

**FINAL OFFICIAL STATEMENT DATED JUNE 24, 2014**

**Refunding Issue – Book-Entry-Only**

**Ratings: Moody's Investors Service: A1**

**Standard & Poor's: A+**

**Fitch Ratings: A+**

*In the opinion of Bond Counsel, based on existing statutes and court decisions and assuming continuing compliance with certain covenants and procedures relating to requirements of the Internal Revenue Code of 1986, as amended (the "Code"), interest on the 2014 Series B Bonds is excluded from gross income for federal income tax purposes and is not treated as an item of tax preference for purposes of computing the federal alternative minimum tax. Interest on the 2014 Series B Bonds may be includable in the calculation of certain taxes under the Code, including the federal alternative minimum tax imposed on certain corporations. In the opinion of Bond Counsel, based on existing statutes, interest on the 2014 Series B Bonds is excluded from Connecticut taxable income for purposes of the Connecticut income tax on individuals, trusts and estates, and is excluded from amounts on which the net Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the federal alternative minimum tax. See "Tax Matters" herein.*

**\$77,510,000**

**GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY  
REGIONAL WASTEWATER SYSTEM REVENUE REFUNDING BONDS,  
2014 SERIES B**



**Dated: Date of Delivery**

**Due: As Shown on Inside Cover**

The Regional Wastewater System Revenue Refunding Bonds, 2014 Series B (the "2014 Series B Bonds"), are being issued, and will be secured by an Indenture of Trust dated as of August 1, 2005 (as amended and supplemented, the "Indenture"), by and between the Greater New Haven Water Pollution Control Authority (the "Authority") and U.S. Bank National Association (as successor to Wachovia Bank, National Association), Boston, Massachusetts, as Trustee (the "Trustee"), including the Twenty-Fifth Supplemental Indenture dated as of July 1, 2014. The Authority was created in August 2005 and owns and operates the Regional Wastewater System pursuant to the authority granted by Sections 22a-500 to 22a-519, inclusive, of the Connecticut General Statutes, as amended.

**The 2014 Series B Bonds will be special limited obligations of the Authority, payable solely from revenues and other receipts, funds and moneys pledged therefor pursuant to the Indenture, and will be secured on a parity basis with certain Clean Water Fund Act obligations of the Authority payable to the State of Connecticut, and any additional bonds, indebtedness or other obligations issued or incurred on a parity basis with the 2014 Series B Bonds, under the Indenture. The full faith and credit of the Authority is not pledged to the payment of the 2014 Series B Bonds, and neither the full faith and credit nor the taxing power of the State nor any municipality of the State is pledged to the payment of the 2014 Series B Bonds. The Authority has no taxing power.**

Interest on the 2014 Series B Bonds will be paid semiannually on February 15 and August 15, commencing on August 15, 2014. The 2014 Series B Bonds will be issued as fully registered bonds, registered in the name of Cede & Co., as nominee for The Depository Trust Company, New York, New York. Purchases of the 2014 Series B Bonds will be made in book-entry-only form, in the denominations of \$5,000 or any integral multiple thereof, and no physical delivery of the 2014 Series B Bonds will be made to purchasers. So long as Cede & Co. is the registered owner of the 2014 Series B Bonds, principal and interest, as shown on the inside cover, are payable to DTC by the Trustee. See "BOOK-ENTRY-ONLY SYSTEM" herein.

The 2014 Series B Bonds are subject to redemption prior to maturity. See "Redemption Provisions" herein.

The 2014 Series B Bonds are being issued to refund a portion of the Authority's Regional Wastewater System Revenue Bonds, 2005 Series A, and to pay costs of issuance related to the 2014 Series B Bonds. See "PLAN OF FINANCE – Authorization and Purpose" herein.

The 2014 Series B Bonds are offered for delivery when, as and if issued, subject to the final approving opinion of Robinson & Cole LLP, Bond Counsel, Hartford, Connecticut, and to certain other conditions referred to herein. Certain legal matters will be passed upon for the Underwriter by its counsel, Pullman & Comley, LLC, Underwriter's Counsel, of Hartford, Connecticut. It is anticipated that the 2014 Series B Bonds will be available for delivery through the facilities of DTC or its custodial agent on or about July 10, 2014.

**RAYMOND JAMES®**



**\$77,510,000**  
**GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY**  
**REGIONAL WASTEWATER SYSTEM REVENUE REFUNDING BONDS, 2014 SERIES B**

**\$62,265,000 Serial Bonds**

**Interest Payment Dates: February 15 and August 15, commencing on August 15, 2014**  
**Principal Payment Dates: August 15, as shown below**

<b><u>Due</u></b>	<b><u>Amount</u></b>	<b><u>Interest Rate</u></b>	<b><u>Yield</u></b>	<b><u>CUSIP<sup>1</sup></u></b>
2014	\$3,535,000	2.000%	0.090%	39222PCF9
2015	2,235,000	2.000	0.270	39222PCG7
2016	2,290,000	3.000	0.490	39222PCH5
2017	2,360,000	3.000	0.850	39222PCJ1
2018	2,440,000	4.000	1.210	39222PCK8
2019	2,545,000	4.000	1.580	39222PCL6
2020	2,660,000	5.000	1.900	39222PCM4
2021	2,795,000	5.000	2.210	39222PCN2
2022	2,940,000	5.000	2.450	39222PCP7
2023	3,065,000	3.250	2.700	39222PCQ5
2024	3,190,000	5.000	2.820	39222PCR3
2025	3,355,000	5.000	3.000*	39222PCS1
2026	3,530,000	5.000	3.160*	39222PCT9
2027	3,710,000	5.000	3.270*	39222PCU6
2028	3,900,000	5.000	3.360*	39222PCV4
2029	4,100,000	5.000	3.420*	39222PCW2
2030	4,315,000	5.000	3.490*	39222PCX0
2031	4,535,000	5.000	3.560*	39222PCY8
2032	4,765,000	5.000	3.610*	39222PCZ5

**\$15,245,000 Term Bond**

\$15,245,000 4.000% Term Bond due August 15, 2035 – Yield 4.030%, CUSIP<sup>1</sup> 39222PDA9

<sup>1</sup> CUSIP is a registered trademark of the American Bankers Association. CUSIP data herein are provided by Standard & Poor's CUSIP Service Bureau, a division of The McGraw-Hill Companies, Inc. The CUSIP numbers listed above are being provided solely for the convenience of Bondholders only at the time of issuance of the 2014 Series B Bonds and the Authority does not make any representation with respect to such numbers or undertake any responsibility for their accuracy now or at any time in the future. The CUSIP number for a specific maturity is subject to being changed after the issuance of the 2014 Series B Bonds as a result of procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the 2014 Series B Bonds.

\* Priced assuming redemption on August 15, 2024; however, any such redemption is at the option of the Authority.

Raymond James (the “Underwriter”) has provided the following sentence for inclusion in this Official Statement. The Underwriter has reviewed the information in this Official Statement in accordance with, and as part of, its responsibilities to investors under the Federal Securities laws as applied to the facts and circumstances of this transaction, but the Underwriter does not guarantee the accuracy or completeness of such information.

No dealer, broker, salesperson or other person has been authorized by the Authority, Phoenix Advisors, LLC and Query & Associates LLC (the “Co-Financial Advisors”) or the Underwriter to give any information or to make any representations other than those contained in this Official Statement and, if given or made, such information and representations must not be relied upon as having been authorized by the Authority, the co-Financial Advisors or the Underwriter. This Official Statement does not constitute an offer to sell or solicitation of an offer to buy, nor shall there be any sale of the 2014 Series B Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information set forth herein has been provided by the Authority and obtained from other sources which are believed to be reliable, but the Authority has not independently verified such information. The information herein is subject to change without notice, and neither the delivery of this Official Statement nor any sale made thereafter shall, under any circumstances, create any implication that there has been no change in the affairs of the Authority or in any other information contained herein, since the date hereof.

This Official Statement contains forecasts, projections and estimates that are based on current expectations. In light of the important factors that may materially affect the financial condition of the Authority and other economic and financial matters, the inclusion in this Official Statement of such forecasts, projections and estimates should not be regarded as a representation by the Authority, the Financial Advisor or the Underwriter that such forecasts, projections and estimates will occur. Such forecasts, projections and estimates are not intended as representations of fact or guarantees of results.

If and when included in this Official Statement, the words “expects,” “forecasts,” “projects,” “intends,” “anticipates,” “estimates” and analogous expressions are intended to identify forward-looking statements as defined in the Securities Act of 1933, as amended, and any such statements inherently are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those projected. Such risks and uncertainties include, among others, general economic and business conditions, factors affecting water consumption rates such as weather, changes in political, social and economic conditions, regulatory initiatives and compliance with governmental regulations, litigation and various other events, many of which are beyond the control of the Authority. These forward-looking statements speak only as of the date of this Official Statement. The Authority disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in the Authority’s expectations with regard thereto or any changes in events, conditions or circumstances on which any such statement is based.

U.S. Bank National Association has provided the following sentence for inclusion in this Official Statement. U.S. Bank National Association by acceptance of its duties as Trustee under the Indenture of Trust, as amended and supplemented, has not reviewed this Official Statement and makes no representations as to the information contained herein, including but not limited to, any representations as to the use of the proceeds, the financial feasibility of the system or related activities.

IN CONNECTION WITH THE OFFERING OF THE 2014 SERIES B BONDS, THE UNDERWRITER MAY OVERALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF SUCH 2014 SERIES B BONDS AT LEVELS ABOVE THOSE WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

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# GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

## Board of Directors

<u>Name/Title</u>	<u>Appointing Constituent Municipality</u>	<u>Term Expires</u>
Alphonse Paolillo, Jr., <i>Chairman</i>	New Haven	12/31/2014
Stephen A. Mongillo, <i>Vice Chairman</i>	Hamden	12/31/2016
Joyce Alton, Director	New Haven	12/31/2016
Vincent Arpino, Director	East Haven	12/31/2014
Anthony Criscuolo, Director	East Haven	12/31/2015
Russell N. Cyr., Director	Hamden	12/31/2014
Michael Fimiani, Director	New Haven	12/31/2015
Jeffrey D. Ginzberg, Esq., Director	Woodbridge	12/31/2015
Clayton Williams, Director	New Haven	12/31/2016

## Management and Officers

<u>Name</u>	<u>Position</u>
Sidney J. Holbrook	Executive Director
Gabriel Varca	Treasurer and Director of Finance and Administration
Thomas Sgroi, P.E.	Director of Engineering
Gary Zrelak	Director of Operations

**BOND COUNSEL** - Robinson & Cole LLP  
Hartford, Connecticut

**CO- FINANCIAL ADVISOR** – Phoenix Advisors, LLC  
Milford, Connecticut

**CO- FINANCIAL ADVISOR** – Query & Associates, LLC  
Philadelphia, Pennsylvania

**COST OF SERVICE CONSULTANTS** – Arcadis, Inc. and O’Neil Accounting & Consulting  
White Plains, New York / Marlborough, Connecticut

**CONSULTING ENGINEER** – Arcadis, Inc.  
White Plains, New York

## OFFICIAL STATEMENT

**\$77,510,000**

### **GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY REGIONAL WASTEWATER SYSTEM REVENUE REFUNDING BONDS, 2014 SERIES B**

#### **INTRODUCTION**

The purpose of this Official Statement is to furnish information regarding the issuance by the Greater New Haven Water Pollution Control Authority (the “Authority”) and the security for the \$77,510,000 aggregate principal amount of its Regional Wastewater System Revenue Refunding Bonds, 2014 Series B (the “2014 Series B Bonds”) under and pursuant to Section 22a-500 to 22a-519, inclusive, of the Connecticut General Statutes, as amended (the “Act”), and an Indenture of Trust dated as of August 1, 2005 (as amended and supplemented, the “Original Indenture”), by and between the Authority and U.S. Bank National Association (as successor to Wachovia Bank, National Association), Boston, Massachusetts, as Trustee (the “Trustee”), as further supplemented by the Twenty-Fifth Supplemental Indenture, dated as of July 1, 2014 (the “Twenty-Fifth Supplemental Indenture” and together with the Original Indenture, the “Indenture”).

The 2014 Series B Bonds are being issued to refund a portion of the Authority’s Regional Wastewater System Revenue Bonds, 2005 Series A, and to pay costs of issuance related to the 2014 Series B Bonds.

The Indenture constitutes a contract between the Authority, the Trustee and the holders from time to time of the Bonds (as hereinafter defined). The 2014 Series B Bonds are the fifth issuance of bonds under the Indenture. In addition to bonds, the Indenture also secures the Authority’s \$29.9 million in loans made by the State of Connecticut pursuant to the Clean Water Fund Act (“Clean Water Fund Obligations”), including certain Clean Water Fund Obligations issued by the Constituent Municipalities (as hereinafter defined) prior to the Acquisition Date (as hereinafter defined). The Authority’s Regional Wastewater System Revenue Bonds, 2005 Series A (the “2005 Series A Bonds”), the Regional Wastewater System Revenue Bonds, 2008 Series A (the “2008 Series A Bonds”), the 2008 Clean Renewable Energy Bonds (the “CREBs”), the 2012 Series B Bonds (the “2012 Series B Bonds”), the 2014 Series B Bonds, the Clean Water Fund Obligations and any additional bonds, indebtedness and obligations of the Authority issued or incurred pursuant to the Indenture on a parity basis with the 2005 Series A Bonds, the 2008 Series A Bonds, the CREBs, the 2012 Series B Bonds, the 2014 Series B Bonds and the assumed Clean Water Fund Obligations are referred to herein as the “Bonds.”

Unless otherwise defined in this Official Statement, all capitalized terms used herein have the meanings assigned in the Indenture to such terms, certain of which are summarized in Appendix D – “SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE” herein.

#### **The Greater New Haven Water Pollution Control Authority**

The Greater New Haven Water Pollution Control Authority is a regional water pollution control authority that owns and operates a wastewater collection and treatment system (the “Regional Wastewater System”). The Authority’s service area embraces the 83-square-mile territory of four contiguous municipalities - New Haven, East Haven, Hamden and Woodbridge (the “Constituent Municipalities”). The Regional Wastewater System also accepts sewerage discharges from the Towns of North Branford and North Haven pursuant to a contract.

The Authority was created pursuant to the Act by concurrent ordinances of the four Constituent Municipalities adopted in June 2005 for the purpose of consolidating services for the Constituent Municipalities, improving the overall Regional Wastewater System performance and assuring the provision of adequate wastewater management and water pollution control services within the service area.

The Board of Directors of the Authority (the “Board of Directors”) comprises nine members from the Constituent Municipalities. Four directors are appointed by the City of New Haven, two directors are appointed by each of the Towns of Hamden and East Haven, and the remaining director is appointed by the Town of Woodbridge. The Authority’s Bylaws provide the method of appointment, compensation and terms of office for members of the Board of Directors. The powers of the Authority are exercised by the nine-member Board of Directors. See “THE AUTHORITY” herein.

### **Security for the 2014 Series B Bonds**

**The 2014 Series B Bonds are special limited obligations of the Authority payable solely from Revenues and other receipts, funds and moneys pledged therefor pursuant to the Indenture. Neither the full faith and credit nor the taxing power of the State nor any municipality of the State is pledged to the payment of the 2014 Series B Bonds. The Authority has no taxing power.**

Under the Indenture, the Authority has covenanted to fix, charge and collect rates, charges, rents, fees and assessments derived or to be derived from or for the operation, use or services of the Regional Wastewater System that, together with amounts capitalized from the proceeds of Bonds and amounts otherwise made available from the General Fund will be sufficient in each Fiscal Year to pay Operating Expenses and provide for: the 115% Debt Service Coverage Ratio Requirement (amounts withdrawn and available for withdrawal from the General Fund are limited to 15% of debt service for this requirement) and restoration of any account within the Debt Service Reserve Fund for the Bonds and any debt service reserve fund created and maintained for Parity Indebtedness to their required deposit levels. The Authority has also covenanted to fix, charge and collect rates, charges, rents, fees and assessments, including but not limited to use and connection charges and benefit assessments, which shall produce Revenues sufficient in each Fiscal Year to provide for the Operating Expenses of the Authority and debt service on Parity Obligations and Subordinated Indebtedness coming due in such Fiscal Year.

Under the Act, the rate-setting power of the Authority is not subject to regulation, review or reduction by the State Public Utility Regulatory Authority or any other body. See "SECURITY AND PLEDGE OF THE INDENTURE – Security and Pledge" and "Rate Covenant."

As permitted by the Act, the Authority has included in the Indenture the pledge and agreement of the State not to limit or alter the rights vested in the Authority to contract with any bondholders or noteholders until all obligations of the Authority to such holders have been fully met or discharged.

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## PLAN OF FINANCE

### Authorization and Purpose

On March 11, 2014, the Board of Directors authorized the issuance of \$80,000,000 revenue bonds to refund all or portions of the 2005 Series A bonds and to pay costs of issuance of the 2014 Series B Bonds.

### Plan of Refunding

The 2014 Series B Bonds are being issued to refund at or prior to maturity a portion of the outstanding maturities of the Authority's 2005 Series A Bonds, (the "Refunded Bonds") as set forth below. The refunding is contingent upon delivery of the 2014 Series B Bonds.

<u>Dated Date</u>	<u>Maturity Date</u>	<u>Interest Rate</u>	<u>Par Amount</u>	<u>Redemption Date</u>	<u>Redemption Price</u>	<u>CUSIP Number</u>
08/29/2005	11/15/2014	5.000%	\$2,050,000	n/a		39222PAH7
	11/15/2015	5.000	2,160,000	n/a		39222PAJ3
	11/15/2016	5.000	2,270,000	11/15/2015	100.00	39222PAK0
	11/15/2017	5.000	2,385,000	11/15/2015	100.00	39222PAL8
	11/15/2018	5.000	2,505,000	11/15/2015	100.00	39222PAM6
	11/15/2019	4.500	2,630,000	11/15/2015	100.00	39222PAN4
	11/15/2020	4.500	2,750,000	11/15/2015	100.00	39222PAP9
	11/15/2021	4.500	2,875,000	11/15/2015	100.00	39222PAQ7
	11/15/2022	4.500	3,010,000	11/15/2015	100.00	39222PAR5
	11/15/2023	5.000	3,155,000	11/15/2015	100.00	39222PAS3
	11/15/2024	5.000	3,315,000	11/15/2015	100.00	39222PAT1
	11/15/2025	5.000	3,485,000	11/15/2015	100.00	39222PAU8
	11/15/2026	5.000	3,665,000	11/15/2015	100.00	39222PAV6
	11/15/2027	5.000	3,855,000	11/15/2015	100.00	39222PAV6
	11/15/2028	5.000	4,050,000	11/15/2015	100.00	39222PAV6
	11/15/2029	5.000	4,260,000	11/15/2015	100.00	39222PAV6
	11/15/2030	5.000	4,480,000	11/15/2015	100.00	39222PAV6
	8/15/2031	5.000	4,710,000	11/15/2015	100.00	39222PAW4
	8/15/2032	5.000	4,950,000	11/15/2015	100.00	39222PAW4
	8/15/2033	5.000	5,205,000	11/15/2015	100.00	39222PAW4
	8/15/2034	5.000	5,470,000	11/15/2015	100.00	39222PAW4
	8/15/2035	5.000	<u>5,425,000</u>	11/15/2015	100.00	39222PAW4
			\$78,660,000			

Upon delivery of the 2014 Series B Bonds, a portion of the 2014 Series B Bond proceeds will be deposited in an irrevocable trust fund (the "Escrow Deposit Fund") established with U.S. Bank National Association, as escrow agent (the "Escrow Agent"), under an Escrow Agreement (the "Escrow Agreement") dated as of July 10, 2014 between the Escrow Agent and the Authority. The Escrow Agent will use such proceeds to purchase a portfolio of non-callable direct obligations of, or obligations guaranteed by, the government of the United States of America, including United States Treasury State and Local Government Series ("SLGS") securities, Federal National Mortgage Association ("FNMA") securities, and any other securities permitted by Section 7-400 of the Connecticut General Statutes, all of which shall not be callable or prepayable at the option of the issuer thereof (the "Escrow Securities"). The Authority may also enter into an agreement to reinvest receipts from Escrow Securities not immediately required to pay the principal of and redemption premium, if any, and interest on the Refunded Bonds. All investment income on and the maturing principal of the Escrow Securities held in the Escrow Deposit Fund will be irrevocably deposited by the Authority for payment of the Refunded Bonds. The balance of the proceeds will be used to pay costs of issuance and the Underwriter's discount.

### **Verification of Mathematical Computations**

American Municipal Tax Exempt Compliance Corporation (“AMTEC”) will verify from the information provided to it the mathematical accuracy as of the date of the closing of the 2014 Series B Bonds of: (1) the computation that the anticipated receipts from the Escrow Securities and cash deposits set forth in the Underwriter’s schedules will be sufficient to pay, when due, the principal, interest and applicable call premium, if any, payment requirements of the Refunded Bonds, and (2) the computations of yield on the 2014 Series B Bonds and the Escrow Securities contained in the provided schedules. AMTEC will express no opinion on the assumptions provided to it.

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## THE AUTHORITY

### General

The Authority is a public body politic and corporate of the State, and a political subdivision of the State established and created for the performance of an essential public and governmental function. Pursuant to the Act, the Authority has the power to own and operate a Regional Wastewater System; to levy assessments and sewer use fees; to place liens on real estate to secure such assessments and fees; and to issue revenue bonds. The Authority is also eligible for grants and loans under the State Clean Water Fund program.

The Authority was created in 2005 pursuant to the Act. Pursuant to the Act, each of the four Constituent Municipalities, acting through their respective legislative bodies, adopted ordinances authorizing the creation of the Authority. The Commissioner of the Department of Environmental Protection and the State Treasurer reviewed the Authority's preliminary plan of operation, as prepared and submitted by the Constituent Municipalities, in July 2005.

On August 29, 2005 (the "Acquisition Date"), the Authority acquired the wastewater systems of the Constituent Municipalities with a portion of the proceeds of the Authority's 2005 Series A Bonds. The Authority also assumed the outstanding Clean Water Fund Obligations (the "Assumed Clean Water Fund Obligations") of the Constituent Municipalities. Pursuant to an agreement between the City of New Haven and the Authority, the City of New Haven is responsible for 40% of the costs associated with certain Assumed Clean Water Fund Obligations issued pursuant to the CSO plan.

The Authority operates the Treatment Plant and collects, transports, treats and disposes of sewage generated in the Constituent Municipalities, as well as a small portion of sewerage discharges of the Towns of North Branford and North Haven pursuant to a contract. Currently, the average daily flow at the Treatment Plant is about 29 million gallons per day ("MGD"). The Treatment Plant has an average daily design flow capacity of 40 MGD and provides primary and secondary treatment for all wastewater influent up to 60 MGD. During high flow events (maximum of 100 MGD) all flow receives primary treatment; however, flow exceeding 60 MGD bypasses secondary treatment but receives disinfection along with the secondary effluent prior to discharge. The Treatment Plant provides the following unit processes: screening and grit removal, raw waste pumping, three primary clarifiers, four aeration trains, eight secondary clarifiers, gravity thickeners and chlorine disinfection prior to discharge. Thickened sludge is delivered to the on-site sewage sludge incinerator for processing.

### Governance and Management

#### *Board Membership and Responsibilities*

The Authority is governed by a nine-member Board of Directors. By ordinance and Bylaws of the Authority, four Directors are appointed by the City of New Haven, two Directors are appointed by each of the Town of Hamden and the Town of East Haven, and one Director is appointed by the Town of Woodbridge. The members of the Board of Directors are:

<b>Name/Title</b>	<b>Appointed By</b>	<b>Term Expires</b>
Alphonse Paolillo, Jr., <i>Chairman</i>	New Haven	12/31/2014
Stephen A. Mongillo, <i>Vice Chairman</i>	Hamden	12/31/2016
Joyce Alton, Director	New Haven	12/31/2016
Vincent Arpino, Director	East Haven	12/31/2014
Anthony Criscuolo, Director	East Haven	12/31/2015
Russell N. Cyr., Director	Hamden	12/31/2014
Michael Fimiani, Director	New Haven	12/31/2015
Jeffrey D. Ginzberg, Esq., Director	Woodbridge	12/31/2015
Clayton Williams, Director	New Haven	12/31/2016

Under the Bylaws, a majority vote of the Directors is required to approve standard business of the Authority. Certain matters, such as entering into an agreement with respect to the distribution of rights and properties of the Authority upon the termination of its corporate existence, entering into or approving any sludge agreement, entering into any inter-local agreement, entering into any agreement with respect to the sale or lease of assets of the Authority which would leave the Authority without a significant continuing business activity, removal of a Director, awarding of a contract by negotiation without public bidding, amending, modifying, restating or replacing the Sewer Ordinance, and increasing the permitted processing capacity of the Authority's Treatment Plant, would require a two-thirds vote of the Directors.

The Board of Directors establishes insurance, health care, retirement, and other employee benefits as it deems necessary and convenient for the effective administration of the Authority. Key management positions are designated in each function area under the major divisions of Finance & Administration, Engineering and Operations.

#### *Management and Staff*

The Authority is headed by an Executive Director, who is responsible for all technical and administrative operations of the Authority and the implementation of programs, policies and procedures at the direction of the Board of Directors. Brief resumes of senior Authority management appear below:

**Sidney J. Holbrook, Executive Director.** Mr. Holbrook is the Executive Director of the Authority. He has more than 30 years of wastewater, environmental and public management experience. Mr. Holbrook has served as the Executive Director of the Authority since 2009. Prior to this position, he owned and operated the Monoflo Septic Tank Co., Inc. in Westbrook, Connecticut and was the principal of SJH Associates which provided Environmental Consulting Services. Mr. Holbrook also served as Governor John Rowland's Chief of Staff from 1997 to 2002, directly overseeing sixteen (16) State agencies including the Department of Environmental Protection, Department of Transportation, Department of Public Health and Department of Social Services. Prior to his tenure as Chief of Staff, Mr. Holbrook served as the Commissioner of the Department of Environmental Protection. On May 10, 2011, Mr. Holbrook was recognized by the National Association of Clean Water Agencies in Washington, D.C. with a Public Service Award for his dedication to Environmental Stewardship. As Executive Director, his responsibilities include managing and directing all administrative, operational and financial activities and programs of the Authority.

**Gabriel Varca, Treasurer and Director of Finance and Administration, CPA.** Mr. Varca is the Treasurer and Director of Finance and Administration. For 24 years, Mr. Varca has held various operations and management positions with the New Haven Water Pollution Control Authority ("NHWPCA"). He assists the Executive Director in the creation of the operating budget and capital improvement plan budget and is responsible for the administrative and financial operations of the Authority including accounting, finance, billing and collections. Mr. Varca has a Class III Waste water Operators License from the Connecticut Department of Environmental Protection and earned a B.S. in Accounting from Connecticut State University.

**Thomas V. Sgroi, P.E., Director of Engineering.** Mr. Sgroi is the Director of Engineering for the Authority. Mr. Sgroi has over 23 years of engineering and construction management experience. His responsibilities include completion of executive management work for the Authority's planning and engineering programs, which include design, construction, utility services, GIS, mapping, records management and capital improvement projects. Mr. Sgroi earned a B.S. in Civil Engineering from the University of Hartford. He is also a Licensed Professional Engineer in the State of Connecticut.

**Gary Zrelak, Director of Operations.** Mr. Zrelak is the Director of Operations. He has over 28 years of experience in wastewater operations. His responsibilities include supervising and managing the performance of the Authority's contract operator for the water pollution control facilities, sanitary sewer collection systems and pumping stations within State and Federal regulations. Prior to his employment by the Authority Mr. Zrelak was the Process Control Superintendent for the NHWPCA for more than seven years. Mr. Zrelak earned a B.S. in Agronomy, College of Agriculture, University of Connecticut and a MS Degree in Environmental Science from the University of New Haven. He also holds a Class IV Wastewater Operators License from the Connecticut Department of Environmental Protection and a Class IV Collection Systems License from the New England Water Pollution Control Association.

The Authority currently has 63 full- and part-time employees. In November of 2012 the Authority renewed a four-year Collective Bargaining Agreement with Local 1303-434, American Federation of State, County and Municipal Employees ("AFSCME"), AFL-CIO. This union represents the Authority's operations, customer service and collection system maintenance employees. The agreement includes salary adjustments of 3.0 percent per year for

the term of the Agreement. On July 9, 2013, the Authority also renewed a four-year Collective Bargaining Agreement with AFSCME Local 818-054, effective until June 30, 2016. This union represents the Authority's supervisory employees. The agreement includes salary adjustments of 3.25 percent per year.

The Authority is a member of the Connecticut Municipal Employees Retirement Plan, a State-maintained pension plan with ninety-seven municipal members. In addition, the Authority maintains a deferred compensation 457(b) eligible savings retirement plan; a tuition reimbursement plan; and an individual and family health and dental insurance plan.

### **Synagro**

New Haven-based Synagro is a wholly-owned subsidiary of Houston-based Synagro Technologies, Inc. Synagro Technologies describes itself as the country's largest recycler of organic residuals for water and wastewater residuals management.

Pursuant to a contract entered into on October 2, 2013 with New Haven Residuals, L.P. ("New Haven Residuals"), an affiliate of Synagro, commencing January 4, 2014, New Haven Residuals undertook responsibility for the maintenance of the Regional Wastewater System including the Treatment Plant and the New Haven collection system.

On the Acquisition Date, the Authority assumed the 1995 contract of the New Haven Water Pollution Control Authority with Synagro. The 1995 contract expires on September 15, 2014 and the Authority and New Haven Residuals are currently in discussions to extend the term until 2024. If the contract is extended, Synagro will undertake responsibility for the receipt and disposal of sludge generated by the Treatment Plant. The sludge is incinerated at the on-site incinerator. The Authority compensates Synagro under the contract at a price per ton with escalators and adjustments.

### **The Service Area**

The service territory of the Authority's Regional Wastewater System consists of the Constituent Municipalities. The service territory also includes portions of North Branford and North Haven, which are served pursuant to contracts (the "Interlocal Agreements") assumed by the Authority on the Acquisition Date from East Haven and Hamden, respectively. The municipalities of North Branford and North Haven are not Constituent Municipalities and as such have no seat on the Board of Directors. The physical assets of the Authority include 30 wastewater-pumping stations, approximately 510 miles of sanitary sewers, 50 miles of combined storm and sanitary sewers, eight siphons, one wet weather storage tank and the Treatment Plant.

The Authority serves a population of approximately 200,000, including residential, commercial, government and non-profit customers. As of May 2014, the Authority provided wastewater service to approximately 47,800 customers. The customer base is projected to remain relatively stable over the next five to ten years since no significant sewer extensions are currently planned or in development.

The Constituent Municipalities' customer base, which was assumed by the Authority, remained relatively constant over the past five years but the amount of metered water consumption has been declining due to the implementation of water conservation programs and periods of wet weather which resulted in decreased water consumption. In general, the consequence to the Authority of declining water consumption is that the Authority will have to increase its billing rates tied to water consumption to obtain the same level of revenue that lower rates would have produced with higher water consumption. The Authority maintains a minimum consumption of 15ccf per quarter as a means of producing revenue consistent with cost of operations. The Authority's forecasts anticipate that water consumption over the next five years will be consistent with current consumption figures.

The Authority is currently in discussions with the Town of Stratford with respect to the acquisition by the Authority of the Town of Stratford's wastewater treatment plant and collection system. Any such acquisition would, subject to all applicable approvals by the Board of Directors and the legislative bodies of the Constituent Municipalities, include the Town of Stratford as a new constituent municipality with membership on the Board of Directors. Such discussions are preliminary and subject to the approval by the Board of Directors of the Authority and the legislative bodies of the Constituent Municipalities.

**Top Customers**  
**Fiscal Year 2012-13**

<b>Name</b>	<b>User Fees</b>	<b>Consumption</b>	<b>Percentage of Revenue (1)</b>
Yale University	\$2,030,984	597,036	6.19%
City of New Haven Housing Authority	595,792	180,496	1.82
Yale New Haven Hospital	498,039	136,108	1.52
Quinnipiac University	337,831	95,614	1.03
Southern CT State University	245,418	70,370	0.75
Bella Vista Apartments	219,619	66,504	0.67
Church Street New Haven LLC (APTs)	150,443	45,242	0.46
State of Connecticut (Correctional Facility)	148,062	44,760	0.45
Calabro Cheese Company (2)	137,052	21,324	0.42
Baker Hamden Apartments	127,190	38,448	0.39
<b>Total</b>	<b>\$4,490,430</b>	<b>1,295,902</b>	<b>13.69%</b>

(1) Based on total Fiscal Year of \$32,790,272

(2) Calabro includes High Strength Surcharges  
CCF rate = 3.30

**The Interlocal Agreements**

Under the Interlocal Agreements assumed by the Authority on the Acquisition Date, the Authority accepts and disposes of wastewater originating within a portion of the Town of North Branford and portions of the Town of North Haven for which the Authority charges the towns. The Authority serves approximately 375 homes in total in the Towns of North Branford and North Haven. The annual revenue from these customers is approximately \$51,000 annually. See Appendix C – “CONSULTING ENGINEER’S BOND FEASIBILITY REPORT.”

**Connecticut Department of Energy and Environmental Protection**

*Connecticut Department of Energy and Environmental Protection (“CTDEEP”) Consent Order.* The Authority and the CTDEEP entered into an administrative consent order, dated July 1, 2009, concerning the design and implementation of combined sewer overflow (“CSO”) control projects. The Authority was required to prepare and submit to the CTDEEP a Facility Plan for the implementation of the denitrification project for the Authority’s East Shore facility, a Long Term CSO Control Plan, and an Affordability Study. The Authority has timely submitted the required documents, met with the CTDEEP and addressed supplemental information requests. The Authority and the CTDEEP discussions continue regarding the plan, projects, and information requirements.

**Sewer Ordinance**

*General*

The Authority’s Sewer Ordinance (the “Sewer Ordinance”) governs the operation, maintenance and expansion of the Regional Wastewater System. In order to guarantee consolidated operation, maintenance and expansion of the Regional Wastewater System by the Authority, the Sewer Ordinance repealed similar ordinances of its Constituent Municipalities which, prior to the Acquisition Date, served to govern operation, maintenance and expansion of their individual wastewater systems. Material provisions of the Sewer Ordinance are summarized below.

*Regional Wastewater System Extensions and Expansions*

In the case of any proposal to extend or expand the capacity of the Regional Wastewater System, the Authority, prior to implementing any such extension or expansion, shall provide notice to and shall obtain the consent and

required approval(s) of the governing body of the municipality in which such proposed sanitary sewer extension or expansion is located; provided, however, that expansions of capacity only, expansions due to emergency situations or other exigent circumstances beyond the reasonable control of the Authority, and expansions related to normal maintenance and in accordance with prudent industry practices shall not require prior consent and approval of any Constituent Municipality.

#### *Assessment of Benefits; Benefit Charge*

Pursuant to provisions contained in the Act, the Authority may levy and collect benefit assessments upon the lands and buildings within its jurisdiction, which, in its judgment, are especially benefited by a sanitary sewer, according to such rules as the Authority may adopt, subject to the right of appeal, as provided therein.

No assessment shall be made until after a public hearing before the Authority, at which the owner of the property to be assessed shall have an opportunity to be heard concerning the proposed assessment.

Assessments, including any installment thereof, shall be due and payable at such time as it is fixed by the Authority, provided no assessment shall become due until the work, or particular portion thereof for which such assessment was levied, has been completed.

Any assessment of benefits, including any installment thereof, that is not paid within 30 days after the due date shall be delinquent, shall be subject to interest and shall constitute a lien upon the property assessed and a charge upon the owner thereof.

#### *Rates Established*

Charges for sanitary sewer services furnished by the Authority for residential, commercial, industrial and institutional users shall be established and revised from time to time by the Authority.

Such charges shall reflect a proportional distribution of costs among all users in accordance with the Act, the Connecticut General Statutes as amended, and the United States Code.

#### *Rates for Property Located Outside the Authority's Service Territory*

The charges to be made by the Authority for sewer service to property outside the limits of the Authority's service territory shall be established on the basis of a formal contract with the Authority, the charges established in the contract to be not more than the actual costs to the Authority to provide the sewer service, and the contract shall be approved by the Authority.

#### *No Reduced Rates or Free Service Permitted*

All persons owning, renting, leasing or having management or control of property or premises that produce waste that is discharged into the Regional Wastewater System, including domestic waste, and subject to the provisions of the Sewer Ordinance, shall be charged the rates established by the Authority, and no reduced rates or free sanitary sewer services shall be furnished to any such person, property or premises. In all cases, the owner of property shall have final responsibility for the payment of sewer charges.

#### *Billing and Collection*

Billing for sewer services is made to the Authority's customers monthly or quarterly. All sewer user charges are due and payable in full upon receipt of the bill. Any charges not paid in full within the 30 calendar days of the date of the bill are considered delinquent and bear interest from the date of the bill at the rate provided by the Connecticut General Statutes for delinquent property taxes.

#### *Cost of Service Study; Proposed Rates*

Pursuant to the Sewer Ordinance, the Executive Director ensures that a Cost of Service Study is performed at least annually. The objective of the Cost of Service Study is to produce a schedule of recommended user rates and charges for the customers of the Authority's Regional Wastewater System which will be sufficient to meet the anticipated costs of operating the System for the upcoming fiscal year.

The Cost of Service Study shall include:

- A review and evaluation of the proposed expense budget for the upcoming fiscal year, and preparation of cost estimates for the succeeding four fiscal years based on the Executive Director's cost estimates.
- A review and evaluation of the proposed revenue budget for the upcoming fiscal year, and preparation of revenue estimates for the succeeding four fiscal years based on the Executive Director's revenue estimates.
- Determination of the projected revenue requirement from user rates for the upcoming fiscal year and the succeeding four fiscal years.
- Development of a schedule of recommended rates and charges sufficient to support the estimated annual revenue requirements from user rates for the upcoming fiscal year and the succeeding four fiscal years.
- Analysis of the Authority's historical collection rate, including the current fiscal year and the Executive Director's estimate of the collection rate for the upcoming fiscal year.
- Preparation of a report documenting recommendations, assumptions and methodology.
- Such other information as required by the Executive Director from time to time.

The Executive Director shall review the results and submit the Cost of Service Study to the Board of Directors on or before the third Monday in April.

#### *Annual Budget; Sewer User Charge*

The Executive Director shall submit an Annual Budget consisting of the next fiscal year's projected expenditures and recommended user rates and charges and a proposed Annual Budget for the upcoming fiscal year; an annual update to the Five Year Capital Improvement Plan; and the impact of the Annual Budget of the next fiscal year's projected expenditures and revenues and user rates and charges to the Authority's Board of Directors and file it with the city/town clerk of each of the Constituent Municipalities on or before the third Monday in April. Within ten (10) business days after such submission, the Annual Budget which consists of the next fiscal year's projected expenditures and recommended user rates and charges and a proposed Annual Capital Budget for the upcoming fiscal year; an annual update to the Five Year Capital Improvement Plan; and the impact of the Annual Budget of the next Fiscal year's projected expenditures and revenues and user rates and charges shall be published once in a newspaper having general circulation in each of the Constituent Municipalities. After such publication, but no earlier than ten (10) business days after public notice thereof, the Authority's Board of Directors shall hold a public hearing on such Annual Budget of the next fiscal year's projected revenue and expenditures and recommended user rates and charges and consider and act on such Annual Budget of the next fiscal year's project revenues and expenditures and recommended user rates and charges on or before the first Monday in June.

Within five (5) days of filing with the city/town clerk of each of the Constituent Municipalities by the Authority's Board of Directors, the Annual Budget of the next fiscal year's projected expenditures and revenues and the approved user rates and charges shall be published once in a newspaper having general circulation in each of the Constituent Municipalities. Each year the Annual Budget shall include a line item for unanticipated operating contingencies. The Executive Director shall make specific requests to the Authority's Board of Directors for the Authority to expend funds from the contingency account from time to time subject to certification by the Treasurer as to the availability of funds.

The Executive Director shall submit one (1) copy of the adopted Annual Budget of the Authority to the State of Connecticut Office of Policy and Management by July first of each year or within thirty (30) calendar days after the adoption of the budget, whichever is later pursuant to the Act.

#### **Rates and Sewer Charges**

The Authority is empowered to establish and impose just and equitable fees, rates, charges and penalties and levy assessments of property benefited by the Regional Wastewater System for any services it performs. The Board of Directors is responsible for approval of all fees, rates, charges and penalties. Rates are based on metered water flow use and billed directly to the user on a quarterly basis unless otherwise specified.

Following a public hearing on May 13, 2014, the Authority adopted its schedule of rates and charges for Fiscal Year ending June 30, 2015 and approved in principle, subject to annual review, increases to such schedule for Fiscal Years 2016 through 2019 sufficient to meet the 115% Debt Service Coverage Ratio Requirement, taking into account the anticipated issuance of additional Bonds and Clean Water Fund Obligations estimated to be necessary to support its adopted five-year capital plan. See Appendix B – "Cost of Services Study for Fiscal Year 2015". The

Authority's capital budget for Fiscal Year 2015 (the "Capital Budget"), which includes updates and revisions to the Authority's five-year Capital Improvement Program (through Fiscal Year 2019), anticipates the issuance of about \$55.5 million in additional Clean Water Fund Obligations and \$15 million in additional Bonds in the next five years.

### **Billing Procedure**

Customers of the Authority are classified according to the nature of their water consumption. All homes, dormitories and apartment buildings are classified as residential, all manufacturing enterprises in which water is used as part of the manufacturing process are classified as industrial, and all business and institutional enterprises other than those classified as industrial are classified as commercial. Municipal and other public entities are classified as public authority. For customers with public supplied water (metered) the annual consumption from January to December of the previous calendar year will be used for the billing period July 1 through June 30. Quarterly customers who use Three Hundred (300) CCF or less in a Calendar year will have their consumption adjusted for seasonal usage; the adjusted usage shall be used for billing commencing on July 1.

In general, customers are billed on a quarterly basis. Approximately 370 large-volume customers are billed on a monthly basis. The billing to the approximately 22,330 customers in New Haven takes place in July, October, January and April. The billing to the approximately 25,100 customers in East Haven, Hamden and Woodbridge takes place in August, November, February and May.

The costs associated with the Authority's billing and collection activities and certain of its administrative and accounting costs are recovered through an administrative charge applied to each bill. The Authority estimates that it will produce a total of 193,223 bills in the Fiscal Year ending June 30, 2014.

### **Operating Budget**

The Authority's operating budget is prepared by the Executive Director and submitted to the Board of Directors for review and approval. The Authority, through its Board of Directors, is required to adopt and file with the Trustee a copy of the annual budget on or before June 30 in each fiscal year. If for any reason the Authority shall not have adopted the annual budget before such June 30, the annual budget for the then current fiscal year shall be deemed to be the annual budget for the ensuing fiscal year until a new annual budget is adopted. The Authority may at any time adopt an amended annual budget for the then current or ensuing fiscal year, but no such amended annual budget shall supersede any prior annual budget until the Authority shall have filed with the Trustee a copy of such amended annual budget. The Authority, through its Board of Directors, is responsible for setting and imposing sewer user rates and charges for all customers of the Constituent Municipalities. The Board of Directors requires that rates be maintained at levels sufficient to pay operating and maintenance expenses for the collection and treatment system, to pay debt service on bonds and provide for reserves. The primary source of revenues is from user fees. Additional sources of revenue include outside sludge revenues, fat, oil and grease ("FOG") disposal revenues, high strength user charges, connection fees and other miscellaneous revenues.

On May 13, 2014, the Authority adopted its Annual Budget for Fiscal Year ending June 30, 2015.

### **Financial Condition of the Authority**

The Authority is required under State law to annually appoint a firm of independent certified public accountants to audit the financial statements of the Authority. The Board of Directors, at the June 10, 2014 Board meeting, approved the appointment of McGladrey, LLP to act as its auditors for Fiscal Years ended June 30, 2014 through June 30, 2016. The audited general purpose financial statements for Fiscal Year ended June 30, 2013 are appended hereto as Appendix A. These financial statements were prepared for the Authority by McGladrey, LLP.

A summary of the audited financial position for fiscal years 2013-2009, a summary of audited statements of revenues, expenses, and changes in net assets for fiscal years 2013-2010, together with projected unaudited results for fiscal year ending June 30, 2014 are provided in the tables below.

# Statement of Net Assets

	<b>Audited 6/30/13</b>	<b>Audited 6/30/12</b>	<b>Audited 6/30/11</b>	<b>Audited 6/30/10</b>	<b>Audited 6/30/09</b>
<b>Assets</b>					
<b>Current Assets</b>					
Cash and cash equivalents .....	\$26,948,303	\$22,732,981	\$19,910,144	\$15,803,914	\$14,254,198
Accounts receivable .....	6,770,932	7,144,077	6,000,988	7,314,719	5,150,570
Receivable from City of New Haven .....	773,861	774,904	833,150	830,146	918,892
Other current assets .....	<u>0</u>	<u>15,478</u>	<u>25,898</u>	<u>35,189</u>	<u>34,083</u>
Total current assets .....	34,493,096	30,667,440	26,770,180	23,983,968	20,357,743
Capital assets .....	194,086,631	179,302,525	163,806,929	151,046,664	142,769,034
Less accumulated depreciation .....	<u>28,635,020</u>	<u>24,055,025</u>	<u>19,556,179</u>	<u>15,188,595</u>	<u>11,197,664</u>
	165,451,611	155,247,500	144,250,750	135,858,069	131,571,370
Non-current receivable – City of New Haven .....	7,853,829	8,591,059	7,167,299	7,967,451	8,713,256
Restricted assets .....	16,564,702	9,332,747	9,585,982	11,922,736	18,176,482
Debt issuance costs, less accumulated amortization .....	<u>0</u>	<u>1,638,565</u>	<u>1,749,711</u>	<u>1,862,550</u>	<u>1,976,746</u>
Total assets .....	\$224,363,238	\$205,477,311	\$189,523,922	\$181,594,774	\$180,795,597
<b>Liabilities</b>					
<b>Current Liabilities</b>					
Current portion of long-term debt .....	\$ 13,919,178	\$ 7,531,886	\$ 9,978,446	\$ 7,587,345	\$ 9,712,908
Accounts payable .....	3,061,219	5,359,657	3,011,459	3,556,082	2,669,984
Retainage payable .....	646,804	389,088	0	0	0
Accrued interest .....	1,269,241	974,512	1,174,984	1,101,785	1,113,810
Accrued expenses .....	<u>1,055,317</u>	<u>939,721</u>	<u>819,827</u>	<u>732,457</u>	<u>609,409</u>
Total current liabilities .....	19,951,759	15,194,864	14,984,716	12,977,669	14,106,111
Long-term debt, less current portion .....	<u>134,244,534</u>	<u>129,419,603</u>	<u>128,700,843</u>	<u>133,723,051</u>	<u>135,000,087</u>
Total liabilities .....	\$154,196,293	\$144,614,467	\$143,685,559	\$146,700,720	\$149,106,198
<b>Net Assets</b>					
Invested in capital assets, net of related debt .....	\$52,277,106	\$48,137,344	\$37,145,553	\$29,953,276	\$29,814,106
Restricted .....	1,168,514	967,955	1,949,050	2,908,772	4,125,849
Unrestricted <sup>1</sup> .....	<u>16,721,325</u>	<u>11,757,545</u>	<u>6,743,760</u>	<u>2,032,006</u>	<u>(2,250,556)</u>
Total net assets .....	\$70,166,945	\$60,862,844	\$45,838,363	\$34,894,054	\$31,689,399

<sup>1</sup>Unrestricted Net Assets were restated on 6/30/12 due to implementation of GASB 63/65

**Statement of Revenues and Expenditures and Changes in Net Assets**

	<b><u>Projected</u></b> <b><u>2013-14</u></b>	<b><u>Audited</u></b> <b><u>2012-13</u></b>	<b><u>Audited</u></b> <b><u>2011-12</u></b>	<b><u>Audited</u></b> <b><u>2010-11</u></b>	<b><u>Audited</u></b> <b><u>2009-10</u></b>
<b>Operating Revenue</b>					
Residential .....	\$23,555,087	\$22,104,879	\$20,870,476	\$19,453,696	\$17,925,318
Commercial and industrial .....	9,239,389	9,622,542	8,236,808	7,512,317	6,786,635
Municipal .....	1,264,219	1,192,442	1,213,065	1,175,950	1,127,336
Delinquent interest and lien fees .....	1,404,000	1,426,360	1,313,513	1,126,365	801,507
Outside sludge .....	1,000,000	1,116,368	1,027,168	1,070,941	790,416
Other .....	2,167,480	2,134,475	2,799,294	2,686,277	3,078,577
Provision for bad debts .....	<u>(250,000)</u>	<u>(363,215)</u>	<u>(303,148)</u>	<u>(864,403)</u>	<u>(1,044,614)</u>
Total operating revenue .....	38,380,175	37,233,851	35,157,176	33,889,949	29,465,175
<b>Operating Expenses</b>					
Operation and maintenance .....	23,696,859	21,219,266	21,141,681	19,445,135	19,721,500
Depreciation and amortization .....	<u>4,600,000</u>	<u>4,579,995</u>	<u>4,498,847</u>	<u>4,376,673</u>	<u>3,990,933</u>
Total operating expenses .....	28,296,859	25,799,261	25,640,528	23,821,808	23,712,433
Operating income .....	10,083,316	11,434,590	9,516,648	10,068,141	5,752,742
<b>Nonoperating Income (Expense)</b>					
Other income .....	175,000	180,068	173,870	167,016	184,152
Interest income .....	290,000	281,048	278,166	280,074	293,192
Interest expense .....	<u>(5,522,000)</u>	<u>(5,111,904)</u>	<u>(5,101,786)</u>	<u>(5,295,180)</u>	<u>(5,224,840)</u>
Total nonoperating income (expense) .....	(5,057,000)	(4,650,788)	(4,649,750)	(4,848,090)	(4,747,496)
Income before capital contributions .....	5,026,316	6,783,802	4,866,898	5,220,051	1,005,246
Capital contributions .....	1,160,000	<u>4,158,864</u>	<u>10,157,583</u>	<u>5,724,258</u>	<u>2,199,409</u>
Change in net assets .....	6,183,316	10,942,666	15,024,481	10,944,309	3,204,655
Net assets beginning <sup>1</sup> .....	<u>70,166,943</u>	<u>59,224,279</u>	<u>45,838,363</u>	<u>34,894,054</u>	<u>31,689,399</u>
Net assets ending .....	\$76,353,259	\$70,166,945	\$60,862,844	\$45,838,363	\$34,894,054

<sup>1</sup>Net Assets were restated on 6/30/12 due to implementation of GASB 63/65

## Budgeted and Projected Revenue Requirements for Fiscal Years 2015-2019

The Authority's budget for fiscal year 2015 as adopted, together with projected revenue requirements for subsequent Fiscal Years 2016-2019, are provided in the Cost of Service Study for Fiscal Year 2015 included as Appendix B and summarized in Table #1 below

**Table 1**

Line No.	Description	1 FY15	2 % ch.	3 FY16	4 % ch.	5 FY17	6 % ch.	7 FY18	8 % ch.	9 FY19
<b>A. OPERATIONS &amp; MAINTENANCE</b>										
1	Personnel	\$ 8,477,860	5%	\$ 8,931,000	5%	\$ 9,410,000	5%	\$ 9,926,000	6%	\$ 10,479,000
2	Utilities	4,127,000	2%	4,209,000	2%	4,292,000	2%	4,376,000	2%	4,461,000
3	Plant Operations & Collection System	899,850	3%	927,000	3%	954,000	3%	982,000	3%	1,011,000
4	Contracted Maintenance	1,960,000	3%	2,019,000	3%	2,080,000	3%	2,142,000	3%	2,206,000
5	Contracted Sludge & Ash Disposal	3,659,257	3%	3,769,000	3%	3,882,000	3%	3,998,000	3%	4,118,000
6	Other Contracted Services	4,093,173	3%	4,218,000	3%	4,339,000	3%	4,468,000	3%	4,603,000
7	Payments In-lieu of Taxes (PILOT)	750,000	0%	750,000	0%	750,000	0%	750,000	0%	750,000
8	Equipment, Vehicles & Supplies	892,950	3%	920,000	3%	946,000	3%	972,000	3%	1,000,000
9	Plant Repairs & Replacement	1,000,000	3%	1,030,000	3%	1,061,000	3%	1,093,000	3%	1,126,000
10	Contingency	300,000	0%	300,000	0%	300,000	0%	300,000	0%	300,000
11	<b>Total Operations &amp; Maintenance Costs</b>	<b>26,160,090</b>	<b>3%</b>	<b>27,073,000</b>	<b>3%</b>	<b>28,014,000</b>	<b>4%</b>	<b>29,007,000</b>	<b>4%</b>	<b>30,054,000</b>
<b>B. DEBT SERVICE</b>										
<b>Revenue Bonds:</b>										
12	Principal	2,821,667	5%	2,956,667	13%	3,353,667	5%	3,504,667	4%	3,660,667
13	Interest	5,011,387	9%	5,483,870	-2%	5,349,053	-3%	5,195,787	8%	5,635,695
<b>Clean Water Fund Notes:</b>										
14	Principal	2,698,973	33%	3,595,756	-11%	3,184,574	92%	6,111,651	-15%	5,194,017
15	Interest	632,250	19%	750,392	20%	900,900	76%	1,584,178	5%	1,668,822
<b>CWF Notes - New Haven Reimbursement:</b>										
16	Principal	(866,814)	30%	(1,129,663)	-9%	(1,033,198)	-4%	(995,069)	2%	(1,012,824)
17	Interest	(196,035)	16%	(227,278)	20%	(273,585)	-8%	(251,609)	-8%	(231,566)
18	<b>Total Debt Service</b>	<b>10,101,428</b>	<b>13%</b>	<b>11,429,743</b>	<b>0%</b>	<b>11,481,410</b>	<b>32%</b>	<b>15,149,605</b>	<b>-2%</b>	<b>14,914,811</b>
19	<b>TOTAL COST OF SERVICES</b>	<b>\$ 36,261,518</b>	<b>6%</b>	<b>\$ 38,502,743</b>	<b>3%</b>	<b>\$ 39,495,410</b>	<b>12%</b>	<b>\$ 44,156,605</b>	<b>2%</b>	<b>\$ 44,968,811</b>
<b>C. MISCELLANEOUS REVENUES</b>										
20	Interest & Lien Fees	(1,354,000)	0%	(1,354,000)	0%	(1,354,000)	0%	(1,354,000)	0%	(1,354,000)
21	Aged Accounts Receivable	(3,100,000)	0%	(3,100,000)	0%	(3,100,000)	0%	(3,100,000)	0%	(3,100,000)
22	Investment Income	(290,000)	0%	(290,000)	0%	(290,000)	0%	(290,000)	0%	(290,000)
23	High Strength Surcharges	(800,000)	0%	(800,000)	0%	(800,000)	0%	(800,000)	0%	(800,000)
24	Grease Disposal	(325,000)	0%	(325,000)	0%	(325,000)	0%	(325,000)	0%	(325,000)
25	Outside Sludge	(200,000)	0%	(200,000)	0%	(200,000)	0%	(200,000)	0%	(200,000)
26	Interlocal Fees	(50,000)	0%	(50,000)	0%	(50,000)	0%	(50,000)	0%	(50,000)
27	Reimbursements - Synagro	(575,000)	0%	(575,000)	0%	(575,000)	0%	(575,000)	0%	(575,000)
28	Other Revenues	(610,000)	0%	(610,000)	0%	(610,000)	0%	(610,000)	0%	(610,000)
29	<b>Total Miscellaneous Revenues</b>	<b>(7,304,000)</b>	<b>0%</b>	<b>(7,304,000)</b>	<b>0%</b>	<b>(7,304,000)</b>	<b>0%</b>	<b>(7,304,000)</b>	<b>0%</b>	<b>(7,304,000)</b>
<b>D. DEBT SERVICE COVERAGE</b>										
30	Debt Service Coverage Requirement	1,675,000		1,918,000		1,918,000		2,459,000		2,424,000
31	Debt Service Coverage Fund	250,000		-		1,250,000		(1,500,000)		-
32	<b>Total Debt Service Coverage</b>	<b>1,925,000</b>		<b>1,918,000</b>		<b>3,168,000</b>		<b>959,000</b>		<b>2,424,000</b>
33	<b>NET REVENUE REQUIREMENT</b>	<b>\$ 30,882,518</b>	<b>7%</b>	<b>\$ 33,116,743</b>	<b>7%</b>	<b>\$ 35,359,410</b>	<b>7%</b>	<b>\$ 37,811,605</b>	<b>6%</b>	<b>\$ 40,088,811</b>
<b>E. RECEIVABLE MANAGEMENT COSTS</b>										
34		4,083,000		4,359,000		4,636,000		4,940,000		5,221,000
35	Estimated collection rate	89%		89%		89%		89%		89%
36	<b>REVENUE REQUIREMENT</b>	<b>\$ 34,965,518</b>	<b>7%</b>	<b>\$ 37,475,743</b>	<b>7%</b>	<b>\$ 39,995,410</b>	<b>7%</b>	<b>\$ 42,751,605</b>	<b>6%</b>	<b>\$ 45,309,811</b>
37	Debt Service Coverage Ratio	1.15		1.15		1.15		1.15		1.15
38	Consumption	8,650,000		8,650,000		8,650,000		8,650,000		8,650,000
39	Number of bills	194,000		194,000		194,000		194,000		194,000
40	Administrative fee	\$ 13.00		\$ 13.00		\$ 13.00		\$ 13.00		\$ 13.00
41	<b>CCF Rate</b>	<b>\$ 3.75</b>		<b>\$ 4.04</b>		<b>\$ 4.33</b>		<b>\$ 4.65</b>		<b>\$ 4.95</b>
		5.7%		7.7%		7.2%		7.4%		6.4%

### **Capital Improvement Program**

There are three essential components to the Authority's efforts to upgrade and improve the quality of its Regional Wastewater System.

First, the Authority has a five-year capital improvement program focused on the improvements to the East Shore Wastewater Treatment Plant in New Haven (the "Treatment Plant"), to enhance operating efficiency and meet future regulatory requirements regarding limiting nitrogen discharges to the Long Island Sound. The first phase of this \$57M Treatment Plant upgrade project is under way. This upgrade includes work to increase nitrogen removal, a new odor control system, a new solids handling facility, and a new plant wide electrical system backbone including two 2-Megawatt emergency generators.

Second is the implementation of a long-term combined sewer overflow ("CSO") plan to eliminate wet weather overflows (the Combined Sewage Overflow/Long Term Control Plan or "CSO/LTCP"). The Authority has prepared a Facilities Plan that includes updates to the CSO/LTCP originally approved by the State in 2003. The new Facilities Plan and CSO/LTCP was approved by the State in March 2011 and is continuously updated every 5-years with the next scheduled update due in 2016.

Third, the Authority is focusing on implementation of the wastewater collection system, pump station and force main long-term repair and rehabilitation program.

The capital program identifies approximately \$100 million of projects either under way or to be performed in the current fiscal year and projected over the next five years of the capital plan through 2019. See "THE AUTHORITY – Capital Improvement Program," "SECURITY AND PLEDGE OF THE INDENTURE - Additional Bonds Test", Appendix B - Cost of Services Study for Fiscal Year 2015 and Appendix D – "SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE – Additional Bonds" herein.

*[Remainder of Page Intentionally Left Blank]*

For the next five fiscal years, the expected capital outlay for the program is summarized in Table 2 below:

**Table 2**  
**Projected CIP for Fiscal Years 2015 through Fiscal Year 2019**

Line No.	Description	1 FY15	3 FY16	5 FY17	7 FY18	8 FY19	9 Total
<b>CSO LONG TERM CONTROL PLAN</b>							
1	CSO Sewer Separation - West River Mitigation	\$ 5,000,000	-	-	-	-	\$ 5,000,000
2	Wet Weather Improvements to the ESWPCF - (Phase II)	-	\$ 50,000,000	-	-	-	50,000,000
3	Yale Trumbull Study/Design/Construction (Phase 2B)	-	-	\$ 10,300,000	-	-	10,300,000
4	<b>Total CSO Long Term Control Plan</b>	<b>\$ 5,000,000</b>	<b>\$ 50,000,000</b>	<b>\$ 10,300,000</b>	<b>-</b>	<b>-</b>	<b>\$ 65,300,000</b>
<b>EAST SHORE WPC FACILITY</b>							
5	Major Equipment Upgrades & Replacement	-	\$ 2,000,000	-	-	-	\$ 2,000,000
6	<b>Total East Shore WPC Facility</b>	<b>-</b>	<b>\$ 2,000,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 2,000,000</b>
<b>COLLECTION SYSTEM, PUMP STATIONS &amp; FORCE MAINS</b>							
7	Collection System I/I Rehab. Program Section 3c	-	\$ 5,000,000	-	\$ 5,000,000	-	\$ 10,000,000
8	Sanitary Sewer Infrastructure Renewal Program	-	5,000,000	\$ 1,500,000	1,500,000	\$ 1,500,000	9,500,000
9	Pump Station Improvements	-	3,500,000	-	-	-	3,500,000
10	Collection System Renewal & Replacement	-	6,000,000	-	-	-	6,000,000
11	Primary Basin Scum	\$ 180,000	-	-	-	-	180,000
12	Truman Tank Odor Control-Passive Carbon Vent	100,000	-	-	-	-	100,000
13	Bar Racks - Plant	750,000	-	-	-	-	750,000
14	Bar Racks - Morris Cove (2)	246,000	-	-	-	-	246,000
15	Compactor - Morris Cove	65,000	-	-	-	-	65,000
16	Underground Storage Tank Removal/Replacement	125,000	-	-	-	-	125,000
17	Hydraulic Model Update	450,000	-	-	-	-	450,000
18	Parking Lot - 260 East St.	135,000	-	-	-	-	135,000
19	Whitneyville Pump Station Constr. Phase	600,000	-	-	-	-	600,000
20	Emergency Sewer Repair and Replacement	1,000,000	-	-	-	-	1,000,000
21	<b>Total Coll. System, Pump Stations &amp; Force Mains</b>	<b>\$ 3,651,000</b>	<b>\$ 19,500,000</b>	<b>\$ 1,500,000</b>	<b>\$ 6,500,000</b>	<b>\$ 1,500,000</b>	<b>\$ 32,651,000</b>
22	<b>TOTAL CAPITAL IMPROVEMENT PLAN</b>	<b>\$ 8,651,000</b>	<b>\$ 71,500,000</b>	<b>\$ 11,800,000</b>	<b>\$ 6,500,000</b>	<b>\$ 1,500,000</b>	<b>\$ 99,951,000</b>
<b>SOURCES OF FINANCING</b>							
23	Clean Water Fund - Grants	\$ 2,500,000	\$ 12,500,000	\$ 5,150,000	-	-	\$ 20,150,000
24	Clean Water Fund - Notes	2,500,000	42,500,000	5,150,000	\$ 5,000,000	-	55,150,000
25	<b>Total Clean Water Fund</b>	<b>5,000,000</b>	<b>55,000,000</b>	<b>10,300,000</b>	<b>5,000,000</b>	<b>-</b>	<b>75,300,000</b>
26	Revenue Bonds	-	15,000,000	-	-	-	15,000,000
27	Dedicated Infrastructure Renewal Fund	3,651,000	1,500,000	1,500,000	1,500,000	\$ 1,500,000	9,651,000
28	<b>Total Sources of Financing</b>	<b>\$ 8,651,000</b>	<b>\$ 71,500,000</b>	<b>\$ 11,800,000</b>	<b>\$ 6,500,000</b>	<b>\$ 1,500,000</b>	<b>\$ 99,951,000</b>

As previously noted, the cost of the CIP is expected to be funded by a combination of additional Bonds of the Authority, Clean Water Fund Obligations bearing interest at the rate of 2% per annum, grants under the State's Clean Water Fund program and contributions from ongoing operations of the Authority.

### **Outstanding Parity Indebtedness**

As of July 10, 2014, which is the anticipated closing date of the 2014 Series B Bonds, the Authority will have \$202,382,893 aggregate principal amount of Outstanding Parity Indebtedness. This total includes the unrefunded portion of the 2005 Series A Bonds, the proceeds of which were used by the Authority in 2005 to acquire the Regional Wastewater System from the Constituent Municipalities; the 2008 Series A Bonds, the proceeds of which were used to finance various capital improvements; the CREBs, the proceeds of which were used for energy improvements, the 2012 Series B Bonds, the 2014 Series B Bonds and the Assumed Clean Water Fund Obligations and Clean Water Fund Obligations, the proceeds of which have been used by the Authority, or the Constituent Municipalities in the case of the Assumed Clean Water Fund Obligations, to make capital improvements to the Regional Wastewater System.

In accordance with the CSO Cost Sharing Agreement between the Authority and the City of New Haven, New Haven is responsible for 40% of the debt service on the Assumed Clean Water Fund Obligations and Clean Water Fund Obligations issued for purposes of CSO capital improvements. As of July 10, 2014, the aggregate principal amount of Assumed Clean Water Fund Obligations and Clean Water Fund Obligations subject to the terms of the CSO Cost Sharing Agreement will be \$26,475,290.

Under the Indenture, in order to issue the 2014 Series B Bonds on parity with the Series of Initial Bonds issued pursuant to Section 205 of the Indenture, the average annual debt service on the 2014 Series B Bonds will not exceed the average annual debt service on Refunded Bonds and maximum annual debt service on the 2014 Series B Bonds shall not exceed the maximum annual debt service on the Refunded Bonds, all pursuant to section 207 of the Indenture.

### **SOURCES AND USES OF FUNDS**

The proceeds of the 2014 Series B Bonds are expected to be applied as follows:

#### **Sources**

Par Amount of the 2014 Series B Bonds .....	\$77,510,000.00
Net Original Issue Premium .....	7,537,225.85
Debt Service Fund .....	<u>82,066.01</u>
Total Sources .....	\$85,129,291.86

#### **Uses**

Deposit to Escrow Fund .....	\$84,492,710.59
Underwriter's Discount .....	336,556.25
Costs of Issuance <sup>1</sup> .....	<u>300,025.02</u>
Total Uses .....	\$85,129,291.86

<sup>1</sup> Includes legal and consulting fees and expenses, rating agency fees, and other miscellaneous costs and expenses related to the issuance of the 2014 Series B Bonds.

## THE 2014 SERIES B BONDS

### General

The 2014 Series B Bonds will be issued as fully registered bonds in the aggregate principal amounts as set forth on the inside cover page hereof, will be dated the date of delivery and will bear interest from that date to their respective maturities as set forth on the inside cover page hereof, subject to optional and mandatory redemption prior to maturity as described below under “Redemption Provisions.” Ownership interests in the 2014 Series B Bonds will be available in denominations of \$5,000 and integral multiples thereof. Interest on the 2014 Series B Bonds will be payable on August 15, 2014 and semiannually on each February 15 and August 15 thereafter. Interest on the 2014 Series B Bonds will be calculated on the basis of a 360-day year, consisting of twelve 30-day months. Interest on the 2014 Series B Bonds will be payable to the registered owners of the 2014 Series B Bonds as of the close of business on the last business day of January and July in each year.

So long as Cede & Co. is the registered owner of the 2014 Series B Bonds, all payments of principal of and interest on the 2014 Series B Bonds are payable by wire transfer by the Trustee to Cede & Co. as nominee for The Depository Trust Company (“DTC”), New York, New York, which will, in turn, remit such amounts to the DTC Participants for subsequent disposition to Beneficial Owners. See “BOOK-ENTRY-ONLY SYSTEM” herein.

### Qualification for Financial Institutions

The 2014 Series B Bonds shall **not** be designated by the Authority as qualified tax-exempt obligations under the provisions of Section 265(b) of the Internal Revenue Code of 1986, as amended, for purposes of the deduction by financial institutions for interest expense allocable to the 2014 Series B Bonds.

### Redemption Provisions

The 2014 Series B Bonds are subject to redemption prior to maturity as set forth below:

Optional Redemption. The 2014 Series B Bonds maturing on or before August 15, 2024 are not subject to optional redemption. The 2014 Series B Bonds maturing on and after August 15, 2025 are subject to optional redemption prior to maturity commencing August 15, 2024, as a whole or in part, at any time, at the option of the Authority, at the redemption price of par plus accrued interest to the date of redemption.

Mandatory Redemption. The 2014 Series B Bonds maturing on August 15, 2035 are subject to mandatory redemption from moneys in the Debt Service Fund, in the principal amounts specified below, plus accrued interest thereon.

The Trustee shall cause to be deposited in the 2014 Series B Debt Service Account, in accordance with the Indenture, an amount sufficient to pay the Sinking Fund Installments, and the Trustee shall redeem or pay from the 2014 Series B Debt Service Account (subject to any crediting of such Sinking Fund Installments in accordance with the Indenture) the 2014 Series B Bonds maturing on August 15, 2035, in the manner therein provided as follows:

#### Term Bond Due August 15, 2035

<b>Year</b>	<b><u>Sinking Fund Installment</u></b>
2033 .....	\$4,985,000
2034 .....	5,185,000
2035 <sup>†</sup> .....	5,075,000

<sup>†</sup> Final maturity.

Notice of Redemption. The Trustee shall give notice, in the name of the Authority, of the redemption of the 2014 Series B Bonds, which notice shall specify the Series and maturities of the 2014 Series B Bonds to be redeemed, the redemption date and the place or places where amounts due upon such redemption will be payable and, if less than all of the 2014 Series B Bonds of any like Series and maturity are to be redeemed, the numbers, CUSIP numbers or other distinguishing marks of such 2014 Series B Bonds so to be redeemed. Such notice shall further state whether the notice and the redemption are unconditional or conditional; if unconditional, that on such date there shall become due and payable upon each Bond to be redeemed the Redemption Price thereof, together with interest accrued to the redemption date; if conditional, that on such date that, if there shall be sufficient funds available to effect such redemption on the redemption date, there shall become due and payable upon each 2014 Series B Bond to be redeemed the Redemption Price thereof, together with interest accrued to the redemption date, and, in either case, that if there shall be sufficient funds available to effect such redemption on the redemption date, then from and after such date interest thereon shall cease to accrue and be payable. The Trustee shall mail a copy of such notice by first class mail, postage prepaid, not less than thirty days before the redemption date, to the owners of the 2014 Series B Bonds which are to be redeemed, at their last addresses appearing upon the registry books.

Effect of Redemption. 2014 Series B Bonds called for redemption (other than for conditional redemption) shall become due and payable on the redemption date so designated at the Redemption Price, plus interest accrued and unpaid to the redemption date, and, upon presentation and surrender thereof at the office specified in such notice, the 2014 Series B Bonds called for redemption shall be paid at the Redemption Price plus interest accrued and unpaid to the redemption date. If, on the redemption date, moneys for the redemption of all the 2014 Series B Bonds of any like Series and maturity to be redeemed together with interest to the redemption date, shall be held by the Trustee as to be available therefor, then, from and after the redemption date interest on the 2014 Series B Bonds of such Series and maturity so called for redemption shall cease to accrue and become payable. If said moneys shall not be so available on the redemption date, such 2014 Series B Bonds or portions thereof shall continue to bear interest until paid at the same rate as they would have borne had they not been called for redemption.

#### **BOOK-ENTRY-ONLY SYSTEM**

The Depository Trust Company (“DTC”), New York, NY, will act as securities depository for the 2014 Series B Bonds. The 2014 Series B Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered Bond certificate will be issued for each maturity of the 2014 Series B Bonds, in the aggregate principal amount of such maturity, and will be deposited with DTC.

DTC, the world’s largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC’s participants (“Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants”). DTC has a Standard & Poor’s rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).

Purchases of 2014 Series B Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2014 Series B Bonds on DTC’s records. The ownership interest of each actual purchaser of each 2014 Series B Bond (“Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2014 Series B Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not

receive certificates representing their ownership interests in Bonds, except in the event that use of the book-entry system for the 2014 Series B Bonds is discontinued.

To facilitate subsequent transfers, all 2014 Series B Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of 2014 Series B Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2014 Series B Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such 2014 Series B Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the 2014 Series B Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to 2014 Series B Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts 2014 Series B Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on, and redemption premium, if any, with respect to the 2014 Series B Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Authority or Paying Agent, on payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, Paying Agent, or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest, and redemption premium, if any, to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Authority or Paying Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the 2014 Series B Bonds at any time by giving reasonable notice to the Authority or Paying Agent. Under such circumstances, in the event that a successor depository is not obtained, Bond certificates are required to be printed and delivered.

The Authority may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Bond certificates will be printed and delivered to DTC.

*The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the Authority believes to be reliable, but the Authority takes no responsibility for the accuracy thereof. The Authority can make no assurances that DTC, Direct Participants, Indirect Participants or other nominees of Beneficial Owners of the 2014 Series B Bonds will act in the manner described in this Official Statement. DTC is required to act according to rules and procedures established by DTC and its Participants which are on file with the Securities and Exchange Commission.*

## **SECURITY AND PLEDGE OF THE INDENTURE**

### **Security and Pledge**

All Bonds and Clean Water Fund Obligations (including the Assumed Clean Water Fund Obligations and the CREBs) issued pursuant to the Indenture shall be special limited obligations of the Authority, payable solely from Revenues and other receipts, funds and moneys pledged (the "Trust Estate"). Pursuant to the Granting Clauses set forth in the Indenture, the Authority has pledged the Trust Estate as security for the payment of the Bonds and the performance of any other obligation of the Authority under the Indenture or any Supplemental Indenture, in

accordance with the terms and the provisions of the Indenture, subject only to the provisions of the Indenture permitting the application thereof for or to the purposes and on the terms and conditions set forth in the Indenture. As provided by the Act, the Revenues, moneys, securities and other funds so pledged and then or thereafter received by the Authority shall immediately be subject to the lien of such pledge without physical delivery thereof or further act and the lien of such pledge and obligation to perform the contractual provisions contained in the Indenture shall be valid and binding as against all parties having claims of any kind in tort, contract or otherwise against the Authority.

### **Flow of Funds**

All revenues received by the Authority shall be deposited in the Revenue Fund. There shall also be deposited in the Revenue Fund all other amounts required by the Indenture to be so deposited. The Trustee shall, from the amounts in the Revenue Fund, make the following deposits in the following order of priority:

FIRST: to the Operating Fund, the amount set forth in a Certificate of an Authorized Representative of the Authority as being necessary to provide (taking into account amounts on deposit therein and expenses incurred and unpaid for the current month) for the payment of the next succeeding month's Operating Expenses;

SECOND: to each Debt Service Account, the amount necessary so that the total on deposit therein at the end of such month equals the Accrued Aggregate Debt Service on the applicable Series of Bonds for such month, and to such payees as are designated in writing to the Trustee by the Authority, an amount equal to the Accrued Aggregate Debt Service on all Parity Indebtedness for such month; provided however, if Revenues are insufficient for such purpose, then pro rata to each such Debt Service Account and payee;

THIRD: from the balance, if any, remaining after making the deposits required by paragraphs FIRST and SECOND, to the Debt Service Reserve Fund, first, to the credit of the Common Account therein, the amount, if any, necessary to make the total on deposit in the Common Account equal to the Debt Service Reserve Fund Requirement for the Bonds secured by the Common Account, or the entire balance if less than sufficient, second, from the balance of such deposit, if any, remaining after crediting the Common Account as aforesaid, to the credit of each Special Account, the amount, if any, necessary to make the total amount on deposit in each such Special Account equal to the portion of the Debt Service Reserve Fund Requirement for the Series of Bonds to which such Special Account relates that is required to be funded as of that month; as set forth in the Indenture; provided, however, that if the balance remaining is less than sufficient to credit in full each Special Account, credit shall be made pro rata among all Special Accounts in the same ratio as the portion of the Debt Service Reserve Fund Requirement related to each Special Account and required to be funded as of that month bears to the sum of the Debt Service Reserve Fund Requirements for all the Bonds related to Special Accounts, and third, from the balance of such deposit, if any, remaining after crediting the Common Account and the Special Accounts as aforesaid, to the credit of each debt service reserve fund as are designated in writing to the Trustee by the Authority for Parity Indebtedness, the amount, if any, necessary to make the total amount on deposit in each such debt service reserve fund equal to the portion of the debt service reserve fund requirement for the series of Parity Indebtedness to which such debt service reserve fund relates that is required to be funded as of that month; provided, however, that if the balance remaining is less than sufficient to credit in full each debt service reserve fund, credit shall be made pro rata among all debt service reserve funds in the same ratio as the portion of the debt service reserve fund requirement related to each debt service reserve fund and required to be funded as of that month bears to the sum of the debt service reserve fund requirements for all Parity Indebtedness related to such debt service reserve funds;

FOURTH: from the balance, if any, remaining after making the deposits required by paragraphs FIRST, SECOND and THIRD, to the Rebate Fund the amount, if any, set forth in a Certificate of an Authorized Representative of the Authority as being required to be deposited in such Fund and the Accounts thereunder in accordance with the Indenture, a Supplemental Indenture, or a Tax Regulatory Agreement;

FIFTH: from the balance, if any, remaining after making the deposits required by paragraphs FIRST, SECOND, THIRD and FOURTH, to the Subordinated Indebtedness Fund amounts required to be deposited in such Fund for such month in accordance with the Annual Budget or the entire balance if less than sufficient; and

SIXTH: from the balance, if any, remaining after making the deposits required by paragraphs FIRST, SECOND, THIRD, FOURTH and FIFTH, to the General Fund.

So long as no Event of Default has occurred and is continuing, the Authority is permitted to, and does, maintain control and possession of the Revenue Fund, the Operating Fund and the Rebate Fund.

### **Debt Service Reserve Fund**

The 2014 Series B Bonds are additionally secured by the Common Account in the Debt Service Reserve Fund. The Common Account holds funds adequate to meet the Debt Service Reserve Fund Requirement for each outstanding series of Bonds over time. Assumed Clean Water Fund Obligations and Clean Water Fund Obligations of the Authority are secured by Special Accounts in the Debt Service Reserve Fund. Amounts on deposit in Special Accounts in the Debt Service Reserve Fund shall be applied solely to the Bonds for which such Accounts have been established and such Bonds shall not be entitled to amounts on deposit in the Common Account. Amounts on deposit in debt service reserve funds for Parity Indebtedness shall be applied solely to the Parity Indebtedness for which such funds have been established and such Parity Indebtedness shall not be entitled to amounts on deposit in the Common Account.

The Debt Service Reserve Fund Requirement for the 2014 Series B Bonds will be met by allocating a portion of the Collateralized Investment Agreement, dated as of October 12, 2005 (the "Collateralized Investment Agreement"), by and between FSA Capital Management Services LLC and the Authority, on deposit in the Common Account for the 2005 Series A Bonds to the 2014 Series B Bonds. The principal amount of the Collateralized Investment Agreement is \$5,896,500 and bears interest at 4.651%. The Collateralized Investment Agreement is fully collateralized by cash, United States Treasury obligations and/or bonds, notes and other obligations of United States agencies at collateral levels ranging from 100% for cash, 102% for United States Treasury obligations and 103% for other securities, and is guaranteed by Assured Guaranty Municipal Corp. (formerly Financial Security Assurance Inc.). At closing, a portion of the Collateralized Investment Agreement will be allocated to the 2014 Series B Bonds in an amount representing the Debt Service Reserve Fund Requirement for the 2014 Series B Bonds, a portion of the Collateralized Investment Agreement will be allocated to the 2005 Series A Bonds in an amount representing the Debt Service Reserve Fund Requirement for the 2005 Series A Bonds, and any excess principal amount of the Collateralized Investment Agreement will be allocated to the 2014 Series B Bonds. The Collateralized Investment Agreement will remain on deposit in the Common Account.

If, as of April 1 or October 1 of each year or on any date on which the Trustee receives the written direction of the Authority, the amount in any Account in the Debt Service Reserve Fund exceeds the applicable Debt Service Reserve Fund Requirement, the Trustee shall withdraw from such Account the amount of any excess therein over the applicable Debt Service Reserve Fund Requirement as of the date of such withdrawal and deposit the moneys so withdrawn into the Debt Service Fund. If, as of April 1 or October 1 of each year the amount in any Account in the Debt Service Reserve Fund is less than the applicable Debt Service Reserve Fund Requirement and, to the extent that such deficiency has not been made up by the date of adoption of the Annual Budget for the next Fiscal Year, the Authority shall, in its Annual Budget for the ensuing Fiscal Year, include the amount necessary to fund such deficiency.

In the event of the refunding of any Bonds, the Trustee shall, upon the written direction of the Authority, withdraw from the Common or Special Account of the Debt Service Reserve Fund related to the Bonds to be refunded all or any portion of amounts accumulated therein with respect to the Bonds to be refunded and deposit such amounts as provided in such written direction provided that such withdrawal shall not be made unless (i) immediately thereafter the Bonds being refunded shall be deemed to have been paid under the Indenture, and (ii) after giving effect to any amounts being simultaneously deposited therein the amount remaining in each Account after such withdrawal shall not be less than the applicable Debt Service Reserve Fund Requirement.

**Debt Service Reserve Funds**  
**As of April 30, 2014**

Series	Par Amount	Maximum Annual D/S	DSRF Balance	DSRF Requirement
<b>(Revenue Bonds)</b>				
2005 Series A Rev Bonds	\$91,290,000	\$5,896,500	\$5,896,500	100%
2008 Series A Rev Bonds	18,975,000	1,234,500	1,249,665	100%
2012 Series B Rev Bonds	9,295,000	538,800	538,803	100%
<b>(Clean Renewable Energy Bonds)</b>				
2008 Series B (CREBS)	2,500,000	187,000	189,853	100%
<b>(Clean Water Fund Obligations)</b>				
2007 Series A CWF 563-DC	8,961,758	548,910	278,777	50%
2007 Series C CWF Consolidated	20,560,842	2,199,723	1,100,029	50%
2007 Series E CWF 463-CD1	934,984	61,896	31,345	50%
2009 Series C CWF 206-CSL	3,952,524	237,710	118,874	50%
2011 Series D CWF 581-C1	6,121,755	368,171	61,370	2 months <sup>(1)</sup>
2013 Series A CWF 627-C	656,236	39,467	6,578	2 months <sup>(2)</sup>
2013 Series C CWF 441-D	3,571,120	214,772	35,796	2 months <sup>(3)</sup>
2013 Series D CWF 581-C2	<u>6,276,714</u>	<u>377,490</u>	<u>62,916</u>	2 months <sup>(4)</sup>
<b>Totals</b>	<b>\$173,095,932</b>	<b>\$11,904,939</b>	<b>\$9,570,506</b>	

All Funds are held with U.S. Bank

Requirement = % of Aggregate Maximum annual debt service

(1) Debt Service Reserve Requirement per State of CT, 2 months debt service payments (\$30,681 x 2)

(2) Debt Service Reserve Requirement per State of CT, 2 months debt service payments (\$3,289 x 2)

(3) Debt Service Reserve Requirement per State of CT, 2 months debt service payments (\$17,898 x 2)

(4) Debt Service Reserve Requirement per State of CT, 2 months debt service payments (\$31,458 x 2)

### **Subordinated Indebtedness Fund**

Amounts on deposit in the Subordinated Indebtedness Fund shall be applied by the Trustee solely to the maintenance of reserves for, or the payment of, Subordinated Indebtedness, or as otherwise provided by the resolution of the Authority authorizing each issue of Subordinated Indebtedness. The Authority may transfer amounts from the General Fund to the Subordinated Indebtedness Fund for the payment of any amounts (including termination payments) due on Qualified Swaps, as provided in the applicable Supplemental Indenture.

### **General Fund**

The Trustee shall, on each Bond Payment Date, apply moneys credited to the General Fund in the following amounts: (i) on a pro rata basis, to the Debt Service Fund the amount, if any, necessary (or all the moneys in the General Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in such Fund and to any debt service fund for Parity Indebtedness identified in writing to the Trustee by the Authority the amount, if any, necessary (or all the moneys in the General Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in such fund, as identified in writing to the Trustee by the Authority, (ii) to the Debt Service Reserve Fund the amount, if any, necessary (or all the moneys in the General Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in any Account in such Fund and (iii) on a pro rata basis, to any debt service reserve funds for Parity Indebtedness identified in writing to the Trustee by the Authority the amount, if any, necessary (or all the moneys in the General Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in such funds, as identified in writing to the Trustee by the Authority. Moneys remaining on deposit in the General Fund after such transfers may also be transferred by the Trustee to the Authority to pay Operating Expenses or for any other lawful purpose related to the Authority or the Regional Wastewater System, including but not limited to, the funding of a capital fund from which the Authority may pay for capital improvements to the Regional Wastewater System, Rebate Amounts pursuant to any Tax Regulatory Agreement or to reimburse the Authority for its expenses; following any such transfer, the moneys transferred shall not be considered pledged moneys under the terms of the Indenture.

### **Rate Covenant**

Pursuant to the Indenture, the Authority covenants that it will fix, charge and collect rates, charges, rents, fees and assessments, including, but not limited to, use and connection charges and benefit assessments, which shall produce Revenues in each Fiscal Year:

1. sufficient to provide for 100% of the Operating Expenses of the Authority and a Debt Service Coverage Ratio (Revenues plus withdrawals from the General Fund to pay Operating Expenses and Parity Obligations plus the Fiscal Year-end unrestricted General Fund balance minus Operating Expenses divided by (a) the Annual Aggregate Debt Service on (i) the Bonds then Outstanding, (ii) Clean Water Fund Obligations that are Parity Obligations, and (iii) Parity Indebtedness plus (b) interest on Parity Bond Anticipation Notes ((a)(i), (ii) and (iii) and (b), collectively, "Parity Obligations") of at least 1.0x in such Fiscal Year, and

2. together with amounts capitalized from the proceeds of Bonds and amounts withdrawn or available for withdrawal from the General Fund, sufficient in each Fiscal Year to pay Operating Expenses and provide for:

(A) a Debt Service Coverage Ratio at least equal to the 115% Debt Service Coverage Ratio Requirement (amounts withdrawn and available for withdrawal from the General Fund are limited to 15% of debt service for this requirement); plus

(B) any amount necessary to restore any Account within the Debt Service Reserve Fund to its required deposit level; plus

(C) any amount necessary to restore any debt service reserve fund for Parity Indebtedness to its required deposit level.

The Authority further covenants that in each Fiscal Year, it will fix, charge and collect rates, charges, rents, fees and assessments, including but not limited to use and connection charges and benefit assessments, which shall produce Revenues which, together with amounts capitalized from proceeds of Bonds or otherwise made available and reserved and not already taken into account hereunder by reduction of the obligations which are to be paid from

Revenues and the amount to be withdrawn from the General Fund to pay Operating Expenses, debt service on the Bonds, Clean Water Fund Obligations, Parity Indebtedness and interest on Parity Bond Anticipation Notes for such Fiscal Year, to provide for an amount equal to 100% of aggregate debt service for such Fiscal Year with respect to Subordinated Indebtedness, which aggregate debt service shall be computed on the same basis and with the same assumptions as "Aggregate Annual Debt Service" for Bonds hereunder; provided however, that failure to collect such Revenues and other amounts under this clause (ii) shall under no circumstances be treated as an Event of Default.

#### **Additional Bonds Test**

In order to issue additional Bonds pursuant to Section 206 of the Indenture secured on a parity with the 2014 Series B Bonds, except in the case of any Series of Initial Bonds issued pursuant to Section 205 of the Indenture, the Indenture requires a Certificate of an Authorized Representative of the Authority setting forth for the last Fiscal Year for which audited financial statements are available, (i) the Revenues, adjusted as hereinafter described, (ii) the Aggregate Annual Debt Service on the Bonds then Outstanding and all Parity Indebtedness then outstanding, (iii) the total Operating Expenses, (iv) the amount withdrawn from the General Fund to pay Operating Expenses and Parity Obligations and the unrestricted balance to the credit of the General Fund as of the end of such Fiscal Year, and (v) showing that the Debt Service Coverage Ratio is at least equal to the 115% Debt Service Coverage Ratio Requirement; provided that (A) if an increase in the rates, fees and charges for services of the Regional Wastewater System shall have been approved prior to the delivery of such Certificate, such that no further legal requirements need be met to effect such increase, the Revenues calculated under clause (i) above shall be adjusted to the amount of Revenues which would have been derived from the Regional Wastewater System for said full Fiscal Year if such increased rates, fees and charges for services of the Regional Wastewater System had been in effect for the full Fiscal Year, and (B) if the Authority shall have obtained one or more new customers after such Fiscal Year but before the delivery of such certificate, such that the Revenues for the last full Fiscal Year should, in the opinion of the Authority, be adjusted to reflect such additional customer or customers, then the Revenues of the Regional Wastewater System for the full Fiscal Year immediately preceding the issuance of said additional Bonds shall be increased by the least amount which said customer or customers are legally obligated to pay in any one year for the furnishing of said services by the Regional Wastewater System, after deducting therefrom the Operating Expenses estimated by the Authority as attributable in such year to such customer or customers.

The Indenture also requires a Certificate of an Authorized Representative of the Authority as confirmed by an Independent Consultant setting forth for each of the five (5) Fiscal Years following the issuance of such Series of Bonds, plus the Fiscal Year in which such Bonds are issued, (i) the estimated Revenues after giving effect to any increases or decreases in rates, fees and charges projected, (ii) the estimated Operating Expenses, (iii) the estimated amount to be withdrawn from the General Fund to pay Operating Expenses and Parity Obligations and the unrestricted balance to the credit of the General Funds as of the end of each such Fiscal Year, (iv) the projected Aggregate Annual Debt Service on the Bonds then Outstanding, all Parity Indebtedness then outstanding and the additional Bonds then proposed to be issued, and any other additional Bonds to be issued during such Fiscal Years according to the aforementioned Certificate, and (v) showing that the Debt Service Coverage Ratio in the Fiscal Year in which the additional Bonds are issued and each of the four succeeding Fiscal Years will be at least equal to (Y) the 115% Debt Service Coverage Ratio Requirement and (Z) in the fifth full Fiscal Year after the Fiscal Year in which the additional Bonds are issued, at least equal to the 115% Debt Service Coverage Ratio Requirement calculated using the maximum amount of Aggregate Annual Debt Service to occur in such fifth full Fiscal Year or any future Fiscal Year on account of all Bonds to be outstanding at the beginning of such fifth Fiscal Year.

One or more series of refunding bonds may be issued pursuant to the Indenture at any time to refund any Outstanding Bonds or Outstanding Parity Indebtedness provided that (i) average annual Debt Service on such Series of Refunding Bonds or outstanding Parity Indebtedness (excluding any one-twentieth (1/20th) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) shall not exceed the average annual Debt Service on the Outstanding Bonds or outstanding Parity Obligations (excluding any one-twentieth (1/20th) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) to be refunded and (ii) the maximum Debt Service in any Fiscal Year on such Series of Refunding Bonds (excluding any one-twentieth (1/20th) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) shall not exceed the maximum Debt Service in any Fiscal Year on the Outstanding Bonds or outstanding Parity Indebtedness (excluding any one-twentieth (1/20th) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) to be refunded, all as shown in a Certificate signed by an

Authorized Representative of the Authority and delivered to the Trustee prior to the authentication and delivery of such Series of Refunding Bonds. Refunding Bonds shall be issued in a principal amount sufficient, together with other moneys available therefor, to accomplish such refunding and to make the deposits in the Funds and Accounts required by the provisions of the Supplemental Indenture authorizing such Bonds. Refunding Bonds that do not meet the requirements of Section 207(a) of the Indenture may be issued by meeting the requirements of Section 206(d) and (e) of the Indenture.

#### **Other Indebtedness**

Under the Indenture, the Authority shall not issue any bonds, notes or other evidences of indebtedness, other than the Bonds, Parity Bond Anticipation Notes, Parity Reimbursement Obligations and Parity Indebtedness, issued or incurred in accordance with Section 210 of the Indenture, secured by a pledge of or other lien or charge on the Revenues and shall not create or cause to be created any lien or charge on such Revenues or on any amounts held by any Fiduciary, under the Indenture. However, the Indenture shall not prevent the Authority from issuing notes payable from the proceeds of Bonds or bonds or notes or other obligations for the corporate purposes of the Authority payable out of, or secured by a pledge of, Revenues to be derived on and after such date as the pledge of the Revenues provided in the Indenture shall be discharged and satisfied as provided in Section 1201 of the Indenture, or from issuing Subordinated Indebtedness for the corporate purposes of the Authority as a general obligation of the Authority or which are payable out of or secured by the pledge of amounts available therefor in the Subordinate Indebtedness Fund and which recite on their face that such general obligation or pledge of said amounts is and shall be in all respects subordinate to the provisions of the Indenture and the lien and pledge created by the Indenture.

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## DEBT SERVICE REQUIREMENTS

The following table sets forth the debt service requirements for each fiscal year ending June 30 for the Outstanding Bonds and the 2014 Series B Bonds:

<b>Fiscal Year Ending June 30</b>	<b>Outstanding Bonds<sup>1</sup></b>	<b>2014 Series B Bonds</b>			<b>Total Debt Service</b>
	<b>Principal and Interest</b>	<b>Principal</b>	<b>Interest</b>	<b>Total</b>	
2015	\$ 5,288,850	\$3,535,000	\$1,967,412	\$5,502,412	\$10,791,262
2016	5,220,200	2,235,000	3,260,412	5,495,412	10,715,612
2017	4,772,843	2,290,000	3,203,712	5,493,712	10,266,555
2018	4,712,367	2,360,000	3,133,962	5,493,962	10,206,329
2019	4,699,086	2,440,000	3,049,762	5,489,762	10,188,848
2020	4,701,219	2,545,000	2,950,062	5,495,062	10,196,281
2021	4,690,675	2,660,000	2,832,662	5,492,662	10,183,337
2022	4,677,792	2,795,000	2,696,287	5,491,287	10,169,079
2023	4,541,318	2,940,000	2,552,912	5,492,912	10,034,230
2024	4,078,388	3,065,000	2,429,606	5,494,606	9,572,994
2025	3,631,023	3,190,000	2,300,050	5,490,050	9,121,073
2026	3,132,771	3,355,000	2,136,425	5,491,425	5,494,558
2027	3,019,301	3,530,000	1,964,300	5,494,300	8,513,601
2028	3,016,626	3,710,000	1,783,300	5,493,300	8,509,926
2029	2,875,290	3,900,000	1,593,050	5,493,050	8,368,340
2030	2,778,325	4,100,000	1,393,050	5,493,050	8,271,375
2031	2,592,614	4,315,000	1,182,675	5,497,675	8,090,289
2032	2,409,029	4,535,000	961,425	5,496,425	7,905,454
2033	2,326,525	4,765,000	728,925	5,493,925	7,820,450
2034	1,775,975	4,985,000	510,100	5,495,100	7,271,075
2035	1,775,775	5,185,000	306,700	5,491,700	7,267,475
2036	2,094,225	5,075,000	101,500	5,176,500	7,270,725
2037	1,764,225	-	-	-	1,764,225
2038	1,758,900	-	-	-	1,758,900
2039	526,600	-	-	-	526,600
2040	528,600	-	-	-	528,600
2041	524,900	-	-	-	524,900
2042	525,500	-	-	-	525,500
2043	525,300	-	-	-	525,300
2044	-	-	-	-	-
<b>TOTAL</b>	<b>\$84,963,842</b>	<b>\$77,510,000</b>	<b>\$43,038,294</b>	<b>\$120,548,294</b>	<b>\$202,382,893</b>

<sup>1</sup> Includes the unrefunded portion of 2005 Series A Bonds, the 2008 Series A Bonds, the 2012 Series B Bonds, the CREBs, and Clean Water Fund Obligations, including Assumed Clean Water Fund Obligations. In accordance with the CSO Cost Sharing Agreement between the Authority and the City of New Haven, New Haven is responsible for 40% of the debt service on Assumed Clean Water Fund Obligations and Clean Water Fund Obligations issued for purposes of CSO capital improvements. As of July 10, 2014, the aggregate principal amount of the Assumed Clean Water Fund Obligations and Clean Water Fund Obligations subject to the terms of the CSO Cost Sharing Agreement was \$26,475,290.

## **TAX MATTERS**

The Internal Revenue Code of 1986, as amended (the “Code”), imposes certain requirements which must be met at and subsequent to delivery of the 2014 Series B Bonds in order that interest on the 2014 Series B Bonds be and remains excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause interest on the 2014 Series B Bonds to be included in gross income retroactive to the date of issuance of the 2014 Series B Bonds. The Tax Regulatory Agreement, which will be executed and delivered by the Authority concurrently with the 2014 Series B Bonds, contains representations, covenants and procedures relating to the use, expenditure and investment of proceeds of the 2014 Series B Bonds in order to comply with such requirements of the Code. Pursuant to the Tax Regulatory Agreement, the Authority also covenants and agrees that it shall perform all things necessary or appropriate under any valid provision of law to ensure interest on the 2014 Series B Bonds shall be excluded from gross income for federal income tax purposes under the Code.

In the opinion of Bond Counsel, based on existing statutes and court decisions and assuming continuing compliance by the Authority with its covenants and the procedures contained in the Tax Regulatory Agreement, interest on the 2014 Series B Bonds is excluded from gross income for federal income tax purposes and is not treated as an item of tax preference for purposes of computing the federal alternative minimum tax. Interest on the 2014 Series B Bonds is, however, includable in adjusted current earnings for purposes of computing the federal alternative minimum tax imposed on certain corporations.

Ownership of the 2014 Series B Bonds may also result in certain collateral federal income tax consequences to certain taxpayers, including, without limitation, financial institutions, property and casualty insurance companies, certain foreign corporations doing business in the United States, certain S corporations with excess passive income, individual recipients of Social Security and Railroad Retirement benefits, taxpayers utilizing the earned income credit and taxpayers who have or are deemed to have incurred indebtedness to purchase or carry tax exempt obligations, such as the 2014 Series B Bonds. Prospective purchasers of the 2014 Series B Bonds, particularly those who may be subject to special rules, are advised to consult their own tax advisors regarding the federal tax consequences of ownership and disposition of, or receipt of interest on, the 2014 Series B Bonds.

In the opinion of Bond Counsel, based on existing statutes, interest on the 2014 Series B Bonds is excluded from Connecticut taxable income for purposes of the Connecticut income tax on individuals, trusts and estates, and is excluded from amounts on which the net Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the federal alternative minimum tax.

Legislation affecting the exclusion from gross income of interest on State or local bonds, such as the 2014 Series B Bonds, is regularly under consideration by the United States Congress. There can be no assurance that legislation enacted or proposed after the date of issuance of the 2014 Series B Bonds will not reduce or eliminate the benefit of the exclusion from gross income of interest on the 2014 Series B Bonds or adversely affect the market price of the 2014 Series B Bonds.

The opinions of Bond Counsel are rendered as of their date and are based on existing law, which is subject to change. Bond Counsel assumes no obligation to update or supplement its opinions to reflect any facts or circumstances that may come to their attention, or to reflect any changes in law that may thereafter occur or become effective. On the date of delivery of the 2014 Series B Bonds, Bond Counsel will deliver their opinions in the form attached hereto as Appendix E.

Prospective purchasers of the 2014 Series B Bonds are advised to consult their own tax advisors regarding other State and local tax consequences of ownership and disposition of and receipt of interest on the 2014 Series B Bonds.

### **Original Issue Discount**

The initial public offering price of certain maturities of the 2014 Series B Bonds (an “OID Bond”) may be less than the principal amount payable on such 2014 Series B Bonds at maturity. The excess of the principal amount payable at maturity over the initial public offering price at which a substantial amount of each OID Bond is sold constitutes original issue discount. The prices set forth on the inside cover page of the Official Statement may or may not reflect the prices at which a substantial amount of each maturity of the 2014 Series B Bonds were ultimately sold to the public.

Under Section 1288 of the Code, the amount of original issue discount treated as having accrued with respect to any OID Bond during each day it is owned by a taxpayer is added to the owner’s adjusted basis for purposes of determining gain or loss upon the sale or other disposition of such OID Bond by such owner. Accrued original issue discount on an OID Bond is excluded from gross income for federal income tax purposes. Accrued

original issue discount on an OID Bond is also excluded from Connecticut taxable income for purposes of the Connecticut income tax on individuals, trusts and estates, and is excluded from amounts on which the net Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the federal alternative minimum tax.

Original issue discount on an OID Bond is treated as accruing on the basis of economic accrual for such purposes, computed by a constant semiannual compounding method using the yield to maturity on such OID Bond. The original issue discount attributable to any bond for any particular semiannual period is equal to the excess of the product of (i) one-half of the yield to maturity of such bond, and (ii) the amount which would be the adjusted basis of the bond at the beginning of such semiannual period if held by the original owner and purchased by such owner at the initial public offering price, over the interest paid during such period. The amount so treated as accruing during each semiannual period is apportioned in equal amounts among the days in that period to determine the amount of original issue discount accruing for such purposes during each such day. Prospective purchasers of 2014 Series B Bonds at a discount, whether at the date of original issue or subsequent thereto, are advised to consult their own tax advisors regarding the federal, state and local tax consequences of ownership and disposition of, and receipt of interest on, such 2014 Series B Bonds.

### **Original Issue Premium**

The initial public offering price of certain maturities of the 2014 Series B Bonds (an "OIP Bond") may be greater than the principal amount payable on such 2014 Series B Bonds at maturity. The excess of the initial public offering price at which a substantial amount of each OIP Bond is sold over the principal amount payable at maturity or on an earlier call date constitutes original issue premium. The prices set forth on the inside cover page of the Official Statement may or may not reflect the prices at which a substantial amount of the 2014 Series B Bonds were ultimately sold to the public.

Under Sections 1016 and 171 of the Code, the amount of original issue premium treated as amortizing with respect to an OIP Bond during each day it is owned by a taxpayer is subtracted from the owner's adjusted basis for purposes of determining gain or loss upon the sale or other disposition of such OIP Bond by such owner. Amortized original issue premium on an OIP Bond is not treated as a deduction from gross income for federal income tax purposes. Original issue premium on any bond is treated as amortizing on the basis of the taxpayer's yield to maturity using the taxpayer's cost basis and a constant semiannual compounding method. Prospective purchasers of 2014 Series B Bonds at a premium, whether at the date of original issue or subsequent thereto, are advised to consult their own tax advisors regarding the federal, state and local tax consequences of ownership and disposition of, and receipt of interest on, such 2014 Series B Bonds.

### **RATINGS**

Moody's Investors Service ("Moody's"), Standard & Poor's ("S&P") and Fitch Ratings ("Fitch") have assigned ratings of A1, A+ and A+, respectively to the 2014 Series B Bonds. The Authority furnished to Moody's, S&P and Fitch certain information and materials, some of which have been included in this Official Statement. The ratings reflect the view of each rating agency. Each rating agency should be contacted directly for an explanation of such rating.

There is no assurance that the ratings of Moody's, S&P or Fitch will continue in effect for any given period of time or that such rating will not be revised, suspended or withdrawn by Moody's, S&P or Fitch if, in its judgment circumstances so warrant. A downward revision, suspension or withdrawal of any such rating may have an adverse effect on the market price or marketability of the Authority's bonds, including the 2014 Series B Bonds.

### **UNDERWRITING**

Subject to the terms and conditions of the Bond Purchase Agreement, the Authority has agreed to sell to Raymond James & Associates, Inc. (the "Underwriter"), and the Underwriter has agreed to purchase, the 2014 Series B Bonds at the net aggregate purchase price of \$84,710,669.60 (consisting of the principal amount of \$77,510,000.00 plus a net original issue premium of \$7,537,225.85, less underwriter's discount of \$336,556.25). The Underwriter will be obligated to purchase all such 2014 Series B Bonds, if any such 2014 Series B Bonds are purchased. The Underwriter intends to offer the 2014 Series B Bonds to the public initially at the offering prices or yields set forth on the inside cover page of this Official Statement, which may subsequently change without any requirement of prior notice. The 2014 Series B Bonds may be offered and sold to certain dealers (including unit investment trusts and other affiliated portfolios of certain underwriters and other dealers depositing the 2014 Series B Bonds into investment trusts) at prices lower than such initial public offering prices, and such initial public offering prices may be changed, from time to time, by the Underwriter.

## **LITIGATION**

In the opinion of counsel to the Authority, there are no claims or litigation pending or to its knowledge threatened, which would result in final judgments against the Authority which would have a material adverse effect on the finances of the Authority or which would impact the validity of the 2014 Series B Bonds or the power of the Authority to assess and collect revenues to pay them. Notwithstanding the foregoing, there the following litigation currently exists:

On June 13, 2011, a sewer line break occurred at 216 Crown Street, New Haven, Connecticut. The breakage allegedly caused a backup of sewage resulting in damage to building finishes, personal property and medical equipment owned by University Standing Open MRI of New Haven, the T.I.C. Group LLC, LoRicco Tower Condominium Association, Hartford Fire Insurance Company, Ronald LoRicco Trustee, RVRM Enterprises LLC and Continental Casualty Company (collectively, the "Claimants"). Although the Claimants have not articulated the specific amount of their claims, based upon the information received as to the type of damage suffered, the amount of potential damage is not material to either the overall financial position of the Authority or the operations of the Authority. On or about July 12, 2012, the Authority was served with a lawsuit by University Standing Open MRI of New Haven, LLC and TIC Group LLC for damages allegedly caused by the breached sewer line. Three other cases started by the other Claimants have also been commenced concerning the same incident. All cases have been consolidated and are pending in Connecticut state Superior Court. The complaints seek damages in an unspecified sum. The Authority has tendered the defense and coverage of these lawsuits to its commercial general liability and environmental insurance carriers and the insurance carriers are defending under a reservation of rights.

The Authority assumed the 1997 Agreement between the City of New Haven and Operations Management International, Inc. ("OMI") to operate the Authority's wastewater collection and treatment system when regionalization occurred. That 1997 Agreement expired effective December 31, 2013. At the time of termination, the Authority alleges that OMI was in default of its obligations under the 1997 Agreement, for failing to clean the collection system, failing to clean catch basins, failing to maintain certain equipment, failing to provide certain analytic services, failing to perform repairs and replacement to the collection system, and other failures. On December 11, 2013, the Authority commenced a lawsuit in Connecticut state court to recover damages resulting from OMI's many failures. The Authority also sued OMI's guarantor, CH2M Hill Companies, LTD. In a separate lawsuit started shortly thereafter, the Authority also sued OMI's surety for performance. At present, the cases are in the pleading and discovery phase of litigation. At this time, the Authority is evaluating the extent of the damages caused by OMI's alleged conduct, but cannot yet specify the amount of the damages to a reasonable degree of certainty.

## **CERTAIN LEGAL MATTERS**

The unqualified approving opinion, the proposed form of which is set forth in Appendix E, of Robinson & Cole LLP, Hartford, Connecticut, Bond Counsel to the Authority, will be furnished upon delivery of the 2014 Series B Bonds. Certain legal matters will be passed on for the Underwriter by their counsel, Pullman & Comley, LLC, Hartford, Connecticut.

## **CONSULTING ENGINEER AND COST OF SERVICE CONSULTANT**

Malcolm Pirnie, Inc. (the "Consulting Engineer") prepared the Consulting Engineer's Bond Feasibility Report dated May 2012, a copy of which is included as Appendix C hereto. The Consulting Engineer's Bond Feasibility Report provides an overview of the history of and financial projections for the Regional Wastewater System. The Consulting Engineer's Bond Feasibility Report has been included in this Official Statement in reliance on the reputation of the Consulting Engineer as an expert in wastewater engineering. The Consulting Engineer's Bond Feasibility Report contains information not set forth elsewhere in this Official Statement and should be read in its entirety. Arcadis O'Neil Accounting and Consulting, LLC have prepared a Cost of Service Study ("COSS") for fiscal year 2015, dated April 7, 2014, for the Authority which developed the revenue requirements that are the basis for the rates, and anticipated increases in such rates for customers of the Authority. A copy of the COSS is included as Appendix B.

## **RISK MANAGEMENT**

The Authority is exposed to various risks of loss related to industry liability, employee health and medical, professional liability, theft or impairment of assets, errors or omissions, injury to employees, natural disasters, and owners and contractors protective liability and environmental liability.

The Authority purchases commercial insurance for all risks of loss. Coverage has not been materially reduced, nor has settled claims exceeded commercial coverage.

## **THE CO-FINANCIAL ADVISORS**

Phoenix Advisors LLC, of Milford Connecticut and Query & Associates LLC of Philadelphia, Pennsylvania are serving as co-financial advisors to the Authority for the issuance of the 2014 Series B Bonds. The financial advisors have assisted in the preparation of this Official Statement and in other matters relating to the planning, structuring and issuance of the 2014 Series B Bonds and have provided other advice. They, however, do not assume responsibility for the adequacy of the statements made herein and makes no representation that they have independently verified the same.

## **MISCELLANEOUS**

### **Availability of Continuing Information**

The Authority prepares, in accordance with State law, annual audited financial statements and file such annual audits with the State Office of Policy and Management within six months of the end of its fiscal year. In order to assist the Underwriter to comply with the requirements of Rule 15c2-12(b)(5) promulgated by the Securities and Exchange Commission, the Authority will agree to provide or cause to be provided annual financial information and operating data, timely notice of certain events within ten (10) business days of the occurrence of such events, and timely notice of a failure by the Authority to provide the required annual financial information on or before the date specified in the Continuing Disclosure Agreement with respect to the 2014 Series B Bonds, pursuant to a Continuing Disclosure Agreement substantially in the form attached as Appendix F to this Official Statement. The Underwriter's obligation to purchase the 2014 Series B Bonds shall be conditioned upon its receiving, on or prior to the delivery of the 2014 Series B Bonds, an executed copy of the Continuing Disclosure Agreement. The Authority has previously undertaken, in continuing disclosure agreements, entered into for the benefit of holders of certain of its bonds, to provide certain financial information and event notices pursuant to Rule 15c2-12(b)(5).

In the past five years, the Authority has failed to file certain audited financial statements and operating data in a timely manner in accordance with its continuing disclosure agreements due to an oversight on the part of the Authority's personnel. For the fiscal years ended June 30, 2009 and June 30, 2011, the audited financial statements of the Authority were filed late with the Municipal Securities Rulemaking Board's ("MSRB") Electronic Municipal Market Access website ("EMMA") on May 30, 2012 and May 31, 2012, respectively. The June 30, 2010 audited financial statements were timely filed with EMMA with respect to the 2005 Series A Bonds, but were filed late with EMMA with respect to the 2008 Series A Bonds on July 27, 2011. The Authority also failed to file notice of the failure to file such audited financial statements on a timely basis with the MSRB. The failure to file such audited financial statements and notices has been remedied as of June 4, 2012. For the fiscal years ended June 30, 2009, June 30, 2010, June 30, 2011, June 30, 2012, and June 30, 2013, the Authority failed to file certain operating data required by its continuing disclosure agreements. The Authority also failed to file notice of the failure to file such operating data. The failure to file such operating data and notices will be remedied as of June 18, 2014. The Authority has implemented procedures to ensure the timely filing of audited financial statements and operating data in the future.

The Authority has registered with the EMMA reminder system to receive email reminders to help ensure timely filing of disclosure requirements. The financial advisors will also assist the Authority in complying with continuing disclosure requirements.

### **Additional Information**

Additional information may be obtained upon request from Sidney J. Holbrook, Executive Director, Greater New Haven Water Pollution Control Authority, 260 East Street, New Haven, Connecticut 06511, telephone (203) 466-5280.

The Official Statement is submitted in connection with the sale of the 2014 Series B Bonds and may not be reproduced or used in whole or in part for any other purpose. This Official Statement has been duly authorized and approved by the Authority and duly executed and delivered on their behalf.

This Official Statement is not to be construed as a contract or agreement between the Authority and the purchasers or holders of any of the 2014 Series B Bonds.

### **Concluding Statement**

To the extent that any statements made in this Official Statement involve matters of opinion or estimates, such statements are made as such and not as representations of fact or certainty, and no representation is made that any of such statements will be realized. Information herein has been derived by the Authority from official and other sources and is believed by the Authority to be reliable, but such information other than that obtained from official records of the Authority has not been independently confirmed or verified by the Authority and its accuracy is not guaranteed.

This Official Statement has been duly prepared and delivered by the Authority and executed for and on behalf of the Authority by the following officials.

#### GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

By: /s/ Sidney J. Holbrook  
Sidney J. Holbrook  
*Executive Director*

By: /s/ Gabriel Varca  
Gabriel Varca  
*Treasurer and Director of Finance and Administration*

June 24, 2014

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**APPENDIX A**

**AUDITED FINANCIAL STATEMENTS OF THE AUTHORITY  
FOR THE FISCAL YEAR ENDED JUNE 30, 2013**

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**GREATER NEW HAVEN WATER  
POLLUTION CONTROL AUTHORITY**

**FINANCIAL REPORT  
June 30, 2013 and 2012**

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**Financial Section**



## INDEPENDENT AUDITOR'S REPORT

To the Board of Directors  
Greater New Haven Water Pollution Control Authority  
New Haven, Connecticut

### Report on the Financial Statements

We have audited the accompanying financial statements of the Greater New Haven Water Pollution Control Authority (the "Authority") as of and for the years ended June 30, 2013 and 2012, and the related notes thereto which collectively comprise the Authority's basic financial statements as listed in the table of contents.

### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Authority's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our audit opinion.

### Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Greater New Haven Water Pollution Control Authority as of June 30, 2013 and 2012, and the respective changes in financial position and, where applicable, cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## **Emphasis-of-Matter**

As explained in Note 11 to the basic financial statements, the Authority adopted the provisions of Governmental Accounting Standards Board (GASB) Statement No. 63, Financial Reporting of Deferred Outflows of Resources, Deferred of Resources and Net Position and GASB Statement No. 65, Items Previously Reported as Assets and Liabilities effective July 1, 2011. GASB Statement No. 63 establishes accounting and financial reporting standards that reclassify, as deferred outflows of resources or deferred inflows of resources, certain items that were previously reported as assets and liabilities and recognizes, as outflows of resources or inflows of resources, certain items that were previously reported as assets and liabilities. GASB Statement No. 65 results in the reclassification of certain financial statement line items on the statement of net position and statements of revenues and expenses and changes in net position.. In addition to reclassifications to these new categories, GASB No. 65 has also resulted in a change to the accounting treatment for certain items, including debt issuance costs and restated beginning net position.

## **Other Matters**

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the Management Discussion and Analysis on pages 3–8 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

## **Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our reports dated December 30, 2013 and December 20, 2012 on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of these reports is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. These reports are an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.



New Haven, Connecticut  
December 30, 2013

**Greater New Haven  
Water Pollution Control Authority  
Management's Discussion and Analysis - *unaudited*  
For the Year Ended June 30, 2013**

## **INTRODUCTION**

The Greater New Haven Water Pollution Control Authority (the "GNHWPCA") was organized in 2005 as a political subdivision of the State of Connecticut established and created for the performance of an essential public and governmental function. It was created as a regional water pollution control authority under Connecticut Public Act 95-329, subsequently enacted as Title 22a, Sections 500 to 519 of the Connecticut General Statutes, as amended (the "Act"). The GNHWPCA was created pursuant to the Act by concurrent ordinances of the four Constituent Municipalities (the City of New Haven, and the Towns of Hamden, East Haven and Woodbridge). Under the Act, the GNHWPCA is empowered to purchase, own and operate a public sewer system; to levy assessments and sewer use fees; to place liens on real estate to secure such assessments; and to issue revenue bonds. The GNHWPCA is also eligible for grants and loans under the State of Connecticut Clean Water Fund program ("CWF"). Under the by-laws of the GNHWPCA, a governing Board of Directors comprised of representatives of the Constituent Municipalities was established.

On August 29, 2005, the GNHWPCA entered into an Asset Purchase Agreement ("regionalization") with the Constituent Municipalities and thereby acquired ownership of the wastewater system assets of the Constituent Municipalities which included CWF obligations.

In order to finance the acquisition of the wastewater system assets, the GNHWPCA issued \$91,290,000 of revenue bonds (the "2005 Series A Bonds") subject to an Indenture of Trust (the "Indenture"). The Indenture constitutes a contract between the GNHWPCA, the Trustee and the holders of the 2005 Series A Bonds. The Indenture secures the 2005 Series A Bonds and the CWF loans assumed from the Constituent Municipalities.

The wastewater system assets acquired by the GNHWPCA included: the East Shore Wastewater Treatment Plant, located in New Haven; 30 pump stations; a collection system of approximately 560 miles of sanitary and combined sewers; and machinery and equipment. The system provides wastewater treatment services to approximately 50,000 customers throughout the four communities.

The Greater New Haven Water Pollution Control Authority operates on a fiscal year that starts on July 1 and ends on June 30.

Management's Discussion and Analysis (MD&A) provides supplemental information to the audit and should be read in conjunction with such audit. The purpose of the MD&A is to introduce and highlight the more detailed information provided in the audited financial statements. For example, it will assess improvement to or deterioration of the GNHWPCA financial position and will identify factors that, in management's opinion, affected financial performance during the fiscal period under review.

## **CONTENTS OF THE AUDITED FINANCIAL STATEMENTS**

Our financial statements are prepared using proprietary fund (enterprise fund) accounting that employs essentially the same basis of accounting as private-sector business enterprises. Under this method of accounting, an economic resources measurement focus and the accrual basis of accounting are used.

Revenue is recorded when earned and expenses are recorded when incurred. The financial statements include statements of net position, statements of revenues, expenses and changes in net position, and statements of cash flows. These statements are followed by notes to the financial statements.

The GNHWPCA's audited financial statements include the following:

- **Statements of net position**

These statements provide information about the GNHWPCA's investments in resources (assets) and its obligations to creditors (liabilities), with the difference between them reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the GNHWPCA is improving or deteriorating.

- **Statements of revenues, expenses, and changes in net position**

These statements demonstrate changes in net position from one period to another by accounting for operating and non-operating revenues and expenditures and measuring the financial results of operations combined with any capital contributions to determine the net change in position for the period. This change combined with the beginning of the period net position balance reconciles to the net position at the end of the period. The information may be useful to determine how the GNHWPCA has funded its costs.

- **Statements of cash flows**

These statements report cash and cash equivalent activity for the year resulting from operating activities, non-capital financing activities, capital and related financial activities and investing activities. The net result of these activities added to the beginning of the year cash balance reconciles to the cash and cash equivalents balance at the end of the year.

- **Notes to financial statements**

Notes to the financial statements contain information essential to understanding the financial statements, such as the GNHWPCA accounting methods and policies.

## **THE GNHWPCA BUSINESS**

The GNHWPCA was created pursuant to Sections 22a-500 to 22a-519, inclusive, of the Connecticut General Statutes to (a) operate the Treatment Plant and to (b) use, equip, re-equip, repair, maintain, supervise, manage, operate and perform any act pertinent to collection, transportation, treatment and disposal of sewage with respect to the Constituent Municipalities. Currently, the daily flow at the Treatment Plant is approximately 29 million gallons per day.

## FINANCIAL HIGHLIGHTS

### Condensed Statements of Revenues, Expenses and Changes in Net Position

(Dollars in Thousands)	Years ended June 30,			Dollar Variance		Percentage Variance	
	2013	2012	2011	13 vs. 12	12 vs. 11	13 vs. 12	12 vs. 11
Operating revenues	\$ 37,234	\$ 35,157	\$ 33,890	\$ 2,077	\$ 1,267	5.9%	3.7%
Operating expenses	21,219	21,142	19,445	77	1,697	0.4%	8.7%
Depreciation and amortization	4,580	4,499	4,377	81	122	1.8%	2.8%
<b>Total operating expenses, including depreciation</b>	<b>25,799</b>	<b>25,641</b>	<b>23,822</b>	<b>158</b>	<b>1,819</b>	<b>0.6%</b>	<b>7.6%</b>
<b>Operating income</b>	<b>11,435</b>	<b>9,516</b>	<b>10,068</b>	<b>1,919</b>	<b>(552)</b>	<b>20.2%</b>	<b>(5.5%)</b>
Nonoperating (expense) income	(4,651)	(4,650)	(4,848)	(1)	198	0.0%	(4.1%)
Capital grants	4,159	10,158	5,724	(5,999)	4,434	(59.1%)	77.5%
Change in Accounting Principle	-	(1,638)	-	1,638	(1,638)	(100.0%)	100.0%
<b>Change in net position</b>	<b>\$ 10,943</b>	<b>\$ 13,386</b>	<b>\$ 10,944</b>	<b>\$ (2,443)</b>	<b>\$ 2,442</b>	<b>(18.3%)</b>	<b>22.3%</b>

The following items highlight the condensed statements of revenues, expenses and changes in net position, shown above.

- Operating Revenues**

Operating revenues of \$37.2 million for fiscal year 2013 represent an increase of \$2 million or 5.9% compared to \$35.2 million in operating revenues for fiscal year 2012. The increase in operating revenue is primarily attributable to a rate increase of \$0.24 per CCF from fiscal year 2012 to fiscal year 2013. The GNHWPCA approved a charge of \$3.30 per CCF to meet the requirements of its Revenue Bond Indenture of trust and to fund capital improvements.

Operating revenues of \$35.2 million for fiscal year 2012 represent an increase of \$1.3 million or 3.7% compared to \$33.9 million in operating revenues for fiscal year 2011. The increase in operating revenue is primarily attributable to a rate increase of \$0.22 per CCF from fiscal year 2011 to fiscal year 2012. The GNHWPCA approved a charge of \$3.06 per CCF to meet the requirements of its Revenue Bond Indenture of Trust and to fund capital improvements.

- Operating Expenses**

Operating expenses include all costs, including maintenance, necessary to deliver wastewater collection and treatment services. It also includes the administrative resources and billing and customer service costs employed to ensure efficient operations.

Operating expenses for fiscal year 2013 were consistent with fiscal year 2012 at \$21.2 million and \$21.1 million, respectively.

Operating expenses for fiscal year 2012 increased \$1.7 million or 8.7% to \$21.1 million from \$19.4 million for fiscal year 2011. The increase of operating expenses is attributed to increases in salaries and benefits, operations & maintenance contractual services and outside engineering services.

- **Non-operating Income and Expense**

Non-operating income and expense includes revenue from investment income, reflective of market rates of return, which is used in the general operation of the entity; and interest expense which consists primarily of interest incurred on revenue bonds issued and outstanding and loans assumed in connection with the State of Connecticut Clean Water Fund Program.

Non-operating expenses in fiscal year 2013 were consistent with fiscal year 2012 at \$4.7 million.

Non-operating expenses in fiscal year 2012 decreased \$0.2 million or 4.1% to \$4.6 million from \$4.8 million for fiscal year 2011. The decrease in non operating income and expenses is directly related to a decrease in interest expense associated with outstanding debt.

### Condensed Statements of Net Position

	June 30,			Dollar Variance		Percentage Variance	
	2013	2012	2011	13 vs. 12	12 vs. 11	13 vs. 12	12 vs. 11
<b>Assets</b>							
Current assets	\$ 34,493	\$ 30,667	\$ 26,770	\$ 3,826	\$ 3,897	12.5%	14.6%
Capital assets, net	165,452	155,248	144,251	10,204	10,997	6.6%	7.6%
Noncurrent assets							
Restricted assets	16,565	9,333	9,586	7,232	(253)	77.5%	(2.6%)
Other (As Restated)	7,853	8,591	8,917	(738)	(326)	(8.6%)	(3.7%)
<b>Total assets</b>	<b>224,363</b>	<b>203,839</b>	<b>189,524</b>	<b>20,524</b>	<b>14,315</b>	<b>10.1%</b>	<b>7.6%</b>
<b>Liabilities</b>							
Current liabilities	19,952	15,195	14,985	4,757	210	31.3%	1.4%
Noncurrent liabilities	134,245	129,420	128,701	4,825	719	3.7%	0.6%
<b>Total liabilities</b>	<b>154,197</b>	<b>144,615</b>	<b>143,686</b>	<b>9,582</b>	<b>929</b>	<b>6.6%</b>	<b>0.6%</b>
<b>Net Position</b>							
Net investment in capital assets	52,277	48,137	38,395	4,140	9,742	8.6%	25.4%
Restricted	1,169	968	699	201	269	20.8%	38.5%
Unrestricted (as restated)	16,721	10,119	6,744	6,602	3,375	65.2%	50.0%
<b>Total net position</b>	<b>\$ 70,167</b>	<b>\$ 59,224</b>	<b>\$ 45,838</b>	<b>\$ 10,943</b>	<b>\$ 13,386</b>	<b>18.5%</b>	<b>29.2%</b>

The following items highlight the condensed statements of net position shown above.

- **Current Assets**

The increase of \$3.8 million in current assets between fiscal year-end 2012 and fiscal year-end 2013 resulted principally from an increase in cash and cash equivalents as a result of higher cash receipts.

- **Capital Assets**

The increase in capital assets is attributable to additions to equipment and sewer lines, such as acquisition and improvements of pumping equipment, water treatment facilities, the waste water collection system and information technology.

Capital assets are assets acquired for the use in operations that will benefit more than a single fiscal year. Capital assets are stated at cost. Normal maintenance and repairs that do not add to the value of the assets or materially extend asset lives are not capitalized. Assets being constructed over a period of time are classified as construction in progress. No depreciation is computed on these assets until they are complete and placed into service. Depreciation is computed on a straight line basis over the estimated useful lives of the respective assets. Additional information on capital assets is presented in Note 4.

- **Restricted Assets**

The term “restricted assets” refers primarily to certain funds established under various bond indentures, as well as funds acquired from the regionalization, whose use is restricted for the following purposes:

- Debt Service
- Debt Service Reserves
- Construction
- Maintenance Escrow

The increase of \$7.2 million in restricted assets between fiscal year-end 2012 and fiscal year-end 2013 is primarily due to the funding of capital projects with the issuance of the 2012 Series B Revenue Bonds.

The GNHWPCA invests these restricted assets in investments as allowed by the Indentures, for example, depository accounts in direct obligations of the federal or state governments (or agencies) or in guaranteed investment contracts.

- **Other Non-Current Assets**

Other non-current assets decreased \$.74 million or 8.6% to \$7.9 million from \$8.6 million for fiscal year-end 2013. The decrease is primarily due to payments by the City of New Haven as it relates to their share of State of CT Clean Water Fund bonds.

- **Current Liabilities**

The increase of \$4.8 million in current liabilities from fiscal year-end 2012 to fiscal year-end 2013 is primarily attributed to an increase in the current portion of long term debt and an increase in accrued interest at June 30, 2013.

- **Non-Current Liabilities**

Non-current liabilities increased by \$4.8 million between fiscal year-end 2012 to fiscal year-end 2013 primarily due to the closing of 2012 Series B Revenue Bonds offset by the shift in long-term debt from non-current to current; additional information of non-current liabilities is presented in Note 6.

- **Net Position**

By far the largest portion of the GNHWPCA's net position of \$70.2 million, 74.5% or \$52.3 million reflects its investment in capital assets (e.g. land, buildings, machinery, equipment and infrastructure) in the Constituent Municipalities served by the authority. An additional portion of the Authority's net position \$1.2 million represents resources that are subject to external restrictions to meet the requirements of the indenture. The remaining balance of unrestricted net position \$16.7 million may be used to meet the authority's ongoing obligations.

Total net position increased by \$11 million or 18.6% to \$70.2 million for fiscal year-end 2013 from \$59.2 million in 2012 as a result of the Authority's investment in capital assets.

## **THE GNHWPCA'S CUSTOMER BASE**

The GNHWPCA serves a population of almost 200,000 users; the customer base is primarily residential and commercial. Of its approximately 50,000 customers, 40,000 are residential and approximately 10,000 are commercial, industrial and public authorities.

## **LIQUIDITY AND CAPITAL RESOURCES**

In fiscal year 2013 the Authority generated \$37.2 million in total operating revenues and \$.46 million from investment and other earnings. These amounts were used to pay for operations and maintenance of \$21.2 million and to fund debt service of \$9.7 million.

The Authority funds its program of capital improvements largely through debt financing and capital contributions from the State of Connecticut's Clean Water Fund program and through the issuance of revenue bonds.

## **CREDIT RATING**

Standard & Poor's, Moody's and Fitch Investors Service affirmed ratings of A, A1 and A+, respectively, on the GNHWPCA's outstanding debt.

## **FINANCIAL STATEMENT PRESENTATION**

The GNHWPCA financial statements are prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America.

## **REQUEST FOR INFORMATION**

This financial report is designed to provide a general overview of the Greater New Haven Water Pollution Control Authority's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed in writing to the Director of Finance & Administration, Greater New Haven Water Pollution Control Authority, 260 East Street, New Haven, Connecticut 06511.

## **Basic Financial Statements**

**GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY**

**STATEMENTS OF NET POSITION**

**June 30, 2013 and 2012**

	2013	2012
<b>ASSETS</b>		
Current Assets		
Cash and cash equivalents (Note 2)	\$ 26,948,303	\$ 22,732,981
Accounts receivable, less allowance for doubtful accounts of \$3,986,156 and \$3,631,778 in 2013 and 2012, respectively	6,770,932	7,144,077
Receivable - City of New Haven (Note 3)	773,861	774,904
Other current assets	-	15,478
<b>Total current assets</b>	<b>34,493,096</b>	<b>30,667,440</b>
Capital Assets (Note 4)	194,086,631	179,302,525
Less accumulated depreciation	28,635,020	24,055,025
	<b>165,451,611</b>	<b>155,247,500</b>
Non-Current Receivable - City of New Haven (Note 3)	7,853,829	8,591,059
Restricted Assets (Note 5)	16,564,702	9,332,747
<b>Total assets</b>	<b>224,363,238</b>	<b>203,838,746</b>
<b>LIABILITIES</b>		
Current Liabilities		
Current portion of long-term debt (Note 6)	13,919,178	7,531,886
Accounts payable	3,061,219	5,359,657
Retainage payable	646,804	389,088
Accrued interest	1,269,241	974,512
Accrued expenses	1,055,317	939,721
<b>Total current liabilities</b>	<b>19,951,759</b>	<b>15,194,864</b>
Long-Term Debt, less current portion (Note 6)	134,244,534	129,419,603
<b>Total liabilities</b>	<b>154,196,293</b>	<b>144,614,467</b>
<b>NET POSITION</b>		
Net Investment in capital assets	52,277,106	48,137,344
Restricted:		
Debt service	1,102,014	901,455
Escrow	66,500	66,500
Unrestricted	16,721,325	10,118,980
<b>Total net position</b>	<b>\$ 70,166,945</b>	<b>\$ 59,224,279</b>

See Notes to Financial Statements.

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

**STATEMENTS OF REVENUES AND EXPENSES  
AND CHANGES IN NET POSITION  
Years Ended June 30, 2013 and 2012**

	2013	2012
<b>Operating Revenues</b>		
Residential	\$ 22,104,879	\$ 20,870,476
Commercial and industrial	9,622,542	8,236,808
Municipal	1,192,442	1,213,065
Delinquent interest and lien fees	1,426,360	1,313,513
Outside sludge disposal	1,116,368	1,027,168
Other	2,134,475	2,799,294
Provision for bad debts	(363,215)	(303,148)
<b>Total operating revenues</b>	<b>37,233,851</b>	<b>35,157,176</b>
<b>Operating Expenses</b>		
Operation and maintenance (Notes 8, 9 and 10)	21,219,266	21,141,681
Depreciation and amortization	4,579,995	4,498,847
<b>Total operating expenses</b>	<b>25,799,261</b>	<b>25,640,528</b>
<b>Operating income</b>	<b>11,434,590</b>	<b>9,516,648</b>
<b>Nonoperating Income (Expense)</b>		
Other income	180,068	173,870
Interest income	281,048	278,166
Interest expense (Note 7)	(5,111,904)	(5,101,786)
<b>Total nonoperating income (expense)</b>	<b>(4,650,788)</b>	<b>(4,649,750)</b>
<b>Income before capital contributions</b>	<b>6,783,802</b>	<b>4,866,898</b>
Capital contributions	4,158,864	10,157,583
<b>Change in net position</b>	<b>10,942,666</b>	<b>15,024,481</b>
<b>Net Position, beginning, as restated (note 11)</b>	<b>59,224,279</b>	<b>44,199,798</b>
<b>Net Position, ending</b>	<b>\$ 70,166,945</b>	<b>\$ 59,224,279</b>

See Notes to Financial Statements.

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

STATEMENTS OF CASH FLOWS

Years Ended June 30, 2013 and 2012

	2013	2012
<b>Cash Flows From Operating Activities</b>		
Receipts from customers and users	\$ 37,606,996	\$ 34,014,087
Payments to suppliers	(19,126,067)	(14,352,196)
Payments to employees	(4,002,847)	(3,921,885)
<b>Net cash provided by operating activities</b>	<b>14,478,082</b>	<b>15,740,006</b>
<b>Cash Flows From Capital and Related Financing Activities</b>		
Proceeds from notes payable	16,009,726	3,723,249
Principal payments on debt	(4,716,452)	(5,197,046)
Bond issuance costs and discounts	-	111,146
Interest paid on debt	(4,898,225)	(5,556,261)
Proceeds from City of New Haven	773,909	1,006,880
Proceeds received from capital contributions	3,543,984	5,129,021
Acquisition and construction of capital assets	(14,204,863)	(12,839,429)
<b>Net cash used in capital and related financing activities</b>	<b>(3,491,921)</b>	<b>(13,622,440)</b>
<b>Cash Flows From Non-Capital Activities</b>		
Other income	180,068	173,870
<b>Cash Flows From Investing Activities</b>		
Interest received	281,048	278,166
<b>Net increase in cash and cash equivalents</b>	<b>11,447,277</b>	<b>2,569,602</b>
<b>Cash and Cash Equivalents</b>		
Beginning	32,065,728	29,496,126
Ending	<u>\$ 43,513,005</u>	<u>\$ 32,065,728</u>
Reported on Statement of Net Position as follows:		
Unrestricted cash and cash equivalents	<u>\$ 26,948,303</u>	<u>\$ 22,732,981</u>
Restricted assets	<u>\$ 16,564,702</u>	<u>\$ 9,332,747</u>
<b>Reconciliation of Operating Income to Net Cash Provided by Operating Activities</b>		
Operating income	\$ 11,434,590	\$ 9,516,648
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	4,579,995	4,498,847
Provision for bad debts	363,215	303,148
Changes in assets and liabilities:		
Decrease (increase) in accounts receivable	9,930	(1,446,237)
Decrease in other assets	15,478	10,420
Increase (decrease) in accounts payable	(2,040,722)	2,737,286
Increase in accrued expenses	115,596	119,894
<b>Net cash provided by operating activities</b>	<b>\$ 14,478,082</b>	<b>\$ 15,740,006</b>
<b>Noncash Investing, Capital and Financing Activities</b>		
Contributed capital assets	<u>\$ 3,579,621</u>	<u>\$ 2,656,168</u>
Conversion of interim obligation to permanent	<u>\$ 656,236</u>	<u>\$ 5,213,941</u>
City of New Haven Share of Clean Water Fund	<u>\$ -</u>	<u>\$ 2,372,394</u>

See Notes to Financial Statements.

## GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

### NOTES TO FINANCIAL STATEMENTS

June 30, 2013 and 2012

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#### Note 1. Reporting Entity and Summary of Significant Accounting Policies

##### Reporting entity

The Greater New Haven Water Pollution Control Authority (the "GNHWPCA") or (the "Authority") was organized in 2005 as a political subdivision of the State, established and created for the performance of an essential public and governmental function. It was created as a regional water pollution control authority under Connecticut Public Act 95-329, subsequently enacted as Title 22a, Sections 500 to 519 of the Connecticut General Statutes, as amended (the "Act"). The GNHWPCA was created pursuant to the Act by concurrent ordinances of the City of New Haven and the Towns of Hamden, East Haven and Woodbridge (the "Constituent Municipalities"). Under the Act, the GNHWPCA is empowered to purchase, own and operate a public sewer system; to levy assessments and sewer use fees; to place liens on real estate to secure such assessments; and to issue revenue bonds. The GNHWPCA is also eligible for grants and loans under the State of Connecticut Clean Water Fund ("CWF") program. Under the by-laws of the GNHWPCA, a governing Board of Directors comprised of representatives of the Constituent Municipalities was established.

Accounting principles require that the reporting entity include organizations for which the nature and significance of their relationship with the primary entity are such that their exclusion would cause the reporting entity's financial statements to be misleading or incomplete. This criterion has been considered and as a result, there are no agencies or entities that should be, but are not, combined with the financial statements of the GNHWPCA.

In 2005, the GNHWPCA entered into an Asset Purchase Agreement with the Constituent Municipalities. Under the agreement, the Authority acquired ownership of their wastewater system assets and assumed certain obligations of the Constituent Municipalities.

Significant accounting policies are as follows:

##### Basis of accounting

The GNHWPCA utilizes the accrual basis of accounting, as required of proprietary funds under generally accepted accounting principles, under which revenues are recognized when earned and expenses are recognized when incurred.

##### Accounting estimates

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

##### Cash and cash equivalents

For purposes of reporting cash flows, the GNHWPCA considers all unrestricted and restricted highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

##### Accounts receivable

Accounts receivable are carried at the original amount billed less an estimate made for doubtful accounts based on a review of all outstanding amounts on a monthly basis. Management determines the allowance for doubtful accounts by identifying troubled accounts and by using historical experience

## GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

### NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

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applied to an aging of accounts. Accounts receivable are written off when deemed uncollectible. Recoveries of accounts receivable previously written off are recorded when received.

#### Capital assets

Property, plant and equipment are stated at cost when purchased and fair value when contributed. Normal maintenance and repairs that do not add to the value of the asset or materially extend asset lives are not capitalized. Assets being constructed over a period of time are classified as construction in progress. No depreciation is computed on these assets until they are complete and placed into service. Property, plant and equipment are depreciated utilizing the following estimated useful lives:

	<u>Years</u>
Land improvements	15-50
Buildings and improvements	40
Machinery and equipment	5-20
Sewer lines	10-50
Vehicles	5

GNHWPCA capitalizes interest during the period of construction.

#### Debt issuance costs and bond premium

Costs incurred in connection with issuance of long-term debt, consisting primarily of legal fees, are expensed as incurred with the adoption of GASB No. 65. Bond premiums have been deferred and are being amortized over the life of the related debt.

#### Net position

Net position is classified in the following categories:

*Net Investment in capital assets* - This category groups all capital assets, including infrastructure, into one component of net position. Accumulated depreciation and the outstanding balance of debt that are attributable to the acquisition, construction or improvement of these assets reduces this category.

*Restricted net position* - This category represents external restrictions imposed by creditors, grantors, contributors or laws or regulations of other governments and restrictions imposed by law through constitutional provisions or enabling legislation.

*Unrestricted net position* - This category represents the amount not restricted for any project or other purpose.

#### Revenues

Revenues are based on the GNHWPCA authorized minimum charges and rates per hundred cubic feet (CCF) applied to customer consumption of water. Revenues are recognized when utility services are provided.

The GNHWPCA bills customers based on actual water consumption used during the period from April 1 through March 31 of the previous year, with an adjustment for seasonal use for residential customers who use less than 300 CCF's per year.

## GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

### NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

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Interest is levied on accounts that are 30 days past due. The GNHWPCA has the authority to file liens on past due accounts.

#### Operating revenues and expenses

The GNHWPCA distinguishes operating revenues and expenses from non-operating. Operating revenues result from charges to customers for wastewater disposal and related services. Operating expenses include the cost of operations, maintenance, sales and service, administrative expenses and depreciation. All revenues and expenses not meeting this definition are reported as non-operating or capital contributions.

#### Capital contributions

Capital contributions are recognized when eligibility requirements are met. Capital contributions consist principally of grant funding received under the State of Connecticut's Clean Water Fund Program, contributions received from the City of New Haven under a cost sharing agreement for Clean Water Fund projects and contributions received from the State of Connecticut Department of Transportation for costs incurred to move infrastructure.

#### Compensated absences

Under the terms of two collective bargaining agreements, employees are awarded vacation on January 1 of each year based on years of service, and can accumulate up to 40 days of unused vacation. Employees are also allowed sick leave, which is earned monthly, and can accumulate up to 150 days. Upon termination of employment without eligibility for retirement, each employee is paid for unused vacation. Retiring employees are paid for 100 percent of their unused vacation and unused sick leave up to 90 days.

Vested sick leave and accumulated vacation leave is recognized as an expense and liability as the benefits accrue to employees.

#### Deferred outflows/inflows of resources

In addition to assets, the statement of financial position will sometimes report a separate section for outflows of resources. This separate financial statement element, *deferred outflows of resources*, represents a consumption of net position that applies to future period(s) and so will not be recognized as an outflow of resources (expense/expenditure) until then.

In addition to liabilities, the statement of financial position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, *deferred inflows of resources*, represents an acquisition of net position that applies to future period(s) and so will not be recognized as an inflow of resources (revenue) until that time.

The Authority had no deferred outflows/inflows of resources that met the above definition.

#### Change in Accounting Principle

Effective July 1, 2012, the Authority adopted GASB Statements No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*. This statement requires reporting of deferred outflows and inflows of resources separately from assets and liabilities and replace net assets with net position. In addition, certain items previously reported as assets and liabilities are now recognized as outflows or inflows of resources. Other than renaming net assets with net position, GASB No. 63 had no impact on the Authority's financial position or results of operation.

## GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

### NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

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The Authority also adopted *GASB Statement No. 65, Items Previously Reported as Assets and Liabilities*. The objective of this Statement is to either (a) properly classify certain items that were previously reported as assets and liabilities as deferred outflows of resources or deferred inflows of resources or (b) recognize certain items that were previously reported as assets and liabilities as outflows of resources (expenses or expenditures) or inflows of resources (revenues). These determinations are based on the definitions of that element in Concepts Statements No. 4, *Elements of Financial Statements*. As of July 1, 2011, the Authority wrote off all bond issuance costs. See Note 11.

#### **Note 2. Cash, Cash Equivalents and Investments**

**Deposits:** The GNHWPCA's custodial credit risk policy for deposits conforms to the State of Connecticut requirement that each depository maintain segregated collateral in an amount equal to a defined percentage of its public deposits based upon the bank's risk based capital ratio.

**Investments:** The GNHWPCA does not have a formal credit risk policy for investments; however, the GNHWPCA adheres to State of Connecticut statutes which, in general, allows the GNHWPCA to invest in obligations of the United States of America or United States government sponsored corporations, in shares or other interests in any custodial arrangement, pool, or no-load, open-end management type investment company or investment trust (as defined), in obligations of any State or political subdivision rated within the top two rating categories of any nationally recognized rating service, or in obligations of the State of Connecticut or political subdivision rated within the top three rating categories of any nationally recognized rating service. Investments in Guaranteed Investment Contracts are recorded at cost, which approximate fair value.

**Interest Rate Risk:** The GNHWPCA does not have a policy for interest rate risk. This is the risk that changes in market interest rates will adversely affect the fair value of the investment. Generally, the longer the maturity of the investment, the greater the sensitivity of its fair value to changes in market interest rates. The guaranteed investment contract matures August 15, 2035.

**Credit Risk:** Generally, credit risk is the risk that an issuer of a debt type investment will not fulfill its obligation to the holder of the investment. This is measured by assignment of a rating by a nationally recognized rating organization. The guaranteed investment contract is not rated.

**Concentrations:** The GNHWPCA's policy is to maintain a diversified portfolio to minimize the risk of loss resulting from over-concentration of assets in a specific issuer. The guaranteed investment contract is with one issuer.

#### **Custodial Credit Risks**

**Deposits:** The GNHWPCA is subject to custodial credit risk. This is the risk that, in the event of failure of a depository financial institution, an entity will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. At June 30, 2013 and 2012, \$18,672,575 and \$13,334,017 of the GNHWPCA's bank balance of \$37,939,071 and \$26,536,931 was uninsured and uncollateralized.

**Investments:** This is the risk that in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, an entity will not be able to recover the value of its investment or collateral securities that are in the possession of another party.

**GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY****NOTES TO FINANCIAL STATEMENTS, Continued**  
**June 30, 2013 and 2012**

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A summary of balances as of June 30, 2013 and 2012 consist of the following:

	2013		
	Unrestricted	Restricted	Total
Deposits	\$ 26,948,303	\$ 10,668,202	\$ 37,616,505
Guaranteed Investment Contract	-	5,896,500	5,896,500
	<u>\$ 26,948,303</u>	<u>\$ 16,564,702</u>	<u>\$ 43,513,005</u>

	2012		
	Unrestricted	Restricted	Total
Deposits	\$ 22,732,981	\$ 3,436,247	\$ 26,169,228
Guaranteed Investment Contract	-	5,896,500	5,896,500
	<u>\$ 22,732,981</u>	<u>\$ 9,332,747</u>	<u>\$ 32,065,728</u>

**Note 3. Receivable – City of New Haven**

The Authority has a receivable from the City of New Haven with respect to a cost sharing agreement entered into in conjunction with the State of Connecticut's Clean Water Fund Program for sewer separation projects. Under the terms of the cost sharing agreement, the City of New Haven agreed to reimburse the GNHWPCA for 40% of the debt service costs associated with the funding received. Included in the balance at June 30, 2013, are certain outstanding obligations assumed pursuant to the Asset Purchase Agreement. The terms associated with this receivable mirror the underlying terms of the Clean Water Fund obligations of the GNHWPCA. The total receivable at June 30, 2013 is \$8,627,690, of which \$773,861 is current. The City of New Haven made principal payments of \$773,909 and \$1,006,880 during the years ended June 30, 2013 and 2012, respectively.

# GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

## NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

### Note 4. Capital Assets

Capital assets activity for the year ended June 30, 2013 was as follows:

	2013				
	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
Capital assets, not being depreciated:					
Land	\$ 2,578,488	\$ -	\$ -	\$ -	\$ 2,578,488
Construction in progress	19,853,020	12,836,489	-	(2,495,853)	30,193,656
Total capital assets, not being depreciated	22,431,508	12,836,489	-	(2,495,853)	32,772,144
Capital assets, being depreciated:					
Buildings and improvements	39,546,206	145,687	-	1,062,374	40,754,267
Machinery and equipment	18,942,515	611,708	-	988,752	20,542,975
Furniture and fixtures	2,211,894	15,485	-	-	2,227,379
Infrastructure	95,470,846	1,174,737	-	444,727	97,090,310
Vehicles	699,556	-	-	-	699,556
Total capital assets, being depreciated	156,871,017	1,947,617	-	2,495,853	161,314,487
Less accumulated depreciation for:					
Buildings and improvements	8,686,040	1,358,758	-	-	10,044,798
Machinery and equipment	3,990,381	987,614	-	-	4,977,995
Furniture and fixtures	1,017,686	239,832	-	-	1,257,518
Infrastructure	10,088,416	1,941,806	-	-	12,030,222
Vehicles	272,502	51,985	-	-	324,487
Total accumulated depreciation	24,055,025	4,579,995	-	-	28,635,020
Total capital assets, being depreciated, net	132,815,992	(2,632,378)	-	2,495,853	132,679,467
Total capital assets, net	\$ 155,247,500	\$ 10,204,111	\$ -	\$ -	\$ 165,451,611

# GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

## NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

Capital assets activity for the year ended June 30, 2012 was as follows:

	2012				
	Beginning Balance	Additions	Disposals	Transfers	Ending Balance
Capital assets, not being depreciated:					
Land	\$ 2,578,488	\$ -	\$ -	\$ -	\$ 2,578,488
Construction in progress	9,087,093	11,844,870	-	(1,078,943)	19,853,020
Total capital assets, not being depreciated	11,665,581	11,844,870	-	(1,078,943)	22,431,508
Capital assets, being depreciated:					
Buildings and improvements	39,468,854	77,352	-	-	39,546,206
Machinery and equipment	18,188,697	606,099	-	147,719	18,942,515
Furniture and fixtures	2,147,632	64,262	-	-	2,211,894
Infrastructure	91,646,114	2,893,508	-	931,224	95,470,846
Vehicles	690,051	9,505	-	-	699,556
Total capital assets, being depreciated	152,141,348	3,650,726	-	1,078,943	156,871,017
Less accumulated depreciation for:					
Buildings and improvements	7,367,550	1,318,490	-	-	8,686,040
Machinery and equipment	3,069,929	920,452	-	-	3,990,381
Furniture and fixtures	719,184	298,502	-	-	1,017,686
Infrastructure	8,178,999	1,909,417	-	-	10,088,416
Vehicles	220,517	51,985	-	-	272,502
Total accumulated depreciation	19,556,179	4,498,846	-	-	24,055,025
Total capital assets, being depreciated, net	132,585,169	(848,120)	-	1,078,943	132,815,992
Total capital assets, net	\$ 144,250,750	\$ 10,996,750	\$ -	\$ -	\$ 155,247,500

The State of Connecticut Department of Transportation contributed \$91,871 and \$1,985,207 in infrastructure required for various State sponsored construction at June 30, 2013 and 2012, respectively. Included in construction in progress is \$508,669 and \$302,901 of capitalized interest at June 30, 2013 and 2012, respectively.

### Note 5. Restricted Assets

Pursuant to the 2005 Series A Bond Indenture and the Asset Purchase Agreement, and the 2008 Series A Bond Indenture, as well as certain legal settlements, certain funds are required to be maintained for purposes specified in the applicable agreement.

# GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

## NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

At June 30, GNHWPCA's restricted assets were being maintained for the following purposes:

	2013	2012
Debt service reserve fund - Revenue Bonds*	\$ 9,490,534	\$ 7,146,025
Debt service reserve fund - CWF Bonds*	5,905,653	1,218,767
Debt service fund	1,102,014	901,455
Maintenance escrow	66,500	66,500
	<u>\$ 16,564,701</u>	<u>\$ 9,332,747</u>

\* Unspent bond proceeds

### Note 6. Long-Term Debt and Subsequent Event

Long-term debt consists of the following at June 30:

	2013	2012
<b><u>2005 Series A Revenue Bonds</u></b>		
\$44,895,000 Serial Bonds, issued August 2005, interest payable semi-annually at 3.25% - 5.0%, due in annual principal amounts, beginning in 2007, of \$1,580,000 to \$3,485,000, through 2025.	\$ 34,555,000	\$ 36,440,000
\$20,310,000 Term Bonds, issued August 2005, interest payable semi-annually at 5.0%, due November 15, 2030.	20,310,000	20,310,000
\$26,085,000 Term Bonds, issued August 2005, interest payable semi-annually at 5.0%, due August 15, 2035.	26,085,000	26,085,000
<b><u>2008 Series A Revenue Bonds</u></b>		
\$7,185,000 Serial Bonds, issued March 2008, interest payable semi-annually at 4.0%-5.0%, due in annual principal amounts, beginning in 2010, of \$355,000 to \$635,000.	6,075,000	6,460,000
\$2,860,000 Term Bonds, issued March 2008, interest payable semi-annually at 4.75%, due November 15, 2028.	2,860,000	2,860,000
\$8,930,000 Term Bonds, issued March 2008, interest payable semi-annually at 5.00%, due November 15, 2037.	8,930,000	8,930,000
<b><u>2008 Series B Revenue Bonds</u></b>		
\$2,500,000 Term Bonds, issued April 2008, interest payable quarterly at 3.3% - 5.73%, due in annual principal amounts, beginning December 2008, of \$166,667, through December 2022.	1,666,666	1,833,333
<b><u>2012 Series B Revenue Bonds</u></b>		
\$9,295,000 of Revenue Bonds, issued July 12, 2012. The bonds bear interest of 2.00% to 4.180% and mature from July 12, 2013 to July 12, 2042.	9,295,000	-

# GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

## NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

	2013	2012
<b><u>Notes Payable and Other</u></b>		
State of Connecticut Clean Water Fund obligation, due in monthly principal amounts of \$32,000 to \$146,000, plus interest at 2%, through 2026(A).	16,727,756	18,578,004
State of Connecticut Clean Water Fund obligation, due in annual principal payments amounts of \$169,000 to \$233,000, plus interest at 2%, through 2029 (A)	3,151,337	3,324,143
State of Connecticut Clean Water Fund obligation, due in annual principal payment amounts of \$183,000 to \$361,000, plus interest at 2%, through 2030 (A)	5,432,482	5,689,213
State of Connecticut Clean Water Fund obligation, due in annual principal payments amounts of \$27,613 to 50,916, plus interest of 2%, through 2032.	656,236	-
State of Connecticut Clean Water Fund Interim obligations, bearing interest at 2% (A).	8,873,925	2,815,435
Total long-term debt	144,618,402	133,325,128
Unamortized bond:		
Premium	3,686,497	3,776,867
Discount	(141,187)	(150,506)
	148,163,712	136,951,489
Less current portion	13,919,178	7,531,886
	<u>\$ 134,244,534</u>	<u>\$ 129,419,603</u>

(A) Pursuant to the Asset Purchase Agreement, the GNHWPCA assumed outstanding obligations in connection with the State of Connecticut's Clean Water Fund Program for sewer separation projects. Additionally, the GNHWPCA entered into a cost sharing agreement with the City of New Haven with respect to Clean Water Fund Program obligations issued to the GNHWPCA.

The Series A 2005 Revenue Bonds are subject to mandatory sinking fund redemption requirements prior to maturity at a redemption price equal to the principal amount plus accrued interest to the date upon which the redemption takes place. For purposes of the \$20,310,000 and \$26,085,000 Term Bonds, the annual date of redemption begins on November 15, 2026 and August 31, 2031, respectively. Mandatory sinking fund redemption requirements range from \$3,665,000 to \$5,750,000.

The Series A 2008 Revenue Bonds are subject to mandatory sinking fund redemption requirements prior to maturity at a redemption price equal to the principal amount plus accrued interest to the date upon which this redemption takes place. For purposes of the \$2,860,000 and \$8,930,000 Term Bonds, the annual date of redemption begins on November 15, 2025 and November 15, 2029, respectively. Mandatory sinking fund redemption requirements range from \$665,000 to \$1,200,000.

Additionally, both the 2005 and 2008 bond indentures contain certain restrictive and financial covenants, including a rate covenant which requires the GNHWPCA to set rates to provide for 100% of operating expenses and a Debt Service Coverage ratio of 115%.

# GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

## NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

The annual debt service requirements on the above debt at June 30, 2013, are as follows:

	Principal	Interest	Total
2014	\$ 13,919,178	\$ 5,619,648	\$ 19,538,826
2015	5,108,833	5,463,180	10,572,013
2016	5,218,565	5,289,549	10,508,115
2017	4,946,255	5,113,751	10,060,005
2018	5,063,732	4,934,422	9,998,155
2019-2023	27,903,514	21,833,380	49,736,894
2024-2028	26,809,015	16,491,757	43,300,772
2029-2033	29,424,310	10,043,605	39,467,915
2034-2038	23,840,000	2,647,600	26,487,600
2039-2043	2,385,000	245,900	2,630,900
<b>Total</b>	<b>\$ 144,618,402</b>	<b>\$ 77,682,793</b>	<b>\$ 222,301,195</b>

\* The 2014 principal figure of \$13,919,178 includes interim funding obligations (IFO) of \$8,873,925 that are planned to convert to a permanent loan obligation (PLO) by 06/30/14.

Long-term liability activity for the year ended June 30, 2013 and 2012 was as follows:

	2013				
	Beginning Balance	Increases	Decreases	Ending Balance	Due Within One Year
Revenue obligation bonds	\$ 102,918,333	\$ 9,295,000	\$ 2,436,667	\$ 109,776,666	\$ 2,531,667
Notes payable	27,591,360	656,236	2,279,784	25,967,812	2,513,586
Interim obligations	2,815,435	6,704,111	645,621	8,873,925	8,873,925
<b>Total long-term liabilities</b>	<b>\$ 133,325,128</b>	<b>\$ 16,655,347</b>	<b>\$ 5,362,072</b>	<b>\$ 144,618,403</b>	<b>\$ 13,919,178</b>

	2012				
	Beginning Balance	Increases	Decreases	Ending Balance	Due Within One Year
Revenue obligation bonds	\$ 105,260,000	\$ -	\$ 2,341,667	\$ 102,918,333	\$ 2,436,667
Notes payable	24,324,984	6,121,755	2,855,379	27,591,360	2,279,784
Interim obligations	5,213,941	2,815,435	5,213,941	2,815,435	2,815,435
<b>Total long-term liabilities</b>	<b>\$ 134,798,925</b>	<b>\$ 8,937,190</b>	<b>\$ 10,410,987</b>	<b>\$ 133,325,128</b>	<b>\$ 7,531,886</b>

### Note 7. Interest Cost

The total interest cost incurred during the years ended June 30, 2013 and 2012 was \$5,620,573 and \$5,290,515, respectively, of which \$508,669 and \$188,729, respectively, were capitalized as part of the cost of various capital projects and offset by amortization of debt issuance costs and bond premiums and discounts, respectively.

## **GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY**

### **NOTES TO FINANCIAL STATEMENTS, Continued** **June 30, 2013 and 2012**

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#### **Note 8. Risk Management**

The GNHWPCA maintains commercial insurance for various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. Claims have not exceeded coverage amounts in the last three fiscal years.

#### **Note 9. Retirement Plan**

The GNHWPCA employees participate in the Connecticut Municipal Employees' Retirement System (MERS). MERS is the administrator of a cost-sharing, multiple employer public employee retirement system (PERS) established by the State of Connecticut and administered by the State Retirement Commission to provide pension benefits for the employees of participating municipalities. MERS is considered to be a part of the State of Connecticut's financial reporting entity and is included in the State's financial reports as a pension trust fund. The Municipal Employees' Retirement System issues a publicly available financial report that includes financial statements and required supplementary information for the system. That report may be obtained by writing to the State of Connecticut Retirement and Benefit Services Division, Office of the State Controller, 55 Elm Street, Hartford, CT 06106.

Plan provisions are set by Statute of the State of Connecticut. MERS provides retirement benefits, as well as death and disability benefits. Annual cost of living increases between 3% and 5% are paid to disabled members and nondisabled retired members who have reached age 65. Effective January 1, 2002, all other retired members will receive a 2.5% annual adjustment until age 65, at which point they will receive the same cost of living adjustment as those currently age 65. For those retiring after December 31, 2001, annual cost of living increases will be between 2.5% and 6.0%. All benefits vest after 5 years of continuous service or 15 years of aggregate service. Vested members who retire after age 55 or after 25 years of service, irrespective of age, are entitled to an annual retirement benefit, payable monthly for life, in an amount for each year of service equal to:

- If not covered by Social Security: 2% of the average of earnings for the three highest paid years of service.
- If covered by Social Security: 1-1/2% of the three-year average of earnings not in excess of the year's breakpoint, plus 2% of the three-year average of earnings in excess of the year's breakpoint.

Covered employees are required by State Statute to contribute 2-1/4% of earnings upon which Social Security tax is paid, plus 5% earnings on which no Social Security tax is paid. Each participating municipality is required to contribute the amounts necessary to finance the remaining costs of the plan. Employees not covered by social security are required to contribute 5% of all earnings.

The GNHWPCA's required and actual contributions for the years ended June 30, 2013, 2012 and 2011 were \$373,853, \$356,665 and \$298,471, respectively.

#### **Note 10. Commitments and Contingencies**

The GNHWPCA is a defendant in various litigation, principally involving property damage and other miscellaneous claims. Based upon the advice of legal counsel, management believes that the ultimate resolution of these matters will not have a material adverse effect on the financial condition or the results of operations of the GNHWPCA.

The GNHWPCA has a long-term agreement, which commenced January 1999 and expires January 2014, with a private company under which the company has assumed the day-to-day management of its treatment plant, pump stations and sewer collection system while the GNHWPCA retained its billing and

## GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

### NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

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customer relations responsibilities. The GNHWPCA paid the company an operation and maintenance fee totaling \$5,135,296 and \$5,197,910 for the years ended June 30, 2013 and 2012, respectively. The operation and maintenance fee for each of the remaining years of the agreement will approximate \$4,000,000, adjusted for changes in the consumer price index. The GNHWPCA can terminate the above agreement without cause, but must pay the company \$1,000,000 if terminated in the fifth year, reduced pro rata for each year thereafter, plus the book value of unreimbursed capital costs and the costs to demobilize its management team. If the company terminates the agreement due to default by the GNHWPCA, it will be paid \$2,000,000 if terminated in the first year, reduced pro rata for each year thereafter.

The GNHWPCA has an agreement with an independent sewage treatment company, which commenced August 1995 and expires September 2014, for sludge disposal. The agreement is for upgrading and operating the GNHWPCA's incinerator facility as well as for current sludge disposal. The term of the agreement is for twenty years. The agreement calls for on-site incineration at a cost of approximately \$2.8 million per year. In the event the agreement is terminated early, the GNHWPCA must pay for the remaining unamortized balance of the capital costs incurred by the company to make the facility operational. This balance is calculated using straight-line amortization over the remaining term of the agreement with the total capital costs not to exceed \$3.3 million. In the event the agreement is terminated within five years of receiving the permit, the GNHWPCA must also reimburse the company for its lost profit over the remaining term. The GNHWPCA currently has no plans to terminate the agreement early.

At June 30, 2013, the GNHWPCA has approximately \$646,804 of unbilled, ongoing contracts for construction and improvements of its sewer systems. Funding for these projects is primarily being provided by the State of Connecticut's Clean Water Fund in the form of loans and grants and through excess revenue bond proceeds.

#### **Note 11. Implementation of New Pronouncements**

The Authority has implemented the provisions of GASB Statement No. 63, Financial Reporting of Deferred Outflows of Resources, Deferred of Resources and Net Position and GASB Statement No. 65, Items Previously Reported as Assets and Liabilities effective July 1, 2011. GASB Statement No. 63 establishes accounting and financial reporting standards that reclassify, as deferred outflows of resources or deferred inflows of resources, certain items that were previously reported as assets and liabilities and recognizes, as outflows of resources or inflows of resources, certain items that were previously reported as assets and liabilities. GASB Statement No. 65 results in the reclassification of certain financial statement line items on the statement of net position and balance sheet. In addition to reclassifications to these new categories, GASB No. 65 has also resulted in a change to the accounting treatment for certain items, including debt issuance costs.

Net position as of July 1, 2011 has been restated as follows:

	<u>2012</u>
Net position - beginning as originally reported, July 1, 2011	\$ 45,838,363
Expense unamortized bond issuance costs	(1,638,565)
Net position - beginning, as restated, July 1, 2011	<u><u>44,199,798</u></u>

## GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

### NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

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#### Note 12. Pronouncements Issued, Not Yet Effective

The GASB issued pronouncements that have an effective date that may impact future financial presentations. Management has not currently determined what, if any, impact implementation of the following Statements may have on the financial statements of GNHWPCA:

- **GASB Statement No. 66, *Technical Corrections—2012*, was issued in March 2012.** *The objective of this Statement is to improve accounting and financial reporting for a governmental financial reporting entity by resolving conflicting guidance that resulted from the issuance of two pronouncements, Statements No. 54, Fund Balance Reporting and Governmental Fund Type Definitions, and No. 62, Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements.* The provisions of this Statement will be effective for the Authority beginning with its year ending June 30, 2014.
- **GASB Statement No. 67, *Financial Reporting for Pension Plans an amendment of GASB Statement No. 25*, was issued in June 2012.** The objective of this Statement is to improve financial reporting by state and local governmental pension plans. This Statement results from a comprehensive review of the effectiveness of existing standards of accounting and financial reporting for pensions with regard to providing decision-useful information, supporting assessments of accountability and inter-period equity, and creating additional transparency. This Statement replaces the requirements of Statements No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, and No. 50, *Pension Disclosures*, as they relate to pension plans that are administered through trusts or equivalent arrangements (hereafter jointly referred to as trusts) that meet certain criteria. The requirements of Statements 25 and 50 remain applicable to pension plans that are not administered through trusts covered by the scope of this Statement and to defined contribution plans that provide postemployment benefits other than pensions. The provisions of this Statement will be effective for the Authority beginning with its year ending June 30, 2014.
- **GASB Statement No. 68, *Accounting and Financial Reporting for Pensions, an amendment of GASB Statement No. 27*, was issued in June 2012.** The primary objective of this Statement is to improve accounting and financial reporting by state and local governments for pensions. It also improves information provided by state and local governmental employers about financial support for pensions that is provided by other entities. This Statement results from a comprehensive review of the effectiveness of existing standards of accounting and financial reporting for pensions with regard to providing decision-useful information, supporting assessments of accountability and inter-period equity, and creating additional transparency. This Statement is effective for fiscal years beginning after June 15, 2014.
- **GASB Statement No. 69, *Government Combinations and Disposals of Government Operations*, was issued in January 2013.** This Statement provides guidance for:
  - ◆ Determining whether a specific government combination is a government merger, a government acquisition, or a transfer of operations.
  - ◆ Using carrying values (generally, the amounts recognized in the pre-combination financial statements of the combining governments or operations) to measure the assets, deferred outflows of resources, liabilities, and deferred inflows of resources combined in a government merger or transfer of operations.
  - ◆ Measuring acquired assets, deferred outflows of resources, liabilities, and deferred inflows of resources based on their acquisition values in a government acquisition.
  - ◆ Reporting the disposal of government operations that have been transferred or sold.

## GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

### NOTES TO FINANCIAL STATEMENTS, Continued June 30, 2013 and 2012

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The requirements of this Statement are effective for periods beginning after December 15, 2013, and should be applied on a prospective basis.

- **GASB Statement No. 70, *Accounting and Financial Reporting for Nonexchange Financial Guarantees*.** This Statement requires a government that extends a nonexchange financial guarantee to recognize a liability when qualitative factors and historical data, if any, indicate that it is more likely than not that the government will be required to make a payment on the guarantee. This Statement also requires a government that has issued an obligation guaranteed in a nonexchange transaction to recognize revenue to the extent of the reduction in its guaranteed liabilities. This Statement also requires a government that is required to repay a guarantor for making a payment on a guaranteed obligation or legally assuming the guaranteed obligation to continue to recognize a liability until legally released as an obligor. The provisions of this Statement are effective for reporting periods beginning after June 15, 2013.
- **GASB Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement date, an amendment of GASB Statement No. 68*.** The objective of this Statement is to improve accounting and financial reporting by addressing an issue in Statement No. 68, Accounting and Financial Reporting for Pensions, concerning transition provisions related to certain pension contributions made to defined benefit pension plans prior to implementation of that Statement by employers and nonemployer contributing entities. The provisions of this Statement are effective for reporting periods beginning after June 15, 2014.

#### **Note 13. Subsequent Events**

On May 14 2013, the Board of Directors of the Authority approved entering into a 15 Year contract with New Haven Residuals, LP. ("Synagro Technologies") under which Synagro Technologies assumes the day to day management of the Maintenance of the Treatment Plant and Pump Stations. On October 2, 2013 this contract was executed and signed.

Effective January 4, 2014, the Authority will assume responsibility for the day to day management of the Operations at the Treatment Plant and of the Collection System, which has been contracted out to a private company since 1999.

The Authority has been planning for the transition for the past 14 months and determined that it is in the best interest of the Authority to handle the operations in house and continue to contract the Maintenance of the Treatment Plant and major line cleaning. Savings achieved through this change will be invested in Capital Projects and Infrastructure Renewal.

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## **APPENDIX B**

### **COST OF SERVICE STUDY FISCAL YEAR 2015**

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GNHWPCA

**Greater New Haven Water Pollution Control Authority**

260 East Street • New Haven, Connecticut 06511

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# **Cost of Service Study for Fiscal Year 2015**

April 7, 2014

Report Prepared By:



**REDDAK CONSULTING**  
A SERVICE OF  **ARCADIS**



**O'Neil Accounting & Consulting, LLC**  
CERTIFIED PUBLIC ACCOUNTANTS

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## Acronyms Used in the Report

CCF	Hundred cubic feet
CGS	Connecticut General Statutes
CWF	Clean Water Fund
FYxx	Fiscal year ended June 30, 20xx
GNHWPCA	Greater New Haven Water Pollution Control Authority
IFO	Interim Funding Obligation
Lbs	Pounds
MGD	Million gallons per day
MGH	Million gallons per hour
O&M	Operation and maintenance
PLO	Permanent Loan Obligation

# 1. Introduction

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## 1.1. Background

The Greater New Haven Water Pollution Control Authority (“GNHWPCA”) was created in 2005 to provide sewage collection and treatment service to customers in the City of New Haven and the Towns of Hamden, East Haven and Woodbridge (the “Constituent Municipalities”) and wholesale treatment service to the towns of North Haven and North Branford via interlocal agreements. Prior to creation of the GNHWPCA in 2005, the utility was owned and operated by the City of New Haven’s Water Pollution Control Authority.

The GNHWPCA is organized in accordance with Connecticut General Statutes (“CGS”) §§22a-500 to 519 inclusive (the “Act”). The purpose of the GNHWPCA is to further the environmental protection laws of the State of Connecticut and to gain efficiencies and economies of scale with respect to the planning, design, construction, management, operation and maintenance of the regional wastewater system. Since acquiring the utility, the GNHWPCA has been providing quality and affordable wastewater services to its customers.

The GNHWPCA was created to (a) operate the wastewater treatment plant and to (b) use, equip, re-equip, repair, maintain, supervise, manage, operate and perform any act pertinent to the collection, transportation, treatment and disposal of sewage with respect to the Constituent Municipalities. Currently, the daily flow at the treatment plant is approximately 29 million gallons per day (“MGD”). The treatment plant has an average daily design flow capacity of 40 MGD and provides primary and secondary treatment for all wastewater influent up to 60 MGD. During high flow events, all flow receives primary treatment; however, flow exceeding 60 MGD bypasses secondary treatment but receives disinfection along with the secondary effluent prior to discharge. The treatment plant provides the following unit processes: screening and grit removal, raw waste pumping, three primary clarifiers, four aeration trains, eight secondary clarifiers, gravity thickeners and chlorine disinfection prior to discharge. Thickened sludge is delivered to the on-site sewage sludge incinerator for processing.

The maintenance of the treatment plant and collection system is performed under contract by New Haven Residuals, LP (“Synagro”). Synagro is also responsible (under a separate agreement) for receipt and disposal of sludge at the East Shore Treatment Plant and operation of the sludge burning incinerator.

## 1.2. Objective and Scope

In accordance with §42 of the GNHWPCA's ordinance (the "Sewer Ordinance") the Executive Director will ensure that a cost of service study is performed at least annually. The objective of the cost of service study is to produce a schedule of recommended user rates and charges for the customers of the GNHWPCA's system which will be sufficient to meet the anticipated costs of operating the sanitary sewer system for the upcoming fiscal year.

The Cost of Service Study shall include:

- A review and evaluation of the proposed expense budget for the upcoming fiscal year, and preparation of cost estimates for the succeeding four fiscal years based on the Executive Director's cost estimates.
- A review and evaluation of the proposed revenue budget for the upcoming fiscal year, and preparation of revenue estimates for the succeeding four fiscal years based on the Executive Director's revenue estimates.
- Determination of the projected revenue requirement from user rates for the upcoming fiscal year and the succeeding four fiscal years.
- Development of a schedule of recommended rates and charges sufficient to support the estimated annual revenue requirements from user rates for the upcoming fiscal year and the succeeding four fiscal years.
- Analysis of the GNHWPCA's historical collection rate, including the current fiscal year and the Executive Director's estimate of the collection rate for the upcoming fiscal year.
- Preparation of a report documenting recommendations, assumptions and methodology.
- Such other information as required by the Executive Director from time to time.

The Executive Director shall review the results and submit the cost of service study to the GNHWPCA Board of Directors on or before the third Monday in April.

## 1.3. Sewer Ordinance

The GNHWPCA's ordinance governs the operation, maintenance and expansion of the regional wastewater system. In order to guarantee consolidated operation, maintenance and expansion of the regional wastewater system by the GNHWPCA, the Sewer Ordinance also acted to repeal similar ordinances of the Constituent Municipalities which previously served to govern operation, maintenance and expansion of their individual wastewater systems. Material provisions of the Sewer Ordinance that affect this study are detailed in the sections which follow.

### **1.3.1. Assessment of Benefits; Benefit Charge**

Pursuant to provisions contained in the Act, the GNHWPCA may levy and collect benefit assessments upon the lands and buildings within its jurisdiction, which, in its judgment, are especially benefited by a sanitary sewer, according to such rules as the GNHWPCA may adopt. No assessment shall be made until after a public hearing before the GNHWPCA, at which time the owner of the property to be assessed shall have an opportunity to be heard concerning the proposed assessment.

Assessments, including any installment thereof, are due and payable at such time as fixed by the GNHWPCA, provided no assessment shall become due until the work, or particular portion thereof for which such assessment was levied, has been completed. Any assessment of benefits, including any installment thereof, which is not paid within 30 days after the due date, is considered delinquent and will be subject to interest and will constitute a lien upon the property assessed and a charge upon the owner thereof.

### **1.3.2. Rates Established**

Charges for sanitary sewer services furnished by the GNHWPCA for residential, commercial, industrial and institutional users are to be established and revised from time to time by the GNHWPCA. Sewer use charges are to reflect a proportional distribution of costs among all users in accordance with the Act, and Chapter 103 of the Connecticut General Statutes, as amended.

### **1.3.3. Rates for Property Located Outside the GNHWPCA's Service Territory**

The charges to be made by the GNHWPCA for sewer service to property outside the limits of the GNHWPCA's service territory are to be established on the basis of a formal contract with the GNHWPCA, and billed directly to such customers.

### **1.3.4. No Reduced Rates or Free Service Permitted**

All persons owning, renting, leasing or having management or control of property or premises that produce waste that is discharged into the regional wastewater system, including domestic waste, and subject to the provisions of the Sewer Ordinance, shall be charged the rates established by the GNHWPCA, and no reduced rates or free sanitary sewer services are to be furnished to any such person, property or premises.

### **1.3.5. Billing and Collection**

Billing for sewer services is made to the GNHWPCA's customers monthly or quarterly. All sewer user charges are due and payable in full on receipt. Any charges not paid in full within 30 days of the billing date are considered delinquent and bear interest from the due date at the rate provided pursuant to CGS for delinquent property taxes.

### **1.3.6. Cost of Service Study; Proposed Rates**

The Executive Director of the GNHWPCA is to ensure that a cost of service study is performed at least annually. The Executive Director reviews the results of the study and shall submit the study on or before the third Monday in April to the GNHWPCA for consideration and public hearing. If the Executive Director's recommendations as to the proposed rates and charges are not disapproved, or approved with modifications by the GNHWPCA by the first day of the next fiscal year, the Executive Director's recommended rates and charges will automatically become effective until such time as they are superseded by a renewal of the above procedure. Billings for services are to be rendered as the GNHWPCA determines. In the period intervening between cost of service studies, the GNHWPCA may amend user charges so long as such charges are based upon the anticipated cost of operating the system and such charges are presented to the general public at a public hearing in accordance with CGS.

## 2. GNHWPCA System & Customers

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### 2.1. Regional System Profile

Wastewater treated by the GNHWPCA at the wastewater treatment plant is discharged into Long Island Sound and must meet both federal and state effluent quality standards. The GNHWPCA was organized to ensure the necessary professional technical and skilled personnel, specialized facilities and equipment, and financial resources are available to allow it to carry its mission: “To provide reliable municipal wastewater services in compliance with applicable laws, in a cost efficient and effective method, and with the intent and desire to protect the environment and public health of the constituent municipalities.” Furthermore, its operations are expected to be financially self-sufficient.

The wastewater systems of the Constituent Municipalities include any device, equipment, appurtenance, plant facility and method for receiving, collecting, transporting, reducing, treating, reclaiming, disposing, separating or discharging sewage or the residue from the treatment of sewage. The wastewater systems may also include the purchase and/or lease of real estate and improvements thereto deemed necessary or desirable by the GNHWPCA for the purpose of establishing and providing wastewater management and water pollution control services.

Table 2-1 presents a brief summary of the wastewater systems of the GNHWPCA.

**Table 2-1.**  
**Summary of GNHWPCA Wastewater System**

Service Area	53,000 acres
Treatment Plant Capacity	40 mgd
Average Daily Flow	29 mgd
Pump Stations	30
Siphons	8
Sewer Collection System	510 miles
Combined Sanitary/Storm Sewers	50 miles
Manholes	14,000
Average Age of Collection System	40 Years

**Source:** GNHWPCA management.

## 2.2. GNHWPCA Customer Base

The total number of sewer service connections (customers) is approximately 47,700 based upon information from the GNHWPCA's customer billing system. According to 2012 Connecticut Department of Public Health data, the total population of the Constituent Municipalities was approximately 230,000. It is estimated that approximately 200,000 residents within the Constituent Municipalities currently receive sewer service from the GNHWPCA. Through interlocal agreements between the GNHWPCA and the towns of North Branford and North Haven, an additional population of approximately 1,500 is served by the GNHWPCA. As illustrated in Table 2-2, the City of New Haven is the largest Constituent Municipality representing approximately 60 percent of the population served.

**Table 2-2.  
Constituent Municipality Customers Served**

<b>Municipality</b>	<b>Population</b>	<b>/----- Active Customer Accounts<sup>1</sup> -----/</b>				
	<b>Served</b>	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Public Auth.</b>	<b>Total</b>
New Haven	123,630	20,379	2,010	66	197	22,652
Hamden	49,510	13,585	779	34	37	14,435
East Haven	25,650	9,969	273	7	23	10,272
Woodbridge	990	294	76	-	3	373
<b>Total</b>	199,780	44,227	3,138	107	260	47,732

(1) GNHWPCA Customer Information System (CIS) data as of January 2014

The customer base served by the GNHWPCA consists of a diverse mix of residential and commercial customers. Customers are classified according to the nature of their use of water as well as their property ownership classification, since billing is conducted based on property ownership. Single and multifamily homes and apartment buildings are classified as "residential", manufacturing enterprises in which water is used as part of the manufacturing process are classified as "industrial", business and institutional enterprises other than those classified industrial are classified as "commercial" and municipal and other government agencies are classified as "public authority". It is important to note that in some instances there is a discrepancy between the nature of the water use and the property classification. For example, the New Haven Housing Authority is a public authority responsible for numerous residential households. The GNHWPCA classifies this customer as a public authority.

## **2.3. Organization & Management**

### **2.3.1. Governance**

The business of the GNHWPCA is managed by or under the direction of a Board of Directors, which may exercise all such powers of the GNHWPCA and perform all such lawful acts and activities as are allowed by the Connecticut General Statutes, as amended, and by its bylaws and ordinances.

According to provisions of the Sewer Ordinance and Section 2.2 of its bylaws, the GNHWPCA is to be governed by a qualified Board of Directors, comprised as follows:

The GNHWPCA has nine (9) Directors, each of whom shall have one vote. Four (4) Directors have been appointed from New Haven by the Mayor of New Haven, with the approval of the Board of Aldermen of New Haven. Two (2) Directors have been appointed from East Haven by the Mayor of East Haven, with the approval of the Town Council of East Haven. Two (2) Directors have been appointed from Hamden by the Mayor of Hamden, with the approval of the Town Council of Hamden. One Director has been appointed from Woodbridge by the First Selectman of Woodbridge, with the approval of the Board of Selectmen of Woodbridge.

The Directors are appointed for three year staggered terms as outlined in detail in the bylaws and ordinance. In any single year, no more than three (3) Directors' terms are scheduled to expire at one time, thereby designed to institutionalize a continuity of governance.

All business of the GNHWPCA is managed and directed by the Board of Directors, as allowed by CGS and the GNHWPCA's bylaws.

The GNHWPCA's bylaws may be revised by the affirmative vote of no less than two-thirds of the Directors in accordance with CGS §22a-501(a) (1), as amended. However, the bylaws provide that any amendment to include new constituent municipalities shall require a unanimous affirmative vote of the Board of Directors.

The current membership of the Board is as follows:

**Table 2-3.  
Current Board of Directors**

Name/Title	Appointed By	Term Expires
Alphonse Paolillo, Jr., Chairman	New Haven	12/31/14
Russell N. Cyr, Director	Hamden	12/31/14
Vincent Arpino, Director	East Haven	12/31/14
Anthony Criscuolo, Director	East Haven	12/31/15
Jeffrey D. Ginzberg, Director	Woodbridge	12/31/15
Michael Fimiani, Director	New Haven	12/31/15
Stephen A. Mongillo, Vice Chairman	Hamden	12/31/16
Joyce Alton, Director	New Haven	12/31/16
Clayton Williams, Director	New Haven	12/31/16

According to the bylaws, a majority vote of the Directors is required to approve all business transactions of the GNHWPCA. Certain matters, such as entering into an agreement with respect to the distribution of rights and properties of the GNHWPCA upon the termination of its corporate existence, entering into or approving any sludge agreement, entering into any inter-local agreement, entering into any agreement with respect to the sale or lease of assets of the GNHWPCA which would leave the GNHWPCA without a significant continuing business activity, removal of a Director, awarding of a contract by negotiation without public bidding; amending, modifying, restating or replacing the Sewer Ordinance, and increasing the permitted processing capacity of the GNHWPCA's treatment plant, each would require a 2/3rds vote of the Directors.

The Board establishes insurance, health care, retirement, and other employee benefits as it deems necessary and convenient for the effective administration of the GNHWPCA. Key management positions are designed in each functional area under the major divisions of administration, engineering and operations to address the operation, maintenance and management of the regional wastewater system by the GNHWPCA.

### **2.3.2. Management and Staff**

The GNHWPCA is headed by an Executive Director, who is responsible for all technical and administrative operations of the GNHWPCA and the implementation of programs, policies and procedures at the direction of the Board. Key management staff members are as follows:

**Sidney Holbrook, Executive Director.** Mr. Holbrook is the Executive Director of the GNHWPCA. He has more than 30 years of wastewater, environmental and public management experience. Mr. Holbrook has served as the Executive Director of the GNHWPCA since 2009. Prior to this position, he owned and

operated the Monoflo Septic Tank Co., Inc. in Westbrook, Connecticut and was the principal of SJH Associates which provided Environmental Consulting Services. Mr. Holbrook also served as Governor John Rowland's Chief of Staff from 1997 to 2002, directly overseeing sixteen (16) State agencies including the Department of Environmental Protection, Department of Transportation, Department of Public Health and Department of Social Services. Prior to his tenure as Chief of Staff, Mr. Holbrook served as the Commissioner of the Department of Environmental Protection. On May 10, 2011, Mr. Holbrook was recognized by the National Association of Clean Water Agencies in Washington, D.C. with a Public Service Award for his dedication to Environmental Stewardship. As Executive Director, his responsibilities include managing and directing all administrative, operational and financial activities and programs of the GNHWPCA.

**Gabriel Varca, Treasurer/Director of Finance and Administration.** Mr. Varca is the Treasurer and Director of Finance and Administration. For 25 years, Mr. Varca has held various operations and management positions with the New Haven Water Pollution Control Authority ("NHWPCA") and the GNHWPCA. He assists the Executive Director in the creation of the operating budget and capital improvement plan budget and is responsible for the financial operations of the GNHWPCA, including accounting, finance, billing and collections. Mr. Varca earned a B.S. in Accounting from Connecticut State University.

**Gary Zrelak, Director of Operations.** Mr. Zrelak is the Director of Operations. He has over 29 years of experience in wastewater operations. His responsibilities include supervising and managing the performance of the GNHWPCA's contract operator for the water pollution control facilities, sanitary sewer collection systems and pumping stations within State and Federal regulations. Prior to his employment by the Authority, Mr. Zrelak was the Process Control Superintendent for the NHWPCA for more than seven years. Mr. Zrelak earned a B.S. in Agronomy from the University of Connecticut and a M.S. Degree in Environmental Science from the University of New Haven. He also holds a Class IV Wastewater Operators License from the Connecticut Department of Environmental Protection and a Class IV Collection Systems License from the New England Water Pollution Control Association.

**Thomas Sgroi, P.E., Director of Engineering.** Mr. Sgroi is the Director of Engineering for the GNHWPCA. Mr. Sgroi has over 24 years of engineering and construction management experience. His responsibilities include completion of executive management work for the Authority's planning and engineering programs, which include design, construction, utility services, GIS, mapping, records management and capital improvement projects. Mr. Sgroi earned a B.S. in Civil Engineering from the University of Hartford. He is also a Licensed Professional Engineer in the State of Connecticut.

Employees of the private entities responsible for the operations and sludge management contracts are not employees of the GNHWPCA. Currently, the staff of the GNHWPCA consists of 63 full and part-time employees. The operation and maintenance of the treatment plant/collection system and sludge incinerator are contracted to Synagro with 13 and 11 employees respectively. An organization chart is included as Exhibit 5.

### **2.3.3. Contracted Services**

#### **2.3.3.1. Maintenance Services Agreement**

The GNHWPCA executed a 15 year Maintenance Services Agreement with New Haven Residuals, LP (“Maintenance Contractor”) dated September 30, 2013. The comprehensive agreement with the Maintenance Contractor provides for the maintenance of the East Shore Treatment Plant and pump stations. This agreement establishes performance and reporting requirements for the maintenance of the system, and requires the implementation of a maintenance management program to include preventive, predictive, and corrective maintenance for all components of the system.

The agreement provides for payment of a Service Fee to the Maintenance Contractor consisting of the following components:

- A fixed component of \$1,930,000 (2014 dollars, adjusted annually);
- Reimbursement for expenditures for maintenance, major repairs, capital projects and outside services up to a defined Project Expense Limit of \$1,100,000 (2014 dollars, adjusted annually). Amounts expended by the Maintenance Contractor in excess of the limit are paid by the GNHWPCA, subject to a markup due to the Maintenance Contractor; and
- 50% of the revenues collected by the GNHWPCA from the Fats, Oils and Greases (i.e., “FOG”) facility.

The GNHWPCA is responsible for all utility costs.

#### **2.3.3.2. Solids Handling Agreement**

The GNHWPCA currently contracts with New Haven Residuals, LP (“Synagro”) for receipt and disposal of sludge at the East Shore Treatment Plant and operation of the sludge burning incinerator under the terms of an agreement dated August 17, 1995 which expires in September 2014. The GNHWPCA is in the process of entering into a new agreement with Synagro to replace the current agreement which is scheduled to expire on September 2014.

The new agreement as it is currently envisioned would amend and restate the existing agreement. Under the agreement, Synagro would be responsible for reimbursing the GNHWPCA for the cost of all utilities, except water, associated with the specified services. The agreement would provide for payment of a Service Fee to Synagro to

process 8,030 dry tons of sludge with provisions for adjusted fees for defined deviations from that level. The Service Fee is \$385 per dry ton at the outset of the agreement, subject to annual adjustments for inflation.

Under the new agreement, Synagro would be allowed to solicit sludge from other entities (outside sludge) to utilize the capacity of the on-site incinerator. Synagro would be required to pay as a royalty, \$25 per dry ton of outside sludge processed to a Sinking Fund. The GNHWPCA would be required to match all such payments into the Sinking Fund with such combined contributions to be used for any capital projects that exceed a cost of \$20,000. Synagro would be responsible for all capital projects costing less than \$20,000. Combined payments to the Sinking Fund are expected to approximate \$400,000 annually.

#### **2.3.4. Powers of the GNHWPCA**

The GNHWPCA has the power to set rates, bill customers and take appropriate action for collection of delinquent accounts. The GNHWPCA is a regional water pollution control authority formed in accordance with CGS §§22a-500 to 519, which provides powers of municipalities to the GNHWPCA. CGS §22a-501 sets forth in greater detail the powers of a regional water pollution control authority to set rates.

##### **2.3.4.1. Cost Allocation**

The goal of the GNHWPCA is to maintain a uniform blended rate for all Constituent Municipalities. This study is being conducted to develop a schedule of recommended sewer user rates sufficient to support the estimated cost of service to all users in the regional wastewater system.

##### **2.3.4.2. Procedures for Establishing Rates and Charges**

The GNHWPCA is empowered to establish and impose just and equitable fees, rates, charges, and penalties and levy assessments of property benefited by the wastewater system for any services it performs. The Board of Directors is responsible for approval of all fees, rates, charges and penalties. Rates are based on metered water flow use and billed directly to the user on a quarterly basis unless otherwise specified.

Rates are determined based on the proposed budget and the annual cost of service study, to be considered by the GNHWPCA and the general public and noticed in accordance with state statutes and applicable ordinances and by-laws.

Such charges are to reflect a proportional distribution of costs among all users in accordance with CGS §7-255, as amended from time to time, §204(b) of 33 USC, Section 1284(b) and the Act. No reduced rates or free service are to be permitted. Prior to the establishment of a fee, rate, charge, penalty or assessment, the Board of Directors must hold a public hearing at which all users of the wastewater system will have had an

opportunity to be heard concerning any such proposed fee, rate, charge, penalty or assessment.

#### **2.3.4.3. Budget Approval**

In accordance with CGS §§22a-500 to 519, and the Sewer Ordinance, the GNHWPCA must ensure a cost of service study is conducted at least annually. The study is to be reviewed by the Executive Director and submitted each year with a schedule of recommended rates and charges for the next fiscal year. In the period intervening cost of service studies, the GNHWPCA is authorized to amend user charges provided such charges are based upon the anticipated cost of operating the system and are presented at a public hearing, properly noticed.

The annual budget of the next fiscal year's projected revenue and expenditures and recommended sewer user charges are to be submitted to the Directors and filed with the City/Town Clerks in the City of New Haven and Towns of East Haven, Hamden, and Woodbridge by the Executive Director on or before the third Monday in April and, within ten calendar days after such submission, are to be published once in a daily newspaper having circulation in the City of New Haven and Towns of East Haven, Hamden, and Woodbridge. After such publication, but no earlier than ten calendar days after public notice thereof, the GNHWPCA is to hold a public hearing on such projected revenue and expenditures and recommended sewer user charges and consider and act on such projected revenues and expenditures and recommended sewer user charges on or before the first Monday in June.

The Executive Director is required to submit one copy of the annual operating budget of the GNHWPCA to the State of Connecticut Office of Policy and Management by July 1st of each year or within thirty calendar days after the adoption of the budget, whichever is later (CGS §22a-502.). The budget and sewer use charge, if said charge is revised by the GNHWPCA, shall be filed with the City/Town Clerks and published in a daily newspaper having circulation in the City of New Haven and Towns of East Haven, Hamden, and Woodbridge no later than five calendar days after their filing.

#### **2.3.5. Billing & Collection**

All billing and collection is coordinated through the Customer Service Department of the GNHWPCA. The costs associated with the GNHWPCA's billing and collection activities and certain of its administrative and accounting costs are recovered through an administrative charge applied to each bill. The GNHWPCA estimates it will produce approximately 194,000 bills in FY15.

##### **2.3.5.1. Billing Procedures**

Customers of the GNHWPCA are classified according to the nature of their water consumption. All homes, dormitories and apartment buildings are classified as

residential, all manufacturing enterprises in which water is used as part of the manufacturing process are classified as industrial, and all business and institutional enterprises other than those classified industrial are classified as commercial. Municipal and other public entities are classified as public authority. The wastewater customers are billed for wastewater services based on their metered water consumption, as determined by the RWA.

In general, customers are billed on a quarterly basis. Approximately 370 (primarily large volume) customers are billed on a monthly basis. The billings to the approximately 22,400 customers in New Haven takes place in July, October, January and April. The billings to the approximately 25,000 customers in East Haven, Hamden and Woodbridge takes place in August, November, February and May.

Key provisions of the GNHWPCA's billing and collections policy include:

- Bills not paid within 30 days from the billing date are subject to interest at a rate of 1.5 percent per month from the dated billed.
- A delinquent account is sent to a collection agency after the amount owed is \$90 or greater than 90 days old.
- When an account is sent for collection, the collection fee is added to the bill of the delinquent customer for reimbursement.
- Payments not received continue for further collection procedures under tax warrant or foreclosure proceedings.

The GNHWPCA also employs CheckFree payment services from Fiserv, Inc, which allows customers to pay their bills at several retail chains throughout the service area.

## 3. Financial Management

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### 3.1. Introduction

In accordance with CGS §§55b-111 to 112, the GNHWPCA operates as a municipality for the purpose of compliance with auditing and finance requirements. The GNHWPCA can establish eligibility to apply for financing from the Clean Water Fund under the provisions of CGS §§22a-477 to 483. Clean Water Fund notes and tax-exempt revenue bond issues serve as the primary capital funding mechanism for the GNHWPCA. The notes and bonds are issued to fund capital improvements periodically, depending on the GNHWPCA's capital requirements. The issuance of the bonds is in accordance with the requirements and provisions of CGS §22a-507.

### 3.2. Rate Covenants

At its inception, the GNHWPCA issued \$91,290,000 in revenue bonds (Series 2005A) to purchase system assets, refund existing debt and fund reserves. The rate covenant entered into in conjunction with these bonds, and the ability to raise rates are the primary factors that provide the GNHWPCA with credit strength. As is the case with most utility financing, the GNHWPCA has entered rate covenants requiring management to set rates for service that will generate net revenues sufficient to provide a defined minimum level of cash flow in excess of debt service requirements. The Indenture of Trust for the GNHWPCA's bonds (the "Indenture") requires debt service coverage of 115% (i.e., excess cash flows equal to 15% of debt service must be incorporated into sewer rates). In addition, rates must cover operating and maintenance expenses, and contributions to reserve funds for future system improvements, expansions, or replacements. Sufficient revenues, or reserves, should also be available for unexpected emergencies such as flood damage or sewer main breaks.

Pursuant to the Indenture, the GNHWPCA covenants that it will fix, charge and collect rates, charges, rents, fees and assessments, including but not limited to use and connection charges and benefit assessments, which will produce revenues which shall be sufficient in each fiscal year to provide for the following:

- A debt service coverage ratio of at least 115% of the debt service cash requirements;
- Any amount necessary to restore any account within a debt service reserve fund to its required deposit level; and
- Any amount necessary to restore any debt service reserve fund for parity indebtedness to its required deposit level.

For purposes of calculating debt service coverage pursuant as required by the Indenture, it is also necessary to incorporate reimbursements from the City of New Haven for its share of principal payments on Clean Water Fund (“CWF”) notes related to sewer-separation projects. The GNHWPCA has established a receivable for the total that will be reimbursed by the City.

Table 3-1 below details the debt service coverage provided for the years ended June 30, 2009 through 2013.

**Table 3-1.  
Debt Service Coverage Calculation**

	FY09	FY10	FY11	FY12	FY13
<b>Cash Flows from User Charges</b>					
Total operating revenues	\$ 28,091,156	\$ 29,465,175	\$ 33,889,949	\$ 35,157,176	\$ 37,233,851
Depreciation	3,518,958	3,990,933	4,376,673	4,498,847	4,579,995
Total operating expenses	(22,984,592)	(23,712,433)	(23,821,808)	(25,640,527)	(25,799,261)
Interest income	634,521	293,192	280,074	278,166	281,048
Reimbursement - New Haven CWF interest	201,101	184,152	167,016	173,873	180,128
Reimbursement - New Haven CWF principal	842,198	853,937	830,146	1,006,880	773,908
Transfers from rate stabilization fund	763,406	825,237	-	-	-
<b>Net cash flows from user charges</b>	<b>11,066,748</b>	<b>11,900,193</b>	<b>15,722,050</b>	<b>15,474,415</b>	<b>17,249,669</b>
<b>Debt Service</b>					
Principal payments on debt	4,066,446	4,446,856	4,675,380	5,197,046	4,716,452
Interest paid on debt	5,409,721	5,498,087	5,479,683	5,556,261	4,898,225
<b>Total debt service payments</b>	<b>9,476,167</b>	<b>9,944,943</b>	<b>10,155,063</b>	<b>10,753,307</b>	<b>9,614,677</b>
<b>Debt service coverage ratio</b>	<b>1.17</b>	<b>1.20</b>	<b>1.55</b>	<b>1.44</b>	<b>1.79</b>

Source: GNHWPCA audited financial statements.

The GNHWPCA has provided a covenant that each fiscal year, it will budget for rates, charges, rents, fees and assessments, including but not limited to use and connection charges and benefit assessments, which will produce revenues which, together with amounts capitalized from proceeds of bonds or otherwise made available and reserved and not already taken into account by reduction of the obligations which are to be paid from revenues and the amount to be withdrawn from a surplus fund other than to pay capital costs for such fiscal year, will be sufficient in each fiscal year to provide for an amount equal to 100% of the aggregate debt service for such fiscal year with respect to subordinated indebtedness.

### 3.3. Reserve Accounts

A fully funded debt service reserve account provides an additional level of security for bondholders. When an unexpected budget shortfall occurs, the reserve fund will allow the GNHWPCA time to implement necessary adjustments before bondholders are adversely affected. The usual debt service reserve requirement is equal to the least of 125% of average annual debt service, 10% of aggregate bond debt service, or maximum annual debt service. A fully funded debt service reserve has an impact on the

GNHWPCA's rating and may be essential for an investment grade rating. However, it is also understood that the debt service reserve is really a liquidity source and provides only limited additional security to bondholders.

Reserve accounts totaling approximately \$14.5 million were funded by the GNHWPCA's initial bond issuance. They included a General Fund (operating reserves and funds identified to meet debt service coverage requirements), Clean Water Fund Debt Service Reserves (50% of maximum aggregate annual debt service on CWF notes) and the Debt Service Reserve Fund (100% of maximum aggregate annual debt service on revenue bonds). For utilities that consistently maintain high operating reserves and sustain high debt service coverage levels, the debt service reserve fund may be less relevant.

The GNHWPCA has established an Infrastructure Renewal Fund, which is used to accumulate reserves to fund ongoing capital projects in lieu of borrowing. This program is funded primarily from the annual cash flow generated by the debt service coverage requirement.

Consistent with prevailing credit rating criteria and its plan of operations, it is assumed that the GNHWPCA will consider the following factors when developing and managing its credit structure:

- **System Size and Assessment Base.** Since the GNHWPCA serves a diverse customer base already, it will seek expansion only when considered to be both operationally and financially appropriate.
- **Governance.** The GNHWPCA's operations are governed in accordance with its bylaws, which provides for the GNHWPCA to establish rates, manage staff, and approve capital improvements, among other responsibilities.
- **Strategic Focus.** The GNHWPCA considers multi-year capital improvement programs that include current and anticipated capital needs that cover asset maintenance, upgrades, and system expansions.
- **Rates, Rate Structure, and Rate Making Flexibility.** The GNHWPCA will evaluate whether rates and revenues cover all financial commitments, inclusive of reserves for emergencies, and whether they are reasonable and affordable, which could affect asset maintenance and expansion of the user base.
- **Additional Considerations.** The GNHWPCA is seeking to build reserve balances over time to establish reliable operating reserves and fund an appropriate share of the ongoing capital improvements from operating funds.

The GNHWPCA is intent on establishing the best credit rating it can attain in order to minimize the impact of borrowing costs.

## 4. Determination of Rates

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### 4.1. Scope and Methodology

In providing adequate wastewater treatment services to its customers, the GNHWPCA must receive sufficient total revenue to ensure the following objectives:

- Meet legal and contractual requirements, including the terms of the Indenture;
- Maintain current service levels;
- Meet new demands for service;
- Adequately maintain the existing collection and treatment systems; and
- Plan for future needs in an orderly manner.

Regulations established by the U.S. Environmental Protection Agency and Connecticut Department of Energy & Environmental Protection require user fee systems for pollution abatement facilities to produce revenues sufficient to support the operations, maintenance and replacement of facilities. This is the key element in the determination of the rates to be charged to users, since it is intended that the operation of such facilities should be self-supporting. The State and Federal governments have mandated that the viability of such operations should not be compromised. Accordingly, sewer user rates should be set at levels sufficient to recover all costs necessary to finance adequate wastewater treatment and disposal.

### 4.2. Cost Projections and Determination of Revenue Requirement

The first step to developing appropriate rates is to determine the costs associated with planned future operations. Based on these cost projections and any projected miscellaneous revenues (other than those that will be generated from rates), an annual revenue requirement is established. This represents the amount that must be generated from sewer user charges.

For purposes of this study, the total cost estimates used for FY15 through FY19 were based upon the proposed operating budget for FY15, historical and anticipated trends, and a review of individual budget line-items. The average annual growth rate of costs was developed by management based upon projected needs and historical experience. We also considered those developments in the current year that may affect cost estimates on a significant scale going forward.

This cost of service study incorporates the following cost components:

#### **4.2.1. Operations and Maintenance Costs**

Operations and maintenance costs include all costs necessary to deliver wastewater collection and treatment services. It includes not only the technical operation of the plant facilities and collection system, but also the administrative resources employed to ensure efficient operations as well as fixed administrative resources employed to administer the GNHWPCHA.

#### **4.2.2. Debt Service**

In recognizing costs, cash outlay is the determinant used for cost recovery. Rather than using depreciation, the debt service requirement resulting from the acquisition and construction of assets is used. According to EPA guidelines on establishing cost recovery systems, this is an acceptable method for recognizing costs. Therefore, principal and interest payments are among the costs to be recovered by user fees. Exhibit 3 details the debt service costs for FY15 through FY19.

#### **4.2.3. Estimated Future Debt Service**

The cost estimates include a provision for estimated debt service associated with future bond issues to finance planned capital improvements. Based on the GNHWPCHA's capital improvement plan for FY15 through FY19 (see Exhibit 4), we have estimated future debt service using the following assumptions:

- Management's assessment of the portion of costs to be financed by Clean Water Fund grants and notes.
- Management's assessment of the project costs that will be shared with the City of New Haven (i.e., 40% of each sewer separation project).
- Revenue bonds to be issued periodically, at a rate of 4% for 30 years, and amortization with level payments.
- Projects financed with Clean Water Fund notes are financed with an Interim Funding Obligation (IFO) until project completion. At completion, IFO's convert to Permanent Loan Obligations (PLO) with payment of 5% of principal outstanding and amortization of the remaining balance over 20 years at 2% with level payments. Interest accrued prior to conversion to PLO is assumed to be included in the amount borrowed under the IFO.
- For purposes of this study, based on management's capital improvement plan, we have assumed the timing and amount of future borrowings as follows:
  - Issuance of new revenue bonds of \$15,000,000 in FY16 and FY19.
  - CSO Projects – Shared with the City of New Haven
    - Amortization of a Permanent Loan Obligation of \$7,020,000 in June 2016 (Yale/Trumbull Project, Phase 2A);

- Amortization of a Permanent Loan Obligation of \$5,150,000 in June 2016 (Yale/Trumbull Project, Phase 2B); and
- Amortization of a Permanent Loan Obligation of \$2,500,000 in December 2016 (West River CSO).
- Non-CSO Projects
  - Amortization of a PLO of \$3,571,120 in March 2014 (Wet Weather Improvements);
  - Amortization of a PLO of \$5,000,000 in December 2015 (Collection System I/I);
  - Amortization of a PLO of \$43,800,000 in June 2017 (Wet Weather Improvements); and
  - Amortization of a PLO of \$5,000,000 in December 2017 (Collection System I/I).

#### **4.2.4. Miscellaneous Revenues**

Miscellaneous revenues (i.e., revenues from all sources other than sewer user charges) are deducted from the total cost of services to determine the net revenue requirement. Miscellaneous revenues for FY15 are based on management's proposed budget. The average annual growth rate of revenues was determined by management based upon projected needs and historical experience.

#### **4.2.5. Debt Service Coverage Requirement**

As detailed in Section 3.2 of this report, the GNHWPCA is required under the Indenture of Trust for the Series 2005A and 2008 bonds to include a provision for additional revenues in its user charges equal to 15% of annual debt service. This provision does not apply, however, to the extent that management has identified and restricted existing reserves equal to all or part of this amount that are not otherwise restricted. Notwithstanding this exception, the GNHWPCA includes the full 15% requirement in its budget each year and provides for an offsetting use of reserves as applicable. We have followed the same approach for purposes of this study.

#### **4.2.6. Use of Reserve Funds**

Maintenance of reserve funds may increase or reduce the GNHWPCA's revenue requirement in any given year. Management has planned additional funding of reserves of \$250,000 in FY15, which has been incorporated into this study

#### **4.2.7. Receivable Management Costs**

Receivable management costs are the estimated portion of billings to customers each year that are not collected during the period. The GNHWPCA implemented a new customer information system in 2010. Management has been able to utilize the CIS system to monitor billing and collections data on a monthly basis. The GNHWPCA's one-year

collection rate has been stable in recent years at approximately 89%. Write-offs are minimal due to GNHWPCA's ability to place liens on real property, and the long-term collection rate on receivables remains above 95%.

### 4.3. Development and Design of Rates and Charges

#### 4.3.1. Objectives

The primary objective in the recommendation of rates is to establish rates that will generate sufficient revenues to meet the total revenue requirements. Billing is based on water consumption using data provided by the RWA stated in 100 cubic foot units ("CCF's"). For purposes of recommending a user rate for FY15, we have assumed billable consumption of 8,650,000 CCF based on management's assessment of consumption trends.

#### 4.3.2. Recommended Rate

As detailed further in Table 4-1 and Exhibit 1, based upon our assessment of management's budgeted revenues and expenses for FY15 and other assumptions detailed herein, we recommend a quarterly administrative charge of \$13.00 and a CCF rate of \$3.75 for FY15.

**Table 4-1.  
FY15 Recommended User Rate  
FY16 through FY19 Projected Rates**

<b>Fiscal Year</b>	<b>Estimated Consumption</b>	<b>Admin Fee</b>	<b>CCF Rate</b>	<b>% Change in CCF Rate</b>	<b>Estimated Billings</b>
FY15	8,650,000	\$ 13.00	\$ 3.75	5.7%	\$ 34,966,000
FY16	8,650,000	13.00	4.04	7.7%	37,476,000
FY17	8,650,000	13.00	4.33	7.2%	39,995,000
FY18	8,650,000	13.00	4.65	7.4%	42,752,000
FY19	8,650,000	13.00	4.95	6.4%	45,310,000

#### 4.3.3. Flat Rates for Well Users

The GNHWPCA currently has sewer customers who are not customers of the RWA (i.e., customers whose water supply is from wells), and therefore have no basis for sewer billing. We recommend that customers of the GNHWPCA, who are not customers of the RWA, continue to be billed on the basis used in previous years. Customers who are well users were asked to complete a survey that collects information about their respective dwellings and inhabitants. Based upon the results of this survey, the customer is billed a flat amount each quarter based on consumption of 15, 20 or 24 CCF's.

## 5. Exhibits

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Exhibits 1 through 5 are found on Pages 5-2 through 5-6.

**Exhibit 1**

**Revenue Requirement and Recommended User Rates**  
**For the fiscal year ended June 30, 2015**  
**With Estimated Revenue Requirements and User Rates for Fiscal Years 2016 through 2019**

Line No.	Description	1 FY15	2 % ch.	3 FY16	4 % ch.	5 FY17	6 % ch.	7 FY18	8 % ch.	9 FY19
<b>A. OPERATIONS &amp; MAINTENANCE</b>										
1	Personnel	\$ 8,477,860	5%	\$ 8,931,000	5%	\$ 9,410,000	5%	\$ 9,926,000	6%	\$ 10,479,000
2	Utilities	4,127,000	2%	4,209,000	2%	4,292,000	2%	4,376,000	2%	4,461,000
3	Plant Operations & Collection System	899,850	3%	927,000	3%	954,000	3%	982,000	3%	1,011,000
4	Contracted Maintenance	1,960,000	3%	2,019,000	3%	2,080,000	3%	2,142,000	3%	2,206,000
5	Contracted Sludge & Ash Disposal	3,659,257	3%	3,769,000	3%	3,882,000	3%	3,998,000	3%	4,118,000
6	Other Contracted Services	4,093,173	3%	4,218,000	3%	4,339,000	3%	4,468,000	3%	4,603,000
7	Payments In-lieu of Taxes (PILOT)	750,000	0%	750,000	0%	750,000	0%	750,000	0%	750,000
8	Equipment, Vehicles & Supplies	892,950	3%	920,000	3%	946,000	3%	972,000	3%	1,000,000
9	Plant Repairs & Replacement	1,000,000	3%	1,030,000	3%	1,061,000	3%	1,093,000	3%	1,126,000
10	Contingency	300,000	0%	300,000	0%	300,000	0%	300,000	0%	300,000
11	<b>Total Operations &amp; Maintenance Costs</b>	<b>26,160,090</b>	<b>3%</b>	<b>27,073,000</b>	<b>3%</b>	<b>28,014,000</b>	<b>4%</b>	<b>29,007,000</b>	<b>4%</b>	<b>30,054,000</b>
<b>B. DEBT SERVICE</b>										
<b>Revenue Bonds:</b>										
12	Principal	2,821,667	5%	2,956,667	13%	3,353,667	5%	3,504,667	4%	3,660,667
13	Interest	5,011,387	9%	5,483,870	-2%	5,349,053	-3%	5,195,787	8%	5,635,695
<b>Clean Water Fund Notes:</b>										
14	Principal	2,698,973	33%	3,595,756	-11%	3,184,574	92%	6,111,651	-15%	5,194,017
15	Interest	632,250	19%	750,392	20%	900,900	76%	1,584,178	5%	1,668,822
<b>CWF Notes - New Haven Reimbursement:</b>										
16	Principal	(866,814)	30%	(1,129,663)	-9%	(1,033,198)	-4%	(995,069)	2%	(1,012,824)
17	Interest	(196,035)	16%	(227,278)	20%	(273,585)	-8%	(251,609)	-8%	(231,566)
18	<b>Total Debt Service</b>	<b>10,101,428</b>	<b>13%</b>	<b>11,429,743</b>	<b>0%</b>	<b>11,481,410</b>	<b>32%</b>	<b>15,149,605</b>	<b>-2%</b>	<b>14,914,811</b>
19	<b>TOTAL COST OF SERVICES</b>	<b>\$ 36,261,518</b>	<b>6%</b>	<b>\$ 38,502,743</b>	<b>3%</b>	<b>\$ 39,495,410</b>	<b>12%</b>	<b>\$ 44,156,605</b>	<b>2%</b>	<b>\$ 44,968,811</b>
<b>C. MISCELLANEOUS REVENUES</b>										
20	Interest & Lien Fees	(1,354,000)	0%	(1,354,000)	0%	(1,354,000)	0%	(1,354,000)	0%	(1,354,000)
21	Aged Accounts Receivable	(3,100,000)	0%	(3,100,000)	0%	(3,100,000)	0%	(3,100,000)	0%	(3,100,000)
22	Investment Income	(290,000)	0%	(290,000)	0%	(290,000)	0%	(290,000)	0%	(290,000)
23	High Strength Surcharges	(800,000)	0%	(800,000)	0%	(800,000)	0%	(800,000)	0%	(800,000)
24	Grease Disposal	(325,000)	0%	(325,000)	0%	(325,000)	0%	(325,000)	0%	(325,000)
25	Outside Sludge	(200,000)	0%	(200,000)	0%	(200,000)	0%	(200,000)	0%	(200,000)
26	Interlocal Fees	(50,000)	0%	(50,000)	0%	(50,000)	0%	(50,000)	0%	(50,000)
27	Reimbursements - Synagro	(575,000)	0%	(575,000)	0%	(575,000)	0%	(575,000)	0%	(575,000)
28	Other Revenues	(610,000)	0%	(610,000)	0%	(610,000)	0%	(610,000)	0%	(610,000)
29	<b>Total Miscellaneous Revenues</b>	<b>(7,304,000)</b>	<b>0%</b>	<b>(7,304,000)</b>	<b>0%</b>	<b>(7,304,000)</b>	<b>0%</b>	<b>(7,304,000)</b>	<b>0%</b>	<b>(7,304,000)</b>
<b>D. DEBT SERVICE COVERAGE</b>										
30	Debt Service Coverage Requirement	1,675,000		1,918,000		1,918,000		2,459,000		2,424,000
31	Debt Service Coverage Fund	250,000		-		1,250,000		(1,500,000)		-
32	<b>Total Debt Service Coverage</b>	<b>1,925,000</b>		<b>1,918,000</b>		<b>3,168,000</b>		<b>959,000</b>		<b>2,424,000</b>
33	<b>NET REVENUE REQUIREMENT</b>	<b>\$ 30,882,518</b>	<b>7%</b>	<b>\$ 33,116,743</b>	<b>7%</b>	<b>\$ 35,359,410</b>	<b>7%</b>	<b>\$ 37,811,605</b>	<b>6%</b>	<b>\$ 40,088,811</b>
34	<b>E. RECEIVABLE MANAGEMENT COSTS</b>	4,083,000		4,359,000		4,636,000		4,940,000		5,221,000
35	Estimated collection rate	89%		89%		89%		89%		89%
36	<b>REVENUE REQUIREMENT</b>	<b>\$ 34,965,518</b>	<b>7%</b>	<b>\$ 37,475,743</b>	<b>7%</b>	<b>\$ 39,995,410</b>	<b>7%</b>	<b>\$ 42,751,605</b>	<b>6%</b>	<b>\$ 45,309,811</b>
37	Debt Service Coverage Ratio	1.15		1.15		1.15		1.15		1.15
38	Consumption	8,650,000		8,650,000		8,650,000		8,650,000		8,650,000
39	Number of bills	194,000		194,000		194,000		194,000		194,000
40	Administrative fee	\$ 13.00		\$ 13.00		\$ 13.00		\$ 13.00		\$ 13.00
41	CCF Rate	\$ 3.75		\$ 4.04		\$ 4.33		\$ 4.65		\$ 4.95
		5.7%		7.7%		7.2%		7.4%		6.4%

**Exhibit 2**

**Budgeted Operations & Maintenance Expenses by Department**  
**For the fiscal year ended June 30, 2015**  
**With Estimated Expenses for Fiscal Years 2016 through 2019**

Line No.	Description	1 FY15	2 % ch.	3 FY16	4 % ch.	5 FY17	6 % ch.	7 FY18	8 % ch.	9 FY19
	<b>EXECUTIVE DIRECTOR</b>									
1	Personnel	\$ 401,485	2%	\$ 411,000	2%	\$ 419,000	2%	\$ 428,000	2%	\$ 437,000
2	Other Contracted Services	754,273	3%	778,000	3%	798,000	3%	823,000	3%	848,000
3	Equipment, Vehicles & Supplies	95,000	3%	98,000	3%	101,000	3%	104,000	3%	107,000
4	Contingency	300,000	0%	300,000	0%	300,000	0%	300,000	0%	300,000
5	<b>Total EXECUTIVE DIRECTOR</b>	<b>1,550,758</b>	<b>2%</b>	<b>1,587,000</b>	<b>2%</b>	<b>1,618,000</b>	<b>2%</b>	<b>1,655,000</b>	<b>2%</b>	<b>1,692,000</b>
	<b>FINANCE &amp; ADMINISTRATION</b>									
6	Personnel	740,260	3%	765,000	3%	789,000	3%	815,000	3%	842,000
7	Utilities	5,400	11%	6,000	0%	6,000	0%	6,000	0%	6,000
8	Other Contracted Services	141,500	3%	146,000	3%	150,000	3%	154,000	3%	158,000
9	Equipment, Vehicles & Supplies	5,000	0%	5,000	0%	5,000	0%	5,000	0%	5,000
10	<b>Total FINANCE &amp; ADMINISTRATION</b>	<b>892,160</b>	<b>3%</b>	<b>922,000</b>	<b>3%</b>	<b>950,000</b>	<b>3%</b>	<b>980,000</b>	<b>3%</b>	<b>1,011,000</b>
	<b>CUSTOMER SERVICE</b>									
11	Personnel	841,883	3%	869,000	3%	897,000	3%	926,000	3%	956,000
12	Other Contracted Services	520,500	3%	537,000	3%	554,000	3%	572,000	3%	590,000
13	Equipment, Vehicles & Supplies	11,000	0%	11,000	0%	11,000	0%	11,000	0%	11,000
14	<b>Total CUSTOMER SERVICE</b>	<b>1,373,383</b>	<b>3%</b>	<b>1,417,000</b>	<b>3%</b>	<b>1,462,000</b>	<b>3%</b>	<b>1,509,000</b>	<b>3%</b>	<b>1,557,000</b>
	<b>EMPLOYEE BENEFITS</b>									
15	Personnel	2,661,537	10%	2,928,000	10%	3,220,000	10%	3,541,000	10%	3,894,000
16	Other Contracted Services	55,000	4%	57,000	4%	59,000	3%	61,000	3%	63,000
17	<b>Total EMPLOYEE BENEFITS</b>	<b>2,716,537</b>	<b>10%</b>	<b>2,985,000</b>	<b>10%</b>	<b>3,279,000</b>	<b>10%</b>	<b>3,602,000</b>	<b>10%</b>	<b>3,957,000</b>
	<b>ENGINEERING</b>									
18	Personnel	796,416	3%	822,000	3%	848,000	3%	875,000	3%	903,000
19	Utilities	6,600	6%	7,000	0%	7,000	0%	7,000	0%	7,000
20	Other Contracted Services	317,000	3%	326,000	3%	336,000	3%	346,000	3%	356,000
21	Equipment, Vehicles & Supplies	1,500	33%	2,000	0%	2,000	0%	2,000	0%	2,000
22	<b>Total ENGINEERING</b>	<b>1,121,516</b>	<b>3%</b>	<b>1,157,000</b>	<b>3%</b>	<b>1,193,000</b>	<b>3%</b>	<b>1,230,000</b>	<b>3%</b>	<b>1,268,000</b>
	<b>OPERATIONS</b>									
23	Personnel	3,036,279	3%	3,136,000	3%	3,237,000	3%	3,341,000	3%	3,447,000
24	Utilities	4,062,000	2%	4,142,000	2%	4,224,000	2%	4,307,000	2%	4,391,000
25	Plant Operations & Collection System	899,850	3%	927,000	3%	954,000	3%	982,000	3%	1,011,000
26	Contracted Maintenance	1,960,000	3%	2,019,000	3%	2,080,000	3%	2,142,000	3%	2,206,000
27	Contracted Sludge & Ash Disposal	3,659,257	3%	3,769,000	3%	3,882,000	3%	3,998,000	3%	4,118,000
28	Other Contracted Services	1,702,300	3%	1,754,000	3%	1,804,000	3%	1,856,000	3%	1,912,000
29	Equipment, Vehicles & Supplies	762,950	3%	786,000	3%	809,000	3%	832,000	3%	857,000
30	Plant Repairs & Replacement	1,000,000	3%	1,030,000	3%	1,061,000	3%	1,093,000	3%	1,126,000
31	<b>Total OPERATIONS</b>	<b>17,082,636</b>	<b>3%</b>	<b>17,563,000</b>	<b>3%</b>	<b>18,051,000</b>	<b>3%</b>	<b>18,551,000</b>	<b>3%</b>	<b>19,068,000</b>
	<b>GENERAL SERVICES</b>									
32	Utilities	53,000	2%	54,000	2%	55,000	2%	56,000	2%	57,000
33	Other Contracted Services	602,600	3%	620,000	3%	638,000	3%	656,000	3%	676,000
34	Payments In-lieu of Taxes (PILOT)	750,000	0%	750,000	0%	750,000	0%	750,000	0%	750,000
35	Equipment, Vehicles & Supplies	17,500	3%	18,000	0%	18,000	0%	18,000	0%	18,000
36	<b>Total GENERAL SERVICES</b>	<b>1,423,100</b>	<b>1%</b>	<b>1,442,000</b>	<b>1%</b>	<b>1,461,000</b>	<b>1%</b>	<b>1,480,000</b>	<b>1%</b>	<b>1,501,000</b>
	<b>ALL DEPARTMENTS</b>									
37	Personnel	8,477,860	5%	8,931,000	5%	9,410,000	5%	9,926,000	6%	10,479,000
38	Utilities	4,127,000	2%	4,209,000	2%	4,292,000	2%	4,376,000	2%	4,461,000
39	Plant Operations & Collection System	899,850	3%	927,000	3%	954,000	3%	982,000	3%	1,011,000
40	Contracted Maintenance	1,960,000	3%	2,019,000	3%	2,080,000	3%	2,142,000	3%	2,206,000
41	Contracted Sludge & Ash Disposal	3,659,257	3%	3,769,000	3%	3,882,000	3%	3,998,000	3%	4,118,000
42	Other Contracted Services	4,093,173	3%	4,218,000	3%	4,339,000	3%	4,468,000	3%	4,603,000
43	Payments In-lieu of Taxes (PILOT)	750,000	0%	750,000	0%	750,000	0%	750,000	0%	750,000
44	Equipment, Vehicles & Supplies	892,950	3%	920,000	3%	946,000	3%	972,000	3%	1,000,000
45	Plant Repairs & Replacement	1,000,000	3%	1,030,000	3%	1,061,000	3%	1,093,000	3%	1,126,000
46	Contingency	300,000	0%	300,000	0%	300,000	0%	300,000	0%	300,000
47	<b>Total ALL DEPARTMENTS</b>	<b>\$ 26,160,090</b>	<b>3%</b>	<b>\$ 27,073,000</b>	<b>3%</b>	<b>\$ 28,014,000</b>	<b>4%</b>	<b>\$ 29,007,000</b>	<b>4%</b>	<b>\$ 30,054,000</b>

**Exhibit 3**

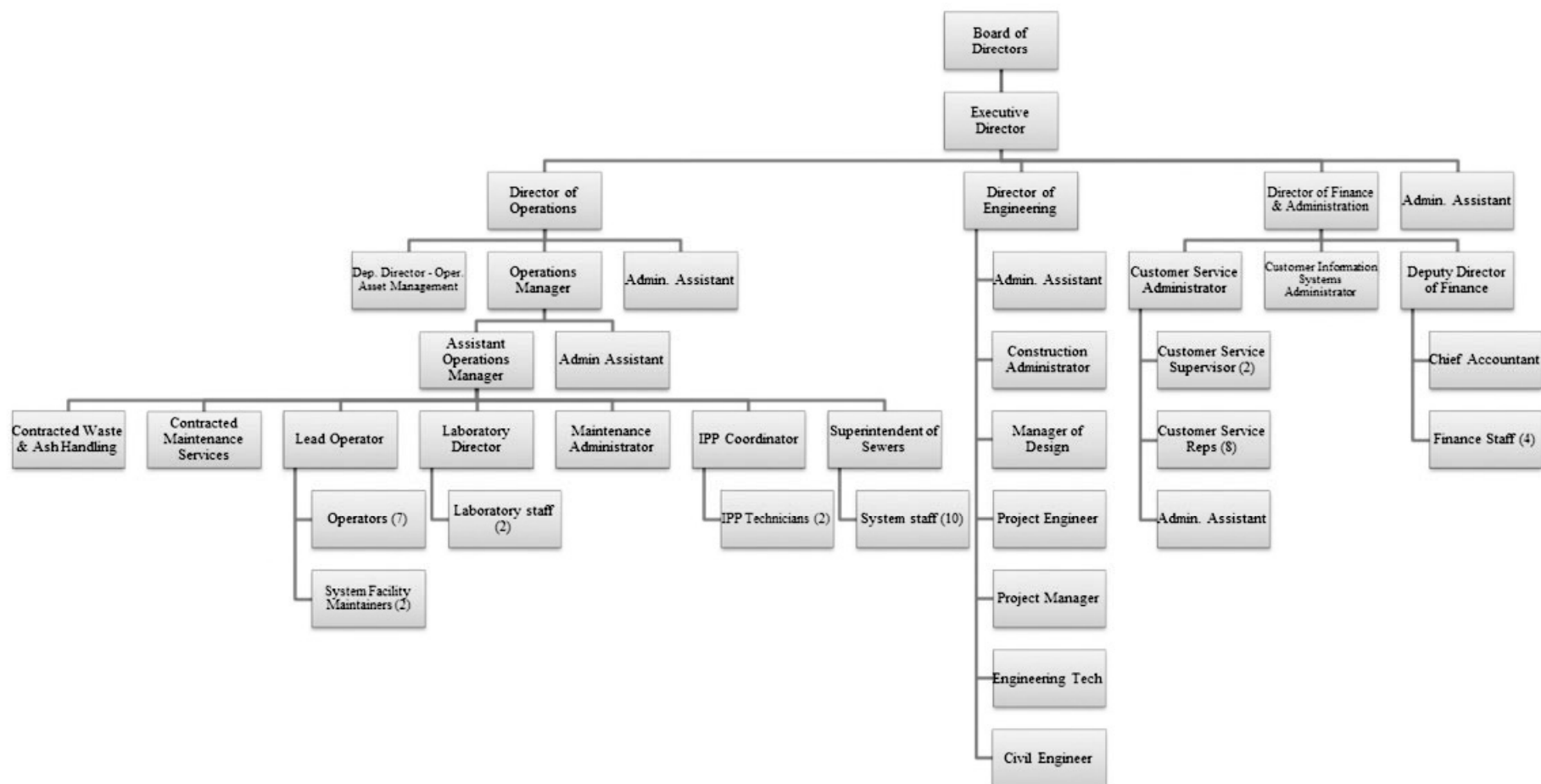
**Scheduled and Estimated Debt Service**  
For the fiscal years ended June 30, 2015 through 2019

Line No.	Description	1 FY15	2 % ch.	3 FY16	4 % ch.	5 FY17	6 % ch.	7 FY18	8 % ch.	9 FY19
<b>Revenue Bonds</b>										
<b>2005 Series A</b>										
1	Principal	\$ 2,050,000	5%	\$ 2,160,000	5%	\$ 2,270,000	5%	\$ 2,385,000	5%	\$ 2,505,000
2	Interest	3,841,676	-3%	3,736,426	-3%	3,625,676	-3%	3,509,301	-3%	3,387,051
<b>2008 Series A/CREBs</b>										
3	Principal	581,667	3%	601,667	2%	616,667	3%	636,667	3%	656,667
4	Interest	826,692	-2%	808,275	-2%	789,158	-3%	769,342	-3%	748,725
<b>2012 Series B</b>										
5	Principal	190,000	3%	195,000	3%	200,000	3%	205,000	2%	210,000
6	Interest	343,019	-1%	339,169	-1%	334,219	-2%	328,144	-2%	321,919
<b>Estimated Future Series</b>										
7	Principal	-	0%	-	0%	267,000	4%	278,000	4%	289,000
8	Interest	-	0%	600,000	0%	600,000	-2%	589,000	100%	1,178,000
<b>Total Revenue Bonds</b>										
9	Principal	2,821,667	5%	2,956,667	13%	3,353,667	5%	3,504,667	4%	3,660,667
10	Interest	5,011,387	9%	5,483,870	-2%	5,349,053	-3%	5,195,787	8%	5,635,695
11	<b>Total Debt Service - Revenue Bonds</b>	<b>\$ 7,833,053</b>	<b>8%</b>	<b>\$ 8,440,537</b>	<b>3%</b>	<b>\$ 8,702,720</b>	<b>0%</b>	<b>\$ 8,700,453</b>	<b>7%</b>	<b>\$ 9,296,362</b>
<b>Clean Water Fund Notes</b>										
<b>CSO Projects</b>										
12	Principal	2,167,034	-2%	2,122,158	-11%	1,896,478	-1%	1,871,318	2%	1,903,264
13	Interest	490,086	-9%	446,495	-9%	406,774	-9%	369,021	-10%	331,356
<b>Non-CSO Projects</b>										
14	Principal	382,921	-4%	365,822	-36%	235,767	1%	238,092	2%	242,898
15	Interest	76,409	-10%	68,701	-9%	62,758	-8%	58,042	-8%	53,236
<b>Estimated Future Notes - CSO Projects</b>										
16	Principal	-	0%	702,000	-2%	686,518	-10%	616,355	2%	628,796
17	Interest	-	0%	121,700	128%	277,190	-6%	260,000	-5%	247,559
<b>Estimated Future Notes - Non-CSO Projects</b>										
18	Principal	149,018	172%	405,776	-10%	365,811	826%	3,385,886	-29%	2,419,060
19	Interest	65,754	73%	113,497	36%	154,178	482%	897,115	16%	1,036,671
<b>Total Clean Water Fund Notes</b>										
20	Principal	2,698,973	33%	3,595,756	-11%	3,184,574	92%	6,111,651	-15%	5,194,017
21	Interest	632,250	19%	750,392	20%	900,900	76%	1,584,178	5%	1,668,822
22	<b>Total Debt Service - CWF Notes</b>	<b>\$ 3,331,223</b>	<b>30%</b>	<b>\$ 4,346,148</b>	<b>-6%</b>	<b>\$ 4,085,474</b>	<b>88%</b>	<b>\$ 7,695,829</b>	<b>-11%</b>	<b>\$ 6,862,839</b>
<b>City of New Haven Share of CSO Projects</b>										
<b>CSO Projects</b>										
23	Principal	(866,814)	-2%	(848,863)	-11%	(758,591)	-1%	(748,527)	2%	(761,305)
24	Interest	(196,035)	-9%	(178,598)	-9%	(162,709)	-9%	(147,609)	-10%	(132,542)
<b>Estimated Future Notes - CSO Projects</b>										
25	Principal	-	0%	(280,800)	-2%	(274,607)	-10%	(246,542)	2%	(251,518)
26	Interest	-	0%	(48,680)	128%	(110,876)	-6%	(104,000)	-5%	(99,024)
<b>Total City Share of CSO Projects</b>										
27	Principal	(866,814)	30%	(1,129,663)	-9%	(1,033,198)	-4%	(995,069)	2%	(1,012,824)
28	Interest	(196,035)	16%	(227,278)	20%	(273,585)	-8%	(231,609)	-8%	(231,566)
29	<b>Total Debt Service - New Haven Share</b>	<b>\$ (1,062,848)</b>	<b>28%</b>	<b>\$ (1,356,941)</b>	<b>-4%</b>	<b>\$ (1,306,784)</b>	<b>-5%</b>	<b>\$ (1,246,678)</b>	<b>0%</b>	<b>\$ (1,244,390)</b>
<b>Total Net Debt Service</b>										
30	Principal	4,653,826	17%	5,422,759	2%	5,505,042	57%	8,621,248	-9%	7,841,860
31	Interest	5,447,602	10%	6,006,984	-1%	5,976,368	9%	6,528,356	8%	7,072,951
32	<b>Total Net Debt Service</b>	<b>\$ 10,101,428</b>	<b>13%</b>	<b>\$ 11,429,743</b>	<b>0%</b>	<b>\$ 11,481,410</b>	<b>32%</b>	<b>\$ 15,149,605</b>	<b>-2%</b>	<b>\$ 14,914,811</b>

**Exhibit 4**  
**Capital Improvement Plan**  
For the fiscal years ended June 30, 2015 through 2019

Line No.	Description	1 FY15	3 FY16	5 FY17	7 FY18	8 FY19	9 Total
	<b>CSO LONG TERM CONTROL PLAN</b>						
1	CSO Sewer Separation - West River Mitigation	\$ 5,000,000	-	-	-	-	\$ 5,000,000
2	Wet Weather Improvements to the ESWPCF - (Phase II)	-	\$ 50,000,000	-	-	-	50,000,000
3	Yale Trumbull Study/Design/Construction (Phase 2B)	-	-	\$ 10,300,000	-	-	10,300,000
4	<b>Total CSO Long Term Control Plan</b>	<b>\$ 5,000,000</b>	<b>\$ 50,000,000</b>	<b>\$ 10,300,000</b>	<b>-</b>	<b>-</b>	<b>\$ 65,300,000</b>
	<b>EAST SHORE WPC FACILITY</b>						
5	Major Equipment Upgrades & Replacement	-	\$ 2,000,000	-	-	-	\$ 2,000,000
6	<b>Total East Shore WPC Facility</b>	<b>-</b>	<b>\$ 2,000,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 2,000,000</b>
	<b>COLLECTION SYSTEM, PUMP STATIONS &amp; FORCE MAINS</b>						
7	Collection System I/I Rehab. Program Section 3c	-	\$ 5,000,000	-	\$ 5,000,000	-	\$ 10,000,000
8	Sanitary Sewer Infrastructure Renewal Program	-	5,000,000	\$ 1,500,000	1,500,000	\$ 1,500,000	9,500,000
9	Pump Station Improvements	-	3,500,000	-	-	-	3,500,000
10	Collection System Renewal & Replacement	-	6,000,000	-	-	-	6,000,000
11	Primary Basin Scum	\$ 180,000	-	-	-	-	180,000
12	Truman Tank Odor Control-Passive Carbon Vent	100,000	-	-	-	-	100,000
13	Bar Racks - Plant	750,000	-	-	-	-	750,000
14	Bar Racks - Morris Cove (2)	246,000	-	-	-	-	246,000
15	Compactor - Morris Cove	65,000	-	-	-	-	65,000
16	Underground Storage Tank Removal/Replacement	125,000	-	-	-	-	125,000
17	Hydraulic Model Update	450,000	-	-	-	-	450,000
18	Parking Lot - 260 East St.	135,000	-	-	-	-	135,000
19	Whitneyville Pump Station Constr. Phase	600,000	-	-	-	-	600,000
20	Emergency Sewer Repair and Replacement	1,000,000	-	-	-	-	1,000,000
21	<b>Total Coll. System, Pump Stations &amp; Force Mains</b>	<b>\$ 3,651,000</b>	<b>\$ 19,500,000</b>	<b>\$ 1,500,000</b>	<b>\$ 6,500,000</b>	<b>\$ 1,500,000</b>	<b>\$ 32,651,000</b>
22	<b>TOTAL CAPITAL IMPROVEMENT PLAN</b>	<b>\$ 8,651,000</b>	<b>\$ 71,500,000</b>	<b>\$ 11,800,000</b>	<b>\$ 6,500,000</b>	<b>\$ 1,500,000</b>	<b>\$ 99,951,000</b>
	<b>SOURCES OF FINANCING</b>						
23	Clean Water Fund - Grants	\$ 2,500,000	\$ 12,500,000	\$ 5,150,000	-	-	\$ 20,150,000
24	Clean Water Fund - Notes	2,500,000	42,500,000	5,150,000	\$ 5,000,000	-	55,150,000
25	<b>Total Clean Water Fund</b>	<b>5,000,000</b>	<b>55,000,000</b>	<b>10,300,000</b>	<b>5,000,000</b>	<b>-</b>	<b>75,300,000</b>
26	Revenue Bonds	-	15,000,000	-	-	-	15,000,000
27	Dedicated Infrastructure Renewal Fund	3,651,000	1,500,000	1,500,000	1,500,000	\$ 1,500,000	9,651,000
28	<b>Total Sources of Financing</b>	<b>\$ 8,651,000</b>	<b>\$ 71,500,000</b>	<b>\$ 11,800,000</b>	<b>\$ 6,500,000</b>	<b>\$ 1,500,000</b>	<b>\$ 99,951,000</b>

## Exhibit 5 Organization Chart



For the fiscal years

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**Exhibit 5**  
**Capital Improvement Plan**  
**For the fiscal years ended June 30, 2013 through 2017**

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## **APPENDIX C**

### **CONSULTING ENGINEER'S BOND FEASIBILITY REPORT**

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GNHWPCA

**Greater New Haven Water Pollution Control Authority**

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# **Consulting Engineer's Bond Feasibility Report**

May 2012



Report Prepared By:

**Malcolm Pirnie, Inc.**

05654033



*The Water Division of ARCADIS*

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## Appendices

- A. Listing of Acronyms
- B. Listing of Sewage Pump Stations
- C. Summary of Significant Forecast Assumptions and Notes to the Authority's Financial Forecast

# 1. Introduction and Purpose

---

## 1.1. Introduction

Presented is this Consulting Engineer's Feasibility Report (Report) on technical and financial matters relating to the financing of the fiscal years 2012 through 2014 Capital Improvement Program of the Greater New Haven Water Pollution Control Authority (the Authority).

This Report provides a summary of the review and evaluation completed in conjunction with the issuance of the Regional Wastewater System Revenue Bonds, 2012 Series B (the 2012 Series B Bonds). The 2012 Series B Bonds are expected to be issued in an amount sufficient to provide the Authority with proceeds, net of issuance expenses, of \$9,500,000 and are being issued under and secured by an Indenture of Trust, dated August 1, 2005, as amended (the "Indenture"), between the Authority and U.S. Bank National Association, as Trustee.

This Report has been prepared by Malcolm Pirnie, Inc. (Malcolm Pirnie), which has been retained by the Authority to function as the Consulting Engineer and to prepare this Report. Malcolm Pirnie now operates as the Water Division of ARCADIS U.S., Inc. This Report includes:

- A description of the Regional Wastewater System.
- A summary of the Authority's proposed capital projects and improvements.
- Historical customer usage and account data.
- Historic financial information.
- The Authority-prepared financial forecast (the Forecast) of operating results of the Regional Wastewater System for fiscal year (FY) 2012 and the additional five fiscal years ending June 30, 2017 (collectively referred to as the Forecast Period).
- Our conclusions and opinions regarding the Forecast and underlying assumptions.

## 1.2. Purpose of Consulting Engineer's Report

This Report is being prepared in support of the issuance of the 2012 Series B Bonds to finance the capital improvement projects summarized in this Report. Specifically, Malcolm Pirnie was retained by the Authority for the purpose of rendering an opinion on the reasonableness of the Authority-prepared Forecast and the projected results as they relate to compliance with the Indenture.

In preparing this Report, Malcolm Pirnie has reviewed information from the documents listed below, which are documents prepared by or on behalf of the Authority. The purpose of Malcolm Pirnie's review of these documents is to understand and report on the technical and financial information contained therein as it relates to the issuance of the 2012 Series B Bonds.

- Authority's Official Statement for the 2008 Series A and Series B Bonds (dated March 26, 2008)
- 2005 Series A Bonds, Indenture of Trust (dated August 1, 2005)
- First Supplemental Indenture of Trust (dated August 1, 2005)
- Fourth Supplemental Indenture of Trust (dated February 1, 2007)
- Authority's five-year capital improvement plan (dated April 2012)
- Authority's Organization chart and key staff resumes
- Authority's Strategic Plan 2010-2015
- Amended and Restated Authority's Sewer Ordinance (originally dated August 10, 2005, last amended January 11, 2011)
- Amended and Restated Authority Bylaws (originally adopted August 1, 2005, last amended January 8, 2008)
- CSO Cost Share Agreement (dated August 29, 2005)
- Interlocal Agreements with North Branford (dated February 2010) and North Haven (initially dated 1932)
- Agreement for Operation and Maintenance of the Wastewater System with Operations Management International, Inc. (dated November 21, 1997)
- Agreement for Operations, Maintenance and Management Services with Operations Management International, Inc. (dated August 29, 2005)
- Memorandum of Understanding for the Operations, Maintenance and Management Services with Operations Management International, Inc. (dated January 12, 2006)
- Amendment # 1 to the Agreement for the Operation, Maintenance and Management Services with Operations Management International, Inc. (dated September 22, 2006)
- Amended and Restated Operating Agreement with Synagro Technologies (dated August 17, 1995)
- Authority's FY2012 Adopted Annual Operating Budget (dated May 3, 2011)
- Authority's FY2011 Audited Financial Statement
- Authority's FY2012 Cost of Service Study prepared by RSM McGladrey, Inc. (dated March 31, 2011)
- 2011 Performance Evaluation Report prepared by Malcolm Pirnie (dated December 2011)

- 2011 Condition Assessment of Wastewater Treatment Plant and Major Pump Stations prepared by Malcolm Pirnie (dated January, 2012)
- Consent Order #WC5509 (dated July 1, 2009)
- Wet Weather Improvements and Nitrogen Reduction at the East Shore Water Pollution Abatement Facility (Facilities Plan) prepared by CH2MHill (dated March 2011)

### **1.3. Conventions**

The Authority's fiscal year begins on July 1st and ends June 30th. Throughout the Report, a fiscal year is identified as "FY" followed by the calendar year in which the fiscal year ends, i.e., FY2012 is the fiscal year from July 1, 2011 through June 30, 2012.

### **1.4. Assumptions**

This Report pertains to the 2012 Series B Bonds only. As part of this Report, Malcolm Pirnie reviewed the Authority-prepared Financial Forecast which includes assumptions about the issuance of future bonds and/or loans.

The Authority has made, and Malcolm Pirnie has reviewed, certain assumptions about conditions that may or may not occur in the future. While we believe the Authority's assumptions are reasonable, they depend upon future events. Conditions in the future may differ from those assumed. To the extent that future conditions differ from those assumed herein or provided to us by the Authority and/or others, the future results will vary from those forecasted. Malcolm Pirnie has no responsibility for events occurring after the date of this Report and has no responsibility to update this Report for such events.

### **1.5. Acronyms**

Appendix A contains a listing of acronyms or abbreviations of terms used in the Report. Capitalized and abbreviated terms contained in this Report are defined in Appendix A. These terms appear in multiple sections of this Report, and are thus defined in Appendix A for reference.

## 2. The Authority - Organization and Management

---

### 2.1. The Authority

The principal office of the Authority is at 260 East Street, New Haven, CT. The Authority was created in August 2005 and is organized in accordance with Connecticut General Statutes (CGS or the “Statutes”) Sections 22a-500 through 22a-519. The purpose of the Authority is to further the environmental protection laws of the State of Connecticut and to gain efficiencies and economies of scale with respect to the planning, design, construction, management, operation and maintenance of the Regional Wastewater System (the System).

The Statutes provide the Authority with extensive powers, including power to purchase, own and operate a public sewer system; to levy assessments and sewer use fees; to place liens on real estate to secure such assessments and fees; and to issue revenue bonds. The Authority is also eligible for grants and loans under the Connecticut Clean Water Fund (CWF) program.

The Authority provides retail sewage collection and treatment service to customers in the City of New Haven and the Towns of Hamden, East Haven and Woodbridge (Member Municipalities) and wholesale treatment service to the Towns of North Haven and North Branford via interlocal agreements. A description of the Authority’s wastewater system and service area is presented in Section 3 of the Report.

### 2.2. Organization Structure

An overview of the organization structure of the Authority is shown on Figure 2-1. The structure reflects a governing body (Board of Directors and Executive Director) and functional areas such as Finance and Administration, Engineering, Operations, and the Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP)/Office of Capital Projects. The Executive Director serves as the chief executive officer of the Authority and oversees all activities and affairs.

### 2.3. Board of Directors

The Authority is managed by a Board of Directors with nine Directors appointed by the Member Municipalities (four appointed by the City of New Haven; two appointed by the Town of East Haven; two appointed by the Town of Hamden; one appointed by the Town of Woodbridge). Each Director holds one vote and the Directors are appointed to three-

year, staggered terms. The terms of office are staggered so that no more than three Director's terms are scheduled to expire in any one year.

The Bylaws of the Authority provide the method of appointment, compensation and terms of office for Board members. Board members are appointed by the Mayor or First Selectman of the Member Municipalities. Each appointment is subject to the approval of the governing body of the given Member Municipality. Each Board member must be a resident of the Member Municipality.

The names and terms of the current Directors of the Authority are provided in Table 2-1.

**Table 2-1.  
Board of Directors**

<b>Name</b>	<b>Appointed By</b>	<b>Term Expires</b>
Fimiani, Michael	New Haven	12/31/12
Giglio, Sam	East Haven	12/31/12
Ginzberg, Jeffrey	Woodbridge	12/31/12
Cooper, Vikki	New Haven	12/31/13
Alton, Joyce Harned	New Haven	12/31/13
Mongillo, Stephen, Chairman	Hamden	12/31/13
Paolillo, Alphonse, Vice Chairman	New Haven	12/31/14
Arpino, Vincent	East Haven	12/31/14
Cyr, Russell	Hamden	12/31/14

Upon expiration of each initial term of office for each of the Directors of the Authority, reappointment of the Director or appointment of a new Director is made for a new term of office of three years. Board members receive a salary not to exceed \$6,000 annually. The Chairman and Vice Chairman are entitled to additional compensation of \$1,200 and \$600, respectively and are entitled to reimbursement of expenses incurred in completion of their duties as described in the Bylaws.

The Officers of the Board consist of a Chairman and Vice Chairman who are elected by a majority of the Directors. Qualifications of Directors and the method of electing Officers are defined in the Bylaws.

## **2.4. Management and Operational Staff**

The organization chart in Figure 2-1 reflects the current positions filled by the Authority. A total of 37 Authority positions are reflected on Figure 2-1. Growth in staffing will be on an as-needed basis. The potential for growth is expected by the

Authority to be primarily in the Engineering to provide additional in-house services to support the Authority's long-term CIP and LTCP. Note that the organizational chart also identifies the GNHWPCA's two major service contractors: OMI for operations and maintenance (29 employees) and Synagro for residuals management (11 employees.). Each of these contractors has their respective full-time employees dedicated to the Authority's system, which are in addition to the Authority's employees.

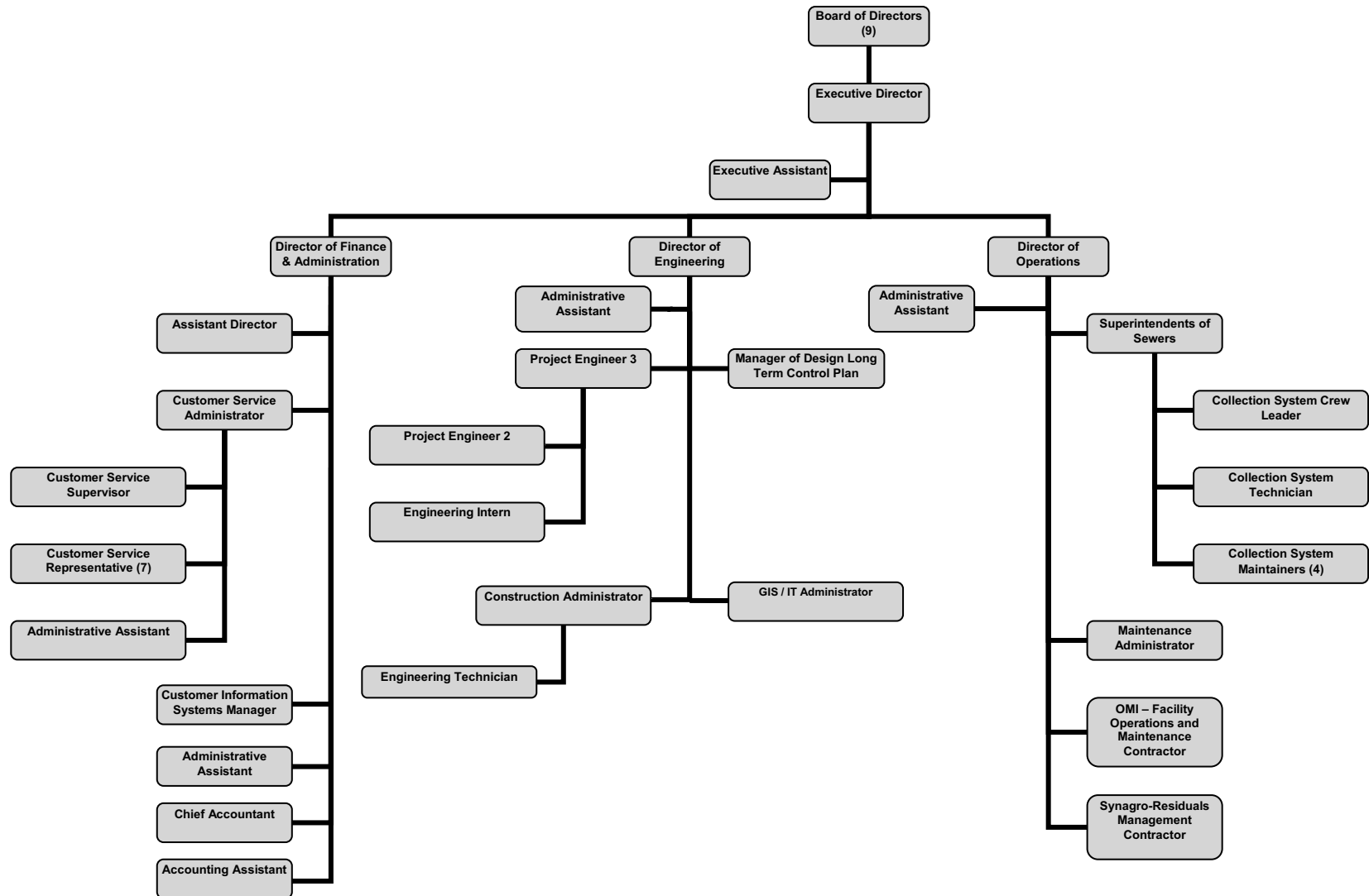
#### **2.4.1. Key Senior Management**

The Authority is managed under the direction of an Executive Director appointed by the Board of Directors. The Executive Director is the chief executive officer responsible for the overall administrative, technical, and financial management of the Authority, subject to the authority and policy guidance of the Board of Directors. In this role, the Executive Director is responsible for the formulation and execution of broad policies and procedures in directing and coordinating all activities and programs of the Board to manage the Authority and serve its ratepayers. The Executive Director is supported by various department managers as noted in Figure 2-1. Each of the functional divisions is led by senior management with experience and knowledge to manage and lead staff.

Brief resumes of the Authority's current senior management follow:

- **Sid Holbrook, Executive Director** – Mr. Holbrook is the Executive Director of the Authority. He has more than 30 years of wastewater, environmental and public management experience. Mr. Holbrook has served as the Executive Director of the Authority since 2009. Prior to this position, he owned and operated the Monoflo Septic Tank Co., Inc. in Westbrook CT and was the principle of SJH Associates that provided Environmental Consulting Services. Mr. Holbrook also served as Governor John Rowland's Chief of Staff from 1997 to 2002, directly overseeing sixteen (16) State agencies including the Department of Environmental Protection, Department of Transportation, Department of Public Health and Department of Social Services. Prior to his tenure as Chief of Staff, Mr. Holbrook served as the Commissioner of the Department of Environmental Protection. On May 10, 2011, Mr. Holbrook was recognized by the National Association of Clean Water Agencies in Washington, DC with a Public Service Award for his dedication to Environmental Stewardship. As Executive Director, his responsibilities include managing and directing all administrative, operational and financial activities and programs of the Authority.

Figure 2-1: GHWPCA Organizational Chart



- **Gabriel Varca, Treasurer, Director of Finance and Administration** – Mr. Varca is the Treasurer and Director of Finance and Administration. Previously, Mr. Varca was the Financial Manager for the New Haven Water Pollution Control Authority (NHWPCA). Mr. Varca was employed by the NHWPCA for 24 years. His responsibilities include planning and directing the Authority's budgeting, accounting, auditing, investing, treasury, debt management, human resources, purchasing, risk management and information systems operations. Mr. Varca earned a B.S. in Accounting from Southern Connecticut State University.
  
- **Thomas Vincent Sgroi, P.E., Director of Engineering** – Mr. Sgroi is the Director of Engineering for the Authority. Mr. Sgroi has over 23 years of engineering and construction management experience. His responsibilities include completion of executive management work for the Authority's planning and engineering programs, which include design, construction, utility services, GIS, mapping, records management and capital improvement projects. Mr. Sgroi earned a Bachelor of Science Degree in Civil engineering from the University of Hartford, CT. He is also a Licensed Professional Engineer in the State of Connecticut.
  
- **Gary Zrelak, Project Manager** – Mr. Zrelak is the Project Manager of Operations. He has over 28 years of experience in wastewater operations. His responsibilities include supervising and managing the performance of the Authority's contract operator for the water pollution control facilities, sanitary sewer collection systems and pumping stations within State and Federal regulations. Prior to his employment by the Authority Mr. Zrelak was the Process Control Superintendent for the NHWPCA for more than 7 years. Mr. Zrelak earned a Bachelor of Science Degree in Agronomy, College of Agriculture, University of Connecticut and a Master's of Science Degree in Environmental Science from the University of New Haven, CT. He also holds Class IV Wastewater Operators License from the Connecticut Department of Energy and Environmental Protection (CTDEEP) and a Class IV Collection Systems License from the New England Water Pollution Control Association.

As noted on Figure 2-1, key management positions are designated in each functional area under the major divisions of Finance and Administration, Engineering, and Operations, to address the operation, maintenance and management of the Regional Wastewater System.

#### **2.4.2. FY2012 Staffing Levels**

The FY2012 Annual Operating Budget contains the necessary funds for 37 employees. Table 2-2 identifies the number of employees in each of the functional areas as noted in Figure 2-1.

**Table 2-2.**  
**Number of Employees in each Functional Area**

Functional Area	Number of Employees
Executive Director's Office	2
Finance & Administration	16
Engineering	9
Operations	10
Total	37

The Executive Director's Office includes the Executive Director and an Administrative Assistant. The Finance and Administration employees include billing, collections, customer service and customer information management personnel. Historically, the Authority contracted with the South Central Connecticut Regional Water Authority (RWA) for customer information management services. On July 1, 2010, the Authority's new in-house utility billing and customer information system became operational.

Engineering includes design and construction administration personnel, and project management and information technology personnel.

Of the 10 operations employees shown in Table 2-2, three provide field services and are under the supervision of Operations Management International, Inc. (OMI), the Authority's contractor responsible for the day-to-day operation and maintenance of the Treatment Plant and collection system.

Authority employees, except those that may be exempted by applicable law, are subject to the provisions of the State of Connecticut Municipal Employees Relations Act. During July 2007, the American Federation of State, County and Municipal Employees, Council 4, petitioned the State Board of Labor Relations to expand the membership of the existing Local as well as establish a proposed unit containing all supervisory personnel of the Authority. Their petition was granted by the State Labor Board and a subsequent employee election resulted in the expansion of the existing local and establishing a unit containing all supervisory personnel of the Authority.

## **2.5. Overview of Service Contracts**

The Authority has two separate long-term operating contracts. One with OMI for the operations and maintenance of the East Shore Water Pollution Control Facility (ESWPCF, the "plant", or the "facility") and the sewage collection system in New Haven and a second, with Synagro for biosolids (residuals) management. The OMI contract commenced in 1997 and expires on January 1, 2014. The Synagro contract commenced

in 1995 and expires on September 14, 2014. Employees of OMI and Synagro are not employees of the Authority.

The Authority also has a short-term agreement with OMI for the operation and maintenance of the sewage collection systems in the Towns of East Haven, Hamden and Woodbridge. This agreement was executed when the Authority was created during 2005. Under this agreement, subject to an annual renewal by the Authority, OMI utilizes and supervises staff of the Authority to assist in the operation and maintenance of the sewage collection systems. The original long-term operation and maintenance contract with OMI and this short-term agreement with OMI are currently the subject of negotiation. The Authority's is also in negotiation with Synagro regarding the potential extension of the biosolids management agreement.

### **2.5.1. OMI Contract**

The comprehensive Agreement for Operation and Maintenance of the Wastewater System with OMI provides for the operation, maintenance and management by OMI of the System, including the ESWPCF, pump stations and collection systems. This agreement establishes performance and reporting requirements for the operation and maintenance of the System. The agreement requires the implementation of a maintenance management program to include preventive, predictive, and corrective maintenance for all components of the System, including:

- Buildings, grounds, and structures
- Electrical systems and instrumentation
- Mechanical equipment
- Odor control systems
- Sanitary and combined sewers and manholes
- Catch basins
- Tide gates
- Vehicles and other related rolling stock
- Laboratory, monitoring and sampling equipment
- Heating, ventilation, and air conditioning
- Communication equipment (i.e., telephones, facsimiles, etc.)
- Computer systems (software and hardware)
- Chemical feed systems
- Pumping systems
- Auxiliary power facilities

- Air pollution control devices
- Supervisory Control and Data Acquisition (SCADA) facilities
- Other facilities, equipment, and systems contains within the System
- Other specialized tools and equipment

OMI is responsible for all utility costs, with the exception of electricity, which is a pass-through cost subject to a maximum utilization limit. OMI is also required to deliver biosolids to a sludge holding tank in accordance with the provisions of the Synagro contract.

### **2.5.2. Synagro Contract**

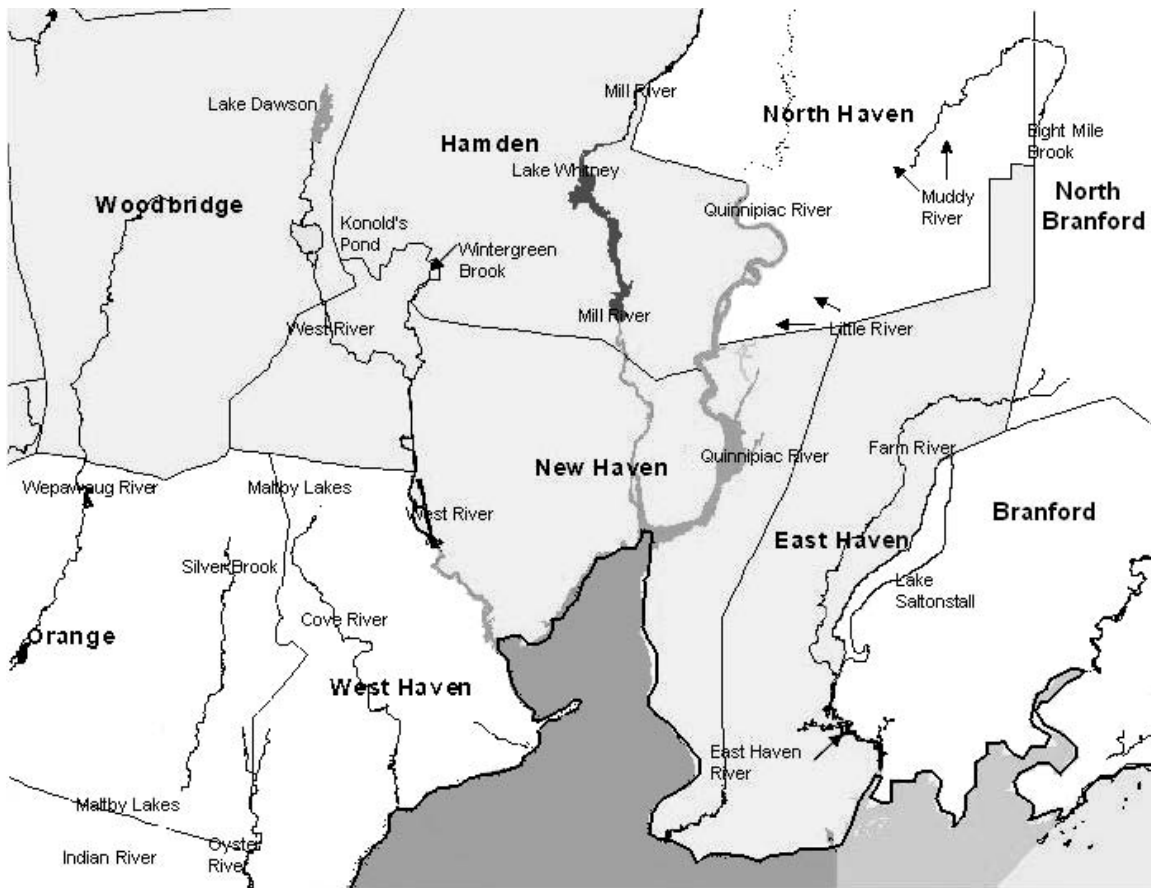
The Operating Agreement with Synagro Technologies (Synagro biosolids management contract) provides for the receipt and disposal of sludge generated at the ESWPCF. The sludge is delivered by OMI and incinerated by Synagro at the on-site multiple hearth facility. In accordance with the biosolids management contract, Synagro is allowed to solicit sludge from other entities (outside sludge), in addition to the sludge delivered by OMI, to utilize the capacity of the on-site incinerator. The biosolids management contract provides for revenue sharing from the receipt of outside sludge between the Authority and Synagro. Synagro is responsible for the disposal of all ash and by-products generated by the incinerator in compliance with applicable laws and regulations. In addition, Synagro is responsible for odor control associated with the sludge incineration facilities.

## 3. System Description

### 3.1. Service Area

The Authority's service area is illustrated in Figure 3-1 and includes the Member Municipalities of New Haven, Hamden, East Haven and Woodbridge. Specifically, the Authority's service area encompasses approximately 83 square miles or 53,000 acres.

Figure 3-1: Authority's Service Area 



The Member Municipalities are located off the eastern coast of southern Connecticut, north of the Long Island Sound. Based upon the 2010 census, the total population of the Member Municipalities was approximately 229,000. It is estimated that approximately 200,000 people currently receive sewer service from the Authority. The total number of sewer customers is approximately 47,500, as of March 9, 2012, based upon information maintained in the Authority's new Customer Information System. Through interlocal agreements between the Authority and the Towns of North Branford and North Haven, an additional population of approximately 1,500 is served by the Authority.

Currently, the average daily flow at the ESWPCF is approximately 29 million gallons per day (mgd). The plant has an average daily design flow capacity of 40 mgd and provides primary and secondary treatment for all wastewater flows up to 60 mgd. During high flow events, all flow receives primary treatment. Flows exceeding 60 mgd bypasses the secondary treatment system, but receives disinfection along with the secondary effluent prior to discharge.

The ESWPCF provides the following unit processes:

- Screening and grit removal
- Raw waste pumping
- Three 22-foot sidewater depth primary clarifiers
- Four aeration trains
- Eight 14-foot sidewater depth secondary clarifiers
- Gravity thickeners
- Chlorine disinfection prior to discharge

The ESWPCF is also equipped with a biological nutrient removal (BNR) system in its secondary treatment process for nitrogen removal. Thickened sludge is delivered to the on-site multiple hearth sludge incinerator for processing.

## **3.2. Description of Assets**

The major physical assets of the Authority include the ESWPCF, 30 pumping stations, eight siphons, approximately 510 miles of sanitary sewers, approximately 50 miles of combined sanitary and storm sewers, one wet weather storage tank and approximately 14,000 manholes. The Authority purchased the assets in 2005 from the Member Municipalities with proceeds of the 2005 Series A Bonds.

### **3.2.1. Wastewater Treatment and Sludge Disposal**

The ESWPCF is an activated sludge, advanced secondary wastewater treatment plant capable of treating up to 40 mgd of sewage on a typical dry-weather day and is the largest

coastal Connecticut wastewater treatment plant discharging into Long Island Sound. Operating with a combined sewer system – one that conveys both sanitary sewage and stormwater – the ESWPCF treats up to 100 mgd of sewage flow in periods of wet weather. In accordance with the recommendations of the Long Island Sound Study (LISS), ESWPCF's secondary treatment process has been upgraded to include a BNR system for the removal of nitrogen.

Primary and waste activated sludge generated at the ESWPCF is ultimately delivered to an on-site sludge incinerator for processing. Primary sludge is conveyed to gravity thickeners, with thickener underflow passing to a sludge holding tank where it is mixed with gravity belt thickened waste activated sludge and municipal sludge delivered from outside sources. The mixed sludge is then dewatered and incinerated. Based on current flows, excess incinerator capacity exists. Synagro markets this excess capacity to outside sources to offset sludge management costs otherwise paid for by the Authority.

### **3.2.2. Sewage Pump Stations**

The Authority owns, operates and maintains 30 sewage pump stations. The wastewater pumping stations range in size from 90 gallons per minute (gpm) up to 40 mgd. Appendix B provides a listing of the pump stations, their location and associated capacity.

### **3.2.3. Sewage Collection System**

The sewage collection system is comprised of approximately 560 miles of sanitary and combined sewers (ranging in size from 8 to 102 inches in diameter), approximately 14,000 manholes and the Authority's Truman Tank, a wet weather storage tank designed to capture 5 mgd of wet weather combined sewer flow.

The Authority has an ongoing program to clean, inspect, repair, and rehabilitate the collection system including implementation of the Combined Sewer Overflow (CSO) Long-term Control Plan (LTCP) to eliminate CSOs through implementation of sewer separation, storage and treatment projections. Cleaning and inspection of sewers is performed through the Authority's existing Agreement for Operation and Maintenance of the Wastewater System with OMI, with a stated contractual goal of full coverage of the system every three to five years.

Since creation in 2005, the Authority has completed almost \$80 million in collection system improvements, including replacement of more than 17 miles of sewer pipe. Funding for these projects was secured from a variety of sources, including Yale and Quinnipiac Universities, the State Department of Transportation (DOT), and the State CWF program including almost \$20 million in grants for CSO related projects. The City of New Haven also shares in the cost of the CSO related projects and reimburses the

Authority for 40 percent of the cost. Out of the \$80 million in improvements, the net cost to Authority rate payers was about \$25 million.

## 4. Operations and Maintenance

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### 4.1. Sewer Ordinance

The Authority's Sewer Ordinance provides for the regional planning, design, construction, management, operation and maintenance pertinent to the collection, conveyance, transportation, storage, pumping, treatment and disposal of sanitary sewage and high strength wastewater.

The Sewer Ordinance establishes guidance on collection system operation. It provides legal authority to allow the Authority to protect the system through control of connections and discharges to the system, two important issues that can affect treatment plant regulatory compliance if not well managed.

### 4.2. Sewer Extension and Connections

The consent and approval of the governing body of the affected Member Municipalities is required as a condition precedent to seeking approval from the Authority for any proposed sanitary sewer extension. Final approval from the Authority is required for any sewer extensions or connections and/or modifications that have the potential to change the quantity or quality of wastewater received in the Regional Wastewater System by the Authority. The Authority may finance approved sewer extensions and connections and may levy and collect benefit assessments as provided in CGS 22a-500 to 22a-519. The Board of Directors has adopted the policy that all benefit assessments shall be established to recover the full cost of sewer expansions or extensions. These provisions are enumerated in the Sewer Ordinance.

During October 2006, the Authority adopted a connection fee for all new or modified connections to the System. The intent of the connection fee is to recover the capital costs associated with the infrastructure necessary to provide service and capacity to new customers or increases in flow from existing customers; to limit the impact of growth related costs on existing customers, and to recover the costs of permitting and inspection.

### 4.3. Preventative Maintenance

The Authority is responsible for providing oversight of the current service contracts (with OMI and Synagro) to ensure appropriate maintenance programs, including repair and replacement, are implemented in accordance with the respective agreements with the Authority. Provisions for preventative maintenance of the ESWPCF and collection

system are components of the Authority's Agreement for Operation and Maintenance of the Wastewater System with OMI.

The Authority retained Malcolm Pirnie to conduct an operations monitoring review of OMI's performance for FY 2010/2011. The Wastewater Treatment Systems Performance Evaluation Report, dated December 2011, reviewed OMI's staffing, monitored OMI's performance in specific operational areas and assessed the equipment condition and the general care of the Authority's assets to ensure contract compliance. Information for the Performance Evaluation Report was derived from pump station and wastewater treatment facility on-site inspections conducted in May 2011 and from a review of monthly reports, computerized maintenance management system (CMMS) data and other technical documents as supplied by the Authority and OMI. In summary, the Performance Evaluation Report concluded that OMI was in compliance with many of the specific provisions in the contract, particularly as they relate to the management, operation and performance of the ESWPCF, including environmental compliance with regulatory requirements. The review, however, did identify deficiencies in OMI's performance with regards to proper maintenance of Authority's assets as specified in the Agreement for Operation and Maintenance of the Wastewater System, including compliance with the preventive and corrective maintenance practices and general housekeeping requirements.

To improve preventative maintenance practices, the Authority in 2009 purchased a new "out-of-the-box" web-based solution called Maintenance Connection to replace the existing computerized maintenance management system (CMMS) called Datastream MP2 used by OMI. Key benefits of the new Maintenance Connection CMMS are the added capabilities for tracking and reporting on system maintenance performance and requirements to increase preventative maintenance efficiency. OMI is responsible for maintaining the CMMS. The Authority and OMI are currently engaged in ongoing discussions to remedy these areas of concerns, including hiring a maintenance clerk to assist with data entry and upkeep for the CMMS. It is also negotiating various improvements to the existing Agreement for Operation and Maintenance of the Wastewater System to insure long-term viability of the Authority's assets.

In addition, the Authority has prepared a Capacity, Management, Operations and Maintenance (CMOM) Plan, dated March 2011, which builds upon the Authority's 2008 CMOM Assessment and Corrective Action Plan and includes a proactive Preventative Maintenance Program.

## **4.4. Utility Operations**

### **4.4.1. ESWPCF Operation and Maintenance (O&M), Capital Replacement**

Operation and maintenance of the ESWPCF is provided through the Agreement for Operation and Maintenance of the Wastewater System with OMI. OMI is responsible for day-to-day operation and maintenance of the facility, and Authority staff is responsible for approval of capital replacement programs provided by OMI, overall capital planning, management oversight, and coordination with OMI.

### **4.4.2. Sewage Collection System Management**

OMI is responsible for day-to-day operation and maintenance of the sewage collection system. The Authority is responsible for overall capital planning, management, oversight and coordination with OMI. OMI currently utilizes (and supervises) staff members of the Authority to assist in the day-to-day operation and maintenance of the sewage collection system.

### **4.4.3. CSO Management**

During 2001, the New Haven Water Pollution Control Authority (NHWPCA) submitted and the CTDEEP approved a CSO LTCP, which detailed how the Authority would control and ultimately mitigate CSO's. The Authority is permitted to discharge excess flows resulting from wet weather events under the terms of its NPDES discharge permit and the requirements of the CSO LTCP. The CSO LTCP requires the Authority to convey and treat all flows generated from, up to a statistical two-year storm event. The CSO LTCP incorporates a number of strategies, giving high priority to immediately implementable, low cost/high return measures. Many of these measures include maximizing wet weather flows to the ESWPCF either by capital improvement or operational enhancements, separation of the stormwater inflow into the combined sewer system, installing off-line combined sewage storage tanks, capacity upgrades to pumping stations and conduits, as well as implementation of the Environmental Protection Agency's (EPA's) Nine Minimum Controls for operations of wastewater systems.

Since 2005, the Authority has completed numerous projects to reduce/and eliminate CSO's including the Truman Wet Weather Storage Tank (CWF 563DC); sewer separation projects in the Elm Haven, Pine Street and Orange-Bishop Sewer Sheds (CWF 463), the Interstate 95/Woodward Avenue System Reconstruction and Lombard Street Sewer Separation, Trumbull Street Phase I and preparation of the Facilities Plan and Affordability Study (581C), and infiltration and inflow removal projects in the Morris Cove, Upper Thorpe Drive and Lower Shepard Sewer Sheds (CWF 206CSL).

During July 2009, the Authority entered into a Consent Order (Order No. WC 5509) with the CTDEP to among other items, prepare a Facilities Plan, Affordability Study and Capital Improvement Funding Plan for implementation of the LTCP, de-nitrification at

the ESWPCF and other related wet weather infrastructure projects. In addition, a LTCP Update based on the findings of the Facilities Plan and Affordability Study is to be submitted every five years until all of the identified projects have been completed.

The Authority's Facilities Plan (the Wet Weather Capacity Improvements and Nitrogen Reduction at the East Shore Water Pollution Abatement Facility dated November 2009 and amended February 2011) was approved by the CTDEEP on March 9, 2011. The Capital Improvement Funding Plan for the next-five years was approved by the CTDEEP on November 18, 2011 (CWF 441). The Affordability Study, which was submitted in April 2011, is still under review by the CTDEEP and the USEPA.

Projects implemented in accordance with the CSO LTCP are eligible for funding through the State's CWF program and maintain a high position on the CWF priority list. All eligible CSO-related projects qualify for a 50 percent grant and 50 percent low interest loan under this program. In accordance with the Inter-Local CSO Cost Sharing Agreement, the cost of implementing the CSO program will be shared 60 percent by the Authority and 40 percent by the City of New Haven.

#### **4.4.4. Capacity, Management, Operations and Maintenance (CMOM) Plan**

During March 2011 the Authority prepared a CMOM Plan for the wastewater collection system to:

- Enhance efficient and effective collection system operation and maintenance while protecting public health and the environment
- Meet all of the regulatory requirements of the CTDEEP and USEPA
- Build on the 2008 CMOM Assessment and Corrective Action Plan

The CMOM Plan also includes a proactive Preventative Maintenance Program and Overflow Emergency Response Plan. Key goals of the CMOM Plan are to improve the capacity, management, operation and maintenance of the sewer collection system, reduce and/or eliminate sanitary sewer overflow (SSO) events and improve public notice for any SSO events.

#### **4.4.5. Long-Term Sludge Management**

The Authority uses the ESWPCF's on-site incinerator to meet its long-term sludge management and disposal needs. The contractor (Synagro) operates the sewage sludge incinerator, which is used for sewage sludge management and fats, oils, and grease (FOG) handling and disposal. In addition, FOG collected and disposed of at the facility can be used as a supplemental and/or alternative fuel source for heating needs of the facility.

The Authority is in the process of implementing a FOG system expansion and improvements project to increase storage and processing capacity for FOG disposal. The

Authority currently receives significant revenue from its FOG disposal program and anticipates that the expansion and improvements will not only help to meet regional FOG disposal needs but will provide a revenue source to help offset wastewater collection and treatment disposal charges. The project is being funded through the State CWF program and includes a 20 percent grant.

#### **4.4.6. Information Management Systems**

The Authority continues to develop and implement a comprehensive, system-wide computerized information management (IM) system to optimize the delivery of services. This includes operations, maintenance, renewal and replacement, capital planning, sewage collections, billing, customer information and customer service. This IM system will replace the management systems inherited from the Authority's predecessor agencies. This system is designed to provide integration across data collection, processing and storage and utilization functions. Many components are currently in operation as discussed below. The Authority anticipates that it may take several years to fully implement the planned IM system.

The Authority currently utilizes a variety of electronic information database and software systems using a common secure network. These include:

- **LIMS:** Laboratory Information Management System used to record and track laboratory information.
- **SCADA:** Supervisory Control and Data Acquisition software used to monitor plant and pump station operations and equipment status and also to alert operators of alarm situations.
- **UNIFUND:** The Authority's enterprise account information system.
- **On-line Operations and Maintenance Manuals** are used to document wastewater plant equipment and process descriptions, operating procedures, and design information. This is maintained and operated by OMI.
- **Maintenance Connection CMMS:** Computerized Maintenance Management Systems used to manage maintenance functions such as work orders and to keep historical records of asset maintenance and condition in the collection system. This system is owned by the Authority and maintained and operated by OMI.
- **GIS:** A Geographic Information System, inherited by the Authority from the City of New Haven, and used to house asset data such as location, condition, connectivity, etc. It also contains historical records of collection system maintenance. The collection system CMMS uses GIS maps to identify asset locations and aid with maintenance planning.
- **CIS:** A new Customer Information System which came on-line on July 1, 2010 and now allows the Authority to manage utility billing and customer information management in-house vs. the historical contracting with the RWA for provision of

these services. This has resulted in significant cost savings and increased efficiency and access to information for the Authority.

#### **4.4.7. Billing and Customer Service**

Historically, the Authority contracted with the South Central Connecticut Regional Water Authority (RWA) for provision of utility billing and customer information management services. The RWA operates a computerized sewer use billing system and historically provided billings services to the Authority. Beginning in 2008, the Authority embarked on the development of its own utility billing and customer information system (CIS) capable of being implemented prior to expiration of the Authority's contract with RWA, which was scheduled to expire on September 30<sup>th</sup>, 2010. On July 1, 2010 the Authority's new Customer Information System (CIS) became operational and has resulted in increased predictability in revenues and improved customer service. The Authority continues to rely on RWA water consumption data for billing purposes and has entered into a new three-year agreement with the RWA for such services that began during February 2011.

#### **4.5. Regulatory Status – Applicable Permits**

The Authority must adhere to the following permit requirements:

- National Pollutant Discharge Elimination System (NPDES) Permit
- General Permit for Discharge of Nitrogen from Publicly-Owned Treatment Works (POTWs)
- CTDEEP Air Management Permit to Operate Municipal Sewage Sludge Incinerator
- General Permit to Limit Potential to Emit (Title V)

As part of the 2011 Performance Evaluation Report, performance data for the period of May 2009 through May 2011 was reviewed. During this evaluation period the facility performed well with respect to its National Pollutant Discharge Elimination System (NPDES) permit and the performance criteria for biochemical oxygen demand (BOD), suspended solids (TSS), fecal coliform, and chlorine residual established in the OMI Agreement for Operation and Maintenance of the Wastewater System. The facility also performed well with respect to total nitrogen (TN) requirements under the State's General Permit. While a review of the Sludge Incinerator was not part of the 2011 Performance Evaluation Report the GNHWPCA has advised that the Incinerator is in compliance with its permit requirements.

Over the past four-years the Authority has received the following Notice of Violations (NOVs) from the CTDEEP:

1. NOV No. 16369 for alleged overcharging at the incinerator. This NOV was subsequently closed by the CTDEEP during September 2009 based on Authority provision of documentation confirming compliance.

2. NOV dated December 2010 requiring elevator repairs including lighting, alarm bell and removal of water from elevator pit. The Authority immediately corrected the elevator deficiencies in compliance with the NOV.
3. NOV DEP/WPC 10-010 with respect to overflows, housekeeping and ventilation at the East Street and Boulevard Pump Stations. The Authority addressed the CTDEEP concerns and the CTDEEP issued a final closure letter on August 10, 2011.
4. NOV Nos. 16635 and 16644, dated November, 2011, to Synagro Northeast, Inc. and New Haven Residuals, L.P., concerning exceedences of the Facility's incinerator air emissions permit standards. A response was submitted to the CTDEEP demonstrating that the facility had actually complied with applicable standards. The CTDEEP Bureau of Air Management thereupon withdrew NOV Nos. 16635 and 16644 based on the information provided to the agency.

We are not aware of any other NOVs pertaining to the system and the Authority reports that it is currently in compliance with all of its operating permits.

As discussed previously within this Report pertaining to CSO Management, the Authority has entered into Consent Order No. WC 5509 with the CTDEEP dated July 2009 with respect to implementation of a comprehensive Facility Plan including the denitrification project, the LTCP and the preparation of an affordability study. The Consent Order provides for implementation of the plan based on the affordability of the program in accordance with USEPA Affordability Guidelines (USEPA 1995 Interim Guidance on Water Quality Standards). The Authority is currently in compliance with the requirements of the Consent Order.

On February 14, 2012, the Authority received an information request from the USEPA pursuant to Section 308 of the Federal Clean Water Act seeking documentation and compliance information pertaining primarily to dry weather overflows, wet weather overflows, the Authority's CMOM program, and the draft Affordability Study. The Authority has submitted a timely partial information package is in the process of preparing the balance of the response to this information request.

The Authority will need to continue to implement a comprehensive CIP to maintain the System in good working order in compliance with the Consent Order and future regulations. With the CIP expenditures proposed by the Authority (see Section 5), the five-year LTCP updates based on affordability, adequately funded annual budgets, and the use of an experienced engineering, operation and maintenance staff, the Authority should be able to continue to provide wastewater treatment in accordance with regulatory requirements.

## **4.6. Key Accomplishments**

The Authority began operations in August 2005 upon purchase of the regional wastewater system. Since that time, the Authority has accomplished many of its original goals, which includes consolidated operations, implementation of uniform user rates and connection fees throughout the service area, improved services (customer service initiatives, changes in Board representation, etc., and reduced capital borrowing costs as a result of increased grant funding). The following provides highlights of the Authority's key accomplishments.

### **4.6.1. Combined Sewer Overflow Long Term Control Plan**

During 2003, the CTDEEP approved the City of New Haven's 2001 CSO-LTCP. This approved Plan established a comprehensive program for the elimination of all CSO's for all storm events up to and including a two-year rain event.

The Authority has also entered into a Consent Order with the CTDEEP that provided for the development of a Facilities Plan and the conduct of an Affordability Study, both which have been completed. The Facilities Plan was approved during March 2011 and the Affordability Study is still under review by the CTDEEP and USEPA. The Consent Order provides for the implementation of the required improvements based on affordability.

### **4.6.2. Collection System Improvements**

The Authority continues to focus on sewage collection system renewal and replacement. As components of this overall program, construction of the Morris Cove Pump Station Project in New Haven, and the Welton Street Pump Station and Pipeline Project in Hamden were completed during 2006. The CIP provides for ongoing sanitary sewer evaluation studies to be conducted in targeted areas of the regional collection system. These studies will assess the condition and identify locations where repair/rehabilitation work may be required.

Under the Clean Water Fund, the Authority was successful in obtaining \$4 million in subsidized, two percent interest loans for infiltration/inflow improvements to the collection system. The project included work within the Morris Cove Sewershed in the City of New Haven and the Upper Thorpe Drive and Lower Shepard Brook Sewersheds in Hamden.

In connection with the State of Connecticut Department of Transportation's (DOT) replacement of the Interstate 95 Quinnipiac River Bridge, the Authority executed numerous utility relocation agreements relating to highway improvements impacting existing sewer infrastructure. Projects completed include replacement of the twin 42"

diameter force mains located directly under the Quinnipiac Bridge, which convey over 50 percent of the total flow to the ESWPCF, an numerous other pipe segments ranging in size from 8" to 42" and age from 1977 to 1989. From the period of 2009 to 2011 more than 2.8 miles of pipe were rehabilitated or replaced through utility relocation agreements with the DOT.

Numerous other collection system improvements have also been completed within the system by the Authority and through cooperation with other entities including Yale and Quinnipiac Universities and Tweed Airport. Over the past four years, the Authority has replaced more than 3 percent of its sewer system pipes.

#### **4.6.3. Nitrogen Reduction Program**

The ESWCF is the largest coastal wastewater treatment plant in Connecticut discharging into Long Island Sound and is impacted by the implementation of the Long Island Sound Study (LISS). The Comprehensive Conservation and Management Plan (CMMP) for Long Island Sound requires the reduction of nitrogen sources.

The CTDEEP implemented a Nitrogen Credit Trading Program (NCTP) to reduce the overall costs for municipal wastewater treatment systems to control nitrogen. The NCTP allows plants that achieve a greater nitrogen reduction in effluent than required to sell credits to plants that do not achieve their nitrogen reduction requirements. The ESWPCF has performed well with respect to achieving nitrogen reduction levels greater than required and historically was the recipient of significant nitrogen credit revenues. The Authority's is in the process of designing and implementing improvements to further reduce nitrogen levels to meet the 2014 nitrogen reduction goals established by the State.

The Authority, in accordance with its approved Facilities Plan (Wet Weather Improvements and Nitrogen Reduction at the East Shore Water Pollution Abatement Facility, dated March 1, 2011) has received CTDEEP approval for Phase I of an upgrade to the ESWPCF that includes nitrogen reduction improvements. The nitrogen reduction improvements are projected to allow the ESWPCF to exceed the 2014 nitrogen reduction goals. The project will be funded through the CWF and will receive a 30% biological nitrogen removal (BNR) grant for the eligible improvements. For budgeting purposes the Authority is assuming that it will no longer be the recipient of nitrogen credit revenues nor will it be required to purchase any credits during the forecast period.

#### **4.6.4. Beneficial Use of Sludge Incinerator Exhaust Gas**

During August, 2007, the Authority executed a definitive contract with Dresser-Rand for the design, construction, operation and maintenance of the multiple hearth furnace energy Project (the Dresser Project). The Dresser Project consists of a waste heat boiler that captures exhaust gases from the sludge burning incinerator and creates high pressure steam. The steam is then sent to a turbine generator that produces electricity. All of the

produced power is used internally at the ESWPCF. In addition to a reduction in the cost of operations, this would allow the ESWPCF to be more self sustaining in the event of a major power loss from the connecting electric power supply grid.

The Dresser Project was funded with a one-time capital grant from the State of Connecticut in the amount of \$337,500 and \$505,700 from the sale of Class III Renewable Energy Credits, and through \$2.5 million in clean renewable energy bonds (CREBs) under Section 54(f) of the Internal Revenue Code. The CREBs award provides zero interest financing for this project via the program's reimbursement of the Authority's interest costs for financing the project.

Construction of this pioneer Project was completed in 2009 and initially performed very well. Unfortunately, mechanical failures occurred in the boiler due to production of acid gases which deteriorated the boiler tubes. Redesign and reconstruction of the boiler is currently underway and the system is anticipated to be operational by September 2012.

#### **4.6.5. De-regulation and the Purchase of Electricity**

United Illuminating Company (UI), the primary power supplier in the region and obtains bids from privately-owned generation plants for wholesale electric power supply contracts at market price. Under these bids, all costs for the purchase of power are "passed-through" to customers and UI adds its transmission and delivery charges. The UI's power purchase service has historically resulted in prices that are often higher than what is available on the competitive energy supply market. As such, the Authority, in conjunction with the City of New Haven, continues to periodically conduct a procurement process for the purchase of electricity. This process resulted in the Authority currently purchasing electricity from Noble Energy at a rate of 8.6 cents per kWh (not including UI transmission charges) fixed for a two-year period starting December 2011. Over the past five years it is estimated that the Authority's competitive procurement of energy has resulted in annual savings of more than \$500,000.

#### **4.6.6. Biosolids Disposal**

Although the Authority has been able to stabilize its biosolids (sewage sludge) disposal costs through operation of the existing sewage sludge incinerator at its ESWPCF, those costs represent 20 percent of its FY2012 Annual Operating Budget.

During early 2007, a Biosolids Management Alternatives Assessment (the Assessment)<sup>1</sup> was prepared to evaluate alternative technologies, management options and related economic, environmental and operating systems for biosolids disposal at the ESWPCF. The study reviewed current operating conditions including air emissions, and completed a comprehensive alternatives evaluation to the plant's existing solids management strategy. It also included a benefit and an economic analysis for the implementation and operation

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<sup>1</sup> CH2M Hill, Biosolids Evaluation Report, April 9, 2007.

of the six selected alternatives. The economic analysis was based on a 20-year period commencing in 2015, which is the termination date of the existing Synagro biosolids management contract.

Results of the Assessment indicated that continuing the current operation was the most economically feasible alternative. From a benefit perspective (all non-monetary factors) the Assessment indicated that maintaining current operations and eliminating imported sludge was the alternative which presented the highest benefits. When the two perspectives were combined, the alternative (from the Assessment) that provided the greatest benefit for the lowest cost (benefit/cost ratio) was the continuation of the current operation with no modifications.

The quantity of sludge being delivered by the Authority's ESWPCF, however, has declined slightly and is below that anticipated to be required when the original biosolids management contract with Synagro was executed. The Authority is currently in negotiations with Synagro to identify opportunities to potentially reduce Authority's sludge disposal costs and better capitalize on any excess capacity.

#### **4.6.7. Interactive Financial Model**

In a collaborative approach with Authority staff, Malcolm Pirnie developed a copyrighted interactive financial model that allows the Authority to project its financial condition over a multi-year forecast period (up to 30 years). The model allows the Authority to import data from the accounting system into the financial model for analysis; forecast budget requirements and impact on rates and debt service coverage; provide a graphic tool for quickly communicating financial requirements to Directors, rating agencies, regulatory and financial officers, etc.; and analyze, quickly and in real time, proposed changes in operating costs, capital requirements, service fund levels, implementation of other fees and charges, and the impact that these changes may have on current and future revenue requirements. The model is operational and was utilized in the preparation of the Affordability Study and the evaluation of the FY2012 Annual Operating Budget.

#### **4.6.8. Information Technology Master Plan**

The creation of the Authority posed challenges in assimilating people, processes and systems from what had originally been a part of various independent agencies. In order for the Authority to have a clear vision for moving forward – one that meets the information needs of the business in the most efficient and effective manner possible – a clear, prioritized master plan for information technology improvements was created (the IT Master Plan).

The IT Master Plan recommended that the Authority continue its practice of utilizing area IT firms to provide a significant amount of desktop and infrastructure support. Competitive pressures and standardizing IT services enable such firms to provide them at

a reasonable cost. During 2008, the Authority hired an internal IT support specialist to manage the activities of the 3rd party firms mentioned above, provide ongoing application support and serve as a key project member for major systems deployment and replacement.

As part of the IT Master Plan, the Authority, in conjunction with the South Central Regional Water Authority, completed an aerial photography project and developed up-to-date and detailed GIS data layers for the City of New Haven and the Towns of East Haven, Hamden and Woodbridge. The Authority also completed the development of a new utility billing and customer information system that became operational during 2010, implemented a new comprehensive CMMS program (Maintenance Connection) that was purchased in 2010 and upgraded its servers and network system.

#### **4.6.9. On Call Engineering Professional Service Agreements**

During June 2009, the Authority requested qualification submittals from engineering firms to provide on-call professional services in planning, surveying, design, information technology, construction contract administration, resident inspection and general technical support in the major service areas of wastewater treatment facilities, sewage collection systems, pumping stations, GIS and energy. After a lengthy selection process, On Call Professional Engineering Services Agreements with three-year terms ending in 2013 were executed with 28 consultants. The Authority uses these on-call contracts to help implement the Authority's five-year CIP. Since 2010, the Authority has authorized \$7.6 million in professional services with its On Call Consultants relating to the CSO LTCP and the approved five-year CIP.

#### **4.6.10. Permit and Connection Fees**

In 2006, the Authority commissioned a Connection Fee Study<sup>2</sup> to develop a fee that would be applied uniformly and fairly to all new customers of the System within each of the Member Municipalities. The purpose of the connection fee is to support a "growth-pays-for-growth" approach to limit the impact of growth-related costs on existing customers and to recover these costs as well as the cost of permitting and inspection. The Board of Directors adopted the proposed connection fee in October 2006 and updated the fee in October 2009.

#### **4.6.11. Human Resources**

The Authority has recently developed the classification descriptions, salary increase schedules and the Performance Management and Compensation Plan. In addition, other significant personnel accomplishments were recently achieved. During FY2007, the Authority became a member of the Connecticut Municipal Employees Retirement Plan, a State maintained pension plan with 97 municipal members. The Authority also

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<sup>2</sup> Malcolm Pirnie Connection Fee Study dated September 2006.

implemented a deferred compensation 457(b) eligible savings retirement plan; a tuition reimbursement program; and an individual and family health and dental insurance plan. Under the health and dental plan, two options with varying levels of co-pay are offered to the Authority's employees and their dependents. Co-pay levels based on the individual plan selected vary from 10 to 15 percent.

On July 1, 2010, the Authority renewed a four-year Collective Bargaining Agreement with Local 1303-434, American Federation of State, County and Municipal Employees (AFSCME), AFL-CIO. This union represents the customer service and collection system maintenance employees. The Collective Bargaining Agreement with Local 1303-434 includes salary adjustments of 3.0 percent per year for the term of the agreement. During March 2012, the Authority also renewed a four-year Collective Bargaining Agreement with AFSCME Local 818-054 starting in July 1, 2012. This union represents the Authorities supervisory employees. The Collective Bargaining Agreement with AFSCME Local 818-054 includes salary adjustments of 3.25 percent per year.

#### **4.6.12. Billing and Collections**

The Authority has adopted a comprehensive billing and collections policy to enhance billing and collections. Key provisions include:

- Bills not paid within 30 days from the billing date are subject to interest at a rate of 1.5 percent per month from the dated billed.
- A delinquent account is sent to a collection agency after the amount owed is \$90 and is greater than 90 days old.
- When an account is sent for collection it is tagged and the collection fee is added to the bill of the delinquent customer for reimbursement.
- Payments not received continue for further collection procedures under a Tax Warrant and Foreclosure Proceeding.

The Authority also implemented "Check Free" payment service (i.e., Authority-staffed payment locations) with locations throughout the service area. The Authority now utilizes Webster Bank to provide more timely movement through the lock box process, which resulted in better service at a lower cost.

#### **4.6.13. Environmental Impact Fund**

In response to a request from environmental groups in New Haven and the region, the Authority established a \$1 million environmental impact fund from the proceeds of the 2005 Series A Bonds. The proceeds will be used to fund projects in the Member Municipalities for environmental and public health research, resource development at public and private institutions, community development plans for site remediation and increased green space access, air and water cleanup initiatives, and financial support for environmental litigation and projects promoting environmental education and awareness.

The \$1 million has been transferred to the New Haven Green Fund, a non-profit 501(c)(3) corporation, to administer the fund. The Community Foundation of Greater New Haven will serve in an investment management capacity and will assist with the administrative duties. The Community Foundation is one of the oldest and largest philanthropic institutions in the United States

#### **4.6.14. Strategic Business Plan**

The Authority prepared a Strategic Business Plan (SBP) to guide its growth and development over the next 5-10 years. The SBP, is a dynamic plan, containing a series of expected goals and performance metrics, and set standards for operations, customer relations and financial accountability. The SBP is updated annually and is posted on the Authority's website to communicate the goals of the Authority.

#### **4.6.15. Consolidated Offices**

Historically, the Authority operated from two locations: Customer Service operated from a downtown New Haven location while all other departments operated from the ESWPCF. The administrative office space at the ESWPCF was very limited and unable to accommodate additional personnel without significant improvements. During 2009, the Authority purchased and rehabilitated an office building at 360 East Street in New Haven, CT centrally located between downtown New Haven and the ESWPCF site. The new office building location not only allowed for the consolidation of office locations, but provided for additional meeting and conference rooms including a large room for conduct of board meetings and public hearings, and adequate public parking for staff and visitors.

## 5. Capital Improvement Program

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### 5.1. Capital Improvement Planning

The Authority is responsible for all capital planning, including coordination of input from its contract operators (OMI and Synagro) associated with their responsibility for repairs and replacements under their respective operating agreements with the Authority. Annual capital budgets and plans are prepared by the Authority for approval by the Board of Directors.

The Authority's CIP includes a comprehensive schedule of planning, design, construction, maintenance and repair of the Regional Wastewater System. These estimates may or may not represent the magnitude of the estimated total project costs, since the implementation of the capital expenditures of some of these projects extend beyond a five-year Forecast Period. The five-year CIP is reviewed and revised each year by the Authority to keep the plan current and responsive to System needs and to provide for the long-term preservation of the facilities. Current revenues or debt financing is anticipated to fund many of the CIP projects, and the funds remain allocated until the project is completed. The CIP funding plan is annually approved by the Authority and the Board of Directors.

For projects not funded through revenues or eligible for the State's Clean Water Fund program, the Authority anticipates issuing revenue bonds pursuant to its Indenture. The Authority anticipates issuing revenue bonds as required to fund the capital expenditures. The 2012 Bonds are being issued to fund the Authority's next three years of capital projects that are not eligible for funding under the CWF program.

### 5.2. Projects Funded With the 2012 Bonds

The 2012 Bonds are being issued to fund the projects summarized in Table 5-1. A brief description of these projects is provided following the table.

**Table 5-1.  
Projects to be Funded by 2012 Bonds(1)**

<b>Project</b>	<b>Total Project</b>
Emergency Generator Project	\$200,000
East Shore Plant Upgrades	500,000
Morris Cove Pump Station, East Haven, CT	500,000
Mill Rock Pump Station, Hamden, CT	500,000
Whitneyville Pump Station, Hamden, CT	650,000
Old Grand Ave. Pump Station Electrical System Upgrade New Haven, CT	100,000
East Street / Boulevard Major Pump Stations	1,000,000
Collection System - Emergency On-Call	2,000,000
Lining Rehabilitation & I&I	1,800,000
Brookside Bridge Sanitary Sewer Relocation	300,000
Sanitary Infrastructure Renewal Program	1,000,000
<b>Total</b>	<b>\$8,650,000</b>

(1) Includes only those projects being funded with proceeds from the 2012 Bonds. Additional projects are planned during this time period as presented in the Authority's CIP in the Section 6 of this Report. The additional projects, however, are being funded through the State's CWF program.

**Emergency Generator Project** - The project will include the design and construction of an emergency generator for the Authority's administrative offices located at 260 East Street in New Haven. The project will ensure that operations, customer service, finance and engineering can continue to serve its rate payers during power outages and/or emergency conditions.

**East Shore Plant Upgrades** - The project includes the engineering, design, and construction of all related work necessary for the implementation of an annual major equipment upgrade and replacement program at the East Shore Water Pollution Control Facility.

**Morris Cove Pump Station, East Haven, CT** -The project includes replacement of the existing dry pit submersible pumps with new pumps that will include a cutter system to eliminate the need for the existing grinder system. Ancillary work will include new piping arrangement along with necessary electrical and instrument and control work.

**Mill Rock Pump Station, Hamden, CT** - The project involves total renovation of the existing Mill Rock Pump Station located on 340 Mill Rock Road in Hamden, CT. The project includes replacement of shaft driven pumps with Electric dry pit Submersible cutter pumps. Ancillary improvements will include new generator and upgrades to the electrical and HVAC systems along with building improvements such as new roof, doors, and windows to insure the structure becomes water tight.

**Whitneyville Pump Station, Hamden, CT** - The project involves total renovation of the existing Whitneyville Pump Station located on 911 Whitney Avenue in Hamden, CT. The project includes replacement of the existing pumps and new generator along with ancillary improvements will include upgrades to the electrical and HVAC systems along with building improvements such as new roof, doors, and windows to insure the structure becomes water tight.

**Old Grand Avenue Pump Station Electrical System Upgrade New Haven, CT** – The project includes replacement of the electrical panel and system which services the existing Old Grand Avenue Pump Station located at 441 Grand Avenue, New Haven. The existing pole mounted box, meter and telemetry equipment will be relocated to a new box/cabinet that meets current electrical code requirements.

**East Street / Boulevard Major Pump Stations** - The project will engineer, design, and construct all related work necessary for the implementation of an annual major equipment upgrade and replacement program at two of the Authority's major pump stations in New Haven.

**Collection System - Emergency On-Call-** The project involves design, construction and all related work necessary for the emergency repair and replacement of collection system infrastructure at various locations under the direction of the Engineering Department. The project will use these funds on an as-needed basis utilizing the services of a On-Call Contractor to perform unexpected but necessary repair work on the sanitary sewer system.

**Lining Rehabilitation & I&I** – The project(s) involve survey, engineering, design, construction and all related work necessary to implement of Sanitary Sewer Evaluation Studies performed at various locations within the collection system to reduce infiltration and inflow. Work will be prioritized based on the Authority's collection system condition assessments and asset management list.

**Brookside Bridge Sanitary Sewer Relocation** -The project involves all necessary construction work to abandon and reconstruct two sanitary sewer conveyance pipes within the immediate vicinity of the Brookside Bridge over Wintergreen Brook in New Haven. The new pipes will replace the existing pipes from within the existing bridge culverts to an area beyond the limits of the proposed bridge footprint in preparation for the City's reconstruction of the Bridge.

**Sanitary Infrastructure Renewal Program** - Funds for survey, engineering, design, construction and all related work necessary for the implementation of an annual sanitary sewer infrastructure renewal program at various locations in the collection system dictated though the priorities set forth within the Authority's Capacity, Management, Operations and Maintenance (CMOM) Plan.

### 5.3. Capital Improvement Program

Malcolm Pirnie reviewed the CIP provided by the Authority for FY2012 and the subsequent five-year Forecast Period. Capital projects include improvements of certain facilities at the ESWPCF, pump stations, force mains and other related facilities in the collection system and CSO projects to meet the goals of the Facilities Plan, collection system renewal and replacement and other Authority requirements. Table 5-2 presents a summary of the FY2012 capital plan and the projected CIP for the next five-years through FY2017, as well as the expected funding sources as projected by the Authority over this same period. It is anticipated that additional improvements will be required beyond the Forecast Period and funds for such improvements will be determined by the Authority as part of the CIP review and approval process.

**Table 5-2.  
Projected CIP for FY2012 - FY2017 (Current Dollars)**

Project	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Totals
<b>CWF PROJECTS</b>							
<b>CSO Long Term Control Plan</b>							
Yale Trumbull Study/Design/Construction (Phase I)	\$6,000,000	\$0	\$0	\$0	\$0	\$0	\$6,000,000
Yale Trumbull Study/Design/Construction (Phase II)	\$0	\$10,000,000	\$0	\$0	\$0	\$0	\$10,000,000
Wet Weather/Nitrogen Improvements Phase I-Design	\$4,800,000	\$0	\$0	\$0	\$0	\$0	\$4,800,000
Wet Weather/ Nitrogen Improvements Phase I-Const.	\$0	\$45,000,000	\$0	\$0	\$0	\$0	\$45,000,000
Wet Weather Improvements to the ESWPCF - (Phase II)	\$0	\$0	\$0	\$0	\$50,000,000	\$0	\$50,000,000
CSO Sewer Separation - Various locations	\$0	\$0	\$0	\$0	\$17,000,000	\$0	\$17,000,000
<b>East Shore WPCF</b>							
Fats Oils & Grease Infrastructure Upgrades	\$700,000	\$0	\$0	\$0	\$0	\$0	\$700,000
<b>Collection System / Pump Stations</b>							
Collection System I/I Rehab. (Section 3c-100 % Loan)	\$5,000,000	\$0	\$5,000,000	\$0	\$5,000,000	\$0	\$15,000,000
<b>REVENUE BONDS</b>							
<b>East Shore WPCF</b>							
Major Equipment Upgrades and Replacement	\$0	\$500,000	\$0	\$0	\$0	\$500,000	\$1,000,000
<b>Collection System / Pump Stations</b>							
Sanitary Sewer Infrastructure Renewal Program	\$1,000,000	\$2,200,000	\$0	\$0	\$0	\$2,200,000	\$5,400,000
Pump Station Improvements	\$0	\$2,750,000	\$0	\$0	\$0	\$2,750,000	\$5,500,000
Emergency Sanitary Sewer Repair or Replacement	\$0	\$2,000,000	\$0	\$0	\$0	\$2,000,000	\$4,000,000
<b>General Services</b>							
Emergency Generator Project - 260 East St	\$0	\$200,000	\$0	\$0	\$0	\$0	\$200,000
<b>DEDICATED INFRASTRUCTURE RENEWAL FUND</b>							
<b>Collection System / Pump Stations</b>							
Sanitary Sewer Infrastructure Renewal Program	\$500,000	\$210,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,710,000
Fats Oils & Grease Infrastructure Upgrades	\$120,000	\$0	\$0	\$0	\$0	\$0	\$120,000
INC Emergency Water Project	\$80,000	\$0	\$0	\$0	\$0	\$0	\$80,000
HOMA Pump	\$25,000	\$0	\$0	\$0	\$0	\$0	\$25,000
Morris Cove Grinder	\$215,000	\$0	\$0	\$0	\$0	\$0	\$215,000
Septage Drop Off Area	\$0	\$150,000	\$0	\$0	\$0	\$0	\$150,000
Flow Monitoring	\$0	\$150,000	\$0	\$0	\$0	\$0	\$150,000
I & I Study EH / Hamden (Local Share)	\$0	\$370,000	\$0	\$0	\$0	\$0	\$370,000
HVAC - Roof - 260 East Street	\$0	\$120,000	\$0	\$0	\$0	\$0	\$120,000
<b>GRAND TOTAL</b>	<b>\$18,440,000</b>	<b>\$63,650,000</b>	<b>\$5,500,000</b>	<b>\$500,000</b>	<b>\$72,500,000</b>	<b>\$7,950,000</b>	<b>\$168,540,000</b>
CWF Grant	\$4,976,000	\$19,400,000	\$0	\$0	\$21,750,000	\$0	\$46,126,000
2 % Loan	\$11,524,000	\$35,600,000	\$5,000,000	\$0	\$50,250,000	\$0	\$102,374,000
Revenue Bonds	\$1,000,000	\$7,650,000	\$0	\$0	\$0	\$7,450,000	\$16,100,000
Dedicated Infrastructure Renewal Fund	\$940,000	\$1,000,000	\$500,000	\$500,000	\$500,000	\$500,000	\$3,940,000
<b>TOTAL</b>	<b>\$18,440,000</b>	<b>\$63,650,000</b>	<b>\$5,500,000</b>	<b>\$500,000</b>	<b>\$72,500,000</b>	<b>\$7,950,000</b>	<b>\$168,540,000</b>

- (1) 40 percent of the loan amounts for CSO projects are to be reimbursed by the City of New Haven in accordance with the CSO Cost Share Agreement.

## 5.4. Funding Source for Capital Improvement Program

The CIP identifies more than \$87 million of wastewater projects either underway or to be undertaken over the next three years and as much as \$168 million over the next six years. State grants and CWF loans have been approved for the first three years of the plan including \$24.4 million in grants and \$52.1 million in loans which represents approximately 87 percent of the proposed capital program for the next three years. It is anticipated that State grants and CWF loans will continue to be granted to fund an additional \$72 million for the six year program (for a total of \$148.5 over the six year period) which represents approximately 88% of the six-year program. The remaining 12% is anticipated to be funded from the 2012 Bonds, available balance from the Dedicated Infrastructure Renewal Fund, cash contributions and future wastewater revenue bond issues. The funding sources for the total six-year (FY2012–FY2017) CIP, recognized for the purpose of preparing the financial projections contained in this Report, are anticipated to be the following:

**Table 5-3.  
Summary of Funding Sources for CIP (6 year program)**

Description	Estimated Funding Amount	Percent
Proceeds from 2012 Bonds	\$8,650,000	5.1%
Dedicated Infrastructure Renewal Fund	3,940,000	2.3%
State CWF Grants	46,126,000	27.4%
Proceeds from State CWF Loans:		
- City of New Haven Responsibility <sup>1</sup>	34,613,000	20.5%
- Authority Responsibility	67,761,000	40.2%
Proceeds from Additional Bonds	7,450,000	4.4%
Total Funding Sources(1)	<b>\$168,540,000</b>	<b>100.0%</b>
Authority Payment Responsibility	\$87,800,400	52.1%

(1) The City of New Haven is responsible for 40 percent of the loan amounts for CSO projects in accordance with the CSO Cost Share Agreement.

As illustrated in Table 5-3, of the more than \$168 million of projected capital improvements to System for FY2012 through FY2017, only about 52 percent, or approximately \$88 million, is expected to result in payment responsibility for the Authority's ratepayers. The remaining is anticipated to be funded primarily from State grants and City of New Haven reimbursements for CSO-related improvements.

The proposed CIP expenditures represent a continued capital investment in the facilities. Through the annual prioritization of capital projects, as summarized in Table 5-2, the Authority should be able to implement a comprehensive CIP to meet its obligations under the terms of the CSO LTCP and for the long-term preservation of its assets.

## 6. Historical and Projected Customer Statistics

### 6.1. Customer Base

The customer base served by the Authority consists of a diverse mix of residential and commercial customers. The customer base also includes a portion of the Town of North Branford, and several homes from North Haven, which discharge into Authority's sewage collection system.

Customers of the Regional Wastewater System are classified according to the nature of their use of water. All homes, dormitories and apartment buildings are classified as "residential", all manufacturing enterprises in which water is used as part of the manufacturing process are classified as "industrial", and all business and institutional enterprises other than those classified industrial are classified as "commercial". The Authority's wastewater customers are billed quarterly for service based on their metered water consumption, as reported by the RWA.

Table 6-1 presents a summary of the historical metered water consumption and number of water customers by customer class as reported by the RWA. It should be noted that the wastewater customers of the Authority are estimated to represent approximately 97 percent of the water customers of the Member Municipalities.

**Table 6-1.**  
**RWA Data on Historical Water Consumption by Customer Class - ccf(1)**

Calendar Year	Residential	Commercial	Industrial	Public Authority	Total
2001	7,207,000	2,613,000	655,000	668,000	11,143,000
2002	7,097,000	2,569,000	675,000	636,000	10,978,000
2003	6,754,000	2,415,000	648,000	576,000	10,392,000
2004	6,654,000	2,371,000	619,000	557,000	10,201,000
2005	7,015,574	2,545,718	636,083	596,064	10,793,469
2006	6,378,478	2,477,017	537,623	534,352	9,927,470
2007	6,630,183	2,610,675	458,702	610,849	10,310,409
2008 (2)	NA	NA	NA	NA	9,700,000
2009 (3)	6,268,200	2,518,817	297,755	448,259	9,533,031
2010 (4)	5,878,000	2,339,300 (5)	108,300 (6)	304,700	8,530,300
2011 (7)	5,966,500	2,383,700 (5)	132,300 (6)	308,200	8,790,700

- (1) Based on water consumption data and water customer data provided by the RWA in hundred cubic feet (ccf). It is estimated that the sewer customers of the Member Municipalities comprise approximately 94 -97% of the above identified water consumption figures.
- (2) A breakdown of data for 2008 is not available as RWA and the Authority were both transitioning to new utility billing and customer information systems.
- (3) Data is for the period of April 1, 2009 through March 31, 2010 vs. calendar year which coincides with the Authority's billing volumes for FY2011 under the new utility billing system. Note, however, because FY2011 was the first year under the new billing system, the actual billing volumes for FY2011 was more than one million higher (9.6 million ccf) due to a one-time catch up provision which resulted in billing in advance for customers historically billed in arrears. This resulted in as much as 15 months of billed volume for some customers within the 12 month period.
- (4) Data is for the period of April 1, 2009 through March 31, 2010 vs. calendar year which coincides with the Authority's billing volumes for FY2011 under the new utility billing system.
- (5) The Commercial consumption number includes High Strength User volume, although some of this volume is also attributable to the industrial and public authority sectors.
- (6) The Industrial consumption number includes Other User volume which consists primarily of groundwater customers permitted to pump polluted groundwater into the system for treatment.
- (7) Data is for the period of April 1, 2010 through March 31, 2011 vs. calendar year which coincides with the Authority's billing volumes for FY2012 under the new utility billing system.

The total number of customers in the service area is projected by the Authority to remain relatively constant over the next several years. To maintain a conservative financial projection, the amount of billable metered water consumption is projected to be 8.65 million ccf annually for the Forecast Period. Table 6-2 presents a summary of customers served by the Authority by customer class and historic metered water consumption as compared to projected consumption used for each year of the Forecast Period.

**Table 6-2.  
Summary of Customer Accounts and Water Consumption**

<b>Customer Class</b>	<b>Active Customer Accounts (1)</b>	<b>FY2012 Consumption (ccf) (2)</b>	<b>Forecast Period Projected Consumption (ccf) (3)</b>
Residential	43,874	5,966,500	5,900,000
Commercial	2,807	1,718,100	1,680,000
Industrial	94	127,300	120,000
Public Authority	250	308,200	295,000
High Strength	458	665,600	650,000
Other (4)	7	5,000	5,000
<b>Total</b>	<b>47,490</b>	<b>8,790,700</b>	<b>8,650,000</b>

- (1) Based on customer information from the Authority's CIS as of March 26, 2012.
- (2) Based on Authority CIS and utility billing data for FY 2012. This billable metered flow is based on water meter records provided to the Authority by the RWA for the period of April 1, 2009 through March 31, 2010.
- (3) Authority estimate of consumption for billing of the sewer customers as included in the COSS for FY2013. Based on RWA data for water consumption, adjusted to account for lawn watering (i.e. winter consumption) and customers which receive sewer service.
- (4) Other customers of the system include primarily ground water customers within the service area that are permitted to pump polluted ground water into the system for treatment.

For FY2011, the top ten customers, based on user fee revenue as a percentage of the Authority's total operating revenues are shown in Table 6-3:

**Table 6-3.  
Top Ten Customers - FY2011/FY2012**

<b>Customer Name</b>	<b>Consumption (ccf)</b>	<b>User Fee Revenue</b>	<b>Percentage of Total Operating Revenues</b>
Yale University	652,492	\$2,102,139	6.99%
New Haven Housing Authority	172,652	539,862	1.79%
Quinnipiac University	83,480	260,701	0.87%
Southern CT State University	70,304	221,734	0.74%
Bella Vista Apartments	71,184	218,603	0.73%
Calabro Cheese Company	28,200	198,106	0.66%
Yale NH Hospital	62,856	193,119	0.64%
Hospital of St. Raphael	59,252	182,559	0.61%
CT Correctional Center	42,876	131,825	0.44%
Baker Hamden Apartments	38,292	117,485	0.39%
<b>Total</b>	<b>1,281,588</b>	<b>\$4,166,133</b>	<b>13.8%</b>

## 6.2. User Rates and Charges

Table 6-4 contains a summary of the adopted rate structure for the Authority for FY2012 as compared to the past three years.

**Table 6-4.  
Rate Structure**

<b>Description</b>	<b>FY2009</b>	<b>FY2010</b>	<b>FY2011</b>	<b>FY2012</b>
Rate per ccf of Billed Water Use	\$2.45	\$2.61	\$2.84	\$3.06
Administrative Charge per Account per Quarter	\$13.00	\$13.00	\$13.00	\$13.00
Minimum ccf	15	15	15	15
Minimum Bill (quarterly)	\$49.75	\$52.15	\$55.60	\$58.90

### 6.2.1. Rate Comparison

As illustrated in Table 6-5, the current volume or user rate for the Authority remains among the lowest in the State of Connecticut and in the northeast. It should be noted that this is only the user rate per ccf; it excludes (for most of the Connecticut cities and towns,

but not for the National/Northeast data points) other rate components, e.g., fixed or administrative charges.

**Table 6-5.**  
**Comparison Rate Per ccf**  
**Source: the Authority**

Approved Regional Rate (FY2012)	\$3.06
Connecticut (based on 2011 Tighe & Bond Survey)	
Meriden (1)	\$3.50
Stamford (1)	\$3.86
Manchester (1)	\$3.74
Windham (1)	\$2.84
Bridgeport (1)	\$4.33
Norwich (1)	\$3.80
Waterbury (1)	\$3.39
<b>National/Northeast</b> – based on 2010 AWWA Benchmarking Study (2)	
National Average (2)	\$3.41
Northeast Average (2)	\$3.79
<b>50 Largest Cities</b> – based on 2009/2010 Black & Veatch Survey(3)	
National Average (3)	\$3.38
Northeast Average (3)	\$3.89

(1) Source: Tighe & Bond 2011 Connecticut Sewer Rate Survey.

(2) Source: AWWA 2010 Water and Wastewater Rate Survey

(3) Source: Black and Veatch 2009/2010 50 Largest Cities Water/Wastewater Rate Survey

## 7. Historical Results

### 7.1. Historical Revenue and Expenses

Table 7-1 contains historical information regarding the revenues and expenses of the Authority as summarized from the FY2009 - FY2011 audited financial statements.

**Table 7-1.**  
**Historical Operating Revenue and Expenses (2)**

	<b>FY2009 (1)</b>	<b>FY2010 (1)</b>	<b>FY2011 (\$)(1)</b>
<b>Revenues</b>			
Billing Revenues	\$26,483,112	\$27,431,212	\$30,339,269
Other Revenue	2,574,917	3,262,729	2,853,293
Interest Income	634,521	293,192	280,074
Total Revenue	\$29,068,029	\$30,987,133	\$33,472,636
<b>Expenses</b>			
Operation & Maintenance	\$19,465,000	\$19,721,500	\$19,445,135
Debt Service	8,786,058	9,476,167	9,944,943
Total Expenses	\$28,251,058	\$29,197,667	\$29,390,078

- (1) FY2009 through FY2011 based on audited financial statements prepared by McGladrey and Pullen on behalf of the Authority.
- (2) The revenues and expenses presented in Table 7-1 do not include depreciation expense, provision for bad debts or prior year revenues that may have been used for rate stabilization.

## 8. Projected Operating Financial Analysis

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### 8.1. Overview

Malcolm Pirnie reviewed the historical (Section 7) and Authority-prepared Forecast of revenues, O&M expenses, debt service payments, and proposed capital improvements associated with the System. Our review was completed for the purpose of assessing the reasonableness of the Authority's Forecast and associated financial results. This review included an assessment of the Authority's compliance with the rate covenants as delineated in the Indenture and discussed later in this section.

A summary of the projected revenue and expenses of the System for the current fiscal year (FY2012 and next five years) is presented in Table 8-1. In order to achieve the indicated results, the Authority anticipates that increases in its rates for service will be necessary and are the result from the following:

- Funding and implementation of the projected CIP; the Authority's \$580 Million Facilities Plan which includes the CSO LTCP
- General inflationary costs associated with the operation and maintenance of the System
- Increase in contracted services costs upon expiration of the existing Agreement for Operation and Maintenance of the Wastewater System with OMI.

Based on the Authority Forecast the following revenue increases are expected to be needed to meet the projected financial requirements during the Forecast Period, including the debt service coverage ratio requirements as delineated in the Indenture of Trust:

FY2012 – 7.8%	FY2015 – 5.5%
FY2013 – 7.8%	FY2016 – 5.0%
FY2014 – 6.9%	FY2017 – 6.5%

**Table 8-1.  
Summary of Projected Results**

<b>Revenues</b>	<b>FY2012 (1)</b>	<b>FY2013</b>	<b>FY2014</b>	<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>
Billing Revenues (2)	\$29,424,000	\$31,036,000	\$33,008,000	\$34,687,000	\$36,311,000	\$38,504,000
Other Revenue (3)	7,876,000	7,810,000	7,850,000	7,791,000	7,833,000	7,876,000
<b>Total Revenue</b>	<b>\$37,300,000</b>	<b>\$38,846,000</b>	<b>\$40,858,000</b>	<b>\$42,478,000</b>	<b>\$44,144,000</b>	<b>\$46,380,000</b>
<b>Expenditures</b>	<b>FY2012 (1)</b>	<b>FY2013</b>	<b>FY2014</b>	<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>
Operation & Maintenance (4)	\$22,764,000	\$23,522,000	\$24,643,000	\$25,700,000	\$26,616,000	\$27,573,000
Debt Service (Net of New Haven Share)(5)	9,748,939	9,999,298	10,365,174	10,392,808	10,851,041	12,380,040
Receivables Management (6)	3,237,000	3,654,000	3,871,000	4,055,000	4,234,000	4,475,000
<b>Total Expenses</b>	<b>\$35,749,939</b>	<b>\$37,175,298</b>	<b>\$38,879,174</b>	<b>\$40,147,808</b>	<b>\$41,701,041</b>	<b>\$44,428,040</b>
<b>General Fund Ending Balance (7)</b>	<b>20,460,000</b>	<b>21,031,000</b>	<b>21,810,000</b>	<b>22,940,000</b>	<b>24,183,000</b>	<b>24,935,000</b>
<b>DS Coverage (Includes New Haven Share) (8)</b>	<b>15</b>	<b>15</b>	<b>17</b>	<b>20</b>	<b>20</b>	<b>15</b>
<b>DS Coverage from all Available Funds(9)</b>	<b>86</b>	<b>84</b>	<b>87</b>	<b>20</b>	<b>23</b>	<b>81</b>
<b>User Fee Calculation</b>	<b>FY2012 (1)</b>	<b>FY2013</b>	<b>FY2014</b>	<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>
Annual Consumption (ccf) (10)	8,800,000	8,650,000	8,650,000	8,650,000	8,650,000	8,650,000
Number of Billing Customers (10)	47,490	47,490	47,490	47,490	47,490	47,490
Admin Fee Per Bill (10)	\$13	\$13	\$13	\$13	\$13	\$13
User Fee Per ccf (10)	\$3.06	\$3.30	\$3.53	\$3.72	\$3.91	\$4.16
<b>Annual Percent Increase</b>	<b>8%</b>	<b>8%</b>	<b>7%</b>	<b>6%</b>	<b>5%</b>	<b>6%</b>

- (1) Based on Authority's FY2012 and FY2013 Annual Operating Budgets.
- (2) Includes administrative and user fee billings to customers.
- (3) Includes high strength user charges, outside sludge, fat, oils and grease (FOG) disposal revenue, nitrogen credits, interest income and other miscellaneous revenue.
- (4) Includes personnel, contracted services and other such expenses associated with the operation and maintenance of the Regional Wastewater System.
- (5) Includes debt service payments for the CWF debt, net of the City of New Haven cost share, the 2005 Series A Bonds, the 2008 Bonds, the 2012 Bonds, and future debt issued to fund the long term capital improvement program.
- (6) Based on an assumed collection rate of 89%.
- (7) Ending General Fund balance based on beginning balance less net expenses and transfers.
- (8) Based on minimum coverage requirement specified in the Indenture, calculated by dividing net revenues by the annual debt service for all debt including City of New Haven share.
- (9) Includes additional general fund balances available for debt service.
- (10) Based on the Authority's projections.

## 8.2. Review of Revenues and O&M Expenses

Presented in Table 8-5 at the end of this section are the financial projections as prepared by the Authority for the Forecast Period. The Forecast was based on:

- The adopted FY2012 Annual Operating Budget for the Authority
- Actual FY2010 and FY2011 audited results provided by the Authority
- The CIP established by the Authority and discussed in Section 5 of this Report

The following provides a brief description of the System revenues and expenses. The Summary of Significant Assumptions contained in Appendix C is an integral part of the Authority Forecast and should also be reviewed.

### 8.2.1. System Revenues

The System revenues include revenues derived from the assessment and collection of quarterly user charges and other miscellaneous revenue sources.

**User Charges:** User charges are primarily based on a unit rate per ccf of billable water consumption as metered by the RWA and an administrative charge per bill. Residential customers are billed quarterly while large commercial and industrial establishments are billed monthly. A minimum bill for all accounts has been established based on a minimum consumption rate of 15 ccf per quarter, i.e., if water consumption is less than 15 ccf per quarter, the customer would pay the minimum bill amount as compared to a bill determined by multiplying the actual consumption by the user rate per ccf plus the administrative charge.

**Other Revenue:** Other revenue includes interest income, high strength user revenues, grease disposal, nitrogen credits, sludge revenues, connection fees and other miscellaneous income (e.g., septage revenues and permit fees).

### 8.2.2. System Expenses

**Operation and Maintenance (O&M) Expenses:** O&M expense include expenses incurred through the functions of operating and maintaining the Authority, which include personnel (includes salaries, fringe benefits, including overtime), supplies (general office miscellaneous supplies and sewer material supplies), utilities, equipment and vehicles, travel, contracted O&M services, contracted sludge handling and disposal, other contracted services (i.e., auditing services, legal services, insurance, collection fees, etc.) payments-in-lieu-of-taxes, and billing and administrative expenses. The projection of O&M expenses are based on historical expense levels and changes thereto. The projections include the contract operation of the sewage collection systems by OMI and sludge management by Synagro. The OMI and Synagro operating agreements are scheduled to expire in FY2014. The Authority is in negotiations with both parties regarding potential extension of the operating agreements. For the purposes of projecting future costs, the Authority has assumed costs will increase by 8 % in FY14, 6% for FY15 and 3% annually thereafter.

## 8.3. Historical and Projected Debt Service

Annual debt service payments for the Authority includes obligations associated with Clean Water Fund (CWF) program loans from the State of Connecticut, the 2005 Series A Bonds issued to fund the creation of the Authority and make various capital improvements and related expenses, and the 2008 Bonds issued fund various capital

projects not eligible for CWF financing. The majority of the Authority's Clean Water Fund debt is related to CSO improvements. The Authority has a CSO Cost Share Agreement with the City of New Haven, wherein the City shares in the CSO debt payments. The City reimburses the Authority for 40 percent of the debt service payments associated with the CSO program.

Table 8-2 summarizes the outstanding revenue bond debt and Clean Water Fund obligations of the Authority as of the end of FY2011.

**Table 8-2.  
Existing Revenue Bond Debt and Clean Water Fund Obligations**

Revenue Bond Debt		Clean Water Fund Obligations	
Issue	Balance	Issue	Balance
2005 Series A	\$84,640,000	CWF Loans Maturing 2026 (1)	\$20,831,455
2008 Series A	18,620,000	CWF Loans Maturing 2029 (2)	3,493,529
(CREBS) 2008 Series B	2,000,000	CWF Interim Obligations (3)	5,213,941
Total Revenue Fund	\$105,260,000	Total Clean Water Fund	\$29,538,925

Source: GNHWPCA and 2011 Financial Report

Notes:

- (1) Includes 463 CD1 (\$0.96M), 563DC (\$8.4M), and 581C (\$32.621M) in the original principle amounts of \$0.96, \$8.4 and \$32.62 million, respectively. The City of New Haven shares 40% of the cost of the CSO related projects which include 463 CD1 and 563DC, or in 40% of \$9.36 M of original CWF amounts.
- (2) Includes 206 CSL in the original amount of \$4 M.
- (3) These CWF obligations are currently an interim funding obligation (IFO) with the State in the amount of \$5,213,941 scheduled for permanent financing in FY 2013, Interest accrues on IFOs until permanent funding occurs.

The 2005 Series A Bonds were issued primarily to fund the purchase of assets that comprise the Regional Wastewater System (the System was purchased from the City of New Haven and the Towns of Hamden, East Haven and Woodbridge) and to form the Authority in 2005. The 2008 Series A Bonds were issued to fund the Authorities FY08 and FY09 capital improvement program including pump station repairs, beneficial use of sludge incinerator exhaust gas, roof replacement and building improvements, instrumentation control expansion, IT Master Plan improvements, sanitary sewer infrastructure renewal and new consolidated offices.

Table 8-3 contains the annual debt service payments on existing debt obligations of the Authority.

**Table 8-3.  
Existing Revenue Bond and Clean Water Fund Debt Service**

<b>Period Ending</b>	<b>Existing Bond Debt Service (2005 Series A, 2008 Series A and B)</b>	<b>Existing CWF Debt Service (2007 Series C, 206CSL, 463CD1, 563DC, 581C)</b>	<b>Subtotal Existing Debt</b>
6/30/2006	\$ 2,168,853	\$ 127,669	\$ 2,296,522
6/30/2007	4,337,706	1,201,315	5,539,021
6/30/2008	6,001,320	2,784,644	8,785,963
6/30/2009	6,965,345	2,797,292	9,762,637
6/30/2010	6,964,898	3,120,441	10,085,339
6/30/2011	7,310,563	2,921,157	10,231,720
6/30/2012	7,309,702	3,378,236	10,687,939
6/30/2013	7,309,473	2,805,886	10,115,359
6/30/2014	7,304,616	2,767,881	10,072,497
6/30/2015	7,300,034	2,699,494	9,999,528
6/30/2016	7,306,368	2,586,218	9,892,586
6/30/2017	7,301,501	2,184,820	9,486,321
6/30/2018	7,300,309	2,119,516	9,419,826
6/30/2019	7,297,443	2,113,796	9,411,239
6/30/2020	7,299,226	2,113,796	9,413,022
6/30/2021	7,295,628	2,105,898	9,401,526
6/30/2022	7,294,924	2,094,840	9,389,763
6/30/2023	7,296,613	1,943,069	9,239,682
6/30/2024	7,293,713	1,610,899	8,904,612
6/30/2025	7,125,100	1,216,687	8,341,787
6/30/2026	7,123,431	723,157	7,846,588
6/30/2027	7,127,262	605,881	7,733,143
6/30/2028	7,125,300	605,881	7,731,181
6/30/2029	7,122,169	467,217	7,589,386
6/30/2030	7,126,125	368,171	7,494,296
6/30/2031	7,126,375	184,085	7,310,460
6/30/2032	7,128,250	0.00	7,128,250
6/30/2033	7,126,125	0.00	7,126,125
6/30/2034	7,129,250	0.00	7,129,250
6/30/2035	7,126,875	0.00	7,126,875
6/30/2036	7,128,250	0.00	7,128,250
6/30/2037	1,233,625	0.00	1,233,625
6/30/2038	1,230,000	0.00	1,230,000
<b>TOTAL</b>	<b>\$ 216,636,372</b>	<b>\$ 47,647,947</b>	<b>\$ 264,284,319</b>

Source: Information provided by the Authority and documented in the FY12 Cost of Service Study.

## 8.4. Issuance of Additional Bonds

The 2012 Series B Bonds are being issued to fund capital improvement projects for FY2012 through FY2014. The proposed debt service schedule for the 2012 Series B Bonds is provided in Table 8-4.

Additional revenue bonds are expected to be issued as required to fund capital improvement needs. The Authority anticipates issuing a revenue bond in FY2014 in the amount of approximately \$7.4 million to fund the capital improvement requirements for FY2015 through FY17.

The issuance of future debt (revenue bonds and CWF borrowings) is subject to the “Condition Precedent to Delivery of a Series of Additional Bonds” (Section 206 of the Indenture; this requirement is referred to in this Report as the Additional Bonds Test – ABT). Related to the issuance of additional parity debt, the ABT requires that a certification be provided by an Authorized Representative of the Authority (defined in the Indenture to mean the Executive Director of the Authority or such other person or persons so designated by resolution of the Authority), as to the ability of the Authority to achieve a 115% Debt Service Coverage Ratio (as defined in the Indenture).

The Authority’s Forecast projects a Debt Service Coverage Ratio determined in accordance with Section 206 of the Indenture; the results of which indicate that future revenue bonds expected to be issued by the Authority, will meet the requirements of the ABT.

**Table 8-4.**  
**Debt Service Schedule for the 2012 Bonds (1)**  
**Greater New Haven Water Pollution Control Authority**

FOR DISCUSSION PURPOSES ONLY  
Proposed \$9,500,000 Bonds, Series 2012  
30 Years - Level Debt Service

**Debt Service Schedule**

Date	Principal	Coupon	Interest	Total P+I
06/30/2012	-	-	-	-
06/30/2013	180,000.00	3.000%	367,250.00	547,250.00
06/30/2014	185,000.00	3.000%	361,850.00	546,850.00
06/30/2015	190,000.00	3.000%	356,300.00	546,300.00
06/30/2016	195,000.00	3.000%	350,600.00	545,600.00
06/30/2017	200,000.00	3.000%	344,750.00	544,750.00
06/30/2018	210,000.00	3.500%	338,750.00	548,750.00
06/30/2019	215,000.00	3.500%	331,400.00	546,400.00
06/30/2020	225,000.00	3.500%	323,875.00	548,875.00
06/30/2021	230,000.00	4.000%	316,000.00	546,000.00
06/30/2022	240,000.00	4.000%	306,800.00	546,800.00
06/30/2023	250,000.00	4.000%	297,200.00	547,200.00
06/30/2024	260,000.00	4.000%	287,200.00	547,200.00
06/30/2025	270,000.00	4.000%	276,800.00	546,800.00
06/30/2026	280,000.00	4.000%	266,000.00	546,000.00
06/30/2027	290,000.00	4.000%	254,800.00	544,800.00
06/30/2028	305,000.00	4.000%	243,200.00	548,200.00
06/30/2029	315,000.00	4.000%	231,000.00	546,000.00
06/30/2030	330,000.00	4.000%	218,400.00	548,400.00
06/30/2031	340,000.00	4.000%	205,200.00	545,200.00
06/30/2032	355,000.00	4.000%	191,600.00	546,600.00
06/30/2033	370,000.00	4.000%	177,400.00	547,400.00
06/30/2034	385,000.00	4.000%	162,600.00	547,600.00
06/30/2035	400,000.00	4.000%	147,200.00	547,200.00
06/30/2036	415,000.00	4.000%	131,200.00	546,200.00
06/30/2037	430,000.00	4.000%	114,600.00	544,600.00
06/30/2038	450,000.00	4.000%	97,400.00	547,400.00
06/30/2039	470,000.00	4.000%	79,400.00	549,400.00
06/30/2040	485,000.00	4.000%	60,600.00	545,600.00
06/30/2041	505,000.00	4.000%	41,200.00	546,200.00
06/30/2042	525,000.00	4.000%	21,000.00	546,000.00
<b>Total</b>	<b>\$9,500,000.00</b>	<b>-</b>	<b>\$6,901,575.00</b>	<b>\$16,401,575.00</b>

1) Source: Estimate of projected debt service as of February, 2012 provided by Webster Bank.

## 8.5. Projected Revenue and Expenses

The operation and maintenance of the facilities are the responsibility of the Authority and are funded through Billing Revenues and other revenues; with Billing Revenue serving as

the primary revenue source for the Authority. Billing Revenues (the user rate, administrative charge and minimum bill) are determined annually by the Authority as part of its budget process. The user rate, administrative charge and minimum bill are set by the Authority's Board of Directors to generate revenue in an amount sufficient to pay all of the operating and maintenance expenses and capital expenditures of the System and to achieve the 115% Debt Service Coverage Ratio Requirement as specified in the Indenture.

The "115% Debt Service Coverage Ratio Requirement" is defined in the Indenture as follows:

"115% Debt Service Coverage Ratio Requirement" shall mean a Debt Service Coverage Ratio of one hundred and fifteen percent (115%); provided, however, that there may not be taken into account for purposes of compliance with this requirement transfers from the General Fund to pay Parity Obligations and Fiscal Year-end fund balance to the extent that they exceed fifteen percent (15%) of the Aggregate Annual Debt Service for such Fiscal Year as described in (b) of the definition of Debt Service Coverage Ratio. *(Source 2005 Series A Bonds, Indenture of Trust)*

"Debt Service Coverage Ratio" as used in the definition of 115% Debt Service Coverage Ratio Requirement includes as an addition to Revenues "... (B) the amount withdrawn from the General Fund to pay Operating Expenses and Parity Obligations for such Fiscal Year, plus (C) the unrestricted balance to the credit of the General Fund as of the end of such Fiscal Year...". For this reason, debt service coverage as shown on the last line of Table 8-5 is calculated by adding to the Total Net Revenues Available for Debt Service, the end-of-year balance in the General Fund and then dividing by the annual debt service. Calculated in this manner (per the Indenture), the Authority is expected to exceed the 115% Debt Service Coverage Ratio Requirement.

The user rate is currently \$3.06 ccf for FY2012 and, based on the Forecast, is anticipated to increase to \$4.10 over the next five years (through FY2017). Table 8-5 summarizes the projected revenue and expenses of the Regional Wastewater System for the Forecast Period. As illustrated in Table 8-5, based on these projections, the Authority is expected to meet or exceed the 115% debt service coverage ratio requirement of the Indenture in each year of the Forecast Period.

**Table 8-5.**  
**Projected Revenue and Expenses of the Regional Wastewater System**

<b>I. SYSTEM REVENUES:</b>	<b>FY12</b>	<b>FY13</b>	<b>FY14</b>	<b>FY15</b>	<b>FY16</b>	<b>FY17</b>
<b>A. BILLING REVENUES</b>						
1. Number of Customers.....	47,490	47,490	47,490	47,490	47,490	47,490
2. Billable Metered Water Use (ccf).....	8,800,000	8,650,000	8,650,000	8,650,000	8,650,000	8,650,000
Administrative Fee (\$/bill).....	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
3. Administrative Revenue.....	2,496,000	2,496,000	2,496,000	2,496,000	2,496,000	2,496,000
Sewer Rate (\$/ccf).....	3.06	3.30	3.53	3.72	3.91	4.16
4. Sewer Revenues (From Water Use).....	26,928,000	28,540,000	30,512,000	32,191,000	33,815,000	36,008,000
<b>TOTAL BILLING REVENUES</b>	<b>29,424,000</b>	<b>31,036,000</b>	<b>33,008,000</b>	<b>34,687,000</b>	<b>36,311,000</b>	<b>38,504,000</b>
<b>B. MISCELLANEOUS REVENUES</b>						
5. Lien Fees.....	95,000	100,000	100,000	100,000	100,000	100,000
6. Receipt of Aged Account Receivables.....	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
7. Investment Income.....	350,000	275,000	283,000	291,000	300,000	309,000
8. Delinquent Interest Income.....	1,180,000	1,180,000	1,180,000	1,180,000	1,180,000	1,180,000
9. Outside Sludge Revenues.....	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
10. Grease Disposal Revenues.....	300,000	285,000	294,000	303,000	312,000	321,000
11. Nitrogen Credit Revenues.....	0	0	0	0	0	0
12. Septage and Catch Basin Revenue.....	100,000	103,000	106,000	109,000	112,000	115,000
13. Revenue, Elect., Gas, Water Reimbursements.	600,000	600,000	600,000	500,000	500,000	500,000
14. Interlocal Agreements.....	130,000	130,000	134,000	138,000	142,000	146,000
15. Permit Fees.....	61,000	63,000	65,000	67,000	69,000	71,000
16. New Connection Fees.....	460,000	474,000	488,000	503,000	518,000	534,000
17. High Strength User Revenues.....	900,000	900,000	900,000	900,000	900,000	900,000
<b>TOTAL MISCELLANEOUS REVENUES</b>	<b>7,876,000</b>	<b>7,810,000</b>	<b>7,850,000</b>	<b>7,791,000</b>	<b>7,833,000</b>	<b>7,876,000</b>
<b>C. CITY OF NEW HAVEN CSO COST SHARE</b>	<b>939,000</b>	<b>1,119,000</b>	<b>1,138,000</b>	<b>1,110,000</b>	<b>1,075,000</b>	<b>969,000</b>
<b>D. RECEIVABLE MANAGEMENT COSTS</b>						
18. Billing Collection Rate.....	89%	89%	89%	89%	89%	89%
<b>TOTAL SYSTEM REVENUES</b>	<b>\$ 35,002,000</b>	<b>\$ 36,311,000</b>	<b>\$ 38,125,000</b>	<b>\$ 39,533,000</b>	<b>\$ 40,985,000</b>	<b>\$ 42,874,000</b>
<b>II. SYSTEM EXPENSES:</b>						
<b>E. OPERATIONS &amp; MAINTENANCE</b>						
19. Personnel.....	\$ 4,421,000	\$ 4,642,000	4,884,000	5,141,000	5,414,000	5,705,000
20. Utilities.....	4,068,000	4,091,000	4,173,000	4,256,000	4,341,000	4,427,000
21. Contract Operations - OMI.....	5,657,000	5,800,000	6,264,000	6,640,000	6,839,000	7,044,000
22. Contract Sludge and Ash.....	4,500,000	4,645,000	4,878,000	5,122,000	5,378,000	5,647,000
23. Other Contract Services.....	2,878,000	3,089,000	3,182,000	3,272,000	3,368,000	3,467,000
24. Payment in Lieu of Taxes.....	785,000	785,000	785,000	785,000	785,000	785,000
25. Equipment Vehicles and Supplies.....	205,000	220,000	227,000	234,000	241,000	248,000
26. Contingency.....	250,000	250,000	250,000	250,000	250,000	250,000
<b>TOTAL SYSTEM EXPENSES</b>	<b>\$ 22,764,000</b>	<b>\$ 23,522,000</b>	<b>\$ 24,643,000</b>	<b>\$ 25,700,000</b>	<b>\$ 26,616,000</b>	<b>\$ 27,573,000</b>
<b>TOTAL NET REVENUES FOR DEBT SERVICE</b>	<b>\$ 12,238,000</b>	<b>\$ 12,789,000</b>	<b>\$ 13,482,000</b>	<b>\$ 13,833,000</b>	<b>\$ 14,369,000</b>	<b>\$ 15,301,000</b>
<b>III. DEBT SERVICE PAYMENTS:</b>						
27. Repayment of Existing CWF Loans.....	3,378,236	2,805,886	2,767,881	2,699,494	2,586,218	2,184,820
28. Existing Revenue Bonds (Series 2005A & 2008A).....	7,309,702	7,309,473	7,304,616	7,300,034	7,306,368	7,301,501
29. Series 2012 Revenue Bonds.....	0	547,250	546,850	546,300	545,600	545,600
30. New Debt Service for Capital Improvements.....						
a. Revenue Bonds Net Debt Service.....	0	0	0	0	500,000	650,514
b. Clean Water Fund Loans.....	0	455,689	883,827	956,980	987,855	2,666,605
<b>TOTAL DEBT SERVICE</b>	<b>\$ 10,687,939</b>	<b>\$ 11,118,298</b>	<b>\$ 11,503,174</b>	<b>\$ 11,502,808</b>	<b>\$ 11,926,041</b>	<b>\$ 13,349,040</b>
<b>DS COVERAGE FROM CURRENT NET REVENUES</b>	<b>1.15</b>	<b>1.15</b>	<b>1.17</b>	<b>1.20</b>	<b>1.20</b>	<b>1.15</b>
<b>IV. GENERAL FUND BALANCE SUMMARY</b>						
31. Beginning Balance.....	\$ 19,910,000	\$ 20,460,000	\$ 21,031,000	\$ 21,810,000	\$ 22,940,000	\$ 24,183,000
32. Transfers In.....	1,550,000	1,671,000	1,979,000	2,330,000	2,443,000	1,952,000
33. Transfers Out.....	0	0	0	0	0	0
34. Capital Infrastructure Renewal.....	(1,000,000)	(1,100,000)	(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)
35. Ending Balance.....	\$ 20,460,000	\$ 21,031,000	\$ 21,810,000	\$ 22,940,000	\$ 24,183,000	\$ 24,935,000
<b>DS COVERAGE FROM ALL AVAILABLE FUNDS</b>	<b>3.06</b>	<b>3.04</b>	<b>3.07</b>	<b>3.20</b>	<b>3.23</b>	<b>3.01</b>

## 8.6. Significant Assumptions

Appendix C to this Report provides a summary of Authority's significant assumptions used in support of the Forecast and related information for each line item of the Forecast as presented in Table 8-5.

## 9. Conclusions and Professional Opinion

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### 9.1. Considerations and Assumptions

In preparation of this Report, Malcolm Pirnie has relied upon financial, engineering and operational data and assumptions prepared by and/or provided by the Authority. In addition, information and projections have been provided by other entities working on behalf of the Authority. We believe such sources are reliable and the information obtained to be appropriate for the review undertaken and the conclusions reached in this Report. To the best of our knowledge, information and belief, the information does not omit material facts necessary to make the statements herein. However, Malcolm Pirnie has not independently verified the accuracy of the information provided by the Authority and others. To the extent that the information is not accurate, the findings and conclusions contained in this Report and in particular the results shown on Table 8-5, may vary and are subject to change.

The principal considerations and assumptions are provided throughout this Report, some of which are as follows:

1. We have made no determination as to the validity and enforceability of any contracts, agreement, existing law, rule, or regulation applicable to the Authority and its operations. However, for purposes of this Report, we have assumed that all such contracts, agreements, laws, rules and regulations will be fully enforceable and complied with in accordance with their terms.
2. The Authority will continue its policies of employing qualified and competent personnel; properly operating and maintaining the Regional Wastewater System in accordance with generally accepted engineering practices; and operating the Regional Wastewater System in a prudent and sound businesslike manner.
3. The proposed CIP reflects the general requirements of the Regional Wastewater System, and the CIP is expected to be largely implemented by the Authority as planned.
4. The Authority has developed a multi-year Forecast whereby the anticipated O&M expenses, debt service and capital expenditures are projected be funded by the projected revenues. In the event that unforeseen expenses occur, which may include items such as O&M expenses and capital expenditures to address a change in law or uninsured catastrophic event, the Authority would embark upon internally driven actions such as reducing non-essential programs and implementing cost reduction measures to cover costs associated with these unforeseen expenses. Malcolm Pirnie assumes that in the event that internally driven measures are not sufficient to cover

unforeseen expenses, the Authority will enact measures technically, legally, and financially available to the Authority to cover such costs.

## 9.2. Conclusions

Set forth below are the principal opinions which Malcolm Pirnie has reached regarding our review of the projects to be funded by the 2012 Series B Bonds and the Authority-prepared Forecast. For a complete understanding of these opinions, the Report should be read in its entirety.

On the basis of our review and evaluation with respect to the Authority Forecast prepared in support for the implementation of the projected capital improvements and the assumptions set forth in this Report, the following provides our principal opinions, with additional conclusions contained in the balance of this Report:

1. The Regional Wastewater System is being maintained and operated in accordance with generally accepted utility standards, and the Regional Wastewater System is in good repair and operating condition.
2. The estimated costs of the CIP developed by the Authority have been prepared using sound estimating practices and methods. The CIP is designed to maintain the Regional Wastewater System in good repair and operating condition and, when the projects are completed, should be adequate to allow the facilities to continue to meet currently existing federal and State regulatory requirements.
3. The Forecast is based upon revenue and expense projections that are reasonable.
4. The Forecast indicates that debt service coverage ratios are expected to be achieved over the Forecast Period that meet or exceed those required by the Indenture, i.e., the 115% Debt Service Coverage Ratio Requirement.

# Appendix A

## List of Acronyms

Capitalized and abbreviated terms contained in this report are defined below. The terms listed below appear in multiple sections of this report, and are thus defined here for reference.

ABT	Additional Bonds Test
AFL-CIO	American Federation of State, County and Municipal Employees
Assessment	Biosolids Management Alternatives Assessment
Authority	Greater New Haven Water Pollution Control Authority
Benefit/cost ratio	Benefit for the lowest cost
BNR	Biological Nutrient Removal
ccf	Hundred cubic feet
CGS or the Statutes	Connecticut General Statutes
CIP	Capital Improvement Plan
CMMP	Comprehensive Conservation and Management Plan
CMMS	Computerized Maintenance Management System
CSO	Combined Sewer Overflow
CTDEEP	Connecticut Department of Energy and Environmental Protection
CWF	Clean Water Fund
Dresser Project	Dresser-Rand for the design, construction, operation & maintenance for the multiple hearth furnace energy Project
DSC	Debt Service Coverage
EPA	Environmental Protection Agency
ESWPCF	East Shore Water Pollution Control Facility
FOG	fats, oils and grease
FY	Fiscal Year
GNHWPCA	Greater New Haven Water Pollution Control Authority
GIS	Geographic Information System
gpm	Gallons per minute
IFO	Interim Funding Obligation
IM	Information management
IT Master Plan	A clear, prioritized master plan for information technology improvements

LIMS	Laboratory Information Management System
LISS	Long Island Sound Study
LTCP	Long Term Control Plan
COSS	Cost of Service Study
Member Municipalities	City of New Haven, Town of Hamden, East Haven and Woodbridge
mgd	Million gallons per day
NCTP	Nitrogen Credit Trading Program
NHWPCA	New Haven Water Pollution Control Authority
NPDES	National Pollution Discharge Elimination System
O&M	Operation and Maintenance
OMI	Operations Management International, Inc.
POTWs	Publicly-Owned Treatment Works
Report	Consulting Engineer's Feasibility Report
RWA	Regional Water Authority
SBP	Strategic Business Plan
SCADA	Supervisory Control and Data Acquisition facilities
STCP	Short Term Control Plan
System	Regional Wastewater System
UI	United Illuminating Company
UNIFUND	The Authority's enterprise account information system
WPCF	Water Pollution Control Facility

## Appendix B

### List of Pump Stations

Location	Pump Station	Capacity
East Haven	Minor Road	2-7.5 hp, 360 gpm
	Fairview	3-10 hp, 1200 gpm
	Cosey Beach	2-7.5 hp, 875 gpm
	Meadow Street	2-7.5 hp, 345 gpm
	Main Street	2-3.0 hp, 90 gpm
	Upper Thompson Street	2-5 hp, 95 gpm
	Siphon(s)	--
Hamden	Lowell Street	2-5 hp, 350 gpm
	State Street	2-10 hp, 1420 gpm
	Welton Street	2-40 hp, 1165 gpm
	Whitneyville	2-10 hp pumps
	Arch Street	2-15 hp, 830 gpm
	Mill Rock	2-5 hp, 360 gpm
	Putnam Avenue	2-5 hp, 315 gpm
	Norman Road	2-7.5 hp, 460 gpm
	Mill River (Siphon)	--
	Lake Whitney (Siphon)	--
New Haven	Boulevard	34 mgd
	East Street	40 mgd
	State/Union	15 mgd
	Morris Cove	18 mgd
	Quinnipiac	7.2 mgd
	Barnes	4 mgd
	Grand/East (New)	< 0.25 mgd
	Grand/East (Old)	< 0.25 mgd
	Long Wharf	< 1 mgd
	Market	< 0.25 mgd
	Mitchell	< 0.25 mgd
	Humphrey	< 0.25 mgd
	Stone Street	< 0.25 mgd
	West Rock	< 0.25 mgd
	Woodward (Fort Hale)	< 0.8 mgd
	James Street (Siphon)	--
Woodbridge	Ansonia	250 gpm

### ***Summary's of Significant Forecast Assumptions and Notes to the Authority Financial Forecast***

The accompanying Forecast, consisting of Table 8-5, “Projected Revenues and Expenses”, present the Authority’s calculations of Debt Service Coverage (DSC) Ratio Requirement and the financial results of operations on a cash basis for FY2012 and the five subsequent fiscal years ending June 30, 2017 (collectively referred to as the Forecast Period). The Forecast was prepared by the Authority. This summary of significant assumptions provides information regarding the basis of the Authority’s Forecast and support for the underlying assumptions. Malcolm Pirnie has reviewed these underlying assumptions for purposes of providing an opinion and making certain conclusions regarding the reasonableness of the Forecast – see Section 9.2 of this Report.

The Forecast has been prepared based upon assumptions concerning future events and circumstances and the Authority’s most likely courses of action and best estimate of the financial results of operations during the Forecast Period.

#### **SIGNIFICANT ASSUMPTIONS**

##### **I. System Revenues:**

##### **A. Billing Revenues**

1. Number of Customers – Based on information provided by the Authority regarding the number of water customers of the Member Municipalities for the FY2012 based on information from the Authority’s new Customer Information System. For the purposes of these projections, the number of customers of the Authority is projected to remain constant over the planning period.
2. Billable Metered Water Use – Based on information provided by the RWA regarding metered water consumption for Authority customers for the period of April 1, through March 31<sup>st</sup> of the preceding fiscal year, adjusted by the Authority to account for the minimum bill of 15ccf per quarter and discounted summer months usage for residential customers consuming more than 300ccf per quarter. The water consumption of the Authority customers has declined since 2008, however, there was a slight increase in FY2012. For purposes of these projections, however, the billed metered water use is projected to decrease from 8.8 million ccf in 2012 to 8.65 million ccf thereafter and remain at that level for the Forecast Period.
3. Administrative Revenues – Based on the Administrative Charge established by the Authority multiplied by the number of bills issued annually. The number of bills issued annually is based on quarterly billing of residential and commercial customers, monthly billing of industrial and large volume customers, final bills

due to property transactions and the estimated number of customers (Line Item 1). It is estimated that approximately 99 percent of the customers are billed on a quarterly basis.

4. Sewer Revenues – Based on the unit rates per ccf of billable metered use and customer consumption analysis based on the estimated amount of Metered Water Use (Line Item 2).

**B. Miscellaneous Revenues**

5. Lien Fees - Based on FY2012 and FY2013 budget estimates prepared by the Authority. For the purposes of these projections, after FY2013 lien fees are projected to remain constant over the Forecast Period.
6. Receipt of Aged Accounts Receivable - Based on FY2012 and FY2013 budget estimates prepared by the Authority in conjunction with the annual Cost of Service Study.
7. Investment Income – Existing Reserves - Assumed 1.0 percent earnings on the annual average balance of the General Fund.
8. Delinquent Interest Income – Based on FY2012 and FY2013 budget estimates prepared by the Authority. For the purposes of these projections, the delinquent interest income is projected to remain constant over the Forecast Period.
9. Outside Sludge Revenues – Based on FY2012 and FY2013 budget estimates prepared by the Authority. For the purposes of these projections, the delinquent interest income is projected to remain constant over the Forecast Period.
10. Grease Disposal Revenues – Based on FY2012 and FY2013 budget estimates prepared by the Authority. After FY2013, grease disposal revenues are assumed to increase by 3 percent annually over the Forecast Period.
11. Nitrogen Credit Revenues –Revenue from Nitrogen Credits is expected to cease or be minimal over the Forecast Period.
12. Septage and Catch Basin Revenues – Based on FY2012 and FY2013 budget estimates prepared by the Authority. Annual projections are assumed to increase by 3 percent annually over the Forecast Period.
13. Revenue, Electric, Gas, Water Reimbursements –OMI/Synagro – The Authority maintains operating contracts with OMI and Synagro. Reimbursements represent portions of revenue sharing and electric, gas and water expenses paid by OMI and Synagro.
14. Interlocal Agreements - Based on FY2012 and FY2013 budget estimates prepared by the Authority. Annual projections are assumed to increase by 3 percent annually over the Forecast Period.
15. Permit Fees - Based on FY2012 budget estimates prepared by the Authority. Annual projections are assumed to increase by 3 percent annually over the Forecast Period.

16. Connection Fees – The Authority adopted a connection fees policy to pay for new growth and redevelopment. Annual projections are assumed to increase by 3 percent annually over the Forecast Period.

17. High Strength User Revenues – Based on FY2012 and FY2013 budget estimates prepared by the Authority, assumed to remain constant over the Forecast Period.

#### **C. City of New Haven CSO Cost Share**

This value represents the City of New Haven’s responsibility for payment of 40 percent of the costs associated with the long-term CSO program in accordance with the CSO Cost-Sharing Agreement between the City of New Haven and the Authority.

#### **D. Receivable Management Costs**

Billing and Collection Rate - Receivable Management Costs represent the cost of unpaid accounts. Per information provided by the Authority, a collection rate of 89 percent is assumed in this analysis. As such, Receivable Management Costs are projected at 11.0 percent of total billing revenues.

### **II. System Expenses:**

#### **E. Operations & Maintenance (Items 19. through 26.)**

Operations & Maintenance expenses are based on estimates made by the Authority in their FY2012 and FY2013 Annual Operating Budget and Authority projections of future cost escalation.

- The Authority’s organization structure is consistent with the Authority’s proposed strategic plan for long-term management of the System and projected labor budget. The Authority projects overall labor and benefits costs to annually increase by 5 percent, on average. The Authority expects that it will be successful in maintaining labor and benefit costs within the amounts projected over the Forecast Period.
- The Authority is undertaking several initiatives to control and reduce rising energy costs including continuing implementing the sludge incinerator exhaust gas beneficial use project, competitively procuring electricity from the de-regulated energy supply market, evaluating a wind project and working with its contract operators (OMI and Synagro) to reduce consumption. The cost projections regarding future energy costs reflect the Authority’s expected performance resulting from these energy saving initiatives. The Authority expects that the implementation of these the initiatives will result in actual energy costs will not vary substantially from the projections.
- The Authority has a long-term contract with OMI for the operation and maintenance of the ESWPCF and the New Haven sewage collection system that started in 1997 and expires in 2014. The Authority also has a long-term contract with Synagro for biosolids management that started in 1995 and

expires in 2014. The Authority assumes that upon expiration of the existing agreements, future costs will increase from current contract costs. As such, cost increases above the consumer price index were assumed to project costs for these line items. For operations and maintenance contract costs consecutive annual cost increases of 8%, 6% and then 3% thereafter were assumed and for biosolids management costs increases of 5% annually were assumed over the Forecast Period.

### **III. Debt Service Payments:**

27. Repayment of Existing CWF Loans – The schedule for repayment of existing CWF loan obligations are provided by the Authority and include the CWF 2007 Series A, CWF 463CD1, CWF 206CSL, 563DCand 581C.
28. Repayment of Existing Revenue Bonds – The schedule for the repayment of the 2005 Series A Bonds and 2008 Series A Bonds was obtained from the Authority.
29. Series 2012 B Bonds – The schedule for repayment of the 2012 Series B Bonds is based on information provided by Webster Bank.
30. New Debt Service for Capital Improvements – New Debt Service represents anticipated debt service payments required to fund the capital improvement program for FY2012 through FY2017, exclusive of the 2012 Revenue Bonds.

Based on the CIP, it is anticipated that additional debt will be required to fund the program. It is anticipated that additional debt service will be in the form of revenue bonds for debt not eligible for CWF funding. For revenue bonds, annual debt service is based on a 20-year repayment term at 5.0 percent annual interest.

Based on the provisions of CWF Agreement No. 627-C (FOG), 581-C2 (Trumbull Phase 2) and CWF 441D (Wet Weather Design), approximately \$12.3 million of CWF notes are anticipated to close in FY2013/FY2014. An additional \$4 million in CWF notes for infiltration and inflow work in Hamden and \$33.6 million in CWF notes for ESWPCF upgrades are assumed to close in FY2015 and FY2017 respectively. It is understood that a one-time principal payment of one-twelfth of the principal amount of the notes is required at the time of closing. Debt service payments associated with these notes are estimated at 2.0 percent annual interest over a 20-year repayment term.

### **IV. General Fund Balance Summary:**

31. Beginning Balance - The beginning balance of the General Fund Reserve is the unrestricted beginning amount in the General Fund Reserve based on data provided in the Authority's FY2011 audited Financial Report.
32. Transfers In - Transfers into the fund based Authority transfers and surplus revenues available after payment of debt service.
33. Transfers Out – Previous year excess revenues and unrestricted reserves transferred out to the Operating Fund or debt service reserve account to stabilize rate increases.

34. Capital Non-Recurring Expenses – Capital Non-Recurring Expenses represent the CIP funded with cash from the General Fund as estimated by the Authority.
35. Ending Balance – Sum of Items 31 through 34.

**Other Assumptions / Calculations:**

- Net Revenues – Calculated as the Total System Revenues less Total System Expenses
- Debt Service Coverage – Calculated by dividing Net Revenues by Total Debt Service
- Debt Service Coverage From All Available Funds – Calculated as the sum of Net Revenues and Ending Balance, divided by Total Debt Service
- Total Billing Revenues – Based on Administrative Charge and Sewer Rate estimates provided by the Authority.

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## **APPENDIX D**

### **SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE**

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## **SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE**

The following is a brief summary of certain provisions of the Indenture of Trust between The Greater New Haven Water Pollution Control Authority and U.S. Bank National Association (as successor to Wachovia Bank, National Association) as Trustee, dated as of August 1, 2005, as amended and supplemented by the First Supplemental Indenture dated as of August 1, 2005, the Second Supplemental Indenture dated as of May 31, 2006, the Third Supplemental Indenture dated as of January 31, 2007, the Fourth Supplemental Indenture dated as of February 1, 2007, the Fifth Supplemental Indenture dated as of May 9, 2007, the Sixth Supplemental Indenture dated as of June 14, 2007, the Seventh Supplemental Indenture dated as of August 2, 2007, the Eighth Supplemental Indenture dated as of November 30, 2007, the Ninth Supplemental Indenture dated as of March 1, 2008, the Tenth Supplemental Indenture dated as of April 1, 2008, the Eleventh Supplemental Indenture dated as of May 29, 2009, the Twelfth Supplemental Indenture dated as of June 26, 2009, the Thirteenth Supplemental Indenture dated as of November 30, 2009, the Fourteenth Supplemental Indenture dated as of May 16, 2011, the Fifteenth Supplemental Indenture dated as of June 30, 2011, the Sixteenth Supplemental Indenture dated as of December 28, 2011, the Seventeenth Supplemental Indenture dated as of March 12, 2012, the Eighteenth Supplemental Indenture dated as of July 12, 2012, the Nineteenth Supplemental Indenture dated as of July 31, 2012, the Twentieth Supplemental Indenture dated as of April 30, 2013, the Twenty-First Supplemental Indenture dated as of June 28, 2013, the Twenty-Second Supplemental Indenture dated as of September 30, 2013, the Twenty-Third Supplemental Indenture dated as of December 31, 2013, and the Twenty-Fourth Supplemental Indenture dated as of January 10, 2014 (as amended and supplemented the “Original Indenture”), each by and between the Authority and the Trustee, as further supplemented by this Twenty-Fifth Supplemental Indenture (the “Twenty-Fifth Supplemental Indenture” and together with the Original Indenture, the “Indenture”).

This summary does not purport to be complete and reference is made to the Original Indenture and the Twenty-Fifth Supplemental Indenture for full and complete statements of their terms and provisions.

### **Definitions (Section 101)**

The following terms shall have the following meanings unless the context otherwise requires:

“115% Debt Service Coverage Ratio Requirement” shall mean a Debt Service Coverage Ratio of one hundred and fifteen percent (115%); provided, however, that there may not be taken into account for purposes of compliance with this requirement transfers from the General Fund to pay Parity Obligations (other than transfers made to pay any one-twentieth (1/20th) principal payment required by any Project Loan and Project Grant Agreement and such transfers made to pay interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) and Fiscal Year-end fund balance to the extent that they exceed fifteen percent (15%) of the Aggregate Annual Debt Service for such Fiscal Year as described in (b) of the definition of Debt Service Coverage Ratio.

“Accrued Aggregate Debt Service” shall mean, as of any time, Aggregate Annual Debt Service accrued or to accrue and unpaid through the end of such time period.

“Aggregate Annual Debt Service” shall mean for any Fiscal Year as of any date of calculation, the sum of the Debt Service for all Bonds Outstanding and Parity Indebtedness outstanding during such Fiscal Year.

“Authority” shall have the meaning set forth in the recitals to the Indenture.

“Authorized Representative” shall mean the Executive Director or such other person or persons so designated by resolution of the Authority, unless a different municipal official is designated in the Indenture or in a Supplemental Indenture to perform the act or sign the document in question.

“Bond” or “Bonds” shall mean the Initial Bonds and any Clean Water Fund Obligations (which are Parity Obligations) and Other Regional Wastewater System Indebtedness issued pursuant to Sections 206 and 207 of the Indenture.

“Bond Anticipation Notes” shall mean any of the notes issued pursuant to Section 208 of the Indenture.

“Bond Counsel's Opinion” shall mean an opinion signed by Robinson & Cole LLP or by any other attorney or firm of attorneys of nationally recognized standing in the field of law relating to revenue bonds of municipalities and public agencies, selected by the Authority.

“Bond Payment Date” shall mean with respect to the Bonds and Parity Indebtedness issued or incurred under the Indenture, such date on which interest or both a Principal Installment and interest shall be due and payable thereon according to their respective terms as provided in a Supplemental Indenture.

“Bondholder”, “owner” or “holder” or words of similar import shall mean, when used with reference to a Bond, the person in whose name the Bond is registered.

“Capital Appreciation Bonds” shall mean Bonds which provide for the addition of all or any part of accrued and unpaid interest thereon to the principal due thereon upon such terms and for such periods of time as may be determined by the applicable Supplemental Indenture.

“Capital Costs” shall mean and include all costs of acquisition, construction or completion of any part of the Regional Wastewater System, including Costs of Issuance of any Bonds issued to provide funds to pay the cost thereof, the costs of any demolitions or relocations necessary in connection therewith and any extensions, renewals, replacements, equipment, alterations, improvements, additions, machinery and equipment, betterments, paving, grading, excavation, blasting or removals and of all or any property, rights, easements and franchises deemed by the Authority to be necessary or useful or convenient therefor and may include, to the extent properly attributable to such acquisition, construction and completion:

- (a) obligations incurred for labor and materials and payments made to contractors, builders and materialmen in connection with construction or acquisition of any part of the Regional Wastewater System, and for the restoration of property damaged or destroyed in connection with such construction;

- (b) fees and expenses of any Fiduciary or of the issuer of any Credit Facility during construction, payments, taxes or other governmental charges lawfully levied or assessed during construction or on any property acquired, and premiums for insurance (if any) during such construction or acquisition;

- (c) fees and expenses for studies, surveys and reports, engineering, borings, testings, estimates of costs and revenues, preparation of plans and specifications and inspecting or supervising construction or acquisition, as well as for the performance of all other duties of engineers or architects in connection with the acquisition, construction, extension, renewal or improvement of the Regional Wastewater System or required by the Indenture;

- (d) expenses of administration properly chargeable to the acquisition, construction, reconstruction, renewal, extension, or improvement of the Regional Wastewater System, including legal expenses and fees, financing charges, costs of audits and fiscal advice and all other items of expense not elsewhere in this definition specified, incident to the acquisition, construction, reconstruction, renewal, extension or improvement of the Regional Wastewater System, including the acquisition of real estate, franchises and rights-of-way therefor, including abstracts of title and title insurance, and including interest accruing on any Series of Bonds to and including the date one year after the completion of any improvement of the Regional Wastewater System financed by such Series of Bonds or Capitalized Interest as permitted by the Regional Act, if so provided in the Indenture or in the Supplemental Indenture authorizing such Series, and any charges of the Trustee and Paying Agents with respect to the payment of such interest;

- (e) the cost and expense of acquiring by purchase or condemnation or by leasing such property, lands, rights-of-way, franchises, easements, and other interest in land as may be deemed necessary or convenient for the acquisition, construction or completion of any part of the Regional Wastewater System

and options and partial payments thereon, and the amount of any damages incident to or consequent upon the same; and

(f) any obligation or expense heretofore or hereafter expended or incurred by the Authority and any amounts heretofore or hereafter advanced by the Authority for any of the foregoing purposes.

“Capitalized Interest” shall mean, for any particular Series of Bonds, that portion, if any, of the proceeds thereof which (i) in the case of Other Regional Wastewater System Indebtedness, is required by the Supplemental Indenture authorizing such Series of Bonds to be deposited in a sub-account established for such Series of Bonds in the Capitalized Interest Account in the Debt Service Fund, for the purpose of funding the payment of a portion of the interest on the Bonds of such Series and (ii) in the case of Clean Water Fund Obligations, is to be applied for the purpose of funding the payment of a portion of the interest on the Bonds of such Series pursuant to a Project Loan and Grant Agreement.

“Chief Financial Officer” shall mean, as of any date, the duly appointed and acting chief financial officer of the Authority, or such other person duly appointed and authorized to act on behalf of the chief financial officer, or, if there shall no longer be a chief financial officer, the duly appointed official succeeding to the duties and functions of the chief financial officer.

“Clean Water Fund” shall mean the clean water fund created under Section 22a-477 of the Clean Water Fund Act.

“Clean Water Fund Act” shall mean Sections 22a-475 to 22a-483 inclusive of the Connecticut General Statutes, as amended.

“Clean Water Fund Obligations” shall mean any Interim Funding Obligation or Project Loan Obligation, and any other obligation of the Authority issued by the Authority evidencing an obligation to repay money to the State pursuant to the Clean Water Fund Act, in each case authenticated and delivered pursuant to the Indenture. Clean Water Fund Obligations shall be Parity Obligations unless specifically designated as Subordinated Indebtedness by the Authority.

“Code” shall mean the Internal Revenue Code of 1986, as amended.

“Connecticut General Statutes” shall mean the General Statutes of Connecticut, Revision of 1958, as amended.

“Consulting Engineer” shall mean such independent licensed professional engineer or firm of engineers of recognized standing selected by the Authority and may include an independent engineer or firm of engineers retained by the Authority in one or more other capacities.

“Costs of Issuance” shall mean all items of expense, directly or indirectly payable or reimbursable and related to authorization, sale and issuance of Bonds, including but not limited to printing costs, costs of preparation and reproduction of documents, filing and recording fees, initial fees and charges of any Fiduciary or issuer of any Credit Facility, legal fees and charges, fees and disbursements of consultants and professionals, costs of credit ratings, fees and charges for preparation, execution, transportation and safekeeping of Bonds, costs and expenses of refunding, premiums for the insurance of the payment of the Bonds and any other cost, charge or fee in connection with the original issuance of Bonds.

“Credit Facility” shall mean a letter of credit, revolving credit agreement, standby purchase agreement, surety bond, insurance policy or similar obligation, arrangement or instrument issued by a bank, insurance company or other financial institution which provides for payment of all or a portion of the Principal Installments or interest due on any Bonds or Series of Bonds or provides funds for the purchase of such Bonds or portions thereof.

“Debt Service” for any Fiscal Year or part thereof shall mean, as of any date of calculation and with respect to any Series of Bonds, an amount equal to the sum of (i) interest payable during such Fiscal Year or part thereof on Bonds of such Series (including interest on Parity Bond Anticipation Notes), except to the extent that such interest is to be paid from amounts representing (A) Capitalized Interest, and provided that for purposes of this definition interest shall not include any portion of the Accreted Value of Capital Appreciation Bonds and (B) investment (but not reinvestment) earnings on the Debt Service Fund or Debt Service Reserve Fund if such amounts shall have been invested in Investment Securities and the amount of such investment earnings taken into account may determined precisely, (ii) the Principal Installments of the Bonds of such Series payable during such Fiscal Year or part thereof (but excluding principal of Parity Bond Anticipation Notes), and provided that for purposes of this definition the Accreted Value of Capital Appreciation Bonds (including the portion constituting interest) shall be treated as principal, and (iii) any Parity Reimbursement Obligation. Such interest and Principal Installment for such Series shall be calculated on the assumption that (w) no Bonds of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment thereof upon stated maturity or upon mandatory redemption by application of Sinking Fund Installments, (x) Variable Rate Bonds will bear interest at the greater of (A) the rate or rates which were assumed by the Authority in the Authority Budget for such Fiscal Year to be borne by Variable Rate Bonds during such Fiscal Year or (B) the actual rate or rates borne by such Variable Rate Bonds on such date of, (y) the Principal Installment of the Bonds of any such Series which constitutes an Interim Funding Obligation or Parity Bond Anticipation Notes shall be due and payable in equal debt service installments over a period of 20 years, commencing on the date on which payment of the Interim Funding Obligation or Parity Bond Anticipation Notes must begin to be repaid, and (z) in the case of (A) a Qualified Swap applicable to Variable Rate Bonds, interest shall be determined for such period of such Fiscal Year that such Qualified Swap shall be in effect by taking into account the net payments expected by the Authority to be made to the Qualified Swap provider by the Authority or the net payments expected to be made by the Qualified Swap provider to the Authority, such that if the Variable Rate Bonds and the Qualified Swap together result in a net fixed rate payable by the Authority for such period, such net fixed rate shall be deemed to be the interest rate on the Variable Rate Bonds for purposes of this definition and conversely (B) a Qualified Swap applicable to Fixed Rate Bonds, interest shall be determined for such period of such Fiscal Year that such Swap shall be in effect by taking into account the net payments expected by the Authority to be made to the Qualified Swap provider by the Authority or the net payments expected to be made by the Qualified Swap provider to the Authority, such that if the Fixed Rate Bonds and the Qualified Swap together result in a net variable rate payable by the Authority for such period, such net variable rate shall be deemed to be the interest rate on the Fixed Rate Bonds for purposes of this definition. Debt Service on Parity Indebtedness shall be calculated in accordance with the foregoing definition.

“Debt Service Coverage Ratio” shall mean, for the Fiscal Year specified, the ratio of: (a) the sum of (i)(A) the Revenues for such Fiscal Year (adjusted as provided in Section 206(d) of the Indenture), plus (B) the amount withdrawn from the General Fund to pay Operating Expenses and Parity Obligations for such Fiscal Year, plus (C) the unrestricted balance to the credit of the General Fund as of the end of such Fiscal Year, less (ii) the total Operating Expenses for such Fiscal Year; compared to (b) the Aggregate Annual Debt Service on the Bonds then Outstanding, Clean Water Fund Obligations (which are Parity Obligations), and Parity Indebtedness and interest on Parity Bond Anticipation Notes then outstanding. For purposes of this definition, “unrestricted balance” shall mean cash and Investment Securities that are legally available (whether or not Board approval is required for expenditure) to pay Operating Expenses or Parity Obligations whether or not the Board shall have otherwise restricted their use.

“Debt Service Coverage Ratio Requirement” shall mean a Debt Service Coverage Ratio of one hundred and fifteen percent (115%).

“Debt Service Fund” shall mean the Debt Service Fund established pursuant to Section 502(a) of the Indenture.

“Debt Service Reserve Fund” shall mean the Debt Service Reserve Fund, and the Accounts therein established pursuant to Section 502(a) of the Indenture.

“Debt Service Reserve Fund Requirement” shall mean, as of any date of calculation the lesser of: (i) the maximum annual Debt Service on such Bonds (excluding any one-twentieth ( $1/20^{\text{th}}$ ) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act); (ii) ten percent

(10%) of the Stated Principal Amount of such Bonds; or (iii) 125% of the average annual Debt Service on such Bonds (excluding any one-twentieth (1/20<sup>th</sup>) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act), or an amount, if any, specified for such Bonds pursuant to a Supplemental Indenture adopted pursuant to the Indenture; provided, however, if pursuant to such Supplemental Indenture, the Debt Service Reserve Fund for any other Bonds which are not Clean Water Fund Obligations, is anticipated to be less than the Minimum Reserve, the Authority shall provide the State with Notice of such fact at least 120 days prior to the issuance of such other Bonds and the State, if it objects to the funding level of the Debt Service Reserve Fund for such other Bonds, shall provide the Authority with Notice of such objection within 30 days of the date of the Authority's Notice. Failure to receive Notice of such objection within such 30 day period shall constitute consent by the State to the proposed funding level of the Debt Service Reserve Fund for such other Bonds. Upon receipt of Notice of objection from the State, the Authority and the State shall meet in a timely fashion to resolve the objection for such other Bonds to their mutual agreement, and in any event at least 90 days prior to the issuance of such other Bonds. Debt Service Reserve Fund Requirements may be satisfied in whole or in part by a Reserve Fund Credit Facility meeting the requirements of Section 509 of the Indenture. For the purpose of calculating the Debt Service Reserve Fund Requirement for any Series of Variable Rate Bonds, the maximum annual Debt Service on such Series of Bonds (excluding any one-twentieth (1/20<sup>th</sup>) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) shall be determined by reference to the Pro Forma Bond Issue for such Series as set forth in the Supplemental Indenture authorizing such Series.

"Defeasance Obligations" shall mean (A) any bonds or other obligations which as to principal and interest constitute direct obligations of, or are guaranteed by, the United States of America, including obligations of any agency thereof or corporation which has been or may hereafter be created pursuant to an act of Congress as an agency or instrumentality of the United States of America to the extent unconditionally guaranteed as to timely payment of principal and interest by the United States of America or (B) any other receipt, certificate or other evidence of an ownership interest in obligations or in specified portions thereof (which may consist of specified portions of the interest thereon) of the character described in subclause (A).

"Disbursement Request" shall mean the written request signed by an Authorized Representative of the Authority and required to be delivered pursuant to a Project Loan and Grant Agreement to effect disbursements thereunder or required to be delivered pursuant to Section 503 of the Indenture to effect disbursements from the Construction Fund and (i) if such disbursement is for proceeds of Clean Water Fund Obligations shall be in substantially the form required under the applicable Project Loan and Grant Agreement and (ii) if such disbursement is for proceeds of Bonds other than Clean Water Fund Obligations, shall be in substantially the form set forth in Exhibit A to the Indenture.

"Event of Default" shall mean any event specified in Section 1001 of the Indenture.

"Executive Director" shall mean any Interim Executive Director or Executive Director of the Authority appointed in accordance with the Authority's Bylaws.

"Fiscal Year" shall mean the fiscal year of the Authority.

"Indenture" shall mean the Indenture of Trust as the same may be amended or supplemented by a Supplemental Indenture as permitted by the Indenture.

"Independent Consultant" shall mean any person with a favorable reputation for skill and experience in the determination of the economic feasibility, and the operation, maintenance and supervision of sewerage facilities, who is independent (although such person may be regularly retained by the Authority) and who is appointed by the Authority. If such Independent Consultant is an individual, such person shall not be a member of the Authority's Board of Directors or an employee of the Authority or related to a member of the Authority's Board of Directors or an employee of the Authority. If the Independent Consultant is other than an individual, such person shall not have as an owner, director, officer or employee a member of the Authority's Board of Directors or a relative who is a member of the Authority's Board of Directors.

“Initial Bonds” shall mean the Series 2005 A Bonds, the Series 2005 B Bonds and any additional Bonds issued pursuant to the provisions of Section 205 of the Indenture.

“Interim Funding Obligation” shall have the meaning set forth in the Clean Water Fund Act.

“Interest Payment Date” shall mean a date on which an interest payment is due.

“Investment Securities” shall mean and include any of the securities and investments permitted under Section 7-400 of the Connecticut General Statutes and any other investment permitted by any provision of the Connecticut General Statutes for the Authority.

“Issue Price” means the first price at which at least ten percent (10%) of Bonds are sold to the public (not including bond houses or brokers, or similar persons or organizations acting in the capacity of underwriters or wholesalers), or if privately placed, the price paid by the first buyer of such Bonds. The Issue Price of Bonds which are not substantially identical is determined separately.

“Minimum Reserve” means the least of (i) the maximum annual Debt Service on such Bonds, (ii) ten percent (10%) of the Stated Principal Amount of such Bonds or (iii) 125% of the average annual Debt Service on such Bonds.

“Operating Expenses” shall mean all reasonable or necessary current expenses of maintaining, repairing, operating and managing the Regional Wastewater System, including all salaries, administrative, general, commercial, architectural, engineering, advertising, auditing and legal expenses, insurance and surety bond premiums, consultants' fees and charges, payments to pension, retirement, health and hospitalization funds or in connection with any other employee benefit program, any taxes which may lawfully be imposed on the Regional Wastewater System or the income or operation thereof, payments by the Authority in lieu of taxes, costs of public hearings, ordinary and current rentals of equipment or other property, ordinary lease payments for real property or interest therein, usual expenses of maintenance and repair (including replacements), capital lease payments per year in an aggregate amount not exceeding ten percent (10%) of the Authority's total Operating Expenses for said year as shown on the Annual Budget for such year, expenses, liabilities and compensation of any Fiduciary or of any issuer of a Credit Facility or fiduciary for any obligation issued by the Authority other than under the Indenture and all other expenses necessary, incidental or convenient for the efficient operation of the Regional Wastewater System, but only to the extent properly attributable to the Regional Wastewater System.

“Other Regional Wastewater System Indebtedness” shall mean any bonds, notes, or other evidences of indebtedness, as the case may be, other than Clean Water Fund Obligations and Initial Bonds, authenticated and delivered pursuant to the Indenture or a Supplemental Indenture, including any Parity Reimbursement Obligation.

“Outstanding”, when used with reference to Bonds, shall mean, as of any date, all Bonds theretofore or thereupon being authenticated and delivered under the Indenture except:

- (a) any Bonds cancelled by the Trustee at or prior to such date;
- (b) any Bond (or portion thereof) for the payment or redemption of which there shall be set aside and held in trust hereunder either:
  - (i) moneys in an amount sufficient to pay when due the Principal Installments or Redemption Price thereof, together with all interest accrued or to accrue on each Interest Payment Date to the maturity or redemption date,
  - (ii) Defeasance Obligations in such principal amounts, of such maturities, bearing such interest and otherwise having such terms and qualifications, as are necessary to provide moneys (whether as principal or interest) in an amount sufficient to pay when due the Principal

Installments or Redemption Price thereof, together with all interest accrued or to accrue on each Interest Payment Date to the maturity or redemption date, or

(iii) any combination of (i) and (ii) above,

and, if such Bond or portion thereof is to be redeemed, for which notice of redemption has been given as provided in Article VI of the Indenture, or the applicable Supplemental Indenture, or provision satisfactory to the Trustee has been made for the giving of such notice;

(c) any bond in lieu of or in substitution for which other Bonds have been authenticated and delivered; and

(d) any Bond deemed to have been paid as provided in Section 1201(b).

“Parity Bond Anticipation Notes” shall mean Bond Anticipation Notes the interest on which is payable from and secured by a pledge of the Revenues on a parity with all other Bonds.

“Parity Indebtedness” shall mean (a) indebtedness of the Authority (including, but not limited to, any obligation of the Authority under a Qualified Swap), or (b) indebtedness incurred by a person other than the Authority or any portion thereof for which debt service is a direct or indirect obligation of the Authority; provided that such indebtedness set forth in (a) and (b) is incurred other than as Bonds, Parity Bond Anticipation Notes or Parity Reimbursement Obligations, and the payment of which is secured by a pledge of all or any portion of the Revenues on a parity with the Bonds. For purposes of the preceding sentence “any portion of the Revenues” means without limitation, any specific assessment, service charge, connection charge, user fee, supplemental fee or other charge levied on Regional Wastewater System users or property and pledged to secure Parity Indebtedness.

“Parity Reimbursement Obligation” shall mean a Reimbursement Obligation, the payment of which is secured by a pledge of, and a lien on, the Trust Estate created by the Indenture.

“Paying Agent” shall mean any paying agent for the Bonds of any Series, and its successor or successors and any other person which may at any time be substituted in its place pursuant to the Indenture.

“Pre-Issuance Accrued Interest” means amounts representing interest that accrues on Bonds for a period not greater than one year before the issue date of such Bonds and is paid within one year after the issue date.

“Principal Installment” shall mean, as of any date of calculation and with respect to any Series, so long as any Bonds thereof are Outstanding, (i) the principal amount of Bonds (including (x) any amount designated in, or determined pursuant to, the applicable Supplemental Indenture, as the “principal amount” with respect to any Bonds which do not pay full current interest for all or any part of their term, and (y) the principal amount of any Parity Reimbursement Obligation) of such Series due (or so tendered for purchase or payment) on a certain future date for which no Sinking Fund Installments have been established, or (ii) the unsatisfied balance of any Sinking Fund Installments due on a certain future date for Bonds of such Series, or (iii) if such future dates coincide as to different Bonds of such Series, the sum of such principal amount of Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date; provided, however, that Principal Installment shall not include the principal of Parity Bond Anticipation Notes.

“Pro Forma Bond Issue” shall mean, when used with reference to the Debt Service Reserve Fund Requirement for a Series of Variable Rate Bonds, the hypothetical fixed rate long term bond issue set forth in the Supplemental Indenture authorizing such Series, having (i) the same maturities (and sinking fund provisions, if any) as the Series of Variable Rate Bonds to which it relates and (ii) such interest rate or rates as the Authority shall reasonably deem to be the equivalent of the rates which would have been borne by such Series of Variable Rate Bonds if such Series had been issued as a Series of Fixed Rate Bonds. If a Qualified Swap is in place, then the synthetic fixed interest rate resulting from such Qualified Swap shall be used as the equivalent of the rates which would have been borne by such Series of Variable Rate Bonds for the term of the Qualified Swap if such Series had

been issued as a Series of Fixed Rate Bonds. The reasonableness of the Authority's determination of the equivalent rates shall be conclusive if it is supported by a certificate of an independent financial advisor or other consultant.

"Project Loan and Grant Agreement" shall mean any Project Loan and Project Grant Agreement entered into by the Authority pursuant to the Clean Water Fund Act.

"Project Loan Obligation" shall have the meaning set forth in the Clean Water Fund Act.

"Qualified Swap" means a financial arrangement (i) entered into by the Authority with an entity which has been assigned directly, or by virtue of a corporate parent guarantee, at the time the arrangement is entered into a credit rating by a Rating Agency, so long as such Rating Agency continues to maintain a rating on the Bonds, and any such other firm that continues to maintain a rating on the Bonds which is not lower than the two highest ratings then assigned by such rating service without qualification by symbols "+" or "-" or a numerical notation; and (ii) that provides that the Authority pay or receive interest on a notional amount; provided that not less than fifteen (15) days prior to entering into any Qualified Swap, the Trustee shall, at the direction of the Authority, provide the Rating Agency so long as it continues to maintain a rating on the Bonds and any such other firm that continues to maintain a rating on the Bonds with an opportunity to review such proposed Qualified Swap.

"Rating Agency" shall mean Moody's Investors Service Inc., Standard & Poor's Corporation or any other rating agency nationally recognized for rating municipal debt and their respective successors and assigns.

"Record Date" shall mean, unless otherwise determined by a Supplemental Indenture for a particular Series of Bonds or by the Trustee upon the occurrence of an Event of Default, the fifteenth day of any calendar month preceding the month in which there occurs a Bond Payment Date.

"Redemption Price" shall mean, when used with respect to a Bond or portion thereof, the principal amount thereof plus the applicable premium, if any, payable upon redemption thereof pursuant to the terms of the Indenture or a Supplemental Indenture.

"Refunding Bond" shall mean any Bond authenticated and delivered on original issuance pursuant to Section 206 or Section 207 of the Indenture for the purpose of refunding any Outstanding Bonds, or thereafter authenticated and delivered in lieu of or substitution for such Bond pursuant to the Indenture.

"Regional Act" shall mean Sections 22a-500 to 22a-519, inclusive, of the Connecticut General Statutes, as amended.

"Reimbursement Obligation" shall mean the obligation of the Authority, independent of or in addition to the related Bond or Parity Indebtedness, described in Section 209(b) of the Indenture to directly reimburse the issuer of a Credit Facility for amounts paid by such issuer thereunder, whether or not such obligation to so reimburse is evidenced by a promissory note or other similar instrument.

"Reserve Fund Credit Facility" shall mean a Credit Facility meeting the requirements of Section 509 of the Indenture.

"Revenue Fund" shall mean the Revenue Fund established pursuant to Section 502(a) of the Indenture.

"Revenues" shall mean all rates, charges, rents, fees, assessments and other realized income derived or to be derived from or for the ownership, operation, use or services of the Regional Wastewater System, including but not limited to all Regional Wastewater System connection and use charges and benefit assessments pertaining to the Regional Wastewater System, including all investment proceeds and proceeds of business interruption insurance received by the Authority (other than the proceeds of insurance with respect to damage or destruction of all or any portion of the Regional Wastewater System), but does not include (i) any amounts received or receivable from the State or United States (or any agency of either thereof) or from any source as or on account of a grant or contribution for or with respect to the (a) construction, acquisition, improvement, extension, renewal, or other development of any part of

the Regional Wastewater System or (b) the financing of any of the foregoing, or (ii) any amounts received by or paid by the Authority under the terms of any grant agreement with the State or the United States (or any agency of either thereof) and which are received by or paid to the Authority under such grant agreement in relation to the Regional Wastewater System.

“Rule” means Section 15c2-12(b)(5) under the Securities Exchange Act of 1934, as amended from time to time.

“SEC” means the Securities and Exchange Commission.

“Series” or “Series of Bonds” shall mean all of the Bonds authenticated and delivered on original issuance identified pursuant to Section 204 of the Indenture and any Supplemental Indenture authorizing such Bonds as a separate Series of Bonds and any Bonds thereafter authenticated and delivered in lieu of or in substitution therefor pursuant to the Indenture regardless of variations in maturity, interest rate or other provisions.

“Series 2005 A Bonds” shall mean the Series of Bonds so designated and issued pursuant to Section 205 of the Indenture.

“Series 2005 B Bonds” shall mean the Series of Bonds so designated and issued pursuant to Section 205 of the Indenture.

“Sinking Fund Installment” shall mean, as of any particular date of calculation, the amount required by the Indenture or a Supplemental Indenture to be paid on a future date for the retirement of Outstanding Bonds which are stated to mature subsequent to such future date, but does not include any amount payable by reason only of the maturity of a Bond.

“Special Account” shall mean one or more of the Special Accounts established in the Debt Service Reserve Fund pursuant to Section 502(b) of the Indenture.

“Special Credit Facility” shall mean, with respect to any Series of Bonds or portion thereof, a Credit Facility (a) which provides funds for (i) the direct payment of the Principal Installments of and interest on or purchase price of such Bonds when due or (ii) the payment of the Principal Installments of and interest on or purchase price of such Bonds in the event amounts otherwise pledged to the payment thereof are not available when due and (b) which (i) requires the Authority to directly reimburse the issuer of such Credit Facility for amounts paid thereunder and (ii) provides that such obligation be a Parity Reimbursement Obligation.

“Start of Project Operation” shall mean the date upon which the planning, design and construction phases of the facility enterprise or other undertaking which constitutes the Project or any phase thereof shall have been completed and normal operation thereof begun as certified by the Consulting Engineer.

“State” shall mean the State of Connecticut.

“Stated Principal Amount” means par amount, unless the Bonds are issued with original issue discount or premium of more than two percent (2%) of such par amount, in which case Stated Principal Amount shall mean Issue Price excluding Pre-Issuance Accrued Interest.

“Subordinated Indebtedness” shall mean any bond, note or other evidence of indebtedness issued or obligation incurred by the Authority in furtherance of the Authority's corporate purposes under the Clean Water Fund Act, the Regional Act or the Connecticut General Statutes and payable from the Subordinated Indebtedness Fund. Any payments due from the Authority in respect of a Qualified Swap other than interest payable on the notional amount of the Qualified Swap shall be Subordinated Indebtedness, anything in the Indenture to the contrary notwithstanding.

“Subordinated Indebtedness Fund” shall mean the Subordinated Indebtedness Fund established pursuant to Section 502 of the Indenture.

“Subordinated Indebtedness Requirement” shall mean any amount required to be deposited in the Subordinated Indebtedness Fund by resolution of the Authority including all payments with respect to Subordinated Indebtedness payable out of, or secured by a pledge of, amounts held in the Subordinated Indebtedness Fund.

“Supplemental Indenture” shall mean a written agreement of the Authority authorizing the issuance of a Series of Bonds and/or otherwise amending or supplementing the Indenture, adopted in accordance with Article VIII of the Indenture.

“Tax Regulatory Agreement” shall mean an agreement, certificate or other document entered into by the Authority for purposes of maintaining the exemption of the interest on such Series of Bonds from gross income for purposes of the Code.

“Trust Estate” shall mean all Revenues, Funds, Accounts, moneys, securities and any other collateral pledged pursuant to Section 501 of the Indenture (other than the Rebate Fund and the Operating Fund) and subject to the continuing lien of the Indenture.

“Trustee” shall mean Wachovia Bank, National Association and its successor or successors and any other person which may at any time be substituted in its place pursuant to the Indenture.

“Variable Rate Bond” shall mean, as of any date of determination, any Bond on which the interest rate borne thereby may vary during any part of its remaining term.

#### **Authorization of Indenture (Section 201)**

The Indenture is entered into pursuant to the authority granted by the Bylaws, Regional Act and the Clean Water Fund Act and pursuant to their provisions. The Authority has ascertained and determined and declared that execution of the Indenture is necessary to carry out its purposes under the Regional Act and the Clean Water Fund Act, that each and every act, matter, thing or course of conduct as to which provision is made in the Indenture is necessary in order to carry out and effectuate the corporate purposes of the Authority in accordance with the Regional Act and the Clean Water Fund Act and the Bylaws and to exercise the powers given thereby and that each and every covenant or agreement contained and made in the Indenture is necessary, useful or convenient in order to better secure the Bonds and are contracts or agreements necessary, useful and convenient to carry out and effectuate its purposes under the Regional Act and the Clean Water Fund Act.

#### **Indenture to Constitute Contract (Section 202)**

In consideration of the purchase and acceptance of the Bonds by those who shall hold the same from time to time, the provisions of the Indenture shall constitute a contract among the Authority, the Trustee, the holders from time to time of the Bonds and, to the extent set forth in a Supplemental Indenture authorizing the issuance of Bonds secured by a Special Credit Facility, the issuer of such Special Credit Facility. The pledge under the Indenture and the provisions, covenants and agreements set forth in the Indenture to be performed by or on behalf of the Authority shall be for the equal benefit, protection and security of the holders of any and all such Bonds each of which, regardless of the time or times of its issue or maturity, shall be of equal rank without preference, priority or distinction over any other thereof except as expressly provided in the Indenture and, to the extent set forth in a Supplemental Indenture authorizing the issuance of Bonds secured by a Special Credit Facility, the issuer of such Special Credit Facility.

#### **Obligation of Bonds (Section 203)**

The Bonds issued under the Indenture shall be payable solely out of the Revenues and other receipts, funds and moneys pledged therefor pursuant to the Indenture and are secured by the liens created by the Indenture, including the Trust Estate. The Bonds shall not be obligations of the Authority nor the State, except as provided in the Indenture and, to the extent applicable, a Project Loan and Grant Agreement. The Bonds shall not constitute indebtedness of the Authority or the State within the meaning of any statutory or constitutional provision. Neither the faith and credit nor the taxing power of the Authority or the State is pledged to pay the Bonds.

Bonds issued pursuant to the Indenture shall be special, limited obligations of the Authority and shall not be payable from nor charged upon any funds other than Revenues or other receipts, funds or moneys pledged therefor pursuant to the Indenture, nor shall the Authority be subject to any liability thereon except to the extent of such Revenues, or other receipts, fund and moneys pledged therefor pursuant to the Indenture. The issuance of Bonds pursuant to the Indenture shall not directly or contingently obligate the Authority to levy or to pledge any form of taxation whatever therefor, or to make any additional appropriation for their payment. The Bonds shall not constitute a charge, lien or encumbrance, legal or equitable, upon any property of the Authority, other than Revenues or other receipts, funds or moneys pledged therefor as provided in the Indenture. The substance of such limitation shall be plainly stated on the face of each Bond.

#### **Authorization of Bonds in Series (Section 204)**

The aggregate principal amount of the Bonds which may be executed, authenticated and delivered under the Indenture is not limited except as provided in the Indenture or as may be limited by law. In order to provide sufficient funds for the purposes of financing Projects or for the purpose of refunding any Bonds or any bonds, notes or other obligations issued by the Authority for the purposes of financing Projects, Bonds of the Authority are authorized by the Indenture to be issued from time to time without limitation as to amount except as provided in the Indenture or as may be limited by law and such Bonds shall be issued subject to the terms, conditions and limitations established in the Indenture and in one or more series as provided in the Indenture.

#### **Conditions Precedent to Delivery of a Series of Additional Bonds (Section 206)**

Series of additional Bonds may be authorized by the Authority for issuance and delivered to the Trustee and thereupon shall be authenticated by the Trustee and delivered to a Depository Institution or upon the Authority's order, but only upon the receipt by the Trustee of:

- (a) a Bond Counsel's opinion to the effect that (i) the Authority has the right and power to adopt the Indenture under its Bylaws, the Connecticut General Statutes, including the Regional Act and the Clean Water Fund Act; (ii) the Indenture has been duly and lawfully executed and delivered by the Authority and is valid, binding and enforceable against the Authority except as may be limited by bankruptcy, insolvency or other laws affecting creditors' rights and the unavailability of equitable remedies; (iii) the Indenture creates the valid pledge which it purports to create of the Trust Estate, subject to the application thereof to the purposes and on the conditions permitted by the Indenture, the Regional Act, the Clean Water Fund Act, if applicable, and the Bylaws; (iv) the Bonds of such Series are valid and binding special, limited obligations secured by the Trust Estate and are enforceable in accordance with their terms and the terms of the Indenture except as limited by bankruptcy, insolvency or other laws affecting creditors' rights and the application of equitable principles; and (v) all conditions required by the Indenture precedent to the issuance of the Bonds have been met and upon the execution, authentication and delivery thereof, the Bonds of such Series will have been duly and validly authorized and issued in accordance with the Regional Act, Clean Water Fund Act, if applicable, and the Indenture;

- (b) a written order as to the delivery of such Bonds, signed by an Authorized Representative of the Authority;

- (c) a copy of the Indenture or Supplemental Indenture authorizing such Series, certified by an Authorized Representative of the Authority, which shall specify:

- (i) the authorized principal amount and Series designation of such Bonds and the Credit Facility, if any, related thereto, and if such Credit Facility is a Special Credit Facility;

- (ii) the purposes for which such Series is being issued, which shall be one or more of the following: (1) the funding of any costs that relate to a Project for which Bonds can be issued under the Connecticut General Statutes, (2) the funding of Capitalized Interest, (3) the making of deposits in the amounts, if any, required by the Indenture or such Supplemental Indenture into any of the Funds and Accounts established pursuant to Article V of the Indenture, or (4) the refunding

of any Outstanding Bonds, Parity Indebtedness, Bond Anticipation Notes, Subordinated Indebtedness, or outstanding bonds of the Authority issued to pay Capital Costs of a Project;

(iii) the date, and the maturity date or dates of the Bonds of such Series;

(iv) if such Bonds will pay current interest for all or any part of their term, the interest rate or rates of the Bonds of such Series, or the manner of determining such rate or rates, the Bond Payment Dates therefor and the method of payment thereof and, if such Bonds will not pay full current interest for all or any part of their term, the rate or rates to be borne by, the method of accrual or compounding, if any, and the other terms and conditions of such Bonds including the designation, or manner of determining, the "principal amount" of such Bonds;

(v) if any Bonds of such Series are Variable Rate Bonds, the limitation, if any, on the numerical rate or rates of interest which such Bonds may bear at any time and the terms of the Pro Forma Bond Issue applicable thereto;

(vi) the minimum denomination of, and the manner of dating, numbering and lettering, the Bonds of such Series, but such Bonds shall be in denominations equal to the minimum denomination or any multiple thereof;

(vii) the place or places of payment of the Bonds of such Series or the manner of appointing and designating the same;

(viii) if any Bonds of such Series are redeemable the Redemption Prices and the redemption terms for the Bonds of such Series;

(ix) the amount and due date of each Sinking Fund Installment, if any, for Bonds of like maturity of such Series;

(x) provisions for the sale of the Bonds of such Series;

(xi) the forms of the Bonds of such Series and of the Trustee's certificate of authentication;

(xii) the respective amounts, if any, to be deposited from the proceeds of such Series, in the subaccount for such Series established in the Capitalized Interest Account in the Debt Service Fund, and in the Debt Service Reserve Fund, including the Reserve Fund Credit Facility, if any, therefor; and

(xiii) any other provisions deemed advisable by the Authority as shall not conflict with the provisions of the Indenture;

(d) except in the case of any Series of Initial Bonds issued pursuant to Section 205 or of Refunding Bonds issued pursuant to Section 207 of the Indenture, a Certificate of an Authorized Representative of the Authority setting forth for the last Fiscal Year for which audited financial statements are available, (i) the Revenues, adjusted as provided in the Indenture, (ii) the Aggregate Annual Debt Service on the Bonds then Outstanding and all Parity Indebtedness then outstanding, (iii) the total Operating Expenses, (iv) the amount withdrawn from the General Fund to pay Operating Expenses and Parity Obligations and the unrestricted balance to the credit of the General Fund as of the end of such Fiscal Year, and (v) showing that the Debt Service Coverage Ratio is at least equal to the 115% Debt Service Coverage Ratio Requirement; provided that (A) if an increase in the rates, fees and charges for services of the Regional Wastewater System shall have been approved prior to the delivery of such Certificate, such that no further legal requirements need be met to effect such increase, the Revenues calculated under clause (d)(i) shall be adjusted to the amount of Revenues which would have been derived from the Regional Wastewater System for said full Fiscal Year if such increased rates, fees and charges for services of the

Regional Wastewater System had been in effect for the full Fiscal Year, and (B) if the Authority shall have obtained one or more new customers after such Fiscal Year but before the delivery of such certificate, such that the Revenues for the last full Fiscal Year should, in the opinion of the Authority, be adjusted to reflect such additional customer or customers, then the Revenues of the Regional Wastewater System for the full Fiscal Year immediately preceding the issuance of said additional Bonds shall be increased by the least amount which said customer or customers are legally obligated to pay in any one year for the furnishing of said services by the Regional Wastewater System, after deducting therefrom the Operating Expenses estimated by the Authority as attributable in such year to such customer or customers.

(e) except in the case of any Series of Initial Bonds issued pursuant to Section 205 or of Refunding Bonds issued pursuant to Section 207 of the Indenture, a Certificate of an Authorized Representative of the Authority as confirmed by an Independent Consultant setting forth for each of the five (5) Fiscal Years following the issuance of such Series of Bonds, plus the Fiscal Year in which such Bonds are issued, (i) the estimated Revenues after giving effect to any increases or decreases in rates, fees and charges projected, (ii) the estimated Operating Expenses, (iii) the estimated amount to be withdrawn from the General Fund to pay Operating Expenses and Parity Obligations and the unrestricted balance to the credit of the General Funds as of the end of each such Fiscal Year, (iv) the projected Aggregate Annual Debt Service on the Bonds then Outstanding, all Parity Indebtedness then outstanding and the additional Bonds then proposed to be issued, and any other additional Bonds to be issued during such Fiscal Years according to the aforementioned Certificate, and (v) showing that the Debt Service Coverage Ratio in the Fiscal Year in which the additional Bonds are issued and each of the four succeeding Fiscal Years will be at least equal to (Y) the 115% Debt Service Coverage Ratio Requirement and (Z) in the fifth full Fiscal Year after the Fiscal Year in which the additional Bonds are issued, at least equal to the 115% Debt Service Coverage Ratio Requirement calculated using the maximum amount of Aggregate Annual Debt Service to occur in such fifth full Fiscal Year or any future Fiscal Year on account of all Bonds to be outstanding at the beginning of such fifth Fiscal Year;

(f) except in the case of Refunding Bonds issued pursuant to Section 207 of the Indenture, a Certificate of an Authorized Representative of the Authority, dated as of the date of such delivery, stating that the Authority is not in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Indenture and in any documents pertaining to Parity Indebtedness outstanding;

(g) in the case of any Series of Bonds other than Clean Water Fund Obligations and for which Capitalized Interest has been provided by the Supplemental Indenture authorizing such Series (i) the written direction of an Authorized Representative of the Authority to establish the sub-account for such Series in the Capitalized Interest Account in the Debt Service Fund and (ii) the amount of the proceeds of such Series to be deposited therein;

(h) such further documents and moneys as are required by the provisions of Article VIII of the Indenture or any Supplemental Indenture adopted pursuant to Article VIII of the Indenture; and

(i) with respect to the issuance of Clean Water Fund Obligations in connection with the delivery of the certificate of an Authorized Representative set forth in clause (e) above, the Authority shall deliver to the State a report containing such assumptions and expectations with respect to projected Revenues and Operating Expenses for the term of any Clean Water Fund Obligations Outstanding and the capital and operating needs of the Authority for such period in such form as the State may reasonably require to assist it in preparing its own projections.

#### **Conditions Precedent to Delivery of Refunding Bonds (Section 207)**

(a) One or more Series of refunding Bonds may be issued and Parity Indebtedness may be incurred pursuant to the Indenture at any time to refund any Outstanding Bonds or Outstanding Parity Indebtedness provided that (i) average annual Debt Service on such Series of Refunding Bonds or outstanding Parity Indebtedness (excluding any one-twentieth (1/20<sup>th</sup>) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations

pursuant to the provisions of the Clean Water Fund Act) shall not exceed the average annual Debt Service on the Outstanding Bonds or outstanding Parity Obligations (excluding any one-twentieth (1/20<sup>th</sup>) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) to be refunded and (ii) the maximum Debt Service in any Fiscal Year on such Series of Refunding Bonds or Parity Indebtedness (excluding any one-twentieth (1/20<sup>th</sup>) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) shall not exceed the maximum Debt Service in any Fiscal Year on the Outstanding Bonds or outstanding Parity Indebtedness (excluding any one-twentieth (1/20<sup>th</sup>) principal payment required by any Project Loan and Project Grant Agreement and excluding any interest accrued as a result of the extension or refinancing of Interim Funding Obligations pursuant to the provisions of the Clean Water Fund Act) to be refunded, all as shown in a Certificate signed by an Authorized Representative of the Authority and delivered to the Trustee prior to the authentication and delivery of such Series of Refunding Bonds. Refunding Bonds shall be issued in a principal amount sufficient, together with other moneys available therefor, to accomplish such refunding and to make the deposits in the Funds and Accounts required by the provisions of the Supplemental Indenture authorizing such Bonds. Refunding Bonds that do not meet the requirements of Section 207(a) of the Indenture may be issued by meeting the requirements of Section 206(d) and (e) of the Indenture.

(b) All Refunding Bonds of a Series issued under the Indenture shall be executed by the Authority for and delivered to the Trustee and thereupon shall be authenticated by the Trustee and delivered to a Depository Institution or upon the Authority's order, but only upon the receipt by the Trustee (in addition to the documents required by Section 206(a), (b) and (c) and of evidence of the Authority's meeting either the requirements of subsection (a) of Section 207 or subsection (d) and (e) of Section 206 of the Indenture) of:

(i) irrevocable instructions to the Trustee, satisfactory to it, to give due notice of redemption of all the Bonds to be redeemed on a redemption date or dates specified in such instructions;

(ii) if the Bonds to be refunded are not to be redeemed within the next succeeding sixty (60) days, irrevocable instructions to the Trustee, satisfactory to it, to give due notice of any refunding of such Bonds on a specified date prior to their maturity, as provided in Article VI and Section 1201 of the Indenture;

(iii) either (A) moneys (which may include all or a portion of the proceeds of the Refunding Bonds to be issued) in an amount sufficient to effect payment of the Principal Installments and the applicable Redemption Price, if any, of the Bonds to be refunded, together with accrued interest on such Bonds to the maturity or redemption date thereof, as the case may be, or (B) Defeasance Obligations in such principal amounts, of such maturities, bearing such interest and otherwise having such terms and qualifications and any moneys, as shall be necessary to comply with the provisions of Section 1201 of the Indenture, which Defeasance Obligations and moneys shall be held in trust and used only as provided in Section 1201 of the Indenture; and

(iv) such further documents and moneys as are required by the provisions of Article XII of the Indenture or any Supplemental Indenture adopted pursuant to Article VIII of the Indenture.

#### **Bond Anticipation Notes (Section 208)**

Whenever the Authority shall authorize the issuance of a Series of Bonds, the Authority may, by resolution, authorize the issuance of notes (and renewals thereof) in anticipation of such Series. The principal of and interest on such notes and renewals thereof shall be payable from the proceeds of such notes or from the proceeds of the sale of the Series of Bonds in anticipation of which such notes are issued. The proceeds of such Bonds may be pledged for the payment of the principal of and interest on such notes and any such pledge shall have a priority over any other pledge of such proceeds created by the Indenture. The Authority may also pledge the Revenues to the payment of the interest on, and subject to Section 707 of the Indenture, the principal of such notes. A copy of the resolution of the Authority authorizing such notes, certified by an Authorized Representative of the Authority, shall be delivered to the Trustee following its adoption, together with such other information concerning such notes as the Trustee may reasonably request.

### **Credit Facilities (Section 209)**

(a) In connection with the issuance of any Series of Bonds under the Indenture, the Authority may obtain or cause to be obtained one or more Credit Facilities providing for payment of all or a portion of the Principal Installments, or Redemption Price or interest due or to become due on such Bonds, providing for the purchase of such Bonds by the issuer of such Credit Facility or providing funds for the purchase of such Bonds by the Authority. In connection therewith the Authority may enter into such agreements with the issuer of such Credit Facility providing for, inter alia: (i) the payment of fees and expenses to such issuer for the issuance of such Credit Facility; (ii) the terms and conditions of such Credit Facility and the Series of Bonds affected thereby; and (iii) the security, if any, to be provided for the issuance of such Credit Facility.

(b) The Authority may secure such Credit Facility by an agreement providing for the purchase of the Series of Bonds secured thereby with such adjustments to the rate of interest, method of determining interest, maturity, or redemption provisions as specified by the Authority in the applicable Supplemental Indenture. The Authority may also in an agreement with the issuer of such Credit Facility agree to directly reimburse such issuer for amounts paid under the terms of such Credit Facility, together with interest thereon (a "Reimbursement Obligation"); provided, however, that no Reimbursement Obligation shall be credited, for purposes of the Indenture, until amounts are paid under such Credit Facility. Any such Reimbursement Obligation (a "Parity Reimbursement Obligation") may be secured by a pledge of, and a lien on the Trust Estate on a parity with the lien created by Section 501 of the Indenture. Any such Parity Reimbursement Obligation shall be deemed to be a part of the Series of Bonds to which the Credit Facility which gave rise to such Parity Reimbursement Obligation relates.

(c) Any such Credit Facility shall be for the benefit of and secure such Series of Bonds or portion thereof as specified in the applicable Supplemental Indenture.

### **Parity Indebtedness (Section 210)**

The Authority may issue or incur Parity Indebtedness for any lawful purpose relating to the Regional Wastewater System; provided that the Parity Indebtedness shall be deemed to be Bonds issued under Section 206 or 207 of the Indenture for the purpose of complying with the requirements of Section 206 or 207 of the Indenture. All such Parity Indebtedness and the Bonds shall be secured equally, without preference of priority, by the Revenues pledged under the Indenture. There shall be included in any agreement for the repayment of Parity Indebtedness provisions that: (1) any Event of Default under the Indenture shall be an event of default under such agreement; and (2) if the Authority is in default in respect of such Parity Indebtedness, the holder or holders thereof and/or any trustee therefor shall take no action which shall be inconsistent with any action taken by the Trustee under the Indenture and that all remedies exercised by the Trustee under the Indenture and by the holder or holders of such Parity Indebtedness and/or any trustee therefor are to be exercised for the equal and ratable benefit of all Bondholders and holders of Parity Indebtedness. The Trustee and the holders of any Parity Indebtedness and any trustee therefor may enter into any agreement regarding rights and remedies following an Event of Default under the Indenture and an event of default under any agreement for the repayment of Parity Indebtedness, which is not inconsistent with the foregoing.

### **Application of Bond Proceeds; Deposits to the Debt Service Reserve Fund (Section 401)**

(a) The proceeds (including accrued interest) from the sale of the Bonds of each Series shall be applied simultaneously with the delivery of such Bonds for the purposes of making deposits in the Funds and Accounts, as shall be provided by the Supplemental Indenture authorizing such Series and all amounts not otherwise deposited shall be deposited in the Construction Fund; provided, however, that (i) in the case of Clean Water Fund Obligations, the proceeds of the sale of such Bonds shall be applied as provided in the Project Loan and Grant Agreement and no proceeds shall be deposited in the Construction Fund and (ii) in the case of Refunding Bonds, all such amounts not otherwise deposited shall be applied to the refunding purposes thereof in the manner provided in such Supplemental Indenture.

(b) The proceeds of the sale of a Series of Bonds may be deposited in the Debt Service Reserve Fund as provided in the Supplemental Indenture pertaining to such Series of Bonds. The amount, if any, necessary to make

the amount on deposit in the Debt Service Reserve Fund equal to the Debt Service Reserve Fund Requirement, after giving effect to the issuance of a Series of Bonds, shall be funded from Revenues deposited in the applicable Special Account of the Debt Service Reserve Fund. Unless a later date is specifically provided by a Supplemental Indenture and the State consents to such later date and the terms of such funding, (such State consent only being needed with respect to Clean Water Fund Obligations) the Debt Service Reserve Fund Requirement for a Series of Bonds shall be fully funded not later than: (i) the date of issuance of the Project Loan Obligation for a Project financed by Clean Water Fund Obligations, or (ii) the date of issuance of any other Bond issued pursuant to the terms of the Indenture.

If a Supplemental Indenture shall provide that on the date of issuance of the particular Series of Bonds authorized thereby, the Debt Service Reserve Fund Requirement for such Series of Bonds shall be fully funded on the same basis as all other Series of Bonds secured by the Common Account of the Debt Service Reserve Fund, such Series of Bonds shall also be secured by the Common Account of the Debt Service Reserve Fund once such funding shall have occurred. Unless and until the full funding of such Debt Service Reserve Fund Requirement on the same basis as all other Series of Bonds secured by the Common Account has occurred, each Series of Bonds shall be secured only by the applicable Special Account of the Debt Service Reserve Fund which has been established for such Series.

Any Supplemental Indenture may set forth the amount of the proceeds, if any, of any Series of Bonds to be deposited in a Special Account for such Series or the amount, if any, to be deposited in the Common Account for such Series.

#### **The Pledge Effected by the Indenture (Section 501)**

All Bonds issued pursuant to the Indenture shall be special, limited obligations of the Authority. Pursuant to the Granting Clauses set forth in the Indenture, the Authority have pledged the Trust Estate as security for the payment of the Bonds and the performance of any other obligation of the Authority under the Indenture or any Supplemental Indenture, in accordance with the terms and the provisions of the Indenture, subject only to the provisions of the Indenture permitting the application thereof for or to the purposes and on the terms and conditions set forth in the Indenture. As provided by the Regional Act, this pledge, that the Revenues, moneys, securities and other funds so pledged and then or thereafter received by the Authority shall immediately be subject to the lien of such pledge without physical delivery thereof or further act and the lien of such pledge and obligation to perform the contractual provisions contained in the Indenture shall be valid and binding as against all parties having claims of any kind in tort, contract or otherwise against the Authority, irrespective of whether such parties have notice thereof.

#### **Establishment of Funds and Accounts (Section 502)**

(a) The Indenture establishes the following Funds:

- (1) Construction Fund;
- (2) Revenue Fund;
- (3) Debt Service Fund;
- (4) Debt Service Reserve Fund;
- (5) Operating Fund;
- (6) Subordinated Indebtedness Fund; and
- (7) General Fund.

(b) The Indenture establishes in the Debt Service Reserve Fund a separate Account to be known as the "Common Account". In addition, any Supplemental Indenture, which provides for a Credit Facility to secure the payment of the Principal Installments of and interest on a Series of Bonds authorized thereby or to secure the

payment of the purchase price of a Series of Bonds authorized thereby, can provide for one or more separate Accounts to be known as “Special Accounts” relating thereto. In addition, unless otherwise established by Supplemental Indenture, Special Accounts shall be established for each Series of Bonds unless and until the Debt Service Reserve Fund Requirement for all Outstanding Bonds shall have been fully funded on the same basis, as provided in Section 401(b) of the Indenture. Upon the full funding of the Debt Service Reserve Fund Requirement for a Series of Bonds on the same basis, any moneys and securities deposited in any Special Account for such Series of Bonds which has been established to accommodate any funding of the Debt Service Reserve Fund Requirement over time, shall be transferred to the Common Account of the Debt Service Reserve Fund, and from such time of transfer, the Common Account shall secure all such Series of Bonds.

(c) The Indenture establishes in the Debt Service Fund a separate account for each Series of Bonds to be known as a “Debt Service Account” with such additional designation as shall identify such Debt Service Account to the Series of Bonds as shall be necessary, and a separate Account to be known as the “Capitalized Interest Account”. The Trustee shall, upon receipt of a written direction signed by an Authorized Representative of the Authority, establish, in the Capitalized Interest Account, a sub-account for each Series of Bonds (other than Clean Water Fund Obligations) for which Capitalized Interest has been provided by the Supplemental Indenture authorizing such Series.

(d) In addition to the Accounts established in subsections (a), (b) and (c) above, the Trustee shall, at the written request of the Authority, establish within any Fund held by the Trustee such Accounts as shall be designated in the written instructions of an Authorized Representative of the Authority and shall in like manner establish within any Account such subaccounts for the purposes of such Accounts as shall be so designated.

(e) In addition to the Funds and Accounts established above, the Trustee shall, at the written request of the Authority, establish a Rebate Fund and Accounts therein, to the extent so provided in a Supplemental Indenture, into which Rebate Fund and Accounts the Authority shall be required to deposit the amount of any earnings under the Indenture required to be rebated to the United States. Amounts on deposit in the Rebate Fund and Accounts therein shall be invested and applied by the Trustee as provided in a Supplemental Indenture.

(f) Unless otherwise expressly provided in the Indenture, including without limitation Section 517 of the Indenture, all of the Funds and Accounts except the Operating Fund shall be held by the Trustee.

### **Construction Fund (Section 503)**

(a) Subject to the second succeeding sentence, the Authority shall establish within the Construction Fund a separate Account for each Project for which a Series of Bonds is issued. There shall be deposited from time to time in the applicable Account of the Construction Fund any amount required to be deposited therein pursuant to the Indenture and any Supplemental Indenture and any other amounts received and determined to be deposited therein from time to time which are not otherwise required to be applied in accordance with the Indenture. The Authority may, pursuant to a Project Loan and Grant Agreement, authorize alternate means of deposit and disbursement of proceeds of Clean Water Fund Obligations, and such means set forth in such Project Loan and Grant Agreement shall be effective as if fully set forth in the Indenture, provided no funds held by the Clean Water Fund prior to disbursement shall be part of the Trust Estate.

(b) Amounts in each separate Account of the Construction Fund shall be expended only (i) to pay Capital Costs of the Project for which such account was established or (ii) to the extent that the amounts in any other Fund or Account are insufficient or unavailable therefor, to pay the principal of and interest on the Bonds when due, but in the case of this clause (ii), only in the event that there shall have been filed with the Trustee (a) a Certificate of an Authorized Representative of the Authority in form and substance satisfactory to the Trustee stating that the Revenues expected to be received thereafter together with such other specified amounts as are expected to be made available therefor by the Authority will be sufficient to pay in full all Outstanding Bonds when and as the same shall become due in accordance with their terms and in reasonable detail, the basis for such certification, and (b) an opinion of counsel satisfactory to the Trustee that such payment will not result in a violation of any existing law.

(c) With respect to Clean Water Fund Obligations, the Authority shall submit on a monthly basis to the Trustee or, with respect to Clean Water Fund Obligations, to the Clean Water Fund Administrator, a Disbursement Request setting forth the amount and, in reasonable detail, itemizing the Capital Costs of any Project expenses to be paid in the following month from the Account in the Construction Fund established for such Project or pursuant to a Project Loan and Grant Agreement, together with a Certificate of an Authorized Representative of the Authority identifying such Disbursement Request and stating that the amount to be withdrawn pursuant to such requisition is a proper charge thereon. The Trustee or the Clean Water Fund Administrator, as applicable, shall thereafter advance to the Authority at the beginning of each month, or at such other time as is provided in a Project Loan and Grant Agreement with respect to Clean Water Fund Obligations, the amount shown in such Disbursement Request, subject to such rights as the Clean Water Fund Administrator has to withhold disbursements as provided in the Project Loan and Grant Agreement. The Authority may at any time or from time to time as necessary submit to the Trustee or the Clean Water Fund Administrator, as applicable, a supplemental Disbursement Request and Certificate of an Authorized Representative in conformity with the foregoing requirements to revise a previously submitted Disbursement Request, and upon receipt thereof the Trustee or the Clean Water Fund Administrator, as applicable, shall promptly, or at such other time as provided in a Project Loan and Grant Agreement with respect to Clean Water Fund Obligations, advance to the Authority the amount specified in such supplemental Disbursement Request, subject to such rights as the Clean Water Fund has to withhold disbursements as provided in the Project Loan and Grant Agreement. All moneys so received by the Authority shall be applied to the payment of the Capital Costs of the Project for which such moneys were disbursed.

(d) The Trustee shall, upon written instruction of an Authorized Representative of the Authority, transfer any amount of the proceeds of Bonds remaining in any Account of the Construction Fund to the Special Account, if any, of the Debt Service Reserve Fund for such Series of Bonds to the extent of any deficiency in the Debt Service Reserve Fund Requirement for such Series of Bonds, or to the Common Account of the Debt Service Reserve Fund to the extent of any deficiency therein for Bonds secured thereby, (provided that any such proceeds from Clean Water Fund Obligations shall be transferred to the Debt Service Fund for payment of Clean Water Fund Obligations), but only upon receipt of the Certificate of an Authorized Representative stating that all Capital Costs theretofore incurred in connection with the Project for which such Account was established have been paid or duly provided for. In lieu of making such transfers, the Authority may, by delivering to the Trustee written instructions of any Authorized Representative, direct the Trustee to apply such amounts to the redemption of Bonds in accordance with the provisions of Article VI.

(e) Notwithstanding anything in the Indenture to the contrary, the disbursement procedure relating to the Construction Fund can be varied for any Project as may be provided in any Supplemental Indenture that relates to the Bonds issued for such Project.

#### **Revenue Fund (Section 504)**

Subject to Section 517 of the Indenture, the Authority shall cause all Revenues received by them to be paid to the Trustee who shall promptly upon receipt deposit the same in the Revenue Fund. There shall also be deposited in the Revenue Fund all other amounts required by the Indenture to be so deposited.

#### **Payments Into Certain Funds (Section 505)**

Subject to Section 517 of the Indenture, on the third Business Day preceding the end of each month, the Trustee shall, from the amounts in the Revenue Fund, make the following deposits in the following order of priority:

FIRST: to the Operating Fund, the amount set forth in a Certificate of an Authorized Representative of the Authority as being necessary to provide for (taking into account amounts on deposit therein and expenses incurred and unpaid for the current month) the payment of the next succeeding month's Operating Expenses;

SECOND: to each Debt Service Account, the amount necessary so that the total on deposit therein at the end of such month equals the Accrued Aggregate Debt Service on the applicable Series of Bonds for such month, and to such payees as are designated in writing to the Trustee by the Authority, an amount

equal to the Accrued Aggregate Debt Service on all Parity Indebtedness for such month; provided however, if Revenues are insufficient for such purpose, then pro rata to each such Debt Service Account and payee;

THIRD: from the balance, if any, remaining after making the deposits required by paragraphs FIRST and SECOND, to the Debt Service Reserve Fund, first, to the credit of the Common Account therein, the amount, if any, necessary to make the total on deposit in the Common Account equal to the Debt Service Reserve Fund Requirement for the Bonds secured by the Common Account, or the entire balance if less than sufficient, second, from the balance of such deposit, if any, remaining after crediting the Common Account as aforesaid, to the credit of each Special Account, the amount, if any, necessary to make the total amount on deposit in each such Special Account equal to the portion of the Debt Service Reserve Fund Requirement for the Series of Bonds to which such Special Account relates that is required to be funded as of that month as set forth in Section 401(b) of the Indenture; provided, however, that if the balance remaining is less than sufficient to credit in full each Special Account, credit shall be made pro rata among all Special Accounts in the same ratio as the portion of the Debt Service Reserve Fund Requirement related to each Special Account and required to be funded as of that month bears to the sum of the Debt Service Reserve Fund Requirements for all the Bonds related to Special Accounts, and third, from the balance of such deposit, if any, remaining after crediting the Common Account and the Special Accounts as aforesaid, to the credit of each debt service reserve fund as are designated in writing to the Trustee by the Authority for Parity Indebtedness, the amount, if any, necessary to make the total amount on deposit in each such debt service reserve fund equal to the portion of the debt service reserve fund requirement for the series of Parity Indebtedness to which such debt service reserve fund relates that is required to be funded as of that month; provided, however, that if the balance remaining is less than sufficient to credit in full each debt service reserve fund, credit shall be made pro rata among all debt service reserve funds in the same ratio as the portion of the debt service reserve fund requirement related to each debt service reserve fund and required to be funded as of that month bears to the sum of the debt service reserve fund requirements for all Parity Indebtedness related to such debt service reserve funds;

FOURTH: from the balance, if any, remaining after making the deposits required by paragraphs FIRST, SECOND and THIRD, to the Rebate Fund the amount, if any, set forth in a Certificate of an Authorized Representative of the Authority as being required to be deposited in such Fund and the Accounts thereunder in accordance with the Indenture, a Supplemental Indenture or a Tax Regulatory Agreement;

FIFTH: from the balance, if any, remaining after making the deposits required by paragraphs FIRST, SECOND, THIRD and FOURTH, to the Subordinated Indebtedness Fund amounts required to be deposited in such Fund for such month in accordance with the Annual Budget or the entire balance if less than sufficient;

SIXTH: from the balance, if any, remaining after making the deposits required by paragraphs FIRST, SECOND, THIRD, FOURTH and FIFTH, to the General Fund, the balance.

#### **Debt Service Fund (Section 506)**

Subject to Section 517 of the Indenture:

(a) The Trustee shall for each Series of Bonds Outstanding, pay from the moneys or deposits in the respective Debt Service Account for such Series of Bonds (i) on each Bond Payment Date, (1) the amounts required for the payment of the Principal Installments (including any Sinking Fund Installments), if any, due on such date and (2) the amounts required for the payment of interest due on such date, provided that with respect to any Series of Bonds for which amounts have been deposited in a Capitalized Interest Account, the unexpended balance in such account shall be applied to pay interest on such Series of Bonds prior to use of other amounts in the Debt Service Fund for such purpose, (ii) on each date that the same shall be due and payable, the net amount, if any, required to be paid as interest on the notional amount of any Qualified Swap, and (iii) on any redemption date or date of purchase, the amounts required for the payment of accrued interest on Bonds to be redeemed or purchased on such date unless the payment of such accrued interest shall be otherwise provided.

(b) The amounts accumulated in the Debt Service Fund for each Sinking Fund Installment may, and if so directed in writing by an Authorized Representative of the Authority shall, be applied (together with amounts with respect to interest on the Bonds for which such Sinking Fund Installment was established) by the Trustee prior to the forty-fifth day preceding the due date of such Sinking Fund Installment to the purchase of Bonds of the Series and maturity for which such Sinking Fund Installment was established, at prices (including any brokerage and other charges) not exceeding the Redemption Price payable for such Bonds when such Bonds are redeemable by application of such Sinking Fund Installment plus unpaid interest accrued to the date of purchase, such purchases to be made by the Trustee as directed in writing by an Authorized Representative of the Authority.

(c) Upon the purchase of any Bond pursuant to subsection (b) of Section 517 of the Indenture, an amount equal to the principal amount of the Bond so purchased or redeemed shall be credited toward the next Sinking Fund Installment thereafter to become due and the amount of any excess of the amounts so credited over the amount of such Sinking Fund Installment shall be credited against future Sinking Fund Installments in direct chronological order.

(d) As soon as practicable after the forty-fifth day preceding the due date of any such Sinking Fund Installment, the Trustee shall proceed to call for redemption, pursuant to Section 603 of the Indenture, on such due date, Bonds of the Series and maturity for which such Sinking Fund Installment was established in such amount as shall be necessary to complete the retirement of the principal amount specified for such Sinking Fund Installment of the Bonds of such Series and maturity. The Trustee shall so call such Bonds for redemption whether or not it then has moneys in the Debt Service Fund sufficient to pay the applicable Redemption Price thereof on the redemption date. The Trustee shall apply to the redemption of the Bonds on each such redemption date, the amount required for the redemption of such Bonds.

#### **Operating Fund (Section 507)**

Subject to Section 517 of the Indenture:

(a) Amounts credited to the Operating Fund shall be applied by the Authority, from time to time, to the payment of Operating Expenses in accordance with the Annual Budget.

(b) Amounts credited to the Operating Fund which the Authority at any time determines to be in excess of an amount equal to the unpaid Operating Expenses for such Fiscal Year shall be applied to make up any deficiencies in the following funds and accounts in the order stated: the Debt Service Accounts on a pro rata basis; any debt service funds established for Parity Indebtedness the existence of which and any deficiencies therein which have been identified in writing to the Trustee by the Authority on a pro rata basis; the Common Account of the Debt Service Reserve Fund; the Special Accounts of the Debt Service Reserve Fund on a pro rata basis; any debt service reserve funds established for Parity Indebtedness the existence of which and any deficiencies therein which have been identified in writing to the Trustee by the Authority on a pro rata basis; and the Subordinated Indebtedness Fund. Any balance of such excess not so applied shall be transferred by the Authority to the Trustee for credit to the General Fund.

(c) If and to the extent provided in a Supplemental Indenture authorizing Bonds of a Series, amounts from the proceeds of such Bonds may be credited to the Operating Fund and set aside therein as specified in the Supplemental Indenture for any purpose of such Fund.

(d) Any amount remaining on deposit in the Operating Fund on the last day of each Fiscal Year (except any reserves for Operating Expenses, if any) shall be transferred by the Authority to the Trustee for deposit in the Revenue Fund.

## **Debt Service Reserve Fund (Section 509)**

Subject to Section 517 of the Indenture:

(a) Amounts on deposit in the Common Account of the Debt Service Reserve Fund shall be applied, to the extent other funds are not available therefor pursuant to the Indenture, to pay the Principal Installments of, and interest on the Bonds and the net amounts, if any, payable as interest on the notional amounts of any Qualified Swaps secured by the Common Account pursuant to Section 401(b) of the Indenture when due. Amounts on deposit in Special Accounts in the Debt Service Reserve Fund shall be applied solely to the Bonds for which such Accounts have been established and such Bonds shall not be entitled to amounts on deposit in the Common Account. Amounts on deposit in debt service reserve funds for Parity Indebtedness shall be applied solely to the Parity Indebtedness for which such funds have been established and such Parity Indebtedness shall not be entitled to amounts on deposit in the Common Account.

(b) If, as of April 1 or October 1 of each year or on any date on which the Trustee receives the written direction of the Authority under Section 509(e) of the Indenture, the amount in any Account in the Debt Service Reserve Fund exceeds the applicable Debt Service Reserve Fund Requirement, the Trustee shall withdraw from such Account the amount of any excess therein over the applicable Debt Service Reserve Fund Requirement as of the date of such withdrawal and deposit the moneys so withdrawn into the Debt Service Fund. If, as of April 1 or October 1 of each year the amount in any Account in the Debt Service Reserve Fund is less than the applicable Debt Service Reserve Fund Requirement and, to the extent that such deficiency has not been made up by the date of adoption of the Annual Budget for the next Fiscal Year by deposits pursuant to Section 505 of the Indenture, the Authority shall, in its Annual Budget for the ensuing Fiscal Year, include the amount necessary to fund such deficiency.

(c) Whenever the amount in the Accounts in the Debt Service Reserve Fund and the Debt Service Fund, is sufficient to pay the remaining Principal Requirements and interest on any Outstanding Series of Bonds in accordance with their respective terms, the funds on deposit in such Debt Service Reserve Fund shall be transferred to such Debt Service Fund and applied to the redemption or payment of such Bonds.

(d) The Authority may elect to satisfy in whole or in part the Debt Service Reserve Fund Requirement by means of a Reserve Fund Credit Facility, subject to the following requirements:

(i) The Reserve Fund Credit Facility provider must have a credit rating issued by a Rating Agency in one of the two highest rating categories of such rating agency;

(ii) The Authority shall not secure any Reimbursement Obligation to the Reserve Fund Credit Facility provider by a lien on the Trust Estate equal or superior to the lien on the Trust Estate granted to the Bondholders;

(iii) Each Reserve Fund Credit Facility shall have a term of at least one (1) year (or, if less, the remaining term of the related Series of Bonds) and shall entitle the Trustee to draw upon or demand payment at such times and for such purposes as the Trustee would be entitled to claim the funds and investments that would be on deposit in the applicable Account of the Debt Service Reserve Fund were there no such Reserve Fund Credit Facility and receive the amount so requested in immediately available funds not later than one (1) business day after such draw or demand;

(iv) The Reserve Fund Credit Facility shall permit a drawing by the Trustee for the full stated amount in the event (1) the Reserve Fund Credit Facility expires or terminates for any reason prior to the final maturity of the related Series of Bonds, and (2) the Authority fails to satisfy the Debt Service Reserve Fund Requirement by the delivery to the Trustee of cash, obligations, a substitute Reserve Fund Credit Facility, or any combination thereof, for deposit in the Debt Service Reserve Fund on or before the date of such expiration or termination;

(v) The Reserve Fund Credit Facility shall permit a drawing by the Trustee for the full stated amount in the event (i) the rating issued by the Rating Agencies to the Reserve Fund Credit Facility Provider is withdrawn or reduced below the minimum rating permitted in clause (i) above, and (ii) the Authority has not satisfied the requirements of clause (vi) below;

(vi) If the rating issued by the Rating Agencies to the Reserve Fund Credit Facility provider is withdrawn or reduced below the minimum rating permitted in clause (i) above, the Authority shall provide a substitute Reserve Fund Credit Facility within sixty (60) days after said rating change, and, if no substitute Reserve Fund Credit Facility is delivered to the Trustee by such date, shall immediately fund the Debt Service Reserve Fund Requirement; and

(vii) If the Reserve Fund Credit Facility provider commences any insolvency proceedings or is determined to be insolvent or fails to make payments when due on its obligations, the Authority shall provide a substitute Reserve Fund Credit Facility within sixty (60) days thereafter, and, if no substitute Reserve Fund Credit Facility is delivered to the Trustee by such date, shall immediately fund the Debt Service Reserve Fund Requirement. If the events described in either (v) or (vi) above occur, the Trustee shall not relinquish the Reserve Fund Credit Facility at issue until after the Debt Service Reserve Fund Requirement is fully satisfied by the provision of cash, obligations, or a substitute Reserve Fund Credit Facility or any combination thereof. The Trustee is authorized and directed by the Indenture to draw upon or demand payment from any such Reserve Fund Credit Facility in accordance with its terms in the event funds are needed from the Debt Service Reserve Fund. Any amount received from the Reserve Fund Credit Facility shall be deposited directly into the Debt Service Fund and such deposit shall constitute the application of amounts in the Debt Service Reserve Fund.

(e) In the event of the refunding of any Bonds, the Trustee shall, upon the written direction of the Authority, withdraw from the Account of the Debt Service Reserve Fund related to the Bonds to be refunded all or any portion of amounts accumulated therein with respect to the Bonds to be refunded and deposit such amounts as provided in such written direction provided that such withdrawal shall not be made unless (i) immediately thereafter the Bonds being refunded shall be deemed to have been paid pursuant to Section 1201 of the Indenture, and (ii), after giving effect to any amounts being simultaneously deposited therein the amount remaining in each Account after such withdrawal shall not be less than the applicable Debt Service Reserve Fund Requirement.

#### **Subordinated Indebtedness Fund (Section 510)**

(a) Amounts on deposit in the Subordinated Indebtedness Fund shall be applied by the Trustee solely to the maintenance of reserves for, or the payment of, Subordinated Indebtedness, or as otherwise provided by the resolution of the Authority authorizing each issue of Subordinated Indebtedness. The Authority may transfer amounts from the General Fund to the Subordinated Indebtedness Fund for the payment of any amounts (including termination payments) due on Qualified Swaps, as provided in the applicable Supplemental Indenture.

#### **Surplus Fund (Section 511)**

(a) The Trustee shall, on each Bond Payment Date, apply moneys credited to the General Fund in the following amounts: (i) on a pro rata basis, to the Debt Service Fund the amount, if any, necessary (or all the moneys in the General Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in such Fund and to any debt service fund for Parity Indebtedness identified in writing to the Trustee by the Authority the amount, if any, necessary (or all the moneys in the General Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in such fund, as identified in writing to the Trustee by the Authority, (ii) to the Debt Service Reserve Fund the amount, if any, necessary (or all the moneys in the General Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in any Account in such Fund and (iii) on a pro rata basis, to any debt service reserve funds for Parity Indebtedness identified in writing to the Trustee by the Authority the amount, if any, necessary (or all the moneys in the General Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in such funds, as identified in writing to the Trustee by the Authority. Such transfer shall be made notwithstanding any

other provisions of the Indenture requiring deposits in such Funds. Moneys remaining on deposit in the General Fund after the transfers set forth in Section 511 of the Indenture may also be transferred by the Trustee to the Authority, at the direction of the Authority, to pay Operating Expenses or for any other lawful purpose related to the Authority or the Regional Wastewater System, including but not limited to, the funding of a capital fund from which the Authority may pay for capital improvements to the Regional Wastewater System, Rebate Amounts pursuant to any Tax Regulatory Agreement or to reimburse the Authority for expenses relating to the Authority; following any such transfer, the moneys transferred shall not be considered pledged moneys under the Indenture.

### **Subordinated Indebtedness (Section 512)**

The Authority may, at any time, or from time to time, issue Subordinated Indebtedness as a general obligation of the Authority or payable out of, and which may be secured by a pledge of and lien on such amounts in the Subordinated Indebtedness Fund as may from time to time be available for the purpose of payment thereof as provided in Section 510 of the Indenture; provided, however, that (i) such Subordinated Indebtedness shall be issued only for purposes consistent with the operation and maintenance of the Regional Wastewater System and the proceeds of such Subordinated Indebtedness shall be applied only for such purpose or purposes, and (ii) any such general obligation of the Authority pledge of or lien on amounts held by the Trustee shall be, and shall be expressed to be, subordinate in all respects to the pledge created by the Indenture as security for Parity Obligations.

### **Investment of Certain Funds (Section 515)**

(a) Moneys held in the Funds and Accounts established under the Indenture shall be invested and reinvested by the Trustee or the Authorized Representative of the Authority as applicable, to the fullest extent practicable in Investment Securities which mature not later than at such times as shall be necessary to provide moneys when needed for payments to be made from such Funds and Accounts. The Trustee shall make all such investments of moneys held by it in accordance with written instructions from any Authorized Representative of the Authority such instructions to specify the particular investment to be made. In making any investment in any Investment Securities with moneys in any Fund or Account established under the Indenture, the Controller may, and may instruct the Trustee to, combine such moneys with moneys in any other Fund or Account, but solely for purposes of making such investment in such Investment Securities.

(b) Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) and other investment earnings (but not profits or losses) on any moneys or investments in the Funds and Accounts, other than the Construction Fund and the Debt Service Reserve Fund, shall be paid into the Revenue Fund as and when received. Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) and other investment earnings (but not profits or losses) on any moneys or investments in (i) the Debt Service Reserve Fund shall be paid into the Debt Service Fund, as provided in Section 509(b) of the Indenture, and (ii) the Construction Fund shall be held in the Construction Fund (unless otherwise specified in the applicable Supplemental Indenture).

(c) All Investment Securities acquired with moneys in any Fund or Account, including the Operating Fund, shall be held by the Trustee in pledge or by a Depositary as agent in pledge in favor of the Trustee in accordance with Section 514 of the Indenture.

(d) Nothing in the Indenture shall prevent any Investment Securities acquired as investments for Funds or Accounts held under the Indenture from being issued or held in book-entry form on the books of the United States Treasury.

### **Valuation and Sale of Investments (Section 516)**

Obligations purchased as an investment of moneys in any Fund or Account created under the provisions of the Indenture shall be deemed at all times to be a part of such Fund or Account and any profit realized from the liquidation of such investment shall be credited to such Fund or Account and any loss resulting from the liquidation of such investment shall be charged to such Fund or Account.

In computing the amount in any Fund or Account created under the provisions of the Indenture for any purpose provided in the Indenture, obligations purchased as an investment of moneys therein shall be valued at the cost of such obligations or the market value thereof, whichever is lower; provided, however, that in the case of obligations scheduled to mature, or subject to redemption at the option of the holder, in ten (10) years or less, such Investment Securities shall be valued at amortized cost. The accrued interest paid in connection with the purchase of any obligation shall be included in the value thereof until interest on such obligation is paid. Such computation shall be made not less than ten days prior to July 1 of each year and on the date of the refunding of any Bonds and at such other times as the Authority shall determine or as may be required by the Indenture.

Except as otherwise provided in the Indenture, the Trustee shall sell at the best price obtainable by it, or present for redemption, any obligation so purchased as an investment whenever it shall be requested in writing by an Authorized Representative of the Authority so to do. Whenever it shall be necessary in order to provide moneys to meet any payment or transfer from any Fund or Account held by the Trustee, the Trustee shall sell at the best price obtainable by it or present for redemption such obligation or obligations designated by an Authorized Representative of the Authority necessary to provide sufficient moneys for such payment or transfer; provided, however, that if the Authority fails to provide such designation promptly after request thereof by the Trustee, the Trustee may in its discretion select the obligation or obligations to be sold or presented for redemption. The Trustee shall not be liable or responsible for any loss, fee, tax, or other charge resulting from the making of any such investment, reinvestment or the sale of any obligation in the manner provided above.

#### **Flow of Funds Prior to Event of Default, Financial and Other Reporting (Section 517)**

Notwithstanding the provisions of Sections 504 through 507 of the Indenture, so long as no Event of Default under the Indenture shall have occurred and be continuing, the Authority may, in lieu of the requirements of Sections 504 through 507, maintain control and possession of the Revenue Fund, the Operating Fund and the Rebate Fund and make the transfers required under the Indenture. While the Authority maintains control of the Revenue Fund, all Revenues shall be transferred to the Revenue Fund as soon as practicable and shall not be used for any purpose prior to their transfer to the Revenue Fund.

(a) While the Authority maintains control of the Revenue Fund, the Operating Fund and the Rebate Fund, the Authority shall deliver to the Trustee on or before the last day of each month, an accounting of all Revenues and accounts received by the Authority during the preceding month.

(b) The Authority shall provide before March 1<sup>st</sup> of each year financial statements audited by an independent accounting firm reasonably acceptable to the State of all of its Revenues, expenses and accounts for the preceding Fiscal Year which shall be prepared in accordance with the provisions of generally accepted accounting principles related to accounting, auditing and financial reporting.

(c) The Authority shall deliver to the Trustee on or before the last business day of each month a certificate of an Authorized Representative indicating that it has complied with each of the foregoing conditions for the preceding month.

The Trustee may, upon becoming aware of a failure of the Authority to comply with any of the above-referenced conditions, which determination of noncompliance shall be in its sole, absolute discretion, give notice to the Authority that each shall comply with the provisions of Section 517 of the Indenture which compliance shall commence as soon as practicable but no later than thirty (30) days after receipt thereof by the Authority.

#### **Payment of Bonds (Section 701)**

The Authority shall duly and punctually pay or cause to be paid, solely from the Trust Estate pledged under the Indenture for such payments, the Principal Installment or Redemption Price of every Bond and the interest thereon and the principal of and interest and redemption premium on any Parity Indebtedness, at the dates and places and in the manner stated in the Bonds and such Parity Indebtedness.

### **Power to Issue Bonds and Pledge Revenues (Section 704)**

The Authority is duly authorized under all applicable laws to authorize and issue the Bonds. The Authority is duly authorized to execute and enter into the Indenture and to pledge the Revenues and assets purported to be pledged and assigned by the Indenture in the manner and to the extent provided by the Indenture. Except to the extent permitted under the Indenture, the Revenues and assets so pledged and assigned are and will be free and clear of any pledge, lien, charge or encumbrance thereon or with respect thereto prior to, or of equal rank with, the pledge created by the Indenture and all corporate or other action on the part of the Authority to that end has been and will be duly and validly taken. The Bonds are and will be the valid and legally enforceable obligations of the Authority in accordance with their terms and the terms of the Indenture. The Authority shall at all times, to the extent permitted by law, defend, preserve and protect the pledge of the Revenues and other assets, including rights pledged and assigned under the Indenture and all the rights of the Bondholders under the Indenture against all claims and demands of all persons whomsoever.

### **Tax Covenants (Section 705)**

(a) The Authority shall not permit at any time or times any of the proceeds of the Bonds or any other funds of the Authority to be used directly or indirectly to acquire any securities or obligations the acquisition of which would cause any Bond, the interest on which was intended on the date of issuance thereof to be excluded from gross income for federal income tax purposes, to be an “arbitrage bond” as defined in Section 148 of the Internal Revenue Code of 1986, as amended (the “Code”).

(b) The Authority shall not, except as permitted in a Supplemental Indenture with respect to a Series of Bonds authorized thereby, permit at any time or times any proceeds of any Series of Bonds or any other funds of the Authority to be used, directly or indirectly, in a manner which would result in the loss of the exclusion of interest on any Bond from gross income for federal income tax purposes, the interest on which was intended on the date of issuance of such Bond to be excluded from gross income for federal income purposes.

### **Accounts and Periodical Reports and Certificates (Section 706)**

The Authority shall keep or cause to be kept proper books of record and account (separate from all other records and accounts) in which complete and correct entries shall be made of its transactions under the Indenture and which, together with all other books and papers of the Authority, shall at all reasonable times be subject to the inspection of the Trustee, the State or the representative, duly authorized in writing, of the holder or holders of not less than 25% in principal amount of the Bonds then Outstanding.

### **Indebtedness and Liens (Section 707)**

The Authority shall not issue any bonds, notes or other evidences of indebtedness, other than the Bonds, Parity Bond Anticipation Notes, Parity Reimbursement Obligations and Parity Indebtedness (issued or incurred in accordance with Section 210 of the Indenture), secured by a pledge of or other lien or charge on the Revenues and shall not create or cause to be created any lien or charge on such Revenues or on any amounts held by any Fiduciary, under the Indenture; but Section 707 of the Indenture shall not prevent the Authority from issuing notes payable from the proceeds of Bonds or bonds or notes or other obligations for the corporate purposes of the Authority payable out of, or secured by a pledge of, Revenues to be derived on and after such date as the pledge of the Revenues provided in the Indenture shall be discharged and satisfied as provided in Section 1201 of the Indenture, or from issuing Subordinated Indebtedness for the corporate purposes of the Authority as a general obligation of the Authority or which are payable out of or secured by the pledge of amounts available therefor in the Subordinate Indebtedness Fund and which recite on their face that such general obligation or pledge of said amounts is and shall be in all respects subordinate to the provisions of the Indenture and the lien and pledge created by the Indenture.

### **Project Loan and Grant Agreement (Section 709)**

Each and every covenant set forth in any Project Loan and Grant Agreement is incorporated in the Indenture by reference, shall have the same force and effect as if set forth fully in the Indenture and in the event of a conflict

between the covenants contained in the Indenture and in any Project Loan and Grant Agreement, the covenants contained in the Project Loan and Grant Agreement shall control.

#### **Authority Budget (Section 711)**

(a) The Authority shall, on or before June 30, in each Fiscal Year, adopt and file with the Trustee, a copy of the Annual Budget, duly certified by an Authorized Representative of the Authority to be in compliance with the provisions of the Indenture, each applicable Supplemental Indenture, the Regional Act and the Clean Water Fund Act, showing the estimated Operating Expenses (including Aggregate Annual Debt Service), capital requirements and Revenues for the ensuing Fiscal Year, together with any other information required to be set forth therein by the Indenture. Such Annual Budget may set forth such additional information as the Authority may determine.

(b) If for any reason the Authority shall not have adopted the Annual Budget before such June 30, the Annual Budget for the then current Fiscal Year shall be deemed to be the Annual Budget for the ensuing Fiscal Year until a new Annual Budget is adopted.

(c) The Authority may at any time adopt an amended Annual Budget for the then current or ensuing Fiscal Year, but no such amended Annual Budget shall supersede any prior Annual Budget until the Authority shall have filed with the Trustee a copy of such amended Annual Budget.

#### **Rate Covenant (Section 712)**

(a) (i) The Authority covenants that it will fix, charge and collect rates, charges, rents, fees and assessments, including but not limited to use and connection charges and benefit assessments, which shall produce Revenues sufficient in each Fiscal Year to provide for 100% of the Operating Expenses of the Authority and a Debt Service Coverage Ratio of at least 1x for such Fiscal Year which, together with amounts capitalized from proceeds of Bonds or otherwise made available and reserved and not already taken into account under the Indenture by reduction of the obligations which are to be paid from Revenues shall be sufficient in each Fiscal Year to provide for:

(A) a Debt Service Coverage Ratio at least equal to the 115% Debt Service Coverage Ratio Requirement;

(B) any amount necessary to restore any Account within the Debt Service Reserve Fund to its required deposit level; and

(C) any amount necessary to restore any debt service reserve fund for Parity Indebtedness to its required deposit level; and

(ii) The Authority covenants that each Fiscal Year, it will fix, charge and collect rates, charges, rents, fees and assessments, including but not limited to use and connection charges and benefit assessments, which shall produce Revenues which, together with amounts capitalized from proceeds of Bonds or otherwise made available and reserved and not already taken into account under the Indenture by reduction of the obligations which are to be paid from Revenues and the amount to be withdrawn from the General Fund to pay Operating Expenses, debt service on the Bonds, Clean Water Fund Obligations, Parity Indebtedness and interest on Parity Bond Anticipation Notes for such Fiscal Year, to provide for an amount equal to 100% of aggregate debt service for such Fiscal Year with respect to Subordinated Indebtedness, which aggregate debt service shall be computed on the same basis and with the same assumptions as "Aggregate Annual Debt Service" for Bonds under the Indenture; provided however, that failure to collect such Revenues and other amounts under this clause (ii) shall under no circumstances be treated as an Event of Default.

(b) The Authority shall provide to the Trustee and any Credit Facility Provider for a Series of Bonds, before March 1st, a Certificate, signed by an Authorized Representative, setting forth: (i) the Revenues, (ii) the amount on hand in the General Fund, (iii) the Operating Expenses, (iv) the Aggregate Annual Debt Service of Bonds and Parity Indebtedness, and (v) the Debt Service Coverage Ratio, for the preceding Fiscal Year (the "Debt Service

Coverage Ratio Certificate”). In the event a Debt Service Coverage Ratio Certificate indicates that the 115% Debt Service Coverage Ratio Requirement is not met, the Authority shall retain an Independent Consultant within ninety (90) days of the delivery of the Debt Service Coverage Ratio Certificate. The Independent Consultant shall prepare a written report, a copy of which shall be delivered to the Authority, the Credit Facility Provider and the Trustee within sixty (60) days of the selection of the Independent Consultant, making recommendations with respect to rates, Operating Expenses and management of the Regional Wastewater System and any other matters so as to generate additional Revenues and/or reduce Operating Expenses in order to meet the 115% Debt Service Coverage Ratio Requirement. The Authority shall adopt such Independent Consultant's report and act promptly and diligently to fully implement all such recommendations except to the extent limited by law or existing contracts. For any recommendations not adopted, the Authority shall file a written statement with the Credit Facility Provider and the Trustee setting forth the reasons why the Authority has failed to implement such recommendations. Copies of resolutions of the Authority adopting such recommendations shall be filed with the Authority, the Credit Facility Provider, as applicable, and the Trustee immediately after adoption thereof. Subject to subsection (c) below, if the Authority take the actions prescribed in subsection (b) of Section 712 of the Indenture, failure to meet the 115% Debt Service Coverage Ratio Requirement shall not be treated as an Event of Default.

(c) Notwithstanding any provision contained in Section 712 of the Indenture to the contrary, if the Debt Service Coverage Ratio Certificate indicates that the Debt Service Coverage Ratio for a Fiscal Year is less than the 115% Debt Service Coverage Ratio Requirement, such event shall be treated as an Event of Default under Section 1001 of the Indenture.

#### **Agreement of the Authority (Section 713)**

The Authority agree that will not in any way impair the rights and remedies of Bondholders, until the Bonds, together with the interest thereon, and all costs and expenses in connection with any action or proceeding by or on behalf of such holders, are fully met and discharged.

#### **Maintenance of Regional Wastewater System (Section 714)**

The Authority covenants that it will establish and enforce reasonable rules and regulations governing the use of the Regional Wastewater System and the operation thereof, that all compensation, salaries, fees and wages paid by it in connection with the maintenance, repair and operation of said Regional Wastewater System will be reasonable, that no more persons will be employed by it than are necessary, that it will operate said Regional Wastewater System or cause the Regional Wastewater System to be operated in an efficient and economical manner, that it will at all times maintain said Regional Wastewater System or cause said Regional Wastewater System to be maintained in good repair and in sound operating condition and will make or cause to be made all necessary repairs, renewals and replacements, and that it will comply and cause compliance with all valid acts, rules, regulations, orders and directions of any legislative, executive, administrative or judicial body applicable to said Regional Wastewater System. Nothing in the Indenture shall prevent the Authority from transferring, to the extent permitted by law, the day-to-day operations of the Regional Wastewater System to another entity or any program that would be carried out by the Authority; provided that the Authority shall cause such other entity to undertake such operations or programs so that the Authority does not violate the terms of the Indenture and so that the Authority is not rendered unable to observe their covenants under the Indenture.

#### **Payment of Lawful Charges (Section 715)**

The Authority further covenants that, from the Revenues, they will pay all municipal or governmental charges lawfully levied or assessed upon the Regional Wastewater System or any part thereof or upon any Revenues when the same shall become due, that it will duly observe and comply with all valid requirements of any municipal or governmental authority relative to the Regional Wastewater System, and that, from the Revenues, it will pay or cause to be discharged, or will make adequate provisions to satisfy and discharge, within sixty (60) days after the same shall accrue, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid might by law become a lien upon the Regional Wastewater System or any part thereof or the Revenues; provided, however, that nothing contained in Section 715 of the Indenture shall require the Authority to pay or cause to be discharged, or make provision for, any such lien or charge so long as the validity thereof shall be contested in good faith and by appropriate legal proceedings.

**Insurance (Section 716)**

The Authority covenants that it will maintain the Regional Wastewater System fully insured with one or more responsible insurance companies authorized and qualified under the Connecticut General Statutes to assume the risk thereof, and/or through self-insurance, all as shall be approved by an independent insurance consultant acceptable to the Trustee and the State (which approval shall be delivered upon the issuance of each Series of Bonds to be owned by the State and thereafter upon the State's written request (which request shall be made not more than once in any two year period), such insurance to cover such properties belonging to the Regional Wastewater System as are customarily insured, and against loss or damage from such causes as are customarily insured against by other public instrumentalities engaged in similar activities.

All insurance policies shall be to the extent practicable for the benefit of the Authority, the Trustee (on behalf of the State and all other Bond Holders) and other interested parties, as their interests may appear, shall be made payable to the Authority and shall be deposited with the Authority. The proceeds of any and all such insurance shall be deposited by the Authority in the name of the Authority with a Depositary.

The Authority covenants that, immediately after any loss or damage to any properties of the Regional Wastewater System resulting from any cause, whether or not such loss or damage shall be covered by insurance, the Authority will cause its engineers to prepare plans and specifications for repairing, replacing or reconstructing (either in accordance with the original or a different design) the damaged or destroyed property, and that it will forthwith commence or cause to be commenced and diligently prosecute or cause to be diligently prosecuted the repair, replacement or reconstruction of the damaged or destroyed property unless it shall determine that the repair, replacement or reconstruction of such property is not essential to the efficient operation of the Regional Wastewater System.

Except as provided in the foregoing paragraph, the proceeds of all insurance referred to in Section 716 of the Indenture shall be available for, and shall to the extent necessary be applied to, the repair, replacement or reconstruction of the damaged or destroyed property, and shall be paid out in the same manner hereinabove provided for payments from the Construction Fund. If such proceeds are more than sufficient for such purpose, the balance remaining shall be deposited to the credit of the Debt Service Fund, the Debt Service Reserve Fund or the Operating Fund as directed by the Authority. If such proceeds shall be insufficient for such purposes, the deficiency may be supplied out of moneys in the General Fund.

**Supplemental Indentures Without Consent of Bondholders (Section 801)**

Notwithstanding any other provisions of Article VIII of the Indenture, the Authority and the Trustee may at any time or from time to time enter into a Supplemental Indenture supplementing the Indenture or any Supplemental Indenture so as to modify or amend such indentures, for one or more of the following purposes:

To add to the covenants and agreements of the Authority contained in the Indenture or any Supplemental Indenture, other covenants and agreements thereafter to be observed relative to the acquisition, construction, reconstruction, renovation, equipment, operation, maintenance, development or administration of any project under the Regional Act or the Clean Water Fund Act or relative to the application, custody, use and disposition of the proceeds of the Bonds; or

To confirm, as further assurance, any pledge under and the subjection to any lien on or pledge of the Revenues created or to be created by the Indenture or a Supplemental Indenture; or

To cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in the Indenture; or

To grant to or confer on the Trustee for the benefit of the Bondholders any additional rights, remedies, powers, authority, or security which may lawfully be granted or conferred and which are not contrary to or inconsistent with the Indenture as theretofore in effect; or

To amend any provisions of the Indenture if, prior to the execution of any such amendment there shall be delivered to the Trustee a Bond Counsel's Opinion to the effect that such amendment will not have a material adverse effect on the security, remedies or rights of the Bondholders.

### **Supplemental Indentures With Consent of Bondholders (Section 802)**

(a) At any time or from time to time but subject to the conditions or restrictions contained in the Indenture and each Supplemental Indenture, a Supplemental Indenture may be entered into by the Authority and the Trustee amending or supplementing the Indenture, any Supplemental Indenture or any of the Bonds or releasing the Authority from any of the obligations, covenants, agreements, limitations, conditions or restrictions therein contained. However, no such Supplemental Indenture shall be effective unless such Supplemental Indenture is approved or consented to by the Bondholders, obtained as provided in Article IX, of at least a majority in aggregate principal amount of all Outstanding Bonds affected thereby. In computing any such required percentage there shall be excluded from such consent, and from such Outstanding Bonds, any such Outstanding Bonds owned or held by or for the account of the Authority.

(b) Notwithstanding the provisions of paragraph (a) of Section 802 of the Indenture, except as provided in Section 803 of the Indenture, no such modification changing any terms of redemption of Bonds, due date of principal of or interest on Bonds or making any reduction in principal or Redemption Price of and interest on any Bonds shall be made without the consent of the affected Bondholder.

(c) Notwithstanding any other provisions of Section 802 of the Indenture, no Supplemental Indenture shall be entered into by the Authority and the Trustee, except as provided in Section 803 of the Indenture, reducing the percentage of consent of Bondholders required for any modification of the Indenture or any Supplemental Indenture or diminishing the pledge of the Revenues securing the Bonds.

(d) The provisions of paragraph (a) of Section 802 of the Indenture shall not be applicable to Supplemental Indentures adopted in accordance with the provisions of Section 801 of the Indenture.

### **Supplemental Indentures By Unanimous Action (Section 803)**

Notwithstanding anything contained in the foregoing provisions of Article VIII of the Indenture, the rights and obligations of the Authority and of the owners of the Bonds and the terms and provisions of the Indenture, any Supplemental Indenture or the Bonds may be modified or amended in any respect upon the execution and delivery of a Supplemental Indenture by the Authority and the Trustee with the consent of the holders of all the Outstanding Bonds affected by such modification or amendment, such consent to be given as provided in Article IX of the Indenture.

### **Powers of Amendment (Section 901)**

When the Authority and the Trustee enter into a Supplemental Indenture making a modification or amendment permitted by and requiring the consent of the Bondholders pursuant to the provisions of Section 802 of the Indenture, such Supplemental Indenture shall take effect when and as provided in Section 901 of the Indenture. Upon the execution of such Supplemental Indenture, a copy thereof, certified by an Authorized Officer of the Authority, shall be filed with the Trustee for the inspection of the Bondholders affected. A copy of such Supplemental Indenture (or summary thereof) together with a request to such Bondholders for their consent thereto in form satisfactory to the Trustee, shall be mailed or caused to be mailed by the Authority to such Bondholders. Such Supplemental Indenture shall not be effective unless and until there shall have been filed with the Trustee the written consents of the percentages of owners of Outstanding Bonds in accordance with Section 802 of the Indenture. Each such consent shall be effective only if accompanied by proof of ownership of the Bonds for which such consent is given. A certificate or certificates by the Trustee, which shall be placed on file, that it examined such proof and that such proof is sufficient, shall be conclusive that the consents have been given by the owners of the Bonds described in such certificate or certificates of the Trustee. Any consent shall be binding upon the owner of the Bonds giving such consent and on any subsequent owner of such Bonds (whether or not such owner has notice thereof) unless such consent is revoked in writing by the owner of such Bonds giving such consent or a

subsequent owner by filing revocation with the Trustee prior to the date when the notice provided for in Section 901 of the Indenture is first given. The fact that a consent has not been revoked may likewise be proved by a certificate of the Trustee which shall be placed on file. At any time after the owners of the required percentage of Bonds shall have filed their consent to any Supplemental Indenture a notice shall be given or caused to be given to such Bondholders by the Authority by mailing such notice to such Bondholders (but failure to mail such notice shall not prevent such Supplemental Indenture from becoming effective and binding as provided in the Indenture). The Authority shall file with the Trustee proof of giving such notice. Such notice shall state in substance that any Supplemental Indenture (which may be referred to as an indenture executed by and between the Authority and the Trustee on a stated date, a copy of which is on file with the Trustee) has been consented to by the owners of the required percentage of Bonds and shall be effective as provided in Section 901 of the Indenture. A record, consisting of the papers required or permitted by Section 901 of the Indenture to be filed with the Trustee, shall be proof of the matters therein stated. Upon such notice, such Supplemental Indenture making such amendment or modification shall become effective and conclusively binding upon the Authority, the Trustee, and the owners of all Bonds.

### **Exclusion of Bonds (Section 902)**

Bonds owned or held by or for the account of the Authority shall not be deemed Outstanding Bonds for the purpose of any consent or other action or any calculation of Outstanding Bonds provided for in Article VIII of the Indenture, and shall not be entitled to consent or take any other action provided for in Article VIII of the Indenture. At the time of any consent or other action taken under Article VIII of the Indenture, the Authority shall furnish the Trustee a certificate signed by an Authorized Officer upon which the Trustee may conclusively rely, describing all Bonds so to be excluded.

### **Events of Default (Section 1001)**

If one or more of the following events (in the Indenture called "Events of Default") shall occur:

- (1) a default in the due and punctual payment of a Principal Installment or the Redemption Price of any Bond when and as the same shall become due and payable, whether at maturity or upon call for redemption, or otherwise; or
- (2) a default in the due and punctual payment of any installment of interest on any Bond, when and as such interest installment shall become due and payable; or
- (3) an event of default of the Authority shall occur on any Parity Indebtedness or under any documents relating to such Parity Indebtedness; or
- (4) default by the Authority in the performance or observance of any other of its covenants, agreements or conditions in the Indenture, any Supplemental Indenture, the Bonds or a Project Loan and Grant Agreement, and such default shall continue for a period of thirty days after the giving of written notice thereof stating that such notice is a "Notice of Default" to the Authority by the Trustee or to the Authority and to the Trustee by the State or the holders of not less than a majority in principal amount of the Bonds Outstanding; or
- (5) if the Authority shall (i) apply for or consent to the appointment of a receiver, trustee or liquidator of all or a substantial part of the Regional Wastewater System; (ii) be unable, or admit in writing its inability to pay debts as they mature; (iii) file a petition, arrangement, reorganization, or the like under any insolvency or bankruptcy law, or the adjudication as a bankrupt or the making of an assignment for the satisfaction, settlement or delay of debt or the appointment of a receiver of all or any part of its properties; or (iv) take any action for the purpose of effecting any of the foregoing,

then, upon the happening and continuance of any Event of Default, the Trustee may, and upon the written request of the holders of not less than a majority in principal amount of the Bonds Outstanding the Trustee shall, in any such case, unless the principal of all the Bonds then Outstanding shall already have become due and payable, declare the

principal of all the Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration the same shall become and be immediately due and payable, anything in the Indenture or in any of the Bonds contained to the contrary notwithstanding. The right of the Trustee to make any such declaration as aforesaid, however, is subject to the condition that if, at any time after such declaration, but before the Bonds shall have matured by their terms, all overdue installments of principal and interest upon the Bonds, together with the reasonable and proper charges, expenses and liabilities of the Trustee, and all other sums then payable by the Authority under the Indenture (except the interest accrued since the next preceding interest date on, the Bonds due and payable solely by virtue of such declaration) shall either be paid by or for the account of the Authority or provision satisfactory to the Trustee shall be made for such payment, and all defaults under the Bonds or under the Indenture (other than the payment of principal and interest due and payable solely by reason of such declaration) shall be made good or be secured to the satisfaction of the Trustee or provision deemed by the Trustee to be adequate shall be made therefor, then and in every such case the holders of a majority in principal amount of the Bonds Outstanding, by written notice to the Authority and to the Trustee, may rescind such declaration and annul such default in its entirety, or, if the Trustee shall have acted without a direction from the holders of the Bonds as aforesaid at the time of such request, and if there shall not have been theretofore delivered to the Trustee written direction to the contrary by the holders of a majority in principal amount of the Bonds then Outstanding, then any such declaration shall ipso facto be deemed to be rescinded and any such default and its consequences shall ipso facto be deemed to be annulled, but no such rescission and annulment shall extend to or affect any subsequent default or impair or exhaust any right or power consequent thereon.

#### **Application of Revenues and Other Moneys After Default (Section 1003)**

(a) The Authority covenants that if an Event of Default shall occur and shall not have been remedied, the Authority, upon demand of the Trustee, shall pay over or cause to be paid over to the Trustee (i) forthwith, any moneys, securities and funds then held by the Authority or a Depositary in any Fund or Account established under the Indenture (other than the Rebate Fund and the Operating Fund), and (ii) as promptly as practicable after receipt thereof, the Revenues. Amounts on deposit in the Special Accounts of the Debt Service Reserve Fund shall be applied solely to the Series of Bonds for which such Special Account was established and such Bonds shall not be entitled to amounts on deposit in the Common Fund of the Debt Service Reserve Fund.

(b) During the continuance of an Event of Default, unless otherwise directed (with respect to order) by the owners of a majority in principal amount of the Bonds at the time Outstanding, the Trustee shall apply such Revenues and the income therefrom as follows and in the following order:

- (1) to the payment of the reasonable and proper charges and expenses of the Trustee and any trustee for Parity Indebtedness;
- (2) to the payment of the interest and principal or Redemption Price then due on the Bonds and Parity Indebtedness and net interest, if any, on the notional amounts of any Qualified Swaps as follows:

- (i) unless the principal of all of the Bonds shall be due and payable,

First: To the payment to the persons entitled thereto of all installments of interest then due in the order of the maturity of such installments, and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and

Second: To the payment to the persons entitled thereto of the unpaid principal or Redemption Price of any Bonds and Parity Indebtedness which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, and, if the amount available shall not be sufficient to pay in full all the Bonds and Parity Indebtedness due on any date, then to the payment thereof ratably, according to the amounts

of principal or Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference.

- (ii) If the principal of all of the Bonds and Parity Indebtedness shall be due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds and Parity Indebtedness and net interest, if any, on the notional amounts of any Qualified Swaps without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond or Parity Indebtedness or Qualified Swap over any other Bond or Parity Indebtedness or Qualified Swap, ratably, according to the amounts due respectively for principal, interest and net interest on the notional amounts to the persons entitled thereto, without any discrimination or preference.

(c) if and when all overdue installments of interest on all Bonds and Parity Indebtedness, and all net payments on Qualified Swaps, together with the reasonable and proper charges and expenses of the Trustee and any trustee for Parity Indebtedness, and all other sums payable by the Authority under the Indenture, including the principal and Redemption Price of and accrued unpaid interest on all Bonds and Parity Indebtedness which shall then be payable by declaration or otherwise, shall either be paid by or for the account of the Authority, or provision satisfactory to the Trustee shall be made for such payment, and all defaults under the Indenture or the Bonds and Parity Indebtedness and Qualified Swaps shall be made good or secured to the satisfaction of the Trustee or provision deemed by the Trustee to be adequate shall be made therefor, the Trustee shall pay over to the Authority all such Revenues then remaining unexpended in the hands of the Trustee (except Revenues deposited or pledged, or required by the terms of the Indenture to be deposited or pledged, with the Trustee), and thereupon the Authority and the Trustee shall be restored, respectively, to their former positions and rights under the Indenture, and all Revenues shall thereafter be applied as provided in Article V of the Indenture. No such payment over to the Authority by the Trustee or resumption of the application of Revenues as provided in Article V of the Indenture shall extend to or affect any subsequent default under the Indenture or impair any right consequent thereon.

The Trustee shall be entitled to rely conclusively on information and certificates provided by the Authority or the trustee for or holders of Parity Indebtedness in making any payments required by Section 1003 of the Indenture.

#### **Proceedings Brought by Trustee (Section 1004)**

(a) If an Event of Default shall occur and shall not have been remedied, then and in every such case, the Trustee, by its agents and attorneys, if the Trustee shall deem it advisable, may proceed to protect and enforce its rights and the rights of the holders of the Bonds under the Indenture forthwith by a suit or suits in equity or at law, whether for the specific performance of any covenant contained in the Indenture, or in aid of the execution of any power granted by the Indenture, or for an accounting against the Authority as if it were the trustee of an express trust, or in the enforcement of any other legal or equitable right as the Trustee, being advised by counsel, shall deem most effectual to enforce any of its rights or to perform any of its duties under the Indenture.

(b) All rights of action under the Indenture may be enforced by the Trustee without the possession of any of the Bonds or the production thereof at the trial or other proceedings, and any such suit or proceedings instituted by the Trustee shall be brought in its name.

(c) The holders of a majority in principal amount of the Bonds at the time Outstanding, may direct by instrument in writing the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, provided that the Trustee shall have the right to decline to follow any such direction if the Trustee shall be advised by counsel that the action or proceeding so directed may not lawfully be taken, or if the Trustee in good faith shall determine that the action or proceeding so directed would subject the Trustee to personal liability or be unjustly prejudicial to the Bondholders not parties to such direction.

(d) Upon commencing a suit in equity or upon other commencement of judicial proceedings by the Trustee to enforce any right under the Indenture, the Trustee shall be entitled to exercise any and all rights and powers conferred in the Indenture and provided to be exercised by the Trustee upon the occurrence of an Event of Default; and, as a matter of right against the Authority, without notice or demand and without regard to the adequacy of the security for the Bonds, the Trustee shall, to the extent permitted by law, be entitled to the appointment of a receiver of the moneys, securities and funds then held by the Authority in any Fund or Account established under the Indenture (other than the Rebate Fund and the Operating Fund) and, subject to application of the Revenues, with all such powers as the court or courts making such appointment shall confer; but notwithstanding the appointment of any receiver, the Trustee shall be entitled to retain possession and control of and to collect and receive income from, any moneys, securities and funds deposited or pledged with it under the Indenture or agreed or provided to be delivered or pledged with it under the Indenture.

(e) Regardless of the happening of an Event of Default, the Trustee shall have the power to, but (unless requested in writing by the holders of a majority in principal amount of the Bonds then Outstanding, and furnished with security and indemnity satisfactory to it) shall be under no obligation to, institute and maintain such suits and proceedings as it may be advised shall be necessary or expedient to prevent any impairment of the security under the Indenture by any acts which may be unlawful or in violation of the Indenture, and such suits and proceedings as the Trustee may be advised shall be necessary or expedient to preserve or protect its interests and the interests of the Bondholders.

#### **Restriction on Bondholders' Action (Section 1005)**

(a) No holder of any Bond shall have any right to institute any suit, action or proceeding at law or in equity for the enforcement of any provision of the Indenture or the execution of any trust under the Indenture or for any remedy under the Indenture, unless such holder shall have previously given to the Trustee written notice of the happening of an Event of Default, as provided in Article X of the Indenture, and the holders of at least a majority in principal amount of the Bonds then Outstanding shall have filed a written request with the Trustee, and shall have offered it reasonable opportunity, either to exercise the powers granted in Section 1005 of the Indenture or to institute such action, suit or proceeding in its own name, and unless such holders shall have offered to the Trustee adequate security and indemnity against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee shall have refused to comply with such request within a reasonable time; it being understood and intended that no one or more holders of Bonds shall have any right in any manner whatever by his or their action to affect, disturb or prejudice the pledge created by the Indenture, or to enforce any right under the Indenture, except in the manner therein provided; and that all proceedings at law or in equity to enforce any provision of the Indenture shall be instituted, had and maintained in the manner provided in the Indenture and for the equal benefit of all holders of the Outstanding Bonds.

(b) Nothing in the Indenture or in the Bonds contained shall affect or impair the obligation of the Authority, which is absolute and unconditional, to pay at the respective dates of maturity and places therein expressed the principal of and interest on the Bonds to the respective holders thereof from the Trust Estate, or affect or impair the right of action, which is also absolute and unconditional, of any holder to enforce such payment of this Bond. Notwithstanding the preceding sentence and anything in the Indenture or in the Bonds contained, the Authority shall not be required to advance any moneys derived from any source other than the Revenues and assets pledged under the Indenture for any of the purposes in the Indenture mentioned whether for the payment of the principal of or the Redemption Price, if any, or interest on the Bonds or for any other purpose of the Indenture.

#### **Defeasance (Section 1201)**

(a) If the Authority shall pay or cause to be paid to the holders of all Bonds then Outstanding, the Principal Installments and interest and Redemption Price, if any, to become due thereon, at the times and in the manner stipulated therein and in the Indenture, then at the option of the Authority, expressed in an instrument in writing signed by an Authorized Representative of each and delivered to the Trustee, the covenants, agreements and other obligations of the Authority to the Bondholders shall be discharged and satisfied. In such event, the Trustee shall, upon the request of the Authority, execute and deliver to the Authority all such instruments as may be desirable to evidence such discharge and satisfaction and the Fiduciaries shall pay over or deliver to the Authority

all moneys, securities and funds held by them pursuant to the Indenture which are not required for the payment or redemption of Bonds not theretofore surrendered for such payment or redemption.

(b) Bonds for the payment or redemption of which moneys shall have been set aside and shall be held in trust by the Trustee (through deposit by the Authority of funds for such payment or redemption or otherwise) at the maturity or redemption date thereof shall be deemed to have been paid within the meaning and with the effect expressed in paragraph (a) of Section 1201 of the Indenture. Subject to the provisions of subsection (c) of Section 1201 of the Indenture, all Outstanding Bonds shall prior to the maturity or redemption date thereof be deemed to have been paid within the meaning and with the effect expressed in subsection (a) of Section 1201 of the Indenture if (i) in case any of said Bonds are to be redeemed on any date prior to their maturity, the Authority shall have given to the Trustee irrevocable instructions accepted in writing by the Trustee to provide notice as provided in Article VI of the Indenture notice of redemption of such Bonds (other than Bonds which have been purchased by the Trustee at the direction of the Authority as provided in the Indenture prior to the provision of such notice of redemption) on said date, (ii) there shall have been deposited with the Trustee either moneys in an amount which shall be sufficient, or Defeasance Obligations the principal installments of and/or the interest on which when due, without reinvestment, will provide moneys which, together with the moneys, if any, deposited with the Trustee at the same time, shall be sufficient, in the opinion of a nationally recognized firm of independent certified public accountants, to pay when due the Principal Installments or Redemption Price, if applicable, and interest due and to become due on said Bonds or prior to the redemption date or maturity date thereof, as the case may be, and (iii) in the event said Bonds are not to be redeemed within the next succeeding 60 days, the Authority shall have given the Trustee in form satisfactory to it irrevocable instructions to provide a notice to the holders of such Bonds that the deposit required by (ii) above has been made with the Trustee and that said Bonds are deemed to have been paid in accordance with Section 1201 of the Indenture and stating such maturity or redemption date upon which moneys are to be available for the payment of the Principal Installments or Redemption Price, if applicable, on said Bonds (other than Bonds which have been purchased by the Trustee at the direction of the Authority as provided in the Indenture prior to the provision of the notice of redemption referred to in clause (i) of Section 1201 of the Indenture). The Trustee shall, as and to the extent necessary, apply moneys held by it pursuant to Section 1201 of the Indenture to the retirement of said Bonds in the manner provided in the Indenture.

The Trustee shall, if so directed by the Authority (x) prior to the maturity date of Bonds deemed to have been paid in accordance with Section 1201 of the Indenture which are not to be redeemed prior to their maturity date or (y) prior to the provision of the notice of redemption referred to in clause (i) above with respect to any Bonds deemed to have been paid in accordance with Section 1201 of the Indenture which are to be redeemed on any date prior to their maturity, apply moneys deposited with the Trustee in respect of such Bonds and redeem or sell Defeasance Obligations so deposited with the Trustee and apply the proceeds thereof to the purchase of such Bonds and the Trustee shall immediately thereafter cancel all such Bonds so purchased; provided, however that the Trustee shall receive an Accountant's Certificate showing that the moneys and Defeasance Obligations remaining on deposit with the Trustee after the purchase and cancellation of such Bonds shall be sufficient to pay when due the Principal Installment or Redemption Price, if applicable, and interest due or to become due on all Bonds, in respect of which such moneys and Defeasance Obligations are being held by the Trustee on or prior to the redemption date or maturity date thereof, as the case may be and a Bond Counsel's Opinion to the effect that such redemption or sale of such Defeasance Obligations will not adversely affect the exclusion of the interest on such Bonds from gross income for federal income tax purposes and that such redemption or sale otherwise complies with the provisions of the Indenture. The directions given by the Authority to the Trustee referred to in the preceding sentence shall also specify the portion, if any, of such Bonds so purchased and cancelled to be applied against the obligation of the Trustee to pay Bonds deemed paid in accordance with Section 1201 of the Indenture upon their maturity date or dates and the portion, if any, of such Bonds so purchased and canceled to be applied against the obligation of the Trustee to redeem Bonds deemed paid in accordance with Section 1201 of the Indenture on any date or dates prior to their maturity. In the event that on any date as a result of any purchases and cancellations of Bonds as provided in Section 1201 of the Indenture the total amount of moneys and Defeasance Obligations remaining on deposit with the Trustee under Section 1201 of the Indenture is in excess of the total amount which would have been required to be deposited with the Trustee on such date in respect of the remaining Bonds in order to satisfy clause (ii) of subsection (b) of Section 1201 of the Indenture, the Trustee shall, if requested by the Authority, pay the amount of such excess to the Authority free and clear of any lien or pledge securing said Bonds or otherwise existing under the Indenture. Except as otherwise provided in subsection (b) of Section 1201 of the Indenture and subsection (c) of Section 1201 of the Indenture, neither Defeasance Obligations nor moneys deposited with the Trustee pursuant to Section 1201 of

the Indenture nor principal or interest payments on any such Defeasance Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal or Redemption Price, if applicable, and interest on said Bonds; provided that any cash received from such principal or interest payments on such Defeasance Obligations deposited with the Trustee, (A) to the extent such cash will not be required at any time for such purpose, shall be paid over to the Authority as received by the Trustee, free and clear of any trust, lien or pledge securing said Bonds or otherwise existing under the Indenture, and (B) to the extent such cash will be required for such purpose at a later date, shall, to the extent practicable, be reinvested at the written direction of an Authorized Representative of the Authority in Defeasance Obligations maturing at times and in amounts sufficient to pay when due the principal or Redemption Price, if applicable, and interest to become due on said Bonds on or prior to such redemption date or maturity date thereof, as the case may be, and interest earned from such reinvestments shall be paid over to the Authority, as received by the Trustee, free and clear of any lien or pledge securing said Bonds or otherwise existing under the Indenture.

(c) For purposes of determining whether Variable Rate Bonds shall be deemed to have been paid prior to the maturity or Redemption date thereof, as the case may be, by the deposit of moneys, or Defeasance Obligations and moneys, if any, in accordance with the second sentence of subsection (b) of Section 1201 of the Indenture, the interest to come due on such Variable Rate Bonds on or prior to the maturity date or redemption date thereof, as the case may be, shall be calculated at the maximum rate permitted by the terms thereof; provided, however that if on any date, as a result of such Variable Rate Bonds having borne interest at less than such maximum rate for any period, the total amount of moneys and Investment Securities on deposit with the Trustee for the payment of interest on such Variable Rate Bonds is in excess of the total amount which would have been required to be deposited with the Trustee on such date in respect of such Variable Rate Bonds in order to satisfy the second sentence of subsection (b) of Section 1201 of the Indenture, the Trustee shall, if requested by the Authority, pay the amount of such excess to the Authority free and clear of any lien or pledge securing the Bonds or otherwise existing under the Indenture.

(d) Anything in the Indenture to the contrary notwithstanding, any moneys held by a Fiduciary in trust for the payment and discharge of any of the Bonds which remain unclaimed for two years after the date when such Bonds have become due and payable, either at their stated maturity dates or by call for earlier redemption, if such moneys were held by the Fiduciary at such date, or for two years after the date of deposit of such moneys if deposited with the Fiduciary after the said date when such Bonds become due and payable, shall, at the written request of the Authority, be repaid by the Fiduciary to the Authority, as its absolute property and free from trust, and the Fiduciary shall thereupon be released and discharged with respect thereto and the Bondholders shall look only to the Authority for the payment of such Bonds.

#### **Parties Interested In The Indenture (Section 1205)**

Nothing in the Indenture expressed or implied is intended or shall be construed to confer upon, or to give to, any person or corporation, other than the Authority, the Fiduciaries, and the holders of the Bonds, any right, remedy or claim under or by reason of the Indenture of any covenant, condition or stipulation thereof; and all covenants, stipulations, promises and agreements in the Indenture contained by and on behalf of the Authority shall be for the sole and exclusive benefit of the Authority, the Fiduciaries, and the holders of the Bonds.

#### **No Recourse on the Bonds (Section 1206)**

No recourse shall be had for the payment of the principal of or interest on the Bonds or for any claim based thereon or on the Indenture against any member or officer of the Authority or any person executing the Bonds, or any employee or agent of the foregoing.

#### **Successors and Assigns (Section 1207)**

Whenever in the Indenture the Authority is named or referred to, it shall be deemed to include its successors and assigns and all the covenants and agreements in the Indenture contained by or on behalf of the Authority shall bind and inure to the benefit of their respective successors and assigns whether so expressed or not.

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## **APPENDIX E**

### **FORM OF OPINION OF BOND COUNSEL**

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## FORM OF OPINION OF BOND COUNSEL

July 10, 2014

Greater New Haven  
Water Pollution Control Authority  
260 East Street  
New Haven, Connecticut

Ladies and Gentlemen:

We have examined a record of proceedings relating to the issuance by the Greater New Haven Water Pollution Control Authority (the “Authority”) of \$77,510,000 aggregate principal amount of Greater New Haven Water Pollution Control Authority, Connecticut Regional Wastewater System Revenue Refunding Bonds, 2014 Series B (the “2014 Series B Bonds”). The 2014 Series B Bonds are issued pursuant to Sections 22a-500 to 22a-519, inclusive, of the General Statutes of Connecticut, Revision of 1958, as amended (the “Act”), a resolution of the Board of Directors of the Authority adopted on March 11, 2014 (the “Bond Resolution”), and the Indenture of Trust, dated as of August 1, 2005, by and between the Authority and U.S. Bank National Association (as successor to Wachovia Bank, National Association), as Trustee (the “Trustee”), as amended and supplemented by the First Supplemental Indenture dated as of August 1, 2005, the Second Supplemental Indenture dated as of May 31, 2006, the Third Supplemental Indenture dated as of January 31, 2007, the Fourth Supplemental Indenture dated as of February 1, 2007, the Fifth Supplemental Indenture dated as of May 9, 2007, the Sixth Supplemental Indenture dated as of June 14, 2007, the Seventh Supplemental Indenture dated as of August 2, 2007, the Eighth Supplemental Indenture dated as of November 30, 2007, the Ninth Supplemental Indenture dated as of March 1, 2008, the Tenth Supplemental Indenture dated as of April 1, 2008, the Eleventh Supplemental Indenture dated as of May 29, 2009, the Twelfth Supplemental Indenture dated as of June 26, 2009, the Thirteenth Supplemental Indenture dated as of November 30, 2009, the Fourteenth Supplemental Indenture dated as of May 16, 2011, the Fifteenth Supplemental Indenture dated as of June 30, 2011, the Sixteenth Supplemental Indenture dated as of December 28, 2011, the Seventeenth Supplemental Indenture dated as of March 12, 2012, the Eighteenth Supplemental Indenture dated as of July 12, 2012, the Nineteenth Supplemental Indenture dated as of July 31, 2012, the Twentieth Supplemental Indenture dated as of April 30, 2013, the Twenty-First Supplemental Indenture dated as of June 28, 2013, the Twenty-Second Supplemental Indenture dated as of September 30, 2013, the Twenty-Third Supplemental Indenture dated as of December 31, 2013, and the Twenty-Fourth Supplemental Indenture dated as of January 10, 2014 (as amended and supplemented the “Original Indenture”), each by and between the Authority and the Trustee, as further supplemented by the Twenty-Fifth Supplemental Indenture, dated as of July 1, 2014 (the “Twenty-Fifth Supplemental Indenture” and together with the Original Indenture, the “Indenture”). Capitalized terms used herein and not otherwise defined shall have the meaning ascribed to such terms in the Indenture.

The 2014 Series B Bonds delivered on the date hereof are dated as of the date of delivery, bear interest payable semiannually on February 15 and August 15 in each year, commencing August 15, 2014, until maturity or earlier redemption. The 2014 Series B Bonds are issuable only in fully registered form in denominations of \$5,000 or any integral multiple thereof. The 2014 Series B Bonds bear interest at the interest rates per annum and mature on August 15 in each of the years and principal amounts as follows:

<u>Year</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Year</u>	<u>Principal Amount</u>	<u>Interest Rate</u>
2014	\$3,535,000	2.000%	2025	\$3,355,000	5.000%
2015	2,235,000	2.000	2026	3,530,000	5.000
2016	2,290,000	3.000	2027	3,710,000	5.000
2017	2,360,000	3.000	2028	3,900,000	5.000
2018	2,440,000	4.000	2029	4,100,000	5.000
2019	2,545,000	4.000	2030	4,315,000	5.000
2020	2,660,000	5.000	2031	4,535,000	5.000
2021	2,795,000	5.000	2032	4,765,000	5.000
2022	2,940,000	5.000	2033	4,985,000*	4.000
2023	3,065,000	3.250	2034	5,185,000*	4.000
2024	3,190,000	5.000	2035	5,075,000*	4.000

\* Term Bonds

The 2014 Series B Bonds are subject to optional and mandatory redemption prior to maturity in the manner and upon the terms and conditions described in the Twenty-Fifth Supplemental Indenture.

We have examined certified copies of the Bond Resolution, and executed copies of the Original Indenture and the Twenty-Fifth Supplemental Indenture. We have also examined an executed copy of the Tax Regulatory Agreement, dated as of the date hereof (the "Tax Regulatory Agreement"), by the Authority, including the appendices, certificates and attachments thereto. We have examined one of the 2014 Series B Bonds as executed.

As to questions of fact material to our opinion, we have relied upon representations of the Authority contained in the Indenture and the Tax Regulatory Agreement, the record of proceedings and other certifications furnished to us, and certifications by officers of the Authority and the Trustee without undertaking to verify the same by independent investigations. In rendering this opinion, we have assumed the power to enter into and perform, and the due authorization, execution and delivery by all parties (other than the Authority) of the documents and agreements to which the Authority is a party.

The Internal Revenue Code of 1986, as amended (the "Code"), establishes certain requirements which must be met at and subsequent to the issuance and delivery of the 2014 Series B Bonds in order for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause interest on the 2014 Series B Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the 2014 Series B Bonds. Pursuant to the Indenture and Tax Regulatory Agreement, the Authority and the Trustee have made certain representations and covenants relating to compliance with such requirements of the Code to ensure the exclusion of interest on the 2014 Series B Bonds from gross income for federal income tax purposes.

Based upon and subject to the foregoing, we are of the opinion that:

1. The Authority is a validly existing body politic and corporate of the State of Connecticut and has good right and lawful authority to adopt the Bond Resolution adopted by it and to issue the 2014 Series B Bonds pursuant to the Act and the Indenture.

2. The Twenty-Fifth Supplemental Indenture has been duly authorized, executed and delivered by the Authority, is in full force and effect as to the Authority, and constitutes a valid and binding agreement of the Authority, enforceable against the Authority in accordance with its terms, except to the extent that the enforceability thereof may be limited by bankruptcy, insolvency or other laws affecting creditors' rights generally or application of principles of equity or with respect to actions commenced against municipalities or state agencies and authorities.

3. The 2014 Series B Bonds have been duly authorized and issued by the Authority in accordance with law and the terms of the Indenture, and are valid and binding special limited obligations of the Authority payable solely out of the Revenues and other receipts, funds or moneys pledged therefor pursuant to the Indenture, and from any amounts otherwise available under the Indenture for the payment thereof. The 2014 Series B Bonds are enforceable in accordance with their terms and the terms of the Indenture and are entitled to the benefit of the Act and the Indenture, except to the extent that the enforceability thereof may be limited by bankruptcy, insolvency or other laws affecting creditors' rights generally or application of principles of equity or with respect to actions commenced against municipalities or state agencies and authorities.

4. The Indenture creates the valid pledge and assignment which it purports to create of all of the Authority's right, title and interest in the Revenues and all moneys and securities held by the Trustee in the Funds and Accounts (as defined in the Indenture) under the Indenture (except for moneys and securities held in the Rebate Fund and except to the extent that monies in the General Fund have been transferred to the Authority pursuant to the Indenture), subject only to the provisions of the Indenture permitting the application thereof for or to the purposes and on the terms and conditions set forth therein. No opinion is rendered herein regarding the perfection or priority of such pledge.

5. The 2014 Series B Bonds are not general obligations of the Authority, and the full faith and credit of the Authority are not pledged for the payment of the 2014 Series B Bonds. Neither the State of Connecticut (the "State"), nor any other political subdivision of the State is obligated to pay the principal of, premium or interest on any of the 2014 Series B Bonds and neither the faith and credit nor the taxing power of the State, or any other political subdivision of the State is pledged to the payment of the principal of or premium or interest on the 2014 Series B Bonds. The Authority has no taxing power.

6. Assuming the accuracy of the representations and compliance with the aforementioned tax covenants in the Indenture and the Tax Regulatory Agreement, under existing statutes and court decisions, interest on the 2014 Series B Bonds is excluded from gross income for federal income tax purposes and is not treated as an item of tax preference for purposes of computing the federal alternative minimum tax. Interest on the 2014 Series B Bonds is, however, included in the determination of adjusted current earnings for purposes of computing the federal alternative minimum tax imposed on certain corporations.

7. Under existing statutes, interest on the 2014 Series B Bonds is excluded from Connecticut taxable income for purposes of the Connecticut income tax on individuals, trusts and estates and is excluded from amounts on which the net Connecticut minimum tax is based in the case of individuals, trusts and estates required to pay the federal alternative minimum tax. Interest on the 2014 Series B Bonds is included in gross income for purposes of the Connecticut corporation business tax.

Except as stated in the preceding paragraphs, we express no opinion as to any federal, state or local tax consequences with respect to the 2014 Series B Bonds or the interest thereon. Furthermore, we

express no opinion as to any federal, state or local tax law consequences with respect to the 2014 Series B Bonds or the interest thereon, if any action is taken with respect to the 2014 Series B Bonds, or any changes are made in the requirements or procedures contained or referred to in the Indenture, the Tax Regulatory Agreement and other relevant documents, upon the advice or with the approving opinion of other counsel.

Legislation affecting the exclusion from gross income of interest on State or local bonds, such as the 2014 Series B Bonds, is regularly under consideration by the United States Congress. There can be no assurance that legislation enacted or proposed after the date of issuance of the 2014 Series B Bonds will not reduce or eliminate the benefit of the exclusion from gross income of interest on the 2014 Series B Bonds or adversely affect the market price of the 2014 Series B Bonds.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement related to the 2014 Series B Bonds.

These opinions are rendered as of the date hereof and are based on existing law, which is subject to change. We assume no obligation to update or supplement these opinions to reflect any facts or circumstances that may come to our attention, or to reflect any changes in law that may hereafter occur or become effective.

Very truly yours,

## **APPENDIX F**

### **FORM OF CONTINUING DISCLOSURE AGREEMENT**

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## FORM OF CONTINUING DISCLOSURE AGREEMENT

### CONTINUING DISCLOSURE AGREEMENT

Greater New Haven Water Pollution Control Authority  
\$77,510,000 Regional Wastewater System Revenue Refunding Bonds, 2014 Series B  
Dated July 10, 2014

WHEREAS, the Greater New Haven Water Pollution Control Authority, Connecticut (the “Authority”) has heretofore authorized the issuance of \$77,510,000 in aggregate principal amount of its Regional Wastewater System Revenue Refunding Bonds, 2014 Series B, dated July 10, 2014 (the “2014 Series B Bonds”), and to mature on the dates and in the amounts and set forth in the Authority’s Official Statement dated June 24, 2014 describing the 2014 Series B Bonds (the “Official Statement”); and

WHEREAS, the 2014 Series B Bonds have been sold by a negotiated sale pursuant to a Bond Purchase Agreement, dated June 24, 2014 (the “Bond Purchase Agreement”); and

WHEREAS, in the Bond Purchase Agreement, the Authority has heretofore acknowledged that an underwriter may not purchase or sell the 2014 Series B Bonds unless it has reasonably determined that the Authority has undertaken in a written agreement for the benefit of the beneficial owners of the 2014 Series B Bonds to provide certain continuing disclosure information as required by Securities and Exchange Commission Rule 15c2-12(b)(5), as amended from time to time (the “Rule”), and the Authority desires to assist the underwriter of the 2014 Series B Bonds in complying with the Rule; and

WHEREAS, the Authority is authorized pursuant to Section 3-20e of the General Statutes of Connecticut to make such representations and agreements for the benefit of the beneficial owners of the 2014 Series B Bonds to meet the requirements of the Rule; and

WHEREAS, in order to assist the underwriter of the 2014 Series B Bonds in complying with the Rule, this Continuing Disclosure Agreement (this “Agreement”) is to be made, executed and delivered by the Authority in connection with the issuance of the 2014 Series B Bonds and to be described in the Official Statement, all for the benefit of the beneficial owners of the 2014 Series B Bonds, as they may be from time to time;

NOW, THEREFORE, the Authority hereby represents, covenants and agrees as follows:

Section 1. Definitions. In addition to the terms defined above, the following capitalized terms shall have the meanings ascribed thereto:

“Annual Report” shall mean any Annual Report provided by the Authority pursuant to, and as described in, Sections 2 and 3 of this Agreement.

“Fiscal Year End” shall mean the last day of the Authority’s fiscal year, currently June 30.

“Listed Events” shall mean any of the events listed in Section 4 of this Agreement.

“MSRB” shall mean the Municipal Securities Rulemaking Board established pursuant to Section 15B(b)(1) of the Securities Exchange Act of 1934, as amended, or any successor thereto.

“Repository” shall mean the Electronic Municipal Market Access system as described in 1934 Act Release No. 57577 for purposes of the Rule, the MSRB or any other nationally recognized municipal securities information repository or organization recognized by the SEC from time to time for purposes of the Rule.

“SEC” shall mean the Securities and Exchange Commission of the United States or any successor thereto.

Section 2. Annual Reports.

(a) The Authority shall provide or cause to be provided to the Repository in electronic format, accompanied by identifying information, as prescribed by the MSRB, the following annual financial information and operating data regarding the Authority:

(i) Audited financial statements as of and for the year ending on its Fiscal Year End for the Authority, prepared in accordance with accounting principles generally accepted in the United States, as promulgated by the Governmental Accounting Standards Board from time to time or mandated state statutory principles as in effect from time to time; and

(ii) Financial information and operating data as of and for the year ending on its Fiscal Year End of the following type to the extent not included in the audited financial statements described in (i) above that are described in the Cost of Service Study that appears as Appendix B to the Official Statement.

(b) The information may be provided in whole or in part by cross-reference to other documents previously provided to the Repository, including official statements of the Authority which will be available from the MSRB.

(c) Subject to the requirements of Section 8 hereof, the Authority reserves the right to modify from time to time the type of financial information and operating data provided or the format of the presentation of such financial information and operating data, to the extent necessary or appropriate; provided that the Authority agrees that any such modification will be done in a manner consistent with the Rule. The Authority also reserves the right to modify the preparation and presentation of financial statements described herein as may be required to conform with changes in Connecticut law applicable to municipalities or any changes in generally accepted accounting principles, as promulgated by the Governmental Accounting Standards Board from time to time.

Section 3. Timing. The Authority shall provide the financial information and operating data referenced in Section 2(a) not later than eight months after each Fiscal Year End subsequent to the date of issuance of the 2014 Series B Bonds, provided, however, that if such financial information and operating data for the Fiscal Year End preceding the date of issuance of the 2014 Series B Bonds is not contained in the Official Statement for the 2014 Series B Bonds or has not otherwise been previously provided, the Authority shall provide such financial information and operating data no later than eight months after the close of such preceding Fiscal Year End. The Authority agrees that if audited financial statements are not available eight months after the close of any Fiscal Year End, it shall submit unaudited financial statements by such time and will submit audited financial statements when and if available.

Section 4. Event Notices. The Authority agrees to provide, or cause to be provided, in a timely manner not in excess of ten (10) business days after the occurrence of the event, notice to the Repository in electronic format, accompanied by identifying information, as prescribed by the MSRB, of the occurrence of any of the following events:

- (i) principal and interest payment delinquencies;
- (ii) non-payment related defaults, if material;
- (iii) unscheduled draws on debt service reserves reflecting financial difficulties;
- (iv) unscheduled draws on credit enhancements reflecting financial difficulties;
- (v) substitution of credit or liquidity providers, or their failure to perform;
- (vi) adverse tax opinions; the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the 2014 Series B Bonds, or other material events affecting the tax status of the 2014 Series B Bonds;
- (vii) modifications to rights of Bondholders, if material;
- (viii) Bond calls, if material, and tender offers;

- (ix) defeasances;
- (x) release, substitution, or sale of property securing repayment of the 2014 Series B Bonds, if material;
- (xi) rating changes;
- (xii) bankruptcy, insolvency, receivership, or similar event of any obligated person;
- (xiii) the consummation of a merger, consolidation, or acquisition involving any obligated person or the sale of all or substantially all of the assets of any obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake any such an action or the termination of a definitive agreement relating to such actions, other than pursuant to its terms, if material; and
- (xiv) appointment of a successor or additional trustee or the change of name of a trustee, if any, if material.

Section 5. Notice of Failure. The Authority agrees to provide, or cause to be provided, in a timely manner to the Repository in electronic format, accompanied by identifying information, as prescribed by the MSRB, notice of any failure by the Authority to provide the annual financial information described in Section 2(a) of this Agreement on or before the date described in Section 3 of this Agreement.

Section 6. Termination of Reporting Obligation. The Authority's obligations under this Agreement shall terminate upon the defeasance, prior redemption or payment in full of all of the 2014 Series B Bonds.

Section 7. Agent. The Authority may, from time to time, appoint or engage an agent to assist it in carrying out its obligations under this Agreement, and may discharge any such agent, with or without appointing a successor agent.

Section 8. Amendment; Waiver. Notwithstanding any other provision of this Agreement, the Authority may amend this Agreement, and any provision of this Agreement may be waived, if such amendment or waiver is made in connection with a change in circumstances that arises from a change in legal requirements, a change in law, or a change in the identity, nature or status of the Authority, and is supported by an opinion of counsel expert in federal securities laws, to the effect that (i) such amendment or waiver would not materially adversely affect the beneficial owners of the 2014 Series B Bonds and (ii) this Agreement, as so amended, would have complied with the requirements of the Rule as of the date of this Agreement, taking into account any amendments or interpretations of the Rule as well as any changes in circumstances. A copy of any such amendment will be filed in a timely manner with the Repository in electronic format. The Annual Report provided on the first date following adoption of any such amendment will explain, in narrative form, the reasons for the amendment and the impact of the change in the type of financial information or operating data provided.

Section 9. Additional Information. Nothing in this Agreement shall be deemed to prevent the Authority from disseminating any other information, using the means of dissemination set forth in this Agreement or any other means of communication, or including any other information in any Annual Report or providing notice of the occurrence of any other event, in addition to that which is required by this Agreement. If the Authority chooses to include any other information in any Annual Report or provide notice of the occurrence of any other event in addition to that which is specifically required by this Agreement, the Authority shall have no obligation under this Agreement to update such information or include or provide such information or notice of the occurrence of such event in the future.

Section 10. Indemnification. The Authority agrees, to the extent allowed by law, to indemnify and save its officials, officers and employees harmless against any loss, expense or liability which they may incur arising out of or in the exercise or performance of its powers and duties hereunder, including the costs and expenses (including attorney's fees) of defending against any claim of liability hereunder, but excluding any loss, expense or liability due to any such person's malicious, wanton, or willful act. The obligations of the Authority under this Section shall survive termination of this Agreement.

Section 11. Enforceability. The Authority agrees that its undertaking pursuant to the Rule set forth in this Agreement is intended to be for the benefit of and enforceable by the beneficial owners of the 2014 Series B Bonds. In the event the Authority shall fail to perform its duties hereunder, the Authority shall have the option to cure such failure after its receipt of written notice from any beneficial owner of the 2014 Series B Bonds of such failure. In the event the Authority does not cure such failure, the right of any beneficial owner of the 2014 Series B Bonds to enforce the provisions of this undertaking shall be limited to a right to obtain specific performance of the Authority's obligations hereunder. No monetary damages shall arise or be payable hereunder, nor shall any failure to comply with this Agreement constitute a default of the Authority with respect to the 2014 Series B Bonds.

**IN WITNESS WHEREOF**, the Authority has caused this Continuing Disclosure Agreement to be executed in its name by its undersigned officers, duly authorized, all as of the date first above written.

**GREATER NEW HAVEN WATER POLLUTION CONTROL  
AUTHORITY**

By: \_\_\_\_\_  
Sidney J. Holbrook  
Executive Director

By: \_\_\_\_\_  
Gabriel Varca  
Treasurer



