3.00	3.50	4.90	43.30
1992	2.10	1.60	3.60	1.30	2.70	4.10	4.80	3.50	3.00	2.00	6.60	4.70	40.00
1991	3.40	1.40	4.10	3.40	3.70	2.60	3.30	2.30	5.40	2.10	2.00	3.50	37.20
TOTAL	37.90	24.20	38.80	31.70	30.90	33.60	38.40	31.70	39.50	37.30	33.30	36.60	413.90
AVERAGE	3.79	2.42	3.88	3.17	3.09	3.36	3.84	3.17	3.95	3.73	3.33	3.66	41.39
MAXIMUM	6.00	4.50	7.20	5.50	5.60	6.00	8.00	4.80	10.60	11.00	6.60	8.20	58.40
MINIMUM	2.10	1.40	1.40	1.30	1.70	0.50	0.20	1.00	1.70	0.90	1.20	0.80	36.70

**New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
WEST WINDSOR RAIN GAUGE (INCHES)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2000	2.90	2.30	3.70	3.10	4.60	3.80	6.00	6.10	6.70	0.80	3.20	3.90	47.10
1999	7.60	3.50	4.20	2.20	3.30	0.60	1.00	6.80	11.00	3.60	2.00	3.70	49.50
1998	4.70	3.30	5.50	3.80	8.00	4.90	1.80	3.50	1.90	1.50	1.40	1.10	41.40
1997	3.70	2.60	1.60	3.50	3.50	2.50	5.70	1.80	1.30	1.80	3.00	3.90	34.90
1996	5.40	1.10	4.30	4.50	1.60	8.20	7.40	3.00	5.60	6.00	2.70	7.50	57.30
1995	2.60	2.60	1.40	1.40	1.80	0.20	1.90	1.20	3.00	5.00	4.40	2.30	27.80
1994	6.80	3.10	8.10	3.50	3.90	4.50	6.10	5.80	2.70	0.70	3.70	2.80	51.70
1993	2.30	2.20	8.30	4.40	1.50	2.90	4.70	3.10	9.50	4.60	2.30	4.40	50.20
1992	2.00	1.50	2.80	1.50	2.90	6.20	3.40	3.00	2.80	1.40	4.50	7.20	39.20
1991	3.80	1.10	5.10	4.20	2.00	3.40	5.90	4.90	5.10	1.90	2.30	2.90	42.60
TOTAL	41.80	23.30	45.00	32.10	33.10	37.20	43.90	39.20	49.60	27.30	29.50	39.70	441.70
AVERAGE	4.18	2.33	4.50	3.21	3.31	3.72	4.39	3.92	4.96	2.73	2.95	3.97	44.17
MAXIMUM	7.60	3.50	8.30	4.50	8.00	8.20	7.40	6.80	11.00	6.00	4.50	7.50	57.30
MINIMUM	2.00	1.10	1.40	1.40	1.50	0.20	1.00	1.20	1.30	0.70	1.40	1.10	27.80

**New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
SPRUCE RUN RESERVOIR STORAGE
BILLION GALLONS**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2000	10.0	10.4	11.1	10.9	11.0	11.0	11.0	10.2	11.0	11.0	10.4	10.3
1999	3.7	5.5	6.4	8.2	9.4	9.9	8.1	7.4	6.6	8.2	8.7	9.3
1998	5.6	6.9	8.6	10.7	11.0	11.0	11.0	9.2	6.4	4.3	3.9	3.9
1997	11.0	10.9	11.0	11.0	11.0	11.0	10.3	9.1	8.0	6.5	4.6	11.0
1996	8.9	11.0	10.7	11.1	11.2	11.0	11.0	11.0	10.3	9.9	10.6	9.0
1995	9.1	9.9	9.1	10.6	11.0	10.9	9.5	7.9	5.0	4.5	6.8	8.3
1994	7.5	7.4	7.8	11.1	11.0	10.8	10.9	10.7	10.5	9.7	8.4	5.7
1993	10.5	10.5	10.6	11.2	10.8	10.6	10.0	7.7	5.7	4.9	4.9	10.1
1992	6.0	6.2	6.0	7.2	8.0	8.4	9.6	10.1	10.1	9.5	8.6	5.6
1991	11.1	11.0	11.0	11.0	11.0	11.0	10.5	9.5	7.8	6.4	5.7	11.0
AVERAGE	8.3	9.0	9.2	10.3	10.5	10.6	10.2	9.3	8.1	7.5	7.3	8.4
MAXIMUM	11.1	11.0	11.1	11.2	11.2	11.0	11.0	11.0	11.0	11.0	10.6	11.0
MINIMUM	3.7	5.5	6.0	7.2	8.0	8.4	8.1	7.4	5.0	4.3	3.9	3.9

MAXIMUM CAPACITY 11.0 BG

**New Jersey Water Supply Authority
RARITAN BASIN SYSTEM
ROUND VALLEY RESERVOIR STORAGE
BILLION GALLONS**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2000	43.0	43.6	46.8	51.1	53.6	54.4	54.6	54.6	54.8	54.7	54.4	54.3
1999	49.4	49.6	49.8	50.0	50.1	50.2	49.8	44.7	42.3	43.1	43.1	43.0
1998	54.4	54.6	54.8	54.8	55.1	54.4	54.6	54.4	54.4	54.4	52.8	51.1
1997	54.3	54.4	54.5	54.9	55.0	54.5	54.6	54.7	54.7	54.6	54.4	54.3
1996	51.3	51.8	51.9	52.1	52.6	52.8	53.1	53.4	53.2	53.3	53.6	53.7
1995	53.2	53.2	53.3	54.2	54.6	54.7	54.5	54.5	53.3	50.9	51.2	51.3
1994	51.9	52.5	52.2	53.1	53.4	53.5	53.7	53.7	53.8	53.5	53.2	53.2
1993	52.2	52.2	52.4	53.1	53.9	54.0	54.0	52.8	52.2	51.8	51.8	51.8
1992	51.0	51.0	51.0	51.1	51.6	52.0	52.0	52.1	52.1	52.0	51.9	52.1
1991	51.2	51.4	51.5	51.7	52.0	52.1	52.0	52.0	51.9	51.9	51.6	51.0
AVERAGE	51.19	51.43	51.82	52.61	53.19	53.26	53.29	52.69	52.27	52.02	51.80	51.58
MAXIMUM	54.4	54.6	54.8	54.9	55.1	54.7	54.6	54.7	54.8	54.7	54.4	54.3
MINIMUM	43.0	43.6	46.8	50.0	50.1	50.2	49.8	44.7	42.3	43.1	43.1	43.0

MAXIMUM CAPACITY 55.0 BG

**New Jersey Water Supply Authority
MANASQUAN SYSTEM RAINFALL
INCHES**

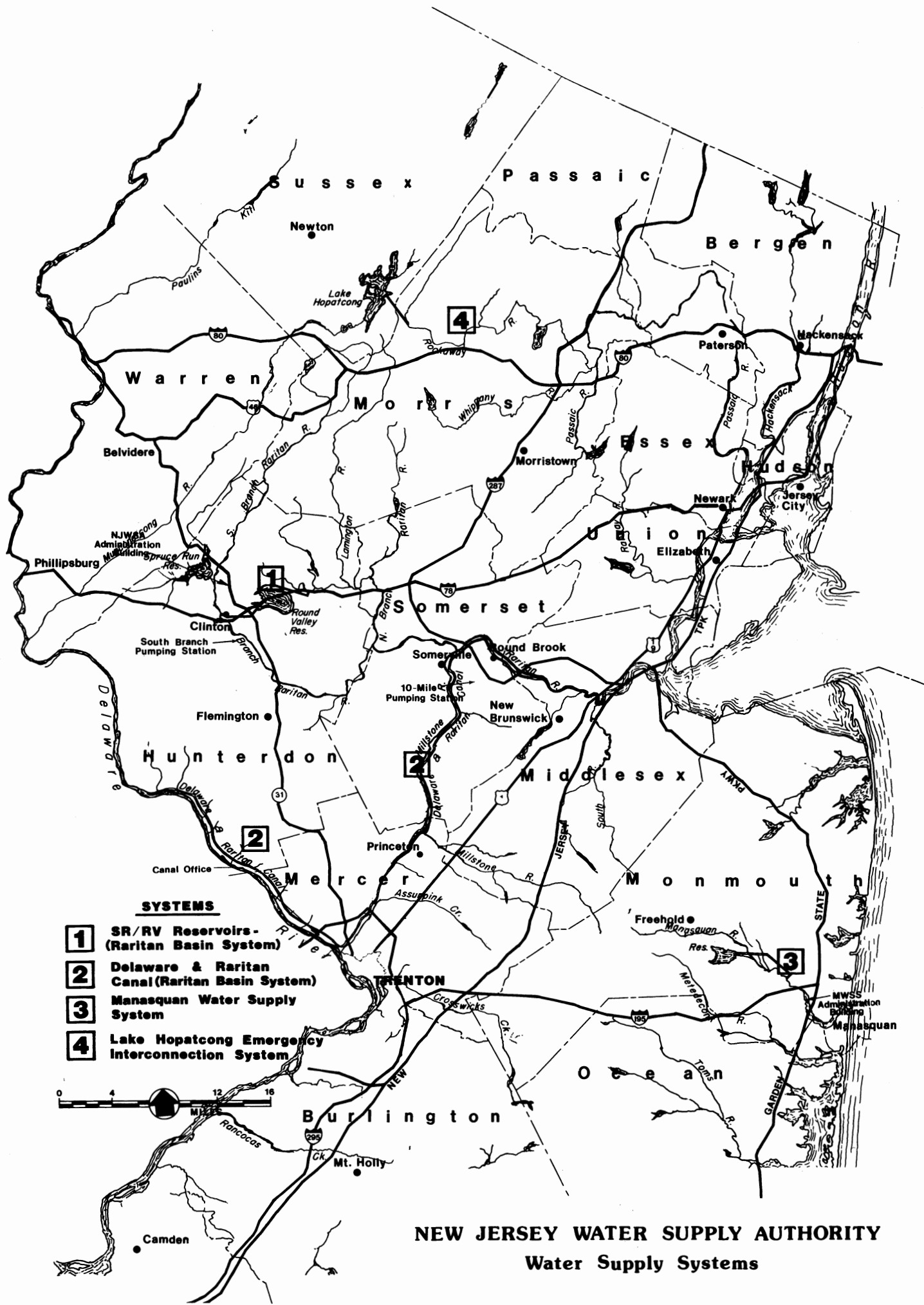
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	
1999	2.98	1.73	2.52	1.86	1.54	2.70	2.60	3.30	2.69	6.11	4.29	6.18	2000
1998	1.37	1.24	0.94	7.03	2.22	2.97	2.07	1.70	1.47	1.05	4.28	4.86	1999
1997	2.80	4.67	3.57	5.56	7.51	6.17	5.19	5.82	6.22	3.11	1.95	2.88	1998
1996	5.52	2.34	6.97	2.48	3.45	4.63	3.99	2.97	2.42	4.27	7.50	3.13	1997
1995	6.63	6.52	2.16	5.86	1.06	3.47	4.63	2.70	4.83	6.83	3.47	5.52	1996
1994	1.00	3.76	2.64	3.12	2.65	1.20	2.79	2.97	2.42	1.77	3.50	3.72	1995
1993	5.08	1.12	3.73	5.38	2.10	5.93	2.72	3.46	1.80	3.12	6.75	2.89	1994
1992	2.08	3.89	7.00	2.05	2.78	8.42	1.91	1.36	1.31	4.45	4.16	6.50	1993
1991	1.85	1.84	4.12	1.57	1.53	3.25	1.17	3.73	2.15	6.00	9.10	3.41	1992
TOTAL	29.31	27.11	33.65	34.91	24.84	38.74	27.07	28.01	25.31	36.71	45.00	39.09	
AVERAGE	3.26	3.01	3.74	3.88	2.76	4.30	3.01	3.11	2.81	4.08	5.00	4.34	
MAXIMUM	6.63	6.52	7.00	7.03	7.51	8.42	5.19	5.82	6.22	6.83	9.10	6.50	
MINIMUM	1.00	1.12	0.94	1.57	1.06	1.20	1.17	1.36	1.31	1.05	1.95	2.88	

NOTE: The Manasquan System started operations July 1, 1990

**New Jersey Water Supply Authority
MANASQUAN RESERVOIR STORAGE DATA
BILLION GALLONS**

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	
1999	3.65	3.72	3.90	4.07	4.33	4.64	4.62	4.62	4.60	4.42	4.57	4.39	2000
1998	4.16	3.86	3.80	4.16	4.48	4.53	4.55	4.53	4.31	3.84	3.47	3.41	1999
1997	3.76	3.80	3.95	4.39	4.55	4.64	4.62	4.60	4.57	4.50	4.42	4.23	1998
1996	4.46	4.35	4.50	4.50	4.60	4.62	4.64	4.55	4.50	4.24	4.09	3.95	1997
1995	3.78	3.97	4.39	4.39	4.37	4.46	4.53	4.55	4.55	4.50	4.50	4.44	1996
1994	4.09	4.05	3.88	3.99	4.20	4.42	4.44	4.48	4.44	4.37	4.33	3.82	1995
1993	3.97	3.95	4.11	4.24	4.23	4.46	4.55	4.50	4.44	4.29	4.22	4.16	1994
1992	4.18	4.14	4.37	4.53	4.55	4.64	4.64	4.57	4.46	4.24	4.03	3.95	1993
1991	3.84	3.74	3.90	3.78	3.53	3.76	4.18	4.44	4.62	4.53	4.50	4.44	1992
AVERAGE	3.99	3.95	4.09	4.23	4.32	4.46	4.53	4.54	4.50	4.33	4.24	4.09	
MAXIMUM	4.46	4.35	4.50	4.53	4.60	4.64	4.64	4.62	4.62	4.53	4.57	4.44	
MINIMUM	3.65	3.72	3.80	3.78	3.53	3.76	4.18	4.44	4.31	3.84	3.47	3.41	

MAXIMUM CAPACITY 4.7 BG



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



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