

NEW JERSEY WATER SUPPLY AUTHORITY

BASIS AND BACKGROUND STATEMENT

PROPOSED AMENDMENTS TO N.J.A.C. 7:11-2.1 et seq. IN THE SCHEDULE
OF RATES, CHARGES AND DEBT SERVICE ASSESSMENTS
FOR THE SALE OF WATER FROM THE RARITAN BASIN SYSTEM

ADJUSTMENT OF GENERAL RATE SCHEDULE FOR
OPERATIONS AND MAINTENANCE TO REFLECT CHANGE IN
SALES BASE AND OPERATING EXPENSES FOR FISCAL YEAR 2016

ADJUSTMENT OF DEBT SERVICE ASSESSMENT TO REFLECT
CHANGE IN SALES BASE COVERING DEBT SERVICE PAYMENTS DUE AND
REQUIRED FOR FISCAL YEAR 2016

ADJUSTMENT OF GENERAL RATE SCHEDULE FOR
CAPITAL FUND COMPONENT FOR FISCAL YEAR 2016

Proposed Effective Date: July 1, 2015

Adopted by the Board: 1/5/2015

NEW JERSEY WATER SUPPLY AUTHORITY
PROPOSED RATE ADJUSTMENTS FOR FISCAL YEAR 2016
RARITAN BASIN SYSTEM

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PART I - EXPLANATION OF PROPOSED REVISED RATE STRUCTURE

Overview of Rate Proposal for Fiscal Year 2016
(July 1, 2015 - June 30, 2016)

The New Jersey Water Supply Authority (Authority) is proposing to adjust its Schedule of Rates, Charges and Debt Service Assessments for the Sale of Water from the Raritan Basin System, to cover expenses for the Fiscal Year (FY) starting on July 1, 2015.

Summary of Proposed Adjustments

| Component | Current (FY2015) Rates Per MG 8/4/2014 - 6/30/2015 | Proposed (FY2016) Rates Per MG 7/1/2015 - 6/30/2016 |
|---------------------------------------|--|--|
| Operations & Maintenance Assessment | \$167.00 | \$171.00 |
| NJEIFP Debt Service Assessment | 25.00 | 25.00 |
| Capital Fund Component | 30.00 | 33.00 |
| SourceWater Protection Fund Component | 24.00 | 24.00 |
| TOTAL RATE | \$246.00/mg | \$253.00/mg |

The General Rate Schedule for Operations and Maintenance (O&M) was last adjusted effective August 4, 2014 to cover the operating expenses of the System for FY2015. The FY2015 O&M sales base was 182.271 million gallons per day (mgd). The Authority anticipates the FY2016 O&M sales base to increase to 182.339mgd to reflect the addition of uninterruptible supply contracts for .031mgd with Hunterdon Medical Center, for .027mgd with Princeton University Operations and an increase in uninterruptible supply contract with Washington Township Municipal Utilities Authority from .025mgd to .035mgd. The O&M Component is projected to increase \$4.00 per million gallons for FY2016 from \$167.00 to \$171.00.

With the allocation of appropriate Headquarters expenses and insurance costs to the Manasquan Reservoir Water Supply System, the projected operating costs for FY2016 require that an O&M Component of \$171.00 per million gallons be charged starting on July 1, 2015.

In recent fiscal years, the actual O&M Component adjustments have been minimized because of credits for receipts of unanticipated revenues from the sale of water in excess of contractual amounts, positive budget variances during the preceding fiscal years or from uses of other one-time sources of revenue. These credits continue to have the effect of obscuring the full O&M Component adjustment needed and as a result Raritan Basin System rates do not represent full cost pricing. The rate has been subsidized by an average of \$2.2 million in non-recurring (overdraft sales and depletion of reserves) revenue over the past five years. The amount available for the Rate Stabilization Fund was \$1,673,240 in FY2015 and will be only \$1,571,150 in FY2016. This decrease in revenue causes a \$1.84 per million gallon increase in the O&M component of the rate even before expense increases are considered. Overdraft sales have fallen precipitously since 2004 from a high of \$2.6 million to \$1,157 in FY2016. The balance of the rate stabilization funds used in FY2016 is derived from \$1.57 million in dredging bond debt service to be raised in FY2015 but not needed currently because the project is postponed another year. Without the use of any rate stabilization funds in FY2016, the required O&M Component of the rate would be \$199.00 per million gallons.

The Authority established the Source Water Protection Fund Component in FY2003 to protect the quality and quantity of waters in the Raritan Basin System. The Authority is proposing no increase in this component of the Rate of \$24.00 per million gallons in FY2016. The rate component supports debt service on acquired critical watershed parcels and matching dollars for watershed protection projects.

The Authority has submitted an application to the New Jersey Environmental Infrastructure Financing Program (NJEIFP) to finance the dredging of a 10.5 mile segment of the Delaware and Raritan Canal (D&R Canal) between Kingston at Lincoln Highway to Amwell Road in Franklin Township, Somerset County, New Jersey. The Authority proposes continuing the rate component of \$25.00 per million gallons to fund the debt service in FY2016.

Finally, the Authority established a "Capital Fund Component" of the rate commencing July 1, 1994. This Component is used to fund the Authority's current Capital Improvement Program without incurring long-term debt. The Capital Fund Component was increased in FY2008 from \$21.00 to \$33.00 per million gallons, funded from the 1981 Bond Act debt service savings. The rate component was reduced to \$30.00 per million gallons in FY2012 to accommodate pressure on the O&M Component in order to keep the overall rate at \$231.00 per million gallons. The Authority is proposing an increase in this component of the rate from \$30.00 to \$33.00 per million gallons in FY2016.

Table 1 on page 12 shows the increases and/or decreases for each rate component and reflects a total rate of \$253.00 per million gallons for FY2016.

The balance of this document contains a further discussion of the individual rate components, a Schedule of Events and Detailed Supporting Information for the proposed rate adjustments.

A pre-public hearing on the proposed rate adjustments is scheduled at 10:00 a.m. on Friday, January 9, 2015, at the Authority's Administration Building, 1851 Highway 31, Clinton, New Jersey.

A public hearing on the proposed rate adjustments is scheduled at 10:00 a.m. on Friday, February 6, 2015 at the Authority's Administration Building, 1851 Highway 31, Clinton, New Jersey.

The New Jersey Register Comment Period is scheduled to close on March 6, 2015 and the public hearing record on the proposed rate adjustments is scheduled to close on March 16, 2015.

Final action on the rate adjustment is scheduled for the Authority's June 1, 2015 meeting. The FY2016 rate will take effect on July 1, 2015.

Distribution of Headquarters General and Administrative Costs and Insurance Costs to all Operating Systems

On July 1, 1990 the Authority placed the Manasquan Reservoir Water Supply System in operation to provide an untreated water supply for use throughout Monmouth County. In addition to this major System, the Authority also began operation of the Water Treatment Plant and Transmission System for the Monmouth County Improvement Authority (MCIA) on July 1, 1990. The Boroughs of Brielle, Spring Lake, Spring Lake Heights, Sea Girt and Wall Township entered into agreements with the MCIA for this treatment/transmission system, which treats and conveys their portion of the supply from the Manasquan Reservoir System. In December 2008, the five member communities created the Southeast Monmouth Municipal Utilities Authority and in September 2009 purchased the Water Treatment Plant from the MCIA and the Authority continues to operate the Water Treatment Plant. The Authority is operating, maintaining and managing three distinct Systems each with its own budget, cost accountability and revenue stream.

The Authority's Headquarters' staff located in Clinton provides general and administrative support services for all three Systems. These services include, but are not limited to,

Financial Management, Payroll, Human Resources, Purchasing, Contract Administration, Risk Management and overall management. In order to equitably assess each of the three Systems, the Authority previously retained the services of an auditing firm to develop a methodology for the allocation of the Headquarters General and Administrative costs to all three operating Systems. After the close of each fiscal year, the Authority's auditors provide the Authority with their findings as to the adjustment, if any, to the allocation factors and the actual audited expenditures for the fiscal year.

The audit report for the immediately preceding fiscal year ending June 30 is available during November. Each September the Authority formulates the proposed budgets for the upcoming fiscal year starting on the following July 1. The adjusted allocation factors, if any and the audited expenditures for the previous fiscal year are used to establish a debit or credit for each of the three operating Systems. This debit or credit is applied to the budgets being prepared each September for the upcoming fiscal year starting on July 1.

An independent accounting firm performed the Authority's FY2014 audit. The audit included a review of the allocation factors as well as the actual audited expenditures. The appropriate adjustments have been made to the FY2016 budget based on the FY2014 audit. A copy of the Auditor's report on the allocation of the Headquarters General and Administrative costs is included in the Appendices to the rate proposal package for each System.

Insurance costs are also allocated to each System based upon the recommendations of the Authority's Risk Management Consultant. See the rate proposal package for more information on insurance charges.

Analysis of Significant Changes in Operations and Maintenance Expenses - Raritan Basin System

Overview of Projected Operational Expenses

The Authority's proposed FY2016 Raritan Basin System Total Budget requirement, which is net of the allocation of appropriate Headquarters General and Administrative expenses to the Manasquan Water Supply System, and includes capital equipment and contribution to reserves is \$13,028,900. This is \$426,700 more than the FY2015 budget of \$12,602,200. The Capital Equipment budget of \$298,900 is \$51,600 more than the FY2015 budget of \$247,300. The proposed contributions to the Reserve for Formal Dam Inspections (\$10,000), Capital Equipment Reserve (\$150,000) and the Pumping Reserve (\$150,000) remain at FY2015 levels. There are no contributions scheduled for the Depreciation Reserve and

the Self-Insurance Reserve in FY2016. These Reserves last received a \$100,000 and \$150,000 contribution in FY2011 respectively but are sufficiently funded at the present time. There are no proposed contributions to the Operations and Maintenance Reserve, Major Rehabilitation Reserve or the Pension Reserve. The reserve for capital equipment purchases established in FY2015 requires an additional year of funding with a simultaneous direct expenditure for capital equipment because six years of stable rates from FY2009 through FY2013 caused deferral of equipment purchases which are no longer prudent. It is still the Authority's intention to fund the reserve at an annual level of \$150,000 to eliminate rate fluctuations associated with the annual change in level of capital equipment purchases once the reserve is adequately funded. All of these modifications result in a total FY2016 budget requirement of \$13,028,900 which is an increase of 3.4 percent relative to FY2015. (Page 15)

Eleven of the thirty-one FY2016 direct operating expense accounts are projected to increase, but only four accounts by \$5,000 or more relative to FY2015. Eleven of the operating expense accounts are projected to decrease relative to FY2015. The most significant projected increases in the budget occur in insurance and vehicular maintenance. In Salary and Fringe, regular salary is increasing by \$75,500; pension expense is increasing by \$11,400. Retiree health benefits are stable and assume 7 additional retirees between FY2015 and FY2016. Salaries and benefits constitute approximately 73 percent of the FY2016 operating budget, and are increasing approximately 2.7 percent relative to FY2015. The increases are in medical and prescription.

Salaries and Benefits

Authority employees and State employees are members of the same bargaining units. The International Federation of Professional and Technical Engineers (IFPTE), AFL-CIO, represents the Authority's Maintenance, Craft and Security Units and the Communications Workers of America (CWA) represents the Authority's Administrative and Clerical, Primary Level and Higher Level Supervisors Units. The contract is effective July 1, 2011 and will span four years. The following table reflects cost of living adjustments during the life of the collective bargaining agreements.

| | July 2011 | July 2012 | July 2013 | July 2014 |
|------------------|-----------|-----------|-----------|-----------|
| IFPTE/CWA | 0.0% | 0.0% | 1.00% | 1.75% |

The Authority did not include any cost of living adjustments in the FY2016 budget for management. The Authority is budgeting a one percent cost of living adjustment payable to union employees on July 1, 2015. The Authority is budgeting 54.3 percent of the

Salary budget for fringe benefits in FY2016, exclusive of retiree medical.

The initial estimate from the State of New Jersey for pension expense payable on April 1, 2015 is not yet available. The Authority has built in 20 percent per year growth in that expense item over actual FY2014. Since 2008, the pension bill from Treasury has increased by 98 percent. Although increases have stabilized in the last three years, there is still a level of uncertainty in this expense item because the pension system remains significantly underfunded.

Overtime Salaries and Wages

The Authority's overtime expenses are projected to decrease nominally by \$800 from \$191,400 to \$190,600 in FY2016. Overtime expenses are incurred within Security and O&M Facilities and Canal Operations principally (those areas operating within a crew or shift structure).

Retiree Health Benefits

Employees who retired with a minimum of 25 years of service prior to July 1, 1997 are entitled to paid health benefits. For those who retire after July 1, 1997, co-pay is required. The Authority is leaving retiree health benefits expense item flat in FY2016 at \$808,300. There are two known retirements in FY2015 and an additional expected in FY2016. The original estimates for FY2015 were not realized and unless there are an unusually high number of retirements in FY2016, the line item should be adequate. The Authority's estimate is based on CY2015 rates increased by 20 percent for CY2016 and blended to derive an FY2016 rate. The budget contains sufficient funds for 50 current retired employees 2 pending retirees and five potential retirees.

Other Expense

Electrical Service - The Authority's Hamden Pumping Station is utilized to pump water to the Round Valley Reservoir. The proposed budget includes a slight increase in electricity costs for the normal operation of the pumping station from \$85,800 to \$90,000 in FY2016. The Authority entered into a three-year contract for power effective June 21, 2010. The State extended the contract with the vendor two more years to June 30, 2015. The extension included a .5 cent per Kwh increase. The Authority is expecting to procure power independently from the State in the spring of 2015. A review of the market indicates the Authority may receive better pricing on its own. The pumps are in a scheduled rehabilitation cycled and will be exercised as rehabilitated pumps are put back on line. Pumping is funded from the Pumping Reserve (\$150,000 annual deposit).

Special and Professional Services

The Authority is proposing to decrease this line item from \$492,400 in FY2015 to \$477,600 in FY2016 representing a nominal realignment of United States Geological Survey gaging station costs. In other areas, pricing is stable. The line item also includes payments to the Governor's Authorities Unit, costs charged to the Authority by the Attorney General's Office for legal services provided, and the cost of the Authority's independent auditor.

Heating Fuel and Vehicular Fuel

The cost of heating fuel is expected to decrease from \$108,900 to \$106,400 and vehicular fuel is projected to decrease by \$19,800 from \$177,600 in FY2015 to \$157,800 in FY2016. The prices of fuel in FY2016 is budgeted at \$3.15 per gallon for unleaded and \$3.25 per gallon for diesel.

Insurance Program

The Authority is recommending an increase in insurance expense for FY2016 reflecting general market conditions based on the advice of the Authority's insurance broker and consultant. The market remains hardened because of a series of storms in prior years. This market change was borne out in the formal remarketing that occurred in February of 2013 which drove an underfunding of the FY2014 insurance budget. The Authority has included a \$121,200 increase in the insurance line item for FY2016 which is a 10 percent increase over budgeted FY2015.

Allocation of the Primary, Umbrella and Public Officials Liability insurance costs between the three Systems is based upon proportionate water sales. The Automobile Liability cost is allocated based upon the assignment of vehicular equipment to each System. The cost of the Business Property coverage is allocated on the basis of insured values for each System and the Workers Compensation premiums are allocated on the basis of salaries for each System.

Interest Income

The projected interest earnings for FY2016 are \$35,300 based upon current rates of .25 percent for Short-term investments and 1.30 percent on the Authority's long-term investments. This represents no change relative to FY2015. (Schedule 7, page 28) At the urging of the contractual water customers, the Authority executed sweep contracts for its non-interest bearing accounts.

After analysis, the Authority reversed the contracts because of increased costs assessed against the accounts. Due to the naturally low balances in these accounts and the large number of transactions, the transaction costs outstripped the sweep interest earnings. The Authority has been urged to explore financing short term cash flow needs of high credit rated surrounding local government. The Authority is interested in exploring this option to improve investment earnings. Most of the Authority's short and long-term investments are either direct Treasury note investments or pegged to the Treasury bill.

Reserve Contributions

During FY2016 the Authority will make no contribution to the Depreciation Reserve. The Depreciation Reserve is fully funded in FY2016. (Page 15).

The Authority will contribute \$150,000 to the pumping reserve, and will do so every year, as this will be the primary funding mechanism for pump exercises and reservoir refilling requirements. The Self Insurance Reserve fund will receive no funding in FY2016. The Authority will continue funding for the Reserve for Formal Dam Inspections at \$10,000 in order to avoid future swings in the professional services accounts for expenses associated with this three-year cycle. The Authority will contribute \$150,000 to the Capital Equipment Reserve, and will do so every year, as this will be the primary funding mechanism for capital equipment purchases. When the reserve reaches the appropriate level, while equipment purchases will continue to be identified in the Basis and Background Document and approved by the Board, the direct line item will be removed from the rate and replaced by the annual appropriation.

Debt Service Assessments

New Jersey Environmental Infrastructure Financing Program Debt Service Assessment - D&R Canal Dredging

The Authority has submitted an application to the New Jersey Environmental Infrastructure Financing Program (NJEIFP) to finance the dredging of 300,000 cubic yards from a 10.5 mile segment of the Delaware and Raritan Canal (D&R Canal) between Kingston at Lincoln Highway to Amwell Road in Franklin Township, Somerset County, New Jersey. This project is expected to cost approximately \$35,000,000 and last in duration up to three years. Funding through the NJEIFP would allow a portion of the loan to be at zero interest and a portion of the loan to be at market rate with the blended rate at favorable terms. The expected closing on the bonds will be May of 2016 with the first debt service payment in

August 2016. The Authority proposes to continue the rate component of \$25.00 per million gallons in FY2016 to assure that sufficient funds are available to make debt service payments as they come due in August 2016 and every six months thereafter.

The project was originally scheduled to close in May of 2014 but was deferred two years. The sum of approximately \$1.6 million that will be collected during FY2015 will be deposited into the Rate Stabilization Fund to offset the rate requirement in FY2016.

Capital Fund Component For
Current Financing of Capital Improvement Program

During the period from 1982-1993 the Authority had invested \$62,000,000 in the Capital Improvement Program for the Raritan Basin System. Much of this effort was the direct result of inadequate investments in the facilities during the years preceding the creation of the Authority. These Capital Improvement Programs were financed through the issuance of two long-term debt obligations, the 1981 Water Supply Bond Funds and 1988 Water System Revenue Bonds.

In 1995, the Authority began preparing a rolling five-year Capital Improvement Program, which required the investment of approximately \$1,500,000 per year. Current estimates place the annual necessary investment between \$2,500,000 and \$5,500,000. In evaluating options for financing this program (and subsequent five year CIP's) the Authority looked at (1) the continuation of the practice of incurring long-term debt through the issuance of Revenue Bonds and (2) the possibility of current financing through the assessment of annual charges as part of our rate structures. The Authority concluded at the time that financing of such a small annual Capital Improvement Program based upon the issuance of long-term debt was fiscally imprudent. The Authority reevaluates this financing methodology on an annual basis.

The Authority's financial plan was predicated upon the establishment of a Capital Fund Component of \$10 per mg starting on July 1, 1994 with subsequent increases in this component of the total rate structure to \$15 per mg effective July 1, 1995 and to \$20 per mg effective July 1, 1996 and to \$25 per mg effective on July 1, 1998. Since then, the annual rate component has fluctuated between \$20 and \$35.

This level of current financing for reinvestments in plant and equipment somewhat exceeds the booked depreciation of the plant and equipment for the Raritan Basin System facilities (without the depreciation of the dams), which amounts to about \$1,900,000 per year. Any future unplanned or unanticipated major capital investment may, however, require the issuance of long-term

debt. Any future planned activity that increases the System capacity will be financed using long-term debt.

For FY2016, the Authority continues to believe the use of internally generated funds for such capital improvements is the least cost method of financing.

The Authority has determined that a Capital Fund Component of \$33.00 per million gallons, an increase of \$3.00 per million gallons, should be assessed for FY2016 to generate approximately \$2,196,000. The Authority deems these revenues sufficient to meet its capital needs for FY2016 in light of existing capital reserves and excellent contract pricing, and to ensure that sufficient funds are committed to the continuing rehabilitation of Authority assets. The Authority is expecting to raise the Capital Fund Component of the Rate to \$40.00 per million gallons in FY2017 to assure that the projected capital needs, especially for repairs to the D&R Canal, are met within the five year program.

Source Water Protection Fund Component **for the Protection of Water Quality**

The Authority established its Watershed Protection Unit in 1999 to implement a watershed management program for the Raritan River Basin pursuant to a Memorandum of Agreement with the New Jersey Department of Environmental Protection. Primary functions of the Unit are planning for watershed protection, development and implementation of projects that improve protection of water supply.

As a component of the Authority's watershed protection initiative, the Authority established the Source Water Protection Fund in August of 2001 for the purpose of protecting the quality and quantity of waters in the Raritan Basin System. The first \$5.00 per million gallons of the component is used for three purposes in cooperation with federal, State, local and nonprofit partners: (1) administrative actions associated with the acquisition of critical watershed parcels in the Raritan Highlands; (2) planning assistance to improve management of land development by municipal, county and State government to protect both water quality and flows to and within Authority facilities; and (3) water quality characterization and associated remedial projects to preserve and enhance water quality.

In light of the rapid decline in available watershed parcels, and the critical value of these parcels to the sustained supply of water in the Raritan Basin System, the Authority increased the Source Water Protection Fund by \$5.00 per million gallons in FY2004 and again by \$3.00 per million gallons in FY2006, to acquire fee and other interests in critical watershed parcels in

the System and rehabilitate properties to maximize benefit to water quality and quantity. To date, more than 3,950 acres of property have been preserved by the Authority and its partners. Some of the watershed and water quality projects include a tributary and storm water assessment of the D&R Canal to determine sediment loading, followed by an implementation project, the development of storm water management plans for a variety of tributaries in the Basin, a stream restoration project of a reach of the Mulhockaway which feeds into Spruce Run. The Authority increased the Source Water Protection Rate from \$13.00 per million gallons to \$15.00 per million gallons in FY2008 to further support direct watershed protection and restoration projects. The Authority increased the Source Water Protection Rate from \$15.00 per million gallons to \$24.00 per million gallons in FY2014 to support debt service on previously acquired critical watershed parcels. The Authority is proposing no change to this component of the Rate in FY2016.

Other Rule Amendments

There are no other rule amendments. The language supporting the overall proposal is contained beginning on page 52 of this document.

PART II - DETAILED SUPPORTING INFORMATION

TABLE 1

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM

SUMMARY OF PROPOSED FISCAL YEAR 2016 ADJUSTMENTS

BASED ON PRESENT USAGE

The rates, charges and debt service assessments listed below shall be paid for raw water diverted, withdrawn or allocated from the Raritan Basin System:

| RATE COMPONENT | PRESENT | ORIGINAL PROPOSAL 12/01/14 | DIFFERENCE | PERCENTAGE INCREASE (DECREASE) |
|-----------------------------------|-------------|----------------------------|------------|--------------------------------|
| O & M Assessment | \$167.00 | \$171.00 | +4.00 | 2.40% |
| NJEIFP Debt Service Assessment | 25.00 | 25.00 | 0 | 0 |
| Capital Fund Component | 30.00 | 33.00 | +3.00 | 10.0 |
| Source Water Protection Component | 24.00 | 24.00 | 0 | 0 |
| Total Rate | \$246.00/mg | \$253.00/mg | +7.00 | 2.85 |

Table 2

New Jersey Water Supply Authority
Delaware and Raritan Canal - Spruce Run/Round Valley Reservoirs System
Rate History of
Water Charges per Million Gallons of Raw Water Daily
FY2003-FY2016

| Effective Date | O&M Charge | 1981 Bond Charge 7/1/86-10/30/06 | 1998 Bond Charge 8/1/98-11/1/13 | NJEIFP Component 8/1/13-8/1/23 | Capital Fund Component | Source Water Protection Component | Total Charge per MG | Percent Increase -Decrease |
|---------------------|---------------|-------------------------------------|------------------------------------|-----------------------------------|------------------------|-----------------------------------|---------------------|----------------------------|
| July 1, 2002 | 105.46 | 31.73 | 49.28 | | 13.53 | 5.00 | \$205.00 | 0.00% |
| July 1, 2003 | 111.68 | 31.62 | 49.15 | | 7.55 | 10.00 | \$210.00 | 2.44% |
| July 1, 2004 | 122.75 | 28.31 | 41.71 | | 12.23 | 10.00 | \$215.00 | 2.38% |
| July 1, 2005 | 111.80 | 28.24 | 41.51 | | 20.45 | 13.00 | \$215.00 | 0.00% |
| July 1, 2006 | 133.13 | 19.55 | 41.32 | | 21.00 | 13.00 | \$228.00 | 6.05% |
| July 1, 2007 | 138.71 | | 41.29 | | 33.00 | 15.00 | \$228.00 | 0.00% |
| July 1, 2008 | 142.34 | | 40.66 | | 33.00 | 15.00 | \$231.00 | 1.32% |
| July 1, 2009 | 142.39 | | 40.61 | | 33.00 | 15.00 | \$231.00 | 0.00% |
| July 1, 2010 | 142.55 | | 40.45 | | 33.00 | 15.00 | \$231.00 | 0.00% |
| July 1, 2011 | 145.66 | | 40.34 | | 30.00 | 15.00 | \$231.00 | 0.00% |
| July 1, 2012 | 145.84 | | 40.16 | | 30.00 | 15.00 | \$231.00 | 0.00% |
| July 1, 2013 | 152.00 | | 0.00 | 25.00 | 30.00 | 24.00 | \$231.00 | 0.00% |
| July 1, 2014 | 167.00 | | 0.00 | 25.00 | 30.00 | 24.00 | \$246.00 | 6.49% |
| July 1, 2015 | 171.00 | | 0.00 | 25.00 | 33.00 | 24.00 | \$253.00 | 2.85% |

RARITAN BASIN SYTEM

SCHEDULE OF EVENTS (NJAC 7:11-2.1 et. seq.)
To become effective July 1, 2015

2014

SEPTEMBER 15 Advise Water Users of informal meeting.
NOVEMBER 14 Informal meeting with Water Users - 10:00 AM.
DECEMBER 19 Mail Official Notice to water customers, Rate Payer Advocate,
interested parties and advertise in newspapers.

2015

JANUARY 5 Board reviews and approves proposed Rates.
9 Pre-Pubic Hearing - 10:00 AM (within 45 days of Official Notice).
Deadline for responses to inquires received prior to pre-public
hearing.
20 Publication in the New Jersey Register.
26 Deadline for receipt of comments to be addressed at Public Hearing
(15 days after pre-public hearing).
FEBRUARY 6 Public Hearing Meeting. (SR Administration Building) - 10:00 AM
Deadline for responses to inquires received between
pre-public and public hearing.
23 Written responses to questions raised at Hearing (within 10
business days of the public hearing).
MARCH 16 Public Hearing record closes (25 business days after
Public Hearing).
21 NJ Register Comment Period Ends.
JUNE 1 Board approval of FY 2016 Rates and Budgets.
JULY 1 Effective date.

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM

PROPOSED

FISCAL YEAR 2016 BUDGET SUMMARY
(7/1/15 - 6/30/16)

| | ADOPTED F/Y15 | PROPOSED F/Y16 |
|--|------------------|-------------------|
| Proposed Operating Expense Budget (Schedule 1) | \$12,823,900 | \$13,157,000 |
| Net Allocation of Headquarters General and Administrative Expenses to the Manasquan Water Supply System - (Schedule 5) | (779,000) | (737,000) |
| Proposed Total Expense Budget | \$12,044,900 | \$12,420,000 |
| Proposed Capital Equipment Budget (Note on Schedule 6) | 247,300 | 298,900 |
| Total Operating Expense & Capital Equipment Budgets | \$12,292,200 | \$12,718,900 |
| Contribution to Reserve Funds-Depreciation Reserve | 0 | 0 |
| -Reserve for Formal Dam Inspection | 10,000 | 10,000 |
| -Pumping Reserve | 150,000 | 150,000 |
| -Capital Equipment Reserve | 150,000 | 150,000 |
| Total Budget Requirements | \$12,602,200 | \$13,028,900 |
| <u>MISCELLANEOUS REVENUES:</u> | | |
| Employee Housing/Land Rental | (56,000) | (56,000) |
| Receivable from the State of NJ and Other Reservoir Sites | (5,000) | (5,000) |
| Interest Earnings on Funds (Except Major Rehabilitation and Depreciation Reserve Fund) (Schedule 7) | (35,300) | (35,300) |
| Total Miscellaneous Revenue & Interest Income | \$ (96,300) | \$ (96,300) |
| <u>OTHER AVAILABLE FUNDS:</u> | | |
| Funds Appropriated to Rate Stabilization Fund for use in F/Y2015 (Resolution #2154, dated 07/09/14) | (1,673,240) | 0 |
| Unanticipated Revenue (Schedule 8) | 0 | (1,571,150) |
| Total Other Available Funds | \$ (1,673,240) | \$ (1,571,150) |
| Net Amount to be paid for O & M Component | \$ 10,832,660 | \$11,361,450 |

Note 1. This amount is net of withdrawal from Depreciation Reserve.

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**NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM
PROPOSED OPERATING EXPENSES BUDGET FISCAL YEAR 2016-DISTRIBUTED BY COST CENTER**

| CODE | ACCOUNT | OFFICE EXECUTIVE DIRECTOR | FINANCIAL MANAGEMENT & ACCOUNTING | WATERSHED PROTECTION PROGRAMS | OPERATIONS MAINTENANCE & ENGINEERING | PROPOSED BUDGET FOR FY16 |
|------|--|---------------------------------|---|-------------------------------------|--|--------------------------------|
| 5110 | Regular Salaries & Wages | \$122,400 | \$1,175,900 | \$647,300 | \$3,753,100 | \$5,698,700 |
| 5120 | Overtime-Salaries & Wages | | 4,700 | 300 | 185,600 | \$190,600 |
| 5130 | New Positions-Salaries & Wages | | | | | |
| 5140 | Seasonal Help-Salaries & Wages | | | | | |
| 5150 | Fringe Benefits | 36,700 | 517,000 | 284,200 | 2,265,800 | \$3,083,700 |
| 5167 | Retiree Health Benefits | 46,900 | 123,000 | | 638,400 | \$808,300 |
| 5168 | Workers Compensation (Self-Insured) | | 10,000 | | | \$10,000 |
| | Total Salary & Fringe Benefits | \$206,000 | \$1,830,600 | \$911,800 | \$6,842,900 | \$9,791,300 |
| 5200 | On-Site Residences | | | 6,000 | 35,600 | \$41,600 |
| 5211 | Heating Fuel | | | | 106,400 | \$106,400 |
| 5220 | Utilities -Electrical Service | | | | 112,500 | \$112,500 |
| 5230 | " -Gas Service & Water | | | | 4,700 | \$4,700 |
| 5240 | " -Propane | | | | 200 | \$200 |
| 5250 | Electricity for Pumping | | | | 90,000 | \$90,000 |
| 5260 | Vehicular Fuel | | 157,800 | | | \$157,800 |
| 5270 | Oil & Grease | | | | 6,600 | \$6,600 |
| 5280 | Tires | | | | 26,000 | \$26,000 |
| 5290 | Maintenance Supplies | | 600 | | 212,700 | \$213,300 |
| 5300 | Maint. Supplies - Vehicular Equipment | | | | 39,000 | \$39,000 |
| 5310 | Major Special Vehicle Service & Repair | | | | 85,000 | \$85,000 |
| 5320 | Agricultural Supplies | | | | 5,000 | \$5,000 |
| 5330 | Maintenance of Equipment | | 10,400 | 3,500 | 23,900 | \$37,800 |
| 5340 | Service & Maintenance Contracts | | 33,800 | 3,400 | 144,000 | \$181,200 |
| 5350 | Equipment Rental | | 25,600 | | 14,300 | \$39,900 |
| 5360 | Household-Safety & Protective Supplies | 100 | 12,000 | | 21,100 | \$33,200 |
| 5370 | Uniforms | | | | 6,300 | \$6,300 |
| 5380 | Special & Professional Services | 25,000 | 200,200 | 109,000 | 143,400 | \$477,600 |
| 5390 | Protective Services | | 1,307,800 | | | \$1,307,800 |
| 5400 | Telephone | | 72,400 | | | \$72,400 |
| 5410 | Postage & Freight | | 11,000 | | 100 | \$11,100 |
| 5420 | Data Processing | | 44,500 | | | \$44,500 |
| 5430 | Printing & Office Supplies | 500 | 38,400 | 9,000 | 9,800 | \$57,700 |
| 5440 | Scientific & Photographic | | | | 500 | \$500 |
| 5450 | Dues & Subscriptions | 14,400 | 8,000 | 1,000 | 15,700 | \$39,100 |
| 5460 | Advertising | | 11,000 | | | \$11,000 |
| 5470 | Travel & Subsistence | 1,500 | 1,300 | 1,500 | 2,200 | \$6,500 |
| 5480 | Staff Training & Tuition Aid | 500 | 4,000 | 3,500 | 10,800 | \$18,800 |
| 5490 | Fees & Permits | | 102,100 | | 11,400 | \$113,500 |
| 5500 | In-Lieu Taxes | | 18,700 | | | \$18,700 |
| | Total Operating Expenses | \$42,000 | \$2,059,600 | \$136,900 | \$1,127,200 | \$3,365,700 |
| | GRAND TOTAL | \$248,000 | \$3,890,200 | \$1,048,700 | \$7,970,100 | \$13,157,000 |

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM
COMPARATIVE STATEMENT FY2016

SCHEDULE 1A

| CODE | ACCOUNT | FY'12 ACTUAL | FY'13 ACTUAL | FY'14 ACTUAL | FY'15 ADOPTED | FY'16 PROPOSED |
|------|---------------------------------|-----------------|-----------------|-----------------|------------------|-------------------|
| 5110 | Regular Salaries & Wages | \$5,346,361 | \$5,214,020 | \$5,227,901 | \$5,623,200 | \$5,698,700 |
| 5120 | Overtime-Salaries & Wages | \$272,296 | \$211,797 | \$186,907 | \$191,400 | \$190,600 |
| 5130 | New positions-Salaries & Wages | \$0 | \$0 | \$0 | \$0 | \$0 |
| 5162 | Retiree Unused Sick & Vacation | \$0 | \$0 | \$41,044 | \$0 | \$0 |
| 5150 | Fringe Benefits | \$2,464,386 | \$2,634,592 | \$2,549,057 | \$2,900,400 | \$3,083,700 |
| 5167 | Retiree Health Benefits | \$498,080 | \$619,662 | \$711,226 | \$808,300 | \$808,300 |
| 5168 | Workers Comp. (Self Insured) | \$1,253 | \$3,679 | \$4,384 | \$10,000 | \$10,000 |
| | Total Salary & Fringe | \$8,582,375 | \$8,683,750 | \$8,720,519 | \$9,533,300 | \$9,791,300 |
| | Budget Salary & Fringe | \$9,486,700 | \$8,982,500 | \$9,700,250 | | |
| 5200 | Residences | \$83,798 | \$80,172 | \$85,031 | \$80,000 | \$41,600 |
| 5211 | Heating Fuel | \$69,128 | \$112,576 | \$99,709 | \$108,900 | \$106,400 |
| 5220 | Utilities -Electrical Service | \$102,110 | \$104,123 | \$106,609 | \$112,500 | \$112,500 |
| 5230 | -Gas Service | \$4,396 | \$4,258 | \$4,980 | \$4,600 | \$4,700 |
| 5240 | -Propane | \$72 | \$102 | \$520 | \$200 | \$200 |
| 5250 | Electricity for Pumping Station | \$89,664 | \$75,400 | \$77,401 | \$85,800 | \$90,000 |
| 5260 | Fuel - Vehicular | \$195,155 | \$153,547 | \$144,641 | \$177,600 | \$157,800 |
| 5270 | Oil & Grease | \$10,661 | \$2,829 | \$5,222 | \$6,600 | \$6,600 |
| 5280 | Tires | \$30,894 | \$14,855 | \$31,567 | \$18,000 | \$26,000 |
| 5290 | Maintenance Supplies | \$189,565 | \$165,264 | \$161,555 | \$205,200 | \$213,300 |
| 5300 | Maint. Supplies - Vehicular | \$46,075 | \$38,258 | \$51,614 | \$39,000 | \$39,000 |
| 5310 | Major Vehicle Service & Repair | \$81,130 | \$100,424 | \$102,034 | \$85,000 | \$85,000 |
| 5320 | Agricultural Supplies | \$22,996 | \$1,328 | \$653 | \$5,500 | \$5,000 |
| 5330 | Maintenance Equipment | \$39,122 | \$14,574 | \$35,808 | \$34,600 | \$37,800 |
| 5340 | Serv. & Maintenance Contracts | \$159,703 | \$179,019 | \$167,202 | \$177,800 | \$181,200 |
| 5350 | Equipment Rental | \$79,487 | \$139,944 | \$60,514 | \$45,100 | \$39,900 |
| 5360 | Household - Safety Supplies | \$32,307 | \$24,137 | \$26,771 | \$33,100 | \$33,200 |
| 5370 | Uniforms | \$4,385 | \$5,706 | \$3,266 | \$6,300 | \$6,300 |
| 5380 | Special & Professional Services | \$487,961 | \$467,728 | \$411,176 | \$492,400 | \$477,600 |
| 5390 | Protective Services | \$989,403 | \$1,047,791 | \$1,133,656 | \$1,186,600 | \$1,307,800 |
| 5400 | Telephone | \$71,109 | \$70,944 | \$73,113 | \$72,400 | \$72,400 |
| 5410 | Postage & Freight Out | \$13,736 | \$9,808 | \$3,464 | \$13,100 | \$11,100 |
| 5420 | Data Processing | \$48,427 | \$42,660 | \$36,203 | \$44,500 | \$44,500 |
| 5430 | Printing & Office Supplies | \$41,377 | \$78,749 | \$56,904 | \$54,500 | \$57,700 |
| 5440 | Scientific & Photographic | \$228 | \$43 | \$0 | \$700 | \$500 |
| 5450 | Dues & Subscriptions | \$33,674 | \$34,603 | \$33,520 | \$39,400 | \$39,100 |
| 5460 | Advertising & Promotional | \$2,308 | \$3,269 | \$5,925 | \$3,500 | \$11,000 |
| 5470 | Travel & Subsistence | \$3,290 | \$2,035 | \$2,939 | \$6,700 | \$6,500 |
| 5480 | Staff Training & Tuition Aid | \$14,749 | \$13,561 | \$11,220 | \$16,300 | \$18,800 |
| 5490 | Fees & Permits | \$112,586 | \$113,468 | \$114,616 | \$116,000 | \$113,500 |
| 5500 | In - Lieu Taxes | \$18,689 | \$18,689 | \$18,689 | \$18,700 | \$18,700 |
| | Total Other Expenses | \$3,078,187 | \$3,119,864 | \$3,066,512 | \$3,290,600 | \$3,365,700 |
| | Total Operating Expenses | \$11,660,562 | \$11,803,614 | \$11,787,031 | \$12,823,900 | \$13,157,000 |
| | Annual Increase (Decrease) | 2.58% | 1.23% | -0.14% | 8.80% | 2.60% |
| | Budget -other expenses | 3,104,200 | 3,090,900 | 3,077,600 | 3,290,600 | |
| | ANNUAL BUDGET | \$12,590,900 | \$12,073,400 | \$12,777,850 | \$12,823,900 | |

NEW JERSEY WATER SUPPLY AUTHORITY
 RARITAN BASIN SYSTEM
List of Category 5340 Items
Recommended Service & Maintenance Contracts
 FISCAL YEAR 2016

| | ADOPTED F/Y15 | PROPOSED F/Y16 |
|--|------------------|-------------------|
| 1. Postage/Fax/Misc Machines (Dept 16) | \$ 1,000 | \$ 1,000 |
| 2. HIS-Safety Software (Dept 17) | 1,700 | 1,700 |
| 3. GO DADDY.COM-Remote Access Certificates (Dept 17) | 300 | 300 |
| 4. VMWARE (Dept 17) | 900 | 500 |
| 5. Sage MAS200 (Dept 17) | 1,600 | 1,600 |
| 6. Western Technologies NJ Parcel Maps (Dept 17) | 1,300 | 1,300 |
| 7. Sage Fixed Asset (Dept 17) | 2,500 | 2,500 |
| 8. PV & Associates-Winslamm (Dept 17) | 500 | 500 |
| 9. People Trak Support Technical Difference (Dept 17) ... | 800 | 800 |
| 10. COMCAST - Cable Internet (Dept 17) | 1,000 | 4,200 |
| 11. OSHA Software (GAO) (Dept 17) | 100 | 100 |
| 12. Pure Host Web Hosting Administration (Dept 17) | 200 | 200 |
| 13. Pure Host Web Hosting Watershed (Dept 17) | 250 | 250 |
| 14. Symantec Anti-Virus Maintenance-Clinton (Dept 17) | 2,400 | 2,400 |
| 15. Sonic Wall Software (Dept 17) | 1,500 | 1,500 |
| 16. ESRI ArcView Maintenance-Watershed (Dept 17) | 5,400 | 5,400 |
| 17. CU Riverware Maintenance Agreement (Dept 17) | 3,400 | 3,400 |
| 18. McAfee Antispam (Dept 17) | 1,500 | 1,500 |
| 19. River Morph (Dept 17) | 800 | 800 |
| 20. DLT Solutions Autocad (Dept 17) | 1,000 | 1,000 |
| 21. Fastrax SBPS Monitoring Software (Dept17) | 900 | 900 |
| 22. ESRI Archview Maintenance-Clinton (Dept 17) | 500 | 500 |
| 23. Keystone Precision-GPS Software Maint (Dept 17) | 800 | 800 |

(Continued on next page)

NEW JERSEY WATER SUPPLY AUTHORITY
 RARITAN BASIN SYSTEM
List of Category 5340 Items
Recommended Service & Maintenance Contracts
 FISCAL YEAR 2016

| | ADOPTED <u>F/Y15</u> | PROPOSED <u>F/Y16</u> |
|---|-------------------------|--------------------------|
| 24. HAAS Systems-Security Alarm Software Maint (Dept 17) . | \$ 400 | \$ 400 |
| 25. Clients First-Vipre Antivirus/Antispam (Dept 17) | 250 | 250 |
| 26. Cleaning Services (Dept 20) | 1,200 | 1,800 |
| 27. Echwood Carpet Cleaning (Dept 20) | 1,500 | 1,500 |
| 28. Yahoo for River Friendly (Dept 20) | 100 | 100 |
| 29. Refuse Collection (Dept 31) | 11,900 | 11,900 |
| 30. Janitorial Service (Dept 31) | 15,500 | 15,500 |
| 31. HVAC Service (Dept 31) | 5,500 | 5,500 |
| 32. Electrician & Plumber Services (Dept 31) | 5,000 | 5,000 |
| 33. Instrumentation Services (Dept 31) | 4,500 | 4,500 |
| 34. Entry Rugs (Dept 31) | 2,700 | 2,700 |
| 35. Carpet Cleaning (Dept 31) | 2,300 | 2,300 |
| 36. Generator Service-Administration Building (Dept 31) .. | 1,200 | 1,200 |
| 37. Underground Plant Location Service Notifications (Dept 31) | 1,000 | 1,000 |
| 38. Crane Service and Inspection (Dept 31) | 1,200 | 1,200 |
| 39. Elevator Service-SBPS (Dept 31) | 2,800 | 2,800 |
| 40. Electrical Service-SBPS (Dept 31) | 6,400 | 6,400 |
| 41. Floor Cleaning Maintenance-Office (Dept 32) | 2,400 | 2,400 |
| 42. Janitorial Service (Dept 32) | 7,300 | 7,300 |
| 43. Dumpster Service Canal Office (Dept 32) | 3,000 | 3,000 |
| 44. Dumpster Service Route 1 (Dept 32) | 28,000 | 28,000 |
| 45. Dumpster Service-Extra (Dept 32) | 2,000 | 2,000 |

(Continued on next page)

NEW JERSEY WATER SUPPLY AUTHORITY
 RARITAN BASIN SYSTEM
List of Category 5340 Items
Recommended Service & Maintenance Contracts
 FISCAL YEAR 2016

| | ADOPTED <u>F/Y15</u> | PROPOSED <u>F/Y16</u> |
|--|-------------------------|--------------------------|
| 46. Instrumentation Testing (Dept 32) | \$ 1,000 | \$ 1,000 |
| 47. Floor Mats (Dept 32) | 1,000 | 1,000 |
| 48. Grass Mowing Service (Dept 32) | 5,000 | 5,000 |
| 49. Boiler Service (Dept 32) | 300 | 300 |
| 50. Wood Disposal Fees (Dept 32) | 3,100 | 3,100 |
| 51. Generator Service-Scudders & Perdicaris (Dept 32) | 3,000 | 3,000 |
| 52. Vac Truck Service-IFW, 10 mile PS (Dept 32) | 3,900 | 3,900 |
| 53. Floor Mats (Dept 33) | 2,300 | 2,300 |
| 54. Carpet Cleaning (Dept 33) | 3,100 | 3,100 |
| 55. Welco Gas (Dept 33) | 600 | 600 |
| 56. Parts Washer & Hazardous Removal (Dept 34) | 1,000 | 1,000 |
| 57. Fire Extinguisher Maintenance (Dept 36) | 6,000 | 6,000 |
| 58. Hazardous Waste Control (Dept 36) | 1,500 | 1,500 |
| 59. Fire Alarm Testing (Dept 36) | 8,000 | 8,000 |
| 60. Vehicle Lifts Annual Testing (Dept 36) | <u>1,500</u> | <u>1,500</u> |
| TOTAL | \$ <u>177,800</u> | \$ <u>181,200</u> |

NEW JERSEY WATER SUPPLY AUTHORITY
 RARITAN BASIN SYSTEM
List of Category 5380 Items
Recommended Professional Services
 FISCAL YEAR 2016

| | <u>ADOPTED</u> | <u>PROPOSED</u> |
|---|----------------|-----------------|
| | <u>F/Y15</u> | <u>F/Y16</u> |
| 1. Services-Governor's Authorities Unit (Dept 10) | \$ 25,000 | \$ 25,000 |
| 2. Consultant-C.P.A. to Conduct Annual Audit (Dept 13) .. | 60,000 | 60,000 |
| 3. Services-GFOA Certificate Fee (Dept 13) | 500 | 500 |
| 4. 125 Plan-Family Security Insurance Agency (Dept 13) .. | 2,200 | 2,500 |
| 5. Services-Pre-employment Exams & Tests (Dept 14) | 3,600 | 3,100 |
| 6. Fidelifax-Background Checks (Dept 14) | 2,500 | 2,100 |
| 7. Medical CDL Drug Testing (Dept 14) | 1,600 | 1,600 |
| 8. Employee Advisory Service (Dept 14) | 2,800 | 2,800 |
| 9. Consultant-Risk Management | | |
| To provide assistance to the Authority in the review of insurance coverage and continuation of a Comprehensive Coordinated Risk Management Program (Dept 15) | 33,500 | 33,500 |
| 10. Insurance Broker- HRH (Dept 15) | 42,000 | 42,000 |
| 11. GL Administrator (ESIS) (Dept 15) | 2,100 | 2,100 |
| 12. Services-Attorney General's Office | | |
| Assistance of Deputy Attorney General concerning a wide range of legal matters (Dept 15) | 50,000 | 50,000 |
| 13. Water Monitoring Costs | | |
| USGS SR @ Glen Gardner (Dept 20) | 7,900 | 6,900 |

(Continued on next page)

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM
List of Category 5380 Items
Recommended Professional Services
FISCAL YEAR 2016

| | ADOPTED F/Y15 | PROPOSED F/Y16 |
|---|------------------------------------|------------------------------------|
| 14. Water Monitoring Costs USGS Mulhockaway @ Van Syckel (Dept 20) | \$ 7,100 | \$ 0 |
| 15. Water Monitoring Costs USGS North Branch RR (Dept 20) | 7,100 | 0 |
| 16. Water Monitoring Costs USGS Raritan River @ Manville (Dept 20) | 40,800 | 41,700 |
| 17. USGS Continuous Water Quality for D&R Canal, Landing Lane (Dept 20) | 32,000 | 31,000 |
| 18. Water Monitoring USGS Lock/Wick (Dept 20) | 12,600 | 11,500 |
| 19. Water Monitoring USGS @ Stanton Station (Dept 20) | 7,900 | 6,900 |
| 20. Water Monitoring-SBWA/UEWA now RHA (Dept 20) | 2,000 | 2,000 |
| 21. Water Monitoring-SBMWA (Dept 20) | 1,000 | 1,500 |
| 22. Dash for the Trash (Dept 20) | 1,000 | 1,000 |
| 23. Lab Certification WPU/Water Sample Anyls (Dept 20) ... | 1,000 | 1,000 |
| 24. NJ Invasive Species Strike Team (Dept 20) | 500 | 300 |
| 25. Stroud Water Research Macroinvertebrates Analysis (Dept 20) | 5,200 | 5,200 |
| 26. Services-Emergency Engineering Services (Dept 30) | 2,500 | 2,500 |
| 27. Underground Storage Tank-CEA Report (Dept 30) | 11,000 | 11,000 |
| 28. Underground Storage Tank-Groundwater Test (Dept 30) .. | 2,500 | 2,500 |
| 29. Services-USGS Cooperative Agreement River Gauging Maintenance of Raritan Basin Stream Gauging Stations and the Delaware & Raritan Canal Gauging at Kingston per USGS/DWR/NJWSA Agreement (Dept 31) | 69,000 | 72,000 |

(Continued on next page)

NEW JERSEY WATER SUPPLY AUTHORITY
 RARITAN BASIN SYSTEM
List of Category 5380 Items
Recommended Professional Services
 FISCAL YEAR 2016

| | ADOPTED <u>F/Y15</u> | PROPOSED <u>F/Y16</u> |
|---|-------------------------|--------------------------|
| 30. Services-USGS Spruce Run Gauging | | |
| Maintenance of two stations on streams feeding Spruce Run not covered under State Cooperative Agreement (Dept 31) | \$ 18,600 | \$ 17,000 |
| 31. Water Testing | | |
| Water Testing and Sampling to comply with the Safe Water Drinking Act (Dept 31) | 2,400 | 2,400 |
| 32. Services-Water Sampling and Testing as per NJDWR Requirements | | |
| A) Rt 202 Stockpile Site (Dept 32) | 5,000 | 5,000 |
| 33. Maintenance of USGS Gauges at Washington Crossing and Perdicaris Waste Gate (Dept 32) | 12,000 | 13,500 |
| 34. Safety Suggestion Program, Poster and Promotional Materials, Safety Incentive Program (Dept 36) | 9,700 | 9,700 |
| 35. Pulmonary Testing and Physicals (Dept 36) | 5,000 | 5,000 |
| 36. Annual Contributions to Fire Companies and Rescue Squads (Dept 36) | 1,300 | 1,300 |
| 37. Hepatitis Vaccinations (Dept 36) | 800 | 800 |
| 38. Calibration for the Pota-Count Respirator (Dept 36) .. | <u>700</u> | <u>700</u> |
| TOTAL | \$ <u>492,400</u> | \$ <u>477,600</u> |

PROJECTED FY 2016 NEW JERSEY WATER SUPPLY AUTHORITY INSURANCE PROGRAM

| Type of Coverage | <u>Raritan Basin System</u> | <u>Manasquan Reservoir System</u> | <u>Manasquan Water Treatment Plant and Transmission System</u> | <u>Total Premium</u> |
|--|------------------------------|-----------------------------------|--|------------------------------|
| Property Limit \$150 million Deduct: \$100k all perils \$250k, dams, dikes, canal/\$1m flood | \$637,822 | \$214,417 | \$52,473 | \$904,712 |
| General/Products Liability Limit \$1 million Deduct: \$150k | \$100,650 | \$9,410 | \$1,954 | \$112,014 |
| Environmental Impairment Liability Limit \$10 million Deduct: \$100k | \$21,457 | \$2,006 | \$417 | \$23,880 |
| Workers' Compensation Limit \$1 million | \$206,961 | \$26,606 | \$27,877 | \$261,444 |
| Employer Liability Limit \$1 million | Included in Workers' Comp | Included in Workers' Comp | Included in Workers' Comp | Included in Workers' Comp |
| Umbrella Liability Limit \$23 million | \$275,135 | \$25,723 | \$5,341 | \$306,199 |
| Business Automobile Limit: \$1 million G/L, \$0 pd Deduct: \$50k, G/L | \$11,205 | \$1,989 | \$455 | \$13,649 |
| Public Officials Liability Limit \$5 million/\$1million crime Deduct: \$100k/\$50k c. crime | \$53,716 | \$5,022 | \$4,691 | \$63,429 |
| Travel Accident Limit \$2 million | <u>\$854</u> | <u>\$80</u> | <u>\$17</u> | <u>\$951</u> |
| TOTAL: | <u>\$1,307,800</u> | <u>\$285,253</u> | <u>\$93,225</u> | <u>\$1,686,278</u> |
| ESTIMATE | \$1,307,800 | \$285,300 | \$93,200 | \$1,686,300 |

NEW JERSEY WATER SUPPLY AUTHORITY
 RECAP OF ALLOCATION OF HEADQUARTERS
 GENERAL AND ADMINISTRATIVE EXPENSES CHARGED
 TO THE MANASQUAN WATER SUPPLY SYSTEM
 FOR FISCAL YEAR 2016 (7/1/15-6/30/16)

| | <u>TOTAL HEADQUARTERS CHARGE</u> | <u>MANASQUAN RESERVOIR SYSTEM</u> | <u>MANASQUAN WTP/TS</u> |
|---|--|---|-----------------------------|
| Budgeted-Appendix I, Page 5, amount to be charged to Manasquan System for F/Y16 (7/1/15-6/30/16) | \$ 794,353 | \$ 689,400 | \$104,953 |
| F/Y14 Adjustment as per audited Expenditures: | | | |
| Budgeted as per rate schedule for F/Y14 (7/1/13-6/30/14). Amounts paid during F/Y14 to Raritan Basin System. | 776,545 | 673,945 | 102,600 |
| Actual allocation based upon audited expenditures F/Y14 (7/1/13-6/30/14)- Appendix II, Page 5 | <u>719,387</u> | <u>624,339</u> | <u>95,048</u> |
| Adjustments F/Y14 | \$ <u>(57,158)</u> | \$ <u>(49,606)</u> | \$ <u>(7,552)</u> |
| Net Allocation for F/Y2016 Budget | \$ <u>737,195</u> | \$ <u>639,794</u> | \$ <u>97,401</u> |
| Estimate | \$ <u>737,000</u> | \$ <u>640,000</u> | \$ <u>97,000</u> |

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM
PROPOSED CAPITAL EQUIPMENT BUDGET
FISCAL YEAR 2016

| | Description | (R) Replacement (A) Addition | Year of Purchase | Dollar Value | Depreciation Reserve |
|----------------------------|--|---------------------------------|------------------|--------------|-------------------------|
| INFORMATION SYSTEMS | (1) DELL SERVER - WATERSHED | (R) EQP2146 | 2010 | 5,000 | 2,461 |
| | (2) VIDEO COMPUTER SYSTEMS SECURITY | (R) EQP2087, 2112 | 2008, 2009 | 6,000 | 7,449 |
| | (1) PLOTTER | (R) EQP2012 | 2006 | 4,200 | 5,735 |
| FACILITIES | (1) MAGNETIC DRILL PRESS AND BITS | (A) | | 3,200 | |
| | (1) POWER EXHAUST FAN - BOILERS ADMIN BLDG | (A) | | 4,000 | |
| | (1) SNOWBLOWER SBFS | (A) | | 3,500 | |
| | (1) GENERATOR CARPENTERS | (A) | | 2,500 | |
| | (1) GUARDRAIL TENSIONER | (A) | | 6,000 | |
| | (1) POWER TAKE-OFF | (R) | 1964 | 14,000 | |
| | (1) PRESSURE WASHER | (R) EQP1469 | 1994 | 2,200 | 1,116 |
| GROUND | (1) NJWA-31 UTILITY 4WD W/PLOW | (R) TRN1851 | 2002 | 39,000 | 22,299 |
| | (1) NJWA-34 UTILITY 4WD W/PLOW | (R) TRN1872 | 2003 | 39,000 | 21,574 |
| | (1) BACKHOE 4WD | (R) TRN1706 | 1999 | 95,000 | 65,945 |
| | (1) PONTON BOAT W/TRAILER AND MOTOR | (R) EQP538 | 1977 | 32,000 | 3,081 |
| | (1) FIELD TRACTOR CX-70 | (R) TRN1776 | 2000 | 45,000 | 34,496 |
| | (1) FIELD TRACTOR CX-75 | (R) TRN1988 | 2005 | 45,000 | 29,034 |
| | (1) FORK TRUCK | (R) EQP853 | 1988 | 34,000 | 7,300 |
| CANAL | (1) NJWA-33 PICKUP TRUCK | (R) TRN2148 | 2010 | 30,000 | 17,087 |
| | (1) NJWA-45 PICKUP TRUCK | (R) TRN2147 | 2010 | 30,000 | 17,087 |
| | (1) TRACTOR & BOMFORD MOWER COMBINATION | (R) TRN1826/EQP1862 | 2001/2002 | 80,000 | 9,600 |
| | (1) ALAMO FLAIL AXE MOWER HEAD | (A) | | 18,000 | |
| AUTO SHOP | (1) MODIS- DIAGNOSTIC | (R) EQP1511 | 1995 | 4,000 | 1,496 |
| AUTO SHOP - CANAL | (1) 10 TON FLOOR JACK | (R) EQP1287 | 1992 | 3,000 | 1,952 |
| | (1) 5 TON FLOOR JACK | (R) EQP1285 | under 1,000 | 2,000 | 0 |

| | | | |
|--|--|------------------|-----------|
| | TOTAL COST | \$546,600 | \$247,712 |
| | LESS AMOUNT CHARGED TO DEPRECIATION RESERVE | (247,712) | |
| | NET TOTAL | <u>\$298,888</u> | |
| | LESS AMOUNT CHARGED TO CAPITAL EQUIPMENT RESERVE | \$0 | |
| | TOTAL | \$298,888 | |
| | AMOUNT FUNDED FOR FY2016 | \$298,900 | |

mca:capexp.xlw
30-Sep-14

NEW JERSEY WATER SUPPLY AUTHORITY

RARITAN BASIN SYSTEM

ESTIMATE OF INTEREST INCOME FOR FISCAL YEAR 2016 BUDGET

| <u>FUND/RESERVE</u> | <u>TD BANK FUNDS</u> | <u>LONG-TERM INVESTMENTS</u> |
|-------------------------|------------------------|------------------------------|
| Operating | \$ 600,000 | \$ 0 |
| Reserve for O & M | 500,000 | 1,500,000 |
| Pumping Reserve | 600,000 | 0 |
| Self-Insurance Reserve | 1,000 | 700,000 |
| Rate Stabilization Fund | <u>\$1,000,000</u> | <u>\$ 0</u> |
| Estimated Total | \$2,701,000 | \$2,200,000 |
| | \$ 2,701,000 x .25% = | \$ 6,752 |
| | \$ 2,200,000 x 1.30% = | \$ 28,600 |
| | TOTAL | <u>\$ 35,352</u> |
| | ESTIMATE | <u>\$ 35,300</u> |

Short-Investments

TD Bank
Managed Rate of .25%
95% of the 30 Day Libor After the
Compensating Balance Has Been Satisfied

Long-Term Investments

JP Morgan
New Jersey State G/O Bonds
Due 07/15/2016 Yield to Maturity 1.30%
Expect Similar Returns After Maturity

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM

UNANTICIPATED REVENUE

FUNDS TO BE APPROPRIATED INTO THE RATE STABILIZATION FUND FOR FISCAL YEAR 2016

| | | <u>AMOUNT</u> |
|------------------------------|----|---------------|
| F/Y2014 Net Year-End Balance | \$ | 0 |

| <u>OVERDRAFTS</u> | <u>INVOICE NO.</u> | <u>BILLED</u> | | <u>AMOUNT</u> |
|---------------------|--------------------|---------------|----|---------------|
| Roxiticus Golf Club | 784 | 09/18/14 | | 74.62 |
| Washington Twp MUA | 785 | 09/18/14 | | 26.50 |
| | 785 | 09/18/14 | | <u>7.79</u> |
| | | TOTAL | \$ | 108.91 |
| | Amount used in | FY2015 | \$ | 0 |
| | | NET | \$ | 108.91 |

Overdrafts Not Billed, Accrued through August 31, 2014

| | | |
|---|----|----------|
| East Windsor MUA, Hunterdon County Golf, Somerset County Park | \$ | 1,048.30 |
|---|----|----------|

Other Sources of Funds

| | | |
|-------------------|--|-----------------------|
| Dredging Deferral | | <u>\$1,570,000.00</u> |
|-------------------|--|-----------------------|

| | | |
|--|--|-----------------------|
| | | <u>GRAND TOTAL</u> |
| | | <u>\$1,571,157.21</u> |

| | | |
|--|--|-----------------------|
| | | <u>FY16 Budget</u> |
| | | <u>\$1,571,150.00</u> |

NEW JERSEY WATER SUPPLY AUTHORITY

Schedule 9

RARITAN BASIN SYSTEM

FUND BALANCES AS OF 6/30/14

** FINAL **

| | REVENUE FUND | OPERATING ACCOUNT | OPERATING FUND | O & M RESERVE | LONG-TERM INVESTMENTS O & M RESERVE | TOTAL |
|---|-----------------|----------------------|-------------------|------------------|--|-------------|
| BALANCE 6/30/14 | \$1,200,179 | \$465,295 | \$809,869 | \$2,367,495 | \$1,782,155 | \$6,804,893 |
| Deduct: Accrued expenses to be paid as of 6/30/14 | | | 0 | | | 0 |
| Deduct: June 1st billing, received | | | (145,148) | | | (145,148) |
| | | | (1,275,684) | | | (1,275,684) |
| Adjusted Balances 6/30/14 | \$1,200,179 | \$465,295 | (\$610,963) | \$2,367,495 | \$1,782,155 | \$5,184,161 |
| INCOME | | | | | | |
| Reimbursement Manasquan | | | | | | |
| Receipt of Headquarters Overhead Expenses for 7/10/14 | | | 160,600 | | | 160,600 |
| Operating transfer | (1,200,000) | (460,000) | 1,660,000 | | | 0 |
| EXPENSES | | | | | | |
| O & M Expenses - (A/P 6/30/14) | | | | | | |
| Includes accrued Payroll and Insurance thru 6/30/14 | | | (209,776) | | | (209,776) |
| Capital items to be purchased by 6/30/14 | | | (228,332) | | | (228,332) |
| Various Reserve contributions (one month) | | | (13,333) | | | (13,333) |
| PROJECTED BALANCE AT 6/30/14 | \$179 | \$5,295 | \$758,196 | \$2,367,495 | \$1,782,155 | \$4,893,320 |

Note 1. Unanticipated Revenues for FY 16
(overdrafts in FY 14 to be available
for appropriation to Rate Stabilization for FY15/FY16)

| | |
|-------------------------------|-------------|
| NJ American | 8,889.23 |
| Middlesex Water | 2,644.49 |
| Township of East Brunswick | 804.27 |
| Trump National | 629.58 |
| Village Grande at Bear Creek | 419.68 |
| Roxiticus Golf Club | 1,048.30 |
| Somerset County/EWMUA/Hunterd | 251.23 |
| Washington Township MUA | \$14,696.79 |

Less: FY2015 O & M reserve balance (3 mos
required by resolution)

(3,205,974)

Adjusted balance of funds available
6/30/14

1,687,346

Use of Available Funds

Unanticipated revenues (overdrafts
in FY 14 to be available for
appropriation to Rate Stabilization
Fund for FY15/FY16 (Note 1)

(14,697)

Projected Net Balance

\$1,672,650

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM

PROJECTED FISCAL YEAR 2016

OPERATIONS & MAINTENANCE COMPONENT SALES BASE

NEW JERSEY ENVIRONMENTAL INFRASTRUCTURE FINANCING PROGRAM DEBT SERVICE ASSESSMENT

SALES BASE

| USER | DAILY ALLOCATION (MGD) | DAYS PER YEAR | TOTAL MG/YR | ANNUALIZED SALES BASE (MGD) |
|---|------------------------|---------------|-------------|-----------------------------|
| Duke Farms | .075 | N/A | | .000 |
| East Brunswick Twp | 8.000 | 365 | 2,920.000 | 8.000 |
| NJ American Water Company | 126.600 | 365 | 46,209.000 | 126.600 |
| Mercer County Park Commission - Golf | .132 | 184 | 24.300 | .067 |
| Middlesex Water Co. | 27.000 | 365 | 9,855.000 | 27.000 |
| New Brunswick, City of | 10.500 | 365 | 3,832.500 | 10.500 |
| North Brunswick Twp. | 8.000 | 365 | 2,920.000 | 8.000 |
| Princeton University | .150 | 365 | 54.750 | .150 |
| Trenton Country Club | .126 | 365 | 46.000 | .126 |
| United Water Lambertville | .490 | 365 | 178.850 | .490 |
| Ridge at Back Brook | .111 | 365 | 40.510 | .111 |
| Roxbury Water Company | .041 | 365 | 15.000 | .041 |
| Royce Brook Golf Club | .165 | 365 | 60.230 | .165 |
| Hunterdon County Golf (Heron Glen) | .079 | 365 | 28.800 | .079 |
| Raritan Valley Country Club | .012 | 365 | 4.380 | .012 |
| East Windsor Municipal Utilities Authority | .011 | 365 | 4.000 | .011 |
| Somerset County Park Commission (Neshanic Valley Golf Club) | .142 | 365 | 51.750 | .142 |

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM

PROJECTED FISCAL YEAR 2016

OPERATIONS & MAINTENANCE COMPONENT SALES BASE

NEW JERSEY ENVIRONMENTAL INFRASTRUCTURE FINANCING PROGRAM DEBT SERVICE ASSESSMENT

SALES BASE

| USER | DAILY ALLOCATION (MGD) | DAYS PER YEAR | | TOTAL MG/YR | ANNUALIZED SALES BASE (MGD) |
|---|------------------------|---------------|--|-------------|-----------------------------|
| Lamington Farms LLC (Trump National Golf Club) | .170 | 365 | | 62.100 | .170 |
| Morris County Municipal Utilities Authority | .079 | 365 | | 28.830 | .079 |
| Applied Waste Water Management, Inc. (Mt. Olive Township) | .010 | 365 | | 3.554 | .010 |
| Washington Township Municipal Utilities Authority | .035 | 365 | | 12.775 | .035 |
| Borough of Glen Gardner | .008 | 365 | | 2.775 | .008 |
| Roxiticus Golf Club | .046 | 365 | | 16.790 | .046 |
| Hamilton Farm Golf Club | .138 | 365 | | 50.400 | .138 |
| Springdale Golf Club | .098 | 365 | | 35.640 | .098 |
| NJ Department of Corrections | .025 | 365 | | 9.250 | .025 |
| Stonebridge Community Assoc. | .081 | 365 | | 29.565 | .081 |
| Village Grande @ Bear Creek | .074 | 365 | | 27.010 | .074 |
| Eastern Concrete Materials | .023 | 365 | | 8.500 | .023 |
| Hunterdon Medical Center | .031 | 365 | | 11.000 | .031 |
| Princeton University Operations | .027 | 365 | | 9.855 | .027 |
| TOTAL SALES BASE | | | | | 182.339 |

NEW JERSEY WATER SUPPLY AUTHORITY
 RARITAN BASIN SYSTEM
OPERATIONS AND MAINTENANCE RATE COMPONENT

FISCAL YEAR 2016

Funds Required for F/Y2016 Budget

| | |
|---|-------------------------|
| Proposed Operating Expense and Capital Budget | \$13,028,900 |
| Less Miscellaneous Revenues & Interest Income | (96,300) |
| Other Available Funds | <u>(1,571,150)</u> |
| Net Budget Requirement | <u>\$11,361,450</u> |
| Less: 182.271 x 167.00 x 61 Days (Cash received in July and August for water used in May and June based on \$167.00/mg) | (1,856,795) |
| Additional Revenue required to cover Operations and Maintenance Expense through 6/30/16 | \$ <u>9,504,655</u> |

Computation of Operations & Maintenance Rate for Fiscal Year 2016

Sales Base

Period 7/1/15 to 4/30/16 305 days x 182.339 mgd = 55,613.40mg

| | |
|--|---|
| Required Operations & Maintenance Rate F/Y2016 | $\frac{\$9,504,655}{55,613.40\text{mg}} = \$171.00/\text{mg}$ |
|--|---|

NEW JERSEY WATER SUPPLY AUTHORITY
RARITAN BASIN SYSTEM

DEBT SERVICE RATE COMPONENT FOR NJEIT LOAN REPAYMENT

Effective July 1, 2015, (F/Y2016, July 1, 2015-June 30, 2016)

Total due on Principal and Interest \$1,668,200/year

Debt Service Rate for NJEIT Loan = $\frac{\$1,668,200}{182.339 \text{ mgd} \times 365 \text{ days}} = \$25.00/\text{mg}$

*This rate may be subject to future adjustments based on actual loan terms.

New Jersey Water Supply Authority
 Raritan Basin System
 Capital Improvement Program
 Fiscal Years 2015 - 2019
 11/13/14

| PROJECT | ESTIMATED PROJECT COST | Period First Identified | Priority | Prior Years | Rate Assumption Per Million Gallons: | | | | | FY 2019 |
|---|------------------------|-------------------------|----------|-------------------|--------------------------------------|------------------|------------------|------------------|------------------|----------------|
| | | | | | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | |
| Refurbishment of the Main Pumps & Motors 1 & 6 | \$ 1,300,000 | 2008 | High | 619,040 | 680,960 | | | | | |
| Asset Management Plan for SBPS | \$ 220,000 | 2009 | High | 209,179 | 10,821 | | | | | |
| Rehab Canal Embankment - Breach @ South Bound Brook | \$ 500,000 | 2014 | High | | 500,000 | | | | | |
| Rehab of Waste Gate ds of 10 Mile | \$ 60,000 | 1990 | High | | 60,000 | | | | | |
| Dredging between Kingston & Amwell Road | \$ 5,300,000 | 2006 | High | 1,349,882 | 450,118 | 500,000 | 2,000,000 | | 500,000 | |
| Lambertville Multi-Use Trail | \$ 300,000 | 2012 | High | 67,203 | 232,797 | | | | | |
| Rehab Western Embankment Stockton Borough | \$ 5,000,000 | 2006 | High | 10,331 | 400,000 | 1,500,000 | 3,089,669 | | | |
| Rehab Swan Creek Culvert & Aqueduct | \$ 1,922,000 | 2006 | High | 622,819 | 700,000 | 599,181 | | | | |
| Rehabilitation of the Cherry Tree Lane Spillway | \$ 750,000 | 2010 | High | 127 | 150,000 | 599,873 | | | | |
| Improvements at Canal Office | \$ 1,000,000 | 2010 | High | 47,544 | 952,456 | | | | | |
| Removal of Sediment from Rt. 1 Conduit | \$ 100,000 | 2013 | High | | 100,000 | | | | | |
| Dam Improvements as recommended by TRB (preliminary eng only) | \$ 2,093,944 | 2013 | High | 93,944 | 2,000,000 | | | | | |
| Rehab of the Landing Lane Spillway | \$ 900,000 | 2013 | High | | 200,000 | 700,000 | | | | |
| | \$ 19,445,944 | | | | | | | | | |
| Rehab of Upper Canal Embankment - Raven Rock to Prallsville | \$ 3,950,000 | 2006 | Med High | 74,650 | 125,350 | 1,250,000 | 1,250,000 | | 1,250,000 | |
| Replacement of Ice Deflectors at SBPS | \$ 100,000 | 2014 | Med High | | 50,000 | | | | | |
| Repair of Pipe at Whitehead Road | \$ 500,000 | 2012 | Med High | | | 500,000 | | | | |
| Rehabilitation Work at Washington Crossing Spillway | \$ 200,000 | 2012 | Med High | | | 200,000 | | | | |
| Rehab of Ten Mile Waste Gate | \$ 150,000 | 2010 | Med High | | 150,000 | | | | | |
| Security System Upgrade | \$ 125,000 | 2003 | Med High | | 25,000 | 25,000 | 25,000 | | 25,000 | 25,000 |
| | \$ 5,025,000 | | | | | | | | | |
| Dredging between Landng Lane and Route 18 - engineering | \$ 800,000 | 2007 | Medium | | | | | | | 800,000 |
| Rehab of the Four Mile Spillway | \$ 900,000 | 2010 | Medium | | | | | | 900,000 | |
| Dredging of Intake Pond at SBPS | \$ 600,000 | 2005 | Medium | | | 600,000 | | | | |
| Construction Bedload Stone Trap @ Wickechoke Creek | \$ 1,000,000 | 1995 | Medium | 250 | | | | | 500,000 | 499,750 |
| Refurbishment of the Main Pumps & Motors 5 & 7 | \$ 1,500,000 | 2008 | Medium | | | | | | 300,000 | 1,200,000 |
| Roof Replacement North & South Towers | \$ 100,000 | 2011 | Medium | | | 100,000 | | | | |
| Replacement of Through the Wall HVAC Units in SRA | \$ 150,000 | 2011 | Medium | | 150,000 | | | | | |
| Rehab of Traprock Spillway | \$ 900,000 | 2010 | Medium | | | | | | | 900,000 |
| | \$ 5,950,000 | | | | | | | | | |
| Rehab of Canal Flow Control Structures | \$ - | | | | | | | | | |
| Griggstown and Ten Mile Locks | \$ - | 2000 | Low | | | | | | | |
| Rebuild Stone Embankment at the 10 Mile Waste Gate | \$ - | 1990 | Low | | | | | | | |
| Rehab of Gold Run Spillway | \$ - | 2008 | Low | | | | | | | |
| Rehab of 6-Mile Run Culvert Headwall | \$ - | 2008 | Low | | | | | | | |
| Cutoff Wall in Shipetaukin Creek Guard Bank | \$ - | 2005 | Low | | | | | | | |
| Rehab of Culvert at Station 2350+90 | \$ - | 2008 | Low | | | | | | | |
| Concrete Repairs at the Sullivan Way Aqueduct | \$ - | 2007 | Low | | | | | | | |
| Rehab of Spillway w/ls of Griggstown Lock | \$ - | 2010 | Low | | | | | | | |
| Pipeline Evaluation - Release Pipeline | \$ - | 1990's | Low | | | | | | | |
| RV Force Main | \$ - | 1990's | Low | | | | | | | |
| | \$ - | | | | | | | | | |
| | \$ - | | | | | | | | | |
| TOTAL | \$ 30,420,944 | | | 3,094,969 | 6,787,502 | 5,574,054 | 6,064,669 | 4,975,000 | 3,924,750 | 472,438 |
| Balance CIP | | | | 14,464,185 | 10,055,658 | 7,275,855 | 3,776,228 | 1,366,270 | | |

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

Funds in CIP as of June 30, 2014 is \$14,464,185

Estimated cost for dredging of the Canal between Kingston & Amwell Road is \$35,000,000 plus engineering & Cultural Resource inspections during construction.

The cost of removal of sediment from the 202 stockpile site is included in the CIP since it will not be part of the NJEIT bonding. Engineering and cultural costs during construction will be included in loan for Dam Investigations recommended by TRB eng and installation of Piezometers. Costs of remedial work will need to be bonded. Preliminary estimate \$60 million.

**RARITAN BASIN SYSTEM
CAPITAL IMPROVEMENT PROGRAM
Fiscal Years 2015 – 2019
Updated – August 2014**

The following is a description of projects that are being funded from the Capital Improvement Program in Fiscal Years 2015 - 2019. Discussion also includes projects that have been delayed beyond FY 2019 due to funding.

Refurbishment of Main Pumps and Motors at SBPS

The South Branch Pumping Station (SBPS) was constructed in the 1960's to pump water into Round Valley Reservoir. The main pumps, motors and associated equipment at the station are infrequently operated. Maintenance pumping is done periodically to maintain the equipment. As the demand on Round Valley Reservoir increases, so will the need to pump water through the station.

Approximately 1.9 billion gallons of water were pumped into Round Valley Reservoir during the April – May 2009 pumping program. Lessons learned from the program demonstrated the need to repair the baseplates under the pumps and motors to prevent movement and maintain alignment between the pumps and motors.

The Authority retained Hatch Mott MacDonald (HMM) to prepare an asset management plan for the SBPS and prepare specifications for the refurbishment of the pump units. All ten pumps have similar baseplate and alignment problems, but only two (pump assemblies 1 & 6) of the ten are planned for refurbishment at the present time.

Inspections of the motors also show the deterioration of the stator winding insulation. Deterioration of the insulation of the stator windings is attributed to the age of the units and the humidity in the building. The extent of the deterioration in each unit is unknown because the entire stator cannot be inspected without full disassembly of the motors at an authorized shop. Other service requirements to the units can only be ascertained when the units are removed and disassembled.

Refurbishment of the first two pump and motor assemblies was awarded to Longo Electrical-Mechanical, Inc. of Wharton, NJ in 2013 for an amount not to exceed \$1,239,700 . Approval was authorized for allowance items specified in the bid documents for an amount not to exceed \$445,200. These allowance items are for parts needed for the pump refurbishment that cannot be determined until the units are undergoing refurbishment. To date only \$33,381.60 for the purchase of two casing rings was authorized from the allowance items.

It is anticipated that units 1 and 6 will be reinstalled and reconnected in October 2014. Refurbishment of the next two units, is currently planned for units 5 and 7, is planned for FY 2018 and 2019.

Prior to start-up of the refurbished pumps, an electrical testing program of the primary power feeding the pumps must be completed. Staff is preparing a solicitation to retain an electrical testing firm to perform the testing in September.

Repair of Canal Breach in South Bound Brook

A storm on April 30, 2014 caused damage to the Canal embankment in South Bound Brook Borough, Somerset County where the Canal runs directly adjacent to the Raritan River. The river overtopped the embankment scouring the embankment in numerous places. A breach of approximately 25 feet occurred on May 1st in the embankment immediately down-Canal of the South Bound Brook Spillway draining the Canal in the reach between the Ten Mile Lock and the South Bound Brook Lock. This situation necessitated retaining a contractor and engineer on an emergency basis to restore flow to the down-Canal water users. Emergency repairs started immediately by the IEW Construction Group under the direction of Hatch Mott MacDonald.

Repair of the breach and rehabilitation of the damaged towpath was completed by June 6th. It should be noted that flow to the down-Canal water purveyors was maintained through the entire period. Repair work included installation of buried steel sheeting for added future protection of the embankment and was coordinated with the various permitting agencies throughout the process.

The discharge pipe for the waste gate downstream of the Ten Mile Lock was also permanently sealed when the Canal level was drawn down because of the breach. The waste gate was an inoperable timber gate that leaked heavily. Failure of the structure would drain this vulnerable section of the Canal just upstream of three major water purveyors – Middlesex Water Company, New Brunswick Water Department and the East Brunswick Water Department.

The Authority took the opportunity of the reduced water levels to access the gate structure and used the services of the contractor and engineer on-site. The cost to permanently seal the inoperable gate was substantially less than restoring the inoperable and unneeded water gate. Funding for the reconstruction of the downstream headwalls is not included in this five year planning period.

Dredging between Kingston and Amwell Road

Flow in the 10.5-mile reach of the Canal between Lincoln Highway (Route 27 just east of Kingston) and Amwell Road in Franklin Township, Somerset County is being hindered by accumulated sediment. The flow restriction is aggravated by weed growth during the summer months. To compensate for these flow restrictions, the Canal is operated at a level that is higher than desirable and causes water to overtop normally dry spillways. Five major water purveyors divert water from the Canal downstream of this area including North Brunswick Township, NJ American Water, Middlesex Water Company, East Brunswick Township and the City of New Brunswick.

Staff took cross-sections in this reach during 2007 and 2008 to estimate the quantity of accumulated sediment. The cross-sections showed that approximately 250,000 yards of sediment have accumulated in the Canal and must be removed and properly disposed of.

Additionally, the US Route 202 sediment stockpile site in Delaware Township, Hunterdon County (just north of Lambertville) is reaching capacity. Removal and disposal of 45,000 cubic yards of sediment is included as part of the dredging project.

Urban Dredging Consultants Joint Venture was selected to plan the dredging program including development and execution of a proactive public participation program. A bathymetric survey was conducted to confirm the quantity of sediment to be removed. The bathymetric survey confirmed the estimated quantity to be removed. Sediment cores were taken to determine the characterization of the material to be removed.

Urban Dredging considered the following four methodologies for the proposed dredging project - mechanical excavation (in dry), mechanical dredging (in wet), hydraulic dredging with Geobags and hydraulic dredging with mechanical dewatering. All four considered methodologies have environmental concerns but hydraulic dredging methodologies reduce these concerns since the slurry would be conveyed in a pipe floating in the Canal that will carry the material to a temporary staging area for dewatering. Meetings were held between the consultant and two active dredging contractors to discuss the potential sites and dewatering techniques. It was decided to provide a performance specification for the dewatering and to allow the contractor to determine the methodology. Different contractors may be able to attain the same dryness results by either Geobags or hydraulic presses, depending on their techniques and ownership of equipment. Authority staff feels that leaving the option to the Contractor will create the best opportunity to obtain the lowest bids.

An Environmental Impact Assessment and the necessary public information meetings were held between 2010 and 2013. Five access points and the staging area have been selected and the completion of the design documents is proceeding. The one major remaining factor to be decided on is the disposal of the dredged material.

Removal of sediment from this reach is planned for FY 2016 - 2018. The application for funding through the NJ Environmental Infrastructure Trust (NJEIT) will be resubmitted in October 2015 covering the full estimated cost of the dredging and other allowable expenses currently estimated at \$40,000,000. The costs shown in the CIP include design costs and cultural resource services incurred before the loan is authorized.

Removal and disposal of 45,000 cubic yards of sediment from the US Route 202 stockpile site will not be funded through the NJEIT and is included in this CIP. The estimated cost for removal and disposal of this sediment is \$2,000,000.

Lambertville Multi-Use Trail

A 36' section of the multi-use trail between Coryell and Bridge Streets in the City of Lambertville, Hunterdon County collapsed into the Canal in 2012. The multi-use trail is on the

east side of the Canal and is a well-traveled path in the City. The area was temporarily stabilized and was covered with a tarpaulin to prevent further erosion. Repair of this section of the Canal embankment is a joint effort between the Authority and the State Park Service.

Repair of the embankment will consist of the installation of cantilevered sheeting driven from a parking lot across the Canal. All approvals required for this project have been obtained and the work effort is currently out for bid. The bid opening for the proposed repair project was August 14, 2014. It is anticipated that a recommendation for the award of a construction contract will be made at the September 8, 2014 Authority meeting and that the work should be completed before the end of 2014.

Rehabilitation of the Western Embankment, Stockton Borough

The mile long reach of the Western Embankment between the Prallsville Lock at Station 155+00 and the railroad bridge crossing over the Canal at Station 205+00 is a narrow embankment that separates the Canal from the Delaware River. It was overtopped during major storm events in 2005 and again in 2006 where the embankment breached. In 2011, Tropical Storms Irene and Lee caused severe flooding of the Delaware River. While the embankment did not breach, over 1000 linear feet of the embankment experienced slope failure on the Canal side and significant amounts of material slid into the Canal compromising the cross-sectional area of the embankment.

Emergency actions were taken to prevent a breach of the embankment. These emergency actions included placement of quarry processed blend via conveyor belt from the opposite side of the Canal due to the unsafe nature of the embankment. The quarry processed blend was put in with varying levels of compaction. While a breach was prevented, additional work on the embankment is required to reinforce the repair. The embankment does not meet minimum factors of safety during flooding events in the Delaware River resulting in the continued potential of further breaches. The embankment needs significant improvements to increase the factor of safety including the possibility of installation of sheeting the entire length of this stretch. Other alternatives to be considered include adding fill to the embankment or improvement of the stone armor of the embankment.

A professional engineering services contract was awarded in March 2014 to a team led by TranSystems. Hunter Research was selected as the Cultural Resource consultant for the project. To date, borings were taken through the embankment and preliminary meetings were held with the permitting agencies. A Schematic Design Report is expected by November 2014.

Rehabilitation of the Swan Creek Culvert & Aqueduct

The Swan Creek Aqueduct and culvert is located at approximate Station 363+00 on the Canal in the City of Lambertville, Hunterdon County. The aqueduct structure was erected to carry the Canal over Swan Creek and to act as a spillway for the Canal. An adjacent culvert conveys Swan Creek under the Canal and the former Belvedere-Delaware Railroad. The aqueduct is a concrete and masonry structure that was most recently rehabilitated in 1989. The

waste gates were replaced, some of the masonry was reconstructed and some of the existing concrete was repaired with shotcrete.

Repairs were made to the structure in 2006 following major flooding events on the Delaware River. Significant leakage occurred through the masonry wall on the southeast part of the structure where Swan Creek enters the opening under the aqueduct. A contractor was hired on an emergency basis to pump pressure grout behind the wall where a sinkhole had formed resulting from the seepage. The grout significantly slowed the leakage, but did not stop it completely. The voids left by the fallen stones still remain.

A jet grout seepage cutoff wall was constructed in April 2009 to eliminate seepage through the wingwall. Most of the seepage was stopped with the jet grout seepage cutoff wall.

The current phase to the project includes rehabilitation of masonry and concrete and replacement of the bent stem for one of the two waste gates. Work on this phase of the project is on-going.

The corrugated metal liner in the North culvert is severely corroded making it unsafe to perform repair work in the barrel. A Scope of Services is being developed to retain a consultant to design a new structural liner to guard against further deterioration and concrete spalling.

Rehabilitation of the Cherry Tree Lane Spillway

The Cherry Tree Lane Spillway is located at Station 1269+65 of the Canal approximately 650 feet upstream the intersection of Whitehead Road and the Canal in Lawrence Township. The spillway structure is located along the Canal right bank with a longitudinal centerline oriented in a northeast direction. The spillway consists of a 201 feet long concrete control overflow weir at elevation 55.5 with a central spillway crest, approximately 82 feet long, at elevation 55. The spillway discharges to a concrete apron that conveys the flow to an arched culvert under the Route 1 Highway (Trenton Freeway Section).

In general, the spillway is in poor condition. The concrete is spalled and cracked, rebar is exposed and there are significant sections that exhibit mortar loss and exposed concrete aggregate. The crest is eroded, spalling and crumbling. The downstream concrete outlet apron has large voids, is cracked and shows exposed rebar and concrete aggregate. In 2013, Canal maintenance crews backfilled a large sinkhole downstream of the spillway. It is suspected that the foundation material under the spillway structure is eroded and the outlet apron is largely undermined.

The Authority proposes rehabilitation of the spillway and the outlet discharge apron to eliminate the current Canal unwanted water spilling and the unsafe structural conditions. The spillway is still functional, but the progressive deterioration threatens its structural integrity. Failure of the spillway would adversely affect the water supply function of the Canal.

Eight Technical Proposals and Statements of Qualifications were received on May 22, 2014. It is anticipated that a recommendation for the award of a professional services contract will be made at the September 8, 2014 Authority meeting.

Improvements at the Canal Office

The Canal Office was constructed in 1992 in Ewing Township, Mercer County. Currently this facility requires rehabilitation of the roofing system, the access driveway and parking areas and the fuel dispensing system. The roofing system has developed numerous leaks that have been patched but a reroofing project is warranted. The asphalt driveway and parking area has settled in many places and drainage is a problem. The fuel dispensing system is deteriorated and needs to be replaced. The tanks for the diesel and unleaded gas storage are not affected by this situation, only the gas dispensing island and equipment need attention.

A professional services contract was awarded to Hatch Mott MacDonald in July 2011. Plans and specifications have been prepared and permit applications have been submitted to the Department of Community Affairs (DCA). The bid opening for the improvements at the Canal Office was September 4, 2014.

Removal of Sediment from Route 1 Conduit

The US Route 1 Conduit is a twin-barrel, 13' x 8' concrete box culvert constructed in the 1950s. It is approximately 6050 feet long carrying the Canal water under U.S. Route 1 from Southard Street to the north of Mulberry Street, in Trenton, NJ. This section of roadway is locally named the "Trenton Freeway."

In addition to carrying the Canal water, this conduit serves as the storm drainage outlet for the highway directly above and the 300 +/- acre area immediately west of the conduit in the City of Trenton. As a result of highway storm drains and local storm drainage pipes discharging into the westerly barrel of this enclosed section of the Canal, sediment accumulates in the conduit and interferes with its flow carrying capacity. This is a recurring problem necessitating removal of the sediment. Approximately 6,000 cubic yards of sediment were removed from the west barrel in the 1980's.

Currently, the flow carrying capacity of the conduit is again being impacted by accumulated sediment. The Authority is working with the NJDOT to develop an approach to removing the sediment that is acceptable to all involved parties. The funding included in this program is to fund some costs necessary to determine the extent of the sediment.

Dam Improvements - SR & RV Embankments

In connection with the 2013 Formal Dam Inspection, the Authority convened a Technical Review Board (TRB) composed of experts in the field of dam construction on limestone formations, evaluation of critical dam construction features and geology as they relate to dam construction. This was the first TRB assembled to review information about the construction and operation of the Round Valley Reservoir (dams were constructed in the 1960's) and the first

one in 20 years to look at operations data at Spruce Run Reservoir. The TRB recommended additional information gathering on the construction of the dams and the installation of piezometers at the three embankments at Round Valley Reservoir and additional piezometers to be installed at Spruce Run Dam. The TRB recommended that the Side Scan Sonar conducted in the mid-1980s at the Spruce Run Reservoir be repeated and that the drainage pipes at the toe of the SR Dam be visually inspected by remotely operated cameras.

The contract with Gannett Fleming was amended to oversee the performance of the work recommended by the TRB including contracting the specialty drillers for the installation of the piezometers at all four dams and performance of the Side Scan Sonar.

Rehabilitation of the Landing Lane Spillway

The Landing Lane Spillway is located immediately up-Canal of the Landing Lane Bridge in the City Of New Brunswick, Middlesex County. This spillway was rehabilitated in 1991 with the construction of a concrete cutoff wall in the Canal to control leakage from the Canal. Timber planks were installed on the concrete wall for historical appearance. The spillway was finished with hand placed stones across the crest and the river side slope. The stones were laid in a sand bed. The stones are being dislodged and the spillway crest needs to be stabilized. The planned rehabilitation will be to remove all stone from the crest, pour a concrete slab and reset the stones with ties to the concrete slab similar to the recently completed (2013) rehabilitation of the Colonial Park Spillway.

A Schematic Design Report was prepared in July 2014 and sent to the Historic Preservation Office and the Delaware and Raritan Canal Commission for approval before plans and specifications are prepared.

Rehabilitation of the Upper Canal Embankment - Raven Rock and Prallsville

Four major flood events in the Delaware River since September 2004 have overtopped the Canal embankment between the Raven Rock and Prallsville where the Canal and the River become one body of water. The embankment that separates the Canal from the River in that stretch is very narrow and is inaccessible by vehicle making maintenance a challenge. Several areas in this stretch have experienced deterioration, typically initiated by fallen trees and are exacerbated by high water events where, at times, the River and the Canal become one body of water.

Following the storms of 2011, these areas were attended to by Authority forces to prevent furtherance of the ongoing erosion. Since all of the work had to be done by hand using barges to supply materials, riprap and cement bags were used to close openings in the embankment. These temporary repairs require replacement with more substantial and historically appropriate materials.

The Authority identified eight primary locations in this reach that required investigation, design and repair. In addition to these primary locations, the consultant was charged with

inspecting the entire embankment from Raven Rock to Prallsville and identifying any other additional locations that should be considered for repair.

A professional services contract was awarded to a team led by GZA GeoEnvironmental as the engineers for the repairs of the embankment. PS&S was selected as the Cultural Resource consultant for the project.

A Final Schematic Design Report was submitted on July 2, 2014. The GZA team identified and prioritized seventeen additional areas that warrant attention. The report is being reviewed by staff and the Cultural Resource Consultant before it is submitted to the Historic Preservation Office and the Delaware and Raritan Canal Commission for Schematic Design Approval.

GZA's preliminary conceptual construction cost estimate for the eight primary damaged embankment repairs is approximately \$2.52 million. Staff will need to prioritize repairs of the eight originally noted sites and the 17 additional areas.

Replacement of Ice Deflectors at the SBPS

There are 12 steel wide flange beams set in a grout bed that function as an ice deflector at the release works of the channel of the South Branch Raritan River at the South Branch Pumping Station. The ice deflector protects the structure and the flow gates from damage from ice and trees floating down the river. They are deteriorating and need to be replaced.

Staff is preparing plans and specifications to replace the beams. Replacement of the beams is planned for the spring summer of 2015.

Repair of Pipe at Whitehead Road

A sinkhole developed in the towpath 1,600 feet up Canal from Whitehead Road in Lawrence Township. This location is 3,600 feet down Canal of the outlet of the Trenton Conduit. The sinkhole developed over a failed storm drainage pipe that goes under the Canal and US Route 1 and discharges into the Assunpink Creek. The sinkhole caused erosion in the Canal slope and the Canal path. Staff filled the sinkhole with 6" riprap and regraded the area.

The pipe was not repaired at this time and will necessitate additional planning and action. The initial step in repairing the pipe is the need to determine who is responsible for the pipe and assess the condition of the entire pipe length.

Rehabilitation Work at the Washington Crossing Spillway

The Delaware River Joint Toll Bridge Commission advised the Authority on June 6, 2013 of clear seepage coming from their historic stone bridge abutment at the Washington's Crossing Bridge. Starting late May 2013, the Authority had been operating the Canal at raised levels in that vicinity to address a flow problem in the Trenton area. The higher than normal levels of the

Canal caused the Washington Crossing spillway, which is directly adjacent to the abutment, to operate (overflow).

The concrete spillway structure has two motor operated waste gates that can be operated on site or remotely from the Canal Office. The spillway and associated waste gates were designed to help regulate the amount of water in the Canal and to provide a controlled discharge in periods of high water. The concrete spillway is approximately 152'± long and 37'± wide, consisting of two (2) concrete spillway boxes with twenty (20) 36"x40" vertical elliptical reinforced concrete pipes, and one (1) 68"x75" reinforced concrete pipe. A concrete apron in front of the 68"x 75" concrete pipe handles the flow of water coming through the pipe and the stone apron in front of the rest of the pipes protect the embankment from erosion. Hand placed stonewalls border the aprons.

As a temporary measure staff opened the waste gate associated with the spillway and was able to draw the Canal level down sufficiently to stop discharge over the spillway. The abutment seepage stopped. At that time, it was unknown if the seepage was a result of the elevated Canal levels causing increased pressure or simply the presence of the water discharging over the spillway, through the pipes below and hitting the abutment.

Authority staff placed sandbags on the spillway crest and is controlling the water level in the Canal by operating the waste gates. This temporary stopgap measure is working to eliminate the seepage. Experience from the earlier trials has shown that the seepage returns if the sandbags are removed or washed off and flow discharges from the northern most pipes. Seepage may cause damage to the spillway structure, the bridge tenders house or the bridge abutment as a result of removal of fines by piping or undermining.

Staff is continuing to monitor the situation and to investigate alternatives for controlling the flowing water.

Rehabilitation of the Ten Mile Waste Gate

The Ten Mile Waste Gate is located up-Canal of the Ten Mile Lock. It is a concrete structure with two sluice gates that are routinely adjusted to discharge flow from the Canal to the Millstone River near its confluence with the Raritan River. Canal flow in excess of that required by down-Canal water purveyors is used to augment flow in the Raritan River. The existing waste gates were installed in 1958 and are in need of replacement. One of the two gates is inoperable and the second gate is difficult to operate. Staff will prepare plans and specifications to replace these gates. Replacement of the gates is scheduled for FY 2015.

Security System Upgrade

A vulnerability assessment of the Authority's facilities was completed in 2003. This project includes continuing implementation of improvements recommended in the vulnerability assessment. Buoys will be installed around the tower at the Spruce Run Reservoir in 2014. A recommendation for the award of a construction contract for the installation of the buoys will be made at the September 8th Authority meeting.

Other protective measures are also being considered as recommended in the vulnerability assessment.

Dredging of the Canal between Landing Lane and Route 18

Approximately 70 percent of water diverted from the Canal is diverted at Route 18 in New Brunswick, Middlesex County. Sediment bars have formed just upstream of the two primary intakes from the Canal wherein the normal Canal operating level is only 18 inches above the sediment level. A decrease in the Canal operating level by more than 12 inches makes it difficult for the water purveyors to divert water. Removal of this accumulation is essential to ensure delivery to these water purveyors.

Removal of the accumulation must be carefully coordinated with the water purveyors in this reach. Development of a program will be modeled after the dredging program currently that is being developed for the Canal reach between Kinston and Amwell Road. Funds are included in this program only for engineering and cultural resource services.

Rehabilitation of the Four Mile Spillway

The Four Mile Spillway is located in the Five Mile Lock to the Route 18 section of the Canal in Franklin Township, Somerset County opposite the Rutgers Preparatory School on Easton Avenue. This 600 foot long spillway was rehabilitated in 1999 with the installation of a tremie concrete cutoff wall to eliminate leakage from the Canal. The spillway was finished with hand placed stones across the crest, the river side slope and the Canal side slope of the rehabilitated structure. The stones were laid in a mortar bed with a recess in the pointing finish.

Recent flooding events washed the cement from the mortar leaving the stones sitting in a loose sand bed. The stones are being dislodged and the spillway crest needs to be stabilized. The planned rehabilitation will be to remove all stone from the crest, pour a concrete slab and rest the stones with ties to the concrete slab similar to the recently completed rehabilitation of the Colonial Park Spillway.

Rehabilitation of the Four Mile Spillway is planned for FY 2018.

Dredging of Intake Pond at the South Branch Pumping Station

The intake pond at the South Branch Pumping Station was designed with a capacity of 21,000,000 gallons during low flow pumping periods. Sediment accumulates in the pond reducing its capacity thereby reducing the efficiency of the operation of the SBPS. Sediment was last removed from the pond in 1986 at a cost of \$265,000. Accounting for inflation, the estimated cost to remove the stone and sediment in FY 2018 – 2019 is \$600,000.

In 1986, material was removed from the pond in the dry and was stockpiled in a temporary stockpile site at the station where it is removed and used as needed. With the current flood hazard area restrictions, this stockpile site cannot be used for the proposed project.

Construction of a Bedload Stone Trap at the Wickecheoke Creek

Wickecheoke Creek enters the Canal just upstream of the Prallsville Lock Control Structure in Delaware Township, Hunterdon County. Excess flow from the Canal and the Creek are discharged over the Wickecheoke Creek spillway into the Delaware River. Investigations in the early 1990's recommended the construction of a bedload stone trap in the creek upstream of its confluence with the Canal to improve the ability to remove the bedload without disrupting the flow in the Canal.

The Authority desires to pursue construction of the structure because of the escalating need to remove bedload from the Canal at this location and the difficulty of removing the material from the Canal at this location.

Roofing Replacement at the North & South Towers

The built-up roofing at the North and South Towers at Round Valley Reservoir are approaching 30 years old, they were replaced in 1984. Replacement of these roofs is planned in FY 2017.

Replacement of the through the wall HVAC units at the Administration Building

The 26 through the wall HVAC units at the Administration Building are reaching the end of their useful life, they were replaced in 1994. Replacement parts are becoming difficult to get and the units are constantly in need of service. Replacement of the units is planned for FY 2016.

Rehabilitation of the Traprock Quarry Spillway

The Traprock Quarry Spillway between Station 1925+90 and Station 1929+20 of the Canal in Franklin Township, Somerset County located approximately $\frac{3}{4}$ mile up-Canal from Route 518 is in poor condition and warrants rehabilitation. The 330-foot long spillway was built as part of the original Canal construction in the 1830's and is part of the Canal's flood control system into the Millstone River. Engineering services are required in order to inspect the structure, prepare a schematic design, prepare a design of the approved rehabilitation alternative and provide construction management services during the rehabilitation of the structure. A cultural resource consultant is also required to perform a cultural resource investigation for the rehabilitation of the spillway and to provide observation during rehabilitation. Rehabilitation of the Traprock Spillway will be scheduled after the dredging program between the Kingston and Amwell Road is complete so the reconstructed spillway does not get damaged by the heavy equipment used to haul the sediment from the site.

Rehabilitation of Canal Flow Structures at the Griggstown and Ten Mile Locks

The Canal was converted into a water supply source in the 1940s and 1950s. This included conversion of the original locks into flow control structures with sluice gates to regulate the flow. There are nine flow control structures located along the length of the Canal that were

inspected and evaluated by Schnabel Associates in 2001 to determine the required rehabilitation. The structures include Raven Rock Lock, Prallsville Lock, Lambertville Lock, Kingston Lock, Griggstown Lock, Ten Mile Lock, South Bound Brook Lock, Five Mile Lock and the Ten Mile Waste Gate (up Canal). Based on the underwater inspections, with the exception of the gates at the Raven Rock Lock and the Kingston Lock, the gates need to be replaced. Gates at these two structures were replaced in 1989 – 1990 but are now in need of repair.

In addition to the replacement of the gates, there are a variety of repairs needed at each of the sites. The deficiencies range from minor cracking and spalling of the concrete to repair of undermining of the Locks.

The Authority plans to phase in gate replacement and structural rehabilitation based on operational priorities. This second phase of the project includes replacement of the flow control gates and other repairs at the Griggstown and Ten Mile Locks. Funding for this project is not included in this five year program.

Rehabilitation of the Gold Run Spillway

The Gold Run Spillway is located at Station 955+00 approximately 500 feet upstream of Lower Ferry Road in Ewing Township, Mercer County. The Gold Run Spillway is a concrete structure built in 1913. The concrete spillway box is approximately \pm 98 feet long and \pm 4 feet wide. The elevation of the spillway crest is 56.70 ft.

Fourteen (14) – 36-inch diameter concrete pipes handle the flow of water coming through the spillway. The pipes discharge on a downstream concrete apron that protects the embankment from erosion. The spillway box is leaking and needs to be replaced. Funding for this project is not included in this five year program.

Instrumentation of the D&R Canal

A computerized instrumentation system is being installed at the Canal Office to remotely monitor water levels in the Canal. Water level sensors were installed at the locks and the information will be transmitted back to the Canal Office via radio. This computerized system will enhance our ability to respond to changing water levels on a timely basis.

On-going problems with the communication of the remote units and the central processor at the Canal Office are hindering the completion and acceptance of this project. This effort has stalled by the contractor. A significant portion of the equipment provided by Ray Angelini, Inc. is outdated and cannot be used. Authority staff is working on improvements to the system including potentially changing the communication method.

Rehabilitation of the Six Mile Run Culvert Headwall

The Six Mile Run Culvert was rehabilitated in the mid-1980s. Stone-faced concrete headwalls were constructed at the inlet and outlet ends of the culverts and minor stone repair was performed in the culvert barrels. A portion of the stone facing of the downstream headwall has

dislodged from the concrete headwall during the winter of 2005 - 2006. The stone armoring above the downstream headwall needs to be restored.

Plans need to be developed to rebid this project.

Rehabilitation of the Waste Gate downstream of Ten Mile Lock

The waste gate is located at Canal Station 2599+50, approximately 600 feet downstream of the Ten Mile Lock in Franklin Township, Somerset County. The existing non-operational waste gate consists of a wooden gate structure set between guides attached to the recessed portion of a concrete inlet headwall. A 60-inch diameter concrete pipe links the gate and inlet headwall to the outlet headwall. The outlet headwall and wingwalls are constructed of stone masonry.

The outlet pipe was permanently sealed in 2014. This project encompasses reconstruction of the deteriorated stonework on the downstream side of the structure.

Installation of a Cutoff Wall in the Shipetaukin Creek Guard Bank

The Shipetaukin Creek Guard Bank, located in Lawrence Township, Mercer County, was constructed along the western side of the Canal to separate the Canal from the Lawrence Meadows and Shipetaukin Creek. The Guard Bank breached during Hurricane Floyd in September 1999 because of high water levels in the Lawrence Meadows. Typically the water level in the Lawrence Meadows, between Provinceline Road and the Route 295 Interchange is higher than the water levels in the Delaware and Raritan Canal so the breach did not cause a loss of Canal water supply.

Leakage is visible through the guard bank from the Lawrence Meadows towards the Canal. Currently, the seepage is clear indicating that soil particles are not being transported and that no piping is occurring. However, the seepage is getting progressively worse and a program is necessary to control the leakage and prevent piping and a potential failure of the embankment. This section of towpath is approximately 7,000 feet long but most of the leakage occurs in a 3,200-foot long section between Station 1477+00 and Station 1509+00. Depth of the cutoff wall will range between 8 and 18.5 feet.

It is planned that a cutoff wall will be constructed in this reach of the embankment. The cutoff wall will be either slurry concrete mix or a clay mix. The slurry concrete mix has the advantage for ease of installation but may cause permit problems.

It will be necessary to retain a consultant to obtain boring information through the guard bank to determine the recommended depth of the cutoff wall. Funding for this project is not included in this five year program.

Rehabilitation of Culvert at Station 2550+90

The unnamed culvert at Station 250+90 is located in Franklin Township, Somerset County approximately one mile east of Weston Causeway and ¼ mile east of School House Road. Boswell Underwater Engineering inspected the culvert in September 2007. The inspection identified numerous areas exhibiting missing mortar pointing and stone along both the walls and crown of the structure. Missing stone were also identified on both the upstream and downstream headwalls. They classified the culvert as being in fair condition and recommended repairs be made to the culvert barrel as well as both headwalls. Funding for this project is not included in this five year program.

Concrete Repairs at the Sullivan Way Aqueduct

The Sullivan Way Aqueduct is located in Trenton, Mercer County. The structure was constructed in the early 1900s and has been waterproofed and patched several times. The superstructure is a concrete encased steel structure constructed to carry the Canal over Sullivan Way. The concrete on the abutments is spalling and needs attention. Funding for this project is not included in this five year program.

Rehabilitation of the Spillway upstream of the Griggstown Lock

The spillway upstream of the Griggstown Lock between Station 2060+40 and Station 2064+20 of the Canal in Franklin Township, Somerset County is in poor condition and warrants rehabilitation. The 380-foot long spillway was built as part of the original Canal construction in the 1830's and is part of the Canal's flood control system into the Millstone River. Engineering services are required in order to inspect the structure, prepare a schematic design, prepare a design of the approved rehabilitation alternative and provide construction management services during the rehabilitation of the structure. A cultural resource consultant is also required to perform a cultural resource investigation for the rehabilitation of the spillway and to provide observation during rehabilitation. Rehabilitation of the spillway will be scheduled after the dredging program between the Kingston and Amwell Road is complete so the reconstructed spillway does not get damaged by the heavy equipment used to haul the sediment from the site.

Release Pipeline Evaluation and Rehabilitation

The Round Valley Release Pipeline (RVRP) conveys water from the Round Valley North Vault to the Whitehouse Release. The pipeline was also intended to convey water pumped from the planned Confluence Pumping Station back to the Reservoir. One pipe section of the 108" diameter prestressed concrete cylinder pipe ruptured in 1988 and numerous other sections were found to have broken prestressing wire that may lead to additional ruptures of the pipe sections. The RVRP was converted into a gravity release pipeline in 1996 with the installation of pressure reducing valves in the North Vault. The reduced pressure design assumes that all the prestressing wire has failed and relies on the strength of the embedded steel cylinder. It was recommended that the pipeline continue to be monitored on a regular basis.

Authority staff inspected the interior of the RVRP between June 8 and June 11, 2012. Nothing was observed to indicate imminent failure of the pipeline. Staff will continue its periodic inspection of the pipeline and take action accordingly.

Funding for this project is not included in this five year program.

Round Valley Force Main

The Round Valley Force Main is a 3.5-mile 108" diameter prestressed concrete cylinder pipe that conveys water from the South Branch Pumping Station to the South Dam at Round Valley Reservoir. The Force Main is also used for releases from the reservoir to the South Branch Raritan River.

Non-destructive testing of the Force Main was conducted in 1999. The non-destructive testing identified that the majority of the pipe sections were in very good condition. Approximately 5% of the 1,062 pipe sections exhibited anomalous readings that give rise to varying degrees of concern. One section of pipe (pipe section 42), located within the South Branch Pumping Station property, was excavated and further examined externally and internally. The examinations confirmed the results of the non-destructive testing. Instead of instituting a program to immediately replace pipe section 42 and other sections of pipe that were of concern, the Authority embarked on a program to develop a management plan to estimate the anticipated longevity of various pipe sections and prioritize pipe replacement.

Pipe section 42 was replaced in 2005 and was dismantled and tested in January 2006. Pipe section 42 was "designed" to have a double wrap of pre-stressing wire. The outer level of pre-stressing was missing and the pipe section was considered to be "severely structurally compromised." A large portion of the pre-stressing wire had significantly lower than the specified stress as determined by the strain gauge testing.

Additionally, the management plan developed in 2003 identified 4 other sections that warrant increased monitoring, pipe sections 33, 43, 48 and 617. The consultants recommended additional non-destructive testing of the entire length of the Force Main with particular emphasis on the noted sections.

Continued monitoring of the Force Main is warranted before any additional pipe sections are excavated or replaced.

Additional Projects of Undetermined Cost and Scheduling

The following two additional projects are noted as "longer term" potential projects - dredging between Amwell Road and Ten Mile Lock and dredging between Lambertville Lock and Trenton.

Dredging between Amwell Road and Ten Mile Lock Currently plans are being developed to dredge a 10.5 mile stretch of the Canal between Kingston and Amwell Road. Flow in the stretch of the Canal between Amwell Road and Ten Mile Lock is also being impeded by the

accumulation of sediment. Long term planning needs to focus on the removal of sediment from this reach.

Dredging between Lambertville Lock and Trenton Sediment was removed from this reach in the mid-1980's. Breach of the embankment at the Workhouse Spillway in 2011, drained the Canal between the Lambertville Lock and the Kingston Lock exposing sediment that has accumulated since the 1980's. While the Canal was drained, Authority staff removed sediment mounds that were the most pronounced but was unable to remove all of the mounds. Long term planning needs to focus on the removal of sediment from this reach.

PART III – PROPOSED RULE AMENDMENT

NEW JERSEY WATER SUPPLY AUTHORITY

**AMENDMENTS TO THE SCHEDULE OF RATES, CHARGES AND
DEBT SERVICE ASSESSMENTS FOR THE SALE OF WATER FROM
THE RARITAN BASIN SYSTEM**

To Become Effective July 1, 2015

The following rules and regulations can be found in the New Jersey Administrative Code under N.J.A.C. 7:11-2.1, et. seq.

7:11-2.3 General Rate Schedule for Operations and Maintenance

(a) The General Rate Schedule for Operations and Maintenance per million gallons listed at (b) below is based on estimated annual operations and maintenance expense consisting of all current costs, obligations and expenses of, or arising in connection with, the operation, maintenance and administration of the System, and minor additions or improvements thereof or thereto, or the performance of any water purchase contract, including, but not limited to, all of the following:

1 –7 (No change.)

8. Any other current costs, expenses or obligations required to be paid by the Authority under the provision of any agreement or instrument relating to bonds, other indebtedness of the Authority or by law. The current sales base of [182.271] **182.339** million gallons per day has been used in setting the rate listed in (b) below.

(b) General rate schedule for operations and maintenance:

| <u>Period</u> (State Fiscal year or otherwise indicated) | <u>Allocation</u> | <u>Rate/Million Gallons</u> |
|---|----------------------------------|-----------------------------|
| [8/4/2014 to 6/30/2015] State fiscal year 2016 | Million Gallons per Day (MGD) | [\$167.00] \$171.00 |

7:11-2.4 Debt Service Assessments

(a) (No change.)

(b) The following Debt Service Assessment rate for the New Jersey Environmental Infrastructure Financing Program loans, based on a sales base of [182.271] **182.339** million gallons per day will be applied to all customers.

| <u>Period</u> (State Fiscal year or otherwise indicated) | <u>Allocation</u> | <u>Rate/Million Gallons</u> |
|---|-------------------------------|-----------------------------|
| State fiscal year [2015] 2016 | Million Gallons per Day (MGD) | \$25.00 |

7:11-2.5 Capital Fund Component

(a)-(b) (No change.)

(c) Capital Fund Assessment

| <u>Period</u> (State Fiscal year or otherwise indicated) | <u>Allocation</u> | <u>Rate/Million Gallons</u> |
|---|-------------------------------|-----------------------------|
| State fiscal year [2015] 2016 | Million Gallons per Day (MGD) | [\$30.00] \$33.00 |

7:11-2.6 Source Water Protection Fund Component

(a) (No change.)

(b) Source Water Protection Fund Assessment

| <u>Period</u> (State Fiscal year or otherwise indicated) | <u>Allocation</u> | <u>Rate/Million Gallons</u> |
|---|-------------------------------|-----------------------------|
| State fiscal year [2015] 2016 | Million Gallons per Day (MGD) | \$24.00 |

NEW JERSEY WATER SUPPLY AUTHORITY
(A Component Unit of the State of New Jersey)

FORECASTED COST ALLOCATION SCHEDULES

Year Ending June 30, 2016

INDEPENDENT ACCOUNTANT'S REPORT

To the Commissioners of
New Jersey Water Supply Authority

At your request, we have performed certain agreed-upon procedures, as enumerated below, with respect to the accompanying forecasted cost allocation schedules of the New Jersey Water Supply Authority (the "Authority"), a component unit of the State of New Jersey for the fiscal year ending June 30, 2016. These procedures, which were agreed to by the Commissioners and Authority management, were performed solely to assist you in evaluating the forecasted cost allocation schedules in connection with the setting of water rates for each of the three operating systems (Raritan, Manasquan Reservoir and Manasquan Treatment Plant/Transmission). The Authority's management is responsible for the schedules. This agreed-upon procedures engagement was performed in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of these procedures is solely the responsibility of the Authority's management. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose. The procedures that we performed are as follows:

1. We were provided with the fiscal year 2016 budgeted expenses for each of the three operating systems by the Authority's director of finance and administration, who advised us that the fiscal year 2016 budgeted expenses are based upon preliminary budgets that are subject to approval by the Authority's Commissioners. We performed no procedures in regard to these fiscal year 2016 budgeted expenses.
2. We recalculated the allocated costs on the schedules. We found no exceptions as a result of these procedures.
3. We compared the methodologies used for cost allocation on the forecasted schedules to the methodologies used in the Authority's cost allocation schedules for the year ended June 30, 2014, and found them to be consistent.

- AN INDEPENDENTLY OWNED MEMBER,
MCGladREY ALLIANCE
- AMERICAN INSTITUTE OF
CERTIFIED PUBLIC ACCOUNTANTS
- NEW JERSEY SOCIETY OF
CERTIFIED PUBLIC ACCOUNTANTS
- NEW YORK SOCIETY OF
CERTIFIED PUBLIC ACCOUNTANTS
- PENNSYLVANIA INSTITUTE OF
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INDEPENDENT ACCOUNTANT'S REPORT (CONTINUED)

We were not engaged to and did not conduct an examination, the objective of which would be the expression of an opinion on the accompanying forecasted cost allocation schedules. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you. Furthermore, there will usually be differences between the forecasted and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

This report is intended solely for the information and use of the Commissioners and management of the Authority and should not be used by those who have not agreed to the procedures and taken responsibility for the sufficiency of the procedures for their purposes.

Messidin, P.C.
Certified Public Accountants

October 6, 2014

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF FORECASTED COST CENTER EXPENSE RECLASSIFICATION
 YEAR ENDING JUNE 30, 2016

| | | RECLASSIFICATIONS | | | | | | | | | REVISED | |
|----------------|---|-------------------|------------------|----------------|-------------------|-------------|-----------|----------|----------------|---------------|--------------------------------|-------------------|
| DEPT. # | DEPT./COST CENTER | COST CENTER COSTS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | COST CENTER COSTS |
| | | | HEATING/ELECTRIC | VEHICULAR FUEL | PROFESSIONAL FEES | INSURANCE | TELEPHONE | PERMITS | WORKERS' COMP. | IN LIEU TAXES | CHIEF ENGINEER SALARY & FRINGE | |
| | BUILDING HQ | \$ - | \$130,100 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$130,100 |
| | TELEPHONE HQ | | | | | | 72,400 | | | | | 72,400 |
| 36 | SAFETY | 207,100 | | | (5,000) | | | | | | | 202,100 |
| 37 | SECURITY | 884,250 | | | | | | | | | | 884,250 |
| 14 | HUMAN RESOURCES | 428,700 | | | (4,400) | | | | (10,000) | | | 415,300 |
| 16 | PURCHASING | 552,900 | | (157,800) | | | (72,400) | (16,000) | | | | 306,700 |
| 17 | INFORMATION SYSTEMS | 157,200 | | | | | | | | | | 157,200 |
| 15 | CONTRACTS & RISK MGMT. | 1,721,600 | | | (33,500) | (1,246,800) | | (86,100) | | (18,700) | | 386,700 |
| 13 | FINANCIAL MGMT. | 949,200 | | 157,800 | (2,500) | | | | | | | 946,700 |
| 34 | AUTO SHOP | 209,900 | | | | | | 16,000 | | | | 363,700 |
| 35 | AUTO SHOP-CANAL | 213,300 | | | | | | | | | | 213,300 |
| 10 | EXEC OFFICE | 247,800 | 4,757 | | | | | | | | | 252,557 |
| 20 30 31 32 33 | WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM) | 7,356,650 | (134,857) | | 45,400 | 1,246,800 | | 86,100 | 10,000 | 18,700 | (24,914) | 8,603,879 |
| | | 12,929,800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (24,914) | 12,904,886 |
| 40-60 | MANASQUAN SYSTEM | 5,347,860 | | | | | | | | | 24,914 | 5,372,764 |
| | | \$18,277,650 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$18,277,650 |

See accompanying notes to Financial Schedules.
 See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF FORECASTED SYSTEM-WIDE ALLOCATED COSTS
 YEAR ENDING JUNE 30, 2016

ALLOCATION BASIS

| DEPT. # | DEPT./COST CENTER | REVISED COST CENTER COSTS | SQ. FT. # | # OF TELEPHONES | # OF EMPLOYEES | 100 % RARITAN O&M | # OF EMPLOYEES | # OF P.O.s | # OF COMPUTERS | MGD CONTRACTS | O&M BUDGET | # OF VEHICLES | # OF VEHICLES | TIME ESTIMATE | ALLOCATED COST CENTER COSTS |
|----------------|---|---------------------------|-------------|-----------------|----------------|-------------------|----------------|-------------|----------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|
| | BUILDING HQ | \$130,100 | (\$130,100) | | | | | | | | | | | | |
| | TELEPHONE HQ | \$72,400 | 0 | (\$72,400) | | | | | | | | | | | |
| 36 | SAFETY | \$202,100 | 976 | 796 | (\$203,872) | | | | | | | | | | |
| 37 | SECURITY | \$884,250 | 4,898 | 3,182 | 16,680 | (\$909,110) | | | | | | | | | |
| 14 | HUMAN RESOURCES | \$415,300 | 6,018 | 3,182 | 5,560 | 0 | (\$430,060) | | | | | | | | |
| 16 | PURCHASING | \$306,700 | 6,640 | 2,387 | 3,707 | 0 | 8,777 | (\$328,211) | | | | | | | |
| 17 | INFORMATION SYSTEMS | \$157,200 | 1,385 | 796 | 1,853 | 0 | 4,388 | 9,804 | (\$175,226) | | | | | | |
| 15 | CONTRACTS & RISK MGMT. | \$336,700 | 4,323 | 1,851 | 3,707 | 0 | 8,777 | 9,488 | 6,258 | (\$370,854) | | | | | |
| 13 | FINANCIAL MGMT. | \$946,700 | 12,596 | 5,669 | 12,974 | 0 | 30,719 | 8,443 | 28,161 | 0 | (\$1,045,162) | | | | |
| 34 | AUTO SHOP | \$383,700 | 20,514 | 1,591 | 1,653 | 0 | 4,388 | 16,569 | 6,258 | 0 | 27,049 | 0 | (\$461,922) | | |
| 35 | AUTO SHOP-CANAL | \$213,300 | 0 | 1,591 | 1,853 | 0 | 4,388 | 14,880 | 3,129 | 0 | 15,036 | 0 | 0 | (\$307,785) | |
| 10 | EXEC OFFICE | \$252,657 | 17,456 | 5,569 | 1,853 | 0 | 4,388 | 1,900 | 6,258 | 0 | 17,804 | 0 | 0 | | |
| 20 30 31 32 33 | WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM) | \$8,603,879 | 55,194 | 46,146 | 195,644 | 909,110 | 250,137 | 142,470 | 90,743 | 333,264 | 606,524 | 461,922 | 254,177 | 276,237 | \$12,136,447 |
| 40-60 | MANASQUAN SYSTEM | \$5,372,764 | 0 | 0 | 48,188 | 0 | 114,098 | 124,847 | 34,419 | 37,590 | 376,749 | 0 | 0 | 31,548 | 6,142,203 |
| | | \$18,277,650 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$18,277,650 |

See accompanying notes to Financial Schedules.
 See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF FORECASTED COST ALLOCATION FACTORS
 YEAR ENDING JUNE 30, 2016

REQUIRED STATISTICS

| ALLOCATION OF: ALLOCATION BASIS: | BUILDING HQ SQ. FT. # | TELEPHONES # OF TELEPHONES | SAFETY # OF EMPLOYEES | HUMAN RESOURCES # OF EMPLOYEES | PURCHASING # OF P.O.'S | INFORMATION SYSTEMS # OF COMPUTERS | CONTRACTS & RISK MGMT MGD CONTRACTS | FINANCE O&M FUNCTIONAL COST | AUTO SHOP # OF VEHICLES | AUTO SHOP CANAL # OF VEHICLES | EXEC. OFF TIME ESTIMATE |
|---|-----------------------------|----------------------------------|-----------------------------|---|------------------------------|---|--|--------------------------------------|-------------------------------|--|-------------------------------|
| DEPT. # | | | | | | | | | | | |
| DEPT./COST CENTER | | | | | | | | | | | |
| BUILDING HQ | | | | | | | | | | | |
| TELEPHONE HQ | | | | | | | | | | | |
| 36 SAFETY | 110 | 1 | | | | | | | | | |
| 37 SECURITY | 563 | 4 | 9 | | | | | | | | |
| 14 HUMAN RESOURCES | 678 | 4 | 3 | | | | | | | | |
| 16 PURCHASING | 748 | 3 | 2 | 2 | | | | | | | |
| 17 INFORMATION SYSTEMS | 156 | 1 | 1 | 1 | 91 | | | | | | |
| 15 CONTRACTS & RISK MGMT. | 487 | 2 | 2 | 2 | 90 | 2 | | | | | |
| 13 FINANCIAL MGMT. | 1,419 | 7 | 7 | 7 | 80 | 9 | 0 | | | | |
| 34 AUTO SHOP | 2,311 | 2 | 1 | 1 | 157 | 2 | 0 | \$383,700 | | | |
| 35 AUTO SHOP-CANAL | 0 | 2 | 1 | 1 | 141 | 1 | 0 | 213,300 | | | |
| 10 EXEC OFFICE | 1,967 | 7 | 1 | 1 | 18 | 2 | 0 | 252,557 | 0 | | |
| 20 30 31 32 33 WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM) | 6,218 | 58 | 57 | 57 | 1,350 | 29 | 182 | 8,603,879 | 43 | 43 | 88.75 |
| 40-60 MANASQUAN SYSTEM | | | 26 | 26 | 1,183 | 11 | 21 | 5,372,764 | | | 10.25 |
| | 14,657 | 91 | 110 | 98 | 3,110 | 56 | 203 | \$14,826,200 | 43 | 43 | 100.0% |

See accompanying notes to Financial Schedules.
 See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF FORECASTED MANASQUAN SYSTEM ALLOCATED COSTS
 YEAR ENDING JUNE 30, 2016

| COSTS | ALLOCATION BASIS | | | | | ALLOCATED COSTS |
|---------------------------|--------------------|---------------------------|----------------------------|-------------------|-------------------------------|--------------------|
| | 1 TIME STUDY | 2 \$ VALUE OF VEHICLES | 3 \$ VALUE OF EQUIPMENT | 4 TIME STUDY | 5 VALUE OF WATER CONTRACTS | |
| GENERAL & ADMINISTRATIVE | | | | | | |
| SALARIES & FRINGES | \$2,980,650 | <u>(\$2,980,650)</u> | | | | |
| VEHICLE RELATED | 83,000 | <u>(\$83,000)</u> | | | | |
| MAINT. SUPPLIES & RELATED | 72,900 | | <u>(\$72,900)</u> | | | |
| OFFICE & MISC. | 51,700 | | | <u>(\$51,700)</u> | | |
| H.Q. OVERHEAD | 794,353 | | | | <u>(\$794,353)</u> | |
| RESERVOIR | 1,018,800 | 59,860 | 33,563 | 24,377 | 689,400 | \$3,231,400 |
| TREAT./TRANS. | 1,111,900 | 23,140 | 39,337 | 27,323 | 104,953 | 2,881,903 |
| | <u>\$6,113,303</u> | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$6,113,303</u> |

See accompanying notes to Financial Schedules.
 See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
YEAR ENDING JUNE 30, 2016

A. GENERAL

The New Jersey Water Supply Authority as part of its annual budget and rate making process performs a two step cost allocation calculation. During the first step, the Authority forecasts its actual expenses by Cost Center. For purposes of this calculation the Authority uses the following Cost Centers:

- Building Headquarters
- Telephone Headquarters
- Safety
- Security
- Human Resources
- Purchasing
- Information Systems
- Contracts & Risk Management
- Financial Management
- Auto Shop
- Auto Shop - Canal
- Executive Office
- Engineering, Watershed Management, Operations and Maintenance (Raritan System)
- Manasquan System

In deriving expenses by Cost Center several expense reclassifications are made on the Schedule of Forecasted Cost Center Expense Reclassification as follows:

1. Heating and electricity expenses related to Building Headquarters ("HQ") and Executive Office are reclassified from Engineering and Operations & Maintenance ("O & M").
2. Vehicular fuel expense related to Auto Shop is reclassified from Purchasing.
3. Professional fees related to O & M are reclassified from the various departments to which they have been charged.
4. Insurance premium expense related to the Raritan System is reclassified from Contracts and Risk Management.
5. Telephone expense is reclassified from Purchasing to a separate Telephone HQ Cost Center.
6. Permit expense related to the Raritan System is reclassified from Contracts and Risk Management and Purchasing.
- See independent accountant's report.
7. Workers' compensation expense related to the Raritan System is reclassified from Contracts and Risk Management.
8. In-lieu taxes related to the Raritan System are reclassified from Contracts and Risk Management.
9. Chief Engineer Salary & Fringe Expenses related to the Manasquan System are reclassified from the Engineering Department.

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
YEAR ENDING JUNE 30, 2016

The second step entails a step-down allocation of eleven of the Authority's Cost Centers to the Raritan and Manasquan System Cost Centers. In making this step-down allocation the Authority allocates cost as follows:

1. Building HQ is allocated to each of the Cost Centers based on the amount of space utilized.
2. Telephone HQ is allocated to each of the Cost Centers based on the number of telephones utilized.
3. Safety is allocated to each of the Cost Centers based on the number of employees.
4. Security is allocated entirely to the Raritan System.
5. Human Resources is allocated to each of the Cost Centers based on the number of employees.
6. Purchasing is allocated to each of the respective Cost Centers based on the number of purchase orders issued.
7. Information Systems is allocated to each of the Cost Centers based on the number of computers.
8. Contracts and Risk Management is allocated to each of the Cost Centers based on the number of employees.
9. Financial Management is allocated based on a percentage of the four remaining Cost Centers' budgets.
10. Auto Shop and Auto Shop-Canal are allocated based on the number of vehicles used.
11. Executive Office is allocated based on the amount of executive time utilized in managing each of the Systems.

See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
YEAR ENDING JUNE 30, 2016

B. MANASQUAN SYSTEM ALLOCATED COST

The Manasquan Water Supply System's direct and allocated costs are then allocated between the Reservoir System and the Water Treatment Plant/Transmission System. In making this allocation the Authority adds to each System's direct expenses, the indirect costs allocated as follows:

1. Salaries and Fringe Benefits are allocated based on actual time studies performed by each employee throughout Fiscal Year 2014.
2. Vehicle related expenses are allocated based on the dollar value of vehicles held by each System.
3. Maintenance Supplies and related expenses are allocated based on the dollar value of capital equipment held by each System.
4. Office and miscellaneous expenses are allocated based on the time studies performed by each employee throughout Fiscal Year 2014.
5. Headquarters Overhead expenses are allocated based on the value of water contracts for each System.

See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
(A Component Unit of the State of New Jersey)
COST ALLOCATION SCHEDULES

June 30, 2014

INDEPENDENT ACCOUNTANT'S REPORT

To the Commissioners of
New Jersey Water Supply Authority

We have examined the financial schedules of New Jersey Water Supply Authority (the "Authority"), a component unit of the State of New Jersey, for the year ended June 30, 2014, listed in the foregoing table of contents. The Authority's management is responsible for the financial schedules. Our responsibility is to express an opinion on the conformity of the financial schedules with the cost allocation criteria set forth in Note A.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included such procedures as we considered necessary under the circumstances. We believe that our examination provides a reasonable basis for our opinion.

In our opinion, the financial schedules referred to above present the Authority's allocation of costs to the Raritan and Manasquan Systems in conformity with the cost allocation criteria set forth in Note A.

This report is intended for the information and use of the Commissioners and management of the Authority and is not intended to be and should not be used by anyone other than these specified parties.

Mercadieu, P.C.
Certified Public Accountants

October 6, 2014

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CERTIFIED PUBLIC ACCOUNTANTS
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NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF COST CENTER EXPENSE RECLASSIFICATION
 YEAR ENDED JUNE 30, 2014

RECLASSIFICATIONS

| DEPT. # | DEPT./COST CENTER | COST CENTER COSTS | 1 HEATING/ ELECTRIC | 2 VEHICULAR FUEL | 3 PROFESSIONAL FEES | 4 INSURANCE | 5 TELEPHONE | 6 PERMITS | 7 WORKERS' COMP. | 8 IN LIEU TAXES | 9 CHIEF ENGINEER SALARY & FRINGE | REVISED COST CENTER COSTS |
|----------------|--|-------------------|---------------------------|------------------------|---------------------------|----------------|----------------|--------------|------------------------|--------------------|--|------------------------------------|
| | BUILDING HQ | | \$81,432 | | | | | | | | | 81,432 |
| | TELEPHONE HQ | | | | | | \$73,113 | | | | | 73,113 |
| 36 | SAFETY | 175,790 | | | | | | | | | | 175,790 |
| 37 | SECURITY | 839,879 | | | | | | | | | | 839,879 |
| 14 | HUMAN RESOURCES | 387,706 | | | (\$2,540) | | | | (\$4,384) | | | 380,782 |
| 16 | PURCHASING | 514,544 | | (\$144,641) | | | (73,113) | (\$15,843) | | | | 280,948 |
| 17 | INFORMATION SYSTEMS | 170,075 | | | | | | | | | | 170,075 |
| 15 | CONTRACTS & RISK MGMT. | 1,557,865 | | | (19,324) | (\$1,154,419) | | (90,464) | | (\$18,700) | | 274,959 |
| 13 | FINANCIAL MGMT | 895,984 | | | (2,268) | | | | | | | 893,726 |
| 34 | AUTO SHOP | 213,041 | | 144,641 | | | | 15,843 | | | | 373,524 |
| 35 | AUTO SHOP-CANAL | 218,568 | | | | | | | | | | 218,568 |
| 10 | EXEC OFFICE | 235,154 | 3,917 | | | | | | | | | 239,071 |
| 20 30 31 32 33 | WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM) | 8,408,195 | (85,349) | | 24,132 | 1,154,419 | | 90,464 | 4,384 | 18,700 | (25,350) | 7,589,593 |
| | | 11,616,810 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (25,350) | 11,591,460 |
| 40-60 | MANASQUAN SYSTEM | 4,373,457 | | | | | | | | | 25,350 | 4,398,807 |
| | | \$15,990,267 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$15,990,267 |

See accompanying notes to Financial Schedules.
 See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF SYSTEM-WIDE ALLOCATED COSTS
 YEAR ENDED JUNE 30, 2014

ALLOCATION BASIS

| DEPT. # | DEPT./COST CENTER | REVISED COST CENTER COSTS | SQ. FT. # | # OF TELEPHONES | # OF EMPLOYEES | 100% RARITAN O&M | # OF EMPLOYEES | # OF P.O.s | # OF COMPUTERS | MGD CONTRACTS | O&M BUDGET | # OF VEHICLES | # OF VEHICLES | TIME ESTIMATE | ALLOCATED COST CENTER COSTS |
|----------------|---|---------------------------|------------|-----------------|----------------|------------------|----------------|-------------|----------------|---------------|-------------|---------------|---------------|---------------|-----------------------------|
| | BUILDING HQ | \$81,432 | (\$81,432) | | | | | | | | | | | | |
| | TELEPHONE HQ | \$73,113 | 0 | (\$73,113) | | | | | | | | | | | |
| 36 | SAFETY | \$175,790 | 611 | 803 | (\$177,204) | | | | | | | | | | |
| 37 | SECURITY | \$639,879 | 3,128 | 3,214 | 14,368 | (\$860,589) | | | | | | | | | |
| 14 | HUMAN RESOURCES | \$380,782 | 3,767 | 3,214 | 4,789 | 0 | (\$392,552) | | | | | | | | |
| 16 | PURCHASING | \$280,948 | 4,156 | 2,410 | 3,193 | 0 | 8,011 | (\$298,718) | | | | | | | |
| 17 | INFORMATION SYSTEMS | \$170,075 | 867 | 803 | 1,596 | 0 | 4,006 | 8,741 | (\$196,088) | | | | | | |
| 15 | CONTRACTS & RISK MGMT. | \$274,959 | 2,706 | 1,607 | 3,193 | 0 | 8,011 | 8,646 | (\$305,767) | | | | | | |
| 13 | FINANCIAL MGMT | \$893,726 | 7,884 | 5,624 | 11,175 | 0 | 28,039 | 7,684 | 29,907 | 0 | (\$384,039) | | | | |
| 34 | AUTO SHOP | \$373,524 | 12,840 | 1,607 | 1,596 | 0 | 4,006 | 15,080 | 6,646 | 0 | 28,672 | (\$443,971) | | | |
| 35 | AUTO SHOP-CANAL | \$218,568 | 0 | 1,607 | 1,596 | 0 | 4,006 | 13,643 | 3,323 | 0 | 16,777 | 0 | (\$259,420) | | |
| 10 | EXEC OFFICE | \$239,071 | 10,926 | 5,624 | 1,596 | 0 | 4,006 | 1,729 | 6,646 | 0 | 16,351 | 0 | 0 | (\$287,949) | |
| 20 30 31 32 33 | WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM) | \$7,589,693 | 34,547 | 46,800 | 92,595 | 880,589 | 228,321 | 129,668 | 96,367 | 274,735 | 582,583 | 443,971 | 259,420 | 288,434 | \$10,887,423 |
| 40-60 | MANASQUAN SYSTEM | \$4,388,807 | 0 | 0 | 41,507 | 0 | 104,146 | 113,628 | 36,553 | 31,032 | 337,696 | 0 | 0 | 29,515 | 5,082,844 |
| | | \$15,950,267 | (\$0) | (\$0) | (\$0) | (\$0) | (\$0) | (\$0) | (\$0) | (\$0) | (\$0) | (\$0) | (\$0) | (\$0) | \$15,950,267 |

See accompanying notes Financial Schedules.
 See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF COST ALLOCATION FACTORS
 YEAR ENDED JUNE 30, 2014

REQUIRED STATISTICS

| ALLOCATION OF: ALLOCATION BASIS: | BUILDING HQ SQ. FT. # | TELEPHONES # OF TELEPHONES | SAFETY # OF EMPLOYEES | HUMAN RESOURCES # OF EMPLOYEES | PURCHASING # OF P.O.'S | INFORMATION SYSTEMS # OF COMPUTERS | RISK MGMT MGD CONTRACTS | FINANCE O&M FUNCTIONAL COST | AUTO SHOP # OF VEHICLES | AUTO SHOP CANAL # OF VEHICLES | EXEC. OFF TIME ESTIMATE |
|---|-----------------------------|----------------------------------|-----------------------------|---|------------------------------|---|-------------------------------|--------------------------------------|-------------------------------|--|-------------------------------|
| DEPT./COST CENTER | | | | | | | | | | | |
| BUILDING HQ | | | | | | | | | | | |
| TELEPHONE HQ | | | | | | | | | | | |
| 36 SAFETY | 110 | 1 | | | | | | | | | |
| 37 SECURITY | 553 | 4 | 9 | | | | | | | | |
| 14 HUMAN RESOURCES | 678 | 4 | 3 | | | | | | | | |
| 16 PURCHASING | 748 | 3 | 2 | 2 | | | | | | | |
| 17 INFORMATION SYSTEMS | 156 | 1 | 1 | 1 | 91 | | | | | | |
| 15 CONTRACTS & RISK MGMT. | 487 | 2 | 2 | 2 | 80 | 2 | | | | | |
| 13 FINANCIAL MGMT | 1,419 | 7 | 7 | 7 | 80 | 9 | 0 | | | | |
| 34 AUTO SHOP | 2,311 | 2 | 1 | 1 | 157 | 2 | 0 | \$373,524 | | | |
| 35 AUTO SHOP-CANAL | 0 | 2 | 1 | 1 | 141 | 1 | 0 | \$218,568 | | | |
| 10 EXEC OFFICE | 1,967 | 7 | 1 | 1 | 18 | 2 | 0 | 239,071 | 0 | | |
| 20 30 31 32 33 WATERSHED, ENGINEERING & O&M (RARITAN SYSTEM) | 6,218 | 58 | 58 | 57 | 1,350 | 29 | 182 | 7,589,593 | 43 | 43 | 89.75 |
| 40-50 MANASQUAN SYSTEM | | | 26 | 26 | 1,183 | 11 | 21 | 4,396,807 | | | 10.25 |
| | 14,657 | 91 | 111 | 98 | 3,110 | 56 | 203 | \$12,819,563 | 43 | 43 | 100 % |

See accompanying notes Financial Schedules.
 See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
 SCHEDULE OF MANASQUAN SYSTEM ALLOCATED COSTS
 YEAR ENDED JUNE 30, 2014

| COSTS | ALLOCATION BASIS | | | | | ALLOCATED COSTS |
|---------------------------|--------------------|---------------------------------------|----------------------------|-----------------|-------------------------------|--------------------|
| | 1 TIME STUDY | 2 \$ VALUE OF VEHICLES OF VEHICLES | 3 \$ VALUE OF EQUIPMENT | 4 TIME STUDY | 5 VALUE OF WATER CONTRACTS | |
| GENERAL & ADMINISTRATIVE | | | | | | |
| SALARIES & FRINGES | \$2,583,980 | | | | | |
| VEHICLE RELATED | 67,424 | (\$67,424) | | | | |
| MAINT. SUPPLIES & RELATED | 37,904 | | (\$37,904) | | | |
| OFFICE & MISC. | 32,794 | | | (\$32,794) | | |
| H.Q. OVERHEAD | 719,387 | | | | (\$719,387) | |
| RESERVOIR | 830,454 | | 17,387 | 15,307 | 624,339 | \$2,690,284 |
| TREAT./TRANS. | 820,901 | 18,798 | 20,517 | 17,487 | 95,048 | 2,402,560 |
| | <u>\$5,092,844</u> | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>(\$0)</u> | <u>\$5,092,844</u> |

See accompanying notes Financial Schedules.
 See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
YEAR ENDED JUNE 30, 2014

A. GENERAL

The New Jersey Water Supply Authority as part of its annual budget and rate making process performs a two step cost allocation calculation. During the first step, the Authority calculates its actual expenses by Cost Center. For purposes of this calculation the Authority uses the following Cost Centers:

- Building Headquarters
- Telephone Headquarters
- Safety
- Security
- Human Resources
- Purchasing
- Information Systems
- Contracts & Risk Management
- Financial Management
- Auto Shop
- Auto Shop - Canal
- Executive Office
- Engineering, Watershed Management, Operations and Maintenance (Raritan System)
- Manasquan System

In deriving expenses by Cost Center several expense reclassifications are made on the Schedule of Cost Center Expense Reclassification as follows:

1. Heating and electricity expenses related to Building Headquarters ("HQ") and Executive Office are reclassified from Engineering & Operations and Maintenance ("O&M").
2. Vehicular fuel expense related to Auto Shop is reclassified from Purchasing.
3. Professional fees related to O & M are reclassified from the various departments to which they have been charged.
4. Insurance premium expense related to the Raritan System is reclassified from Risk Management.
5. Telephone expense is reclassified from Purchasing to a separate Telephone HQ Cost Center.
6. Permit expense related to the Raritan System is reclassified from Risk Management and Purchasing.
7. Workers' compensation expense related to the Raritan System is reclassified from Risk Management.
8. In-lieu taxes related to the Raritan System are reclassified from Risk Management.
9. Chief Engineer Salary & Fringe Expenses related to the Manasquan System are reclassified from the Engineering Department.

See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
YEAR ENDED JUNE 30, 2014

The second step entails a step-down allocation of eleven of the Authority's Cost Centers to the Raritan and Manasquan System Cost Centers. In making this step-down allocation the Authority allocates cost as follows:

1. Building HQ is allocated to each of the cost centers based on the amount of space utilized.
2. Telephone HQ is allocated to each of the cost centers based on the number of telephones utilized.
3. Safety is allocated to each of the Cost Centers based on the number of employees.
4. Security is allocated entirely to the Raritan System.
5. Human Resources is allocated to each of the Cost Centers based on the number of employees.
6. Purchasing is allocated to each of the respective Cost Centers based on the number of purchase orders issued.
7. Information Systems is allocated to each of the Cost Centers based on the number of computers.
8. Risk Management is allocated to each of the Cost Centers based on the number of employees.
9. Financial Management is allocated based on a percentage of the four remaining Cost Centers' budgets.
10. Auto Shop and Auto Shop-Canal is allocated based on the number of vehicles used.
11. Executive Office is allocated based on the amount of executive time utilized in managing each of the Systems.

See independent accountant's report.

NEW JERSEY WATER SUPPLY AUTHORITY
NOTES TO SCHEDULES
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B. MANASQUAN SYSTEM ALLOCATED COST

The Manasquan Water Supply System's direct and allocated costs are then allocated between the Reservoir System and the Water Treatment Plant/Transmission System. In making this allocation the Authority adds to each System's direct expenses, the indirect costs allocated as follows:

1. Salaries and Fringe Benefits are allocated based on actual time studies performed by each employee throughout Fiscal Year 2014.
2. Vehicle related expenses are allocated based on the dollar value of vehicles held by each System.
3. Maintenance Supplies and related expenses are allocated based on the dollar value of capital equipment held by each System.
4. Office and miscellaneous expenses are allocated based on the time studies performed by each employee throughout Fiscal Year 2014.
5. Headquarters Overhead expenses are allocated based on the value of water contracts for each System.

See independent accountant's report.