NORTH MIAMI
FLORIDA
776 N.E. 125 Street, North Miami, Florida 33161

Council Report

To: The Honorable Mayor and City Council

From: Vernon Paul, Jr., Finance Director

Date: ~~March 27, 2012~~ April 10, 2012

RE: Amendment of Chapter 19 of the Code of Ordinances of the City of North Miami, Florida currently used to determine base charges and utility consumption rates, titled "UTILITY", by amending Article VIII entitled "Annual Utility Rate Index Adjustment" to replace Consumer Price Index "CPI", with a new plan titled " The Revenue Requirement, Cost of Service, and Rate Design for Water and Services" designed by Black & Veatch for the City of North Miami to make the City compliant with the regulatory requirement for Utility as mandated by EPA and other Regulatory Agencies and to assist the City in maintaining efficient and quality utility service to the residents and non-residents of the city.

RECOMMENDATION

It is recommended that the City Council approve the amendment allowing the inclusion of regulatory mandates compliance and the use of the Black & Veatch Rate Structure Plan as the index rate. Approving this amendment will assist the City's Public Works Department to comply with the requirements set forth in the EPA's sewer system infrastructure analysis and rehabilitation handbook (October 1991, EPA 625691030) designed to identify and reduce sewer infiltration and inflow to a level that meets the standard set forth in section 24-42.2(1) (d). The Black and Veatch study supports that notion as well.

BACKGROUND

Water and Wastewater utilities across the country are facing serious challenges with the increase of cost to maintain aging infrastructure; increase in population causing a need for more consumption, and stringent regulatory requirements imposed on utilities. The City of North Miami is faced with the same challenges. The goal of utilities and their common missions are to be successful service providers. The regulatory requirements imposed on the City and insufficient revenues make it critical for the City to implement a new strategic approach in the promoting of effective utility management while dealing with the day to day challenges.

The South Florida Water Management District has stipulated in the City's Consumptive Use Permit Number 13-00059-W issued August 23, 2010, that the City implement a tiered rate structure with a water conservation provision. The attached rate analysis does address all of these components of the permit for the City to be compliant. Non Implementation of permit requirements can lead to the City loosing is 20 year water withdrawal permit, i.e. shutting down of the Winson Water Treatment Plant.

The U.S. Environmental Protection Agency (EPA) published the Ground Water Rule in the Federal Register on November 08, 2006. The purpose of the rule is to provide increased protection against microbial pathogens in public water systems that use ground water sources. The EPA is particularly concerned about ground water systems that are susceptible to fecal contamination, since disease-causing pathogens may be found in fecal contamination. Many Public Water Systems (PWS) in the State of Florida apply a primary disinfectant to help eliminate these pathogens. In summary, EPA's groundwater rule and other regulatory agency rulings like Miami Dade Health Department (State, County and Federal), and Pollution Environmental Regulatory Affairs (formerly DERM) require changes to the Water Treatment Plant processes to be compliant to meet all new and current drinking water standards.

On September 1, 2005 the City passed and adopted Ordinance No. 1193 allowing the City Utility to revise its rates, fees and charges using the annual rate indexing "CPI" to establish the annual increase recommended By City administration. However, the current rate is not meeting the goals to keep the City Utility service sustainable and therefore, rendered the city to be non- compliant to the objectives set forth by the regulatory agencies. The City hired Black & Veatch, a Management Consulting firm, to prepare a viable plan that will make the City compliant. Staff is proposing that the CPI ordinance be amended to replace the current CPI index rate with the Black and Veatch 5 year rate structure plan. Not using the proposed plan puts the City at a disadvantage to meet its goals and objectives as mandated by the Regulatory agencies to provide utility services.

To remain competitive and be able to continue providing water and sewer services, Ordinance No. 1193, authorizing City administration to take the necessary action to comply with all regulatory agencies, need to be adopted. Once adopted, the City will be compliant. If the Course of action recommended is not taking into consideration, Utility will be operating in the red and unable to meet its regulatory requirements.

Attachments

(1) Consumer Price Index Ordinance
(2) FL Dept. of Environmental Protection Financial Loan
(3) South Florida Water Management District Water Use Permit
(4) Black and Veatch Rate Analysis

RESOLUTION NO. _____

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI, FLORIDA, ADOPTING THE BLACK & VEATCH CORPORATION, RATE DESIGN ANALYSIS AND CONSERVATION BASED RATE STRUCTURE PLAN ENTITLED, "REVENUE REQUIREMENTS, COST OF SERVICE AND RATE DESIGN FOR WATER AND SEWER SERVICE", FOR FISCAL YEARS 2012, 2013, 2014, 2015 AND 2016 AS PREPARED SPECIFICALLY FOR THE CITY OF NORTH MIAMI WATER AND SEWER COLLECTION AND TRANSMISSION SYSTEM; AND FURTHER AUTHORIZING THE CITY MANAGER TO DO ALL THINGS NECESSARY TO IMPLEMENT THE STATED RATE STRUCTURE PLAN; PROVIDING FOR AN EFFECTIVE DATE AND ALL OTHER PURPOSES.

WHEREAS, a comprehensive water and sewer rate study was conducted by Black & Veatch Corporation ("Consultant") entitled, "Revenue Requirements, Cost of Service and Rate Design for Water and Sewer Service", which included a financial plan, cost of service analysis, and a conservation-based utility rate structure ("Rate Plan"); and

WHEREAS, the Rate Plan compares the adequacy of projected revenues under existing rates in meeting the revenue requirement of the City of North Miami ("City") Water and Sewer Collection and Transmission System; and

WHEREAS, the Rate Plan seeks to promote water conservation and addresses specific consumer affordability issues over the forecast period, consisting of Fiscal Years 2012, 2013, 2014, 2015 and 2016; and

WHEREAS, the Rate Plan sets a course for the City to appropriately fund operating and capital requirements over the forecast period, in a manner compatible with State and local regulatory requirements; and

WHEREAS, the City has notified all customers of the Water and Sewer Collection and Transmission System concerning the application of the Rate Plan, pursuant to Section 180.136, Florida States; and

WHEREAS, City administration respectfully request the adoption of the Rate Plan in order to generate the funds necessary for Water and Sewer Collection and Transmission operations and to remain compliant with State and local regulatory agencies; and

WHEREAS, the Mayor and City Council have determined that the adoption of the Rate Plan as proposed by Consultant for Fiscal Years 2012, 2013, 2014, 2015 and 2016 is in the best interest of the City and to the public health, safety and welfare.

NOW THEREFORE, BE IT DULY RESOLVED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI, FLORIDA:

Section 1. **Authority of City Manager.** The Mayor and City Council of the City of North Miami, Florida, hereby adopt the Black & Veatch Corporation, rate design analysis and conservation based Rate Structure Plan entitled, "Revenue Requirements, Cost of Service and Rate Design for Water and Sewer Service", for Fiscal Years 2012, 2013, 2014, 2015 and 2016 as prepared specifically for the City of North Miami Water and Sewer Collection and Transmission System, and further authorize the City Manager to do all things necessary to implement the stated Rate Structure Plan, attached hereto as Exhibit A.

Section 2. **Effective Date.** This Resolution shall become effective immediately upon adoption.

PASSED AND ADOPTED by a _____ vote of the Mayor and City Council of the City of North Miami, Florida, this _____ day of April, 2012.

_____
ANDRE D. PIERRE, ESQ.
MAYOR

ATTEST:

_____
MICHAEL A. ETIENNE, ESQ.
CITY CLERK

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

_____
REGINE M. MONESTIME
CITY ATTORNEY

SPONSORED BY: CITY ADMINISTRATION

Moved by: _____

Seconded by: _____

Vote:

Mayor Andre D. Pierre, Esq.	_____ (Yes)	_____ (No)
Vice Mayor Jean R. Marcellus	_____ (Yes)	_____ (No)
Councilperson Michael R. Blynn, Esq.	_____ (Yes)	_____ (No)
Councilperson Scott Galvin	_____ (Yes)	_____ (No)
Councilperson Marie Erlande Steril	_____ (Yes)	_____ (No)

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

CITY OF NORTH MIAMI

WATER PLANT UPGRADES

RFI: SUPPLY / TREATMENT

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

May 27, 2010

Mr. Miguel Seco, Governmental Affairs Manager
City of North Miami
776 NE 125th Street
North Miami, Florida 33161

Re: DW13183 - City of North Miami Water Plant Upgrades
RFI: Supply/Treatment

13 183.

Dear Mr. Seco:

Thank you for submitting the subject Request for Inclusion (RFI) on the priority list for Drinking Water Facilities. Your project has been placed on the planning portion of the priority list for a construction loan. To have your project elevated to the fundable or contingency portion of the priority list, the following general requirements must be completed in accordance with Chapter 62-552 F.A.C.:

- Water Facilities Plan (including the business plan and public hearing documentation).
- Environmental review.
- Biddable plans and specifications (including the Department's notice of intent to issue permit, if applicable).
- Project site certification.

Please note that you may request an Authorization to Incur Costs after successful completion of the general requirements listed above. This will allow you to incur construction costs before execution of the loan agreement and have those costs remain eligible for reimbursement.

Please also note the project number assigned (DW13183) and refer to that number on all future correspondence. Please coordinate with Mr. Gregory M. Brown, P.E., the Department's project manager, at (850) 245-8371 or Suncom 205-8371, to answer questions.

Sincerely,

Robert E. Holmden

Robert E. Holmden, P.E., Chief
Bureau of Water Facilities Funding

RH/gmb

cc: Jose Calas, P.E., DEP, Southeast District

WATER PLANT UPGRADE

WATER PROJECT REQUEST FORM

laimer:
is form must be completed by the project sponsor (not the project sponsor's agent, consultant, etc.) and faxed to FRWA at 850.893.4581. The Funding Group meets on a quarterly basis, at which time each project submitted during the quarter will be reviewed and the appropriate funding authority will contact you.

Project Sponsor (Name of System)		Project Sponsor Address	
City of North Miami		776 NE 125 Street	
City	State	Zip	County
North Miami	FL	33161	Miami-Dade
Pro Project Sponsor Primary Contact Person		Telephone Number	
Miguel Seco, Governmental Affairs Manager		(305) 895-9898	

Sponsor Email Address mseco@northmiamifl.gov

Project Sponsor Type City

Permanent Jobs to be Created as a Result of Project (Select One) 11-50

Jobs to be Retained as a Result of Project (Select One) 0

Is this an economic development project? No

Population Served by Your System (Select One) 20,001-100,000

Population of Area Covered by this Project (Select One) 20,001-100,000

mber of Wastewater Connections in Area Covered by this Project 10,001-100,000

Number of Water Connections in Area Covered by this Project 10,001-100,000

Median Household Income for System Service Area $20,001-$38,819
If you do not know the Median Household Income for the System Service, go to http://quickfacts.census.gov/qfd/States/12000.html to access the Florida Census Data System.

Cost Estimate for Project Greater than $10,000,000

Current Monthly Average Residential Wastewater User Charge $11-$25

Current Annual System Revenue (Water and Wastewater) Greater than $10,000,000

Current Annual System Expenses (Water and Wastewater) Greater than $10,000,000

Target Date to Begin Construction (Select One) 1-2 Years

Brief Description of the Project Water Plant Upgrades

Is this project to be funded using multiple funding agencies? Yes
If yes, list each Agency: DEP(Dept of Environmental Protection), DOE(Dept of Energy), DOC (Dept of Commerce, SFWM)South Florida Water Management

Reason for Project (check all that apply)
☒ Compliance ☐ Economic Development ☒Public Health ☒Replacement ☐ System Expansion

Type of Project (check all that apply)
☒ Compliance ☐ Economic Development ☒Public Health ☒Replacement ☐ System Expansion

Product Categories (Select One)
☐ Disposal ☐ Distribution ☐ Sludge Handling ☐ Storage ☐ Transmission ☒ Treatment ☐ Water Source

If Disposal, please explain.

Project Status Construction

In-depth Environmental Review may not be necessary for your project. This will save you time and money. If your project falls into one of the following categories, please check yes:
Rehabilitation of existing facilities or replacement of structures, wells, waterlines, or equipment: ☒ Yes ☐ No
cilities that will not result in more than a 50% increase of existing public water system capacity and there is no acquisition of land ier than an easements and right-of-ways where streets have been established, underground utilities installed, building sites xcavated, or where such lands have otherwise been disturbed from a natural condition: ☐ Yes ☒ No
Facilities for the disinfection of public water supplies ☒ Yes ☐ No
Back-up supply wells where, after disinfection, existing water quality meets drinking water standards and there is no acquisition of land. ☐ Yes ☒ No
Facilities that will result solely in the provision of adequate public water system pressure. ☒ Yes ☐ No

Please fax this form to FRWA at 850.893.4581.

Florida Department of Environmental Protection
Bureau of Water Facilities Funding

Twin Towers Office Bldg. 2600 Blair Stone Road, MS #3505 Tallahassee, Florida 32399-2400
Telephone: (850) 488-8163 FAX (850) 921-2769

Request for Inclusion on the Priority List for Drinking Water Facilities

Project Number DW _____ (Filled in by DEP)

1. Type of Assistance for which this Request is Submitted:

Pre-construction Loan ☐ Construction Loan ☒ Pre-construction Grant ☐ Construction Grant ☐

2. Eligibility for a Loan: The federal Safe Drinking Water Act Amendments of 1996 authorize funding of community water systems (both privately and publicly owned) non-profit non-community water systems, and non-profit non-transient non-community systems. The 1997 Amendments to 403.8532, Florida Statutes, also authorize funding of these public water systems. Both funding authorizations have specific requirements to be implemented under Chapter 62-552, F.A.C. In order to be considered for a priority listing, the following conditions must be met:

   a. A respondent to this solicitation must qualify under the definition of "project sponsor" contained in Rule 62-552.200(28), F.A.C.;

   b. A project sponsored by a for-profit private owner or investor-owned entity that regularly serves at least 1,500 service connections within the certified or franchised area, any part of which would be served by the proposed project, must be the result of the consolidation of two or more public water systems;

   c. A potential loan must be for a "rate-based public water system" as defined in Rule 62-552.200(30), F.A.C.;

   d. The post-allowance project costs must be at least $75,000;

   e. A project sponsor must qualify as a financially disadvantaged community under Rule 62-552.200(14)., F.A.C., to qualify for a pre-construction grant (note the additional limitation under Item g. below) or a construction grant;

   f. The public water system for which grant funding is sought must meet the definition of a community water system;

   g. A project sponsor must qualify as a small community under Rule 62-552.200(35), F.A.C., to qualify for a pre-construction loan or a pre-construction grant;

   h. Pre-construction loans shall not be available as the non-grant share for pre-construction grants; and

   i. A Request for Inclusion on the Priority List for Drinking Water Facilities must be submitted for a project to be initially listed on the priority list and that form must be updated and resubmitted to justify the reassignment of a previously listed planning portion project to the contingency or fundable portion of the priority list.

3. Applicant Information:

Project Sponsor City of North Miami

Mailing Address 776 NE 125 Street

North Miami, FL 33161

E-mail Address www.northmiamifl.gov

Street Address (if different than mailing Address) _____

_____

(city) (county) (zip code)

Is the project sponsor's public water system a non-profit water system as defined in Rule 62-552.200(20), F.A.C.?

No ☒ Yes ☐ If "Yes," attach evidence of non-profit Florida corporation status and describe the purpose or function of the corporation. (*Attachment #* _____)

Contact Person Miguel Seco, Governmental Affairs Manager

Mailing Address City of North Miami

776 NE 125 Street, North Miami, FL 33161

Telephone (305) 895-9898 FAX (305) 893-1367

4. Name and Address of Applicant's Consulting Engineer:

Firm Hazen & Sawyer, P.C.

Mailing Address 4000 Hollywood Blvd., Suite 750N

Hollywood, FL 33021

Contact Person Patricia Carney, P.E.

Telephone (954) 987-0066 FAX (954) 987-2949

5. Project Description (Please Attach):

a. Construction Projects (Post-allowance Project Activities) - A project may include drinking water supply, storage, transmission, treatment, disinfection, distribution, residuals management, and appurtenant facilities. Provide specific information for all proposed facilities. To be eligible for listing on the fundable part of the list, the project components must be specifically identified in a completed water facilities plan. If the planning has been completed for this project, note the document title and date, reference the page numbers on which proposed facilities are described, and the date on which the notice of availability for the environmental information document was published in the Florida Administrative Weekly [see Rule 62-552.700(3), F.A.C.]. There are special priority requirements under Rule 62-552.370(1), F.A.C., that must be met for a financially disadvantaged community grant project to qualify for listing on the fundable portion of the priority list.

b. Pre-construction Projects - A project includes the planning, design, and administrative activities necessary to qualify for funding of a construction project. To be eligible for listing on the priority list, a project sponsor must qualify as a small community and, for a grant, a project sponsor must qualify as a financially disadvantaged community. There are special priority requirements under Rules 62-552.350 and 62-552.360, F.A.C., that must be met to qualify for listing on the fundable portion of the priority list.

Request for Inclusion on the Priority List for Drinking Water Facilities

6. Baseline Priority Category:

Category scores for public health and compliance may be justified by sampling documentation demonstrating that, at some time in the 48-month period immediately preceding the submittal of this form, a problem involving a drinking water quality standard has been detected. The items requiring sampling documentation are indicated with an asterisk (*) below. In addition, category scores may be assigned as a result of the nature of a project. (See Rule 62-552.650, F.A.C., for a more complete description of the prioritization criteria.) Note that the State Health Officer's Certification under Tier II or Tier IV should not be pursued before first discussing the situation with Bureau of Water Facilities Funding personnel. Check the boxes for which documentation is being attached and for which the problem has not been eliminated:

Tier I - Acute Public Health Risk (800 Priority Points)

- * E-Coli or Fecal Coliform MCL Exceedance [See Rule 62-550.310(3)(b), F.A.C.]..... ☒ No ☐ Yes
- * Nitrate, Nitrite, or Total Nitrogen MCL Exceedance [See Rule 62-550.310(1), F.A.C.]..... ☒ No ☐ Yes
- * Lead or Copper Action Level Exceedance (See Rule 62-550.800, F.A.C.)..... ☒ No ☐ Yes
- ⇒ Required Treatment or Disinfection to Comply with Surface Water Treatment Rule..... ☒ No ☐ Yes
  (See Rules 62-550.560 and 62-555.600 through 62-555.630, F.A.C.)

Tier II - Potential Acute Public Health Risk (700 Priority Points)

- * Nitrate, Nitrite, or Total Nitrogen Exceedance of 50% of MCL..... ☒ No ☐ Yes
  [See Rules 62-550.310(1), F.A.C.]
- * Total Coliform MCL Exceedance [See Rule 62-550.310(3)(a), F.A.C.]..... ☒ No ☐ Yes
- ⇒ Treatment or Disinfection to Enhance Compliance with Surface Water Treatment Rule.. ☒ No ☐ Yes
  [See Rules 62-550.560 and 62-555.600 through 62-555.630, F.A.C.]
- ⇒ State Health Officer's Certification of Acute Public Health Risk for Unregulated..... ☒ No ☐ Yes
  Microbiological Contaminants [See Rule 62-552.650(4)(b)5., F.A.C. and Page 11 of this Form]
- ⇒ Disinfection Requirements Violations [See Rule 62-555.320(4), F.A.C.]..... ☒ No ☐ Yes

Tier III - Chronic Public Health Risk (600 Priority Points)

- * Primary Contaminant (Except Nitrate, Nitrite, and Total Nitrogen)..... ☒ No ☐ Yes
  MCL Exceedance (See Tables 1, 2, and 3 of Chapter 62-550, F.A.C.)
- * Trihalomethane MCL Exceedance [See Rule 62-550.310(2)(a), F.A.C.]..... ☒ No ☐ Yes
- * Radionuclide MCL Exceedance [See Rule 62-550.310(4), F.A.C.]..... ☒ No ☐ Yes

Tier IV - Potential Chronic Public Health Risk (500 Priority Points)

- * Primary Contaminant (Except Nitrate, Nitrite, and Total Nitrogen) Exceedance..... ☒ No ☐ Yes
  of 50% of MCL (See Tables 1, 2, and 3 of Chapter 62-550, F.A.C.)
- * Trihalomethane Exceedance of 80% of MCL [See Rule 62-550.310(2)(a), F.A.C.]..... ☒ No ☐ Yes
- ⇒ State Health Officer's Certification of Chronic Public Health Risk for Unregulated..... ☒ No ☐ Yes
  Chemical Contaminants [See Rule 62-552.650(4)(d)3., F.A.C., and Page 11 of this Form]

Tier V - Compliance (300 Priority Points)

- Secondary Contaminant Standards Violation (See Table 4 of Chapter 62-550, F.A.C.)... ☒ No ☐ Yes
- ⇒ Minimum Required Number of Wells [See Rule 62-555.315(1), F.A.C.]..... ☒ No ☐ Yes
- ⇒ Treatment, Storage, Power, and Distribution Requirements..... [See Rule 62-555.320, F.A.C.] ☒ No ☐ Yes
- ⇒ Well Set-back and Construction Requirements ..... (See Rules 62-555.312 and 62-555.315, F.A.C.) ☒ No ☐ Yes
- ⇒ Cross-connection and Backflow Control Requirements..... [See Rule 62-555.360, F.A.C.] ☒ No ☐ Yes

Tier VI - Other Projects (100 Priority Points)

- ⇒ Water Softening Treatment..... ☒ No ☐ Yes
- ⇒ Computer or Laboratory Facilities..... ☒ No ☐ Yes
- ⇒ Any Other..... ☐ No ☒ Yes

7. Financially Disadvantaged Community Grants: Only a financially disadvantaged community can qualify for a pre-construction grant or a construction grant. Any grant must be for the improvement of a community water system. A financially disadvantaged community cannot be a sub-unit of a larger community such as a city, county, district, or utility franchise area unless that larger community also qualifies as a financially disadvantaged community. Information about median household income is required and may not be the same as reported under Item 11 dealing with priority to be assigned for affordability within the project service area. If the project sponsor seeks to obtain a grant, the following questions must be answered:

   a. For a pre-construction or construction grant, provide the following income information:

      i. The median household income for the entire financially disadvantaged community is $ 29,778.

      ii. Is the median household income reported based on the most recently available decennial census data? ☐ No ☒ Yes

      If "No," attach an explanation as to how the data has been established.

   b. For a construction grant, provide the following information to qualify for a listing on the fundable or contingency portion of the priority list:

      i. Reference the location in the water facilities plan where the debt service component of the average annual residential drinking water user charge (or the equivalent thereof), in the absence of grant assistance, is documented N/A

      ii. What is the debt service component of the average annual residential drinking water user charge (or the equivalent thereof) for the financially disadvantaged community in the absence of grant assistance?

      N/A

      iii. Reference the location in the water facilities plan where it is documented that the benefits of the grant will exclusively accrue to the financially disadvantaged community. N/A

Estimated Project Cost (Grant or Loan Assistance) Based on Water Facilities Plan Data if Available:

Post-allowance Project Activities		Cost ($1,000's)
a.	Construction, demolition and related procurement	$ 23,000
b.	Contingency (10% of construction and land)	$ 2,300
c	Technical services after bid opening	$ 2,300
d	Other (explain) - note that the eligible costs of capacity purchase and acquiring land and existing facilities are excluded from Subitem e below in establishing allowances.	$ 0
e.	Sum of Items a. through d. (adjusted post-allowance project costs)	$ 27,600
f.	Administrative allowance [see Rule 62-552.420(1), F.A.C.]	$ 165,600
g.	Engineering allowance [see Rule 62-552.420(2), F.A.C.]	$ 165.6
h.	Sum of Items e. through g.	$ 29,421
i.	Loan repayment reserve **for loan projects only** (ordinarily 3% of Item h.)	$ 882.63
j.	Total post-allowance project cost (sum of Items h. And i.) **for loan projects only**	$ 30,304

Pre-construction Activities		Cost ($1,000's)
k.	Administrative allowance [see Rule 62-552.420(1), F.A.C.]	$ N/A
l.	Engineering allowance [see Rule 62-552.420(2), F.A.C.]	$ N/A
m.	Planning allowance [see Rule 62-552.420(3), F.A.C.]	$ N/A
n.	Total for allowances (sum of Items k. through m.) to be identified on priority list for a pre-construction grant	$ N/A
o.	Loan repayment reserve **for loan projects only** (ordinarily 3% of Item n.)	$
p.	Total pre-construction loan cost (sum of Items n. and o.), excluding capitalized interest	$ N/A

9. Loan Service Fee: A loan service fee is assessed on each loan. (There is no grant service fee to be paid by the grantee.) The fee is not part of the loan. It may be paid at the time of loan agreement execution or it may be paid along with capitalized interest thereon no later than by the time that the second semiannual loan repayment is due. The fee percentage is established each fiscal year in accordance with Rule 62-552.400(1), F.A.C. The authorized fee minimum is 2% and maximum is 4% of Subitem 8.h or 8.n above. Please check with Bureau of Water Facilities Funding personnel to establish the current year's loan service fee percentage and to obtain more information on how the fee may be paid.

The estimated amount of the loan service fee is..... $165,600

10. Estimated Project Costs: Identify project components (comprising Item 8.e above) for which a distinct baseline priority Tier (from Item 6 above) may be assigned (non-construction costs, such as for engineering should be prorated). This information shall be used to establish the project's overall baseline priority score under Rule 62-552.650(2), F.A.C.

Facilities Category	Cost ($1000's)
Tier I - Acute Public Health (800 Priority Points)	$ N/A
Tier II - Potential Acute Public Health (700 Priority Points)	$ N/A
Tier III - Chronic Public Health (600 Priority Points)	$ N/A
Tier IV - Potential Chronic Public Health (500 Priority Points)	$ N/A
Tier V - Compliance with the Safe Drinking Water Act (300 Priority Points)	$ N/A
Tier VI - Other (100 Priority Points)	$ 100
TOTAL (must match Item 8.e)	$ 27,600

11. Affordability Score. The priority points assigned as a result of project affordability depend on the characteristics of the community to be served by the project. Accordingly, provide a sketch or map showing the boundaries of the planning area evaluated by the project sponsor, the service area for the proposed project, the total area throughout which the project sponsor has responsibility for serving the public with drinking water, and the census tracts encompassing the project service area.

    a. The median household income for the proposed project service area is $ 29,778

    Is the median household income reported based on the most recently available decennial census data? ☐ No ☒ Yes

    If "No," attach an explanation as to how the data has been established.

    b. The population of the proposed project service area is 59,880

    Is the population reported based on the most recently available decennial census data? ☐ No ☒ Yes

    If "No," attach an explanation as to how the data has been established.

    c. The number of public water systems serving 500 or fewer persons and that are being consolidated or regionalized by the proposed project is 0

12. Project Priority Score:

    a. Baseline Priority Score:

    i. Construction Loans: Establish the highest baseline priority score for that part of the project that represents at least 50% of the costs. The baseline priority scores are identified as 800 points for Tier I; 700 points for Tier II; 600 points for Tier III, 500 points for Tier IV; 300 points for Tier V; and 100 points for Tier VI. Item 6 of this form associates the Tier designations with the characteristics of various facility needs comprising the project. Item 10 identifies the costs by Tier designation. Note that costs for facilities with a higher priority Tier designation may be included with those having a lower priority score designation ***at the lower priority score designation*** for purposes of generating at least 50% of the project costs. (For example when a project includes Tier II facilities representing 20% of the project cost, Tier IV facilities representing 35% of the project cost, and Tier VI facilities representing 45% of the project costs, the highest justified baseline priority score is 500 points since the combination of Tier II and Tier IV costs is necessary to generate at least 50% of the total costs. Alternatively, the project could be subdivided into two or three smaller projects, each with its own characteristic baseline priority score.)

    The baseline priority score is 100 points.

ii. Construction Grants: Establish the baseline priority score for each project component qualifying under Tier I through Tier V as having a public health risk or compliance priority regardless of cost.

Component	Baseline Priority Score
N/A	N/A

iii. Pre-construction Loans or Pre-construction Grants: Identify a project component that qualifies under Tier I through Tier IV as having a public health risk priority.

Component N/A Baseline Priority Score N/A

b. Establish the affordability score for the entire project service area. The affordability score will be the sum of the median household income (MHI) points plus the population (P) points plus the consolidation number (N) points.

i. The MHI for the entire project service area from Item 11.a. is $29,778 per year. The MHI fraction is the service area MHI divided by the statewide average. (The 1990 census determined the statewide average to be $27,483. Use more recent decennical census data if available.) The MHI fraction is rounded to the nearest 0.01.

The MHI score is 200 times the quantity (1.00 minus MHI fraction) or 100 points. Note that the maximum score is 100.0 and scores are to be rounded to the nearest 0.1.

ii. The population for the project service area from Item 11.b. is 59,880.

The population score is 50.0 minus the quantity (P divided by 1,000) or 0 points. Note that the minimum population score is zero and scores are rounded to the nearest 0.1.

iii. The number of very small public water systems, serving 500 or less persons, being eliminated through consolidation or regionalization by the project from Item 11.c. is 0.
The consolidation score is 15 times N for the project or 0 points. Note that the maximum number of consolidation points is 45.

iv. The sum of the affordability subcategory scores (12.b.i. + 12b.ii. + 12.b.iii.) is 100 points.

c. Total Priority Scores:

i. For construction loans, pre-construction loans, and pre-construction grants, the total priority score is the baseline score (12.a.) plus the affordability score (12.b.iv.) is 200 points.

ii. For construction grants, identify the total of the baseline score plus the affordability score for each project component (12.a.ii).

Component	Total Priority Score
N/A	N/A

Request for Inclusion on the Priority List for Drinking Water Facilities

13. Small Community Designation: The small community set-aside can be used to fund qualifying projects under Rule 62-552.500(1), F.A.C. Does the project sponsor request consideration for funding from the set-aside?..... ☐ No ☐ Yes

If "YES", provide the following information:

a. Does the project involve consolidation or regionalization?..... ☐ No ☐ Yes

b. Is the total population 10,000 or less?..... ☐ No ☐ Yes

- Is the population based on the most recently available decennial census data?..... ☐ No ☐ Yes
- If "No", is an explanation attached as to how the data have been established?..... ☐ No ☐ Yes

c. Is the project sponsor a for-profit private owner or an investor-owned entity that regularly serves less than 1,500 connections within the franchise area any part of which would be served by the proposed project?..... ☐ No ☐ Yes

d. Provide the following information for projects to be completely funded with a loan:

i. Is the project sponsor a county or an agency thereof?..... ☐ No ☐ Yes

ii. Is the project sponsor a municipality?..... ☐ No ☐ Yes

If "Yes" and the project is to be funded with a construction loan, provide the following information:

- What percentage of the existing population to be served by the project resides within the project sponsor's corporate limits _____%?
- What percentage of the design year population growth to be served by the project would reside within the project sponsor's corporate limits _____%?

---

14. Project Schedule:

- Is this information being submitted in support of a request for the Department to *Include* a project on the initial priority list yet to be adopted for the upcoming fiscal year? ☐ No ☒ Yes

  If *Yes*, note that there is a March 31 (of the fiscal year for which the project list is being developed) target date deadline. A complete financial assistance application is to be submitted no later than 45 days prior to the target date.

- Is this information being submitted in support of a request for the Department to *Add* a project to the priority list after its initial adoption? ☐ No ☒ Yes

  (Note that the addition of projects to be funded with a pre-construction loan or a pre-construction grant or a construction grant is subject to the availability of limited set-asides.

  If *Yes*, note that a compete financial assistance application is to be submitted no later than the date listed below corresponding to the three-month period in which notification is given that the project has been added to the list. The corresponding target date deadlines also are listed below *for project list additions*.

Request for Inclusion on the Priority List for Drinking Water Facilities

Notification Period	Application Deadline	Target Date Deadline
January 1 to March 31	May 15	June 30
April 1 to June 30	August 15	September 30
July 1 to September 30	November 15	December 31
October 1 to December 31	February 15	March 31

Provide the actual or anticipated dates for the following activities:

- Completion of the water facilities plan as defined under Rule 62-552.200(37), F.A.C. 12/2010
- Completion of project plans and specifications in conformance with the water facilities plan and Rule 62-552.700, F.A.C. 6/2011
- Obtain the Department's intent to issue a permit or other authorization (if required) for project construction 8/2011
- Obtain all required project sites 8/2011
- Complete financial assistance application submittal date 9/2011
- Target date (anticipated effective date of financial assistance agreement) 9/2011
- Start construction 9/2011
- Complete construction 9/2013

APPLICATION SUBMITTAL AND TARGET DATE CONSIDERATIONS:

In situations described in Rule 62-552.680, F.A.C., and Rule 62-552.430(3), F.A.C., late submittals of applications will have adverse consequences. *The certification required, under Item 15 below, from the Authorized Representative as part of this form extends to the project sponsor's commitment to meet the submittal requirements for the completed financial assistance application and to meet the target date requirements for executing an assistance agreement.*

Note the following activities associated with completing any application:

a. Adopt governing body resolution, or equivalent, authorizing the application and designating an Authorized Representative.

b. Submit EPA Compliance Report (relating to service area demographics) to the Department.

c. Establish project, including disbursement, schedule.

Note the following activities associated with completing a loan application:

a. Adopt governing body resolution, or equivalent, establishing pledged revenues.

b. Establish a loan repayment schedule.

c. Obtain financial information for each source of pledged revenue as follows: Actual revenues and expenditures for the last two fiscal years, and forecast revenues and debt coverage demonstrating the availability of pledged revenues for loan repayment (and explain the basis of the forecast).

d. Obtain a legal opinion addressing the availability of pledged revenues for loan repayment, the right to increase rates at which revenues can be collected to repay the loan, and the subordination of the pledge if pledged revenues are subject to a prior or parity lien.

e. Obtain information concerning liens on the pledged revenues which will have prior or parity status. Information is to be provided for each of the last two fiscal years and estimated throughout the loan repayment period. Describe each obligation, the amount, and repayment terms. Provide resolutions or ordinances recognizing the seniority or parity of unissued debt.

Certification by Project Sponsor's Authorized Representative:

I certify that this form and attachments have been completed by me or at my direction and that the information presented herein is, to the best of my knowledge, accurate. I further certify that all the conditions given in Item 2 of this Request for Inclusion have been met for the proposed project.

Mark E. Collins
(signature)

3/22/10
(date)

Mark E. Collins
(name, typed)

Acting Deputy City Mgr/PW Director
(title)

16. Return completed Forms to the Bureau of Water Facilities Funding, 2600 Blair Stone Road, MS #3505, Tallahassee, Florida 32399-2400. Information may also be sent by FAX at (850) 921-2769.

The remainder of this page intentionally has been left blank.

CERTIFICATION THAT THE PROJECT WILL ELIMINATE A PUBLIC HEALTH RISK FOR WHICH THERE ARE NO ESTABLISHED DEP STANDARDS

Check the appropriate description. ☐ Acute Public Health Risk ☐ Chronic Public Health Risk

Please characterize the public health risk by providing the following information:

(a) Specific location of the health risk (attach a sketch or map).

_____

_____

_____

(b) Extent of the hazard (for example, number of affected wells and the number of people affected).

_____

_____

_____

(c) Chemical Abstract (CAS) number(s) for contaminant(s) and concentration(s) identified as well as the date(s) of sampling.

_____

_____

(d) Explanation of how the project will eliminate the health risk.

_____

_____

_____

(e) As the State Public Health Officer, I hereby certify that a public health risk exists and that the information presented herein is accurate.

_____ (signature) _____ (date)

_____ (name, typed) _____ (title, typed)

_____ (agency)

_____ (address)

Telephone _____ FAX _____

Request for Inclusion

City of North Miami Water Plant Upgrades

Project Information

The Winson Water Treatment Plant is located in the city's northwest quadrant and has had minimal upgrades since its construction in 1963. Metcalf and Eddy (Environmental Engineering Consultant) conducted a feasibility expansion report in 2006 for the upgrading of the lime softening process and recommended to improve the efficiency of the treatment process. This upgrade includes the following:

Attachment 1
City of North Miami
New Membrane Treatment Facility

Planning Level Cost Summaries

Planning level costs have been developed using vendor estimates, Means Cost Estimating Guide (2006), to February 2010 dollars solely based on the ENR CCI (8671.77/7751 = 1.1188),and similar project experience. An opinion of probable construction costs should be developed during the 30%, 60% and 90% final design phase for each major water system program element.

ELEMENT 1: FLORIDAN WELLS		
Equipment	Estimated Cost ($ Thousands)	Comment
Floridan Wells	20,000	• 10 new Floridan Aquifer wells
	200	• Electrical equipment, I&C, pumps
	800	• Installation of pumps
	9,100	• Raw water piping (13,000 lf)
	$30,100	GRAND TOTAL – ELEMENT 1
ELEMENT 2: REVERSE OSMOSIS FACILITY		
Equipment	Estimated Cost ($ Thousands)	Comment
Cartridge Filters	1,100	• 4 cartridge filters
RO Membrane Arrays	24,000	• 6 RO membrane arrays with pump
Feed Pump	3,000	• 6 feed pumps
RO Cleaning System	500	• RO cleaning components

Degasifier	3,000	• 3 degasifiers
Odor Control Units	3,500	• 4 odor control units
Blend Tank	1,200	• 1 blend tank
Building (Main Floor)	3,500	• Monorail, crane, process piping, & valves
Building (Process Floor)	4,000	• Process floor
Building (Admin./MCC)	2,000	• Secondary story administration section
Electrical Room	1,500	• Electrical room
FPL Power	500	• New FPL power feed
Electrical I&C	5,500	• 1 electrical and instrument & control
Generators	2,500	• 1 generator
AST Fuel Tank	200	• 1 AST fuel tank
General Civil/Sitework	500	• Drainage, parking, pavement, grading, fence, & landscaping
Transfer Pumps	1,000	• 5 variable speed transfer pumps
High Service Pumps	4,000	• 6 new & more efficient pumps
Chemicals	1,500	• Construction of new centralized chemical storage area & installment of 8 tanks
		• Replace all pumps & installation of flow meters
Contractor Startup	200	• Startup
	$63,200	**GRAND TOTAL – ELEMENT 2**
ELEMENT 3: DEEP INJECTION WELL		
Equipment	Estimated Cost ($ Thousands)	Comment
Deep Injection Well	9,400	• 1 deep injection well with monitoring well
	1,550	• Installment of holding tank
	350	• Installation of 2 pumps
	800	• Concentrate water piping (1,500 lf)
	$12,100	**GRAND TOTAL – ELEMENT 3**

Table DP-3. Profile of Selected Economic Characteristics: 2000

Geographic area: North Miami city, Florida

[Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see text]

Subject	Number	Percent
EMPLOYMENT STATUS		
Population 16 years and over	44,887	100.0
In labor force	26,670	59.4
Civilian labor force	26,656	59.4
Employed	23,559	52.5
Unemployed	3,097	6.9
Percent of civilian labor force	11.6	(X)
Armed Forces	14	
Not in labor force	18,217	40.6
Females 16 years and over	23,950	100.0
In labor force	13,086	54.6
Civilian labor force	13,079	54.6
Employed	11,331	47.3
Own children under 6 years	5,382	100.0
All parents in family in labor force	3,293	61.2
COMMUTING TO WORK		
Workers 16 years and over	22,914	100.0
Car, truck, or van -- drove alone	15,758	68.8
Car, truck, or van -- carpooled	3,299	14.4
Public transportation (including taxicab)	2,438	10.6
Walked	625	2.7
Other means	345	1.5
Worked at home	449	2.0
Mean travel time to work (minutes)[1]	31.1	(X)
Employed civilian population 16 years and over	23,559	100.0
OCCUPATION		
Management, professional, and related occupations	5,717	24.3
Service occupations	5,895	25.0
Sales and office occupations	6,711	28.5
Farming, fishing, and forestry occupations	9	-
Construction, extraction, and maintenance occupations	1,980	8.4
Production, transportation, and material moving occupations	3,247	13.8
INDUSTRY		
Agriculture, forestry, fishing and hunting and mining	23	0.1
Construction	1,165	4.9
Manufacturing	1,425	6.0
Wholesale trade	859	3.6
Retail trade	3,002	12.7
Transportation and warehousing, and utilities	1,639	7.0
Information	648	2.8
Finance, insurance, real estate, and rental and leasing	1,801	7.6
Professional, scientific, management, administrative, and waste management services	2,707	11.5
Educational, health and social services	4,909	20.8
Arts, entertainment, recreation, accommodation and food services	3,075	13.1
Other services (except public administration)	1,504	6.4
Public administration	802	3.4
CLASS OF WORKER		
Private wage and salary workers	19,391	82.3
Government workers	2,957	12.6
Self-employed workers in own not incorporated business	1,130	4.8
Unpaid family workers	81	0.3

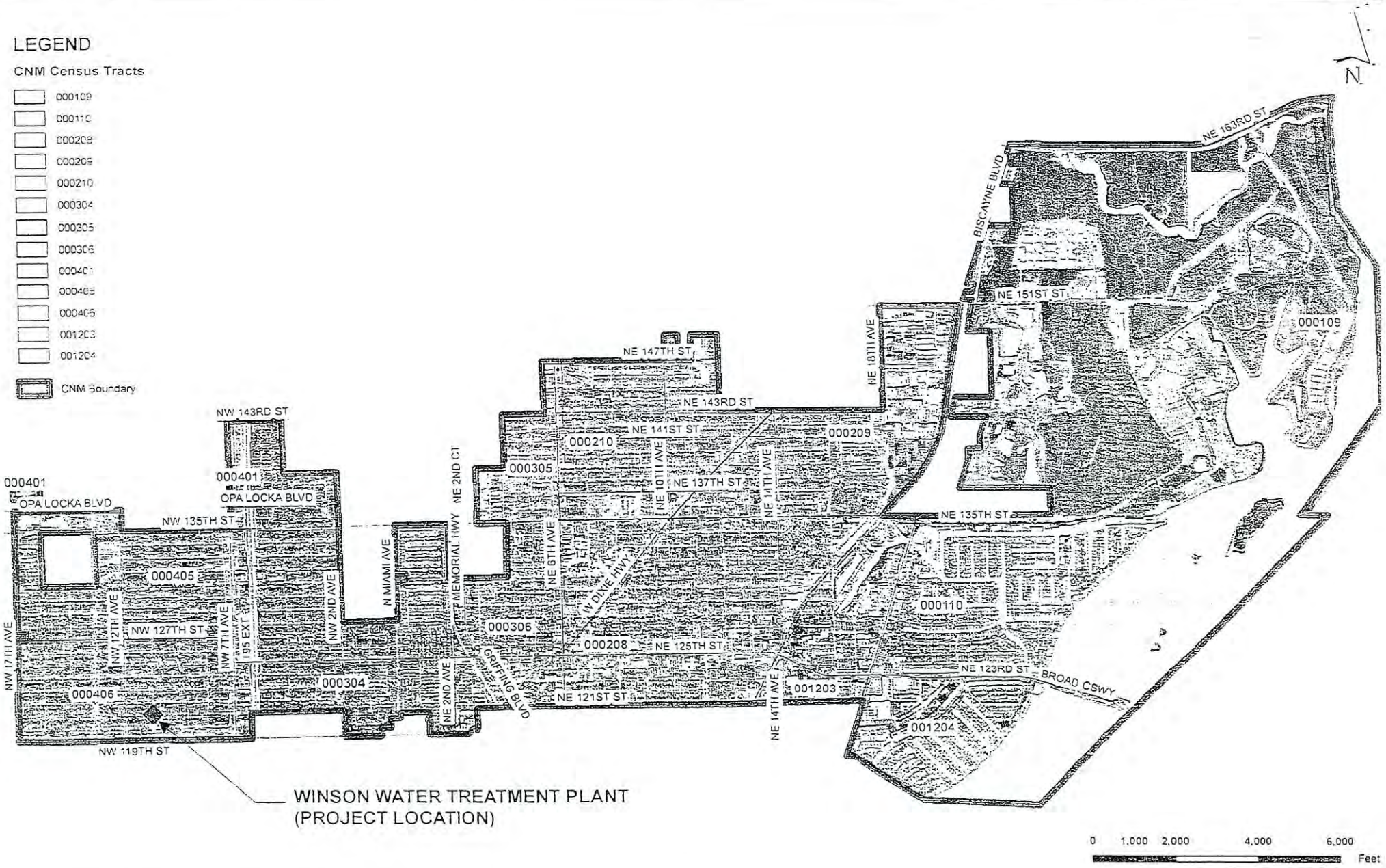
Subject	Number	Percent
INCOME IN 1999		
Households	20,427	100.0
Less than $10,000	3,192	15.6
$10,000 to $14,999	1,749	8.6
$15,000 to $24,999	3,564	17.4
$25,000 to $34,999	3,368	16.5
$35,000 to $49,999	3,419	16.7
$50,000 to $74,999	2,787	13.6
$75,000 to $99,999	1,026	5.0
$100,000 to $149,999	826	4.0
$150,000 to $199,999	174	0.9
$200,000 or more	322	1.6
Median household income (dollars)	29,778	(X)
With earnings	17,131	83.9
Mean earnings (dollars)[1]	42,665	(X)
With Social Security income	3,708	18.2
Mean Social Security income (dollars)[1]	9,293	(X)
With Supplemental Security Income	924	4.5
Mean Supplemental Security Income (dollars)[1]	5,606	(X)
With public assistance income	1,183	5.8
Mean public assistance income (dollars)[1]	2,206	(X)
With retirement income	1,543	7.6
Mean retirement income (dollars)[1]	16,434	(X)
Families	13,620	100.0
Less than $10,000	1,686	12.4
$10,000 to $14,999	1,099	8.1
$15,000 to $24,999	2,381	17.5
$25,000 to $34,999	2,239	16.4
$35,000 to $49,999	2,453	18.0
$50,000 to $74,999	1,987	14.6
$75,000 to $99,999	723	5.3
$100,000 to $149,999	663	4.9
$150,000 to $199,999	131	1.0
$200,000 or more	258	1.9
Median family income (dollars)	31,760	(X)
Per capita income (dollars)[1]	14,581	(X)
Median earnings (dollars):		
Male full-time, year-round workers	25,388	(X)
Female full-time, year-round workers	20,712	(X)

Subject	Number below poverty level	Percent below poverty level
POVERTY STATUS IN 1999		
Families	2,826	20.7
With related children under 18 years	2,331	26.6
With related children under 5 years	1,168	31.6
Families with female householder, no husband present	1,372	32.9
With related children under 18 years	1,192	39.4
With related children under 5 years	561	45.2
Individuals	14,055	23.9
18 years and over	9,000	21.5
65 years and over	858	17.2
Related children under 18 years	4,932	29.5
Related children 5 to 17 years	3,351	28.2
Unrelated individuals 15 years and over	3,188	30.5

-Represents zero or rounds to zero. (X) Not applicable.

[1] If the denominator of a mean value or per capita value is less than 30, then that value is calculated using a rounded aggregate in the numerator. See text.

Source: U.S. Bureau of the Census, Census 2000



WINSON WATER TREATMENT PLANT UPGRADE PROJECT

NORTH MIAMI FLORIDA

CITY OF NORTH MIAMI
UTILITY OPERATIONS CENTER
NORTH MIAMI, FLORIDA

DATE: MARCH, 2010

Anticipated Debt Service for State Revolving Fund Projects March 2010

Enter Values	
Loan Amount	$ 30,138,400
Annual Interest Rate	3.00 %
Loan Period in Years	20
Number of Payments Per Year	2
Start Date of Loan	9/1/2011
Optional Extra Payments	$ -

Lender Name: Water Plant Renovations

Loan Summary	
Scheduled Payment	$ 1,007,439.36
Scheduled Number of Payments	40
Actual Number of Payments	40
Total Early Payments	$ -
Total Interest	$ 10,159,174.47
Annual D.S	$ 2,014,878.72

Assumptions made

Total	$ 30,304,000
Less: Admin Fee	$ (165,600)
LOAN AMOUNT	$ 30,138,400

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
1	3/1/2012	$ 30,138,400.00	$1,007,439.36	$ -	$ 1,007,439.36	$ 555,363.36	$ 452,076.00	$29,583,036.64	$ 452,076.00
2	9/1/2012	29,583,036.64	1,007,439.36	-	1,007,439.36	563,693.81	443,745.55	29,019,342.83	895,821.55
3	3/1/2013	29,019,342.83	1,007,439.36	-	1,007,439.36	572,149.22	435,290.14	28,447,193.61	1,331,111.69
4	9/1/2013	28,447,193.61	1,007,439.36	-	1,007,439.36	580,731.46	426,707.90	27,866,462.15	1,757,819.60
5	3/1/2014	27,866,462.15	1,007,439.36	-	1,007,439.36	589,442.43	417,996.93	27,277,019.72	2,175,816.53
6	9/1/2014	27,277,019.72	1,007,439.36	-	1,007,439.36	598,284.07	409,155.30	26,678,735.65	2,584,971.82
7	3/1/2015	26,678,735.65	1,007,439.36	-	1,007,439.36	607,258.33	400,181.03	26,071,477.33	2,985,152.86
8	9/1/2015	26,071,477.33	1,007,439.36	-	1,007,439.36	616,367.20	391,072.16	25,455,110.12	3,376,225.02
9	3/1/2016	25,455,110.12	1,007,439.36	-	1,007,439.36	625,612.71	381,826.65	24,829,497.41	3,758,051.67
10	9/1/2016	24,829,497.41	1,007,439.36	-	1,007,439.36	634,996.90	372,442.46	24,194,500.51	4,130,494.13
11	3/1/2017	24,194,500.51	1,007,439.36	-	1,007,439.36	644,521.85	362,917.51	23,549,978.66	4,493,411.64
12	9/1/2017	23,549,978.66	1,007,439.36	-	1,007,439.36	654,189.68	353,249.68	22,895,788.98	4,846,661.32
13	3/1/2018	22,895,788.98	1,007,439.36	-	1,007,439.36	664,002.53	343,436.83	22,231,786.45	5,190,098.15
14	9/1/2018	22,231,786.45	1,007,439.36	-	1,007,439.36	673,962.57	333,476.80	21,557,823.89	5,523,574.95
15	3/1/2019	21,557,823.89	1,007,439.36	-	1,007,439.36	684,072.00	323,367.36	20,873,751.88	5,846,942.31
16	9/1/2019	20,873,751.88	1,007,439.36	-	1,007,439.36	694,333.08	313,106.28	20,179,418.80	6,160,048.59
17	3/1/2020	20,179,418.80	1,007,439.36	-	1,007,439.36	704,746.08	302,691.28	19,474,670.72	6,462,739.87
18	9/1/2020	19,474,670.72	1,007,439.36	-	1,007,439.36	715,319.30	292,120.06	18,759,351.42	6,754,859.93
19	3/1/2021	18,759,351.42	1,007,439.36	-	1,007,439.36	726,049.09	281,390.27	18,033,302.33	7,036,250.20
20	9/1/2021	18,033,302.33	1,007,439.36	-	1,007,439.36	736,939.83	270,499.53	17,296,362.50	7,306,749.74
21	3/1/2022	17,296,362.50	1,007,439.36	-	1,007,439.36	747,993.92	259,445.44	16,548,368.58	7,566,195.17
22	9/1/2022	16,548,368.58	1,007,439.36	-	1,007,439.36	759,213.83	248,225.53	15,789,154.74	7,814,420.70
23	3/1/2023	15,789,154.74	1,007,439.36	-	1,007,439.36	770,602.04	236,837.32	15,018,552.70	8,051,258.02
24	9/1/2023	15,018,552.70	1,007,439.36	-	1,007,439.36	782,161.07	225,278.29	14,236,391.63	8,276,536.31
25	3/1/2024	14,236,391.63	1,007,439.36	-	1,007,439.36	793,893.49	213,545.87	13,442,498.14	8,490,082.19
26	9/1/2024	13,442,498.14	1,007,439.36	-	1,007,439.36	805,801.89	201,637.47	12,636,696.25	8,691,719.66
27	3/1/2025	12,636,696.25	1,007,439.36	-	1,007,439.36	817,888.92	189,550.44	11,818,807.34	8,881,270.10
28	9/1/2025	11,818,807.34	1,007,439.36	-	1,007,439.36	830,157.25	177,282.11	10,988,650.08	9,058,552.21
29	3/1/2026	10,988,650.08	1,007,439.36	-	1,007,439.36	842,609.61	164,829.75	10,146,040.47	9,223,381.97
30	9/1/2026	10,146,040.47	1,007,439.36	-	1,007,439.36	855,248.75	152,190.61	9,290,791.72	9,375,572.57
31	3/1/2027	9,290,791.72	1,007,439.36	-	1,007,439.36	868,077.49	139,361.88	8,422,714.23	9,514,934.45
32	9/1/2027	8,422,714.23	1,007,439.36	-	1,007,439.36	881,098.65	126,340.71	7,541,615.58	9,641,275.16
33	3/1/2028	7,541,615.58	1,007,439.36	-	1,007,439.36	894,315.13	113,124.23	6,647,300.46	9,754,399.40
34	9/1/2028	6,647,300.46	1,007,439.36	-	1,007,439.36	907,729.85	99,709.51	5,739,570.60	9,854,108.90
35	3/1/2029	5,739,570.60	1,007,439.36	-	1,007,439.36	921,345.80	86,093.56	4,818,224.80	9,940,202.46
36	9/1/2029	4,818,224.80	1,007,439.36	-	1,007,439.36	935,165.99	72,273.37	3,883,058.81	10,012,475.83
37	3/1/2030	3,883,058.81	1,007,439.36	-	1,007,439.36	949,193.48	58,245.88	2,933,865.33	10,070,721.72

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulativ Interest
38	9/1/2030	2,933,865.33	1,007,439.36	-	1,007,439.36	963,431.38	44,007.98	1,970,433.95	10,114,729.70
39	3/1/2031	1,970,433.95	1,007,439.36	-	1,007,439.36	977,882.85	29,556.51	992,551.10	10,144,286.21
40	9/1/2031	992,551.10	1,007,439.36	-	1,007,439.37	992,551.10	14,888.27	0.00	10,159,174.47

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

CITY OF NORTH MIAMI

WATERLINE INSTALLATION

RFI: TRANSMISSION/DISTRIBUTION

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

June 30, 2010

Mr. Miguel Seco, Governmental Affairs Manager
City of North Miami
776 NE 125th Street
North Miami, Florida 33161

Re: DW13182 - City of North Miami Waterline Installation
RFI: Transmission/Distribution

Dear Mr. Seco:

Thank you for submitting the subject Request for Inclusion (RFI) on the priority list for Drinking Water Facilities. Your project has been placed on the planning portion of the priority list for a construction loan. To have your project elevated to the fundable or contingency portion of the priority list, the following general requirements must be completed in accordance with Chapter 62-552 F.A.C.:

- Water Facilities Plan (including the business plan and public hearing documentation).
- Environmental review.
- Biddable plans and specifications (including the Department's notice of intent to issue permit, if applicable).
- Project site certification.

Please note that you may request an Authorization to Incur Costs after successful completion of the general requirements listed above. This will allow you to incur construction costs before execution of the loan agreement and have those costs remain eligible for reimbursement.

Please also note the project number assigned (DW13182) and refer to that number on all future correspondence. Please coordinate with Mr. Gregory M. Brown, P.E., the Department's project manager, at (850) 245-8371 or Suncom 205-8371, to answer questions.

Sincerely,

Paul J Brandl for:

Robert E. Holmden, P.E., Chief
Bureau of Water Facilities Funding

RH/gmb

cc: Jose Calas, P.E., DEP, Southeast District

* WATERLINE INSTALLATION

WATER PROJECT REQUEST FORM

Disclaimer:
This form must be completed by the project sponsor (not the project sponsor's agent, consultant, etc.) and faxed to FRWA at 850.893.4581. The Funding Group meets on a quarterly basis, at which time each project submitted during the quarter will be reviewed and the appropriate funding authority will contact you.

Project Sponsor (Name of System)		Project Sponsor Address	
City of North Miami		776 NE 125 Street	
City	**State**	**Zip**	**County**
North Miami	FL	33161	Miami-Dade
Pro Project Sponsor Primary Contact Person		**Telephone Number**	
Miguel Seco, Governmental Affairs Manager		(305) 895-9898	

Sponsor Email Address mseco@northmiamifl.gov

Project Sponsor Type City

Permanent Jobs to be Created as a Result of Project (Select One) 11-50

Jobs to be Retained as a Result of Project (Select One) 0

Is this an economic development project? Yes

Population Served by Your System (Select One) 20,001-100,000

Population of Area Covered by this Project (Select One) 20,001-100,000

Number of Wastewater Connections in Area Covered by this Project 10,001-100,000

Number of Water Connections in Area Covered by this Project 10,001-100,000

Median Household Income for System Service Area $20,001-$38,819
If you do not know the Median Household Income for the System Service, go to http://quickfacts.census.gov/qfd/States/12000.html to access the Florida Census Data System.

Cost Estimate for Project $1,000,001-$10.000,000

Current Monthly Average Residential Wastewater User Charge $11-$25

Current Annual System Revenue (Water and Wastewater) Greater than $10,000,000

Current Annual System Expenses (Water and Wastewater) Greater than $10,000,000

Target Date to Begin Construction (Select One) 1-2 Years

Brief Description of the Project Water line replacement

Is this project to be funded using multiple funding agencies? No
If yes, list each Agency:

Reason for Project (check all that apply)
☒ Compliance ☒ Economic Development ☐ Public Health ☒ Replacement ☐ System Expansion

Type of Project (check all that apply)
☐ Compliance ☒ Economic Development ☐ Public Health ☒ Replacement ☒ System Expansion

Product Categories (Select One)
☐ Disposal ☒ Distribution ☐ Sludge Handling ☐ Storage ☐ Transmission ☐ Treatment ☐ Water Source
If Disposal, please explain.

Project Status Construction

In-depth Environmental Review may not be necessary for your project. This will save you time and money. If your project falls into one of the following categories, please check yes:
Rehabilitation of existing facilities or replacement of structures, wells, waterlines, or equipment: ☒ Yes ☐ No
Facilities that will not result in more than a 50% increase of existing public water system capacity and there is no acquisition of land other than an easements and right-of-ways where streets have been established, underground utilities installed, building sites excavated, or where such lands have otherwise been disturbed from a natural condition: ☒ Yes ☐ No
Facilities for the disinfection of public water supplies ☐ Yes ☒ No
Back-up supply wells where, after disinfection, existing water quality meets drinking water standards and there is no acquisition of land. ☐ Yes ☒ No
Facilities that will result solely in the provision of adequate public water system pressure. ☒ Yes ☐ No

Please fax this form to FRWA at 850.893.4581.

Florida Department of Environmental Protection
Bureau of Water Facilities Funding

Twin Towers Office Bldg. 2600 Blair Stone Road, MS #3505 Tallahassee, Florida 32399-2400
Telephone: (850) 488-8163 FAX (850) 921-2769

Request for Inclusion on the Priority List for Drinking Water Facilities

Project Number DW _____ (Filled in by DEP)

1. Type of Assistance for which this Request is Submitted:

   Pre-construction Loan ☐ Construction Loan ☒ Pre-construction Grant ☐ Construction Grant ☐

2. Eligibility for a Loan: The federal Safe Drinking Water Act Amendments of 1996 authorize funding of community water systems (both privately and publicly owned) non-profit non-community water systems, and non-profit non-transient non-community systems. The 1997 Amendments to 403.8532, Florida Statutes, also authorize funding of these public water systems. Both funding authorizations have specific requirements to be implemented under Chapter 62-552, F.A.C. In order to be considered for a priority listing, the following conditions must be met:

   a. A respondent to this solicitation must qualify under the definition of "project sponsor" contained in Rule 62-552.200(28), F.A.C.;

   b. A project sponsored by a for-profit private owner or investor-owned entity that regularly serves at least 1,500 service connections within the certified or franchised area, any part of which would be served by the proposed project, must be the result of the consolidation of two or more public water systems;

   c. A potential loan must be for a "rate-based public water system" as defined in Rule 62-552.200(30), F.A.C.;

   d. The post-allowance project costs must be at least $75,000;

   e. A project sponsor must qualify as a financially disadvantaged community under Rule 62-552.200(14)., F.A.C., to qualify for a pre-construction grant (note the additional limitation under Item g. below) or a construction grant;

   f. The public water system for which grant funding is sought must meet the definition of a community water system;

   g. A project sponsor must qualify as a small community under Rule 62-552.200(35), F.A.C., to qualify for a pre-construction loan or a pre-construction grant;

   h. Pre-construction loans shall not be available as the non-grant share for pre-construction grants; and

   i. A Request for Inclusion on the Priority List for Drinking Water Facilities must be submitted for a project to be initially listed on the priority list and that form must be updated and resubmitted to justify the reassignment of a previously listed planning portion project to the contingency or fundable portion of the priority list.

3. Applicant Information:

   Project Sponsor: City of North Miami

   Mailing Address: 776 NE 125 Street
   North Miami, FL 33161

   E-mail Address: www.northmiamifl.gov

Street Address (if different than mailing Address) _____

_____

(city) (county) (zip code)

Is the project sponsor's public water system a non-profit water system as defined in Rule 62-552.200(20), F.A.C.?

No ☒ Yes ☐ If "Yes," attach evidence of non-profit Florida corporation status and describe the purpose or function of the corporation. (*Attachment #* _____)

Contact Person Miguel Seco, Governmental Affairs Manager
City of North Miami

Mailing Address _____

776 NE 125 Street, North Miami, FL 33161

Telephone (305) 895-9898 FAX (305) 893-1367

4. Name and Address of Applicant's Consulting Engineer:

Firm _____

Mailing Address _____

_____

Contact Person _____

Telephone _____ FAX _____

5. Project Description (Please Attach):

a. Construction Projects (Post-allowance Project Activities) - A project may include drinking water supply, storage, transmission, treatment, disinfection, distribution, residuals management, and appurtenant facilities. Provide specific information for all proposed facilities. To be eligible for listing on the fundable part of the list, the project components must be specifically identified in a completed water facilities plan. If the planning has been completed for this project, note the document title and date, reference the page numbers on which proposed facilities are described, and the date on which the notice of availability for the environmental information document was published in the Florida Administrative Weekly [see Rule 62-552.700(3), F.A.C.]. There are special priority requirements under Rule 62-552.370(1), F.A.C., that must be met for a financially disadvantaged community grant project to qualify for listing on the fundable portion of the priority list.

b. Pre-construction Projects - A project includes the planning, design, and administrative activities necessary to qualify for funding of a construction project. To be eligible for listing on the priority list, a project sponsor must qualify as a small community and, for a grant, a project sponsor must qualify as a financially disadvantaged community. There are special priority requirements under Rules 62-552.350 and 62-552.360, F.A.C., that must be met to qualify for listing on the fundable portion of the priority list.

Request for Inclusion on the Priority List for Drinking Water Facilities

Baseline Priority Category:

Category scores for public health and compliance may be justified by sampling documentation demonstrating that, at some time in the 48-month period immediately preceding the submittal of this form, a problem involving a drinking water quality standard has been detected. The items requiring sampling documentation are indicated with an asterisk (*) below. In addition, category scores may be assigned as a result of the nature of a project. (See Rule 62-552.650, F.A.C., for a more complete description of the prioritization criteria.) Note that the State Health Officer's Certification under Tier II or Tier IV should not be pursued before first discussing the situation with Bureau of Water Facilities Funding personnel. Check the boxes for which documentation is being attached and for which the problem has not been eliminated:

Tier I - Acute Public Health Risk (800 Priority Points)

* E-Coli or Fecal Coliform MCL Exceedance [See Rule 62-550.310(3)(b), F.A.C.]..... ☒ No ☐ Yes
* Nitrate, Nitrite, or Total Nitrogen MCL Exceedance [See Rule 62-550.310(1), F.A.C.]..... ☒ No ☐ Yes
* Lead or Copper Action Level Exceedance (See Rule 62-550.800, F.A.C.)..... ☒ No ☐ Yes

⇒ Required Treatment or Disinfection to Comply with Surface Water Treatment Rule..... ☒ No ☐ Yes
(See Rules 62-550.560 and 62-555.600 through 62-555.630, F.A.C.)

Tier II - Potential Acute Public Health Risk (700 Priority Points)

* Nitrate, Nitrite, or Total Nitrogen Exceedance of 50% of MCL..... ☒ No ☐ Yes
[See Rules 62-550.310(1), F.A.C.]
* Total Coliform MCL Exceedance [See Rule 62-550.310(3)(a), F.A.C.]..... ☒ No ☐ Yes

⇒ Treatment or Disinfection to Enhance Compliance with Surface Water Treatment Rule.. ☒ No ☐ Yes
[See Rules 62-550.560 and 62-555.600 through 62-555.630, F.A.C.]

⇒ State Health Officer's Certification of Acute Public Health Risk for Unregulated..... ☒ No ☐ Yes
Microbiological Contaminants [See Rule 62-552.650(4)(b)5., F.A.C. and
Page 11 of this Form]

⇒ Disinfection Requirements Violations [See Rule 62-555.320(4), F.A.C.]..... ☒ No ☐ Yes

Tier III - Chronic Public Health Risk (600 Priority Points)

* Primary Contaminant (Except Nitrate, Nitrite, and Total Nitrogen)..... ☒ No ☐ Yes
MCL Exceedance (See Tables 1, 2, and 3 of Chapter 62-550, F.A.C.)
* Trihalomethane MCL Exceedance [See Rule 62-550.310(2)(a), F.A.C.]..... ☒ No ☐ Yes
* Radionuclide MCL Exceedance [See Rule 62-550.310(4), F.A.C.]..... ☒ No ☐ Yes

Tier IV - Potential Chronic Public Health Risk (500 Priority Points)

* Primary Contaminant (Except Nitrate, Nitrite, and Total Nitrogen) Exceedance..... ☒ No ☐ Yes
of 50% of MCL (See Tables 1, 2, and 3 of Chapter 62-550, F.A.C.)
* Trihalomethane Exceedance of 80% of MCL [See Rule 62-550.310(2)(a), F.A.C.]..... ☒ No ☐ Yes

⇒ State Health Officer's Certification of Chronic Public Health Risk for Unregulated..... ☒ No ☐ Yes
Chemical Contaminants [See Rule 62-552.650(4)(d)3., F.A.C., and
Page 11 of this Form]

Tier V - Compliance (300 Priority Points)

* Secondary Contaminant Standards Violation (See Table 4 of Chapter 62-550, F.A.C.)...	☒ No	☐ Yes
⇒ Minimum Required Number of Wells [See Rule 62-555.315(1), F.A.C.].....	☒ No	☐ Yes
⇒ Treatment, Storage, Power, and Distribution Requirements..... [See Rule 62-555.320, F.A.C.]	☒ No	☐ Yes
⇒ Well Set-back and Construction Requirements ..... (See Rules 62-555.312 and 62-555.315, F.A.C.)	☒ No	☐ Yes
⇒ Cross-connection and Backflow Control Requirements..... [See Rule 62-555.360, F.A.C.]	☒ No	☐ Yes

Tier VI - Other Projects (100 Priority Points)

⇒ Water Softening Treatment.....	☒ No	☐ Yes
⇒ Computer or Laboratory Facilities.....	☒ No	☐ Yes
⇒ Any Other.....	☐ No	☒ Yes

7. Financially Disadvantaged Community Grants: Only a financially disadvantaged community can qualify for a pre-construction grant or a construction grant. Any grant must be for the improvement of a community water system. A financially disadvantaged community cannot be a sub-unit of a larger community such as a city, county, district, or utility franchise area unless that larger community also qualifies as a financially disadvantaged community. Information about median household income is required and may not be the same as reported under Item 11 dealing with priority to be assigned for affordability within the project service area. If the project sponsor seeks to obtain a grant, the following questions must be answered:

   a. For a pre-construction or construction grant, provide the following income information:

      i. The median household income for the entire financially disadvantaged community is $ 29,778.

      ii. Is the median household income reported based on the most recently available decennial census data? ☐ No ☒ Yes

      If "No," attach an explanation as to how the data has been established.

   b. For a construction grant, provide the following information to qualify for a listing on the fundable or contingency portion of the priority list:

      i. Reference the location in the water facilities plan where the debt service component of the average annual residential drinking water user charge (or the equivalent thereof), in the absence of grant assistance, is documented N/A

      ii. What is the debt service component of the average annual residential drinking water user charge (or the equivalent thereof) for the financially disadvantaged community in the absence of grant assistance?

      N/A

      iii. Reference the location in the water facilities plan where it is documented that the benefits of the grant will exclusively accrue to the financially disadvantaged community. N/A

8. Estimated Project Cost (Grant or Loan Assistance) Based on Water Facilities Plan Data if Available:

Post-allowance Project Activities		Cost ($1,000's)
a.	Construction, demolition and related procurement	$ 10,000
b.	Contingency (10% of construction and land)	$ 1,000
c.	Technical services after bid opening	$ 1,000
d	Other (explain) - note that the eligible costs of capacity purchase and acquiring land and existing facilities are excluded from Subitem e below in establishing allowances.	$ 0
e.	Sum of Items a. through d. (adjusted post-allowance project costs)	$ 12,000
f.	Administrative allowance [see Rule 62-552.420(1), F.A.C.]	$ 375
g.	Engineering allowance [see Rule 62-552.420(2), F.A.C.]	$ 1,000
h.	Sum of Items e. through g.	$ 13,375
i.	Loan repayment reserve **for loan projects only** (ordinarily 3% of Item h.)	$ 401.25
j.	Total post-allowance project cost (sum of Items h. And i.) **for loan projects only**	$ 13,776.250

Pre-construction Activities		Cost ($1,000's)
k.	Administrative allowance [see Rule 62-552.420(1), F.A.C.]	$ N/A
l.	Engineering allowance [see Rule 62-552.420(2), F.A.C.]	$ N/A
m.	Planning allowance [see Rule 62-552.420(3), F.A.C.]	$ N/A
n.	Total for allowances (sum of Items k. through m.) to be identified on priority list for a pre-construction grant	$ N/A
o.	Loan repayment reserve **for loan projects only** (ordinarily 3% of Item n.)	$
p.	Total pre-construction loan cost (sum of Items n. and o.), excluding capitalized interest	$ N/A

9. Loan Service Fee: A loan service fee is assessed on each loan. (There is no grant service fee to be paid by the grantee.) The fee is not part of the loan. It may be paid at the time of loan agreement execution or it may be paid along with capitalized interest thereon no later than by the time that the second semiannual loan repayment is due. The fee percentage is established each fiscal year in accordance with Rule 62-552.400(1), F.A.C. The authorized fee minimum is 2% and maximum is 4% of Subitem 8.h or 8.n above. Please check with Bureau of Water Facilities Funding personnel to establish the current year's loan service fee percentage and to obtain more information on how the fee may be paid.

The estimated amount of the loan service fee is..... $401.25

10. Estimated Project Costs: Identify project components (comprising Item 8.e above) for which a distinct baseline priority Tier (from Item 6 above) may be assigned (non-construction costs, such as for engineering should be prorated). This information shall be used to establish the project's overall baseline priority score under Rule 62-552.650(2), F.A.C.

Request for Inclusion on the Priority List for Drinking Water Facilities

Facilities Category	Cost ($1000's)
Tier I - Acute Public Health (800 Priority Points)	$ N/A
Tier II - Potential Acute Public Health (700 Priority Points)	$ N/A
Tier III - Chronic Public Health (600 Priority Points)	$ N/A
Tier IV - Potential Chronic Public Health (500 Priority Points)	$ N/A
Tier V - Compliance with the Safe Drinking Water Act (300 Priority Points)	$ N/A
Tier VI - Other (100 Priority Points)	$ 100
TOTAL (must match Item 8.e)	$ 12,000

11. Affordability Score: The priority points assigned as a result of project affordability depend on the characteristics of the community to be served by the project. Accordingly, provide a sketch or map showing the boundaries of the planning area evaluated by the project sponsor, the service area for the proposed project, the total area throughout which the project sponsor has responsibility for serving the public with drinking water, and the census tracts encompassing the project service area.

    a. The median household income for the proposed project service area is $ 29,778

    Is the median household income reported based on the most recently available decennial census data? ☐ No ☒ Yes

    If "No," attach an explanation as to how the data has been established.

    b. The population of the proposed project service area is 59,880

    Is the population reported based on the most recently available decennial census data? ☐ No ☒ Yes

    If "No," attach an explanation as to how the data has been established.

    c. The number of public water systems serving 500 or fewer persons and that are being consolidated or regionalized by the proposed project is 0

12. Project Priority Score:

    a. Baseline Priority Score:

    i. Construction Loans: Establish the highest baseline priority score for that part of the project that represents at least 50% of the costs. The baseline priority scores are identified as 800 points for Tier I; 700 points for Tier II; 600 points for Tier III, 500 points for Tier IV; 300 points for Tier V; and 100 points for Tier VI. Item 6 of this form associates the Tier designations with the characteristics of various facility needs comprising the project. Item 10 identifies the costs by Tier designation. Note that costs for facilities with a higher priority Tier designation may be included with those having a lower priority score designation ***at the lower priority score designation*** for purposes of generating at least 50% of the project costs. (For example when a project includes Tier II facilities representing 20% of the project cost, Tier IV facilities representing 35% of the project cost, and Tier VI facilities representing 45% of the project costs, the highest justified baseline priority score is 500 points since the combination of Tier II and Tier IV costs is necessary to generate at least 50% of the total costs. Alternatively, the project could be subdivided into two or three smaller projects, each with its own characteristic baseline priority score.)

    The baseline priority score is 100 points.

ii. Construction Grants: Establish the baseline priority score for each project component qualifying under Tier I through Tier V as having a public health risk or compliance priority regardless of cost.

Component	Baseline Priority Score
N/A	N/A

iii. Pre-construction Loans or Pre-construction Grants: Identify a project component that qualifies under Tier I through Tier IV as having a public health risk priority.

Component N/A Baseline Priority Score N/A

b. Establish the affordability score for the entire project service area. The affordability score will be the sum of the median household income (MHI) points plus the population (P) points plus the consolidation number (N) points.

i. The MHI for the entire project service area from Item 11.a. is $29,778 per year. The MHI fraction is the service area MHI divided by the statewide average. (The 1990 census determined the statewide average to be $27,483. Use more recent decennical census data if available.) The MHI fraction is rounded to the nearest 0.01.

The MHI score is 200 times the quantity (1.00 minus MHI fraction) or 100 points. Note that the maximum score is 100.0 and scores are to be rounded to the nearest 0.1.

ii. The population for the project service area from Item 11.b. is 59,880.

The population score is 50.0 minus the quantity (P divided by 1,000) or 0 points. Note that the minimum population score is zero and scores are rounded to the nearest 0.1.

iii. The number of very small public water systems, serving 500 or less persons, being eliminated through consolidation or regionalization by the project from Item 11.c. is 0.
The consolidation score is 15 times N for the project or 0 points. Note that the maximum number of consolidation points is 45.

iv. The sum of the affordability subcategory scores (12.b.i. + 12b.ii. + 12.b.iii.) is 100 points.

c. Total Priority Scores:

i. For construction loans, pre-construction loans, and pre-construction grants, the total priority score is the baseline score (12.a.) plus the affordability score (12.b.iv.) is 200 points.

ii. For construction grants, identify the total of the baseline score plus the affordability score for each project component (12.a.ii).

Component	Total Priority Score
N/A	N/A

Request for Inclusion on the Priority List for Drinking Water Facilities

Notification Period	Application Deadline	Target Date Deadline
January 1 to March 31	May 15	June 30
April 1 to June 30	August 15	September 30
July 1 to September 30	November 15	December 31
October 1 to December 31	February 15	March 31

Provide the actual or anticipated dates for the following activities:

- Completion of the water facilities plan as defined under Rule 62-552.200(37), F.A.C. 12/2010
- Completion of project plans and specifications in conformance with the water facilities plan and Rule 62-552.700, F.A.C. 6/2011
- Obtain the Department's intent to issue a permit or other authorization (if required) for project construction 12/2011
- Obtain all required project sites N/A
- Complete financial assistance application submittal date 12/2011
- Target date (anticipated effective date of financial assistance agreement) 12/2011
- Start construction 1/2012
- Complete construction 12/2013

APPLICATION SUBMITTAL AND TARGET DATE CONSIDERATIONS:

In situations described in Rule 62-552.680, F.A.C., and Rule 62-552.430(3), F.A.C., late submittals of applications will have adverse consequences. ***The certification required, under Item 15 below, from the Authorized Representative as part of this form extends to the project sponsor's commitment to meet the submittal requirements for the completed financial assistance application and to meet the target date requirements for executing an assistance agreement.***

Note the following activities associated with completing any application:

a. Adopt governing body resolution, or equivalent, authorizing the application and designating an Authorized Representative.

b. Submit EPA Compliance Report (relating to service area demographics) to the Department.

c. Establish project, including disbursement, schedule.

Note the following activities associated with completing a loan application:

a. Adopt governing body resolution, or equivalent, establishing pledged revenues.

b. Establish a loan repayment schedule.

c. Obtain financial information for each source of pledged revenue as follows: Actual revenues and expenditures for the last two fiscal years, and forecast revenues and debt coverage demonstrating the availability of pledged revenues for loan repayment (and explain the basis of the forecast).

d. Obtain a legal opinion addressing the availability of pledged revenues for loan repayment, the right to increase rates at which revenues can be collected to repay the loan, and the subordination of the pledge if pledged revenues are subject to a prior or parity lien.

e. Obtain information concerning liens on the pledged revenues which will have prior or parity status. Information is to be provided for each of the last two fiscal years and estimated throughout the loan repayment period. Describe each obligation, the amount, and repayment terms. Provide resolutions or ordinances recognizing the seniority or parity of unissued debt.

15. Certification by Project Sponsor's Authorized Representative:

I certify that this form and attachments have been completed by me or at my direction and that the information presented herein is, to the best of my knowledge, accurate. I further certify that all the conditions given in Item 2 of this Request for Inclusion have been met for the proposed project.

Mark E. Collins
(signature)

3/30/10
(date)

Mark E. Collins
(name, typed)

Acting Deputy City Mgr/PW Director
(title)

16. Return completed Forms to the Bureau of Water Facilities Funding, 2600 Blair Stone Road, MS #3505, Tallahassee, Florida 32399-2400. Information may also be sent by FAX at (850) 921-2769.

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Request for Inclusion

City of North Miami Water line installation

Project Information

The City of North Miami currently provides water service to over 78,000 people in an area located in northeast Miami-Dade County. The City supplies its service area with finished water produced at the Winson Water Plant, which is located at 12098 N.W. 11 Avenue, and additional finished water purchased from Miami-Dade County Water & Sewer Department (MDWASD).

The Winson Water Plant is owned and operated by the City of North Miami and is currently permitted to produce 9.3 MGD of treated water. In recent years, the Winson Water Plant has supplied approximately 65% of the finished water demand while the remaining water demand is purchased from MDWASD. In 2005, to satisfy the water demands of its service area, the City purchased approximately 4.5 MGD from MDWASD, while the Winston Water Plant produced an average of 9.0 MGD both totalling of 13.5 MGD.

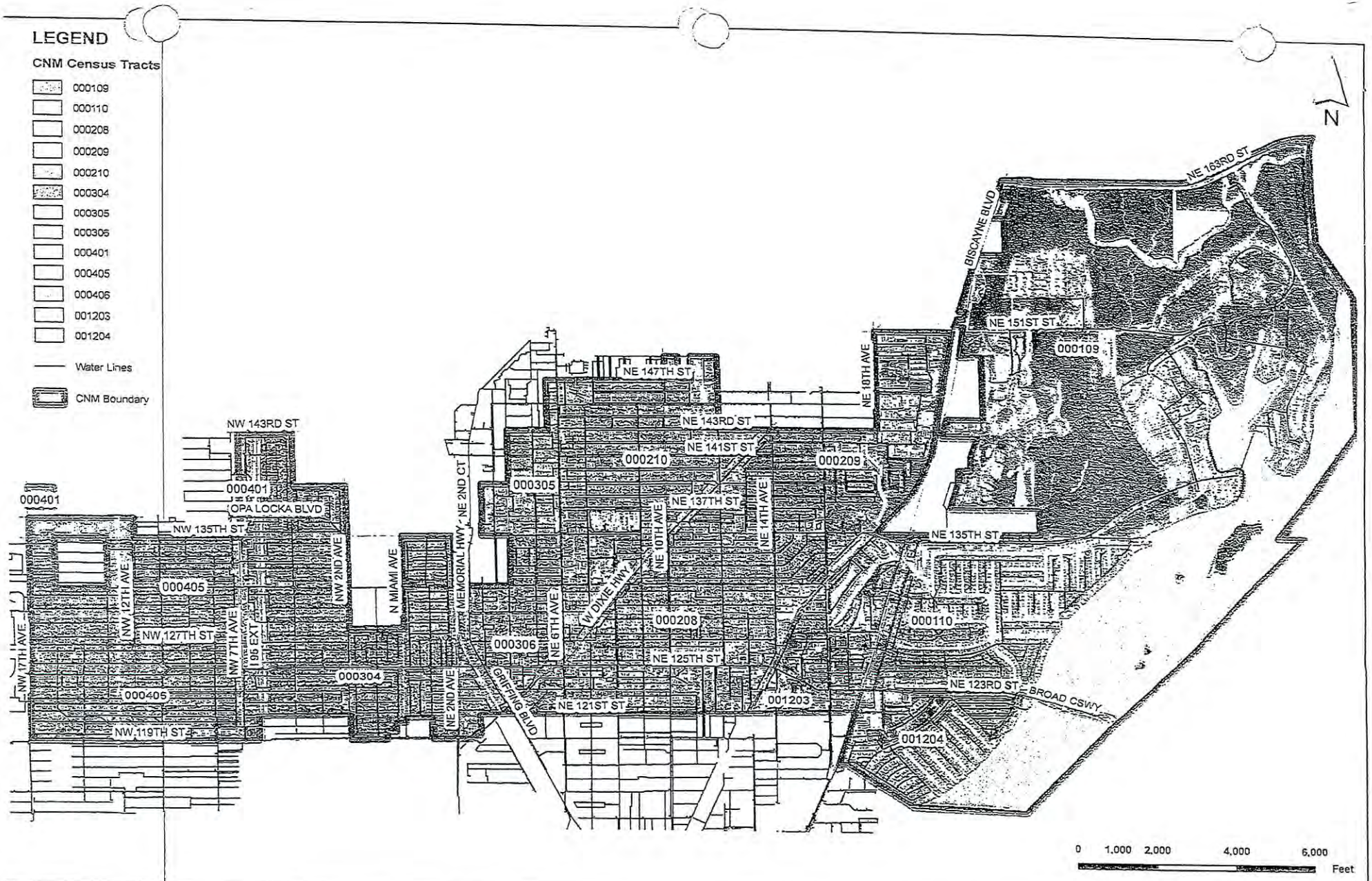
The City operates the public water supply system under the South Florida Water Management District (SFWMD) Water Use Permit No. 13-00059-W.

The City provides water service to all city limits, as well as the Village of Biscayne Park, portions of Golden Glades, Westview, Pinewood, and surrounding area of unincorporated Dade County. Water purchased from MDWASD supplement the demand needs of the service area.

The fire flow requirements for the City of North Miami are stated by the Fire and Water Engineering Bureau of the Miami-Dade Fire Rescue (MDFR) Department. As stated by the MDFR Department in compliance with the National Fire Protection Association's Life Safety Code, the city provides the following fire flows:

- Low to medium density residential – 750 GPM
- Medium density residential – 1,500 GPM
- High density residential – 2,000 GPM
- Commercial – 2,000 GPM
- Industrial – 3,000 GPM

The City of North Miami owns and operates approximately 300 miles of conveyance/transmission piping. This piping system consists of pipes ranging in sizes from 1" to 30" in diameter and materials ranging from ductile iron, Schedule 40, 80 PVC, C-900 to transit (asbestos cement). As part of the upgrade to the system and to meet the current fire flow demand, recommendations were based on the model constructed by Craig Smith and Associates. These recommendations included changing all transite piping in the system and increasing some back bone infrastructure piping 6" and greater in diameter.



WATER MAIN REPLACEMENT PROJECT

NORTH MIAMI FLORIDA

CITY OF NORTH MIAMI
UTILITY OPERATIONS CENTER
NORTH MIAMI, FLORIDA

DATE: MARCH, 2010

Anticipated Debt Service for State Revolving Fund Projects March 2010

Enter Values	
Loan Amount	$ 13,375,000
Annual Interest Rate	3.00 %
Loan Period in Years	20
Number of Payments Per Year	2
Start Date of Loan	12/4/2011
Optional Extra Payments	$ -

Lender Name: Water Line Replacement

Loan Summary	
Scheduled Payment	$ 447,087.49
Scheduled Number of Payments	40
Actual Number of Payments	40
Total Early Payments	$ -
Total Interest	$ 4,508,499.41

Total	$	13,375,000
Less: Admin Fee	$	-
LOAN AMOUNT	$	13,375,000

Annual D.S $ 894,174.97

Assumptions made

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
1	6/1/2012	$ 13,375,000.00	$ 447,087.49	$ -	$ 447,087.49	$ 246,462.49	$ 200,625.00	$13,128,537.51	$ 200,625.00
2	12/1/2012	13,128,537.51	447,087.49	-	447,087.49	250,159.42	196,928.06	12,878,378.09	397,553.06
3	6/1/2013	12,878,378.09	447,087.49	-	447,087.49	253,911.81	193,175.67	12,624,466.28	590,728.73
4	12/1/2013	12,624,466.28	447,087.49	-	447,087.49	257,720.49	189,366.99	12,366,745.79	780,095.73
5	6/1/2014	12,366,745.79	447,087.49	-	447,087.49	261,586.30	185,501.19	12,105,159.49	965,596.92
6	12/1/2014	12,105,159.49	447,087.49	-	447,087.49	265,510.09	181,577.39	11,839,649.40	1,147,174.31
7	6/1/2015	11,839,649.40	447,087.49	-	447,087.49	269,492.74	177,594.74	11,570,156.65	1,324,769.05
8	12/1/2015	11,570,156.65	447,087.49	-	447,087.49	273,535.14	173,552.35	11,296,621.52	1,498,321.40
9	6/1/2016	11,296,621.52	447,087.49	-	447,087.49	277,638.16	169,449.32	11,018,983.35	1,667,770.72
10	12/1/2016	11,018,983.35	447,087.49	-	447,087.49	281,802.73	165,284.75	10,737,180.62	1,833,055.47
11	6/1/2017	10,737,180.62	447,087.49	-	447,087.49	286,029.78	161,057.71	10,451,150.84	1,994,113.18
12	12/1/2017	10,451,150.84	447,087.49	-	447,087.49	290,320.22	156,767.26	10,160,830.62	2,150,880.44
13	6/1/2018	10,160,830.62	447,087.49	-	447,087.49	294,675.03	152,412.46	9,866,155.59	2,303,292.90
14	12/1/2018	9,866,155.59	447,087.49	-	447,087.49	299,095.15	147,992.33	9,567,060.44	2,451,285.24
15	6/1/2019	9,567,060.44	447,087.49	-	447,087.49	303,581.58	143,505.91	9,263,478.87	2,594,791.14
16	12/1/2019	9,263,478.87	447,087.49	-	447,087.49	308,135.30	138,952.18	8,955,343.56	2,733,743.33
17	6/1/2020	8,955,343.56	447,087.49	-	447,087.49	312,757.33	134,330.15	8,642,586.23	2,868,073.48
18	12/1/2020	8,642,586.23	447,087.49	-	447,087.49	317,448.69	129,638.79	8,325,137.54	2,997,712.27
19	6/1/2021	8,325,137.54	447,087.49	-	447,087.49	322,210.42	124,877.06	8,002,927.12	3,122,589.34
20	12/1/2021	8,002,927.12	447,087.49	-	447,087.49	327,043.58	120,043.91	7,675,883.54	3,242,633.24
21	6/1/2022	7,675,883.54	447,087.49	-	447,087.49	331,949.23	115,138.25	7,343,934.31	3,357,771.50
22	12/1/2022	7,343,934.31	447,087.49	-	447,087.49	336,928.47	110,159.01	7,007,005.84	3,467,930.51
23	6/1/2023	7,007,005.84	447,087.49	-	447,087.49	341,982.40	105,105.09	6,665,023.44	3,573,035.60
24	12/1/2023	6,665,023.44	447,087.49	-	447,087.49	347,112.13	99,975.35	6,317,911.30	3,673,010.95
25	6/1/2024	6,317,911.30	447,087.49	-	447,087.49	352,318.82	94,768.67	5,965,592.49	3,767,779.62
26	12/1/2024	5,965,592.49	447,087.49	-	447,087.49	357,603.60	89,483.89	5,607,988.89	3,857,263.51
27	6/1/2025	5,607,988.89	447,087.49	-	447,087.49	362,967.65	84,119.83	5,245,021.24	3,941,383.34
28	12/1/2025	5,245,021.24	447,087.49	-	447,087.49	368,412.17	78,675.32	4,876,609.07	4,020,058.66
29	6/1/2026	4,876,609.07	447,087.49	-	447,087.49	373,938.35	73,149.14	4,502,670.72	4,093,207.79
30	12/1/2026	4,502,670.72	447,087.49	-	447,087.49	379,547.42	67,540.06	4,123,123.30	4,160,747.86
31	6/1/2027	4,123,123.30	447,087.49	-	447,087.49	385,240.64	61,846.85	3,737,882.66	4,222,594.70
32	12/1/2027	3,737,882.66	447,087.49	-	447,087.49	391,019.25	56,068.24	3,346,863.42	4,278,662.94
33	6/1/2028	3,346,863.42	447,087.49	-	447,087.49	396,884.53	50,202.95	2,949,978.88	4,328,865.90
34	12/1/2028	2,949,978.88	447,087.49	-	447,087.49	402,837.80	44,249.68	2,547,141.08	4,373,115.58
35	6/1/2029	2,547,141.08	447,087.49	-	447,087.49	408,880.37	38,207.12	2,138,260.71	4,411,322.70
36	12/1/2029	2,138,260.71	447,087.49	-	447,087.49	415,013.57	32,073.91	1,723,247.14	4,443,396.61
37	6/1/2030	1,723,247.14	447,087.49	-	447,087.49	421,238.78	25,848.71	1,302,008.36	4,469,245.31

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
38	12/1/2030	1,302,008.36	447,087.49	-	447,087.49	427,557.36	19,530.13	874,451.00	4,488,775.44
39	6/1/2031	874,451.00	447,087.49	-	447,087.49	433,970.72	13,116.77	440,480.28	4,501,892.20
40	12/1/2031	440,480.28	447,087.49	-	446,995.20	440,388.00	6,607.20	0.00	4,508,499.41

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

CITY OF NORTH MIAMI

WATER USE PERMIT

FORM 80229
Rev. 07/09

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
WATER USE PERMIT NO. RE-ISSUE 13-00059-W
NON-ASSIGNABLE

Date Issued: August 23, 2010 **Expiration Date:** August 23, 2030

Authorizing: THE USE OF GROUND WATER FROM THE BISCAYNE AQUIFER AND FLORIDAN AQUIFER SYSTEM FOR PUBLIC WATER SUPPLY USE WITH AN ANNUAL ALLOCATION OF 6303.55 MILLION GALLONS.

Located In: Miami-Dade County, S26/T52S/R41E
S26/T52S/R42E

Issued To: CITY OF NORTH MIAMI
(CITY OF NORTH MIAMI)
776 NE 125 ST,
NORTH MIAMI, FL 33161

This is to notify you of the District's agency action concerning Permit Application No. 071012-6, dated October 12, 2007. This action is taken pursuant to the provisions of Chapter 373, Part II, Florida Statutes (F.S.), Rule 40E-1.603 and Chapter 40E-2, Florida Administrative Code (F.A.C.). Based on the information provided, District rules have been adhered to and a Water Use Permit is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.5 and Section 120.569, or request a judicial review pursuant Section 120.68, Florida Statutes.
2. The attached 28 Limiting Conditions.
3. The attached 13 exhibits.

Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims or liabilities which may arise by reason of the construction, maintenance or use of activities authorized by this permit. Said application, including all plan and specifications attached thereto, is by reference made a part hereof.Upon written notice to permittee, this permit may be temporarily modified, or restricted under a Declaration of Water Shortage or a Declaration of Emergency due to Water Shortage in accordance with provisions of Chapter 373, Fla. Statutes, and applicable rules and regulations of the South Florida Water Management District. This Permit may be permanently or temporarily revoked, in whole or in part, for the violation of the conditions of the permit or for the violation of any provision of the Water Resources Act and regulations thereunder. This Permit does not convey to the permittee any property rights nor any privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation, or requirement affecting the rights of other bodies or agencies.

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition or request, please provide written objections, petitions, requests and/or waivers to:

Elizabeth Veguilla, Deputy Clerk, MSC2440
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416-4680

Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY that the Staff Report, Conditions and Notice of Rights have been mailed to the Permittee (and the persons listed on the attached staff report distribution list) no later than 5:00 p.m. on this 24th day of August, 2010, in accordance with Section 120.60(3), Florida Statutes, and a copy has been filed and acknowledged with the Deputy District Clerk.

ORIGINAL SIGNED BY
By **JACKI MCGORTY**
DEPUTY CLERK
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Attachments
CERTIFIED MAIL# 70050390000598196998

LIMITING CONDITIONS

1. This permit shall expire on August 23, 2030.

2. Application for a permit modification may be made at any time.

3. Water use classification:

   Public water supply

4. Source classification is:

   Ground Water from:
   Biscayne Aquifer
   Floridan Aquifer System

5. Annual allocation shall not exceed 6304 MG.

   Maximum monthly allocation shall not exceed 616.855 MG.

   The following limitations to annual withdrawals from specific sources are stipulated:
   Biscayne Aquifer-: 3,395 MG.
   Floridan Aquifer System-: 2,909 MG.

   The following limitations to maximum monthly withdrawals from specific sources are stipulated:
   Biscayne Aquifer-: 282.72 MG.
   Floridan Aquifer System-: 334.13 MG.

6. Pursuant to Rule 40E-1.6105, F.A.C., Notification of Transfer of Interest in Real Property, within 30 days of any transfer of interest or control of the real property at which any permitted facility, system, consumptive use, or activity is located, the permittee must notify the District, in writing, of the transfer giving the name and address of the new owner or person in control and providing a copy of the instrument effectuating the transfer, as set forth in Rule 40E-1.6107, F.A.C.

   Pursuant to Rule 40E-1.6107 (4), until transfer is approved by the District, the permittee shall be liable for compliance with the permit. The permittee transferring the permit shall remain liable for all actions that are required as well as all violations of the permit which occurred prior to the transfer of the permit.

   Failure to comply with this or any other condition of this permit constitutes a violation and pursuant to Rule 40E-1.609, Suspension, Revocation and Modification of Permits, the District may suspend or revoke the permit.

   This Permit is issued to:

   CITY OF NORTH MIAMI
   c/o MARK E. COLLINS
   776 NE 125 ST
   NORTH MIAMI, FL 33161

7. Withdrawal Facilities:

   Ground Water - Existing:

   1 - 12" X 124' X 1500 GPM Well Cased To 100 Feet
   1 - 12" X 62' X 1100 GPM Well Cased To 52 Feet

1 - 12" X 107' X 1100 GPM Well Cased To 99 Feet
1 - 12" X 60' X 1500 GPM Well Cased To 45 Feet
1 - 12" X 56' X 1100 GPM Well Cased To 45 Feet
1 - 12" X 60' X 1100 GPM Well Cased To 50 Feet
1 - 12" X 104' X 1500 GPM Well Cased To 90 Feet
1 - 12" X 65' X 1500 GPM Well Cased To 57 Feet

Ground Water - Proposed:

10 - 16" X 1250' X 2500 GPM Wells Cased To 1000 Feet

8. Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

   Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1 in 10 year drought event that results in the:

   (1) Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

   (2) Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

9. Permittee shall mitigate harm to existing off-site land uses caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm caused by withdrawals, as determined through reference to the conditions for permit issuance, includes:

   (1) Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

   (2) Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or

   (3) Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

10. Permittee shall mitigate harm to the natural resources caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

    (1) Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

    (2) Reduction in water levels that harm the hydroperiod of wetlands,

    (3) Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

    (4) Harmful movement of contaminants in violation of state water quality standards, or

(5) Harm to the natural system including damage to habitat for rare or endangered species.

11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.

12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.

13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.

14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.

15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: SFWMD, Environmental Resource Compliance, P.O. Box 24680, West Palm Beach, FL 33416-4680.

16. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.

17. Prior to the use of any proposed water withdrawal facility authorized under this permit, unless otherwise specified, the Permittee shall equip each facility with a District-approved operating water use accounting system and submit a report of calibration to the District, pursuant to Section 4.1, Basis of Review for Water Use Permit Applications.

    In addition, the Permittee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility (existing and proposed) authorized under this permit every five years from each previous calibration, continuing at five-year increments.

18. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.

19. The Permittee shall notify the District within 30 days of any change in service area boundary. If the Permittee will not serve a new demand within the service area for which the annual allocation was calculated, the annual allocation may then be subject to modification and reduction.

20. The Permittee shall notify the District within 30 days of entry into an inter-local agreement, contract, or other similar instrument to deliver or receive water outside of its service area or to serve a demand not identified to determine the allocation described in this permit. A copy of such agreement shall be provided to the District. The monthly volume of water delivered and/or received via each inter-local agreement, contract, or other similar instrument shall be submitted to the District on a quarterly basis.

21. Permittee shall determine unaccounted-for distribution system losses. Losses shall be determined for the entire distribution system on a monthly basis. Permittee shall define the manner in which unaccounted-for losses are calculated. Data collection shall begin within six months of Permit issuance. Loss reporting shall be submitted to the District on a yearly basis from the date of Permit issuance.

22. Permittee shall maintain an accurate flow meter at the intake of the water treatment plant for the purpose of measuring daily inflow of water.

23. Every ten years from the date of permit issuance, the permittee shall submit a water use compliance report for review and approval by District Staff, which addresses the following:

    1. The results of a water conservation audit that documents the efficiency of water use on the project site using data produced from an onsite evaluation conducted. In the event that the audit indicates additional water conservation is appropriate or the per capita use rate authorized in the permit is exceeded, the permittee shall propose and implement

specific actions to reduce the water use to acceptable levels within timeframes proposed by the permittee and approved by the District.

2. A comparison of the permitted allocation and the allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates. In the event the permit allocation is greater than the allocation provided for under District rule, the permittee shall apply for a letter modification to reduce the allocation consistent with District rules and the updated population and per capita use rates to the extent they are considered by the District to be indicative of long term trends in the population and per capita use rates over the permit duration. In the event that the permit allocation is less than allowable under District rule, the permittee shall apply for a modification of the permit to increase the allocation if the permittee intends to utilize an additional allocation, or modify its operation to comply with the existing conditions of the permit.

24. The Water Conservation Plan required by Section 2.6.1 of the Basis of Review for Water Use Permit Applications within the South Florida Water Management District, must be implemented in accordance with the approved implementation schedule.

25. If a proposed well location is different from a location specified in the application, the Permittee shall submit to the District an evaluation of the impact of pumpage from the proposed well location on adjacent existing legal uses, pollution sources, environmental features, the saline water interface, and water bodies one month prior to all new well construction. The Permittee is advised that the proposal must be in compliance with all permitting criteria and performance standards in effect at the time of submittal, and that a formal modification of the permit shall be required if the withdrawals from the well location will result in an environmental or resource impact significantly greater than that anticipated in the permit review process.

26. If at any time there is an indication that the well casing, valves, or controls leak or have become inoperative, repairs or replacement shall be made to restore the system to an operating condition. Failure to make such repairs shall be cause for filling and abandoning the well, in accordance with procedures outlined in Chapters 40E-3 and 40E-30, Florida Administrative Code.

27. The Permittee shall submit to the District an updated Well Description Table (Table A) within one month of completion of the proposed wells identifying the actual total and cased depths, pump manufacturer and model numbers, pump types, intake depths and type of meters.

28. The Permittee's monitoring plan shall be implemented as follows:
Continue to record water levels and chloride concentrations in Monitor wells F-275, F-279, G-3224, G-894, and the Gratigny Monitor Well. Record chloride concentrations in each Biscayne aquifer production well and Facility @ G-297 (121 & 4th). The locations of these monitor wells are shown on Exhibit 3. Construction details are shown on Exhibit 4.

NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic mail, or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. **Delivery of a petition to the SFWMD's security desk does <u>not</u> constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office**. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the SFWMD Clerk receives the complete document.

Initiation of an Administrative Hearing

Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the District takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

Mediation

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

Last Date for Agency Action:
August 23, 2010

Water Use Staff Review Summary

Application Number: 071012-6

Permit Number: 13-00059-W

Project Name: CITY OF NORTH MIAMI

FINAL APPROVED BY THE EXECUITIVE DIRECTOR AUGUST 23, 2010

Water Use Permit Status: MODIFICATION/RENEWAL

Environmental Resource Permit Status: NOT APPLICABLE.

Right Of Way Permit Status: NOT APPLICABLE

Location: MIAMI-DADE COUNTY, S26/T52S/R41E
S26/T52S/R42E

Applicant's Name and Address: CITY OF NORTH MIAMI
776 NE 125 ST
NORTH MIAMI, FL 33161

Purpose:
The purpose of this application is to renew and modify Water Use Permit 13-00059-W for public water supply for the City of North Miami. The applicant is requesting a raw water allocation of 6,303.55 million gallons per year (mgy) [an average of 17.27 million gallons per day (mgd)] to provide 5,509 mgy of finished water (15.09 million gallons per day) to an estimated 108,267 people within its service area through the year 2030. The applicant is requesting to withdraw up to 8.73 mgd from the Biscayne aquifer and 8.72 mgd from the Floridan aquifer system on an average annual basis.

Withdrawals are from the Biscayne aquifer via 8 existing withdrawal facilities and from the Floridan aquifer system via 10 proposed withdrawal facilities.

Project Summary

Expiration Date: August 23, 2030

Water Use Classification: Public Water Supply

Sources: **Ground Water from:** Biscayne Aquifer
Floridan Aquifer System

Authorized Allocation:

Annual Allocation:	6,304	Million Gallons (MG)
Maximum Monthly Allocation:	616.9	Million Gallons (MG)

Specific Source Limitations:	**Annual**(MG)	**Monthly**(MG)	**Daily**(MG)
Biscayne Aquifer	3394.5	282.72	9.3
Floridan Aquifer System	2909.05	334.13	

Existing Withdrawal Facilities - Ground Water

Source: Biscayne Aquifer
1 - 12" X 56' X 1100 GPM Well Cased to 45 Feet
1 - 12" X 65' X 1500 GPM Well Cased to 57 Feet
1 - 12" X 62' X 1100 GPM Well Cased to 52 Feet
1 - 12" X 124' X 1500 GPM Well Cased to 100 Feet
1 - 12" X 60' X 1100 GPM Well Cased to 50 Feet
1 - 12" X 104' X 1500 GPM Well Cased to 90 Feet
1 - 12" X 60' X 1500 GPM Well Cased to 45 Feet
1 - 12" X 107' X 1100 GPM Well Cased to 99 Feet

Proposed Withdrawal Facilities - Ground Water

Source: Floridan Aquifer System
10 - 16" X 1250' X 2500 GPM Wells Cased to 1000 Feet

Rated Capacity

Source	**Status Code**	**GPM**	**MGM**	**MGY**
Biscayne Aquifer	E	10,400	455.3	5,466
Floridan Aquifer System	P	25,000	1,094.4	13,140
Totals:		**35,400**	**1,549.7**	**18,606**

Project Description

The City of North Miami (the City) currently provides potable water for municipal use to an estimated 91,401 people (2009) within its service area, which is located in northeast Miami-Dade County (Exhibit 1-3). The City's water-service area incorporates approximately 40 square miles in Township 45 South, Ranges 41 and 42 East in Miami-Dade County.

EXISTING FACILITIES

The City of North Miami's Norman H. Winson Water Plant wellfield consists of 8 existing Biscayne aquifer raw water supply wells (Exhibit 3 and 4). The treatment plant uses lime softening, filtration and chloramines for disinfection and is currently permitted to treat 9.3 mgd of raw Biscayne aquifer water. The plant maintains 2 ground storage tanks with a capacity of 2.25 mgd.

HISTORY

The City has been had a public water supply consumptive use permit issued by the South Floirda Water Management District (District) since 1977. The allocation issued in 1977 was for 3.39 billion gallons per year, or 9.3 mgd. The maximum-day allocation also was limited to 9.3 mgd, which corresponds to the capacity of the treatment plant. Their most recent permit was issued on December 12, 2002 for a five-year duration. When the 2002 permit was issued, the City's finished water demands exceeded the capacity (9.3 mgd) of their existing lime-softening treatment plant. The City met demands beyond their allocation through a bulk services agreement with Miami-Dade County Water and Sewer Department (MDWASD). The 2002 permit authorized the City to continue to withdraw up to 9.3 mgd from the Biscayne aquifer on an average-annual and maximum-monthly basis. Projected demands beyond the 9.3 mgd allocation (estimated to be 13.44 mgd on an annual basis and 16.8 mgd on a maximum-monthly basis in 2007) were met through the MDWASD Bulk Sales Agreement.

MODIFICATION REQUEST

On October 12, 2007, the City of North Miami timely applied for a modification and renewal of their consumptive use permit. The applicant requested an allocation to provide treated water for up to 108,267 people in the year 2030. The City of North Miami worked closely with District staff in developing projections of customer demands (finished water use). The population projections were developed by analyzing the Traffic Analysis Zones with Miami-Dade County, Miami-Dade County Water and Wastewater Services Department and the District and are reflective of populations approved by the Department of Community Affairs through the prevailing Comprehensive Land Use Plan Amendment. The City is proposing to install 10 Floridan aquifer system wells (Exhibits 3 and 4) and construct a reverse-osmosis treatment plant. Upon completion of these wells and treatment system, the City intends to cease purchasing bulk treated water from MDWASD on a regular basis.

RAW WATER DEMANDS

Average Annual Demands

Based on historical water use (Exhibit 6A) and the criteria of Section 2.6.3 of the District's Basis of Review for Consumptive Use Permits (BOR), the City's projected finished per capita use rate is 139.4 gallons per capita per day. Exhibit 6B shows projected finished and raw water demands for each year through 2030 based on projected population. The projections indicate that the population of the service area will increase from 92,220 people in 2010 to 108,267 people in 2030. The total finished water demand for the year 2030 is 5,509 mgy (15.09 mgd).

Per Section 3.2.1.E of the (BOR), pumpage reports for the City were evaluated for the five years preceding April 1, 2006 and show the base condition water use was 3,185.39 mgy (average of 8.73 mgd) as shown in Exhibit 5. Analytical groundwater flow modeling was conducted in order to evaluate the

potential impact to the regional system due to a total Biscayne aquifer withdrawal rate of 9.3 mgd (an additional 0.57 mgd over the baseline condition). Results of this modeling indicate that less than 0.1 feet of additional drawdown will occur at the nearest Lower East Coast Everglades Waterbody. Therefore, no harm to the regional system will occur as specified in Section 3.2.1.E of the BOR (Exhibit 11F).

All water required to meet the service area demands beyond the recommended Biscayne aquifer source limit of 9.3 mgd will be provided through the bulk sales agreement with MDWASD until the proposed Floridan aquifer system treatment facility is completed. The City estimates the wells and treatment facility will be completed by the end of 2018. Water from the Floridan aquifer system will be treated by reverse osmosis technology, which typically results in up to 25 percent loss of the raw water in order to produce potable water. The efficiency of the lime-softening plant results in a 2 percent treatment loss for Biscayne aquifer withdrawals.

The total annual projected finished demand of 5,509 mgy (15.09 mgd) will be met through the withdrawal of 3,394.5 mg (9.3 mgd) of raw Biscayne aquifer water (9.11 mgd finished water) and approximately 2,909 mgy (7.97 mgd) of raw Floridan aquifer system water (5.98 mgd finished water), for a total raw water allocation of 6,303.55 mgy. Exhibit 6B provides a more detailed description of how these quantities are derived.

Maximum-Monthly Demands

The ratio used to project the maximum monthly allocation water use to the average monthly water use is 1.15 to 1, as per Section 2.6.4 of the BOR (Exhibit 6A). Utilizing this ratio, the projected maximum-monthly finished-water demand will be about 527.6 million gallons per month (mgm) [17.35 mgd] in the year 2030.

This maximum withdrawal rate from the Biscayne aquifer of 9.3 mgd continues with this permit modification due to the potential for saline water intrusion. Treatment of this water results in a finished production of 9.11 mgd. The balance of finished demand, to be met withdrawals from the Floridan aquifer system, is 8.24 mgd. Approximately 10.99 mgd of raw Floridan water is necessary to produce this finished volume.

Prior to completion of the reverse-osmosis treatment plant, estimated to be completed in 2018, additional treated water will be supplied through the MDWASD bulk-sales agreement. Once the reverse-osmosis treatment plant comes on-line, this additional quantity of water will be derived from the Floridan aquifer system. Exhibit 7 summarizes these demand calculations.

FLORIDAN AQUIFER IMPACT ASSESSMENT MODEL

In order to assess impacts from the proposed Floridan aquifer system withdrawals, the City submitted analytical modeling to define the area encompassed by the 1-foot drawdown contour. A Winflow groundwater flow model (Environmental Simulations, Inc. 1995) was used to simulate a Floridan aquifer system withdrawal of 12.0 mgd. The model was set up to simulate 10 wells, each withdrawing 833.3 gallons per minute (1.2 mgd or 160,428 cubic feet per day) for 90 days. Winflow is capable of simulating withdrawals from a single layer with a leaky confining unit which are conditions found in the upper Floridan aquifer in the project vicinity.

Aquifer coefficients obtained from an aquifer performance test conducted by the District in Hollywood (District C-13 Floridan aquifer testing site) were used for the model. These parameters were determined to be the most reliable aquifer coefficients in the area because they were calculated from a full-scale aquifer performance test. The following aquifer coefficients were established: Transmissivity, 24,064 feet-squared per day; storage coefficient, 0.0002; leakance, 0.00014 foot/day-foot.

Project Description

The modeling predicts the 1-foot drawdown contour extends approximately 6 miles from the center of the wellfield. Four Floridan aquifer wells owned by the City of North Miami Beach (Water Use Permit 13-00060-W) were identified within the cone of depression defined by the 1-foot drawdown contour. Maximum drawdown in the Floridan aquifer from the City's proposed pumpage is estimated to be about 27.5 feet below the background static water level (which is expected to be about 30 feet above sea level) at the wellfield and about 4 feet at the nearest North Miami Beach well (Exhibit 11C). It should be noted that these results are conservative, as the recommended maximum-monthly withdrawal rate from limit from the Floridan aquifer system is about 1.0 mgd less than the modeled withdrawal rate.

Impact Assessments

Water Resource Availability

Biscayne Aquifer

Per United States Geological Survey Water-Resources Investigations Report 90-4108, the base of the Biscayne aquifer is at approximately -160 feet National Geodetic Vertical Datum (NGVD). As part of the review for previous permit renewals analytical modeling was performed. Using the Theis analytical solution, a model scenario was conducted for 90 days and no recharge at the maximum pumping rate of 9.3 mgd. This modeling predicted a maximum drawdown within the wellfield of approximately 3 feet. This drawdown is quite conservative, as it does not include the recharge effects of rainfall, canals, and other surface water bodies. Water level data collected from the City's monitoring wells (F-275, F-279, G3224, G-894), located east of the wellfield, indicate that water levels range between +6 to +8 feet NGVD (Exhibits 10a-10d). Therefore, more than 160 feet of drawdown is available. Based upon historical water level data, the potential for harm to occur to water resource availability as a result of the recommended allocation is considered minimal.

Floridan Aquifer System

The top of the Floridan aquifer system occurs at about -1,000 feet NGVD. Maximum drawdown in the aquifer is estimated to be about 27.5 feet below the background static water level which is expected to be about 30 feet above sea level. Over 900 feet of drawdown will remain available. Therefore, the potential for harm to occur to the water resource availability of the aquifer as a result of the withdrawal of the recommended allocation is considered minimal.

Existing Legal Users

Biscayne Aquifer

The nearest existing legal user of the Biscayne aquifer is Brothers & Sons Service Station (13-00570-W), located about 550 feet to the southwest of the western-most City of North Miami Beach production well. Previous modeling indicates that a maximum of about 3 feet of drawdown could occur at this location as a result of the maximum pumpage from the City's Biscayne aquifer wells. The City has been pumping at a rate close to this maximum for more than 10 years with no reported problems from any existing legal users in the area. The potential for harm to occur to existing legal users as a result of the withdrawal of the recommended allocation is considered minimal.

Floridan Aquifer System

The nearest existing legal user of the Floridan aquifer system is the City of North Miami Beach (13-00060-W) The modeling indicates a maximum drawdown of about 4 feet could occur at the nearest City of North Miami Beach Floridan aquifer system well. This magnitude of drawdown is not expected to impact the ability of the City of North Miami Beach to withdraw water from the Floridan aquifer system consistent with their permit. Therefore, the potential for harm to occur to existing legal users as a result of the withdrawal of the recommended allocation is considered minimal.

Saline Water Intrusion

Biscayne Aquifer

The primary resource issue for this permittee is the potential for inducing saline water intrusion. As discussed previously, the City has historically been limited to a maximum withdrawal rate of 9.3 mgd in order to minimize the potential for saline water intrusion. The City has typically been operating it's wellfield at an average rate of about 7.5 to 8.7 mgd for about 25 years (Exhibit 8). The City's saline intrusion monitoring network has shown that chloride concentrations generally have not increased during this time period.

The Gratigny Monitor Well was installed as a condition of the previous permit and has been monitored for chlorides since 2002. This well is screened from 145-155 feet below land surface and is located about 8,000 feet to the east of the eastern-most Biscayne aquifer production well. This well was designed to intercept the top of the "salt water wedge" that occurs in the Biscayne aquifer in eastern Miami-Dade County. Since 2003, the chloride concentration in this well has trended between 800 and 1,600 milligrams per liter (mg/L). The higher chloride readings have occurred at the end of the dry season in the last three years (2008-2010).

In April 2001, saline water monitor Well F-279 (Exhibit 9D) showed an increase in chloride concentration, up to 3,600 mg/L, from the historic levels of 30 to 50 mg/L. Well F-279 is completed at a depth of 117 feet below land surface at the approximate base of the lower productive zone of the Biscayne aquifer. District files indicate that this well sustained some damage at the well head around this time. It is not known if this damage had any effect on chloride readings. It should also be noted that this time frame corresponds to the end of a significant drought in southern Florida. Chloride readings in this monitor well have been consistently measured in the 3,000 to 3,700 mg/L range since April 2001. Monitor Well F-279 is located about 1,000 feet east of the C-8 (Biscayne Canal) and about 9,000 feet due east of the wellfield. The C-8 Canal is held at an elevation of 1.8 to 2.1 feet NGVD by structure S-28, located downstream from this site.

The chloride data do not indicate a significant increase in movement of the saline water interface in the last ten years. However, the chloride data from well F-279, as well as the other chloride monitor wells, shall be monitored due to the proximity of the City's wells to the saline water interface. Chlorides in the remaining monitor wells and the eight production wells have remained consistently low, in the 30-60 mg/L range (Exhibits 9A-9M).

Limiting the withdrawal rate to the historical allocation, along with continued chloride and water level monitoring, should provide reasonable assurance that significant saline water intrusion will not occur.

Floridan Aquifer System

The upper Floridan aquifer of the Floridan aquifer system, as indicated by the chloride values in the District's C-13 aquifer performance test (1,000-1,200 foot interval), is saline with a chloride concentration of approximately 4,200 mg/L. The chloride concentration of water obtained in the aquifer performance test from the deeper middle Floridan aquifer zone (1,500-1,600 foot interval) was approximately 2,800 mg/L. Due to better water quality in the 1,500 to 1,600 foot zone, and the hydrologic separation from the saline water in the deeper lower Floridan aquifer, the potential for saline water intrusion due to upconing is considered minimal.

Wetlands

Biscayne Aquifer

There are no wetlands located within the cone of depression of the City's Biscayne aquifer wellfield. Therefore, the potential for harm to occur to wetlands as a result of the recommended allocation is considered minimal.

Floridan Aquifer System

The Floridan aquifer system is isolated from the surficial aquifer system's environmental features by the confining beds of the Hawthorn Formation. Therefore, the potential for harm to occur to wetlands as a result of the withdrawal of the recommended allocation is considered minimal.

Source Of Pollution

Biscayne Aquifer

This application is for the continuation of a previously permitted use of Biscayne aquifer water with no reported problems involving the induced movement of pollutants. Therefore, the potential for induced movement of pollutants to occur as a result of the recommended allocation is considered minimal.

Floridan Aquifer System

The Floridan aquifer system is isolated from the surficial aquifer system's environmental features by the confining beds of the Hawthorn Formation. Therefore, the potential for movement of contaminants, if present, from known pollution sources as a result of the withdrawal of the recommended allocation is considered minimal.

Other Impacts

Biscayne Aquifer

EXISTING OFFSITE LAND USES

Pursuant to Section 3.6.2 of the BOR, the use is not expected to result in significant reductions in water levels on the property of an existing off-site land use to the extent that the designed function of a water body and related surface water management improvements are damaged (not including aesthetic values), damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or land collapse or subsidence caused by reduction in water levels associated with consumptive use.

Additional Information

CONDITIONS OF ISSUANCE

Pursuant to Limiting Condition 17, the Permittee shall equip each facility with a District-approved operating water use accounting system and submit a report of calibration to the District, pursuant to Section 4.1 of the BOR. In addition, the Permittee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility (existing and proposed) authorized under this permit every five years from each previous calibration, continuing at five-year increments.

Pursuant to Limiting Condition 18, monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.

Pursuant to Limiting Condition 21, unaccounted-for distribution losses shall be determined for the entire distribution system on a monthly basis and reported to the District annually.

Pursuant to Limiting Condition 23, every ten years from the date of permit issuance, the permittee shall submit a water use compliance report for review and approval by District Staff, which addresses the results of a water conservation audit that documents the efficiency of water use on the project site using data produced from an onsite evaluation conducted and a comparison of the permitted allocation and the

Additional Information

allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates.

WATER CONSERVATION

A: Permanent Irrigation Ordinance: The City is in the process of drafting and approving a Permanent Irrigation Ordinance. As per Limiting Condition 24, a permanent irrigation ordinance shall be adopted and effective no later than August 31, 2011.

B: Xeriscape Ordinance: The City is in the process of adopting a Florida Friendly Landscape Ordinance. As per Limiting Condition 24, this ordinance shall be adopted no later than August 31, 2011.

C: Ultra-Low Volume Plumbing Fixture Ordinance: North Miami Code Sec. 5-16. Adoption of Florida Building Code. The Florida Building Code, as adopted and amended by the state, shall be the building code for the city. (Ord. No. 1253, § 1, 4-8-08; Ord. No. 1262, § 1, 7-8-08)

D: Water Conservation Rate Structure: The City is conducting a study towards the adoption of a Tiered Water Conservation Rate Structure. As per Limiting Condition 24, a tiered Water Conservation Rate Structure shall be implemented no later than August 31, 2011.

E: Leak Detection Program: The City has provided The City has provided the following description of their leak detection program:

First a section of the distribution system is surveyed using Aqua 40 Loggers. The data from the logger are down loaded into Aqua 40 program, when a leak is detected the date is recorded. Next using correlation equipment the leak is located and recorded. That information is than passed on to the Distribution Department to be scheduled for repairs. When the leak is uncovered we visually estimate the gallons per minute, that information and the date repaired is recorded. Using this information the amount water lost is calculated.

F: Rain Sensor Device Ordinance: The City is currently revising their Land Development Regulations (Ordinance No. 1278, adopted April 28, 2009) to comply with current District criteria. As per Limitng Condition 24, the City shall adopt a Rain Sensor Ordinance by August 31, 2011.

G: Water Conservation Education Program: The City provides the following services; in-school programs, printed materials, public service announcements, AWWA Developed in-house.

H: Reclaimed Water: The City does not operate a wastewater treatment plant. The City will continue to explore water reuse opportunities with the SFWMD, MDWASD and the City of North Miami Beach.

MONITORING

Pursuant to Limiting Condition 28, the Permittee shall continue to submit monitoring data in accordance with the approved saline water intrusion monitoring program for this project. Water levels and chloride concentrations shall be monitored in wells F-275, F-279, G-3224, G-894, and the Gratigny Monitor Well. In addition, chloride concentrations shall be measured from each Biscayne aquifer production well and the facility at G-297. Data is to be collected monthly and submitted quarterly. The locations of these monitor wells are shown on Exhibit 3. Construction details are given in Exhibit 4.

WELLFIELD OPERATION

Wells 3 through 8 are monitored and controlled by the use of a telemetry system. Each well site is visually inspected and maintained on a daily basis. The combination of wells in operation fluctuates depending on

Additional Information

the demand. The schedule is set up to rotate down-time so each of Wells 3 through 8 are off approximately the same amount of time. Wells 1 & 2 are on continuously since they are the only wells that have back-up generator power.

MINIMUM FLOWS AND LEVELS (MFL)

Biscayne Aquifer -The Biscayne aquifer is an MFL water body covered under a prevention strategy set forth in Chapter 40E-8, F.A.C. The Biscayne aquifer MFL is defined as the water level which results in movement of the saltwater interface landward to the extent the water quality of an established withdrawal point is insufficient to serve as a water supply source. Consumptive use permit criteria for MFLs are located in Section 3.9 of the Water Use Basis of Review. The potential for westward movement of saline water resulting from the City's withdrawals was extensively evaluated for the previous permit issuance and it was determined that a daily maximum withdrawal rate limited to no greater than 9.3 mgd from the Biscayne aquifer should not induce the westward movement of saline water. Limiting future withdrawals from the Biscayne aquifer to 9.3 mgd provides assurances that the requested allocation should not violate the MFL criteria for the Biscayne aquifer. In addition, the Water Level and Water Quality Monitoring Network has been established to detect the movement of saline water towards the City's wellfield. In the event harmful saline water intrusion occurs as a result of the City's withdrawals despite the reasonable assurances provided, the City will be required to take remedial actions as per Limiting Condition 10. Therefore, the recommended allocation is consistent with the Biscayne aquifer MFL Prevention Plan.

Everglades -The Everglades is an MFL water body under a recovery plan under Rule 40E-8.421, F.A.C. Section 3.9 of the BOR contains criteria to be evaluated to determine consistency between requested allocations and the MFL recovery plan. Under Section 3.9.1.C of the BOR, the requested use meets the requirements of the section if the use is consistent with the recovery plan in the applicable regional water supply plan (LEC, 2005-2006). Section 3.2.1.E of the BOR is a component of the recovery strategy for MFLs for the Everglades. The recommended allocation from the Biscayne aquifer is consistent with criteria contained Section 3.2.1.E of the BOR. Therefore, the recommended allocation is consistent with the Everglades MFL Recovery Plan.

REGIONAL WATER AVAILABILITY

The City's Biscayne aquifer wellfield is located between District Canals C-6 and C-7, which are considered a part of the Lower East Coast Everglades Waterbodies. In order to assess whether or not the incremental additional allocation of 0.57 mgd beyond the calculated baseline condition could induce harmful seepage from either of these Waterbodies, pursuant to Section 3.2.1.E.2 of the BOR, an impact evaluation was conducted. The Theis (1935) analytical solution contained within the Winflow (Environmental simulations, Inc., 1995-2009) groundwater modeling software was utilized to demonstrate compliance with this criteria.

Drawdown contours resulting from this simulation are shown on Exhibit 11F. The net additional drawdown resulting from this withdrawal shows that the 0.1-foot drawdown ontour line does not extend into either of these Waterbodies. Section 1.7.5.2 of thr BOR considers a drawdown of 0.1 feet as the extent of the cone of influence. Therefore, the additional allocation, beyond the calculated baseline condition, does not cause a net increase in the volume or cause a change in timing on a monthly basis of water from District Canals C-6 or C-7 over the base condition water use that existed as of April 1, 2006.

PERMIT DURATION

Pursuant to Section 1.7.2 of the BOR, Staff recommends a 20-year permit duration.

Recommendations

Project Name: CITY OF NORTH MIAMI

Application Number: 071012-6

Permit Number: 13-00059-W

Recommendations to Executive Director:

Staff recommends the modification and renewal of a Water Use Permit for public water supply for the City of North Miami Service Area. Withdrawals are from from the Biscayne aquifer via eight existing withdrawal facilities and from the Floridan aquifer system via 10 proposed withdrawal facilities. The use is reasonable-beneficial, will not interfere with any presently existing legal use of water and is consistent with the public interest. The use is further subject to 28 limiting conditions.

Application Reviewer: _____ **Date:** 8-17-10
John A. Lockwood, P.G.

Supervisor: _____ **Date:** 8/17/10
Steven J. Memberg, P.G.

Water Use Division: _____ **Date:** 8/17/10
James Harmon, P.G.

Limiting Conditions

1. This permit shall expire on August 23, 2030.
2. Application for a permit modification may be made at any time.
3. Water use classification:

   Public water supply

4. Source classification is:

   Ground Water from:
   Biscayne Aquifer
   Floridan Aquifer System

5. Annual allocation shall not exceed 6304 MG.

   Maximum monthly allocation shall not exceed 616.855 MG.

   The following limitations to annual withdrawals from specific sources are stipulated:
   Biscayne Aquifer-: 3,395 MG.
   Floridan Aquifer System-: 2,909 MG.

   The following limitations to maximum monthly withdrawals from specific sources are stipulated:
   Biscayne Aquifer-: 282.72 MG.
   Floridan Aquifer System-: 334.13 MG.

6. Pursuant to Rule 40E-1.6105, F.A.C., Notification of Transfer of Interest in Real Property, within 30 days of any transfer of interest or control of the real property at which any permitted facility, system, consumptive use, or activity is located, the permittee must notify the District, in writing, of the transfer giving the name and address of the new owner or person in control and providing a copy of the instrument effectuating the transfer, as set forth in Rule 40E-1.6107, F.A.C.

   Pursuant to Rule 40E-1.6107 (4), until transfer is approved by the District, the permittee shall be liable for compliance with the permit. The permittee transferring the permit shall remain liable for all actions that are required as well as all violations of the permit which occurred prior to the transfer of the permit.

   Failure to comply with this or any other condition of this permit constitutes a violation and pursuant to Rule 40E-1.609, Suspension, Revocation and Modification of Permits, the District may suspend or revoke the permit.

   This Permit is issued to:

   CITY OF NORTH MIAMI
   c/o MARK E. COLLINS
   776 NE 125 ST
   NORTH MIAMI, FL 33161

7. Withdrawal Facilities:

   Ground Water - Existing:

   1 - 12" X 124' X 1500 GPM Well Cased To 100 Feet
   1 - 12" X 62' X 1100 GPM Well Cased To 52 Feet

Limiting Conditions

1 - 12" X 107' X 1100 GPM Well Cased To 99 Feet
1 - 12" X 60' X 1500 GPM Well Cased To 45 Feet
1 - 12" X 56' X 1100 GPM Well Cased To 45 Feet
1 - 12" X 60' X 1100 GPM Well Cased To 50 Feet
1 - 12" X 104' X 1500 GPM Well Cased To 90 Feet
1 - 12" X 65' X 1500 GPM Well Cased To 57 Feet

Ground Water - Proposed:

10 - 16" X 1250' X 2500 GPM Wells Cased To 1000 Feet

8. Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

   Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1 in 10 year drought event that results in the:

   (1) Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

   (2) Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

9. Permittee shall mitigate harm to existing off-site land uses caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm caused by withdrawals, as determined through reference to the conditions for permit issuance, includes:

   (1) Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

   (2) Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or

   (3) Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

10. Permittee shall mitigate harm to the natural resources caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

    (1) Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

Limiting Conditions

(2) Reduction in water levels that harm the hydroperiod of wetlands,

(3) Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

(4) Harmful movement of contaminants in violation of state water quality standards, or

(5) Harm to the natural system including damage to habitat for rare or endangered species.

11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.
12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.
13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.
15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: SFWMD, Environmental Resource Compliance, P.O. Box 24680, West Palm Beach, FL 33416-4680.
16. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.
17. Prior to the use of any proposed water withdrawal facility authorized under this permit, unless otherwise specified, the Permittee shall equip each facility with a District-approved operating water use accounting system and submit a report of calibration to the District, pursuant to Section 4.1, Basis of Review for Water Use Permit Applications.

    In addition, the Permittee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility (existing and proposed) authorized under this permit every five years from each previous calibration, continuing at five-year increments.
18. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.
19. The Permittee shall notify the District within 30 days of any change in service area boundary. If the Permittee will not serve a new demand within the service area for which the annual allocation was calculated, the annual allocation may then be subject to modification and reduction.
20. The Permittee shall notify the District within 30 days of entry into an inter-local agreement, contract, or other similar instrument to deliver or receive water outside of its service area or to serve a demand not identified to determine the allocation described in this permit. A copy of such agreement shall be provided to the District. The monthly volume of water delivered and/or received via each inter-local agreement, contract, or other similar instrument shall be submitted to the District on a quarterly basis.
21. Permittee shall determine unaccounted-for distribution system losses. Losses shall be determined for the entire distribution system on a monthly basis. Permittee shall define the manner in which unaccounted-for losses are calculated. Data collection shall begin within six months of Permit issuance. Loss reporting shall be submitted to the District on a yearly basis from the date of Permit issuance.
22. Permittee shall maintain an accurate flow meter at the intake of the water treatment plant for the purpose of measuring daily inflow of water.

Limiting Conditions

23. Every ten years from the date of permit issuance, the permittee shall submit a water use compliance report for review and approval by District Staff, which addresses the following:

    1. The results of a water conservation audit that documents the efficiency of water use on the project site using data produced from an onsite evaluation conducted. In the event that the audit indicates additional water conservation is appropriate or the per capita use rate authorized in the permit is exceeded, the permittee shall propose and implement specific actions to reduce the water use to acceptable levels within timeframes proposed by the permittee and approved by the District.

    2. A comparison of the permitted allocation and the allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates. In the event the permit allocation is greater than the allocation provided for under District rule, the permittee shall apply for a letter modification to reduce the allocation consistent with District rules and the updated population and per capita use rates to the extent they are considered by the District to be indicative of long term trends in the population and per capita use rates over the permit duration. In the event that the permit allocation is less than allowable under District rule, the permittee shall apply for a modification of the permit to increase the allocation if the permittee intends to utilize an additional allocation, or modify its operation to comply with the existing conditions of the permit.

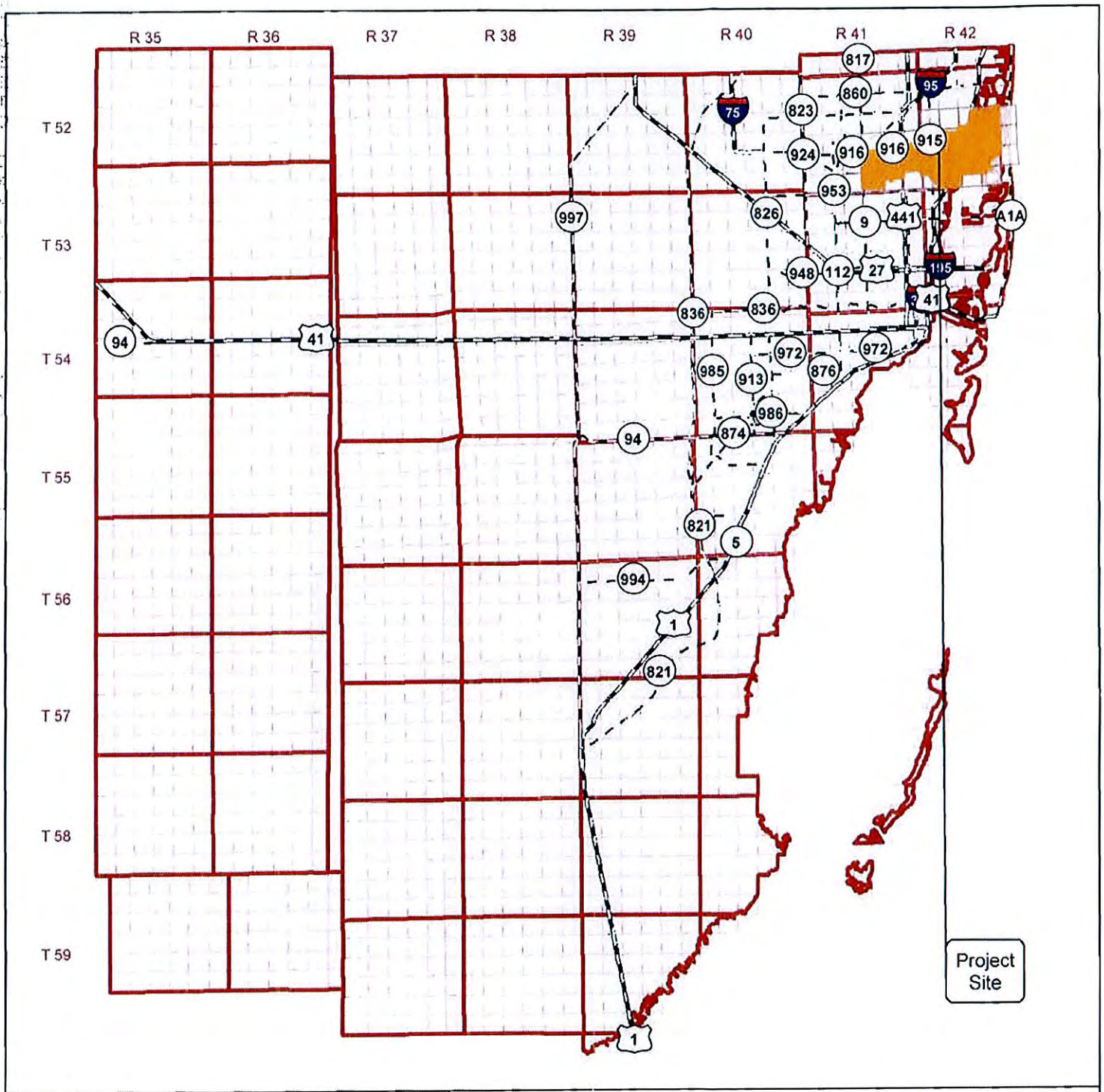
24. The Water Conservation Plan required by Section 2.6.1 of the Basis of Review for Water Use Permit Applications within the South Florida Water Management District, must be implemented in accordance with the approved implementation schedule.

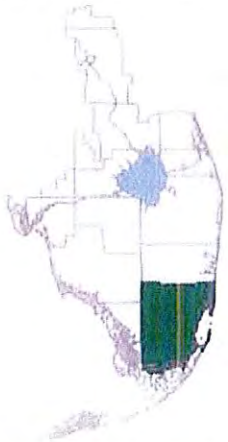
25. If a proposed well location is different from a location specified in the application, the Permittee shall submit to the District an evaluation of the impact of pumpage from the proposed well location on adjacent existing legal uses, pollution sources, environmental features, the saline water interface, and water bodies one month prior to all new well construction. The Permittee is advised that the proposal must be in compliance with all permitting criteria and performance standards in effect at the time of submittal, and that a formal modification of the permit shall be required if the withdrawals from the well location will result in an environmental or rescurce impact significantly greater than that anticipated in the permit review process.

26. If at any time there is an indication that the well casing, valves, or controls leak or have become inoperative, repairs or replacement shall be made to restore the system to an operating condition. Failure to make such repairs shall be cause for filling and abandoning the well, in accordance with procedures outlined in Chapters 40E-3 and 40E-30, Florida Administrative Code.

27. The Permittee shall submit to the District an updated Well Description Table (Table A) within one month of completion of the proposed wells identifying the actual total and cased depths, pump manufacturer and model numbers, pump types, intake depths and type of meters.

28. The Permittee's monitoring plan shall be implemented as follows:
    Continue to record water levels and chloride concentrations in Monitor wells F-275, F-279, G-3224, G-894, and the Gratigny Monitor Well. Record chloride concentrations in each Biscayne aquifer production well and Facility @ G-297 (121 & 4th). The locations of these monitor wells are shown on Exhibit 3. Construction details are shown on Exhibit 4.





MIAMI-DADE COUNTY, FLORIDA

Legend

Application

Application Sections

Map Date: 6/18/2010

Application Number: 071012-6

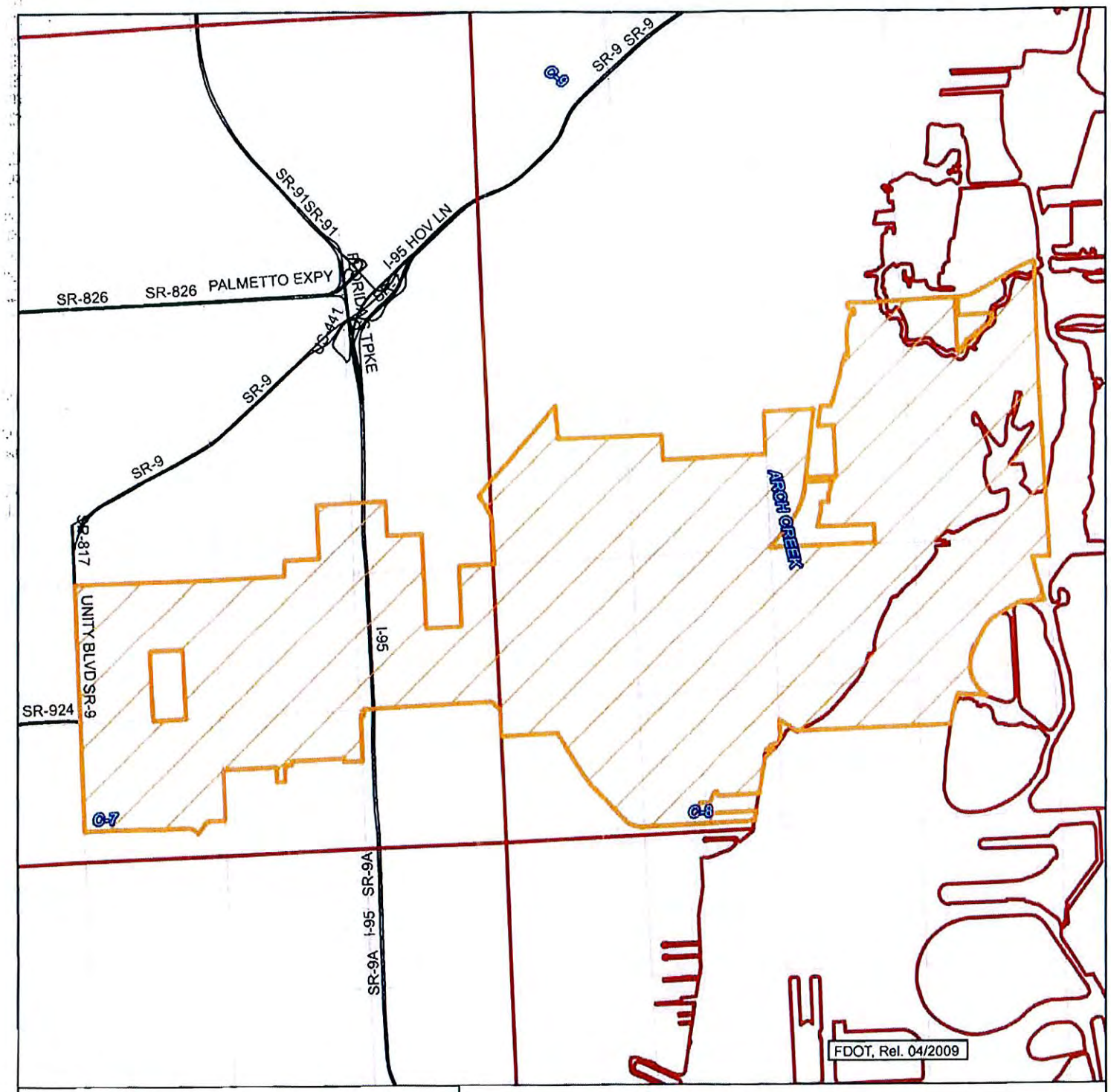
Permit Number: 13-00059-W

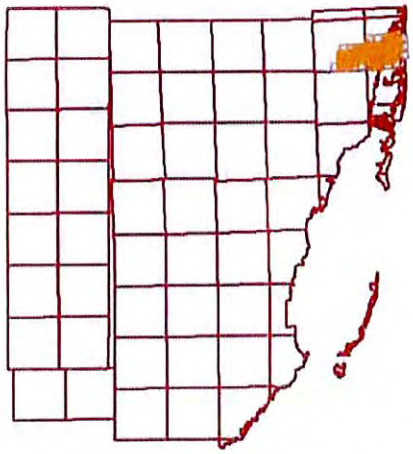
Project Name: CITY OF NORTH MIAMI

N

0 5 10 Miles

Exhibit : 1





MIAMI-DADE COUNTY, FLORIDA

N

Legend

Application

Map Date: 6/18/2010

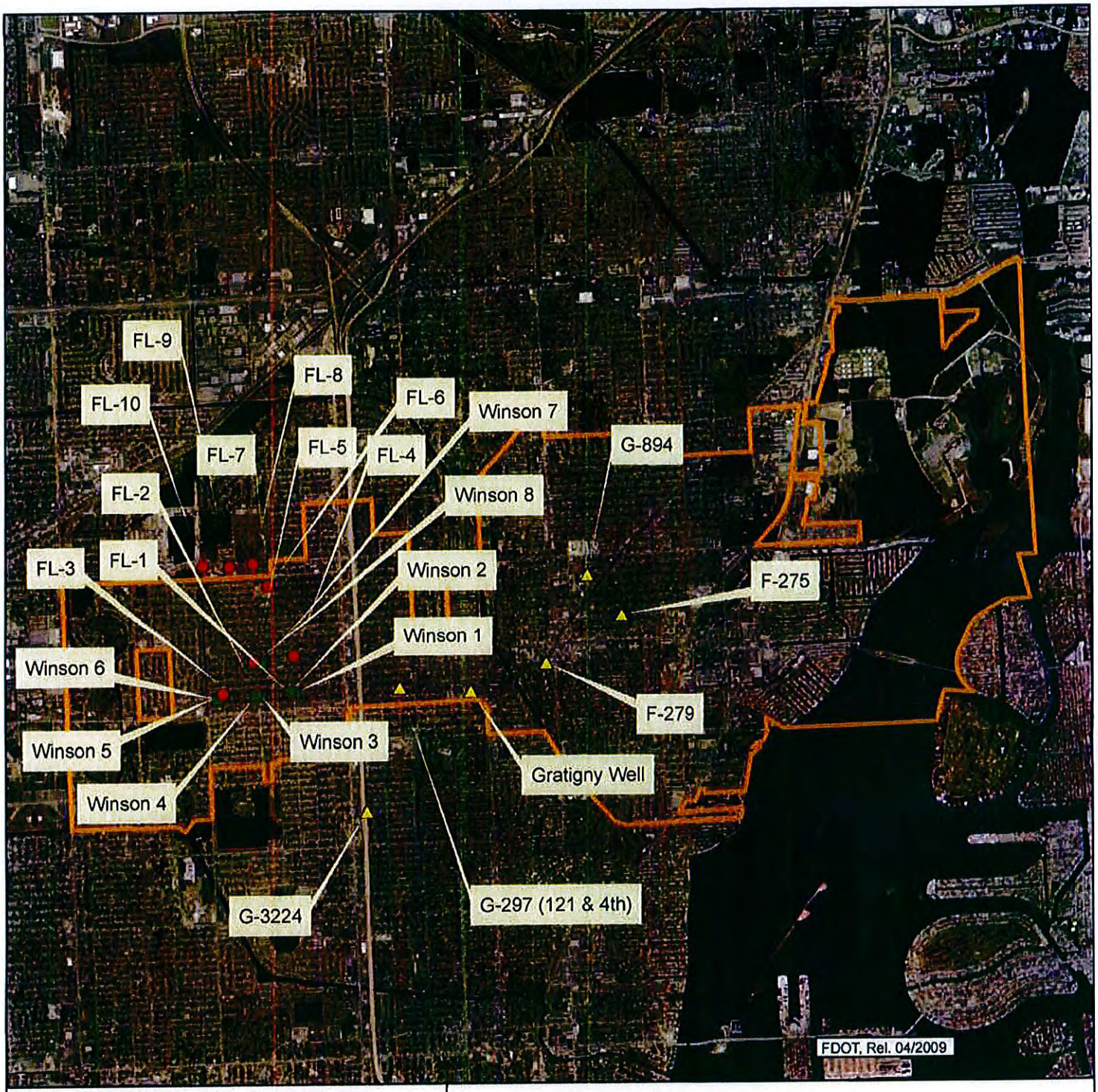
Application Number: 071012-6

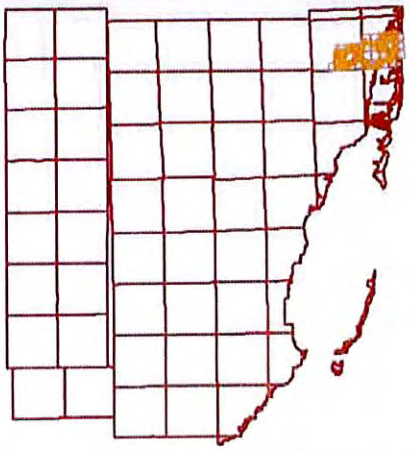
Permit Number: 13-00059-W

Project Name: CITY OF NORTH MIAMI

0 1.25 2.5
Miles

Exhibit : 2





MIAMI-DADE COUNTY, FLORIDA

Application

Monitor Wells

FAS Wells

Biscayne Aquifer Wells

N

Application Number: 071012-6

Permit Number: 13-00059-W

Project Name: CITY OF NORTH MIAMI

Map Date: 6/17/2010

0 1.25 2.5

Miles

Exhibit : 3

TABLE - A
Description Of Wells.

Application Number: 071012-6

Well ID	45234	45237	45238	45239	45240	45241
Name	Winson 1	Winson 2	Winson 3	Winson 4	Winson 5	Winson 6
Map Designator	1	2	3	4	5	6
FLUWID Number						
Well Field						
Existing/Proposed	E	E	E	E	E	E
Well Diameter(Inches)	12	12	12	12	12	12
Total Depth(feet)	124	104	60	65	107	56
Cased Depth(feet)	100	90	45	57	99	45
Facility Elev. (ft. NGVD)						
Screened Interval						
From	0	0	0	0	0	0
To	0	0	0	0	0	0
Pumped Or Flowing	P	P	P	P	P	P
Pump Type	turbine	turbine	submersible	submersible	submersible	submersible
Pump Int. Elev.						
Feet (NGVD)						
Feet (BLS)	-30	-25	-25	-27	-27	-27
Pump Capacity(GPM)	1500	1500	1500	1500	1100	1100
Year Drilled	1962	1962	1962	1962	1962	1962
Planar Location						
Source	REVIEWER	REVIEWER	REVIEWER	REVIEWER	REVIEWER	REVIEWER
Feet East	913699	913536	912425	912235	910988	910789
Feet North	564780	564851	564711	564720	564772	564562
Accounting Method	flow meter	flow meter	flow meter	flow meter	flow meter	flow meter
Use Status	Primary	Primary	Primary	Primary	Primary	Primary
Water Use Type	Public Water Supply Monitor	Public Water Supply Monitor	Public Water Supply Monitor	Public Water Supply Monitor	Public Water Supply Monitor	Public Water Supply Monitor
Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer

Exhibit No: 4

TABLE - A
Description Of Wells.

Application Number: 071012-6

Well ID	45242	45243	137484	137485	137486	137487
Name	Winson 7	Winson 8	F-275	F-279	G-3224	G-894
Map Designator	7	8				
FLUWID Number						
Well Field						
Existing/Proposed	E	E	E	E	E	E
Well Diameter(Inches)	12	12	4	6	2	2
Total Depth(feet)	60	62	50.8	115.3	19.2	74.15
Cased Depth(feet)	50	52				
Facility Elev. (ft. NGVD)						
Screened Interval						
From	0	0				
To	0	0				
Pumped Or Flowing	P	P				
Pump Type	submersible	submersible	none	none	none	none
Pump Int. Elev. Feet (NGVD)						8.78
Feet (BLS)	-27	-27				
Pump Capacity(GPM)	1100	1100	0	0	0	0
Year Drilled	1962	1962				
Planar Location						
Source	REVIEWER	REVIEWER				
Feet East	912446	912115	926200.8	923308.3	916465	924885.208
Feet North	565906	565914	567787.7	565901.8	560276.4	569334.439
Accounting Method	flow meter	flow meter	none	none	none	none
Use Status	Primary	Primary	Monitor	Monitor	Monitor	Monitor
Water Use Type	Public Water Supply Monitor	Public Water Supply Monitor	Monitor	Monitor	Monitor	Monitor
Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Water Shortage Monitoring Facility Biscayne Aquifer

Exhibit No: 4

TABLE - A
Description Of Wells.

Application Number: 071012-6

Well ID	137489	153705	255446	255447	255448	255449
Name	Gratigny Well	G-297 (121 & 4th)	FL-1	FL-2	FL-3	FL-4
Map Designator	Gratigny		F-1	F-2	F-3	F-4
FLUWID Number						
Well Field						
Existing/Proposed	E	E	P	P	P	P
Well Diameter(Inches)	2	2	16	16	16	16
Total Depth(feet)	154.35	107.6	1250	1250	1250	1250
Cased Depth(feet)			1000	1000	1000	1000
Facility Elev. (ft. NGVD)						
Screened Interval From						
To						
Pumped Or Flowing			P	P	P	P
Pump Type	none	none	submersible	submersible	submersible	submersible
Pump Int. Elev. Feet (NGVD)						
Feet (BLS)						
Pump Capacity(GPM)	0	0	2500	2500	2500	2500
Year Drilled						
Planar Location Source						
Feet East	920419.6	917715.3	913535	912270	910960	913655
Feet North	564833.9	564979	564765	564825	564765	566230
Accounting Method	none	none	totalizer	totalizer	totalizer	totalizer
Use Status	Monitor	Monitor	Primary	Primary	Primary	Primary
Water Use Type	Monitor	Monitor	Public Water Supply	Public Water Supply	Public Water Supply	Public Water Supply
Aquifer	Biscayne Aquifer	Aquifer Unspecified	Floridan Aquifer System	Floridan Aquifer System	Floridan Aquifer System	Floridan Aquifer System

Exhibit No: 4

TABLE - A
Description Of Wells.

Application Number: 071012-6

Well ID	255450	255457	255458	255459	255460	255461
Name	FL-5	FL-6	FL-7	FL-8	FL-9	FL-10
Map Designator	F-5	FL-6	F-7	F-8	F-9	F-10
FLUWID Number						
Well Field						
Existing/Proposed	P	P	P	P	P	P
Well Diameter(Inches)	16	16	16	16	16	16
Total Depth(feet)	1250	1250	1250	1250	1250	1250
Cased Depth(feet)	1000	1000	1000	1000	1000	1000
Facility Elev. (ft. NGVD)						
Screened Interval From						
To						
Pumped Or Flowing	P	P	P	P	P	P
Pump Type	submersible	submersible	submersible	submersible	submersible	submersible
Pump Int. Elev. Feet (NGVD)						
Feet (BLS)						
Pump Capacity(GPM)	2500	2500	2500	2500	2500	2500
Year Drilled						
Planar Location Source						
Feet East	912165	912730	912690	912110	911220	910200
Feet North	566010	568982	568982	569825	569725	569745
Accounting Method	totalizer	totalizer	totalizer	totalizer	totalizer	totalizer
Use Status	Secondary	Primary	Primary	Primary	Primary	Primary
Water Use Type	Public Water Supply	Public Water Supply	Public Water Supply	Public Water Supply	Public Water Supply	Public Water Supply
Aquifer	Floridan Aquifer System	Floridan Aquifer System	Floridan Aquifer System	Floridan Aquifer System	Floridan Aquifer System	Floridan Aquifer System

Exhibit No: 4

PERMIT_NO	13-00059-W	13-00059-W
Permit name	North Miami	North Miami
fac grp name	North Miami	North Miami
Source	Biscayne Aquifer	
Apr-01	205.50	
May-01	206.51	largest value
Jun-01	191.80	3185.39
Jul-01	195.68	largest value mgd
Aug-01	202.97	8.73
Sep-01	209.40	dates
Oct-01	213.26	Aug-02
Nov-01	228.99	Jul-03
Dec-01	232.12	
Jan-02	209.71	
Feb-02	198.21	
Mar-02	264.43	2558.58
Apr-02	267.74	2620.82
May-02	268.30	2682.61
Jun-02	239.69	2730.50
Jul-02	266.41	2801.23
Aug-02	275.32	2873.58
Sep-02	262.29	2926.47
Oct-02	285.51	2998.72
Nov-02	263.05	3032.78
Dec-02	254.91	3055.57
Jan-03	254.03	3099.89
Feb-03	243.81	3145.49
Mar-03	265.21	3146.27
Apr-03	275.22	3153.75
May-03	274.71	3160.16
Jun-03	261.19	3181.66
Jul-03	270.14	3185.39
Aug-03	264.67	3174.74
Sep-03	254.86	3167.31
Oct-03	260.12	3141.92
Nov-03	250.24	3129.11
Dec-03	258.20	3132.40
Jan-04	247.75	3126.12
Feb-04	228.79	3111.10
Mar-04	255.05	3100.94
Apr-04	247.16	3072.88
May-04	262.09	3060.26
Jun-04	257.84	3056.91
Jul-04	262.73	3049.49
Aug-04	266.04	3050.86
Sep-04	229.03	3025.03
Oct-04	245.28	3010.19
Nov-04	246.46	3006.41
Dec-04	268.02	3016.23
Jan-05	264.41	3032.89
Feb-05	243.26	3047.36
Mar-05	276.47	3068.77
Apr-05	269.89	3091.51
May-05	281.30	3110.72
Jun-05	262.24	3115.12
Jul-05	274.71	3127.10
Aug-05	268.88	3129.94
Sep-05	249.00	3149.91
Oct-05	243.29	3147.92
Nov-05	252.75	3154.21
Dec-05	269.60	3155.79
Jan-06	254.69	3146.07
Feb-06	248.08	3150.89
Mar-06	250.89	3125.32
Apr-06	252.70	3108.13
May-06	252.20	3079.02
Jun-06	219.03	3035.81
Jul-06	248.38	3009.47
Aug-06	241.35	2981.94
Sep-06	265.15	2998.09
Oct-06	255.71	3010.51
Nov-06	191.11	2948.86
Dec-06	230.47	2909.73

EXHIBIT 5

City of North Miami Water Use Permit (SFWMD)
Per Capita Use Per MORs and MDWASD (Fin. Water)

	2005	2006	2007	2008*	2009	Average 2005 - 2009
Population in Service Area**	**88,732**	**89,429**	**90,125**	**90,586**	**91,401**	**90,055**
Per Capita Usage (Annual Average) (gpcd)	**145.59**	**147.31**	**142.94**	**132.02**	**129.12**	**139.40**
Total Annual Use (Finished Water- From Winson WTP) (MG)	3172.447	2923.192	2823.412	2393.035	2905.909	2843.599
Total Annual Use (Finished Water- From MDWASD) (MG)	1542.903	1885.33	1878.664	1983.912	1413.62	1740.89
Total Annual Use (Finished Water- Total) (MG)	**4715.350**	**4808.522**	**4702.076**	**4376.947**	**4319.533**	**4584.486**
Average Month Use (Finished Water- From Winson WTP) (MG)	264.371	243.599	235.284	199.420	242.159	236.967
Average Month Use (Finished Water- From MDWASD) (MG)	128.575	157.111	156.555	165.326	117.802	145.074
Average Month Use (Finished Water- Total) (MG)	**392.946**	**400.710**	**391.839**	**364.746**	**359.961**	**382.040**
Max Month Usage (Finished Water- From Winson WTP) (MG)	279.399	268.230	269.184	217.312	253.163	257.458
Max Month Usage (Finished Water- From MDWASD) (MG)	147.964	208.281	190.656	222.462	146.969	183.267
Max Month Usage (Finished Water- Total) (MG)	**427.363**	**476.511**	**459.840**	**439.774**	**400.132**	**440.724**
Ratio Max:Average (Finished Water- From Winson WTP)	1.06	1.10	1.14	1.09	1.05	1.09
Ratio Max:Average (Finished Water- From Winson WTP)	1.15	1.33	1.22	1.35	1.25	1.26
Ratio Max:Average (Finished Water- From Winson WTP)	1.09	1.19	1.17	1.21	1.11	1.15

* Leap Year

** Population Based on Interpolation of Data from Nmpopulationworksheet New Service Area

EXHIBIT 6A

North Miami Service Area Average Day Water Demand Projections (Showing Treatment Losses)																					
Calendar Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Projected Population in Service Area (in thousands)	92.22	93.03	93.84	94.66	95.47	96.29	97.1	97.92	98.73	99.55	100.36	101.18	101.99	102.81	103.4	104.21	105.02	105.83	106.64	107.46	108.27
Total Finished Water Per Capita (gpcd)	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40	139.40
Total Finished Water Demand (MGD)	12.86	12.97	13.08	13.20	13.31	13.42	13.54	13.65	13.76	13.88	13.99	14.10	14.22	14.33	14.41	14.53	14.64	14.75	14.87	14.98	15.09
Total Finished Water Production Capacity (MGD)	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	13.76	13.88	13.99	14.10	14.22	14.33	14.41	14.53	14.64	14.75	14.87	14.98	15.09
Finished Water Purchased from MDWASD (MGD)	3.74	3.85	3.97	4.08	4.19	4.31	4.42	4.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biscayne Aquifer																					
Total Lime Softened Finished Water Produced (MGD)	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11
Losses from Treatment (%)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Lime Softened Treatment Losses (MGD)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Biscayne Raw Water Demand (MGD)	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30
Floridan Aquifer																					
Total Membranse Treated Finished Water Produced (MGD)	0	0	0	0	0	0	0	0	4.65	4.76	4.88	4.99	5.10	5.22	5.30	5.41	5.53	5.64	5.75	5.87	5.98
Losses from Treatment (%)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Losses from Treatment (MGD)	0	0	0	0	0	0	0	0	1.55	1.59	1.63	1.66	1.70	1.74	1.77	1.80	1.84	1.88	1.92	1.96	1.99
Floridan Raw Water Demand (MGD)	0	0	0	0	0	0	0	0	6.20	6.35	6.50	6.65	6.80	6.96	7.07	7.22	7.37	7.52	7.67	7.82	7.97
Raw Water (Biscsayne + Floridan Aquifers) Totals*																					
Total Finished Water Demand (Biscayne + Floridan Aquifers) - Does not include MDWASD Supply	9.11	9.11	9.11	9.11	9.11	9.11	9.11	9.11	13.76	13.88	13.99	14.10	14.22	14.33	14.41	14.53	14.64	14.75	14.87	14.98	15.09
Total Losses From Treatment (MGD)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	1.74	1.77	1.81	1.85	1.89	1.93	1.95	1.99	2.03	2.07	2.10	2.14	2.18
Total Raw Water Demand from Combined Sources (MGD)	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	15.50	15.65	15.80	15.95	16.10	16.26	16.37	16.52	16.67	16.82	16.97	17.12	17.27

Legend:

Year 2018 – WTP expansion and Floridan Wells on line
Years 2012, 2016, 2020 and 2024 are leap years
* Does not include MDWASD Source Water

EXHIBIT 6B

PROJECTED MAXIMUM-MONTHLY ALLOCATION CALCULATION

ALL VALUES IN MGD

TOTAL FINISHED WATER DEMAND	15.09
MAX-MONTH FINISHED DEMAND	17.3535 15.09x1.15=17.3535

17.3535 MGD TO BE DERIVED AS FOLLOWS:

BISCAYNE AQUIFER

FINISHED WATER	9.11 (9.3x0.98) - (98% TREATMENT EFFICIENCY)
RAW WATER (SOURCE LIMITED)	9.3

FLORIDAN AQUIFER

(REMAINING DEMAND FROM FLORIDAN)	8.2435
FINISHED WATER	8.2435 (17.3535-9.11=8.2435) - 75% TREATMENT EFFICIENCY)
RAW WATER	10.9913 (8.2435/0.75)=10.9913 - RAW WATER DEMAND

EXHIBIT 7

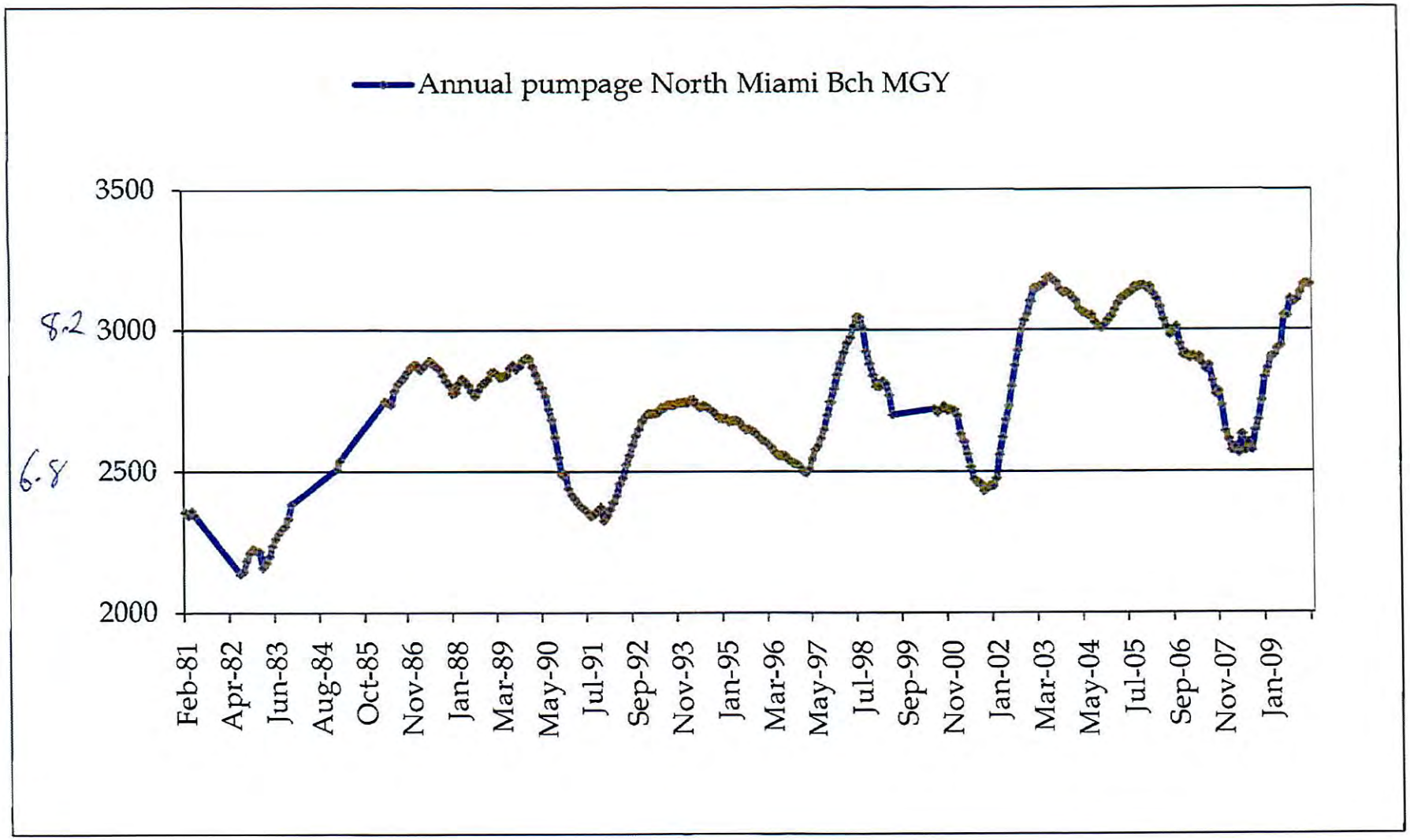

Annual pumpage North Miami Bch MGY
3500
3000
2500
2000
8.2
6.8
Feb-81
Apr-82
Jun-83
Aug-84
Oct-85
Nov-86
Jan-88
Mar-89
May-90
Jul-91
Sep-92
Nov-93
Jan-95
Mar-96
May-97
Jul-98
Sep-99
Nov-00
Jan-02
Mar-03
May-04
Jul-05
Sep-06
Nov-07
Jan-09

EXHIBIT 8

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: Chloride for G894

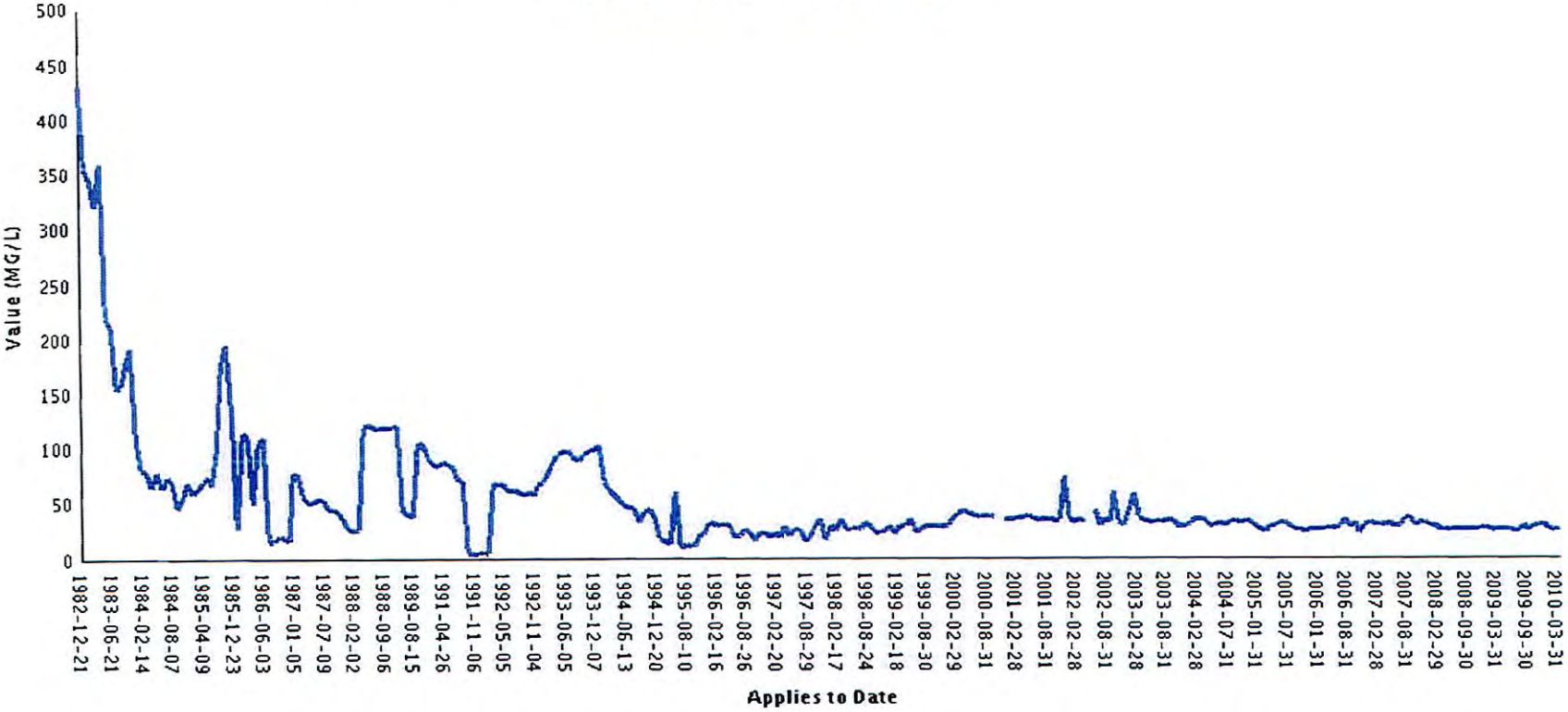


EXHIBIT 9A

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: Chloride for G3224

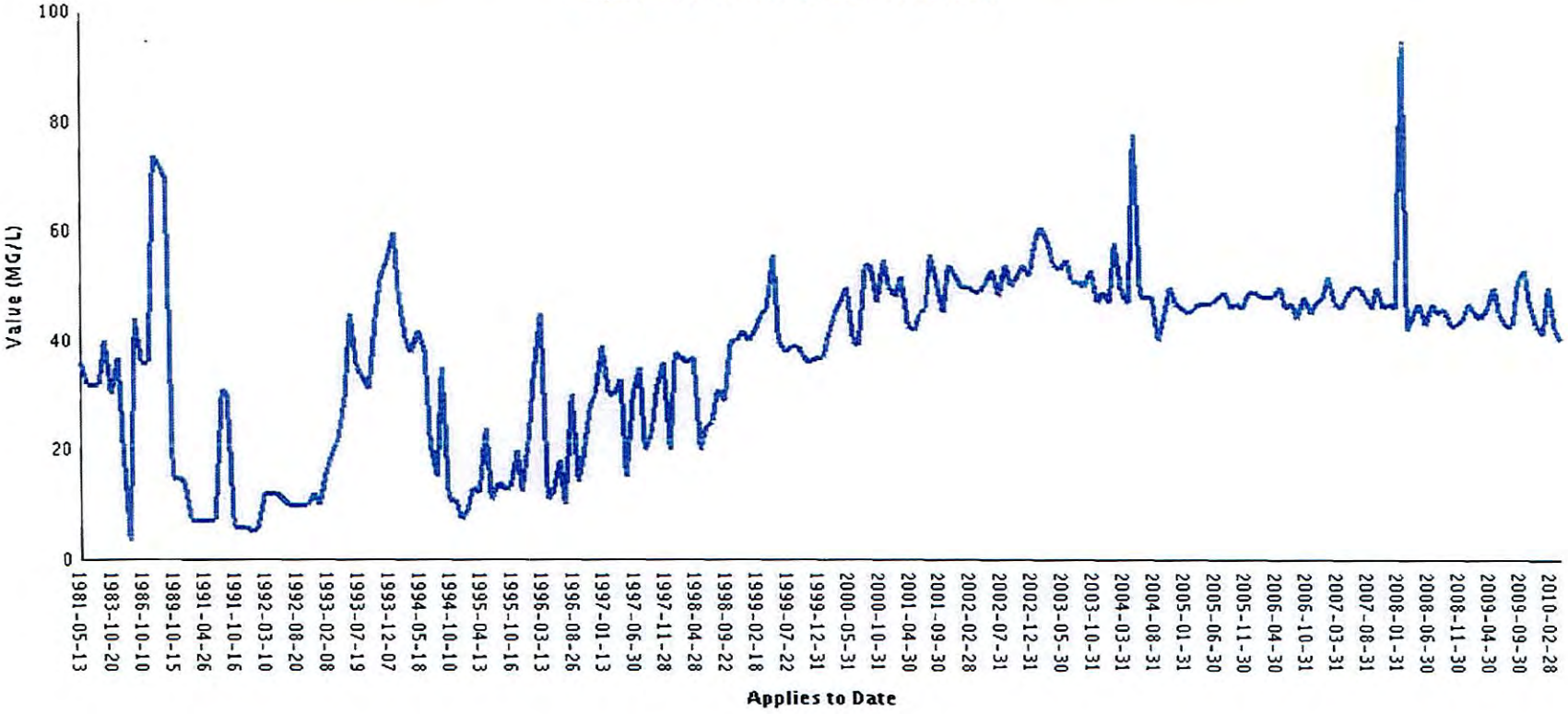


EXHIBIT 9B

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: Chloride fro F275

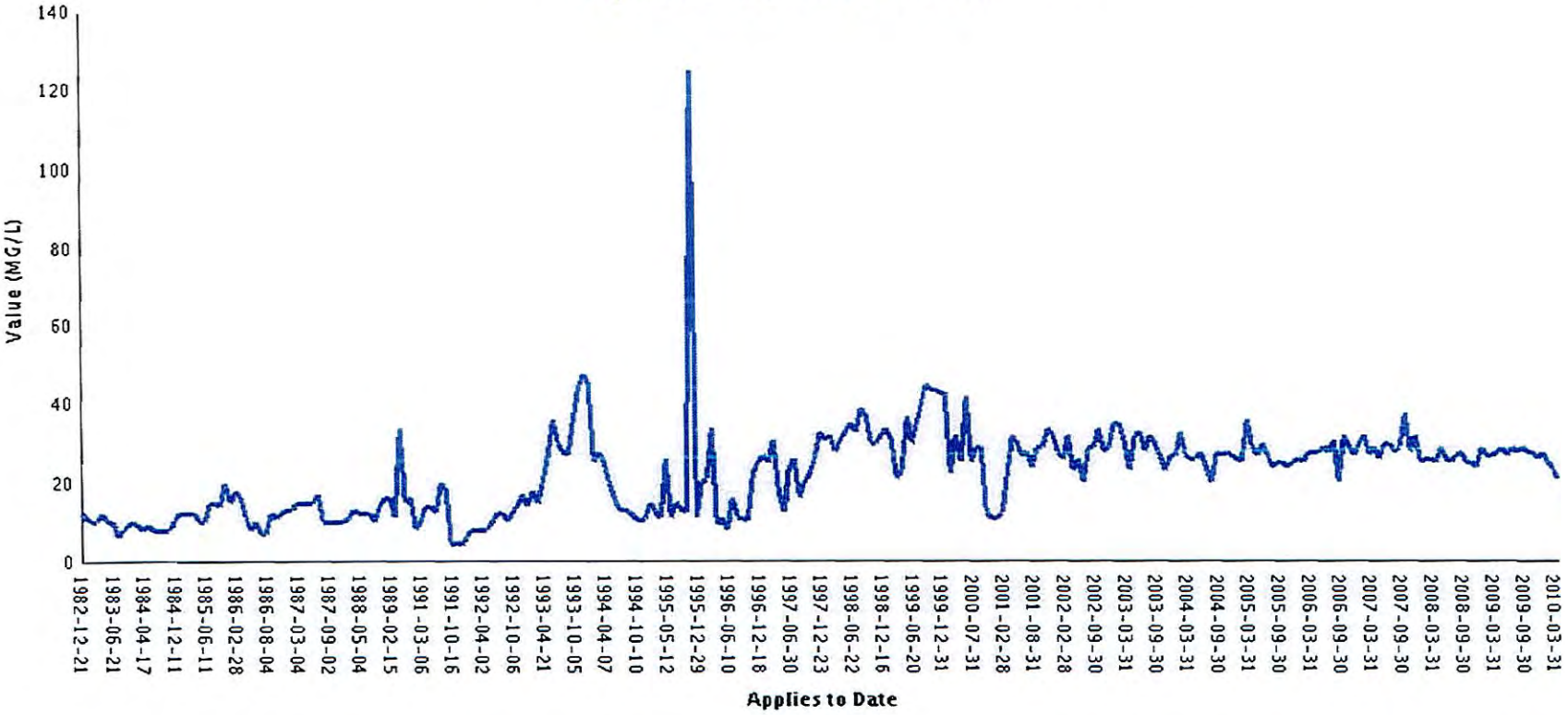


EXHIBIT 8C

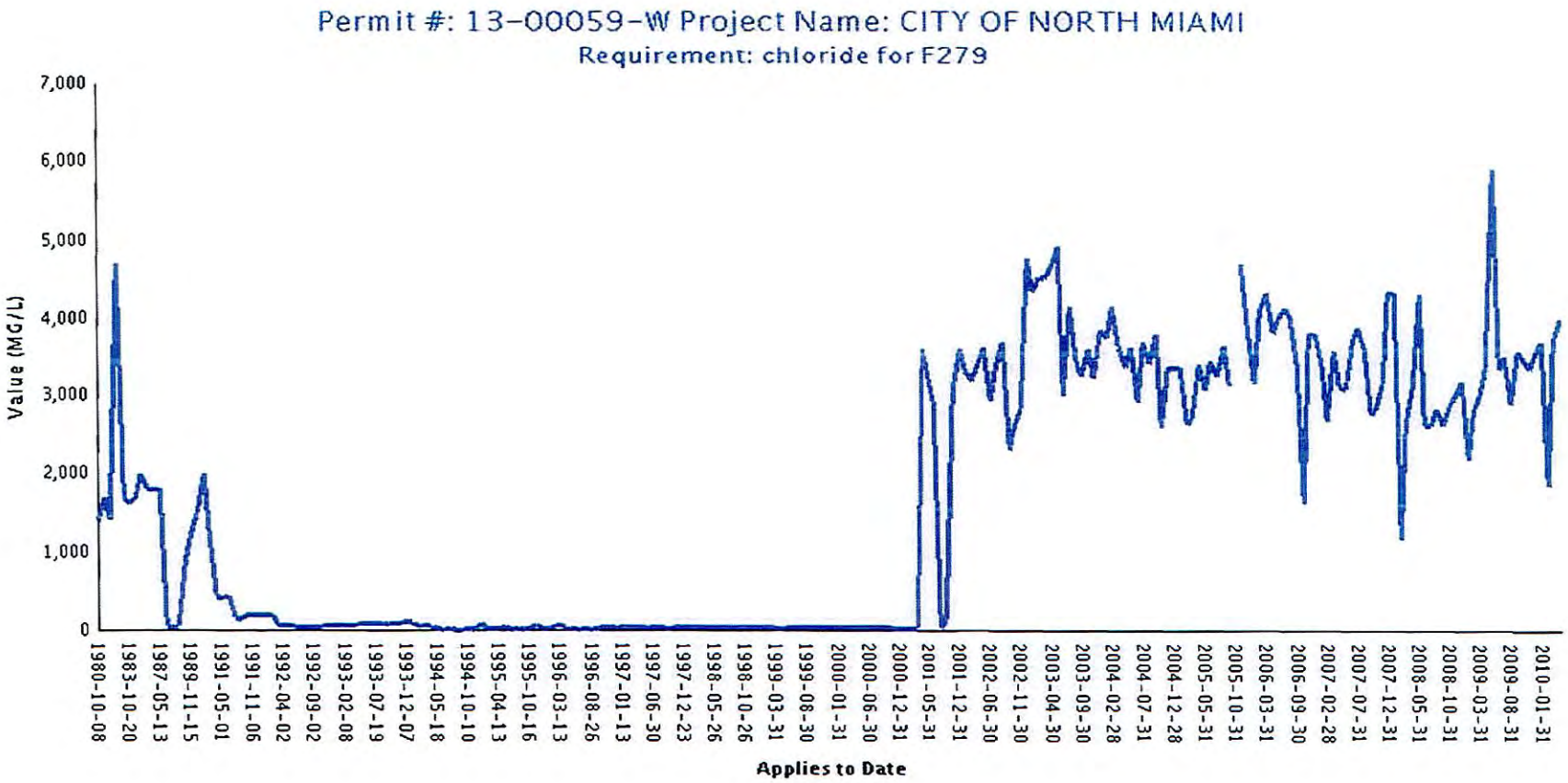

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI
Requirement: chloride for F279
Value (MG/L)
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1980-10-08
1983-10-20
1987-05-13
1989-11-15
1991-05-01
1991-11-06
1992-04-02
1992-09-02
1993-02-08
1993-07-19
1993-12-07
1994-05-18
1994-10-10
1995-04-13
1995-10-16
1996-03-13
1996-08-26
1997-01-13
1997-06-30
1997-12-23
1998-05-26
1998-10-26
1999-03-31
1999-08-30
2000-01-31
2000-06-30
2000-12-31
2001-05-31
2001-12-31
2002-06-30
2002-11-30
2003-04-30
2003-09-30
2004-02-28
2004-07-31
2004-12-28
2005-05-31
2005-10-31
2006-03-31
2006-09-30
2007-02-28
2007-07-31
2007-12-31
2008-05-31
2008-10-31
2009-03-31
2009-08-31
2010-01-31
Applies to Date

EXHIBIT 9D

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: Chloride from Gratigny well

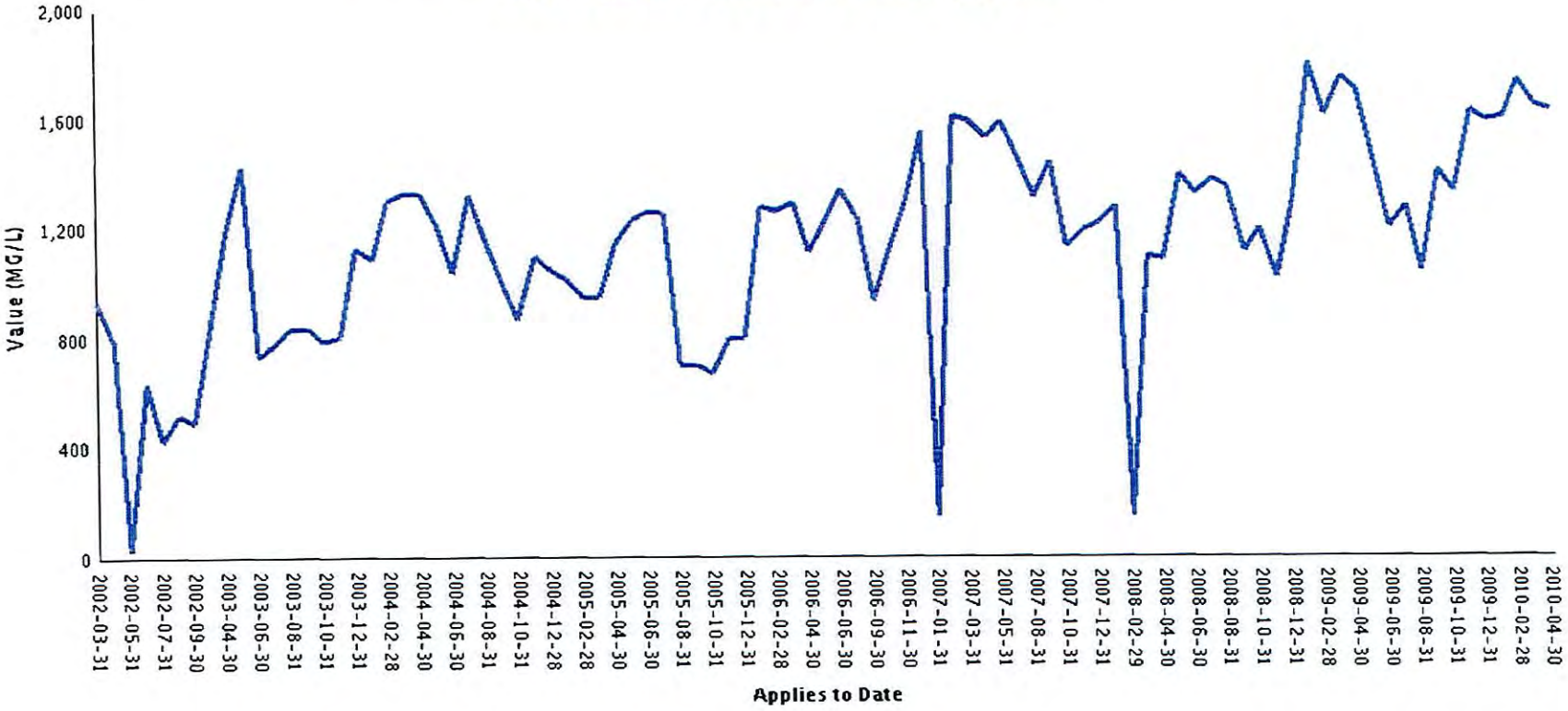


EXHIBIT 9E

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: Chloride for 1

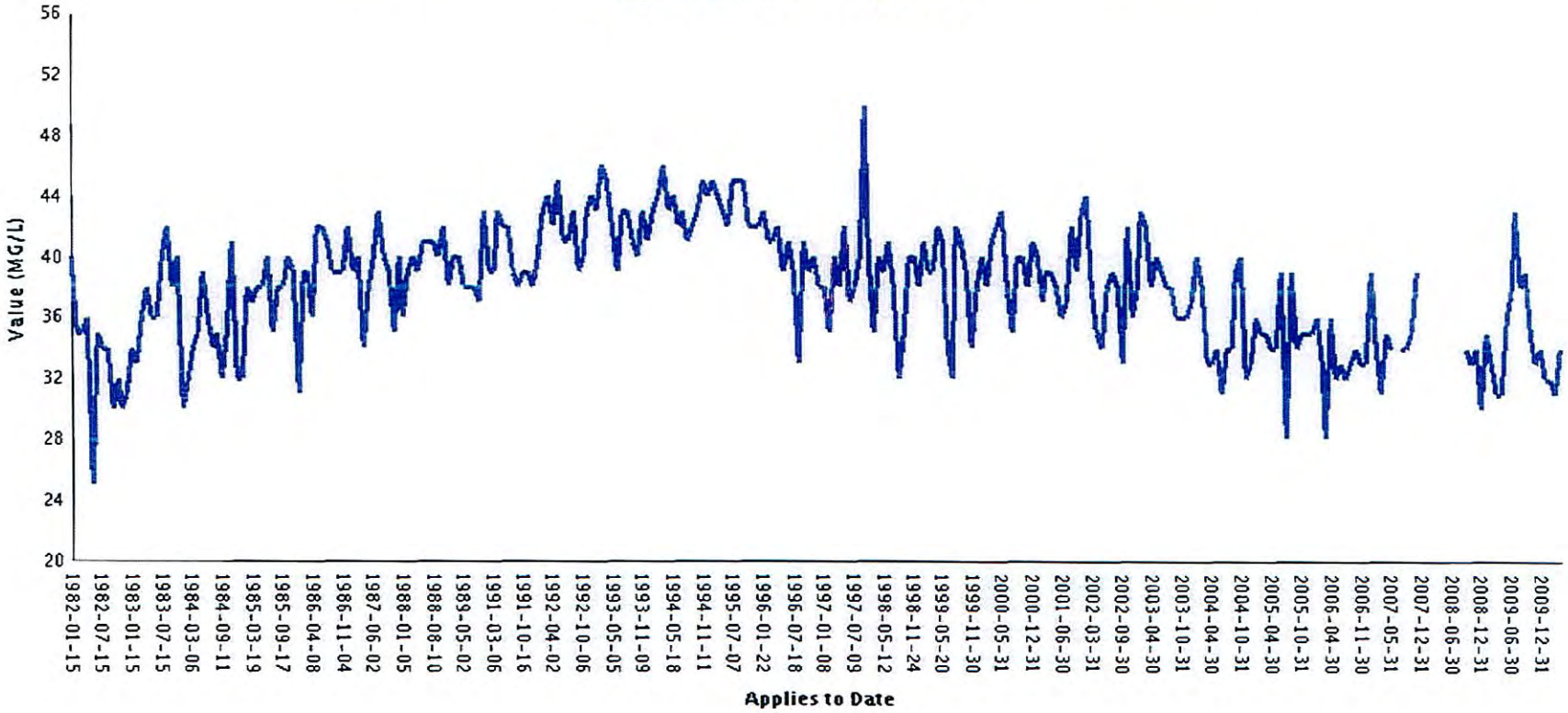


EXHIBIT 9F

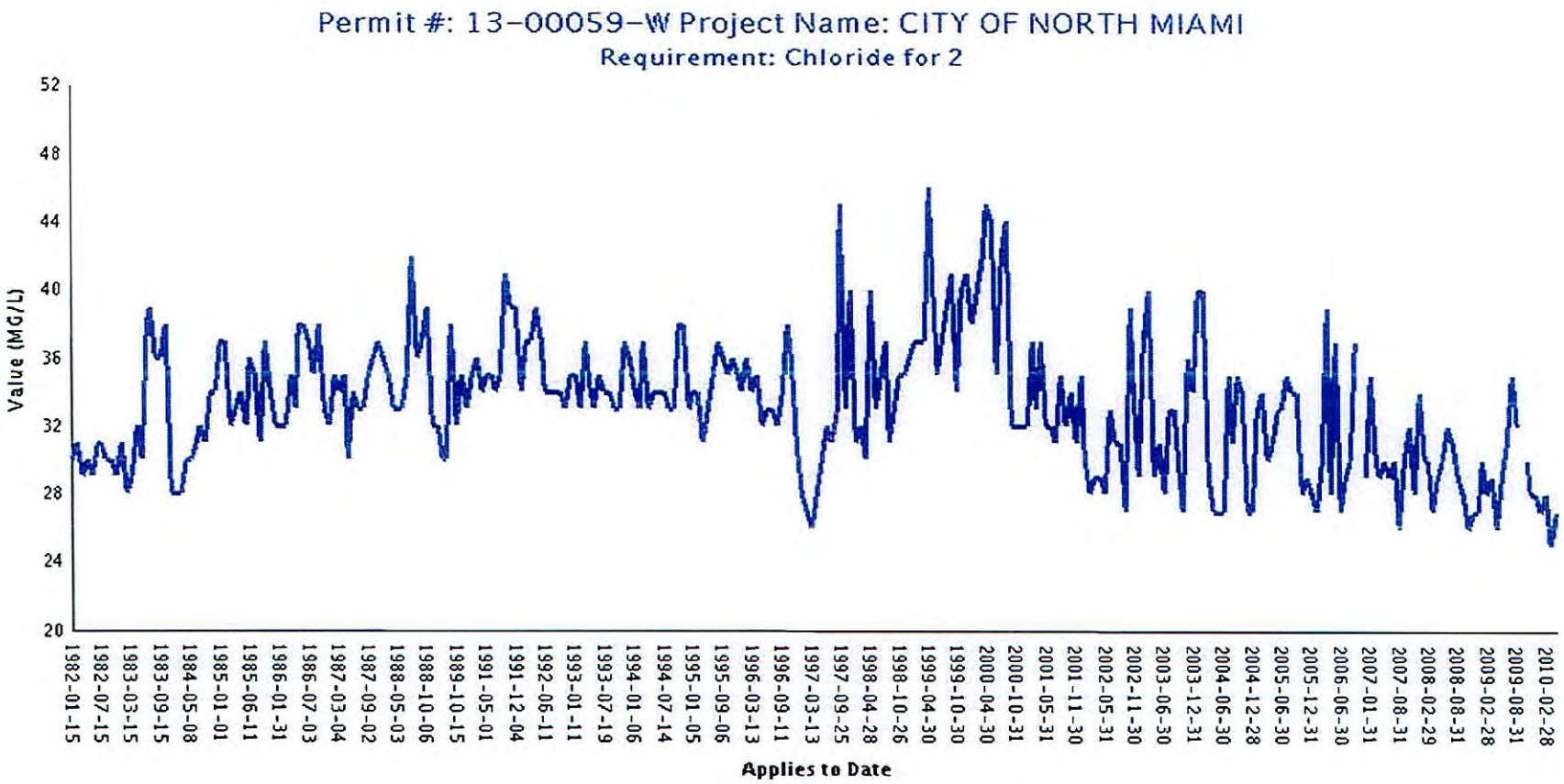

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI
Requirement: Chloride for 2
Value (MG/L)
52
48
44
40
36
32
28
24
20
1982-01-15
1982-07-15
1983-03-15
1983-09-15
1984-05-08
1985-01-01
1985-06-11
1986-01-31
1986-07-03
1987-03-04
1987-09-02
1988-05-03
1988-10-06
1989-10-15
1991-05-01
1991-12-04
1992-06-11
1993-01-11
1993-07-19
1994-01-06
1994-07-14
1995-01-05
1995-09-06
1996-03-13
1996-09-11
1997-03-13
1997-09-25
1998-04-28
1998-10-26
1999-04-30
1999-10-30
2000-04-30
2000-10-31
2001-05-31
2001-11-30
2002-05-31
2002-11-30
2003-06-30
2003-12-31
2004-06-30
2004-12-28
2005-06-30
2005-12-31
2006-06-30
2007-01-31
2007-08-31
2008-02-29
2008-08-31
2009-02-28
2009-08-31
2010-02-28
Applies to Date

EXHIBIT 9G

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: Chloride for 3

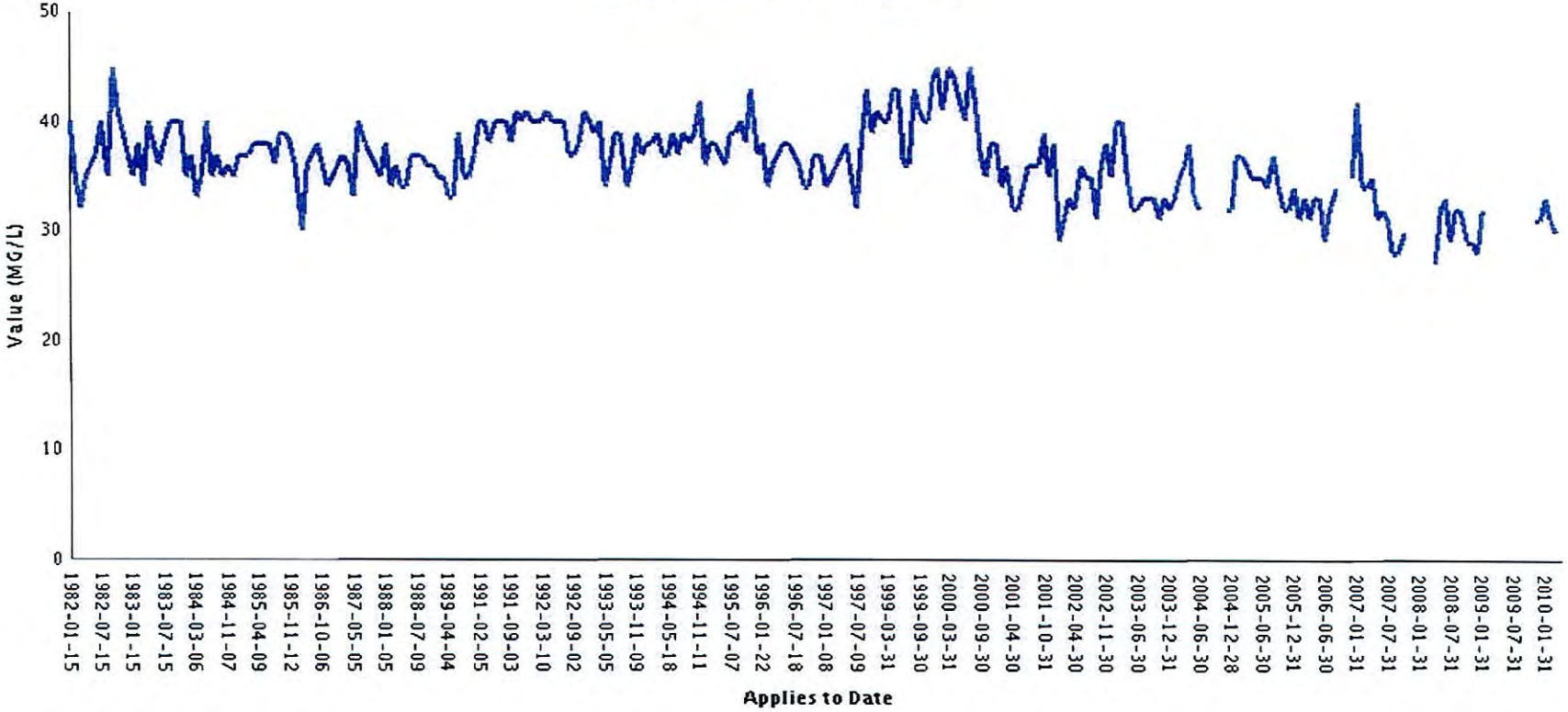


EXHIBIT 9H

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: chloride for 4

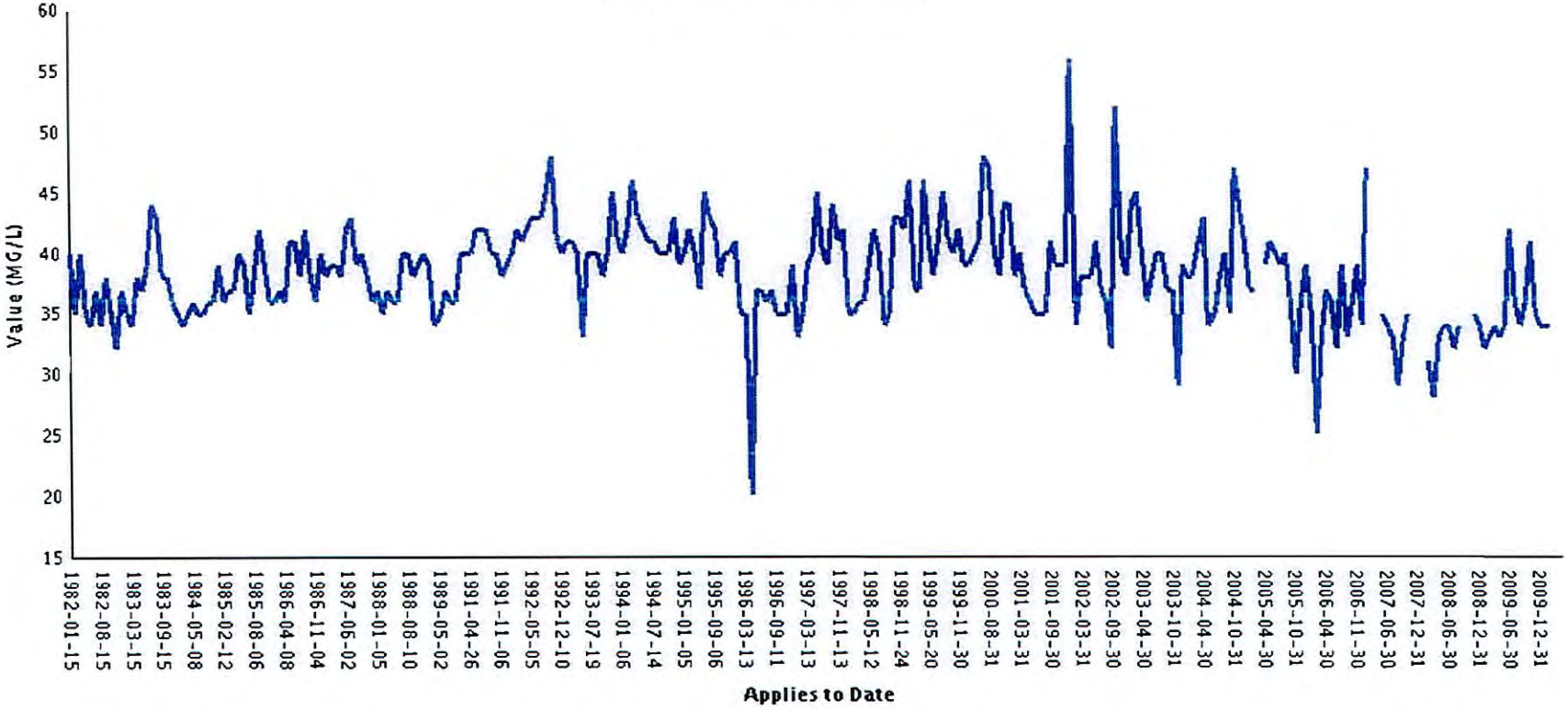


EXHIBIT 9 I

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: chloride for 5

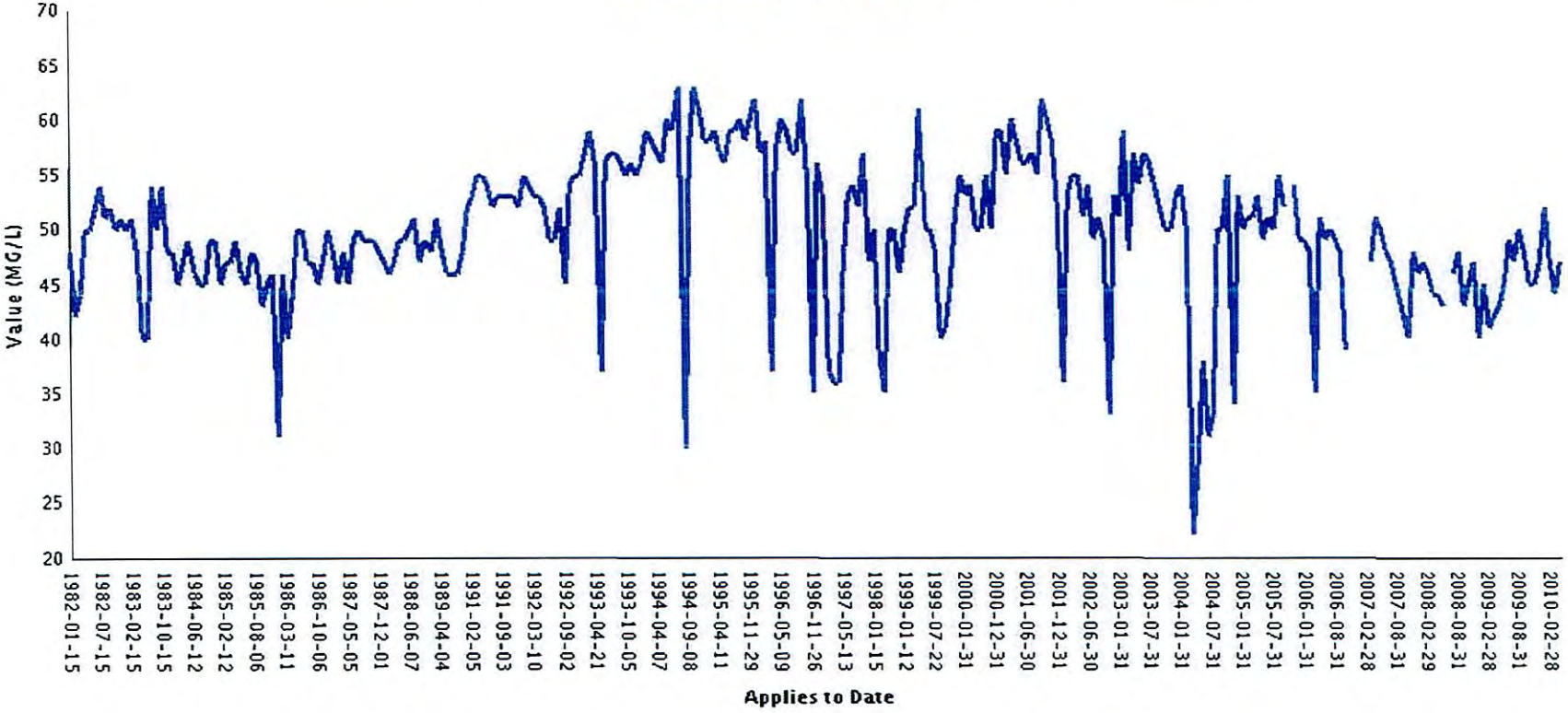


EXHIBIT 9 J

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: chloride for 6

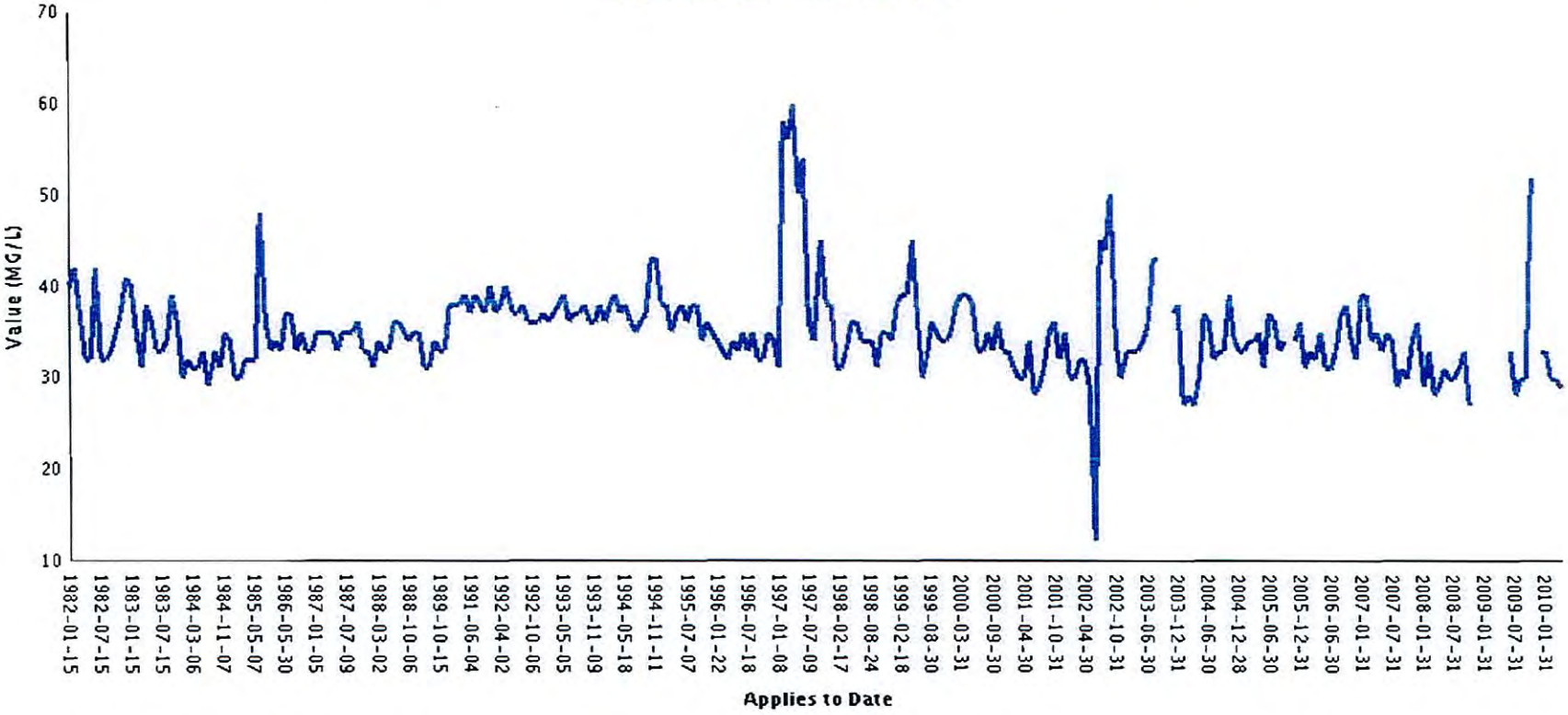


EXHIBIT 9K

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: chloride for 7

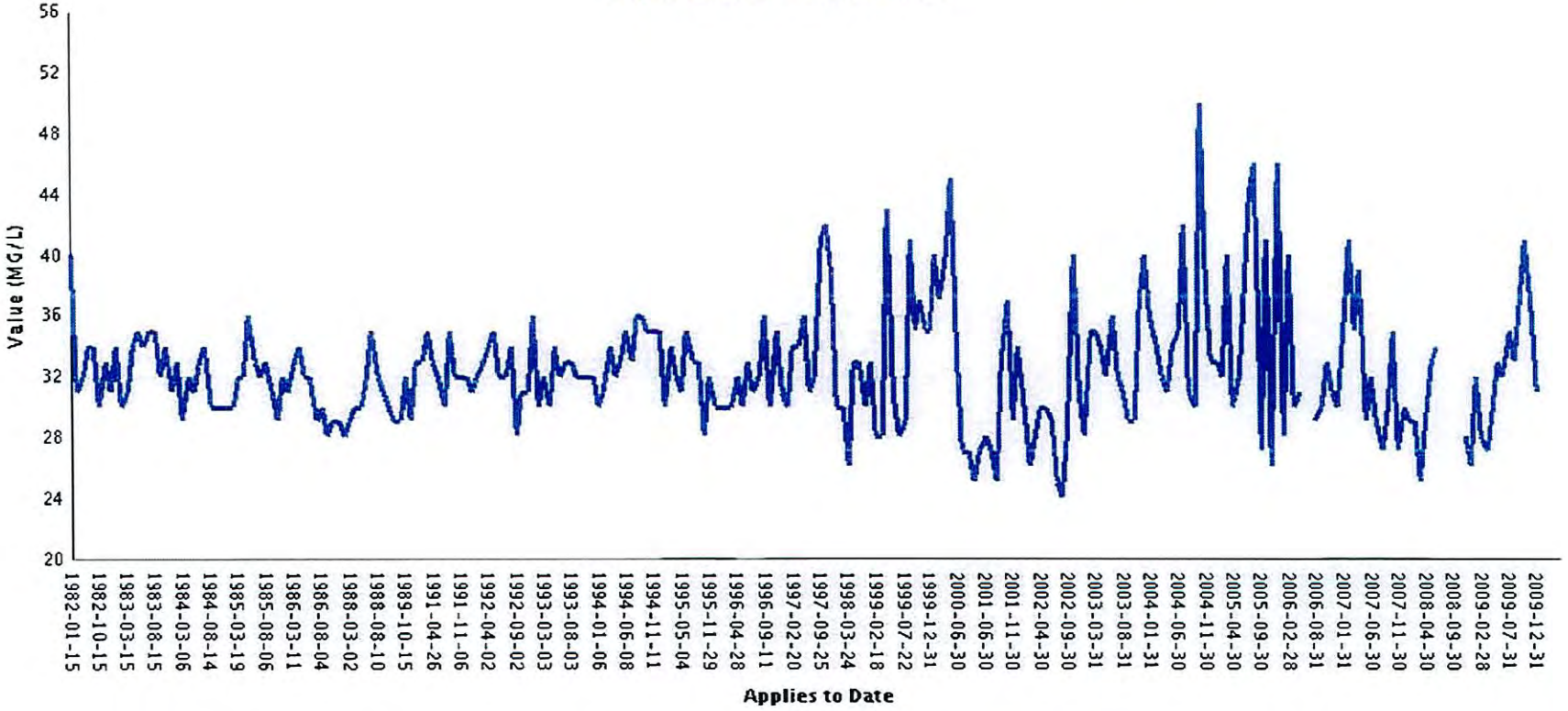


EXHIBIT 9L

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: chloride for 8

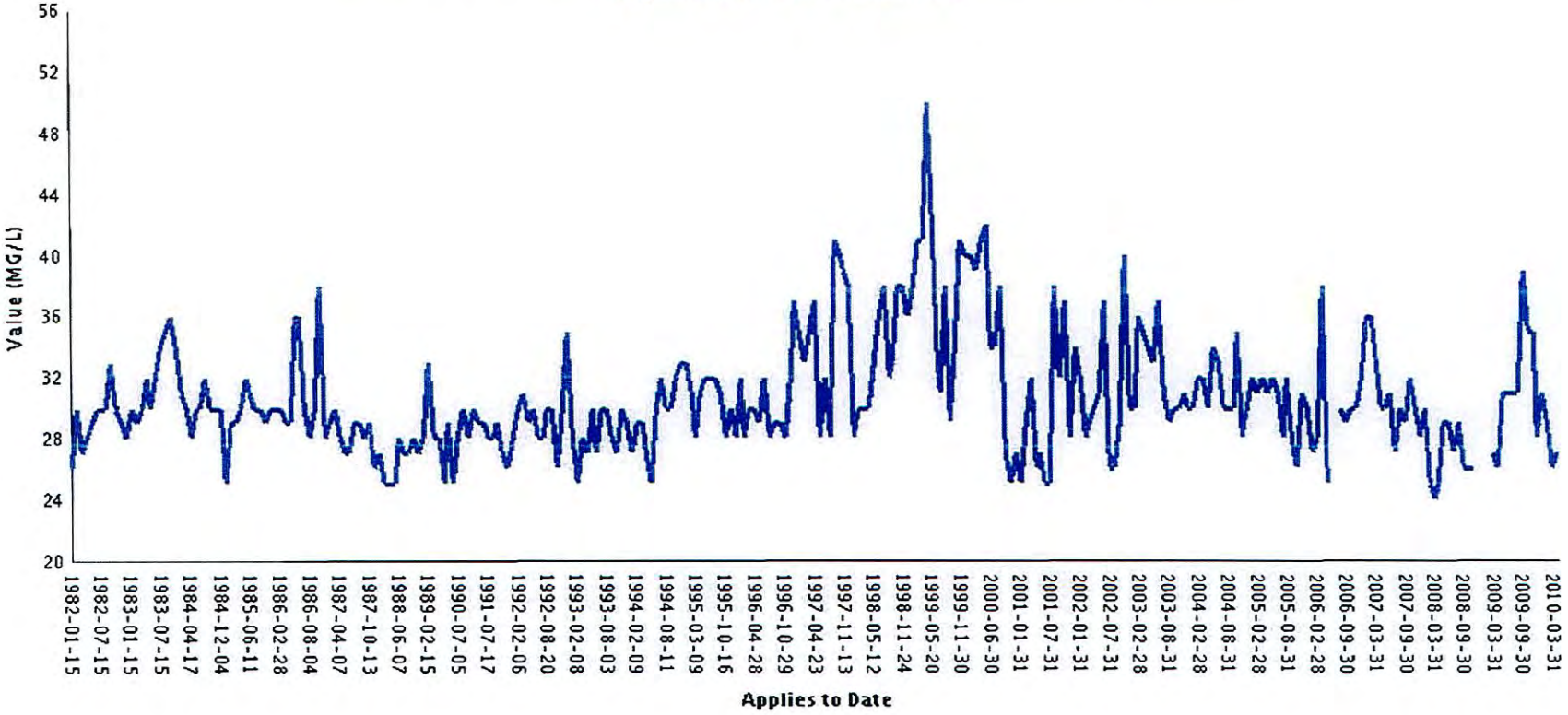
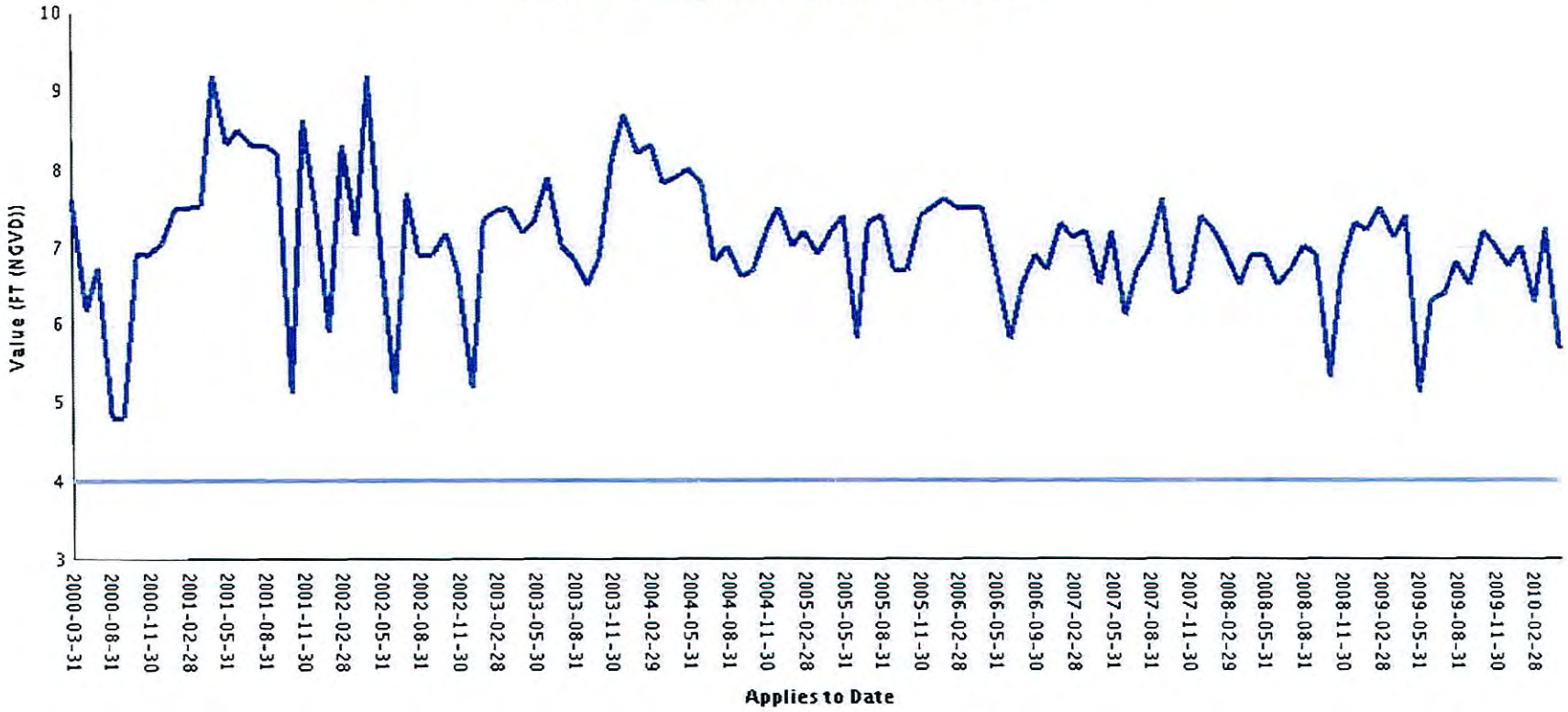


EXHIBIT 9 M

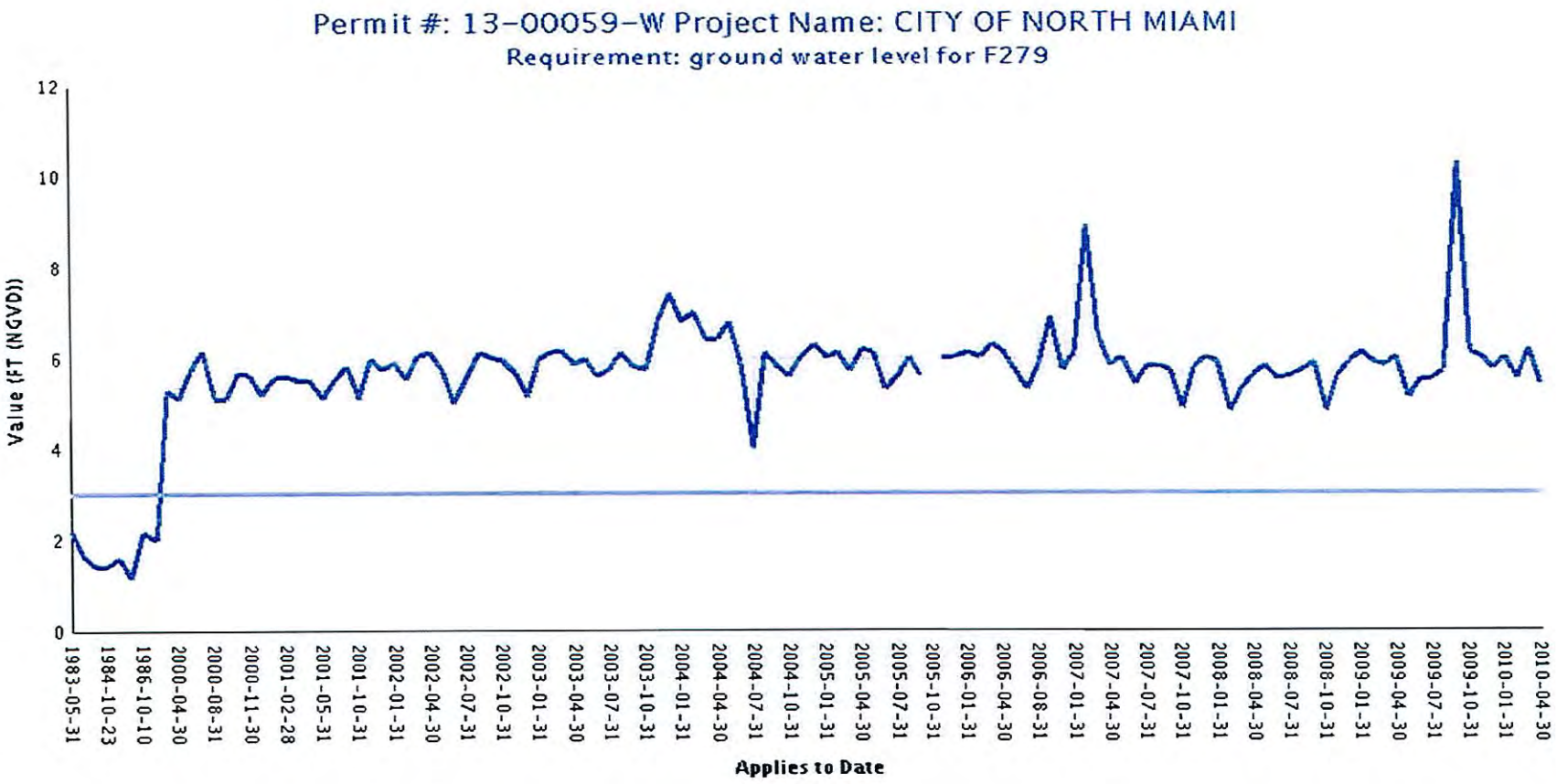
Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: ground water level for F275



Spec 1: Low Value 4 FT (NGVD)

EXHIBIT 10A

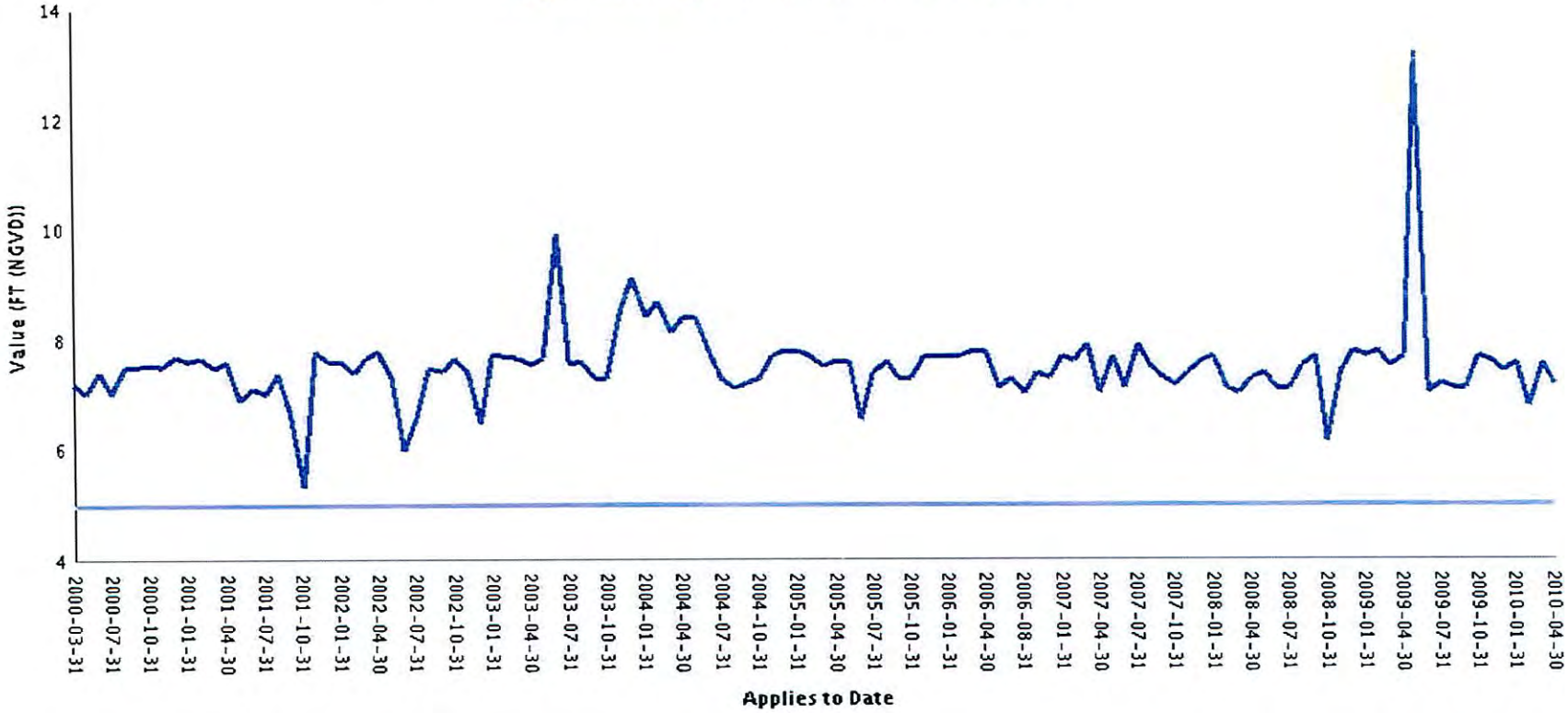


Spec 1: Low Value 3 FT (NGVD)

EXHIBIT 10B

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: ground water level for G3224

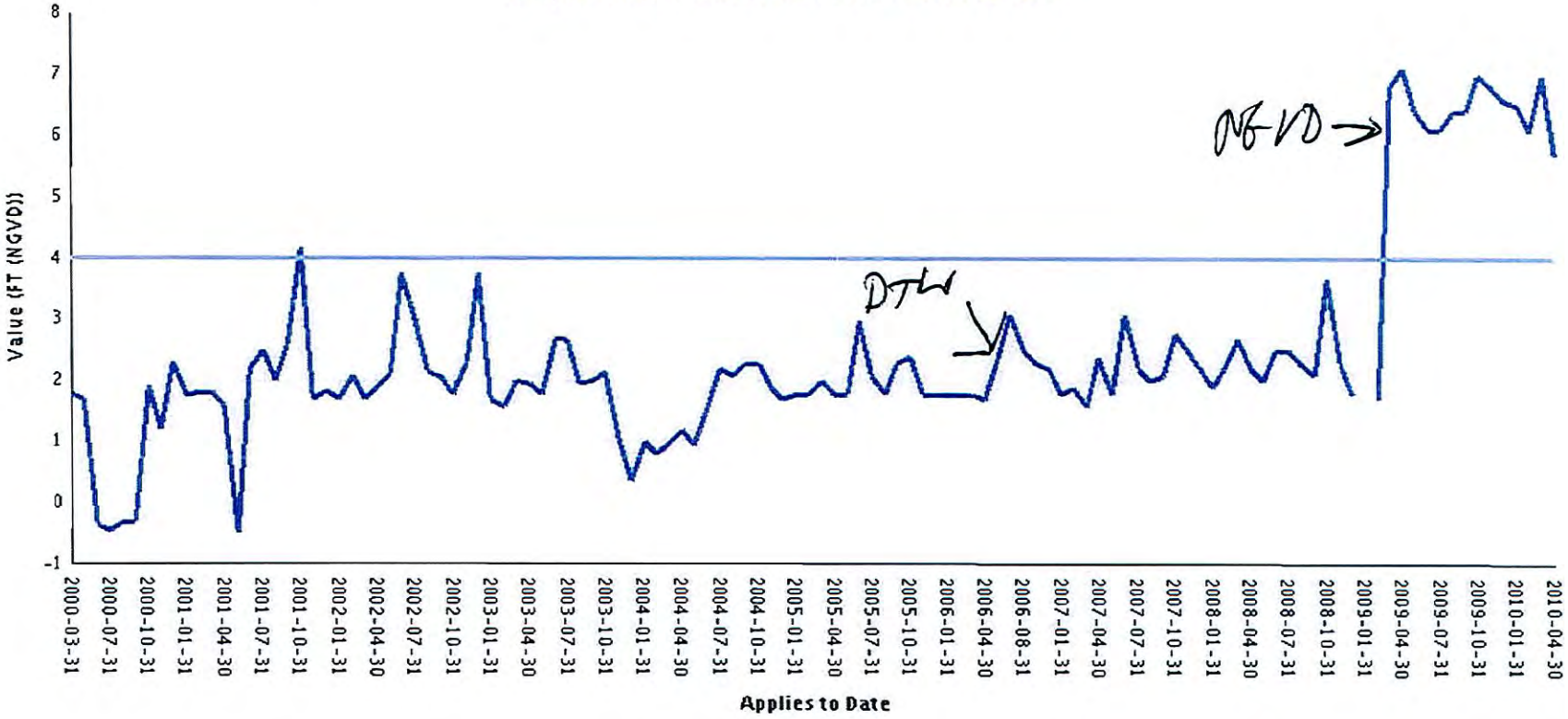


Spec 1: Low Value 5 FT (NGVD)

EXHIBIT 10C

Permit #: 13-00059-W Project Name: CITY OF NORTH MIAMI

Requirement: Water Level from well G-894



Spec 1: Low Value 4 FT (NGVD)

EXHIBIT 10 D

ARCADIS U.S., Inc.

Memo

To: File

From: Thomas Tessier, PG

Thomas L. Tessier

CC: J. Penkosky

Date: May 21, 2008

Re: City of North Miami Water Use Permit Application, Floridan Aquifer Water Use

---

As requested by Metcalf & Eddy, ARCADIS has performed analytical modeling to define the area encompassed by the 1-foot drawdown contour resulting from anticipated withdrawals from prospective public water supply wells tapping the Floridan Aquifer in the City of North Miami.

The Winflow groundwater flow model was used to simulate a Floridan Aquifer withdrawal of 12.0 million gallons per day (mgd). To address South Floridan Water Management District (SFWMD) Basis of Review criteria, it was anticipated that 10 wells would each withdraw 833.3 gallons per minute (1.2 mgd or 160,428 cubic feet per day) for 90 days. Winflow is capable of simulating withdrawals from a single layer with a leaky confining unit which are conditions found in the upper Floridan Aquifer from which the City of North Miami is anticipating to withdraw water.

As no test wells or aquifer testing has been conducted in the Floridan Aquifer in the vicinity of the prospective wells, ARCADIS assumed that the aquifer coefficients established by testing for the City of Hollywood's Water Use Permit (SFWMD Water Use Staff Review Summary, Exhibit 9, City of Hollywood Application #910614-6) would be reasonably accurate. The following aquifer coefficients were established: hydraulic conductivity (permeability), 60.16 feet/day; storage coefficient, 0.0002; aquifer thickness, 400 feet; leakance, 0.00014 foot/day-foot.

To apply leakance in the Winflow model, leakance must be converted to a "leakage factor" which is calculated to be 13,111 feet. According to the Water Use Staff Review Summary for the City of North Miami Beach Application #060207-8, the aquifer coefficients utilized to assess the City of Hollywood's water use also were used to assess the City of North Miami Beach's Floridan Aquifer water use.

As shown on the attached figure, the 1-foot drawdown contour extends approximately 6 miles from the center of the wellfield. An inventory of existing permitted Floridan Aquifer users within the 1-foot drawdown contour was provided by the South Florida Water Management District. Only 4 Floridan Aquifer wells owned by the City of North Miami Beach (WUP # 13-00060-W) were identified. Permitted Miami-Dade wells are located outside the 1-foot drawdown contour.

Maximum drawdown in the aquifer is estimated to be about 27.5 feet below the background static water level which is expected to be about 30 feet above sea level. Maximum drawdown at the nearest North Miami Beach well is about 4 feet (see figure). This magnitude of drawdown is not expected to impair the use of the North Miami Beach wells, which are to be equipped with pumps, according to the inventory.

EXHIBIT 11A

Accompanying this memo is a drawdown map, and Winflow input file. Also included are e-files of the Winflow model (FL1003MG.WFL) and the complete input and output file (I-O File FL12mgd.rtf).

Attach: Drawdown map, Input file
CD containing FL12MGD.WFL and I-O File FL12mgd.rtf

EXHIBIT 11 B

==========
==

Aquifer Properties

.... Transient Flow Model ....

Permeability.....= 60.160000 [L/T]
Porosity.....= 0.200000
Storage.....= 0.000200
Leakage factor.....= 13111.000000
Elevation of Aquifer Top....= -1000.000000
Elevation of Aquifer Bottom.= -1400.000000
Uniform Regional Gradient...= 0.000000
Angle of Uniform Gradient...= 0.000000

Model Results Computed at Time = 90.000000

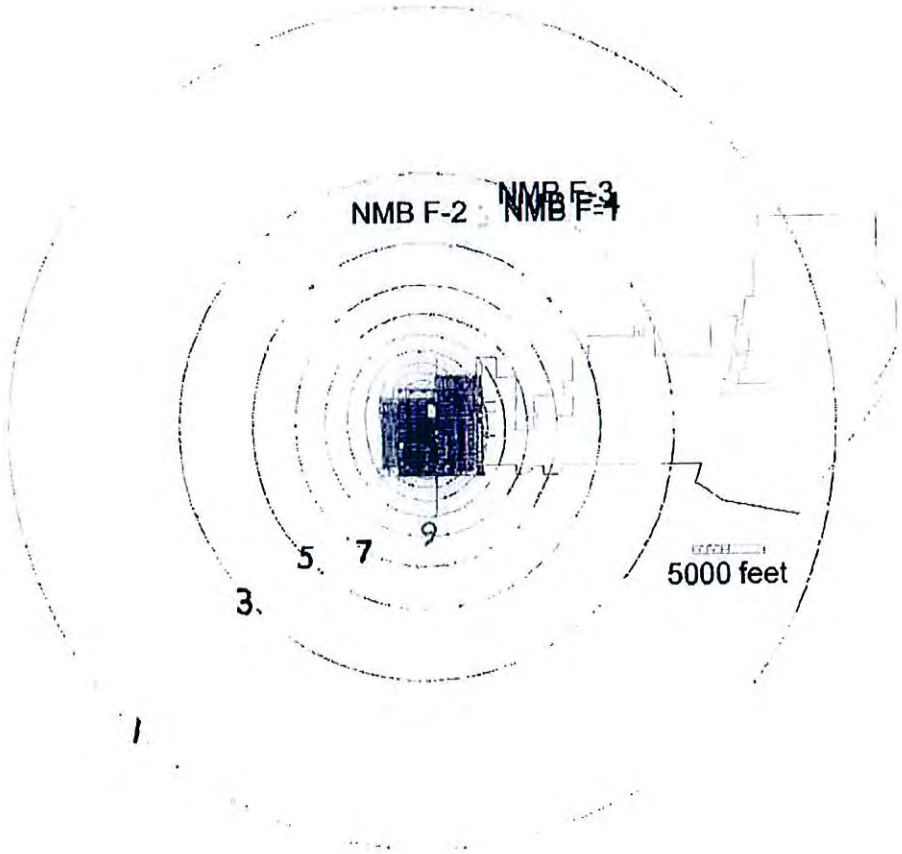


EXHIBIT 11C

==========
==

Model Entities

Number of Linesinks Defined by Infiltration Rate = 0

Number of Linesinks Defined by Head = 0

Number of Ponds = 0

Number of Wells = 14

```
Well #1
   Center of Well --  x: 911009.187500   y: 571855.437500
   Radius = 1.000000
   Pumping Rate = 160428.000000
   Head at Well Radius          = -25.094185
Well #2
   Center of Well --  x: 909802.062500   y: 571933.625000
   Radius = 1.000000
   Pumping Rate = 160428.000000
   Head at Well Radius          = -26.089970
Well #3
   Center of Well --  x: 908499.375000   y: 571950.937500
   Radius = 1.000000
   Pumping Rate = 160428.000000
   Head at Well Radius          = -24.409866
Well #4
   Center of Well --  x: 911252.375000   y: 573305.750000
   Radius = 1.000000
   Pumping Rate = 160428.000000
   Head at Well Radius          = -25.942717
Well #5
   Center of Well --  x: 909767.312500   y: 573140.750000
   Radius = 1.000000
   Pumping Rate = 160428.000000
   Head at Well Radius          = -27.009951
Well #6
   Center of Well --  x: 910531.562500   y: 576036.875000
   Radius = 1.000000
   Pumping Rate = 160428.000000
   Head at Well Radius          = -27.233213
Well #7
   Center of Well --  x: 910557.625000   y: 576879.250000
   Radius = 1.000000
   Pumping Rate = 160428.000000
```

EXHIBIT 11 D

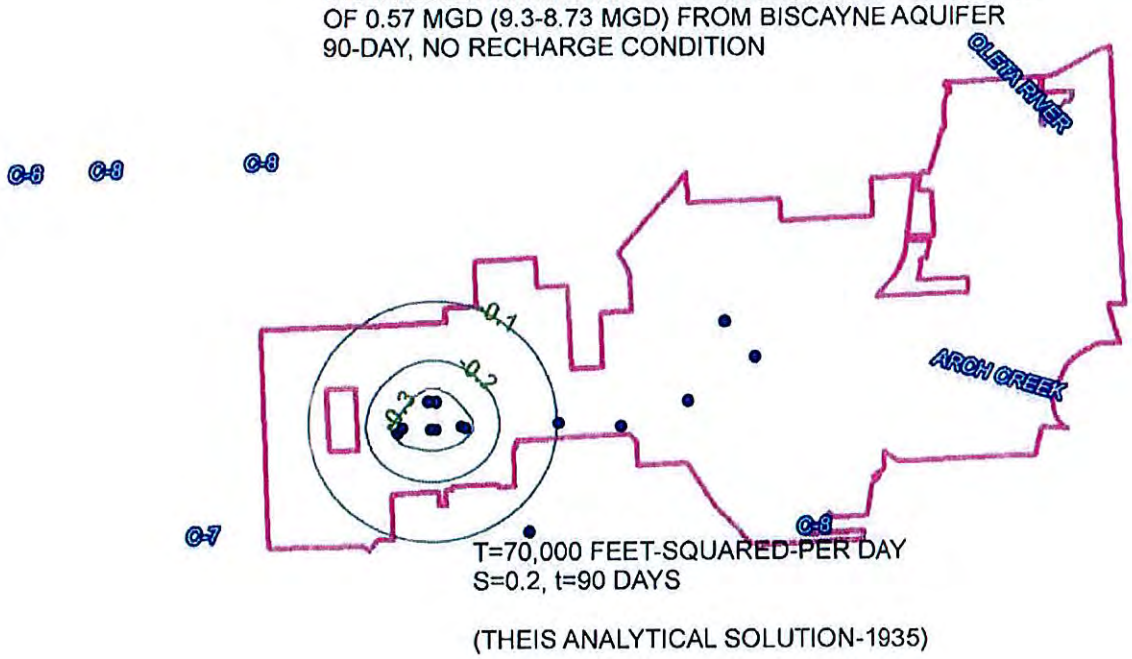
```
      Head at Well Radius            = -26.858379
   Well #8
      Center of Well --  x: 909793.375000   y: 576931.375000
      Radius = 1.000000
      Pumping Rate = 160428.000000
      Head at Well Radius            = -27.490433
   Well #9
      Center of Well --  x: 908890.125000   y: 576948.750000
      Radius = 1.000000
      Pumping Rate = 160428.000000
      Head at Well Radius            = -26.783321
   Well #10
      Center of Well --  x: 908082.500000   y: 576974.812500
      Radius = 1.000000
      Pumping Rate · 160428.000000
      Head at Well Radius            = -25.089821
   Well #11
      Center of Well --  x: 914032.000000   y: 588133.000000
      Radius = 1.000000
      Pumping Rate = 0.000000
      Head at Well Radius            = -4.067492
   Well #12
      Center of Well --  x: 913635.000000   y: 588117.000000
      Radius = 1.000000
      Pumping Rate = 0.000000
      Head at Well Radius            = -4.127573
   Well #13
      Center of Well --  x: 913672.000000   y: 589392.000000
      Radius = 1.000000
      Pumping Rate = 0.000000
      Head at Well Radius            = -3.618148
   Well #14
      Center of Well --  x: 914080.000000   y: 588645.000000
      Radius = 1.000000
      Pumping Rate = 0.000000
      Head at Well Radius            = -3.854856

Reference Head = 0.000000    Defined at -- x: 746342.875000   y: 564397.000000
```

EXHIBIT 11E

071012-6 - CITY OF NORTH MIAMI

DRAWDOWN RESULTING FROM INCREMENTAL INCREASE
OF 0.57 MGD (9.3-8.73 MGD) FROM BISCAYNE AQUIFER
90-DAY, NO RECHARGE CONDITION



T=70,000 FEET-SQUARED-PER DAY
S=0.2, t=90 DAYS

(THEIS ANALYTICAL SOLUTION-1935)

EXHIBIT IIF

Requirement by Limiting Condition Report

App No: 071012-6
Permit No: 13-00059-W
Project Name: CITY OF NORTH MIAMI

Expiration Date: 23-AUG-30
Issued Date:

Limiting Condition No: 17 **Limiting Condition Code:** WUSTD021-8

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
WELL - Winson 1	Calibration report for WELL Winson 1	03-SEP-14	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - Winson 2	Calibration report for WELL Winson 2	03-SEP-14	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - Winson 3	Calibration report for WELL Winson 3	03-SEP-14	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - Winson 4	Calibration report for WELL Winson 4	03-SEP-14	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - Winson 5	Calibration report for WELL Winson 5	15-JAN-14	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - Winson 6	Calibration report for WELL Winson 6	15-JAN-14	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - Winson 7	Calibration report for WELL Winson 7	03-SEP-14	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - Winson 8	Calibration report for WELL Winson 8	03-SEP-14	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-1	Calibration report for WELL FL-1	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-2	Calibration report for WELL FL-2	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-3	Calibration report for WELL FL-3	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-4	Calibration report for WELL FL-4	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-6	Calibration report for WELL FL-6	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-7	Calibration report for WELL FL-7	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-8	Calibration report for WELL FL-8	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-9	Calibration report for WELL FL-9	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years
WELL - FL-10	Calibration report for WELL FL-10	28-FEB-11	01-SEP-10	31-JUL-30	Every Five Years	Every Five Years

Limiting Condition No: 18 **Limiting Condition Code:** WUSTD022-1

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
WELL - Winson 1	Monthly withdrawal for WELL Winson 1	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 2	Monthly withdrawal for WELL Winson 2	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 3	Monthly withdrawal for WELL Winson 3	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 4	Monthly withdrawal for WELL Winson 4	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 5	Monthly withdrawal for WELL Winson 5	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 6	Monthly withdrawal for WELL Winson 6	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 7	Monthly withdrawal for WELL Winson 7	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly

Exhibit No: 12

Requirement by Limiting Condition Report

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
WELL - Winson 8	Monthly withdrawal for WELL Winson 8	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-1	Monthly withdrawal for WELL FL-1	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-2	Monthly withdrawal for WELL FL-2	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-3	Monthly withdrawal for WELL FL-3	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-4	Monthly withdrawal for WELL FL-4	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-6	Monthly withdrawal for WELL FL-6	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-7	Monthly withdrawal for WELL FL-7	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-8	Monthly withdrawal for WELL FL-8	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-9	Monthly withdrawal for WELL FL-9	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - FL-10	Monthly withdrawal for WELL FL-10	31-JAN-11	01-SEP-10	31-JUL-30	Monthly	Quarterly

Limiting Condition No: 21 **Limiting Condition Code:** WUPWS003-1

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
PERMIT	Unaccounted for Distribution Losses for PERMIT	31-AUG-12	01-SEP-10	31-JUL-30	Yearly	Yearly

Limiting Condition No: 23 **Limiting Condition Code:** WUPWS008-2

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
PERMIT	Ten-Year Water Use Compliance Report for CITY OF NORTH MIAMI	31-JUL-30	01-SEP-10	31-JUL-30	Every Ten Years	Every Ten Years

Limiting Condition No: 24 **Limiting Condition Code:** WUPWS006-1

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
PERMIT	Water Conservation Plan Ordinances A, B, D, and F.	31-AUG-10	31-AUG-10	23-AUG-30	One time Only	One time Only

Limiting Condition No: 27 **Limiting Condition Code:** WUWC004-1

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
WELL - FL-1	Updated Table A for WELL FL-1	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only
WELL - FL-2	Updated Table A for WELL FL-2	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only
WELL - FL-3	Updated Table A for WELL FL-3	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only
WELL - FL-4	Updated Table A for WELL FL-4	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only
WELL - FL-5	Updated Table A for WELL FL-5	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only
WELL - FL-6	Updated Table A for WELL FL-6	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only

Exhibit No: 12

Requirement by Limiting Condition Report

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
WELL - FL-7	Updated Table A for WELL FL-7	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only
WELL - FL-8	Updated Table A for WELL FL-8	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only
WELL - FL-9	Updated Table A for WELL FL-9	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only
WELL - FL-10	Updated Table A for WELL FL-10	01-MAR-11	01-SEP-10	31-JUL-30	One time Only	One time Only

Limiting Condition No: 28 **Limiting Condition Code:** WUDWT008-1

Facility Name	Requirement Name	Due Date	Start Date	End Date	Col Freq	Sub Freq
WELL - F-275	Ground Water Level for Well F-275	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - F-275	Chloride for Well F-275	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - F-279	Ground Water Level for Well F-279	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - F-279	Chloride for Well F-279	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - G-3224	Ground Water Level for Well G-3224	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - G-3224	Chloride for Well G-3224	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - G-894	Ground Water Level for Well G-894	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - G-894	Chloride for Well G-894	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
Gratigny Well	Ground Water Level for Well Gratigny Moniter Well	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
Gratigny Well	Chloride for Well Gratigny Moniter Well	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 1	Chloride for Well Winson 1	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 2	Chloride for Well Winson 2	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 3	Chloride for Well Winson 3	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 4	Chloride for Well Winson 4	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 5	Chloride for Well Winson 5	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 6	Chloride for Well Winson 6	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 7	Chloride for Well Winson 7	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - Winson 8	Chloride for Well Winson 8	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly
WELL - G-297 (121 & 4th)	Chloride for Well G-297	30-NOV-10	01-SEP-10	31-JUL-30	Monthly	Quarterly

Exhibit No: 12

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CITY OF NORTH MIAMI

FINAL REPORT

REVENUE REQUIREMENTS, COST OF SERVICE, AND RATE DESIGN FOR WATER AND SEWER SERVICE

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REVENUE REQUIREMENTS, COST OF SERVICE, AND RATE DESIGN FOR WATER AND SEWER SERVICE

B&V PROJECT NO. 168783

FINAL

PREPARED FOR

City of North Miami, Florida

MARCH 2012

BLACK & VEATCH
Building a world of difference.

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1 Executive Summary

A financing plan has been developed based on an analysis of the rates utilized to furnish water and sewer services to customers connected to the City of North Miami's (the "City") water and sewer utilities, herein referred to as the "Utility System". The financing plan compares the adequacy of projected revenues under existing rates in meeting the revenue requirement of the Utility System, and identifies any adjustments which may be necessary to the existing revenue levels during the study period. The plan consist of revising the existing water rate structure to promote water conservation, addressing specific customer affordability issues, implementing annual rate increases over the forecast period of fiscal years 2012 through 2016, and crafting a Utility System financing plan that provides the City with the ability to appropriately fund operating and capital requirements over the forecast period. The proposed financing plan will require annual Utility System overall revenue increases of 4.0, 9.0, 7.5, 6.0 and 6.0 percent for the fiscal years ("FY") 2012, 2013, 2014, 2015 and 2016, respectively. In FY 2012, the revenue increase will be implemented over six months, so the effective rate increase for FY 2012 will be 8.0 percent. For the analyses that is defined and presented herein, FY 2012 is established as the "Test Year" for allocating costs to customer classes and for designing the initial rate schedules

The total cost of service, or revenue requirement, for the combined water and sewer Utility System for FY 2012 is projected to be $23,953,975. The first proposed rate increase resulting from this study is recommended to become effective April1, 2012. As such, the projected 4.0% overall annualized FY 2012 revenue increase will be implemented over the six months of FY 2012 which will aggregate to an effective 8.0 percent rate increase. The allocated cost of service by customer class for the water and sewer utilities, net of the revenue requirements met from other operating revenues which total $1,688,600, are summarized in **Tables 14 and 30**, respectively. Also shown in these tables are the projected revenues under existing rates and the overall existing revenue relationship to cost of service and the percentage revenue adjustments in existing revenues by customer class indicated to meet allocated cost of service.

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The proposed rate schedules have been designed to appropriately recover Utility System cost, address customer affordability issues for the typical Utility System customer, and promote the efficient use of water resources. Directional, strategic, and policy guidance around the development of the proposed financing plan was obtained from City staff. As a result of the evaluations and analyses, the following summary of findings and recommendations is offered for consideration by the City.

1.1 REVENUE UNDER EXISTING RATES

- The City of North Miami currently provides treated water and sewer transmission services to approximately 18,993 customers as of the end of FY 2011. The City does not anticipate customer growth over FY 2011 and 2012, so it is projected that the City will serve approximately 19,000 customers at the end of FY 2011 and no additions in customers have been forecasted for FY 2012. In FY 2013 and 2014, it is anticipated that the City's customer base will experience customer growth of about 0.25% respectively and 0.50% for the remainder of the forecast period. At the end of the FY 2016, it is projected that the total number of combined water and sewer transmission services customers will grow to 19,274 which aggregates to 281 additions in customers over the forecast period.

The City currently bills customers on a monthly or quarterly basis. In addition, the City bills customers classified as, residential, mobile homes, and apartment, on a Living Units basis which is designated by the City at the time service is initiated. In essence, the City may provide water and sewer service to a residential property/customer and this property may be recorded as having multiple/more than one (1) Living Units.

At the end of FY 2011, the City served approximately 21,351 apartment living units, 6 mobile home living units, and approximately 16,675 in the residential customer class. These units serve as the basis for the current application of the City's availability charges across the residential, mobile home, and apartment customer classes. The living units described herein are projected to increase in accordance with the customer growth rates discussed herein which will produce at total living unit increase in the amount of about 21,673, 6, and 16,964 for the apartment, mobile home, and residential customer classes, respectively, by FY 2016.

- Revenue is primarily derived from charges for treated water and sewer services. Additional revenue is derived from miscellaneous services and fees that the City may offer or charge for services that are not directly related to the production of water or transmission of sanitary sewer. Combined operating revenue from rates for water and sewer service, under existing rates, is projected to increase from $23,027,700 in FY 2012 to $23,375,100 in FY 2016. Other revenues for the combined systems are projected to increase from $1,688,600 to $1,705,600 over the same period. The increase in water and sewer sales revenue can be attributed to the projected increase in the number of customers over the forecast period. The forecast of revenues projected herein assumes that existing rates will be maintained throughout the forecast period.

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1.2 REVENUE REQUIREMENTS

- Costs of service to be recovered from water and sewer service charges include operating and maintenance expenses, debt service obligations, capital projects funded from Utility System revenues, cash reserve funding, and rate stabilization funding.
- Operating and maintenance expenses include the costs of labor, materials, power, chemicals, and other expenses associated with the utility's operations. Operating and maintenance expenses for the water utility are projected to increase from $8,100,800 in FY 2012 to $9,630,900 in FY 2016. The operating and maintenance expenses for the sewer utility are projected to increase from $11,254,200 in FY 2012 to $13,559,200 in FY 2016. The increases for both systems come principally from inflation, cost of materials, and the cost of fuel.
- Annual debt, including principal and interest payments, for the Utility System is approximately $543,000 for the Test Year. In the fourth quarter of FY 2012, the City intends to issue $22,500,000 in revenue bonds which results in additional annual debt service of $423,800 in FY 2013 and $1,695,300 annually over the life of the debt service obligation. In addition, the City intends to issue $4,430,000 in FY 2015 revenue bonds in the third quarter of FY 2015 which results in additional debt service of $166,900 in FY 2015 and $333,800 annually over the life of the debt service obligation. As such, the highest annual service payment amount in one year over the forecast period is $1,950,100 in FY 2016 and the lowest amount is $543,000 in 2012.
- As a part of the final recommendations to be furnished herein, the Black & Veatch team proposes the development of a Renewal and Replacement ("R&R") Fund which should escrow and maintain, at a minimum, the equivalent of approximately 6.0% of net plant investment in order to have suffi-

cient funds to make adequate normal annual renewal and replacements to the Utility System each year. At the end of FY 2012, the fund's ending cash balance is anticipated to be $1,084,000 and this number will grow to $2,770,600 by the end of FY 2016, as shown in Table 38 of this report.

- Over the forecast period, the City will make routine transfers to the General Fund and the Pension Fund in the amounts of $1,559,600 and $167,000 respectively to begin in FY 2012. The General Fund and Pension Fund transfers will amount to $1,575,300 and $200,200 by FY 2016 respectively.
- The City will make specific contributions to fund Reserves for Employee Benefits in the amount of $279,400 in FY 2012 and this amount will grow to $366,300 in FY 2016.
- As a part of implementing water rates that provide for the efficient use of water resources and provide for enhanced revenue stability, Black & Veatch recommends the implementation of a Rate Stabilization Fund. As such, the Utility System will have an average annual Rate Stabilization Fund obligation of approximately $644,000 over the next seven fiscal years to establish a targeted balance in the fund of $3,500,000 by FY 2018.

1.3 COST OF SERVICE ALLOCATIONS

As a basis of evaluating the equity of existing rates and designing proposed rates, the Utility System's net costs of service is allocated to classes of customers in accordance with the respective water and sewer service requirements. The resulting costs of service allocated to five (9) customer categorizations as summarized below:

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LINE	DESCRIPTION	ADJUSTED COST OF SERVICE	REVENUE UNDER EXISTING RATES	PERCENT INCREASE (DECREASE)
1	Apartments	$10,882,542	$10,625,504	2.42%
2	Mobile Homes	174,504	160,436	8.77%
3	Residential	8,037,841	7,153,492	12.36%
4	Churches	78,867	100,296	(21.37%)
5	Commercial	3,381,598	3,691,492	(8.39%)
6	Educational	726,203	705,722	2.90%
7	Hotels/Motels	133,299	218,755	(39.06%)
8	Public Authority	117,094	97,047	20.66%
9	Sprinkler	421,988	274,938	53.8%
	Total	**$23,953,936**	**$23,027,683**	**4.02%**

1.4 PROPOSED WATER AND SEWER RATE ADJUSTMENTS

Schedules of proposed rates for FY 2012 that recognize cost of service principles, policy considerations, and customer affordability described in this report are shown in **Table 16 A and B** for water service and **Table 32** for sewer service.

Analyses of projected revenues and revenue requirements for the Utility System was conducted to determine the adequacy of existing rates. The illustration below summarizes the projected overall annual revenue increases required over the next five years to meet future revenue requirements, to

maintain and improve Utility System infrastructure, to promote the efficient use of water resources, to maintain adequate debt service coverage ratios, and maintain adequate cash reserves to improve the financial condition of the Utility System.

INDICATED NEEDED REVENUE INCREASE			
Year	Water	Sewer	Combined
2012	1.6%	15.0%	4.0%.
2013	2.0%	16.1%	9.0%
2014	3.0%	11.5%	7.5%
2015	4.4%	7.3%	6.0%
2016	6.0%	6.0%	6.0%

It is recommended that the City give consideration to adopting the schedule of proposed water and sewer rates for FY 2012, as shown in **Section 1.5**, to be effective on April 1, 2012. In addition, FY 2012 revenue increase of 4.0 percent aggregates to an effective rate increase of 8.0 percent because the increase will be implemented over the last six months of FY 2012.

1.5 PROPOSED WATER AND SEWER RATES

Listed below are rate schedules that summarize the proposed FY 2012 water and sewer rates to be implemented on April 1, 2012. As a part of the proposed water and sewer rate plan, Black & Veatch recommends reducing the nine (9) existing customer designations to six (6). As listed below, the residential, apartments, mobile home, and sprinkler classes will remain the same, but the new commercial class is a combination of the old commercial, churches, and the hotel/motels classes and the new City class is a combination of the educational and the public authority classes. In addition, by City policy, a multiplier of 1.25 is applied to the rates for all outside city customers. The City has implemented a policy where by all customers designated as outside the city customers are assessed water and sewer rates that contain a multiplier of 1.25 as compared to inside the city customers. As such, Black & Veatch will maintain the integrity of this policy throughout the entirety of this study.

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Proposed FY 2012 Water System Rates Inside City Customers Monthly Base Charge

METER SIZE (1)	CUSTOMER CLASSES					SPRINKLER
	Residential (2) (per living unit)	Apartments (2) (per living unit)	Mobile Homes (2)	Commercial	City	
3/4" Meter	$11.40	$11.40	$11.40	$11.40	$11.40	$11.40
1" Meter	$11.40	$11.40	$11.40	$22.06	$22.06	$22.06
1.5" Meter	$11.40	$11.40	$11.40	$54.10	$54.10	$54.10
2" Meter	$11.40	$11.40	$11.40	$134.21	$134.21	$134.21
2 (2)" Meter	$11.40	$11.40	$11.40	$134.21	$134.21	$134.21
3" Meter	$11.40	$11.40	$11.40	$240.96	$240.96	$240.96
4" Meter	$11.40	$11.40	$11.40	$481.17	$481.17	$481.17
6" Meter	$11.40	$11.40	$11.40	$908.35	$908.35	$908.35
8" Meter	$11.40	$11.40	$11.40	$1,602.36	$1,602.36	$1,602.36

Note:

1. The proposed meter based charges presented above retain no minimum allowance in water usage.
2. The residential, apartments, and mobile home customer classes are assessed the 3/4" meter based fixed charge on a per living unit basis. The monthly charge for other customers is assessed on a per customer basis.

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Proposed FY 2012 Water System Rates Inside City Customers Volumetric Rates

CUSTOMER CLASSES	USAGE BLOCKS				
	Units	Block 1 (Per 1,000 Gals.)	Block 2 (Per 1,000 Gals.)	Block 3 (Per 1,000 Gals.)	Block 4 (Per 1,000 Gals.)
Residential	$	$1.73	$2.42	$3.11	$3.46
Usage Blocks	***Gallons***	***0 – 5,000***	***5,001–12,000***	***12,001-20,000***	***Above 20,000***
Apartment	$	$1.62	$1.70	$1.78	$1.94
Usage Blocks	***Gallons***	***0 – 2,000***	***2,001–4,000***	***4,001-7,000***	***Above 7,000***
Mobile Homes	$	$1.66	$2.40		
Usage Blocks	***Gallons***	***0 - 295,000***	***Above 295,000***		
Commercial	$	$1.57	$2.09	$2.36	$3.14
Usage Blocks	***Gallons***	***0 – 15,000***	***15,001–75,000***	***75,001 – 315,000***	***Above 315,000***
Sprinkler	$	$3.18			
Usage Blocks	***Gallons***	***All Usage***			
City	$	$1.55	$2.33	$2.79	$3.16
Usage Blocks	***Gallons***	***0 – 60,000***	***60,001–405,000***	***405,001 – 780,000***	***Above 780,000***

Note:

1. The proposed volumetric rates do not include a minimum allowance, so all water usage is charged based on the defined rate per customer class per usage block as shown above.

Proposed FY 2012 Sewer Customer Monthly Base Charge and Volumetric Rates

CUSTOMER CLASS	INSIDE CITY
Base Charge	
All Residential (per living unit)	$12.15
All Apartment (per living unit)	$12.15
All Mobile Home	$12.15
3/4" Meter	$12.15
1" Meter	$23.50
1.5" Meter	$57.64
2" Meter	$142.99
2 (2)" Meter	$142.99
3" Meter	$256.73
4" Meter	$512.66
6" Meter	$967.81
8" Meter	$1,707.24
Volumetric Rate (Per 1,000 Gals.)	
All Usage	$3.18

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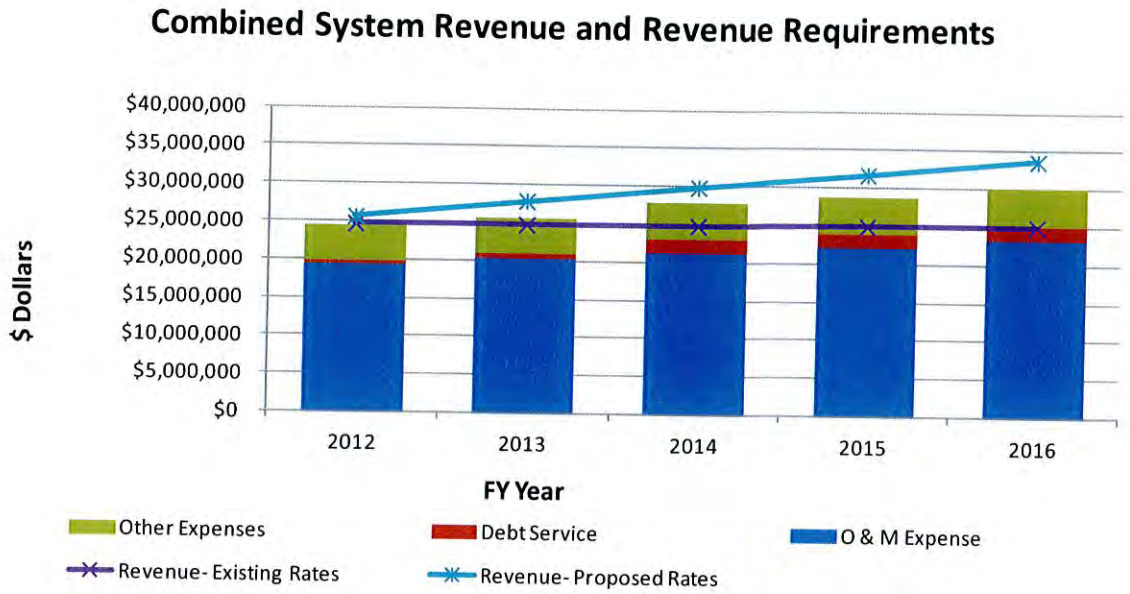
Note:

1. The monthly base charges for the residential, apartments, and mobile home customer classes are assessed per living unit.
2. The monthly base charges for the commercial, city, and sprinkler customer classes are assessed on a per customer basis.
3. The volumetric rate is applied to all water usage at a billing factor of 85.0%.

1.6 COMBINED UTILITIES SYSTEM OPERATING RESULTS

The illustration below summarizes the key components of the financial results for the Utility System. Revenues generated under existing rates by the Utility System are not sufficient to fund the Utility System's obligations. The proposed rate plan meets all the forecasted Utility System revenue requirements, fulfills the bond coverage requirement, and maintains appropriate cash balances of the Utility System. Section 9 of this report provides a detailed summary of the Utility System's financial forecast.



1.7 RECOMMENDATIONS

Listed below are the general recommendations associated with the analysis performed herein:

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1. The City should prepare the documents necessary to obtain approval of the proposed financial plan and water and sewer rates;
2. The City should implement a policy associated with the development of a Renewal and Replacement Fund to be implemented on April 1, 2012;
3. The City should implement a policy associated with the development of a Rate Stabilization Fund to be implemented concurrently with the adoption of the proposed water and sewer rates;
4. The City should complete all planning studies and update the Water and Sewer System Capital Improvement Plan;
5. Municipalities in South Florida operating under the guidelines and mandates of the South Florida Water Management District ("SFWMD") have experienced significant drought conditions which has significantly reduced household outdoor water usage. In order to help comply with specific requirements established by the SFWMD, Black & Veatch proposes that the City increase the existing sewer billing factor as a percentage of water from 31.0% for residential customers and 36.0% for non-residential customers to 85.0% in FY 2012 and 90.0% in FY 2013 and beyond for all customers. Moreover, these percentages will better reflect the amount of water usage that is not returned to the City's sewer system based on the emerging and current customer water usage patterns.
6. The City should develop public information program that will educate and inform existing customers and other stakeholders about the implementation of the proposed financial plan and water and sewer rates; and
7. The City should perform preliminary due diligence associated with the compatibility of the existing billing system and filing notification necessary to implement the proposed water and sewer rates.

2 Introduction

2.1 OUTLINE OF REPORT

This report has been organized into nine sections that summarize the approach utilized as well as findings, conclusions, and recommendations together with supporting data and documentation. Following are brief discussions of the different sections in this report.

Section 1 – Executive Summary: This section provides an abbreviated discussion relative to the findings of analyses dealing with the projection of revenues under existing rates, projected revenue requirements, and results of cost of service analyses. Additionally, the proposed rates for water and sewer service and the combined systems financial results are provided herein.

Section 2 – Introduction: To clearly illustrate the requirements of the analyses presented herein a summary of the scope of services, the approach utilized, and other salient details appropriate for consideration is presented.

Section 3 – Water System Revenue and Revenue Requirements: This section provides data, documentation, and accompanying analyses conducted in order to quantify future revenue and revenue requirement needs of the City's water system. Specific discussions include observations and assumptions relative to customer growth, consumption, existing rates, and other sources of income. In addition, this section serves to develop the annual cash requirements of the City's water system over the forecast period. Finally, this section summarizes the projected financial forecast results.

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Section 4 – Water System Cost of Service Allocations: Using the anticipated cash revenue requirements for FY 2012 as provided in the City's Annual Budget, the test year cost of service is developed to quantify the relative proportion of costs attributable to each customer class. Specific discussions include cost of service to be allocated, customer classifications, functional allocation of plant investment, operating expense, depreciation expense, and distribution of these costs to individual customer classes.

Section 5 – Water System Rate Design: Based on the results of the preceding analyses, as well as the goals and objectives of the study performed herein as outlined by the City, this section details the proposed user rates anticipated to become effective on October 1, 2011.

Section 6 – Sewer System Revenue and Revenue Requirements: This section provides data, documentation, and accompanying analyses conducted to quantify future revenue and revenue requirement needs of the City's sewer system. Specific discussions include observations and assumptions relative to customer growth, consumption, existing rates, and other sources of income. In addition, this section serves to develop the annual cash requirements of the City's sewer system for the five year forecast period. Finally, this section summarizes the projected financial forecast results.

Section 7 – Sewer System Cost of Service Allocations: Using the anticipated cash requirements for FY 2012 as provided in the City's Annual Budget, the test year cost of service is developed to quantify the relative proportion of costs attributable to each customer class. Specific discussions include cost of service to be allocated, customer classifications, functional allocation of plant investment, operating expense, depreciation expense, and distribution of these costs to individual customer classes.

Section 8 – Sewer System Rate Design: Based on the results of the preceding analyses, as well as the goals and objectives of the study performed herein as outlined by the City, this section details the proposed user rates anticipated to become effective on October 1, 2011.

Section 9 – Utility System Summary of Results: This summary will comprehensively show the projected financial forecast results while illustrating the results of the proposed rate design. Recommendations for the overall system will be made regarding the need for the City to consistently meet debt service coverage requirements, establish policies that allow the City to maintain adequate cash reserves, and developing a sound stakeholder communications plan upon attaining City Council approval of the proposed plan.

2.2 GENERAL

The City of North Miami (the "City") was incorporated on February 15, 1926 and is a political subdivision in the State of Florida. The City operates under a council-manager form of government and provides general government, public safety, public works, economic and community development, library, public safety, public works, and cultural services to approximately 60,000 residents. In addition, the City operates a water utility, sewer utility, stormwater utility, and provides solid waste services as enterprise activities. The water and sewer systems are operated as a combined utility for administrative and financial accounting purposes. As a result, all revenues are combined in the same fund from which all water and sewer operating expenses, capital expenditures, and debt service requirements are paid. However, water and sewer rates are based upon separate rate schedules. To address the particular needs of both systems and to assess the ability of current rate structures to meet operating and capital needs, the following report has been prepared. This report includes the results of an analysis for both the water and sewer system of total revenue requirements, customer class cost of service, and rate design. The financial forecast presented herein is projected over a five year period ending September 30, 2016 and considers proposed rate adjustments and establishes specific cash funds. It should be noted that all subsequent references to a given year in this report are representative of the fiscal year ending September 30 of each year unless otherwise stated.

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2.3 PURPOSE

This report was prepared to examine the financial situation of the water and sewer utilities. In detail, the purpose of this report is: (1) to project and examine the future operating and capital financing requirements of the utilities and the ability of existing rates to recover the requirements; (2) to develop rates that will recover these revenue requirements, develop rates that promote the efficient usage of the City's water resources, address the equitability of the existing rates among the existing customer classes, and address issues around the affordability of existing rates for specific customers; and (3) to assess and provide recommendations regarding the overall financial health of the City's Utility System.

2.4 SCOPE

This report presents the results of a comprehensive study of projected revenue requirements, costs of service, and proposed rates for water and sewer service. Revenue and revenue requirements are projected over the forecast period, recognizing the anticipated growth in the number of customers and water consumption patterns throughout the City. The comprehensive study was authorized by the City to assess the Utility System's ability to meet current and future anticipated Utility System obligations, to develop a financing plan that will allow the Utility System to implement future antic-

ipated capital projects, to develop proposed rates that allows the City to promote the efficient use of water resources, and to assess the overall financial health of the Utility System.

The South Florida Water Management District has prompted the City to implement a water conservation program as a part of the City's application to renew the existing Water Use Permit. As a part of the program, the City outlined its plan to implement water rates, by April 1, 2012, that promotes the efficient use of water resources.

This report was prepared for the City and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to us, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof to the extent that such information, data, or opinions were based on information provided by others.

In conducting our analyses and in forming an opinion of the projection of future financial operations summarized herein, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by Black & Veatch in performing the aforementioned analyses follows generally accepted practices for such projections. Such assumptions and methodologies are summarized in this report and are believed to be appropriate for the purpose for which they are used. While Black & Veatch believes that the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur.

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2.5 GENERAL DESCRIPTION OF THE WATER AND SEWER SYSTEMS

The City's water system served about 18,539 customers as of September 30, 2010, while the sewer system served about 11,686 customers at that date. The Utility System serves the City's population of about 78,000 people. The Utility System accounts for the provision of potable water to residents and the collection and transmission of sanitary sewer flows to a wastewater treatment plant owned and operated by Miami-Dade County. The City operates and manages the water treatment facility, water distribution system, and the sewage collection and transmission system. While Miami-Dade County processes the corresponding sewer flows, the City does operate sanitary sewer transportation pipelines and sewer pump stations, but Miami-Dade County treats all the collected wastewater produced by the City.

2.6 GENERAL ASSUMPTIONS

General assumptions used in the analyses of revenues and revenue requirements are summarized on the following pages. Any substantial differences between the assumptions and the actual occurrences may affect the indicated revenue increases and proposed changes presented in this report.

General Assumptions

Revenue

- Revenue projections are based on an annual customer growth rate of 0.0% in FY 2012, 0.25% in FY 2013 and FY 2014, and 0.50% throughout the remainder of the forecast period as provided by the City.

- Projected water and sewer volumes of use are based on historical billed water and sewer volume per customer residing in specific customer classes. Use per customer is expected to remain stable at current levels during the study period.
- Other operating and non-operating revenue projected based on the aforementioned customer growth rate for applicable fees and earnings.

Operating and Maintenance Expenses

- Projected expenses associated with the operation of the water and sewer systems are adjusted for growth based on the escalation factors in **Table 1**.

Table 1 Escalation Factors

FACTOR	FORECAST PERIOD 2012-2016
Labor Escalation	6.000%
General Inflation	4.250%
Customer Growth (1)	0.250%
Materials & Supplies	3.750%
Electric/Fuel Factor	10.00%
Benefits Factor	7.000%

Note:

1. For the Test Year FY 2012, the forecast of customer growth is 0.0%, thereafter, annual growth rates of 0.25%. 0.25%, 0.50%, and 0.50% are utilized for the Fiscal Years FY 2013, FY 2014, FY 2015, and FY 2016, respectively.

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Major Capital Improvements

- Includes all improvements identified in the fiscal year 2012 through fiscal year 2016 capital improvement plan.

Capital Improvement Financing

- Revenue Bonds are issued with 30-year terms, an average interest rate of 6.25 percent, and equal annual principal and interest payments.
- Bond issuance costs are estimated to be 1 percent of the issue amount.
- The water and sewer system improvements will be financed primarily through funds from operations and debt.
- The City intends to issue $22.5 million in Revenue Bonds in the fourth quarter of FY 2012 of which $21.2 million will fund water project and $1.3 million will fund sewer projects. In addition, $7.5 million in Revenue Bonds will be issued in the third quarter of FY 2015 of which will fund water related capital projects.

Operating Cash Flow

- At beginning FY 2012, the Utility System is projected to have $12,300 in unrestricted fund balances as provided by the City.

- The results under the proposed rate plan include the utilization of Renewal and Replacement Funds in the amounts of $800,000 $2,000,000, $1,455,500, $1,900,000, and $1,330,000 in the FY 2012 through FY 2016 respectively to fund specific capital related renewal and replacement projects.
- Throughout the entirety of the forecast period defined herein, the City's targets a minimum Utility System cash balance of 90-120 days.

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3 Water System Revenue and Revenue Requirements

3.1 WATER REVENUE

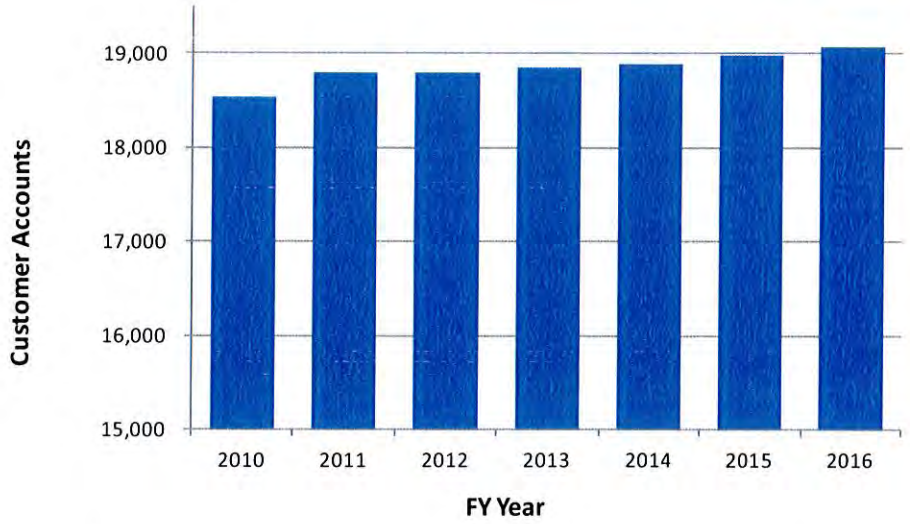
3.1.1 General

The City's water system derives revenue primarily from charges for treated water service. Other sources of income includes fees for billing, service charges, metering fees, connection fees, delinquent fees, and other miscellaneous revenue.

3.1.2 Customers and Growth

Analysis of the customer base indicates no immediate growth in new customer connections to the water system. As a result, the forecast of customer growth is held at FY 2011 levels in FY 2012, a slight increase of 0.25% is forecasted annually in both FY 2013 and FY 2014, and an increase of 0.50% is projected for both FY 2015 and FY 2016. **Figure 1** summarizes historical and projected customer accounts. Treated water service is currently provided to 15,818 residential customers, 700 apartment customers, 5 mobile home customers, 1,712 commercial customers, 113 city customers, and 448 sprinkler customers. The total number of water customers served by the City is anticipated to grow from 18,796 in FY 2012 to 19,075 in FY 2016.

Figure 1 Historical and Projected Customer Account



In addition, the City bills customer classified as, residential, mobile homes, and apartment, on a living units basis which is designated by the City at the time service is initiated. As a part of the Utility Service Initiation, customers served in the residential, mobile home, and apartment customer are designated on the basis of a living unit. Residential properties or lots in and around the utility service area of North Miami, in some cases, have multiple residents living on one property, so in response to determining the magnitude of water service, the level of water capacity to be available to this property, and the total amounts of residences on the property, the City designates the total amount of living units on the property. The living unit designation is intended to summarize the total actual amount of

residences on a property and serve as the equivalent basis to provide service to a typically customer using a 3/4" water meter.

At the end of FY 2011, the City served approximately 33,078 water living units. These units serve as the basis for the current application of the City's monthly base charges across the residential, mobile home, and apartment customer classes. During FY 2012, it is anticipated that there will be no additions in living units, so the projected increase in living units over the forecast period will be in accordance with the customer growth rates discussed herein. As such, the total living unit increase is expected to be 16,690, 5, and 16,964 for the apartment, mobile home, and residential customer classes, respectively, for a total living unit count of 33,577 by FY 2016.

3.1.3 Water Sales

The sale of treated water is projected to increase slightly over the forecast period. Over the past three (3) fiscal years, water utilities operating in the South Florida region of the United States have experienced significant drought conditions that have prompted the SFWMD to issue specific water use mandates to promote the efficient use of water resources by the end user and preserve the regions existing water resources. As issues pertaining to water restrictions and conservation continue to be extremely important, average customer usage is projected to remain fairly stable. As a result, the increase in customers over the forecast period is projected to influence the amount of water sales over the forecast period. **Figure 2** summarizes the historical and projected volume of water sales over the forecast period. The volume of water sales is projected to increase from 2,857,736 (thousand gallons) in 2012 to 2,897,768 (thousand gallons) in 2016.

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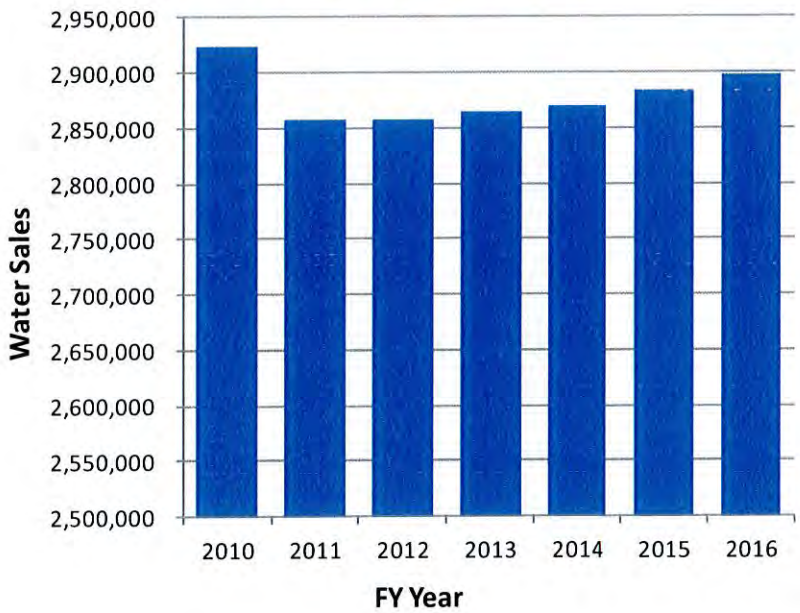
Figure 2 Historical and Projected Water Sales



3.1.4 Water Revenue

Projection of water sales revenue under existing rates is based on estimates of the number of water bills rendered, the average consumption per bill, and the historical distribution of the percentage of

consumption sold in each customer class for retail customers. In addition to a volumetric charge that is based on water consumption, the City renders an availability charge for water service and a capital improvement fee to fund water related capital improvement projects. The combination of these three charges generates the water system's user rate revenues. As discussed previously, historical data for the various classes of customers served under each of the water system's rate schedules provide the principal basis for estimates of future revenues. Water sales revenue derived from customer volumetric and base charges under existing rates are projected to grow from $11,953,400 in FY 2012 to $12,133,800 in FY 2016.

3.1.5 Other Revenue

In addition to water sales revenue, other revenue sources must be considered in this analysis. Other revenue sources include other operating revenue, non-operating revenue, and interest income. Other operating revenue includes charges for services, penalty charges, and other miscellaneous revenue. It is projected that other revenue for the water system will increase from $899,400 in 2012 to $908,400 in 2016. The following table summarizes the total revenue produced by the water system over the forecast period. **Table 2** presents a summary of water system revenues under existing rates, including both water sales revenue and revenue from other sources.

Table 2 Water System Projected Revenue under Existing Rates

FISCAL YEAR	REVENUE
2012	$12,852,800
2013	$12,882,700
2014	$12,915,000
2015	$12,977,300
2016	$13,042,200

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3.2 WATER REVENUE REQUIREMENTS

3.2.1 General

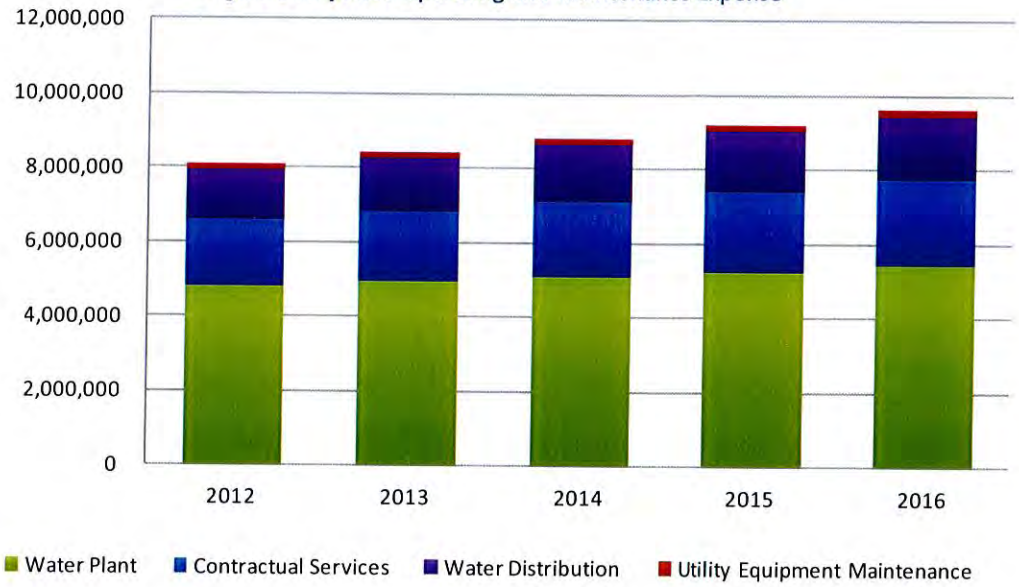
The revenue required to adequately provide for the continued operation of the water system must be sufficient to meet the cash requirements for the water system's operation. Such revenue requirements include: (1) operating and maintenance expenses; (2) debt service requirements, consisting of principal, interest, and any reserve fund payments on revenue bonds (3) and other expenditures and transfers. In addition, annual revenues need to be adequate to meet the debt service coverage requirements established by the bond ordinance applicable to existing and future revenue bond issues. Projections of cash requirements to meet these system expenditures for the forecast period are developed in this section.

3.2.2 Operating and Maintenance Expenses

Operating and maintenance expenses include the annual expenses associated with supply; treatment; storage and distribution; meter and services; billing, collection and accounting; and administrative and general services. These expenses include the annual salaries and wages of personnel, costs for material and supplies, fuel and electric power costs, and other costs such as employee benefits, insurance, and contract services. **Figure 3** summarizes the operating and maintenance expenses for the

water system over the forecast period. Projections of future operating and maintenance expenses are based on budget information provided by the City for FY 2012 and an analysis of current and anticipated operating conditions and trends. In recent years, operating and maintenance expenses have increased primarily due to the combined effects of inflation and rising fuel and energy prices. Included in these projections are the aforementioned factors as well as other pertinent factors. Total operating and maintenance expenses for the water system are projected to increase from $8,100,800 in 2012 to $9,630,900 in 2016.

Figure 3 Projected Operating and Maintenance Expense



3.2.3 Debt Service

Debt service costs are attributed to the water utility's share of the existing general debt service obligations. Estimated debt service on the water utility's share of debt is projected using information on bond obligations provided by the City for the forecast period. **Table 3** summarizes the debt service obligations on outstanding and proposed debt for the forecast period.

Table 3 Debt Service Obligations on Outstanding Debt

YEAR	DEBT SERVICE OBLIGATIONS
2012	$370,400
2013	$491,200
2014	$1,355,400
2015	$1,350,200
2016	$1,440,600

3.2.4 Other Expenditures & Transfers

Other expenditures and transfers include costs that are incurred by the water utility after the fulfillment of operating and maintenance and debt service obligations from revenues under existing rates.

These costs are typically funded by cash from operations and any other unrestricted sources of funds available to the City. The City has specific funding requirements that have been mandated by the City's General and Pension Fund. As such, the City intends to transfer $951,400 and $99,700 to the General and Pension Fund respectively in FY 2012 and these totals will amount to $960,900 and $119,500 respectively by the end of FY 2016.

As a part of implementing water rates that promotes the efficient use of water resources and provides for a more stable source of revenues, Black & Veatch recommends the implementation of a rate stabilization fund. The purpose of the fund is to create a revenue stabilization mechanism, or fund balance, to be used in the event of unforeseen events that would require an immediate increase in Utility System rates as a resolution to these effects on the Utility System. As such, the City will escrow about $644,000 annually from water and sewer operating revenues for seven (7) consecutive years that will start in FY 2012 and end in FY 2018. The goal of the fund is to maintain a targeted fund balance of $3.5 million that can be used by the City to stabilize Utility System rates as needed. The water system will contribute on average $329,100 annually to the rate stabilization fund over the forecast period defined herein.

Finally, Black & Veatch recommends the establishment of a Renewal and Replacement Fund to assist the City in funding normal annual system improvements. In implementing the establishment of this fund, the City should escrow and maintain, at a minimum, the equivalent of 6% of the value of its net plant investment in water and sewer facilities in order to provide for adequate annual renewals and replacements of the Utility System infrastructure. At the end of FY 2013, the fund's ending cash balance is anticipated to be $1,084,000 and this number will grow to $2,770,600 by the end of FY 2016. Based on the Renewal and Replacement Fund totals provided over the forecast period, the water system is anticipated to contribute $678,200 in FY 2012 and this total will grow to $801,100 in FY 2016.

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Table 4 shows the annual expenditures and transfer totals for the water system.

Table 4 Projected Other Expenditures and Transfers

YEAR	OTHER EXPENDITURES AND TRANSFERS
2012	$2,058,400
2013	$2,091,800
2014	$2,129,700
2015	$2,169,200
2016	$2,213,700

3.2.5 Major Capital Improvement

A summary of the proposed water utility capital improvements over the forecast period is shown in **Table 5.** The estimated cost of these improvements is $31.8 million over the forecast period.

The proposed water capital improvement projects shown in **Table 5** were identified based on future needs and current regulatory mandates. Additional projects may also be required to meet current

regulatory regulations. The nature and magnitude of these potential projects is not known but should they be required, additional financing beyond that indicated herein will be required.

The cost of the scheduled major capital improvements are expected to be financed from existing fund balances and annual operating revenues available for cash financing of capital improvements, as shown in **Table 5**.

Table 5 Water System CIP and CIP Financing

LINE	DESCRIPTION	2012	2013	2014	2015	2016 (1)	TOTAL
Capital Improvement Program:							
1	Water Meter Replacement	$600,000					$600,000
2	Upgrade to Water Plant	$4,493,000	$5,500,000	$13,750,000	$6,000,000		$29,743,000
3	Water Line Replacement	$300,000	$300,000	$300,000	$300,000	$300,000	$1,500,000
4	Total CIP	$5,393,000	$5,800,000	$14,050,000	$6,300,000	$300,000	$31,843,000
Sources & Uses of Funds:							
5	Revenue Bond	$5,393,000	$4,728,000	$11,079,000	$4,430,000		$25,630,000
6	Renewal. & Replacement		$670,800	$599,400	$1,010,500	$300,000	$2,580,700
7	Cash from Operations		$401,200	$2,371,600	$859,500		$3,632,300
8	Total Financing	$5,393,000	$5,800,000	$14,050,000	$6,300,000	$300,000	$31,843,000

Note:

1. The FY 2012 through FY 2016 Capital Improvement Plan ("CIP") was provided by the City.

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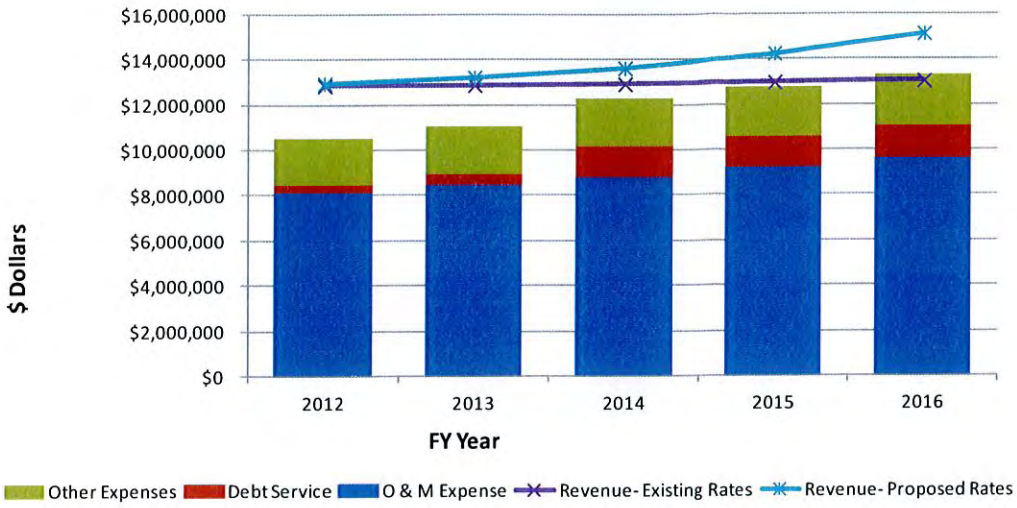
A detailed sources and uses is presented in **Table 37** that outlines a coordinated financing plan based on the City's existing cash reserves and the forecasted revenues to be generated from the proposed rate presented herein.

3.3 WATER SYSTEM SUMMARY OF REVENUE AND REQUIREMENT

Total revenue requirements, including operating and maintenance expenses, debt service obligations, and other expenditures and transfers for the water system are projected to grow from $10.5 million in FY 2012 to $13.3 million in FY 2016, as shown in **Figure 4**. Based on the projected revenues under existing rates and the projected revenue requirements, it is indicated that the revenues under existing rates will not be adequate to meet the projected requirements without some rate adjustment.

Figure 4 Comparison of Revenues and Revenue Requirements



Tables 6 and **7** respectively, summarize the projected operating results for the water utility under both the existing and proposed rates.

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Table 6 Projected Operating Results under Existing Rates

Description	For the Fiscal Year Ended: 2012	2013	2014	2015	2016
WATER SYSTEM					
REVENUES					
Operating Revenues:					
Existing Water System	$ 11,953,400	$ 11,983,300	$ 12,013,300	$ 12,073,400	$ 12,133,800
Percent Rate Increase	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Implementation Period	*6 months*	*12 months*	*12 months*	*12 months*	*12 months*
Actual Rate Increase	0	0	0	0	0
Revenue Under Proposed Rates	$ 11,953,400	$ 11,983,300	$ 12,013,300	$ 12,073,400	$ 12,133,800
Total Other Revenues	$ 899,400	$ 899,400	$ 901,700	$ 903,900	$ 908,400
Total Water Revenues	$ 12,852,800	$ 12,882,700	$ 12,915,000	$ 12,977,300	$ 13,042,200
OPERATING EXPENDITURES					
O&M Expenses:					
Contractual Services	$ 1,786,000	$ 1,899,900	$ 2,022,700	$ 2,155,400	$ 2,298,700
Utility Equipment Maintenance	146,100	154,200	162,800	171,800	181,400
Water Plant	4,785,700	4,931,500	5,086,800	5,258,200	5,440,500
W&S Special Projects	0	0	0	0	0
Water Distribution	1,383,000	1,458,300	1,537,800	1,621,700	1,710,300
Sewer Collection and Disposal	0	0	0	0	0
Sewer Projects	0	0	0	0	0
Total O&M Expenses	$ 8,100,800	$ 8,443,900	$ 8,810,100	$ 9,207,100	$ 9,630,900
Net Revenues	$ 4,752,000	$ 4,438,800	$ 4,104,900	$ 3,770,200	$ 3,411,300
Total Debt Service	$ 370,400	$ 491,200	$ 1,355,400	$ 1,350,200	$ 1,440,600
Income Available for Other Exp.	$ 4,381,600	$ 3,947,600	$ 2,749,500	$ 2,420,000	$ 1,970,700
Debt Service Coverage					
Achieved	12.83	9.04	3.03	2.79	2.37
Target	1.20	1.20	1.20	1.20	1.20
Other Expenditures & Transfers:					
Renewal and Replacement Fund	$ 678,200	$ 707,100	$ 737,100	$ 768,400	$ 801,100
Transfer to General Fund	951,400	951,400	953,800	956,100	960,900
Transfer to Pension Fund	99,700	104,200	108,900	114,100	119,500
Reserve for Employee Benefits	0	0	0	0	0
Rate Stabilization Fund	329,100	329,100	329,900	330,600	332,200
Total Other Exp. & Transfers	$ 2,058,400	$ 2,091,800	$ 2,129,700	$ 2,169,200	$ 2,213,700
Total Revenue Requirements	**$ 10,529,600**	**$ 11,026,900**	**$ 12,295,200**	**$ 12,726,500**	**$ 13,285,200**
Operating Surplus/Deficit	**$ 2,323,200**	**$ 1,855,800**	**$ 619,800**	**$ 250,800**	**$ (243,000)**
Fund Balance:					
Beginning Fund Balance	$ 6,300	$ 2,329,500	$ 3,784,100	$ 2,032,300	$ 1,423,600
Operating Surplus	2,323,200	1,855,800	619,800	250,800	(243,000)
Cash Funding of Capital Projects	0	(401,200)	(2,371,600)	(859,500)	0
Ending Fund Balance	**$ 2,329,500**	**$ 3,784,100**	**$ 2,032,300**	**$ 1,423,600**	**$ 1,180,600**
Days Fund Balance on Hand	**104**	**161**	**83**	**56**	**44**

As shown in **Table 6** the projected water system financial results under existing rates indicates that existing water rates and charges will produce sufficient revenues to meet the financial obligations of the water utility over the forecast period. In addition, while the associated debt service coverage ratio falls from 12.83 in FY 2012 to 2.37 in FY 2016, it still remains above the required 1.20 debt service coverage ratio as established in the Utility System's Bond Resolution. At the beginning of FY

2012, the water system begins the fiscal year with about $6,300 in cash, but by the end of the forecast period cash is increased to a balance of $2.3 million.

While no direct rate increases in existing revenue levels of the water system is indicated, the cost of service study and proposed rate sections of this report still needs to be conducted. This is to identify the adequacy of the cost of service recovery by customer class under the existing rate structure, to develop a revised rate structure that complies with the directive of the South Florida Water Management District to implement rates that reflect conservation objectives. In addition, the utility should develop an overall comprehensive financial plan for the entire combined utility system that allows the utility system to meet specific operating benchmarks such as 120 days worth of operating fund balance over the forecast period. It is this latter driver of maintaining 120 days worth of operating fund balance that drives the projected water utility revenue increases in this study, combined with the projected financial operations and related revenue increases for the sewer utility.

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Table 7 Projected Operating Results under Proposed Rates

Description	For the Fiscal Year Ended: 2012	2013	2014	2015	2016
WATER SYSTEM					
REVENUES					
Operating Revenues:					
Existing Water System	$ 11,953,400	$ 12,079,100	$ 12,351,500	$ 12,785,600	$ 13,414,900
Percent Rate Increase	*1.60%*	*2.00%*	*3.00%*	*4.40%*	*6.00%*
Implementation Period	*6 months*	*12 months*	*12 months*	*12 months*	*12 months*
Actual Rate Increase	95,600	241,600	370,500	562,600	804,900
Revenue Under Proposed Rates	$ 12,049,000	$ 12,320,700	$ 12,722,000	$ 13,348,200	$ 14,219,800
Total Other Revenues	$ 899,400	$ 899,400	$ 901,700	$ 903,900	$ 908,400
Total Water Revenues	$ 12,948,400	$ 13,220,100	$ 13,623,700	$ 14,252,100	$ 15,128,200
OPERATING EXPENDITURES					
O&M Expenses:					
Contractual Services	$ 1,786,000	$ 1,899,900	$ 2,022,700	$ 2,155,400	$ 2,298,700
Utility Equipment Maintenance	146,100	154,200	162,800	171,800	181,400
Water Plant	4,785,700	4,931,500	5,086,800	5,258,200	5,440,500
W&S Special Projects	0	0	0	0	0
Water Distribution	1,383,000	1,458,300	1,537,800	1,621,700	1,710,300
Sewer Collection and Disposal	0	0	0	0	0
Sewer Projects	0	0	0	0	0
Total O&M Expenses	$ 8,100,800	$ 8,443,900	$ 8,810,100	$ 9,207,100	$ 9,630,900
Net Revenues	$ 4,847,600	$ 4,776,200	$ 4,813,600	$ 5,045,000	$ 5,497,300
Total Debt Service	$ 370,400	$ 491,200	$ 1,355,400	$ 1,350,200	$ 1,440,600
Income Available for Other Exp.	$ 4,477,200	$ 4,285,000	$ 3,458,200	$ 3,694,800	$ 4,056,700
Debt Service Coverage					
Achieved	13.09	9.72	3.55	3.74	3.82
Target	1.20	1.20	1.20	1.20	1.20
Other Expenditures & Transfers:					
Renewal and Replacement Fund	$ 678,200	$ 707,100	$ 737,100	$ 768,400	$ 801,100
Transfer to General Fund	951,400	951,400	953,800	956,100	960,900
Transfer to Pension Fund	99,700	104,200	108,900	114,100	119,500
Reserve for Employee Benefits	0	0	0	0	0
Rate Stabilization Fund	329,100	329,100	329,900	330,600	332,200
Total Other Exp. & Transfers	$ 2,058,400	$ 2,091,800	$ 2,129,700	$ 2,169,200	$ 2,213,700
Total Revenue Requirements	**$ 10,529,600**	**$ 11,026,900**	**$ 12,295,200**	**$ 12,726,500**	**$ 13,285,200**
Operating Surplus/Deficit	**$ 2,418,800**	**$ 2,193,200**	**$ 1,328,500**	**$ 1,525,600**	**$ 1,843,000**
Fund Balance:					
Beginning Fund Balance	$ 6,300	$ 2,425,100	$ 4,217,100	$ 3,174,000	$ 3,840,100
Operating Surplus	2,418,800	2,193,200	1,328,500	1,525,600	1,843,000
Cash Funding of Capital Projects	0	(401,200)	(2,371,600)	(859,500)	0
Ending Fund Balance	**$ 2,425,100**	**$ 4,217,100**	**$ 3,174,000**	**$ 3,840,100**	**$ 5,683,100**
Days Fund Balance on Hand	**108**	**180**	**130**	**150**	**212**

While Table 6 illustrates that there is no need for a water rate increase under existing rates, the 90-120 days worth of operating fund balance target is not maintained on a combined system basis, so the driving force behind the consecutive water system rate increases of 1.60%, 2.00%, 3.00%, 4.40%, and 6.00% for FY 2012 through FY 2016 is the need to meet the operating fund balance target and maintain the financial health of the utility on a combined systems basis as shown in Table 36.

4 Water System Cost of Service Allocations

4.1 GENERAL

In performing the cost of service analysis described herein, revenue requirements are allocated to the various customer classifications according to the cost of service rendered. Allocations of revenue requirements to customer classes should take into account the quantity of water used relative peak capacity requirements placed on the system, the number and size of services to customers, proprietary interest in the system investment, and other relevant factors.

4.2 COST OF SERVICE TO BE ALLOCATED

In analyzing the costs of service for allocation to customer classes, the projected annual revenue requirements for FY 2012 have been selected as test year requirements representative of the study period examined herein. In determining costs of service to be met from charges for water service, income received from other sources is deducted from total revenue requirements. For the test year net cost of service of $12,049,000 which represents the total revenue requirements $12,948,400 minus other revenues and transfers received of $899,400. Other revenues received are deducted from the operating expense in the calculation of costs of service.

The net cost of service is apportioned among customer classes in this report on a utility basis; that is, in terms of operating expenses, depreciation expense, and return on net plant investment, or rate base. For a municipal utility, the total of depreciation expense and return is equal to the capital cost related portion of the total cost of service.

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Depreciation is the loss, not restored by current maintenance, which occurs in the utility plant in service due to decay, inadequacy and obsolescence. Depreciation accounting is usually based on an annual percentage allowance of plant investment adequate to return the investment during the useful life of the facility. The annual allowance varies with the expected service lives of the classes of property. The annual depreciation allowance normally is not accrued as a cash reserve, but is reinvested in replacements and additions to plant facilities. As the end of the useful life of the property is reached, the equivalent in dollars will typically have been reinvested as replaced or added utility plant. Based on the information provided, the test year depreciation expense has been determined to be $541,179.

Return is the balance of annual costs of service after operating expenses and depreciation, which amounts to $782,211. Return provides for payment of the interest portion of debt service and capital improvement costs beyond that provided by the depreciation expense.

The total net cost of service expressed on a utility basis is summarized below.

Operating Expense	$ 10,725,610
Depreciation Expense	541,179
Return	782,211
Total Cost of Service	$12,049,000

Table 8 presents a detailed cost of service on both the "cash basis" and the utility basis.

Table 8 Summary of Cash Basis and Utility Basis Cost of Service

Line	Description	Operating Expense	Capital Cost	Total
				Fiscal Year 2012
	Revenue Requirements:			
1	O&M Expense	$ 8,100,800		$ 8,100,800
2	Debt Service Requirements		370,400	370,400
3	Renewal and Replacement Fund		678,200	678,200
4	Transfer to General Fund	951,400		951,400
5	Transfer to Pension Fund	99,700		99,700
6	Reserve for Employee Benefits	0		0
7	Rate Stabilization Fund	296,190	32,910	329,100
8	Operating Surplus Generated	2,176,920	241,880	2,418,800
9	**Total**	**$ 11,625,010**	**$ 1,323,390**	**$ 12,948,400**
	Other Income Sources:			
10	Other Operating Revenue	$ 899,400		$ 899,400
11	**Total**	**$ 899,400**	**$ 0**	**$ 899,400**
12	**Net Cost of Service**	**$ 10,725,610**	**$ 1,323,390**	**$ 12,049,000**
	Restatement of Net Costs (Utility Basis):			
13	O&M Expense	$ 10,725,610		$ 10,725,610
	Capital Costs:			
14	Depreciation		541,179	541,179
15	Return		782,211	782,211
16	**Total**	**$ 10,725,610**	**$ 1,323,390**	**$ 12,049,000**

4.3 FUNCTIONAL COST COMPONENTS

The various cost elements of water service are assigned to functional costs components as the first step in the subsequent distribution of the costs of service to customer classes. The principal functional costs components consist of base costs, extra capacity costs, and customer costs.

Base costs include treatment chemicals, and operating and capital costs of the water system associated with service to customers to the extent required for a constant, or average annual rate of use.

Extra capacity costs represent those operating costs incurred in meeting demands in excess of average, and capital related costs for additional plant and system capacity beyond that required for the average rate of use. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demands.

Customer costs are defined as costs which tend to vary in proportion to the number of customers connected to the system. These include meter reading, billing, collection and accounting costs, and maintenance and capital charges associated with meters and services.

The separation of costs of service into these principal categories provides the means of further allocating such costs to the various customer classes based on the respective base, extra capacity, and customer service requirements of each customer class.

4.4 ALLOCATION TO COST COMPONENTS

The water system is comprised of various facilities, each designed and operated to fulfill a given function. To provide adequate service to its customers at all times, the system must be capable of meeting not only volume requirements, but also the maximum rates of demand placed on the system. Because all customers do not exert maximum demand at the same time, capacities of the various system components are required to meet the maximum coincidental demand of all classes of customers. Each water service facility within the system has an underlying average demand, or uniform rate of usage, exerted by the customers for whom the base cost component applies. For those facilities designed solely to meet average day demand, costs are allocated 100 percent to the base cost component. Extra capacity requirements associated with coincidental demands in excess of average use are further related to maximum daily and maximum hourly demands.

Analysis of historical system maximum day and maximum hour demands to average day demands results in appropriate ratios for the allocation of capital costs and operating expenses to base and extra capacity cost components. A maximum day to average day ratio of 1.5 is used based on the historical Winson Water Treatment Plant historical Monthly Operating Reports for FY 2007 through FY 2016. This ratio indicates that 66.7 percent of the capacity of facilities designed and generated to meet maximum day demand is required for average or base use. Accordingly, the remaining 33.3 percent is required for maximum day extra capacity requirements.

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The costs associated with facilities required to meet maximum hour demand are allocable to base, maximum day extra capacity, and maximum hour extra capacity. A ratio of maximum hour to annual average day water use of 2.5 is used based on the demand ratios as provided by the City. This ratio indicates that 40.0 percent of the capacity of facilities designed and operated for maximum hour demand is needed for average or base use, while 20.0 percent is utilized for maximum day extra capacity uses, and the remaining 40.0 percent is required to meet maximum hour extra capacity demand in excess of maximum day needs.

4.5 ALLOCATION OF NET PLANT INVESTMENT

The net plant investment in water system facilities is allocated to appropriate cost functions as a basis for further distribution to the various customer classes. The resulting distribution is the basis for assigning the return portion of the test year cost of service to respective classes.

The estimated test year FY 2012 plant investment in water facilities consists of net plant in service as of September 30, 2010, construction in progress, and proposed capital improvements expected to be in service. Total plant investment is estimated to be $11,775,578 as indicated by line 7 in **Table 9.**

Table 9 Allocation of Net Plant Investment

Line	Description	Total	Base	Extra Capacity Max Day	Extra Capacity Max Hour	Equivalent Meters	Customer Bills
1	Source of Supply	$ 125,953	125,953				
2	Pumping Plant	54,347	36,249	18,098			
3	Water Treatment Plant	808,900	539,536	269,364			
4	Transmission Plant	5,906,904	2,289,280	1,144,640	2,289,280	183,705	
5	Distribution Plant	4,370,187	1,748,075	874,037	1,748,075		
6	General Plant	509,287	190,663	92,781	162,431	7,391	56,022
7	Total	$ 11,775,578	$ 4,929,756	$ 2,398,920	$ 4,199,786	$ 191,096	$ 56,022

Allocated investment for this figure is used as the basis for assigning the return portion of test year cost of service to respective customer classes.

4.6 ALLOCATION OF OPERATING & MAINTENANCE AND DEPRECIATION EXPENSES

Depreciation expense is based on system investment including capitalized interest and current utility depreciation rates, and is projected to total $541,179 for the test year. The allocation of depreciation expense to functional cost components is summarized in **Table 10.**

Table 10 Allocation of Operations & Maintenance and Depreciation Expense

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Line	Description	Total	Base	Extra Capacity Max Day	Extra Capacity Max Hour	Equivalent Meters	Customer Bills
	O&M Expense Summary:						
1	O&M Expense	$ 11,625,010	$ 7,113,518	$ 1,395,296	$ 2,442,961	$ 111,106	$ 562,129
2	Percent Allocation	100.0%	61.2%	12.0%	21.0%	1.0%	4.8%
3	Less Other Income	$ 899,400	$ 550,343	$ 107,928	$ 188,964	$ 8,634	$ 43,531
4	**O&M Expense After Other Inc.**	$ 10,725,610	$ 6,563,175	$ 1,287,368	$ 2,253,997	$ 102,472	$ 518,598
5	**Perecent Allocation After Other Inc.**	100.0%	61.2%	12.0%	21.0%	1.0%	4.8%
6	**Depreciation Expense:**						
7	Source of Supply	$ 17,371	17,371				
8	Pumping Plant	6,302	4,204	2,098			
9	Water Treatment Plant	87,365	58,272	29,092			
10	Transmission Plant	192,788	74,717	37,358	74,717	5,996	
11	Distribution Plant	226,511	90,604	45,302	90,604		
12	General Plant	10,843	4,539	2,209	3,868	176	52
13	**Total Depreciation Expense**	$ 541,179	$ 249,706	$ 116,059	$ 169,189	$ 6,172	$ 52
14	**Depreciation - Percent Allocation**	100.0%	46.1%	21.5%	31.3%	1.1%	0.0%

The various items of depreciation expense are allocated to functional categories in the same manner as in the allocation of net plant investment.

Additionally, the allocation of total operating and maintenance expense, $10,725,610 is demonstrated in **Table 10** Lines 1 through 4. Similar to the allocation of depreciation expense, the various components of operating expense are allocated to cost functions in the same manner as that which was relied upon for the allocation of net plant investment. The net operating and maintenance expense of

$10,725,610 is derived after subtracting water revenue from other source of $899,400 from the beginning operating and maintenance expense of $11,625,010.

4.7 DISTRIBUTION OF COSTS TO CUSTOMER CLASSES

As a basis for determining the cost of water service to each customer class, the elements of cost of service previously allocated to functional cost components are distributed among the customer classes in proportion to their respective service requirements. Estimates of these service requirements, or units of service, reflect the average number of customer equivalencies, annual water sales, and estimated peak water demands placed on the system by each customer class. Analysis of resulting costs of service to each class and comparison of allocated costs with revenues under existing rates provide a basis for future water rate adjustments.

4.7.1 Units of Service

The cost of service responsibility for base costs varies with the volume of water requirements and may be distributed to customer classes on that basis. Extra capacity costs are those costs associated with meeting peak rates of water use, and are distributed to customer classes on the basis of their respective system capacity requirements in excess of average requirement rates. Customer costs, which consist of meter related costs and billing and collection costs, are allocated on the basis of the number of equivalent meters and monthly bills, respectively.

The estimated test year units of service requirements for the various customer classifications are shown in **Table 11** on the following page. Estimates of test year annual water requirements, shown in Column 1, are based on the projections of total water sales previously developed in this report. Average daily use of all water sales is presented in Column 2. Columns 3 through 8 show the estimated maximum day and maximum hour capacity factors for each customer class, the resulting demands, and extra capacity requirements, respectively. Estimates of peak requirements are based upon an analysis of available historic experience for the City, supplemented by the results of detailed analyses of typical customer peak demand characteristics in other comparable cities. Due to the peak demand diversity among the classes, the sum of the individual peak requirements for each class, which are not coincidental to the system, exceeds the experienced coincidental peak of the system.

Customer related metering services and billing are presented in column 9 and 10 and these costs are allocated on the basis of the number of equivalent 3/4 inch meters serving each customer class. The number of equivalent meters in each customer class is estimated by relating typical costs for meters and services larger than 3/4 inch in size to the typical costs of a 3/4 inch meter and its related service line. Customer billing and accounting costs are distributed to classes on the basis of number of bills for each customer class.

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Table 11 Units of Service

Line	Customer Class	Annual Use	Average Daily Use	Maximum Day Requirements: Capacity Factor	Maximum Day Requirements: Total Capacity	Maximum Day Requirements: Extra Capacity	Maximum Hour Requirements: Capacity Factor	Maximum Hour Requirements: Total Capacity	Maximum Hour Requirements: Extra Capacity	Equivalent Meters	Bills
	Column Numbers	(1)	(2)	(3)	(4)	5	6	7	8	9	10
		K Gals.	K Gals. (1) / 365	%	K Gals. (2) x (3)	K Gals. (4) - (2)	%	K Gals. (2) x (6)	K Gals. (7) - (4)	Meters	Bills
	Inside Monthly:										
1	Apartments	737,084	2,020	180%	3,636	1,616	270%	5,454	1,818	329	141,656
2	Mobile Homes	0	0	180%	0	0	270%	0	0	0	0
3	Residential	2,979	9	225%	20	11	350%	32	12	43	711
4	Churches	2,505	7	170%	12	5	250%	18	6	33	108
5	Commercial	214,824	589	170%	1,001	412	250%	1,473	472	927	2,863
6	Educational	95,288	262	170%	445	183	250%	655	210	398	730
7	Hotels/Motels	7,705	22	180%	40	18	270%	59	19	21	72
8	Public Authority	28,342	78	170%	133	55	250%	195	62	96	228
9	Sprinkler	6,915	19	250%	48	29	400%	76	28	119	373
10	**Total Inside Monthly**	1,095,641	3,006		5,335	2,329		7,962	2,627	1,966	146,741
	Inside Quarterly:										
11	Apartments	35,220	97	180%	175	78	270%	262	87	148	2,954
12	Mobile Homes	0	0	180%	0	0	270%	0	0	0	0
13	Residential	638,924	1,751	225%	3,940	2,189	350%	6,129	2,189	9,400	37,087
14	Churches	3,719	11	170%	19	8	250%	28	9	45	122
15	Commercial	65,311	179	170%	304	125	250%	448	144	1,203	4,192
16	Educational	66	1	170%	2	1	250%	3	1	1	4
17	Hotels/Motels	617	2	180%	4	2	270%	5	1	3	8
18	Public Authority	83	1	170%	2	1	250%	3	1	4	16
19	Sprinkler	78,779	216	250%	540	324	400%	864	324	878	1,672
20	**Total Inside Quarterly**	822,718	2,258		4,986	2,728		7,742	2,756	11,682	46,055
	Outside Monthly:										
21	Apartments	245,608	673	180%	1,211	538	270%	1,817	606	103	101,196
22	Mobile Homes	14,745	41	180%	74	33	270%	111	37	5	72
23	Residential	1,394	4	225%	9	5	350%	14	5	8	611
24	Churches	2,511	7	170%	12	5	250%	18	6	53	109
25	Commercial	119,408	328	170%	558	230	250%	820	262	522	1,375
26	Educational	13,393	37	170%	63	26	250%	93	30	134	268
27	Hotels/Motels	3,998	11	180%	20	9	270%	30	10	7	48
28	Public Authority	93	1	170%	2	1	250%	3	1	4	12
29	Sprinkler	3,251	9	250%	23	14	400%	36	13	14	48
30	**Total Outside Monthly**	404,401	1,111		1,972	861		2,942	970	850	103,739
	Outside Quarterly:										
31	Apartments	27,283	75	180%	135	60	270%	203	68	131	2,415
32	Mobile Homes	0	0	180%	0	0	270%	0	0	0	0
33	Residential	513,409	1,407	225%	3,166	1,759	350%	4,925	1,759	6,608	28,328
34	Churches	2,529	7	170%	12	5	250%	18	6	25	76
35	Commercial	30,906	85	170%	145	60	250%	213	68	304	1,014
36	Educational	231	1	170%	2	1	250%	3	1	2	4
37	Hotels/Motels	180	1	180%	2	1	270%	3	1	2	4
38	Public Authority	396	2	170%	3	1	250%	5	2	7	20
39	Sprinkler	73	1	250%	3	2	400%	4	1	2	4
40	**Total Outside Quarterly**	575,007	1,579		3,468	1,889		5,374	1,906	7,081	31,865
41	**Total System**	2,897,768	7,954		15,761	7,807		24,020	8,259	21,579	328,400
					Daily			**Hourly**			
42	Total noncoincidental demand				15,761			24,020			
43	Total coincidential demand				11,931			19,885			
44	Ratio non to coincidental demand (Diversity Factor)				1.32			1.21			

4.7.2 Customer Class Costs of Service

Unit net costs of service are developed by dividing the total cost allocated to each functional costs component by the total applicable units of service. The customer class responsibility for service is

obtained by applying unit costs of service to the number of units for which the customer class is responsible.

The City's water system has been built with provision for service of customers within the City. The system rate of return on net plant investment applicable for calculating the unit cost is determined to be **6.64%. Table 12** summarizes the various components that make up the unit cost of service. Unit costs of service for each component are determined simply by dividing the allocated cost or investment by the total units of service. The total unit cost of service for the City's customers is shown on line 10 and the associated net cost of service by cost function is shown on Line 11 below.

Table 12 Development of Test Year Unit Cost of Service

Line	Description	Total	Base	Extra Capacity Max Day	Extra Capacity Max Hour	Equivalent Meters	Customer Bills
			Gals	Gals	Gals	Meters	Bills
	Number of Units:						
1	City of North Miami		2,897,768	7,807	8,259	21,579	328,400
	Costs of Service:						
	Net Operating Expense						
2	Total - $	10,725,610	6,563,162	1,287,345	2,253,955	102,510	518,638
3	Unit Cost - $/unit		2.2649	164.8963	272.9089	4.7505	1.5793
	Depreciation Expense						
4	Total - $	541,179	249,707	116,059	169,189	6,172	52
5	Unit Cost - $/unit		0.0862	14.8660	20.4854	0.2860	0.0002
	Net Plant Investment						
6	Total - $	11,775,578	4,929,755	2,398,920	4,199,786	191,096	56,022
7	Unit Cost - $/unit		1.7012	307.2780	508.5102	8.8556	0.1706
	Return on Investment						
8	Total - $	782,211	327,467	159,352	278,977	12,694	3,721
9	Unit Cost - $/unit		0.1130	20.4114	33.7786	0.5882	0.0113
	Total Unit Cost of Service						
10	City of North Miami - $/unit		2.4641	200.1737	327.1729	5.6247	1.5908
	Total Cost of Service						
11	City of North Miami - $	12,049,001	7,140,337	1,562,756	2,702,121	121,376	522,412
12	**System Rate of Return**	6.64%					

The cost of service allocated to customer classes is summarized in **Table 13.** Total cost of service for each class is based on unit costs of service from **Table 12** and units of service from **Table 11.**

Table 13 Customer Class Unit Cost of Service

Line	Description	Total	Base	Extra Capacity Max Day	Extra Capacity Max Hour	Equivalent Meters	Customer Bills
		$	$	$	$	$	$
1	Unit cost of service ($/unit)		2.4641	200.1737	327.1729	5.6247	1.5908
	Apartments:						
1	Units of Service		1,045,195	2,292	2,579	711	248,221
2	Allocated cost of service	4,276,888	2,575,447	458,798	843,779	3,999	394,865
	Mobile Homes:						
3	Units of Service		14,745	33	37	5	72
4	Allocated cost of service	55,187	36,333	6,606	12,105	28	115
	Residential:						
5	Units of Service		1,156,706	3,964	3,965	16,059	66,737
6	Allocated Cost of Service	5,137,440	2,850,219	793,489	1,297,241	90,327	106,164
	Churches:						
7	Units of Service		11,264	23	27	156	415
8	Allocated Cost of Service	42,730	27,755	4,604	8,834	877	660
	Commercial:						
9	Units of Service		430,448	827	946	2,956	9,444
10	Allocated Cost of Service	1,567,359	1,060,659	165,544	309,506	16,627	15,023
	Educational:						
11	Units of Service		108,978	211	242	535	1,006
12	Allocated Cost of Service	394,552	268,530	42,237	79,176	3,009	1,600
	Hotels/Motels:						
13	Units of Service		12,500	30	31	33	132
14	Allocated Cost of Service	47,344	30,801	6,005	10,142	186	210
	Public Authority:						
15	Units of Service		28,914	58	66	111	276
16	Allocated Cost of Service	105,512	71,246	11,610	21,593	624	439
	Sprinkler:						
17	Units of Service		89,018	369	366	1,013	2,097
18	Allocated Cost of Service	421,990	219,347	73,864	119,745	5,698	3,336
19	**Total Allocated Cost of Service**	**12,049,002**	**7,140,337**	**1,562,757**	**2,702,121**	**121,375**	**522,412**

Table 14 presents a test year comparison of net cost of service results with revenues under existing rates for each customer class served by the City. As demonstrated **in Table 14**, the under existing rates the water system under recovers the annual test year cost of service by $95,643 in FY 2012.

Table 14 Comparison of Customer Class Cost of Service and Revenues under Existing Rates

Line	Customer Class	Cost of Service	Existing Revenue	Difference Amount	Difference Percent	Percent Increase
		$	$	$	%	
	Water System:					
1	Apartments	$ 4,276,886	$ 5,047,774	$ (770,888)	118.02%	-15.27%
2	Mobile Homes	55,187	21,591	33,596	39.12%	155.60%
3	Residential	5,137,439	4,543,251	594,188	88.43%	13.08%
4	Churches	42,732	56,332	(13,600)	131.83%	-24.14%
5	Commercial	1,567,359	1,513,845	53,514	96.59%	3.53%
6	Educational	394,550	356,475	38,075	90.35%	10.68%
7	Hotels/Motels	47,343	55,236	(7,893)	116.67%	-14.29%
8	Public Authority	105,512	83,911	21,601	79.53%	25.74%
9	Sprinkler	421,988	274,938	147,050	65.15%	53.48%
10	**Total Water System**	**$ 12,048,996**	**$ 11,953,353**	**$ 95,643**	**99.21%**	**0.80%**

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5 Water System Rate Design

5.1 GENERAL

The revenue requirement and cost of service studies described in the preceding sections of this report provide a basis for the review and update of a schedule of water rates that reasonably recovers allocated costs of service. It should be recognized that these studies are the results of engineering estimates, based on historical data and, to some extent, upon judgment and experience. Detailed results should not be used as literal and exact answers, but instead as guides to the necessity for and nature of rate adjustments. Judgment must enter into the final choice of rates, and factors such as public reaction to the extent of changes and adjustments, previous rate levels, contractual agreements, and past local practice should be recognized in making rate adjustments. Rates should be reasonably simple in application and subject to as few misinterpretations as possible. Considerations with regards to the rate adjustments were made based on discussions with City staff and include the indicated desire of the City representatives to: (1) to project and examine the future operating and capital financing requirements of the utilities and the ability of existing rates to recover the requirements; (2) to develop rates that will recover these revenue requirements, promote the efficient usage of water resources in the City, address the equitability of the existing rate amongst the existing customers classes, and address issues around the affordability of existing rates for specific customers; and (3) to assess and provide recommendations regarding the financial capabilities of the City's Utility System. In attempting to meet these policy criterias, schedules of proposed rates for water service were developed as presented and described in the following paragraphs.

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5.2 EXISTING WATER RATES

The existing schedule of rates for water service includes an monthly base charge, which varies by meter size and is paid by all customers, a capital improvement fee, which is a fixed monthly charge paid by all customers, and a uniform block volumetric rate. The monthly base charge includes a minimum volumetric allowance of 5,000 gallons. The capital improvement fee is an annual estimate of specific capital improvement project divided by all units of customers served and the volume charge is applied per 1,000 gallons of billable consumption over the minimum allowance of 5,000 gallons. **Tables 15 and 16** compare existing rates to proposed rates after adjustments.

Table 15 Existing Water Rates (All Classes)

DESCRIPTION	2011
Monthly Base Charge (1) (Min. Allowance of 5,000 gallons)	**Rate**
Residential (Living Units):	$11.37
Commercial:	
3/4" Meter	$11.37
1" Meter	$21.98
1.5" Meter	$53.92
2" Meter	$133.77
2 (2)" Meter	$133.77
3" Meter	$240.18
4" Meter	$479.60
6" Meter	$905.40
8" Meter	$1,597.15
Capital Improvement Fee (1)	
Residential	$7.67
Commercial	$7.67
Volumetric Rate (2)	
Residential	$1.12
Commercial	$2.01

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Note:

1. The monthly base charge and the capital improvement fee are fixed monthly fees that are applied to all customers/living units served by the City.
2. The volumetric rate is assessed to the water usage of customers on a per 1,000 gallon basis over and above the minimum allowance of 5,000 gallons.

5.3 PROPOSED WATER RATES

The cost of service studies described in the preceding section of this report provides the basis for the design of water rates schedules to cover the allocated cost for service for the water system. As previously indicated, water sales revenues shown for the test year 2012 and debt service coverage requirements are anticipated to be recovered under five projected annual rate adjustments assumed to be implemented by the City on April 1, 2012. In addition, as a part of the proposed water rate plan, Black & Veatch recommends reducing the nine (9) customer designations to six (6). As listed below, the residential, apartments, mobile home, and sprinkler classes will remain the same, but the new commercial class is a combination of the old commercial, churches, and the hotel/motels classes and the new City class is a combination of the educational and the public authority classes. As a part of the analysis performed herein, the Black & Veatch team reviewed the water usage characteristics for customers across all customer classes served by the City and is proposing the merger of the customer classes described above.

As a part of the due diligence performed during the course of the study described herein, the Black & Veatch team performed specific analysis on the effectiveness of the existing water rate components. As such, the Black & Veatch team has made specific recommendations about the actual water rate components to be assessed to customers.

The proposed water rates will consist of two components: 1) a monthly base charge, that varies by meter size and; 2) an increasing block volumetric rate that is assessed per 1,000 gallons of usage. The proposed volumetric rates will be assessed in an increasing block format to promote the efficient use of water resources.

Finally, the City has maintained a policy to apply a multiplier of 1.25 to the rates of all outside city customers. As such, Black & Veatch will maintain this policy in the assessment of the water rates that are charged to outside the city customers.

Table 16A & B summarizes the proposed FY 2012 rates.

Table 16 Proposed FY 2012 Water System Rates

A. Monthly Base Charge (Inside City)

	CUSTOMER CLASSES					
Meter Size	Residential (1)	Apartments (1)	Mobile Homes (1)	Commercial (2)	City (2)	Sprinkler (2)
3/4" Meter	$11.40	$11.40	$11.40	$11.40	$11.40	$11.40
1" Meter	$11.40	$11.40	$11.40	$22.06	$22.06	$22.06
1.5" Meter	$11.40	$11.40	$11.40	$54.09	$54.09	$54.09
2" Meter	$11.40	$11.40	$11.40	$134.21	$134.21	$134.21
2 (2)" Meter	$11.40	$11.40	$11.40	$134.21	$134.21	$134.21
3" Meter	$11.40	$11.40	$11.40	$240.96	$240.96	$240.96
4" Meter	$11.40	$11.40	$11.40	$481.17	$481.17	$481.17
6" Meter	$11.40	$11.40	$11.40	$908.35	$908.35	$908.35
8" Meter	$11.40	$11.40	$11.40	$1,602.36	$1,602.36	$1,602.36

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Note:

1. The monthly base charges for the residential, apartments, and mobile home customer classes are assessed per living unit.
2. The monthly base charges for the commercial, city, and sprinkler customer classes are assessed on a per customer basis.

B. Volumetric Rates (Inside City)

CUSTOMER CLASSES	USAGE BLOCKS				
	Units	Block 1	Block 2	Block 3	Block 4
Residential	$	$1.73	$2.42	$3.11	$3.46
Usage Blocks	***Gallons***	***0 – 5,000***	***5,001–12,000***	***12,001-20,000***	***Above 20,000***
Apartment	$	$1.62	$1.70	$1.78	$1.94
Usage Blocks	***Gallons***	***0 – 2,000***	***2,001–4,000***	***4,001-7,000***	***Above 7,000***
Mobile Homes	$	$1.66	$2.40		
Usage Blocks	***Gallons***	***0 - 295,000***	***Above 295,000***		
Commercial	$	$1.57	$2.09	$2.36	$3.14
Usage Blocks	***Gallons***	***0 – 15,000***	***15,001–75,000***	***75,001 – 315,000***	***Above 315,000***
Sprinkler	$			$3.18	
Usage Blocks	***Gallons***			***All Usage***	
City	$	$1.55	$2.33	$2.79	$3.16
Usage Blocks	***Gallons***	***0 – 60,000***	***60,001–405,000***	***405,001 – 780,000***	***Above 780,000***

Note:

2. The proposed volumetric rates do not include a minimum allowance, so all water usage is charged based on the defined rate per customer class per usage block as shown above in Table 16B.

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The SFWMD has implemented certain mandates upon which the City has to abide as part of the Consumptive Use Permit between SFWMD and the City. As a part of the City's Consumptive Use Permit, the City is in the process of implementing a conservation plan which requires the City to implement water rates that promote the efficient use of water resources. The initial basis upon which the City will promote conservation amongst customers served by the Utility System is to implement an inclining block rate structure to the primary customer classes, residential, apartment, mobile homes, commercial, and city, served by the Utility System.

During the process of simulating the impact of the proposed water rates on the typical customers served by the Utility System, Black & Veatch worked with the City to understand the impact of the proposed rates on all customers served by the Utility System and address specific affordability concerns amongst specific customer groups served by the City. More specifically, the residential and apartment customer classes serve the largest group of customers and a high proportion of these customers are on a fixed income budget, so Black & Veatch and the City simulated an optimum weighting between considering a customer's ability to pay the proposed bill based on their existing bill and setting rates that recover revenues based on the cost of service rendered therein. This exercise was replicated for all customer groups, so that the Black & Veatch team and City representatives understood the impact to all the customer groups served by the City.

The proposed adjustments detailed in **Tables 16 A & B** allows the water utility to meet annual water system revenue requirements, meet debt service coverage requirements, and maintain appropriate cash balances in case of an emergency or an unforeseen event.

5.4 WATER SERVICE REVENUE UNDER PROPOSED RATES

A comparison of the estimated test year revenue under the proposed rates with allocated costs of service for each of the customer classes is shown in **Table 17.**

Table 17 Comparison of Customer Class Cost of Service and Revenues under Proposed Rates

Line	Customer Class	Cost of Service	Proposed Revenue	Revenue Recovery Amount	Revenue Recovery Percent
		$	$	$	%
	Water System:				
1	Apartments	$ 4,276,886	$ 4,316,677	$ 39,791	100.93%
2	Mobile Homes	55,187	27,454	(27,733)	49.75%
3	Residential	5,137,439	5,120,642	(16,797)	99.67%
4	Commercial	1,657,434	1,671,628	14,194	100.86%
5	City	500,062	489,013	(11,049)	97.79%
6	Sprinkler	421,988	423,627	1,639	100.39%
7	**Total Water System**	**$ 12,048,996**	**$ 12,049,040**	**$ 44**	**100.00%**

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6 Sewer System Revenue and Revenue Requirements

6.1 SEWER REVENUE

6.1.1 General

The City's sewer system generates revenue primarily from charges for sewer service. Other sources of revenue includes fees for billing, service charges, metering fees, connection fees, delinquent fees, and other miscellaneous charges.

6.1.2 Customers and Growth

Customer growth in the sewer system is expected to parallel the forecast of growth as determined for the water system. As such, the forecast of customer growth assumes 0.0% growth for FY 2011 and the test year FY 2012, 0.25% growth annually for FY 2013 and FY 2014, and 0.50% for the remainder of the forecast period. The City maintains customers that are designated as water only, sewer only, and water/sewer customers. The number of sewer customer accounts is projected to grow from about 11,957 to 12,134 from FY 2012 to FY 2016.

In addition, the City bills customers classified as, residential, mobile homes, and apartment, on a living units basis which is designated by the City at the time service is initiated. As a part of the Utility Service Initiation, customers served in the residential, mobile home, and apartment customer classes are designated on the basis of a living unit. Residential properties or lots in and around the utility service area of North Miami, in some cases, have multiple residents living on one property, so in response to determining the magnitude of sewer service required, the level of sewer treatment capacity that needs to be available to this property, and the total amounts of residences on the property, the City designates the total amount of living units on the property. The living unit designation is intended to summarize the total actual amount of residences on a property and serve as the equivalent basis to provide service to a typically customer using a 3/4" water meter.

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At the end of FY 2010, the City served approximately 30,556 sewer living units. These units serve as the basis for the current application of the City's monthly base charges across the residential, mobile home, and apartment customer classes. During FY 2012, it is anticipated that there will be no additions in living units, so the projected increase in living units over the forecast period will be in accordance with the customer growth rates discussed herein. As such, the total living unit increase is expected to be 20,779, 3, and 10,231 for the apartment, mobile home, and residential customer classes, respectively, for a total living unit count of 31,016 by FY 2016. The sewer system serves approximately 4,900 monthly outside the city apartment living units which has increased the total sewer living unit count for the apartment customer class as compared to the mobile home and residential customer classes.

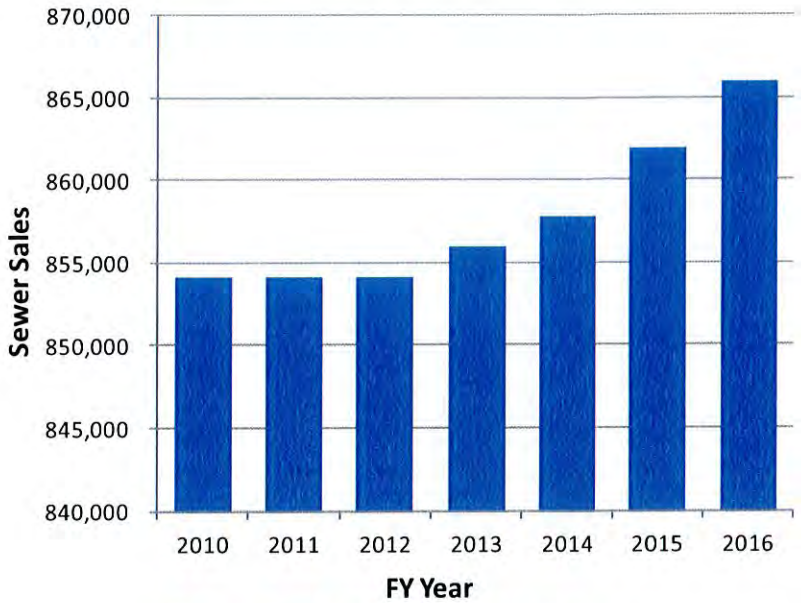
6.1.3 Sewer Sales

Billable sewer usage is projected to increase slightly over the forecast period. The increase is directly related to the low growth in the Utility System customers over the forecast period. Currently, customers receiving sewer service from the City are billed at 31.0% for all residential customer groups such as apartment, residential, and mobile homes and 36.0% for all other customer classes such as commercial, educational, hotels/motels, churches, and public authority of total water usage. As a result, the total billed sewer volumes which includes water usage after the implementation of the

sewer billing factors less sprinkler usage is anticipated to be 854,100 thousand gallons by the end of FY 2012 and this total will grow to 865,596 thousand gallons by the end of FY 2016.

Figure 5 summarizes the historical and projected sewer volumes over the forecast period.

Figure 5 Annual Historical & Projected Sewer Sales



6.1.4 Sewer Revenue

The sewer system derives revenue from an availability charge, a capital improvement fee, a sewer treatment fee and a volumetric rate. The historical sewer volume distribution for all customer classes served by the City and the application of the sewer system rate schedules provide the principal basis for estimating of future revenue. Sewer sales revenue derived from availability charges, capital improvement fees, sewer treatment fees, and volumetric rates under existing rates is projected to grow from $11,074,300 in FY 2012 to $11,241,300 in FY 2016.

6.1.5 Other Revenue

In addition to sewer sales revenue, other revenue must be considered in the analyses. Other revenue includes other operating revenue, non-operating revenue, and interest income. It is projected that other revenue for the sewer system will increase from $789,200 in FY 2012 to $797,100 in FY 2016. **Table 18** summarizes the total revenue produced by the sewer system over the forecast period, including both sewer sales revenue and miscellaneous other operating revenue.

Table 18 Sewer Utility Projected Revenue under Existing Rates

YEAR	REVENUE
2012	$11,863,500
2013	$11,891,200
2014	$11,921,000
2015	$11,978,600
2016	$12,038,400

6.2 SEWER REVENUE REQUIREMENTS

6.2.1 General

The revenue required to adequately provide for the continued operation of the sewer system must be sufficient to meet the cash requirements for the sewer system's operations. Such revenue requirements include: (1) operating and maintenance expenses; (2) debt service requirements, consisting of principal, interest, and any reserve fund payments on revenue bonds; and (3) other expenditures and transfers with allowances to develop a cash reserve fund. In addition, annual revenues need to be adequate to meet the debt service coverage requirements established by the bond ordinance applicable to existing and future revenue bond issues. Projections of cash requirements to meet these system expenditures for the forecast period are developed in this section.

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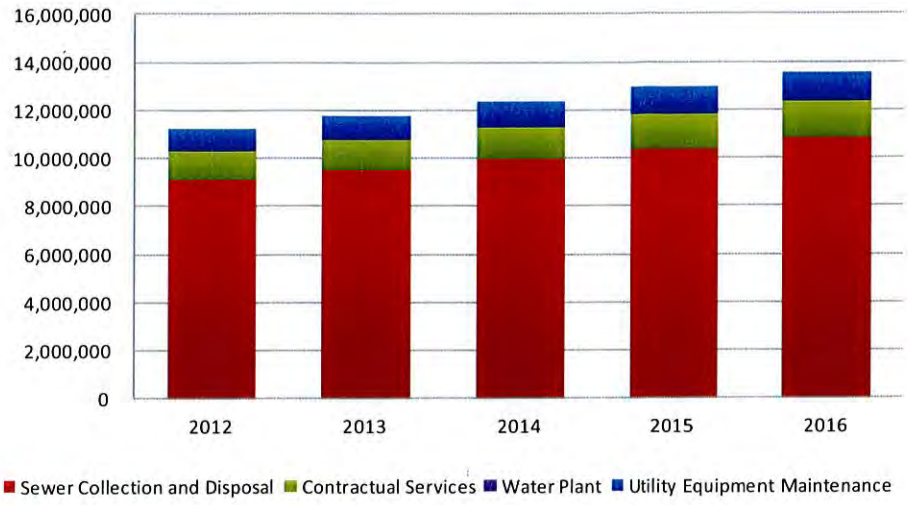
6.2.2 Operating and Maintenance Expenses

Operating and maintenance expenses include the annual expenses associated with wastewater treatment services provided by Miami-Dade County; wastewater pumping; wastewater collection and transmission; billing, collection and accounting; and administrative and general services. These expenses include the annual salaries and wages of personnel, costs for material and supplies, fuel and electric power costs, and other costs such as employee benefits, insurance, and contract services. **Figure 6** summarizes the operating and maintenance expenses for the sewer system over the forecast period. Projections of future operating and maintenance expenses are based on budget information provided by the City for FY 2012 and an analysis of current and anticipated operating conditions and trends. In recent years, operating and maintenance expenses have increased primarily due to the combined effects of inflation and of rising fuel and energy prices. Included in these projections are the aforementioned factors from Table 1 as well as other pertinent factors. Total operating and maintenance expenses are projected to increase from $11,254,200 in FY 2012 to $13,559,200 in FY 2016.

Figure 6 Projected Operating and Maintenance Expense



6.2.3 Debt Service Requirement

Debt service costs are attributed to the sewer utility's share of the existing general debt service obligations. Estimated debt service on the sewer utility's share of debt is projected using information on bond obligations on outstanding debt over the forecast period. **Table19** summarizes the debt service obligations on outstanding and proposed debt for the sewer system over the forecast period.

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Table 19 Debt Service Obligations on Outstanding Debt for Forecast Period

YEAR	DEBT SERVICE OBLIGATIONS
2012	$172,600
2013	$229,800
2014	$507,700
2015	$502,600
2016	$509,500

6.2.4 Other Expenditures & Transfers

Other expenditures and transfers include costs that are incurred by the sewer utility after the fulfillment of operating and maintenance and debt service obligations from revenues under existing rates. These costs are typically funded by cash from operations and any other unrestricted sources of funds available to the City. The City has specific funding requirements that have been mandated by the City's General and Pension Fund. As such, the City intends to transfer $608,300 and $67,200 to the General and Pension Fund respectively in FY 2012 and these totals will increase to $614,400 and $80,600 respectively by the end of FY 2016. In addition, the City is required to make annual deposits into an Employee Benefits Reserve Fund. As such the sewer system will contribute $279,400 in FY 2012 and this contribution will increase to $366,300 by FY 2016.

As a part of implementing water rates that promotes the efficient use of water resources and provides for a more stable source of revenues, Black & Veatch recommends the implementation of a rate stabilization fund. The purpose of the fund is to create a revenue stabilization mechanism, or fund balance in case of unforeseen events that would require an immediate increase in Utility System rates as a resolution to these effects on the Utility System. As such, the City will escrow an average of about $645,000 annually from water and sewer operating revenues for seven (7) consecutive years that will start in FY 2012 and end in FY 2018. The goal of the fund is to maintain a fund balance of $3.5 million that can be used by the City to stabilize Utility System rates as needed. The sewer system will contribute on average $313,400 annually to the rate stabilization fund over the forecast period defined herein.

Finally, Black & Veatch recommends the establishment of a Renewal and Replacement Fund to assist the City in funding normal annual system improvements. In implementing the establishment of this fund, the City should escrow and maintain, at a minimum, the equivalent of 6% of the value of its net plant investment in water and sewer facilities in order to provide for adequate annual renewals and replacements of the Utility System infrastructure. At the end of FY 2013, the fund's ending cash balance is anticipated to be $1,084,000 and this number will grow to $2,770,600 by the end of FY 2016. Based on the Renewal and Replacement Fund totals provided above over the forecast period, the sewer system is anticipated to contribute $1,205,800 in FY 2012 and this total will grow to $1,424,700 in FY 2016.

Table 20 shows the annual expenditures and transfer totals for the sewer system.

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Table 20 Projected Other Expenditures & Transfers

YEAR	OTHER EXPENDITURES & TRANSFERS
2012	$2,473,100
2013	$2,547,000
2014	$2,626,600
2015	$2,710,500
2016	$2,801,200

6.2.5 Major Capital Improvements

A summary of proposed sewer utility capital improvements over the forecast period is listed on **Table 21**. The estimated cost of these improvements is approximately $6.6 million over the forecast period. Future regulatory requirements may require the addition of certain facilities not currently anticipated in the proposed capital improvement program. If additional facilities are required, funds from user rate charges, additional debt financing or a combination of the two sources may be required.

A detailed sources and uses is presented in **Table 37** that outlines a coordinated financing plan based on the City's existing cash reserves and the forecasted revenues to be generated from the proposed rate presented herein.

Table 21 Sewer System CIP and CIP Financing

LINE	DESCRIPTION	2012	2013	2014	2015	2016 (1)	TOTAL
Capital Improvement Program:							
1	Lift Station Rehab.	$200,000	$200,000	$500,000	$500,000	$500,000	$1,900,000
2	Gravity Sewer Improv.	$500,000	$500,000	$500,000	$500,000	$500,000	$2,500,000
3	SS Force Main Improv.	$1,400,000	$728,000				$2,128,000
4	Transfer Switches			$30,000	$30,000	$30,000	$90,000
5	Total CIP	$2,100,000	$1,428,000	$1,030,000	$1,030,000	$1,030,000	$6,618,000
			Sources & Uses of Funds:				
6	Revenue Bond	$1,300,000					$1,300,000
7	Renewal. & Replace-ment	$800,000	$1,329,200	$856,100	$889,500	$1,030,000	$4,904,800
8	Cash from Operations		$98,800	$173,900	$140,500		$413,200
9	Total Financing	$2,100,000	$1,428,000	$1,030,000	$1,030,000	$1,030,000	$6,618,000

Note:

1. The FY 2012 through FY 2016 Capital Improvement Plan ("CIP") was provided by the City.

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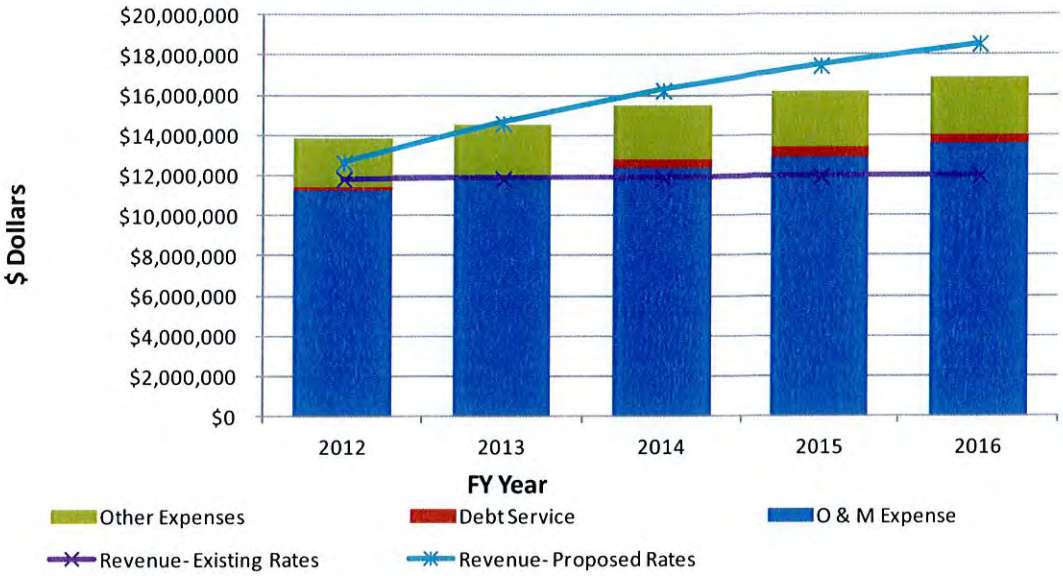
6.3 SEWER SYSTEM SUMMARY OF REVENUE AND REQUIREMENTS

Total revenue requirements, including operating and maintenance expenses, debt service obligations, and other expenditures and transfers for the sewer system are projected to grow from $13,899,900 in FY 2012 to $16,869,900 in FY 2016 as shown in **Figure 7**. Based on the projected revenues under existing rates, the current rate levels will be unable to sustain operations for the sewer utility through the study period without an increase in the existing rate levels.

The projected operating results detailed in **Table 22** and **23** respectively, show the projected sewer system operating results on an existing and proposed sewer rates basis. As shown in **Table 22**, the projected operating results under existing sewer rates do not produce the financial results necessary to maintain a self sufficient utility system. On the other hand, **Table 23** provides the City with the ability to meet debt service coverage requirement, protect against unforeseen events associated with implementation of the proposed conservation based water rates and other, and maintain appropriate cash balances. In addition, the annual overall revenue increases are identified on Lines 2 through 4 of **Table 23**.

Figure 7 Comparison of Revenue and Revenue Requirements



Tables 22 and 23, respectively, summarize a pro forma statement of revenue and expenses for the sewer utility under both the existing and proposed rates. The scenarios include projected; revenues, operating and maintenance expenses, debt service obligations, cash reserve fund transfers, and capital obligations funded from sewer user rates.

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Table 22 Projected Operating Results under Existing Rates

Line	Description	For the Fiscal Year Ended: 2012	2013	2014	2015	2016
	REVENUES					
	Operating Revenues:					
1	Existing Sewer System	$ 11,074,300	$ 11,102,000	$ 11,129,800	$ 11,185,400	$ 11,241,300
2	Percent Rate Increase	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
3	Implementation Period	*6 months*	*12 months*	*12 months*	*12 months*	*12 months*
4	Actual Increase	0	0	0	0	0
5	**Revenue Under Proposed Rates**	$ 11,074,300	$ 11,102,000	$ 11,129,800	$ 11,185,400	$ 11,241,300
6	**Total Other Revenues**	$ 789,200	$ 789,200	$ 791,200	$ 793,200	$ 797,100
7	**Total Sewer Revenues**	$ 11,863,500	$ 11,891,200	$ 11,921,000	$ 11,978,600	$ 12,038,400
	OPERATING EXPENDITURES					
	O&M Expenses:					
8	Contractual Services	$ 1,170,400	$ 1,244,700	$ 1,324,800	$ 1,411,300	$ 1,504,800
9	Utility Equipment Maintenance	935,100	992,600	1,053,900	1,119,400	1,189,300
10	Water Plant	17,200	17,800	18,500	19,200	19,900
11	W&S Special Projects	0	0	0	0	0
12	Water Distribution	0	0	0	0	0
13	Sewer Collection and Disposal	9,131,500	9,532,400	9,951,100	10,388,400	10,845,200
14	Sewer Projects	0	0	0	0	0
15	**Total O&M Expenses**	$ 11,254,200	$ 11,787,500	$ 12,348,300	$ 12,938,300	$ 13,559,200
16	**Net Revenues**	$ 609,300	$ 103,700	$ (427,300)	$ (959,700)	$ (1,520,800)
17	**Total Debt Service**	$ 172,600	$ 229,800	$ 507,700	$ 502,600	$ 509,500
18	**Income Available for Other Exp.**	$ 436,700	$ (126,100)	$ (935,000)	$ (1,462,300)	$ (2,030,300)
	Debt Service Coverage					
19	Achieved	3.53	0.45	(0.84)	(1.91)	(2.98)
20	Target	1.20	1.20	1.20	1.20	1.20
	Other Expenditures & Transfers:					
21	Renewal and Replacement Fund	$ 1,205,800	$ 1,257,000	$ 1,310,400	$ 1,366,100	$ 1,424,700
22	Transfer to General Fund	608,300	608,300	609,800	611,300	614,400
23	Transfer to Pension Fund	67,200	70,300	73,400	77,000	80,600
24	Reserve for Employee Benefits	279,400	299,000	319,900	342,300	366,300
25	Rate Stabilization Fund	312,400	312,400	313,100	313,800	315,200
26	**Total Other Exp. & Transfers**	$ 2,473,100	$ 2,547,000	$ 2,626,600	$ 2,710,500	$ 2,801,200
27	**Total Revenue Requirements**	**$ 13,899,900**	**$ 14,564,300**	**$ 15,482,600**	**$ 16,151,400**	**$ 16,869,900**
28	**Operating Surplus/Deficit**	**$ (2,036,400)**	**$ (2,673,100)**	**$ (3,561,600)**	**$ (4,172,800)**	**$ (4,831,500)**
	Fund Balance:					
29	Beginning Fund Balance	$ 6,000	$ (2,030,400)	$ (4,802,300)	$ (8,537,800)	$ (12,851,100)
30	Operating Surplus	(2,036,400)	(2,673,100)	(3,561,600)	(4,172,800)	(4,831,500)
31	Cash Funding of Capital Projects	0	(98,800)	(173,900)	(140,500)	0
32	**Ending Fund Balance**	**$ (2,030,400)**	**$ (4,802,300)**	**$ (8,537,800)**	**$ (12,851,100)**	**$ (17,682,600)**
33	**Days Fund Balance on Hand**	**-65**	**-147**	**-249**	**-358**	**-469**

As shown in **Table 22**, the projected sewer system financial results under existing rates indicates that existing sewer rates and charges will not produce sufficient revenues to meet the financial obligations of the sewer utility over the forecast period. In addition, the associated debt service coverage ratio falls from 3.53 in FY 2012 to a negative (2.98) in FY 2016 which is below the required 1.20 debt service coverage ratio as established in the Utility System's Bond Resolution. At the beginning of FY

2012, it is forecasted that the sewer system will begin the fiscal year with a positive balance of about $6,000, but by the end of the forecast period the balance is reduced to a negative ($17.7) million.

As presented herein, the financing plan associated with the sewer system indicates an overall increase in revenues of 15.0% for sewer customers to be implemented on April 1, 2012. **Table 23** presents the projected operating results for the sewer system under the proposed rates.

Table 23 Sewer Utility Projected Operating Results under Proposed Rates

Line	Description	For the Fiscal Year Ended: 2012	2013	2014	2015	2016
	REVENUES					
	Operating Revenues:					
1	Existing Sewer System	$ 11,074,300	$ 11,934,700	$ 13,890,800	$ 15,565,600	$ 16,785,400
2	Percent Rate Increase	*15.00%*	*16.10%*	*11.50%*	*7.30%*	*6.00%*
3	Implementation Period	*6 months*	*12 months*	*12 months*	*12 months*	*12 months*
4	Actual Increase	830,600	1,921,500	1,597,400	1,136,300	1,007,100
5	**Revenue Under Proposed Rates**	$ 11,904,900	$ 13,856,200	$ 15,488,200	$ 16,701,900	$ 17,792,500
6	**Total Other Revenues**	$ 789,200	$ 789,200	$ 791,200	$ 793,200	$ 797,100
7	**Total Sewer Revenues**	$ 12,694,100	$ 14,645,400	$ 16,279,400	$ 17,495,100	$ 18,589,600
	OPERATING EXPENDITURES					
	O&M Expenses:					
8	Contractual Services	$ 1,170,400	$ 1,244,700	$ 1,324,800	$ 1,411,300	$ 1,504,800
9	Utility Equipment Maintenance	935,100	992,600	1,053,900	1,119,400	1,189,300
10	Water Plant	17,200	17,800	18,500	19,200	19,900
11	W&S Special Projects	0	0	0	0	0
12	Water Distribution	0	0	0	0	0
13	Sewer Collection and Disposal	9,131,500	9,532,400	9,951,100	10,388,400	10,845,200
14	Sewer Projects	0	0	0	0	0
15	**Total O&M Expenses**	$ 11,254,200	$ 11,787,500	$ 12,348,300	$ 12,938,300	$ 13,559,200
16	**Net Revenues**	$ 1,439,900	$ 2,857,900	$ 3,931,100	$ 4,556,800	$ 5,030,400
17	**Total Debt Service**	$ 172,600	$ 229,800	$ 507,700	$ 502,600	$ 509,500
18	**Income Available for Other Exp.**	$ 1,267,300	$ 2,628,100	$ 3,423,400	$ 4,054,200	$ 4,520,900
	Debt Service Coverage					
19	Achieved	8.34	12.44	7.74	9.07	9.87
20	Target	1.20	1.20	1.20	1.20	1.20
	Other Expenditures & Transfers:					
21	Renewal and Replacement Fund	$ 1,205,800	$ 1,257,000	$ 1,310,400	$ 1,366,100	$ 1,424,700
22	Transfer to General Fund	608,300	608,300	609,800	611,300	614,400
23	Transfer to Pension Fund	67,200	70,300	73,400	77,000	80,600
24	Reserve for Employee Benefits	279,400	299,000	319,900	342,300	366,300
25	Rate Stabilization Fund	312,400	312,400	313,100	313,800	315,200
26	**Total Other Exp. & Transfers**	$ 2,473,100	$ 2,547,000	$ 2,626,600	$ 2,710,500	$ 2,801,200
27	**Total Revenue Requirements**	**$ 13,899,900**	**$ 14,564,300**	**$ 15,482,600**	**$ 16,151,400**	**$ 16,869,900**
28	**Operating Surplus/Deficit**	**$ (1,205,800)**	**$ 81,100**	**$ 796,800**	**$ 1,343,700**	**$ 1,719,700**
	Fund Balance:					
29	Beginning Fund Balance	$ 6,000	$ (1,199,800)	$ (1,217,500)	$ (594,600)	$ 608,600
30	Operating Surplus	(1,205,800)	81,100	796,800	1,343,700	1,719,700
31	Cash Funding of Capital Projects	0	(98,800)	(173,900)	(140,500)	0
32	**Ending Fund Balance**	**$ (1,199,800)**	**$ (1,217,500)**	**$ (594,600)**	**$ 608,600**	**$ 2,328,300**
33	**Days Fund Balance on Hand**	**-38**	**-37**	**-17**	**17**	**62**

The projected operating results detailed in **Table 23** provides the City with the ability to meet debt service coverage requirement, protect against unforeseen events associated with implementation of the proposed conservation based water rates and other, and maintain appropriate cash balances. In addition, the annual overall revenue increases are identified on Lines 2 through 4 of **Table 23**.

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7 Sewer System Cost of Service Allocations

7.1 GENERAL

In developing an equitable rate structure, revenue requirements are allocated to the various customer classifications according to the cost of service rendered. Allocations of revenue requirements to customer classes should take into account the quantity of sewer used, relative peak capacity requirements placed on the system, the number and size of services to customers, proprietary interest in the system investment, and other relevant factors.

7.2 COST OF SERVICE TO BE ALLOCATED

In analyzing costs of service for allocation to customer classes, the projected annual revenue requirements for FY 2012 have been selected as test year requirements representative of the study period examined herein. In determining net costs of service to be met from charges for sewer service, income received from other sources is deducted from the total revenue requirements. For the Test Year 2012, the sewer system's net cost of service to be recovered from sewer charges is $11,904,900 which represents the total revenue requirements $12,694,100 minus other revenue received of $789,200. Other revenues and transfers are deducted from the operating expense in the calculation of costs of service.

Costs of service are apportioned among customer classes in this report on a utility basis; that is, in terms of operating expenses, depreciation expense, and return. For a municipal utility, the total of depreciation expense and return is equal to the capital cost related portion of the total cost of service.

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Depreciation is the loss, not restored by current maintenance, which occurs in the utility plant in service due to decay, inadequacy and obsolescence. Depreciation accounting is usually based on an annual percentage allowance of plant investment adequate to return the investment during the useful life of the facility. The annual allowance varies with the expected service lives of the classes of property. The annual depreciation allowance normally is not accrued as a cash reserve, but is reinvested in replacements and additions to plant facilities. As the end of the useful life of the property is reached, the equivalent in dollars will typically have been reinvested as replaced or added utility plant. Based on the information provided, the test year depreciation expense has been determined to be $901,902.

Return is the balance of annual costs of service after operating expenses and depreciation, which amounts to $387,158. Return provides for payment of the interest portion of debt service and capital improvement costs beyond that provided by the depreciation expense.

The total cost of service expressed on a utility basis is summarized below.

Operating Expense	$ 10,615,840
Depreciation Expense	901,902
Return	387,158
Total Cost of Service	$11,904,900

Table 24 expresses in detail the cost of service on both the "cash basis" and the utility basis.

Table 24 Summary of the Cash Basis and Utility Basis Cost of Service

Line	Description	Operating Expense	Capital Cost	Total
				Fiscal Year 2012
	Revenue Requirements:			
1	O&M Expense	$ 11,254,200		$ 11,254,200
2	Debt Service Requirements		172,600	172,600
3	Renewal and Replacement Fund		1,205,800	1,205,800
4	Transfer to General Fund	608,300		608,300
5	Transfer to Pension Fund	67,200		67,200
6	Reserve for Employee Benefits	279,400		279,400
7	Rate Stabilization Fund	281,160	31,240	312,400
8	Operating Surplus Generated	(1,085,220)	(120,580)	(1,205,800)
9	**Total**	**$ 11,405,040**	**$ 1,289,060**	**$ 12,694,100**
	Other Income Sources			
10	Other Operating Revenue	$ 789,200		$ 789,200
11	**Total**	**$ 789,200**	**$ 0**	**$ 789,200**
12	**Net Cost of Service**	**$ 10,615,840**	**$ 1,289,060**	**$ 11,904,900**
	Restatement of Net Costs (Utility Basis):			
13	O&M Expense	$ 10,615,840		$ 10,615,840
	Capital Costs			0
14	Depreciation		901,902	901,902
15	Return		387,158	387,158
16	**Total**	**$ 10,615,840**	**$ 1,289,060**	**$ 11,904,900**

7.3 FUNCTIONAL COST COMPONENTS

Total costs of service are assigned to the basic functional cost components of volume and customer related costs.

Volume costs are those which vary directly with the quantity of sewer contributed and include capital costs related to investment in system facilities sized on the basis of wastewater volume, and operation and maintenance expense related to those facilities. Customer costs vary in proportion to the number of customers on the system, and include meter reading, billing, collecting and customer accounting related costs.

The separation of costs of service into these principal components provides the means for further allocation of such costs to the various customer classes on the basis of their respective volume and other service requirements.

7.4 ALLOCATION OF NET PLANT INVESTMENT

The investment in sewer system facilities is allocated to appropriate cost components to determine the investment, or rate base, for which the various customer classes are responsible. The estimated Test Year 2012 net plant investment in sewer facilities consists of plant in service as of March 31, 2011, the 2011 construction work in progress, and the estimated cost of proposed capital improvements expected to be in service.

Table 25 shows the allocation of the sewer utility's total estimated plant value less contributions or net plant investment for the test year on an original cost less depreciation value basis. The total net plant investment is estimated to be $19,624,605 as indicated by Line 5 of **Table 25**.

Table 25 Allocation of Net Plant Investment

Line	Description	Total Net Plant Investment	Volume	Customers
		$	$	$
1	Land	$ 0	0	
2	Collection Systems	15,935,137	14,341,623	1,593,514
3	Pumping	412,156	412,156	
4	General Plant	3,277,312	2,957,844	319,468
5	Total	$ 19,624,605	$ 17,711,623	$ 1,912,982
	Percent Allocation:			
6	Total Plant	100.00%	90.25%	9.75%

Allocated investment for this figure is used as the basis for assigning the return portion of test year cost of service.

7.5 ALLOCATION OF OPERATING & MAINTENANCE EXPENSES AND DEPRECIATION

The projected Test Year net operating expense for the sewer system is allocated to functional cost components in generally the same manner as plant investment. The allocation of operation and maintenance expense to functional cost components is shown in **Table 26**. Expenses related to customer billing and collection are assigned directly to the customer component. The total operating and maintenance expense for the Test Year is estimated to be $10,615,840.

Also, depreciation expense is an allowance for loss in the service value of system facilities not restored by current maintenance due to a number of factors which result in the ultimate retirement of the property. The depreciation expense is based upon the total investment in facilities and would

provide for the eventual recovery of the original cost of construction of the sewer system over its service life. Depreciation on system facilities is allocated to functional cost components on the same basis used to allocate net plant investment. The allocation of test year depreciation is shown in **Table 26**. The total depreciation expense for the Test Year is estimated to be $901,902.

Table 26 Allocation of Operation & Maintenance and Depreciation Expense

Line	Description	Total	Volume	Customers
		$	$	$
	O&M Expense Summary:			
1	O&M Expense	$ 10,615,840	$ 9,103,520	$1,512,320
2	Percent Allocation	100.00%	85.75%	14.25%
	Depreciation Expense:			
3	Land	$ 0		
4	Collection Systems	517,490	465,741	51,749
5	Pumping	42,154	42,154	
6	General Plant	342,258	308,888	33,370
7	Total Depreciation Expense	$ 901,902	$ 816,783	$ 85,119

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7.6 DISTRIBUTION OF COSTS TO CUSTOMER CLASSES

The total cost responsibility of each class of customers may be established by the distribution of the functionally allocated cost of service for the utility among the classes based on the respective service requirements of each class.

7.7 CUSTOMER CLASSIFICATIONS

Sewer utility customers have been separated into; Apartments, Mobile Homes, Residential, Churches, Commercial, Educational, Hotels/Motels, Public Authority, and Sprinkler.

7.8 UNITS OF SERVICE

The determination of responsibility of customer classes for costs of service requires that each class be allocated a portion of volume, monthly bills, and customer related costs of service according to their respective service requirements. In addition, Black & Veatch is proposing an adjustment in the sewer billing factor from 31.0% and 36.0 for customers grouped as residential and commercial, respectively, as presently defined by the City, to 85.0% in FY 2012 and to 90.0% in FY 2013 and beyond for all classes. As a result, the estimated volume units of service for the various customer classifications as illustrated in **Table 27** takes into consideration the proposed FY 2012 adjustment in the sewer billing factor.

Table 27 Units of Service

Line	Description	Volume	Monthly Bills
		k gallons	bills
	Sewer System:		
1	Apartments	1,124,033	241,902
2	Mobile Homes	25,514	36
3	Residential	572,893	40,216
4	Churches	7,337	335
5	Commercial	379,234	7,787
6	Educational	70,126	758
7	Hotels/Motels	18,286	104
8	Public Authority	2,279	168
9	Sprinkler	0	0
10	**Total Sewer System**	**2,199,701**	**291,306**

7.9 CUSTOMER CLASS COSTS OF SERVICE

The costs of service are distributed to the various customer classes by application of unit costs of service to respective service requirements. The test year unit cost of service for each functional cost component is shown at the bottom of **Table 28.**

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Table 28 Customer Class Cost of Service

Line	Description	Total	Common to All Volume	Common to All Customer Bills
			k gallons	customers
1	**Total Units**		2,199,701	291,306
	Cost of Service:			
	Net Operating Expense			
2	Total - $	$ 10,615,840	$ 9,103,520	$ 1,512,320
3	Unit Cost - $/unit		$ 4.1385	$ 5.1915
	Depreciation Expense			
4	Total - $	$ 901,902	$ 816,783	$ 85,119
5	Unit Cost - $/unit		$ 0.3713	$ 0.2922
	Net Plant Investment			
6	Total - $	$ 19,624,605	$ 17,711,623	$ 1,912,982
7	Unit Cost - $/unit		$ 8.0518	$ 6.5669
	Return on Investment			
8	Total - $	$ 387,158	$ 349,463	$ 37,695
9	Unit Cost - $/unit		$ 0.1586	$ 0.1294
	Total Cost of Service			
10	City of North Miami - $	$ 11,904,900	$ 10,269,766	$ 1,635,134
11	Unit Cost - $/unit		$ 4.6687	$ 5.6131
12	**System Rate of Return**	1.97%		

The rate of return applicable for service to customers is equal to **1.97%** based on the return cost divided by the tests year net plant investment. Unit costs for return on investment are based on the rate of return applied to the unit plant investment. All customers also pay the unit costs developed for operating expense (Line 3) and depreciation expense (Line 5). Adding these unit costs to the respective unit costs for return on investment (Line 9) determines the total unit costs of service shown on Line 15 of **Table 28**.

The total unit cost of service determined in **Table 28**, applied to the respective service requirements for each customer class, results in the total allocated cost of service for each customer class as shown in **Table 29**.

Table 29 Customer Class Unit Cost of Service

Line	Description	Total	Volume	Customer Bills
			k gallons	customers
	Unit Cost of Service			
1	City of North Miami - $/unit		$ 4.6687	$ 5.6131
	Apartments:			
1	Units of Service		1,124,033	241,902
2	Allocated Cost of Service	$ 6,605,592	$ 5,247,772	$ 1,357,820
	Mobile Homes:			
3	Units of Service		25,514	36
4	Allocated Cost of Service	$ 119,317	$ 119,115	$ 202
	Residential:			
5	Units of Service		572,893	40,216
6	Allocated Cost of Service	$ 2,900,401	$ 2,674,665	$ 225,736
	Churches:			
7	Units of Service		7,337	335
8	Allocated Cost of Service	$ 36,135	$ 34,255	$ 1,880
	Commercial:			
9	Units of Service		379,234	7,787
10	Allocated Cost of Service	$ 1,814,238	$ 1,770,529	$ 43,709
	Educational:			
11	Units of Service		70,126	758
12	Allocated Cost of Service	$ 331,653	$ 327,398	$ 4,255
	Hotels/Motels:			
13	Units of Service		18,286	104
14	Allocated Cost of Service	$ 85,956	$ 85,372	$ 584
	Public Authority:			
15	Units of Service		2,279	168
16	Allocated Cost of Service	$ 11,582	$ 10,639	$ 943
	Sprinkler:			
17	Units of Service		0	0
18	Allocated Cost of Service	$ 0	$ 0	$ 0
19	**Total Sewer System**	**$ 11,904,874**	**$ 10,269,745**	**$ 1,635,129**

Table 30 presents a test year comparison of net cost of service results with revenues under existing rates for each customer class served by the City. As demonstrated in **Table 30**, the sewer system revenue under existing rates under recovers revenue requirement (or cost of service) by $830,571 in FY 2012.

Table 30 Comparison of Customer Class Cost of Service and Revenues under Existing Rates

Line	Customer Class	Cost of Service	Existing Revenue	Difference Amount	Percent Increase
	Sewer System:				
1	Apartments	$ 6,605,617	$ 5,577,731	$ 1,027,886	18.43%
2	Mobile Homes	119,317	138,844	(19,527)	-14.06%
3	Residential	2,900,402	2,610,241	290,161	11.12%
4	Churches	36,135	43,964	(7,829)	-17.81%
5	Commercial	1,814,239	2,177,648	(363,409)	-16.69%
6	Educational	331,653	349,247	(17,594)	-5.04%
7	Hotels/Motels	85,956	163,520	(77,564)	-47.43%
8	Public Authority	11,582	13,136	(1,554)	-11.83%
9	**Total Sewer System**	**$ 11,904,901**	**$ 11,074,330**	**$ 830,571**	**7.50%**

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8 Sewer System Rate Design

8.1 GENERAL

The revenue requirement and cost of service studies described in the preceding sections of this report provide a basis for the review and update of a schedule of sewer rates that reasonably recovers allocated costs of service. It should be recognized that these studies are the results of engineering estimates, based on historical data and, to some extent, upon judgment and experience. Detailed results should not be used as literal and exact answers, but instead as guidelines to the necessity for and nature of rate adjustments. Judgment must enter into the final choice of rates, and factors such as public reaction to the extent of changes and adjustments, previous rate levels, contractual agreements, and local practice in the past should be recognized in making rate adjustments. Rates should be reasonably simple in application and subject to as few misinterpretations as possible. Considerations with regards to the rate adjustments were made based on discussions with City staff and include the indicated desire of the City representatives to: (1) to project and examine the future operating and capital financing requirements of the utilities and the ability of existing rates to recover the requirements; (2) to develop rates that will recover these revenue requirements, promote the efficient usage of water resources in the City, address the equitability of the existing rate amongst the existing customers classes, and address issues around the affordability of existing rates for specific customers; and (3) to assess and provide recommendations regarding the financial aptitude of the City's Utility System. In attempting to meet these policy criteria, schedules of proposed rates for sewer service were developed as presented and described in the following paragraphs.

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8.2 EXISTING SEWER RATES

The existing schedule of rates for sewer service includes a monthly customer (living unit) based capital improvement fee, sewer treatment fee, and a uniform volumetric charge which is paid by all customers. The volumetric charge and is applied per 1,000 gallons of billable consumption and a water usage billing factor of 31.0 percent and 36.0 percent is applied to all the water usage customers served by customer classes grouped as residential (apartments, mobile homes, and residential) and non residential (churches, commercial, educational, hotels/motels, and public authority) respectively. The sewer treatment fee is applied to all water usage at a billing factor of 100.0 percent. On the other hand, the capital improvement fee is a fixed monthly fee that is assessed on a customer/living unit basis.

Tables 31 and 32 compare existing rates to proposed rates after adjustments.

Table 31 Existing Sewer Rates

DESCRIPTION	2012
Capital Improvement Fee (1)	
Residential:	$0.98
Non Residential:	$10.47
Sewer Treatment Fee (2)	
All Usage (All Usage)	$3.36
Volumetric (3)	
Residential (All Usage)	$1.12
Non Residential (All Usage)	$2.01

Note:

1. The capital improvement fee is a fixed monthly charge that is assessed on the basis of customers/living units.
2. The sewer treatment fee is a usage based charge that is assessed at 100.0% of a customer's total water usage.
3. The volumetric charge is a usage based charge that is assessed at 31,0% and 36.0% of water usage for specific customers categorized at residential and commercial respectively.

8.3 PROPOSED SEWER RATES

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The cost of service studies described in the preceding section of this report provides the basis for the design of sewer rates schedules to cover those costs. As previously indicated, sewer sales revenues shown for the FY 2012 and debt service coverage requirements are anticipated to be recovered under five projected annual rate adjustments assumed to be implemented by the City on April 1, 2012 for FY 2012 and on the first day of the preceding fiscal years 2013, 2014, 2015, and 2016, respectively. Total sewer sales revenues under each of these rate adjustments are projected to increase 15.0, 16.1, 11.5, 7.3, and 6.0 percent, respectively, for the fiscal years discussed herein. **Table 32** summarizes the proposed rate adjustments for the FY 2012 test year.

In addition to the proposed annual revenue increase presented for the sewer system, Black & Veatch recommends that the City implement an upward adjustment to the existing sewer billing factor of 31.0% and 36.0% for customers designated a residential and non-residential respectively. The South Florida region has experienced severe drought conditions over the last 36 months, so all outdoor water usage has been reduced significantly over this period. Therefore, the proportion of wastewater entering the sanitary sewer systems has increased as percentage of total water usage.

As such, Black & Veatch is proposing an increase in the sewer billing factor to 85.0% in FY 2012 and 90.0% at the beginning of FY 2013 applicable to all customers served by the City. This should be implemented as a part of the proposed rates and financing plan presented herein. The proposed volumetric rate for sewer service presented in **Table 32** includes the FY 2011 85.0% sewer billing factor adjustment.

Finally, as a part of the proposed sewer rate plan discussed herein, Black & Veatch recommends reducing the eight (8) customer designations to five (5). As listed below, the residential, apartments, and mobile home classes will remain the same, but the new commercial class is a combination of the old commercial, churches, and the hotel/motels classes and the new City class is a combination of the educational and the public authority classes. As a part of the analysis performed herein, the Black &

Veatch team reviewed the billing determinant information for customers across all customer classes served by the City and is proposing the merger of the customer classes described above.

As a part of the due diligence performed during the course of the study described herein, the Black & Veatch team performed specific analysis on the effectiveness of each sewer rate component that makes up the existing sewer rates. As such, the Black & Veatch team has made specific recommendations about the actual sewer rate components to be assessed to customers.

The proposed sewer rates will consist of two components: 1) a monthly base charge, varies by meter size and is applied on a customer/living unit basis and; 2) a uniform block rate that is assessed per 1,000 gallons of usage. The proposed volumetric rates will be assessed with a billing factor 85.0 percent of the total water usage in the Test Year FY 2012.

Finally, the City has maintained a policy to apply a multiplier of 1.25 to the rates of all outside city customers. As such, Black & Veatch will maintain this policy in the assessment of the water rates that are charged to outside the city customers.

Table 32 Proposed Sewer Rates

DESCRIPTION	2012
Monthly Base Charge	
Residential (per living unit):	$12.15
All Other Classes:	
3/4" Meter	$12.15
1" Meter	$23.50
1.5" Meter	$57.64
2" Meter	$142.99
2 (2)" Meter	$142.99
3" Meter	$256.73
4" Meter	$512.66
6" Meter	$967.81
8" Meter	$1,707.24
Volumetric Rate:	
All Usage	$3.18

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Note:

1. The monthly base charges for the residential, apartments, and mobile home customer classes are assessed per living unit.
2. The monthly base charges for the commercial, city, and sprinkler customer classes are assessed on a per customer basis.
3. The volumetric rate is applied to all water usage at a billing factor of 85.0%.

The proposed adjustments detailed in **Table 32** allows the sewer utility to meet annual sewer system revenue requirements, meet debt service coverage requirements, and maintain adequate cash balances in case of an emergency or an unforeseen event.

8.4 SEWER SERVICE REVENUE UNDER PROPOSED RATES

A comparison of the estimated test year revenue under the proposed rates with allocated costs of service for each of the customer classes is shown in **Table 33.** The proposed rates generate enough revenue to develop an operating surplus and to grow cash balances.

Table 33 Comparison of Customer Class Cost of Service and Revenues under Proposed Rates

Line	Customer Class	Cost of Service	Proposed Revenue	Revenue Recovery Amount	Revenue Recovery Percent
		$	$	$	%
	Sewer System:				
1	Apartments	$ 6,605,592	$ 6,685,843	$ 80,251	101.21%
2	Mobile Homes	119,317	87,074	(32,243)	72.98%
3	Residential	2,900,402	3,078,729	178,327	106.15%
4	Commercial	1,936,330	1,721,584	(214,746)	88.91%
5	City	343,235	331,602	(11,633)	96.61%
6	**Total Sewer System**	**$ 11,904,876**	**$ 11,904,832**	**$ (44)**	**100.00%**

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9 Combined System Summary

9.1 GENERAL

The water and sewer user charges recommended herein are designed to meet cost of service for each year of the study period, 2012 through 2016.

The adequacy of the proposed increases in revenues from rates is demonstrated in the figures and tables at the end of this section. These show the combined application of funds of both the water and sewer utilities during the forecast period, including funds received based upon proposed revenue adjustments.

9.2 COMPARISON OF PROJECTED REVENUE TO COST OF SERVICE ALLOCATION

The annual cost of service for the combined water and sewer system to be met from rates during the test year 2012 is as follows:

Table 34 provides a summary of the combined system cost of service summary

Table 34 Comparison of the Combined System Cost of Service Summary

TOTAL REVENUE REQUIREMENTS	
Operating and Maintenance Expenses	$19,355,000
Debt Service Requirements	543,000
Renewal and Replacement Fund	1,884,000
Transfer to General Fund	1,559,700
Transfer to Pension Fund	166,900
Reserve for Employee Benefits	279,400
Rate Stabilization Fund	641,500
Operating Surplus Generated	1,213,000
Subtotal	**$25,642,500**
REVENUE REQUIREMENTS MET FROM OTHER SOURCES	
Other Operating Revenue	(1,688,600)
Net Costs to be Met From Charges	**$23,953,000**

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Table 35 shows a comparison of total adjusted cost of service for the combined utilities with the combined revenue recovery under existing rates. The revenue increase required for the entire system is approximately 4.0% as indicated by the combined system cost of service results, but the revenue increase will be implemented over 6 months for the Test Year FY 2012 which will produce an aggregate rate increase of 8.0%.

Table 35 Comparison of the Combined System Revenue and Revenue Requirements under Existing Rates

LINE	DESCRIPTION	ADJUSTED COST OF SERVICE	REVENUE UNDER EXISTING RATES	PERCENT REVENUE INCREASE
1	Apartments	$10,882,542	$10,625,504	2.42%
2	Mobile Homes	174,504	160,436	8.77%
3	Residential	8,037,841	7,153,492	12.36%
4	Churches	78,867	100,296	(21.37%)
5	Commercial	3,381,598	3,691,492	(8.39%)
6	Educational	726,203	705,722	2.90%
7	Hotels/Motels	133,299	218,755	(39.06%)
8	Public Authority	117,094	97,047	20.66%
9	Sprinkler	421,988	274,938	53.48%
10	Total	$23,953,936	$23,027,683	4.02%

Table 36 shows a comparison of total adjusted cost of service for the combined utilities with combined revenue under proposed rates.

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Table 36 Comparison of the Combined System Revenue and Revenue Requirements under Proposed Rates

LINE	DESCRIPTION	ADJUSTED COST OF SERVICE	REVENUE UNDER PROPOSED RATES	PERCENT REVENUE RECOVERY
1	Apartments	$10,882,478	$11,002,520	101.10%
2	Mobile Homes	174,504	114,529	65.63%
3	Residential	8,037,841	8,199,371	102.01%
5	Commercial	3,593,764	3,393,212	94.42%
6	City	843,297	820,615	97.31%
9	Sprinkler	421,988	423,627	100.39%
10	Total	$23,953,872	$23,953,873	100.00%

9.3 PRO-FORMA OF OPERATING RESULTS UNDER PROPOSED RATE DESIGN

Table 37 is a combined statement of financial operations for the Utility System. It shows the projected revenues of the combined water and sewer utilities including the proposed revenue increases and the debt service on proposed new bonds. Presently, only one of the combined utilities, the water system, is self sufficient, so it is critical for the utility to achieve self reliance and the proposed rate increases outline a path to achieve the goal of self sufficiency and meet established utility system benchmarks such as 90 – 120 days worth of fund balance.

Table 37 Comparison of the Combined System Revenue and Revenue

Line	Description	For the Fiscal Year Ended: 2012	2013	2014	2015	2016
	COMBINED SYSTEM					
	REVENUES					
	Revenues Under Existing Rates:					
1	Water	$ 11,953,400	$ 12,079,200	$ 12,351,600	$ 12,785,700	$ 13,415,000
2	Sewer	11,074,300	11,934,600	13,890,700	15,565,500	16,785,300
3	**Total System**	$ 23,027,700	$ 24,013,800	$ 26,242,300	$ 28,351,200	$ 30,200,300
	Percent Rate Increase:					
4	Water	1.60%	2.00%	3.00%	4.40%	6.00%
5	Sewer	15.00%	16.10%	11.50%	7.30%	6.00%
6	**Total System**	8.00%	9.00%	7.50%	6.00%	6.00%
	Actual Rate Increase:					
7	Implementation Period	*6 months*	*12 months*	*12 months*	*12 months*	*12 months*
8	Water	$ 95,650	$ 241,600	$ 370,500	$ 562,600	$ 804,900
9	Sewer	830,550	1,921,500	1,597,400	1,136,300	1,007,100
10	**Total System**	$ 926,200	$ 2,163,100	$ 1,967,900	$ 1,698,900	$ 1,812,000
11	**Revenues Under Proposed Rates**	$ 23,953,900	$ 26,176,900	$ 28,210,200	$ 30,050,100	$ 32,012,300
12	**Total Other Revenues**	$ 1,688,600	$ 1,688,600	$ 1,692,900	$ 1,697,100	$ 1,705,600
13	**Total System Revenues**	$ 25,642,500	$ 27,865,500	$ 29,903,100	$ 31,747,200	$ 33,717,900
	OPERATING EXPENDITURES					
	O&M Expenses:					
14	Contractual Services	$ 2,956,400	$ 3,144,600	$ 3,347,400	$ 3,566,700	$ 3,803,500
15	Utility Equipment Maintenance	1,081,200	1,146,800	1,216,700	1,291,200	1,370,700
16	Water Plant	4,802,800	4,949,300	5,105,200	5,277,400	5,460,400
17	W&S Special Projects	0	0	0	0	0
18	Water Distribution	1,383,000	1,458,300	1,537,800	1,621,700	1,710,300
19	Sewer Collection and Disposal	9,131,500	9,532,400	9,951,100	10,388,400	10,845,200
20	Sewer Projects	0	0	0	0	0
21	**Total O&M Expenses**	$ 19,354,900	$ 20,231,400	$ 21,158,200	$ 22,145,400	$ 23,190,100
22	**Net Revenues**	$ 6,287,600	$ 7,634,100	$ 8,744,900	$ 9,601,800	$ 10,527,800
23	**Total Debt Service**	$ 543,000	$ 721,000	$ 1,863,200	$ 1,852,800	$ 1,950,100
24	**Income Available for Other Exp.**	$ 5,744,600	$ 6,913,100	$ 6,881,700	$ 7,749,000	$ 8,577,700
	Debt Service Coverage					
25	Achieved	**11.58**	**10.59**	**4.69**	**5.18**	**5.40**
26	Target	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**
	Other Expenditures & Transfers:					
27	Renewal and Replacement Fund	$ 1,884,000	$ 1,964,100	$ 2,047,600	$ 2,134,600	$ 2,225,800
28	Transfer to General Fund	1,559,600	1,559,600	1,563,500	1,567,400	1,575,300
29	Transfer to Pension Fund	167,000	174,500	182,400	191,100	200,200
30	Reserve for Employee Benefits	279,400	299,000	319,900	342,300	366,300
31	Rate Stabilization Fund	641,500	641,500	642,900	644,400	647,500
32	**Total Other Exp. & Transfers**	$ 4,531,500	$ 4,638,700	$ 4,756,300	$ 4,879,800	$ 5,015,100
33	**Total Revenue Requirements**	**$ 24,429,400**	**$ 25,591,100**	**$ 27,777,700**	**$ 28,878,000**	**$ 30,155,300**
34	**Operating Surplus/Deficit**	**$ 1,213,100**	**$ 2,274,400**	**$ 2,125,400**	**$ 2,869,200**	**$ 3,562,600**
	Fund Balance:					
35	Beginning Fund Balance	$ 12,300	$ 1,225,400	$ 2,999,800	$ 2,579,700	$ 4,448,900
36	Operating Surplus	1,213,100	2,274,400	2,125,400	2,869,200	3,562,600
37	Cash Funding of Capital Projects	0	(500,000)	(2,545,500)	(1,000,000)	0
38	**Ending Fund Balance**	**$ 1,225,400**	**$ 2,999,800**	**$ 2,579,700**	**$ 4,448,900**	**$ 8,011,500**
39	**Days Fund Balance on Hand**	**23**	**53**	**44**	**72**	**124**

As stated in the description of the assumption utilized for these analyses, the debt service coverage minimum ratio for the Utility System is 1.20. The debt service coverage ratios remain well above the minimum requirement of 1.20 with the proposed rate scenario. In FY 2012 the debt coverage ratio is 11.58 and is projected to be 5.40 in FY 2016. The ratios are highlighted in Line 25 of **Table 37.** It is critical that the City maintains this ratio well above the minimum, as shown in Line 25, to achieve as high a bond rating as possible for the financial benefit of the City.

In addition, the proposed rate scenario maintains the ending fund balance of the Utility System. The ending fund balance is projected to increase from $1,225,400 at the end of FY 2012 to $8,011,500 at the end of the forecast period ending in FY 2016. The ending fund balances are detailed in Line 38 of **Table 37.** The Utility System ended FY 2012 with 23 days worth of fund balance. While this ending fund balance is not at an adequate level, Black & Veatch worked with the City to develop a plan that prudently funds revenue requirement obligations over the forecast period and meets optimal levels of fund balance at the end of the forecast period of 120 days.

The proposed rate scenario, which includes the overall rate level increases of 8.0, 9.0, 7.5, 6.0, and 6.0 percent respectively in FY 2012 through FY 2016. These rate increases produces operating results for the Combined Utility System which achieve the financial goals outlined in this report: (1) to project and examine the future operating and capital financing requirements of the utilities and the ability of existing rates to recover the requirements; (2) to develop rates that will recover these revenue requirements, promote the efficient usage of water resources in the City, address the equitability of the existing rate amongst the existing customers classes, and address issues around the affordability of existing rates for specific customers; and (3) to maintain the financial solvency of the combined system over the forecast period.

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9.4 COMBINED SYSTEM SOURCES & USES OF FUNDS

Table 38 presents the combined system sources and uses of funds.

Table 38 Utility System Flow of Funds

Line	Description	For the Fiscal Year Ended: 2012	2013	2014	2015	2016
	FUNDS					
	Unrestricted Fund Balance					
1	Beginning Balance	$ 12,300	$ 1,225,400	$ 2,999,800	$ 2,579,700	$ 4,448,900
	Contributions:					
2	Beginning Operating Cash (In)	$ 1,213,100	$ 2,274,400	$ 2,125,400	$ 2,869,200	$ 3,562,600
3	Change in Operating Cash (In)					
4	Repair & Renewal Fund (Out)					
5	Cash Funding of CIP (Out)	$ 0	$ (500,000)	$ (2,545,500)	$ (1,000,000)	$ 0
6	Rate Stabilization Fund (Out)					
7	**Ending Balance**	**$ 1,225,400**	**$ 2,999,800**	**$ 2,579,700**	**$ 4,448,900**	**$ 8,011,500**
	Renewal and Replacement:					
8	Beginning Balance	$ 0	$ 1,084,000	$ 1,048,100	$ 1,640,200	$ 1,874,800
9	Contributions:					
10	Operations (In)	$ 1,884,000	$ 1,964,100	$ 2,047,600	$ 2,134,600	$ 2,225,800
	Unrestricted Cash (In)	$ 0	$ 0	$ 0	$ 0	$ 0
11	CIP (Out)	$ (800,000)	$ (2,000,000)	$ (1,455,500)	$ (1,900,000)	$ (1,330,000)
12	**Ending Balance**	**$ 1,084,000**	**$ 1,048,100**	**$ 1,640,200**	**$ 1,874,800**	**$ 2,770,600**
	Rate Stabilization:					
13	Beginning Balance	$ 0	$ 641,500	$ 1,283,000	$ 1,925,900	$ 2,570,300
14	Contributions:					
15	Operating Fund (In)	$ 641,500	$ 641,500	$ 642,900	$ 644,400	$ 647,500
16	CIP (Out)					
17	**Ending Balance**	**$ 641,500**	**$ 1,283,000**	**$ 1,925,900**	**$ 2,570,300**	**$ 3,217,800**
18	**Total Utility System**	**$ 2,950,900**	**$ 5,330,900**	**$ 6,145,800**	**$ 8,894,000**	**$ 13,999,900**

As demonstrated in **Table 38** (Line 1), the beginning unrestricted fund balance of $12,300 at the beginning of FY 2012 is increased to $1.2 million at the end of FY 2012 and this total increases to $8.0 million by the end of FY 2016. Black & Veatch proposes the development of two dedicated Utility System funds: (1) Renewal and Replacement Fund; and (2) Rate Stabilization Fund.

The Renewal and Replacement Fund is forecasted to grow from $1.1 million in FY 2012 to $2.8 million by the end of FY 2016. Black & Veatch proposes the implementation of a Rate Stabilization Fund as a part of the proposed rates and financing plan defined herein. The Rate Stabilization Fund requires an annual average deposit of about $644,000 annually through FY 2017 with the goal of establishing the total fund amount of $3.5 million. The Utility System will draw upon these funds to protect against unforeseen events that may hamper the stability of Utility System revenues. Upon drawing down these funds, the Utility System will maintain the annual contributions in the range of $645,000 annually to preserve the fund by meeting the targeted fund balance of $3.5 million.

9.5 TYPICAL MONTHLY BILL IMPACTS UNDER THE PROPOSED RATE DESIGN

Listed below is a summary of the combined systems monthly customer bill impacts for the designated customer groups provided herein.

Table 39 presents the combined systems residential monthly bill impact for a customer using a ¾ inch water meter.

Table 39 Residential Bill Impact

			.75"			
	Usage	Living			Difference	
Line	Level	Units	Existing	Proposed	Actual	Percent
0	0	1,263	$ 23.54	$ 23.55	$ 0.01	0.0%
1	1,000	1,142	$ 26.90	$ 27.98	$ 1.08	4.0%
2	2,000	1,045	$ 30.26	$ 32.42	$ 2.16	7.1%
3	3,000	1,511	$ 33.62	$ 36.85	$ 3.23	9.6%
4	4,000	1,762	$ 36.98	$ 41.28	$ 4.30	11.6%
5	5,000	1,981	$ 40.34	$ 45.72	$ 5.38	13.3%
6	6,000	2,122	$ 45.17	$ 50.84	$ 5.67	12.6%
7	7,000	2,340	$ 49.99	$ 55.96	$ 5.97	11.9%
8	8,000	2,565	$ 54.82	$ 61.08	$ 6.26	11.4%
9	9,000	2,743	$ 59.65	$ 66.21	$ 6.56	11.0%
10	10,000	2,823	$ 64.48	$ 71.33	$ 6.85	10.6%
11	11,000	4,016	$ 69.30	$ 76.45	$ 7.15	10.3%
12	12,000	3,016	$ 74.13	$ 81.58	$ 7.45	10.1%
13	13,000	2,852	$ 78.96	$ 87.39	$ 8.43	10.7%
14	14,000	2,787	$ 83.78	$ 93.20	$ 9.42	11.2%
15	15,000	2,640	$ 88.61	$ 99.02	$ 10.41	11.7%

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Table 40 presents the combined systems multi-unit bill impact for a customer using a ¾ inch water meter.

Table 40 Apartment Bill Impact

			.75"			
	Usage	Living			Difference	
Line	Level	Units	Existing	Proposed	Actual	Percent
0	0	462	$ 23.54	$ 23.55	$ 0.01	0.0%
1	1,000	693	$ 26.90	$ 27.87	$ 0.97	3.6%
2	2,000	2,178	$ 30.26	$ 32.20	$ 1.94	6.4%
3	3,000	14,688	$ 33.62	$ 36.60	$ 2.98	8.8%
4	4,000	54,359	$ 36.98	$ 41.00	$ 4.02	10.9%
5	5,000	50,841	$ 40.34	$ 45.49	$ 5.15	12.8%
6	6,000	29,684	$ 45.17	$ 49.97	$ 4.80	10.6%
7	7,000	13,747	$ 49.99	$ 54.45	$ 4.46	8.9%
8	8,000	6,090	$ 54.82	$ 59.09	$ 4.27	7.8%
9	9,000	3,690	$ 59.65	$ 63.74	$ 4.09	6.8%
10	10,000	1,481	$ 64.48	$ 68.38	$ 3.90	6.0%
11	11,000	1,012	$ 69.30	$ 73.02	$ 3.72	5.4%
12	12,000	946	$ 74.13	$ 77.67	$ 3.54	4.8%
13	13,000	394	$ 78.96	$ 82.31	$ 3.35	4.2%
14	14,000	604	$ 83.78	$ 86.95	$ 3.17	3.8%
15	15,000	551	$ 88.61	$ 91.60	$ 2.99	3.4%

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Table 41 presents the combined systems commercial bill impact for a customer using a 2.0 inch water meter.

Table 41 Commercial Bill Impact

			2.0"			
	Usage				Difference	
Line	Level	Customers	Existing	Proposed	Actual	Percent
0	0	969	$ 200.07	$ 277.20	$ 77.13	38.6%
1	1,000	823	$ 203.43	$ 281.45	$ 78.02	38.4%
2	2,000	655	$ 206.79	$ 285.71	$ 78.92	38.2%
3	3,000	510	$ 210.15	$ 289.96	$ 79.81	38.0%
4	4,000	365	$ 213.51	$ 294.21	$ 80.70	37.8%
5	5,000	352	$ 216.87	$ 298.47	$ 81.60	37.6%
6	6,000	292	$ 222.96	$ 302.72	$ 79.76	35.8%
7	7,000	275	$ 229.06	$ 306.97	$ 77.91	34.0%
8	8,000	230	$ 235.15	$ 311.22	$ 76.07	32.3%
9	9,000	206	$ 241.24	$ 315.48	$ 74.24	30.8%
10	10,000	191	$ 247.34	$ 319.73	$ 72.39	29.3%
11	20,000	1,310	$ 308.27	$ 362.26	$ 53.99	17.5%
12	30,000	764	$ 369.21	$ 404.79	$ 35.58	9.6%
13	40,000	527	$ 430.15	$ 447.32	$ 17.17	4.0%
14	50,000	409	$ 491.08	$ 489.85	$ (1.23)	-0.3%

Table 42 presents the combined systems city bill impact for a customer using a 2.0 inch water meter.

Table 42 City Bill Impact

			2.0"			
	Usage				Difference	
Line	Level	Customers	Existing	Proposed	Actual	Percent
0	0	168	$ 200.07	$ 277.20	$ 77.13	38.6%
1	1,000	28	$ 203.43	$ 281.45	$ 78.02	38.4%
2	2,000	29	$ 206.79	$ 285.71	$ 78.92	38.2%
3	3,000	34	$ 210.15	$ 289.96	$ 79.81	38.0%
4	4,000	35	$ 213.51	$ 294.21	$ 80.70	37.8%
5	5,000	46	$ 216.87	$ 298.47	$ 81.60	37.6%
6	6,000	23	$ 222.96	$ 302.72	$ 79.76	35.8%
7	7,000	25	$ 229.06	$ 306.97	$ 77.91	34.0%
8	8,000	24	$ 235.15	$ 311.22	$ 76.07	32.3%
9	9,000	22	$ 241.24	$ 315.48	$ 74.24	30.8%
10	10,000	30	$ 247.34	$ 319.73	$ 72.39	29.3%
11	20,000	158	$ 308.27	$ 362.26	$ 53.99	17.5%
12	30,000	107	$ 369.21	$ 404.79	$ 35.58	9.6%
13	40,000	67	$ 430.15	$ 447.32	$ 17.17	4.0%
14	50,000	48	$ 491.08	$ 489.85	$ (1.23)	-0.3%
15	60,000	42	$ 552.02	$ 532.38	$ (19.64)	-3.6%
16	70,000	27	$ 612.95	$ 582.71	$ (30.24)	-4.9%
17	80,000	28	$ 673.89	$ 633.04	$ (40.85)	-6.1%
18	90,000	21	$ 734.83	$ 683.37	$ (51.46)	-7.0%
19	100,000	26	$ 795.76	$ 733.70	$ (62.06)	-7.8%

Table 43 presents the combined systems sprinkler bill impact for a customer using a 2.0 inch water meter.

Table 43 Sprinkler Bill Impact

		2.0"			
	Usage			Difference	
Line	Level	Existing	Proposed	Actual	Percent
1	1,000	$ 203.43	$ 283.08	$ 79.65	39.2%
2	2,000	$ 206.79	$ 288.97	$ 82.18	39.7%
3	3,000	$ 210.15	$ 294.85	$ 84.70	40.3%
4	4,000	$ 213.51	$ 300.73	$ 87.22	40.8%
5	**5,000**	**$ 216.87**	**$ 306.62**	**$ 89.75**	**41.4%**
6	6,000	$ 222.96	$ 312.50	$ 89.54	40.2%
7	7,000	$ 229.06	$ 318.38	$ 89.32	39.0%
8	8,000	$ 235.15	$ 324.26	$ 89.11	37.9%
9	9,000	$ 241.24	$ 330.15	$ 88.91	36.9%
10	10,000	$ 247.34	$ 336.03	$ 88.69	35.9%
11	11,000	$ 253.43	$ 341.91	$ 88.48	34.9%
12	12,000	$ 259.53	$ 347.80	$ 88.27	34.0%
13	13,000	$ 265.62	$ 353.68	$ 88.06	33.2%
14	14,000	$ 271.71	$ 359.56	$ 87.85	32.3%
15	15,000	$ 277.81	$ 365.45	$ 87.64	31.5%

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