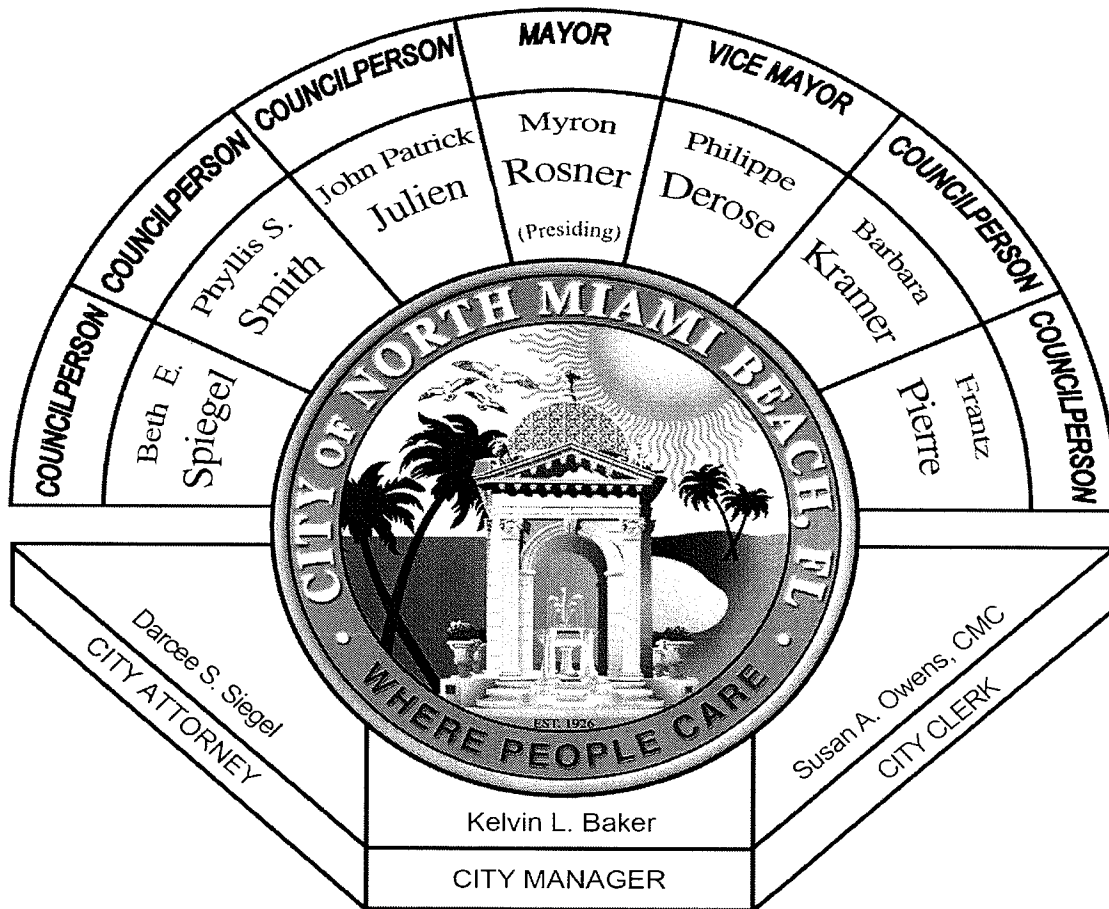


Welcome
To A Meeting of the
City of North Miami Beach City Council
Your City Officials



AGENDA

REGULAR MEETING OF THE CITY COUNCIL
CITY OF NORTH MIAMI BEACH, FLORIDA

DATE and TIME: TUESDAY, MAY 18, 2010, 7:30 P.M.

LOCATION: CITY HALL, 17011 NE 19th AVENUE
2ND FLOOR, COUNCIL CHAMBERS

NEXT REGULAR CITY COUNCIL MEETING: TUESDAY, JUNE 1, 2010

CITY COUNCIL MEETING AGENDA

MAY 18, 2010

1. **ROLL CALL OF THE CITY OFFICIALS**
2. **INVOCATION** – Reverend Jonas Georges, All Nations Presbyterian Church
3. **PLEDGE OF ALLEGIANCE**
4. **REQUESTS FOR WITHDRAWALS, DEFERMENTS AND ADDITIONS TO AGENDA**
5. **PRESENTATIONS**
 - 5.1 Presentation by Jack Ross of the North Miami Beach Optimist to the Oratorical Award Winners
 - 5.2 Presentation of the February Officer of the Month Award to Sergeant Warren Hardison
 - 5.3 Presentation of the February Officer of the Month Award to Officer Richard Gauvreau
 - 5.4 Presentation of the February Officer of the Month Award to Officer David Foy
 - 5.5 Presentation by Mayor Rosner to Esmond Scott, Assistant Director of Public Services, proclaiming the week of May 16-22, 2010 as *National Public Works Week*
 - 5.6 Presentation by Mayor Myron Rosner to H. Mark Roth, Public Affairs Officer, Coast Guard Auxiliary, proclaiming the week of May 22-28, 2010 as *Safe Boating Week*
6. **APPOINTMENTS**
 - 6.1 **Advisory Committee for Disabled Individuals** (*Mayor Myron Rosner*)
Wayne Bauer (*Re-Appointment*)
Rick Zoehfeld (*Re-Appointment*)
 - 6.2 **Civil Service Board** (*Councilwoman Beth E. Spiegel*)
Fortuna Smukler (*Re-Appointment*)
Mamie Lorraine Willis (*Re-Appointment*)
 - 6.3 **Multi-Cultural Board** (*Councilman John Patrick Julien*)
Carlos Ponce
 - 6.4 **Library Board** (*Councilman Frantz Pierre*)
Dennis E. Berger (*Re-Appointment*)
Deborah Louise Donovan (*Re-Appointment*)
Alberta Williams (*Re-Appointment*)
Tamara Philippeaux

7. CONSENT AGENDA

7.1 April 20, 2010 Meeting Minutes

7.2 Resolution No. R2010-36

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$6,297,318 FOR THE MAJOR SEWER REHABILITATION PROGRAM; ACCEPTING THE WASTEWATER FACILITY PLAN AFTER AN ADVERTISED PUBLIC UTILITY COMMISSION MEETING ACCEPTING PUBLIC COMMENT THEREON; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.

7.3 Resolution No. R2010-37

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$4,201,765 FOR THE INFILTRATION AND INFLOW FACILITIES PROJECT; ACCEPTING THE WASTEWATER FACILITIES PLAN AFTER AN ADVERTISED PUBLIC UTILITY COMMISSION MEETING ACCEPTING PUBLIC COMMENT THEREON; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.

7.4 Resolution No. R2010-38

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$4,000,000 FOR THE VOLATILE ORGANIC CHEMICAL FACILITY; ACCEPTING THE WATER FACILITY PLAN ADDENDUM; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.

7.5 Resolution No. R2010-39

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, TO ENTER INTO THE 2010 FLORIDA FOREST HEALTH INITIATIVE GRANT MEMORANDUM OF AGREEMENT WITH THE STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY.

8. CITY MANAGER'S REPORT – Kelvin L. Baker

8.1 Miscellaneous Updates

9. CITY ATTORNEY'S REPORT – Darcee S. Siegel

10. MAYOR'S DISCUSSION

11. PUBLIC COMMENT

To All Citizens Appearing Under Public Comment

The Council has a rule which does not allow discussion on any matter which is brought up under Public Comment. We are, however, very happy to listen to you. The reason for this is that the Council must have Staff input and prior knowledge as to the facts and figures, so that they can intelligently discuss a matter. The Council may wish to ask questions regarding this matter, but will not be required to do so. At the next or subsequent Council meeting you may have one of the Councilpersons introduce your matter as his or her recommendation. We wish to thank you for taking the time to bring this matter to our attention. Under no circumstances will personal attacks, either from the public or from the dais, be tolerated.

Speaking Before the City Council

There is a three (3) minute time limit for each speaker during public comment and a three (3) minute time limit for each speaker during all public hearings. Your cooperation is appreciated in observing the three (3) minute time limit policy. If you have a matter you would like to discuss which requires more than three (3) minutes, please feel free to arrange a meeting with the appropriate administrative or elected official.

In the Council Chambers, citizen participants are asked to come forward to the podium, give your name and address, and the name and address of the organization you are representing, if any. If you are speaking on a public hearing item, please speak only on the subject for discussion. Thank you very much, in advance, for your cooperation.

Notice to All Lobbyists

Any person who receives compensation, remuneration or expenses for conducting lobbying activities is required to register as a Lobbyist with the City Clerk prior to engaging in lobbying activities before City Boards, Committees, or the City Council. A copy of the applicable ordinance is available in the office of the City Clerk which is located on the ground floor of City Hall, or on the City's website.

Pledge of Civility

A resolution was adopted by the Mayor and City Council of the City of North Miami Beach recognizing the importance of civility, decency, and respectful behavior in promoting citizen participation in a democratic government. The City of North Miami Beach calls upon all residents, employees, and elected officials to exercise civility toward each other. (Resolution No. R2007-57, 11/06/07)

12. MISCELLANEOUS ITEMS – *None*

13. WAIVER OF FEE – *None*

14. BUSINESS TAX RECEIPTS – *None*

15. LEGISLATION – *None*

16. CITY COUNCIL COMMITTEE REPORTS

17. NEXT REGULAR CITY COUNCIL MEETING – Tuesday, June 1, 2010

18. ADJOURNMENT

MINUTES
OF THE
REGULAR
CITY COUNCIL MEETING

APRIL 20, 2010



PREPARED BY:
SUSAN A. OWENS, CMC, CITY CLERK

APRIL 20, 2010 MEETING MINUTES
(CNMB-CC MINUTES TAPE #439)

1. ROLL CALL OF THE CITY OFFICIALS

The meeting was called to order at 7:33 P.M. Present at the meeting were Mayor Myron Rosner, Vice Mayor Phyllis S. Smith, and Council Members Beth E. Spiegel, Philippe Derose, Barbara Kramer, Frantz Pierre, and John Patrick Julien. Also present were City Manager Kelvin L. Baker, City Attorney Darcee S. Siegel, and City Clerk Susan A. Owens. Mayor Myron Rosner joined the meeting at 7:44 P.M.

2. INVOCATION

The invocation was given by Reverend Marta Burke, Fulford United Methodist Church.

3. PLEDGE OF ALLEGIANCE

Vice Mayor Smith led the City Council in the Pledge of Allegiance.

4. REQUESTS FOR WITHDRAWALS, DEFERMENTS AND ADDITIONS TO AGENDA

City Clerk Owens announced that Item #14.1 will be heard after Item #14.5, and that Items #5.5, #6.1, #6.2, and #6.3 will all be deferred.

5. PRESENTATIONS

- 5.1** Presentation of March 2010 C.A.R.E. Suggestion Award by Vice Mayor Phyllis S. Smith and City Manager Kelvin L. Baker, to Judy Genao, Police Department.

Presentation was made by Vice Mayor Smith and City Manager Baker.

- 5.2** Discussion regarding recent criminal activity in Eastern Shores.

Councilman Julien asked Mr. Bert Kehren, Eastern Shores resident, to speak to the City Council in regards to the recent criminal activity in Eastern Shores.

Mr. Kehren stated that he had witnessed, on more than one occasion, security guards reading, staring at their computer and even sleeping in the guard booth. Mr. Kehren said that fear of reprisal or retaliation from the Police has kept residents quiet about the issue. Mr. Kehren stated that he had begun a log noting time, date, and incidents. It was Mr. Kehren's belief that the Eastern Shores community is being ripped-off by the Police Department. He then proposed the following solutions: 1) Replace the security guards at the gate with a professional guard company who will cut costs in half and have a real deterrent effect; we can use the savings to upgrade the gate. 2) Authorize the City Manager to retain an outside consultant to address this issue.

Mayor Rosner joined the meeting at 7:44 P.M., at which time Vice Mayor Smith passed the gavel to the Mayor.

After much discussion, the City Manager was directed to retain an independent security consultant to analyze what security issues there may be City-wide and what opportunities are available to improve the system. City Manager Baker was further directed to report back to the Council on the consultant's findings during one of his City Manager's Reports.

Mayor Rosner stated that the issue with the guard gate is something that needs to be addressed immediately. Chief Rafael P. Hernandez said the Police Department will address this issue immediately and take the appropriate action.

5.3 Discussion regarding the March 16, 2010 Multi-Cultural Committee Report

Councilwoman Spiegel stated that she brought this item forward because she is not in agreement with the Multi-Cultural Committee's recommendations and, in her opinion, it is not the City's responsibility to recognize religions. It was discussed among the Council that the Multi-Cultural Committee was tasked with a specific purpose, to come back with a recommendation on holiday decorations. The Council also raised concerns about separation of church and state, and the feasibility of conducting the program outlined in the Multi-Cultural Committee's report. Mayor Rosner asked that further conversation on this item be reserved until the Beautification Committee has given their report (Item #5.4).

5.4 Presentation by the Beautification Committee Regarding Holiday Lights.

Bruce Lamberto, Chairman of the Beautification Committee, reported that the Committee had identified possible locations and a plan for displaying holiday decorations. In trying to keep the budget at \$20,000 for the holiday decorations, the Committee's recommendation is to start at the City Center/19th Avenue area and progress from there later on. After much discussion, the Council directed the City Manager to include decorations in the upcoming budget and that he come back at a Pre-Council meeting in June or July to present his recommendations.

**5.3 Discussion regarding the March 16, 2010 Multi-Cultural Committee Report
(CONTINUED)**

Mayor Myron Rosner read aloud the purpose of the Multi-Cultural Committee, which is to focus on culture and not on religion. City Attorney Siegel also confirmed that the purpose of the Multi-Cultural Committee is clearly about culture and not religion.

5.5 Discussion regarding 2010 Holiday Lighting- Item deferred. (See Page 1)

6. CONSENT AGENDA- All items were deferred. (See Page 1)

6.1 April 6, 2010 Meeting Minutes

6.2 Resolution No. R2010-28

6.3 Resolution No. R2010-29

7. CITY MANAGER'S REPORT – Kelvin L. Baker

7.1 Update on Weed & Seed Program by Michael Nozell, Executive Director

Mr. Michael Nozell was not able to make the meeting, so the item was deferred.

7.2 Miscellaneous Updates

Building Inspections. City Manager Baker stated that about a year ago it was brought to the Council's attention that the City had two building personnel who did not have the proper credentials to perform inspections and review plans. Since then, 80% of the properties which required re-inspection have been re-inspected, and the overwhelming majority of those buildings were found to be in compliance. We have not been able to re-inspect the remaining 20% because we have not been granted approval to access the property. We made a presentation to the Miami-Dade County Board of Rules and Appeals and asked if they would allow us to comply, since we had such good results and so we do not have to put any additional burdens on our homeowners. We were not granted approval, and we were instructed to make one final effort to speak to the homeowners. And, if the homeowners do not grant us access to their property, they would be brought before the Code Enforcement Board. For the most part, we have exhausted our efforts in doing the re-inspections. One of the challenges in this process is that the homeowner has to call their contractor and have them come back out, which can create additional expenses. If the homeowner is billed by the contractor, the City will reimburse the homeowner for those expenses. The majority of contractors are not charging the homeowner if they need to come back out. Letters have been issued to the remaining homeowners, and we are hoping that they will allow us to do the re-inspections.

Census. Mr. Baker reported that the City received a 61% response rate in the 2000 Census; and, so far this, the City has had a 64% response rate. The final deadline is July 31st, and we are shooting for a response rate of 90%. The following are the percentages of responses received from the following communities:

- Eastern Shores – 63%
- Highland Village – 58%
- Sunray East – 58%
- Sunray West – 68%
- Windward/Pickwick – 61%
- Uleta – 65%
- Oak Grove – 61%
- Allen Park/Fleeman Heights – 64%
- Washington Park – 64%
- Skylake – 75%

City Message Board Dedication. Mr. Baker wanted to remind everyone that on April 30th the City is hosting their dedication to the city message boards in a parade format where the local high school marching bands will be performing down 19th Avenue. The streets will be blocked off for the students and attendees.

Councilman Pierre asked Mr. Baker to report on the results of the Aris Eugene case.

Mayor Rosner read aloud a letter from Sergeant Gary Kogan, Criminal Investigations, North Miami Beach Police Department. The letter stated that on March 19th, 2010 Aris Eugene was sentenced in Federal Court. He was given three months of house confinement and five years of federal probation. He pled and was convicted of grand fraud. He is to repay the Department of Justice \$64,000.00. The City computer, along with various paperwork, will be returned in the near future. Mayor Rosner stated that it was his understanding that they investigated all avenues to determine if there was anyone that was working in conjunction with Aris Eugene. Mayor Rosner said that it was also his understanding that, in this case, this individual had too much authorization to release checks by himself; and, that the City Manager is working

on a system with the new auditors and the accounting department.

8. CITY ATTORNEY'S REPORT – Darcee S. Siegel

Donations. City Attorney Siegel addressed the question that Councilman Julien had at the last meeting regarding donations. As far as property is concerned, and in particular the unclaimed/abandoned bicycles that were to be donated to Haiti, she stated that it would be proper under 705.101(6) Florida Statute. This states that the City may donate unclaimed property to a charitable organization. Furthermore, 705.103 Florida Statute states that the City may donate abandoned property as well to a charitable organization. As far as cash is concerned, her research indicated that giving City money to other countries would not serve a valid municipal purpose or function as defined by Florida Law and the Florida Supreme Court; therefore, cash donations would not be a proper expenditure on behalf of the City.

Mayor Rosner asked why the Council had deferred the bicycle donation resolution.

Councilman Julien said that deferral was requested because they had difficulties in getting in touch with Contact for Haiti. After further discussion, it was agreed that the resolution should be brought forth and, instead of naming an organization at this time, amend it to generically read that the bicycles will be donated to a charitable organization and that the City Manager would determine which organization could most quickly get the bicycles to the proper channels in Haiti.

Motion made by Councilman Julien, seconded by Vice Mayor Smith, to bring back Resolution R2010-28. In a voice vote, all voted in favor. (**Motion carried 7-0**)

Motion made by Councilman Julien, seconded by Councilwoman Spiegel, to introduce Resolution R2010-28. In a voice vote, all voted in favor. (**Motion carried 7-0**)

6.2 Resolution No. R2010-28

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, AUTHORIZING AND DIRECTING THE CITY MANAGER, PURSUANT TO STATE LAW, TO DONATE ABANDONED AND UNCLAIMED BICYCLES TO CONTACT HAITI, A CHARITABLE ORGANIZATION.

Motion made by Councilman Derose, seconded by Councilman Julien, to adopt Resolution R2010-28.

Motion made by Councilwoman Spiegel, seconded by Councilman Derose, to amend Resolution R2010-28, by removing the references to "Contact for Haiti" and delegating the City Manager to select the most efficient way to get the bicycles to Haiti. In a voice vote, all voted in favor. (**Motion carried 7-0**)

Motion made by Vice Mayor Smith, seconded by Councilman Julien, to approve Resolution R2010-28, as amended. In a voice vote, all voted in favor. (**Motion carried 7-0**)

9. MAYOR'S DISCUSSION

The Mayor announced that he, several of the other Council Members, the City Manager, and the City Attorney will be going to Dade Days in Tallahassee to look for dollars for our City.

10. PUBLIC COMMENT

The following individuals appeared before the City Council to express their opinions and concerns:

Charles Loeb, 16800 NE 15 Avenue, #112, North Miami Beach, FL, spoke regarding Council compensation and candidate filing fees.

Alison Robie, 2131 NE 179 Street, North Miami Beach, FL, spoke regarding Resolution R2010-29, public record requests, and the Mayor's re-appointment to the Miami-Dade County Board of Rules and Appeals.

Bert Kerhen, 3302 NE 171 Street, North Miami Beach, FL, spoke regarding the separation of church and state, holiday decorations, and the FBI investigation.

Fortuna Smuckler, 3207 NE 168 Street, North Miami Beach, FL, spoke regarding the Eastern Shores Crime Watch Meeting, holiday decorations and recognition, and the Eastern Shores crime presentation by Bert Kehren.

Frederick Finn, 12933 Clifton Drive, Boca Raton, FL, spoke regarding Action Fight League Gym.

Mubarak Kazan, 15564 NE 12 AVE, North Miami Beach, FL, spoke regarding corruption and theft.

Ketley Joachim, 210 NE 170 Street, North Miami Beach, FL, spoke regarding Council compensation.

Norman Edwards, 1640 NE 175 Street, North Miami Beach, FL, spoke regarding Police Department hotspots and enforcement.

Mike Pons, President of North Miami Beach Police Officer Association, Local 6005, spoke regarding the Eastern Shores guard gate situation.

Robert Taylor, 1951 NE 157 Terrace, North Miami Beach, FL, spoke regarding Arbor Day, the city signboard, and city employees.

Richard Riess, 23 NW 169 Street, North Miami Beach, FL, spoke regarding neighborhood crime, intimidation, and honesty.

11. MISCELLANEOUS ITEMS – None

12. WAIVER OF FEE – None

13. BUSINESS TAX RECEIPTS – None

14. LEGISLATION

14.1 Resolution No. R2010-25- Item taken out of order and will be considered after Item #14.5 (See Page 1)

Motion made by Councilman Julien, seconded by Councilman Derose, to introduce Ordinance No. 2010-7 on first reading, by title only. In a voice vote, all voted in favor. (**Motion carried 7-0**)

14.2 Ordinance No. 2010-7 (First Reading, by Title Only)

AN ORDINANCE AMENDING CHAPTER XII OF THE CODE OF THE ORDINANCES OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, ENTITLED BUSINESS TAX RECEIPTS AND REGULATIONS, AND IN PARTICULAR SECTION 12-1.10 (TRANSFER OF BUSINESS TAX RECEIPTS); SECTION 12-1.14 (COMPLIANCE WITH ZONING, BUILDING AND FIRE REGULATIONS); SECTION 12-1.15 (PAYMENT OF FEES

PREREQUISITE TO ENGAGING IN BUSINESS); SECTION 12-1.18 (COLLECTION OF COST FEES); SECTION 12-1.21 (OUTDOOR SALES BY MERCHANTS); SECTION 12-2.2 (PERMITTED DAYS AND HOURS OF SALE - SUNDAY RESTRICTIONS; HOTELS AND NIGHTCLUBS); 12-10.9 (ISSUANCE AND DURATION OF BUSINESS TAX RECEIPTS); SECTION 12-12.6 (NONPAYMENT OF BUSINESS TAX; SEIZURE; CHARGES; REDEMPTION; SALE; PROCEEDS) AND 12-31 (SCHEDULE OF FEES FOR BUSINESS TAX RECEIPTS) BY PROVIDING FOR AN INCREASE IN FEES IN ACCORDANCE WITH FLORIDA STATUTES; PROVIDING FOR THE REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE; AND PROVIDING FOR AN EFFECTIVE DATE.

Motion made by Councilman Julien, seconded by Councilman Derose, to adopt Ordinance No. 2010-7, on first reading, by title only.

City Attorney Siegel announced that the following three amendments are being requested:

1. Section 12-1.14- the word "Zoning" should be stricken from the title
2. Section 12-1.18- the amount of the Cost Collection Fee should read "\$250.00", not "up to \$250.00"
3. Section 12-2.2(3)- "and Chief of Police" should be stricken from the approval process

Motion made by Councilman Julien, seconded by Councilman Derose, to adopt Ordinance No. 2010-7 as amended above, on first reading, by title only.

The following individuals expressed their opinions and concerns:

Allison Robie, 2131 NE 179 Street, North Miami Beach

Mubarak Kazan, 15564 NE 12 Avenue, North Miami Beach, FL

Motion was made by Councilwoman Spiegel to table Ordinance No. 2010-7. Motion died for lack of a second. (**Motion failed**)

Motion made by Vice Mayor Smith, seconded by Councilman Derose, to further amend Ordinance No. 2010-7 as follows:

1. Section 12-2.2(f)- the words "and Council" should be added to the approval process for gala event designations.

In a voice vote, with Councilwoman Spiegel dissenting, all voted in favor. (**Motion carried 6-1**)

Motion made by Councilman Julien, seconded by Vice Mayor Smith, to adopt Ordinance No. 2010-7, as amended, on first reading, by title only. In a roll call vote, with Councilwoman Spiegel and Councilman Pierre dissenting, all voted in favor. (**Motion carried 5-2**)

Motion made by Councilman Julien, seconded by Councilman Derose, to introduce Ordinance No. 2010-8 on first reading, by title only.

14.3 Ordinance No. 2010-8 (First Reading, by Title Only)

AN ORDINANCE AMENDING CHAPTER XII OF THE CODE OF ORDINANCES OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, ENTITLED LOCAL BUSINESS TAX RECEIPT AND REGULATIONS AND IN PARTICULAR SECTIONS 12-1.3 ENTITLED APPLICATION: INFORMATION REQUIRED; 12-10.5 ENTITLED APPLICATION

(SOLICITATION FOR CHARITIES); AND 12-10.8 ENTITLED APPLICATION; INFORMATION (BUSINESS TAX RECEIPT TO PROMOTE FAIRS, BAZAARS, ETC., OR CONDUCT RUMMAGE SALE-REQUIRED); INCREASING THE APPLICATION PROCESSING FEE AND THE ANNUAL ADMINISTRATIVE PROCESSING FEE; AMENDING THE PERSONAL INFORMATION REQUESTED ON BUSINESS TAX RECEIPT APPLICATIONS; PROVIDING FOR THE REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE; AND PROVIDING FOR AN EFFECTIVE DATE.

Motion made by Councilman Julien, seconded by Councilman Derosé, to adopt Ordinance No. 2010-8, on first reading, by title only.

City Attorney Siegel announced that the following four amendments are being requested:

1. 12-1.3(c.)- remove this subsection in its entirety and change subsection d. to c., and e. to d.
2. 12-10.5(e.)- remove "for the day(s) of event"
3. 12-10.8(f.)- remove "for the day(s) of event"
4. 12-10.8(~~pk~~.)- remove "and whether such person is a qualified elector of the City"

Motion made by Vice Mayor Smith, seconded by Councilman Julien, to adopt Ordinance No. 2010-8, as amended, on first reading, by title only.

The following individual expressed his opinions and concerns:

Mubarak Kazan, 15564 NE 12 Avenue, North Miami Beach, FL

Motion made by Councilwoman Spiegel, seconded by Councilman Julien, to further amend Ordinance No. 2010-8 as follows:

1. Section 12-10.8(~~x.s.~~)- to increase the allowable percentage of costs spent in order to raise funds to 25%

In a voice vote, with Mayor Rosner, Vice Mayor Smith, and Councilman Pierre dissenting, all voted in favor. (**Motion carried 4-3**)

Motion made by Councilman Julien, seconded by Vice Mayor Smith, to approve Ordinance No. 2010-8, as amended, on first reading, by title only. In a roll call vote, all voted in favor. (**Motion carried 7-0**)

Motion made by Councilman Julien, seconded by Vice Mayor Smith, to introduce Ordinance No. 2010-9 on first reading, by title only.

14.4 Ordinance No. 2010-9 (First Reading, by Title Only)

AN ORDINANCE AMENDING CHAPTER 14 OF THE CODE OF ORDINANCES OF THE CITY OF NORTH MIAMI BEACH ENTITLED BUILDING AND HOUSING, AND IN PARTICULAR SECTIONS 14-8.13 (CODE ENFORCEMENT BOARD: ORGANIZATION); 14-8.15 (CONDUCT OF HEARING); 14-8.16 (POWERS OF THE CODE ENFORCEMENT BOARD); 14-8.17 ADMINISTRATIVE FINES: COSTS OF REPAIRS; LIENS); AND 14-8.19 (APPEALS) BY GIVING SPECIAL MAGISTRATE(S) THE SAME STATUS AS A CODE ENFORCEMENT BOARD PURSUANT TO FLORIDA STATUTE CHAPTER 162; PROVIDING FOR AN ADMINISTRATIVE CHARGE BY SPECIAL MAGISTRATE(S) TO COVER THE CITY'S COSTS OF THE PROCEEDING; PROVIDING FOR THE REPEAL OF

ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH;
PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE; PROVIDING FOR AN
EFFECTIVE DATE.

Motion made by Councilman Julien, seconded by Vice Mayor Smith, to adopt Ordinance No. 2010-9 on first reading, by title only.

City Attorney Siegel announced that the following six amendments are being requested:

1. 14-8-13(b.)- scrivener's error, "two (w2)" should read "two (2)"
2. 24-8.14(d.)-(2.)- scrivener's error, "Delivery a copy" should read "Deliver a copy"
3. 24-18.4(d.)-(3.)- scrivener's error, the word "or" at the end of the section should be stricken
4. 14-8.15(c.)- scrivener's error, "Board and Special Magistrate" should read "Board and/or Special Magistrate"
5. 14-8.15(e.)- scrivener's error, the word "line" should read "lien"
6. 14-8.15(e.)- scrivener's error, the word "find" should read "fine"

Motion made by Councilman Julien, seconded by Vice Mayor Smith, to adopt Ordinance No. 2010-9, as amended, on first reading, by title only.

The following individual expressed his opinions and concerns:

Mubarak Kazan, 15564 NE 12 Avenue, North Miami Beach, FL

Motion was called to question. In a roll call vote, all voted in favor. (**Motion carried 7-0**)

Motion made by Councilman Julien, seconded by Councilman Derose, to introduce Ordinance No. 2010-4 on second and final reading.

14.5 Ordinance No. 2010-4 (Second and Final Reading)

AN ORDINANCE REZONING PROPERTY WITHIN THE CITY OF NORTH MIAMI BEACH LOCATED AT 1590 N.E. 162 STREET; FROM A CLASSIFICATION OF RO, RESIDENTIAL OFFICE DISTRICT TO A CLASSIFICATION OF B-2, GENERAL BUSINESS ZONING DISTRICT, AND DIRECTING THE DIRECTOR OF COMMUNITY DEVELOPMENT TO MAKE ALL NECESSARY CHANGES IN THE OFFICIAL ZONING MAP OF THE CITY OF NORTH MIAMI BEACH TO CARRY OUT THE INTENT OF THIS ORDINANCE; PROVIDING FOR THE REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE.

JENNINGS DISCLAIMER(S) –

Mayor Rosner, Councilman Julien, Councilwoman Kramer, and Councilman Pierre all disclosed that they had spoken with the applicant's registered lobbyist, Michael J. Snyder on this subject.

Motion made by Councilman Julien, seconded by Vice Mayor Smith, to adopt Ordinance No. 2010-4 on second and final reading.

Councilman Julien temporarily left the meeting at 11:17 P.M.

The following individuals provided testimony to the City Council:

Michael Snyder, Registered Lobbyist for G & G Holistics, 4000 Hollywood Boulevard, Suite 455 S, Hollywood, FL 33026

Sheila Pennance, 1590 160 Street, North Miami Beach, FL

Mubarak Kazan, 15564 NE 12 Avenue, North Miami Beach, FL

Alison Robie, 2131 NE 179 Street, North Miami Beach, FL

Motion was called to question. In a roll call vote, with Councilman Julien absent, all voted in favor.
(Motion carried 6-0-1)

Motion made by Councilman Derose, seconded by Vice Mayor Smith, to introduce Resolution No. R2010-25.

14.1 Resolution No. R2010-25 (This item was taken out of order, See Page 1)

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, GRANTING REZONING AND CONDITIONAL USE APPROVAL, IN ORDER TO CONTINUE TO OPERATE A DRUG AND ALCOHOL REHABILITATION SERVICE IN AN EXISTING OFFICE BUILDING, AS PROPOSED; AND

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, GRANTING REZONING FROM RO, RESIDENTIAL OFFICE DISTRICT, TO B-2, GENERAL BUSINESS ZONING DISTRICT, IN ACCORDANCE WITH SECTION 24-174 OF THE CITY'S LAND DEVELOPMENT REGULATIONS, AS PROPOSED; AND

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, GRANTING CONDITIONAL USE APPROVAL, IN ACCORDANCE WITH SECTION 24-52 (C)(6) OF THE CODE OF ORDINANCES OF THE CITY OF NORTH MIAMI BEACH, CONTINGENT UPON THE REZONING OF THE PROPERTY, AS PROPOSED, IN ORDER TO CONTINUE TO OPERATE A DRUG AND ALCOHOL REHABILITATION SERVICE ON PROPERTY LEGALLY DESCRIBED AS:

LOTS 8-11, BLOCK 97, FULFORD BY THE SEA, SECTION "H", PLAT BOOK 14, PAGE 40, OF THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA

A/K/A
1590 N.E. 162 Street
North Miami Beach, Florida

(P&Z Item No. 10-470 of March 15, 2010)

JENNINGS DISCLAIMER(S) –

Mayor Rosner, Councilman Julien, Councilwoman Kramer, and Councilman Pierre all disclosed that they had spoken with the applicant's registered lobbyist, Michael J. Snyder on this subject.

Motion made by Councilman Derose, seconded by Councilwoman Spiegel, to approve Resolution No. R2010-25.

The following individual provided testimony to the City Council:

Mubarak Kazan, 15564 NE 12 Avenue, North Miami Beach, FL

Motion was called to question. In a roll call vote, with Councilman Julien absent, all voted in favor. **(Motion carried 6-0-1)**

Motion made by Vice Mayor Smith, seconded by Councilman Derose, to introduce Ordinance No. 2010-5 on second and final reading.

14.6 Ordinance No. 2010-5 (Second and Final Reading)

AN ORDINANCE OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, CLARIFYING THE HOURS OF SALE OF ALCOHOLIC BEVERAGES FOR PACKAGE STORES ON SATURDAYS; CLARIFYING THE HOURS OF SALE OF ALCOHOLIC BEVERAGES FOR VENDORS OPERATING STORES PRIMARILY FOR THE SALE OF PRODUCTS OTHER THAN ALCOHOLIC BEVERAGES; ADDING WINE TO THE LIST OF ALCOHOLIC BEVERAGES THAT MAY BE SOLD BY VENDORS OPERATING STORES PRIMARILY FOR THE SALE OF PRODUCTS OTHER THAN ALCOHOLIC BEVERAGES; PROVIDING FOR THE REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE; PROVIDING FOR AN EFFECTIVE DATE.

Councilman Julien re-joined the meeting at 11:41 P.M.

Motion made by Councilman Derose, seconded by Vice Mayor Smith, to adopt Ordinance No. 2010-5 on second and final reading.

The following individual provided testimony to the City Council:

Mubarak Kazan, 15564 NE 12 Avenue, North Miami Beach, FL

Motion was called to question. In a roll call vote, all voted in favor. **(Motion carried 7-0)**

Motion made by Councilman Derose, seconded by Councilman Julien, to introduce Ordinance No. 2010-6, on second and final reading.

14.7 Ordinance No. 2010-6 (Second and Final Reading)

AN ORDINANCE AMENDING CHAPTER XII OF THE CODE OF ORDINANCES OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, ENTITLED LOCAL BUSINESS TAX RECEIPT AND REGULATIONS; DELETING SECTION 12-1.20(7)(d) ENTITLED OCCUPATIONAL USE OF RESIDENCE; AMENDING CHAPTER XXIV OF THE CODE OF ORDINANCES OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, ENTITLED ZONING & LAND DEVELOPMENT; DELETING SECTION 24-47(D)(9)(j) ENTITLED RM-19 RESIDENTIAL LOW-RISE MULTIFAMILY (MEDIUM DENSITY DISTRICT) TO ALLOW OCCUPATIONAL USES OF RESIDENCES IN THE RS-1 AND RM-19 ZONING DISTRICTS (EASTERN SHORES); PROVIDING FOR THE REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE; PROVIDING FOR AN EFFECTIVE DATE.

Motion made by Councilman Derose, seconded by Councilman Julien, to adopt Ordinance No. 2010-6, on second and final reading. In a roll call vote, all voted in favor. (**Motion carried 7-0**)

15. CITY COUNCIL COMMITTEE REPORTS

VICE MAYOR SMITH

Dade Days. I want to mention that the Manager asked me a few weeks ago if I would join them in Tallahassee. So, for those people who think I talk an awful lot, hopefully it will work in our benefit. And, I will come back with lots of good news for you. But, due to that fact, I will be missing several of my meetings and they will be covered for me, but focus group will be postponed until next month because I am the one that runs that.

Arbor Day. I want to say to our former Council Member Robert Taylor what an outstanding job he did. It goes to show that volunteers, people at home, I had said this when I had gone to a national meeting two and a half years ago, that we as good neighbors should adopt a park, and thank you for stepping up to the plate Mr. Taylor and making that happen. I hope more of our residents will see that they have time on their hands and would help to make our City look even that much better.

Haitian Nurses Award Ceremony. The Mayor had asked me if I would go to the Haitian Nurses Award Ceremony last weekend and give them the proclamation from the City, as he was unable to attend. That's again when people came up and said that I was the honorary Haitian. But, I just want to reiterate one thing I said there, and I mean it from the bottom of my heart. Not only do we want to thank every nurse and doctor that went to Haiti, and are still going to Haiti, to help these poor people, but for the people who took two shifts and three shifts, and the families dug in and watched the children so that the other people could go. I thank them from the bottom of my heart.

Senior's Lunch. I also want to remind everybody one last time that the seniors on May 7th is having a free lunch for awareness of senior abuse. Whether it be financial, emotional, or even physical. And, that is for seniors in North Miami Beach. It is going to be a gala celebration of seniors, and I hope everybody can come and attend.

COUNCILWOMAN SPIEGEL

Housing Crisis Forum. For those of you who are still watching, Attorney General Bill McCollum and Florida's Interagency Mortgage Task Force is having a Community Forum on the housing crisis, who to trust and where to turn. It is open to the public, there is no cost to it. It is Saturday, May 8th, from 10:00 A.M. – 4:00 P.M. at the Miami-Dade College Wolfson Campus. You can contact Council's office, the City Manager's office, I am sure you received the same release, but it is something that may actually help you and there is no cost. so I would urge you, if you need that kind of help to go. They will have HUD certified counselors, volunteer lawyers, banks and will help you if they possibly can.

Holiday Lights. I too love holiday lights. I believe in God and religion. I just really wanted the City to stay out of the religion business, so I am hopeful that we are going to see lots of holiday spirit and goodwill in this City.

Taylor Park. I too want to congratulate Robert Taylor. I have actually been going by Taylor Park and watching its transformation and it is amazing.

North Miami Beach Police Department. I want to congratulate the North Miami Beach Police Officer's Association. I think that Officer Mike Pons coming in here, stepping up to the plate is a wonderful show of leadership and I urge our residents to go out and talk to Mike, or whoever they feel comfortable with if they are having a problem with the Police. Unfortunately on my street in 2008, my door was almost pounded in at 2:00 A.M. or so. About six weeks ago there was another emergency on my street and by the time it ended there were five different police cars there and officers were dealing with it. And they were compassionate, they had the situation under control, and while they were not interested particularly in talking to the neighbors, they did answer my one question, which was whether there was anything I could do to help my neighbor. So, there are good and bad, and kudos to Mike Pons. I think it was great of him to step up on behalf of the North Miami Beach Police Officers.

Dade Days. To my fellow colleagues, City Manager and City Attorney, travel safely. Bring us back lots of money. And my special, pet peeve, project, lots of money for going green please.

COUNCILMAN JULIEN

Changing Election Dates. In light of the fact that we are all looking for a way to save some money, I would like to see if perhaps there is a way, and I am not sure if we are going to be able to make it by this August or not. I am not even sure if I am going to get the support of my colleagues, but to see if perhaps we could go to referendum and get on the ballot to see if we could change our election dates from May and switch it to be in line with what the County is doing, to go August and then November for any possible run-offs. I think the savings far outweigh any of the negatives that might be involved in it. If nothing else, let us at least have a serious debate and a serious discussion about it. Whatever it is, \$80,000, that we spend on an election, if we could do it in August and then November for any possible run-offs that would save our taxpayers a tremendous amount of money.

COUNCILMAN DEROSE

Arbor Day. I want to seize this moment to thank the citizens, all our staff, and all my colleagues for participating in Arbor Day yesterday. It was a very nice event. Despite all the rain we had a very nice crop. I was very happy to see so many people. Also, I want to give a special thanks to former Councilman Bob Taylor. Mr. Taylor did a great job by keeping the park very clean and I will thank him for his commitment and dedication. We owe him a great deal of respect and gratitude for his work. If you drive by, you pass by, you see his park. Compared to a few months ago and now, it is a big, big, big difference and I am very proud of him. Thanks, Mr. Taylor.

Motion made by Councilman Pierre, seconded by Councilman Derosé to extend the meeting past midnight. In a voice vote, all voted in favor. (**Motion carried 7-0**)

COUNCILWOMAN KRAMER

Echoing Previous Council Reports. Being the fifth person to speak, everyone takes wind out of my sails. Councilwoman Spiegel already talked about the housing crisis, great minds think alike. Councilman Derosé spoke about Arbor Day, which was really a beautiful, rainy, cold, but we showed up and really it was wonderful to see what former Councilman Taylor has done with the park that is named after him. He has done a great job and the geese were out and the ducks were out and thank you for the stump that you gave me. So nobody trips over the stumps that were in the park, now they are all taken up and I have one to remember him by.

COUNCILMAN PIERRE

Eastern Shores Crime Watch. I will be missing the function on Thursday at Eastern Shores for Crime Watch. This is something that I encourage everyone to participate in. It is going to be at Eden Isles Condo on Thursday at 7:00 P.M. Unfortunately, I am going to miss that because I am going to make the trip to Tallahassee as well.

Census. I will be back in time to continue my Census work. This weekend I have in mind Highland Village and Eastern Shores, which are the two neighborhoods I have yet to visit on Census work.

Women's Health Event. The library also has a function on Saturday, April 24th, from 1:15 P.M. – 2:45 P.M. for everybody, but mostly for women, how to prevent breast problems and other items related to women.

MAYOR ROSNER

Mr. Taylor. At this time, you know, Bob Taylor's name has been mentioned so many times it feels like Taylor Day. If he is on a roll, let us move him to another park.

16. **NEXT REGULAR CITY COUNCIL MEETING** – Mayor Rosner announced that the next Regular City Council meeting will be Tuesday, May 4, 2010.
17. **ADJOURNMENT** – There being no further business to come before the City Council of the City of North Miami Beach, the Regular Meeting of the City Council of the City of North Miami Beach was adjourned on April 20, 2010 at 12:01 A.M. on a motion by Councilman Pierre and seconded by Councilman Derose. In a voice vote, all voted in favor. (**Motion carried 7-0**)

CERTIFICATION

I, SUSAN A. OWENS, CITY CLERK OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, DO HEREBY CERTIFY THAT THE FOREGOING MINUTES, PAGES ONE (1) THROUGH PAGE THIRTEEN (13) INCLUSIVE, TO BE THE OFFICIAL RECORD OF THE CITY COUNCIL PROCEEDINGS AS RECORDED AT THE REGULAR CITY COUNCIL MEETING OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, HELD ON THE 20TH DAY OF APRIL, 2010.

(S E A L)

SUSAN A. OWENS, CMC
CITY CLERK
CITY OF NORTH MIAMI BEACH

MEMORANDUM

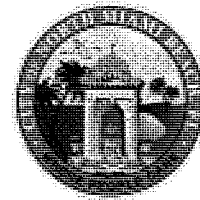
**TO: MAYOR AND CITY COUNCIL
CITY CLERK
CITY MANAGER**

**FROM: DARCEE S. SIEGEL
CITY ATTORNEY**

DATE: MAY 18, 2010

**RE: RESOLUTION NO. R2010-36
Major Sewer Rehabilitation**

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$6,297,318 FOR THE MAJOR SEWER REHABILITATION PROGRAM; ACCEPTING THE WASTEWATER FACILITY PLAN AFTER AN ADVERTISED PUBLIC UTILITY COMMISSION MEETING ACCEPTING PUBLIC COMMENT THEREON; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.



**CITY OF NORTH MIAMI BEACH
INTEROFFICE MEMORANDUM**

City Manager's Office

TO: Mayor and Council
FROM: Kelvin L. Baker, City Manager
DATE: April 30, 2010

A handwritten signature in black ink, appearing to be "K. Baker", written over the "FROM" line of the memorandum.

RE: Wastewater Facilities Plan – Major Sewer Rehab

BACKGROUND

The City of North Miami Beach owns and operates a sanitary sewer collection system which includes 79 miles of pipe and 1,600 manholes. The system is divided into 33 collection areas, with each served by a pump station and two pump stations serving the Norwood Water Treatment Plant. The wastewater is eventually discharged into the Miami-Dade Water and Sewer Department force main transmission system.

The CNMB is methodically providing for improvements to many of their pump stations with planned upgrades. We are in process of seeking funds via the State Revolving Fund (SRF) Loan Program to maintain this vital infrastructure. The pump stations due for rehabilitation were predominately chosen due to their age or required by consent decree. Most are at the end of their useful life as they were constructed between 1956 through 1968.

In 2009, the City entered into an agreement with FDEP to fund the design of the rehabilitation of these aging pump stations. However, we are now seeking to be included in the Florida Department of Environmental Protection (FDEP) State Revolving Fund (SRF) priority list for funding in the amount of \$6,297,318 (\$5,100,000 for construction+ soft costs and contingency). Under the state's application process, it is required the utility produce a wastewater facilities plan, hold a public hearing and subsequently adopt the appropriate resolution at City Council. The wastewater facilities plan was advertised; made available to the public for review/comments; and finally, a public hearing was held March 11, 2010 at the PUC meeting.

RECOMMENDATION

It is respectfully recommended that the City Council approve this Wastewater Facilities Plan as it is a strict requirement of the state's SRF program. The FDEP eligibility deadline is June 1, 2010. This item was approved by the PUC on March 11, 2010

FISCAL IMPACT

The portion of funding that will be received as a loan will require wastewater revenues to be pledged by the City in order to fund the debt service. While terms are not yet finalized, the expected interest rate would range between 2.2% and 2.7% with the loan period 20 years. At an interest rate of 2.5%, the annual principal and interest payment will be approximately \$317,100.

CONTACT PERSONS

Karl Thompson, Assistant Director of Public Services

RESOLUTION NO. R2010-36

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$6,297,318 FOR THE MAJOR SEWER REHABILITATION PROGRAM; ACCEPTING THE WASTEWATER FACILITY PLAN AFTER AN ADVERTISED PUBLIC UTILITY COMMISSION MEETING ACCEPTING PUBLIC COMMENT THEREON; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, pursuant to Section 403.1835, Florida Statutes, loans to local government agencies to finance the construction of wastewater major sewer rehabilitation projects are permitted; and

WHEREAS, Chapter 62-503 of the Florida Administrative Code requires authorization to apply for loans, to establish pledged revenues, to designate an authorized representative, to provide assurances of compliance with loan program requirements, and to enter into a loan agreement; and

WHEREAS, the Florida Department of Environmental Protection's State Revolving Fund loan priority list designates the Major Sewer Rehabilitation Program (WW745080) ("Project"), as eligible for available state funding; and

WHEREAS, in order to facilitate the construction of the Project, the City intends to apply for and enter into a loan agreement with the Florida Department of Environmental

RESOLUTION NO. R2010-36

Protection ("FDEP"), under the State Revolving Fund for Project financing in the amount of \$6,297,318; and

WHEREAS, the City recognizes that in the event funding is received from the State Revolving Fund, there are additional requirements that must be met. Those requirements include adherence with the FDEP's standard supplemental conditions, and Davis-Bacon wage rate provisions; and

WHEREAS, the Public Utilities Commission of the City of North Miami Beach, at its public meeting held on March 11, 2010, approved the Project and the application for State Revolving Fund funding; and

WHEREAS, the Public Utilities Commission of the City of North Miami Beach held an advertised public hearing to accept public comment regarding the adoption of the Wastewater Facilities Plan on March 11, 2010.

NOW, THEREFORE,

BE IT RESOLVED by the City Council of the City of North Miami Beach, Florida

Section 1. The foregoing recitals are true and correct and represent the express findings, purpose and intent of the City Council of the City of North Miami Beach.

Section 2. The City Council of the City of North Miami Beach, Florida, hereby approves and accepts the Planning document prepared by AECOM and authorizes the submittal of an application and all supporting documentation (including the planning document) for a State Revolving Fund loan in the amount of \$6,297,318.

Section 3. The City Manager is hereby designated as the authorized representative to (a) act as the City's representative in carrying out the City's responsibilities under the loan

agreement, and (b) delegate responsibility to appropriate City staff to carry out technical, financial, and administrative activities associated with the loan agreement.

Section 4. The City Council hereby authorizes the City Manager to execute any loan agreement or other security on behalf of the Council in accordance with and required by law to secure the loan, in a form acceptable to the City Attorney.

Section 5. The City Council hereby authorizes the use of water utility system revenues for the repayment of the State Revolving Fund loan, which pledged revenues shall consist of net wastewater revenues remaining after payment of debt service on the City's outstanding wastewater system utility State Revolving Fund loans, and other such City water system debt instruments as may exist as of the date of this resolution.

Section 6. The legal authority for the City to borrow money to construct the Project is Chapter 180, Florida Statutes.

Section 7. This Resolution shall become effective immediately upon its passage and adoption.

APPROVED AND ADOPTED by the City of North Miami Beach City Council at the regular meeting assembled this ___ **day of May, 2010.**

ATTEST:

SUSAN A. OWENS
CITY CLERK

(CITY SEAL)

MYRON ROSNER
MAYOR

APPROVED AS TO FORM:

DARCEE S. SIEGEL
CITY ATTORNEY

SPONSORED BY: Mayor and Council

CITY OF NORTH MIAMI BEACH



State Revolving Loan Program Planning Report for Major Sewer Rehabilitation

Prepared by:

AECOM

March 2010

P.E. CERTIFICATION

**City of North Miami Beach
State Revolving Loan Program
Planning Report for Major Sewer Rehabilitation**

I hereby certify that in my professional judgment, the components in this report are in accordance with Florida Administrative Code (FAC) Section 62-503.700(2). However, I have not evaluated and do not certify aspects of this plan that are outside my area of expertise.

James G. Penkosky, P.E.
Registered Professional Engineer
Florida License No. 47591
Date: 6/1/11

**STATE REVOLVING LOAN PROGRAM
PLANNING REPORT FOR MAJOR SEWER REHABILITATION
City of North Miami Beach, Florida**

Table of Contents

1. Executive Summary.....	1
2. Cost Comparison.....	4
3. Environmental Effects/Benefits	7
4. Alternative Cost Comparison.....	7
5. Public Participation Process.....	15
6. Financial Feasibility.....	16
7. Schedule.....	16
8. Adopting Resolution.....	16

TABLES

Table 2-1: Pump Station Alternatives Decision Matrix.....	7
Table 4-1: Stoney Brook (PS 3) Alternative B Cost Estimate	8
Table 4-2: Scott Lake #4 (PS 5) Alternative B Cost Estimate.....	9
Table 4-3: Scott Lake #8 (PS 6) Alternative B Cost Estimate	10
Table 4-4: Cravero (PS 9) Alternative B Cost Estimate	10
Table 4-5: Miami Lanes (PS 11) Alternative B Cost Estimate.....	11
Table 4-6: M.I.D. #2 (PS 14) Alternative B Cost Estimate.....	11
Table 4-7: Miami Gardens Villas (PS 15) Alternative B Cost Estimate.....	12
Table 4-8: Norwood (PS 19) Alternative B Cost Estimate	13
Table 4-9: Windwood (PS 21) Alternative B Cost Estimate.....	13
Table 4-10: Hawco (PS 23) Alternative B Cost Estimate.....	14

Table 4-11: Pump Station Alternative B Cost Estimate Summary 15

Table 7-1: Tentative Pump Station Upgrade Sequence..... 16

ATTACHMENTS

Attachment I Public Participation, Financial Feasibility, and Adopting Resolution

Attachment II Project Location Map

Attachment III Existing Pump Station Condition Summary

1. Executive Summary

The City of North Miami Beach (CNMB) sanitary sewer collection system includes approximately 79 miles of pipe and 1,600 manholes. The system is divided into 33 collection areas, with each served by a pump station and two pump stations serving the Norwood Water Treatment Plant. All of the CNMB wastewater is eventually discharged into the Miami-Dade Water and Sewer Department (MDWASD) force main transmission system.

The CNMB is methodically providing for improvements to many of their pump stations with planned upgrades. It is the CNMB's intent to apply for the State Revolving Loan Program (SRF) for funding of these planned pump stations upgrades. AECOM has been retained by the CNMB to provide a Planning Report that initiates the SRF funding process for these planned pump stations upgrades. This Planning Report describes the general existing condition of these pump stations, evaluates repair alternatives, and explains the chosen selection.

For the purpose of this Planning Report and SRF funding, listed below are the ten planned pump stations upgrades that have been reviewed in accordance with the Florida Administrative Code (FAC) Section 62-503.700(2):

- Stoney Brook (PS 3)
- Scott Lake #4 (PS 5)
- Scott Lake #8 (PS 6)
- Cravero (PS 9)
- Miami Lanes (PS 11)
- Miami Industrial District II (M.I.D. #2) (PS 14)
- Miami Garden Villas (PS 15)
- Norwood (PS 19)
- Windwood (PS 21)
- Hawco (PS 23)

Requirements under Section 62-503.700(2) such as public participation, financial feasibility, and adopting resolution authorization are also included in this planning report as **Attachment I**.

The above pump stations were predominately chosen due to their useful life, as they were constructed between 1956 through 1968, with the exception of Hawco pump station being constructed in 1989. Refer to **Attachment II** for a project location map showing the precise location of the above pump stations and a census tract map.

An inspection of existing conditions of these pump stations was conducted by AECOM and CNMB personnel. The following summarizes evaluation results:

Stoney Brook (PS 3):

This wastewater pumping station is at the end of its useful life as it was constructed in 1956. The pump station is enclosed in a concrete structure and configured where self-priming pumps are located above ground on top of the wet well, with the wet well being rectangular in shape. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Scott Lake #4 (PS 5):

This wastewater pump station is at the end of its useful life as it was constructed in 1956. The pump station is enclosed in a concrete structure and has a dry/wet well configuration, with the wet well being rectangular in shape. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Scott Lake #8 (PS 6):

This wastewater pump station is at the end of its useful life as it was constructed in 1958. The pump station is enclosed in a concrete structure and has a dry/wet well configuration, with the wet well being rectangular in shape. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Cravero (PS 9):

This wastewater pumping station is at the end of its useful life as it was constructed in 1959. The pump station is enclosed in a concrete structure and configured where self-priming pumps are located above ground on top of the wet well, with the wet well being rectangular shape. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Miami Lanes (PS 11):

This wastewater pumping station is at the end of its useful life as it was constructed in 1958. The pump station is a submersible type, with the wet well being rectangular in shape. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

M.I.D. #2 (PS 14):

This wastewater pump station is at the end of its useful life as it was constructed in 1966. The pump station is enclosed in a concrete structure and has a dry/wet well configuration, with the wet well being rectangular shape. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Miami Gardens Villas (PS 15):

This wastewater pump station is at the end of its useful life as it was constructed in 1968. The pump station has a dry/wet well configuration, with a circular-shaped wet well. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Norwood (PS 19):

This wastewater pumping station is at the end of its useful life as it was constructed in 1958. The pump station is enclosed in a concrete structure and configured where self-priming pumps are located above ground on top of the wet well, with the wet well being rectangular in shape. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Windwood (PS 21):

This wastewater pump station is at the end of its useful life as it was constructed in 1960. The pump station is enclosed in a concrete structure and has a dry/wet well

configuration, with the wet well being rectangular shape. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The overall reliability of the pump station is poor. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Hawco (PS 23):

This wastewater pump station was constructed in 1989 and is a submersible pump station. Pumping and electrical components are outdated and locating/securing replacement parts in a timely manner is problematic or not possible in certain cases. The conditions of the wet well lining are inadequate. These factors pose a potential threat of sanitary sewage overflow which creates a sanitary nuisance and places the public at risk.

Detailed pump information, wet well dimensions, and existing flow rates and pressures are summarized as **Attachment III**.

2. Cost Comparison

A preliminary cost comparison was conducted by AECOM for each of the ten pump stations. The cost comparison consists of two alternatives, Alternative A and Alternative B, with each alternative being defined as:

Alternative A: No Action

No action taken for the pump station. In this alternative, the pump station would not be upgraded, thus no associated initial capital cost to upgrade the pump station is accounted for. Although no upfront cost is associated with this alternative, it should be noted that continuous maintenance would be required on a more frequent basis due to the pump station reaching its useful life. This increases annual O&M costs. As previously stated, due to aging of equipment, the CNMB is currently experiencing problems in locating/securing replacement components required by the pump station for continued operations. This issue increases the duration that the pump station may be out of service, requiring installation of a by-pass system at the pump station until required components to restore pump station operations are acquired. The risks of operating a pump station at the end of its useful life also decreases the efficiency of the pump station and increases the probability of pump station overflows, which creates sanitary nuisance and risks to the public.

It should be noted that should there be negative issues with a pump station, Miami-Dade County Department of Environmental Resource Management (DERM) has authority to place the station in violation, which may result in turn have a moratorium on future development.

Alternative B: Pump Station Upgrades

This alternative consists of upgrading the existing ten pump stations to typical submersible pump station configuration, with the exemption of Miami Lanes (PS 11) and Hawco (PS 23) which already have submersible pump station configurations.

The existing pump stations that have a dry/wet well configuration will be upgraded into a submersible type pump station by converting the dry/wet well structure into a single wet well structure. All existing pumps and piping within the existing dry well will be removed in order to create the single wet well structure. Additionally, the new single wet well will also be structurally rehabilitated. The new pumps will be installed within the new single wet well and a new valve vault structure will also be installed. The upgrade will include the installation of new piping and valves required for pump station operations.

Those pump stations that have a wet well and the self-priming pumps located above ground on top of the wet well structure will be upgraded into a submersible type pump station by structurally rehabilitating the existing wet well and installation of a new valve vault structure. The self-priming pumps will be removed from the pump station structure and replaced with submersible pumps that will be located within the wet well. The upgrade will include the installation of new piping and valves required for pump station operations.

The pump stations that already have a submersible pump station configuration will be upgraded by rehabilitation of the existing wet well and valve vault structures. The upgrade will also include the installation of new submersible pumps within the wet well and installation of new piping and valves required for pump station operations.

A total construction cost for the upgrade of each pump station for this alternative was estimated and is based on the following:

- Direct cost (electrical, instrumentation, mechanical, and structural)
 - Material cost
 - Labor cost
 - Equipment cost
 - Permitting cost
- General contractor overhead and profit cost (17% of direct cost)

These estimated costs do not account for unforeseen events that may alter the conceptual upgrade design that have been stated and an accurate cost estimate will be established in the design phase of each pump station upgrade. Additionally, these estimated costs are based on similar pump stations recently bid within the Broward County, Miami-Dade County, and Palm Beach County geography.

Decision Matrix and Discussion

The decision matrix has been prepared to assist in alternative recommendation. The matrix serves as a tool to compare two alternatives and provide an objective analysis when criteria are evaluated for each alternative.

Several key elements are evaluated for each alternative. A brief description of each element used in the evaluation is provided below:

Environmental Impacts:	Relative weighting that considers the net environmental impact/ benefit of each alternative
Planning Level Installed Cost:	Relative weighting that considers anticipated costs associated with each alternative for the base alternatives (not route variations)
Life Cycle, Energy Costs:	Relative weighting that considers operation and maintenance costs associated with each alternative over a 20 year period.

A base alternative score is used to determine a rating for each element. The base alternative's score ranges from 1 to 5, where:

- 5 = Good Position
- 3 = Neutral Position
- 1 = Poor Position.

Please note that intermediate numbers are used for a variation of the rating.

Weighting factors are applied to each of the elements to provide a level of importance to the base alternative score. Weighting factors are considered for a range of 1-10 with 1 being the least important factor and 10 being the most important factor. The higher the score, the more desirable the alternative.

Table 2-1: Pump Station Alternatives Decision Matrix

Weighting Factor	Element	Base Score		Weighted	
		Alternative A No Action	Alternative B Upgrades	Alternative A No Action	Alternative B Upgrades
5	Environmental Impacts	2	3	10	15
9	Planning Level Installed Cost	5	3	45	27
8	Life Cycle, Energy Costs	1	4	8	32
Overall Score				63	74

The overall score indicates that Alternative B, Upgrades, is the most desirable.

Actual cost estimates for both alternatives are contained in **Section 4**.

3. Environmental Effects/Benefits

The upgrading of the ten pump stations will have environmental benefits by preventing future possible pump station overflows. As previously indicated, pump stations at the end of their useful life; generally have higher likelihood of operational failure than pump stations within useful life. Sanitary sewage overflows not only create a sanitary nuisance but also hazardous conditions to the public and surrounding environment. Thus, upgrading these pump stations decreases the potential for significant adverse effects on the surrounding environment and human health. Additionally, it is not expected that the pump stations upgrades will have an adverse impact on flora, fauna, threatened or endangered plant or animal species. as well as on minority or low-income communities due to relocation for nominal planned capacity upgrades of each pump station.

4. Alternative Cost Comparison

This section describes the two alternatives' costs.

Alternative A: No Action

This discusses relative costs for Alternative A - 'No Action' upgrading of the pump stations.

Although there will be no initial capital costs associated with this alternative, there are increasing Operation & Maintenance costs with each of the ten pump stations until failure may occur. The City currently spends an estimated \$42,400±/year on O&M for the 10 stations.

The factors accounted for in the estimated cost escalations consist of:

- Each station has exceeded its useful life (pumps and structures)
- Should pump station failure occur, there would be increased costs due to by-pass pumping requirements and any required cleanup
- Existing lift stations will be compliant with EPA and Miami-Dade County DERM allowable run times through 2019

Alternative B: Upgrades

Upgrades of the ten pump stations that are being planned for upgrading, a summary of upgrades that is included in selected alternative, and the cost estimate associated with the upgrades (2009 dollars). A cost summary with yearly escalations is at the end of this subsection. Costs are based on actual bids received in the tri-county area (Miami, Broward and Palm Beach County) -area during the past year for similar projects.

Stoney Brook (PS 3):

The existing conditions at Stoney Brook pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Conversion of pump station into typical submersible pump station configuration
- Rehabilitation of wet well structure
- Removal of existing above ground self-priming pumps and pertinent piping within existing pump station structure
- Installation of new valve vault structure
- Installation of new submersible pumps into wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-1**.

Table 4-1: Stoney Brook (PS 3) Alternative B Cost Estimate

STONEY BROOK (PS 3)		Cost
Material Cost		\$182,000
Labor Cost		137,000
Equipment Cost		38,000
Permitting @12.4% of non-labor costs		27,000
Subtotal Direct Cost		\$384,000
General Contractor Overhead & Profit	17%	\$65,000
ESTIMATED TOTAL CONSTRUCTION COST		\$450,000

Scott Lake #4 (PS 5):

The existing conditions at Scott Lake #4 pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Conversion of existing pump station into typical submersible pump station configuration
- Structurally converting and rehabilitation of existing dry/wet well structure into single wet well structure
- Removal of existing pumps and pertinent piping within existing dry well
- Installation of new valve vault structure
- Installation of new submersible pumps into wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-2**.

Table 4-2: Scott Lake #4 (PS 5) Alternative B Cost Estimate

SCOTT LAKE #4 (PS 5)		Cost
Material Cost		\$162,000
Labor Cost		122,000
Equipment Cost		34,000
Permitting @12.4% of non-labor costs		24,000
Subtotal Direct Cost		\$342,000
General Contractor Overhead & Profit	17%	\$58,000
ESTIMATED TOTAL CONSTRUCTION COST		\$400,000

Scott Lake #8 (PS 6):

The existing conditions at Scott Lake #8 pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Conversion of existing pump station into typical submersible pump station configuration
- Structurally converting and rehabilitation of existing dry/wet well structure into single wet well structure
- Removal of existing pumps and pertinent piping within existing dry well
- Installation of new valve vault structure
- Installation of new submersible pumps into wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-3**.

Table 4-3: Scott Lake #8 (PS 6) Alternative B Cost Estimate

SCOTT LAKE #8 (PS 6)		Cost
Material Cost		\$162,000
Labor Cost		122,000
Equipment Cost		34,000
Permitting @12.4% of non-labor costs		24,000
Subtotal Direct Cost		\$342,000
General Contractor Overhead & Profit	17%	\$58,000
ESTIMATED TOTAL CONSTRUCTION COST		\$400,000

Cravero (PS 9):

The existing conditions at Cravero pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Conversion of pump station into typical submersible pump station configuration
- Rehabilitation of wet well structure
- Removal of existing above ground self-priming pumps and pertinent piping within existing pump station structure
- Installation of new valve vault structure
- Installation of new submersible pumps into wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-4**.

Table 4-4: Cravero (PS 9) Alternative B Cost Estimate

CRAVERO (PS 9)		Cost
Material Cost		\$162,000
Labor Cost		122,000
Equipment Cost		34,000
Permitting @12.4% of non-labor costs		24,000
Subtotal Direct Cost		\$342,000
General Contractor Overhead & Profit	17%	\$58,000
ESTIMATED TOTAL CONSTRUCTION COST		\$400,000

Miami Lanes (PS 11):

The existing conditions at Miami Lanes pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Rehabilitation of existing wet well and valve vault structure

- Installation of new submersible pumps in wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-5**.

Table 4-5: Miami Lanes (PS 11) Alternative B Cost Estimate

MIAMI LANES (PS 11)		Cost
Material Cost		\$81,000
Labor Cost		61,000
Equipment Cost		17,000
Permitting @12.4% of non-labor costs		12,000
Subtotal Direct Cost		\$171,000
General Contractor Overhead & Profit	17%	\$29,000
ESTIMATED TOTAL CONSTRUCTION COST		\$200,000

M.I.D. #2 (PS 14):

The existing conditions at M.I.D. #2 pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Conversion of existing pump station into typical submersible pump station configuration
- Structural conversion and rehabilitation of existing dry/wet well structure into single wet well structure
- Removal of existing pumps and pertinent piping within existing dry well
- Installation of new valve vault structure
- Installation of new submersible pumps into wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-6**.

Table 4-6: M.I.D. #2 (PS 14) Alternative B Cost Estimate

M.I.D. #2 (PS 14)		Cost
Material Cost		\$162,000
Labor Cost		122,000
Equipment Cost		34,000
Permitting @12.4% of non-labor costs		24,000
Subtotal Direct Cost		\$342,000
General Contractor Overhead & Profit	17%	\$58,000
ESTIMATED TOTAL CONSTRUCTION COST		\$400,000

Miami Gardens Villas (PS 15):

The existing conditions at Miami Gardens Villas pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Conversion of pump station into typical submersible pump station configuration
- Installation of new wet well and valve vault structure
- Installation of new submersible pumps into wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-7**.

Table 4-7: Miami Gardens Villas (PS 15) Alternative B Cost Estimate

MIAMI GARDENS VILLAS (PS 15)		Cost
Material Cost		\$182,000
Labor Cost		137,000
Equipment Cost		38,000
Permitting @12.4% of non-labor costs		27,000
Subtotal Direct Cost		\$384,000
General Contractor Overhead & Profit	17%	\$65,000
ESTIMATED TOTAL CONSTRUCTION COST		\$450,000

Norwood (PS 19):

The existing conditions at Norwood pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Conversion of pump station into typical submersible pump station configuration
- Rehabilitation of wet well structure
- Removal of existing above ground self-priming pumps and pertinent piping within existing pump station structure
- Installation of new valve vault structure
- Installation of new submersible pumps into wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-8**.

Table 4-8: Norwood (PS 19) Alternative B Cost Estimate

NORWOOD (PS 19)		Cost
Material Cost		\$182,000
Labor Cost		137,000
Equipment Cost		38,000
Permitting @12.4% of non-labor costs		27,000
Subtotal Direct Cost		\$384,000
General Contractor Overhead & Profit	17%	\$65,000
ESTIMATED TOTAL CONSTRUCTION COST		\$450,000

Windwood (PS 21):

The existing conditions at Windwood pump station are summarized in **Section 1**. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Conversion of existing pump station into typical submersible pump station configuration
- Structural conversion and rehabilitation of existing dry/wet well structure into single wet well structure
- Removal of existing pumps and pertinent piping within existing dry well
- Installation of new valve vault structure
- Installation of new submersible pumps into wet well, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-9**.

Table 4-9: Windwood (PS 21) Alternative B Cost Estimate

WINDWOOD (PS 21)		Cost
Material Cost		\$162,000
Labor Cost		122,000
Equipment Cost		34,000
Permitting @12.4% of non-labor costs		24,000
Subtotal Direct Cost		\$342,000
General Contractor Overhead & Profit	17%	\$58,000
ESTIMATED TOTAL CONSTRUCTION COST		\$400,000

Hawco (PS 23):

The existing conditions at Hawco pump station are summarized in Section 1. Given existing conditions, the selected alternative is Alternative B which consists of the following upgrades:

- Rehabilitation of existing wet well and valve vault structures

- Installation of new submersible pumps, capable of handling existing and future pump station flows
- Installation of new pertinent valves, piping, and electrical components

The estimated costs for the selected alternative are summarized in **Table 4-10**.

Table 4-10: Hawco (PS 23) Alternative B Cost Estimate

HAWCO (PS 23)		Cost
Material Cost		\$81,000
Labor Cost		61,000
Equipment Cost		17,000
Permitting @12.4% of non-labor costs		12,000
Subtotal Direct Cost		\$171,000
General Contractor Overhead & Profit	17%	\$29,000
ESTIMATED TOTAL CONSTRUCTION COST		\$200,000

Alternative B Summary

Below is a summary of estimated costs for the selected alternative, Alternative B.

Table 4-11: Pump Station Alternative B Cost Estimate Summary

Pump Station	Material & Equipment Costs	Labor Cost	Permitting Cost	Subtotal Direct Cost	Contractor Overhead & Profit	Subtotal	Estimated Total*
Stoney Brook (PS3)	\$220,000	\$137,000	\$27,000	\$384,000	\$65,000	\$450,000	\$675,000
Scott Lake #4 (PS5)	196,000	122,000	24,000	342,000	58,000	400,000	500,000
Scott Lake #8 (PS6)	196,000	122,000	24,000	342,000	58,000	400,000	500,000
Cravero (PS9)	196,000	122,000	24,000	342,000	58,000	400,000	600,000
Miami Lanes (PS11)	96,000	61,000	12,000	171,000	29,000	200,000	300,000
MID #2 (PS14)	196,000	122,000	24,000	342,000	58,000	400,000	500,000
Miami GV (PS15)	220,000	137,000	27,000	384,000	65,000	450,000	550,000
Norwood (PS19)	220,000	137,000	27,000	384,000	65,000	450,000	675,000
Windwood (PS21)	196,000	122,000	24,000	342,000	58,000	400,000	500,000
Hawco (PS23)	96,000	61,000	12,000	171,000	29,000	200,000	300,000
						Total	\$5,100,000

Notes:

*2009 base cost assumes 4% escalation per year through construction completion of that station

5. Public Participation Process

A Public Utilities Commission (PUC) meeting was held in April 16, 2009, and a City of North Miami Beach City Council Meeting was held in June 2, 2009. A PUC meeting was held in March 11, 2010, following proper advertisement. Refer to **Attachment I** for these public meeting documentations.

6. Financial Feasibility

The Florida Department of Environmental Protection's State Revolving Fund is expected to be the financing source of the project. A capital financing plan (CFP) has been prepared to explain to the public and funding agency regarding the City's plan to repay the loan. The CFP is contained in **Attachment I**. The CFP indicates that the City will be able to repay the loan and maintain the existing user rate charges. No fee increase is expected to be proposed to ratepayers for repayment of the loan.

7. Schedule

It has been the CNMB's intent to upgrade these ten pump stations. Construction costs associated with the pump station upgrades is proposed for the funding. It is the CNMB's intent to apply and qualify for the SRF funding program so that these pump stations upgrades can commence. The tentative sequence for pump station upgrade is based on existing conditions and will commence once the CNMB has qualified for and received SRF funding. Refer to **Table 7-1** for a summary of the tentative pump station upgrade order.

Table 7-1: Tentative Pump Station Upgrade Sequence

Pump Station No.	Pump Station Name	Pump Station Address	Tentative Upgrade Order	Tentative Upgrade Completion Date*
14	M.I.D. # 2	18400 NE 4 Ct.	1	2014
21	Windwood	19350 NW 19 Ct.	2	
15	Miami Gardens Villas	18750 NE 1 Ave.	3	
6	Scott Lake # 8	17071 NW 14 Ave.	4	
5	Scott Lake # 4	1395 NW 179 St.	5	
19	Norwood	18971 NW 14 Ave.	6	2019
3	Stoney Brook	17904 NW 24 Ave.	7	
9	Cravero	17107 NW 3 Ave.	8	
11	Miami Lanes	171 St. NW 3 Ave.	9	
23	Hawco	NW 169 St. & 32 Ave.	10	

Notes:

1: Tentative pump station upgrade completions dates are subject to change to an earlier date based on availability of funding

8. Adopting Resolution

Refer to **Attachment I** for draft Resolution No. 2010-XX.

ATTACHMENT I
Public Participation, Financial Feasibility,
And Adopting Resolution

**CITY OF NORTH MIAMI BEACH
INTEROFFICE MEMORANDUM**



Public Services Department

TO: Public Utilities Commission
FROM: Martin King, Director of Public Services
DATE: April 10, 2009

A handwritten signature in black ink, appearing to read "Martin King", written over the "FROM" line.

RE: Permission to Seek Funding for Major Sewer Rehabilitation

1. DESCRIPTION OF AGENDA ITEM

The City of North Miami Beach submitted application to be added to the Department of Environmental Protection priority list for funding for Major Sewer Rehab for the following areas in 2006:

- Master Pumping Station and Cravero Cloverleaf Lining Project
- Winwood Wastewater Pumping Station Rehabilitation
- Stoney Brook Wastewater Pumping Station Rehabilitation
- NMB Commercial Grinder Wastewater Pumping Station/Sewer Replacement

The project has been added to the priority list and is eligible to seek funding for the above listed projects.

2. RECOMMENDATION

All of the above mentioned improvements will ensure that there will not be sanitary sewage overflows in the areas surrounding the four pumping stations which are at the end of their useful life. These improvements will continue to reduce public health risk. It is recommended that the City of North Miami Beach seek the available funding through the State Revolving Fund, because priority has been awarded to the project. It is recommended that the City of North Miami Beach take advantage of this opportunity to make these improvements. If approved for funding, the project will require the use of Sewer Fund revenues to fund the debt service.

3. COST/FUNDING SOURCE

If approved, the project, which has been added to the Department of Environmental Protections priority list will be eligible to receive a loan funding the preconstruction costs and then make application for construction costs through the SRF (State Revolving Fund)

4. PERSONNEL IMPACT

None

5. CONTACT PERSON

Karl Thompson, P.E., Asst. Director of Public Services

c: Mr. Karl Thompson, P.E., Asst. Director of Public Services
Mr. Everton Garvis, Finance Coordinator



City of North Miami Beach, Florida

PUBLIC SERVICES DEPARTMENT

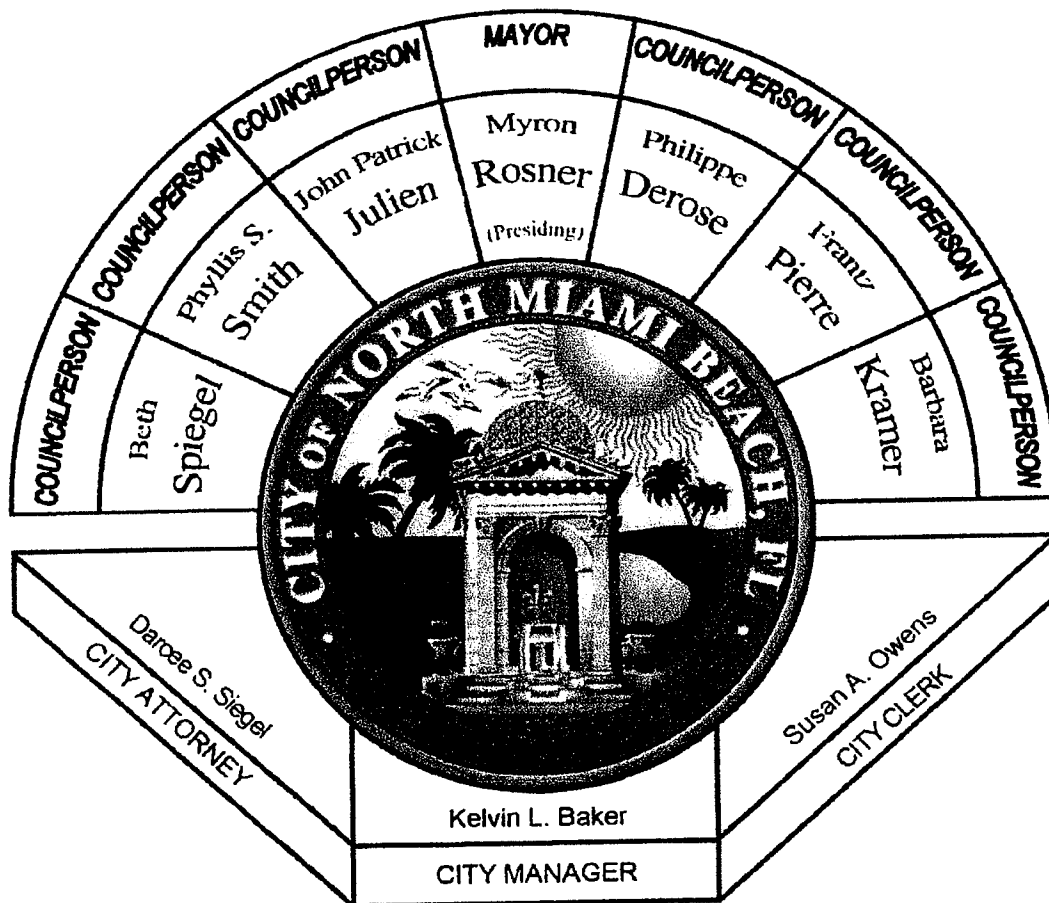
Public Utilities Commission Meeting
AGENDA

Date: Thursday, April 16, 2009
Time: 6:00 p.m.
Location: 2nd Floor Public Services Conference Room
Type of Meeting: Regular

1. Roll Call
2. Adoption of Minutes of March 12, 2009 meetings.
3. Public Utilities Director's Report
 - Water Audit Presentation – John Deck
 - Briefing on Potential Acquisition of the Town of Golden Beach Water System.
 - Permission to Seek Inclusion for:
 1. Norwood Water Treatment Plant Security Perimeter Wall.
 2. Norwood Water Treatment Plant Standby Generator Installation.
 3. Infiltration and Inflow Reduction Program.
 4. Highland Village Connection of the remaining 200 units.
 5. Automated Meter Reading Project.
 6. Electrical Panel and SCADA Improvement Program.
 7. Water Distribution System Betterments.
 - Recommendation for Approvals:
 1. Town of Golden Beach Water System acquisition.
 2. Loan for Major Sewer Rehabilitation
 3. Funding for purchase of VOC Facility and Membrane Treatment and adaptation of Water Facilities Plan.
4. City Attorney's Report
5. Engineer's Report
6. Old Business
7. New Business
8. Good & Welfare
9. Adjourn

Speaker/Citizen participants are asked to stand, give their name and address and speak only to the Commission on the subject presently being discussed. There will be a three (3) minute time limit. The time limit starts when the speaker begins speaking. There will be no rebuttal or further discussion on a subject once the Commission responds. Comments on subjects other than those listed on the current agenda will be heard at the end of the scheduled meeting.

Welcome
To A Meeting of the
City of North Miami Beach City Council
Your City Officials



AGENDA

REGULAR MEETING OF THE CITY COUNCIL
CITY OF NORTH MIAMI BEACH, FLORIDA

DATE and TIME: TUESDAY, JUNE 2, 2009, 7:30 P.M.

LOCATION: CITY HALL, 17011 NE 19th AVENUE
 2ND FLOOR, COUNCIL CHAMBERS

NEXT CITY COUNCIL MEETING: TUESDAY, JUNE 16, 2009

AGENDA ITEMS

1. ROLL CALL OF THE CITY OFFICIALS:

2. INVOCATION:

REVEREND CANON RONALD N. FOX,
ST. BERNARD DeCLAIRVAUX

3. SALUTE TO THE AMERICAN FLAG.

4. REQUESTS FOR WITHDRAWALS, DEFERMENTS AND ADDITIONS TO AGENDA:

5. APPOINTMENTS/PRESENTATIONS:

A. APPOINTMENTS:

1. NEW VICE MAYOR
2. FAITH L. BLOCK - COMMISSION ON THE STATUS OF WOMEN

B. PRESENTATIONS:

1. SWEARING IN OF CITY CLERK, SUSAN A. OWENS, CMC
2. PRESENTATION BY RAFAEL P. HERNANDEZ, CHIEF OF POLICE, RECOGNIZING THE NORTH MIAMI BEACH POLICE DEPARTMENT AND MEMBERS OF THE DRUG ENFORCEMENT ADMINISTRATION FOR RECENTLY RECEIVING THE LEO FOUNDATION'S FEDERAL OFFICE OF THE YEAR AWARD
3. SWEARING IN OF POLICE OFFICER KENNETH BAKER BY MAYOR MYRON ROSNER
4. PRESENTATION, BY MAYOR MYRON ROSNER, TO *OFFICER ROBERTO QUINONES* AS THE *OUTSTANDING OFFICER FOR THE MONTH OF JANUARY 2009*
5. PRESENTATION, BY MAYOR MYRON ROSNER, TO *OFFICER NELSON CAMACHO* AS THE *OUTSTANDING OFFICER FOR THE MONTH OF MARCH 2009*

AGENDA ITEMS

5. APPOINTMENTS/PRESENTATIONS - CONTINUED:

B. PRESENTATIONS - CONTINUED:

6. PRESENTATION, BY MAYOR MYRON ROSNER, TO *OFFICER STUART NICHOLS* AS THE *OUTSTANDING OFFICER FOR THE MONTH OF APRIL 2009*
7. RECOGNITION, BY RAFAEL P. HERNANDEZ, CHIEF OF POLICE, OF THE *EMPLOYEE OF THE MONTH TO PCO TONYA HOLIMON* FOR JANUARY AND APRIL 2009
8. PRESENTATION OF PROCLAMATION BY MAYOR MYRON ROSNER TO THE CODE ENFORCEMENT DEPARTMENT PROCLAIMING THE WEEK OF JUNE 1, 2009 THROUGH JUNE 5, 2009 AS *CODE ENFORCEMENT OFFICERS APPRECIATION WEEK*
9. PRESENTATION OF THE *APRIL C.A.R.E. SUGGESTION AWARD* BY COUNCILWOMAN SMITH AND KELVIN L. BAKER, CITY MANAGER, TO *MAC SERDA* FOR HIS SUGGESTION TO INCREASE THE OFF DUTY POLICE RATE
10. PRESENTATION OF THE EMPLOYEE OF THE MONTH AWARD BY COUNCILMAN FRANTZ PIERRE AND KELVIN L. BAKER, CITY MANAGER, TO *MARK VINITSKEY* AS THE *EMPLOYEE OF THE MONTH* FOR MAY 2009

6. APPROVAL OF MINUTES:

APRIL 21, 2009
MAY 5, 2009 (CANCELLED)
MAY 19, 2009 (CANCELLED)

7. CITY MANAGER'S REPORT: KELVIN L. BAKER

- A. VICTORY POOL SLIDE UPDATE
- B. FEES FOR POOL USAGE
- C. AMPHITHEATER AWNING UPDATE
- D. 15TH AVENUE ROADWAY PROJECT

8. CITY ATTORNEY'S REPORT: DARCEE S. SIEGEL

AGENDA ITEMS

9. SCHEDULED CITIZENS APPEARANCE:

TO ALL CITIZENS APPEARING UNDER SCHEDULED APPEARANCES:

THE COUNCIL HAS A RULE WHICH DOES NOT ALLOW DISCUSSION ON ANY MATTER WHICH IS BROUGHT UP UNDER CITIZENS APPEARANCES UNLESS IT IS AN EMERGENCY. WE ARE, HOWEVER, VERY HAPPY TO LISTEN TO YOU. THE REASON FOR THIS IS THAT THE COUNCIL MUST HAVE STAFF INPUT AND PRIOR KNOWLEDGE AS TO FACTS AND FIGURES SO THAT THEY CAN INTELLIGENTLY DISCUSS A MATTER. THE COUNCIL MAY WISH TO ASK QUESTIONS REGARDING THIS MATTER BUT WILL NOT BE REQUIRED TO DO SO. AT THE NEXT OR SUBSEQUENT COUNCIL MEETING YOU MAY, IF YOU SO DESIRE, HAVE ONE OF THE COUNCILPERSONS INTRODUCE YOUR MATTER AS HIS OR HER RECOMMENDATION. WE WISH TO THANK YOU FOR TAKING THE TIME TO BRING THIS MATTER TO OUR ATTENTION.

SPEAKING BEFORE THE CITY COUNCIL:

THERE IS A THREE (3) MINUTE TIME LIMIT FOR SPEAKERS/CITIZENS PARTICIPATION AT ALL PUBLIC HEARINGS AS WELL AS SCHEDULED/UNSCHEDULED CITIZENS APPEARANCE(S). YOUR COOPERATION IS APPRECIATED IN OBSERVING THE THREE (3) MINUTE TIME LIMIT POLICY.

IF YOU HAVE A MATTER YOU WOULD LIKE TO DISCUSS WHICH REQUIRES MORE THAN THREE (3) MINUTES, PLEASE FEEL FREE TO ARRANGE A MEETING OR AN APPOINTMENT WITH THE APPROPRIATE ADMINISTRATIVE OR ELECTED OFFICIAL.

NOTE: IN THE COUNCIL CHAMBERS, CITIZEN PARTICIPANTS ARE ASKED TO COME FORWARD TO THE PODIUM, GIVE YOUR NAME AND ADDRESS, NAME AND ADDRESS OF THE ORGANIZATION YOU ARE REPRESENTING, IF ANY, AND SPEAK ONLY ON THE SUBJECT FOR DISCUSSION.

THANKING YOU VERY MUCH, IN ADVANCE, FOR YOUR COOPERATION.

PLEDGE OF CIVILITY

A RESOLUTION WAS ADOPTED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH RECOGNIZING THE IMPORTANCE OF CIVILITY, DECENCY AND RESPECTFUL BEHAVIOR IN PROMOTING CITIZEN PARTICIPATION IN A DEMOCRATIC GOVERNMENT. THE CITY OF NORTH MIAMI BEACH CALLS UPON ALL RESIDENTS, EMPLOYEES, AND ELECTED OFFICIALS TO EXERCISE CIVILITY TOWARD EACH OTHER. (RESOLUTION NO. R2007-57, 11/06/07)

AGENDA ITEMS

9. SCHEDULED CITIZENS APPEARANCE - CONTINUED:

NOTICE TO ALL LOBBYISTS

ANY PERSON WHO RECEIVES COMPENSATION, REMUNERATION OR EXPENSES FOR CONDUCTING LOBBYING ACTIVITIES IS REQUIRED TO REGISTER AS A LOBBYIST WITH THE CITY CLERK PRIOR TO ENGAGING IN LOBBYING ACTIVITIES BEFORE CITY BOARDS, COMMITTEES OR THE CITY COUNCIL. A COPY OF THE APPLICABLE ORDINANCE IS AVAILABLE IN THE OFFICE OF THE CITY CLERK (CITY OF NORTH MIAMI BEACH CITY HALL) LOCATED AT 17011 N.E. 19TH AVENUE, GROUND FLOOR, NORTH MIAMI BEACH, FLORIDA 33162

NONE

10. MISCELLANEOUS ITEMS:

NONE

11. WAIVER OF FEE:

NONE

12. BUSINESS TAX RECEIPT MATTERS:

CITY CLERK

NONE

13A. ADMINISTRATION OF TESTIMONY OATH
(CITY CLERK)

RECENT FLORIDA SUPREME COURT RULINGS REGARDING MUNICIPAL ZONING MATTERS REQUIRE ALL CITIZENS WHO WILL BE PRESENT BEFORE THE LEGISLATIVE BODY OR CITY COUNCIL TO FOLLOW THE RULE OF TESTIMONY OATH (CITY CLERK TO ADMINISTER OATH).

AGENDA ITEMS

13B. LEGISLATION:

RESOLUTIONS (SERIATIM NO. R2009-39):

RESOLUTION NO. R2009-31

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, REVOKING IN ITS ENTIRETY CITY OF NORTH MIAMI BEACH RESOLUTION NUMBER R2008-39, WHICH GRANTED SITE PLAN APPROVAL FOR A MIXED USE PROJECT, ON PROPERTY LEGALLY DESCRIBED AS;

(LENGTHY LEGAL – SEE ATTACH EXHIBIT “A”)

2145 N.E. 164 Street
North Miami Beach, Florida
(P & Z Item No. 08-421 of September 8, 2008)

RESOLUTION NO. R2009-32

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, APPROVING THE ACQUISITION BY THE CITY OF THE TOWN OF GOLDEN BEACH WATER DISTRIBUTION SYSTEM; ACCEPTING AS THE CITY'S STATEMENT UNDER SECTION 180.301, FLORIDA STATUTES, THE PUBLIC BRIEFING DOCUMENT; DETERMINING THAT THE ACQUISITION OF THE GOLDEN BEACH WATER SYSTEM IS IN THE PUBLIC INTEREST; AUTHORIZING AND APPROVING THE ASSET PURCHASE AGREEMENT BETWEEN THE TOWN OF GOLDEN BEACH AND THE CITY OF NORTH MIAMI BEACH; PROVIDING FOR IMPLEMENTATION; PROVIDING AN EFFECTIVE DATE.

RESOLUTION NO. R2009-33

A RESOLUTION OF THE CITY COUNCIL OF NORTH MIAMI BEACH, FLORIDA; MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN/AMERICAN RECOVERY AND REINVESTMENT ACT APPLICATION IN THE AMOUNT OF \$2,409,000.00 FOR THE HIGHLAND VILLAGE PROJECT; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; PROVIDING FOR CONFLICTS, SEVERABILITY, AND EFFECTIVE DATE.

AGENDA ITEMS

13B. LEGISLATION - CONTINUED:

RESOLUTIONS -CONTINUED:

RESOLUTION NO. R2009-34

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION FOR PRE-CONSTRUCTION FUNDING OF THE MAJOR SEWER REHABILITATION PROJECT IN THE AMOUNT OF \$487,000.00 TO REPAIR FOUR SEWER PUMPING STATIONS; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; PROVIDING FOR CONFLICTS, SEVERABILITY, AND EFFECTIVE DATE.

RESOLUTION NO. R2009-35

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$6,000,000.00 FOR THE VOLATILE ORGANIC CHEMICAL FACILITY; ACCEPTING THE WATER FACILITY PLAN; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; PROVIDING FOR CONFLICTS, SEVERABILITY, AND EFFECTIVE DATE.

RESOLUTION NO. R2009-36

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, AWARDING BID #2009-05 AND AUTHORIZING THE CITY MANAGER TO EXECUTE AN AGREEMENT BETWEEN THE CITY AND R&D ELECTRIC, INC. FOR THE PURCHASE AND INSTALLATION OF A GENERATOR FOR THE ENTIRE CITY HALL COMPLEX.

RESOLUTION NO. R2009-37

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, APPROVING A LEASE AGREEMENT BETWEEN THE CITY AND METRO PCS, FLORIDA, LLC FOR THE LEASE OF A PORTION OF THE NORWOOD WATER TREATMENT PLANT SITE FOR THE OPERATIONS OF A WIRELESS COMMUNICATION SITE.

AGENDA ITEMS

13B. LEGISLATION - CONTINUED:

RESOLUTIONS -CONTINUED:

RESOLUTION NO. R2009-38

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, REQUESTING GOVERNOR CHARLIE CHRIST TO VETO THE 2% PAY CUTS PASSED BY THE STATE LEGISLATURE FOR THE STATE ATTORNEY'S OFFICE.

ORDINANCES - FIRST READING, BY TITLE ONLY (SERIATIM NO. 2009-12):

NONE

ORDINANCES - SECOND AND FINAL READING:

ORDINANCE NO. 2009-11

AN ORDINANCE AMENDING SECTION 2-32.4 OF THE CODE OF ORDINANCES OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, REVISING THE PROCEDURE FOR REMOVING BOARD AND/OR COMMISSION MEMBERS FOR FAILURE TO ATTEND MEETINGS; PROVIDING FOR THE REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE.

14. UNSCHEDULED CITIZENS APPEARANCES:

15. CITY COUNCIL COMMITTEE REPORTS:

16. RECESS: (IF APPLICABLE - FOR CITY CLERK'S USE)

17. ADJOURNMENT:

18. NEXT CITY COUNCIL MEETING:

TUESDAY, JUNE 16, 2009

Subject: Ad Order # 0137500 Confirmation

The Miami Herald

Dear CITY OF NORTH MIAMI BEACH:

Thank you for placing an ad in the Miami Herald Classifieds!
The details of your ad follow:

Reference Number:	0137500
Start Date:	02/26/2010
Class:	H0117
Category:	LEGAL NOTICES-F
Price:	\$ 593.00
Days Ordered:	1
Lines:	86
Package:	LEGALPKG

The text of your ad follows:

CITY OF NORTH MIAMI BEACH

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN

THAT A PUBLIC HEARING

WILL BE HELD ON THURSDAY

MARCH 11, 2010 AT 6:00 PM

AT THE PUBLIC SERVICES

ADMINISTRATION BUILDING,

2ND FLOOR CONFERENCE

ROOM, 17050 NE 19TH

AVENUE, NORTH MIAMI

BEACH, FL 33162.

THIS HEARING WILL ALLOW

THE CITY TO RECEIVE

COMMENTS REGARDING

WASTEWATER FACILITIES

PLANS WHICH WILL BE

SUBMITTED IN SUPPORT OF

AN APPLICATION TO

RECEIVE A STATE

REVOLVING FUND LOAN FOR

FUNDING ASSISTANCE FOR

EACH OF THE FOLLOWING: 1)

MAJOR SEWER

REHABILITATION AND 2)

INFILTRATION/INFLOW

IMPROVEMENTS PROGRAM.

A COPY OF THE
WASTEWATER FACILITIES
PLANS WILL BE AVAILABLE
FOR INSPECTION AT THE
FOLLOWING LOCATIONS: 1)
CITY CLERK'S OFFICE, 17011 !

NE 19TH AVENUE, NORTH

MIAMI BEACH, FL 33162; 2)

CITY OF NORTH MIAMI

BEACH LIBRARY, 1601 NE

164TH STREET, NORTH

MIAMI BEACH, FL 33162, AND

3) NORTH MIAMI BEACH

WASTEWATER

ADMINISTRATION BUILDING,

17820 NW 29TH COURT,

MIAMI GARDENS, FL 33056.

FINANCIAL IMPACT FOR THIS
PROJECT WILL BE
ADDRESSED AT THIS TIME
AND AT A FUTURE CITY
COUNCIL MEETING. ALL WILL
BE SUMMARIZED IN THE
WASTEWATER FACILITIES
PLAN.

SHOULD ANY PERSON
DESIRE TO APPEAL ANY
DECISION OF PUBLIC
SERVICES WITH RESPECT TO
ANY MATTER TO BE
CONSIDERED AT THIS
MEETING, THAT PERSON
SHALL INSURE THAT A

VERBATIM RECORD OF THE
PROCEEDINGS IS MADE
INCLUDING ALL TESTIMONY
AND EVIDENCE UPON WHICH
ANY APPEAL MAY BE BASED.
(F/S286.0105).

IN ACCORDANCE WITH THE
AMERICANS WITH
DISABILITIES ACT OF 1990,
PERSONS NEEDING SPECIAL
ACCOMMODATION TO
PARTICIPATE IN THIS PROCEEDING SHOULD
CONTACT THE OFFICE OF
THE CITY CLERK NO LA
TER
THAN TWO (2) DAYS PRIOR
TO THE PROCEEDING.

(please note that the actual ad text will appear right and left justified in the newspaper)

MR. PERKINS: FOR YOUR REVIEW. THANK YOU. MS. COOPER, THE MIAMI HERALD (305) 376-2684

If you have any questions, contact me directly or email us at AdsByEmail@Herald.com. To place another ad, call our Classified Department at 305-376-2222 or go to www.HeraldClassifiedAd.com. Thank you for your business!

Clarice Cooper
Miami Herald Classified Representative

The Miami Herald   MiamiHerald.com 



City of North Miami Beach, Florida

PUBLIC SERVICES DEPARTMENT

**PUBLIC HEARING SECTION
VERBATIM MINUTES**

Date: March 11, 2010 at 6:00 p.m.

Location: City of North Miami Beach
Public Services Conference Room
Public Utilities Commission Meeting
17050 NE 19th Avenue
North Miami Beach, FL 33162

Re: Wastewater Facilities Plans

Chairman Cook: We are now opening the Public Hearing on the Wastewater Facilities Plan, Major Sewer Rehabilitation and Infiltration and Inflow Improvements program.

Mr. Karl Thompson: The reasons for the Public Hearing this evening is to comply with the application process for the State Revolving Funds Programs. We have two projects that we are applying for; the Major Sewer Rehabilitation for construction dollars and also Infiltration and Inflow Improvement Program. The estimated construction cost is \$4.2M for the Infiltration Program and \$5.1M for the Major Sewer Rehabilitation Program. This is not an approval process. This is a part of the application process in which the facilities plan has to be open to the public and this is an opportunity for anybody in the public to make comments.

Chairman Cook: Does anybody in the public would like to make a comment on this material?

Chairman Cook: Since there are no comments from the public the hearing is closed.

**ATTACHMENT I
FINANCIAL FEASIBILITY**

The City has prepared a capital financing plan to demonstrate the capabilities to meet the coverage requirements associated with the projected debt service requirements and the SRF loan.

This section includes the following documents:

- Capital Financing Plan
- Ordinance No. 89-13, 2007-8 - (most current ordinance adopting rate structure)
- Most Current Adopted Rates FY 2010
- Sources and information used for Calculating previous FY Results

*Pro Forma Projections are assumed under the same conditions and an escalation used in the Highland Village Sewer Loan Application (ATTACHMENT E) and that prior explanation has also been included for FDEP reference.

CAPITAL FINANCING PLAN

WW-02b

City of North Miami Beach
(Project Sponsor)
Dr. Kelvin Baker, City Manager
(Authorized Representative and Title)
North Miami Beach, Florida, 33162
(City, State, and Zip Code)

Karl Thompson, Assistant Director of Public Services, 305-787-6049
(Capital Financing Plan Contact, Title and Telephone Number)
17050 N.E. 19th Avenue
(Mailing Address)
North Miami Beach, Florida, 33162
(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification) is required well before the evaluation of the actual loan application.

The sources of revenues being dedicated to repayment of the SRF loan are Sewer Enterprise Fund (ATTACH A)
(Note: Projects pledging utility operating revenues should attach a copy of the existing/proposed rate ordinance)

Estimate of Proposed SRF Loan Debt Service

Capital Cost*	<u>\$6,297,318</u>
Loan Service Fee (2% of capital cost)	<u>\$125,900</u>
Subtotal	<u>\$6,423,218</u>
Capitalized Interest**	<u>\$240,900</u>
Total Cost to be Amortized	<u>\$6,664,118</u>
Interest Rate***	<u>2.5%</u>
Annual Debt Service	<u>\$317,100</u>
Annual Debt Service Including Coverage Factor****	<u>\$364,700</u>

* Capital Cost = Allowance + Construction Cost (including a 10% contingency) + Technical Services after Bid Opening.

** Estimated Capitalized Interest = Subtotal times Interest Rate times construction time in years divided by two.

***20 GO Bond Rate times Affordability Index divided by 200.

**** Coverage Factor is generally 15%. However, it may be higher if other than utility operating revenues are pledged.

SCHEDULE OF PRIOR AND PARITY LIENS

List annual debt service beginning two years before the anticipated loan agreement date and continuing at least fifteen fiscal years. Use additional pages as necessary.

IDENTIFY EACH OBLIGATION

#1 ARRA/SRF HV Sewer Loan Coverage % 115% Insured (Yes/No) Yes	#2 SRF HV Sewer Loan Coverage % 115% Insured (Yes/No) Yes	#3 SRF Pre-Con Major Sewer Rehab Coverage % 115% Insured (Yes/No) Yes
#4 Coverage % Insured (Yes/No)	#5 Coverage % Insured (Yes/No)	#6 Coverage % Insured (Yes/No)

Fiscal Year	Annual Debt Service (Principal + Interest)						Total Non-SRF Debt Service w/coverage	Total SRF Debt Service w/coverage
	#1	#2	#3	#4	#5	#6		
2011	\$112,718	\$15,990					\$148,014	
2012	\$112,718	\$15,990	\$15,669				\$166,034	
2013	\$112,718	\$15,990	\$31,398				\$184,121	
2014	\$112,718	\$15,990	\$31,398				\$184,121	
2015	\$112,718	\$15,990	\$31,398				\$184,121	
2016	\$112,718	\$15,990	\$31,398				\$184,121	
2017	\$112,718	\$15,990	\$31,398				\$184,121	
2018	\$112,718	\$15,990	\$31,398				\$184,121	
2019	\$112,718	\$15,990	\$31,398				\$184,121	
2020	\$112,718	\$15,990	\$31,398				\$184,121	
2021	\$112,718	\$15,990	\$31,398				\$184,121	
2022	\$112,718	\$15,990	\$31,398				\$184,121	
2023	\$112,718	\$15,990	\$31,398				\$184,121	
2024	\$112,718	\$15,990	\$31,398				\$184,121	
2025	\$112,718	\$15,990	\$31,398				\$184,121	
2026	\$112,718	\$15,990	\$31,398				\$184,121	
2027	\$112,718	\$15,990	\$31,398				\$184,121	
2028	\$112,718	\$15,990	\$31,398				\$184,121	
2029	\$112,718	\$15,990	\$31,398				\$184,121	
2030	\$112,718	\$15,990	\$31,398				\$184,121	
2031			\$31,398				\$36,108	
2032								
2033								
2034								
2035								
2036								
2037								

**SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

	FY 2008	FY 2009
(a) Operating Revenues (Identify) <u>Charge for Services</u>	<u>\$5,864,550</u>	<u>\$6,359,541</u>
(b) Interest Income	<u>\$5,548</u>	<u>\$16,942</u>
(c) Other Incomes or Revenues (Identify) <u>Miscellaneous Income</u>	<u>-\$9,826</u>	<u>\$3,693</u>
(d) Total Revenues	<u>\$5,860,272</u>	<u>\$6,380,176</u>
(e) Operating Expenses (excluding interest on debt, depreciation, and other non-cash items)	<u>\$3,778,975</u>	<u>\$4,212,978</u>
(f) Net Revenues (f = d - e)	<u>\$2,081,297</u>	<u>\$2,167,197</u>
(g) Debt Service (including coverage) Excluding SRF Loans	<u>\$0</u>	<u>\$0</u>
(h) Debt Service (including coverage) for Outstanding SRF Loans	<u>\$0</u>	<u>\$0</u>
(i) Net Revenues After Debt Service (i = f - g - h)	<u>\$2,081,297</u>	<u>\$2,167,197</u>

Source: 2008 CAFR, 2009 Unaudited Financial Statements

Notes: Will amend/adjust numbers in loan application once audit is completed for 2009 financial statements.

**SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

(Begin with the fiscal year preceding first anticipated semiannual loan payment)

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
(a) Operating Revenues (Identify)					
Charge for Services	\$7,400,756	\$8,385,057	\$9,500,269	\$10,078,835	\$10,692,637
(b) Interest Income	\$20,200	\$20,200	\$20,200	\$20,200	\$20,200
(c) Other Incomes or Revenues (Identify)					
Non-Operational Misc.	\$2,750	\$2,750	\$2,750	\$2,750	\$2,750
(d) Total Revenues	\$7,423,706	\$8,408,007	\$9,523,219	\$10,101,785	\$10,715,587
(e) Operating Expenses ¹	\$4,343,008	\$4,547,928	\$4,729,845	\$4,919,039	\$5,115,800
(f) Net Revenues (f = d - e)	\$3,080,698	\$3,860,079	\$4,793,374	\$5,182,746	\$5,599,787
(g) Existing Debt Service on Non-SRF Projects (including coverage)	\$0	\$0	\$0	\$0	\$0
(h) Existing SRF Loan Debt Service (including coverage)	\$148,014	\$166,034	\$184,121	\$184,121	\$184,121
(i) Total Existing Debt Service (i = g + h)	\$148,014	\$166,034	\$184,121	\$184,121	\$184,121
(j) Projected Debt Service on Non-SRF Future Projects (including coverage)	\$0	\$0	\$0	\$0	\$0
(k) Projected SRF Loan Debt Service (including coverage)				\$364,700	\$364,700
(l) Total Debt Service (Existing and Projected) (l = i + j + k)	\$148,014	\$166,034	\$184,121	\$548,821	\$548,821
(m) Net Revenues After Debt Service (m = f - l)	\$2,932,684	\$3,694,045	\$4,609,253	\$4,433,925	\$5,050,966

Source:

SRF Agreements WW130100, WW130101, WW745080, and SRF Loan Application Highland Village Sewer

Notes: (i.e. rate increases, explanations, etc.)

1. For existing and proposed facilities, excluding interest on debt, depreciation, and other non-cash items.

See Attachment B

CERTIFICATION

I, _____, certify that I have reviewed the information
Chief Financial Officer (please print)

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this
information accurately reflects the financial capability of City of North Miami Beach
Project Sponsor

I further certify that City of North Miami Beach has the financial capability to ensure
Project Sponsor

adequate construction, operation, and maintenance of the system, including this SRF project.

Signature

Date

ORDINANCE NO. 2007-8



AN ORDINANCE OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, AMENDING CHAPTER 23 OF THE CODE OF ORDINANCES OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, ENTITLED "WATER AND SEWERS"; INCREASING WATER AND SEWER RATES, FEES, AND CHARGES FOR REVENUE SUFFICIENCY; AUTHORIZING AUTOMATIC INCREASES IN RATES FOR FIVE FISCAL YEARS TO MEET ANTICIPATED REGULATORY MANDATES; IMPLEMENTING A PREVIOUSLY AUTHORIZED PSC ANNUAL INFLATION ADJUSTMENT; ANTICIPATING MIAMI-DADE WATER AND SEWER DEPARTMENT WHOLESALE WATER RATE INCREASES; PROVIDING FOR THE REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE.

WHEREAS, the City of North Miami Beach has a water and sewer utility which provides water and sewer service to customers both within and without the city limits; and

WHEREAS, the continuation of efficient and high quality water and sewer service is crucial to the health, safety and welfare of the utility's customers; and

WHEREAS, in order to provide for revenue sufficiency for the operation, maintenance, security and improvement of the City's recently constructed and technologically advanced Norwood Oeffler Water Treatment Plant, wellfields, water and sewer treatment, transmission, distribution, billing, and collection, water metering and reading equipment, and related facilities and resources and to ensure continued efficient and high quality water and sewer service to the customers of the City's utility, a "Utilities Rate Study" was performed by the City's rate consultant, Red Oak Consulting; and

WHEREAS, the "Utilities Rate Study", for both water and sewer service, attached hereto and incorporated herein as composite Exhibit "A", presents the results of the initial phase of a study which is the "revenue sufficiency analysis" phase and recommends revising water and sewer rates, fees, and charges, including an annual increase of 10% for each of the next five fiscal years to enable the utility to meet all anticipated federal and state regulatory health, safety, and water quality mandates; and

WHEREAS, the Mayor and City Council of the City of North Miami Beach desire to revise the rates, fees, and charges, including a 10% increase in water and sewer minimum charges and consumption rates, imposed by the North Miami Beach public utility effective for all billings on or after October 1, 2007, and for four additional fiscal years through Fiscal Year 2012; to implement the Public Service Commission automatic annual public inflation rate adjustment of 3.09%, pursuant to Ordinance No. 2001-9; and to incorporate and anticipate pass-through of Miami-Dade Water & Sewer Department

FY 2008

wholesale water and wastewater rate adjustments pursuant to Ordinance No. 2003-11, in order to guarantee continued efficient and high quality service to the utility customers.

NOW, THEREFORE,

BE IT ORDAINED by the City Council of the City of North Miami Beach, Florida.

Section 1. The foregoing recitals are true and correct.

Section 2. Chapter 23 of the Code of Ordinances of the City of North Miami Beach is hereby amended as follows:

Sec. 23-7. Consumer Rates - Metered.

(a) The following rates for metered water usage, apply to retail customers of the utility:

1. There shall be a minimum charge of ~~\$7.16~~ \$8.10 per billing unit. The number of billing units used to compute the minimum charge is determined by the meter size as follows:

<u>METER SIZE</u>	<u>EQUIVALENCY FACTOR</u>	<u>MINIMUM CHARGE</u>
5/8"	1	\$7.16 <u>\$8.10</u>
3/4"	1	\$7.16 <u>\$8.10</u>
1"	2.5	\$17.00 <u>\$20.25</u>
1-1/2"	5	\$35.80 <u>\$40.50</u>
2"	8	\$57.28 <u>\$64.80</u>
3"	16	\$114.56 <u>\$129.60</u>
4"	25	\$170.00 <u>\$202.50</u>
6"	50	\$358.00 <u>\$405.00</u>
8"	80	\$572.80 <u>\$648.00</u>
10"	115	\$823.40 <u>\$931.50</u>
Metered fireline (any size)	N/A	\$13.32 <u>\$15.06</u>

2. There shall be a base consumption charge of ~~\$1.86~~ \$2.10 per 1,000 gals. The schedule of consumption charges including conservation increments is as follows: *

	<u>CONSUMPTION CHARGE</u>
<u>BASE CONSUMPTION:</u>	
<u>SINGLE FAMILY & NON-RESIDENTIAL</u>	
0 - 7,000 Gallons per Month	\$1.86 <u>\$2.10</u>
<u>MULTI-FAMILY</u>	
0 - 5,000 Gallons per Month per Unit	
<u>FIRST CONSERVATION INCREMENT:</u>	
<u>SINGLE FAMILY & NON-RESIDENTIAL</u>	
8,000 - 12,000 Gallons per Month	\$2.08 <u>\$2.35</u>
<u>MULTI-FAMILY</u>	
6,000 - 9,000 Gallons per Month per Unit	
<u>SECOND CONSERVATION INCREMENT:</u>	
<u>SINGLE FAMILY & NON-RESIDENTIAL</u>	
Over 12,000 Gallons per Month	\$2.58 <u>\$2.92</u>
<u>MULTI-FAMILY</u>	
Over 9,000 Gallons per Month per Unit	

* The rates specified herein do not include a pass-through adjustment as provided for in Ordinance No, 2003-11. If and when Miami-Dade Water & Sewer Department notifies the City of increases in wholesale water charges, these rates may have to be further adjusted.

6. There shall be a Homeland Security Surcharge of ~~\$1.80~~ \$1.86 per billing unit. The number of billing units used to compute the charge is determined by the meter size as follows:

<u>METER SIZE</u>	<u>EQUIVALENCY FACTOR</u>	<u>HOMELAND SECURITY SURCHARGE</u>
5/8"	1	\$1.80 <u>\$1.86</u>
3/4"	1	\$1.80 <u>\$1.86</u>
1"	2.5	\$4.50 <u>\$4.65</u>
1-1/2"	5	\$9.00 <u>\$9.30</u>
2"	8	\$14.40 <u>\$14.88</u>
3"	16	\$28.80 <u>\$29.76</u>
4"	25	\$45.00 <u>\$46.50</u>
6"	50	\$90.00 <u>\$93.00</u>
8"	80	\$144.00 <u>\$148.80</u>
10"	115	\$207.00 <u>\$213.90</u>

7. Annual Rate Adjustment. Commencing on October 1, 2008 and effective as of the first billing date on or after October 1 of each of the next three fiscal years thereafter, through Fiscal Year 2012, all water rates, fees and charges shall be automatically adjusted, without hearing, to incorporate a ten (10%) percent increase over the prior year's rates, fees and charges.

- (d) ~~Charge for broken locks shall be \$25.00.~~ There shall be a \$25.00 charge for each visit to the property by a City representative other than for regular meter readings which may include but is not limited to the following: additional reading attempts (i.e. due to no meter access), multiple attempts to turn meter off or on due to no access or water running, notification of delinquency, and collection of a payment.

- ~~(e) Charge for plugging meter shall be \$50.00~~

Sec. 23-8. Same---Private fire service protection, installing.

- (a) Charges or rates for special private fire services as based upon the size of the connection with the city distribution system thereof, are as follows:
- (1) 6 inch private unmetered fire service connection, ~~\$12.60~~ \$14.25 per month.
 - (2) 8 inch private unmetered fire service connection, ~~\$16.80~~ \$19.00 per month.

Sec 23-10. Same---Delinquency; shutting off water.

- (b) All delinquent accounts, including meter water supply service, may result in the service of the city being discontinued and the water supply shut off from and to the premises of the owner or consumer of such account if in arrears immediately upon such account becoming delinquent or as soon thereafter as practicable and such service will not be resumed or the water turned on to such premises until the amount of the delinquent account and the sum of ~~ten~~ twenty-five dollars (~~\$10.00~~ \$25.00) for shutting off and ~~ten~~ twenty-five dollars (~~\$10.00~~ \$25.00) for restoring service has been paid.

- (d) Charge for broken locks shall be \$25.00.

- (e) After the water has initially been turned off by the City, if water is turned back on by the customer without sufficient payment and/or the City's authorization, progressive turn off methods and devices up to and including a turn off at the main may be implemented. These attempts to turn off water will result in additional fees as follows:

- (1) 2nd - \$50.00
- (2) 3rd - \$125.00
- (3) 4th or more - \$250.00 for each occurrence.

Sec 23-11. Same---General Penalties; additional deposit.

Any bill not paid within ten (10) days is considered delinquent. The city after due notice may shut off the service and a ten ~~twenty-five~~ dollar (~~\$10.00~~ \$25.00) penalty added to the bill. When a delinquent owner or consumer pays his bill and applies for water service, he will be required to deposit with the city an amount equal to three (3) months of his previous billing, plus paying the regular opening fee of ten ~~twenty-five~~ dollars (~~\$10.00~~ \$25.00).

Sec 23-12. Lien for non-payment of bill.

The City has the right under this chapter to place a lien against any property where the owner or consumer fails to pay his water bill. There shall be an administrative fee of ~~\$15.00~~ \$25.00 for the preparation and mailing of the lien notice on said property. If this water bill is still unpaid after 10 working days, an administrative fee of \$20.00 shall be assessed for preparation and mailing of the lien, in addition to any lien filing fees charged by the Clerk of the County Court.

Sec 23-15. Turn-on and shut-off; curb cock to be used by city.

(b) A violation of subsection (a) of this section upon the part of the owner, employee or agent, shall subject the owner or consumer to a penalty of ten ~~twenty-five~~ dollars (~~\$10.00~~ \$25.00) for the first offense, and upon the second offense the city at its option may discontinue the service and shut off the water supply to the premises, so long as the owner or consumer continues to reside at the premises.

(c) There shall be no separate charge for shutting off the water supply for any premise, but in every instance when shut-off was originally made for nonpayment of any delinquent account or violation of any rule of the city a ~~twenty-five~~ dollar (~~\$10.00~~ \$25.00) shut-off charge shall be collected plus a ~~twenty-five~~ dollar (~~\$10.00~~ \$25.00) turn-on charge.

Sec. 23-42. Rates and Charges.

The following rates and charges are hereby adopted for all customers of the sewer service of North Miami Beach, Florida.

(1) *Rates for sewage collection and disposal.* The following rates for sewer collection and disposal, based on metered water usage, shall apply to all retail customers:

(a) There shall be a minimum charge of ~~\$12.78~~ \$14.45 per billing unit. The number of billing units used to compute the minimum charge is determined by meter size as follows:

<u>METER SIZE</u>	<u>EQUIVALENCY FACTOR</u>	<u>MINIMUM CHARGE</u>
5/8"	1	\$12.78 <u>\$14.45</u>
3/4"	1	\$12.78 <u>\$14.45</u>
1"	2.5	\$34.95 <u>\$36.13</u>
1-1/2"	5	\$63.90 <u>\$72.25</u>
2"	8	\$102.24 <u>\$115.60</u>
3"	16	\$204.48 <u>\$231.20</u>
4"	25	\$310.50 <u>\$361.25</u>
6"	50	\$630.00 <u>\$722.50</u>

(b) There shall be a consumption charge of ~~\$3.76~~ \$4.25 per 1,000 gallons. **

(g) Annual Rate Adjustment. Commencing on October 1, 2008 and effective as of the first billing date on or after October 1 of each of the next three fiscal years thereafter, through Fiscal Year 2012, all sewer rates, fees and charges shall be automatically adjusted, without hearing, to incorporate a ten (10%) percent increase over the prior year's rates, fees and charges.

** The rates specified herein do not include a pass-through adjustment as provided for in Ordinance No, 2003-11. If and when Miami-Dade Water & Sewer Department notifies the City of increases in wholesale wastewater charges, these rates will be adjusted accordingly.

Sec. 23-43. Bills – Surcharge on delinquent accounts.

A penalty or surcharge shall automatically be imposed upon all delinquent customers of sewer service, in the amount of ten percent (10%) of the prior billing cycle's sewer charges or of any outstanding previous balance due at the time of each billing whichever is lower, and said surcharge shall be added on at the time of said billing and shall be due and owing to the City by the said delinquent customer.

Section 3. All ordinances or parts or ordinances in conflict herewith be and the same are hereby repealed.

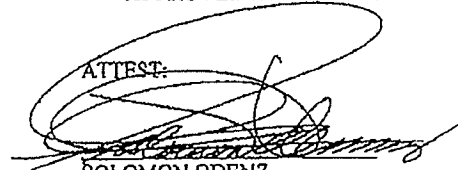
Section 4. If any section, subsection, clause or provision of this Ordinance is held invalid, the remainder shall not be affected by such invalidity.

Section 5. It is the intention of the City Council of the City of North Miami Beach and it is hereby ordained that the provisions of this Ordinance shall become and be made a part of the Code of Ordinances of the City of North Miami Beach, Florida. The Sections of this Ordinance may be renumbered or relettered to accomplish this intention and the word "Ordinance" may be changed to "Section", "Article", or other appropriate word as the Codifier may deem fit.

APPROVED BY TITLE ONLY on first reading this 4th day of September, 2007.

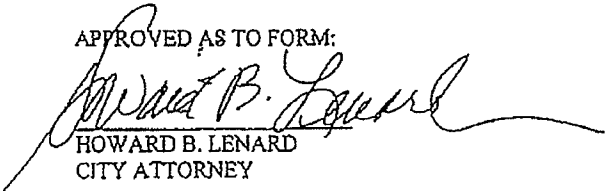
APPROVED AND ADOPTED on second reading this 18th day of September, 2007.

ATTEST:


SOLOMON ODENZ
CITY CLERK
(CITY SEAL)


RAYMOND F. MARIN
MAYOR

APPROVED AS TO FORM:


HOWARD B. LENARD
CITY ATTORNEY

SPONSORED BY: Mayor and City Council

NOTE: Underlining denotes additions and cross-outs denote deletions.

ORDINANCE 89-13

AN ORDINANCE PROVIDING FOR THE REPEAL OF SECTIONS 23-41 THROUGH 23-51 OF THE CODE OF ORDINANCES OF THE CITY OF NORTH MIAMI BEACH; ESTABLISHING AND ADOPTING NEW RULES AND REGULATIONS FOR SEWER SERVICE IN THE CITY OF NORTH MIAMI BEACH; PROVIDING SCHEDULES OF RATES AND CHARGES; PROVIDING PENALTIES FOR VIOLATIONS; PROVIDING FOR THE REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR THE CODIFICATION OF THIS ORDINANCE.

WHEREAS, Sections 23-41 through 23-51 of the Code of Ordinances of the City of North Miami Beach were enacted when the City had a sewage treatment and disposal plant as part of its sewer system, and

WHEREAS, the sewer system of the City of North Miami Beach no longer includes a sewage treatment and disposal plant, and

WHEREAS, the Public Utilities staff have been engaged in a program of updating the Rules and Regulations of the City's sewer system including schedules of rates and charges and penalties relating to the use of the City's sewer system, and to reflect current practices and procedures for the operation of the City's sewer system; and

WHEREAS, it is desirable for the Rules and Regulations for the operation of the sewer system of the City of North Miami Beach to be similar in most respects to the Metropolitan Dade County Water and Sewer Authority Department Rules and Regulations for the operation of their sewer system in order to insure uniformity of regulation within Dade County.

NOW, THEREFORE,

BE IT ORDAINED by the City Council of the City of North Miami Beach, Florida.

Section 1. The foregoing recitals are true and correct.

Section 2. Sections 23-41 through 23-51 of the Code of Ordinances of the City of North Miami Beach are hereby repealed.

Section 3. The attached Rules and Regulations relating to the use of the City of North Miami Beach Sewer System ~~Section 3.11(b)~~ ~~North Miami Beach City Limits~~ be and they are hereby established, adopted, and promulgated, and shall be in full force and effect pursuant to section 3.11(b) of said Rules and Regulations, and the policies set forth in said Rules and Regulations be and they are hereby ratified and confirmed and adopted as the policy of the City of North Miami Beach.

Section 4. The following rates and charges are hereby adopted for all customers of the sewer service of North Miami Beach, Florida.

(1) RATES FOR SEWAGE COLLECTION AND DISPOSAL. The following rates for sewer collection and disposal, based on metered water usage, shall apply to retail customers within the City Limits:

- (a) There shall be a Base Facility Charge of \$4.4382 per 10,000 gal. unit.
- (b) There shall be a Billing Charge of \$3.350 per bill.
- (c) There shall be a Commodity Charge of \$0.5330 per 1000 gals.
- (d) The following schedule shall apply in assessing customer deposits for sewer service:

WATER METER SIZE		DEPOSIT REQUIRED
RESIDENTIAL	5/8"	30.00
	3/4"	45.00
	1"	70.00
	1 1/2"	125.00
COMMERCIAL	5/8"	15.00
	3/4"	30.00
	1"	45.00
	1 1/2"	90.00
	2"	150.00
	3"	300.00
	4"	400.00
	6"	600.00

- (e) The sewage disposal service charge may be revised independently of changes in water rates. Increases or decreases in water rates do not affect the sewage disposal service charge.

(2) CONNECTION CHARGES - The following connection charges shall be assessed for all new connections to the sewer system:

- (a) There shall be a charge of \$1.20 per average daily rated gallon for any given connection. Said charges shall be held in a special fund or funds by the Department to be utilized solely to defray the cost of new facilities, to the extent new usage requires new facilities, renewal or replacement of the system components and expansion of the system to areas of the City which are not currently serviced by sanitary

sewers.

(b) Average daily gallonage for purposes of this section shall be calculated as follows:

Types of Building Usages

Apartments	200 gpd (1)
Banquet Halls (per seat)	25 gpd
Bars and Cocktail Lounges (per seat)	25 gpd
Beauty Shops (per seat)	170 gpd
Boarding Schools (Students & Staff)	75 gpcd (2)
Bowling Alleys (toilet wastes only per lane)	100 gpd
Coin Laundries (per machine)	225 gpd
Day Schools (Students & Staff)	10 gpd
Drive-in Theaters (per car space)	5 gpd
Duplexes	500 gpd
Factories-with Showers	30 gpd
Factories-no Showers (per 100 sq. ft.)	10 gpd
Funeral Homes (per 100 sq. ft.)	10 gpd
Gas Stations	450 gpd
Hospitals-with laundry (per bed)	250 gpd
Hospitals-no laundry (per bed)	200 gpd
Hotels and Motels (per room or unit)	200 gpd
Mobile Home Parks (per trailer)	225 gpd
Movie Theaters, Auditoriums, Churches (per seat)	3 gpd
Nursing Homes (per bed)	150 gpd
Office Buildings (per 100 sq. ft.)	10 gpd
Public Institutions (other than those listed)	75 gpcd
Restaurants (per seat)	50 gpd
Restaurants-Fast Food (per seat)	35 gpd
Restaurants-takeout (per 100 sq.ft., 350 gpd min)	50 gpd
Shopping Centers (per 100 sq. ft.)	10 gpd
Single Family Residences	350 gpd
Stadiums, Frontons, Ball Parks, etc.(per seat)	3 gpd
Stores-without Kitchen Wastes (per 100 sq. ft.)	5 gpd
Speculation Buildings (per 100 sq. ft.)	10 gpd
Townhouse Residences	250 gpd
Warehouses (per 1000 sq.ft.)	10 gpd plus 30 gpd per bay

Condominiums shall be rated in accordance with the type (apartment, townhouse, etc.)

(1) gpd - gallons per day

(2) gpcd - gallons per capita per day

(c) For other usages not shown in Paragraph (b) of this section, the Department shall estimate the daily gallonage involved. The gallonages shown in Paragraph (b) of this section are listed for the sole and express purpose of calculating connection charges and will be used for that purpose regardless of the actual water or sewer requirements of individual developments.

(d) In addition to the connection charge set forth in Paragraph (a) of this section, there will be a charge of \$0.30 per gross square foot of unity of title property (Lot, Lots, Block, etc.) abutting sanitary sewer in any way for which the property connects to said sewer.

(3) PRESSURE SEWER PUMPING UNIT CONSTRUCTION CONNECTION CHARGES. On those properties where pressure sewer pumping units are located a Pumping Unit Construction Connection charge

shall be assessed for each pumping unit required. This charge shall include costs of the pumping unit, piping, controls, connection to pressure main, appurtenances, engineering and administrative costs to install pumping unit on developer's property. These charges shall be paid before the City shall purchase materials and supplies for construction of the pumping unit.

(a) The charges described in this section shall be assessed as follows:

Simplex Unit	(0-500)	Gal/Day	\$5,000
Duplex Unit	(500-1500)	Gal/Day	\$8,500
Duplex Unit	more than 1500	Gal/Day	Actual Cost

(b) The charges set forth in Paragraph (a) of this section are for installation of a pumping unit on the Developer's property based on the following parameters:

- 1) The owner provides an Easement for the same.
- 2) Installation of an above-grade Control Box and Pumping Chamber.
- 3) Installation of a maximum of 25 feet of influent gravity piping and connection to existing septic tank line.
- 4) Installation of pavement restoration not to exceed 150 square feet.
- 5) Installation of discharge piping not to exceed 80 feet.
- 6) Replacing of grass with sod only, any special landscaping and trees to be replaced by owner.

(c) If the parameters set forth in Paragraph (b) of this section are exceeded or other special requirements are made by the property owner (such as special or limited working hours for construction, relocation of Public Utilities from optimum location as an accommodation to Developers or other special circumstances), an addition to the connection charge shall be assessed reflecting the actual added costs incurred by the City.

(4) OVERSIZING CREDIT. Reimbursement to developers for the additional cost of oversized facilities required pursuant to Section 3.07 (4) of the Rules and Regulations of the Department shall be based on the following schedule:

DIAMETER OF PIPE IN INCHES	FORCE MAINS	CREDIT PER LINEAR FOOT
6-8		\$ 2.70
8-12		6.53
8-16		15.89
8-24		29.23
12-16		9.37
12-24		22.71
16-24		13.34

GRAVITY MAINS

8 & Greater 1.50 per inch
Per Linear Foot
(5) EXCEPTIONS

(a) SUBDIVISION. A subdivider or property owner in a subdivision may connect into an approved subdivision sewer without fee, for a period of five (5) years after the sewerage is constructed, providing that a previous subdivider has paid the entire connection charge and construction costs for the sewers in the subdivision.

Section 5. All ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed.

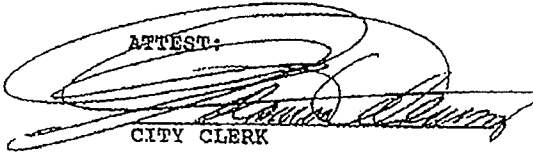
Section 6. If any section, subsection, clause or provision of this Ordinance is held invalid, the remainder shall not be affected by such invalidity.

Section 7. It is the intention of the City Council of the City of North Miami Beach and it is hereby ordained that the provisions of this Ordinance shall become and be made a part of the Code of Ordinances of the City of North Miami Beach, Florida. The Sections of this Ordinance may be renumbered or relettered to accomplish this intention and the word "Ordinance" may be changed to "Section", "Article", or other appropriate word as the Codifier may deem fit.

APPROVED BY TITLE ONLY on first reading this 3rd day of October, 1989.

APPROVED AND ADOPTED on second reading this 17th day of October, 1989.

ATTEST:



CITY CLERK

(CITY SEAL)



MAYOR

APPROVED AS TO FORM:



CITY ATTORNEY

SPONSORED BY: Mayor and City Council

NOTE: This Ordinance supersedes 71-16.

Notice to all billing customers of the City of North Miami Beach Water & Wastewater Utility

Pursuant to Section 180.136, Florida Statutes

Many utilities, including the City of North Miami Beach, budget and bill from a total revenue sufficiency basis for the fiscal year. Rate, fee, or charge adjustments, including those described herein, are applied in the normal course of billing determinants throughout the year in the same fashion.

Pursuant to North Miami Beach City Code Section 19-11.3a.4 and 19-31a.4, a 2.55 percent annual inflation index, which is determined by the Florida Public Service Commission, will be applied to all current fees and charges, including the Homeland Security Surcharge.

In addition, a North Miami Beach utility rate increase of 10 percent will be applied pursuant to North Miami Beach City Code Section 19-11.3a.7 and 19-31a.6.

During periods of mandated water restrictions by the South Florida Water Management District (SFWMD), an automatic adjustment to the rates known as the emergency water conservation rates, pursuant to North Miami Beach Code Section 19-24, is applied. The proposal is to reduce these rates.

These rate charges, increases and decreases will be considered at the public hearings scheduled for Tuesday, September 8, and Tuesday, September 22, 2009.

Both hearings will be held at the North Miami Beach City Hall beginning at 7 p.m., followed by a City Council meeting at 7:30 p.m. Attendance is not required; however, utility customers will have an opportunity to comment on these matters at that time. All rates and charges described herein, if adopted by the North Miami Beach City Council, will be effective on October 1, 2009.

The City of North Miami Beach Emergency Water Conservation Rates By Phase:

	Phase I	Phase II	Phase III	Phase IV
FY' 09	25%	35%	45%	55%
FY' 10	5%	10%	15%	25%

City of North Miami Beach Charges for Monthly Utility Services

*The following are the water and wastewater rates
effective for all billings on or after October 1, 2009*

WATER RATES

	FY '09	FY '10*	Difference
Single Family			
Fee for a minimum size meter	\$9.10	\$8.85**	(\$0.25)
0 to 7,000	\$2.36***	\$2.66***	\$0.30
8,000 to 12,000	\$2.64***	\$2.97***	\$0.33
Over 12,000	\$3.28***	\$3.69***	\$0.41

Nonresidential

Fee for a minimum size meter	\$9.10	\$10.24**	\$1.14
0 to 7,000	\$2.36***	\$2.66***	\$0.30
8,000 to 12,000	\$2.64***	\$2.97***	\$0.33
Over 12,000	\$3.28***	\$3.69***	\$0.41

Multi Family

Fee for a minimum size meter	\$9.10	\$10.24**	\$1.14
0 to 5,000	\$2.36***	\$2.66***	\$0.30
6,000 to 9,000	\$2.64***	\$2.97***	\$0.33
Over 9,000	\$3.28***	\$3.69***	\$0.41

SEWER RATES

Fee for a minimum size meter	\$16.24	\$18.28**	\$2.04
Per 1,000 gallons	\$4.78	\$5.38***	\$0.60

HOMELAND SECURITY SURCHARGE

Fee for a minimum size meter	\$1.90	\$1.95**	\$0.05
------------------------------	--------	----------	--------

* Proposed rates include the 10 percent utility rate increase, plus the 2.55 percent annual inflation index.

** Minimum charge determined by meter size and price is per billing unit.

*** Price per 1,000 gallons based on monthly consumption.

City of North Miami Beach
Public Services Department
17050 NE 19 Avenue
North Miami Beach, FL 33162



Myron Rosner, Mayor
Philippe Derose, Councilperson
John Patrick Julien, Councilperson
Barbara Kramer, Councilperson
Frantz Pierre, Councilperson
Phyllis S. Smith, Councilperson
Beth E. Spiegel, Councilperson

Kelvin L. Baker, City Manager
Darcee S. Siegel, City Attorney
Susan A. Owens, C.M.C., City Clerk

Martin King, P.E., Public Services Director

PRESORTED
STANDARD MAIL
U. S. POSTAGE PAID
MAIMI, FL
PERMIT #4390

CITY OF NORTH MIAMI BEACH, FLORIDA
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET ASSETS
PROPRIETARY FUNDS
FISCAL YEAR ENDED SEPTEMBER 30, 2008

	Business-type Activities - Enterprise Funds			
	Water Utility System	Sewer Utility System	Stormwater Utility System	Totals
Operating revenues:				
Service revenues	<u>\$23,476,790</u>	<u>\$ 5,864,550</u>	<u>\$1,278,940</u>	<u>\$30,620,280</u>
Operating expenses:				
Operating, administrative and maintenance	11,674,916	3,778,975	556,384	16,010,275
Depreciation	<u>3,258,922</u>	<u>666,198</u>	<u>131,100</u>	<u>4,056,220</u>
Total operating expenses	<u>14,933,838</u>	<u>4,445,173</u>	<u>687,484</u>	<u>20,066,495</u>
Operating income	<u>8,542,952</u>	<u>1,419,377</u>	<u>591,456</u>	<u>10,553,785</u>
Non-operating revenue (expense):				
Intergovernmental	320,600	1,079,948	-	1,400,548
Interest income	130,459	5,548	130	136,137
Interest expense	(3,517,226)	(11,133)	(64,452)	(3,592,811)
Other income	<u>558,848</u>	<u>(9,826)</u>	<u>28,449</u>	<u>577,471</u>
Total non-operating revenue (expense)	<u>(2,507,319)</u>	<u>1,064,537</u>	<u>(35,873)</u>	<u>(1,478,655)</u>
Income before contributions and transfers	<u>6,035,633</u>	<u>2,483,914</u>	<u>555,583</u>	<u>9,075,130</u>
Capital contributions	810,968	-	-	810,968
Impact fees	506,603	121,727	-	628,330
Transfers out	<u>(3,629,697)</u>	<u>(1,279,975)</u>	<u>(387,390)</u>	<u>(5,297,062)</u>
	<u>(2,312,126)</u>	<u>(1,158,248)</u>	<u>(387,390)</u>	<u>(3,857,764)</u>
Change in net assets	<u>3,723,507</u>	<u>1,325,666</u>	<u>168,193</u>	<u>5,217,366</u>
Net assets, beginning, as previously reported	54,700,846	20,019,404	2,737,161	77,457,411
Prior period adjustment (see Note 14)	<u>(3,551,692)</u>	<u>-</u>	<u>-</u>	<u>(3,551,692)</u>
Net assets, beginning, as restated	<u>51,149,154</u>	<u>20,019,404</u>	<u>2,737,161</u>	<u>73,905,719</u>
Net assets, ending	<u>\$54,872,661</u>	<u>\$21,345,070</u>	<u>\$2,905,354</u>	<u>\$79,123,085</u>

See notes to basic financial statements.

CITY OF NORTH MIAMI BEACH
 UNAUDITED REVENUE & EXPENDITURE
 PROPRIETARY FUNDS
 AS OF SEPTEMBER 30, 2009

	Sewer Utility System
OPERATING REVENUES:	
Service revenues	6,359,541
 OPERATING EXPENDITURES:	
Operating, administrative and maintenance	4,212,978
Capital	-
Depreciation	787,296
Total operating expenses	5,000,274
 OPERATING INCOME (LOSS)	 1,359,267
 NON-OPERATING REVENUES (EXPENSE):	
Intergovernmental	41,215
Interest income	16,942
Interest expense	(6,795)
Other income	3,693
Total non-operating revenue (expense)	55,055
 INCOME BEFORE CONTRIBUTIONS & TRANSFERS	 1,414,322
Capital Contribution	-
Impact Fee	59,676
Proceeds from credit facilities	27,418
Transfer out	(1,491,949)
	(1,404,855)
 CHANGE IN NET ASSETS	 9,467
BEGINNING NET ASSET	21,345,070
ENDING NET ASSET	21,354,537

Attachment E

Approach to Revenue/Expense Estimations

- **Fiscal Year 2009** – The City Council has adopted a projected budget for this fiscal year. The Revenue/Expense Projections Adopted by the City Council are attached and were used for projection purposes for this fiscal year.
- **Fiscal year 2010** – The Operating Revenues and Non-Operational Miscellaneous Revenues for this fiscal year were escalated based on 2009 projections with a 10% increase in Rate Revenue Factor pursuant to Ordinance No. 2007-8 (see attachment F). Interest Revenues were not escalated or adjusted from the 2010 budgeted fiscal year, because of current economic conditions. The Operating Expenses were escalated based on 2009 projections and combine Customer Growth and Inflation Factors at 4%. The city anticipates limited growth due to current economic factors.
- **Fiscal Year 2011** - The Operating Revenues and Non-Operational Miscellaneous Revenues for this fiscal year were escalated based on 2010 projections with a 10% increase in Rate Revenue Factor pursuant to Ordinance No. 2007-8 (see attachment F). Interest Revenues were not escalated or adjusted from the 2009 budgeted fiscal year, because of current economic conditions. The Operating Expenses were escalated based on 2010 projections and combine Customer Growth and Inflation Factors at 4%. The city anticipates limited growth due to current economic factors.
- **Fiscal Year 2012** - The Operating Revenues and Non-Operational Miscellaneous Revenues for this fiscal year were escalated based on 2011 projections with a 10% increase in Rate Revenue Factor pursuant to Ordinance No. 2007-8 (see attachment F). Interest Revenues were not escalated or adjusted from the 2009 budgeted fiscal year, because of current economic conditions. The Operating Expenses were escalated based on 2011 projections and combine Customer Growth and Inflation Factors at 4%. The city anticipates limited growth due to current economic factors.
- **Fiscal Year 2013** - The Operating Revenues and Non-Operational Miscellaneous Revenues for this fiscal year were escalated based on 2012 projections with a 3% increase in Rate Revenue Factor due to the Public Service Commission automatic annual public inflation rate adjustment pursuant to Ordinance No. 2001-9 (see attachment F). Interest Revenues were not escalated or adjusted from the 2009 budgeted fiscal year, because of current economic conditions. The Operating Expenses were escalated based on 2012 projections and combine Customer Growth and Inflation Factors at 4%. The city anticipates limited growth due to current economic factors.
- **Fiscal Year 2014** - The Operating Revenues and Non-Operational Miscellaneous Revenues for this fiscal year were escalated based on 2013 projections with a 3% increase in Rate Revenue Factor due to the Public Service Commission automatic annual public inflation rate adjustment pursuant to Ordinance No. 2001-9 (see attachment F). Interest Revenues were not escalated or adjusted from the 2009 budgeted fiscal year, because of current economic conditions. The Operating Expenses were escalated based on 2013 projections and combine Customer Growth and Inflation Factors at 4%. The city anticipates limited growth due to current economic factors.

Attachment F
 Schedule of Projected Revenues and Debt Coverage (Wastewater Only)
 City of North Miami Beach
 Sources: 2007 CAFR, Sewer Operational Fund Statement as of 9/29/2008, 2008 CAFR*

	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>
A) Operating Revenues					
Charge for Services	\$7,400,756	\$8,385,057	\$9,500,269	\$10,078,835	\$10,692,637
Total Operating Revenue	\$7,400,756	\$8,385,057	\$9,500,269	\$10,078,835	\$10,692,637
B) Interest Revenues					
Total Interest	\$20,200	\$20,200	\$20,200	\$20,200	\$20,200
C) Non Operational Miscellaneous Revenue					
Total Non-Operational Revenue	\$2,750	\$2,750	\$2,750	\$2,750	\$2,750
D) Total Revenue	\$7,423,706	\$8,408,007	\$9,523,219	\$10,101,785	\$10,715,587
E) Operating Expenses (less interest on debt, depreciation and other non-cash items)	\$4,373,008	\$4,547,928	\$4,729,845	\$4,919,039	\$5,115,800
F) Net Revenue	\$3,050,698	\$3,860,079	\$4,793,374	\$5,182,747	\$5,599,786
G) Revenue Pledged to Debt Service (Capital Lease Principal)	\$0	\$0	\$0	\$0	\$0
H) Revenue pledged to outstanding SRF Loans	\$0	\$36,038	\$36,038	\$36,038	\$36,038
I) Available Revenues for SRF Loan	\$3,050,698	\$3,824,041	\$4,757,336	\$5,146,709	\$5,563,748

*2008 is from completed audited CAFR, that has not been published yet



**CITY OF NORTH MIAMI BEACH
MEMORANDUM**

City Manager's Office

TO: Mayor and City Council
FROM: Kelvin L. Baker, City Manager
DATE: May 19, 2009

RE: **Approval of Resolution for submittal of a loan application to the State Revolving Fund (SRF) for Major Sewer Rehabilitation Pre-construction loan**

BACKGROUND

The City's wastewater (sanitary sewer) system infrastructure was originally constructed in the 1950's and while we have made great strides in upgrading the system, there are still components that are aged and have become deteriorated. Several pumping stations and their basin infrastructure are in need of replacement and rehabilitation. Therefore, to seek out funding for this project, the City of North Miami Beach had submitted an application to be added to the Department of Florida Environmental Protection (FDEP) priority list. The project will perform the engineering design required to upgrade wastewater pumping stations in our collection system. The improvements will eliminate or minimize any sanitary sewage overflows in areas served by these pumping stations, which are at the end of their useful life. These improvements will continue to reduce public health hazard.

The project has made it onto the approved fundable priority SRF list for \$487,000 in pre-construction funding. A resolution is needed to complete the loan application process.

RECOMMENDATION

It is respectfully recommended that the City Council approve this resolution which is requirement of funding application process as stipulated by the FDEP SRF program. This item was approved at the April 16, 2009 Public Utilities Commission meeting.

FISCAL IMPACT

The funding will be received as a loan and requires the use of Sewer Fund revenues to be pledged by the City of North Miami Beach in order to fund the debt service. While terms are not yet finalized, the expected interest rate would range between 2.2% and 2.7% with the loan period being 30 years. At an interest rate of 2.5%, the annual principal and interest payment will be approximately \$23,000.

CONTACT PERSON

Martin King, P.E., Director of Public Services

M&C:KLB:kct

CC: Darcee Siegel, City Attorney,
Susan A. Owens, City Clerk,
Miriam Bensinger, Assist. City Attorney

RESOLUTION 2010-___

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF NORTH MIAMI BEACH, FLORIDA; MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND GRANT AND LOAN APPLICATION IN THE AMOUNT OF \$6,297,318 FOR THE MAJOR SEWER REHABILITATION PROJECT; ACCEPTING THE PLANNING DOCUMENT; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; PROVIDING FOR CONFLICTS, SEVERABILITY, AND EFFECTIVE DATE.

WHEREAS, Florida Statutes authorize the provision of loans to local government agencies to finance the construction of drinking water treatment facilities; and

WHEREAS, Florida Administrative Code rules require authorization to apply for loans, to establish pledged revenues, to designate an authorized representative; to provide assurances of compliance with loan program requirements; and to enter into a loan agreement; and

WHEREAS, the Florida Department of Environmental Protection's State Revolving Fund loan priority list designates the Wastewater Improvements Program, as eligible for available state funding; and

WHEREAS, in order to facilitate the construction of the project, the City intends to apply for and enter into a loan agreement with the Department of Environmental Protection under the State Revolving Fund for project financing in the amount of \$6,297,318; and

WHEREAS, the City recognizes that this funding requires adherence to FDEP's standard supplementary conditions; and

WHEREAS, the Public Utilities Commission of North Miami Beach held an advertised public hearing to accept public comment regarding the adoption of the wastewater facilities plan on March 11, 2010.

NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA ("THE COUNCIL") THAT:

SECTION 1. FINDINGS. The foregoing recitals are true and correct and represent the express findings, purpose and intent of the City Council of the City of North Miami Beach.

SECTION 2. LOAN APPLICATION. The City Council of North Miami Beach, Florida hereby reaffirms the acceptance of the Wastewater Planning Document prepared by AECOM and authorizes the acceptance of a State Revolving Fund low interest loan in the amount of \$6,297,318, to finance the project.

SECTION 3. DESIGNATION OF CITY REPRESENTATIVE. The City Manager is hereby designated as the authorized representative to (a) act as the City's representative in carrying out the City's responsibilities under the loan agreement, and (b) delegate responsibility to appropriate City staff to carry out technical, financial, and administrative activities associated with the loan agreement.

SECTION 4. AUTHORITY TO ENTER INTO AND CARRY OUT LOAN REQUIREMENTS AND OTHER SECURITY. The Council here by offers the City Manager to execute any loan agreement or other security on behalf of the Council in accordance with and required by law to secure the loan.

SECTION 5. PLEDGED REVENUES. The Council hereby authorizes the use of water utility system revenues for the repayment of the State Revolving Fund loan, which pledged revenues, shall consist of net water and sewer

revenues remaining after payment of debt service on the City's outstanding utility revenue bonds.

SECTION 6. AUTHORITY. The legal authority for the City to borrow money to construct the Project is Chapter 180, Florida Statutes.

SECTION 7. CONFLICTS. All prior resolutions or portions thereof in conflict with any of the provisions of this Resolution are hereby repealed.

SECTION 8. SEVERABILITY. If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidate or impair the validity, force, or effect of any other section or part of this Resolution.

SECTION 9. EFFECTIVE DATE. This Resolution shall become effective immediately upon its passage and adoption.

PASSED and ADOPTED this ___ day of March A.D. 2010

ATTEST:

CITY COUNCIL OF NORTH MIAMI BEACH,
FLORIDA

By: _____
Susan Owens, City Clerk

By: _____
Myron Rosner, Mayor

Date: _____

FOR THE USE AND RELIANCE OF
THE CITY OF NORTH MIAMI BEACH ONLY.
APPROVED AS TO FORM:

Darcee S. Siegel
City Attorney

_____, 2010

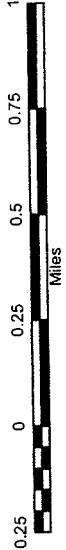
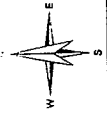
ATTACHMENT II
Project Location Map
And Census Tract Map



Attachment II

PROJECT LOCATION MAP

SRF Planning Report for Pump Station
City of North Miami Beach, Florida



SCALE:
0.25
0.5
0.75
1
Miles

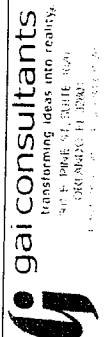
LEGEND:
● City of North Miami Beach
Pump Station Location

AECOM

Legend

● Pump Station

■ Census Tract in 2000



**PROJECT LOCATION MAP WITH CENSUS TRACT
SRF PLANNING REPORT FOR PUMP STATION
CITY OF NORTH MIAMI BEACH, FL**

FIGURE

ATTACHMENT III

Existing Pump Station Condition Summary

Attachment III: Existing Pump Station Conditions
 State Revolving Loan Program Planning Report for Major Sewer Rehabilitation
 City of North Miami Beach

3	Stoney Brook	SB	17904 NW 24 Ave.	1956	GORMAN-RUPP	T6A-B	300mm	40	1650	Self Priming	2	Above Ground	Above Ground Pump/Wet Well	Gravity	6.0	Length: 67" Width: 63" Invert Height: 112"	274	2,000	77	1
5	Scott Lake # 4	SL4	1395 NW 179 St.	1956	HOMA	A70-140E/4A	180mm	3	1750	Submersible	2	Dry Well	Dry/Wet Well	Gravity	6.5	Length: 96" Width: 60" Invert Height: 132"	440	3,300	62	4
6	Scott Lake # 8	SL8	17071 NW 14 Ave.	1958	HOMA	A71-180E-5.5/4A	180mm	5	1750	Submersible	2	Dry Well	Dry/Wet Well	Gravity	5.0	Length: 60" Width: 96" Invert Height: 120"	400	3,000	25	6
9	Cravens	CAV.	17107 NW 3 Ave.	1969	GORMAN-RUPP	T6A-3B	280mm	30	1755	Self Priming	2	Above Ground	Above Ground Pump/Wet Well	Gravity	2.7	Length: 155" Width: 96" Invert Height: 140"	1,213	9,100	47	10
11	Miami Lanes	ML	171 St NW 3 Ave.	1958	HOMA	A70-140E/4A	180mm	3	1750	Submersible	2	Wet Well	Submersible	Gravity	2.0	Length: 72" Width: 72" Invert Height: 132"	396	3,000	19	8
14	M.I.D. # 2	MID2	18400 NE 4 Cl.	1966	HOMA	AM444-250/20E	250mm	10	1750	Submersible	2	Dry Well	Dry/Wet Well	Force Main	2.6	Length: 96" Width: 72" Invert Height: 160"	720	5,400	81	18
15	Miami Gardens Villas	MGV	18750 NE 1 Ave.	1968	GORMAN-RUPP	T4A-3B	250mm	20	1750	Self Priming	2	Dry Well	Dry/Wet Well	Gravity	2.6	Diameter: 48" Invert Height: 112"	117	900	28	15
19	Norwood	NOR	18971 NW 14 Ave.	1958	GORMAN-RUPP	T6A-3B	13.75in	40	1770	Self Priming	2	Above Ground	Above Ground Pump/Wet Well	Gravity	2.5	Length: 155" Width: 96" Invert Height: 154"	1,335	10,000	79	25
21	Windwood	WW	19350 NW 19 Cl	1960	HOMA	A71-180E-5.5/4A	180mm	5	1750	Submersible	2	Dry Well	Dry/Wet Well	Gravity	3.1	Length: 96" Width: 68" Invert Height: 96"	363	2,700	44	2
23	Hawco	HAW	NW 169 St. & 32 Ave.	1969	DAVIS-EMU	FA-101-155	155mm	3.2	1670	Submersible	2	Wet Well	Submersible	Gravity	0.7	Diameter: 108" Invert Height: 160"	848	6,300	46	3

Notes:
 All data obtained from City of North Miami Beach with the exception of existing flow rates obtained from Hazen & Sawyer
 1: 2009 average NAPOT calculated from January, 2009 to October, 2009 reported NAPOT values
 2: Estimate wet well capacity
 3: Flows reflect wet season, dry weather ADF during August, 2009

**City of North Miami Beach
Infiltration and Inflow Facilities Plan**

**State Revolving Fund Loan Program Planning
Report for Infiltration and Inflow**

GAI # A060022.00

Date – March 2010

Prepared by: GAI Consultants, Inc.

Prepared for: City of North Miami Beach

**STATE REVOLVING FUND LOAN PROGRAM PLANNING REPORT
SRF INFILTRATION AND INFLOW
CITY OF NORTH MIAMI BEACH**

TABLE OF CONTENTS

Section No.	Title	Page No.
	Table of Contents	i
	List of Schedules	iii
	List of Figures	iv
1.0	Executive Summary	
1.1	Project Description	1-1
1.2	Need or Justification for Project	1-2
1.3	Project Location	1-4
2.0	Cost Comparison	
2.1	Alternative Solutions and Cost Comparison	2-1
3.0	Environmental Effect	
3.1	Environmental Benefits	3-1
3.2	Environmental Effects	3-1
3.3	Project Impacts on Human Health or Environmental Effects on Minority of Low Income Communities	3-2
3.4	Types of Investigations/ Site Visits	3-2
4.0	Selected Alternative	
4.1	Project Description	4-1
4.2	Details of Cost Estimate	4-2
5.0	Public Participation	5-1
6.0	Financial Feasibility	6-1
7.0	Implementation Schedule	
7.1	Implementation Schedule	7-1
7.2	Adopting Resolution	7-1
7.3	State Clearinghouse Review	7-1

**STATE REVOLVING FUND LOAN PROGRAM PLANNING REPORT
SRF INFILTRATION AND INFLOW
CITY OF NORTH MIAMI BEACH**

TABLE OF CONTENTS

Section		Page
<u>No.</u>	<u>Title</u>	<u>No.</u>

APPENDICES:

Appendix A: References

Appendix B: Annual Report for Sewer System Evaluation and Rehabilitation Work

Appendix C: Miami-Dade Water and Sewer Department Preliminary-Draft Wholesale Customer Rates for Fiscal Year 2009/2010 (June 19, 2009)

Appendix D: Capital Financing Plan

**STATE REVOLVING FUND LOAN PROGRAM PLANNING REPORT
SRF INFILTRATION AND INFLOW
CITY OF NORTH MIAMI BEACH**

LIST OF SCHEDULES

Schedule		Page
<u>No.</u>	<u>Title</u>	<u>No.</u>
1-1	Remaining I & I Project Improvements	1-7
2-1	Alternative 1: No Action Cost Requirements	2-4
2-2	Alternative 2: Rehabilitation Cost Requirements	2-5
2-3	Alternative 3: Replacement Cost Requirements	2-6
2-4	Alternative Cost Comparison	2-7
4-1	Alternative 2: Rehabilitation Detailed Cost Requirements	4-3
7-1	Implementation Schedule	7-1

**STATE REVOLVING FUND LOAN PROGRAM PLANNING REPORT
SRF INFILTRATION AND INFLOW
CITY OF NORTH MIAMI BEACH**

LIST OF FIGURES

Figure		Page
No.	Title	No.
1-1	Project Location Map	1-5
1-2	Census Tract Map	1-6
3-1	Wetland Map	3-3
3-2	Environmental Impact Map	3-4
3-3	Census Map	3-5

SECTION 1

EXECUTIVE SUMMARY

This Report meets the Florida Department of Environmental Protection's (FDEP) requirements for the State Revolving Fund (SRF) Application as summarized in Florida Administrative Code (F.A.C) 62-503.700(2).

1.1 PROJECT DESCRIPTION

The City of North Miami Beach (City) is an urban area located in northeastern Miami-Dade County with a population of 40,786 according to the 2000 Census. Estimates show the population was approximately 42,000 people in 2007. The City provides wastewater service to approximately 7,155 connections within its 25 square mile service area. The wastewater service that the City provides to City customers is in the central portion of the City and Highland Village only. The City provides Services to customers both within and outside the City limits, as illustrated by the City service area and location map in **Figure 1-1 and 1-2**. The wastewater is sent to Miami-Dade Water and Sewer District (MDWASD) for treatment.

According to the 2009 Annual Report for Sewer System Evaluation and Rehabilitation Work (*Annual Report*, ES-2), found in **Appendix A**, the CNMB sanitary sewer collection system includes "approximately 79 miles of pipe, 1,600 manholes, and 33 basins each served by a pump station."

According to the Annual Report, the City "recently completed Phases I, II, and III of a system-wide sanitary sewer evaluation survey (SSES) based on the Miami-Dade [Department of Environmental Resource Management] (DERM) guidelines dated February 23, 1999. Phase III of the SSES included the implementation of the rehabilitation plan specified in the Phase I and II." This program is done in cycles, Cycle I was completed using the 1999 standards and ended in 2002. A second set of guidelines was published for Cycle II SSES in 2007 by the DERM. The City will be following this format for the future rehabilitation, using the first cycle (1999-2002) SSES as a template for all improvements to the sewer system.

By 2012, the City will need to have completed (*Annual Report*, 4-2):

- Television inspection of entire system,
- Smoke testing of entire system, and
- Flow analysis of each basin.

In order to finish these projects by 2012 and to coordinate their Infiltration and Inflow (I & I) improvements, the City has prioritized the improvements. Although this order can be flexible to emergency repairs and available funding, the priorities are (*Annual Report*, 6-19):

- Television inspection to identify main line repairs
- Main line repair
- Smoke testing to identify service line repairs
- Service line repair
- Manhole repair
- Manhole insert (Completed to date)

Schedule 1-1 shows the improvements that are included in the project proposed for funding by lift station area.

1.2 NEED OR JUSTIFICATION FOR PROJECT

I & I is the infiltration of groundwater and the inflow of stormwater into the System according to the Existing Sewer Evaluation and Rehabilitation (*Existing*, 136). The most common causes of I & I are (*Existing* 141-143):

- Aging infrastructure in the collection system;
- Uncontrolled or unmanaged stormwater;
- Poor construction methods;
- Inadequate construction specifications or design; and
- Lack of maintenance of the collection system.

The purpose of the Annual Report was to “identify and reduce infiltration and inflow.” The Annual Report also “provides a projection concerning the scope and nature of future work.” *Wastewater Collection System Evaluation* reports completed in 1996 and 1998 also laid the ground work for this 2009 Annual Report. The 1996 report concluded that up to 53% of the

wastewater flow in the City could be "attributed" to I & I problems with the sanitary sewer system (System).

The DERM guidelines consist of a three-phase program. These phases are:

- Phase I – Preliminary Sewer System Survey,
- Phase II – Sewer System Analysis, and
- Phase III – Rehabilitation.

According to the Annual Report, Phase I and II of the current I & I program will end in 2012 (*Annual Report*, 2-7). Due to the availability of funding, Phase III will then commence in 2012 and must be completed by 2016. This is four (4) years after the completion of Phase I and II (*Annual Report*, 2-7).

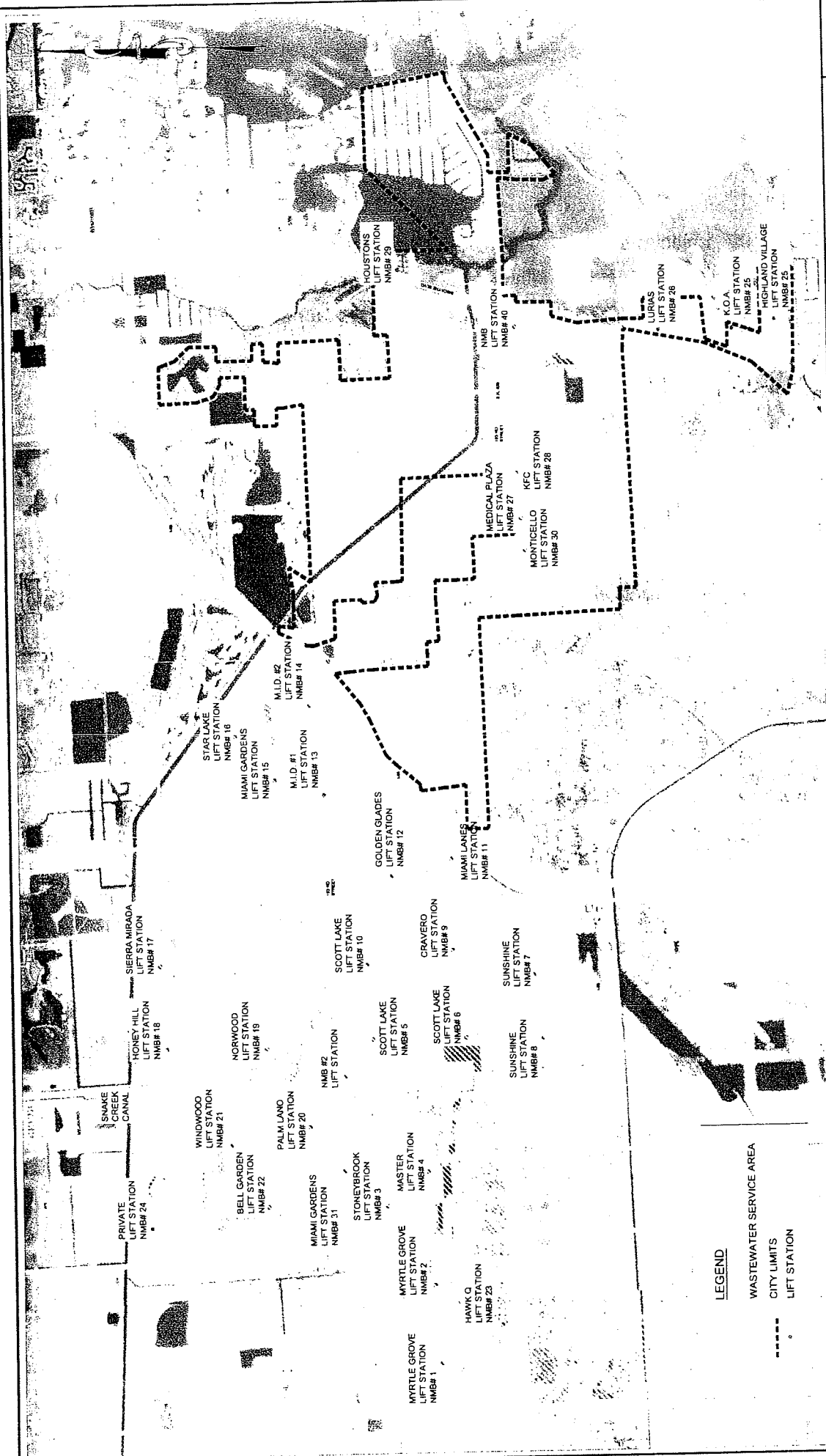
From 2002 to 2009, the City of North Miami Beach performed a televised inspection of 45% of the City's sanitary sewer mains, smoke tested 62% of the City's sanitary sewer mains, and inspected 100% (1,642) of the manholes. Rehabilitation included lining 29% of systems sanitary sewer mains, replacing 2% of the City's sanitary sewer lines, repairing 330 service connections, and installing manhole inserts in 100% of the manholes (*Annual Report*, ES-3).

The results of the I & I to date program show that it is working. From December 1996 to December 2009, monthly average flow has been reduced from 87.5 million gallons (MG) per month to 32.6 MG per month. Total monthly average daily pump station run times have been reduced from 236.8 hours per day to 115.6 hours per day in the same time period. The remainder of the system work to be done is to prevent aging portions of the system from contributing to I & I. Additionally, the flow testing required after the improvements have been made, will allow for proper planning for the future of the City's sewer system. (*Annual Report*, 6-4 to 6-17).

The remainder of the system must be televised and remaining repairs and rehabilitation must be addressed to complete the next phase of the infiltration program. This is important to maintain the existing system so as to provide safe and reliable wastewater collection to the residents of North Miami Beach. It is also important to reduce the cost of treatment to residents as the City is charged for gallons treated by MDWASD.

1.3 PROJECT LOCATION

Each portion of the project will be done in the basin areas contained by the pump stations in the City of North Miami Beach, Florida in Miami-Dade County. The pump station areas are shown on **Figure 1-1** and listed in **Schedule 1-1** with the remaining improvements required for each area.



PROJECT LOCATION MAP
CITY OF NORTH MIAMI BEACH



gai consultants
transforming ideas into reality
301 E. Pine Street - Suite 1020
Olaton, Florida 32801
Phone 407.433.8398 Fax 407.843.1070



gai consultants
 transforming ideas into reality
 301 E. Pine Street, Suite 1020
 Orlando, Florida 32801
 Phone 407.423.9388 Fax 407.843.1070

**PROJECT LOCATION MAP WITH CENSUS TRACT
 SRF PLANNING REPORT FOR I&I PROGRAM
 CITY OF NORTH MIAMI BEACH, FL**

FIGURE

1-2

Legend

● Lift Station

■ Census Tract in 2000

Schedule 1-1

**Remaining I & I Project Improvements
City of North Miami Beach
I & I SRF Planning Report**

	Pump Station	Pipe (ft)	Televising (ft)	Smoke Testing (ft)	Pipe Lining (ft)	Manhole Repair (ea)	Point Repairs (ea)
1	Myrtle Grove #1	30,445				0	0
2	Myrtle Grove #2	33,356				0	0
3	Stoneybrook	15,046	15,046			16	16
4	Master	47,219				0	0
5	Scott Lake #4	22,056		22,056		0	0
6	Scott Lake #8	13,136		13,136	8,392	0	0
7	Sunshine #1	10,846				0	0
8	Sunshine #2	14,571				0	0
9	Cravero	11,056		11,056	7,064	0	0
10	Scott Lake #1	18,535		18,535		0	0
11	Miami Lanes	2,400	2,400	2,400	1,533	3	3
12	Golden Glades	11,879		11,879		0	0
13	MID #1	15,096				0	0
14	MID #2	5,748		5,748		0	0
15	Miami Garden Villas	5,435				0	0
16	Star Lake	11,453		11,453	7,317	0	0
17	Sierra Mirada	8,553		8,553		0	0
18	Honey Hill	15,100		15,100		0	0
19	Norwood	22,567		22,567	14,418	0	0
20	Palm Land	28,360		28,360	18,119	0	0
21	Windwood	12,503			7,988	0	0
22	Bell Gardens	26,026	26,026			27	27
23	Hawco	2,014	2,014	2,014	1,287	3	3
24	PPS	4,493	4,493	4,493	2,871	5	5
25	KOA	2,967	2,967	2,967	1,896	3	3
26	Lurias	3,154	3,154	3,154	2,015	4	4
27	Medical Plaza	2,111			1,349	0	0
28	KFC	1,151	1,151		735	2	2
29	Houston's	800	800		511	1	1
30	Monticello	2,640	2,640	2,640	1,687	3	3
31	DOT #1	1,355	1,355	1,355	866	2	2
32	DOT #2	436	436	436	279	1	1
33	Highland Village	15,723				0	0
	Total	418,230	62,482	187,902	78,325	63	63

SECTION 2

COST COMPARISON

2.1 ALTERNATIVE SOLUTIONS AND COST COMPARISON

Three (3) alternatives were analyzed to determine the most effective and cost efficient method of sanitary system rehabilitation. These alternatives include:

- Alternative 1: No Further Action
- Alternative 2: Rehabilitation
- Alternative 3: Replacement In-Kind

The three alternatives were compared by their respective present value cost. The characteristics of the financial analysis include:

- Planning Period: 20
- Discount Rate: 2.5%
- Capital Costs

2.1.1 Alternative 1: No Further Action

This alternative will not include any further improvements to the System. The costs for this alternative include increasing operation and maintenance costs, and increasing costs of emergency responses to sewer overflows and piping failures (the magnitude of these costs has not been quantified in this Report). Additionally, the cost of sending excess wastewater to MDWASD for treatment is included. This cost for this alternative is \$16,711,676.92 (\$11,743,849.24 present value) and the cost breakdown can be found in **Schedule 2-1**.

2.1.2 Alternative 2: Rehabilitation

There are three types of rehabilitation (*Existing*, pg 189):

1. Repair: Improvements applied to specific sections of piping or manholes [Point Repair];
2. Renewal: Structural improvements to a section of piping or manholes [Slip Lining]; and
3. Replacement: Removal of section and replacement with like or improved materials [New Pipe].

Improvements in this alternative include:

- Evaluation of the existing System assets
 - Smoke testing
 - Television inspection
- Repairing broken assets
 - Pipe lining
 - Manhole coating/inserts
- Asset Renewal
 - Manholes

Schedule 1-1, in **Section 1**, lists the improvements to be done by specific pump station. Historically, 36 miles have been televised and of this 23 miles have had to be lined. This is 64% of the televised pipeline and it is assumed that when the remaining pipeline is televised, 64% of that pipeline would need to be repaired or replaced. It is also assumed that for every lift station, one (1) manhole repair and one (1) piping point repair per 1,000 feet will be required with a minimum of one (1) each per pump station.

The cost for this alternative is \$4,201,765 and the breakdown can be found in **Schedule 2-2**.

2.1.3 Alternative 3: Replacement in Kind

This alternative includes replacing the existing pipeline assets that need to be repaired with new materials just as they are currently in place instead of lining the pipe. Historically 36 miles have been televised and of this 23 miles have had to be lined. This is 64% of the televised pipeline and it is assumed that when the remaining pipeline is televised, 64% would need to be repaired or replaced. The only upgrades that would be included are upgrades to materials that are no longer used. This includes:

- Televising remaining pipeline
- Smoke testing pipeline
- Replacement of 64% of the pipeline that has not been televised
- Repairing/replacing manholes

The cost of this alternative is \$8,671,875 and the cost breakdown is found in **Schedule 2-3**.

2.1.4 Summary

The total present value of the costs associate with each alternative are summarized on

Schedule 2-1
Alternative 1: No Action Cost Requirements
City of North Miami Beach
I & I SRF Planning Report

Fiscal Year	Annual Flow Increase Due to I & I (%)	Total Projected Flow (1,000 gallons) (1)	Difference From 2010 Base Year	FPSC Deflator Index	MDWASD Rate per 1,000 Gallons (1)	Total Excess Treatment Costs	Present Value
2010		750,248			\$ 2.0436		\$ -
2011	3%	772,755	22,507	2.48%	\$ 2.0944	47,137.83	45,988.13
2012	3%	795,938	45,690	2.48%	\$ 2.1464	98,068.42	93,342.93
2013	3%	819,816	69,568	2.48%	\$ 2.1997	153,028.96	142,102.60
2014	3%	844,410	94,162	2.48%	\$ 2.2543	212,273.53	192,309.34
2015	3%	869,742	119,494	2.48%	\$ 2.3103	276,071.98	244,007.40
2016	3%	895,834	145,586	2.48%	\$ 2.3677	344,708.44	297,241.01
2017	3%	922,709	172,461	2.48%	\$ 2.4265	418,484.40	352,056.38
2018	3%	950,390	200,142	2.48%	\$ 2.4868	497,717.23	408,499.71
2019	3%	978,902	228,654	2.48%	\$ 2.5486	582,746.01	466,621.26
2020	3%	1,008,269	258,021	2.48%	\$ 2.6119	673,925.09	526,469.20
2021	3%	1,038,517	288,269	2.48%	\$ 2.6768	771,632.62	588,095.78
2022	3%	1,069,673	319,425	2.48%	\$ 2.7433	876,269.33	651,555.22
2023	3%	1,101,763	351,515	2.48%	\$ 2.8114	988,254.13	716,899.68
2024	3%	1,134,816	384,568	2.48%	\$ 2.8812	1,108,036.30	784,187.42
2025	3%	1,168,860	418,612	2.48%	\$ 2.9528	1,236,085.71	853,474.61
2026	3%	1,203,926	453,678	2.48%	\$ 3.0262	1,372,905.67	924,823.49
2027	3%	1,240,044	489,796	2.48%	\$ 3.1013	1,519,022.76	998,294.25
2028	3%	1,277,245	526,997	2.48%	\$ 3.1784	1,674,994.01	1,073,949.06
2029	3%	1,315,562	565,314	2.48%	\$ 3.2573	1,841,411.80	1,151,854.12
2030	3%	1,355,029	604,781	2.48%	\$ 3.3382	2,018,902.70	1,232,077.65
Total						\$ 16,711,676.92	\$ 11,743,849.24

Notes:

(1) From the Miami Dade Water and Sewer Department Preliminary Draft Wholesale Customer Rates for Fiscal Year 2009/10 (June 19, 2009). See **Appendix C**.

Schedule 2-2
 Alternative 2: Rehabilitation Cost Requirements
 City of North Miami Beach
 I & I SRF Planning Report

Pump Station	Televising (ft)	Smoke Testing (ft)	Pipe Lining (ft)	Manhole Coating/Repair	Point Repairs	Maintenance of Traffic (10%)	Mobilization (5%)	Subtotal	Max Allowance (1)	Contingency (2)	Total
1 Myrtle Grove #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2 Myrtle Grove #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Stonybrook	\$69,839	\$0	\$0	\$38,336	\$33,600	\$14,177	\$7,089	\$163,041	\$21,192	\$16,304	\$200,537
4 Master	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5 Scott Lake #4	\$0	\$31,540	\$0	\$0	\$0	\$3,154	\$1,577	\$36,271	\$5,260	\$3,627	\$45,158
6 Scott Lake #8	\$0	\$18,784	\$225,547	\$0	\$0	\$24,433	\$12,217	\$280,981	\$34,993	\$28,038	\$344,073
7 Sunshine #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8 Sunshine #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9 Cravero	\$0	\$15,810	\$189,833	\$0	\$0	\$20,564	\$10,282	\$236,490	\$29,860	\$23,649	\$289,999
10 Scott Lake #1	\$0	\$26,505	\$0	\$0	\$0	\$2,651	\$1,325	\$30,481	\$4,473	\$3,048	\$38,002
11 Miami Lanes	\$11,140	\$3,432	\$41,208	\$7,188	\$6,300	\$6,927	\$3,463	\$79,659	\$10,925	\$7,966	\$98,549
12 Golden Glades	\$0	\$16,987	\$0	\$0	\$0	\$1,699	\$849	\$19,535	\$2,954	\$1,954	\$24,442
13 MID #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14 MID #2	\$0	\$8,220	\$0	\$0	\$0	\$822	\$411	\$9,453	\$1,498	\$945	\$11,896
15 Miami Garden Villas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16 Star Lake	\$0	\$16,378	\$196,650	\$0	\$0	\$21,303	\$10,651	\$244,981	\$30,846	\$24,498	\$300,325
17 Sierra Mirada	\$0	\$12,231	\$0	\$0	\$0	\$1,223	\$612	\$14,085	\$2,173	\$1,407	\$17,645
18 Honey Hill	\$0	\$21,593	\$0	\$0	\$0	\$2,159	\$1,080	\$24,832	\$3,695	\$2,483	\$31,010
19 Norwood	\$0	\$32,271	\$387,479	\$0	\$0	\$41,975	\$20,987	\$482,712	\$57,505	\$48,271	\$588,488
20 Palm Land	\$0	\$40,555	\$486,945	\$0	\$0	\$27,500	\$26,375	\$606,625	\$70,880	\$60,662	\$738,168
21 Windwood	\$0	\$0	\$214,678	\$0	\$0	\$21,468	\$10,734	\$246,880	\$31,066	\$24,688	\$302,634
22 Bell Gardens	\$120,804	\$0	\$0	\$64,692	\$56,700	\$24,220	\$12,110	\$278,525	\$34,712	\$27,853	\$341,090
23 Hawco	\$9,348	\$2,880	\$34,581	\$7,188	\$6,300	\$6,030	\$3,015	\$69,342	\$9,606	\$6,934	\$85,882
24 PPS	\$20,855	\$6,425	\$77,145	\$11,980	\$10,500	\$12,691	\$6,345	\$145,941	\$19,131	\$14,594	\$179,667
25 KOA	\$13,772	\$4,243	\$50,944	\$7,188	\$6,300	\$8,245	\$4,122	\$94,813	\$12,838	\$9,481	\$117,133
26 Lunas	\$14,640	\$4,510	\$54,155	\$9,584	\$8,400	\$9,129	\$4,564	\$104,982	\$14,108	\$10,498	\$129,588
27 Medical Plaza	\$0	\$0	\$36,246	\$0	\$0	\$3,625	\$1,812	\$41,683	\$5,987	\$4,168	\$51,838
28 KFC	\$5,343	\$0	\$19,763	\$4,792	\$4,200	\$3,410	\$1,705	\$39,212	\$5,656	\$3,921	\$48,789
29 Houston's	\$3,713	\$0	\$13,736	\$2,396	\$2,100	\$2,195	\$1,097	\$25,237	\$3,751	\$2,524	\$31,512
30 Monticello	\$12,254	\$3,775	\$45,329	\$7,188	\$6,300	\$7,485	\$3,742	\$86,073	\$11,738	\$8,607	\$106,419
31 DOT #1	\$6,289	\$1,938	\$23,266	\$4,792	\$4,200	\$4,048	\$2,024	\$46,557	\$6,635	\$4,656	\$57,848
32 DOT #2	\$2,024	\$623	\$7,486	\$2,396	\$2,100	\$1,463	\$731	\$16,824	\$2,569	\$1,682	\$21,075
33 Highland Village	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$290,021	\$268,700	\$2,104,990	\$187,720	\$147,000	\$297,843	\$148,922	\$3,425,195	\$434,050	\$342,520	\$4,207,765

Notes

- (1) From Florida Administrative Code 62-503.300-5 (c):
 The maximum allowance shall be established as follows: (25.00 - Natural Logarithm of construction costs) times the construction costs divided by 100.
- (2) From Florida Administrative Code 62-503.300-4 (a):
 At the time of loan approval and when actual costs are unknown, project contingency shall not exceed 10% of the estimated sum of the construction costs and costs for allowable land.

Schedule 2-3
 Alternative 3: Replacement Cost Requirements
 City of North Miami Beach
 I & I SRF Planning Report

Pump Station	Televising (ft)	Smoke Testing (ft)	Pipe Replacement (ft)	Manhole Coating/Repair	Maintenance of Traffic (10%)	Mobilization (5%)	Subtotal	Max Allowance (1)	Contingency (2)	Total
1 Myrtle Grove #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2 Myrtle Grove #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Stonebrook	\$69,839	\$0	\$0	\$38,336	\$10,817	\$5,409	\$124,401	\$16,506	\$12,440	\$153,347
4 Master	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5 Scott Lake #4	\$0	\$31,540	\$0	\$0	\$3,154	\$1,577	\$36,271	\$5,260	\$3,627	\$45,158
6 Scott Lake #8	\$0	\$18,784	\$585,728	\$0	\$60,451	\$30,226	\$695,189	\$80,281	\$69,519	\$844,989
7 Sunshine #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8 Sunshine #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9 Cravero	\$0	\$15,810	\$492,982	\$0	\$50,879	\$25,440	\$585,111	\$88,578	\$88,511	\$712,199
10 Scott Lake #1	\$0	\$26,505	\$0	\$0	\$2,651	\$1,325	\$30,481	\$4,473	\$3,048	\$38,002
11 Miami Lanes	\$11,140	\$3,432	\$107,015	\$7,188	\$12,877	\$6,439	\$148,091	\$19,392	\$14,803	\$182,292
12 Golden Glades	\$0	\$16,987	\$0	\$0	\$1,999	\$849	\$19,535	\$2,954	\$1,954	\$24,442
13 MID #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14 MID #2	\$0	\$8,220	\$0	\$0	\$822	\$411	\$9,453	\$1,498	\$945	\$11,896
15 Miami Garden Villas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16 Star Lake	\$0	\$16,378	\$510,684	\$0	\$52,706	\$26,353	\$606,121	\$70,826	\$60,612	\$737,559
17 Sierra Miranda	\$0	\$12,231	\$0	\$0	\$1,223	\$612	\$14,065	\$2,173	\$1,407	\$17,645
18 Honey Hill	\$0	\$21,593	\$0	\$0	\$2,159	\$1,080	\$24,832	\$3,695	\$2,483	\$31,010
19 Norwood	\$0	\$32,271	\$1,006,252	\$0	\$103,852	\$51,926	\$1,194,301	\$131,456	\$119,430	\$1,445,187
20 Palm Land	\$0	\$40,555	\$1,264,559	\$0	\$130,511	\$65,256	\$1,500,861	\$161,772	\$150,088	\$1,812,741
21 Windwood	\$0	\$0	\$557,503	\$0	\$55,750	\$27,875	\$641,128	\$74,557	\$64,113	\$779,798
22 Bell Gardens	\$120,804	\$0	\$0	\$64,692	\$18,550	\$9,275	\$213,320	\$27,155	\$21,332	\$261,807
23 Hawco	\$9,348	\$2,880	\$89,803	\$7,188	\$10,922	\$5,461	\$125,603	\$16,654	\$12,560	\$154,817
24 PPS	\$20,855	\$6,425	\$200,341	\$11,980	\$23,960	\$11,980	\$275,541	\$34,370	\$27,554	\$337,465
25 KOA	\$13,772	\$4,243	\$132,297	\$7,188	\$15,750	\$7,875	\$181,125	\$23,353	\$18,112	\$222,590
26 Lurias	\$14,640	\$4,510	\$140,635	\$9,584	\$16,937	\$8,468	\$194,775	\$24,971	\$19,477	\$239,223
27 Medical Plaza	\$0	\$0	\$94,128	\$0	\$9,413	\$4,706	\$108,248	\$14,514	\$10,825	\$133,586
28 KFC	\$5,343	\$0	\$51,323	\$4,792	\$6,146	\$3,073	\$70,676	\$9,777	\$7,068	\$87,521
29 Houston's	\$3,713	\$0	\$35,672	\$2,396	\$4,178	\$2,089	\$48,048	\$6,832	\$4,805	\$59,685
30 Monticello	\$12,254	\$3,775	\$117,716	\$7,188	\$14,093	\$7,047	\$162,074	\$21,076	\$16,207	\$199,357
31 DOT #1	\$6,289	\$1,938	\$60,419	\$4,792	\$7,344	\$3,672	\$84,454	\$11,533	\$8,445	\$104,432
32 DOT #2	\$2,024	\$623	\$19,441	\$2,396	\$2,448	\$1,224	\$28,157	\$4,154	\$2,816	\$35,127
33 Highland Village	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$290,021	\$268,700	\$5,466,498	\$167,720	\$619,294	\$309,647	\$7,121,879.26	\$837,808	\$712,188	\$8,671,875

Notes

- (1) From Florida Administrative Code 62-503.300-5 (c):
 The maximum allowance shall be established as follows: (25.00 - Natural Logarithm of construction costs) times the construction costs divided by 100.
- (2) From Florida Administrative Code 62-503.300-4 (a):
 At the time of loan approval and when actual costs are unknown, project contingency shall not exceed 10% of the estimated sum of the construction costs and costs for allowable land.

Schedule 2-4
Alternative Cost Comparison
City of North Miami Beach
I & I SRF Planning Report

Alternative	Present Value Cost
Alternative 1: No Further Action	\$ 11,743,849
Alternative 2: Rehabilitation	\$ 4,201,765
Alternative 3: Replacement	\$ 8,671,875

SECTION 3

ENVIRONMENTAL EFFECT

3.1 ENVIRONMENTAL BENEFITS

Implementation of Alternative 1 of the proposed solutions does not provide any environmental benefits. However, Alternatives 2 and 3 will benefit the City's service area, Miami-Dade County, and any other entity connected to the MDWASD. These alternatives will improve the sewage treatment system by reducing:

- Sewage seepage into the groundwater,
- Sewage backups due to blocked lines,
- Infrastructure size upgrade requirements (more pump stations and forcemains),
- Energy used by oversized pump stations,
- Treatment expansion requirements for the MDWASD system, and
- Costs to all MDWASD customers including City customers.

In other words, these two options will prevent groundwater and surface water contamination and sewage overflows while helping to provide City sewer customers with a reliable source of wastewater treatment. This is required to protect residents from hazardous sanitary health conditions and to maintain the MDWASD sewer system requirements put forth by the DERM.

3.2 ENVIRONMENTAL EFFECTS

This project involves rehabilitating (Alternative 2) or replacing (Alternative 3) an existing sewer system in a very urban area. The project is located on current easements owned or leased by the City. No flora, fauna, endangered plant or animal species, surface water bodies, prime agricultural lands, wetlands or undisturbed areas will be affected by the project. **Figure 3-1** shows a wetlands map from the Florida Department of Environmental Protection (FDEP) and **Figure 3-2** shows a map provided by the US Fish and Wildlife Service Strategic Habitat and Conservation Areas and the Florida Natural Areas Inventory conservation land map.

3.3 PROJECT IMPACTS ON HUMAN HEALTH OR ENVIRONMENTAL EFFECTS ON MINORITY OF LOW INCOME COMMUNITIES

According to the census data for the City, 13.25% of the City and County population is below the poverty line. The proposed project will not have a negative impact on the City's service area. In fact, this project will improve and protect the City's service area and all areas served by the MDWASD sewer system. **Figure 3-3** shows the Census Tract map for Miami Dade County.

The infiltration and inflow improvement project would cause temporary detours and/or road closures, as well as interruptions in sewer service to localized areas of the service area during construction. As part of the project, the City would initiate a considerable public awareness campaign to keep residents informed and keep inconvenience to the public at a minimum. The campaign would consist of presentation of the project work plan at a City Council meeting and notification of affected residents by mail 30 days before the commencement of any work activities. Additionally, affected residents would be notified with door hangers on front doors 7 days before construction, as well as through regular press releases to local newspapers and radio stations informing the public of work schedules, progress and known delays.

3.4 TYPES OF INVESTIGATIONS / SITE VISITS

After review of conservation, wetland, habitat data, and the nature of the project, it was determined that a site visit was not necessary. This information is shown in **Figures 3-2** and **3-3**.

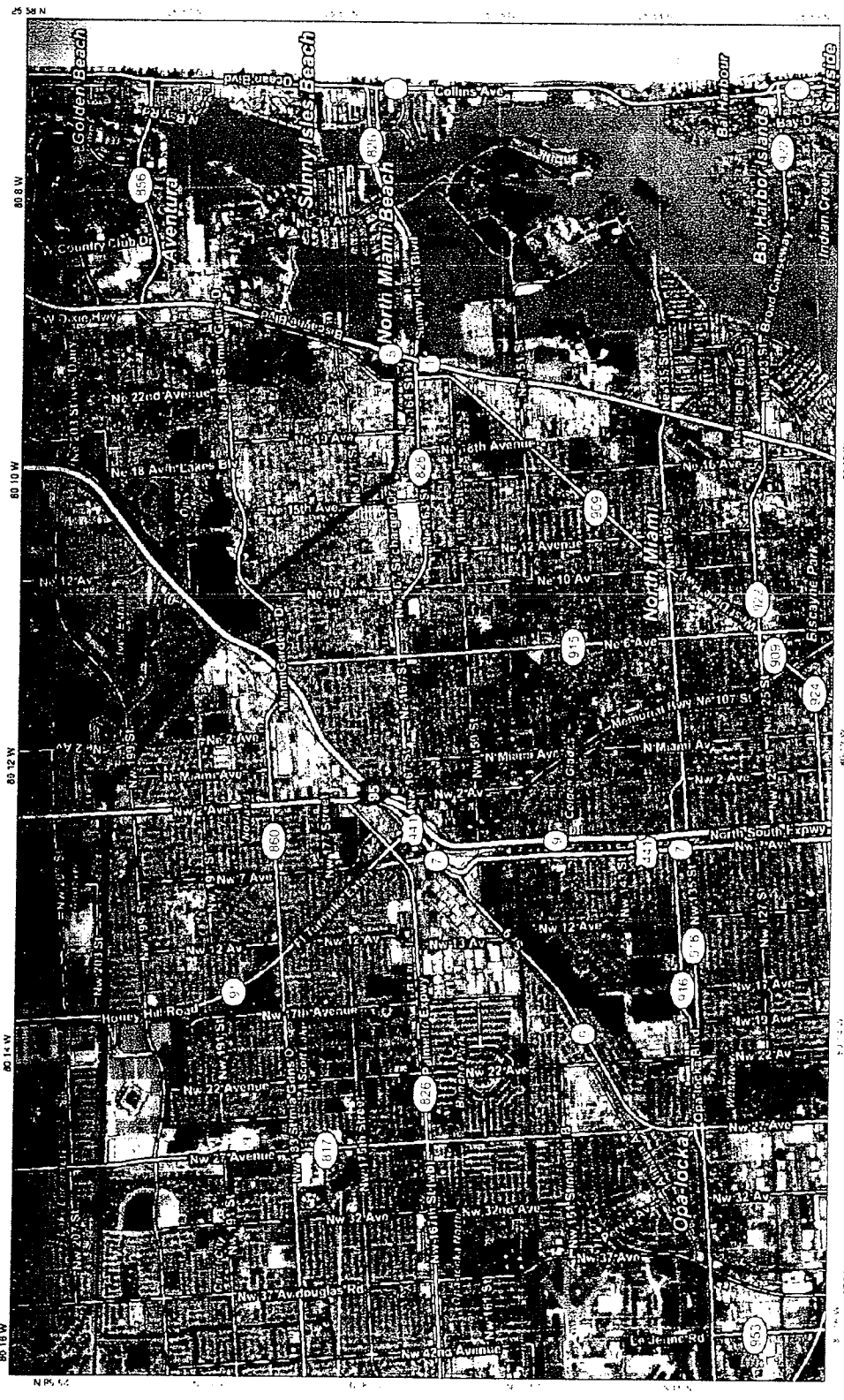
3.5 CATERGORIAL EXCLUSION

This project meets categorical exclusion requirements because it involves:

1. Rehabilitation of existing water pollution control system components or replacement of structures, materials or equipment.
2. Water pollution control systems that do not change the existing discharge point or permitted pollutant concentration limits and that do not involve acquisition of undisturbed land.

3. Water pollution control systems in areas where streets have been established, underground utilities installed or building sites excavated.


Water Data Central



Scale: 1:46,499
Map center: 780692, 219386
Map production on Tue Mar 23 13:08:28 EST 2010
Neto: Map produced using data from various sources, collected at different scales, with different levels of accuracy, and/or covering different periods of time.

FIGURE
3-1

WETLANDS MAP CITY OF NORTH MIAMI BEACH



gai consultants
Transforming Ideas into Reality
301 E. Pine Street - Suite 1020
Orlando, Florida 32801
Phone: 407.423.8588 Fax: 407.243.0770

Florida Department of Environmental Protection | Disclaimer: This map is provided by gai consultants, Inc. as a service to the City of North Miami Beach. It is not intended to be used as a legal document. The City of North Miami Beach is not responsible for any errors or omissions on this map. The City of North Miami Beach is not liable for any damages, including consequential damages, arising from the use of this map.



Legend

Habitat & Conservation Areas

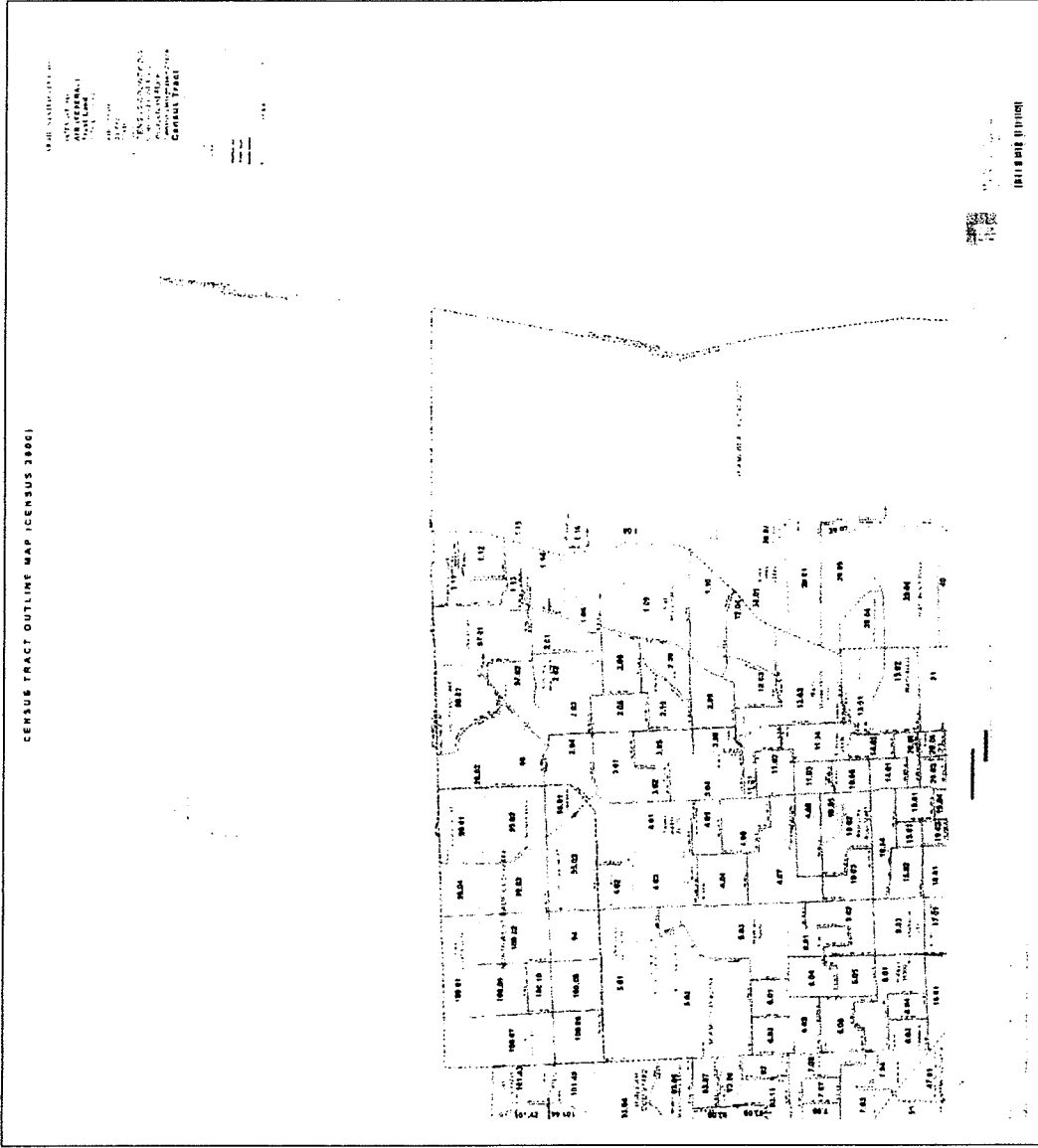
Conservation Lands

FIGURE

3-2

**ENVIRONMENTAL IMPACT MAP
CITY OF NORTH MIAMI BEACH, FL**

CENSUS TRACT OUTLINE MAP (CENSUS 2000)



gai consultants
transforming ideas into reality
301 E. Pine Street - Suite 1020
Orlando, Florida 32801
Phone 407.453.8398 Fax 407.843.1070

CENSUS MAP

CITY OF NORTH MIAMI BEACH

SECTION 4

SELECTED ALTERNATIVE

Based on the present value cost analysis for each option, it appears that Rehabilitation (Alternative 2) is the most cost efficient option that effectively protects the system and the local environment. This cost justification is shown in **Section 2** and the Environmental justification is shown in **Section 3**.

Additionally, rehabilitation (Alternative 2) of the system is able to be mobilized faster than replacement (Alternative 3) because significant street closures are not required. This is significant because it greatly reduces the impact of the project on the residents of the project area. It also allows for less disruption of existing land and does not require any new land acquisition. Alternative 1 (No Action) does not provide proactive protection of the health of the System or the residents served by the City's System. Alternative 1 (No Action) could potentially involve higher treatment requirements, additional system failures, additional regulatory costs, and negative impacts on the environment. Because of the Miami Dade DERM requirements, Alternative 1 (No Action) is not viable.

4.1 PROJECT DESCRIPTION

The City service area is an urban residential and commercial area. The System services 7,155 service connections. The System generally includes (*Annual Report, ES-2*):

- 79 miles of pipe,
- 1,600 manholes, and
- 33 pump stations.

Existing Conditions:

To date, Phase I and II of the City's I & I program has completed the following (*Annual Report, ES-2*):

- Televising 45% of the System's piping
- Smoke Testing 62% of the System's piping,
- Inspecting 100% of the System's manholes,
- Installing manhole inserts in 100% of the System's manholes,
- Installing pipe liner in 29% of the System's piping, and

- Replacing 2% of the System's piping.

As shown in the Annual Report, the existing I & I program has decreased average monthly flows. To prevent further degradation of the system and maintain the current flows and current System standards, continuous improvements are required as outlined in the Annual Report.

Proposed Project

In order to complete the current phases of the Miami-Dade DERM required I & I program, the improvements outlined in **Schedule 1-1** are required. The priority for these items is:

- Television inspection to identify main line repairs
- Main line repair
- Smoke testing to identify service line repairs
- Service line repair
- Manhole repair

4.2 DETAILS OF COST ESTIMATE

The total cost with 10% contingency for the proposed project is approximately \$4.2 million. The Engineers Cost Estimate is included for Alternative 2 (Rehabilitation) is shown in **Schedule 4-1**.

Schedule 4-1
Alternative 2: Rehabilitation Detailed Cost Requirements
City of North Miami Beach
II SRF Planning Report

System Description	Televising (ft)		Smoke Testing (ft)		Pipe Lining (ft)		Manhole Coating/Repair ⁽²⁾			
	Pipe (ft)	Length (ft)	Unit Cost	Extended	Length (ft) ⁽¹⁾	Unit Cost	Extended	EA	Unit Cost	Extended
1 Myrtle Grove #1	30,445		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
2 Myrtle Grove #2	33,356		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
3 Stonybrook	15,046	15,046	\$4.64	\$69,839		\$1.43	\$0		\$26.88	\$0
4 Master	47,219		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
5 Scott Lake #4	22,056		\$4.64	\$0	22,056	\$1.43	\$31,540		\$26.88	\$0
6 Scott Lake #8	13,136		\$4.64	\$0	13,136	\$1.43	\$18,784		\$26.88	\$0
7 Sunshine #1	10,846		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
8 Sunshine #2	14,571		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
9 Cravero	11,056		\$4.64	\$0	11,056	\$1.43	\$15,810		\$26.88	\$0
10 Scott Lake #1	18,535		\$4.64	\$0	18,535	\$1.43	\$26,505		\$26.88	\$0
11 Miami Lanes	2,400	2,400	\$4.64	\$11,140	2,400	\$1.43	\$3,432		\$26.88	\$0
12 Golden Glades	11,879		\$4.64	\$0	11,879	\$1.43	\$16,987		\$26.88	\$0
13 MID #1	15,096		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
14 MID #2	5,748		\$4.64	\$0	5,748	\$1.43	\$8,220		\$26.88	\$0
15 Miami Garden Villas	5,435		\$4.64	\$0	11,453	\$1.43	\$16,378		\$26.88	\$0
16 Star Lake	11,453		\$4.64	\$0	8,553	\$1.43	\$12,231		\$26.88	\$0
17 Sierra Mirada	8,553		\$4.64	\$0	15,100	\$1.43	\$21,593		\$26.88	\$0
18 Honey Hill	15,100		\$4.64	\$0	22,567	\$1.43	\$32,271		\$26.88	\$0
19 Norwood	22,567		\$4.64	\$0	28,360	\$1.43	\$40,555		\$26.88	\$0
20 Palm Land	28,360		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
21 Windwood	12,503		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
22 Bell Gardens	26,026	26,026	\$4.64	\$120,804		\$1.43	\$0		\$26.88	\$0
23 Hawco	2,014	2,014	\$4.64	\$9,348	2,014	\$1.43	\$2,880		\$26.88	\$0
24 PPS	4,493	4,493	\$4.64	\$20,855	4,493	\$1.43	\$6,425		\$26.88	\$0
25 KOA	2,967	2,967	\$4.64	\$13,772	2,967	\$1.43	\$4,243		\$26.88	\$0
26 Lunias	3,154	3,154	\$4.64	\$14,640	3,154	\$1.43	\$4,510		\$26.88	\$0
27 Medical Plaza	2,111		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
28 KFC	1,151	1,151	\$4.64	\$5,343		\$1.43	\$0		\$26.88	\$0
29 Houston's	800	800	\$4.64	\$3,713		\$1.43	\$0		\$26.88	\$0
30 Monticello	2,640	2,640	\$4.64	\$12,254	2,640	\$1.43	\$3,775		\$26.88	\$0
31 DOT #1	1,355	1,355	\$4.64	\$6,289	1,355	\$1.43	\$1,938		\$26.88	\$0
32 DOT #2	436	436	\$4.64	\$2,024	436	\$1.43	\$623		\$26.88	\$0
33 Highland Village	15,723		\$4.64	\$0		\$1.43	\$0		\$26.88	\$0
Total	418,230	62,482		\$290,021	187,902		\$266,700	78,325	\$2,104,990	\$167,720

Notes:
(1) This length is assumed to be 64% of the system which has not been lined yet.
(2) This assumed one (1) point repair and one (1) manhole repair per 1,000 feet with a minimum of one repair per segment of televised pipe.
(3) From Florida Administrative Code 62-503.300-5 (c).
The maximum allowance shall be established as follows: (25.00 - Natural Logarithm of construction costs) times the construction costs divided by 100.
(4) From Florida Administrative Code 62-503.300-4 (a).
At the time of loan approval and when actual costs are unknown, project contingency shall not exceed 10% of the estimated sum of the construction costs and costs for allowable land.

Schedule 4-1
 Alternative 2: Rehabilitation Detailed Cost Requirements
 City of North Miami Beach
 II SRF Planning Report

System Description	Pipe (ft)		Point Repairs ⁽²⁾		Subtotal Cost	Maintenance of Traffic (10%)	Mobilization (5%)	Max Allowance ⁽³⁾	Contingency ⁽⁴⁾	Total
	EA	0	Unit Cost	Extended						
1 Myrtle Grove #1	30,445	0	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2 Myrtle Grove #2	33,356	0	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Stoneybrook	15,046	16	\$2,100	\$33,600	\$141,775	\$14,177	\$7,089	\$21,192	\$16,304	\$200,537
4 Master	47,219	0	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5 Scott Lake #4	22,056	0	\$2,100	\$0	\$31,540	\$3,154	\$1,577	\$5,260	\$3,627	\$45,158
6 Scott Lake #8	13,136	0	\$2,100	\$0	\$244,331	\$24,433	\$12,217	\$34,993	\$28,098	\$344,073
7 Sunshine #1	10,846	0	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8 Sunshine #2	14,571	0	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9 Cravero	11,056	0	\$2,100	\$0	\$205,643	\$20,564	\$10,282	\$29,860	\$23,649	\$289,999
10 Scott Lake #1	18,535	0	\$2,100	\$0	\$26,505	\$2,651	\$1,325	\$4,473	\$3,048	\$38,002
11 Miami Lanes	2,400	3	\$2,100	\$6,300	\$69,268	\$6,927	\$3,463	\$10,925	\$7,966	\$98,549
12 Golden Glades	11,879	0	\$2,100	\$0	\$16,987	\$1,699	\$849	\$2,954	\$1,954	\$24,442
13 MID #1	15,096	0	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14 MID #2	5,748	0	\$2,100	\$0	\$8,220	\$822	\$411	\$1,498	\$945	\$11,896
15 Miami Garden Villas	5,435	0	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16 Star Lake	11,453	0	\$2,100	\$0	\$219,027	\$21,303	\$10,651	\$30,846	\$24,498	\$300,325
17 Sierra Mirada	8,563	0	\$2,100	\$0	\$12,231	\$1,223	\$612	\$2,173	\$1,407	\$17,645
18 Honey Hill	15,100	0	\$2,100	\$0	\$21,593	\$2,159	\$1,080	\$3,695	\$2,483	\$31,010
19 Nonwood	22,567	0	\$2,100	\$0	\$419,749	\$41,975	\$20,987	\$57,505	\$48,271	\$588,488
20 Palm Land	28,360	0	\$2,100	\$0	\$527,500	\$52,750	\$26,375	\$70,880	\$60,662	\$738,168
21 Windwood	12,503	0	\$2,100	\$0	\$214,678	\$21,468	\$10,734	\$31,066	\$24,888	\$302,634
22 Bell Gardens	26,026	27	\$2,100	\$56,700	\$242,196	\$24,220	\$12,110	\$34,712	\$27,853	\$341,090
23 Hawco	2,014	3	\$2,100	\$6,300	\$60,297	\$6,030	\$3,015	\$9,606	\$6,934	\$85,882
24 PPS	4,493	5	\$2,100	\$10,500	\$126,905	\$12,691	\$6,345	\$19,131	\$14,594	\$179,667
25 KOA	2,967	3	\$2,100	\$6,300	\$82,446	\$8,245	\$4,122	\$12,838	\$9,481	\$117,133
26 Lurias	3,154	4	\$2,100	\$8,400	\$91,289	\$9,129	\$4,564	\$14,108	\$10,498	\$129,588
27 Medical Plaza	2,111	0	\$2,100	\$0	\$36,246	\$3,625	\$1,812	\$5,987	\$4,168	\$51,838
28 KFC	1,151	2	\$2,100	\$4,200	\$34,097	\$3,410	\$1,705	\$5,656	\$3,921	\$48,789
29 Houston's	800	1	\$2,100	\$2,100	\$21,945	\$2,195	\$1,097	\$3,751	\$2,524	\$31,512
30 Monticello	2,640	3	\$2,100	\$6,300	\$74,846	\$7,485	\$3,742	\$11,738	\$8,607	\$106,419
31 DOT #1	1,355	2	\$2,100	\$4,200	\$40,485	\$4,048	\$2,024	\$6,635	\$4,656	\$57,848
32 DOT #2	436	1	\$2,100	\$2,100	\$14,629	\$1,463	\$731	\$2,569	\$1,682	\$21,075
33 Highland Village	15,723	0	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	418,230	70		\$147,000	\$2,978,431	\$297,843	\$148,922	\$434,050	\$342,520	\$4,201,765

SECTION 5
PUBLIC PARTICIPATION

The City has provided the public the opportunity to hear about the project components and financial impacts on multiple occasions. The staff has remained well informed and guided in the decision making process. The following dates represent when the public had the opportunity to discuss the project:

- **2009** – Project was introduced at City Council meeting. The necessity for the project was explained to the public, rough cost estimates were provided; and conceptual ideas were presented for comment. City Council made authorization to move forward with planning of program.
- **2009** – City submitted a request for inclusion for the project that was not accepted due to lack of planning.
- **2009** – City hired AECOM to complete the Annual Report on Sewer Collection System which has been made available to the public that explains the I & I program.

March 11, 2010 – Official Public Hearing to adopt the Planning Document was held at the Public Utilities Commission. The public was officially noticed in a publication with a circulation of over 50,000 individuals. Resolution adopting the plan is to follow at a later Council Meeting. **Submittal of the Meeting Minutes, Agenda, and Advertisement will be submitted following the Resolution Adoption.**

SECTION 6
FINANCIAL FEASIBILITY

The City has prepared a Capital Financing Plan, found in **Appendix D**, to demonstrate the capabilities to meet the coverage requirements associated with the projected debt service requirements and the SRF loan.

Appendix D includes the following documents:

- Capital Financing Plan
- Ordinance No. 89-13, and 2007 ordinance adopting rates
- Most Current Adopted rates for FY 2010
- Sources and information used for calculating previous FY Results
- Pro forma projections and assumptions previously used for Highland Village SRF loan.

SECTION 7
IMPLEMENTATION SCHEDULE

7.1 IMPLEMENTATION SCHEDULE

Schedule 7-1
Implementation Schedule
City of North Miami Beach
I & I SRF Planning Report

Activity	Date
Hold Public Hearing	March 2010
Submit Request for Inclusion to FDEP Priority List	April 2010
Submit Facilities Plan to FDEP	April 2010
Publication of FDEP's Environmental Information Documents in Florida Administrative Weekly	May 2010
Submit Plans and Specification to FDEP	May 2010
Hearing to add the project to the fundable portion of the priority list	August 2010
Sign SRF Loan Agreement	October 2010
Advertise for Bids	November 2010
Open Construction Bids	December 2010
Award Contracts	January 2011
Start Project Construction	February 2011
End Construction	February 2012
Close Out Project	July 2012
Begin SRF Loan Repayment to FDEP	January 2013

7.2 ADOPTING RESOLUTION

The Adopting Resolution will be submitted after approval at a City Council meeting.

7.3 STATE CLEARINGHOUSE REVIEW

Even though the City is seeking a categorical exclusion as stated in **Section 3**, the City will be submitting the planning document to the State Clearinghouse for review.

APPENDIX A – References

Appendix A
References

Existing Sewer Evaluation and Rehabilitation. Existing Sewer Evaluation and Rehabilitation Task Force of the Water Environment Federation Manual of Practice No.FD-6/ American Society of Civil Engineers No.62, Environmental and Water Resources Institute. 2009 ed. McGraw Hill: New York. 2009 ed. WEF Press: Alexandria, Virginia. 2009 ed. ASCE/EWRI: Reston Virginia.

City of North Miami Beach Annual Report for Sewer System Evaluation and Rehabilitation Work. 2009.

APPENDIX B – Annual Report for Sewer System
Evaluation and Rehabilitation Work

AECOM

North Miami Beach

Wastewater System 2009 Annual Report



January 2010

Submitted by:
AECOM
(formerly Metcalf & Eddy)
13450 West Sunrise Blvd.
Suite 200
Sunrise, Florida 33323
T 954 -745 -7200
F 954 -945 -7299
www.aecom.com

**2009 Annual Report for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida**

Cycle II

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1-1
1.1 Objective	1-1
1.2 Regulatory Context	1-1
1.3 Baseline Study	1-2
2.0 EVALUATION WORK COMPLETED THROUGH 2009.....	2-1
2.1 Television Inspection.....	2-1
2.2 Smoke Testing	2-3
2.3 Manhole Inspection	2-4
2.4 Sanitary Sewer Evaluation Survey Tasks	2-6
2.5 Sewer System Study and Report Preparation.....	2-7
2.6 Engineering Design.....	2-8
3.0 REHABILITATION WORK COMPLETED THROUGH 2009.....	3-1
3.1 Pipe Lining	3-1
3.2 Pipe Replacement and Point Repair	3-2
3.3 Manhole Insert Installation and Repair.....	3-3
3.4 Pump Station Upgrading	3-4
3.5 Flow Monitoring.....	3-5
4.0 EVALUATION WORK PROJECTED FOR 2009.....	4-1
4.1 Television Inspection.....	4-1
4.2 Smoke Testing	4-1
4.3 Manhole Inspection	4-1
4.4 Sewer System Study and Report Preparation.....	4-1
4.5 Engineering Design.....	4-2
4.6 Flow Monitoring.....	4-2
5.0 REHABILITATION WORK PROJECTED FOR 2009.....	5-1
5.1 Pipe Lining	5-1
5.2 Pipe Replacement and Repair	5-1
5.3 Pump Station Upgrading	5-1
6.0 SUMMARY AND CONCLUSIONS.....	6-1
6.1 Completed Work	6-1
6.2 Projected Work.....	6-2

6.3	Infiltration/Inflow Reduction Achieved	6-2
6.4	Engineering Assessment	6-19
6.5	Conclusions.....	6-19
7.0	REFERENCES	7-1

LIST OF TABLES

Table 1.1	Overview of Sewer System Evaluation and Rehabilitation Work Cycle I and Cycle II	1-3
Table 1.2	Overview of Sewer System Evaluation and Rehabilitation Work Cycle II.....	1-4
Table 1.3	Overview of Sewer System Evaluation and Rehabilitation Work Cycle I.....	1-5
Table 2.1	Television Inspection through 2009 - Cycle II	2-1
Table 2.2	Television Inspection through 2002 - Cycle I	2-2
Table 2.3	Smoke Testing through 2009 - Cycle II.....	2-3
Table 2.4	Smoke Testing through 2002- Cycle I.....	2-4
Table 3.1	Pipe Lining through 2009 - Cycle I & II.....	3-1
Table 3.2	Pipe Replacement and Repair through 2009- Cycle I & II.....	3-3
Table 3.3	CNMB Pump Station with Telemetry.....	3-4
Table 3.4	CNMB Collection Basins in Descending Order of gpdim Values	3-5
Table 4.1	Basins that Require Flow Monitoring before 2012	4-3
Table 6.1	Pump Station Average Run Times, December 1996 through December 2009.....	6-5

LIST OF FIGURES

Figure 6.1	Long-Term Flow Trend of Meter 22 (Cycle I & II).....	6-3
Figure 6.2	Pump Station NAPOT Projections Cycle I & II	6-4
Figure 6.3	Total Annual Rainfall.....	6-18

LIST OF APPENDICES

Appendix A	Wastewater Collection System Overview
Appendix B	Lined Pipe Segments
Appendix C	Fold-and-Formed Liner Product Data
Appendix D	Repair Summary Table
Appendix E	Miami Dade DERM Guidelines for the Submittal of the SSES

LIST OF ACRONYMS

CNMB	City of North Miami Beach
DERM	Miami-Dade County Department of Environmental Resources Management
EPA	United States Environmental Protection Agency
I/I	Infiltration/Inflow
MDWASD	Miami-Dade Water and Sewer Department
SCADA	System Control and Data Acquisition
SSES	Sanitary Sewer Evaluation Survey

**2009 Annual Report
for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida
Cycle II**

EXECUTIVE SUMMARY

- The City of North Miami Beach (CNMB) sanitary sewer collection system includes approximately 79 miles of pipe and 1,600 manholes. The system is divided into 33 collection areas each served by a pump station. All of the CNMB wastewater is eventually discharged into the Miami-Dade Water and Sewer Department force main transmission system.
- The CNMB has conducted infiltration and inflow (I/I) reduction work for many years as part of an overall mission to properly maintain the utility infrastructure and pursue a proactive and cost-effective expenditure of resources. Since 1997, the CNMB approach to I/I reduction has acknowledged formal actions by Miami-Dade County to require that all publicly and privately owned or operated sanitary sewer collection systems are evaluated to identify and reduce excessive I/I.
- Section 24-13.1(A)(6)(d) of the Miami-Dade County Code requires submittal to the Miami-Dade County Department of Environmental Resources Management (DERM) Wastewater Section of an annual report to document completed sewer system evaluations and rehabilitation work, and to provide a schedule for proposed rehabilitation work (**Appendix E**).
- Through calendar year 2009 and in Cycle II, the 12th year of the CNMB program as it relates to Miami-Dade County Code Section 24-13.1(A)(1), CNMB completed the following work to evaluate and rehabilitate the wastewater collection system:
 - ◆ television inspection of approximately 45 percent of the total collection system ;
 - ◆ smoke testing of approximately 62 percent of the collection system ;
 - ◆ manhole inspection of 100 percent of the collection system;
 - ◆ sewer system study and report preparation including system-wide pump station evaluation, system-wide night flow analysis to identify I/I, a peak flow management study, completion of Phases III of a three-phase system-wide SSES based on the DERM guidelines dated February 23, 1999; and a Norwood-Oeffler Wellfield protection area evaluation dated December 19, 2003 based on DERM requirements;

- ◆ engineering inspection and design projects including 13 pump station rehabilitation designs and one new pump station design;
 - ◆ pipe lining of approximately 123,106 feet of the collection system;
 - ◆ pipe replacement of approximately 6,987 feet of the collection system;
 - ◆ service line repairs at 369 locations;
 - ◆ manhole insert installation of 100 percent of system manholes;
 - ◆ rehabilitation and upgrade work of 19 pump stations, including telemetry installation; and,
 - ◆ telemetry installation of 19 additional pump stations.
- Calendar year 2010, the thirteenth year of the CNMB program, is projected to include the following work to evaluate and rehabilitate the wastewater collection system:
 - ◆ Installation of SCADA system in remaining pump stations
 - ◆ Schedule for television inspection and flow monitoring is undetermined at the present time. Smoke testing for 2010 was initiated in January 2010.
 - ◆ Pipe lining, pipe replacement and service line repair will be performed on an as-needed, priority basis and depending on the television inspections, smoke testing and possible flow monitoring conducted in 2010

The actual work completed during 2010 may be somewhat more or less than projected, depending on field conditions and potential adjustments to resource allocation and repair priorities.

- The primary component tasks of the CNMB I/I reduction program are listed below in order of priority, to reflect the objective of identifying and reducing the most prominent I/I flows before proceeding to lesser I/I flows.
 - ◆ Conduct television inspection to identify main line repairs
 - ◆ Perform main line repairs
 - ◆ Conduct smoke testing to identify service line repairs and inflow sources
 - ◆ Perform service line repairs (require owners to repair privately owned portions)
 - ◆ Perform manhole repairs

- The overall trend in wastewater flow for the collection system, as expressed through metered flow and total pump station run times, indicates a progressive reduction in the total volume of all flows in the system.
- Based on work performed through 2009 and projected for 2010, the City is achieving substantial progress toward completing evaluation of the sanitary sewer collection system within the time period required by the Miami-Dade County Code.
- The Miami-Dade County Code requires that rehabilitation work to correct deficiencies identified during the sewer system evaluation be completed within four years after completion of the evaluation work. CNMB is exceeding this requirement by promptly implementing the identified repairs to achieve immediate I/I reductions.
- The following table summarizes the collection system evaluation and rehabilitation work completed through 2009 and projected for 2010. Work projected for 2010 will be assigned based on available funding.

Evaluation & Rehabilitation Work Cycle II	November 2002 through 2009 (completed)		2010 (projected)	
	Quantity	Percent of system total	Quantity	Percent of system total
<i>Evaluation work</i>				
Television inspection (miles)	36	45	To be determined	To be determined
Smoke testing (miles)	49	62	To be determined	To be determined
Manhole inspection (manholes)	1,642	100	Note 1	-
<i>Rehabilitation work</i>				
Pipe lining (miles)	23	29	To be determined	To be determined
Pipe replacement (feet)	1.32	2	To be determined	To be determined
Service connection repair (locations)	330	-	To be determined	To be determined
Manhole insert installation (manholes)	1,642	100	-	-

Notes:
 (1) Manhole re-inspection to be performed concurrent to television inspection.

**2009 Annual Report for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida**

CYCLE II

1.0 INTRODUCTION

1.1 Objective

The objective of this report is to document progress achieved under the City of North Miami Beach (CNMB) program to identify and reduce infiltration and inflow (I/I) in the sanitary sewer collection system. This report documents work completed through calendar year 2009, and provides a projection concerning the scope and nature of future work. The sequence and organization of these topics are as listed below.

- Section 2 – Evaluation Work Completed through 2009
- Section 3 – Rehabilitation Work Completed through 2009
- Section 4 – Evaluation Work Projected for 2010
- Section 5 – Rehabilitation Work Projected for 2010
- Section 6 – Summary and Conclusions

1.2 Regulatory Context

The CNMB has conducted I/I reduction work for many years as part of an overall mission to properly maintain the utility infrastructure and pursue a proactive and cost-effective expenditure of resources. Since 1997, the CNMB approach to I/I reduction has acknowledged formal actions by Miami-Dade County to require that all publicly and privately owned or operated sanitary sewer collection systems are evaluated to identify and reduce excessive I/I. Section 24-13.1(A)(1) of the Miami-Dade County Code requires that sanitary sewer collection systems be evaluated to identify and reduce excessive I/I, and that such evaluation address the total length of gravity sewer lines and associated manholes during the first five-year period of the program and every ten-year period thereafter. Section 24-13.1(A)(6)(d) of the Miami-Dade County Code requires submittal to the Miami-Dade County Department of Environmental Resources Management (DERM) Wastewater Section of an annual report to document completed sewer system evaluation and rehabilitation work, and to provide a schedule for proposed rehabilitation work.

Calendar year 2009 is the 12th year for which an annual report on I/I reduction has been provided to DERM by the CNMB. The first annual report ever submitted to DERM was for calendar year 1998.

1.3 Baseline Study

The CNMB sanitary sewer collection system includes approximately 79 miles of pipe and 1,600 manholes. The system consists of 33 basins each served by a pump station. For the purposes of this report, the 33 basins are referred to as collection *areas* or collection *basins*, and the overall system is referred to as the collection *system*. All of the CNMB wastewater is eventually discharged into the Miami-Dade Water and Sewer Department (MDWASD) force main transmission system.

Between 1994 and 1996, the previous consultant conducted several studies on behalf of CNMB to accomplish the following primary objectives:

- (1) Evaluate pump stations with run times exceeding the United States Environmental Protection Agency (EPA) nominal average pump operating time of ten hours per day; and,
- (2) Categorize I/I based on night flow analysis.

This work was summarized in a document titled *Wastewater Collection System Evaluation* (November 1996). This report presents findings and recommendations associated with the pump station evaluations, and additionally recommends the implementation of a system-wide I/I reduction program based on the results of night flow analysis. The report concludes that as much as 53 percent of wastewater flow could be attributed to I/I, and prioritizes collection basins for I/I reduction.

The November 1996 report was previously referenced as a baseline study for the present I/I reduction program, and for several years the CNMB I/I reduction work reflected the 1996 report findings as continuously updated by the most recent available information regarding actual field conditions. More recently, as described in **Section 2** of this report, the CNMB completed Phases I, II, and III of a system-wide sanitary sewer evaluation survey (SSES) based on the DERM guidelines dated February 23, 1999. Phase III of the SSES included the implementation of the rehabilitation plan specified in the Phase I and II.

For Cycle II of the SSES the City of North Miami Beach will be following the second set of guidelines titled *Guidelines for the Submittal of the Second Cycle Sanitary Sewer Evaluation Survey (SSES) Phase I, II, III* dated July 2007, issued by DERM Wastewater Section. While changing field conditions will always require a degree of flexibility in the implementation of any sewer rehabilitation plan, the findings of the system-wide SSES are now guiding the ongoing repair program.

Table 1.1 shows the CNMB collection system and the status of evaluation and rehabilitation work conducted through Cycle I and Cycle II. **Table 1.2** provides an overview of the status of evaluation and rehabilitation work for Cycle II. Sections 2 through Section 5 of this report provide detail concerning the completed and projected work depicted in **Table 1.2**. **Table 1.3** shows the summary of evaluation and rehabilitation work completed through 2002 for Cycle I.

Table 1.1 - Overview of Sewer System Evaluation and Rehabilitation Work CYCLE I and CYCLE II

Pump Station Collection Area	Length (feet)	Length (miles)	Percent of System	Evaluation Work					Rehabilitation Work		
				Television	Smoke Test	Manhole Inspection	Pump Station Assessment ⁽²⁾	Engineering Design	Pipe Liner	Replacement/Spot Repairs ⁽⁴⁾	Manhole Insert Installation
1 Myrtle Grove # 1	30,415	5.77	7.28%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
2 Myrtle Grove # 2	33,356	6.32	7.98%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
3 Stonybrook	15,046	2.85	3.60%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
4 Master	47,219	8.94	11.29%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
5 Scott Lake # 4	22,056	4.18	5.27%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Completed
6 Scott Lake # 8	13,136	2.49	3.14%	Completed	Completed	Completed	Completed	Completed	Priority Comp. ⁽⁴⁾	Completed	Telemetry Pla. ⁽⁶⁾
7 Sunshine # 1	10,846	2.05	2.59%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
8 Sunshine # 2	14,571	2.76	3.48%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
9 Cravero	11,056	2.09	2.64%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
10 Scott Lake # 1	18,535	3.51	4.43%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
11 Miami Lanes	2,400	0.45	0.57%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
12 Golden Glades	11,879	2.25	2.84%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
13 M.I.D. # 1	15,096	2.86	3.61%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
14 M.I.D. # 2	5,748	1.09	1.37%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Completed
15 Miami Garden Villas	5,435	1.03	1.30%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Comp. ⁽⁵⁾
16 Star Lake	11,463	2.17	2.74%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
17 Sierra Mirada	8,563	1.62	2.05%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
18 Honey Hill	15,100	2.86	3.61%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed
19 Nonwood	22,567	4.27	5.40%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
20 Palmland	28,360	5.37	6.78%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
21 Windwood	12,503	2.37	2.99%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
22 Bell Gardens	26,026	4.93	6.22%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Telemetry Comp. ⁽⁵⁾
23 Hawco	2,014	0.38	0.48%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
24 P.P.S.	4,493	0.85	1.07%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Comp. ⁽⁵⁾
25 K.O.A	2,967	0.56	0.71%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Comp. ⁽⁵⁾
26 Lurias	3,154	0.60	0.75%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Comp. ⁽⁵⁾
27 Medical Plaza	2,111	0.40	0.50%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Comp. ⁽⁵⁾
28 K.F.C.	1,151	0.22	0.28%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
29 Houston's	800	0.15	0.19%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Pla. ⁽⁶⁾
30 Monticello	2,640	0.50	0.63%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Telemetry Comp. ⁽⁵⁾
31 DOT #1	1,355	0.26	0.32%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Completed
32 DOT #2	436	0.08	0.10%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Completed
33 Highland Village	15,723	2.98	3.76%	Completed	Completed	Completed	Completed	Completed	Ongoing	Completed	Completed
TOTAL	418,230	79.21	100.00%								

Notes:
 (1) Pipe replacement and point repair are based on television inspection and smoke testing results
 (2) Pump Station Operations Assessment included field evaluation of station condition and operating characteristics; night flow analysis; and, as required, identification of pump and force main improvements to reduce operating hours to less than 10 hours per day
 (3) Pump station rehabilitation/upgrade design, including telemetry
 (4) Priority Comp. = high priority repair addressed but overall evaluation/rehabilitation not completed
 (5) Telemetry Comp. = telemetry only completed, no general upgrade
 (6) Telemetry Pla. = telemetry installation planned

Table 1.2 - Overview of Sewer System Evaluation and Rehabilitation Work CYCLE II

Pump Station Collection Area	Length (feet)	Length (miles)	Percent of System	Televise ⁽⁹⁾	Smoke Test	Manhole Inspection	Pump Station Operations Assessment ⁽³⁾	Engineering Design	Rehabilitation Work			
									Pipe Liner	Replacement/Spot Repairs ⁽¹⁾	Manhole Insert Installation	Pump Station Upgrade
1 Myrtle Grove # 1	30,445	5.77	7.28%	Completed ⁽¹¹⁾	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
2 Myrtle Grove # 2	33,356	6.32	7.98%		Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
3 Stoneybrook	15,046	2.85	3.60%	Completed ⁽¹¹⁾	Completed	Completed ⁽⁸⁾	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
4 Master	47,219	8.94	11.29%	Completed	Completed	Completed ⁽⁸⁾	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
5 Scott Lake # 4	22,056	4.18	5.27%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
6 Scott Lake # 8	13,136	2.49	3.14%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
7 Sunshine # 1	10,846	2.05	2.59%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
8 Sunshine # 2	14,571	2.76	3.48%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
9 Cravero	11,056	2.09	2.64%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
10 Scott Lake # 1	18,535	3.51	4.43%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
11 Miami Lanes	2,400	0.45	0.57%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
12 Golden Glades	11,879	2.25	2.84%	Completed ⁽¹¹⁾	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
13 M.I.D. # 1	15,096	2.86	3.61%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
14 M.I.D. # 2	5,748	1.09	1.37%	Completed	Completed	Completed ⁽⁹⁾	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
15 Miami Garden Villas	5,435	1.03	1.30%	Completed	Completed	Completed ⁽⁸⁾	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
16 Star Lake	11,453	2.17	2.74%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
17 Sierra Mirada	8,553	1.62	2.05%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
18 Honey Hill	15,100	2.86	3.61%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
19 Norwood	22,567	4.27	5.40%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
20 Palmland	28,360	5.37	6.78%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
21 Windwood	12,503	2.37	2.99%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
22 Bell Gardens	26,026	4.93	6.22%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
23 Hawco	2,014	0.38	0.48%	Completed	Completed	Completed ⁽¹⁰⁾	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
24 P.P.S.	4,493	0.85	1.07%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
25 K.O.A	2,987	0.56	0.71%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
26 Lurias	3,154	0.60	0.75%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
27 Medical Plaza	2,111	0.40	0.50%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
28 K.F.C.	1,151	0.22	0.28%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
29 Houston's	800	0.15	0.19%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
30 Monticello	2,640	0.50	0.63%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
31 DOT #1	1,355	0.26	0.32%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
32 DOT #2	436	0.08	0.10%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
33 Highland Village ⁽⁸⁾	15,723	2.98	3.76%	Completed ⁽⁸⁾	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Completed	Completed	Completed
TOTAL	418,230	79.21	100.00%									

- Notes:**
- (1) Pipe replacement and point repair are based on television inspection and smoke testing results
 - (2) Pump Station Operations Assessment included field evaluation of station condition and operating characteristics; night flow analysis; and, as required, identification of pump and force main improvements to reduce operating hours to less than 10 hours per day
 - (3) Pump station rehabilitation/upgrade design, including telemetry
 - (3*) Palmland/Norwood Pump Station Conveyance Improvements Design and construction (Master FS) was completed in 2009
 - (4) Televise was done exclusively in the Norwood Wellfield Protection Area in 2008 (specifically Norwood, Honey Hill and Sierra Mirada catchment areas)
 - (5) Telemetry Comp. = telemetry only completed, no general upgrade
 - (6) Telemetry Pla. = telemetry installation planned
 - (7) Pump station No. 30, "Monticello", design and construction completed in 2002
 - (8) Highland Village total catchment length includes three (3) future pipe segments
 - (9) General Annual Inspection was completed in 2009
 - (10) Manhole Survey for insert was conducted during annual inspection efforts in 2009
 - (11) Parts of the basin was televise in 2009
 - (12) The design for the rehabilitation of Hawco (FS 23) and Miami Gardens (FS 15) has started in 2009

Table 1.3 - Overview of Sewer System Evaluation and Rehabilitation Work Cycle I

Work Completed through 2002 ⁽¹⁾												
Pump Station Collection Area	Length (feet)	Length (mile)	Percent of System	Televise	Smoke Test	Manhole Inspection	Pump Station Operations Assessment ⁽²⁾	Engineering Design	Rehabilitation Work			
									Pipe Liner	Pipe Replacement/Spot Repairs ⁽¹⁾	Manhole Insert	Pump Station Upgrade
1 Myrtle Grove # 1	30,445	5.77	7.65%	Completed	Completed	Completed	Completed	Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Scheduled
2 Myrtle Grove # 2	33,356	6.32	8.38%	Completed	Completed	Completed	Completed	Ongoing	Ongoing	Priority Comp.	Completed	Scheduled
3 Stoneybrook	15,046	2.85	3.78%					Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Telemetry Pla.
4 Master	47,219	8.94	11.86%	Initiated				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Completed
5 Scott Lake # 4	22,056	4.18	5.54%	Planned				Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
6 Scott Lake # 8	13,136	2.49	3.30%	Planned				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Telemetry Pla.
7 Sunshine # 1	10,846	2.05	2.72%	Completed				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Completed
8 Sunshine # 2	14,571	2.76	3.66%	Completed				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Completed
9 Cravero	11,056	2.09	2.78%	Planned				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Telemetry Pla.
10 Scott Lake # 1	18,535	3.51	4.66%	Completed				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Completed
11 Miami Lanes	2,400	0.45	0.60%					Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Telemetry Pla.
12 Golden Glades	9,295	1.76	2.33%	Completed				Completed ⁽³⁾	Ongoing		Completed	Completed
13 M.I.D. # 1	15,096	2.86	3.79%	Completed				Completed ⁽³⁾	Ongoing		Completed	Completed
14 M.I.D. # 2	5,748	1.09	1.44%	Completed				Completed ⁽³⁾	Ongoing		Completed	Completed
15 Miami Garden Villas	5,435	1.03	1.37%	Completed				Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
16 Star Lake	11,453	2.17	2.88%	Completed				Completed ⁽³⁾	Ongoing		Completed	Completed
17 Sierra Miranda	8,553	1.62	2.15%	Completed				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Completed
18 Honey Hill	15,100	2.86	3.79%	Completed				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Completed
19 Norwood	22,567	4.27	5.67%	Scheduled				Completed ⁽³⁾	Ongoing	Priority Comp.	Completed	Completed
20 Palmland	28,360	5.37	7.12%	Completed				Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
21 Windwood	12,503	2.37	3.14%	Completed				Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
22 Bell Gardens	26,028	4.93	6.54%					Ongoing	Ongoing	Priority Comp.	Completed	Scheduled
23 Hawco	2,014	0.38	0.51%					Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
24 P.P.S.	4,493	0.85	1.13%					Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
25 K.O.A.	2,967	0.56	0.75%					Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
26 Lunias	3,154	0.60	0.79%					Completed	Ongoing	Priority Comp.	Completed	Telemetry Comp.
27 Medical Plaza	2,111	0.40	0.53%	Completed				Completed	Ongoing	Priority Comp.	Completed	Telemetry Comp.
28 K.F.C.	1,151	0.22	0.29%					Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
29 Houston's	800	0.15	0.20%					Completed	Ongoing	Priority Comp.	Completed	Telemetry Pla.
30 Monticello "not yet active"	2,640	0.50	0.66%					Completed ⁽⁶⁾			Completed	Completed
TOTAL	398,132	75.40	100.00%									

Notes:

- (1) Table includes work completed from July 1, 1992 through 2002
- (2) Pump Station Operations Assessment included field evaluation of station condition and operating characteristics; night flow analysis; and, as required, identification of pump and force main improvements to reduce operating hours to less than 10 hours per day
- (3) Pump station rehabilitation/upgrade design, including telemetry
- (4) Priority Comp. = high priority repair addressed but overall evaluation/rehabilitation not completed
- (5) Telemetry Comp. = telemetry only completed, no general upgrade
- (6) Telemetry Pla. = telemetry installation planned
- (7) Pump station No. 29, "Houston's," started up in December 1997
- (8) Smoke testing to be evaluated based on results of system-wide SSES
- (9) Pump station No. 30, "Monticello", design and construction completed in 2002

**2009 Annual Report for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida**

CYCLE II

2.0 EVALUATION WORK COMPLETED THROUGH 2009

The evaluation work completed through 2009 includes television inspection, manhole inspection, SSES tasks, sewer system study, report preparation, engineering design. This work is summarized in sequence below. This section includes all evaluation work conducted in Cycle II.

2.1 Television Inspection

CNMB has instituted a program of closed-circuit television inspection to evaluate the internal condition of collection system piping. After the interior of the line is cleaned to dislodge any grease and debris that might mask infiltration sources, a camera is pulled through the pipeline with cables and a video tape recording is made of the entire line segment. CNMB then initiates a careful review of the videotape to identify cracks, separated joints, leaking service connections, and other sources of I/I. Following the tape review, decisions are made concerning repair methods and priorities.

Since the beginning of Cycle II in November 2002 and through 2009, CNMB has performed television inspection on approximately 45 percent of the collection system. In 2009 some parts of the Myrtle Grove #1 (PS01), Master Basin (PS04) and M.I.D. # 1 (PS13) were televised. **Table 2.1** summarizes television inspection work done in Cycle II.

Approximately 2081.5 ft length of service laterals were also televised in Myrtle Grove #1 (PS01) in 2009. Detailed information is provided in **Appendix D**.

Table 2.1 - Television Inspection November 2002 through 2009 - CYCLE II					
<i>Pump Station Collection Area (Pump Station Number)</i>	<i>Start Date</i>	<i>Total Length of Collection Area (feet)</i>	<i>Total Length of Collection Area (miles)</i>	<i>Percent of Collection Area Televised</i>	<i>Percent of Total System Televised</i>
Cravero (PS09)	Feb-05	11,056	2.09	88	2.33%
Scott Lake # 4 (PS 5)	Feb-07	22,607	4.28	100	5.41%
Golden Glades (PS12)	Apr-07	11,876	2.25	100	2.84%
Master (PS04)	May-07	47,219	8.94	100	11.29%
M.I.D. # 2 (PS14)	Apr-07	3,918	0.74	100	0.94%
Miami Garden Villas (PS15)	Apr-07	4,518	0.86	100	1.08%
Scott Lake # 8 (PS 6)	May-07	12,710	2.41	100	3.04%
Myrtle Grove #1 (PS01)	Oct-07	30,370	5.75	100	7.26%

<i>Pump Station Collection Area (Pump Station Number)</i>	<i>Start Date</i>	<i>Total Length of Collection Area (feet)</i>	<i>Total Length of Collection Area (miles)</i>	<i>Percent of Collection Area Televised</i>	<i>Percent of Total System Televised</i>
Honey Hill (PS18)	Jan-08	15,100	2.86	100	3.61%
Norwood (PS19)	Jan-08	22,360	4.23	100	5.35%
Sierra Mirada (PS 17)	Feb-08	8,553	1.62	100	2.05%
TOTAL		190,287	36.04		45.12%

⁽¹⁾ An additional 320 ft of MID #1 (PS13), 316.40 ft of main in the Master Basin (PS04) and 381.65 ft of main in the Myrtle Grove#1 (PS01) were televised in 2009.

CNMB concentrated on thoroughly television inspecting Honey Hill, Norwood and Sierra Mirada basins for the Norwood-Oeffler Wellfield Inspection Plan and Rehabilitation Certification due at the end of 2008. **Appendix A** contains a figure depicting the overall system.

For Cycle I, the CNMB televised approximately 64 percent of the entire collection system. **Table 2.2** below summarizes the work done in Cycle I and not included in **Table 2.1** above.

<i>Pump Station Collection Area</i>	<i>Start Date</i>	<i>Total Length of Collection Area (feet)</i>	<i>Total Length of Collection Area (miles)</i>	<i>Percent of Collection Area Televised</i>	<i>Percent of Total System Televised</i>
Golden Glades (PS12)	Feb-00	9,295	1.76	100	2.33%
Honey Hill (PS18)	Jan-00	15,100	2.86	100	3.79%
M.I.D. # 1 (PS13)	Sep-99	15,096	2.86	100	3.79%
Master (PS01)	Sep-01	47,219	8.94	19	2.25%
Medical Plaza (PS27)	Jun-02	2,111	0.4	100	0.53%
Miami Garden Villas (PS15)	Apr-01	5,435	1.03	100	1.37%
M.I.D. # 2 (PS14)	May-02	5,748	1.09	100	1.44%
Myrtle Grove # 1 (PS01)	Jan-97	30,445	5.77	100	7.65%
Myrtle Grove # 2 (PS02)	Mar-97	33,356	6.32	100	8.38%
Norwood (PS19)	Oct-96	22,567	4.27	100	5.67%
Palmland (PS20)	Jan-01	28,360	5.37	100	7.12%
Scott Lake # 1 (PS10)	Mar-01	18,535	3.51	100	4.66%
Sierra Mirada (PS 17)	Jan-00	8,553	1.62	100	2.15%
Star Lake (PS16)	May-02	11,453	2.17	100	2.88%
Sunshine # 1 (PS07)	Dec-96	10,846	2.05	100	2.72%
Sunshine # 2 (PS08)	Oct-96	14,571	2.76	100	3.66%
Windwood (PS21)	Oct-00	12,503	2.37	100	3.14%
TOTAL		291,193	55.15		63.46%

2.2 Smoke Testing

CNMB conducts smoke testing to detect inflow sources such as roof leaders, area drains, abandoned building sewers, leaking service connections, and illegal connections. Smoke testing is preferably performed during dry weather and in low-wind conditions. Public notification, and coordination with fire and police departments, is performed in advance of the work. An air blower is used to force smoke into the pipes; sand bags and/or plugs are used to block the sewer sections to prevent smoke from escaping through manholes and adjacent sewer pipes; and, observers document smoke coming out of the ground, catch basins, and other sources as the test progresses. While television inspection focuses on the collection piping, smoke testing is predominantly useful with respect to service connections. CNMB reviews the smoke test results, identifies repair tasks, and identifies corrective actions for which property owners will be notified and held responsible to complete.

According to Second Cycle SSES Guidelines dated July 2007, smoke testing is now required in each basin regardless of compliance status. Since the beginning of Cycle II (November 12, 2002), the CNMB has smoke tested approximately 62% of the collection system which includes those basins characterized as having excess I/I. In 2008, CNMB has smoke tested a total of five basins representing approximately 90,875 linear feet of pipe and 20% of the collection system.

Smoke testing was not conducted in 2009. Smoke testing is planned to be initiated in January 2010. The results of this study are anticipated to be ready for review through the 2010 Smoke Testing Report and planned to be reported in the 2010 CNMB Annual Report. **Table 2.3** below summarizes the basins that were smoke tested through 2009 in Cycle II.

Pump Station Collection Area (Pump Station Number)	Start Date	Total Length of Collection Area (feet)	Total Length of Collection Area (miles)	Percent of Collection Area Smoke Tested	Percent of Total System Smoke Tested
Myrtle Grove # 1 (PS01)	Dec-04	30,445	5.77	100	7.28%
Myrtle Grove # 2 (PS02)	Dec-04	33,356	6.32	100	7.98%
Golden Glades (PS12)	Dec-04	11,879	2.25	100	2.84%
Medical Plaza (PS27)	Dec-04	2,111	0.40	100	0.50%
Miami Garden Villas (PS15)	Dec-04	5,435	1.03	100	1.30%
M.I.D. # 2 (PS14)	Dec-04	5,748	1.09	100	1.37%
Palmland (PS20)	Dec-04	28,360	5.37	100	6.78%
Windwood (PS21)	Dec-04	12,503	2.37	100	2.99%
M.I.D. # 1 (PS13)	Jan-05	15,096	2.86	100	3.61%
Sunshine # 1 (PS07)	Jan-05	10,846	2.05	100	2.59%
Sunshine # 2 (PS08)	Jan-05	14,571	2.76	100	3.48%
Stoney Brook (PS 03)	Apr-08	15,046	2.85	100	3.60%

<i>Pump Station Collection Area (Pump Station Number)</i>	<i>Start Date</i>	<i>Total Length of Collection Area (feet)</i>	<i>Total Length of Collection Area (miles)</i>	<i>Percent of Collection Area Smoke Tested</i>	<i>Percent of Total System Smoke Tested</i>
Master (PS 04)	Apr-08	47,219	8.94	100	11.29%
Bell Gardens (PS 22)	May-08	26,060	4.94	100	6.24%
K.F.C. (PS 28)	May-08	1,170	0.22	100	0.28%
Houston's (PS 29)	May-08	1,380	0.26	100	0.33%
TOTAL		261,225	49.47		62.46%

All defects and problems detected during smoke testing will be corrected no later than the completion of Phase III as stated in the *Guidelines for the Submittal of the Second Cycle Sanitary Sewer Evaluation Survey (SSES)*:

"All problems located during smoke testing shall be corrected by no later than the completion of Phase III or earlier where required by other section code"

The City of North Miami Beach has a balance of approximately 38% of the collection system remaining to smoke test for compliance by 2012.

The CNMB smoked tested a total of approximately 16 percent of the entire collection system in Cycle I. **Table 2.4** below summarizes the basins that were smoke tested through 2002.

<i>Pump Station Collection Area</i>	<i>Start Date</i>	<i>Total Length of Collection Area (feet)</i>	<i>Total Length of Collection Area (miles)</i>	<i>Percent of Collection Area Smoke Tested</i>	<i>Percent of Total System Smoke Tested</i>
Myrtle Grove # 1 (PS01)	Nov-97	30,445	5.77	100	7.65%
Myrtle Grove # 2 (PS02)	Nov-97	33,356	6.32	100	8.38%
TOTAL		63,801	12.09		16.03%

2.3 Manhole Inspection

The CNMB conducts aboveground surveys to record potential or obvious inflow sources such as manhole covers in depressed areas, non-sewer connections, or exposed manholes adjacent to watercourses. As part of this aboveground survey, manhole inspections are performed to identify I/I sources and repairs associated with these structures.

The following data are generally recorded for each manhole inspected:

- (1) Manhole number
- (2) Address and cross street
- (3) Traffic type and volume
- (4) Type of surface surrounding the manhole
- (5) Indication if the manhole cannot be located, is buried, or is subject to ponding
- (6) Weather and ground conditions
- (7) Depth of surcharge, if applicable
- (8) Manhole size
- (9) Cone shape and wall diameter
- (10) Type of cover - number and size of holes, if applicable
- (11) Construction materials and condition of
 - (a) Frame seal
 - (b) Frame adjustment
 - (c) Cone
 - (d) Wall
 - (e) Step
 - (f) Bench
 - (g) Channel
- (12) Condition of
 - (a) Cover
 - (b) Manhole insert
 - (c) Frame
 - (d) Manhole pipe connections
- (13) Type and depth of channel deposition, if applicable
- (14) Channel hydraulics
- (15) Presence of roots, if any
- (16) Incoming and outgoing lines
 - (a) Line type (lateral/in/out)
 - (b) Material
 - (c) Diameter
 - (d) Depth
 - (e) Direction

- (f) Connecting manhole
- (17) Evidence of leaks and location
- (18) Quantification of visible sources of extraneous flow
- (19) Special problems and conditions

Information obtained during the physical survey is used to determine rehabilitation methods and costs.

Manholes are re-visited in association with the ongoing program of television inspection, and significant defects that may have developed since the initial inspections are noted. **Table 1.1** summarizes work done since November 2002 in Cycle II.

2.4 Sanitary Sewer Evaluation Survey Tasks

The DERM Wastewater Section issued guidelines (dated February 23, 1999) concerning specific evaluation, rehabilitation, and reporting requirements for compliance with the I/I reduction program as defined in the County Code. The DERM guidelines, titled *Guidelines for the Submittal of the Sanitary Sewer Evaluation Survey (SSES)*, outline a three-phase compliance program. The ultimate goal of the three-phase approach is the physical rehabilitation of the sewer system to reduce I/I. These phases are summarized briefly below.

- **Phase I – Preliminary Sewer System Survey.** The objective of this phase is to prioritize the collection basins on the basis of I/I severity, so that the subsequent evaluation activities can be properly focused. This phase includes delineation of the system based on sewer service areas and sewer subsystems, inventory of pump station and collection system infrastructure characteristics, and an engineering analysis of I/I for the overall sewer system.
- **Phase II – Sewer System Analysis.** The objective of this phase is to formulate a rehabilitation plan for implementation in the construction phase. This phase includes quantification of I/I sources, cost-effectiveness analysis for repairs and rehabilitation techniques, specification of sewer rehabilitation methods, and creation of an implementation plan and timetable.
- **Phase III – Rehabilitation.** The objective of this phase is to implement the rehabilitation plan specified in the previous phases. This phase includes construction oversight for compliance with the rehabilitation plan, and verification through post-repair flow measurement that engineering criteria have been met.

On July 2007, DERM Wastewater Section issued a second set of guidelines titled *Guidelines for the Submittal of the Second Cycle Sanitary Sewer Evaluation Survey (SSES) Phase I, II, III*. The second set of guidelines, like the first, are based on the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook but also contain additional documents to clarify preferred format for submittal of SSES data and some changes that reflect the experience learned during the first cycle of the SSES.

A report documenting completion of Phases I and II will be submitted to DERM by November 12, 2012. The DERM guidelines require that Phase III be finished within four years following completion of the evaluation work. The CNMB will submit the Phase III of SSES program for the second Cycle to DERM by November 12, 2016.

2.5 Sewer System Study and Report Preparation

The CNMB I/I reduction program involves the systematic completion of studies, and reports to document investigations and provide formal recommendations concerning rehabilitation strategies. Since the beginning of Cycle II in November 2002, CNMB has generated several reports that directly address the I/I reduction program as listed below.

- *Sanitary Sewer Evaluation Survey, Metcalf & Eddy, November 2002* - This report documents Phases I and II of the DERM three-phase, system-wide SSES compliance program, and provides a rehabilitation plan for implementation in Phase III of the program.
- *Annual Report for Sewer System Evaluation and Rehabilitation Work, Metcalf & Eddy, January 2003* - This report summarizes I/I evaluation and rehabilitation work for calendar year 2002 and provides a projection for the continuation of this work in calendar year 2004.
- *Norwood-Oeffler Wellfield Sewer Evaluation Study, Metcalf & Eddy, December 2003* - This report documents the inspection and certification of the sanitary sewer lines and manholes located within the 210-day pumpage wellfield protection area of the Norwood-Oeffler wellfield.
- *Sanitary Sewer Evaluation Survey Update Report, Metcalf & Eddy, May 2005* - This updated report documents the findings of Phase I and II of the infiltration/inflow reduction program administered by the Miami-Dade County Department of Environmental Resource Management.
- *Sanitary Sewer I/I Reduction Plan, Metcalf & Eddy, December 2005* - This report addresses the collection basins reported in the Sanitary Sewer Evaluation Survey Update report, dated May 2005, which exhibit I/I values in excess of the standards set forth in Section 24-13.1(A)(4) - 5,000 gpdim.
- *Sanitary Sewer Evaluation Survey, Metcalf & Eddy, November 9, 2006* - This report documents Phase III of the DERM three-phase, system-wide SSES compliance program with the rehabilitation plan.
- Letter Response to Information Request -Section 308 of the Clean Water Act City of North Miami Beach Sanitary Sewer System addressed to EPA, Metcalf & Eddy, May 2007.
- Letter Response to the Review of the Phase III Submittal for the Sanitary Sewer Evaluation System (SSES) for the City of North Miami Beach Sanitary Sewer Collection System addressed to DERM, Metcalf & Eddy, January 2007.

- Letter Report to DERM addressing additional considerations and work plan for Sanitary Sewer Evaluation System (SSES) Phase III Report for the City of North Miami Beach Sanitary Sewer Collection System, Metcalf & Eddy, May 2007.
- Letter Report to DERM in Response to July 5, 2007 DERM Letter for the Sanitary Sewer Evaluation System (SSES) Phase III Report for the City of North Miami Beach Sanitary Sewer Collection System, Metcalf & Eddy, July 2007.
- Letter Report to DERM for Inflow and Infiltration (I/I) rates based on 2007 Flow Monitoring for the City of North Miami Beach, Metcalf & Eddy, October 2007
- *2008 Smoke Testing Technical Report, Metcalf & Eddy, July 2008* – This technical report documents smoke testing performed during 2008 and is included in the CNMB 2008 Annual Report.
- *Norwood-Oeffler Wellfield Sewer Evaluation Study, Metcalf & Eddy, December 2008* – This report documents the inspection and certification of the sanitary sewer lines and manholes located within the 210-day pumpage wellfield protection area of the Norwood-Oeffler Wellfield.
- *Annual Report for Sewer System Evaluation and Rehabilitation Work (Cycle II), AECOM Water, January 2008* - This report summarizes I/I evaluation and rehabilitation work for calendar year 2008 and provides a projection for the continuation of this work in calendar year 2009.

As noted above, the Phase I and II SSES report of Cycle II are to be submitted to DERM in November 12, 2012 and the Phase III SSES report four years later on November 12, 2016. A comprehensive rehabilitation plan will be included in these three-phased reports. While changing field conditions will always require a degree of flexibility in the implementation of any sewer rehabilitation plan, the findings of the system-wide SSES are now guiding the ongoing repair program.

As noted previously, calendar year 2009 is the 12th year for which an annual report on I/I reduction has been provided to DERM. The first annual report submitted to DERM was for calendar year 1998.

2.6 Engineering Design

The CNMB I/I reduction program requires engineering design work as a prerequisite to the implementation of specific projects. As of 2009, CNMB has generated engineering designs as a part of the pump station improvement program for the pump stations listed below. The pump station improvement program assists I/I reduction efforts because the new telemetry systems being installed at the pump stations will allow CNMB to closely monitor pump run times (i.e. flows), correlate these flows to changes in groundwater elevation and rainfall as desired, and assess the magnitude of contributions from I/I sources. The below listed include Cycle I designs.

- Myrtle Grove # 1 pump station (PS01)
- Star Lake pump station (PS16)

- Sunshine # 2 pump station (PS08)
- Sierra Mirada pump station (PS17)
- Master pump station (PS04)
- Golden Glades pump station (PS12)
- MID # 1 pump station (PS13)
- Honey Hill pump station (PS18)
- Myrtle Grove # 2 pump station (PS02)
- Scott Lake # 1 pump station (PS10)
- Bell Gardens pump station (PS22)
- Sunshine # 1 pump station (PS07)
- Monticello pump station (PS30)

Palmland/Norwood Pump Station (Master PS04) Conveyance Improvements Design was finalized in 2008. Myrtle Grove Force Main Replacement design was completed in 2007.

In 2009 construction of Palmland/Norwood PS Conveyance Improvement (Master PS04) was completed.

Section 7 of this report, *REFERENCES*, summarizes the above designs and other source material available to document work completed under the I/I reduction program.

**2009 Annual Report for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida**

3.0 REHABILITATION WORK COMPLETED THROUGH 2009

The rehabilitation work completed through 2009 includes service lateral pipe lining, pipe repair, manhole repair, and pump station upgrading. This work is summarized in sequence below. Rehabilitation work summarized in this section is cumulative and includes both Cycle I and Cycle II.

3.1 Pipe Lining

CNMB has instituted a program of fold-and-formed liner installation to address structurally and cost-effective eligible repair priorities identified during collection system evaluation work. After cleaning and televising of the line, protruding service connections are removed and partially collapsed sections are repaired or rerounded. Debris is removed from the pipe and grouting is performed as required. The pipe liner is then softened and winched through the existing manhole into the pipe to be reconstructed. Winching continues until the pipe reaches the next designated manhole, and then steam and pressure are applied to expand the liner tightly against the host pipe. Steam is then replaced by air at a constant pressure to allow the pipe liner to cool, after which the liner is trimmed at each pipe end and excess material is removed. After cooling of the liner, the service connections are reopened using a robotic cutting device and a closed circuit television camera, and a tape is made of the lined pipe to allow verification of proper completion.

As of 2009, CNMB has installed pipe liner in approximately 123,106 feet of collection system piping. This total linear foot of pipe lined does not include service line lateral lining. **Table 3.1** summarizes work done for Cycle I and Cycle II. **Appendix B** contains figures depicting the lined areas.

Table 3.1 - Pipe Lining through 2009- Cycle I & Cycle II		
<i>Pump Station Collection Area (Pump Station Number)</i>	<i>Total Length of Collection Area (feet)</i>	<i>Total Length of Collection Area Lined to Date (feet)</i>
Bell Gardens (PS22)	26,026	2,911
Golden Glades (PS12)	11,879	7,173
Honey Hill (PS18)	15,100	10,067
Master (PS04)	47,219	943
Miami Garden Villas (PS15)	5,435	5,435
M.I.D. # 1 (PS13)	15,096	2,412
M.I.D. # 2 (PS14)	5,748	3,653
Myrtle Grove # 1 & # 2 (PS01 & PS02)	63,801	36,629

Table 3.1 - Pipe Lining through 2009- Cycle I & Cycle II

<i>Pump Station Collection Area (Pump Station Number)</i>	<i>Total Length of Collection Area (feet)</i>	<i>Total Length of Collection Area Lined to Date (feet)</i>
Norwood (PS19)	22,567	14,556
Palmland (PS20)	28,360	5,210
Sierra Mirada (PS17)	8,553	6,477
Scott Lake # 1 (PS10)	18,535	2,628
Scott Lake # 4 (PS05)	22,056	4,160
Star Lake (PS16)	11,453	2,672
Stoneybrook (PS03)	15,046	312
Sunshine # 1 & # 2 (PS07 & PS08)	25,417	16,120
Windwood (PS21)	12,503	1,748
Total Pipes Lined	354,794	123,106

Notes:

- (1) Reference **Appendix C** for product data on fold-and-formed liner installed after 2002
- (2) Reference previous annual reports for product data on liner installed prior to 2002

In 2009, 381.65 ft of main in the Myrtle Grove#1 (PS01) was lined in the CNMB collection system.

3.2 Pipe Replacement and Point Repair

While trenchless technologies such as pipe lining often allow repairs to be accomplished without excavation and pipe replacement, the CNMB continues to use excavation and replacement for specific repair conditions including those listed below.

- The structural integrity of the pipe is badly deteriorated.
- The pipe is severely misaligned.
- Additional pipeline capacity is needed.
- Trenchless rehabilitation technologies would cause an unacceptable reduction in service capacity.
- Short lengths of pipeline are too badly damaged to be rehabilitated by other means.
- Entire sections of pipeline are severely damaged.
- Removal and replacement are less costly than other methods of rehabilitation (especially for shallow piping).

Through 2009, CNMB has excavated and replaced approximately 6,987 feet of collection system piping, and performed approximately 367 service line repairs. Service line repair refers to lining of service lines. In 2009, 12 service laterals with a total of 309 ft length were lined in Myrtle Grove#1 (PS#1). In addition, wastewater line repairs were

conducted on 33 points in the CNMB collection system which included the replacement of the broken lines.

Appendix D contains a summary table to identify the locations of all repairs. There was no need in 2009 to replace entire sections of pipe, only point repair as indicated by the television inspections conducted. **Table 3.2** summarizes the collection system work for Cycle I and Cycle II.

Table 3.2 - Pipe Replacement and Repair through 2009- Cycle I & Cycle II		
<i>Pump Station Collection Area (Pump Station Number)</i>	<i>Total Length of Collection Area (feet)</i>	<i>Total Length of Collection Area Replaced to Date (feet)</i>
Bell Gardens (PS22)	26,026	35
Cravero (PS09)	11,056	10
Honey Hill (PS18)	15,100	25
Master (PS04)	47,219	10
Miami Garden Villas (PS15)	5,435	10
Myrtle Grove # 1 & # 2 (PS01 & PS02)	63,801	6,458
Norwood (PS19)	22,567	116
Palmland (PS20)	28,360	15
Scott Lake # 1 (PS10)	18,535	13
Scott Lake # 4 (PS05)	22,056	30
Scott Lake # 8 (PS06)	13,136	5
Sierra Mirada (PS17)	8,553	175
Stoneybrook (PS03)	15,046	45
Sunshine # 1 & # 2 (PS07 & PS08)	25,417	10
Windwood (PS21)	12,503	30
TOTAL	334,810	6,987

3.3 Manhole Insert Installation and Repair

As of 2009, CNMB has installed manhole inserts for approximately 1,600 manholes, which equates to 100 percent of the collection system. The manhole inserts fit beneath the covers and prevents inflow in areas subject to stormwater runoff or ponding. **Table 1.1** summarizes this work.

Manhole repairs continue to be performed on an as-needed basis; through 2009, CNMB conducted 219 manhole repairs such as replacing and/or raising rings and covers. In 2009 a total of 15 manholes were repaired throughout the City's sanitary system as part of the general manhole repair tasks. In the City's continuous efforts to reduce I/I a total of 7 caps were replaced on cleanouts in 2009. These totals are cumulative rehabilitation of Cycle I & II.

Appendix D contains a summary table depicting manhole repair tasks that have been performed to date.

3.4 Pump Station Upgrading

As of 2009, CNMB has completed the pump station upgrades listed below. As noted in **Section 2**, the pump station improvement program assists I/I reduction efforts because the new telemetry systems being installed at the pump stations will allow CNMB to closely monitor pump run times (i.e. flows), correlate these flows to changes in groundwater elevation and rainfall as desired, and assess the magnitude of contributions from I/I sources.

- Sunshine # 1 pump station (PS07), 2002
- Monticello¹ pump station (PS30), 2002
- Honey Hill pump station (PS18), 2001 & 2003
- Bell Gardens pump station (PS22), 2005
- Myrtle Grove # 2 pump station (PS02), 2006
- Master pump station (PS04), 2007
- Palmland/Norwood pump station (PS04), 2009 (Construction was completed).

Apart from overall upgrade work, telemetry alone has been installed at the following pump stations in **Table 3.3**. The following upgrade work includes Cycle I and Cycle II.

Pump Station No.	Collection Basin	Address
1	Myrtle Grove #1	17505 NW 33 Court
2	Myrtle Grove #2	2917 NW 175 Street
4	Master	2261 NW 175th Street
7	Sunshine #1	1125 NW 163 Street
8	Sunshine #2	16154 NW 15th Avenue
10	Scott Lake #1	17900 NW 9th Avenue
12	Golden Glades	500 NW 177 Street
13	MID #1	17922 NW Miami Court
15	Miami Gardens Villas	18750 NW 1st. Avenue
16	Star Lake	19101 NE 3rd Court
17	Sierra Mirada	914 NW 201 Street
18	Honey Hill	20001 NW 14 Avenue
22	Bell Gardens	19101 NW 24th Avenue
24	Dolphin Stadium	Stadium
25	KOA/Target	14075 Biscayne Boulevard
26	Costco	14601 Biscayne Boulevard
29	Houston's	Biscayne Boulevard
30	Monticello	NE 10 Ave & NE 162nd Street
33	Highland Village	NE 135 Terrace and Highland Drive

¹ Monticello was constructed in 2002

The CNMB plans to expand the telemetry system, referred to as the System Control and Data Acquisition (SCADA) system, through ongoing work efforts. No new SCADA installations have been completed in 2009.

3.5 Flow Monitoring

Flow monitoring was successfully completed for collections basins Miami Garden Villas, Golden Glades, and M.I.D. #2 in August 2007. The entire city owned and operated sanitary sewer collection basin I/I value was reduced to 2,786 *gpdim* compared to the 2006 collection system I/I rate of 3,389 *gpdim*. Both I/I rates for 2006 and 2007 are well below the Code's standard of 5,000 *gpdim*. Nonetheless, in the effort to demonstrate City commitment to the overall program goals, the City of North Miami Beach has continued with sanitary sewer rehabilitation. No new flow monitoring was performed in 2009.

Below in **Table 3.4** are all the pump station I/I rates in descending order of *gpdim* values incorporating the data for flow monitoring performed in August of 2007. Data included in **Table 3.4** is for Cycle I and Cycle II. Date of last flow monitoring conducted is also included in the table below.

Table 3.4 - CNMB Collection Basins in Descending Order of <i>gpdim</i> Values			
Pump Station No.	Pump Station Collection Area	I/I (<i>gpdim</i>)	Year of Last Flow Monitoring
15	Miami Garden Villas	6,786	2007
16	Star Lake	4,904	Pre 2000
21	Windwood	4,778	2000
17	Sierra Mirada	4,503	Pre 2000
11	Miami Lanes	4,378	Pre 2000
12	Golden Glades	4,268	2007
14	M.I.D. # 2	4,074	2007
27	Medical Plaza	3,801	2003/2004
4	Master	3,587	2000
20	Palmland	3,397	2000
29	Houston's	3,300	Pre 2000
1	Myrtle Grove # 1	3,186	Pre 2000
8	Sunshine # 2	3,001	Pre 2000
13	M.I.D. # 1	2,990	Pre 2000
9	Cravero	2,727	Pre 2000
26	Lurias	2,591	Pre 2000
3	Stoneybrook	2,468	Pre 2000
5	Scott Lake # 4	2,411	Pre 2000
22	Bell Gardens	2,349	Pre 2000
6	Scott Lake # 8	2,300	Pre 2000
24	P.P.S.	2,171	Pre 2000
19	Norwood	2,074	Pre 2000

Table 3.4 - CNMB Collection Basins in Descending Order of gpdim Values

Pump Station No.	Pump Station Collection Area	I/I (gpdim)	Year of Last Flow Monitoring
23	Hawco	1,549	Pre 2000
28	K.F.C.	1,467	Pre 2000
7	Sunshine # 1	1,459	Pre 2000
2	Myrtle Grove # 2	1,171	Pre 2000
25	K.O.A	1,093	Pre 2000
10	Scott Lake # 1	954	Pre 2000
18	Honey Hill	655	Pre 2000

According to the Second Cycle SSES Guidelines dated July 2007 all basins that were flow monitored before 2002 are to be flow monitored again before November 2012 for compliance.

**2009 Annual Report for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida**

Cycle II

4.0 EVALUATION WORK PROJECTED FOR 2010

The evaluation work projected for 2010 will include television inspection, smoke testing, manhole inspection, sewer system study and report preparation, flow monitoring and engineering design. This projected work is summarized in sequence below. The actual work completed during 2010 may be somewhat more or less than projected, depending on field conditions and potential adjustments to resource allocation and repair priorities.

4.1 Television Inspection

CNMB will continue the program of television inspection to evaluate the internal condition of collection system piping and identify repair priorities. Television inspection to be performed in 2010 is yet to be determined at the present time.

4.2 Smoke Testing

CNMB will continue the program of smoke testing to detect inflow sources and identify repair priorities. Smoke testing of 16 basins has been conducted through 2009 based on the findings of the Phases I and II of the SSES to further evaluate the basins exceeding 5,000 gpdim and new guidelines for Cycle II. However, according to the Second Cycle Guidelines submitted by DERM on July 2007 smoke testing should be 100% completed for the entire collection system for each cycle. Since the beginning of Cycle II in 2002, the CNMB has completed smoke testing on over 62% of the entire collection system. Smoke testing for 2010 was initiated at the planning and preparation stage by the end of 2009. The tests are planned to be started by January 2010.

4.3 Manhole Inspection

Given that CNMB has performed formal manhole inspections on 100 percent of the collection system through 2009, manhole inspections in 2010 will consist of updates performed in association with other activities (e.g. pipe televising, smoke testing, etc.). The rehabilitation of manholes is scheduled as future manhole re-inspection is performed at the collection basins.

4.4 Sewer System Study and Report Preparation

The CNMB I/I reduction program in 2010 will involve the performance of studies and preparation of reports as listed below.

- 2010 Smoke Testing Technical Report – This report will document the smoke testing that will be performed in 2010 and will be included in CNMB 2010 Annual Report.
- 2010 Annual Report for Sewer System Evaluation and Rehabilitation Work – This report will summarize I/I evaluation and rehabilitation work for calendar year 2010 and provide a projection for the continuation of this work in calendar year 2011.
- Peak Flow Management Study- Pursuant to the *Peak Flow Ordinance* No. 01-104 adopted on June 5, 2001 and the Miami-Dade County Department of Environmental Resources Management (DERM) the Peak Flow Study submittal provides estimated peak flows at points of connection to the MDWASD system, for the two-year storm as defined by DERM.

In this regard, CNMB initiated a Peak Flow Study in 2009 to expand its existing wastewater system hydraulic model and perform the required basin level peak flow analysis. The final report is scheduled for submittal to DERM by February 4, 2010.

4.5 Engineering Design

The CNMB I/I reduction program in 2010 will involve the continuation of engineering design work for the rehabilitation of Hawco (PS 23) and Miami Gardens (PS 15) which has been started in 2009. Engineering design work for the rehabilitation of MID # 2 (PS14), Windwood Pump Station (PS21) and Scott Lake #8 Pump Station (PS06) will also continue in 2010.

Evaluation for the following pump stations has already been initiated for rehabilitation purposes by January 2010: MID # 2 (PS14), Windwood Pump Station (PS21), Scott Lake #8 Pump Station (PS06), Miami Garden Villas Pump Station (PS 15), Scott Lake #8 Pump Station (PS6), Scott Lake #4 Pump Station (PS5), Stoney Brook Pump Station (PS3), Norwood Pump Station (PS19), Cravero Pump Station (PS9), Miami Lanes Pump Station (PS 11), Hawco Pump Station (PS 23). This evaluation study is planned to be completed in 2010.

4.6 Flow Monitoring

According to the Second Cycle SSES Guidelines dated July 2007 all basins that were flow monitored before 2002 are to be flow monitored again before November 2012 for compliance. **Table 4.1** below list the basins that require flow monitoring before 2012 based on the last flow monitoring date conducted.

Monticello, DOT #1, DOT #2 and Highland Village basins are relatively new to the system and have come online after 2002. Therefore, no flow monitoring has been conducted for these basins to date.

It is yet undetermined which basin will be flow monitored in 2010 at this present time.

Table 4.1 - Basins that Require Flow Monitoring before 2012

Pump Station No.	Pump Station Collection Area	I/I (gpdim)	Year of Last Flow Monitoring
1	Myrtle Grove # 1	3,186	Pre 2000
2	Myrtle Grove # 2	1,171	Pre 2000
3	Stoneybrook	2,468	Pre 2000
5	Scott Lake # 4	2,411	Pre 2000
6	Scott Lake # 8	2,300	Pre 2000
7	Sunshine # 1	1,459	Pre 2000
8	Sunshine # 2	3,001	Pre 2000
9	Cravero	2,727	Pre 2000
10	Scott Lake # 1	954	Pre 2000
11	Miami Lanes	4,378	Pre 2000
13	M.I.D. # 1	2,990	Pre 2000
16	Star Lake	4,904	Pre 2000
17	Sierra Mirada	4,503	Pre 2000
18	Honey Hill	655	Pre 2000
19	Norwood	2,074	Pre 2000
22	Bell Gardens	2,349	Pre 2000
23	Hawco	1,549	Pre 2000
24	P.P.S.	2,171	Pre 2000
25	K.O.A	1,093	Pre 2000
26	Lurias	2,591	Pre 2000
28	K.F.C.	1,467	Pre 2000
29	Houston's	3,300	Pre 2000
4	Master	3,587	2000
20	Palmland	3,397	2000
21	Windwood	4,778	2000
30	Monticello	-	-
31	DOT #1	-	-
32	DOT #2	-	-
33	Highland Village	-	-

**2009 Annual Report for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida**

Cycle II

5.0 REHABILITATION WORK PROJECTED FOR 2010

The rehabilitation work projected for 2010 includes pipe lining, and pipe replacement and repair. This projected work is summarized in sequence below. The actual work completed during 2010 may be somewhat more or less than projected, depending on field conditions and potential adjustments to resource allocation and repair priorities.

5.1 Pipe Lining

CNMB will continue the program of fold-and-formed liner installation to address structurally and cost-effective eligible repair priorities identified during collection system evaluation. Pipe lining may be scheduled based on results from the television inspections or smoke testing to be conducted in 2010. At the present time pipe lining for 2010 is yet undetermined.

5.2 Pipe Replacement and Repair

CNMB will continue the program of pipe replacement and repair to address eligible repair priorities identified during collection system evaluation work. Pipe replacement and service line repair work will be performed on an as-needed, priority basis in 2010. Work will be conducted based on TV inspections and smoke testing that will be conducted in early 2010. The full extent of this has not yet been finalized, and will be subject to identified repair priorities as well as the availability of CNMB personnel to perform the work.

5.3 Pump Station Upgrading

Pump station rehabilitation and upgrade at Hawco (PS 23) and Miami Gardens (PS 15) pump stations will continue in 2010. Pump stations that currently do not have SCADA system will be upgraded with SCADA addition in 2010.

**2009 Annual Report for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida**

Cycle II

6.0 SUMMARY AND CONCLUSIONS

6.1 Completed Work

Through calendar year 2009, the twelfth year of the CNMB program as it relates to Miami-Dade County Code Section 24-13.1(A)(1), CNMB completed the following work to evaluate and rehabilitate the wastewater collection system:

- television inspection of approximately 45 percent of the total collection system;
- smoke testing of approximately 62 percent of the collection system;
- manhole inspection of 100 percent of the collection system;
- sewer system study and report preparation including system-wide pump station evaluation, system-wide night flow analysis to identify I/I, a peak flow management study, completion of Phases III of a three-phase system-wide SSES based on the DERM guidelines dated February 23, 1999; and a Norwood-Oeffler Wellfield protection area evaluation dated December 19, 2003 based on DERM requirements;
- engineering inspection and design projects including 13 pump station rehabilitation designs and one new pump station design for rehabilitation;
- pipe lining of 123,106 feet of the collection system;
- pipe replacement of 6,987 feet of the collection system;
- service line repairs at 369 locations;
- manhole insert installation of 100 percent of system manholes;
- rehabilitation and upgrade work of 19 pump stations, including telemetry installation; and,
- telemetry installation of 19 pump stations.

6.2 Projected Work

Calendar year 2010 is projected to include the following work to evaluate and rehabilitate the wastewater collection system:

- Installation of SCADA system in remaining pump stations
- Schedule for television inspection and flow monitoring is undetermined at the present time. However, smoke testing for 2010 will be initiated in January 2010.
- Pipe lining, pipe replacement and service line repair will be performed on an as-needed, priority basis and depending on the television inspections, smoke testing and flow monitoring conducted in 2010

The actual work completed during 2010 may be somewhat more or less than projected, depending on field conditions, potential adjustments to resource allocation, repair priorities and will be assigned based on available funding.

6.3 Infiltration/Inflow Reduction Achieved

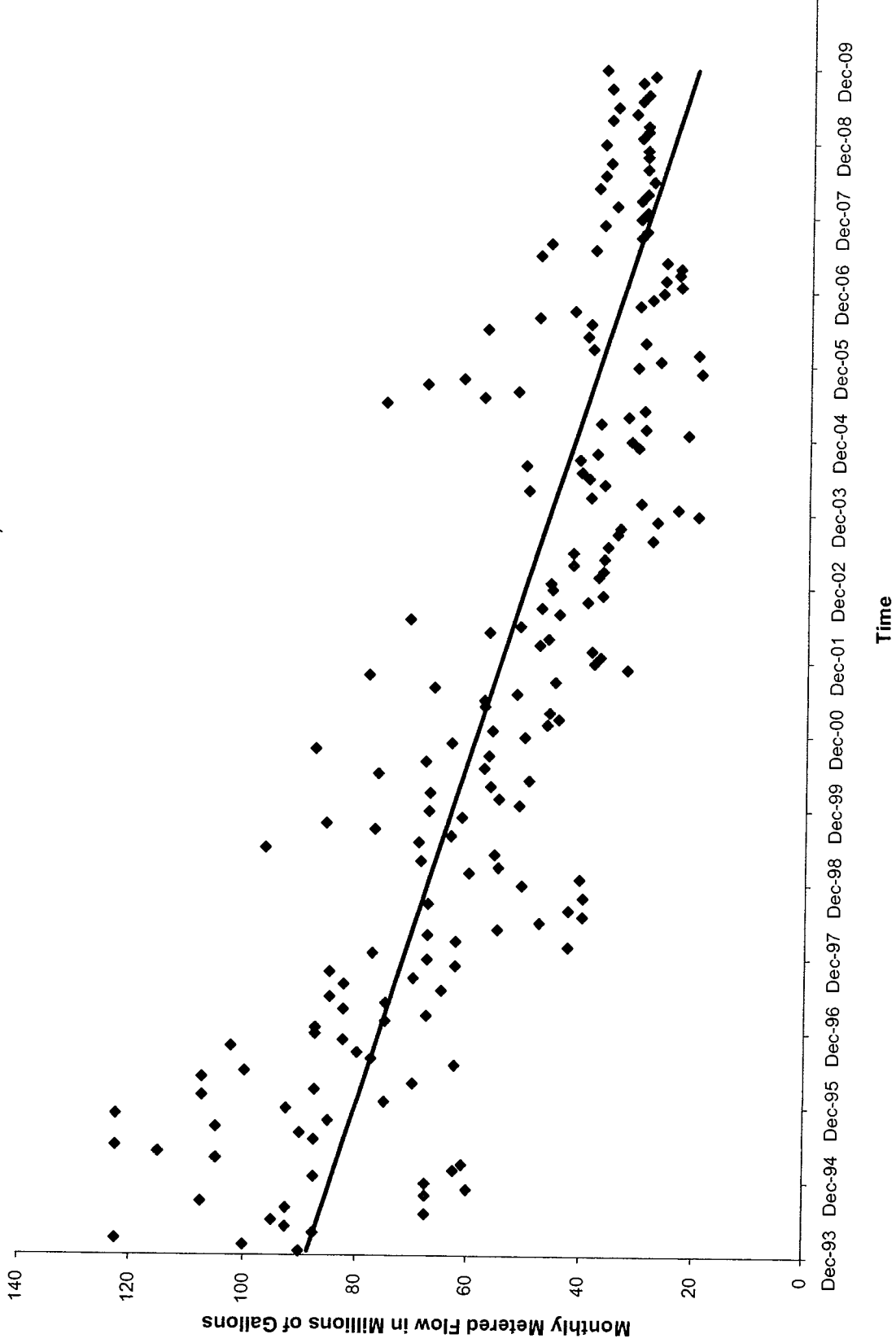
While in-depth analysis of I/I reduction in individual collection areas has not yet been completed, two trends indicate a reduction in the volume of total wastewater flows in the system.

First, metered flow has decreased from the collection areas in which the majority of recent rehabilitation work has been focused. **Figure 6.1** depicts the long-term flow trend through MDWASD-owned Meter 22, which meters flow from the following pump stations: Myrtle Grove # 1 (PS01); Myrtle Grove # 2 (PS02); Stoneybrook (PS03); Master (PS04); Scott Lake # 4 (PS05); Scott Lake # 8 (PS06); Cravero (PS09); Scott Lake # 1 (PS10); Golden Glades (PS12); Norwood (PS19); Palmland (PS20); Windwood (PS21); Bell Gardens (PS22); Hawco (PS23) and, Miami Gardens #1 (DOT#1, PS 31); The collection areas associated with these 15 pump stations comprise 71 percent of the total system line length. The trend in metered flow shown in **Figure 6.1** indicates that total flow has gradually decreased over the period shown but has leveled off due to the proactive I/I reduction program.

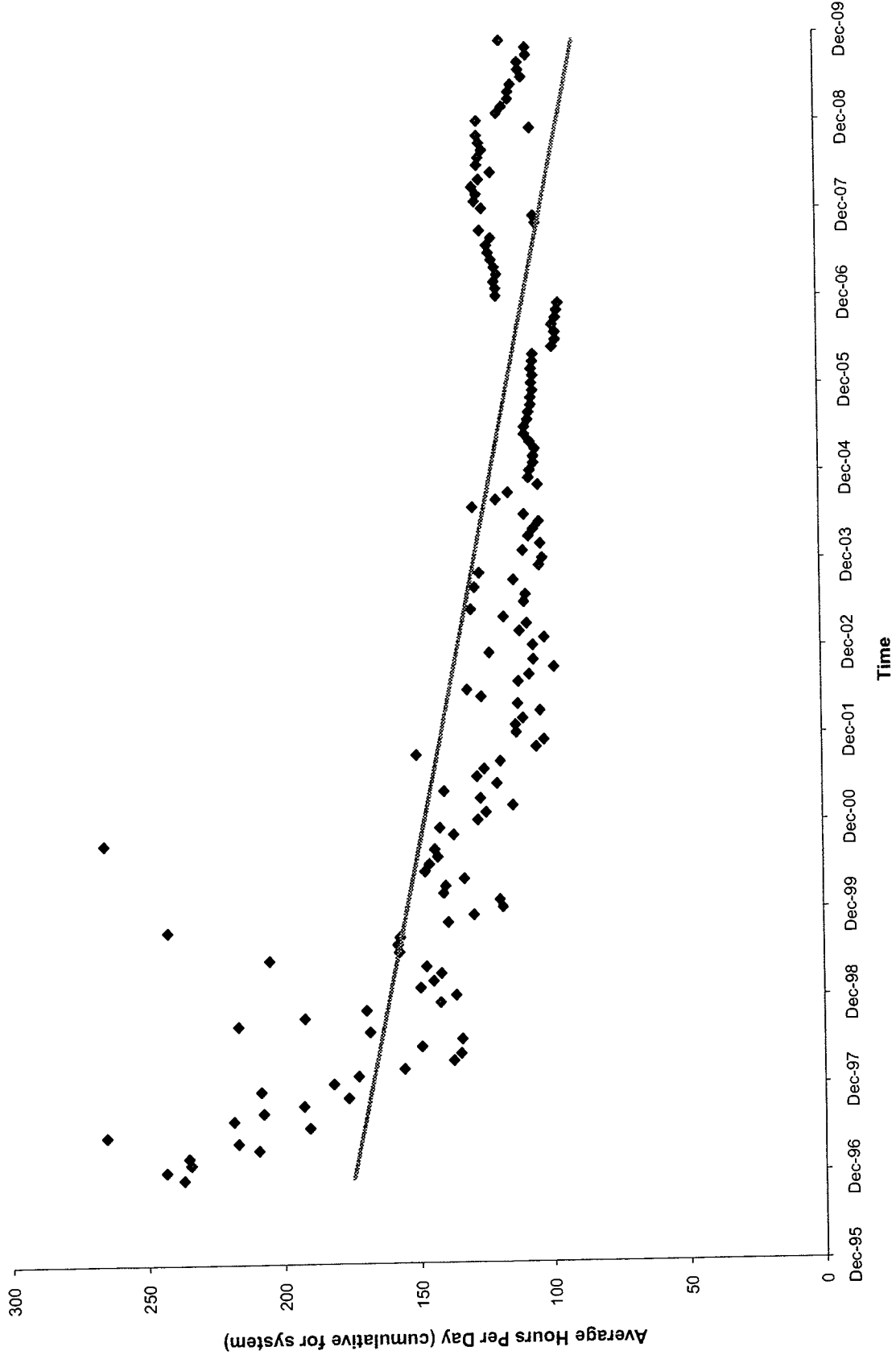
Second, total pump station run times have decreased over Cycle I and II. **Table 6.1** provides a summary of pump station average run times from December 1996 through December 2009. These data are graphed in **Figure 6.2**. While pump station run times would have to be converted to flow volumes to more directly reflect I/I reductions, these data clearly demonstrate the effectiveness of the pump station rehabilitation program, and can be seen to support the reduction in metered flow as depicted in **Figure 6.1**.

Since it doesn't appear to have been significant changes in the population served, or in weather patterns, rehabilitation work is indicated as the leading cause of wastewater flow reduction. **Figure 6.3** depicts the total annual rainfall for the City of Miami.

**Figure 6.1 - Long-Term Flow Trend of Meter 22
 Cycle I and II
 December 1993 through December 2009
 (with linear trendline)**



**Figure 6.2 - Pump Station NAPOT Projections
CYCLE I and II
(with linear trendline)**



**Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009**

Station No.	Name	Dec-96	Jan-97	Feb-97	Mar-97	Apr-97	May-97	Jun-97	Jul-97	Aug-97	Sep-97	Oct-97	Nov-97	Dec-97
1	Myrtle Grove # 1	11.6	11.7	9.9	0.0	0.0	0.0	0.0	7.4	9.8	10.6	9.0	7.7	9.9
2	Myrtle Grove # 2	9.6	7.6	10.1	14.5	13.4	16.4	27.5	11.6	13.4	14.0	10.2	9.2	10.9
3	Stoney Brook	5.6	5.0	5.8	5.7	5.5	5.5	6.9	5.8	5.9	6.3	5.8	9.4	10.0
4	Master	15.6	15.5	22.5	13.9	16.0	16.1	15.0	8.7	9.3	9.7	8.9	8.5	9.6
5	Scott Lake # 4	12.2	5.9	10.4	9.2	8.4	8.6	8.3	8.8	9.8	10.6	9.5	8.5	12.8
6	Scott Lake # 8	16.6	7.3	6.6	8.4	6.8	7.2	7.4	6.7	11.6	7.8	6.0	5.8	7.5
7	Sunshine # 1	23.6	43.7	40.0	45.1	33.5	29.2	24.6	25.4	32.5	35.1	32.0	24.4	5.6
8	Sunshine # 2	16.0	12.1	13.6	22.7	2.8	3.6	7.7	4.7	0.0	0.0	0.0	0.0	6.8
9	Cravero	2.6	2.6	2.3	2.5	2.6	2.8	3.7	2.8	3.0	3.1	4.3	6.2	9.0
10	Scott Lake # 1	10.6	11.9	10.1	10.8	10.8	11.2	10.3	10.4	13.0	13.1	9.7	10.1	11.6
11	Miami Lanes	1.3	1.4	1.4	1.8	1.9	1.9	1.6	1.9	1.9	2.3	2.3	1.6	1.9
12	Golden Glades	11.6	10.6	10.9	11.4	10.6	10.7	16.7	4.1	13.0	13.2	13.2	12.2	12.6
13	M.I.D. # 1	12.3	18.9	9.5	8.9	10.0	10.2	13.5	12.7	13.2	13.1	10.2	8.5	9.4
14	M.I.D. # 2	7.6	8.2	8.5	8.5	10.3	12.4	17.0	9.1	10.6	11.7	10.9	8.9	12.7
15	Miami Gardens	7.7	7.8	7.9	6.3	6.3	5.9	6.4	7.8	8.5	3.3	3.8	5.7	9.3
16	Star Lake	25.3	15.0	14.8	15.6	21.3	17.5	24.5	10.8	0.0	0.0	0.0	0.0	9.3
17	Sierra Mirada	3.5	6.2	5.5	6.1	6.3	7.9	10.3	8.9	8.0	9.0	8.8	8.3	8.8
18	Honey Hill	9.7	10.6	8.9	9.6	9.6	10.4	15.4	11.8	14.2	13.3	13.5	13.2	14.8
19	Nonwood	10.2	10.7	6.5	6.7	6.6	7.2	9.0	6.8	7.0	7.3	6.6	6.8	7.9
20	Palmiland	8.7	7.7	8.0	8.6	8.4	7.9	10.1	9.5	9.2	9.3	8.9	8.5	9.2
21	Windwood	4.5	4.5	5.4	3.9	4.4	5.5	5.4	4.2	11.9	3.7	6.4	3.5	3.4
22	Bell Gardens	4.2	4.3	4.1	5.4	5.4	4.6	6.9	3.6	3.5	3.6	3.4	3.5	3.5
23	Hawco	0.6	0.7	0.9	0.8	1.0	0.8	1.4	0.9	1.0	0.9	1.0	0.7	0.8
24	P.P.S.	1.7	1.2	0.9	1.3	1.7	2.0	3.1	2.3	3.1	2.8	3.1	2.6	2.9
25	K.O.A.	0.4	6.4	1.3	0.5	0.6	3.0	3.3	2.1	3.0	1.5	2.8	0.5	0.6
26	Laurias	2.5	4.8	7.5	5.7	3.7	6.8	4.6	0.5	0.6	0.7	0.9	0.5	0.6
27	Medical Plaza	0.9	0.8	0.8	1.0	1.0	1.1	4.5	1.0	1.3	1.3	1.1	1.1	1.1
28	K.F.C.	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0
29	Houston's	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	Monticello													
31	DOT #1													
32	DOT #2													
33	Highland Village													
TOTAL		236.8	243.2	234.2	235.0	209.1	216.6	265.2	190.4	218.4	207.4	192.4	176.0	208.1

Note: 0.0 Indicates Period of No Data, Blank cell signifies PS was not in service or nonexistent

**Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009**

Station No.	Name	Jan-98	Feb-98	Mar-98	Apr-98	May-98	Jun-98	Jul-98	Aug-98	Sep-98	Oct-98	Nov-98	Dec-98
1	Myrtle Grove # 1	8.3	8.9	8.2	6.4	7.0	7.4	9.0	8.8	15.4	10.1	14.8	7.3
2	Myrtle Grove # 2	8.2	8.6	9.4	8.6	8.2	9.6	8.7	9.2	14.7	10.7	12.8	9.0
3	Stoney Brook	9.6	10.3	7.7	8.2	7.5	7.7	7.7	8.5	8.3	8.4	8.2	7.1
4	Master	9.6	8.9	8.5	7.3	0.0	0.0	0.0	0.0	11.0	12.0	-	10.2
5	Scott Lake # 4	6.6	8.7	9.9	7.2	5.6	5.3	6.9	6.5	6.9	6.1	6.7	5.8
6	Scott Lake # 8	6.7	8.2	5.7	5.4	5.8	6.0	6.0	6.2	6.0	5.6	6.7	5.7
7	Sunshine # 1	5.1	6.0	5.9	5.1	5.7	5.1	5.5	5.8	6.4	5.7	6.1	6.3
8	Sunshine # 2	5.7	6.3	6.1	5.2	5.9	5.4	5.9	6.4	7.9	6.9	7.5	6.0
9	Cravero	6.9	5.8	5.1	2.7	3.5	3.2	2.5	2.8	2.8	2.4	2.5	2.3
10	Scott Lake # 1	11.8	10.2	9.6	13.2	10.2	10.4	9.7	11.0	11.2	9.2	6.9	9.4
11	Miami Lanes	2.6	1.9	1.8	1.2	1.8	3.5	1.7	1.5	2.2	2.7	1.9	2.7
12	Golden Glades	10.9	11.7	11.3	9.9	11.0	10.5	10.8	11.5	15.6	10.9	12.8	8.0
13	M.I.D. # 1	9.2	8.5	6.1	6.1	5.5	13.6	13.0	14.1	15.7	15.9	9.7	2.0
14	M.I.D. # 2	8.6	9.0	4.9	4.2	4.5	4.4	4.9	5.8	12.3	15.9	6.9	4.9
15	Miami Gardens	4.4	7.5	7.4	5.2	7.1	9.3	5.4	5.7	6.6	5.0	5.2	5.0
16	Star Lake	7.6	13.4	6.4	6.8	7.5	7.2	8.0	8.0	9.9	10.7	7.7	7.1
17	Sierra Mirada	6.6	0.0	0.0	1.1	1.1	1.1	1.1	1.2	11.1	8.5	9.1	6.9
18	Honey Hill	22.8	7.7	9.8	5.4	7.6	9.0	0.0	24.5	15.9	19.1	16.3	10.2
19	Nonwood	6.6	6.7	7.3	6.1	6.5	7.5	5.4	6.1	7.8	7.4	7.6	6.5
20	Palmland	9.3	9.9	11.0	8.3	9.2	11.0	8.5	9.2	9.8	4.8	5.1	4.1
21	Windwood	3.9	3.7	3.4	3.5	3.8	3.1	2.7	3.7	4.3	3.6	4.0	3.3
22	Bell Gardens	3.5	3.3	3.2	3.0	3.3	3.5	3.4	3.7	4.8	3.8	3.9	5.7
23	Hawco	0.5	0.7	0.5	0.5	0.4	0.4	1.0	1.0	0.5	0.6	0.6	0.5
24	P.P.S.	1.9	1.2	1.3	1.9	1.9	0.6	1.9	2.5	3.7	1.6	1.3	1.2
25	K.O.A.	0.6	0.6	0.5	0.5	0.6	0.7	0.6	0.4	0.7	0.6	0.7	0.8
26	Laurias	0.6	1.0	0.9	0.6	0.6	0.6	0.7	0.7	1.4	0.6	0.7	0.7
27	Medical Plaza	1.2	1.5	1.4	1.3	1.0	1.2	1.1	1.2	1.3	1.1	1.1	1.0
28	K.F.C.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.1
29	Houston's	2.0	1.9	2.0	2.0	1.5	1.6	1.7	1.8	1.9	1.9	2.1	1.9
30	Monticello												
31	DOT #1												
32	DOT #2												
31	Highland Village												
TOTAL		181.4	172.2	155.4	137.0	134.4	149.0	133.9	167.9	216.2	191.8	169.1	141.7

Note: 0.0 Indicates Period of No Data, Blank cell signifies PS was not in service or nonexistent

Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009

Station No.	Name	Jan-99	Feb-99	Mar-99	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Sep-99	Oct-99	Nov-99	Dec-99
1	Myrtle Grove # 1	7.7	7.8	6.7	6.2	6.0	17.3	9.3	8.9	9.5	22.0	7.7	5.0
2	Myrtle Grove # 2	9.5	10.4	7.4	7.4	8.1	13.5	9.3	9.6	9.3	16.7	7.1	6.6
3	Stoney Brook	6.4	7.9	5.4	6.1	7.1	8.9	7.7	7.6	7.7	11.3	7.3	6.8
4	Master	10.3	10.7	9.9	10.4	9.7	12.6	11.6	10.4	10.6	10.4	5.2	6.4
5	Scott Lake # 4	6.0	8.0	5.9	5.9	6.1	8.3	6.9	7.1	6.6	9.6	7.0	6.8
6	Scott Lake # 8	8.2	5.6	7.0	6.2	5.8	5.6	5.6	5.7	5.0	7.8	5.3	5.7
7	Sunshine # 1	6.0	7.0	7.5	5.6	5.6	11.7	8.7	6.3	5.8	8.1	5.4	5.2
8	Sunshine # 2	6.1	6.4	6.8	6.1	6.6	12.0	8.1	7.4	8.7	15.6	8.0	6.9
9	Cravero	2.0	1.8	2.0	1.8	2.0	2.4	2.1	2.1	2.0	2.2	2.2	1.9
10	Scott Lake # 1	8.4	8.4	9.3	11.4	10.3	11.2	10.9	9.4	9.1	8.6	7.6	8.0
11	Miami Lanes	2.5	2.1	2.0	1.8	2.0	2.6	2.5	2.9	1.9	4.3	1.7	1.6
12	Golden Glades	0.0	0.0	2.4	6.2	7.7	5.2	4.0	4.3	4.3	8.3	4.0	3.7
13	M.I.D. # 1	5.3	5.3	5.4	4.8	5.5	7.3	6.2	6.0	6.4	10.2	5.8	5.5
14	M.I.D. # 2	5.3	5.0	4.8	4.1	4.8	10.5	4.0	5.2	4.5	11.7	4.1	3.6
15	Miami Gardens	4.7	5.6	4.6	4.4	5.0	6.3	5.8	5.3	5.6	10.1	5.3	5.1
16	Star Lake	7.1	7.0	6.8	6.3	6.5	8.0	8.0	6.7	7.2	11.3	7.3	8.0
17	Sierra Mirada	7.6	9.5	9.4	9.1	9.3	12.9	7.0	9.3	9.2	13.2	8.6	6.1
18	Honey Hill	12.8	15.1	14.5	10.6	11.9	15.3	10.1	14.6	11.1	16.6	10.5	8.3
19	Norwood	6.9	7.0	6.7	6.0	6.7	7.7	6.0	6.3	10.2	9.3	6.6	5.8
20	Palmiland	3.5	4.3	6.8	6.9	7.2	8.5	7.6	8.0	7.1	9.4	7.2	6.8
21	Windwood	3.1	3.5	2.9	2.7	3.6	4.6	3.7	3.8	4.5	7.0	5.6	5.4
22	Bell Gardens	2.8	2.9	2.8	2.8	2.8	4.4	3.8	3.5	3.5	7.4	3.6	3.2
23	Hawco	0.5	0.6	0.5	0.7	0.9	0.9	0.7	0.9	0.7	1.2	0.7	0.6
24	P.P.S.	0.9	1.1	0.2	1.7	0.5	1.5	0.6	0.8	0.9	0.8	0.3	0.9
25	K.O.A.	0.7	0.6	0.6	1.6	0.5	0.5	0.5	0.5	0.4	1.6	0.5	0.5
26	Laurias	0.6	0.7	0.5	0.7	0.9	0.7	0.9	0.8	0.9	1.6	0.7	0.7
27	Medical Plaza	1.0	1.3	3.1	1.4	1.3	1.2	1.3	1.4	1.7	2.4	1.6	1.5
28	K.F.C.	0.1	0.1	0.1	0.1	0.0	0.1	1.3	0.1	0.1	0.2	0.1	0.2
29	Houston's	0.1	3.6	2.4	2.6	2.6	2.8	2.7	2.5	2.1	2.6	1.8	2.0
30	Monticello												
31	DOT #1												
32	DOT #2												
33	Highland Village												
	TOTAL	136.1	149.3	144.4	141.6	147.0	204.5	156.9	157.4	156.6	242.1	138.8	128.8

Note: 0.0 Indicates Period of No Data, Blank cell signifies PS was not in service or nonexistent

**Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009**

Station No.	Name	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00
1	Myrtle Grove # 1	4.8	5.0	6.4	5.8	5.2	8.7	9.5	7.4	7.3	21.8	4.7	5.6
2	Myrtle Grove # 2	6.5	5.6	8.3	6.1	5.4	6.4	7.0	7.7	7.6	17.7	7.0	7.2
3	Stoney Brook	4.8	5.1	6.3	6.2	6.0	5.8	6.1	5.9	5.6	8.0	5.1	5.8
4	Master	4.4	4.4	5.0	4.8	4.5	5.7	5.0	5.0	4.3	9.8	4.1	4.8
5	Scott Lake # 4	7.1	6.8	7.3	7.1	7.0	8.8	8.5	8.4	7.7	11.3	8.6	7.5
6	Scott Lake # 8	5.4	5.1	5.7	5.5	6.1	5.7	6.5	6.0	5.8	9.3	5.9	8.4
7	Sunshine # 1	4.9	5.0	5.7	8.3	5.1	6.9	6.4	5.0	5.7	7.8	4.5	4.8
8	Sunshine # 2	6.3	6.5	9.6	6.8	5.6	8.1	7.2	6.4	9.1	13.5	5.6	6.3
9	Cravero	2.0	2.0	2.1	2.2	2.1	2.5	2.4	2.3	2.4	5.1	2.2	2.3
10	Scott Lake # 1	7.5	7.6	9.0	8.9	8.8	9.1	8.8	8.4	8.5	9.8	6.7	7.0
11	Miami Lanes	1.7	1.3	1.2	1.4	2.3	1.6	1.8	2.1	2.0	4.4	3.2	1.8
12	Golden Glades	3.2	3.1	3.0	3.6	3.3	3.6	4.0	3.8	3.9	7.6	4.9	4.3
13	M.I.D. # 1	5.2	4.9	5.7	5.7	5.7	6.4	6.8	6.6	6.7	14.6	6.6	6.6
14	M.I.D. # 2	3.2	2.7	3.5	9.5	5.7	4.4	4.4	3.9	4.9	12.4	3.5	5.7
15	Miami Gardens	4.9	4.1	4.8	4.7	4.1	4.8	4.9	4.8	5.0	10.1	4.3	4.5
16	Star Lake	6.5	6.7	7.0	6.8	6.5	7.2	7.3	7.8	8.2	10.8	6.9	6.5
17	Sierra Mirada	6.3	8.6	9.3	9.2	8.6	10.5	6.4	10.2	9.6	18.6	10.7	11.4
18	Honey Hill	9.0	10.1	11.4	10.9	11.3	12.6	11.7	11.3	11.2	17.3	11.4	11.4
19	Nonwood	5.4	5.9	6.7	5.8	5.6	6.6	6.7	6.6	5.9	10.4	6.0	5.9
20	Palmiland	6.2	6.5	7.2	7.0	7.0	6.4	8.2	7.5	8.0	12.6	7.9	7.5
21	Windwood	4.1	3.5	3.8	3.7	4.3	4.3	4.2	3.6	3.5	12.8	3.9	4.1
22	Bell Gardens	3.0	3.1	3.5	3.5	3.4	4.3	5.0	3.7	3.3	8.2	3.2	4.4
23	Hawco	0.6	0.5	1.1	0.8	1.0	0.9	0.8	1.1	0.8	1.0	0.7	0.5
24	P.P.S.	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.8	0.7	2.5	0.2	0.3
25	K.O.A.	0.5	0.7	2.3	0.5	1.5	0.6	0.5	0.5	0.5	0.6	4.1	2.0
26	Launas	0.9	0.7	0.6	0.7	0.9	0.7	0.8	0.7	1.2	1.3	0.8	1.0
27	Medical Plaza	1.4	1.5	1.5	1.7	3.3	2.0	2.0	2.7	2.0	2.9	1.3	1.4
28	K.F.C.	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2
29	Houston's	1.8	1.9	2.0	1.8	1.7	2.1	2.2	2.0	1.9	2.6	1.9	2.3
30	Monticello												
31	DOT #1												
32	DOT #2												
31	Highland Village												
TOTAL		117.9	119.1	140.3	139.5	132.4	147.2	145.6	142.4	143.5	265.2	136.1	141.5

Note: 0.0 indicates Period of No Data, Blank cell signifies PS was not in service or nonexistent

**Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009**

Station No.	Name	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01
1	Myrtle Grove # 1	4.9	4.2	3.8	4.3	8.1	5.3	6.9	5.3	3.5	8.8	5.5	2.3
2	Myrtle Grove # 2	5.8	6.2	5.4	6.2	7.8	6.3	7.1	8.1	6.6	12.1	5.2	4.4
3	Stoney Brook	5.2	4.6	4.4	4.9	6.4	5.0	10.5	5.2	5.4	6.6	5.0	5.1
4	Master	3.8	4.0	3.5	4.1	4.6	4.0	4.3	3.9	4.6	6.6	5.2	4.5
5	Scott Lake # 4	6.0	6.7	6.4	7.4	8.3	7.0	8.0	6.4	7.4	9.6	5.9	4.9
6	Scott Lake # 8	6.1	7.5	5.2	5.8	6.3	5.7	6.1	5.8	5.9	7.8	8.6	6.1
7	Sunshine # 1	3.9	4.8	5.0	5.1	5.9	4.6	4.9	5.6	5.3	7.9	4.8	4.1
8	Sunshine # 2	4.4	5.3	5.2	6.9	8.1	5.6	5.7	6.2	6.0	9.8	5.6	4.5
9	Cravero	1.3	1.8	2.0	2.2	2.1	1.9	2.4	2.4	2.5	3.6	1.8	2.1
10	Scott Lake # 1	6.1	6.6	6.4	7.3	7.0	7.3	6.5	7.5	7.0	0.0	0.0	2.1
11	Miami Lanes	2.2	2.8	3.8	4.0	0.0	3.4	3.3	4.1	3.7	3.8	2.7	2.8
12	Golden Glades	3.8	3.6	3.3	3.8	3.8	3.6	3.7	4.0	4.2	5.2	3.8	3.9
13	M.I.D. # 1	6.0	6.1	5.5	6.1	6.7	6.4	6.7	6.7	6.6	6.7	5.8	5.9
14	M.I.D. # 2	3.2	3.6	2.7	3.9	6.4	3.5	4.0	4.7	4.5	7.7	3.6	3.7
15	Miami Gardens	4.1	3.6	3.6	4.0	4.4	2.5	6.0	4.4	4.3	4.6	4.1	3.9
16	Star Lake	8.4	6.9	6.0	7.1	10.5	6.8	3.8	8.8	6.8	7.7	6.5	6.5
17	Sierra Mirada	9.4	8.9	8.1	6.5	5.7	5.5	3.9	6.3	8.1	7.2	4.5	4.4
18	Honey Hill	10.6	10.1	9.5	9.8	9.1	9.0	7.6	0.0	0.0	0.0	0.0	3.1
19	Norwood	7.5	6.2	5.6	6.0	5.9	6.3	5.6	5.2	5.4	5.4	5.4	5.4
20	Palmiland	6.8	7.1	7.1	7.5	7.8	7.0	7.5	7.4	7.1	9.9	6.8	7.4
21	Windwood	4.9	5.0	3.6	3.2	3.0	2.6	2.9	3.0	2.9	5.4	2.5	2.5
22	Bell Gardens	2.6	2.7	2.6	3.2	3.8	4.7	4.1	4.8	2.8	4.2	3.0	3.0
23	Hawco	0.9	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.8	1.5	0.4	0.4
24	P.P.S.	0.3	0.1	0.1	0.4	0.2	0.3	0.5	1.1	0.9	1.0	0.8	0.7
25	K.O.A.	1.2	0.5	0.4	1.6	2.9	0.6	0.5	0.6	0.6	0.6	0.6	2.6
26	Laurias	1.0	0.6	0.7	0.8	1.1	0.9	0.8	0.9	0.9	1.0	0.5	0.9
27	Medical Plaza	4.2	1.4	1.2	1.3	1.4	1.3	1.3	3.2	2.0	2.5	3.7	2.2
28	K.F.C.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.1
29	Houston's	2.4	2.4	2.1	2.1	1.9	1.9	2.2	2.3	2.4	2.5	2.3	2.3
30	Monticello												
31	DOT #1												
32	DOT #2												
31	Highland Village												
TOTAL		127.1	123.9	113.7	126.1	139.8	119.6	127.4	124.6	118.4	149.9	104.9	101.8

Note: 0.0 Indicates Period of No Data, Blank cell signifies PS was not in service or nonexistent

Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009

Station No.	Name	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02	Dec-02
1	Myrtle Grove # 1	5.1	5.9	6.0	6.0	6.4	8.1	10.1	6.8	4.8	4.5	4.9	7.4
2	Myrtle Grove # 2	4.5	4.9	4.8	4.9	4.7	8.9	10.2	8.2	7.0	6.7	6.4	8.4
3	Stoney Brook	5.2	4.5	4.4	4.6	4.5	4.8	4.5	4.7	5.1	4.8	5.5	5.4
4	Master	4.3	4.4	4.3	4.3	4.4	4.9	5.2	4.7	4.6	2.5	6.1	5.0
5	Scott Lake # 4	6.0	5.1	4.9	4.8	5.3	7.3	6.5	6.6	7.0	6.7	7.3	7.8
6	Scott Lake # 8	5.6	6.8	8.2	4.9	4.9	5.3	5.0	5.0	4.9	4.6	5.1	5.3
7	Sunshine # 1	4.8	4.7	4.9	4.1	4.9	5.4	6.1	off	off	off	2.0	4.9
8	Sunshine # 2	5.2	5.3	5.4	4.7	5.6	6.0	6.6	5.5	5.2	4.6	3.1	3.3
9	Cravero	2.1	2.2	2.4	2.4	2.4	2.6	2.6	2.6	2.4	2.4	2.7	2.5
10	Scott Lake # 1	6.4	6.1	5.7	5.1	6.4	5.8	5.7	5.7	6.1	5.5	6.0	6.4
11	Miami Lanes	3.0	5.0	2.7	2.6	3.0	3.0	2.9	2.6	2.3	2.5	2.8	3.8
12	Golden Glades	3.6	3.6	3.6	3.5	3.8	4.0	3.9	3.7	3.7	3.4	3.3	3.8
13	M.I.D. # 1	5.6	6.7	6.7	5.4	5.8	5.7	5.7	6.0	5.9	5.6	5.6	6.3
14	M.I.D. # 2	3.7	3.9	3.7	3.4	4.8	5.3	5.7	4.4	3.9	3.2	4.1	5.8
15	Miami Gardens	4.2	4.1	3.9	3.9	4.6	4.5	4.6	4.1	4.1	3.9	4.2	4.4
16	Star Lake	6.9	6.7	6.6	6.6	6.3	7.1	7.1	6.8	6.7	6.4	6.3	6.7
17	Sierra Mirada	4.2	4.1	4.1	4.3	4.2	4.6	4.8	4.5	4.1	3.9	4.1	4.7
18	Honey Hill	2.9	2.9	2.8	2.8	3.0	3.3	3.5	3.0	2.9	2.6	2.5	2.7
19	Norwood	5.8	5.5	5.5	5.5	5.4	5.2	5.8	5.9	5.9	5.6	6.2	6.0
20	Paimland	7.1	7.4	6.8	7.0	7.1	7.9	7.9	6.3	7.2	6.6	3.0	7.7
21	Windwood	4.6	2.2	2.2	2.2	2.5	4.2	5.1	3.2	2.8	2.2	2.4	2.9
22	Bell Gardens	3.0	3.2	3.1	3.1	3.2	4.2	4.0	3.6	3.4	3.1	3.3	4.0
23	Hawco	0.5	0.4	0.7	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.4	0.5
24	P.P.S.	1.2	0.2	0.2	0.6	0.6	0.7	0.6	1.1	0.8	1.1	0.5	0.5
25	K.O.A.	1.0	1.3	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.5	3.3	0.6
26	Laurias	0.6	0.7	0.8	0.9	0.9	0.9	0.7	0.7	0.6	0.6	0.7	0.7
27	Medical Plaza	2.4	2.2	1.9	1.9	3.0	2.4	2.5	2.4	2.4	1.4	1.2	1.3
28	K.F.C.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
29	Houston's	2.4	2.4	2.6	2.4	2.4	2.1	2.2	2.1	2.2	2.1	2.2	3.1
30	Monticello												
31	DOT #1												
32	DOT #2												
31	Highland Village												
TOTAL		112.1	112.6	109.6	103.1	111.4	125.3	130.6	111.2	107.2	97.8	105.4	122.1

Note: 0.0 Indicates Period of No Data, Blank cell signifies PS was not in service or nonexistant

**Table 6.1 - Pump Station Monthly Average Run Times - NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009**

Station No.	Name	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03
1	Myrtle Grove # 1	4.3	4.9	5.5	4.7	6.0	8.0	4.2	5.7	7.6	5.3	7.4	4.4
2	Myrtle Grove # 2	7.0	6.6	6.7	5.8	7.1	9.2	5.6	6.5	9.0	9.0	8.3	6.2
3	Stoney Brook	4.9	4.9	6.3	4.4	5.2	5.2	6.2	5.7	5.6	5.0	5.7	5.2
4	Master	4.1	4.1	4.2	8.0	4.5	9.4	4.1	4.0	4.5	4.1	4.6	3.8
5	Scott Lake # 4	6.7	6.1	6.5	6.7	6.9	7.3	6.2	6.8	7.2	7.0	7.4	6.8
6	Scott Lake # 8	5.2	5.0	5.4	5.0	5.3	5.4	4.6	4.9	4.7	4.5	4.6	4.3
7	Sunshine # 1	3.1	3.6	3.5	3.1	3.8	3.6	3.1	3.3	3.6	3.1	3.5	3.4
8	Sunshine # 2	2.1	2.1	2.4	2.1	2.5	2.3	1.8	2.1	3.7	3.1	2.6	2.0
9	Cravero	1.8	1.8	2.3	2.2	2.5	2.5	2.1	1.7	2.3	2.2	2.4	1.9
10	Scott Lake # 1	6.1	5.9	5.8	5.6	5.5	5.8	6.4	5.1	6.4	4.2	5.9	5.5
11	Miami Lanes	2.6	3.1	3.0	3.4	3.8	4.1	6.0	3.7	6.9	3.9	4.2	3.0
12	Golden Glades	3.4	3.5	3.8	3.8	4.1	4.0	3.7	3.9	4.1	3.9	4.0	3.7
13	M.I.D. # 1	6.1	5.5	6.0	5.4	6.1	6.1	5.5	5.6	5.8	5.5	5.7	5.7
14	M.I.D. # 2	4.8	4.4	5.2	4.8	7.0	7.1	4.5	4.9	7.2	5.8	7.2	4.3
15	Miami Gardens	6.8	4.3	4.7	4.3	4.4	4.3	4.3	4.4	5.2	4.1	4.5	4.1
16	Star Lake	5.9	5.8	6.2	6.2	6.6	7.2	6.2	6.2	6.3	6.7	7.1	6.3
17	Sierra Mirada	4.4	4.3	4.7	4.5	5.1	5.6	5.3	5.0	4.9	4.4	5.2	4.7
18	Honey Hill	2.5	2.5	2.8	2.6	3.0	3.0	3.0	3.0	3.0	2.7	3.2	2.8
19	Nonwood	5.4	5.3	5.6	5.3	5.8	5.8	5.3	5.2	5.1	5.4	5.8	5.5
20	Palmiland	6.4	6.0	6.5	6.1	6.9	7.5	2.7	7.2	7.2	8.1	9.3	7.1
21	Windwood	2.3	2.1	2.1	2.1	2.4	2.5	3.3	2.7	3.0	3.3	5.8	2.7
22	Bell Gardens	3.5	3.3	3.6	3.5	4.0	4.7	3.6	3.6	4.7	4.4	4.4	3.2
23	Hawco	0.4	0.5	0.6	0.6	0.6	0.7	0.7	0.3	0.3	0.2	0.2	0.3
24	P.P.S.	0.4	0.4	0.2	0.6	0.4	0.5	0.6	0.7	0.9	1.3	0.7	0.6
25	K.O.A.	0.5	0.6	0.6	0.7	0.8	0.8	2.0	0.5	0.6	0.6	0.6	0.6
26	Laurias	0.6	0.6	0.8	1.1	0.9	1.4	0.9	1.5	0.9	0.8	0.8	0.8
27	Medical Plaza	1.2	1.1	2.4	1.9	2.3	2.1	4.3	1.7	4.6	1.9	2.1	1.8
28	K.F.C.	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29	Houston's	2.9	3.0	3.1	3.1	2.8	2.7	2.4	2.1	2.2	2.1	2.2	2.1
30	Monticello	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	DOT #1												
32	DOT #2												
31	Highland Village												
TOTAL		105.5	101.3	110.5	107.7	116.5	128.8	108.7	108.1	127.4	112.6	125.5	102.9

Note: 0.0 Indicates Period of No Data, Blank cell signifies PS was not in service or nonexistent

Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009

Station No.	Name	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04
1	Myrtle Grove # 1	4.5	5.2	4.3	4.5	4.2	4.1	5.2	7.4	6.3	5.4	4.5	5.4
2	Myrtle Grove # 2	6.8	7.8	6.5	6.0	5.9	5.6	7.0	8.3	6.6	6.4	5.4	6.6
3	Stoney Brook	4.9	6.3	5.5	5.7	5.4	5.9	5.4	5.7	5.6	5.4	5.7	5.6
4	Master	3.8	4.0	4.0	4.2	3.8	3.7	4.0	4.8	4.7	6.4	5.8	4.6
5	Scott Lake # 4	6.5	6.1	6.8	6.9	6.3	6.2	6.5	7.9	7.6	6.8	7.1	6.8
6	Scott Lake # 8	5.3	4.6	4.8	5.0	4.6	4.8	4.8	4.8	4.7	5.1	4.6	4.8
7	Sunshine # 1	2.9	3.7	3.0	3.5	2.9	3.2	3.1	3.7	3.4	3.1	2.7	3.2
8	Sunshine # 2	1.8	2.3	1.7	1.8	1.7	1.9	2.0	2.9	2.3	2.0	1.8	2.0
9	Cravero	2.2	2.3	2.3	2.3	2.3	1.9	2.2	2.5	2.3	1.9	2.3	2.2
10	Scott Lake # 1	4.9	5.2	4.7	6.0	5.2	5.2	5.3	5.7	5.5	5.0	5.5	5.8
11	Miami Lanes	3.7	3.7	3.5	3.4	3.9	4.3	4.3	4.4	4.3	4.1	3.8	3.9
12	Golden Glades	3.5	4.0	3.7	3.8	3.9	4.1	4.0	4.3	4.8	3.0	2.5	3.7
13	M.I.D. # 1	5.1	5.4	5.0	5.3	6.0	5.9	5.7	6.2	6.1	4.3	4.2	5.3
14	M.I.D. # 2	4.7	5.2	4.4	4.4	4.8	4.0	4.4	8.6	4.1	5.1	5.1	4.8
15	Miami Gardens	4.0	4.5	4.2	5.9	6.4	4.8	3.7	4.5	4.5	5.5	3.7	4.6
16	Star Lake	5.9	6.1	5.9	5.7	5.5	5.6	6.4	7.8	7.6	7.4	6.9	6.5
17	Sierra Mirada	4.6	4.8	4.7	4.7	4.8	4.9	5.2	5.5	5.5	5.2	5.0	5.0
18	Honey Hill	2.8	3.0	2.8	2.8	2.5	2.6	2.7	3.0	3.0	2.7	1.3	2.5
19	Norwood	4.8	5.1	5.1	4.8	4.9	4.7	4.6	5.7	5.6	4.8	2.6	4.6
20	Palmland	6.8	7.5	8.0	8.0	7.6	8.0	8.6	8.9	9.4	9.0	8.5	8.2
21	Windwood	2.5	2.3	2.2	2.3	2.2	2.5	2.3	2.9	3.4	4.4	3.9	2.9
22	Bell Gardens	3.6	3.9	3.5	3.3	3.1	3.0	3.3	4.1	3.8	3.6	3.6	0.0
23	Hawco	0.7	0.4	0.3	0.4	0.4	0.5	0.4	0.4	0.3	0.3	0.4	0.3
24	P.P.S.	0.2	0.1	0.1	0.4	0.3	0.2	0.3	0.4	0.5	0.3	0.3	0.3
25	K.O.A.	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.5	0.5
26	Laurias	0.8	0.8	1.0	1.2	1.7	0.8	0.9	1.5	1.2	1.0	1.2	2.2
27	Medical Plaza	1.6	1.7	1.7	1.7	2.0	2.1	3.4	2.9	3.4	3.6	2.4	2.1
28	K.F.C.	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
29	Houston's	1.9	2.0	1.8	1.8	1.8	1.5	1.8	2.1	1.6	1.6	1.6	1.8
30	Monticello	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	DOT # 1												
32	DOT # 2												
31	Highland Village												
TOTAL		101.6	108.8	102.2	106.6	104.9	102.7	108.2	127.7	118.9	114.2	103.0	106.4

Note: 0.0 Indicates Period of No Data, Blank cell signifies PS was not in service or nonexistent

Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009

Station No.	Name	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05
1	Myrtle Grove # 1	5.4	4.6	4.9	4.9	4.6	5.4	5.4	5.2	5.2	5.3	5.3	5.2
2	Myrtle Grove # 2	6.6	6.5	6.4	6.4	6.4	6.7	6.7	6.4	6.3	6.3	6.3	6.2
3	Stoney Brook	5.6	5.4	5.4	5.3	5.3	5.2	5.2	5.1	5.0	4.9	4.9	4.7
4	Master	4.7	4.9	5.1	5.2	5.5	5.8	5.8	6.1	6.3	6.3	6.3	6.2
5	Scott Lake # 4	6.7	6.7	6.7	6.7	6.8	6.9	6.9	6.9	7.0	6.7	6.7	6.5
6	Scott Lake # 8	4.7	4.8	4.8	4.7	4.7	4.6	4.6	4.5	4.4	4.3	4.3	4.1
7	Sunshine # 1	3.2	3.1	3.1	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9
8	Sunshine # 2	2.0	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.3
9	Cravero	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
10	Scott Lake # 1	5.8	5.9	6.0	5.9	6.0	6.0	6.0	6.0	5.6	6.0	6.0	5.9
11	Miami Lanes	3.9	3.9	3.9	3.9	3.9	3.8	3.8	3.6	3.7	3.6	3.6	3.7
12	Golden Glades	3.6	3.5	3.4	3.3	3.5	3.5	3.5	3.5	3.4	3.4	3.4	4.0
13	M.I.D. # 1	5.2	5.2	5.1	5.0	4.9	4.8	4.8	4.7	4.6	4.6	4.6	4.7
14	M.I.D. # 2	4.6	4.5	4.4	4.4	4.2	4.4	4.4	3.8	3.9	3.9	3.9	3.6
15	Miami Gardens	4.6	4.6	4.6	4.4	4.2	4.2	4.2	4.4	4.4	4.3	4.3	4.4
16	Star Lake	6.5	6.6	6.8	7.0	7.1	7.4	7.4	7.6	7.7	7.8	7.8	8.0
17	Sierra Mirada	4.9	4.9	4.9	4.8	4.8	4.7	4.7	4.6	4.5	4.4	4.4	4.2
18	Honey Hill	2.4	2.3	2.1	2.0	1.9	1.8	1.8	1.6	1.5	1.4	1.4	1.4
19	Norwood	4.4	4.2	3.9	3.7	3.5	3.3	3.3	2.9	2.7	2.4	2.4	2.4
20	Palmiland	8.4	8.4	8.4	8.5	8.6	8.8	8.8	9.0	9.1	8.9	8.9	8.7
21	Windwood	3.0	3.1	3.3	3.4	3.6	3.7	3.7	4.0	4.2	4.2	4.2	3.9
22	Bell Gardens	0.0	0.0	0.0	0.0	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3
23	Hawco	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
24	P.P.S.	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
25	K.O.A.	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8
26	Laurias	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.3
27	Medical Plaza	2.4	2.4	2.3	2.3	2.2	2.3	2.3	2.1	2.0	2.0	2.0	2.0
28	K.F.C.	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
29	Houston's	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
30	Monticello	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	DOT #1												
32	DOT #2												
33	Highland Village												
TOTAL		105.9	104.5	104.5	103.8	105.8	107.8	107.8	106.5	106.1	105.2	105.2	104.5

Note: 0.0 indicates Period of No Data, Blank cell signifies PS was not in service or nonexistent

Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009

Station No.	Name	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06
1	Myrtle Grove # 1	5.3	4.9	5.4	5.5	5.6	5.3	5.3	5.4	6.0	5.1	4.8	4.4
2	Myrtle Grove # 2	6.1	6.0	6.0	6.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Stoney Brook	4.8	4.8	4.7	4.8	4.8	4.8	4.6	4.7	4.9	4.9	5.0	5.0
4	Master	6.3	6.2	6.1	6.1	6.0	5.9	5.8	5.9	5.8	5.7	5.7	5.7
5	Scott Lake # 4	6.6	6.6	6.6	6.5	6.5	6.5	6.4	6.5	6.4	6.6	6.6	6.7
6	Scott Lake # 8	4.1	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.9	4.0	4.0	4.0
7	Sunshine # 1	2.9	3.0	2.9	2.9	3.0	2.9	2.8	2.9	2.9	2.9	2.8	2.8
8	Sunshine # 2	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.2
9	Cravero	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3
10	Scott Lake # 1	5.9	5.8	5.8	5.7	5.2	5.1	5.1	5.1	5.0	5.1	5.2	5.2
11	Miami Lanes	3.7	3.6	3.6	3.5	3.6	3.6	3.5	3.6	3.6	3.5	3.5	3.3
12	Golden Glades	4.2	4.3	4.5	4.5	4.3	4.3	4.3	4.2	4.2	4.2	3.7	3.6
13	M.I.D. # 1	4.8	4.8	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
14	M.I.D. # 2	3.6	3.4	3.3	3.1	3.0	2.8	2.7	2.6	2.5	2.2	2.1	2.1
15	Miami Gardens	4.4	4.4	4.4	4.3	4.4	4.3	4.2	4.2	4.1	4.1	4.1	4.0
16	Star Lake	8.1	8.3	8.2	8.2	8.3	8.4	8.5	8.6	8.6	8.6	8.6	8.5
17	Sierra Mirada	4.1	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.0
18	Honey Hill	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5
19	Norwood	2.4	2.4	2.4	2.4	2.4	2.6	2.6	2.6	2.6	2.7	2.7	2.7
20	Palmiland	8.5	8.4	8.2	7.9	7.7	7.4	7.1	6.9	6.6	6.5	6.4	6.3
21	Windwood	3.9	3.8	3.8	3.7	3.8	3.7	3.6	3.4	3.5	3.3	3.5	3.8
22	Bell Gardens	2.6	2.9	3.2	3.5	3.6	3.6	3.7	3.8	3.9	4.1	4.2	4.2
23	Hawco	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.9	0.6	0.6	0.6
24	P.P.S.	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
25	K.O.A.	1.1	1.2	1.6	1.6	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7
26	Laurias	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7
27	Medical Plaza	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.5	1.4	1.4
28	K.F.C.	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.3
29	Houston's	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2
30	Monticello	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2
31	DOT #1												
32	DOT #2												
31	Highland Village												
TOTAL		104.9	104.4	105.0	104.5	104.3	97.1	95.9	96.0	97.1	95.8	95.3	94.7

Note: 0.0 Indicates Period of No Data, Blank cell signifies PS was not in service or nonexistant

**Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009**

Station No.	Name	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1	Myrtle Grove # 1	5.2	5.2	5.2	5.2	5.2	5.7	6.3	7.0	6.5	8.2	9.0	10.0
2	Myrtle Grove # 2	6.3	6.6	7.2	6.3	5.4	5.3	5.2	5.0	5.0	5.1	4.8	5.2
3	Stoney Brook	5.1	5.1	5.1	5.1	5.2	5.3	5.6	5.5	5.5	5.6	5.6	5.5
4	Master	3.2	3.1	3.1	3.0	3.0	3.0	3.1	3.2	3.0	3.5	3.3	4.6
5	Scott Lake # 4	6.7	6.6	6.6	6.6	6.5	6.7	6.8	6.8	6.7	7.0	7.2	7.3
6	Scott Lake # 8	5.0	5.0	5.1	5.1	5.2	5.3	5.3	5.3	5.2	5.2	4.2	4.2
7	Sunshine # 1	2.7	2.6	2.6	2.5	2.7	2.8	2.8	3.1	3.1	3.2	2.7	2.6
8	Sunshine # 2	2.3	2.2	2.4	2.3	2.4	2.4	2.5	2.5	2.4	2.7	2.6	2.6
9	Cravero	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.6
10	Scott Lake # 1	5.1	5.1	5.0	5.1	5.0	5.0	5.1	5.1	5.2	5.3	5.2	5.4
11	Miami Lanes	3.7	3.8	3.7	3.7	3.8	3.7	3.6	3.5	3.4	3.3	2.8	3.4
12	Golden Glades	5.4	5.3	5.0	5.0	4.9	4.9	4.8	4.6	4.5	4.5	2.4	2.4
13	M.I.D. # 1	5.3	5.3	5.3	5.3	5.3	5.4	5.3	5.3	5.3	5.4	5.3	5.3
14	M.I.D. # 2	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.2	2.2	2.3
15	Miami Gardens	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.1	4.1	4.0	3.8	3.7
16	Star Lake	8.6	8.6	8.7	8.6	8.6	8.5	8.4	8.3	8.1	8.3	8.3	8.2
17	Sierra Mirada	4.1	4.1	4.1	4.1	4.2	4.2	4.2	4.2	4.2	4.3	4.3	4.2
18	Honey Hill	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
19	Norwood	2.7	2.7	2.8	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5
20	Palmland	6.4	6.4	6.3	6.3	6.3	6.3	6.3	6.1	6.0	6.2	6.0	5.9
21	Windwood	3.8	3.9	3.9	3.9	3.7	3.8	3.7	3.7	3.6	3.7	3.3	3.3
22	Bell Gardens	7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.7	7.6	8.0	5.1	2.5
23	Hawco	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
24	P.P.S.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4
25	K.O.A.	1.6	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.8
26	Laurias	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	0.9	1.0	0.9	1.0
27	Medical Plaza	1.6	1.6	1.7	1.7	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.8
28	K.F.C.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
29	Houston's	9.7	9.8	9.9	10.0	10.0	10.1	10.0	10.0	10.1	10.2	2.7	3.0
30	Monticello	1.1	1.1	1.1	1.1	2.2	2.2	2.2	2.6	2.6	2.6	0.3	0.3
31	DOT #1	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.0
32	DOT #2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	Highland Village	2.9	2.6	2.8	3.0	3.4	3.3	3.3	3.2	3.2	3.2	0.4	0.0
TOTAL		118.0	118.0	118.7	117.6	118.6	119.7	120.7	121.4	119.7	124.0	102.9	103.6

Highland Village Pump Station commenced in 01/09/ 2007
 Monthly average run times for 2007 are as calculated by DERIM except for the month of December that was calculated by the City
 Total NAPOT Readings start to increase due to PS 31 through PS 32 start to come online starting 2007

**Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009**

Station No.	Name	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08
1	Myrtle Grove # 1	10.1	10.6	10.5	10.9	10.8	10.1	9.8	9.3	9.0	8.3	8.0	7.8
2	Myrtle Grove # 2	4.5	4.5	4.5	4.7	4.7	4.6	4.5	4.6	4.3	4.3	4.4	4.4
3	Stoney Brook	5.6	5.6	5.6	5.7	5.7	5.6	5.8	5.8	5.8	5.9	6.2	6.3
4	Master	3.8	4.0	4.1	4.3	4.6	4.5	4.5	4.5	4.5	4.5	4.8	4.5
5	Scott Lake # 4	6.9	7.1	7.2	7.3	7.2	7.1	7.2	7.1	6.6	6.4	6.2	7.5
6	Scott Lake # 8	5.2	5.9	5.8	5.8	5.6	5.5	5.5	5.5	5.2	5.2	5.2	4.5
7	Sunshine # 1	2.8	2.8	2.8	2.8	2.5	2.3	2.4	2.3	2.3	2.4	2.4	2.1
8	Sunshine # 2	2.8	2.8	2.8	2.8	2.6	2.4	2.3	2.3	2.4	2.2	2.0	2.2
9	Cravero	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.6
10	Scott Lake # 1	4.5	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.8	4.8	5.3	5.7
11	Miami Lanes	4.2	4.2	3.9	3.7	3.5	3.5	3.4	3.5	3.3	3.3	2.5	2.3
12	Golden Glades	4.0	4.0	4.0	4.1	4.0	4.0	4.1	4.0	4.1	4.1	4.3	2.4
13	M.I.D. # 1	5.4	5.4	5.3	5.3	5.2	5.2	5.2	5.2	5.2	5.3	5.3	5.2
14	M.I.D. # 2	2.3	2.3	2.3	2.7	2.6	2.5	2.5	2.5	2.5	2.7	2.6	2.7
15	Miami Gardens	3.7	3.6	3.3	3.2	2.9	2.6	2.7	2.5	2.6	2.6	2.5	2.8
16	Star Lake	7.5	7.3	7.3	7.4	6.5	6.4	6.6	6.4	6.6	6.5	7.0	7.7
17	Sierra Mirada	4.3	4.3	4.3	4.4	4.4	4.3	4.4	4.4	4.4	4.5	4.5	4.5
18	Honey Hill	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.6
19	Norwood	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.7
20	Palmland	6.2	6.3	6.2	6.3	6.2	6.1	6.2	6.2	6.1	5.6	5.5	5.8
21	Windwood	2.9	2.7	2.5	2.4	2.3	2.3	2.4	2.3	2.4	2.4	2.6	3.2
22	Bell Gardens	8.9	9.2	9.2	9.5	9.8	9.9	9.9	10.1	10.0	10.3	10.3	6.8
23	Hawco	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
24	P.P.S.	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	0.3
25	K.O.A.	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.9	1.0	0.9
26	Launas	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.9	0.9	0.9	0.8	1.0
27	Medical Plaza	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7
28	K.F.C.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
29	Houston's	10.1	9.8	10.0	10.0	9.9	9.6	9.6	9.6	9.4	9.4	9.5	3.0
30	Monticello	2.6	2.6	2.6	2.6	2.6	2.6	3.7	3.8	3.7	3.7	3.9	0.4
31	DOT #1	0.0	0.7	0.7	0.7	0.7	0.9	0.9	0.9	0.9	0.9	0.9	0.0
32	DOT #2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	0.7	0.7	0.0
31	Highland Village	3.2	3.8	3.9	3.9	3.8	1.8	3.5	3.7	3.6	5.7	5.9	0.6
TOTAL		123.1	125.8	125.0	126.7	124.0	119.5	124.7	124.1	122.7	123.8	124.6	104.3

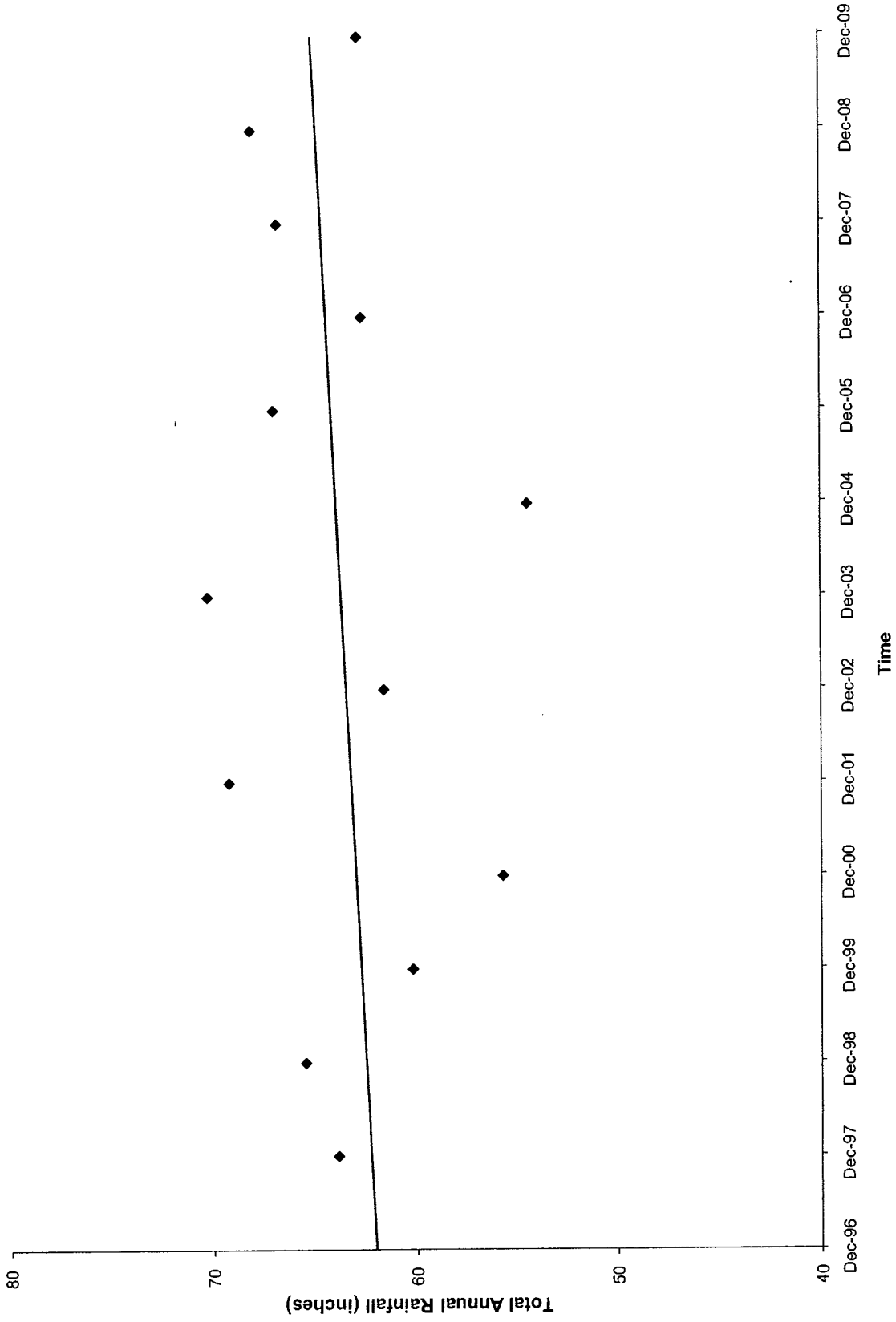
Note: 0.0 indicates Period of No Data. Blank cell signifies PS was not in service or nonexistent
 Monthly average run times for 2008 are as calculated by DERM except for the month of December that was calculated by the City
 Total NAPOT Readings start to increase due to PS 31 through PS 32 start to come online starting 2007

**Table 6.1 - Pump Station Monthly Average Run Times- NAPOT (Hours/Day)
CYCLE I and II
December 1996 through December 2009**

Station No.	Name	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09
1	Myrtle Grove # 1	7.2	6.3	5.5	5.0	5.0	5.5	5.4	5.5	5.7	4.8	4.8	6.3
2	Myrtle Grove # 2	4.4	4.3	4.2	4.3	4.0	4.2	4.3	4.4	4.8	4.7	4.8	5.1
3	Stoney Brook	6.3	6.2	6.3	6.3	6.1	6.1	5.8	5.8	5.8	5.5	5.5	5.9
4	Master	4.7	4.4	4.4	4.1	4.2	4.3	4.3	4.0	4.1	4.0	4.0	10.5
5	Scott Lake # 4	6.8	6.6	6.5	6.4	6.4	6.2	6.3	7.1	6.4	6.2	6.2	7.5
6	Scott Lake # 8	5.4	5.1	4.9	5.0	5.1	4.9	4.9	5.0	5.0	5.2	5.2	5.5
7	Sunshine # 1	2.3	2.3	2.3	2.1	2.1	2.3	2.3	2.3	2.4	2.2	2.2	3.0
8	Sunshine # 2	1.9	1.9	1.8	1.8	1.8	2.1	2.2	2.2	2.3	2.2	2.4	3.7
9	Cravero	2.6	2.6	2.6	2.6	2.6	2.7	2.8	2.8	2.9	2.6	2.7	3.6
10	Scott Lake # 1	6.0	6.0	6.1	6.0	6.0	6.2	6.2	6.1	6.1	6.0	6.1	6.5
11	Miami Lanes	2.0	1.8	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2
12	Golden Glades	4.1	4.0	3.9	3.8	3.8	3.7	3.5	3.6	3.5	3.5	3.6	2.2
13	M.I.D. # 1	5.2	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	5.0	5.7
14	M.I.D. # 2	2.7	2.7	2.7	2.3	2.3	2.4	2.6	2.8	2.8	2.4	2.3	3.4
15	Miami Gardens	2.6	2.5	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6
16	Star Lake	7.0	7.1	6.5	5.8	6.4	5.8	5.8	6.0	6.0	5.9	5.9	9.3
17	Sierra Mirada	4.5	4.4	4.1	4.0	4.0	3.6	3.6	3.7	3.8	3.7	3.6	4.5
18	Honey Hill	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.5	1.6
19	Nonwood	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.2	2.2	2.3	2.2	2.6
20	Palmland	5.5	5.0	5.0	5.3	5.3	5.4	5.4	5.5	5.5	5.9	6.0	6.1
21	Windwood	2.6	3.0	3.3	3.1	3.1	3.1	3.2	3.2	3.2	3.1	3.2	3.8
22	Bell Gardens	9.9	9.6	9.3	9.0	8.9	8.8	8.7	8.6	8.5	7.9	7.7	4.6
23	Hawco	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.6
24	P.P.S.	1.0	1.0	1.0	1.0	0.9	1.0	0.3	0.3	0.3	0.3	0.3	0.9
25	K.O.A.	1.0	0.9	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.6	0.6	0.8
26	Laurias	0.8	0.9	0.8	0.9	0.9	0.8	0.9	0.9	0.9	0.9	0.9	1.1
27	Medical Plaza	1.8	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.4	1.5
28	K.F.C.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4
29	Houston's	9.6	6.7	6.9	6.7	6.5	6.5	6.5	6.5	6.7	6.6	6.5	3.6
30	Monticello	3.9	3.2	3.2	3.2	3.2	3.2	2.1	2.1	2.1	2.2	2.2	0.3
31	DOT #1	1.1	1.1	1.1	1.1	1.1	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	0.0
32	DOT #2	0.7	0.7	0.7	0.7	0.7	0.5	0.1	0.1	0.1	0.1	0.1	0.1
31	Highland Village	5.8	4.8	4.8	4.8	4.8	4.8	3.1	3.1	3.1	3.2	3.2	0.1
TOTAL		124.5	116.9	114.9	112.5	112.4	111.4	107.3	108.5	108.8	105.5	105.8	115.6

Readings for PS#31 from Jun 09 through November 09 are not included in the average calculations due to the incomplete readings reported by DERM. This is also a result of the calculation method used.
Monthly average run times for 2009 are as calculated by DERM except for the month of December which was calculated by the City and submitted to DERM for review.

Figure 6.3 - Total Annual Rainfall
(with linear trendline)



Note: Total Annual Rainfall data obtained for the City of Miami
Reference: <http://www.wunderground.com/US/FL/Miami.html>

6.4 Engineering Assessment

The evaluation and rehabilitation information presented in this report was compiled by AECOM, formally known as Metcalf & Eddy|AECOM, staff through site visits during rehabilitation work, consultation with rehabilitation contractors, review of CNMB records including written documentation and videotapes, and interviews with CNMB personnel.

Based on the documentation reviewed for this report, the completed rehabilitation work is not expected to have reduced the hydraulic capacity of the wastewater collection system. In the case of pipe replacements, the same-diameter replacement piping should exhibit a reduced friction factor when compared to the original clay pipe. In the case of pipe lining, the minimal decrease in pipe diameter is expected to be offset by a reduced friction factor. While land use and flows within the subject service areas are not expected to change significantly through future development, it is noted that the decrease in total flows achieved through I/I reductions should effectively increase capacity available for legitimate wastewater flows.

6.5 Conclusions

The CNMB sanitary sewer collection system includes approximately 79 miles of pipe and 1,600 manholes. The system consists of 33 collection basins each served by a pump station. All of the CNMB wastewater is eventually discharged into the MDWASD force main transmission system.

The CNMB has conducted I/I reduction work for many years as part of an overall mission to properly maintain the utility infrastructure and pursue a proactive and cost-effective expenditure of resources. More recently, the CNMB approach to I/I reduction has acknowledged formal actions by Miami-Dade County to require that all publicly and privately owned or operated sanitary sewer collection systems are evaluated to identify and reduce excessive I/I. Section 24-13.1(A)(1) of the Miami-Dade County Code requires that sanitary sewer collection systems be evaluated to identify and reduce excessive I/I, and that such evaluation address the total length of gravity sewer lines and associated manholes during the first five-year period of the program and every ten-year period thereafter.

The primary component tasks of the CNMB I/I reduction program as performed to date are listed below in order of priority.

- (1) Television inspection to identify main line repairs
- (2) Main line repair
- (3) Smoke testing to identify service line repairs
- (4) Service line repair
- (5) Manhole repair
- (6) Manhole insert

While this order of priority may be set aside for emergency repairs, modified for easily implemented repairs such as manhole insert installation, or adjusted to realize greater efficiencies in subcontracted work, it is generally followed and does accurately reflect the objective of identifying and reducing the largest I/I flows before proceeding to smaller I/I flows. For future activities, this approach will be adapted with reference to the system-wide SSES rehabilitation plan based on the DERM Guidelines for the Submittal of the Second Cycle SSES Phase I, II, & III dated July 2007.

Based on work performed through 2009 and projected for 2010, the City is achieving substantial progress toward completing evaluation of the sanitary sewer collection system within the time period required by the Miami-Dade County Code. Moreover, such evaluation will continue to be done with the objective of promptly implementing the identified repairs to achieve immediate I/I reductions.

**2009 Annual Report for
Sewer System Evaluation and Rehabilitation Work
City of North Miami Beach, Florida**

Cycle II

7.0 REFERENCES

The following sources were referenced in the preparation of this report, and relate directly or indirectly to the CNMB I/I reduction program. These sources are on file at the CNMB offices. Some Cycle II reports are included in the list below.

- A. Television inspection video tapes and DVD's
- Miami Industrial District # 2 (April 2002 forward)
 - Medical Plaza Collection Area (July 2002 forward)
 - Cravero Collection Area (January 2004 forward)
 - Cravero Collection Area (February 2005 forward)
 - Scott Lake #4 Collection Area (February 2007 forward)
 - Golden Glades Collection Area (April 2007 forward)
 - M.I.D. #2 Collection Area (April 2007 forward)
 - Miami Garden Villas Collection Area (April 2007 forward)
 - Scot Lake #8 Collection Area (May 2007 forward)
 - Miami Garden Villas Laterals (2007 forward)
 - M.I.D. # 1 Laterals (2007 forward)
 - Star Lake Laterals (2007 forward)
 - Sierra Mirada Collection Area (2008 forward)
 - Honey Hill Collection Area (2008 forward)
 - Norwood Collection Area (2008 forward)
- B. Smoke testing documentation
- *North Miami Beach Infiltration/Inflow Program, Myrtle Grove # 1 Collection Area Smoke Testing, Hazen & Sawyer (November 1997)*
 - *North Miami Beach Infiltration/Inflow Program, Myrtle Grove # 2 Collection Area Smoke Testing, Hazen & Sawyer (November 1997)*
 - *2008 Smoke Testing Technical Report, Metcalf & Eddy (July 2008) Basins smoke tested and included in this report are: Stoney Brook basin, Master basin, Bell Gardens basin, K.F.C. basin, and Houston's basin.*
- C. Manhole inspection reports
- All collection areas (2002 - 2009)

D. Sewer system evaluation studies and reports

- *Annual Report for Sewer System Evaluation and Rehabilitation Work*, Metcalf & Eddy (January 2002)
- *Peak Flow Management Study*, Metcalf & Eddy (July 2002)
- *Sanitary Sewer Evaluation Survey – Phases I and II*, Metcalf & Eddy (November 2002)
- *Annual Report for Sewer System Evaluation and Rehabilitation Work*, Metcalf & Eddy (January 2003)
- *Norwood-Oeffler Wellfield Protection Area Inspection and Rehabilitation*, Metcalf & Eddy (December 2003)
- *Annual Report for Sewer System Evaluation and Rehabilitation Work*, Metcalf & Eddy (January 2004)
- *Annual Report for Sewer System Evaluation and Rehabilitation Work*, Metcalf & Eddy (January 2005)
- *Annual Report for Sewer System Evaluation and Rehabilitation Work*, Metcalf & Eddy (January 2006)
- *Sanitary Sewer Evaluation Survey Update Report*, Metcalf & Eddy (May 2005)
- *Sanitary Sewer I/I Reduction Plan*, Metcalf & Eddy (December 2005)
- *Sanitary Sewer Evaluation Survey Phase III Report*, Metcalf & Eddy (November 2006)
- *Letter Response to Information Request –Section 308 of the Clean Water Act City of North Miami Beach Sanitary Sewer System addressed to EPA*, Metcalf & Eddy, (May 2007)
- *Letter Response to the Review of the Phase III Submittal for the Sanitary Sewer Evaluation System (SSES) for the City of North Miami Beach Sanitary Sewer Collection System addressed to DERM*, Metcalf & Eddy, (January 2007)
- *Letter Report to DERM addressing additional considerations and work plan for Sanitary Sewer Evaluation System (SSES) Phase III Report for the City of North Miami Beach Sanitary Sewer Collection System*, Metcalf & Eddy, (May 2007)
- *Letter Report to DERM in Response to July 5, 2007 DERM Letter for the Sanitary Sewer Evaluation System (SSES) Phase III Report for the City of North Miami Beach Sanitary Sewer Collection System*, Metcalf & Eddy, (July 2007)
- *Letter Report to DERM for Inflow and Infiltration (I/I) rates based on 2007 Flow Monitoring for the City of North Miami Beach*, Metcalf & Eddy, (October 2007)
- *2008 Smoke Testing Technical Report*, Metcalf & Eddy, July 2008 – This technical report documents smoke testing performed during 2008 and is included in the CNMB 2008 Annual Report.

- *Norwood-Oeffler Wellfield Sewer Evaluation Study, Metcalf & Eddy, December 2008* – This report documents the inspection and certification of the sanitary sewer lines and manholes located within the 210-day pumpage wellfield protection area of the Norwood-Oeffler Wellfield.
- *Annual Report for Sewer System Evaluation and Rehabilitation Work (Cycle II), AECOM Water, January 2008* - This report summarizes I/I evaluation and rehabilitation work for calendar year 2008 and provides a projection for the continuation of this work in calendar year 2009.

E. Engineering design documents

- *Myrtle Grove Force Main Replacement*, Metcalf & Eddy (July 2007)
- *Palmland/Norwood Pump Station Conveyance Improvements Design*, Metcalf & Eddy (May 2009)

F. Other documentation

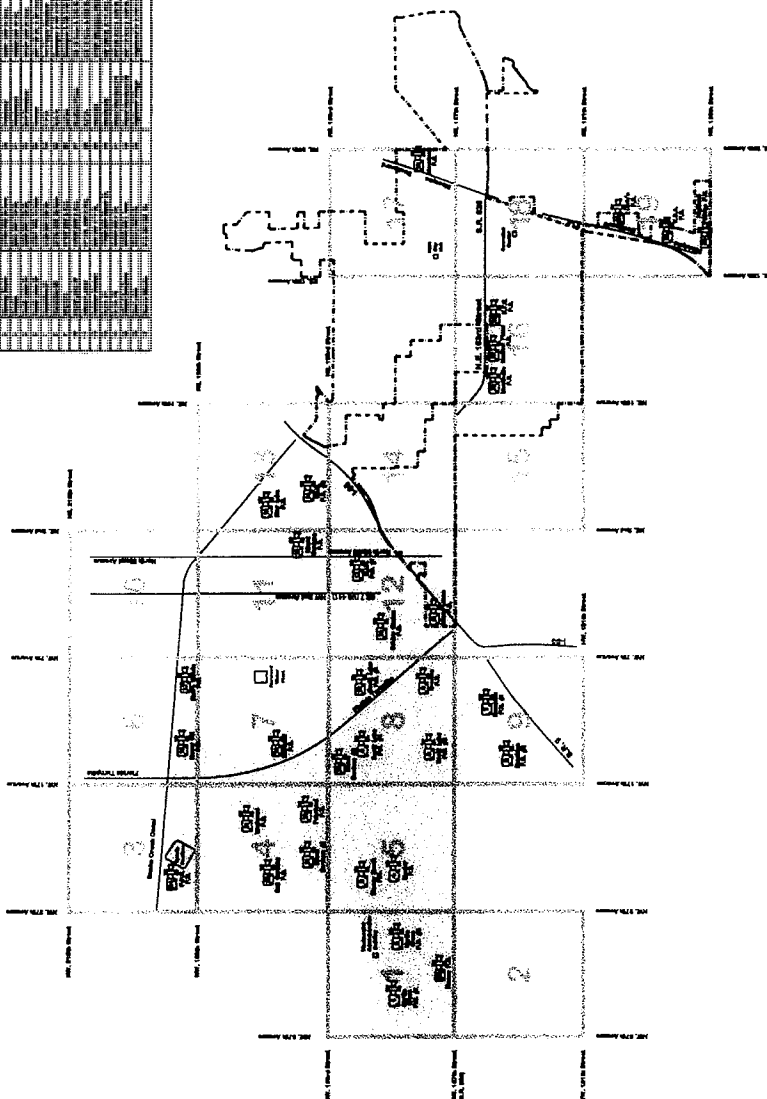
- *City of North Miami Beach Operations and Maintenance Manual Wastewater Collection/Transmission System Update 2006*, Metcalf & Eddy (May 2007)
- <http://www.wunderground.com/US/FL/Miami.html>

Appendix A
Wastewater Collection System Overview

Please note that The City's April 2008 Edition Sewer Atlas illustrates pump stations 1 through 33.

City of North Miami Beach
Pumping Stations

Station No.	Name	Capacity (MGD)	Location
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100



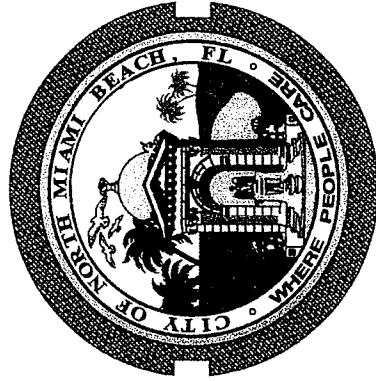
North Miami Beach Public Utilities Pump Station Location Key Map

Legend:

- Water Main
- Sewer Main
- Storm Sewer Main
- Public Street
- City of North Miami Beach
- City of Miami Beach
- City of Coral Gables
- City of Doral
- City of Hialeah
- City of Miami
- City of North Miami
- City of North Miami Beach
- City of Palmetto Beach
- City of Sweetwater
- City of West Miami
- City of Westchester
- City of Woodbury

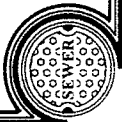
Appendix B
Lined Pipe Segments

City of North Miami Beach
Miami-Dade County, Florida

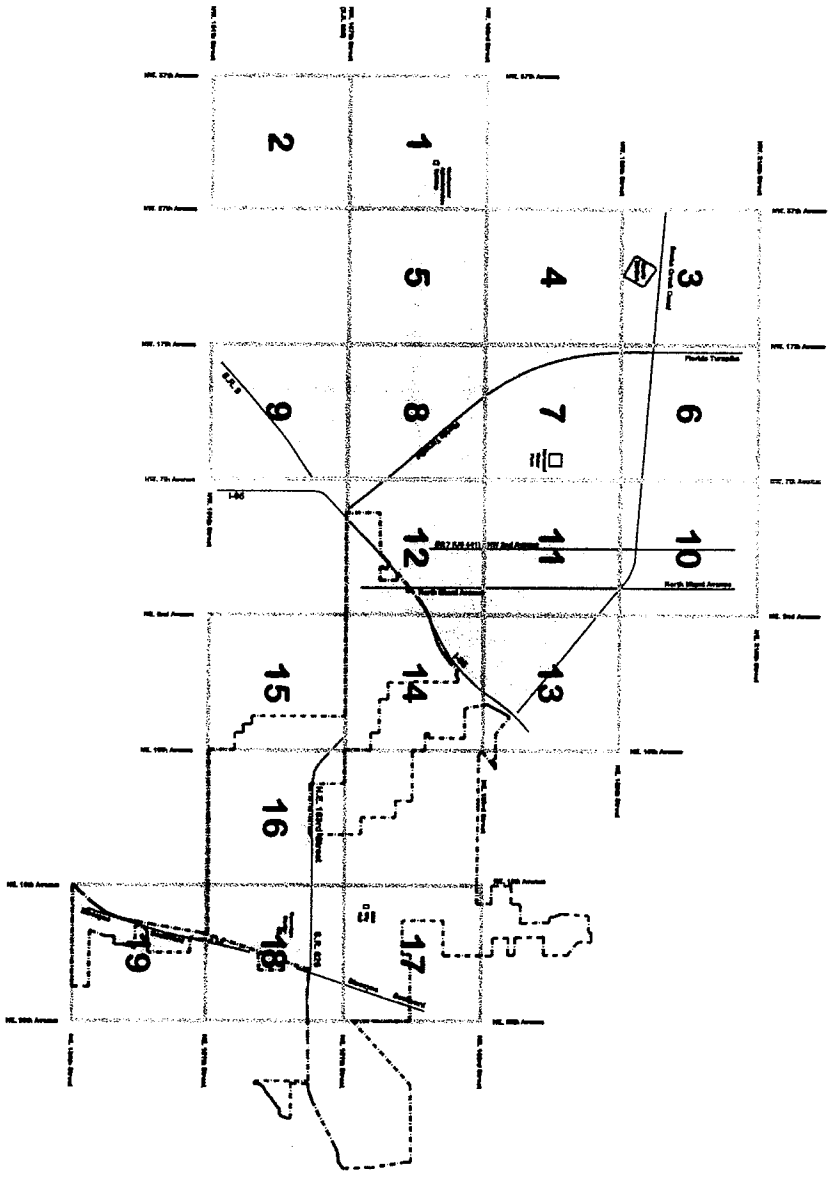


**Public Services Department
Wastewater Collection System Atlas**

April 2008 Edition

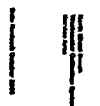


North Miami Beach Public Utilities Wastewater Collection System Key Map



Legend:

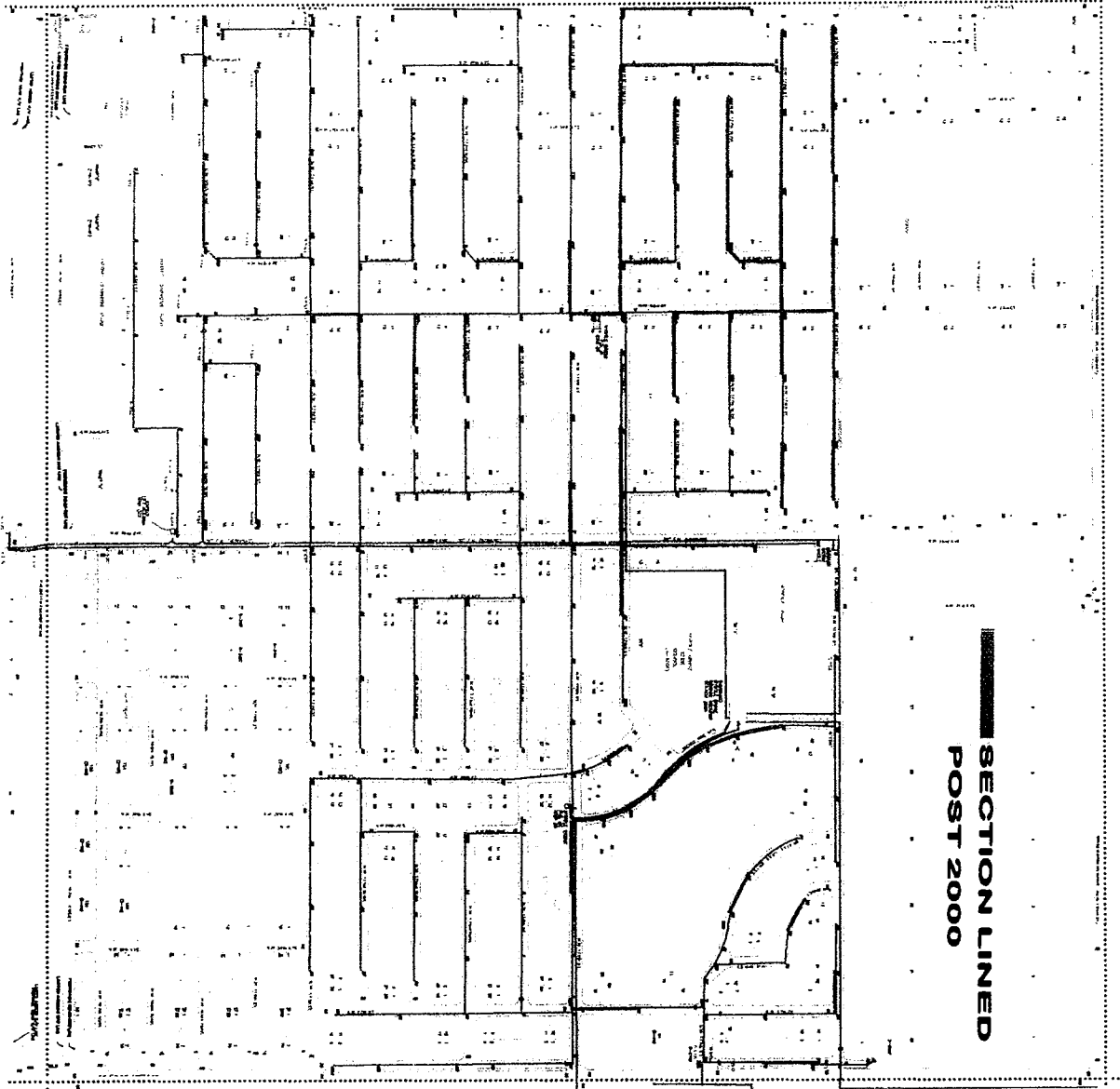
- Wastewater Collection Line
- Sanitary Sewer
- Storm Sewer
- Water Main
- Gas Main
- Electric Main
- Telephone Main
- Fire Main
- Other Utility



NOT CONTINUED

NOT CONTINUED

FOR CONTINUATION SEE SHEET 2



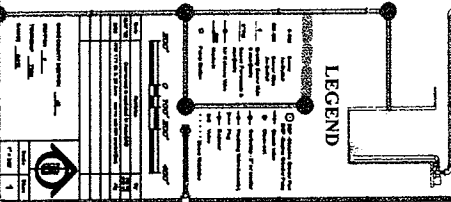
SECTION LINED
POST 2000

FOR CONTINUATION SEE SHEET 5

North Miami Beach Public Utilities Wastewater Collection System



LEGEND



NOT CONTINUED

SECTION LINED
POST 2000

FOR CONTINUATION SEE SHEET 1

NOT CONTINUED

NOT CONTINUED

North Miami Beach Public Utilities Wastewater Collection System



LEGEND

WASTEWATER COLLECTION SYSTEM	
SYMBOL	DESCRIPTION
	18" MAIN
	15" MAIN
	12" MAIN
	10" MAIN
	8" MAIN
	6" MAIN
	4" MAIN
	3" MAIN
	2" MAIN
	18" BRANCH
	15" BRANCH
	12" BRANCH
	10" BRANCH
	8" BRANCH
	6" BRANCH
	4" BRANCH
	3" BRANCH
	2" BRANCH
	MANHOLE
	CATCH BASIN
	VALVE
	CLEANOUT
	FIRE HYDRANT
	WATER MAIN
	GAS MAIN
	ELECTRIC CONDUIT
	TELEPHONE CONDUIT
	STREET
	SIDWALK
	CURB
	UTILITY EASEMENT
	PROPERTY LINE
	BUILDING FOOTPRINT
	DRIVEWAY
	PARKING LOT
	LAWN
	TREE
	FENCE
	UTILITY VAULT
	MANHOLE COVER
	CATCH BASIN COVER
	VALVE COVER
	CLEANOUT COVER
	FIRE HYDRANT COVER
	WATER MAIN COVER
	GAS MAIN COVER
	ELECTRIC CONDUIT COVER
	TELEPHONE CONDUIT COVER
	STREET COVER
	SIDWALK COVER
	CURB COVER
	UTILITY EASEMENT COVER
	PROPERTY LINE COVER
	BUILDING FOOTPRINT COVER
	DRIVEWAY COVER
	PARKING LOT COVER
	LAWN COVER
	TREE COVER
	FENCE COVER
	UTILITY VAULT COVER
	MANHOLE COVER
	CATCH BASIN COVER
	VALVE COVER
	CLEANOUT COVER
	FIRE HYDRANT COVER
	WATER MAIN COVER
	GAS MAIN COVER
	ELECTRIC CONDUIT COVER
	TELEPHONE CONDUIT COVER
	STREET COVER
	SIDWALK COVER
	CURB COVER
	UTILITY EASEMENT COVER
	PROPERTY LINE COVER
	BUILDING FOOTPRINT COVER
	DRIVEWAY COVER
	PARKING LOT COVER
	LAWN COVER
	TREE COVER
	FENCE COVER
	UTILITY VAULT COVER

NOT CONTINUED

NOT CONTINUED

SECTION LINED
POST 2000

FOR CONTINUATION SEE SHEET 6

North Miami Beach Public Utilities Wastewater Collection System



~ 3 ~

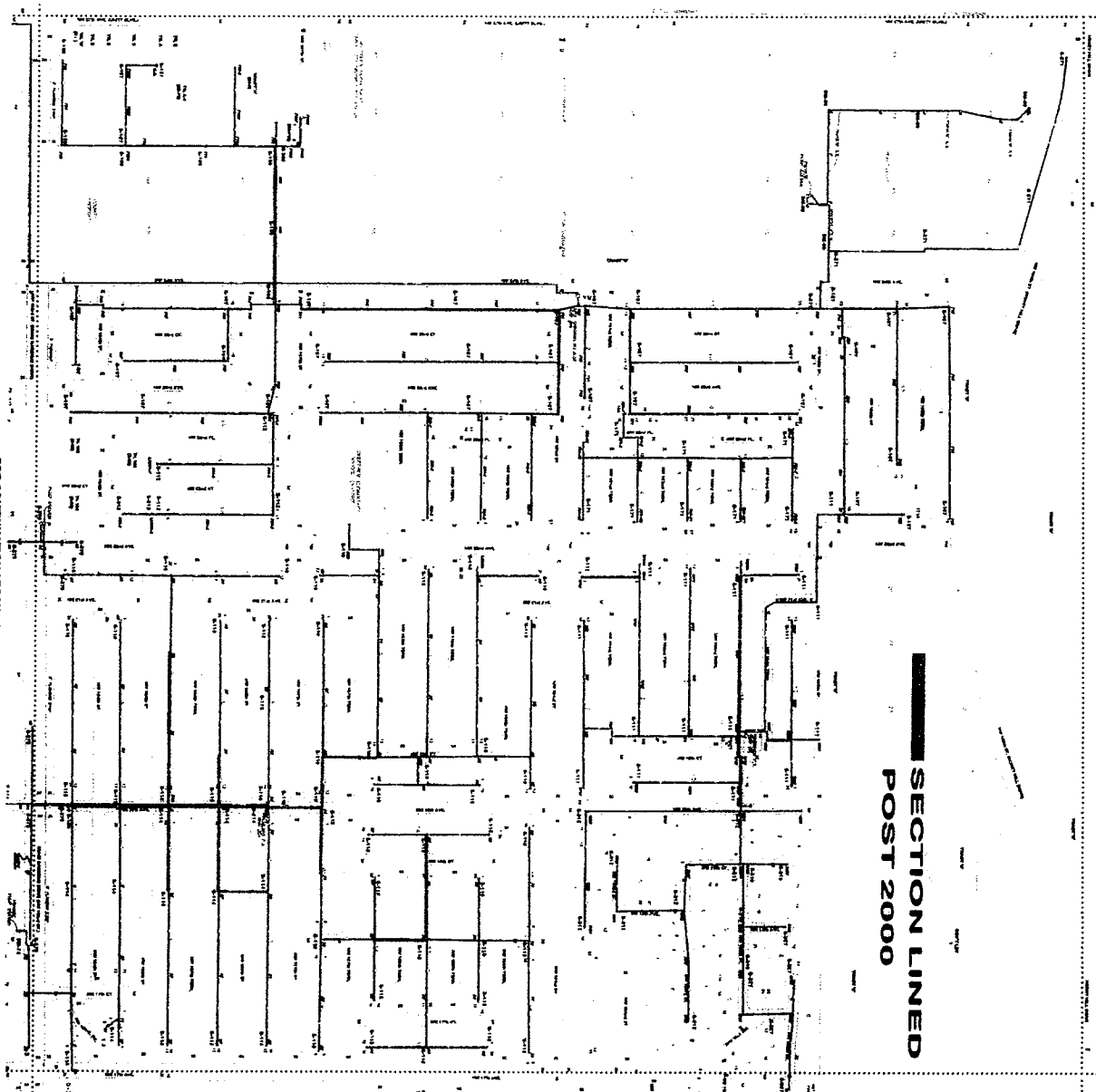
LEGEND

WASTEWATER COLLECTION SYSTEM

1	18" DIA. STAINLESS STEEL MANHOLE
2	24" DIA. STAINLESS STEEL MANHOLE
3	30" DIA. STAINLESS STEEL MANHOLE
4	36" DIA. STAINLESS STEEL MANHOLE
5	42" DIA. STAINLESS STEEL MANHOLE
6	48" DIA. STAINLESS STEEL MANHOLE
7	54" DIA. STAINLESS STEEL MANHOLE
8	60" DIA. STAINLESS STEEL MANHOLE
9	66" DIA. STAINLESS STEEL MANHOLE
10	72" DIA. STAINLESS STEEL MANHOLE
11	78" DIA. STAINLESS STEEL MANHOLE
12	84" DIA. STAINLESS STEEL MANHOLE
13	90" DIA. STAINLESS STEEL MANHOLE
14	96" DIA. STAINLESS STEEL MANHOLE
15	102" DIA. STAINLESS STEEL MANHOLE
16	108" DIA. STAINLESS STEEL MANHOLE
17	114" DIA. STAINLESS STEEL MANHOLE
18	120" DIA. STAINLESS STEEL MANHOLE
19	126" DIA. STAINLESS STEEL MANHOLE
20	132" DIA. STAINLESS STEEL MANHOLE
21	138" DIA. STAINLESS STEEL MANHOLE
22	144" DIA. STAINLESS STEEL MANHOLE
23	150" DIA. STAINLESS STEEL MANHOLE
24	156" DIA. STAINLESS STEEL MANHOLE
25	162" DIA. STAINLESS STEEL MANHOLE
26	168" DIA. STAINLESS STEEL MANHOLE
27	174" DIA. STAINLESS STEEL MANHOLE
28	180" DIA. STAINLESS STEEL MANHOLE
29	186" DIA. STAINLESS STEEL MANHOLE
30	192" DIA. STAINLESS STEEL MANHOLE
31	198" DIA. STAINLESS STEEL MANHOLE
32	204" DIA. STAINLESS STEEL MANHOLE
33	210" DIA. STAINLESS STEEL MANHOLE
34	216" DIA. STAINLESS STEEL MANHOLE
35	222" DIA. STAINLESS STEEL MANHOLE
36	228" DIA. STAINLESS STEEL MANHOLE
37	234" DIA. STAINLESS STEEL MANHOLE
38	240" DIA. STAINLESS STEEL MANHOLE
39	246" DIA. STAINLESS STEEL MANHOLE
40	252" DIA. STAINLESS STEEL MANHOLE
41	258" DIA. STAINLESS STEEL MANHOLE
42	264" DIA. STAINLESS STEEL MANHOLE
43	270" DIA. STAINLESS STEEL MANHOLE
44	276" DIA. STAINLESS STEEL MANHOLE
45	282" DIA. STAINLESS STEEL MANHOLE
46	288" DIA. STAINLESS STEEL MANHOLE
47	294" DIA. STAINLESS STEEL MANHOLE
48	300" DIA. STAINLESS STEEL MANHOLE
49	306" DIA. STAINLESS STEEL MANHOLE
50	312" DIA. STAINLESS STEEL MANHOLE
51	318" DIA. STAINLESS STEEL MANHOLE
52	324" DIA. STAINLESS STEEL MANHOLE
53	330" DIA. STAINLESS STEEL MANHOLE
54	336" DIA. STAINLESS STEEL MANHOLE
55	342" DIA. STAINLESS STEEL MANHOLE
56	348" DIA. STAINLESS STEEL MANHOLE
57	354" DIA. STAINLESS STEEL MANHOLE
58	360" DIA. STAINLESS STEEL MANHOLE
59	366" DIA. STAINLESS STEEL MANHOLE
60	372" DIA. STAINLESS STEEL MANHOLE
61	378" DIA. STAINLESS STEEL MANHOLE
62	384" DIA. STAINLESS STEEL MANHOLE
63	390" DIA. STAINLESS STEEL MANHOLE
64	396" DIA. STAINLESS STEEL MANHOLE
65	402" DIA. STAINLESS STEEL MANHOLE
66	408" DIA. STAINLESS STEEL MANHOLE
67	414" DIA. STAINLESS STEEL MANHOLE
68	420" DIA. STAINLESS STEEL MANHOLE
69	426" DIA. STAINLESS STEEL MANHOLE
70	432" DIA. STAINLESS STEEL MANHOLE
71	438" DIA. STAINLESS STEEL MANHOLE
72	444" DIA. STAINLESS STEEL MANHOLE
73	450" DIA. STAINLESS STEEL MANHOLE
74	456" DIA. STAINLESS STEEL MANHOLE
75	462" DIA. STAINLESS STEEL MANHOLE
76	468" DIA. STAINLESS STEEL MANHOLE
77	474" DIA. STAINLESS STEEL MANHOLE
78	480" DIA. STAINLESS STEEL MANHOLE
79	486" DIA. STAINLESS STEEL MANHOLE
80	492" DIA. STAINLESS STEEL MANHOLE
81	498" DIA. STAINLESS STEEL MANHOLE
82	504" DIA. STAINLESS STEEL MANHOLE
83	510" DIA. STAINLESS STEEL MANHOLE
84	516" DIA. STAINLESS STEEL MANHOLE
85	522" DIA. STAINLESS STEEL MANHOLE
86	528" DIA. STAINLESS STEEL MANHOLE
87	534" DIA. STAINLESS STEEL MANHOLE
88	540" DIA. STAINLESS STEEL MANHOLE
89	546" DIA. STAINLESS STEEL MANHOLE
90	552" DIA. STAINLESS STEEL MANHOLE
91	558" DIA. STAINLESS STEEL MANHOLE
92	564" DIA. STAINLESS STEEL MANHOLE
93	570" DIA. STAINLESS STEEL MANHOLE
94	576" DIA. STAINLESS STEEL MANHOLE
95	582" DIA. STAINLESS STEEL MANHOLE
96	588" DIA. STAINLESS STEEL MANHOLE
97	594" DIA. STAINLESS STEEL MANHOLE
98	600" DIA. STAINLESS STEEL MANHOLE
99	606" DIA. STAINLESS STEEL MANHOLE
100	612" DIA. STAINLESS STEEL MANHOLE

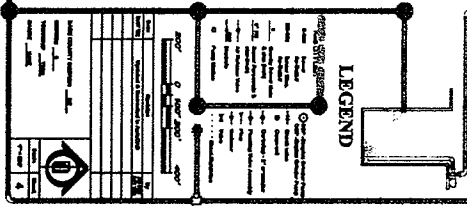
FOR CONTINUATION SEE SHEET 4

NOT CONTINUED



SECTION LINED
POST 2000

FOR CONTINUATION SEE SHEET 7



North Miami Beach Public Utilities Wastewater Collection System



FOR CONTINUATION SEE SHEET 1

FOR CONTINUATION SEE SHEET 4

NOT CONTINUED

SECTION LINED
POST 2000

FOR CONTINUATION SEE SHEET 3

North Miami Beach Public Utilities Wastewater Collection System



LEGEND

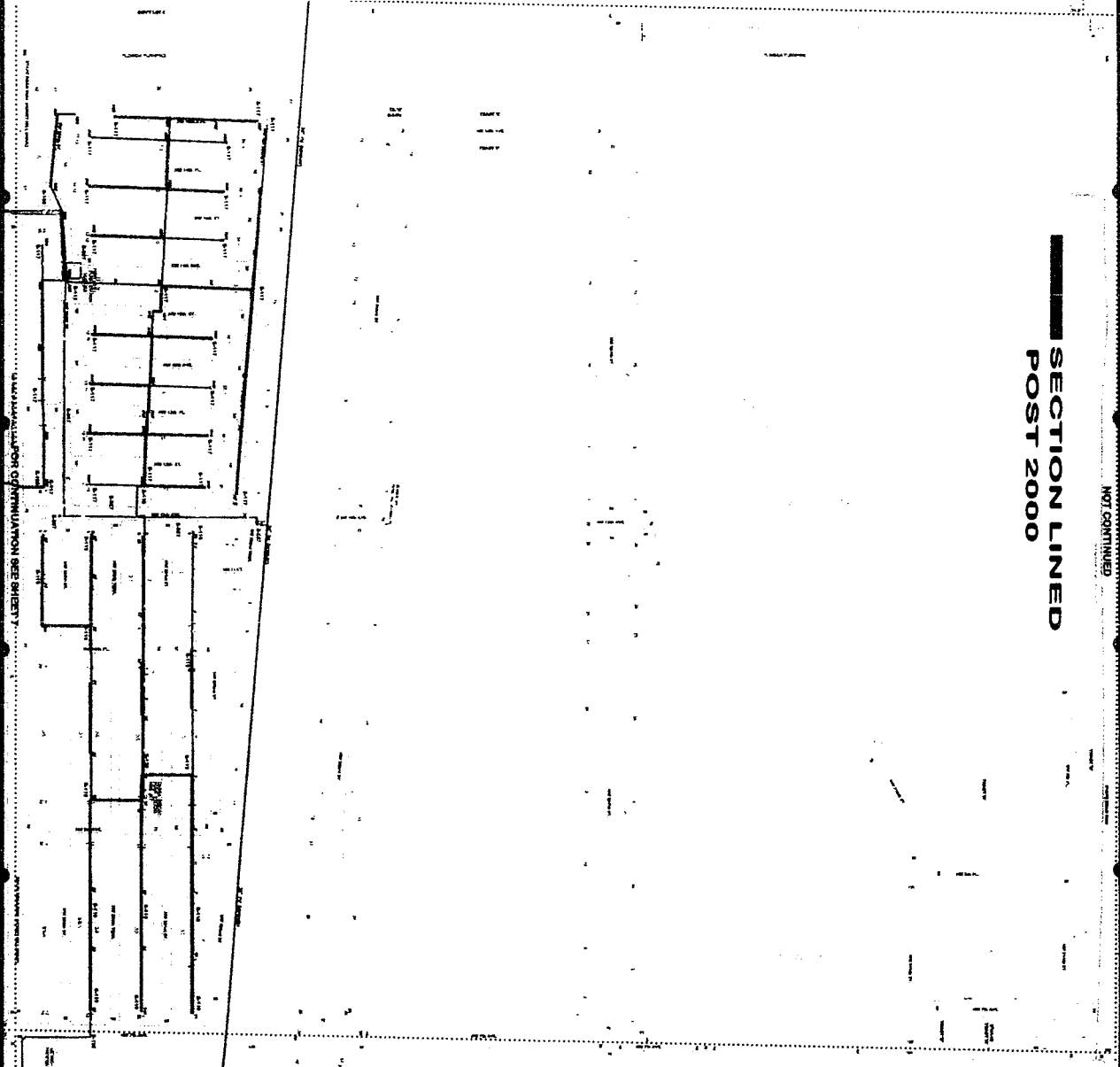
GENERAL NOTES	
1.	SEE SHEET 1 FOR CONTINUATION
2.	SEE SHEET 4 FOR CONTINUATION
3.	SEE SHEET 3 FOR CONTINUATION
4.	SECTION LINED POST 2000
5.	SEE SHEET 5 FOR CONTINUATION

FOR CONTINUATION SEE SHEET 3

SECTION LINED
POST 2000

NOT CONTINUED

FOR CONTINUATION SEE SHEET 10



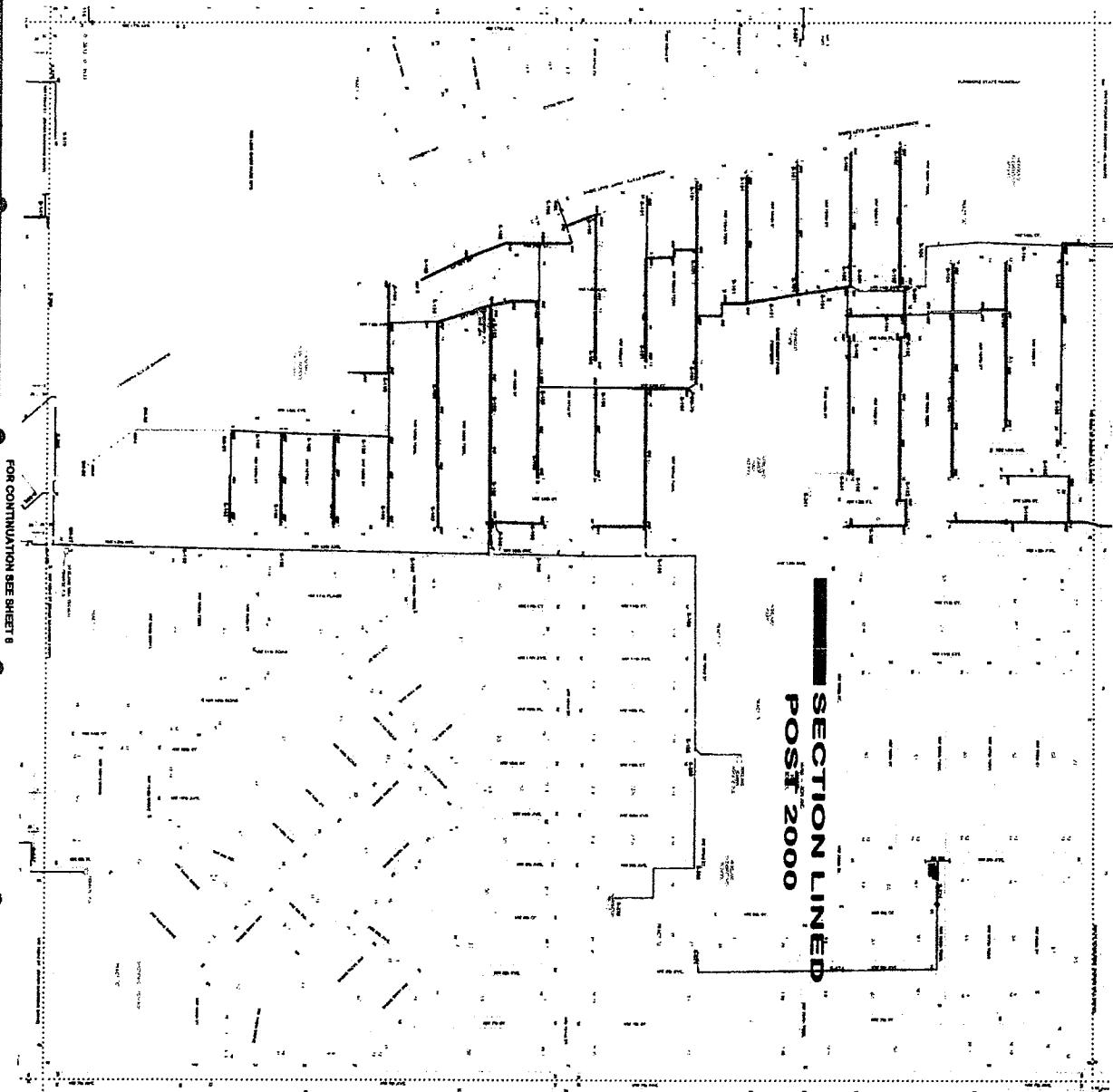
North Miami Beach Public Utilities Wastewater Collection System



LEGEND

Symbol	Description
[Solid Line]	6" Sewer
[Dashed Line]	8" Sewer
[Dotted Line]	12" Sewer
[Thin Solid Line]	18" Sewer
[Thin Dashed Line]	24" Sewer
[Thin Dotted Line]	30" Sewer
[Thin Solid Line]	36" Sewer
[Thin Dashed Line]	42" Sewer
[Thin Dotted Line]	48" Sewer
[Thin Solid Line]	54" Sewer
[Thin Dashed Line]	60" Sewer
[Thin Dotted Line]	66" Sewer
[Thin Solid Line]	72" Sewer
[Thin Dashed Line]	78" Sewer
[Thin Dotted Line]	84" Sewer
[Thin Solid Line]	90" Sewer
[Thin Dashed Line]	96" Sewer
[Thin Dotted Line]	102" Sewer
[Thin Solid Line]	108" Sewer
[Thin Dashed Line]	114" Sewer
[Thin Dotted Line]	120" Sewer
[Thin Solid Line]	126" Sewer
[Thin Dashed Line]	132" Sewer
[Thin Dotted Line]	138" Sewer
[Thin Solid Line]	144" Sewer
[Thin Dashed Line]	150" Sewer
[Thin Dotted Line]	156" Sewer
[Thin Solid Line]	162" Sewer
[Thin Dashed Line]	168" Sewer
[Thin Dotted Line]	174" Sewer
[Thin Solid Line]	180" Sewer
[Thin Dashed Line]	186" Sewer
[Thin Dotted Line]	192" Sewer
[Thin Solid Line]	198" Sewer
[Thin Dashed Line]	204" Sewer
[Thin Dotted Line]	210" Sewer
[Thin Solid Line]	216" Sewer
[Thin Dashed Line]	222" Sewer
[Thin Dotted Line]	228" Sewer
[Thin Solid Line]	234" Sewer
[Thin Dashed Line]	240" Sewer
[Thin Dotted Line]	246" Sewer
[Thin Solid Line]	252" Sewer
[Thin Dashed Line]	258" Sewer
[Thin Dotted Line]	264" Sewer
[Thin Solid Line]	270" Sewer
[Thin Dashed Line]	276" Sewer
[Thin Dotted Line]	282" Sewer
[Thin Solid Line]	288" Sewer
[Thin Dashed Line]	294" Sewer
[Thin Dotted Line]	300" Sewer

FOR CONTINUATION SEE SHEET 4



FOR CONTINUATION SEE SHEET 8

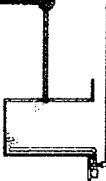
FOR CONTINUATION SEE SHEET 6

FOR CONTINUATION SEE SHEET 11

SECTION LINED
POST 2000

NO.	DESCRIPTION	QUANTITY	UNIT	AMOUNT
1	Manhole	1	EA	
2	Valve	1	EA	
3	Structure	1	EA	
4	Pipe	1	EA	
5	Structure	1	EA	

LEGEND



North Miami Beach Public Utilities Wastewater Collection System



FOR CONTINUATION SEE SHEET 6

SECTION LINED
POST 2000

FOR CONTINUATION SEE SHEET 9

FOR CONTINUATION SEE SHEET 7

FOR CONTINUATION SEE SHEET 12

LEGEND

WASTE SEWER LINES

12" DIAMETER
15" DIAMETER
18" DIAMETER
24" DIAMETER
30" DIAMETER
36" DIAMETER
48" DIAMETER

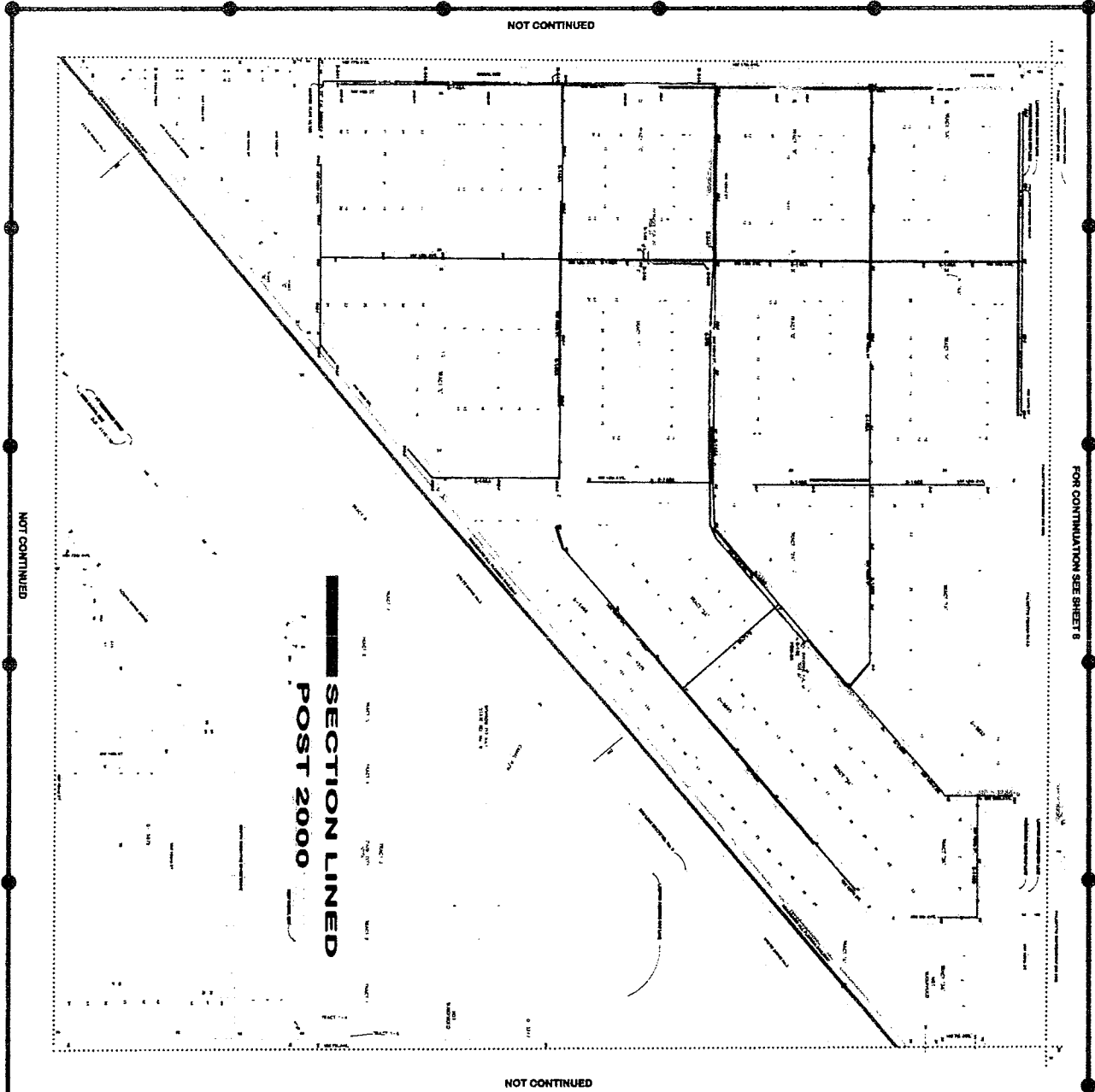
MANHOLES

12" DIAMETER
18" DIAMETER
24" DIAMETER
36" DIAMETER
48" DIAMETER

NO.	DESCRIPTION
1	12" DIAMETER WASTE SEWER LINE
2	15" DIAMETER WASTE SEWER LINE
3	18" DIAMETER WASTE SEWER LINE
4	24" DIAMETER WASTE SEWER LINE
5	30" DIAMETER WASTE SEWER LINE
6	36" DIAMETER WASTE SEWER LINE
7	48" DIAMETER WASTE SEWER LINE
8	12" DIAMETER MANHOLE
9	18" DIAMETER MANHOLE
10	24" DIAMETER MANHOLE
11	36" DIAMETER MANHOLE
12	48" DIAMETER MANHOLE

North Miami Beach Public Utilities Wastewater Collection System





FOR CONTINUATION SEE SHEET 8

North Miami Beach Public Utilities Wastewater Collection System



LEGEND

	SECTION LINED
	POST 2000
	EXISTING
	PROPOSED
	SEWER
	STORM
	WATER
	GAS
	TELEPHONE
	CABLE
	POWER
	TELEVISION
	OTHER

FOR CONTINUATION SEE SHEET 8

SECTION LINED
POST 2000

NOT CONTINUED

NOT CONTINUED

LEGEND	
	12" SEWER MAIN
	18" SEWER MAIN
	24" SEWER MAIN
	30" SEWER MAIN
	36" SEWER MAIN
	42" SEWER MAIN
	48" SEWER MAIN
	54" SEWER MAIN
	60" SEWER MAIN
	66" SEWER MAIN
	72" SEWER MAIN
	78" SEWER MAIN
	84" SEWER MAIN
	90" SEWER MAIN
	96" SEWER MAIN
	102" SEWER MAIN
	108" SEWER MAIN
	114" SEWER MAIN
	120" SEWER MAIN
	126" SEWER MAIN
	132" SEWER MAIN
	138" SEWER MAIN
	144" SEWER MAIN
	150" SEWER MAIN
	156" SEWER MAIN
	162" SEWER MAIN
	168" SEWER MAIN
	174" SEWER MAIN
	180" SEWER MAIN
	186" SEWER MAIN
	192" SEWER MAIN
	198" SEWER MAIN
	204" SEWER MAIN
	210" SEWER MAIN
	216" SEWER MAIN
	222" SEWER MAIN
	228" SEWER MAIN
	234" SEWER MAIN
	240" SEWER MAIN
	246" SEWER MAIN
	252" SEWER MAIN
	258" SEWER MAIN
	264" SEWER MAIN
	270" SEWER MAIN
	276" SEWER MAIN
	282" SEWER MAIN
	288" SEWER MAIN
	294" SEWER MAIN
	300" SEWER MAIN
	306" SEWER MAIN
	312" SEWER MAIN
	318" SEWER MAIN
	324" SEWER MAIN
	330" SEWER MAIN
	336" SEWER MAIN
	342" SEWER MAIN
	348" SEWER MAIN
	354" SEWER MAIN
	360" SEWER MAIN
	366" SEWER MAIN
	372" SEWER MAIN
	378" SEWER MAIN
	384" SEWER MAIN
	390" SEWER MAIN
	396" SEWER MAIN
	402" SEWER MAIN
	408" SEWER MAIN
	414" SEWER MAIN
	420" SEWER MAIN
	426" SEWER MAIN
	432" SEWER MAIN
	438" SEWER MAIN
	444" SEWER MAIN
	450" SEWER MAIN
	456" SEWER MAIN
	462" SEWER MAIN
	468" SEWER MAIN
	474" SEWER MAIN
	480" SEWER MAIN
	486" SEWER MAIN
	492" SEWER MAIN
	498" SEWER MAIN
	504" SEWER MAIN
	510" SEWER MAIN
	516" SEWER MAIN
	522" SEWER MAIN
	528" SEWER MAIN
	534" SEWER MAIN
	540" SEWER MAIN
	546" SEWER MAIN
	552" SEWER MAIN
	558" SEWER MAIN
	564" SEWER MAIN
	570" SEWER MAIN
	576" SEWER MAIN
	582" SEWER MAIN
	588" SEWER MAIN
	594" SEWER MAIN
	600" SEWER MAIN
	606" SEWER MAIN
	612" SEWER MAIN
	618" SEWER MAIN
	624" SEWER MAIN
	630" SEWER MAIN
	636" SEWER MAIN
	642" SEWER MAIN
	648" SEWER MAIN
	654" SEWER MAIN
	660" SEWER MAIN
	666" SEWER MAIN
	672" SEWER MAIN
	678" SEWER MAIN
	684" SEWER MAIN
	690" SEWER MAIN
	696" SEWER MAIN
	702" SEWER MAIN
	708" SEWER MAIN
	714" SEWER MAIN
	720" SEWER MAIN
	726" SEWER MAIN
	732" SEWER MAIN
	738" SEWER MAIN
	744" SEWER MAIN
	750" SEWER MAIN
	756" SEWER MAIN
	762" SEWER MAIN
	768" SEWER MAIN
	774" SEWER MAIN
	780" SEWER MAIN
	786" SEWER MAIN
	792" SEWER MAIN
	798" SEWER MAIN
	804" SEWER MAIN
	810" SEWER MAIN
	816" SEWER MAIN
	822" SEWER MAIN
	828" SEWER MAIN
	834" SEWER MAIN
	840" SEWER MAIN
	846" SEWER MAIN
	852" SEWER MAIN
	858" SEWER MAIN
	864" SEWER MAIN
	870" SEWER MAIN
	876" SEWER MAIN
	882" SEWER MAIN
	888" SEWER MAIN
	894" SEWER MAIN
	900" SEWER MAIN
	906" SEWER MAIN
	912" SEWER MAIN
	918" SEWER MAIN
	924" SEWER MAIN
	930" SEWER MAIN
	936" SEWER MAIN
	942" SEWER MAIN
	948" SEWER MAIN
	954" SEWER MAIN
	960" SEWER MAIN
	966" SEWER MAIN
	972" SEWER MAIN
	978" SEWER MAIN
	984" SEWER MAIN
	990" SEWER MAIN
	996" SEWER MAIN
	1000" SEWER MAIN

North Miami Beach Public Utilities Wastewater Collection System



FOR CONTINUATION SEE SHEET 7

SECTION LINED
POST 2000

FOR CONTINUATION SEE SHEET 10

FOR CONTINUATION SEE SHEET 12

FOR CONTINUATION SEE SHEET 18

<p>LEGEND</p>	<p>PROJECT INFORMATION</p> <table border="1"> <tr><td>Project No.</td><td>11</td></tr> <tr><td>Sheet No.</td><td>11</td></tr> </table>	Project No.	11	Sheet No.	11
Project No.	11				
Sheet No.	11				

**North Miami Beach Public Utilities
Wastewater Collection System**



FOR CONTINUATION SEE SHEET 8

SECTION LINED
POST 2000

FOR CONTINUATION SEE SHEET 11

FOR CONTINUATION SEE SHEET 14

NOT CONTINUED

LEGEND

SYMBOLS

- Manhole
- Manhole with cover
- Manhole with grate
- Manhole with cover and grate
- Manhole with cover and grate and catch basin
- Manhole with cover and grate and catch basin and pump
- Manhole with cover and grate and catch basin and pump and float valve
- Manhole with cover and grate and catch basin and pump and float valve and alarm

LINE TYPES

- Section Lined
- Cast Iron
- Concrete
- Steel
- Aluminum
- Copper
- Brass
- Iron
- Lead
- Galvanized
- Uncoated

VALVE TYPES

- Gate Valve
- Ball Valve
- Butterfly Valve
- Check Valve
- Plug Valve
- Slam Valve
- Isolation Valve

MANHOLE TYPES

- Open
- Covered
- Grated
- Catch Basin
- Pump
- Alarm

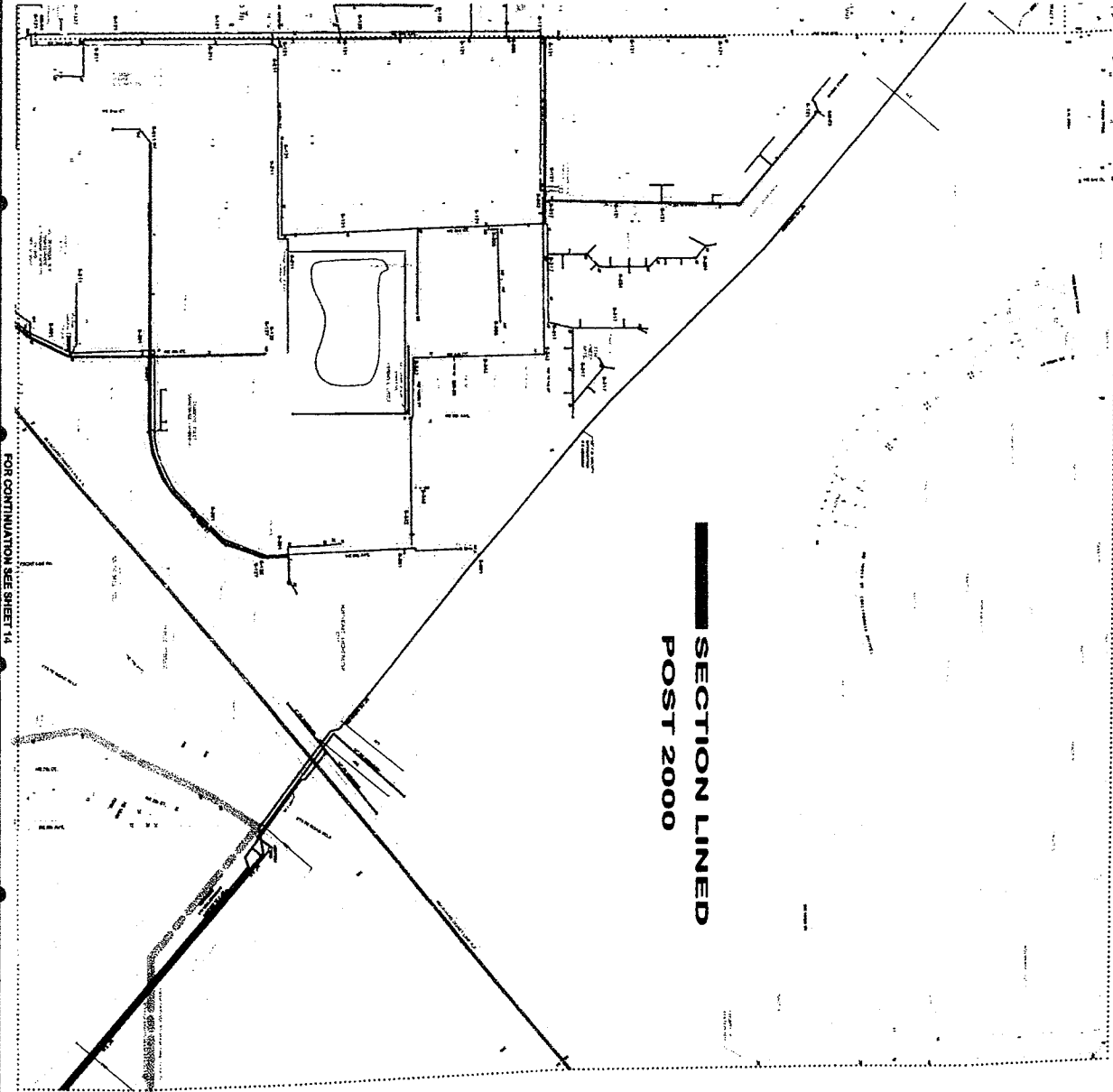
OTHER SYMBOLS

- Flow Direction
- Pressure
- Temperature
- Humidity
- Light
- Sound
- Vibration
- Temperature
- Humidity
- Light
- Sound
- Vibration

North Miami Beach Public Utilities Wastewater Collection System



FOR CONTINUATION SEE SHEET 11



**SECTION LINED
POST 2000**

NOT CONTINUED

North Miami Beach Public Utilities Wastewater Collection System



LEGEND

SYMBOL	DESCRIPTION
	18" PIPE
	24" PIPE
	30" PIPE
	36" PIPE
	42" PIPE
	48" PIPE
	54" PIPE
	60" PIPE
	66" PIPE
	72" PIPE
	78" PIPE
	84" PIPE
	90" PIPE
	96" PIPE
	102" PIPE
	108" PIPE
	114" PIPE
	120" PIPE
	126" PIPE
	132" PIPE
	138" PIPE
	144" PIPE
	150" PIPE
	156" PIPE
	162" PIPE
	168" PIPE
	174" PIPE
	180" PIPE
	186" PIPE
	192" PIPE
	198" PIPE
	204" PIPE
	210" PIPE
	216" PIPE
	222" PIPE
	228" PIPE
	234" PIPE
	240" PIPE
	246" PIPE
	252" PIPE
	258" PIPE
	264" PIPE
	270" PIPE
	276" PIPE
	282" PIPE
	288" PIPE
	294" PIPE
	300" PIPE
	MANHOLE
	VALVE
	STRUCTURE
	SECTION LINED PIPE
	SECTION LINED PIPE POST 2000
	SECTION LINED PIPE POST 2000 AND 18" PIPE
	SECTION LINED PIPE POST 2000 AND 24" PIPE
	SECTION LINED PIPE POST 2000 AND 30" PIPE
	SECTION LINED PIPE POST 2000 AND 36" PIPE
	SECTION LINED PIPE POST 2000 AND 42" PIPE
	SECTION LINED PIPE POST 2000 AND 48" PIPE
	SECTION LINED PIPE POST 2000 AND 54" PIPE
	SECTION LINED PIPE POST 2000 AND 60" PIPE
	SECTION LINED PIPE POST 2000 AND 66" PIPE
	SECTION LINED PIPE POST 2000 AND 72" PIPE
	SECTION LINED PIPE POST 2000 AND 78" PIPE
	SECTION LINED PIPE POST 2000 AND 84" PIPE
	SECTION LINED PIPE POST 2000 AND 90" PIPE
	SECTION LINED PIPE POST 2000 AND 96" PIPE
	SECTION LINED PIPE POST 2000 AND 102" PIPE
	SECTION LINED PIPE POST 2000 AND 108" PIPE
	SECTION LINED PIPE POST 2000 AND 114" PIPE
	SECTION LINED PIPE POST 2000 AND 120" PIPE
	SECTION LINED PIPE POST 2000 AND 126" PIPE
	SECTION LINED PIPE POST 2000 AND 132" PIPE
	SECTION LINED PIPE POST 2000 AND 138" PIPE
	SECTION LINED PIPE POST 2000 AND 144" PIPE
	SECTION LINED PIPE POST 2000 AND 150" PIPE
	SECTION LINED PIPE POST 2000 AND 156" PIPE
	SECTION LINED PIPE POST 2000 AND 162" PIPE
	SECTION LINED PIPE POST 2000 AND 168" PIPE
	SECTION LINED PIPE POST 2000 AND 174" PIPE
	SECTION LINED PIPE POST 2000 AND 180" PIPE
	SECTION LINED PIPE POST 2000 AND 186" PIPE
	SECTION LINED PIPE POST 2000 AND 192" PIPE
	SECTION LINED PIPE POST 2000 AND 198" PIPE
	SECTION LINED PIPE POST 2000 AND 204" PIPE
	SECTION LINED PIPE POST 2000 AND 210" PIPE
	SECTION LINED PIPE POST 2000 AND 216" PIPE
	SECTION LINED PIPE POST 2000 AND 222" PIPE
	SECTION LINED PIPE POST 2000 AND 228" PIPE
	SECTION LINED PIPE POST 2000 AND 234" PIPE
	SECTION LINED PIPE POST 2000 AND 240" PIPE
	SECTION LINED PIPE POST 2000 AND 246" PIPE
	SECTION LINED PIPE POST 2000 AND 252" PIPE
	SECTION LINED PIPE POST 2000 AND 258" PIPE
	SECTION LINED PIPE POST 2000 AND 264" PIPE
	SECTION LINED PIPE POST 2000 AND 270" PIPE
	SECTION LINED PIPE POST 2000 AND 276" PIPE
	SECTION LINED PIPE POST 2000 AND 282" PIPE
	SECTION LINED PIPE POST 2000 AND 288" PIPE
	SECTION LINED PIPE POST 2000 AND 294" PIPE
	SECTION LINED PIPE POST 2000 AND 300" PIPE

FOR CONTINUATION SEE SHEET 12

FOR CONTINUATION SEE SHEET 13

FOR CONTINUATION SEE SHEET 14

SECTION LINED
POST 2000

NOT CONTINUED

North Miami Beach Public Utilities Wastewater Collection System



~ 14 ~

LEGEND

Symbol	Description
(Symbol: Solid line)	12" Dia. Sewer Main
(Symbol: Dashed line)	8" Dia. Sewer Main
(Symbol: Dotted line)	6" Dia. Sewer Main
(Symbol: Long dashed line)	4" Dia. Sewer Main
(Symbol: Short dashed line)	3" Dia. Sewer Main
(Symbol: Dash-dot line)	2" Dia. Sewer Main
(Symbol: Solid line with dots)	18" Dia. Storm Sewer Main
(Symbol: Dashed line with dots)	15" Dia. Storm Sewer Main
(Symbol: Dotted line with dots)	12" Dia. Storm Sewer Main
(Symbol: Long dashed line with dots)	10" Dia. Storm Sewer Main
(Symbol: Short dashed line with dots)	8" Dia. Storm Sewer Main
(Symbol: Dash-dot line with dots)	6" Dia. Storm Sewer Main
(Symbol: Solid line with triangles)	4" Dia. Storm Sewer Main
(Symbol: Dashed line with triangles)	3" Dia. Storm Sewer Main
(Symbol: Dotted line with triangles)	2" Dia. Storm Sewer Main
(Symbol: Long dashed line with triangles)	18" Dia. Water Main
(Symbol: Short dashed line with triangles)	15" Dia. Water Main
(Symbol: Dash-dot line with triangles)	12" Dia. Water Main
(Symbol: Solid line with squares)	10" Dia. Water Main
(Symbol: Dashed line with squares)	8" Dia. Water Main
(Symbol: Dotted line with squares)	6" Dia. Water Main
(Symbol: Long dashed line with squares)	4" Dia. Water Main
(Symbol: Short dashed line with squares)	3" Dia. Water Main
(Symbol: Dash-dot line with squares)	2" Dia. Water Main
(Symbol: Solid line with circles)	18" Dia. Gas Main
(Symbol: Dashed line with circles)	15" Dia. Gas Main
(Symbol: Dotted line with circles)	12" Dia. Gas Main
(Symbol: Long dashed line with circles)	10" Dia. Gas Main
(Symbol: Short dashed line with circles)	8" Dia. Gas Main
(Symbol: Dash-dot line with circles)	6" Dia. Gas Main
(Symbol: Solid line with diamonds)	4" Dia. Gas Main
(Symbol: Dashed line with diamonds)	3" Dia. Gas Main
(Symbol: Dotted line with diamonds)	2" Dia. Gas Main
(Symbol: Long dashed line with diamonds)	18" Dia. Electric Main
(Symbol: Short dashed line with diamonds)	15" Dia. Electric Main
(Symbol: Dash-dot line with diamonds)	12" Dia. Electric Main
(Symbol: Solid line with stars)	10" Dia. Electric Main
(Symbol: Dashed line with stars)	8" Dia. Electric Main
(Symbol: Dotted line with stars)	6" Dia. Electric Main
(Symbol: Long dashed line with stars)	4" Dia. Electric Main
(Symbol: Short dashed line with stars)	3" Dia. Electric Main
(Symbol: Dash-dot line with stars)	2" Dia. Electric Main

NOT CONTINUED

FOR CONTINUATION SEE SHEET 14

SECTION LINED
POST 2000

NOT CONTINUED

FOR CONTINUATION SEE SHEET 16

North Miami Beach Public Utilities Wastewater Collection System



LEGEND

	12" SANITARY SEWER MAIN
	18" SANITARY SEWER MAIN
	24" SANITARY SEWER MAIN
	30" SANITARY SEWER MAIN
	36" SANITARY SEWER MAIN
	42" SANITARY SEWER MAIN
	48" SANITARY SEWER MAIN
	54" SANITARY SEWER MAIN
	60" SANITARY SEWER MAIN
	72" SANITARY SEWER MAIN
	84" SANITARY SEWER MAIN
	96" SANITARY SEWER MAIN
	108" SANITARY SEWER MAIN
	120" SANITARY SEWER MAIN
	132" SANITARY SEWER MAIN
	144" SANITARY SEWER MAIN
	156" SANITARY SEWER MAIN
	168" SANITARY SEWER MAIN
	180" SANITARY SEWER MAIN
	192" SANITARY SEWER MAIN
	204" SANITARY SEWER MAIN
	216" SANITARY SEWER MAIN
	228" SANITARY SEWER MAIN
	240" SANITARY SEWER MAIN
	252" SANITARY SEWER MAIN
	264" SANITARY SEWER MAIN
	276" SANITARY SEWER MAIN
	288" SANITARY SEWER MAIN
	300" SANITARY SEWER MAIN

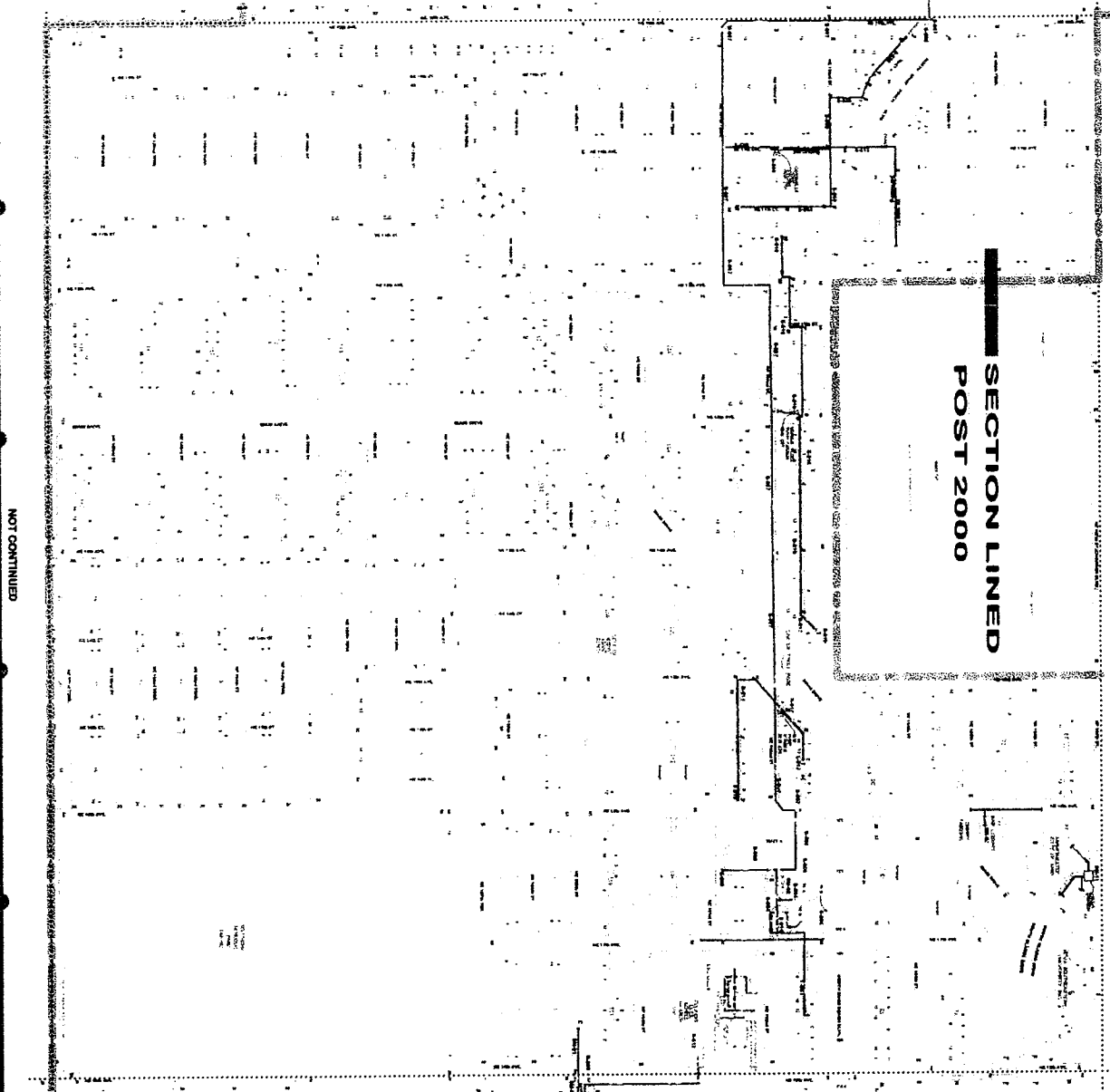
Notes:

1. ALL SEWER MAINS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
2. ALL SEWER MAINS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
3. ALL SEWER MAINS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
4. ALL SEWER MAINS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
5. ALL SEWER MAINS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

Revisions:

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		

FOR CONTINUATION SEE SHEET 15



NOT CONTINUED

NOT CONTINUED

FOR CONTINUATION SEE SHEET 15

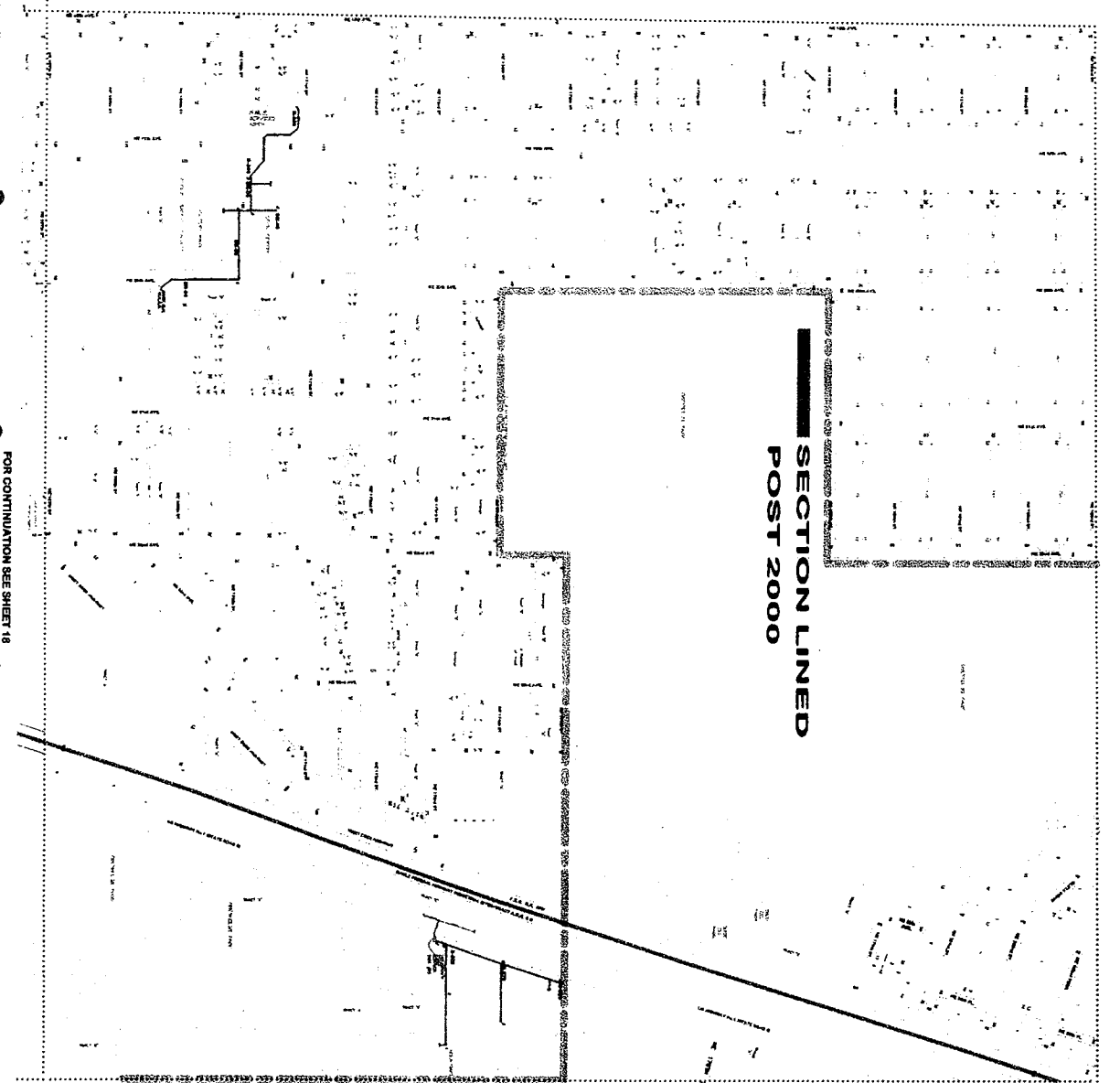
LEGEND

	18" S.W.
	15" S.W.
	12" S.W.
	8" S.W.
	6" S.W.
	4" S.W.
	3" S.W.
	2" S.W.
	18" S.T.
	15" S.T.
	12" S.T.
	8" S.T.
	6" S.T.
	4" S.T.
	3" S.T.
	2" S.T.
	18" W.
	15" W.
	12" W.
	8" W.
	6" W.
	4" W.
	3" W.
	2" W.
	18" G.
	15" G.
	12" G.
	8" G.
	6" G.
	4" G.
	3" G.
	2" G.
	18" E.
	15" E.
	12" E.
	8" E.
	6" E.
	4" E.
	3" E.
	2" E.
	18" T.
	15" T.
	12" T.
	8" T.
	6" T.
	4" T.
	3" T.
	2" T.
	18" C.
	15" C.
	12" C.
	8" C.
	6" C.
	4" C.
	3" C.
	2" C.
	18" F.
	15" F.
	12" F.
	8" F.
	6" F.
	4" F.
	3" F.
	2" F.
	18" F.I.
	15" F.I.
	12" F.I.
	8" F.I.
	6" F.I.
	4" F.I.
	3" F.I.
	2" F.I.
	18" G.M.
	15" G.M.
	12" G.M.
	8" G.M.
	6" G.M.
	4" G.M.
	3" G.M.
	2" G.M.
	18" W.M.
	15" W.M.
	12" W.M.
	8" W.M.
	6" W.M.
	4" W.M.
	3" W.M.
	2" W.M.
	18" E.M.
	15" E.M.
	12" E.M.
	8" E.M.
	6" E.M.
	4" E.M.
	3" E.M.
	2" E.M.
	18" T.M.
	15" T.M.
	12" T.M.
	8" T.M.
	6" T.M.
	4" T.M.
	3" T.M.
	2" T.M.
	18" C.M.
	15" C.M.
	12" C.M.
	8" C.M.
	6" C.M.
	4" C.M.
	3" C.M.
	2" C.M.
	18" F.M.
	15" F.M.
	12" F.M.
	8" F.M.
	6" F.M.
	4" F.M.
	3" F.M.
	2" F.M.
	18" F.I.M.
	15" F.I.M.
	12" F.I.M.
	8" F.I.M.
	6" F.I.M.
	4" F.I.M.
	3" F.I.M.
	2" F.I.M.

**North Miami Beach Public Utilities
Wastewater Collection System**



NOT CONTINUED



NOT CONTINUED

FOR CONTINUATION SEE SHEET 18

SECTION LINED
POST 2000

NOT CONTINUED

North Miami Beach Public Utilities Wastewater Collection System



LEGEND

Symbol	Description
(Solid line with dots)	18" Diameter Sewer
(Solid line)	12" Diameter Sewer
(Dashed line)	8" Diameter Sewer
(Circle with cross)	Manhole
(Circle with X)	Catch Basin
(Square with X)	Structure
(Circle with 'A')	Access Point
(Circle with 'B')	Access Point
(Circle with 'C')	Access Point
(Circle with 'D')	Access Point
(Circle with 'E')	Access Point
(Circle with 'F')	Access Point
(Circle with 'G')	Access Point
(Circle with 'H')	Access Point
(Circle with 'I')	Access Point
(Circle with 'J')	Access Point
(Circle with 'K')	Access Point
(Circle with 'L')	Access Point
(Circle with 'M')	Access Point
(Circle with 'N')	Access Point
(Circle with 'O')	Access Point
(Circle with 'P')	Access Point
(Circle with 'Q')	Access Point
(Circle with 'R')	Access Point
(Circle with 'S')	Access Point
(Circle with 'T')	Access Point
(Circle with 'U')	Access Point
(Circle with 'V')	Access Point
(Circle with 'W')	Access Point
(Circle with 'X')	Access Point
(Circle with 'Y')	Access Point
(Circle with 'Z')	Access Point

FOR CONTINUATION SEE SHEET 16

FOR CONTINUATION SEE SHEET 17

FOR CONTINUATION SEE SHEET 19

SECTION LINED
POST 2000

NOT CONTINUED

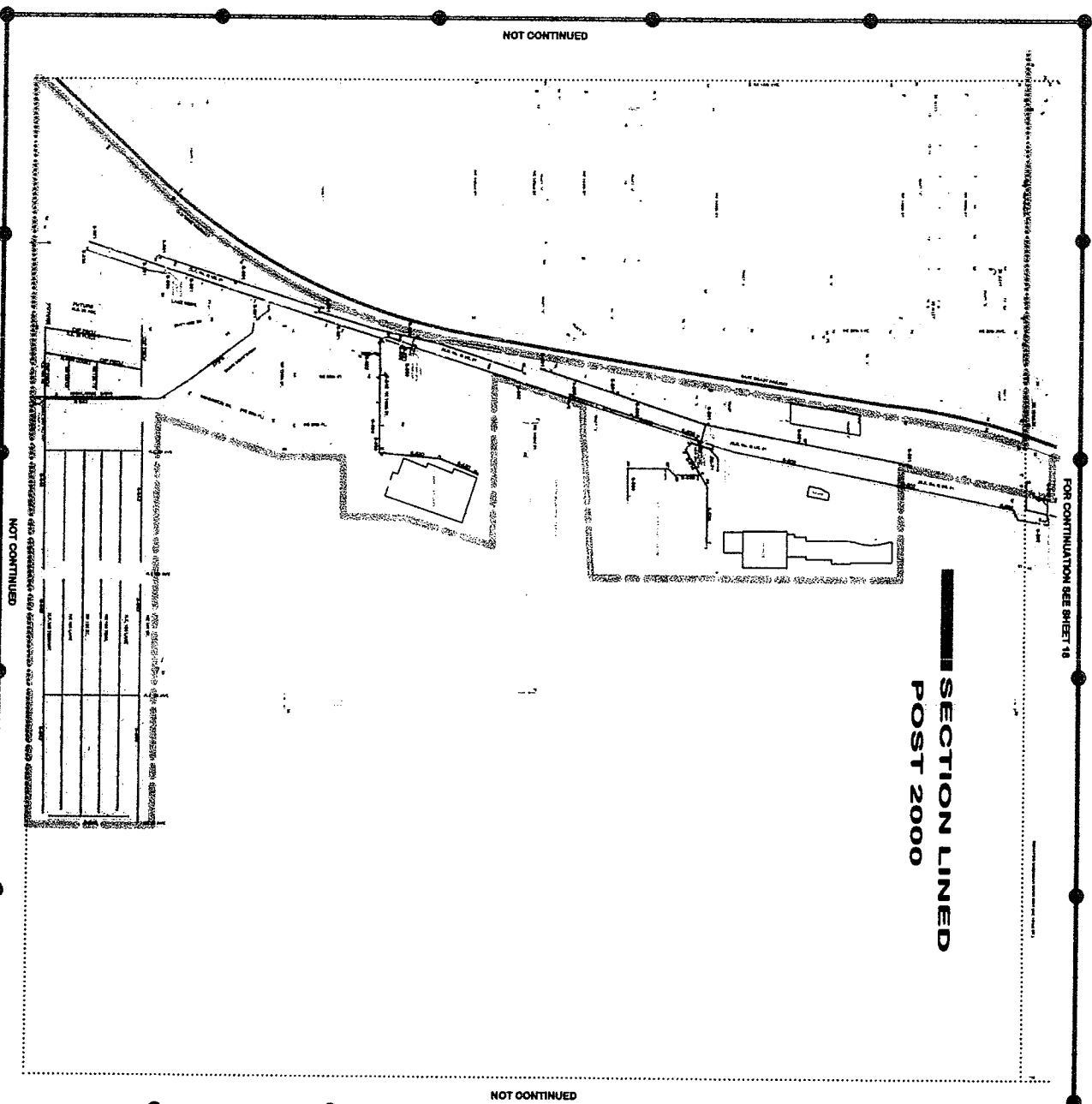
North Miami Beach Public Utilities Wastewater Collection System



~ 18 ~

LEGEND

WASTEWATER COLLECTION SYSTEM	
SYMBOL	DESCRIPTION
	18" DIA. MAIN
	12" DIA. MAIN
	8" DIA. MAIN
	6" DIA. MAIN
	4" DIA. MAIN
	3" DIA. MAIN
	2" DIA. MAIN
	1" DIA. MAIN
	6" DIA. BRANCH
	4" DIA. BRANCH
	3" DIA. BRANCH
	2" DIA. BRANCH
	1" DIA. BRANCH
	6" DIA. LATERAL
	4" DIA. LATERAL
	3" DIA. LATERAL
	2" DIA. LATERAL
	1" DIA. LATERAL
	6" DIA. SANITARY
	4" DIA. SANITARY
	3" DIA. SANITARY
	2" DIA. SANITARY
	1" DIA. SANITARY
	6" DIA. STORM
	4" DIA. STORM
	3" DIA. STORM
	2" DIA. STORM
	1" DIA. STORM
	6" DIA. WATER
	4" DIA. WATER
	3" DIA. WATER
	2" DIA. WATER
	1" DIA. WATER
	6" DIA. GAS
	4" DIA. GAS
	3" DIA. GAS
	2" DIA. GAS
	1" DIA. GAS
	6" DIA. ELECTRIC
	4" DIA. ELECTRIC
	3" DIA. ELECTRIC
	2" DIA. ELECTRIC
	1" DIA. ELECTRIC
	6" DIA. TELEPHONE
	4" DIA. TELEPHONE
	3" DIA. TELEPHONE
	2" DIA. TELEPHONE
	1" DIA. TELEPHONE
	6" DIA. CABLE
	4" DIA. CABLE
	3" DIA. CABLE
	2" DIA. CABLE
	1" DIA. CABLE



FOR CONTINUATION SEE SHEET 16

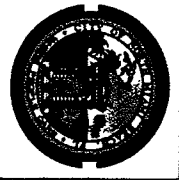
**SECTION LINED
POST 2000**

NOT CONTINUED

NO.	DESCRIPTION	DATE	BY	APP'D.

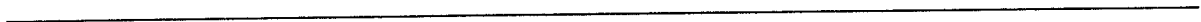
NOT CONTINUED

North Miami Beach Public Utilities Wastewater Collection System



LEGEND	
	15" DIA. R.C. PIPE
	12" DIA. R.C. PIPE
	8" DIA. R.C. PIPE
	6" DIA. R.C. PIPE
	4" DIA. R.C. PIPE
	3" DIA. R.C. PIPE
	2" DIA. R.C. PIPE
	1" DIA. R.C. PIPE
	MANHOLE
	VALVE
	PUMP STATION
	CATCH BASIN
	UTILITY LINE
	STREET
	BUILDING
	FENCE
	WATER MAIN
	GAS LINE
	ELECTRIC LINE
	SEWER LINE
	DRIVEWAY
	SIDEWALK
	CURB
	EASEMENT
	BOUNDARY LINE
	PROPERTY LINE
	CENTERLINE
	RIGHT-OF-WAY LINE
	WATER TABLE
	GROUND SURFACE
	SPOT ELEVATION
	SPOT HEIGHT
	SPOT DEPTH
	SPOT WIDTH
	SPOT LENGTH
	SPOT AREA
	SPOT VOLUME
	SPOT WEIGHT
	SPOT MASS
	SPOT FORCE
	SPOT ENERGY
	SPOT POWER
	SPOT PRESSURE
	SPOT TEMPERATURE
	SPOT HUMIDITY
	SPOT WIND SPEED
	SPOT WIND DIRECTION
	SPOT CLOUD COVER
	SPOT PRECIPITATION
	SPOT SNOWFALL
	SPOT ICE THICKNESS
	SPOT FOG THICKNESS
	SPOT HAZE THICKNESS
	SPOT VISIBILITY
	SPOT AIR DENSITY
	SPOT AIR PRESSURE
	SPOT AIR TEMPERATURE
	SPOT AIR HUMIDITY
	SPOT AIR WIND SPEED
	SPOT AIR WIND DIRECTION
	SPOT AIR CLOUD COVER
	SPOT AIR PRECIPITATION
	SPOT AIR SNOWFALL
	SPOT AIR ICE THICKNESS
	SPOT AIR FOG THICKNESS
	SPOT AIR HAZE THICKNESS
	SPOT AIR VISIBILITY
	SPOT AIR DENSITY
	SPOT AIR PRESSURE
	SPOT AIR TEMPERATURE
	SPOT AIR HUMIDITY
	SPOT AIR WIND SPEED
	SPOT AIR WIND DIRECTION
	SPOT AIR CLOUD COVER
	SPOT AIR PRECIPITATION
	SPOT AIR SNOWFALL
	SPOT AIR ICE THICKNESS
	SPOT AIR FOG THICKNESS
	SPOT AIR HAZE THICKNESS
	SPOT AIR VISIBILITY
	SPOT AIR DENSITY
	SPOT AIR PRESSURE
	SPOT AIR TEMPERATURE
	SPOT AIR HUMIDITY
	SPOT AIR WIND SPEED
	SPOT AIR WIND DIRECTION
	SPOT AIR CLOUD COVER
	SPOT AIR PRECIPITATION
	SPOT AIR SNOWFALL
	SPOT AIR ICE THICKNESS
	SPOT AIR FOG THICKNESS
	SPOT AIR HAZE THICKNESS
	SPOT AIR VISIBILITY

Appendix C
Fold-and-Formed Liner Product Data



EX Method[®] Trenchless Pipe Reconstruction



Miller Pipeline Corp.



trenchless pipe reconstruction

Miller Pipeline Corp.

Available in lengths from 10' to 200'
with minimal or no excavation

Save Money

- The cost of installing EX pipe is much less than total replacement by conventional trenching techniques
- Installation is fast using existing manholes
- Less pipe maintenance

Reduce Inconvenience

- Drastically reduces the public inconvenience and disturbance to the environment caused by traditional repairs
- No offensive styrene odors

A Safe, Smart Choice

- Material of choice for new pipe
- High strength, un-plasticized PVC with 35% higher modulus
- Environmentally safe
- Resistant to chemicals and abrasion
- Jointless EX pipe stops water infiltration and exfiltration, root intrusion and soil loss
- Smooth pipe finish improves flow characteristics
- Meets ASTM F-1504 and F-1947, and is ASTM D-2990 tested
- Controlled, uniform heating during installation for consistent factory-controlled quality with no folds or ribs

- Low coefficient of thermal expansion means service cutouts will not move
- High pipe stiffness, yet flexible enough to withstand ground movement
- Flexible pipe size applications
- Available in the 6-inch to 15-inch rehabilitation size range

Why choose Miller Pipeline Corp.

We Do the Job Right

- Pride in our engineering capabilities, quality workmanship and project management expertise
- Dedication to exceeding customer expectations

Miles of Experience

- More than a half century of contracting experience
- Over 25 years of trenchless rehabilitation experience
- Miller Pipeline crews have installed over a million feet of EX pipe in the last 10 years
- Wide geographic service footprint ensures local support and expertise



Miller Pipeline Corp.

For municipalities and industries that can't afford the time and expense to dig up damaged pipes, there is a fast, high quality solution. The EX Method[®] from Miller Pipeline. This trenchless installation of EX pipe causes no disruption to the natural environment or to urban residential areas.



EX pipe is high strength, un-plasticized PVC manufactured under strict quality procedures using odorless, environmentally-safe materials. EX pipe is expanded-in-place, not cured-in-place, so factory-controlled, ASTM F-1504 uniform quality is assured for every

installation. The high strength and flexibility of EX pipe allow it to withstand ground movement and failure of the host pipe without affecting its integrity.

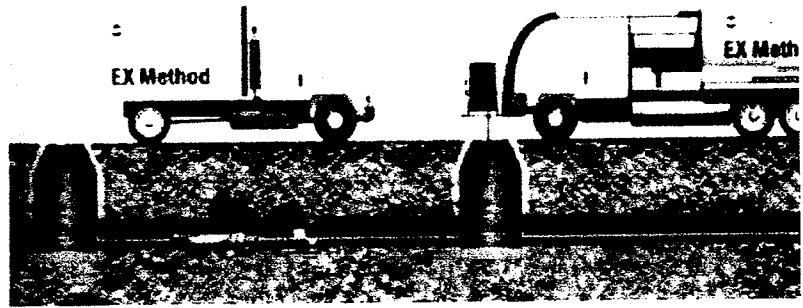
The EX pipe material is softened with heat and continuously inserted into existing manholes for access. After insertion, the pipe is then expanded, approximately 10 percent, to fit tightly within the host pipe, resulting in a continuous, jointless pipe-within-a-pipe without ribs or folds.

A new EX pipe can be installed in a fraction of the time required by other methods. When work is completed, the new pipe exhibits maximum durability and corrosion resistance, and in most cases, no loss of flow capacity.



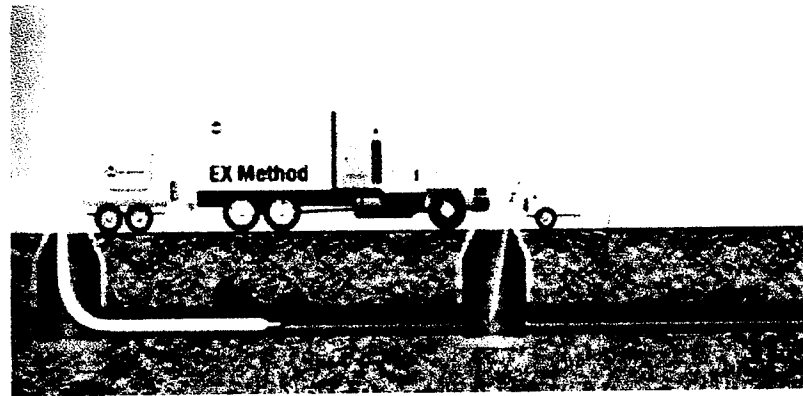
Step 1: TV inspection and pipe cleaning

The existing pipe is first cleaned and televised. Protruding service connections are removed; partially collapsed sections are then repaired and all debris in the pipe is removed and disposed of properly. A detailed video of the pipe's condition is produced.



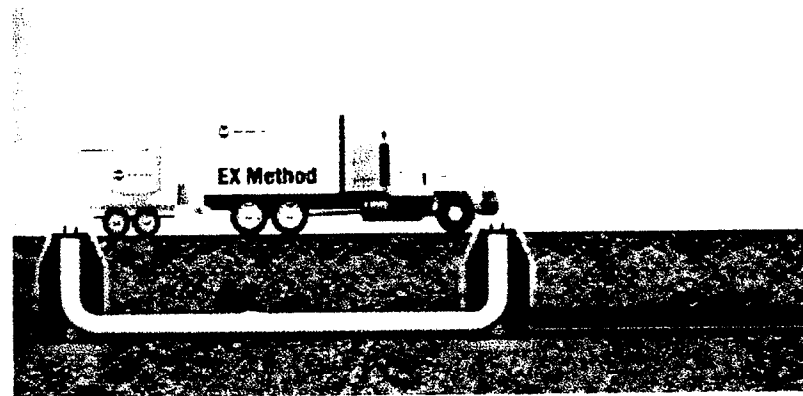
Step 2: EX pipe installation in the host pipe

The EX pipe contained in the pipe warmer trailer is preheated to soften the PVC material. Once softened, the EX pipe is winched through the existing manhole into the pipe to be reconstructed. Winching continues until the EX pipe reaches the next designated manhole.



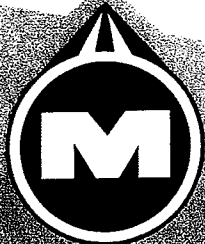
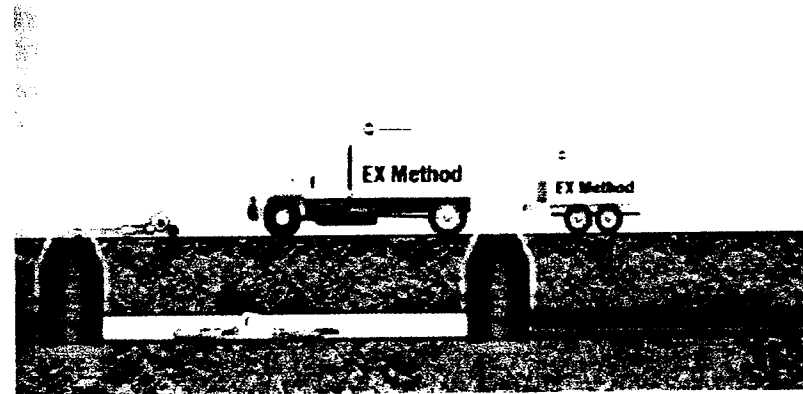
Step 3: EX pipe expansion and shaping

After the EX pipe is winched into the existing pipeline, steam and pressure are applied to expand the PVC tightly against the host pipe. Steam is then replaced by air, while maintaining a constant pressure, and the PVC is cooled. The PVC is trimmed at each pipe end and excess material is removed from the manhole.



Step 4: Service connection reinstatement

After the cooling of the PVC pipe, the house service connections are reopened, using a specially designed robotic cutting device and a closed circuit television camera. The EX pipe installation is then complete — having taken only hours, not days, and accomplished without excavation. The new pipe is now ready for use.



EX pipe is produced from a base of PVC, conforming to ASTM D-1784 cell classification 12334-B, tested to ASTM F 1504-Standard Specifications for folded Poly Vinyl Chloride (PVC) Pipe for existing sewer and conduit rehabilitation. The PVC material is specifically designed to meet the stringent requirements of the EX Method® of pipeline reconstruction. The high strength EX pipe delivers chemical, earthquake and abrasion resistance, which results in a superior pipeline with long-term, proven stability.

Flexural Modulus of Elasticity	ASTM D-790	340,000 psi
Flexural Strength	ASTM D-79	9,000 psi
Tensile Strength	ASTM D-638	6,000 psi
Coefficient of Thermal Expansion	3.0 X 10-5	in / in °F



EX Pipe Flow Characteristics

Flow Capacity Before EX pipe Installation

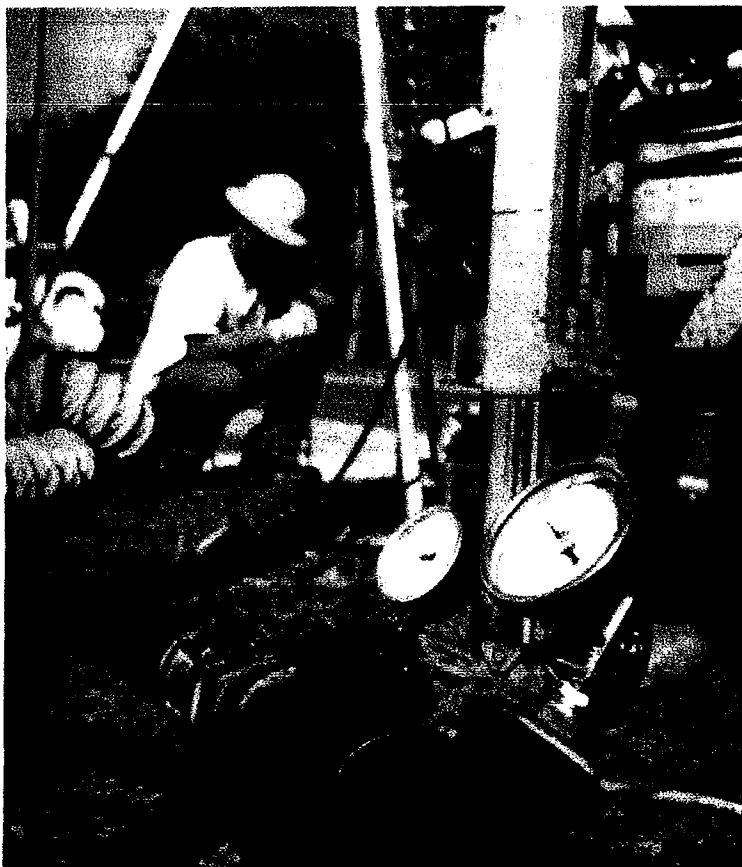
Flow Capacity After EX pipe Installation

Original Pipe "n"

"n" = 0.009 (DR 35)

0.010	95%
0.011	104%
0.012	114%
0.013	123%
0.014	133%
0.015	142%
0.021	199%

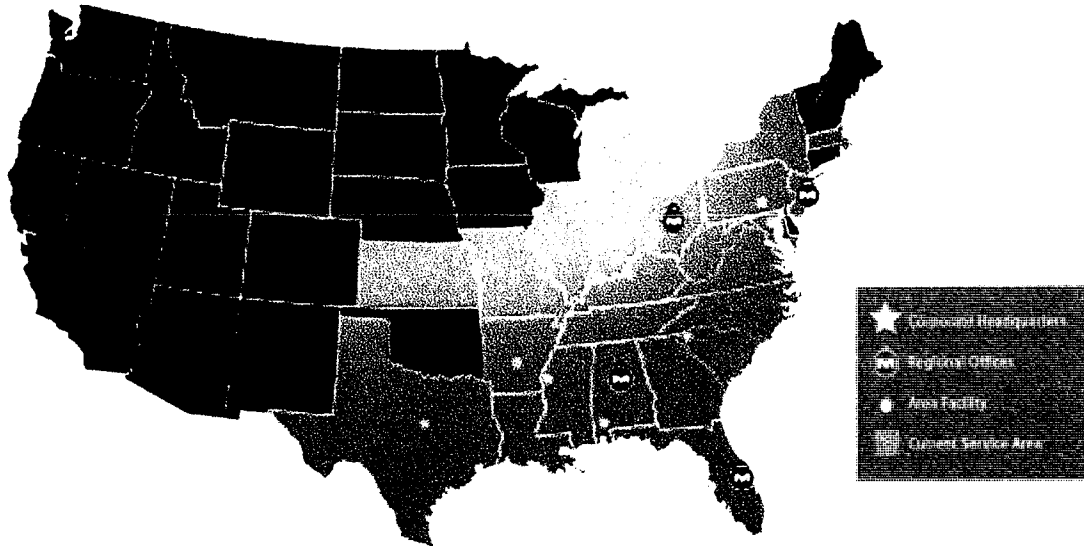
With an extremely smooth material surface and only minimal reduction of pipe diameter, the new EX pipe meets or exceeds the flow capacity of the original pipe, while forming a new, exceedingly strong and corrosion-resistant pipe-within-a-pipe. The EX pipe can be installed in lines with bends up to 90 degrees and small diameters changes with minimal or no wrinkles.





Miller Pipeline Corp.

Miller Pipeline Corporation is one of the nation's premier natural gas distribution, transmission pipeline and utility contractors. We provide a comprehensive range of pipeline contracting and rehabilitation services for natural gas, liquids, water and wastewater pipelines. Specialty products and services for the industrial and telecommunication industries are also offered. With our corporate headquarters in Indianapolis, Indiana, and area facilities throughout the country, our steadily expanding geographic footprint enables us to ensure the availability of local resources and expertise to support your project.



Our representatives will be glad to discuss your pipeline needs.
For further information, or to arrange an on-site inspection, please contact us.

Corporate Headquarters

P.O. Box 34141
8850 Crawfordsville Road
Indianapolis, IN 46234
Toll-Free: 800-428-3742
Tel: 317-293-0278
Fax: 317-293-8502

millerpipeline.com

Regional Offices

Ohio Operation
4990 Scioto Darby Road
Hilliard, OH 43026
Tel: 614-777-8377
Fax: 614-771-5651

New Jersey Operation
378 Whitehead Avenue
South River, NJ 08882
Toll-Free: 800-524-1002
Tel: 732-238-2151
Fax: 732-238-2265

Alabama Operation
3611 Industrial Parkway
Birmingham, AL 35217
Tel: 205-849-5331
Fax: 205-849-5311

Florida Operation
727 Cheston Street
New Smyrna Beach, FL 32168
Toll-Free: 866-423-6621
Tel: 386-423-6621
Fax: 386-423-6627

Appendix D Repair Summary Table

Rehabilitation Plan and Schedule
Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Type	Comments
PS01 - Myrtle Grove #1	20	10	Service line - repair service line	Completed 2002, November		Yes	
PS02 - Myrtle Grove #2	130	8	Main - install full line	Completed 2003	6	Yes	1390 NW 191 ST
PS03 - Stonybrook	364.5	8	Main - install full line	Completed 2003		Yes	
PS04 - Master	235	8	Main - install full line	Completed 2003		Yes	
PS05 - Scott Lake #4	340	8	Main - install full line	Completed 2003	10	Yes	
PS06 - Scott Lake #8	333	8	Main - install full line	Completed 2003	9	Yes	
PS07 - Sunshine #1	336	8	Main - install full line	Completed 2003	4	Yes	
PS08 - Sunshine #2	330	8	Main - install full line	Completed 2003	8	Yes	
PS09 - Cravero	330	8	Main - install full line	Completed 2003	8	Yes	
PS10 - Scott Lake #1		8	Manhole - manhole repair	Completed 2003, February		Yes	
PS11 - Miami Lanes		4	Service line - repair service line	Completed 2003, May		Yes	
PS12 - Golden Glades		4	Main - install full line	Completed 2004		Yes	
PS13 - M.I.D. #1		8	Main - install full line	Completed 2004		Yes	
PS14 - M.I.D. #2		8	Main - install full line	Completed 2004		Yes	
PS15 - Miami Garden Villas		8	Main - install full line	Completed 2004		Yes	
PS16 - Star Lake		4	Manhole - manhole repair	Completed 2004		Yes	
PS17 - Sierra Maza		4	Service line - repair service line	Completed 2004		Yes	
PS18 - Honey Hill		4	Main - install full line	Completed 2004		Yes	
PS19 - Norwood		4	Main - install full line	Completed 2004		Yes	
PS20 - Palmetto		4	Main - install full line	Completed 2004		Yes	
PS21 - Windwood		4	Main - install full line	Completed 2004		Yes	
PS22 - Ball Gardens		4	Main - install full line	Completed 2004		Yes	
PS23 - Hawco		4	Main - install full line	Completed 2004		Yes	
PS24 - P.P.S.		4	Main - install full line	Completed 2004		Yes	
PS25 - K.O.A.		4	Main - install full line	Completed 2004		Yes	
PS26 - Lulus		4	Main - install full line	Completed 2004		Yes	
PS27 - Medical Plaza		4	Main - install full line	Completed 2004		Yes	
PS28 - K.F.C.		4	Main - install full line	Completed 2004		Yes	
PS29 - K.O.A.		8	Main - install full line	Completed 2004		Yes	
PS30 - Lulus		8	Main - install full line	Completed 2004		Yes	
PS31 - P.P.S.		8	Main - install full line	Completed 2004		Yes	
PS32 - K.F.C. #1		8	Main - install full line	Completed 2004		Yes	
PS33 - K.F.C. #2		8	Main - install full line	Completed 2004		Yes	
PS34 - K.F.C. #3		8	Main - install full line	Completed 2004		Yes	
PS35 - K.F.C. #4		8	Main - install full line	Completed 2004		Yes	
PS36 - K.F.C. #5		8	Main - install full line	Completed 2004		Yes	
PS37 - K.F.C. #6		8	Main - install full line	Completed 2004		Yes	
PS38 - K.F.C. #7		8	Main - install full line	Completed 2004		Yes	
PS39 - K.F.C. #8		8	Main - install full line	Completed 2004		Yes	
PS40 - K.F.C. #9		8	Main - install full line	Completed 2004		Yes	
PS41 - K.F.C. #10		8	Main - install full line	Completed 2004		Yes	
PS42 - K.F.C. #11		8	Main - install full line	Completed 2004		Yes	
PS43 - K.F.C. #12		8	Main - install full line	Completed 2004		Yes	
PS44 - K.F.C. #13		8	Main - install full line	Completed 2004		Yes	
PS45 - K.F.C. #14		8	Main - install full line	Completed 2004		Yes	
PS46 - K.F.C. #15		8	Main - install full line	Completed 2004		Yes	
PS47 - K.F.C. #16		8	Main - install full line	Completed 2004		Yes	
PS48 - K.F.C. #17		8	Main - install full line	Completed 2004		Yes	
PS49 - K.F.C. #18		8	Main - install full line	Completed 2004		Yes	
PS50 - K.F.C. #19		8	Main - install full line	Completed 2004		Yes	
PS51 - K.F.C. #20		8	Main - install full line	Completed 2004		Yes	
PS52 - K.F.C. #21		8	Main - install full line	Completed 2004		Yes	
PS53 - K.F.C. #22		8	Main - install full line	Completed 2004		Yes	
PS54 - K.F.C. #23		8	Main - install full line	Completed 2004		Yes	
PS55 - K.F.C. #24		8	Main - install full line	Completed 2004		Yes	
PS56 - K.F.C. #25		8	Main - install full line	Completed 2004		Yes	
PS57 - K.F.C. #26		8	Main - install full line	Completed 2004		Yes	
PS58 - K.F.C. #27		8	Main - install full line	Completed 2004		Yes	
PS59 - K.F.C. #28		8	Main - install full line	Completed 2004		Yes	
PS60 - K.F.C. #29		8	Main - install full line	Completed 2004		Yes	
PS61 - K.F.C. #30		8	Main - install full line	Completed 2004		Yes	
PS62 - K.F.C. #31		8	Main - install full line	Completed 2004		Yes	
PS63 - K.F.C. #32		8	Main - install full line	Completed 2004		Yes	
PS64 - K.F.C. #33		8	Main - install full line	Completed 2004		Yes	
PS65 - K.F.C. #34		8	Main - install full line	Completed 2004		Yes	
PS66 - K.F.C. #35		8	Main - install full line	Completed 2004		Yes	
PS67 - K.F.C. #36		8	Main - install full line	Completed 2004		Yes	
PS68 - K.F.C. #37		8	Main - install full line	Completed 2004		Yes	
PS69 - K.F.C. #38		8	Main - install full line	Completed 2004		Yes	
PS70 - K.F.C. #39		8	Main - install full line	Completed 2004		Yes	
PS71 - K.F.C. #40		8	Main - install full line	Completed 2004		Yes	
PS72 - K.F.C. #41		8	Main - install full line	Completed 2004		Yes	
PS73 - K.F.C. #42		8	Main - install full line	Completed 2004		Yes	
PS74 - K.F.C. #43		8	Main - install full line	Completed 2004		Yes	
PS75 - K.F.C. #44		8	Main - install full line	Completed 2004		Yes	
PS76 - K.F.C. #45		8	Main - install full line	Completed 2004		Yes	
PS77 - K.F.C. #46		8	Main - install full line	Completed 2004		Yes	
PS78 - K.F.C. #47		8	Main - install full line	Completed 2004		Yes	
PS79 - K.F.C. #48		8	Main - install full line	Completed 2004		Yes	
PS80 - K.F.C. #49		8	Main - install full line	Completed 2004		Yes	
PS81 - K.F.C. #50		8	Main - install full line	Completed 2004		Yes	
PS82 - K.F.C. #51		8	Main - install full line	Completed 2004		Yes	
PS83 - K.F.C. #52		8	Main - install full line	Completed 2004		Yes	
PS84 - K.F.C. #53		8	Main - install full line	Completed 2004		Yes	
PS85 - K.F.C. #54		8	Main - install full line	Completed 2004		Yes	
PS86 - K.F.C. #55		8	Main - install full line	Completed 2004		Yes	
PS87 - K.F.C. #56		8	Main - install full line	Completed 2004		Yes	
PS88 - K.F.C. #57		8	Main - install full line	Completed 2004		Yes	
PS89 - K.F.C. #58		8	Main - install full line	Completed 2004		Yes	
PS90 - K.F.C. #59		8	Main - install full line	Completed 2004		Yes	
PS91 - K.F.C. #60		8	Main - install full line	Completed 2004		Yes	
PS92 - K.F.C. #61		8	Main - install full line	Completed 2004		Yes	
PS93 - K.F.C. #62		8	Main - install full line	Completed 2004		Yes	
PS94 - K.F.C. #63		8	Main - install full line	Completed 2004		Yes	
PS95 - K.F.C. #64		8	Main - install full line	Completed 2004		Yes	
PS96 - K.F.C. #65		8	Main - install full line	Completed 2004		Yes	
PS97 - K.F.C. #66		8	Main - install full line	Completed 2004		Yes	
PS98 - K.F.C. #67		8	Main - install full line	Completed 2004		Yes	
PS99 - K.F.C. #68		8	Main - install full line	Completed 2004		Yes	
PS100 - K.F.C. #69		8	Main - install full line	Completed 2004		Yes	

Rehabilitation Plan and Schedule
Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Tap	Comments
PS01 - Myrtle Grove # 1			PS06 - Surshina # 2	PS15 - Miami Garden Villas	PS23 - Bell Gardens	PS26 - K.O.A	PS29 - Houston's
PS02 - Myrtle Grove # 2			PS09 - Craveno	PS16 - Star Lake	PS23 - Havco	PS26 - Luras	PS30 - Montebello
PS03 - Stonebrook			PS10 - Scott Lake # 1	PS17 - Sierra Maris	PS24 - P.P.S	PS27 - Medical Plaza	PS31 - DOT # 1
PS04 - Weaver			PS11 - Miami Lakes	PS18 - Hony Hill	PS25 - K.O.A	PS28 - K.F.C.	PS32 - DOT # 2
PS05 - Scott Lake # 4			PS12 - Golden Groves	PS19 - Newwood	PS26 - Luras	PS29 - Houston's	PS33 - Highland
PS06 - Scott Lake # 6			PS13 - W.D. # 2	PS20 - Fairland	PS27 - Medical Plaza		
PS07 - Surshina # 1			PS14 - W.D. # 2	PS21 - Windwood	PS28 - K.F.C.		
PS13-23A			Mantle - mantle replacement	Completed 2004, January			
PS02			Service line - repair service line	Completed 2004, January			2840 NW 173 TER
PS01			Lateral - repair latera	Completed 2004, July			2840 NW 173 TER
PS02			Lateral - repair latera	Completed 2004, July			17300NW 32 AVE
PS02			Lateral - repair latera	Completed 2004, July			17300NW 32 AVE
PS02			Lateral - repair latera	Completed 2004, July			3261 NW 171 TER
PS05			Lateral - repair latera	Completed 2004, July			3261 NW 171 TER
PS22			Lateral - repair latera	Completed 2004, July			1421 NW 183 ST
PS10			Mantle - replace mtl	Completed 2004, July			2210 NW 191 ST
PS05			Force Main - repair FM	Completed 2004, June			660 NW 179 TER
PS18			Lateral - repair latera	Completed 2004, June			19101 NW 24 AVE
PS18			Lateral - repair latera	Completed 2004, June			1401 NW 183 ST
PS19			Lateral - repair latera	Completed 2004, June			20035 NW 12 PL
PS20			Lateral - repair latera	Completed 2004, June			202 ST & 13 AVE
PS19			Lateral - repair latera	Completed 2004, June			1431 NW 197 ST
PS19			Main - point repair	Completed 2004, June			1821 NW 187 ST
PS01			Lateral - repair latera	Completed 2004, March			1331 NW 192 TER
PS02			Lateral - repair latera	Completed 2004, March			1311 NW 192 TER
PS02			Lateral - repair latera	Completed 2004, March			3531 NW 171 ST
PS02			Lateral - repair latera	Completed 2004, March			3531 NW 171 ST
PS04			Lateral - repair latera	Completed 2004, March			3451 NW 175 ST
PS04			Lateral - repair latera	Completed 2004, March			3451 NW 175 ST
PS04			Lateral - repair latera	Completed 2004, March			17301 NW 22 AVE
PS04			Lateral - repair latera	Completed 2004, March			3331 NW 175 ST
PS10			Lateral - repair latera	Completed 2004, March			841 NW 172 TER
PS10			Lateral - repair latera	Completed 2004, March			17941 NW9 AVE
PS10			Lateral - repair latera	Completed 2004, March			1410 NW 192 TER
PS04			Mantle - replace ring & cover	Completed 2004, May			173 TER & 24 AVE
PS04			Lateral - repair latera	Completed 2004, May			17011 NW 37 AVE
PS04			Lateral - repair latera	Completed 2004, May			1290 NW 175 ST
PS10			Lateral - repair latera	Completed 2004, May			780 NW 177 TER
PS10			Lateral - repair latera	Completed 2004, May			1000 NW 160 TER
PS18			Lateral - repair latera	Completed 2004, May			1420 NW 199 ST
PS19			Lateral - repair latera	Completed 2004, May			1242 NW 169 TER
PS20			Lateral - repair latera	Completed 2004, May			1800 NW 187 TER
PS21			Lateral - repair latera	Completed 2004, May			1845 NW 190 TER
PS22			Lateral - repair latera	Completed 2004, May			1840 NW 22 AVE
PS01			Force Main - repair FM	Completed 2004, May			1920 NW 190 TER
PS01			Lateral - repair latera	Completed 2004, May			3720 NW 176 ST
PS10			Lateral - repair latera	Completed 2004, November			3400 NW 171 TER
PS10			Mantle - resurf and set	Completed 2004, November			3400 NW 171 TER
PS04			Mantle - replace fix	Completed 2004, November			175 ST & 42 AVE
PS18			Flow meter install	Completed 2004, October			202 TER & 12 AVE
PS02			Lateral - repair latera	Completed 2004, October			3031 NW 176 ST
PS17			Lateral - repair latera	Completed 2004, October			3041 NW 176 ST
PS19			Lateral - repair latera	Completed 2004, October			860 NW 200 TER
PS03			Lateral - repair latera	Completed 2004, September			1490 NW 196 TER
PS10			Lateral - repair latera	Completed 2004, September			2335 NW 182 TER
PS14.3.2	402	8	Main - install full line	Completed 2005			765 NW 176 TER
PS04.368.370	247	8	Main - install full line	Completed 2005			
PS12.3.2	393	8	Main - install full line	Completed 2005			
PS12.4.3	405	8	Main - install full line	Completed 2005			
PS12.A.2.1	55	8	Main - install full line	Completed 2005			
PS12.B.1.A.3	266	8	Main - install full line	Completed 2005			
PS14.10.1.9	225	8	Main - install full line	Completed 2005			
PS14.11.2	273	8	Main - install full line	Completed 2005			
PS14.11A.11	33	8	Main - install full line	Completed 2005			
PS14.4.3	294	8	Main - install full line	Completed 2005			
PS14.5.4	322	8	Main - install full line	Completed 2005			
PS14.6.5	223	8	Main - install full line	Completed 2005			
PS14.6.2	346	8	Main - install full line	Completed 2005			
PS14.8.6	344	8	Main - install full line	Completed 2005			
PS19.603.602	134	10	Main - install full line	Completed 2005			
PS19.604.603	216	10	Main - install full line	Completed 2005			
PS19.608.607	164	10	Main - install full line	Completed 2005			
PS19.639.640	222	8	Main - install full line	Completed 2005			
PS19.643.642	204	8	Main - install full line	Completed 2005			
PS19.643A.643	35	8	Main - install full line	Completed 2005			
PS19.648.647	366	8	Main - install full line	Completed 2005			

Rehabilitation Plan and Schedule
Cycle 1 and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Tape	Comments
PS01 - Myrtle Grove #1							
PS02 - Myrtle Grove #2							
PS03 - Myrtle Grove #3							
PS04 - Myrtle Grove #4							
PS05 - Myrtle Grove #5							
PS06 - Myrtle Grove #6							
PS07 - Myrtle Grove #7							
PS08 - Sunshine #1	316	8	Main - install full line	Completed 2005	9		PS28 - Houston's
PS09 - Sunshine #2	228	8	Main - install full line	Completed 2005	0		PS30 - Monticello
PS10 - Sunshine #3	151	8	Main - install full line	Completed 2005	0		PS31 - DOT #1
PS11 - Sunshine #4	127	8	Main - install full line	Completed 2005	0		PS32 - DOT #2
PS12 - Sunshine #5	226	8	Main - install full line	Completed 2005	6		PS33 - Highland
PS13 - Sunshine #6	286	8	Main - install full line	Completed 2005	0		
PS14 - Sunshine #7	177	8	Main - install full line	Completed 2005	0		
PS15 - Sunshine #8	120	8	Main - install full line	Completed 2005	7		
PS16 - Sunshine #9	231	8	Main - install full line	Completed 2005	0		
PS17 - Sunshine #10	279	8	Main - install full line	Completed 2005	9		
PS18 - Sunshine #11	275	8	Main - install full line	Completed 2005	8		
PS19 - Sunshine #12	274	8	Main - install full line	Completed 2005	6		
PS20 - Sunshine #13	280	8	Main - install full line	Completed 2005	10		
PS21 - Sunshine #14	309	8	Main - install full line	Completed 2005	0		
PS22 - Sunshine #15	128	8	Main - install full line	Completed 2005	8		
PS23 - Sunshine #16	361	8	Main - install full line	Completed 2005	0		
PS24 - Sunshine #17							
PS25 - Sunshine #18							
PS26 - Sunshine #19							
PS27 - Sunshine #20							
PS28 - Sunshine #21							
PS29 - Sunshine #22							
PS30 - Sunshine #23							
PS31 - Sunshine #24							
PS32 - Sunshine #25							
PS33 - Sunshine #26							
PS34 - Sunshine #27							
PS35 - Sunshine #28							
PS36 - Sunshine #29							
PS37 - Sunshine #30							
PS38 - Sunshine #31							
PS39 - Sunshine #32							
PS40 - Sunshine #33							
PS41 - Sunshine #34							
PS42 - Sunshine #35							
PS43 - Sunshine #36							
PS44 - Sunshine #37							
PS45 - Sunshine #38							
PS46 - Sunshine #39							
PS47 - Sunshine #40							
PS48 - Sunshine #41							
PS49 - Sunshine #42							
PS50 - Sunshine #43							
PS51 - Sunshine #44							
PS52 - Sunshine #45							
PS53 - Sunshine #46							
PS54 - Sunshine #47							
PS55 - Sunshine #48							
PS56 - Sunshine #49							
PS57 - Sunshine #50							
PS58 - Sunshine #51							
PS59 - Sunshine #52							
PS60 - Sunshine #53							
PS61 - Sunshine #54							
PS62 - Sunshine #55							
PS63 - Sunshine #56							
PS64 - Sunshine #57							
PS65 - Sunshine #58							
PS66 - Sunshine #59							
PS67 - Sunshine #60							
PS68 - Sunshine #61							
PS69 - Sunshine #62							
PS70 - Sunshine #63							
PS71 - Sunshine #64							
PS72 - Sunshine #65							
PS73 - Sunshine #66							
PS74 - Sunshine #67							
PS75 - Sunshine #68							
PS76 - Sunshine #69							
PS77 - Sunshine #70							
PS78 - Sunshine #71							
PS79 - Sunshine #72							
PS80 - Sunshine #73							
PS81 - Sunshine #74							
PS82 - Sunshine #75							
PS83 - Sunshine #76							
PS84 - Sunshine #77							
PS85 - Sunshine #78							
PS86 - Sunshine #79							
PS87 - Sunshine #80							
PS88 - Sunshine #81							
PS89 - Sunshine #82							
PS90 - Sunshine #83							
PS91 - Sunshine #84							
PS92 - Sunshine #85							
PS93 - Sunshine #86							
PS94 - Sunshine #87							
PS95 - Sunshine #88							
PS96 - Sunshine #89							
PS97 - Sunshine #90							
PS98 - Sunshine #91							
PS99 - Sunshine #92							
PS100 - Sunshine #93							
PS101 - Sunshine #94							
PS102 - Sunshine #95							
PS103 - Sunshine #96							
PS104 - Sunshine #97							
PS105 - Sunshine #98							
PS106 - Sunshine #99							
PS107 - Sunshine #100							

Rehabilitation Plan and Schedule
Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Tap	Comments
PS01 - Myrtle Grove # 1							
PS02 - Myrtle Grove # 2							
PS04 - Mamey Brook							
PS05 - Scott Lake # 4							
PS06 - Scott Lake # 8							
PS07 - Sunshine # 1							
PS08 - Sunshine # 2							
PS10 - Scott Lake # 1							
PS11 - Merrill Square							
PS12 - Golden Glease							
PS13 - M.I.D. # 1							
PS14 - M.I.D. # 2							
PS15 - Mann Garden Villas							
PS16 - Sheri Linda							
PS17 - Sierra Florida							
PS18 - Henry Hill							
PS19 - Norwood							
PS20 - Paintland							
PS21 - Windwood							
PS22 - Ball Gardens							
PS23 - Helene							
PS24 - K.O.A.							
PS25 - K.O.A.							
PS26 - Lunnas							
PS27 - Medical Plaza							
PS28 - K.F.C.							
PS29 - K.O.A.							
PS30 - Lunnas							
PS31 - DOT # 1							
PS32 - DOT # 2							
PS33 - Highline							
PS38 - Houston's							
PS39 - Montello							
PS40 - DOT # 1							
PS41 - DOT # 2							
PS42 - Highline							
PS43 - Highline							
PS44 - Highline							
PS45 - Highline							
PS46 - Highline							
PS47 - Highline							
PS48 - Highline							
PS49 - Highline							
PS50 - Highline							
PS51 - Highline							
PS52 - Highline							
PS53 - Highline							
PS54 - Highline							
PS55 - Highline							
PS56 - Highline							
PS57 - Highline							
PS58 - Highline							
PS59 - Highline							
PS60 - Highline							
PS61 - Highline							
PS62 - Highline							
PS63 - Highline							
PS64 - Highline							
PS65 - Highline							
PS66 - Highline							
PS67 - Highline							
PS68 - Highline							
PS69 - Highline							
PS70 - Highline							
PS71 - Highline							
PS72 - Highline							
PS73 - Highline							
PS74 - Highline							
PS75 - Highline							
PS76 - Highline							
PS77 - Highline							
PS78 - Highline							
PS79 - Highline							
PS80 - Highline							
PS81 - Highline							
PS82 - Highline							
PS83 - Highline							
PS84 - Highline							
PS85 - Highline							
PS86 - Highline							
PS87 - Highline							
PS88 - Highline							
PS89 - Highline							
PS90 - Highline							
PS91 - Highline							
PS92 - Highline							
PS93 - Highline							
PS94 - Highline							
PS95 - Highline							
PS96 - Highline							
PS97 - Highline							
PS98 - Highline							
PS99 - Highline							
PS100 - Highline							

Rehabilitation Plan and Schedule
Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Type	Comments
PS01 - Myrtle Grove # 1				Completed 2005 June		Yes	
PS02 - Myrtle Grove # 2				Completed 2005 June		Yes	
PS03 - Stoneybrook				Completed 2005 June		Yes	
PS04 - Master				Completed 2005 March		Yes	
PS05 - Scott Lake # 1				Completed 2005 March		Yes	
PS06 - Scott Lake # 2				Completed 2005 March		Yes	
PS07 - Sunshrine # 1				Completed 2005 March		Yes	
PS08 - Sunshrine # 2				Completed 2005 March		Yes	
PS09 - Gateway				Completed 2005 March		Yes	
PS10 - Scott Lake # 1				Completed 2005 March		Yes	
PS11 - Miami Lakes				Completed 2005 March		Yes	
PS12 - Miami Lakes				Completed 2005 March		Yes	
PS13 - M/D # 1				Completed 2005 March		Yes	
PS14 - M/D # 2				Completed 2005 March		Yes	
PS15 - Miami Garden Villas				Completed 2005 March		Yes	
PS16 - Sun Lake				Completed 2005 March		Yes	
PS17 - Sierra Hill				Completed 2005 March		Yes	
PS18 - Horizon				Completed 2005 March		Yes	
PS19 - Horizon				Completed 2005 March		Yes	
PS20 - Palmetto				Completed 2005 March		Yes	
PS21 - Windwood				Completed 2005 March		Yes	
PS22 - Ball Gardens				Completed 2005 March		Yes	
PS23 - Hawk				Completed 2005 March		Yes	
PS24 - P.P.S.				Completed 2005 March		Yes	
PS25 - K.O.A.				Completed 2005 March		Yes	
PS26 - Luras				Completed 2005 March		Yes	
PS27 - Medical Plaza				Completed 2005 March		Yes	
PS28 - K.F.C.				Completed 2005 March		Yes	
PS29 - K.O.A.				Completed 2005 March		Yes	
PS30 - Luras				Completed 2005 March		Yes	
PS31 - Medical Plaza				Completed 2005 March		Yes	
PS32 - K.F.C.				Completed 2005 March		Yes	
PS33 - Houston's				Completed 2005 March		Yes	
PS34 - Houston's				Completed 2005 March		Yes	
PS35 - Houston's				Completed 2005 March		Yes	
PS36 - Houston's				Completed 2005 March		Yes	
PS37 - Houston's				Completed 2005 March		Yes	
PS38 - Houston's				Completed 2005 March		Yes	
PS39 - Houston's				Completed 2005 March		Yes	
PS40 - Houston's				Completed 2005 March		Yes	
PS41 - Houston's				Completed 2005 March		Yes	
PS42 - Houston's				Completed 2005 March		Yes	
PS43 - Houston's				Completed 2005 March		Yes	
PS44 - Houston's				Completed 2005 March		Yes	
PS45 - Houston's				Completed 2005 March		Yes	
PS46 - Houston's				Completed 2005 March		Yes	
PS47 - Houston's				Completed 2005 March		Yes	
PS48 - Houston's				Completed 2005 March		Yes	
PS49 - Houston's				Completed 2005 March		Yes	
PS50 - Houston's				Completed 2005 March		Yes	
PS51 - Houston's				Completed 2005 March		Yes	
PS52 - Houston's				Completed 2005 March		Yes	
PS53 - Houston's				Completed 2005 March		Yes	
PS54 - Houston's				Completed 2005 March		Yes	
PS55 - Houston's				Completed 2005 March		Yes	
PS56 - Houston's				Completed 2005 March		Yes	
PS57 - Houston's				Completed 2005 March		Yes	
PS58 - Houston's				Completed 2005 March		Yes	
PS59 - Houston's				Completed 2005 March		Yes	
PS60 - Houston's				Completed 2005 March		Yes	
PS61 - Houston's				Completed 2005 March		Yes	
PS62 - Houston's				Completed 2005 March		Yes	
PS63 - Houston's				Completed 2005 March		Yes	
PS64 - Houston's				Completed 2005 March		Yes	
PS65 - Houston's				Completed 2005 March		Yes	
PS66 - Houston's				Completed 2005 March		Yes	
PS67 - Houston's				Completed 2005 March		Yes	
PS68 - Houston's				Completed 2005 March		Yes	
PS69 - Houston's				Completed 2005 March		Yes	
PS70 - Houston's				Completed 2005 March		Yes	
PS71 - Houston's				Completed 2005 March		Yes	
PS72 - Houston's				Completed 2005 March		Yes	
PS73 - Houston's				Completed 2005 March		Yes	
PS74 - Houston's				Completed 2005 March		Yes	
PS75 - Houston's				Completed 2005 March		Yes	
PS76 - Houston's				Completed 2005 March		Yes	
PS77 - Houston's				Completed 2005 March		Yes	
PS78 - Houston's				Completed 2005 March		Yes	
PS79 - Houston's				Completed 2005 March		Yes	
PS80 - Houston's				Completed 2005 March		Yes	
PS81 - Houston's				Completed 2005 March		Yes	
PS82 - Houston's				Completed 2005 March		Yes	
PS83 - Houston's				Completed 2005 March		Yes	
PS84 - Houston's				Completed 2005 March		Yes	
PS85 - Houston's				Completed 2005 March		Yes	
PS86 - Houston's				Completed 2005 March		Yes	
PS87 - Houston's				Completed 2005 March		Yes	
PS88 - Houston's				Completed 2005 March		Yes	
PS89 - Houston's				Completed 2005 March		Yes	
PS90 - Houston's				Completed 2005 March		Yes	
PS91 - Houston's				Completed 2005 March		Yes	
PS92 - Houston's				Completed 2005 March		Yes	
PS93 - Houston's				Completed 2005 March		Yes	
PS94 - Houston's				Completed 2005 March		Yes	
PS95 - Houston's				Completed 2005 March		Yes	
PS96 - Houston's				Completed 2005 March		Yes	
PS97 - Houston's				Completed 2005 March		Yes	
PS98 - Houston's				Completed 2005 March		Yes	
PS99 - Houston's				Completed 2005 March		Yes	
PS100 - Houston's				Completed 2005 March		Yes	

Rehabilitation Plan and Schedule
Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Type	Comments
PS01 - Myrtle Grove # 1							
PS02 - Myrtle Grove # 2							
PS03 - Storeybook							
PS04 - Main							
PS05 - Scott Lake # 4							
PS06 - Scott Lake # 8							
SOT - Sunshine # 1							
PS08 - Sunshine # 2							
PS09 - Cravero							
PS10 - Scott Lake # 1							
PS11 - Miami Lakes							
PS12 - Golden Glades							
PS13 - MILD # 1							
PS14 - MILD # 2							
PS15 - Miami Garden Villas							
PS16 - Star Lake							
PS17 - Sierra Midea							
PS18 - Honey Hill							
PS19 - Norwood							
PS20 - Plainland							
PS21 - Windwood							
PS22 - Ball Gardens							
PS23 - Hawco							
PS24 - K.O.A.							
PS25 - K.O.A.							
PS26 - Medical Plaza							
PS27 - K.F.C.							
PS28 - Houston's							
PS29 - Houston's							
PS30 - K.F.C.							
PS31 - Houston's							
PS32 - Medical Plaza							
PS33 - K.F.C.							
PS34 - K.O.A.							
PS35 - Lintas							
PS36 - Medical Plaza							
PS37 - Houston's							
PS38 - Houston's							
PS39 - Highland							
PS40 - Highland							
PS41 - DOT # 1							
PS42 - DOT # 2							
PS43 - Highland							
PS44 - Highland							
PS45 - Highland							
PS46 - Highland							
PS47 - Highland							
PS48 - Highland							
PS49 - Highland							
PS50 - Highland							
PS51 - Highland							
PS52 - Highland							
PS53 - Highland							
PS54 - Highland							
PS55 - Highland							
PS56 - Highland							
PS57 - Highland							
PS58 - Highland							
PS59 - Highland							
PS60 - Highland							
PS61 - Highland							
PS62 - Highland							
PS63 - Highland							
PS64 - Highland							
PS65 - Highland							
PS66 - Highland							
PS67 - Highland							
PS68 - Highland							
PS69 - Highland							
PS70 - Highland							
PS71 - Highland							
PS72 - Highland							
PS73 - Highland							
PS74 - Highland							
PS75 - Highland							
PS76 - Highland							
PS77 - Highland							
PS78 - Highland							
PS79 - Highland							
PS80 - Highland							
PS81 - Highland							
PS82 - Highland							
PS83 - Highland							
PS84 - Highland							
PS85 - Highland							
PS86 - Highland							
PS87 - Highland							
PS88 - Highland							
PS89 - Highland							
PS90 - Highland							
PS91 - Highland							
PS92 - Highland							
PS93 - Highland							
PS94 - Highland							
PS95 - Highland							
PS96 - Highland							
PS97 - Highland							
PS98 - Highland							
PS99 - Highland							
PS100 - Highland							

Rehabilitation Plan and Schedule
Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Tap	Comments
PS01 - Myrtle Grove # 1	44	8	Main - install full line	Completed 2006, July	PS25 - K.O.A.		PS29 - Houston's
PS02 - Myrtle Grove # 2	255	8	Main - install full line	Completed 2006, July	PS26 - Lunda		PS30 - Montello
PS03 - Stonebrook	247	8	Main - install full line	Completed 2006, July	PS27 - Middle Plaza		PS31 - DOT #1
PS04 - Master			Repair - Pipe	Completed 2006, July	PS28 - K.F.C.		PS32 - DOT #2
PS05 - Scott Lake # 4			Repair - Pipe	Completed 2006, July	PS29 - Houston's		PS33 - Highland
PS06 - Scott Lake # 8			Repair - Pipe	Completed 2006, June			
PS07 - Sunshine # 1			Repair - Pipe	Completed 2006, March			
			Repair - Pipe	Completed 2006, May			
PS20 31A.3			Repair - Pipe	Completed 2007, January			
PS20 4.3			Repair - Pipe	Completed 2007, January			
PS20 5.4			Repair - Pipe	Completed 2007, January			
PS01			Repair - Pipe	Completed 2007, January			
PS09			Repair - Pipe	Completed 2007, January			
PS10			Repair - Pipe	Completed 2007, January			
PS03			Repair - Pipe	Completed 2007, January			
PS18			Repair - Pipe	Completed 2007, January			
PS05			Repair - Pipe	Completed 2007, January			
PS20			Repair - Pipe	Completed 2007, January			
PS04			Repair - Pipe	Completed 2007, January			
PS04 101			Repair - Pipe	Completed 2007, January			
PS04 102			Repair - Pipe	Completed 2007, January			
PS04 103			Repair - Pipe	Completed 2007, January			
PS04 103A			Repair - Pipe	Completed 2007, January			
PS04 104			Repair - Pipe	Completed 2007, January			
PS04 105			Repair - Pipe	Completed 2007, January			
PS04 105A			Repair - Pipe	Completed 2007, January			
PS04 106			Repair - Pipe	Completed 2007, January			
PS04 107			Repair - Pipe	Completed 2007, January			
PS04 108			Repair - Pipe	Completed 2007, January			
PS04 109			Repair - Pipe	Completed 2007, January			
PS04 117			Repair - Pipe	Completed 2007, January			
PS04 118			Repair - Pipe	Completed 2007, January			
PS04 119			Repair - Pipe	Completed 2007, January			
PS04 181			Repair - Pipe	Completed 2007, January			
PS04 182			Repair - Pipe	Completed 2007, January			
PS04 187			Repair - Pipe	Completed 2007, January			
PS04 430			Repair - Pipe	Completed 2007, January			
PS04 68			Repair - Pipe	Completed 2007, January			
PS04 84			Repair - Pipe	Completed 2007, January			
PS04 86			Repair - Pipe	Completed 2007, January			
PS04 93			Repair - Pipe	Completed 2007, January			
PS04 99			Repair - Pipe	Completed 2007, January			
PS04 122			Repair - Pipe	Completed 2007, January			
PS04 22			Repair - Pipe	Completed 2007, November			
PS04 25			Repair - Pipe	Completed 2007, November			
PS04 05			Repair - Pipe	Completed 2007, November			
PS04 10			Repair - Pipe	Completed 2007, November			
PS04 33			Repair - Pipe	Completed 2007, November			
PS04 27			Repair - Pipe	Completed 2007, November			
PS04 107			Repair - Pipe	Completed 2007, November			
PS04 135			Repair - Pipe	Completed 2007, November			
PS01 116			Repair - Pipe	Completed 2007, November			
PS01 117			Repair - Pipe	Completed 2007, November			
PS01 157			Repair - Pipe	Completed 2007, November			
PS01 206			Repair - Pipe	Completed 2007, November			
PS20			Repair - Pipe	Completed 2007, January			
PS27 10			Repair - Pipe	Completed 2007, January			
PS16 14A			Repair - Pipe	Completed 2007, February			
PS01			Repair - Pipe	Completed 2007, February			
PS12 11A			Repair - Pipe	Completed 2007, February			
PS04			Repair - Pipe	Completed 2007, February			
PS01			Repair - Pipe	Completed 2007, March			
PS20			Repair - Pipe	Completed 2007, March			
PS01			Repair - Pipe	Completed 2007, March			
PS02			Repair - Pipe	Completed 2007, April			
PS05			Repair - Pipe	Completed 2007, April			
PS05 326			Repair - Pipe	Completed 2007, April			
PS05 833			Repair - Pipe	Completed 2007, April			
PS05 828			Repair - Pipe	Completed 2007, April			
PS05 814			Repair - Pipe	Completed 2007, April			
PS05 810			Repair - Pipe	Completed 2007, April			
PS05 307			Repair - Pipe	Completed 2007, April			
PS05 307			Repair - Pipe	Completed 2007, April			
PS05 368			Repair - Pipe	Completed 2007, April			
PS02 34			Repair - Pipe	Completed 2007, April			
PS09			Repair - Pipe	Completed 2007, May			
PS33			Repair - Pipe	Completed 2007, May			

860 NW 170 Ter
2410 NE 136 TERRACE

Rehabilitation Plan and Schedule Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Sanitizers	Taps	Comments
PS33.33			Manhole repair	Complete 2007 September			17904 NW 24 AVENUE
PS22.702			Manhole repair	Complete 2007 September			18101 NW 24 AVE
PS12.15			Manhole repair	Complete 2007 September			500 NW 177 ST
PS16			Wastewater line repair	Complete 2007 October			19101 NE 3 CT
PS10			Wastewater line repair	Complete 2007 October			2451 NW 180 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2351 NW 191 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2465 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2351 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2375 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2470 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2498 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2299 NE 136 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2334 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2398 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2371 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2370 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2342 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2270 NE 136 LANE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2498 NE 136 LANE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2275 NE 136 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2271 NE 136 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2205 NE 136 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2435 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2250 NE 135 LANE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2254 NE 135 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2431 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2394 NE 136 LANE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2354 NE 135 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2435 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2375 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2211 NE 136 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2405 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2238 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2228 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2410 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2224 NE 135 TERRACE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2205 NE 135 LANE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2475 NE 135 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2370 NE 136 LANE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2448 NE 136 LANE
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2440 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2240 NE 136 STREET
PS33			SSER-CSL C/O Cap Replacement Program	Complete 2007 November			2444 NE 135 STREET
PS01.186A			Manhole Repair	Complete 2007 November			17505 NW 33CT
PS01.137			Manhole Repair	Complete 2007 November			3220 NW 170 STREET
PS01			Wastewater line repair	Complete 2007 November			3000 NW 179 Street
PS01			Wastewater line repair	Complete 2007 December			1220 NW 190 Street
PS19			Pipe Repair	Complete 2007 December			
PS12.B-23B-4	263	8	Main - install full liner	Complete 2007 September		Y66	
PS12.15.15-1	45	8	Main - install full liner	Complete 2007 October		Y65	
PS12.13.14	267	8	Main - install full liner	Complete 2007 October		Y65	
PS12.11A.11	227	10	Main - install full liner	Complete 2007 September		Y65	
PS12.B7.B8	88	8	Main - install full liner	Complete 2007 September		Y66	
PS12.B3.B-7	250	8	Main - install full liner	Complete 2007 October		Y68	
PS12.13.09	365	8	Main - install full liner	Complete 2007 October		Y68	
PS5.389.360	273	8	Main - install full liner	Complete 2007 October		Y68	
PS5.392.391	127	8	Main - install full liner	Complete 2007 October		Y68	
PS5.393.302	313	8	Main - install full liner	Complete 2007 October		Y68	
PS5.394.333	311	8	Main - install full liner	Complete 2007 November		Y68	
PS5.315.316	117	8	Main - install full liner	Complete 2007 October		Y65	
PS5.318.319	109	8	Main - install full liner	Complete 2007 October		Y65	
PS5.320.319	254	8	Main - install full liner	Complete 2007 October		Y68	
PS5.321.320	301	8	Main - install full liner	Complete 2007 October		Y68	
PS5.310.311	307	8	Main - install full liner	Complete 2007 October		Y68	
PS5.305.306	365	8	Main - install full liner	Complete 2007 October		Y68	

Rehabilitation Plan and Schedule
Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Type	Comments
PS01 - Myrtle Grove # 1	183	8	Main - install full liner	Complete 2007, October		Yes	
PS02 - Myrtle Grove # 2	144	8	Main - install full liner	Complete 2007, October		Yes	
PS03 - Stonebrook	23	8	Main - install full liner	Complete 2007, October		Yes	
PS04 - Master	98	8	Main - install full liner	Complete 2007, October		Yes	
PS05 - South Lake # 4	253	8	Main - install full liner	Complete 2007, October		Yes	
PS06 - South Lake # 8	116	8	Main - install full liner	Complete 2007, October		Yes	
PS07 - Sunshine # 1	114	8	Main - install full liner	Complete 2007, October		Yes	
	270	8	Main - install full liner	Complete 2007, September		Yes	
	417	8	Main - install full liner	Complete 2007, September		Yes	
	404	8	Main - install full liner	Complete 2007, September		Yes	
	120	8	Main - install full liner	Complete 2007, September		Yes	
	264	8	Main - install full liner	Complete 2007, October		Yes	
	248	10	Main - install full liner	Complete 2008, May		Yes	
	327	8	Main - install full liner	Complete 2008, May		Yes	
	314	8	Main - install full liner	Complete 2008, April		Yes	
	333	8	Main - install full liner	Complete 2008, April		Yes	
	247	8	Main - install full liner	Complete 2008, May		Yes	
	213	8	Main - install full liner	Complete 2008, May		Yes	
	394	8	Main - install full liner	Complete 2008, May		Yes	
	285	8	Main - install full liner	Complete 2008, April		Yes	
	356	8	Main - install full liner	Complete 2008, May		Yes	
	348	8	Main - install full liner	Complete 2008, May		Yes	
	155	8	Main - install full liner	Complete 2008, May		Yes	
	294	8	Main - install full liner	Complete 2008, April		Yes	
	295	8	Main - install full liner	Complete 2008, May		Yes	
	325	8	Main - install full liner	Complete 2008, May		Yes	
	248	8	Main - install full liner	Complete 2008, May		Yes	
	239	8	Main - install full liner	Complete 2008, May		Yes	
	248	8	Main - install full liner	Complete 2008, May		Yes	
	342	8	Main - install full liner	Complete 2008, May		Yes	
	261	8	Main - install full liner	Complete 2008, May		Yes	
	400	8	Main - install full liner	Complete 2008, May		Yes	
	347	8	Main - install full liner	Complete 2008, May		Yes	
	290	8	Main - install full liner	Complete 2008, April		Yes	
	325	8	Main - install full liner	Complete 2008, April		Yes	
	251	8	Main - install full liner	Complete 2008, May		Yes	
	325	8	Main - install full liner	Complete 2008, May		Yes	
	120	8	Main - install full liner	Complete 2008, May		Yes	
	53	8	Main - install full liner	Complete 2008, October		Yes	
	130	8	Main - install full liner	Complete 2008, September		Yes	
	307	8	Main - install full liner	Complete 2008, October		Yes	
	400	8	Main - install full liner	Complete 2008, October		Yes	
	350	8	Main - install full liner	Complete 2008, October		Yes	
	322	8	Main - install full liner	Complete 2008, October		Yes	
	320	8	Main - install full liner	Complete 2008, October		Yes	
	316	8	Main - install full liner	Complete 2008, October		Yes	
	310	8	Main - install full liner	Complete 2008, September		Yes	
	310	8	Main - install full liner	Complete 2008, October		Yes	
	380	8	Main - install full liner	Complete 2008, October		Yes	
	395	8	Main - install full liner	Complete 2008, October		Yes	
	350	8	Main - install full liner	Complete 2008, October		Yes	
	253	8	Main - install full liner	Complete 2008, October		Yes	
	297	8	Main - install full liner	Complete 2008, October		Yes	
	246	8	Main - install full liner	Complete 2008, October		Yes	
	253	10	Main - install full liner	Complete 2008, October		Yes	
	201	8	Main - install full liner	Complete 2008, October		Yes	
	259	8	Main - install full liner	Complete 2008, October		Yes	
	223	8	Main - install full liner	Complete 2008, September		Yes	
	224	8	Main - install full liner	Complete 2008, September		Yes	

Rehabilitation Plan and Schedule
Cycle 1 and II

PS01 - Myrtle Grove # 1	PS02 - Myrtle Grove # 2	PS03 - Sandybrook	PS04 - Seagrass	PS05 - Seagrass # 4	PS06 - Seagrass # 6	PS07 - Sunshine # 1	PS08 - Sunshine # 2	PS09 - Sunshine # 1	PS10 - Miami Lane # 1	PS11 - Miami Lane # 2	PS12 - Golden Gardens	PS13 - M.I.D. # 1	PS14 - M.I.D. # 2	PS15 - Miami/Garden Villas	PS16 - Star Lake	PS17 - Sierra Minka	PS18 - Honey Hill	PS19 - Norwood	PS20 - Palmwood	PS21 - Windwood	PS22 - Ball Gardens	PS23 - Hallow	PS24 - P.P.S.	PS25 - K.O.A.	PS26 - Lajas	PS27 - Medical Plaza	PS28 - K.F.C.	PS29 - Houston's	PS30 - Monticello	PS31 - DOT # 1	PS32 - DOT # 2	PS33 - Highland
Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Taps	Comments																									
PS19 34.633	300	8	Main - install full liner	Completed 2008, October		Yes	1350 NW 193 Terrace																									
PS18 53.652	130	8	Main - install full liner	Completed 2008, October		Yes	3410 NW 178 Street																									
PS19 656.655	260	8	Main - install full liner	Complete 2008, September		Yes	3300 NW 176 Street																									
PS19 664.663	224	8	Main - install full liner	Complete 2008, October		Yes	3281 NW 171 Street																									
PS19 669.956	224	8	Main - install full liner	Complete 2008, September		Yes	1760 NW 194 Street																									
PS19 676.674	140	8	Main - install full liner	Complete 2008, October		Yes	1805 NW 194 Street																									
PS19 688.671	122	8	Main - install full liner	Complete 2008, October		Yes	1361 NW 199 Street																									
PS19 688.685	22	8	Main - install full liner	Complete 2008, October		Yes	1361 NW 199 Street																									
PS19 687.886	273	8	Main - install full liner	Complete 2008, September		Yes	1151 NW 159 Drive																									
PS19 687.670	125	8	Main - install full liner	Complete 2008, February		Yes	2460 NW 183 Street																									
PS19			Pipe Repair	Completed 2008, January																												
PS01			Pipe Repair	Completed 2008, January																												
PS02			Pipe Repair	Completed 2008, January																												
PS21			Pipe Repair	Completed 2008, January																												
PS18			Pipe Repair	Completed 2008, February																												
PS18 H52			Mainhole Repair	Completed 2008, February																												
PS07			Pipe Repair	Completed 2008, March																												
PS03			Pipe Repair	Completed 2008, March																												
P418			Pipe Repair	Completed 2008, April																												
PS22			Pipe Repair	Completed 2008, April																												
PS01			Pipe Repair	Completed 2008, April																												
PS02			Pipe Repair	Completed 2008, April																												
PS02			Pipe Repair	Completed 2008, April																												
PS04			Pipe Repair-Service Lateral	Completed 2008, May																												
PS09			Pipe Repair-Service Lateral	Completed 2008, May																												
PS20			Pipe Repair-Service Lateral	Completed 2008, May																												
PS10 41			Mainhole Repair	Completed 2008, June																												
PS22 710			Mainhole Repair	Completed 2008, June																												
PS18 H2			Mainhole Repair	Completed 2008, June																												
PS03 70			Mainhole Repair	Completed 2008, June																												
PS01			Pipe Repair-Service Lateral	Completed 2008, July																												
PS02			Pipe Repair-Service Lateral	Completed 2008, July																												
PS04			Pipe Repair-Service Lateral	Completed 2008, July																												
PS20 89			Mainhole Repair	Completed 2008, July																												
PS16			Mainhole Repair	Completed 2008, July																												
PS04			Pipe Repair-Service Lateral	Completed 2008, August																												
PS02			Pipe Repair-Service Lateral	Completed 2008, August																												
PS19			Pipe Repair-Service Lateral	Completed 2008, September																												
PS02			Pipe Repair-Service Lateral	Completed 2008, September																												
PS16			Mainhole Repair	Completed 2008, September																												
PS10 13			Mainhole Repair	Completed 2008, September																												
PS18			Pipe Repair-Service Lateral	Completed 2008, October																												
PS02			Mainhole Repair	Completed 2008, November																												
PS05			Pipe Repair-Service Lateral	Completed 2008, November																												
PS22			Pipe Repair-Service Lateral	Completed 2008, November																												
PS05			Pipe Repair-Service Lateral	Completed 2008, December																												
PS21			Wastewater Line Repair	Completed 2008, December																												
PS07			Wastewater Line Repair	Completed 2008, December																												
PS10			Wastewater Line Repair	Completed 2008, January																												
PS01			General Manhole Repair	Completed 2008, January																												
PS22			General Manhole Repair	Completed 2008, January																												
PS04			General Manhole Repair	Completed 2008, April																												
PS10			General Manhole Repair	Completed 2008, April																												
PS04			General Manhole Repair	Completed 2008, May																												
PS10			General Manhole Repair	Completed 2008, May																												
PS02			General Manhole Repair	Completed 2008, July																												
PS04			General Manhole Repair	Completed 2008, August																												
PS02			General Manhole Repair	Completed 2008, August																												

Rehabilitation Plan and Schedule
Cycle I and II

Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Tape	Comments
PS01 - Myrtle Grove # 1			PS08 - Sunshine # 2	PS15 - Miami Garden Villas	PS22 - Ball Gardens	PS29 - Houston's	PS29 - Houston's
PS02 - Myrtle Grove # 2			PS09 - Cravero	PS16 - Star Lake	PS23 - Hawco	PS26 - Lunas	PS30 - Montecito
PS03 - Storeybook			PS10 - Scott Lake # 1	PS17 - Sierra Miranda	PS24 - P.E.S.	PS27 - Medical Plaza	PS31 - DOT # 1
PS04 - Master			PS11 - Miami Lanes	PS18 - Honey Hill	PS25 - K.O.A.	PS28 - K.F.C.	PS32 - DOT # 2
PS05 - Scott Lake # 4			PS12 - Golden Shades	PS19 - Norwood	PS26 - Lunas	PS29 - Houston's	PS33 - Highland
PS06 - Scott Lake # 8			PS13 - M.I.D. # 1	PS20 - Palmetto	PS27 - Medical Plaza		
PS07 - Sunshine # 1			PS14 - M.I.D. # 2	PS21 - Winwood	PS28 - K.F.C.		
PS04			General Manhole Repair	Completed 2009, August			MH # 17A - 2261 NW 175 STREET
PS04			General Manhole Repair	Completed 2009, October			MH # 55 - 2910 NW 175 STREET
PS04			General Manhole Repair	Completed 2009, October			MH # 17A - 2261 NW 175 STREET
PS04			General Manhole Repair	Completed 2009, October			MH # 19 - 2261 NW 175 STREET
PS20			Wastewater Line Repair	Completed 2009, October			1945 NW 180 Terrace ⁽¹⁾
PS20			Wastewater Line Repair	Completed 2009, October			1220 NW 175 Terrace ⁽¹⁾
PS1			Wastewater Line Repair	Completed 2009, October			3432 NW 176 Terrace ⁽¹⁾
PS10			Wastewater Line Repair	Completed 2009, September			3231 NW 173 Terrace ⁽¹⁾
PS19			Wastewater Line Repair	Completed 2009, August			810 NW 178 Terrace ⁽¹⁾
PS20			Wastewater Line Repair	Completed 2009, August			1245 NW 188 Terrace ⁽¹⁾
PS1			Wastewater Line Repair	Completed 2009, August			1960 NW 188 Terrace ⁽¹⁾
PS18			Wastewater Line Repair	Completed 2009, August			3620 NW 179 Street ⁽¹⁾
PS01			Wastewater Line Repair	Completed 2009, August			20140 NW 14 Place ⁽¹⁾
PS01			Wastewater Line Repair	Completed 2009, July			3430 NW 171 Street ⁽¹⁾
PS2			Wastewater Line Repair	Completed 2009, July			3430 NW 171 Street ⁽¹⁾
PS17			Wastewater Line Repair	Completed 2009, June			2740 NW 171 Terrace ⁽¹⁾
PS19			Wastewater Line Repair	Completed 2009, June			Victory Pkwy / Yea Canby ⁽¹⁾
PS18			Wastewater Line Repair	Completed 2009, May			17760 Myrtle Lane Drive ⁽¹⁾
PS20			Wastewater Line Repair	Completed 2009, May			13813 NE 20 Place ⁽¹⁾
PS27			Wastewater Line Repair	Completed 2009, April			1301 NW 188 Street ⁽¹⁾
PS06			Wastewater Line Repair	Completed 2009, April			1841 NW 187 Street ⁽¹⁾
PS02			Wastewater Line Repair	Completed 2009, March			1261 NW 172 Street ⁽¹⁾
PS04			Wastewater Line Repair	Completed 2009, March			1931 NE 161 Street ⁽¹⁾
PS08			Wastewater Line Repair	Completed 2009, March			16900 NW 36 Avenue ⁽¹⁾
PS06			Wastewater Line Repair	Completed 2009, March			3531 NW 169 Terrace ⁽¹⁾
PS02			Wastewater Line Repair	Completed 2009, March			1370 NW 175 Street ⁽¹⁾
PS08			Wastewater Line Repair	Completed 2009, March			1330 NW 175 Street ⁽¹⁾
PS06			Wastewater Line Repair	Completed 2009, February			1331 NW 178 Terrace ⁽¹⁾
PS02			Wastewater Line Repair	Completed 2009, February			2021 NW 185 Terrace ⁽¹⁾
PS08			Wastewater Line Repair	Completed 2009, February			3521 NW 173 Terrace ⁽¹⁾
PS01			Wastewater Line Repair	Completed 2009, January			18031 NW 14 Avenue ⁽¹⁾
PS05			Wastewater Line Repair	Completed 2009, January			3011 NW 175 Street ⁽¹⁾
PS19			Wastewater Line Repair	Completed 2009, July			9001 NW 180 Terrace ⁽¹⁾
PS19			Wastewater Line Repair	Completed 2009, June			2415 NE 136 Terrace ⁽¹⁾
PS18			Wastewater Line Repair	Completed 2009, June			2334 NE 136 Street ⁽¹⁾
PS19			Wastewater Line Repair	Completed 2009, June			231020 NE 136 Street ⁽¹⁾
PS19			Wastewater Line Repair	Completed 2009, May			2366 NE 136 Lane ⁽¹⁾
PS19			Wastewater Line Repair	Completed 2009, May			2270 NE 136 Lane ⁽¹⁾
PS19			Wastewater Line Repair	Completed 2009, May			2384 NE 136 Street ⁽¹⁾
PS11,116,115	280	6	Service Lateral Inspection	Completed 2009, June		Yes	Line ID: 2415, 2416, 2417, 2418, 2419, 2420, 2421
PS1,168,167	125	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2422, 2423, 2424
PS1,167,158	18	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2425, 2426, 2426, 2427, 2428, 2429, 2430
PS1,168,166	10	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2431, 2432
PS1,173,172	35	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2433, 2434, 2435, 2436
PS1,157,115	0	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2437, 2438, 2439, 2440, 2441, 2442, 2443
PS1,174,173	86.5	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2459, 2460, 2461
PS1,152,151	130	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2462, 2463, 2464, 2465
PS1,217,216A	41	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2466, 2467, 2468, 2469, 2470, 2471, 2472
PS1,216A,215	68	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2473, 2474, 2475, 2476, 2477, 2478
PS1,215,214	160	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2479, 2480, 2481, 2482, 2483, 2484
PS1,221,220	120	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2485, 2486, 2487, 2488, 2489
PS1,220,219	112	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2490, 2491, 2492, 2493, 2494
PS1,219,211	112	6	Service Lateral Inspection	Completed 2009, July		Yes	Materials were observed to be packed with debris. - Line ID: 2413, 2414

Rehabilitation Plan and Schedule
Cycle I and II

PS01 - Myrtle Grove # 1	PS02 - Myrtle Grove # 2	PS03 - Storeybrook	PS04 - Mariner	PS05 - Scott Lake # 4	PS06 - Scott Lake # 8	PS07 - Sunshine # 1	PS08 - Sunshine # 2	PS09 - Cravero	PS10 - Scott Lake # 1	PS11 - Miami Lakes	PS12 - Golden Glades	PS13 - M.I.D. # 1	PS14 - M.I.D. # 2	PS15 - Miami Garden Villas	PS16 - Star Lake	PS17 - Sierra Miranda	PS18 - Honey Hill	PS19 - Norwood	PS20 - Fairland	PS21 - Windwood	PS22 - Ball Gardens	PS23 - L.D.	PS24 - P.F.S.	PS25 - K.O.A.	PS26 - L.D.	PS27 - Medical Plaza	PS28 - K.F.C.	PS29 - Houston's	PS30 - Monticello	PS31 - DOT # 1	PS32 - DOT # 2	PS33 - Highland
Line Segment	Length (feet)	Diameter (inches)	Repair	Status	No. Services	Type	Comments																									
PS1-212,211	23	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2502, 2503, 2504																									
PS1-211,210	34	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2505, 2506, 2507																									
PS1-207,204	111	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2528, 2529, 2530, 2531, 2532																									
PS1-204,202	44	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2533, 2534, 2535																									
PS1-202,201	117	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2536, 2537, 2538, 2539, 2540																									
PS1-201,150	66	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2541, 2542, 2543, 2544																									
PS1-155	46	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2551, 2552																									
PS1-210,150	29	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2553, 2554																									
PS1-145,141	37	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2579, 2580																									
PS1-120,119	114	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2607, 2608, 2609, 2610, 2611																									
PS1-129,125	44	6	Service Lateral Inspection	Completed 2009, July		Yes	Line ID: 2605, 2606																									
PS1-221,220	34	6	Lateral Lining	Completed 2009		Yes	3541 NW 170 St.																									
PS1-221,220	12	6	Lateral Lining	Completed 2009		Yes	3510 NW 170 St.																									
PS1-221,220	34	6	Lateral Lining	Completed 2009		Yes	3511 NW 170 St.																									
PS1-168,167	34	6	Lateral Lining	Completed 2009		Yes	3445 NW 176 Ter.																									
PS1-168,167	33	6	Lateral Lining	Completed 2009		Yes	3425 NW 176 Ter.																									
PS1-169,168	8	6	Lateral Lining	Completed 2009		Yes	3502 NW 176 Ter.																									
PS1-169,168	33	6	Lateral Lining	Completed 2009		Yes	3465 NW 178 Ter.																									
PS1-173,172	9	6	Lateral Lining	Completed 2009		Yes	3330 NW 177 Ter.																									
PS1-214,213	34	6	Lateral Lining	Completed 2009		Yes	3321 NW 169 Ter.																									
PS1-217,216A	11	6	Lateral Lining	Completed 2009		Yes	3610 NW 169 Ter.																									
PS1-214,213	35	6	Lateral Lining	Completed 2009		Yes	3411 NW 169 Ter.																									
PS1-216A,215	32	6	Lateral Lining	Completed 2009		Yes	3541 NW 169 Ter.																									

(H) Backhoeing Replacement
(I) Replacement

Appendix E
Miami Dade DERM Guidelines for the Submittal of the Sanitary Sewer Evaluation
Survey (SSES)

MIAMI-DADE COUNTY, FLORIDA

CITY OF NORTH MIAMI BEACH
PUBLIC UTILITIES DEPT.

99 FEB 26 AM 8:42



February 23, 1999

DIRECTOR'S OFFICE

ENVIRONMENTAL RESOURCES MANAGEMENT
WATER AND SEWER DIVISION
33 S.W. 2nd AVENUE
SUITE 500
MIAMI, FLORIDA 33130-1540
(305) 372-6500Mr. Kelvin Baker, Director of Public Services.
City of North Miami Beach
2080 N.E. 160 St
North Miami Beach, FL 33162**RE: Guidelines for the Submittal of the Sanitary Sewer Evaluation Survey (SSES)**

Dear Mr. Kelvin Baker:

Miami-Dade County Ordinance 96-166, approved by the Board of County Commissioners and effective since November 12, 1997, requires all publicly and privately owned or operated sanitary sewer collection and transmission systems to complete a Sanitary Sewer Evaluation Survey (SSES) by November 12, 2002. Said ordinance was incorporated to Chapter 24 of the Code of Miami-Dade County. The deadline for the submittal of the SSES is consistent with the time frame provided in the Second Final Partial Consent Decree between the United States of America and Miami-Dade County (CASE No. CIV-93-1109).

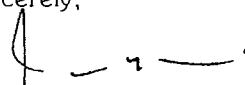
In order to assist Volume Sewer Customers (VSC) with the SSES submittal, the Department of Environmental Resources Management (DERM) has prepared guidelines outlining the minimum requirements needed to comply with the above mentioned Ordinance. By doing so, DERM intends to make the required reports more standard and detail specific by only requesting necessary information.

Enclosed you will find the corresponding **"Guidelines for the Submittal of the Sanitary Sewer Evaluation Survey (SSES)"**. The guidelines include a brief description regarding the minimum information that is expected to be submitted within each phase of the SSES.

Pursuant to Section 24-13.1 (A) (1) of the Code of Miami-Dade County the deadline for submittal of the SSES is **November 12, 2002**.

If you have any questions about the guidelines please call me at 372-6511, or Mr. Agustin Socarras, P.E. at 372-6793.

Sincerely,


Jose G. Lopez, P.E.
 Chief, Wastewater Section
 DERM

Guidelines for the Submittal of the

SANITARY SEWER EVALUATION SURVEY (SSES)

Prepared by:

The Wastewater Section

DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
- DERM -
MIAMI-DADE COUNTY - FLORIDA

February 16, 1999



33 SW 2nd Avenue, Miami Florida 33130-1540



WASTEWATER SECTION
Guidelines for SSES Submittals

Guidelines' Comments

1. Miami-Dade County Ordinance 96-166 effective November 12, 1997 and incorporated to Chapter 24 of the Code of Miami-Dade County requires all publicly and privately owned or operated sanitary sewer collection and transmission systems to complete a Sanitary Sewer Evaluation Survey (SSES) by November 12, 2002. These Guidelines for SSES Submittals were prepared to assist Volume Sewer Customers by providing the minimum requirements needed to comply with the above mentioned Ordinance.
2. Note that the Guidelines contain only minimum requirements. Therefore, Volume Sewer Customers should not be limited to the contents of the Guidelines when planning and implementing their SSES.
3. The Guidelines are based on the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook - October 1991, EPA/625/6-91/030. It is recommended that utilities obtain a copy of the Handbook as the Guidelines make constant reference to it. A copy could be obtained from:

ORD Publications (G-72)
26 W. Martin Luther King Dr
Cincinnati, OH 45268-1072
Telephone: 513-569-7562
Fax: 513-569-7562

4. For any questions regarding the Guidelines, please contact Mr. Agustin Socarras, P.E., at 372-6793.

WASTEWATER SECTION
Guidelines for SSES Submittals

Table of Contents

<u>PHASE I.</u> Preliminary Sewer System Survey	3
Determination of I/I severity for the system in general	3
Determination of Basin (Sewer service area) and Sub-Basin (Sewer subsystem) boundaries ...	3
Minimum information required for each Basin	3
Prioritization of the Basins	4
<u>PHASE II.</u> Sewer System Analysis	5
Identification and quantification of I/I sources	4
Cost-Effectiveness analysis	4
Final Rehabilitation Plan for each Basin	4
<u>PHASE III.</u> Rehabilitation	5
Annual Rehabilitation Progress Report	6
Final Rehabilitation Report	6

ATTACHMENTS

Table 1: Collection System Inventory per Basin.

Table 2: Summary Table for SSES Submittals.

Table 3: Minimum Information Required by DERM after Completion of Repairs.

Sections of Chapter 24 of the Code of Miami-Dade County Covering SSES.

WASTEWATER SECTION

Guidelines for SSES Submittals

PHASE I. Preliminary Sewer System Survey: *Sources of information needed to complete this phase are provided in the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook - October 1991, EPA/625/6-91/030 (Section 3.4.1, page 15).*

1. Determination of I/I severity for the system in general: *Present comparisons between metered Wastewater Flows and the following:*

- a- **Water Usage:** *Only metered flows are acceptable.*
- b- **Rainfall:** *Acceptable sources of rainfall information are indicated in the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook - October 1991, EPA/625/6-91/030 (Section 3.5.3, page 22).*
- c- **Groundwater Table elevation:** *Acceptable sources of groundwater information are indicated in the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook - October 1991, EPA/625/6-91/030 (Section 3.5.5, page 24).*
- d- **Tidal elevation:** *This requirement applies only to systems in coastal areas.*

Since these comparisons are necessary to assess the severity of the I/I problem in the system in general a minimum of one year of data should be used.

2. Determination of Basin (Sewer service area) and Sub-Basin (Sewer subsystem) boundaries: *Clear delineation of all Basins and Sub-Basins should be presented in sewer maps (17"x11" format preferred). The sewer maps should show and identify all sewer system components as well as all streets, easements and water bodies. A Basin (Sewer service area) is that portion of the sanitary sewer collection system which contributes sewage flow to a particular primary pump station. A Sub-Basin (Sewer Subsystem) is that portion of the sanitary sewer collection system that discharges sewage to a particular key manhole.*

3. Minimum information required for each Basin: *The information listed below should be presented in tables. See attached sample Tables 1 & 2. These tables were prepared by DERM in Microsoft Excel97 format and will be made available to utilities upon request. Submittal of the information in DERM's Tables is preferred.*

(2) a- **Receiving Pump Station data:**

- Pump Station Number or Name.
- Pump Station Capacity.
- Nominal Average Pump Station Operating Time (NAPOT). *NAPOT is defined as the daily average total pump operating hours for the previous twelve (12) months divided by one less than the total number of pumps installed in the station.*

WASTEWATER SECTION

Guidelines for SSES Submittals

- ① b- **Collection System Inventory:** DEFINITION 1 = ①
- Pipe Diameter.
 - Linear Footage.
 - Pipe Material.
 - Number of Manholes.
- ② c- **Surcharge Condition:** *Indicate if the system is being operated surcharged.*
- d- **Sanitary Sewer Overflows / Odor Complains:** *Submit a chronological list of all Sanitary Sewer Overflows and Odor Complains in the Basin.*
- ② e- **Location of Monitoring Points (Key Manholes):** *These are the sanitary sewer manholes into which the entire sewage flow from a Sub-Basin is discharged. These are the points at which flow monitoring for each Sub-Basin will be carried out and should be clearly marked in the sewer maps. (also Table 3 + A+1,2)*
- ② f- **Salinity monitoring:** *This is only for Basins in coastal areas and can be accomplished by means of equivalent chloride concentration testing at Monitoring Points. (NA)*
- ② g- **Night-Time flow (Minimum flow):** *These are the flows measured at a pump station wetwell or a Key Manhole of a Sub-Basin during dry weather conditions between the hours of 1:00 AM and 5:00 AM, when most of the wastewater flow is infiltration. Estimated flows are not acceptable. Accepted methods for flow measurement are given in the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook - October 1991, EPA/625/6-91/030 (Section 4.3.3, page 40).*
- ② h- **Dry and Wet Average Daily Flows (ADF):** *Flow monitoring should be conducted at Key Manholes during storm events under wet weather conditions and during dry weather periods. Dry and Wet Average Daily Flows (ADF) should be determined and tabulated for comparison. Estimated flows are not acceptable. Accepted methods for flow monitoring and measurement are given in the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook - October 1991, EPA/625/6-91/030. (Sections 4.3.2 and 4.3.3, page 40)*
4. **Prioritization of the Basins:** *This process should be based on the above information, with priorities assigned according to the severity of the I/I problem of each particular Basin. Non-problem areas could be identified and eliminated at this point.*

WASTEWATER SECTION Guidelines for SSES Submittals

PHASE II. Sewer System Analysis

1. **Identification and quantification of I/I sources:** *The purpose of this step is to identify and quantify the I/I in each Basin on a source by source basis. A summary of the most commonly used sewer system testing and inspection methods used to identify I/I sources is presented in Table 4-1, page 39 of the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook - October 1991, EPA/625/6-91/030.*
2. **Cost-Effectiveness analysis:** *Based on the results and findings from the previous step, a detailed evaluation should be carried out to determine the most cost-effective means of addressing the problems found in the Basin. In this step a decision will be made regarding what repairs will be carried out and what rehabilitation technique(s) will be used.*
3. **Final Rehabilitation Plan for each Basin:** *The plan should include the following information:*
 - a- **All repairs to be carried out and the sewer rehabilitation technique(s) to be used:** *A detailed discussion of the latest state of the art rehabilitation techniques is presented in Chapter 6 of the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook - October 1991, EPA/625/6-91/030.*
 - b- **Timetable for implementation of the plan:** *Note that according to:*

Section 24-13.1 (B) (6) (d) of the Code of Miami-Dade County:

"...any and all rehabilitation work proposed to correct deficiencies identified during the sewer system evaluation survey shall be completed within four (4) years after completion of the evaluation work, or unless a revised schedule is approved by the Director or his designee."

*** Phases I and II described above shall be completed and a report with the required information submitted to DERM by November 12, 2002 as required by Section 24-13.1 (A) (1) of the Code of Miami-Dade County.**

WASTEWATER SECTION Guidelines for SSES Submittals

PHASE III. Rehabilitation

1. Annual Rehabilitation Progress Report: *As required by:*

Section 24-13.1 (B) (6) (d) of the Code of Miami-Dade County:

"An annual report documenting all completed sewer system evaluations and rehabilitation work, as well as a schedule for any proposed rehabilitation work shall be submitted to the Director or his designee no later than thirty (30) days after the end of each calendar year."

2. Final Rehabilitation Report: *Flow monitoring to determine Night-Time flows and Dry/Wet ADF should be conducted for each Basin once the proposed rehabilitation plan has been completed. Table 3 provides a summary of the minimum information to be included in the Final Rehabilitation Report. Table 3 was prepared by DERM in Microsoft Excel97 format and will be made available to municipal utilities upon request. Submittal of the information in DERM's Table is preferred. It should be noted that according to:*

Section 24-13.1 (A) (4) of the Code of Miami-Dade County:

"The sewer system infiltration and inflow rehabilitation programs shall be sufficient to insure that sewer system infiltration and inflow into the rehabilitated sanitary sewer collection system shall be less than five thousand (5,000) gallons per inch pipe diameter per day per mile of pipe and laterals, or complies with best management practices as required by the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook (October 1991, EPA/625/6-91/030)."

However, as provided by:

Section 24-13.1 (A) (5) of the Code of Miami-Dade County:

"In the event that implementation of the initial sewer system infiltration and inflow rehabilitation programs fail to achieve the performance standards established in this section, the person responsible for the system's operation may, in lieu of performing additional rehabilitation, submit a cost-benefit analysis which analyzes the feasibility of performing additional rehabilitation to achieve said performance standards. If the Director or his designee determines that there is no technically feasible, economically reasonable means of compliance, then no further rehabilitation shall be required"

Table 2: Summary Table for SSES Submittals

Basin or Sub-Basin	General Information						
	Key MH	PS	PS Capacity (MGD)	PS NAPOT (hours/day)	Surcharged	IDM (inch.mile)	Number of MHs

Table 2: Summary Table for SSES Submittals

Basin or Sub-Basin	I/I Information						
	Night Flow (GPD)	Night Usage (GPD)	Infiltration (GPD/IDM)	ADF (Dry) (MGD)	ADF (Wet) (MGD)	Inflow/MH (GPD)	Chloride (ppm)

Table 3: Minimum Information Required by DERM after Completion of Repairs

Basin or Sub-Basin	General Information					I/I Information (before repairs)						
	PS	Key MH	Number of MH	Basin Surcharged	IDM	Night Flow (GPD)	Night Usage (GPD)	Infiltration (GPD/IDM)	ADF (Dry) (MGD)	ADF (Wet) (MGD)	Inflow/MH (GPD)	

Table 3: Minimum Information Required by DERM after Completion of Repairs

Basin or Sub-Basin	I/I Information (after repairs)						Work Completed				
	Night Flow (GPD)	Night Usage (GPD)	Infiltration (GPD/IDM)	ADF (Dry) (MGD)	ADF (Wet) (MGD)	Inflow/MH (GPD)	Date	Infiltration Eliminated (GPD)	Inflow Eliminated (GPD)	Total Cost (\$)	\$/GPD

WASTEWATER SECTION
SECTIONS OF CHAPTER 24 COVERING SSES

Sec. 24-13.1. Sanitary sewer system collection and transmission systems.

(A) Existing gravity sanitary sewer requirements.

- (1) Each publicly or privately owned or operated sanitary sewer collection system shall be evaluated in order to identify and reduce infiltration and inflow into the sanitary sewer collection system. The person responsible for the sewer system's operation shall implement a sewer system evaluation survey (SSES) and, if required, a rehabilitation program, incorporating the provisions and requirements set forth in the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook (October 1991, EPA/625/6-91/030), designed to identify and reduce sewer system infiltration and inflow to a level which meets the standards set forth in Section 24-13.1(A)(4). Such evaluation activities shall be conducted in a manner so that the total length of the gravity sewer lines and associated manholes in the sanitary sewer collection system is evaluated during the first five-year period of the program and every ten-year period thereafter. Alternatively, the person responsible for the sewer system's operation shall, within forty-five (45) days after the effective date of this section, submit to the director or his designee for his review and approval a report which provides a detailed description of a sewer system evaluation survey and rehabilitation program which incorporates the provisions and requirements set forth in the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook (October, 1991 EPA/626/6-91/030) and which, when implemented, provide effective and substantial compliance with the requirements of this section of the Code. Said report shall include, in addition to any of the above requirements, decision making criteria, procedures and protocols for prioritization of the evaluation of gravity sewer lines and associated manholes, and for the selection of rehabilitation methods to be used. Upon its approval, the program shall be implemented in a manner so that the sewer system evaluation survey is conducted on the total length of the gravity sewer lines and associated manholes during the first five-year period of the program and every ten-year period thereafter. For purpose of compliance with either alternative, infiltration and inflow evaluations and rehabilitation work performed between July 1, 1992 and the effective date of this section can be credited towards the first five-year requirements provided the person responsible for the sewer system's operation submits to the director or his designee, for his review and approval, a report detailing the work performed and the results obtained as required under Section 24-13.1(A)(6)(d).

Sec. 24-13.1. Sanitary sewer system collection and transmission systems.

(A) Existing gravity sanitary sewer requirements.

- (4) The sewer system infiltration and inflow rehabilitation programs shall be sufficient to insure that sewer system infiltration and inflow into the rehabilitated sanitary sewer collection system shall be less than five thousand (5,000) gallons per inch pipe diameter per day per mile of pipe and laterals, or complies with best management practices as required by the U.S. EPA's Sewer System Infrastructure Analysis and Rehabilitation Handbook (October 1991, EPA/625/6-91/030).

Sec. 24-13.1. Sanitary sewer system collection and transmission systems.

(A) Existing gravity sanitary sewer requirements.

- (5) In the event that implementation of the initial sewer system infiltration and inflow rehabilitation programs fail to achieve the performance standards established in this section, the person responsible for the system's operation may, in lieu of performing additional rehabilitation, submit a cost-benefit analysis which analyzes the feasibility of performing additional rehabilitation to achieve said performance standards. If the Director or his designee determines that there is no technically feasible, economically reasonable means of compliance, then no further rehabilitation shall be required.

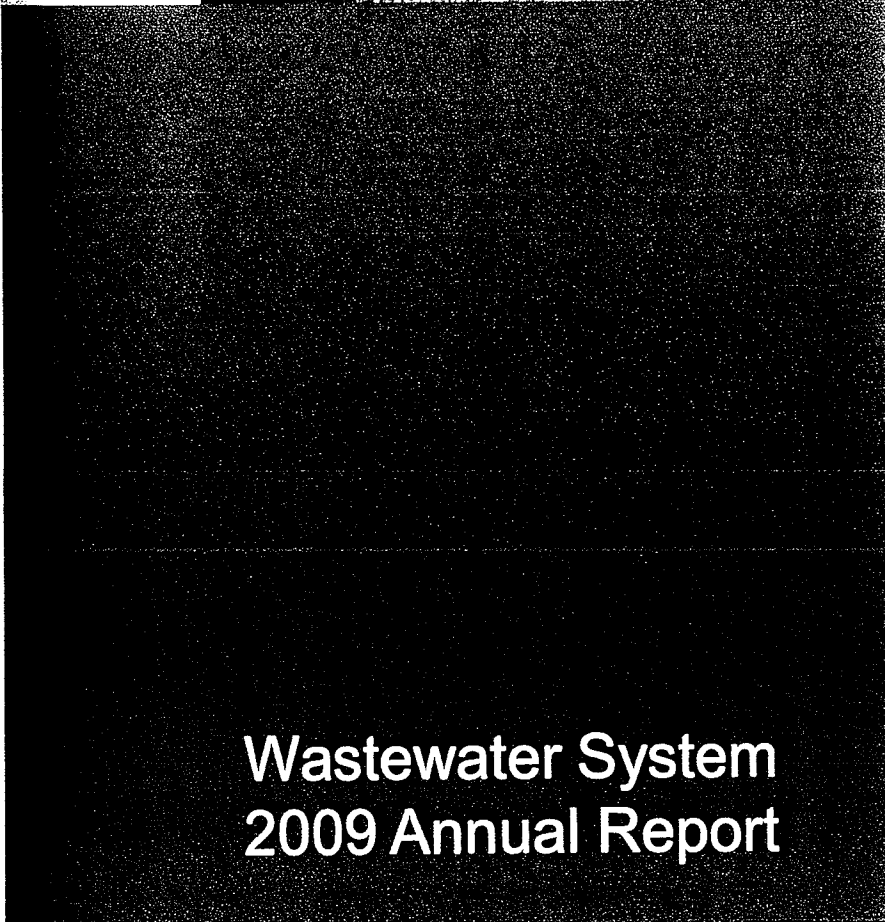
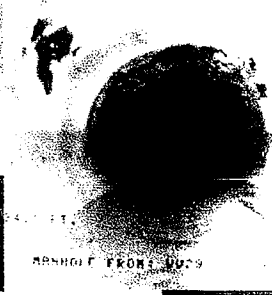
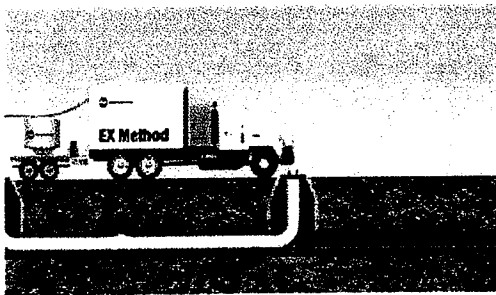
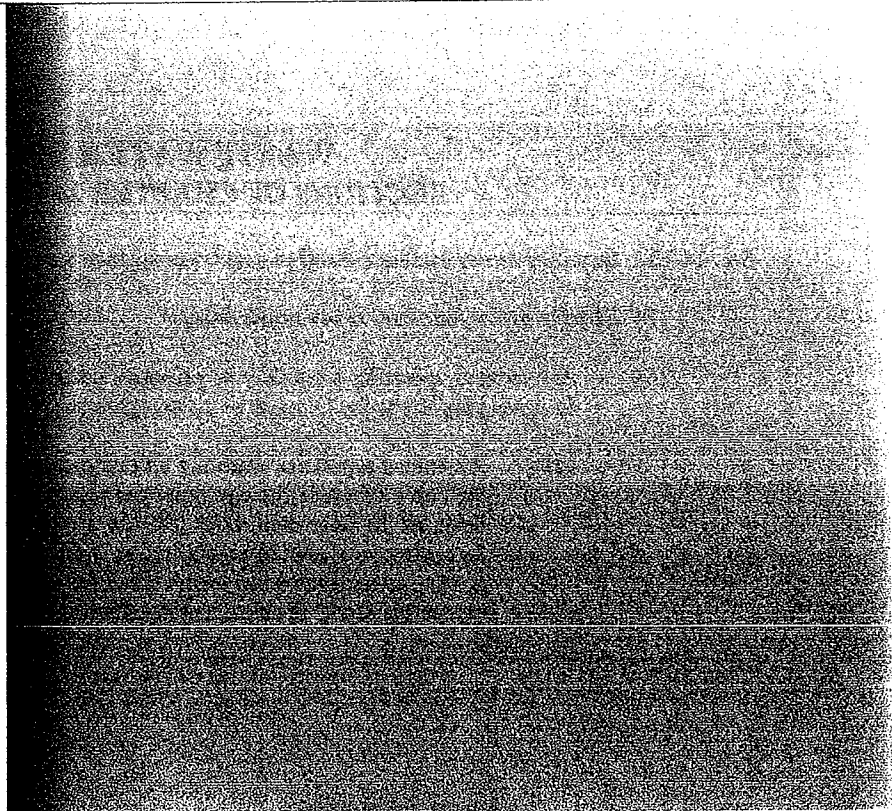
WASTEWATER SECTION
SECTIONS OF CHAPTER 24 COVERING SSES

Sec. 24-13.1. Sanitary sewer system collection and transmission systems.

(B) *Existing gravity sanitary sewer requirements.*

(6) All persons operating a publicly or privately owned or operated sanitary sewer system shall provide the following reports to the Director or his designee.

(d) An annual report documenting all completed sewer system evaluations and rehabilitation work, as well as a schedule for any proposed rehabilitation work shall be submitted to the Director or his designee no later than thirty (30) days after the end of each calendar year. Notwithstanding the foregoing, any and all rehabilitation work proposed to correct deficiencies identified during the sewer system evaluation survey shall be completed within four (4) years after completion of the evaluation work, or unless a revised schedule is approved by the Director or his designee.



Submitted by:
AECOM
(formerly Metcalf & Eddy)
13450 West Sunrise Blvd.
Suite 200
Sunrise, Florida 33323
T 954 745 7200
F 954 945 7299
www.aecom.com

Wastewater System 2009 Annual Report

APPENDIX C

Miami-Dade Water and Sewer Department
Preliminary – Draft Wholesale Customer Rates for
Fiscal Year 2009/10 (June 19, 2009)

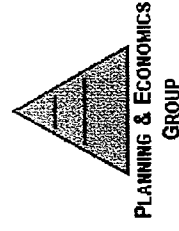
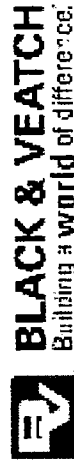
BUILDING A WORLD OF DIFFERENCE®



Miami Dade Water and Sewer Department

Preliminary - Draft Wholesale Customer Rates

Fiscal Year 2009/10



June 19, 2009

Presentation Outline

- Preliminary Results of Water Cost Allocation - Fiscal Year 2009/10
- Preliminary Results of Sewer Cost Allocation - Fiscal Year 2009/10
- Preliminary Water & Sewer Wholesale Rates and Anticipated Costs - Fiscal Year 2009/10
- True-up Results - Fiscal Year 2007/08
- Anticipated Costs – Fiscal Year 2009/10
- Discussion and Questions



Water Cost of Service – Preliminary Proposed FY 2009/10

Description	Local		Regional		% Change in Regional Costs
	2008/09	2009/10	2008/09	2009/10	
Operating Expenses					
Source of Supply	\$ 1,530,127	\$ 0	\$ 12,352,218	\$ 21,759,800	\$ 9,407,582
Power & Pumping	239,981	0	5,301,563	2,130,800	(3,170,763)
Purification	646,320	0	66,459,954	71,546,700	5,086,746
Transmission & Distribution	17,728,400	18,004,122	8,819,604	11,417,978	2,598,374
Customer Accounting/Service	15,277,513	15,358,458	1,548	1,542	(6)
General & Administration	12,117,247	11,017,737	25,883,127	29,709,263	3,826,136
Total Operating Expenses	\$ 47,539,588	\$ 44,380,317	\$ 118,818,014	\$ 136,566,083	\$ 17,748,069
Debt Service	\$ 2,297,553	\$ 623,390	\$ 41,383,761	\$ 41,427,822	\$ 44,061
Renewal & Replacement	\$ 14,920,500	\$ 11,317,500	\$ 6,439,500	\$ 11,312,500	\$ 4,873,000
Other Revenue, Charges & Adjustments	\$ (11,217,344)	\$ 1,996,076	\$ (8,219,428)	\$ (4,992,032)	\$ 3,227,396
Total Revenue Requirements	\$ 53,540,297	\$ 58,317,283	\$ 158,421,847	\$ 184,314,373	\$ 25,892,526
Percent of Total					
2006/07	25.3%	24.0%	74.7%	76.0%	
2007/08					
Plant Flow (1,000 gal)					
Wholesale Flow (1,000 gal)			114,816,860	114,816,860	
Allocable Unbilled Flow (1,000 gal)			23,463,138	20,953,712	
Total Regional Flow (1,000 gal)			1,446,582	1,421,318	
% Wholesale			21.7%	19.5%	
Regional Cost Allocated to Wholesale:			\$ 34,369,899	\$ 35,918,416	
Wholesale Rate (\$ per 1,000 gal)			\$ 1.4649	\$ 1.7142	

Note: Figure Based on Preliminary Budget



Sewer Cost of Service – Preliminary Proposed FY 2009/10

Description	Local		Regional		% Change in Regional Costs	
	2008/09	2009/10	2008/09	2009/10		
Operating Expenses						
Collection & Transmission	\$ 15,547,191	\$ 18,625,439	\$ 5,876,540	\$ 5,527,561	\$ (348,979)	-0.19%
Pumping	19,903,826	23,712,096	14,077,936	12,660,804	(1,417,132)	-0.76%
Treatment & Disposal	159,227	0	70,929,383	75,432,300	4,502,917	2.40%
Customer Accounting/Service	12,003,923	12,066,688	1,315	1,312	(3)	0.00%
General & Administration	16,286,982	17,952,576	30,155,202	31,825,424	1,670,222	0.89%
Total Operating Expenses	\$ 63,901,149	\$ 72,356,799	\$ 121,040,376	\$ 125,447,401	\$ 4,407,025	2.35%
Debt Service	\$ 1,797,037	\$ 1,383,635	\$ 81,235,262	\$ 84,270,403	\$ 3,035,141	1.62%
Renewal & Replacement	\$ 9,923,580	\$ 11,012,500	\$ 4,856,420	\$ 13,357,500	\$ 8,501,080	4.53%
Other Revenue, Charges & Adjustments	\$ (16,094,824)	\$ (23,832,927)	\$ (19,565,788)	\$ (2,347,056)	\$ 17,218,732	9.18%
Total Revenue Requirements	\$ 59,526,942	\$ 60,920,006	\$ 187,566,270	\$ 220,728,249	\$ 33,161,979	17.68%
Percent of Total						
2008/09	24.1%		75.9%			
2009/10		21.6%		78.4%		
Plant Flow (1,000 gal)						
Wholesale Flow (1,000 gal)			111,188,360	108,012,274		
% Wholesale			27,727,362	25,845,275		
Regional Cost Allocated to Wholesale:			24.9%	23.9%		
Wholesale Rate (\$ per 1,000 gal)			\$ 46,773,942	\$ 52,816,056		
			\$ 1.6869	\$ 2.0436		

Note: Figure Based on Preliminary Budget



Proposed Rates – Preliminary FY 2009/10

Description	2008/09 Adopted Rate	2009/10 Proposed Rate	Change From 2008/09 Amount	Percent
<u>Wholesale Water Rates</u>				
Rate per 1,000 gallons	\$ 1.4649	\$ 1.7142	\$ 0.2493	17.02%
Summary Breakdown				
Flow Related			\$ 0.0099	0.67%
Cost of Service			\$ 0.2394	16.34%
<u>Wholesale Wastewater Rates</u>				
Rate per 1,000 gallons	\$ 1.6869	\$ 2.0436	\$ 0.3567	21.15%
Summary Breakdown				
Flow Related			\$ 0.0585	3.47%
Cost of Service			\$ 0.2982	17.68%

Note: Figure Based on Preliminary Budget



Anticipated Cost – Preliminary FY 2009/10 (Excludes True-up)

Description	Water		Sewer		Total FY 2010 Cost
	Consumption (1,000 gal)	Annual Cost	Consumption (1,000 gal)	Annual Cost	
Bal Harbour	505,177	\$ 865,974	N/A	N/A	\$ 865,974
Bay Harbor Islands	403,519	691,712	N/A	N/A	691,712
Coral Gables	N/A	N/A	1,505,753	\$ 3,077,157	3,077,157
Florida City	N/A	N/A	385,222	787,240	787,240
Hialeah	8,365,054	13,704,468	8,614,720	17,605,042	31,309,510
Hialeah Gardens	679,084	1,164,086	520,013	1,062,699	2,226,784
Homestead Air Force Base	N/A	N/A	145,168	296,665	296,665
Homestead, City of	N/A	N/A	244,384	499,423	499,423
Indian Creek Village	142,025	243,459	N/A	N/A	243,459
Medley	459,992	788,518	749,449	1,531,574	2,320,092
Miami Beach	7,463,479	12,793,896	8,310,823	16,983,998	29,777,894
North Bay Village	346,194	593,446	N/A	N/A	593,446
North Miami	419,366	718,877	3,786,905	7,738,919	8,457,796
North Miami Beach	508,800	872,185	750,248	1,533,207	2,405,392
Opa-Locka	946,898	1,623,173	696,149	1,422,650	3,045,823
Surfside	378,224	648,352	N/A	N/A	648,352
Virginia Gardens	53,198	91,192	N/A	N/A	91,192
West Miami	282,702	484,608	136,441	278,831	763,439
Total	20,953,712	\$ 35,283,946	25,845,275	\$ 52,817,404	\$ 88,101,350

Note: 2009/10 Cost Estimates Based on Preliminary Budget



True-up Results - Fiscal Year 2007/08

Description	2007/08 Cost-of-Service Calculated	2007/08 Adopted Rate	2007/08 Actual	Change From Adopted Amount	Percent
Wholesale Water Rates					
Rate per 1,000 gallons	\$ 1.1847	\$ 1.1000	\$ 1.3282	\$ 0.2282	20.75%
Summary Breakdown					
Effect of Smoothing				\$ 0.0847	7.70%
Flow Related				\$ 0.1733	15.75%
Cost of Service				\$ (0.0298)	-2.71%
Wholesale Wastewater Rates					
Rate per 1,000 gallons	\$ 1.8702	\$ 1.7350	\$ 1.6182	\$ (0.1168)	-6.73%
Summary Breakdown					
Effect of Smoothing				\$ (0.1352)	-7.79%
Flow Related				\$ 0.1699	9.79%
Cost of Service				\$ (0.1515)	-8.73%

Due WASD

Due Wholesale



Results of True-up - Fiscal Year 2007/08

Description	Water		Sewer		Net True-Up
	Consumption (1,000 gal)	True-Up	Consumption (1,000 gal)	True-Up	
Bal Harbour	447,017	\$ 102,009	N/A	N/A	\$ 102,009
Bay Harbor Islands	357,948	81,684	N/A	N/A	81,684
Coral Gables	N/A	N/A	1,195,834	\$ (139,673)	(139,673)
Florida City	N/A	N/A	431,376	(50,385)	(50,385)
Hialeah	8,081,050	572,138	8,108,783	(947,106)	(374,968)
Hialeah Gardens	693,804	158,326	607,207	(70,922)	87,404
Homestead Air Force Base	N/A	N/A	195,971	(22,889)	(22,889)
Homestead, City of	N/A	N/A	382,606	(44,688)	(44,688)
Indian Creek Village	132,790	30,303	N/A	N/A	30,303
Medley	398,463	90,929	834,278	(97,444)	(6,514)
Miami Beach	6,847,975	1,562,708	8,764,341	(1,023,675)	539,033
Miami Springs	771,404	N/A	1,236,522	N/A	N/A
North Bay Village	342,561	78,172	N/A	N/A	78,172
North Miami	2,123,487	484,580	3,923,222	(458,232)	26,347
North Miami Beach	1,012,530	231,059	853,034	(99,634)	131,425
Opa-Locka	908,958	207,424	714,248	(83,424)	124,000
Surfside	326,932	74,606	N/A	N/A	74,606
Virginia Gardens	63,285	14,442	N/A	N/A	14,442
West Miami	266,173	60,741	130,984	(15,299)	45,442
Total	22,774,377	\$ 3,749,121	27,378,406	\$ (3,053,372)	\$ 695,749

Note: Negative True-Up represents monies owed to customers; positive True-Up represents monies owed to WASD



Preliminary Proposed Costs - Fiscal Year 2009/10

Description	Water		Sewer		Total Annual Cost
	2009/10 Cost	2007/08 True-up	2009/10 Cost	2007/08 True-up	
Bal Harbour	\$ 865,974	\$ 102,009	\$	\$ 967,984	\$ 967,984
Bay Harbor Islands	691,712	81,684		773,396	773,396
Coral Gables	N/A	N/A	\$	N/A	N/A
Florida City	N/A	N/A	\$ 3,077,157	\$ (139,673)	\$ 2,937,483
Hialeah	13,704,468	572,138	787,240	(50,385)	736,855
Hialeah Gardens	1,164,086	158,326	17,605,042	(947,106)	16,657,936
Homestead AFB	N/A	N/A	1,062,699	(70,922)	991,777
Homestead, City of	N/A	N/A	296,665	(22,889)	273,776
Indian Creek Village	243,459	30,303	499,423	(44,688)	454,735
Medley	788,518	90,929	N/A	N/A	273,762
Miami Beach	12,793,896	1,562,708	1,531,574	(97,444)	1,434,130
North Bay Village	593,446	78,172	16,983,998	(1,023,675)	15,960,323
North Miami	718,877	484,580	N/A	N/A	671,618
North Miami Beach	872,185	231,059	7,738,919	(458,232)	7,280,687
Opa-Locka	1,623,173	207,424	1,533,207	(99,634)	1,433,572
Surfside	648,352	74,606	1,422,650	(83,424)	1,339,226
Virginia Gardens	91,192	14,442	N/A	N/A	722,957
West Miami	484,608	60,741	278,831	(15,299)	263,532
Total	\$ 35,283,946	\$ 3,749,121	\$ 52,817,404	\$ (3,053,372)	\$ 49,764,032
					\$ 88,797,099

Note: 2009/10 Cost Estimates Based on Preliminary Budget

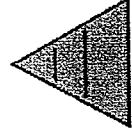
BUILDING A WORLD OF DIFFERENCE®



Discussion and Questions



BLACK & VEATCH
Building a world of difference.



**PLANNING & ECONOMICS
GROUP**

APPENDIX D
Capital Financing Plan

CAPITAL FINANCING PLAN

WW-02b

City of North Miami Beach
(Project Sponsor)
Dr. Kelvin Baker, City Manager
(Authorized Representative and Title)
North Miami Beach, Florida, 33162
(City, State, and Zip Code)

Karl Thompson, Assistant Director of Public Services, 305-787-6049
(Capital Financing Plan Contact, Title and Telephone Number)
17050 N.E. 19th Avenue
(Mailing Address)
North Miami Beach, Florida, 33162
(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification) is required well before the evaluation of the actual loan application.

The sources of revenues being dedicated to repayment of the SRF loan are Sewer Enterprise Fund (ATTACH A)
(Note: Projects pledging utility operating revenues should attach a copy of the existing/proposed rate ordinance)

Estimate of Proposed SRF Loan Debt Service

Capital Cost*	\$4,202,215
Loan Service Fee (2% of capital cost)	\$84,000
Subtotal	\$4,286,215
Capitalized Interest**	\$160,700
Total Cost to be Amortized	\$4,446,915
Interest Rate***	2.5%
Annual Debt Service	\$211,600
Annual Debt Service Including Coverage Factor****	\$243,300

* Capital Cost = Allowance + Construction Cost (including a 10% contingency) + Technical Services after Bid Opening.

** Estimated Capitalized Interest = Subtotal times Interest Rate times construction time in years divided by two.

*** 20 GO Bond Rate times Affordability Index divided by 200.

**** Coverage Factor is generally 15%. However, it may be higher if other than utility operating revenues are pledged.

**SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

	FY 2008	FY 2009
(a) Operating Revenues (Identify) Charge for Services	<u>\$5,864,550</u>	<u>\$6,359,541</u>
(b) Interest Income	<u>-\$5,585</u>	<u>\$10,147</u>
(c) Other Incomes or Revenues (Identify) Miscellaneous Income	<u>-\$9,826</u>	<u>\$3,693</u>
(d) Total Revenues	<u>\$5,849,139</u>	<u>\$6,373,381</u>
(e) Operating Expenses (excluding interest on debt, depreciation, and other non-cash items)	<u>\$3,778,975</u>	<u>\$4,212,978</u>
(f) Net Revenues (f = d - e)	<u>\$2,070,164</u>	<u>\$2,160,403</u>
(g) Debt Service (including coverage) Excluding SRF Loans	<u>\$0</u>	<u>\$0</u>
(h) Debt Service (including coverage) for Outstanding SRF Loans	<u>\$0</u>	<u>\$0</u>
(i) Net Revenues After Debt Service (i = f - g - h)	<u>\$1,708,811</u>	<u>\$2,160,403</u>

Source: 2008 CAFR, 2009 Unaudited Financial Statements

Notes: Will amend/adjust numbers in loan application once audit is completed for 2009 financial statements.

**SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

(Begin with the fiscal year preceding first anticipated semiannual loan payment)

	FY <u>2010</u>	FY <u>2011</u>	FY <u>2012</u>	FY <u>2013</u>	FY <u>2014</u>
(a) Operating Revenues (Identify)					
<u>Charge for Services</u>	<u>\$7,400,756</u>	<u>\$8,385,057</u>	<u>\$9,500,269</u>	<u>\$10,078,835</u>	<u>\$10,692,637</u>
(b) Interest Income	<u>\$20,200</u>	<u>\$20,200</u>	<u>\$20,200</u>	<u>\$20,200</u>	<u>\$20,200</u>
(c) Other Incomes or Revenues (Identify)					
<u>Non-Operational Misc.</u>	<u>\$2,750</u>	<u>\$2,750</u>	<u>\$2,750</u>	<u>\$2,750</u>	<u>\$2,750</u>
(d) Total Revenues	<u>\$7,423,706</u>	<u>\$8,408,007</u>	<u>\$9,523,219</u>	<u>\$10,101,785</u>	<u>\$10,715,587</u>
(e) Operating Expenses ¹	<u>\$4,343,008</u>	<u>\$4,547,928</u>	<u>\$4,729,845</u>	<u>\$4,919,039</u>	<u>\$5,115,800</u>
(f) Net Revenues (f = d - e)	<u>\$3,050,698</u>	<u>\$3,860,079</u>	<u>\$4,793,374</u>	<u>\$5,182,747</u>	<u>\$5,599,786</u>
(g) Existing Debt Service on Non-SRF Projects (including coverage)	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
(h) Existing SRF Loan Debt Service (including coverage)	<u>\$148,014</u>	<u>\$166,034</u>	<u>\$184,121</u>	<u>\$184,121</u>	<u>\$184,121</u>
(i) Total Existing Debt Service (i = g + h)	<u>\$148,014</u>	<u>\$166,034</u>	<u>\$184,121</u>	<u>\$184,121</u>	<u>\$184,121</u>
(j) Projected Debt Service on Non-SRF Future Projects (including coverage)	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
(k) Projected SRF Loan Debt Service (including coverage)				<u>\$243,300</u>	<u>\$243,300</u>
(l) Total Debt Service (Existing and Projected) (l = i + j + k)	<u>\$148,014</u>	<u>\$166,034</u>	<u>\$184,121</u>	<u>\$427,421</u>	<u>\$427,421</u>
(m) Net Revenues After Debt Service (m = f - l)	<u>\$2,902,684</u>	<u>\$3,694,045</u>	<u>\$4,609,853</u>	<u>\$4,755,326</u>	<u>\$5,127,365</u>

Source:

SRF Agreements WW130100, WW130101, WW745080, and SRF Loan Application Highland Village Sewer

Notes: (i.e. rate increases, explanations, etc.)

1. For existing and proposed facilities, excluding interest on debt, depreciation, and other non-cash items.

See Attachment B

CERTIFICATION

I, _____, certify that I have reviewed the information
Chief Financial Officer (please print)

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this
information accurately reflects the financial capability of City of North Miami Beach
Project Sponsor

I further certify that City of North Miami Beach has the financial capability to ensure
Project Sponsor

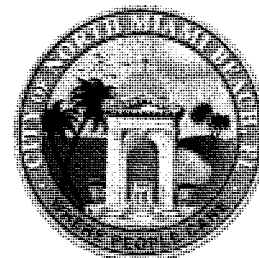
adequate construction, operation, and maintenance of the system, including this SRF project.

Signature

Date



gai consultants



WATER FACILITIES PLAN ADDENDUM

City of North Miami Beach

FDEP Project # DW 1301 020

DW 1301 030

GAI #A060022.08

March 2010

PREPARED FOR

City of North Miami Beach

17011 NE 19th Avenue

North Miami Beach, FL 33162

PREPARED BY

GAI Consultants, Inc.

301 East Pine Street, Suite 1020

Orlando, FL 32801

. . . transforming ideas into reality



March 24, 2010
GAI Proj. # A060022.08

Dr. Kelvin Baker, City Manager
Public Services Administration
City of North Miami Beach
17011 NE 19th Avenue
North Miami Beach, FL 33162

Subject: North Miami Beach Water Facilities Funding – Addendum: Water Facilities Plan for State Revolving Funds from Florida Department of Environmental Protection

Dear Dr. Baker:

GAI Consultants, Inc. (GAI) is pleased to present the attached Addendum to the Water Facilities Plan to be considered for additional State Revolving Funds from the Florida Department of Environmental Protection (FDEP). This additional funding will provide the opportunity to fully implement a long-term solution to the Volatile Organic Compound issue that the City of North Miami Beach has been dealing with for several years. This Addendum is divided into four (4) sections and contains information regarding the additions and revisions to the previously selected alternative shown in Volume I of the Water Facilities Plan. This Addendum reflects information provided by the City of North Miami Beach, Malcolm Pirnie, and GAI Consultants, Inc. relative to the construction of Phase I, Phase IIa, and Phase IIb of the selected alternative. The Request for Inclusion for this project was approved by the FDEP and assigned the FDEP project numbers DW 1301 020 and DW 1301 030.

Please note that this Addendum is pending final review from the Florida Department of Environmental Protection. Please feel free to contact us if you have any questions or comments. Thank you for your time and consideration of this matter.

Very truly yours,

GAI Consultants, Inc.

Gerald C. Hartman, PE, BCEE, ASA
Vice President, Florida P.E. No. 27703, ASA No. 7542 – Public Utilities

Jules J. Ameno, Jr., PE
Senior Engineering Manager, Florida P.E. No. 31049

cc: Karl Thompson, PE, City of North Miami Beach
Rachel A. Reuscher, GAI Consultants, Inc.

**CITY OF NORTH MIAMI BEACH
WATER FACILITIES PLAN
ADDENDUM**

TABLE OF CONTENTS

<u>Section No.</u>	<u>Title</u>	<u>Page No.</u>
	Letter of Transmittal	
	Table of Contents	-i-
	List of Tables and Schedules	-iii-
	EXECUTIVE SUMMARY	ES-1
1.0	INTRODUCTION	
	1.1 Background	1-1
	1.2 Need	1-3
	1.3 Scope of Addendum	1-4
2.0	REVISIONS TO THE SELECTED ALTERNATIVE	
	2.1 Summary of Revisions	2-1
3.0	ALTERATIONS TO THE SELECTED ALTERNATIVE	
	3.1 Description of Proposed Facilities	3-1
	3.2 Environmental Impact of Proposed Facilities	3-2
	3.3 Cost Effectiveness Comparison to Volume I of the Water Facilities Plan	3-3
	3.4 Revised Cost to Construct Facilities	3-4
	3.5 Consistency with the Comprehensive Plan	3-4
4.0	IMPLEMENTATION AND COMPLIANCE	
	4.1 Public Hearing	4-1
	4.2 Regulatory Agency Review	4-1
	4.3 Financial Planning	4-1
	4.4 Implementation	4-2
	4.5 Implementation Schedule	4-2
	4.6 Compliance	4-3

**CITY OF NORTH MIAMI BEACH
WATER FACILITIES PLAN
ADDENDUM**

TABLE OF CONTENTS (CONTINUED)

<u>Appendix</u>	<u>Title</u>
A	BID DRAWINGS AND SPECIFICATIONS
B	MALCOLM PIRNIE LETTER TO THE DOH
C	WFP ADDENDUM PUBLIC HEARING NOTICE APRIL 8, 2010
D	FINANCIAL SUFFICIENCY

**CITY OF NORTH MIAMI BEACH
WATER FACILITIES PLAN
ADDENDUM**

LIST OF TABLES AND SCHEDULES

<u>No.</u>	<u>Title</u>	<u>Page No.</u>
TABLES		
3-1	Water Facilities Plan Addendum Phase I Improvements	3-1
3-2	Water Facilities Plan Addendum Phase II Improvements	3-2
SCHEDULES		
3-1	Water Facilities Plan Addendum Phase I Capital Costs	
3-2	Water Facilities Plan Addendum Phase I Costs	
3-3	Water Facilities Plan Addendum Phase IIa Costs	
3-4	Water Facilities Plan Addendum Phase IIb Costs	
3-5	WFP Addendum Summary of Entire Project Cost	
3-6	WFP Addendum Comparison of Cost Change Since Approval of WFP Volume I and II	

EXECUTIVE SUMMARY

The purpose of this document is to serve as an addendum, that includes an April 2010 update, to the previously submitted and approved Water Facilities Plan (WFP) Volumes I and II, which were submitted in April 2009. The Water Facilities Plan was a follow up to the September 2008 Request for Inclusion (RFI) on the State Revolving Fund (SRF) Priority List. GAI Consultants, Inc., on behalf of the City of North Miami Beach (the City), submitted these documents that described the need to implement treatment methods to minimize Volatile Organic Compounds (VOC) at the Norwood-Oeffler Treatment Plant. The WFP was approved by the Florida Department of Environmental Protection (FDEP) at the May 2009 hearing and assigned the FDEP project number DW 1301 020. In 2009, the project received a total of \$6,000,000 in funds. Initially, \$6,000,000 was all that was anticipated to be required for the project. However, recent studies and the actual cost of construction will require additional funds to achieve the desired outcomes described in Volume I of the WFP. This addendum will aim to address the reasons behind the need for additional funding as well as supplement Volumes I and II of the WFP.

The \$6,000,000 was utilized to fund, what is now known as, Phase I of a two (2) phased project. \$3,000,000 of the total amount was allocated from the regular SRF Program under agreement DW 1301 020 and the additional \$3,000,000 was awarded from the American Recovery and Reinvestment Act (ARRA) with a \$2,550,000 principal forgiveness under agreement DW 1301 030. The cost of Phase I is now estimated to be \$6,476,000, and the \$476,000 that was not awarded in FY 2010 remains on the State contingency list in anticipation of funding in 2011. The City is also applying to receive funding in FY 2011 to construct a portion of the second phase of the project which includes: an air-stripping facility and is referred to as Phase IIa. Phase IIb, which is already approved in Volume I, is the final portion, which will provide additional membrane treatment to continue to minimize the occurrence of VOC in the City's potable water supply and will be constructed when funding becomes available.

As detailed in the RFI, the WFP Volume I, and in the body of this Report, the City from time to time, beginning in 2001, had detected VOC contamination in three (3) of its production wells. The type of the VOC detected is specifically known as Vinyl Chloride (VC). Data from the Miami-Dade County Department of Environmental Health (DOH)

showed that VC levels increased in the three (3) wells over the period beginning October 2006 through February 2007. In January 2007, the City formally requested the Department of Environmental Resources Management (DERM) to conduct research in order to identify potential sources of the VC. The results showed that three (3) dry cleaners near the City's well-field seemed to be the source of the contamination. The FDEP's Dry Cleaning Solvent Cleanup Program was utilized to address the immediate issue of VOC contamination, however the City desired to implement a long-term program that would provide a permanent solution and assurances that any potential issues relating to contamination of the potable water supply from the three (3) dry cleaners and other potential sources would be alleviated.

In 2008, the City implemented an interim solution to the VOC issue, which included temporary air stripping facilities, until a financing option could be secured to implement a long-term solution. The interim solution consisted of temporarily installing leased air-stripping facilities that were capable of treating a portion of the water supply. This interim solution allowed the City to bring back on-line all wells near the dry cleaning facilities.

In Volume I of the WFP, the City determined that the best method to ensure the long-term quality of potable water would be to construct permanent air-stripping facilities, and increase the amount of membrane treatment in order to remove the VOC from the water supply. Due to the migration of the VOC plume, which has moved to contaminate additional City wells since the approval of the WFP Volume I; the WFP must now be enhanced to include additional treatment and improvements to address the worsening condition. Below is an outline of the modified project that describes what has been approved and what will be added as a result of the existing conditions:

Phase I

- New tray aerator for the existing wells 4, 9, and 10 (**Approved in Volume I**).
- Two new degassifiers for the RO/Membrane portion of the treatment facility (**Approved in Volume I**).
- Permanent installation of the two (2) existing tray aerators for wells 4, 9, and 10 (**Approved in Volume I**).

- Rehabilitation of the existing Lime Softening Hydrotreaters numbers 2 and 3, including replacement of: the drives, chemical piping, and electrical components **(Addition to WFP Volume I)**.
- Replacement of Lime Feed System in the East Lime Silo **(Addition to WFP Volume I)**.
- Well rehabilitation and development for existing wells 4, 9, and 10 **(Addition to address Plume Mitigation)**.
- Install electrical gear for two (2) generators serving membrane facilities **(Addition to WFP Volume I)**.

Phase II is to be completed in two parts, a and b. Phase IIa will be completed in fiscal year 2011 and Phase IIb will be completed in fiscal year 2012. This Phase generally involves:

Phase IIa

- Additional VC treatment with two (2) 6.5 MGD packed towers to treat remaining lime softening wells **(Addition to address Plume Mitigation)**.
- Chemical treatment for packed tower aerator cleaning including **(Addition to address Plume Mitigation)**:
 - Antiscalant,
 - Sulfuric acid system,
 - Sodium hypochlorite system, and
 - Two mixers.
- Additional electrical site work. **(Addition to address Plume Mitigation)**

Phase IIb

- Additional membrane treatment **(Approved in Volume I)**.

The first phase of this project has already been bid, awarded, permitted, and is currently under construction. The completion of the first phase is anticipated in late 2010. The schedule outlining Phase II is located in **Section 4.5**. The tentative schedule outlined in Section 4.5 is contingent upon receipt of additional funds through the SRF program in subsequent fiscal years. Additionally, construction of Phase IIb is dependent upon future studies being conducted. Project plans and specifications were completed in March 2010 for Phase IIa have been included in **Appendix A**.

SECTION 1

INTRODUCTION

1.1 BACKGROUND

The City provides water service to approximately 32,116 metered connections and wastewater service to approximately 7,155 connections serving an estimated 180,000 people within its 25 square mile service area. The current capacity of the Norwood-Oeffler WTP is 32 million gallons per day (MGD) and incorporates high levels of alternative treatment. Of the 32 MGD, 15 MGD of this capacity is lime softening with the water source being the Biscayne Aquifer. An additional 15 MGD is a combination of membrane treatment from the Biscayne Aquifer and Floridan Aquifer. The remaining 2 MGD of capacity is due to raw water blending.

The existing raw water supply to the Norwood-Oeffler WTP is monitored as required by regulations. Occasionally, raw water supply wells were identified as having been contaminated with VOC. An elevated concentration of Vinyl Chloride (VC) was detected beginning in October 2006 through February 2007. This contamination is suspected to be from previous illegal dumping from local dry cleaners. Two (2) of the three (3) wells have previously been shut down by the Department of Health due to high levels of VOC contamination. The three (3) wells are currently being operated by treating the raw water from these wells with temporary air stripping facilities.

In April 2009 the City approved a WFP recommending this two prong treatment options at a Public Utility Commission (PUC) hearing. This plan included treatment of the three (3) wells contaminated with VC. The treatment option chosen in Volume I of the WFP consisted of two-prongs. One prong was to place a permanent air stripping facility on-site that will bypass the raw water intake of all Biscayne wells that would feed the traditional lime softening portion of the plant. Because of concerns related to the VC plume, the second prong of the solution involved increasing the amount of membrane filtration at the recently upgraded Norwood-Oeffler WTP.

In May 2009, the WFP was approved by the FDEP State Revolving Fund (SRF) program. When the WFP plan was being bid, it was determined that the plan approved

in the WFP would not be sufficient to treat the VC problem. The competitive bid on the project allowed the opportunity for bidders to place bids for alternate items that would further assist in the ability to more efficiently treat raw water from wells that are now threatened by the spread of the VOC Plume. Due to this worsening situation, the City decided to award all of these items at the same time in order to maintain safe potable water to the City's customers. In addition to this assurance, the enhancements to the lime softening treatment will provide reliability to this aging portion of the system. On October 30, 2009 the City conducted a meeting with FDEP to discuss awarding the alternatives. It was agreed that the City would award the alternative items to protect the potable water supply.

This project will now be completed in two phases. Phase I is currently being constructed and will be finished in Fiscal Year 2010. Phase I improvements include:

Phase I

- Permanent installation of the two (2) existing tray aerators for wells 4, 9, and 10.
- One (1) new tray aerator for the existing wells 4, 9, and 10.
- Two new degassifiers for the RO/Membrane portion of the treatment facility.
- Rehabilitation of the existing Lime Softening Hydrotreaters numbers two (2) and three (3), including replacement of: the drives, chemical piping, and electrical components.
- Replacement of Lime Feed System in the East Lime Silo.
- Well rehabilitation and development for existing wells 4, 9, and 10.
- Installation of electrical gear for two generators serving the membrane facilities.

Phase II will be completed in two parts, a and b. Phase IIa will be completed in fiscal year 2011 and Phase IIb will be completed in fiscal year 2012. This Phase generally involves:

Phase IIa

- Additional VC treatment with two (2) 6.5 MGD packed tower aerators to treat remaining lime softening wells.
- Chemical treatment for packed tower cleaning including:
 - Antiscalant,
 - Sulfuric acid system,

- Sodium hypochlorite system, and
- Two mixers
- Additional electrical upgrades.

Phase IIb

- Additional membrane treatment.

1.2 NEED

The well field for the Norwood-Oeffler WTP includes twenty (20) municipal supply wells among which sixteen (16) wells withdraw from the Biscayne Aquifer and four (4) wells in withdraw in the Floridan Aquifer. Six (6) of the Biscayne wells (Nos. 1, 2, 3, 4, 9, and 10) are located on-site and ten (10) of the Biscayne wells are located off-site. Three (3) Floridan wells are located on-site and one is located off-site. The WTP has been meeting all the federal, state and local regulations, and finished water meets drinking water standards.

Previously, VC has been detected in the raw water. Since 2001, it has been noticed that three (3) production wells (Nos. 4, 9, and 10) have some VOC contamination. Data from the DOH showed that VC levels increased in all of the three (3) wells during October 2006 through February 2007. VC is a type of VOC. The data indicates that VC levels peaked in February 2007 and decreased after that. Due to the contamination, the DOH ordered the City to shut down wells 9 and 10 until remediation was implemented. As described in the original WFP, the wells are being treated by a recently purchased temporary air stripping system, which allows two (2) of these wells to operate at once and the wells are alternated. Beginning in January 2007, at the request of the City, the Miami-Dade DERM conducted research on the potential sources of the VC contamination. The results showed that major contamination sources are three (3) dry cleaners (Alan Dry Cleaners, Artcraft Dry Cleaners and Norwood Dry Cleaners) located near the well field. DERM contacted the FDEP's Dry Cleaning Solvent Cleanup Program and requested remediation of the dry cleaning companies. In addition, unauthorized discharges from the sanitary sewer system serving Alan Dry Cleaners have revealed impacts from raw sewage discharges on contamination of wells.

A July 7, 2009 letter report, written to DOH by Malcolm Pirnie outlined a groundwater study which better defined the effect of the VOCs on the well field. This study showed that the use of the nanofiltration wells (No. 13, 17, 19, 20, and 21) could influence the VOC plume. If this were the case, it would cause the plume to migrate in the direction of the nanofiltration well field. These nanofiltration wells would also need to be treated with the proposed Phase I degassifier. This letter is found in **Appendix B**.

An additional study was completed after the permanent VC solution had already been recommended and approved in the WFP Volume I. This study showed that VC was the primary contaminant in the local Biscayne Aquifer and was migrating toward the City's wells. The highest levels observed in this study were 8.7 ppb, which is within the treatment capacity of the proposed aerators. Malcolm Pirnie recommends that the 12.7 MGD remainder of the lime softening wells be treated. This would involve the installation of two (2) new 6.35 MGD packed towers. The packed tower systems will also require additional ancillary systems such as:

- Chemical Cleaning System
- Sulfuric Acid System
- Sodium Hypochlorite System
- Antiscalant
- Two mixers

With regards to the contamination issue, the City initiated a Corrective Action Plan to remove the VC contamination and protect water resources and finished water quality. This plan includes both short-term and long-term solutions. Because of changes in the status of the plume, a modification to the WFP is required. Permanent air stripping facilities, refurbishing the existing lime softening facilities, treating a larger portion of the expanding plume, and expanding the membrane treatment capability of the WTP has been determined to be the best long-term solution to the VC issue.

1.3 SCOPE OF ADDENDUM

The scope of this addendum is to highlight the modifications to the existing WFP, including:

1. Explain the Revisions to the Selected Alternative.

2. Justify the Reasoning for the Revisions to the Selected Alternative and demonstrate cost effectiveness.
3. Establish changes in the design needs.
4. Supplement the previously approved WFP Volume I and II and explain impacts or changes.
5. Describe the recommended facilities and their cost.
6. Define a revised project implementation schedule.
7. Confirm that environmental impacts will not change due to the recommended changes.
8. Confirm that the ability to meet debt service requirements and not impact rate paying customers, as previously approved in WFP Volume II, remains true even with Revisions to the Selected Alternative.

SECTION 2

REVISIONS TO THE SELECTED ALTERNATIVE

2.1 SUMMARY OF REVISIONS

Volumes I and II of the April 2009 Water Facilities Plan (WFP) were prepared by GAI Consultants, Inc. on behalf of the City of North Miami Beach, Florida (the City). This facilities plan was prepared to meet requirements of the State Revolving Fund (SRF) Loan Drinking Water Rule 62-552.900. The project area includes the Norwood-Oeffler Water Treatment Plant (WTP) located in Miami Gardens. The project was modified since the creation of the initial Volumes I and II of the WFP due to the migration of VOC throughout the well field. These modifications are directly related to preserving public health and welfare. This addendum explains each of the modifications and outlines the future recommended alternative costs. The recommendations of this Report are consistent with both the City's and Miami-Dade County's Local Comprehensive Plans. The existing raw water supply to the Norwood-Oeffler WTP is monitored as required by regulations. From time to time, raw water supply wells were identified as having been contaminated with VOC. An elevated concentration of a VOC known as VC was detected in the reports collected beginning in October 2006 through February 2007. After a study was conducted on the well field and the surrounding area by DERM, the suspected source of contamination was previous illegal chemical dumping from local dry cleaners. Two (2) of the three (3) wells were shut down by the Department of Health (DOH) due to high levels of VOC contamination. The three (3) wells that were previously contaminated have since been brought back online and are currently being operated through the treatment of the raw water supply from the wells with temporary air stripping facilities.

Initially, a two-pronged approach was developed in Volume I of the WFP, and due to the expansion of the VC contamination throughout the well field, the two pronged approach has been modified to include an additional air stripping facility and treatment. Volume I of the WFP suggested the following solution:

- Place a permanent air stripping facility on site that will bypass the raw water intake of all Biscayne wells that feed the traditional lime softening portion of the plant.
- Increase the amount of membrane filtration at the recently upgraded Norwood-Oeffler WTP.

The first prong of this solution was recommended to ensure the water supply has been treated to high purity standards, leaving pure, clean, better tasting water as a product. The second was to protect the product water by implementing multiple treatment processes with redundancy.

The project as described in Volume I of the WFP was in design phase when additional studies regarding the VC plume were conducted. By the time the project went out for bid, the studies concluded that the plume itself had migrated to contaminate additional wells in the well field. It was unanticipated how quickly or extensively the VC plume would expand. Additionally, the lime softening plant needed to be refurbished to ensure water quality and reliability. Due to these factors, modifications to Volume I of the WFP are required. Due to lack of available funding, the project was divided into two phases. Both phases include modifications and additions to the initially approved WFP, which include (*italics represent a modification/addition*):

Phase I

- Installation of two new degassifiers for the membrane/RO process.
- Installation of new tray aerator and permanently installing the two existing tray aerators for the heavily impacted wells, 4, 9, and 10.
- *Refurbishment of the existing lime softening facility.*
- *Rehabilitation of wells 4, 9, and 10.*
- *Installation of electrical gear for two existing generators.*

Phase II

- *Phase IIa: Additional VOC treatment with two (2) 6.5 MGD packed towers that will treat the remainder of the lime softening well field.*
 - *Additional electrical upgrades.*

- Phase IIb: Membrane treatment to treat water from the Floridan Aquifer and Biscayne Aquifer well field.

This program will not only treat the affects of the plume of the City's water system, but it will also allow treatment of the plume over time. Additionally the City will be able to obtain a reliable source of clean water that will meet current and future customer needs.

SECTION 3

ALTERATIONS TO THE SELECTED ALTERNATIVE

3.1 DESCRIPTION OF PROPOSED FACILITIES

In July 2009, the Norwood-Oeffler Water Treatment Plant VOC Removal Project (2009 VOC Project) was competitively bid as Bid Number 2009-14. A description of Phase I improvements is included in **Table 3-1**. This project will be completed in fiscal year 2010.

Table 3-1
Water Facilities Plan Addendum
Phase I Improvements

Unchanged from Original WFP:

- Permanently install the two existing temporary tray aerators.
- Furnish and install a third tray aerator.
- Furnish and install a new degassifier for membrane system.
- Provide electrical, instrumentation, controls, yard piping, and transfer pumping.

Additional since Original WFP:

- Rehabilitation of existing wells 4, 9, and 10.
- Remove existing lime system equipment from east lime silo.
- Furnish and install new lime equipment in the east lime silo.
- Remove center drive unit and access walkway/bridge, stairs, and supports for existing Hydrotreaters No. 2 and 3.
- Sandblast and coat interior of Hydrotreaters No. 2 and 3.
- Furnish and install new center drive unit and access walkway/bridge, stairs, and supports for existing Hydrotreaters No. 2 and 3.
- Installation of electrical gear for two existing generators serving the membrane facilities.

Phase II of this project includes furnishing and installing additional packed tower aerators and membrane treatment capacity. A description of Phase II improvements is included in **Table 3-2**. This project will be done in two (2) sub phases. Phase IIa includes additional packed tower aerators, and Phase IIb includes additional membrane facilities. Phase IIa will be completed in Fiscal Year 2011 and Phase IIb will be completed in Fiscal Year 2012.

Table 3-2
Water Facilities Plan Addendum
Phase II Improvements

Added to Original WFP:

- Furnish and Install two (2) 6.5 MGD packed tower aerators with ancillary systems for VOC treatment of the remainder of the well field (Phase IIa).

Unchanged from Original WFP:

- Furnish and install additional membrane treatment (Phase IIb).

3.2 ENVIRONMENTAL IMPACT OF PROPOSED FACILITIES

As determined in the WFP Volume I, this project is **not expected to leave significant impacts** to the natural environment including: water bodies, wetlands, plant or animal species, agricultural lands, and undisturbed natural areas, nor will this site change the socio-economic or culture of the area. The site is not near any archeological or historical lands.

The only negative impacts that this project will have on the environment are short-term and are caused by the construction. These construction impacts include: increased noise level, increased storm run-off, increased traffic, and increased air pollution. Correct construction site National Pollutant Discharge Elimination System (NPDES) procedures will be used for onsite stormwater control and construction site best management practices will be used to minimize construction impact.

The long-term impacts of this project are beneficial, and include: ensuring customers' uncontaminated water, increasing plant water supply without digging new wells, and providing better tasting water to the City's customers.

3.3 COST EFFECTIVENESS COMPARISON TO VOLUME I OF THE WATER FACILITIES PLAN

The approved WFP Volume I considered four (4) alternatives for potential solutions to address the VC contamination. Cost effectiveness was taken into consideration and a uniform basis for cost comparison was created using the following parameters:

1. 15 year planning period
2. Operation and Maintenance Costs
3. A discount rate of 4.875%
4. Capital costs (construction, contingency, engineering, and administrative costs)
5. PV of payments outside of the 15 year planning period to offset the capital costs of the 30-year term of debt service to reflect alternatives at the 15 year planning period.
6. Capital Costs were obtained from equipment vendors and engineering construction cost estimates.

These parameters were then applied to each of the four (4) considered alternatives which included:

1. **Installation of a permanent air stripping facility to treat raw water from the contaminated wells and additional membrane treatments (selected). Estimated Cost: \$5,100,000**
2. Replacement of the current traditional lime softening plant with a membrane softening plant. Estimated Cost: \$45,000,000

3. Purchase of additional capacity from Miami-Dade WASD and decommission the three (3) contaminated wells. Estimated Cost: \$60,000,000.
4. Relocate the entire well field. Deemed nearly impossible due to hydrological issues associated with well field relocation.

While anticipated costs have significantly increased due to the unforeseen plume migration, based on the above Cost Effectiveness Analysis utilized in Volume I, even with the modifications and additions to the selected alternative, the previously selected alternative would still remain the most cost effective alternative above the other considered alternatives.

3.4 REVISED COST TO CONSTRUCT FACILITIES

The capital cost breakdown from the bid award for Phase I of the project is found in **Schedule 3-1**. These costs are actual construction costs. **Schedule 3-2** shows the estimated overall costs for this project. **Schedules 3-3, 3-4, 3-5, and 3-6** show the estimated overall costs for Phases IIa and IIb, respectively.

3.5 CONSISTENCY WITH THE COMPREHENSIVE PLAN

The proposed project is consistent with both the City of North Miami Beach's and Miami-Dade County's local comprehensive plans.

**Schedule 3-1
WFP Addendum
Phase I Capital Cost**

1. Indemnification	\$ 1,000
2. VOC Removal ⁽¹⁾	2,533,600
3. Degassifier ⁽²⁾	870,350
4. Off-site monitoring wells	33,500
5. Permitting	100,000
6. Allowance	200,000
7. Well No 4 Rehab	27,855
8. Well No 9 Rehab	27,855
9. Well No 10 Rehab	27,855
10. Modify Hydrotreator No. 2	307,000
11. Modify East Lime Silo	477,400
12. Modify Hydrotreator No. 3	323,200
	Total \$ 4,929,615

Notes:

- (1) Includes furnishing and installing site work, new tray aerator, relocation of existing tray aerators, yard piping, transfer pump station, antiscalant system, tray washdown area, appurtenances, and electrical nad instrumentation.
- (2) Includes furnishing and installing site work, blowers, and associated appurtenances for the nanofiltration system.

**Schedule 3-2
WFP Addendum
Phase I Cost**

Construction Costs Approved in Executed FDEP Agreements	\$ 5,182,000.00
Allowance Costs Approved in Executed FDEP Agreements	409,201.00
Technical Services During Construction in Executed FDEP Agreement	365,000.00
Contingency in Executed FDEP Agreement	518,200.00
Total Disbursable Amount in Executed Agreement	<u>\$ 6,474,401.00</u>
Estimated Principal Forgiveness in Executed Agreement	(2,550,000.00)
Estimated Capitalized Interest in Executed Agreement	34,700.00
Subtotal	<u>\$ 3,959,101.00</u>
Loan Repayment Reserve (3.0% of Capital Cost)	118,773.03
Loan Service Fee (2.0% of Capital Cost)	79,182.02
Total	<u>\$ 4,157,056.05</u>

Debt Service

Years	20
Interest Rate	2.71%
Discount Rate	4.88%
Annual Payment	<u>\$ 270,615.85</u>

Capital Cost Per Gallon

PV of Annual Payments	\$ 3,408,504.06
PV of \$5 million R&R Infusion in Year 16 (Assuming discount rate above) ⁽¹⁾	2,448,445.25
PV of \$5 million R&R Infusion in Year 21 (Assuming discount rate above) ⁽¹⁾	1,929,880.99
PV of \$5 million R&R Infusion in Year 26 (Assuming discount rate above) ⁽¹⁾	1,521,145.15
Capital Costs	<u>\$ 9,307,975.45</u>
Thousands of Gallons of Treatment	15,000
Net Capital Costs Per Thousand Gallons	<u>\$ 620.53</u>

O&M Costs

Existing Per 1,000 Gallons	\$ 0.70
Air Stripping Facilities Per 1,000 Gallons	0.15
Total	<u>\$ 0.85</u>

Total Costs Per Thousand Gallons **\$ 621.38**

Notes:

- (1) Refurbished plant facility needs major rehabilitation in years 16, 21 and 26. Assumed \$5,000,000 in each of those years.

**Schedule 3-3
WFP Addendum
Phase IIa Cost**

Total Capital Costs of Packed Tower VOC Removal	\$ 3,253,000.00
Contingency DEP 10% Allowance Max	325,300.00
Technical Services During Construction 10% Max	325,300.00
Administrative Allowance	19,518.00
Engineering Allowance	221,204.00
Subtotal	<u>\$ 4,144,322.00</u>
Loan Repayment Reserve (3.0% of Capital Cost)	124,329.66
Loan Service Fee (2.0% of Capital Cost)	82,886.44
Subtotal	<u>\$ 4,351,538.10</u>
Capitalized Interest	141,900.00
Total Costs	<u>\$ 4,493,438.10</u>

Debt Service

Years	20
Interest Rate	3.26%
Discount Rate	4.88%

Annual Payment	\$ 307,581.50
----------------	---------------

Capital Cost Per Gallon

PV of Annual Payments	\$ 3,874,099.73
PV of \$5 million R&R Infusion in Year 16 (Assuming discount rate above) ⁽¹⁾	2,448,445.25
PV of \$5 million R&R Infusion in Year 21 (Assuming discount rate above) ⁽¹⁾	1,929,880.99
PV of \$5 million R&R Infusion in Year 26 (Assuming discount rate above) ⁽¹⁾	1,521,145.15
Capital Costs	<u>\$ 9,773,571.12</u>
Thousands of Gallons of Treatment	15,000
Net Capital Costs Per Thousand Gallons	<u>\$ 651.57</u>

O&M Costs

Existing Per 1,000 Gallons	\$ 0.70
Air Stripping Facilities Per 1,000 Gallons	0.15
Total	<u>\$ 0.85</u>

Total Costs Per Thousand Gallons	\$ 652.42
---	------------------

Notes:

- (1) Refurbished plant facility needs major rehabilitation in years 16, 21 and 26. Assumed \$5,000,000 in each of those years.

**Schedule 3-4
WFP Addendum
Phase IIb Cost**

Total Capital Costs of Packed Tower VOC Removal	\$ 2,580,000.00
Contingency DEP 10% Allowance Max	258,000.00
Technical Services During Construction 10% Max	258,000.00
Administrative Allowance	15,480.00
Engineering Allowance	175,440.00
Subtotal	\$ 3,286,920.00
Loan Repayment Reserve (3.0% of Capital Cost)	98,607.60
Loan Service Fee (2.0% of Capital Cost)	65,738.40
Subtotal	\$ 3,451,266.00
Capitalized Interest	112,500.00
Total Costs	\$ 3,563,766.00

Debt Service

Years	20
Interest Rate	3.26%
Discount Rate	4.88%

Annual Payment \$ 243,944.27

Capital Cost Per Gallon

PV of Annual Payments	\$ 3,072,565.95
PV of \$5 million R&R Infusion in Year 16 (Assuming discount rate above) ⁽¹⁾	2,448,445.25
PV of \$5 million R&R Infusion in Year 21 (Assuming discount rate above) ⁽¹⁾	1,929,880.99
PV of \$5 million R&R Infusion in Year 26 (Assuming discount rate above) ⁽¹⁾	1,521,145.15
Capital Costs	\$ 8,972,037.34
Thousands of Gallons of Treatment	15,000
Net Capital Costs Per Thousand Gallons	\$ 598.14

O&M Costs

Existing Per 1,000 Gallons	\$ 0.70
Air Stripping Facilities Per 1,000 Gallons	0.15
Total	\$ 0.85

Total Costs Per Thousand Gallons \$ 598.99

Notes:

- (1) Refurbished plant facility needs major rehabilitation in years 16, 21 and 26. Assumed \$5,000,000 in each of those years.

**Schedule 3-5
WFP Addendum
Summary of All Costs**

	<u>Total Cost</u>	<u>Total Debt Service Payment</u>
PHASE I ⁽¹⁾	\$ 4,157,056.05	\$ 270,615.85
PHASE IIa	4,493,438.10	307,581.50
PHASE IIb	3,563,766.00	243,944.27
Total	\$ 12,214,260.15	\$ 822,141.62

Notes:

(1) Excludes \$2.55 million principal forgiveness.

**Schedule 3-6
WFP Addendum
Comparison of Costs ⁽¹⁾**

	<u>Initial WFP Approved Cost</u>	<u>Revised WFP Costs</u>	<u>Additional Debt Required</u>
Total Cost	\$ 6,058,805.00	\$ 12,214,260.15	\$ 6,155,455.15
Total Annual Debt Service Payment	\$ 319,594.00	\$ 822,141.62	\$ 502,547.62

Notes:

(1) Excludes \$2.55 million principal forgiveness.

SECTION 4

IMPLEMENTATION AND COMPLIANCE

4.1 PUBLIC HEARING

A public hearing is to be held prior to a Public Utility Commission (PUC) meeting that is scheduled for April 8, 2010. This WFP Addendum will be adopted by the PUC at that meeting. **Appendix C** is a copy of the Public Notice for the Public Hearing to adopt the WFP addendum. The PUC advises the City Council on utility matters and the City Council will adopt the PUC recommendation at a May 2010 meeting. The right for the City to finance Phase IIa will also be awarded via resolution at the May 2010 City Council meeting. A public record of the notice will be available from the City Clerk, including individual notices to concerned parties.

4.2 REGULATORY AGENCY REVIEW

As required by Chapter 65-552, F.A.C., an intergovernmental review is required, if appropriate. Copies of this Report have been sent to the following agencies:

1. Bureau of Water Facilities Funding
2. Florida Department of Environmental Protection
3. Florida State Clearinghouse

4.3 FINANCIAL PLANNING

The SRF Program, ARRA Principal Forgiveness, and interim financing during construction through a private institution are the intended financial sources from which this project is anticipated to receive funding. A Drinking Water State Revolving Fund Business Plan form has already been submitted and approved in Volume II of the WFP. Volume II contains detailed information about the Utility's financial planning, rates and charges, and ability to meet coverage requirements. **Appendix D** demonstrates the City's continued ability to meet debt service coverage requirements under the proposed changes set forth in this addendum under the previously submitted and approved Business Plan. Other than the currently scheduled rate increase structure, this project is not anticipated to have additional effects on the City's rate payers. The City is currently

increasing their water rates by 10% for improvements and 3% to account for the Florida Public Service Commission's deflator index through 2012. These increases were implemented as the result of a recent rate study. The 3% PSC deflator increase will be implemented annually, and the 10% annual increase is scheduled to end in 2012. It is expected that the previously scheduled rate increases will confirm to be sufficient to cover the cost the debt service associated with this project.

4.4 IMPLEMENTATION

The City will be implementing this project without aid of any other authority. There are no interlocal agreements or agencies that have the authority to implement this project. The City continues to keep the DOH informed of the project and its modifications, as the DOH has a vested interest in the project due to the public health component associated with the improvements. In addition, the City will work with DERM to secure the construction permits for the site work in Phase IIa of the project.

4.5 IMPLEMENTATION SCHEDULE

<u>Date</u>	<u>Task</u>
March 2010	Submit WFP Addendum to the FDEP and other governmental agencies.
April 2010	Hold public hearing to adopt the WFP Addendum.
April 2010	Publication of FDEP's environmental information document in the Florida Administrative Weekly.
April 2010	Submit Plans and Specifications for Phase IIa and Notice of Intent to Permit Phase IIa
May 2010	Hold City Council meeting to adopt the Resolution for acceptance of the Water Facilities Plan, Authority to Finance Phase IIa, and designate an Authorized Representative to enter into the Phase 2a agreement.
May 2010	End of 30-day comment period for the environmental information document and approval of planning documents.
June 2010	Receive financing for remainder of Phase I and for Phase IIa at the FDEP Hearing.
September 2010	Execute funding agreements for Phase IIa.

Date	Task
October 2010	Complete Phase I construction.
December 2010	Advertise for bids for Phase IIa.
December 2010	Certify and Close Phase I .
January 2011	Open bid for Phase IIa.
February 2011	Award Phase IIa .
March 2011	Issue Notice to Proceed with Construction for Phase IIa.
February 2011	Evaluate submitting Phase IIb for Construction Funding through FDEP, based on Plume status (If warranted complete and follow above steps for Phase IIb).
March 2012	Complete Phase IIa construction.
June 2012	Certify and Close out Phase IIa.
August 2012	Potentially begin Phase IIb Construction.

4.6 COMPLIANCE

The proposed facilities will be built in compliance with the following regulatory agencies and rules:

1. The treated water from the additional treatment will be in compliance with the FDEP and the FDOH raw drinking water contaminant levels.
2. The additional treatment will meet requirements for construction and permitting of public water systems according to Chapter 62-555, F.A.C.
3. The environmental affect of the proposed facility construction are insignificant.
4. The recommended facilities are consistent with the City's and with Miami-Dade County's comprehensive plans.
5. The water quality produced from this process will meet all water quality standards required by the Department of Health, the FDEP, and the EPA.

**APPENDIX A:
BID DRAWINGS AND SPECIFICATIONS
(PROVIDED IN ELECTRONIC FORMAT)**

APPENDIX B:
MALCOLM PIRNIE LETTER TO THE MIAMI-DADE
DEPARTMENT OF HEALTH

July 7, 2009

Samir Elmir, PhD, PE, DEE, CEHP
Director, Division of Environmental Health and Engineering
Miami-Dade County Department of Health
1725 N.W. 167th Street
Opa Locka, Florida 33056

Re: City of North Miami Beach Norwood-Oeffler WTP
Permanent Vinyl Chloride Removal System Conceptual Design Memorandum

Dear Mr. Elmir:

In accordance with the meeting held at your office on May 21, 2009 concerning the referenced project, this letter will serve as the conceptual design memorandum for the proposed permanent solution for the removal of vinyl chloride from the Biscayne water supply for the City of North Miami Beach.

Project Overview

The City of North Miami Beach (City) owns and operates the Norwood-Oeffler Water Treatment Plant (WTP), which receives raw water from 16 Biscayne Aquifer and four Floridan Aquifer production wells. Concentrations of vinyl chloride (VC) have been detected in water samples collected from three of the Biscayne Aquifer production wells, No. 4, No. 9, and No. 10, at concentrations above the State finished water maximum contaminant level (MCL) of 1.0 part per billion (ppb). As a result, a temporary treatment solution consisting of two installed horizontal aeration tray units was installed and placed into operation in 2008.

The purpose of this conceptual design memorandum is to document the proposed permanent volatile organic compound (VOC) removal technology and implementation for the City's WTP. The currently operating temporary system mentioned above includes two horizontal aeration tray units manufactured by Carbonair, one of the City's existing Save-All tanks, a Godwin transfer pump, and the associated piping between the three affected wells, the system components, and the WTP. The two installed aeration units are each rated for 1.5 mgd (1,000 gpm) and are currently configured to remove up to 13.1 ppb of VC from the raw water before it is pumped to the headworks of the lime softening process.

Contamination plumes in aquifers are dynamic and can migrate as pumping conditions change. Therefore, as part of the support services for the temporary treatment solution, Malcolm Pirnie monitored VC levels in the City's production wells and in the nearby groundwater monitoring



wells. Additionally, as part of the evaluation for the temporary VC removal system, Malcolm Pirnie performed two-dimensional hydrogeological modeling for a wide variety of pumping scenarios. The model scenarios that included the activation of the wells dedicated to the City's nanofiltration process (wells No. 13, 17, 19, 20, and 21) indicated that the changes in withdrawal from the Biscayne Aquifer can potentially change the VC plume migration pattern. Recent monitoring well data indicate that plume migration towards the nanofiltration wells may already be occurring.

To provide a proactive solution, considering the possibility of VC affecting other Biscayne Aquifer production wells, the City needs a permanent solution with a greater treatment capacity than the temporary system offers. With the potential future impact of VC and other VOCs on the City's entire Biscayne Aquifer raw water supply, Malcolm Pirnie recommends the installation of a permanent air stripping system in a phased approach. The WTP's Biscayne Aquifer raw water supply includes sixteen wells and has a pumping capacity of 30.48 mgd; 23.98 mgd are wells dedicated to the lime softening portion of the plant and 6.5 mgd are dedicated to the nanofiltration portion of the plant. Table 1 provides a summary of the reported production capacity and treatment processes for each of the City's Biscayne Aquifer wells.

Table 1. Biscayne Aquifer Well Summary

Well Number	Recently Reported Capacity (mgd)	Treatment Process	VOC Removal Solution	Implementation Phase
1	1.58	Lime Softening	Raw Water Aeration	Future
2	0.86	Lime Softening	Raw Water Aeration	Future
3	1.80	Lime Softening	Raw Water Aeration	Future*
4	1.3	Lime Softening	Raw Water Aeration	Current
5	1.3	Lime Softening	Raw Water Aeration	Future
6	1.3	Lime Softening	Raw Water Aeration	Future
7	1.3	Lime Softening	Raw Water Aeration	Future
8	Abandoned	N/A	N/A	N/A
9	1.3	Lime Softening	Raw Water Aeration	Current
10	1.3	Lime Softening	Raw Water Aeration	Current
11	6.00	Lime Softening	Raw Water Aeration	Future
12	6.00	Lime Softening	Raw Water Aeration	Future
13	1.3	Nanofiltration	Permeate Degasification	Current
17	1.3	Nanofiltration	Permeate Degasification	Current
19	1.3	Nanofiltration	Permeate Degasification	Current
20	1.3	Nanofiltration	Permeate Degasification	Current
21	1.3	Nanofiltration	Permeate Degasification	Current

* Well 3 is dedicated to blending activities and is not currently accounted for in the raw water aeration requirements.

To accommodate the City's varied WTP processes and to provide further assurance of proper treatment, the VOC project includes several components. The first and main component, as described above, is the permanent raw water aeration system. Although the Biscayne Aquifer



wells that are dedicated to the lime softening process at the WTP have a pumping capacity of 23.98 mgd, the lime softening process of the WTP has a capacity of 17.0 mgd. The proposed permanent system includes a phased design that will ultimately have the capability to treat 17.0 mgd. Please refer to Attachment 1 for the proposed site layout and yard piping for this lime softening plant raw water aeration system. The second component of the improvements is the installation of a packed tower degasification system that will treat the permeate/raw water blend of the City's nanofiltration process. This system, which is being designed by GAI Consultants, will remove VOCs that may enter Biscayne Aquifer wells No. 13, 17, 19, 20, or 21. See Figure 1 for an overall view of the strategy the City is using to manage the VC contamination issue.

Vinyl Chloride Contamination Mitigation Strategy

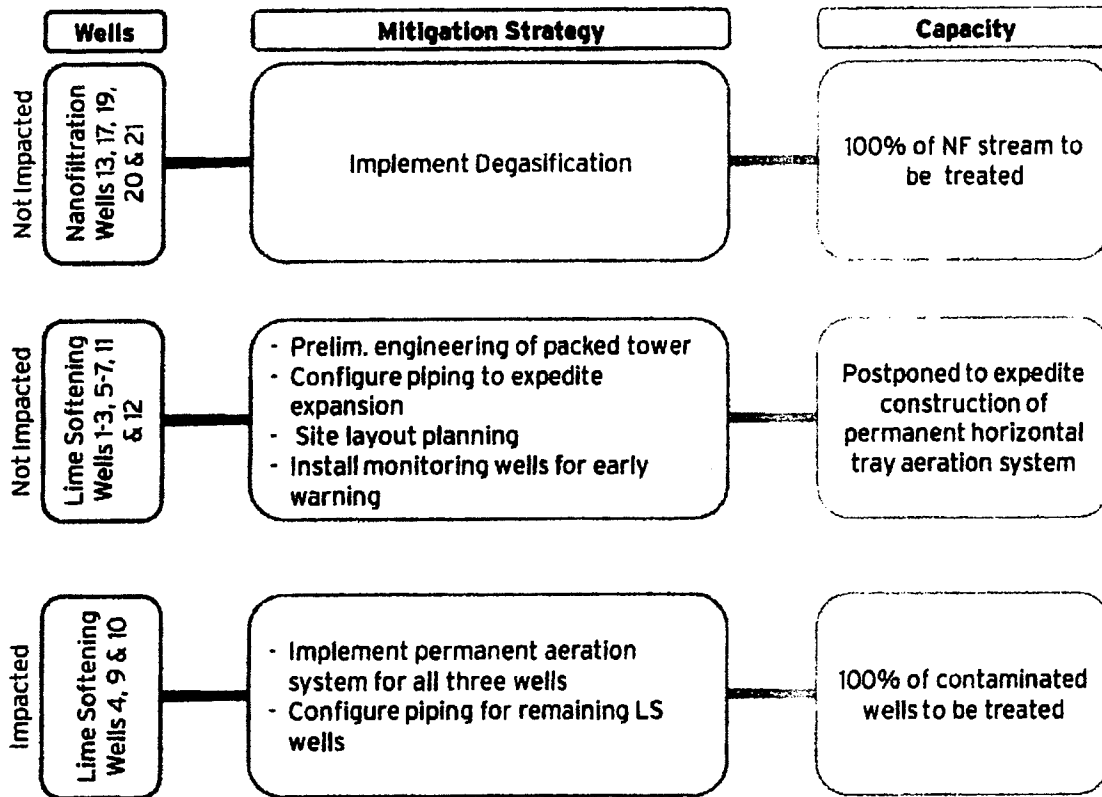


Figure 1. VC Mitigation Strategy by Wells and Treatment Process

In addition to the aeration technologies, this project includes several ancillary improvements that are related to the VC removal components:

1. Antiscalant feed. The permanent horizontal tray aeration system will include the provisions to feed an antiscalant or sequestering agent to the raw water prior to treatment, which may lessen maintenance requirements.
2. Well rehabilitation. Wells No. 4, 9, and 10 will be rehabilitated to restore yield and efficiency.
3. Lime feed system. The lime feed system in the east lime silo will be replaced to improve lime softening efficiency and reliability.
4. Hydrotreator improvements. The drive units and walkways on Hydrotreaters No. 2 and 3 will be replaced to improve reliability, efficiency, and operator safety.
5. Generator installation. A new generator will be installed (under a separate but parallel effort) in order to provide the required backup power for the equipment being provided under this project.

Characterization of Vinyl Chloride Contamination

VC contamination in the City's Biscayne wells dates back to the 1990s. Since wells No. 9 and 10 were shut down in 2007, the City has complied with a sampling program that provides a wealth of data about the VC levels in the wellfield. See Figure 2 for the VC sampling results in the City's production wells and selected nearby DERM monitoring wells. While the highest observed VC concentration is 9.9 ppb, the VC levels have generally been at or below 5 ppb.

Although the observed VC levels have historically been within the treatment range of the three-tray horizontal aeration units, a concern with the design of the permanent VOC removal facilities was the lack of knowledge about VC concentrations at different depths in the Biscayne Aquifer. With data only collected at specific depths, it was not possible to know if higher VC concentrations existed deep in the aquifer that could be pulled into the production wells in the future. Therefore, one of the preliminary activities in the permanent facility design was to install two new monitoring well clusters and take VOC samples at a number of depth intervals. A map showing these well locations and tables showing the VOC sampling results are included with this letter as Attachment 2. The water quality sampling showed that VC is the most prevalent contaminant in the aquifer. The highest level observed in this sampling event was 8.7 ppb, which is higher than the typical levels in the production wells but within the treatment capacity of the existing three-tray horizontal aeration system. Additionally, the highest concentrations occur

within the production zone, so the upwelling of higher VC concentrations into the wells does not currently appear to be a threat.

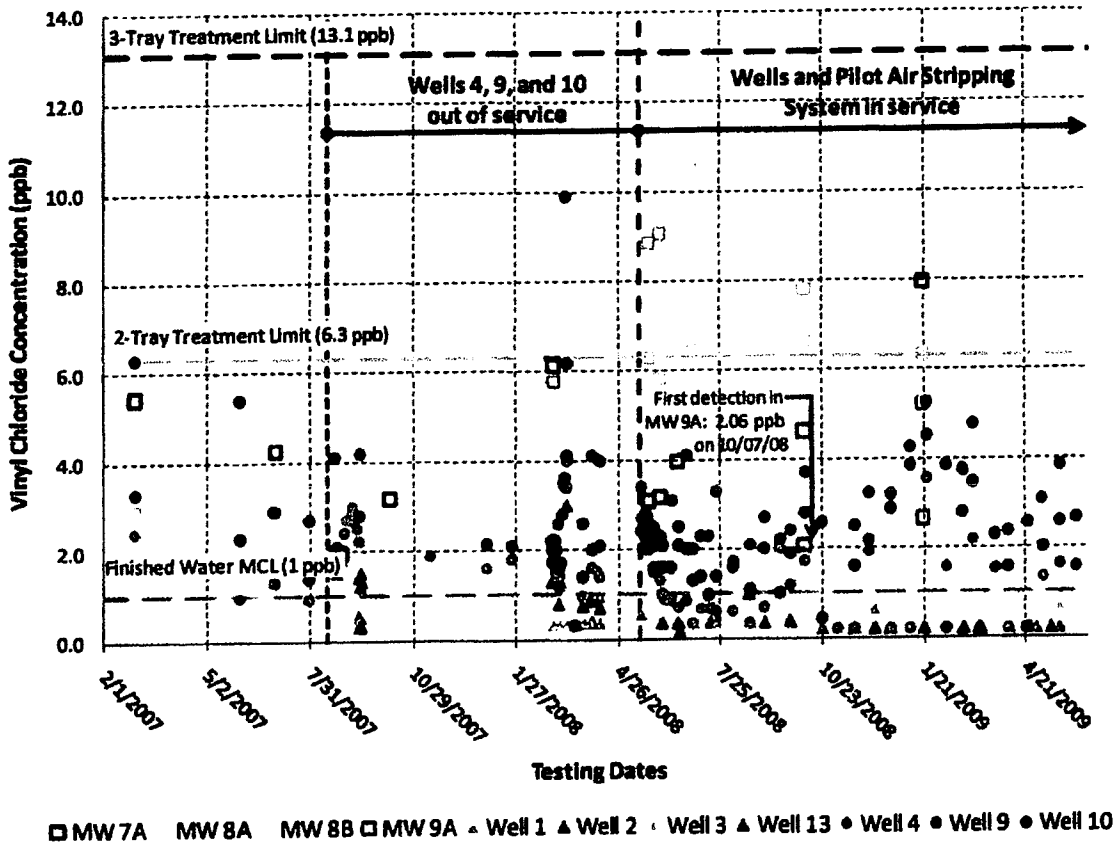


Figure 2. City of North Miami Beach Vinyl Chloride Sampling Results

Lime Softening Process Raw Water Aeration

Phase I Design

Currently, the only wells that have a documented history of VC concentrations above State finished water maximum contaminant level (MCL) of 1.0 part per billion (ppb) are wells No. 4, 9, and 10. These wells have a combined capacity of 3.9 mgd or 2,700 gpm. The existing temporary horizontal aeration tray units have a capacity of 1,000 gpm each for a total capacity of 2,000 gpm. This configuration allows only two of the three wells to be treated at a time. The third well must remain out of service while water is being diverted to the air stripping system.





Samir Elmir, PhD, P.E.
 Miami-Dade County Department of Health
 July 7, 2009
 Page 6 of 17

Malcolm Pirnie performed a review of the available air stripping technologies prior to the temporary unit installation, and the information has been re-visited to assist and expedite the decision making process for the permanent process technology. The first phase of the proposed permanent solution is to permanently install the two existing horizontal aeration tray units and to install a third new unit of the same type. This expansion will allow the concurrent treatment of wells No. 4, 9 and 10. The new 1,000 gpm air stripping unit will have the following design conditions, which generally match those of the two existing units:

Maximum flow rate and proposed operating flow rate

The units to be installed are STAT 720 low profile tray aeration units, manufactured by Carbonair. The two existing units and one new unit each have a maximum water flow rate of 1,000 gpm and are proposed to operate at 900 gpm, which is the flow rate of one of the three selected production wells. In parallel, the three units will have sufficient capacity to treat all three of the currently affected wells.

Air flow rate

The air flow rate of each stripping unit will be 3,500 cfm, with an air to water ratio of 29:1.

Proposed operating blower speed

The standard blower on the STAT 720 is a 40 hp, 230/460 V, 3 phase, TEFC blower (3,500 cfm at 43 inches of water column) that operates at 3,500 rpm. The blower on the new unit will be upgraded to include a variable frequency drive (VFD) that will provide a power range of 18-40 hp; additionally, the two existing blowers will be retrofitted to include VFDs. The VFDs will allow the City to slowly increase the power to the blower to maintain 3,500 cfm as the units gradually foul instead of throttling a dampener valve on the blower operating at a constant full speed.

Refer to Table 2 for additional design information on the STAT 720 aeration tray units.

Table 2. Carbonair STAT 720 Low Profile Aerator Specifications

Model	STAT 720
Liquid Flow Range (gpm)	40 – 1,000
Minimum Airflow (cfm)	3,000
Maximum Airflow (cfm)	4,000
Blower HP	18-40
Tray Dimensions (LxWxH, in)	144x72x12
Assembly Height (Approx.) ¹	7'-11 3/4"





Model	STAT 720
Empty Tray Weight, Each (lb)	550
Assembly Weight (lb) ²	6,820
Assembly Operating Weight (lb) ²	21,850
Sump Holding Capacity (gal)	1,000
Influent Connection (NPS) ³	8"
Effluent Connection (NPS) ³	10"
Off-Gas Discharge OD	24"
Design Features: <ul style="list-style-type: none">• 304 stainless steel welded construction• Gasoline-resistant neoprene gaskets• Anti-bypass valve (no priming required)• Polypropylene demister (99.5% removal efficiency 10 microns and larger)• Direct coupled blowers• Clean-out ports	
<ol style="list-style-type: none">1. Based on a 3-tray unit.2. Includes approximated blower and ducting weight.3. 150# flange patter, unless noted. Effluent size is for gravity drain sumps.	

Maximum treatable influent concentration

As previously mentioned, the maximum VC level observed in a City raw water well was 9.9 ppb. During the evaluation and design of the existing temporary treatment solution, DERM, FDOH, the City and Malcolm Pirnie met and determined that it will not be necessary to provide treatment for potential orders of magnitude higher than the historically observed levels of VC. However, it is still important to ensure that the proposed treatment system can provide for adequate treatment of the water supply under changing conditions. Furthermore, it was determined that a target discharge VC concentration of 0.5 ppb provides a margin of safety relative to the MCL of 1.0 ppb and that a further margin of safety between the upper concentration limit of the aeration units and the maximum anticipated influent VC level would be appropriate. The new monitoring well data (Attachment 2) confirm that the 13.1 ppb treatment level provides this margin of safety and is therefore appropriate for the permanent facilities. Should there be any indication of changes in the contamination plume, additional monitoring wells may be drilled to provide a warning for the need to treat raw water from the City's other Biscayne Aquifer wells and information about future treatment levels needed.

During the design of the existing units, Carbonair provided modeling data based on empirical data and past experience. Actual operational data indicates that the model accurately predicts the performance of the aeration units. Accordingly, the existing and proposed treatment systems are expected to perform to the standards of the model output



provided the system is properly operated and maintained. The existing and proposed three-tray aeration system can treat a maximum influent concentration of 13.1 ppb to an effluent concentration at or below 0.5 ppb. The model runs from Carbonair that show the model parameters and output and a description of the model methodology were provided by Malcolm Pirnie during the temporary solution approval process. Finally, this system has the potential to expand to as many as 6 trays per unit with the removal efficiencies shown in the model outputs. Should the unexpected occur and raw water VC concentrations rise significantly and approach the influent concentration limit of the equipment, additional trays (three more, for a total of six) may be added with the ability to treat as much as 340 ppb influent concentration to less than 0.5 ppb effluent concentration.

Operation & Maintenance (O&M) information to address fouling

Carbonair provided O&M information during the temporary system design process. Generally, Carbonair recommends that "the interior of [the] air stripper be cleaned when the pressure drop across the unit is increased by 30%. Cleaning with a 5-10% acid solution has been found to be an effective solution." Additionally, based on the City's raw water quality, Carbonair initially expected approximately six months of operation between cleanings with no preventative measures or pretreatment chemicals necessary. In practice, the City has reported that this period has been approximately four months or less. The City monitors and adjusts the airflow as part of daily operations, and when the blowers can no longer achieve 3,500 cfm, the units are cleaned. When VFDs are installed on the blowers as part of the permanent installation, operation may include control indicators for a set blower power percentage (such at 85 percent) that will serve to alert the City that they should schedule the cleaning of the units.

One O&M issue with the horizontal tray units is the time-consuming and labor-intensive nature of the cleaning process, which involves disassembling the units and spraying down each tray with a pressure washer. An antiscalant or sequestering agent such as a polyphosphate, applied to the raw water prior to aeration, can potentially reduce the speed at which the units foul and therefore increase the time between cleanings. With this possibility in mind, the permanent VOC removal facilities will provide the City with the flexibility to add a pretreatment chemical to the raw water. One downside to the addition of a phosphate-based antiscalant to the raw water is the increased potential for algal growth in the lime softening process equipment. While a higher dose of polyphosphate may decrease the cleaning requirements for the tray aeration units, it may increase maintenance requirements for downstream equipment. Therefore, the City will have to experiment with the pretreatment dose to strike an efficient balance between these two maintenance activities.

Water Handling

The raw water from wells No. 4, 9, and 10 currently join at a manifold and then flow through a 16-inch pipe towards the receiving basin at the head of the lime softening plant. These three raw water wells are the only wells that use this 16-inch pipe. In the temporary system, water is diverted from this line through a 12-inch pipe to two parallel 8-inch pipes that feed the two air stripping units. In the proposed permanent system, the flow from these three wells will be diverted into a 24-inch pipe that will be able to feed either the three tray aeration units or the future packed tower units. This same 24-inch pipe will alternately be able to direct future flow from wells No. 5, 6, 7, 11, and 12 to the tray aeration units or the future packed tower units. The system will use a series of valves to proportion the flow from the various sources to the appropriate treatment units. For this first phase of the permanent treatment solution, the process flow will be similar to the existing temporary system:

1. Raw water from any combination of wells No. 4, 9, and 10 flows through the aeration units. Flow meters and electrically operated valves on the inlet lines to each aeration unit will be used to balance the flow between the units that are in service.
2. Gravity discharge of the treated raw water from the air stripping units flows into a 36-inch pipe that will serve as flow equalization volume between the aeration unit sumps and the transfer pumps.
3. Discharge of the treated raw water from the common discharge pipe into the downstream portion of the existing 16-inch raw water main (which is currently connected to the head of the plant) via a transfer pumping station.
4. Flow of the treated raw water to the existing lime softening plant receiving basin (as in normal operation).

This configuration provides that no raw water lines involving wells other than wells No. 4, 9, and 10 will be affected by the installation and operation of the first phase of the proposed permanent treatment system. However, the system is designed to allow the incorporation of other wells should it become necessary in the future. Refer to the diagram in Attachment 3 for more detail on the process flow, pipe sizes, and appurtenances.

Additional Phases (as needed)

The overall design concept for this project incorporates the ability to treat water from other Biscayne Aquifer production wells (lime softening process only) should they become contaminated with VC in the future. Specifically, the capability to treat water in two 5.35 mgd phases will be

installed based on future monitoring well sampling analyses results. The incremental installation of additional treatment units has been selected to expedite the construction of permanent treatment for wells No. 4, 9 and 10 and to avoid potentially unnecessary equipment and construction costs since the other Biscayne Aquifer wells that feed the lime softening process are not currently impacted by VC. The Phase I permanent treatment system will have the capacity to treat 4.3 mgd with the three tray aeration units. Therefore, in order to treat the remaining Biscayne Aquifer flow to the 17.0 mgd lime softening process, the remaining permanent treatment units will require a capacity of 12.7 mgd. Malcolm Pirnie has performed the preliminary engineering on this system to be able to provide equipment layouts and facilitate an understanding for how the currently proposed work and future work will operate together as an integrated system. Should treatment beyond Phase I be required, additional engineering will be required to finalize the system components.

At this time, horizontal tray aeration units that can treat more than 1,000 gpm (size of existing units) are not available. Therefore, the ability to treat the remaining raw water flow of 12.7 mgd requires the installation of vertical packed tower units. We recommend that the packed towers be sized to accommodate 6.35 mgd each. Piping additions and modifications, shown as future in the attached yard site layout and yard piping plan, will be required for the addition of the packed towers. Conceptual design of the packed tower system indicates that removal of up to 30.0 ppb of VC will be appropriate. This higher safety factor over the observed VC levels is recommended since unlike horizontal tray aeration units, packed towers cannot easily be modified to accommodate higher VC concentrations.

Given the siting constraints and phased treatment requirements for this application, it appears that the most practical choice for the permanent treatment equipment is the installation of horizontal tray aeration units (Phase I) with provisions for a future vertical packed tower system (Phase II). The treatment capacity in a single packed tower unit of 6.35 mgd is available from equipment manufacturers such as Duall. In addition to the packed tower unit, this technology selection will require "in-place" chemical cleaning capabilities and ancillary systems. Furthermore, in comparison with the tray aeration units, the packed towers may require more frequent cleaning, but this task will typically not require disassembly of the units.

The proposed future packed tower treatment units will have the following operational parameters:

Maximum treatable influent concentration

The air stripping system will be designed to treat approximately 30 ppb of VC at 99 percent removal efficiency. This performance will achieve the maximum target discharge vinyl chloride concentration of 0.5 ppb while providing a margin of safety relative to the finished water MCL of 1.0 ppb. The 30 ppb treatment level also allows for a larger

margin of safety between the upper concentration limit of the treatment system and the maximum VC concentration observed of 9.9 ppb.

Proposed maximum and operating flow rate

The installation of the vertical packed tower aeration units may be completed in phases as determined based on contamination plume migration patterns. Each unit will have a maximum water flow rate of 4,410 gpm (6.35 mgd). The installation of the first packed tower would raise the overall air stripping capacity from 4.3 mgd to 10.65 mgd, which could, for example, allow the treatment of wells No. 5, 6, and 7 (1.3 mgd each) in addition to wells No. 4, 9, and 10. The installation of the second packed tower would raise the overall treatment capacity to 17.0 mgd. The operating flow rate would depend on which wells are connected to the system and which wells are operating at any given time.

Air flow rate

The air flow rate of each 6.35 mgd packed tower is to be determined during future detailed engineering. The air flow rate will be such that the air to water ratio will be high enough to achieve the 30 ppb treatment level.

Proposed operating blower speed

The blower on the packed tower is to be determined based on future engineering such that the proper air flow may be achieved.

Primary Equipment Requirements

The following items are required for the implementation of the complete future packed tower system. Again, these items are delineated to provide an understanding of the future integrated system and are not being installed at this time.

- Concrete slab on grade for packed tower
- One (1) 6.35 mgd packed tower - sump to be sized to accommodate maximum inlet flow for storage and pumping by transfer pump
- Dedicated filter, blower and associated ductwork
- Expansion of the Phase I transfer pump station to include two duty transfer pumps and one stand-by transfer pump that can handle flows from one packed tower and the three horizontal tray aeration units. A manifolded pipe will handle current and future flow capability. A space will be allocated for an additional pump to be associated with the future packed tower.
- Dedicated chemical cleaning system including pump, associated piping, and disposal handling tanks.



Samir Elmir, PhD, P.E.
Miami-Dade County Department of Health
July 7, 2009
Page 12 of 17

- Piping modifications for raw water supply from all Biscayne Aquifer wells to be routed to the air stripping system, including the packed towers and the horizontal tray aeration units.
- Piping modifications to convey treated raw water by transfer pump(s) from packed towers to plant headworks.
- Electrical, instrumentation and control work.

Ancillary System Requirements

The ancillary systems that must be installed and dedicated to the packed tower include the following items:

- Sulfuric acid system (to be used for periodic cleaning of packing media) – chemical tote and portable metering pump will be installed on a mobile trailer.
- Sodium hypochlorite (to be used for periodic cleaning of packing media) – chemical tote and portable metering pump will be installed on a mobile trailer.
- Antiscalant (to be used on a full time basis for pre-treatment of raw water supply) - install totes and dedicated metering pumps at slab
- Two (2) scavenger tanks with mixers - tank materials to be compatible with all chemicals mentioned above – to be installed on a mobile trailer for storage and neutralization of chemicals. Contents of the scavenger tank will be disposed of according to the appropriate regulations.

System Implementation

The City and Malcolm Pirnie evaluated three potential locations in the southwest corner of the plant site for the permanent relocation of the horizontal units and the installation of the two future packed tower units:

- Adjacent to existing tray aeration system
- North of existing Upper Floridan Aquifer (UFA) well No. 1F location, south of the access road and gate
- South of existing 5 MG ground storage tank, north of the access road and gate

Due to space constraints, existing infrastructure, and piping arrangements, it was determined that the best location for the horizontal tray aeration units is north of UFA well No. 1F (relocated from current location) and the future packed tower units are to be located in the approximate current location of the temporary horizontal aeration tray units.



The permanent horizontal tray aeration system will be installed to minimize the downtime of wells No. 4, 9, and 10. The concrete support pad for the tray units, majority of influent and effluent piping, ancillary equipment, and the third horizontal tray aeration unit will be installed to the extent feasible without shutting down the temporary system. Then, one shutdown will occur in order to complete the connections between the permanent system and the plant, after which the new horizontal tray can operate with one well. Then, the two existing horizontal tray units will be relocated to the new equipment pad, retrofitted and connected accordingly, and placed into operation. If needed, the installation of the future packed towers will also be completed to minimize the downtime of wells No. 4, 9, and 10, with as much of the piping and equipment installed as possible before the horizontal tray system must be taken offline to perform the necessary connections.

As previously described, the raw water from wells No. 4, 9, and 10 are currently connected at a manifold and then flow through a 16-inch pipe towards the receiving basin at the head of the lime softening plant. The existing horizontal tray aeration system receives diverted water from this manifold. For the permanent solution, raw water will be diverted from another location in the existing main to the relocated horizontal tray aeration system. This inlet piping will be designed so it can serve both the horizontal tray aeration system and the future packed towers. Treated water will be discharged from the sump of the horizontal tray units and the vertical packed towers by a transfer pump and be conveyed to the raw water influent at the head of the plant and undergo normal lime softening treatment.

Below are descriptions of the other activities that will occur as part of the VOC removal project. While these activities are not directly related to the removal of VC from the currently impacted wells, they will provide treatment capabilities should the contamination spread to other Biscayne wells and enhance the capabilities of the proposed horizontal tray aeration system.

Nanofiltration Process Permeate/Raw Water Blend Degasification

GAI Consultants is designing a degasifier system for the City's nanofiltration process. The proposed degasifier system removes VOC's, hydrogen sulfide (H_2S) and carbon dioxide (CO_2) and stabilizes the nanofiltration permeate/raw water blend prior to product water disinfection and storage. This system will treat water from Biscayne Aquifer wells No. 13, 17, 19, 20, and 21 and provide VOC removal should any of these wells become contaminated. The total capacity of these wells is 6.5 mgd. Two (2) proposed degasifiers (13.5 ft diameter and 14 ft height) will be installed near the two (2) existing reverse osmosis process degasifiers at the plant. The degasifier tower consists of a reinforced fiberglass cylindrical tower filled with hollow, spherical packing made of injection molded polypropylene (PP). Water is introduced at the top of the column and allowed to cascade down countercurrent to the airflow. Ambient air flows through the fiberglass

ductwork and is blown into the bottom of the column by blowers. Each tower is equipped with a blower installed within a sound attenuating enclosure.

The aeration and volatilization process is the same as in the horizontal tray aeration system; however, packed columns enhance the rate of transfer by providing large surface area and turbulence. Also, countercurrent operation maximizes the difference in concentration of the volatile component between air and water.

The rate at which volatile compounds are removed by degasification in a packed tower depends on the following factors:

- Air-to-water ratio
- Height of packing in the column
- Available surface area for mass transfer
- Water loading rate
- Air and water temperatures
- Physical chemistry of contaminants to be removed

This system is designed to remove 95 percent of H₂S and 98 percent of VC, each up to 1000 ppb influent and a pH of 5.8. In other words, the system can remove a maximum of 25 ppb of VC to below the detection limit of 0.5 ppb. Refer to Table 3 for the proposed design conditions.

Table 3. Packed Tower Degasifier Design Criteria

Number of Degasifiers	2
Minimum Diameter (feet)	13.5
Maximum Flow Rate, Water, each (mgd)	6.5
pH, Inlet Water, Minimum	5.8
Temperature (°F, min)	70
Hydrogen Sulfide Inlet Water (mg/L)	~ 1
Hydrogen Sulfide Outlet Water (mg/L)	0.05
Hydrogen Sulfide Removal Efficiency (%)	95
Minimum Packing Height (feet)	14
Maximum Packing Size (inches)	3.5
Minimum Mist Eliminator Height (feet)	1
Minimum Packing Size (inches)	2
Minimum Air-Water Ratio	32:1
Maximum Water Loading (gpm/ft)	32
Number of Blowers	2
Airflow (scfm) per blower	19,500

Antiscalant/Sequestering Agent

The permanent VOC removal facilities will include the capability to feed an antiscalant or sequestering agent to the raw water before aeration. Refer to the O&M requirements section on Page 8 for more information.

Well Rehabilitation Activities

The three existing Biscayne Aquifer raw water wells (No. 4, 9 and 10) associated with the existing horizontal tray aeration system for VC removal will need to be rehabilitated (using acidization and redevelopment) to restore the original yield and withdrawal efficiency from the aquifer. The original capacity of well No. 4 was 1250 gpm, and the capacity of wells No. 9 and 10 was 900 gpm each. The objective of this rehabilitation is to maintain or enhance the production from these three wells, to the extent practical, so the City can continue to use them into the foreseeable future. The use of these wells is essential due to their demonstrated performance as a sink for the VC contamination plume.

Hydrotreator No. 2 and 3 Improvements

The project includes the modifications to two of the three existing Hydrotreaters (No. 2 and 3). Specifically, the work will include the removal and replacement of the center drive mechanism and the access walkway/bridge for each tank. The center drive mechanisms for both the 45-foot and 65-foot diameter Hydrotreaters are being replaced to address the need for increased reliability and improved treatment efficiency of these treatment units. The improved efficiency is important given the future addition of an antiscalant to the raw water: since an antiscalant can introduce challenges in the lime softening process, the Hydrotreaters need to be in the best condition possible to continue to work properly. An additional modification to the Hydrotreaters will be the replacement of the access walkways and bridges. This task will ensure that staff safety is improved for this 30 year old equipment. Overall, these units are an integral part of the WTP's 17.0 mgd lime softening treatment process and need to be modified to ensure operational reliability and efficiency. The ability to rely on the Hydrotreaters is essential to the continuous operation of wells No. 4, 9, and 10, which are known to be a VC sink that helps protect other Biscayne wells from contamination.

Lime Feed Equipment Improvements

The existing lime slaking and conveyance equipment currently in operation at the east lime silo is in need of replacement because of normal wear and tear and associated inefficiency. The decreased operational reliability of the existing lime feed equipment impacts the WTP's lime softening treatment process. The proposed new lime slaking and conveyance equipment for the east silo is new technology that will significantly improve efficiency and reliability for the lime softening portion of the WTP. The proposed improvements to the lime feed equipment will include the following primary components - load cells, slaker, transition connection between existing valve and new feeder connection to slaker, transfer pump, slurry aging tank with classifier, slurry loop pump, lime delivery system, slurry control panel and air compressor. An essential benefit of these modifications is the improved ability for the lime softening process to operate properly if an antiscalant applied to the raw water. Since the new equipment will provide better dissolution of the lime in water, the City will be able to use less lime overall and have a greater ability to control the amount of lime used based on raw water conditions. Similar to the Hydrotreator improvements, this effort is essential to the reliable operation of wells No. 4, 9, and 10.

Project Implementation

In accordance with the SRF funding the City is receiving through the federal economic stimulus program, the construction contract must be awarded and executed by October 1, 2009. From that time, the contract will include a construction schedule of 180 days to substantial completion and 210 days until final completion, which implies a completion date by the end of April or early May, 2010.

The City greatly appreciates the willingness FDOH has expressed to help the City achieve the goal of ensuring protection of the public water supply from vinyl chloride contamination. Should you require additional information in order to provide the preliminary approval of this project, please do not hesitate to contact the City or Malcolm Pirnie as necessary.

Very truly yours,

MALCOLM PIRNIE, INC.


Nigel Grace, P.E. 44005
Vice President



Samir Elmir, PhD, P.E.
Miami-Dade County Department of Health
July 7, 2009
Page 17 of 17

- c: Wilbur Mayorga, Miami-Dade DERM
Kelvin Baker, City of North Miami Beach, City Manager
Martin King, Director of Public Services
Karl Thompson, Assistant Director of Public Services
Jeff An, City Utility Planning Manager
Celia Earle, Malcolm Pirnie
Rick Cowles, Malcolm Pirnie
Victor Hurlburt, Malcolm Pirnie
Scott Quinlan, GAI
Mark Luther, Hillers Electrical Engineering

G:\City of North Miami Beach\4251024 VOC Permanent Facility\Technical\Conceptual Design Memo\VOC Permanent Solution
Conceptual Design Memo - 070709.doc



**APPENDIX C:
WATER FACILITIES PLAN ADDENDUM
PUBLIC HEARING NOTICE
APRIL 8, 2010
(FORTHCOMING)**

**APPENDIX D:
FINANCIAL SUFFICIENCY**

**APPENDIX D
FINANCIAL SUFFICIENCY**

In April 2009, Volume II of the Water Facilities Plan (WFP), which is labeled as the Business Plan, contained Financial Sufficiency analysis for the initially proposed project. This analysis was conducted to demonstrate the financial viability of the City and its ability to repay SRF awards. The demonstration of viability was made through a thorough evaluation of the City's water rate revenue, number of water meters, annual historic billable flow, projections for meter usage, revenue allocations, detailed expense budgets, proforma projections, rate ordinances, information regarding prior and parity liens, bonds, notes, and other long-term debt obligations. The main objective of this analysis was to prove that the City could in fact meet the SRF loan's debt service requirements under current rate and operating structure without impacting the rate utility's financial viability significantly. The City's financials demonstrated that the City could meet the obligation.

Since the April 2009 WFP Volume II was submitted, the City has enacted all scheduled rate increases and has not taken any other long-term debt obligations other than the SRF loan discussed in the WFP addendum. This attachment is to demonstrate that, if the City had considered the amended project discussed in this addendum, the City would still have demonstrated sufficiency under the information analyzed in the WFP Volume II. **Table D-1** shows the initial proposed debt service and demonstrates the ability to meet coverage, along with the amended numbers and newly proposed debt service. The information taken from this table comes directly from the WFP Volume II "DEP Business Plan Schedule of Prior, Parity, or Projected Revenues and Debt Coverage for Rate-Basted System Pledged Revenue" Table.

**Table D-1
Amended Water Facility Plan
Demonstrated Debt Service Capabilities Under Amended WFP**

	2009	2010	2011
Net Revenue	\$ 4,507,698	\$ 6,784,500	\$ 8,031,158
WFP Volume II Debt Service	N/A	N/A	\$ 319,594
Amended WFP Debt Service	N/A	N/A	\$ 888,142
Net Revenue after existing and projected SRF Debt Service	\$ 4,507,698	\$ 6,784,500	\$ 7,143,016
GAI #A060022.08	Appendix D-1		032410

As shown in the above table, even with the newly amended plan and capital costs associated with the VOC project, the City will still meet debt service requirements. Therefore, Volume II of the WFP would remain applicable to the Amended WFP with the only adjustment showing a higher annual Debt Service Payment. For reference, the City's current rates and charges have been attached.

MEMORANDUM

**TO: MAYOR AND CITY COUNCIL
CITY CLERK
CITY MANAGER**

**FROM: DARCEE S. SIEGEL
CITY ATTORNEY**

DATE: MAY 18, 2010

**RE: RESOLUTION NO. R2010-37
Infiltration and Inflow Facilities Plan**

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$4,201,765 FOR THE INFILTRATION AND INFLOW FACILITIES PROJECT; ACCEPTING THE WASTEWATER FACILITIES PLAN AFTER AN ADVERTISED PUBLIC UTILITY COMMISSION MEETING ACCEPTING PUBLIC COMMENT THEREON; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.



**CITY OF NORTH MIAMI BEACH
INTEROFFICE MEMORANDUM**

City Manager's Office

TO: Mayor and Council

FROM: Kelvin L. Baker, City Manager

DATE: April 30, 2010

RE: Wastewater Facilities Plan – Infiltration and Inflow Facilities Plan

BACKGROUND

The City of North Miami Beach owns and operates a sanitary sewer collection system which includes 79 miles of pipe and 1,600 manholes. The wastewater is eventually discharged into the Miami-Dade Water and Sewer Department (MDWASD) force main transmission system at various metered connection points. CNMB Utility is considered a volume sewer customer (VSC) and pays treatment costs to MDWASD based on established bulk rates.

Inflow and Infiltration (I & I) is the infiltration of groundwater and the inflow of stormwater into the wastewater system. The most common causes of I & I are: aging infrastructure in the collection system; uncontrolled or unmanaged stormwater; and lack of maintenance of the collection system.

This I & I improvement program primarily consists of the rehabilitation of sewer main lines and services laterals. The program will minimize groundwater and surface water contamination and sewage overflows while helping to provide Utility sewer customers with a reliable source of wastewater collection and disposal. This is required to protect residents from hazardous sanitary health conditions and to maintain the MDWASD sewer system requirements put forth by the DERM, FDEP and the EPA. The results of previous I & I programs show that it is working. From December 1996 to December 2009, monthly average flow going to the County treatment plant has been reduced from 87.5 million gallons (MG) per month to 32.6 MG per month.

The total cost with 10% contingency for the proposed program is approximately \$4.2 million. We are now seeking to be included in the Florida Department of Environmental Protection (FDEP) State Revolving Fund (SRF) priority list for funding. On March 11, 2009 an official public hearing, to hear comments on the Planning Document, was held at the Public Utilities Commission. The public was officially noticed in a publication with a circulation of over 50,000 individuals. A resolution to formally adopt the Planning Document is required by City Council.

RECOMMENDATION

It is respectfully recommended that the City Council approve this Planning Document as it is a strict requirement of the state's SRF program. The FDEP eligibility deadline is June 1, 2010. This item was approved by the PUC on March 11, 2010

FISCAL IMPACT

The SRF loan will require wastewater revenues to be pledged by the Utility in order to fund the debt service. While terms are not yet finalized, the expected interest rate would range between 2.2% and 2.7% with the loan period 20 years. At an interest rate of 2.5%, the annual principal and interest payment will be approximately \$211,600.

CONTACT PERSONS

Karl Thompson, Assistant Director of Public Services

RESOLUTION NO. R2010-37

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$4,201,765 FOR THE INFILTRATION AND INFLOW FACILITIES PROJECT; ACCEPTING THE WASTEWATER FACILITIES PLAN AFTER AN ADVERTISED PUBLIC UTILITY COMMISSION MEETING ACCEPTING PUBLIC COMMENT THEREON; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, pursuant to Section 403.1835, Florida Statutes, loans to local government agencies to finance the implementation of infiltration and inflow programs are permitted; and

WHEREAS, Chapter 62-503 of the Florida Administrative Code requires authorization to apply for loans, to establish pledged revenues, to designate an authorized representative, to provide assurances of compliance with loan program requirements, and to enter into a loan agreement; and

WHEREAS, the Florida Department of Environmental Protection's State Revolving Fund loan priority list designates the Infiltration and Inflow Facilities Project ("Project"), as eligible for available state funding; and

WHEREAS, in order to facilitate the construction of the Project, the City intends to apply for and enter into a loan agreement with the Florida Department of Environmental Protection ("FDEP") under the State Revolving Fund for Project financing in the amount of \$4,201,765; and

WHEREAS, the City recognizes that in the event funding is received from the State Revolving Fund Program, there are additional requirements that must be met. Those requirements include adherence with the FDEP's standard supplemental conditions, and Davis-Bacon wage rate provisions; and

RESOLUTION NO. R2010-37

WHEREAS, the Public Utilities Commission of the City of North Miami Beach, at its public meeting held on March 11, 2010, approved the Project and the application for State Revolving Fund funding; and

WHEREAS, the Public Utilities Commission of the City of North Miami Beach held an advertised public hearing to accept public comment regarding the adoption of the Water Facilities Plan on March 11, 2010.

NOW, THEREFORE,

BE IT RESOLVED by the City Council of the City of North Miami Beach, Florida

Section 1. The foregoing recitals are true and correct and represent the express findings, purpose and intent of the City Council of the City of North Miami Beach.

Section 2. The City Council of the City of North Miami Beach, Florida, hereby approves and accepts the Wastewater Planning Document prepared by GAI Consultants, Inc. and authorizes the submittal of an application and all supporting documentation (including the Wastewater Planning Document) for a State Revolving Fund loan in the amount of \$4,201,765, to finance the Project.

Section 3. The City Manager is hereby designated as the authorized representative to (a) act as the City's representative in carrying out the City's responsibilities under the loan agreement, and (b) delegate responsibility to appropriate City staff to carry out technical, financial, and administrative activities associated with the loan agreement.

Section 4. The City Council hereby authorizes the City Manager to execute any loan agreement or other security on behalf of the Council in accordance with and required by law to secure the loan, in a form acceptable to the City Attorney.

Section 5. The City Council hereby authorizes the use of water utility system revenues for the repayment of the State Revolving Fund loan, which pledged revenues shall consist of net

wastewater revenues remaining after payment of debt service on the City's outstanding wastewater system State Revolving Fund loans, and other such City wastewater system debt instruments as may exist as of the date of this resolution.

Section 6. The legal authority for the City to borrow money to construct the Project is Chapter 180, Florida Statutes.

Section 7. This Resolution shall become effective immediately upon its passage and adoption.

APPROVED AND ADOPTED by the City of North Miami Beach City Council at the regular meeting assembled this ___ day of May, 2010.

ATTEST:

SUSAN A. OWENS
CITY CLERK

MYRON ROSNER
MAYOR

(CITY SEAL)

APPROVED AS TO FORM:

DARCEE S. SIEGEL
CITY ATTORNEY

SPONSORED BY: Mayor and Council

MEMORANDUM

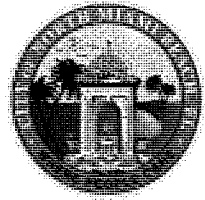
**TO: MAYOR AND CITY COUNCIL
 CITY CLERK
 CITY MANAGER**

**FROM: DARCEE S. SIEGEL
 CITY ATTORNEY**

DATE: MAY 18, 2010

**RE: RESOLUTION NO. R2010-38
 Water Facilities Planning Addendum 2010**

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$4,000,000 FOR THE VOLATILE ORGANIC CHEMICAL FACILITY; ACCEPTING THE WATER FACILITY PLAN ADDENDUM; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.



**CITY OF NORTH MIAMI BEACH
INTEROFFICE MEMORANDUM**

City Manager's Office

TO: Mayor and City Council

FROM: Kelvin L. Baker, City Manager

DATE: April 30, 2010

RE: Water Facilities Plan Addendum 2010

BACKGROUND

In July 2009, City Council approved resolution R2009-35A accepting the Water Facilities Plan (WFP) which is a requirement of the Florida Department of Environmental Protection (FDEP) State Revolving Fund (SRF) priority List program. The purpose of the Water Facilities Plan Addendum (WFPA) is to serve an April 2010 update, to the previously submitted and approved WFP. The WFP described the need to implement treatment methods to minimize the impact of Volatile Organic Compounds (VOC) at the Norwood-Oeffler Treatment Plant. However, due to the migration of the VOC plume, which has moved to impact additional city wells since the approval of the WFP back in July 2009; the WFP must now be enhanced to include additional treatment and improvements to address the possible worsening condition. This WFPA addresses the treatment of raw water coming from remaining wells supplying the lime softening side of the plant. This project is called VOC Removal Phase IIa and involves the installation of two (2) 6.5 MGD packed towers, chemical treatment systems and electrical site work.

The FDEP rules mandate that this addendum must go through the same process of public hearing (no comments received at advertised public hearing) and approvals. These approvals include PUC (unanimously approved on April 8, 2010) and passage of a resolution by City Council.

RECOMMENDATION

It is respectfully recommended that the City Council approve this Water Facilities Plan Addendum as it is a strict requirement of the state's SRF program. The FDEP eligibility deadline is June 1, 2010.

FISCAL IMPACT

An SRF Loan of \$4,000,000 will require water revenues to be pledged by the City in order to fund the debt service. While terms are not yet finalized, the expected interest rate would range between 2.2% and 2.7% with the loan period 20 years. At an interest rate of 2.5%, the annual principal and interest payment will be approximately \$255,370.31.

CONTACT PERSONS

Karl Thompson, Assistant Director of Public Services

RESOLUTION R2010-38

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, MAKING FINDINGS; AUTHORIZING A STATE REVOLVING FUND LOAN APPLICATION IN THE AMOUNT OF \$4,000,000 FOR THE VOLATILE ORGANIC CHEMICAL FACILITY; ACCEPTING THE WATER FACILITY PLAN ADDENDUM; DESIGNATING AN AUTHORIZED REPRESENTATIVE TO PROVIDE ASSURANCES; GRANTING AUTHORITY TO ENTER INTO A LOAN AGREEMENT; ESTABLISHING PLEDGED REVENUES; RECOGNIZING STATUTORY AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH MIAMI BEACH, FLORIDA ("THE COUNCIL") THAT:

Section 1. In adopting this Resolution, the Council hereby makes and expresses the following findings, purpose and intent:

(1) Pursuant to Sections 403.8532 and 403.1835, Florida Statutes, loans to local government agencies to finance the construction of drinking water facilities are permitted.

(2) Chapter 62-552 of the Florida Administrative Code requires authorization to apply for loans, to establish pledged revenues, to designate an authorized representative, to provide assurances of compliance with loan program requirements, and to enter into a loan agreement.

(3) The Florida Department of Environmental Protection's State Revolving Fund loan priority list designates the Volatile Organic Chemical Facility Project (DW 1301 020) ("Project") as eligible for available state funding.

(4) In order to facilitate the construction of the Project, the City intends to apply for and enter into a loan agreement with the Department of Environmental Protection under the State Revolving Fund for project financing.

Section 2. The Council hereby authorizes the submittal of an application and all supporting documentation (including the Water Facility Plan Addendum prepared by GAI Consultants, Inc.) for a State Revolving Fund loan to finance the Project.

Section 3. The City Manager is hereby designated as the authorized representative to (a) act as the City's representative in carrying out the City's responsibilities under the loan agreement, and (b) delegate responsibility to appropriate City staff to carry out technical, financial, and administrative activities associated with the loan agreement.

Section 4. The City Council hereby authorizes the City Manager to execute any loan agreement or other security on behalf of the Council in accordance with and required by law to secure the loan, in a form acceptable to the City Attorney.

Section 5. The Council hereby authorizes the use of water utility system revenues for the repayment of the State Revolving Fund loan, which pledged revenues shall consist of net water revenues remaining after payment of debt service on the City's outstanding water system utility revenue bonds, the water system utility refunding revenue bonds, and other such City water system debt instruments as may exist as of the date of this Resolution.

Section 6. The legal authority for the City to borrow money to construct the Project is Chapter 180, Florida Statutes.

Section 7. This Resolution shall become effective immediately upon its passage and adoption.

APPROVED AND ADOPTED by the City of North Miami Beach City Council at the regular meeting assembled this ___ **day of May, 2010.**

ATTEST:

SUSAN A. OWENS
CITY CLERK

MYRON ROSNER
MAYOR

(CITY SEAL)

APPROVED AS TO FORM:

DARCEE S. SIEGEL
CITY ATTORNEY

SPONSORED BY: Mayor and Council

MEMORANDUM

**TO: MAYOR AND CITY COUNCIL
 CITY CLERK
 CITY MANAGER**

**FROM: DARCEE S. SIEGEL
 CITY ATTORNEY**

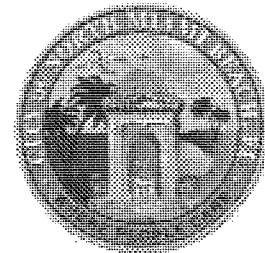
DATE: MAY 18, 2010

**RE: RESOLUTION NO. R2010-39
 2010 Florida Forest Health Initiative Grant**

**A RESOLUTION OF THE MAYOR AND CITY COUNCIL
OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, TO
ENTER INTO THE 2010 FLORIDA FOREST HEALTH
INITIATIVE GRANT MEMORANDUM OF AGREEMENT
WITH THE STATE OF FLORIDA DEPARTMENT OF
AGRICULTURE AND CONSUMER SERVICES, DIVISION
OF FORESTRY.**

**City of North Miami Beach
Interoffice Memorandum**

RECEIVED
2010 MAY -4 AM 11:58
CITY ATTORNEY'S OFFICE
CITY OF NORTH MIAMI BEACH



City Manager's Office

TO: Mayor & Council

FROM: Kelvin L. Baker, City Manager

DATE: May 3, 2010

A handwritten signature in black ink, appearing to be "K. Baker", written over the "FROM" line.

RE: 2010 Florida Forest Health Initiative Grant Program

BACKGROUND:

In February 2010, the Public Services Department applied for the 2010 Florida Forest Health Initiative Grant. The application requested \$9,756.00 for tree plantings around the Highland Village Park with no match required. Notice of award was sent to the City through an email on Tuesday April 13, 2010. On Friday April 30, we received the request for a resolution addressing this grant specifically in place of the Urban Forestry Grant resolution we have used in the past.

RECOMMENDATION:

Approval is recommended.

FISCAL IMPACT:

No match is required on this grant so there will be no fiscal impact. The funds will have to be spent up front and reimbursed upon final inspection as with any other grant.

CONTACT PERSON:

Carlos Rivero.

CC: Darcee S. Siegel, City Attorney
Susan Owens, City Clerk

RESOLUTION NO. R2010-39

**A RESOLUTION OF THE MAYOR AND CITY COUNCIL
OF THE CITY OF NORTH MIAMI BEACH, FLORIDA, TO
ENTER INTO THE 2010 FLORIDA FOREST HEALTH
INITIATIVE GRANT MEMORANDUM OF AGREEMENT
WITH THE STATE OF FLORIDA DEPARTMENT OF
AGRICULTURE AND CONSUMER SERVICES, DIVISION
OF FORESTRY.**

WHEREAS, the City of North Miami Beach and its Beautification Committee are strong supporters of planting shade trees throughout the City to create an urban oasis in neighborhoods; and

WHEREAS, the City of North Miami Beach applied for the 2010 Florida Forest Health Initiative Grant Program requesting funds to be used toward the planting of shade trees around Highland Village Park, a highly used facility within a low-income area of the City; and

WHEREAS, the City of North Miami Beach was awarded a grant in the amount of \$9,756.00 for tree planting around Highland Village Park with no matching funds having to be provided by the City; and

WHEREAS, in order to actually receive the grant funds, the City of North Miami Beach is required to enter into a Memorandum of Agreement with the State of Florida Department of Agriculture and Consumer Services, Division of Forestry; and

WHEREAS, the Mayor and City Council acknowledge that a tree-lined neighborhood within Highland Village will truly make a difference to the heart of that community where both children and adults come regularly.

RESOLUTION R2010-39

NOW, THEREFORE,

BE IT RESOLVED by the City Council of the City of North Miami Beach, Florida

Section 1. The foregoing recitals are true and correct.

Section 2. The Mayor and City Council of the City of North Miami Beach support the planting of shade trees around Highland Village Park.

Section 3. The City of North Miami Beach shall commit to a three (3)-year maintenance plan for the grant, which shall include regular irrigation, bi-weekly litter pick-up, bi-monthly mowing and edging, and annual fertilization.

Section 4. The City Manager is hereby authorized to execute the 2010 Florida Forest Health Initiative Grant Memorandum of Agreement with the State of Florida Department of Agriculture and Consumer Services, Division of Forestry, in a form acceptable to the City Attorney.

APPROVED AND ADOPTED by the City of North Miami Beach City Council at the regular meeting assembled this ___ day of May, 2010.

ATTEST:

SUSAN A. OWENS
CITY CLERK

(CITY SEAL)

MYRON ROSNER
MAYOR

APPROVED AS TO FORM:

DARCEE S. SIEGEL
CITY ATTORNEY

SPONSORED BY: Mayor and Council

RESOLUTION R2010-39

TO: Mayor and City Council
FROM: Darcee S. Siegel, City Attorney
DATE: May 18, 2010

LITIGATION LIST

I. Wrongful Deaths: (1)

Kelly, Estate of v. CNMB
Wrongful Death

II. Civil Rights: (3)

Madura, Maryla v. CNMB, Antonio Marciante and Tony Sanchez, individually
Civil Rights Violation/False Arrest **PARTIAL SUMMARY JUDGMENT**

Smith, Louis v. John Richard Renaud, NMBPD, & CNMB
Civil Rights Violation/False Arrest

Joseph, Johnny v. CNMB and City of Aventura
Civil Rights Violation/False Arrest

III. Personal Injury: (6)

Adams, Loretta v. CNMB
Slip & Fall/Personal Injury

Jones, Zettie & Earnest v. CNMB, et al
Slip & Fall/Personal Injury

Korakakos, Christian v. CNMB
Automobile Accident/Personal Injury

* Rathjens, Margaret v. CNMB
Slip & Fall/Personal Injury

Robinson, Waverly v. CNMB
Slip & Fall/Personal Injury

Rogers, Ethel Mathis v. CNMB
Automobile Accident/Personal Injury

IV. Land Use Litigation: (1)

Donahue, John, et al. v. CNMB, Sol Odenz and Miami-Dade County
Petition Protest (Height and Density)

V. Other Litigation: (13)

CACV of Colorado v. Lubin and CNMB
Writ of Garnishment

City of Miami Gardens v. Williaam J. Washuta, as Trustee of
Stuart Enterprises Profit Sharing Plan, CNMB, and Miami-Dade County
Petition in Eminent Domain

Eastern Financial Florida Credit Union v. Flores and CNMB
Writ of Garnishment

Grouper Partners, Inc. v. Miami-Dade County and CNMB
Water/Sewer Fees

National Revenue Service, Inc. v. Bobby Bright and CNMB
Writ of Garnishment

Pierre, Frantz v Kenneth De Fillipo, Lester Sola, and Solomon Odenz
Declaratory and Injunctive Relief

Seay Towing v. CNMB
State Case-Emergency Motion for Temporary Injunction

Seay Towing v. CNMB
Writ of Certiorari (Appeal of City Council's Revocation of BTR)

Seay Towing v CNMB
Federal Case-1983 Civil Rights Violation and Injunctive Relief

Shannon, Brian Palmer v. Lauren Walsh, CNMB and Cora Mann
Negligence/Negligent Hiring and Supervision

The Poole and Kent Company v. CNMB
Breach of Contract (Water Plant)

SETTLED

Tropical Chevrolet v. CNMB, et al.
High Speed Chase/Property Damage

Troutman v. North Miami Beach Police Department
Replevin

VI. Forfeitures: (22)

CNMB v. Almendral/Rodriguez/Garcia
Forfeiture

CNMB v. Amayaquintero/Valle/Smith
Forfeiture

CNMB v. Arrieta C/Arrieta J
Forfeiture

CNMB v. Bolden/Rosemond
Forfeiture

CNMB v. Clerveau/Bryant
Forfeiture

CNMB v. Goodman
Forfeiture

CNMB v. Guerby
Forfeiture

CNMB v. Gyden
Forfeiture

CNMB v. Hurtado
Forfeiture

CNMB v. Johnson/Murat
Forfeiture

SETTLED/CLOSED

CNMB v. Joseph
Forfeiture

CNMB v. Marquez/Anestin
Forfeiture

SETTLED/CLOSED

* CNMB v. Morales
Forfeiture

* CNMB v. Perez/Chil
Forfeiture

CNMB v. Poitier/Jean-Pierre
Forfeiture

SETTLED/CLOSED

CNMB v. Reategui/Bianco
Forfeiture

CNMB v. Sirdar-Kanhai-Aguirre-Villanueva/Valdez
Forfeiture

CNMB v. St Hilaire/Mazard/Donaldson
Forfeiture

CNMB v. Ulloa
Forfeiture

CNMB v. Valdes
Forfeiture

CNMB v. Virgile
Forfeiture

CLOSED

CNMB v. Willis
Forfeiture

VII. Mortgage Foreclosures: (209)

Accredited Home Lenders, Inc. v. CNMB (Funes)

Mortgage Foreclosure

CLOSED/SOLD AT AUCTION

Aegis Mortgage Corp v. CNMB (Galina Pikh)

Mortgage Foreclosure

CLOSED/SOLD AT AUCTION

Aegis Mortgage Corp v. CNMB (Galina Pikh, et al.)

Mortgage Foreclosure

Allied Mortgage & Financial Corp. vs. CNMB (Sorota)

Mortgage Foreclosure **DISMISSED/CLOSED**

Ameriquet Funding vs. CNMB (Caraballo)

Mortgage Foreclosure **CLOSED/SOLD AT AUCTION**

Argent Mortgage Company v. CNMB (Harmitt)

Mortgage Foreclosure **CLOSED/SOLD AT AUCTION**

Aurora Loan Services, LLC v. CNMB (Garcia, et al.)

Mortgage Foreclosure

Aurora Loan Services, LLC v. CNMB (George)

Mortgage Foreclosure

Aurora Loan Services, LLC v. CNMB (Gomez, et al)

Mortgage Foreclosure

Aurora Loan Services, LLC v. CNMB (Hernandez)

Mortgage Foreclosure **DISMISSED/CLOSED**

Aurora Loan Services, LLC v. CNMB (Manser, et al)

Mortgage Foreclosure **DISMISSED/CLOSED**

Aurora Loan Services, LLC v. CNMB (Martinez, et al)

Mortgage Foreclosure **CLOSED/SOLD AT AUCTION**

Aurora Loan Services, LLC v. CNMB (Perez, et al.)

Mortgage Foreclosure

Aurora Loan Services, LLC. v. CNMB (Rivera, et al)

Mortgage Foreclosure **CLOSED/SOLD AT AUCTION**

Aurora Loan Services, LLC v. CNMB (Rodriguez, et al)

Mortgage Foreclosure

BAC Home Loans v. CNMB (Alberto, et al.)

Mortgage Foreclosure

BAC Home Loans v. CNMB (Berger, et al)

Mortgage Foreclosure

BAC Home Loans v. CNMB (Jacobi et al)
Mortgage Foreclosure

BAC Home Loans v. CNMB (Morales, et al)
Mortgage Foreclosure

BAC Home Loans v. CNMB (Nakash, et al)
Mortgage Foreclosure

BAC Home Loans v. CNMB (Prado, et al)
Mortgage Foreclosure

BAC Home Loans v. CNMB (Sigler)
Mortgage Foreclosure

BAC Home Loans v. CNMB (Temirao, et al)
Mortgage Foreclosure

BAC Home Loans v. CNMB (Torain, et al)
Mortgage Foreclosure

BAC Home Loans v. CNMB (Torres, et al)
Mortgage Foreclosure

BAC Home Loans v. CNMB (Zephir, et al.)
Mortgage Foreclosure

Bank of America v. CNMB (Aguilar, et al)
Mortgage Foreclosure

Bank of America v. CNMB (Alvarez, et al)
Mortgage Foreclosure

Bank of America v. CNMB (Coffey, et al)
Mortgage Foreclosure

Bank of America v. CNMB (Escalante, et al)
Mortgage Foreclosure

Bank of America v. CNMB (Failer, et al)
Mortgage Foreclosure

Bank of America v. CNMB (Failer, et al)
Mortgage Foreclosure

Bank of America v. CNMB (Fortun, et al.)
Mortgage Foreclosure

Bank of America v. CNMB (Gonzalez, et al.)
Mortgage Foreclosure

Bank of America v. CNMB (Jimenez, et al.)
Mortgage Foreclosure

Bank of America v. CNMB (Miller, et al.)
Mortgage Foreclosure

Bank of America v. CNMB (Otero, et al.)
Mortgage Foreclosure

Bank of America v. CNMB (Pasmanter, et al)
Mortgage Foreclosure

Bank of America v. CNMB (Peck, et al)
Mortgage Foreclosure

Bank of America v. CNMB (Tamir, et al)
Mortgage Foreclosure

Bank of New York v. CNMB (Apiau, et al.)
Mortgage Foreclosure

Bank of New York v. CNMB (Batts)
Mortgage Foreclosure

DISMISSED/CLOSED

Bank of New York v. CNMB (Ben-Dov, et al)
Mortgage Foreclosure

Bank of New York v. CNMB (Conley/Williams)
Mortgage Foreclosure

Bank of New York v. CNMB (Fiallo, et al)
Mortgage Foreclosure

Bank of New York v. CNMB (Jean, et al)
Mortgage Foreclosure

Bank of New York v. CNMB (Johnson, Nick, et al)
Mortgage Foreclosure

DISMISSED/CLOSED

Bank of New York v. CNMB (Le)
Mortgage Foreclosure

Bank of New York v. CNMB (Lima, et al)
Mortgage Foreclosure **DISMISSED/CLOSED**

Bank of New York v. CNMB (Mellian, et al)
Mortgage Foreclosure

Bank of New York v. CNMB (Silva-Morgan)
Mortgage Foreclosure

Baron, Marylin S., et al v. CNMB (Campbell, et al)
Mortgage Foreclosure

Bayview Loan Servicing, LLC v. CNMB (Avin)
Mortgage Foreclosure **CLOSED/SOLD AT AUCTION**

Beal Bank v. CNMB (Ramos, et al.)
Mortgage Foreclosure

Brown Bark III, L.P. v CNMB (2001, LLC)
Mortgage Foreclosure

Chase Home Finance LLC v. CNMB (Bolufer, et al)
Mortgage Foreclosure

Chase Home Finance LLC v. CNMB (Cohen, et al)
Mortgage Foreclosure

Chase Home Finance LLC v. CNMB (Marc, et al)
Mortgage Foreclosure

Chase Home Finance LLC v. CNMB (Rua, et al)
Mortgage Foreclosure

Chase Home Finance LLC v. CNMB (Santiago et al)
Mortgage Foreclosure

Citibank, N.A. v. CNMB (Anglade, et al)
Mortgage Foreclosure

Citibank, N.A. v. CNMB (Austin, et al)
Mortgage Foreclosure

Citimortgage v. CNMB (Guzman, et al.)

Mortgage Foreclosure

Citifinancial Equity Services, Inc. v. CNMB (Morales)

Mortgage Foreclosure

Citimortgage v. CNMB(Anchava)

Mortgage Foreclosure

Citimortgage v. CNMB (Bilgoray)

Mortgage Foreclosure

Citimortgage v. CNMB (Dmiczak)

Mortgage Foreclosure

Citimortgage v. CNMB (Garcia)

Mortgage Foreclosure

Citimortgage v. CNMB (La Fond, et al.)

Mortgage Foreclosure

Citimortgage v. CNMB (Rivaroli, et al)

Mortgage Foreclosure

Cong Vo v. CNMB (Perroti, Miranda)

Action to Quiet Title

Consumers Alliance Corp. v. CNMB (Haronda Realty)

Action to Quiet Title

Countrywide Home Loans, Inc. v. CNMB (Gilles)

Mortgage Foreclosure

Countrywide Home Loans, Inc. v. CNMB (Joseph, et al.)

Mortgage Foreclosure

Countrywide Home Loans v. CNMB (Rodriguez, et al)

Mortgage Foreclosure

Countrywide Home Loans v. CNMB (Schmidt, et al)

Mortgage Foreclosure

Credit Based Asset Servicing v. CNMB (Rojas)

Mortgage Foreclosure

Credit Based Asset Servicing v. CNMB (Rojas, et al)

Mortgage Foreclosure

<u>Deutsche Bank National v. CNMB (Adelson)</u> Mortgage Foreclosure	CLOSED/SOLD AT AUCTION
<u>Deutsche Bank National v. CNMB (Angelillo)</u> Mortgage Foreclosure	CLOSED/SOLD AT AUCTION
<u>Deutsche Bank Trust v. CNMB (Barksdale)</u> Mortgage Foreclosure	CLOSED/SOLD AT AUCTION
<u>Deutsche Bank Trust v. CNMB (Barksdale)</u> Mortgage Foreclosure	DISMISSED/CLOSED
<u>Deutsche Bank National v. CNMB (Bien-Aime, et al)</u> Mortgage Foreclosure	
<u>Deutsche Bank National v. CNMB (Calix, et al)</u> Mortgage Foreclosure	CLOSED/SOLD AT AUCTION
<u>Deutsche Bank National v. CNMB (Gonzalez)</u> Mortgage Foreclosure	
<u>Deutsche Bank National v. CNMB (Johnson)</u> Mortgage Foreclosure	CLOSED/SOLD AT AUCTION
<u>Deutsche Bank National v. CNMB (Joseph)</u> Mortgage Foreclosure	
<u>Deutsche Bank National v. CNMB (Lindor, et al.)</u> Mortgage Foreclosure	
<u>Deutsche Bank Trust v. CNMB (Marks-Williams)</u> Mortgage Foreclosure	
<u>Deutsche Bank National v. CNMB (Martinez, et al.)</u> Mortgage Foreclosure	
<u>Deutsche Bank National. v. CNMB (Mejia)</u> Mortgage Foreclosure	CLOSED/SOLD AT AUCTION
<u>Deutsche Bank National v. CNMB (Nascimento)</u> Mortgage Foreclosure	
<u>Deutsche Bank v. CNMB (Oratz, et al)</u> Mortgage Foreclosure	

Deutsche Bank National v. CNMB (Perez/Llarena)
Mortgage Foreclosure

* Deutsche Bank National v. CNMB (Phillips)
Mortgage Foreclosure

Deutsche Bank National v. CNMB (Rodriguez)
Mortgage Foreclosure

Deutsche Bank National v. CNMB (Sanchez)
Mortgage Foreclosure

Deutsche Bank National v. CNMB (Sierra, et al)
Mortgage Foreclosure

Deutsche Bank National v. CNMB (St Felix)
Mortgage Foreclosure **CLOSED/SOLD AT AUCTION**

Deutsche Bank National v. CNMB (Suhag, et al)
Mortgage Foreclosure

Deutsche Bank National v. CNMB (Voltaire, et al)
Mortgage Foreclosure

Deutsche Bank National v. CNMB (Watkins, et al)
Mortgage Foreclosure

Deutsche Bank National v. CNMB (Whittle, et al)
Mortgage Foreclosure

Eastern Financial v. CNMB (Diaz, et al)
Mortgage Foreclosure

Eastern Shores White House Association v. CNMB (Donoso)
Mortgage Foreclosure

Eastern Shores White House Association v. CNMB (Grimany)
Mortgage Foreclosure

Flagstar Bank v. CNMB (Pena)
Mortgage Foreclosure

First Central Savings Bank v. CNMB (Meimoun)
Mortgage Foreclosure

Fiserv ISS & Co., vs. CNMB (Estime)

Mortgage Foreclosure

Florida Title Company v. CNMB (Dali-Bey)

Mortgage Foreclosure

Fremont Investment & Loan v. CNMB (Rubes)

Mortgage Foreclosure

Global Trust v. CNMB (Roth)

Mortgage Foreclosure

GMAC Mortgage v. CNMB (Calix)

Mortgage Foreclosure

GMAC Mortgage v. CNMB (Platel, et al)

Mortgage Foreclosure

Golden Beach (Town of) v. CNMB (Goodman, et al)

Mortgage Foreclosure

Greenfield, Chaim v. CNMB (2101 Holdings LLC, et al)

Mortgage Foreclosure

Greenpoint Mortgage v. CNMB (Global Properties Investment et al)

Mortgage Foreclosure

Happy Home Lending Corp. vs. CNMB (Shon Furman)

Mortgage Foreclosure

HSBC Bank v. CNMB (Gomez)

Mortgage Foreclosure

HSBC Bank v. CNMB (Hernandez)

Mortgage Foreclosure

HSBC Bank v. CNMB (Miller, et al.)

Mortgage Foreclosure

HSBC Bank v. CNMB (Miranda)

Mortgage Foreclosure

HSBC Bank, N.A. v. CNMB (Mora)

Mortgage Foreclosure

HSBC Bank, N.A. v. CNMB (Perera)

Mortgage Foreclosure

HSBC Bank, N.A. v. CNMB (Pinero)
Mortgage Foreclosure

HSBC Bank, N.A. v. CNMB (Saint-Fart)
Mortgage Foreclosure

HSBC Bank, N.A. v. CNMB (Seepersad)
Mortgage Foreclosure

HSBC Bank v. CNMB (Vidal, et al)
Mortgage Foreclosure

HSBC Bank, N.A. v. CNMB (Westgate)
Mortgage Foreclosure

Indymac Federal Bank v. CNMB (Hamami, et al)
Mortgage Foreclosure

Indymac Federal Bank v. CNMB (Hernandez, et al)
Mortgage Foreclosure

Indymac Federal Bank v. CNMB (McCullough, et al)
Mortgage Foreclosure

JP Morgan v. CNMB (Abraham)
Mortgage Foreclosure

JP Morgan v. CNMB (Fils-Aime)
Mortgage Foreclosure

JP Morgan v. CNMB (Garcia)
Mortgage Foreclosure

JP Morgan v. CNMB (Lopez, et al)
Mortgage Foreclosure

JP Morgan v. CNMB (Perez, et al)
Mortgage Foreclosure

Lago Mar Ventures v. CNMB (Oliver)
Mortgage Foreclosure

LaSalle Bank Midwest v. CNMB (Gomez)
Mortgage Foreclosure

LaSalle Bank, N.A. v. CNMB (Hernandez)
Mortgage Foreclosure

LaSalle Bank, N.A. v. CNMB (Jean-Baptiste)
Mortgage Foreclosure

LaSalle Bank National v. CNMB (Rodriguez)
Mortgage Foreclosure

LaSalle Bank National v. CNMB (Rodriguez)
Mortgage Foreclosure

Litton Loan Servicing LP v. CNMB (Gonzalez, et al)
Mortgage Foreclosure

Metro Bank v. CNMB (Macala, LLC)
Mortgage Foreclosure

Miami-Dade County v. CNMB (Morrobel)
Mortgage Foreclosure

Mortgage Electronic Registration System, Inc. vs. CNMB (Miller)
Mortgage Foreclosure

Mortgage Investment Group v. CNMB (Deliford, et al)
Mortgage Foreclosure

Nationstar Mortgage LLC f/k/a Centex Home Equity v. CNMB (Hechevarria, et al)
Mortgage Foreclosure

Novastar Mortgage v. CNMB (Montas)
Mortgage Foreclosure

OneWest Bank v. CNMB (Gutierrez)
Mortgage Foreclosure

OneWest Bank v. CNMB (Lopez)
Mortgage Foreclosure

OneWest Bank v. CNMB (Rodriguez, et al)
Mortgage Foreclosure

OneWest Bank v. CNMB (Ward, et al.)
Mortgage Foreclosure

OneWest Bank v. CNMB (Wright, et al)

Mortgage Foreclosure

Owen Federal Bank v. CNMB (Bain)

Mortgage Foreclosure

Parklane Equity v. CNMB(Beaubien-Cordon)

Mortgage Foreclosure

PHH Mortgage v. CNMB (Martinez, et al)

Mortgage Foreclosure

PNC Mortgage v. CNMB (Ordonez/Child, et al.)

Mortgage Foreclosure

Primary Residential Mortgage v. CNMB (Miranda, et al.)

Mortgage Foreclosure

Private Capital Group LLC v. CNMB (Giraldo)

Mortgage Foreclosure

RMS Residential v. CNMB (Heredia)

Mortgage Foreclosure

Sazant v. CNMB(Pluviose)

Mortgage Foreclosure

Sun American Bank v. CNMB (Lehman Family Holdings, et al.)

Mortgage Foreclosure

SunTrust Mortgage v. CNMB (Garcia, et al.)

Mortgage Foreclosure

Transatlantic Bank v. CNMB (Andor Expressway Corp., et al.)

Mortgage Foreclosure

U.S. Bank N.A. v. CNMB (Gonzalez, et al)

Mortgage Foreclosure

U.S. Bank N.A. v. CNMB (Gonzalez, J., et al.)

Mortgage Foreclosure

U.S. Bank N.A. v. CNMB (Hernandez, et al)

Mortgage Foreclosure

U.S. Bank N.A. v. CNMB (Hernandez, et al)

Mortgage Foreclosure

U.S. Bank NA v. CNMB (Island Place Apts., et al)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Jean-Louis)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Jimenez)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Joseph, et al.)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Marin)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Martinez)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Mendez)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Michel)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Oratz, et al)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Otero)
Mortgage Foreclosure

U.S. Bank N.A. v. CNMB (Perez)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Robinson, et al)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Rodriguez, et al)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Rodriguez, Maria A., et al).
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Rosenberg)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Suarez, et al.)
Mortgage Foreclosure

U.S. Bank NA v. CNMB (Torres, et al.)
Mortgage Foreclosure

Venice Isle, Inc. v. CNMB (Suhag)
Claim of Lien Foreclosure

Wachovia Mortgage v. CNMB (Campos)
Mortgage Foreclosure

Wachovia Mortgage Corp v. CNMB (Diaz)
Mortgage Foreclosure

Wachovia Bank v. CNMB (Martinez)
Mortgage Foreclosure

Wachovia Bank v. CNMB (Rodriguez, D)
Mortgage Foreclosure

Washington Mutual Bank, F.A. v. CNMB, Sandra T. Porter, et al
Mortgage Foreclosure

Washington Mutual Bank v. CNMB (Schmidt)
Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (Bonilla)
Mortgage Foreclosure

Wells Fargo Bank N.A. v. CNMB (Clozeille)
Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (Fil-Aimee)
Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (Frye)
Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (Hernandez, et al
Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (Jackson)
Mortgage Foreclosure

Wells Fargo Bank v. CNMB (Lopez, et al)

Mortgage Foreclosure

Wells Fargo Bank v. CNMB (Mendez, et al)

Mortgage Foreclosure

Wells Fargo Bank v. CNMB (Mohr, et al)

Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (Rand)

Mortgage Foreclosure

Wells Fargo v. CNMB (Roberts)

Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (Sacco)

Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (Torres)

Mortgage Foreclosure

Wells Fargo Bank, N.A. v. CNMB (16700-01, LLC)

Mortgage Foreclosure

Woodside Apartments Assoc. v. CNMB (Mizrahi)

Mortgage Foreclosure

VIII. Bankruptcies:

Adams, Evrol C.

American LaFrance LLC

American Home Mortgage Holdings

Cimax USA, LLC

Diversified Displays/Michael Phelan

Filene's Basement, Inc.

Florida Select Insurance

Kaplun, Raul E.

Kim, Myung Ja

K&S Foods LLC

Porter, Michael and Shanda

The New Kosher World Bakery

Rodriguez, Carlos

SMG Entertainment

South Pointe Family and Children Center

Sunny Isles Unicenter
Tweeter Intellectual Property (Sound Advice)
Vartec Telecom, Inc.
Verestar, Inc.
Veliz, Orestes & Sury
Villaverde, Olga
WCI Communities, Inc.

***New Cases**